

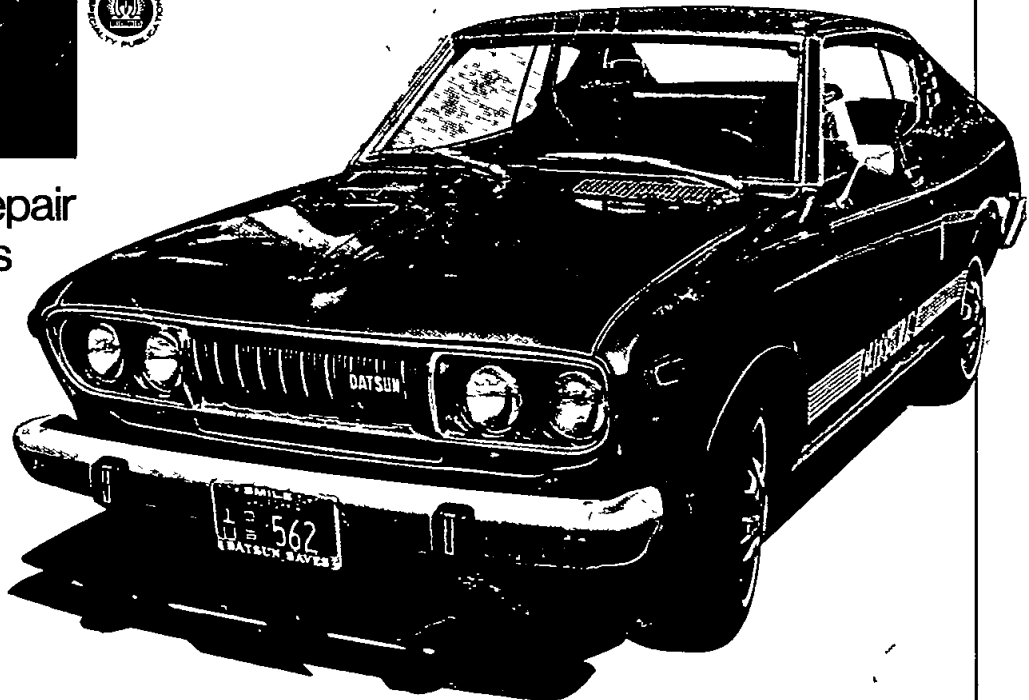
PETERSEN'S **complete book of**

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DATSUN



Maintenance and Repair
Personalized Pickups
Driving Impressions
Accessory Catalog
New Models







COMPLETE BOOK
OF DATSUN

INTRODUCTION

Although not in that initial wave of the small car invasion force that hit America's shores in the '50s, Datsun has surged from a late start to a position of virtual dominance among today's imports. They have achieved this status through innovative design, careful manufacture, thorough distribution, and reliable parts and service back-up. All of this did not happen overnight. It was a long and perhaps to some, slow climb to their present position.

Datsun owners are both devoted and legion. For most of them the owner's manual in the glove box is too shallow, but the factory service manual is too deep. Petersen's Complete Book of Datsun is intended to bridge the gap between the owner's manual and the service manual with solid, basic information in an easy-to-understand manner. Hopefully, it will also entice the casual Datsun owner or would-be owner into taking greater interest in the marque.

Perhaps the background of the company, which is more tradition-steeped than many realize, or the driving impressions of the new models, or the up-to-date analysis of the used ones will lure potential buyers into committing. Maybe the plethora of easy-to-do maintenance, tune-up and repair features will prompt an owner to pick up a wrench and become more involved with his car. Possibly seeing what others have done to personalize their Datsuns may stimulate a greater awareness of the Datsun as more than mere transportation.

Whatever turns you—the Datsun owner or would-be owner—on is certain to be found within the pages of this book.

THE EDITORS

PETERSEN'S COMPLETE BOOK OF DATSUN

Edited by Al Hall and the General Subjects editors, Specialty Publications Division
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COVER

Datsun's 280-Z and 710 Hardtop are featured in whole or in part by photographer Eric Rickman and skillfully blended into a collage of mechanical beauty by artist Dick Fischer. Selecting these two models from among Datsun's expansive line is not meant to slight the economically luxurious 610, the affordable B-210 or the fantastically popular Datsun L's Hustler pickup truck, because you'll find much of value about these models in the following pages.

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THE INSCRUTABLE DREAM

BY KONRAD F. SCHREIER, JR.

NISSAN MOTOR CORPORATION HAS SUCCESSFULLY BUILT A BIG REPUTATION ON SMALL CARS

PHOTOS COURTESY NISSAN MOTOR CORPORATION

Recent American sales campaigns of the Nissan Motors Corporation, the makers of Datsun automobiles, have stressed economy above all other factors. The Datsuns are excellent small economy cars, well designed and well made. This is in part because Datsun is a pioneer Japanese automobile manufacturer. In fact, since the oldest ancestor of the company began building cars way back in 1911, it is one of the world's pioneer automotive manufacturing firms, with a heritage dating back to early days.

It all began because the Japanese became interested in automobiles and other early mechanical vehicles at the times they were first introduced. A few primitive vehicles were brought to Japan despite the fact that most of the country's roads in those days were literally horse and cart trails. The few motor vehicles in Japan in the first decade of this century were practically restricted to operating in the cities and their suburbs, and even there only on the relatively few streets and roads wide and smooth enough for them.

The Japanese have always had mechanical talent, and their ability to work in metal has long been shown by their swords, religious metal statuary, bells and other works. It was just a matter of time before they would set out to build an automobile, and one of the first they built was a product of the oldest ancestor of today's Nissan Motors Corp., the Kwaishinsha Motor Car Co., founded in 1911.

Kwaishinsha was founded by Mr. M. Hashimoto with the financial support of three businessmen: Messrs. Den, Aoyama and Takeuchi. It didn't take Kwaishinsha long to get their first car built, and by 1916 they were settled on their production Model 41. The car was named the DAT from the beginning, and the name was taken from the first letters of the names of its backers—Den, Aoyama and Takeuchi. That's where the name Datsun origi-

nally came from.

The Dat 41 was a simple, conventional "economy" luxury car. It had a simple 15-hp engine driving its basic powertrain, and its body could comfortably handle five passengers. This early Dat was only built in limited numbers for a number of reasons. First of all they were very expensive, hand-made automobiles, and definitely a luxury in Japan. Also, the roads of Japan limited the usefulness of any car to the localities of the major cities, and all long-distance travel was done by boat or railroad. For these and other reasons, there was an overall lack of interest in and demand for motor vehicles in Japan.

By 1917 the pioneer Kwaishinsha Motor Car Co. had slipped into serious financial difficulties, and it had to be taken over by its sales agency. It became the Dat Motor Vehicle Co. The new Dat company produced a second-generation car called the Model 51. They named it the Datsun—son of Dat—and added new body styles, including a sporty 2-seat roadster. The power was a conventional 15-hp water-cooled engine, and it drove an equally conventional powertrain with a manual transmission.

It wasn't long before the name Datsun was changed to Datsun, because certain idiosyncrasies and connotations of the Japanese language made the old name undesirable. The total production of Datsuns in the early 1920's could still be counted in the hundreds, since the demand and need for motor vehicles in Japan was still minimal.

Then came the disastrous year 1923—the year of the Great Japanese Earthquake. The small Japanese motor vehicle industry was badly damaged, almost wiped out, as was much of the other industry of Japan. The Japanese railroad network on which the people relied was also destroyed, and suddenly Japan found itself in need of as much motor vehicle transportation as it

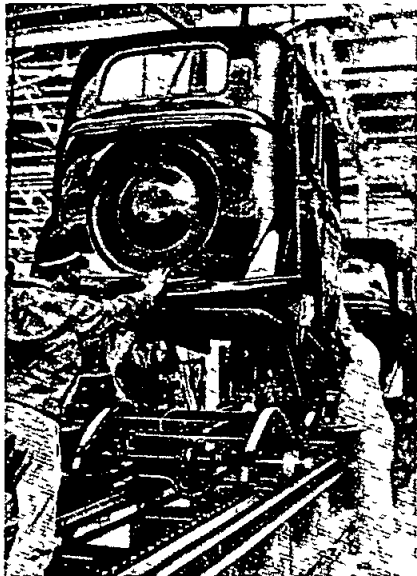
could quickly obtain. Datsun, one of the half-dozen or so Japanese motor vehicle makers, found new life in the wreckage of the Great Earthquake. They were soon able to deliver new vehicles to fill the transportation vacuum. However, the vast majority of the new motor vehicles came from the United States and other foreign countries that manufactured motor vehicles on a large scale.

As Japan rose from the smoking ruins of the 1923 temblors, new roads were built to help the new motor transport fill in while the railroads were being rehabilitated. These new roads, of course, became a permanent part of Japan's transportation network, and they encouraged an increase in the use of motor vehicles throughout Japan. At this time Datsun absorbed the Jitsuyo Automobile Co., and the Jitsuyo Lila automobile became part of the Datsun line. However, Datsun and the small handful of other Japanese motor vehicle makers were barely surviving, and foreign automakers continued to supply almost all of the vehicles for the Japanese market.

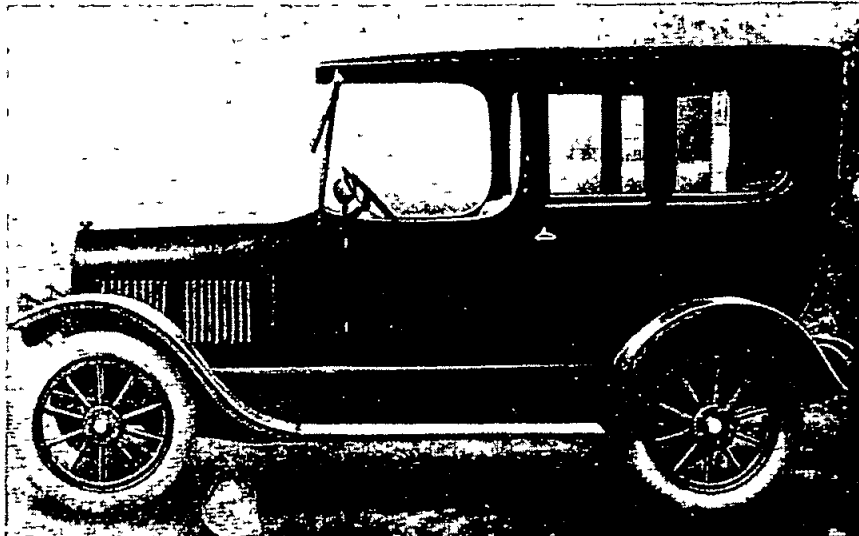
In the early 1930's the Japanese government became dominated by the Imperial Japanese Army, and the militarists were set on an expansionist program for Japan. Japan became involved in overseas military adventures, mostly in China, and the militarists began to need more and more motor vehicles for their campaigns. Datsun and other Japanese car makers produced a few of these machines, but the vast majority of the Imperial Japanese military vehicles were produced outside of Japan. This was not acceptable to the militarist adventurers in Japan, so laws were passed to encourage the development of the domestic Japanese motor vehicle industry. A 1933 law began to make the importation of foreign-built machines difficult, a 1936 law made it even tougher, and a 1939 law made it almost impossible. These laws en-



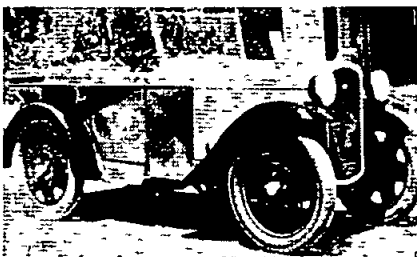
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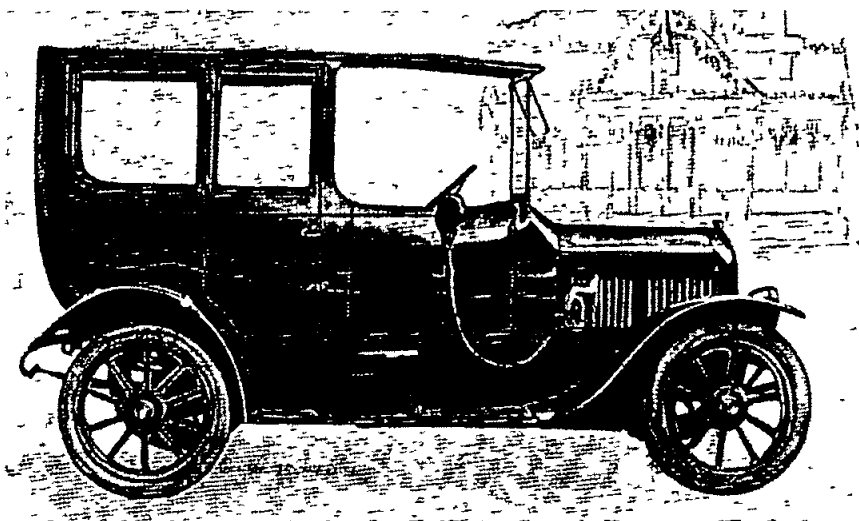
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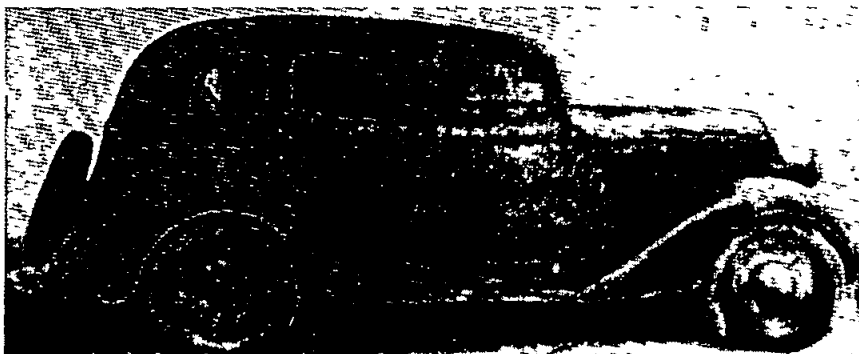
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1 The 1948 Crosley-like Datsun mini-car was one of the first models produced after the war. This model was well suited to Japan's needs and roads and was fairly successful.

2 The 1916 Kwaishinsha Dat Model 41 is the ancestor of all modern Datsuns. "DAT" name came from the initials of three financial backers.

3 An example of the Datsun mini-car assembly line in 1936. This was also the year that a revised version of the Graham-Paige was introduced as the Nissan Model 70.

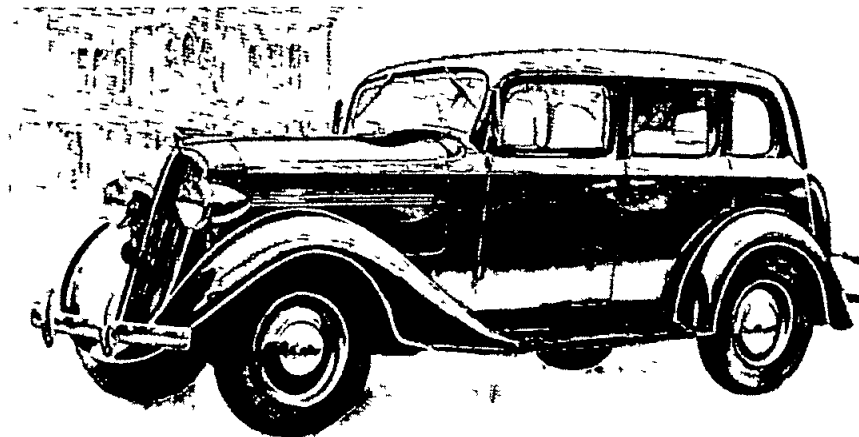
4 The 1920 Dat Model 41, almost unchanged from the earlier model, was very similar to the Model 51 which succeeded it.

5 This 1931 Datsun mini-car is the ancestor of all Datsun current model mini-cars.

6 This Model 70 sedan was captured by the U.S. Armed Forces during World War II (U.S. Army photo).

7 The 1936 Datsun-Nissan Model 70 sedan was built on the old Graham-Paige tooling and was Nissan's first "full-sized" passenger car.

7



couraged the Japanese automotive industry, and they soon began to expand and proliferate. One of the leaders in this expansion was Datsun.

In 1931 Datsun introduced a new series of models based on a simple, conventional 4-cylinder 12-hp engine and powertrain. The design stressed economy, practicality and reliability. These machines were in the "mini-car" class, and they were well suited to the rugged motoring conditions of Japan at that time.

In 1933 the Datsun company went

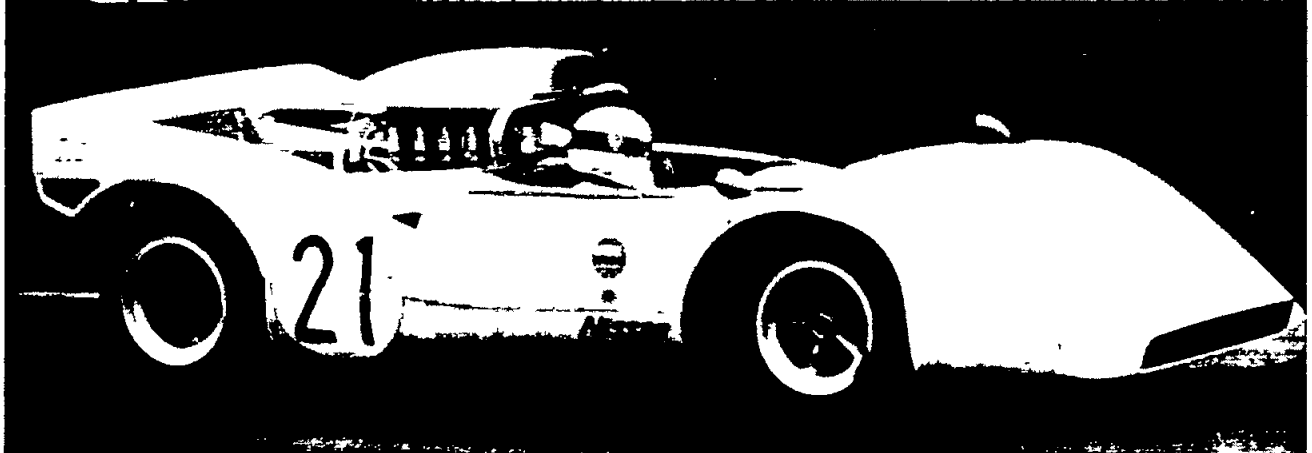
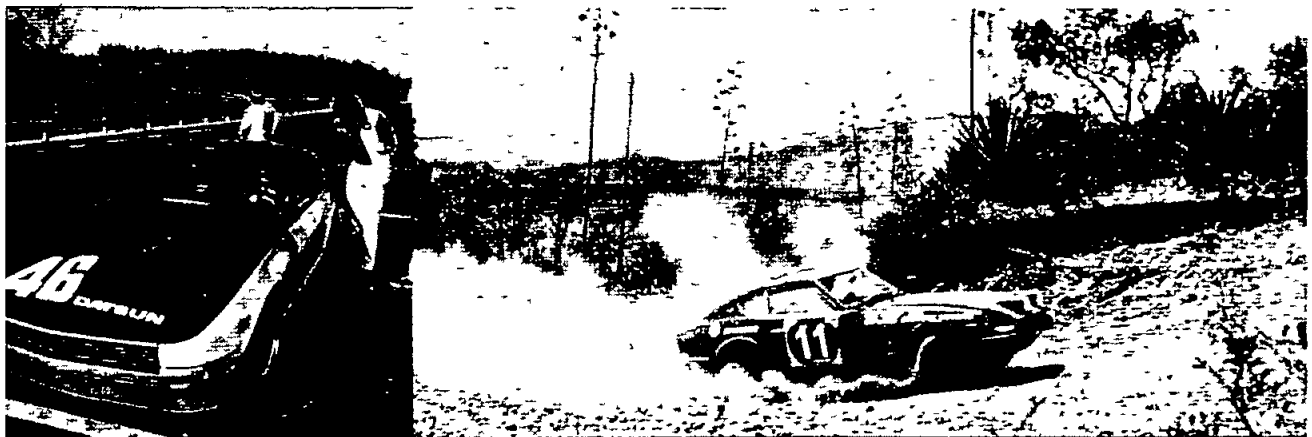
through a reorganization which gave it its present name of Nissan Motors Corp., and the name Datsun was still used for the cars. Since then the light cars and trucks have almost all been called Datsuns, and the name Nissan has been applied to heavy trucks and other commercial vehicles as well as to the parent company.

In the mid-1930's the Nissan company purchased the tooling for the last American Graham-Paige passenger car and brought it to Japan. In 1936 a slightly revised version of the

1 The first Datsuns most Americans had ever seen were displayed at the Los Angeles Imported Car Show in 1958.

2 The favorable reception at the '58 Imported Car Show led to the formation of Nissan's American subsidiary, Nissan Motor Corp. in U.S.A., in 1960.

3 Some of Datsun's successful racing cars include the BRE 240Z 1-2-3 in C-Production Class 1971 American Road Race of Champions (top left), the Rallye 240-Z which finished 1-2-7 in the 1971 East Africa Safari (top right), and the V-12 Nissan R-382, two-time winner of the Japanese Grand Prix.



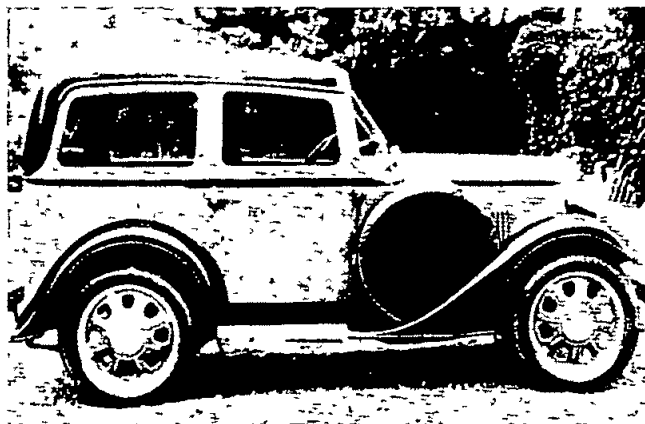
Graham-Paige was introduced as the Nissan Model 70, and this was Nissan's first modern "full-sized" passenger car. It was a 5-passenger sedan powered by a 6-cylinder 80-hp engine, and was the size of the typical medium-priced American cars of its day. This model was produced until 1940, when the Japanese militarists dictated that most of their automotive industry be devoted to the needs of the Imperial Japanese Army. As a matter of fact, the military necessities of World War II soon precluded the production of any Nissan or

Datsun automobiles so the company's facilities could be fully devoted to the production of military trucks and other military equipment.

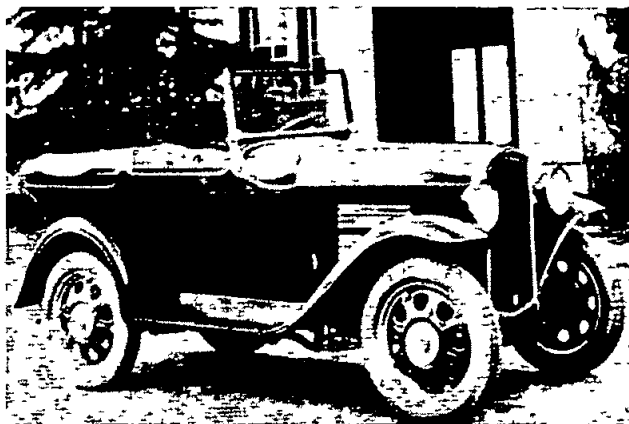
Of course Nissan did its bit during World War II, and in 1943 it built a plant in Yoshiwara for the production of aircraft engines. The end of World War II was very difficult for Nissan Motors Corp., as it was for all Japanese industry, as the country was thrown into a state of economic collapse. One of the first things the far-sighted Japanese recovery program im-

plemented by U.S. Army General Douglas MacArthur did was to get the Japanese automotive industry back into production. There was a desperate need for commercial vehicles and motor trucks, and Nissan devoted all its early postwar production efforts to supplying this need. In 1947 Nissan resumed Datsun passenger car production with all the facilities of their Yoshiwara plant.

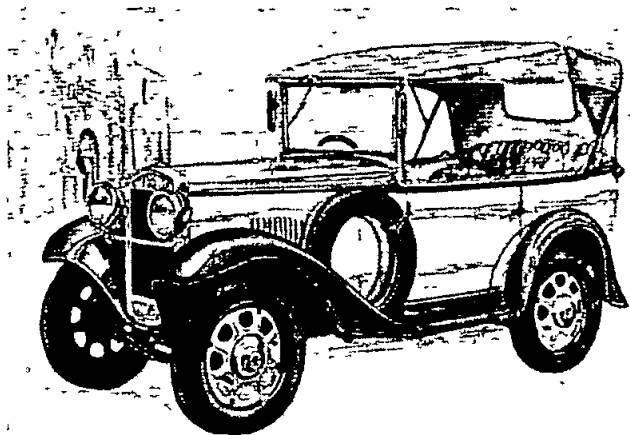
The first postwar Datsun cars were updated versions of the last mini-cars they had produced in the 1930's. De-



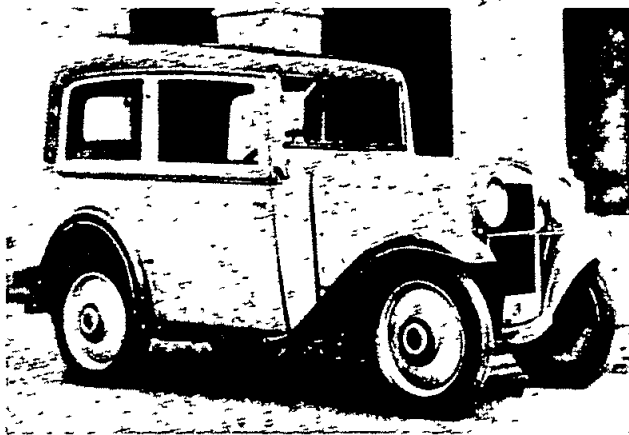
1931 coupe



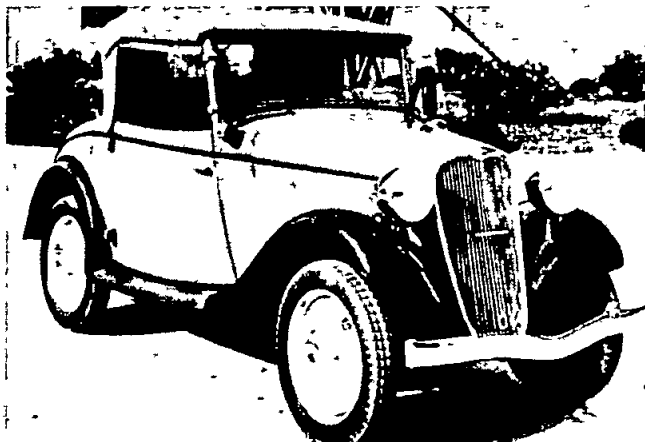
1932 mini-convertible



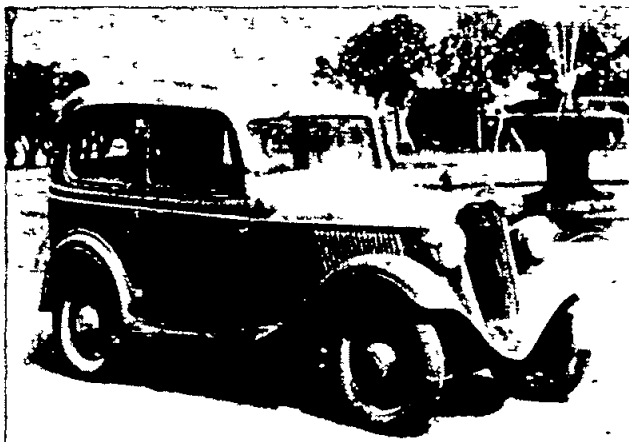
1932 Model II convertible



1933 mini-car coupe



1934 convertible coupe



1935 coupe

signs were 10 years old or more, but they still were quite useful. Within a short time, however, a new model Datsun was introduced, a model very much like the American Crosley mini-car produced for a number of years with some success. The Datsun version did better than its American cousin, for it was really not too badly suited to Japan's needs, requirements and roads. In America the Crosley was never enough car to be acceptable to many motorists.

Nissan still had to do some catching up with foreign car makers. To obtain a much improved mini-car for Japan, Nissan entered into an agreement in 1952 to manufacture and assemble the British Austin A-40 automobile. Just as this program began, Nissan became involved in a labor dispute which stopped that program and everything else the company was doing.

This labor trouble developed into a 2-year strike, which almost finished Nissan and very nearly put it into bankruptcy. After that long and difficult strike disrupted Nissan to the point of

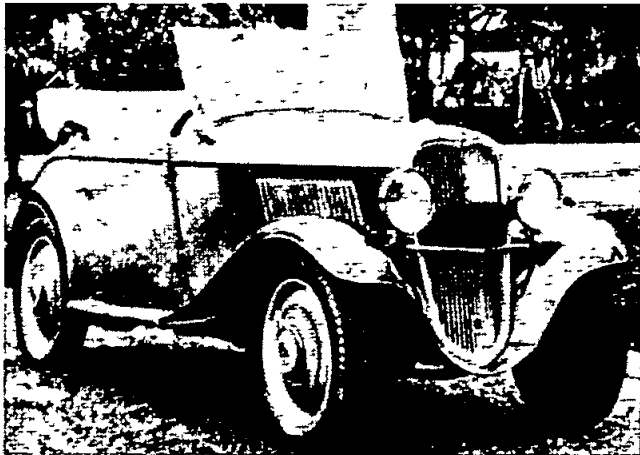
near-collapse, it was finally settled with the adoption of a completely new labor-management scheme for Nissan and its employees. The basis of this labor-management agreement was "mutual reliance," a realistic arrangement under which labor recognizes it can't survive without the management, the management agrees it can't make it without labor, and they both work together with this knowledge to settle the problems which arise. This system has worked well for Nissan ever since, but getting around to it was disastrous for everybody involved.

As a matter of fact, for the third time in its life—the first was the 1923 Great Earthquake, the second World War II—the end of the great strike of 1952-1954 found Nissan picking up the pieces to get going again. Right after the end of the strike the pre-strike models were put back into production, even though they had been up for replacement when the strike started. Now they would have to be replaced if the company was going to survive.

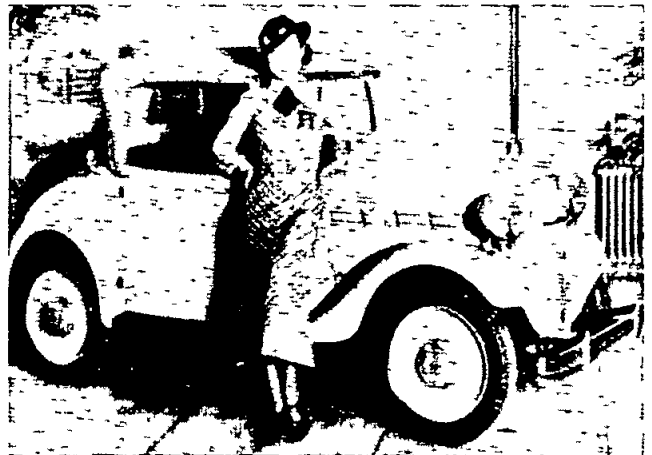
Nissan set to work with a will, and

in 1955 the first Datsun 110 sedans were introduced. These were ancestors of the present model, but quite different. They also put out the Model 120 pickup and a version of the British Austin A-50 which had superseded the A-40 model during the long strike. The company also began to expand its line of trucks and other commercial vehicles, along with diesel engines. Things went so well that by 1956 the Nissan-Datsun-Austin A-50 was produced entirely from Japanese-made parts.

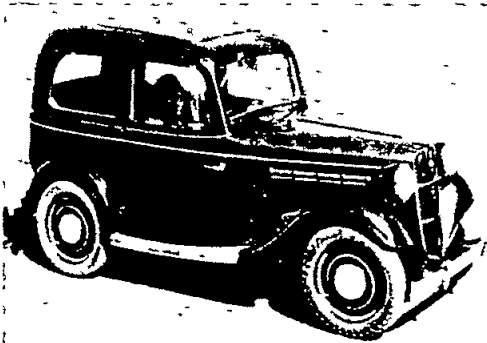
While a very limited number of Datsuns had sneaked into America over the years, the number was always so small that one of them was a crowd-drawing curiosity. In 1958 Nissan decided they were in a position to see if they could possibly sell the Datsun on the American market. Nissan decided to show the Datsun at the 1958 Los Angeles Imported Automobile Show, and found Americans receptive toward their light cars and trucks. This favorable reception led Nissan to make a careful survey of the American auto-



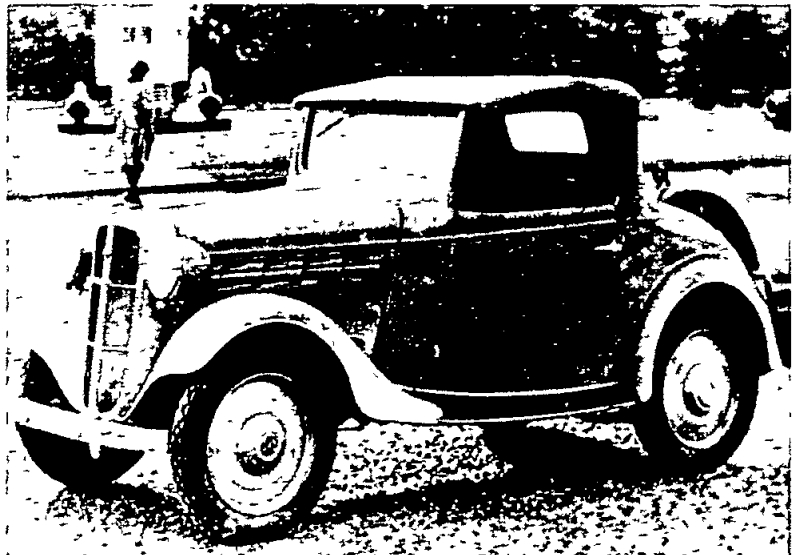
1935 roadster



1936 roadster mini-car

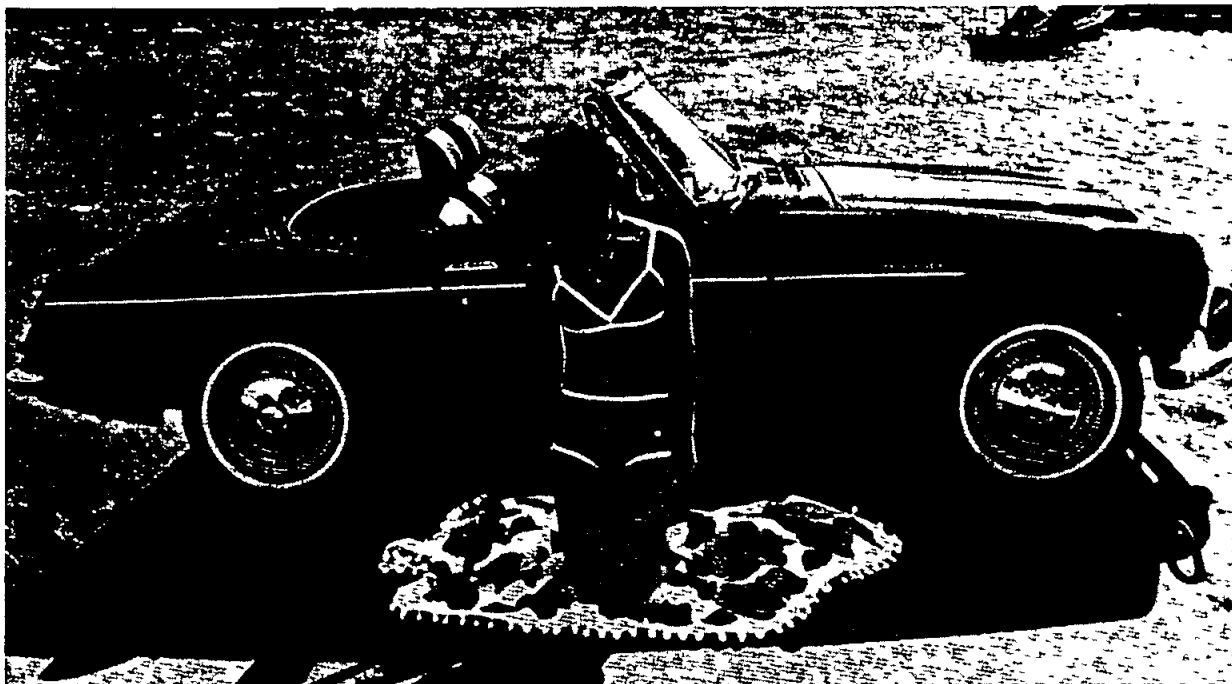


1937 mini-coupe

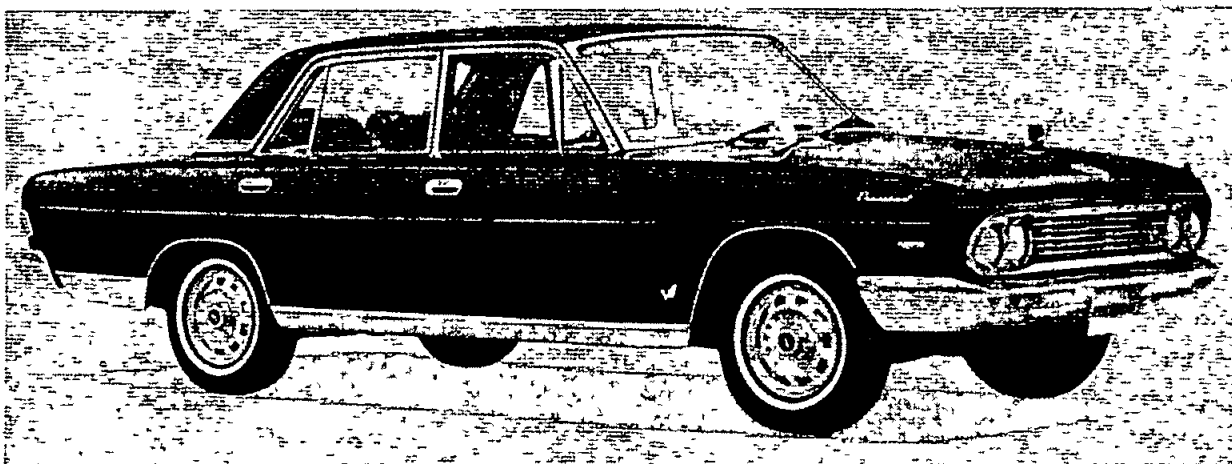


1937 roadster

1969 MODELS



1969 2000 Sports



Nissan President



2300 Super Six Sedan

mobile market to see if and where their machines would fit in, and they found the results encouraging.

In 1960 Nissan formed their American subsidiary, and by the end of the year Nissan Motors Corp. in USA had 18 employees, 47 dealerships and had sold 485 machines. Not a bad start. In 1961 the dealerships jumped to 122 and 1126 units were sold, and the name Datsun was becoming known to Americans. The models sold in America were the Austin model, now almost completely a Japanese product, a few trucks, and the Jeep-like Nissan Patrol light four-wheel drive. None of these first imported models are familiar any more. However, there are still a few examples around to testify to their durability.

In 1962 Nissan introduced the Model 310 sports car in the United States, a little model typical of the light sports cars popular in Europe at that time. This model started out with a 92-cu-in engine, became the Model 311 with a 98-cu-in engine in 1965 and was last sold in 1969 in the Model 311 ver-

sion with a 123-cu-in engine. This neat little sport model's introduction in 1962 helped Datsun's 144 dealers sell a total of 2263 cars.

The Model 410 Datsun sedan came along in 1963, and it led Nissan's dealers to increase to 255 and to sell some 4436 units. Like the 310 sports car, it started out with a 92-cu-in engine, increased to 98 cu ins in 1965 and then was redesignated the Model 411 when it got a 123-cu-in engine in 1968, the last year it was in the American line.

Over the years Nissan came along very nicely in the U.S. Dealers increased along with the number of machines sold, and the Nissan product gained acceptance on the American market. For the statistically inclined here are the numbers: 1964-367 dealers sold 9611 machines, 1965-370 dealers sold 17,923 machines, 1966-543 dealers sold 29,131 machines, 1967-544 dealers sold 45,491 machines, 1968-616 dealers sold 56,233 machines, 1969-647 dealers sold 86,883 machines.

Any company whose automobile

sales are approaching 100,000 units in the American market must be reckoned with, and so by 1969 Nissan had become an important factor. Actually, the 1969 Nissan-Datsun line was much more complete than the few models sold in the United States would seem to indicate. The full 1969 line, still representative of what Nissan is, was a complete one. Unfortunately much of this line was not, and probably never will be, available on the American automobile market.

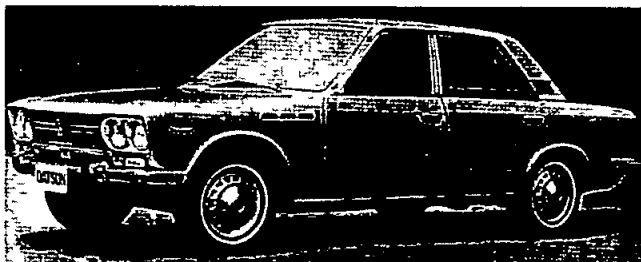
The top of the Nissan line in 1969, and today, is the President, a beautiful luxury sedan in a class with the Mercedes-Benz. It had a 112-in wheelbase, was powered by a 195-hp V-8 engine and was a popular beauty accepted almost anywhere in the world but the U.S.

The next 1969's were the 105-in wheelbase 2000 series models. Leading the line was the 2300 Super Six sedan with a 138-cu-in, 123-hp engine. Then came the 2200 Diesel sedan with a 123-cu-in, 70-hp engine, and a wonderful economy compact. Next came the 2000 Personal Six sedan with

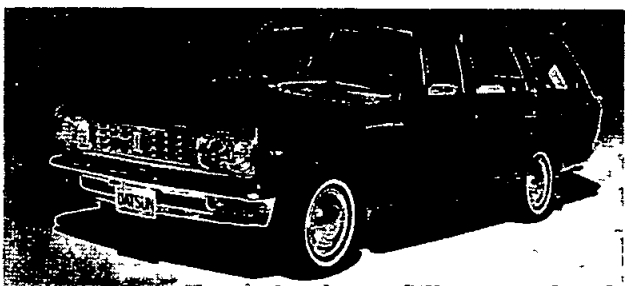
1969 MODELS



2200 Diesel Sedan



1800 Super Deluxe



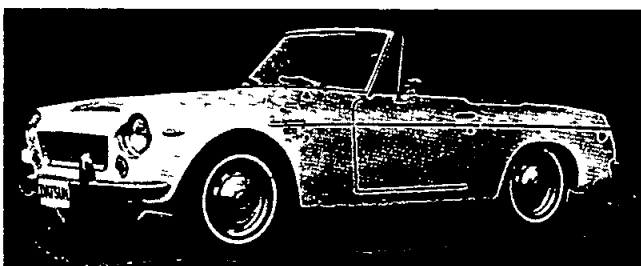
2000 Wagon



2000 Van



Nissan Gloria Deluxe



2000 Sports

a 120-cu-in, 109-hp engine. The 2000 wagon and 2000 van were built on the same basic compact station wagon body and used the powertrain from the 2000 Personal Six. The last of the '69 models on the 105-in wheelbase was the Gloria Deluxe, a fancier version of the Personal Six with more trim and interior frills.

These 2000 series model Datsuns are of the compact car size, and they could certainly fill a need the American automakers haven't gotten back to yet. They are all quite comfortable, even for large people, and much larger and roomier than the current crop of miniaturized Detroit iron. As a matter of fact, they are very much like the compacts Detroit turned out in the early and mid-1960's. That's not so surprising, since Nissan began developing them about that time, and it's probably a shame they aren't being sold in America today. It would be hard to overstress their economy of operation, for this is one of the primary focus points of almost all Nissan designs as evidenced by those 1969 models.

The year 1970 was a banner year for

Nissan U.S.A. Their 905 American dealers sold 151,509 Datsuns, and ever since, the Datsun name has been a major one in the American market. About this time the first of the models Datsun currently sells came on the American market. Today Nissan is not only a major producer of automobiles for the American market, but it is a major world automaker with a complete and well-rounded line. In 1964 Nissan built 433,341 motor vehicles, and this number multiplied fourfold to 2,039,341 in 1973—just 10 years later. At home in Japan, Nissan claims over 33% of the passenger car and commercial vehicle market! The only way they can do this is by building a good line of vehicles, and they do.

Nissan is also looking toward the future in the work they are doing today. They are working with their ESV safety car design, electric-powered cars and commercial vehicles, gas turbine automotive power and Wankel rotary engine automotive power. They are a major Japanese diesel powerplant manufacturer, and the tremendous fuel economy of the diesel fits right into

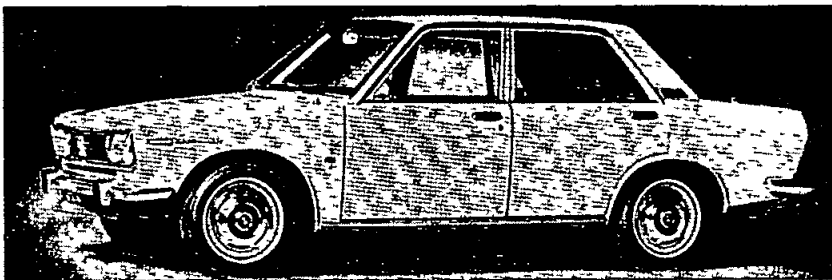
Nissan's economy-mindedness. They support people who race their automobiles, and they have enjoyed success in the racing field.

Today Nissan makes one of the few non-European sports cars worth the name—the 530 series introduced in 1970-1971. In America this model was introduced as the 240-Z, and has gone on to the 260-Z and 280-Z models. It makes the Datsun mini-car line, which Nissan so successfully markets in America today, complete. The other basic models are the B-210's, the 610's and the 710's. With them Nissan Motors Corp., a world and Japanese pioneer automobile maker, carries on the Datsun name and product with a tradition that began with the 1911 Datsun. Nissan looks forward to extending this tradition for well-made, economical, reliable and rugged automobiles and commercial vehicles well into the future.

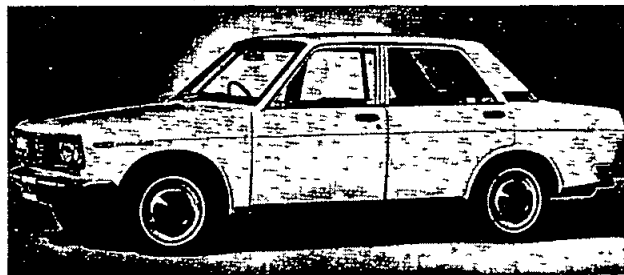
The author wishes to give special thanks to Mr. Richard S. Hungerford of Nissan Motor Corp. in U.S.A. and Mr. Tom S. Ikkanda for their invaluable help in preparing this article.



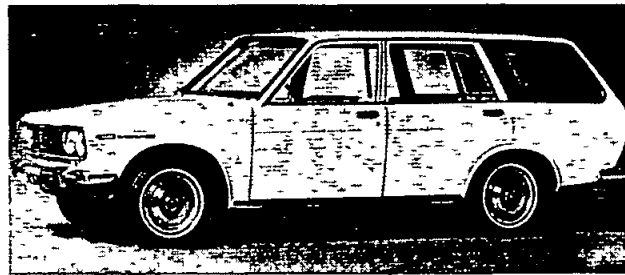
1600 Super Sports Sedan



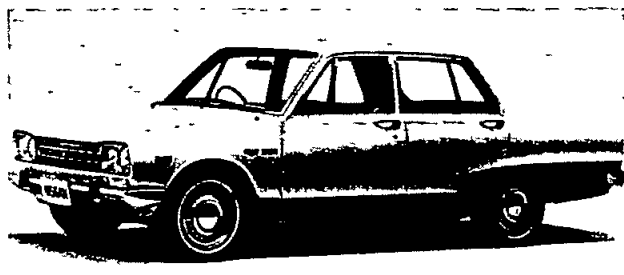
1600 Deluxe



1300 Deluxe



1600 Wagon



Nissan Skyline Deluxe



1000 4-Door Sedan Deluxe

B-210 DRIVING IMPRESSIONS

CHECKING OUT THE MOST ECONOMICAL DATSUN

Ever since the B-210 milked 41 miles from a gallon of no-lead in the EPA test, Datsun has been pushing its virtues, and customers have been lining up to buy.

The smallest Datsun available in the U.S. has some other virtues aside from its economy. It can be optioned up to a fair degree of luxury, and has reasonably adequate performance in stock trim for today's traffic conditions.

The 210 is available in three body styles, all in Datsun's high belt line mode. Two- and four-door sedans are supplemented by a sportier hatchback hardtop coupe. All three have the same chassis and share the same mechanical specifications.

On the 1975 model, the engine has been enlarged from 1300 to 1400cc and upped in power, to make up for losses from added emission control equipment. California versions—as ours was—require a catalytic converter. In the other 49 states, the car passes the smog numbers without the converter.

Settling in behind the wheel of our bright orange four-door version required that the front seat be run well back on its tracks. Unfortunately, this removed most of the knee room for the rear seat passenger. There has been some trade off of space for style in the 210, and the rear passengers are the losers. On the subject of style, we feel

that we should mention the standard equipment wheel covers, which probably take the cake for ugliness and dentability. But on to better things.

The seating position was quite comfortable, but the seats share one problem in common with the rest of the Datsun line. The seat reclining adjuster is also the release for folding the seat back forward. This was no problem on our four-door version, but on two-door models, folding the seat to allow a rear passenger in or out means readjusting the angle of the backrest.

Instruments and controls are clearly visible to a fully belted-in driver. Datsun has good ergonomics on the controls, with shape and position being used to define function without the driver having to look for any given knob or switch. This makes it difficult to accidentally operate the wrong control in an emergency situation. One strange thing that appears on the B-210 is the function, or lack of it, of the instrument light dimmer control. It's probably due to some quirk in translation of the Federal safety regulations. Rotating the knob dims the identification lights for the light switch, the emergency flasher and the heater controls, leaving everything else at full brilliance. We've run into this before in Japanese cars and cannot understand it.

As seems to be standard practice with Datsun, the 210 has its instruments set into three pods in a panel in front of the driver. As also seems to be usual, two of the pods are filled with standard equipment instruments and warning lights, and the third is filled with a decorative panel that seems to say that the owner was too cheap to buy some important accessory. The left hand pod holds the fuel and water temp gauges along with a flock of warning lights, and the center one holds the speedometer. If a tachometer is available for the right hand pod, we'd recommend it.

Our test version was equipped with the optional 3-speed automatic transmission in place of the standard 4-speed manual. The shifter was a lever coming up from the center console. The only other options were an AM radio and a set of 165 x 13 radial tires. The handling and ride really benefited from the radials—a good deal wider in footprint than the standard bias-ply 6 15 x 13 rubber. As a matter of fact, they made the car out-ride and out-handle the more luxurious 710 that was equipped with the stock tires. We heartily recommend the use of radials on this car, since they make such a dramatic difference in the chassis behavior.

Unlike the rest of the Datsun line,



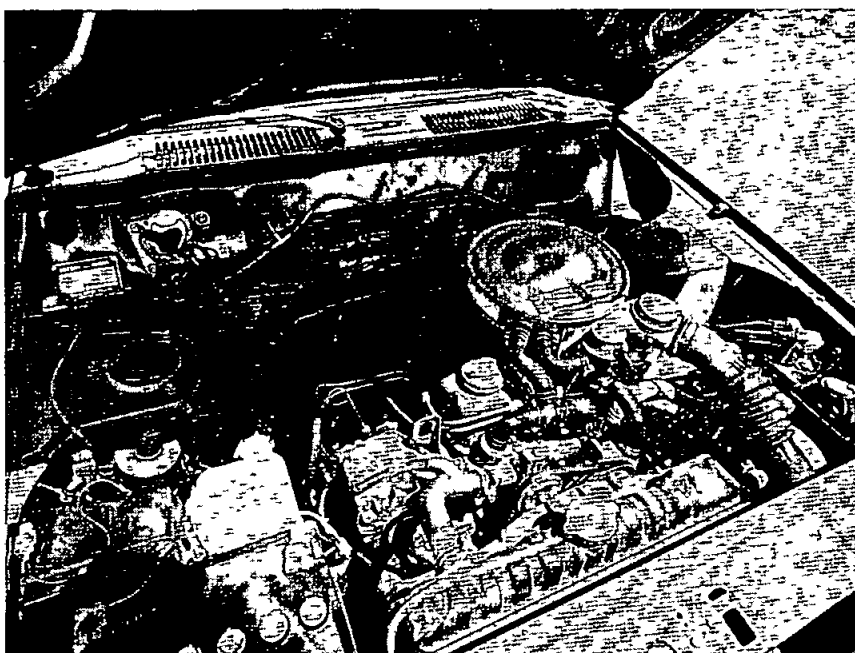
2



the 210 series uses a pushrod overhead valve engine. The little power plant is winning and willing, and churns out 80 horses at 6000 rpm. Unfortunately, it is not so happy with an automatic transmission, and keeping up with traffic required that we keep a heavy right foot. This is not the best route towards 41 miles per gallon, to say the least.

The transmission is smooth, though, and shifts are noticeable mainly because of the change in engine note rather than by any sudden jumps and jerks. It's just that the engine has to snort in order to move the car with the automatic. The engine is quiet enough when cruising, but it gets loud and rough when pressed hard.

The car's low price and ruggedness have contributed to its considerable popularity, as has the availability of an enormous amount of speed and handling equipment for it. A lot of people are successfully campaigning B-210's in road racing, so much so that it com-



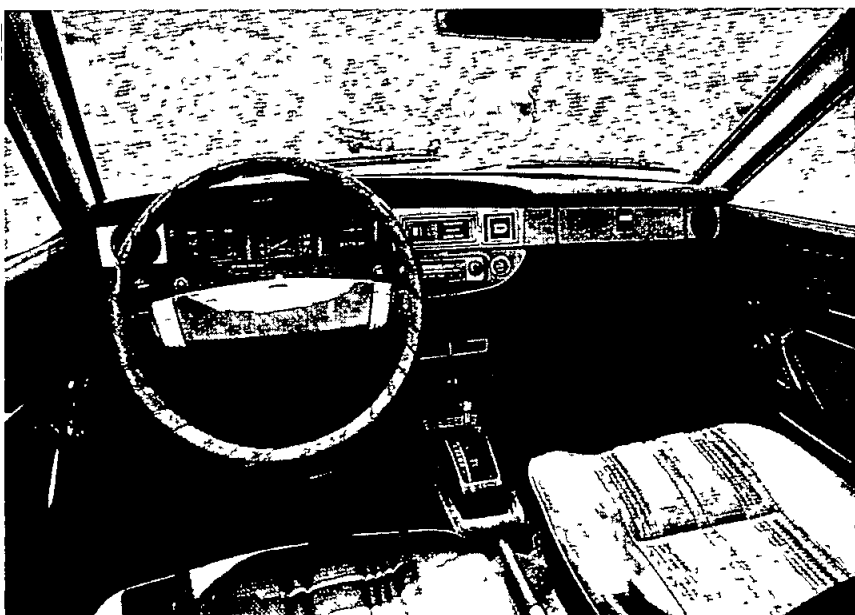
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1 Considering the cost of gasoline and the talk about diminishing supply, the B-210 must be considered the right car at the right time. An EPA highway driving test (simulated) yielded 41 miles per gallon, so an average driver should get over 35 mpg on the highway and 30 in town.

2 It seems that none of the new cars are economical to buy, but a few are less expensive than the others, and that includes the B-210. Plenty of no-cost extras and economical operation balance the price.

3 The engine size has been increased this year to 1400cc, but the added smog hardware cancels out any potential performance increase. It is a simple, sturdy overhead valve 4—easily maintained by the owner if he chooses to do his own work.

4 Our test B-210 had the added luxury of an automatic transmission and radio. Reclining bucket seats and flow-through ventilation are standard no-cost items.



4

1975 Datsun B-210 Specifications

Dimensions

Wheelbase	92.1 inches
Overall Length	163.0 inches
Overall Height	53.5 inches
Overall Width	60.8 inches
Tread, F/R	50.2/49 inches

Engine and Drive line

Engine Type	4 Cyl Overhead Valve
Displacement	1397cc/85.3 cu in
Horsepower/rpm	80/6000
Torque/rpm	83 lbs /ft /3600
Axle ratio	3.89:1
Standard tires	6.15 x 13

pletely dominates the C Sedan class in SCCA racing. Racing versions are considerably modified, but the considerable success seems to make it worthwhile. It is an excellent beginner's racing car, and modifications can be added as the driver's skill increases. Just don't try any great "hero driver" maneuvers with the stock suspension, and particularly on the stock tires. You could get into deep, sudden, and perhaps permanent trouble.

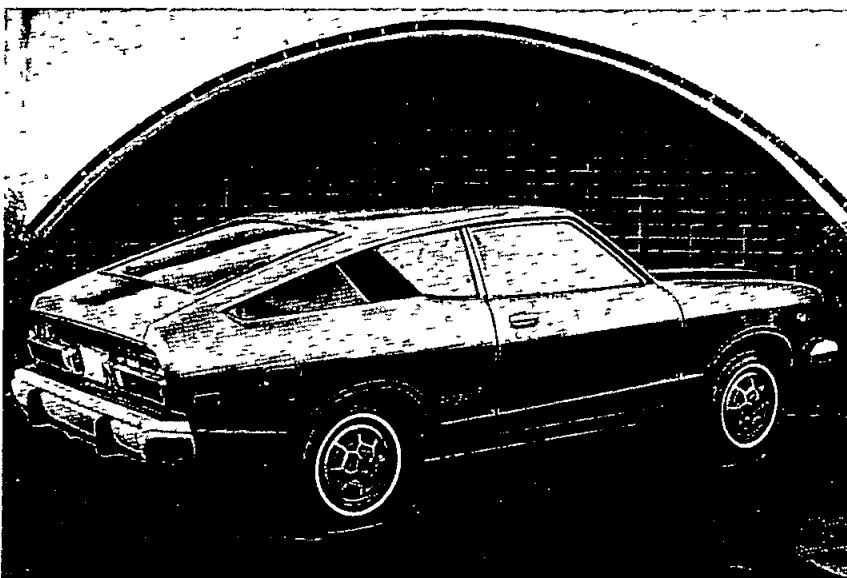
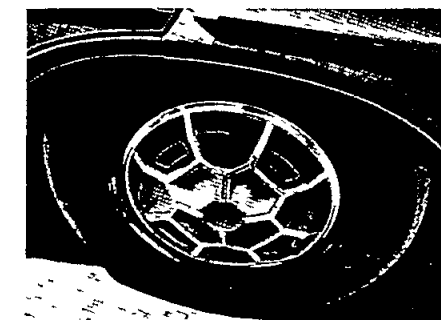
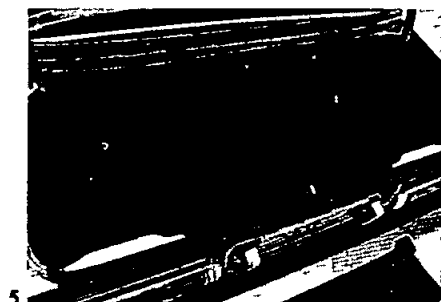
To sum up, the Datsun B-210 is a basic transportation vehicle that's also available in a slightly sporty version. It is totally conventional in layout, and should be utterly reliable and economical when used as a daily transportation vehicle. Moreover, it allows a base for a real sporty and raceable car.

5 The B-210 trunk is more like a transistorized basement. Its small dimensions require careful utilization of space when packing for a trip, and the high rear sill is troublesome to lift heavy items over.

6 Oh yes, there was one other little option on our B-210: Radial tires! The difference in price is well worth it in terms of handling, braking and better tire wear.

7 No, our test car did not come to us with a full set of honeycomb wheel covers. One was missing, so Canoga Datsun in Canoga Park, Calif., quickly replaced the missing one. Alas, with a 710 wheel cover.

8 Here's the economy champion: the B-210 Hatchback. It's a posh spinoff of the bread-and-margarine B-210. Rear seats fold down on this model to allow additional storage.



DRIVING THE 710

THEY WIN RACES, BUT NOT WITH STOCK TIRES

The 710 was designed by Datsun to fill the gap in their U.S. product range between the economy 210 and the luxury 610. It fills in the gap in size as well.

Many of the 710's components are shared with the 610. The engine, for example, is the same. The most important difference, apart from about four inches of overall length, is the rear suspension. Where the 610 is fully independent, the 710 uses a live axle.

In luxury fittings, the 710 isn't far behind its slightly larger brother. Reclining front buckets, electric clock, carpeting and an electric rear window defogger are all part of the standard specification. A good heating and fresh air ventilation system also goes along with the deal. Options include radios, a good 3-speed automatic transmission and a fully integrated air conditioning system.

Styling is similar to other Datsun series. A high belt line and softly rounded curves are the main features. It looks, well, like a Datsun. At a glance, it is sometimes difficult to tell a 710

from a 610.

The line has four models, including a four-door sedan, a two-door sedan, a two-door hardtop and a five-door wagon. Our test version was an electrifying yellow two-door. Happily, it was equipped with air conditioning, since the test took place during a Southern California heat wave. Unhappily, it was also equipped with the stock bias ply whitewall tires. More about them later.

From the driver's seat, everything is easily visible and reachable. Instrumentation is in Datsun's standard three pods set into a wrap-around panel, but for a change, all the pods are used, even if only for a single gauge and a couple of warning lights. Radio, clock and heating/ventilation controls also occupy space in the panel.

Once again, we had our standard gripe with Datsun's reclining seats. The rake adjuster is combined with the seatback release. In addition, there is no "memory" device that allows the passenger seat to slide all the way forward when the seat back is released.

The result is a narrow slot for rear passengers to climb through, and a lot of fiddling for the driver if someone enters the rear on the driver's side. It's a nuisance that it would be easy to eliminate.

With the same engine as the 610, and with about 100 lbs. less weight to haul around, the 710 has plenty of zip. Using the air conditioner had little effect on the performance. The 2-liter ohc engine is smooth and quiet through most of the power range, only becoming harsh and buzzy when revved well up. We couldn't tell exactly how well up, since a tach is not part of the standard instrumentation.

Shifting the standard 4-speed all-synchrom transmission was easy, although before we got going it looked as if the

New for '75, the 710 series is a complete line of cars which offer all the comforts and details you'd expect in a "big" Datsun, but at a lower price. Even though our test car was a plain 2-dr sedan, it showed to good advantage the clean lines of the whole 710 range.



1975 Datsun 710 specifications**Dimensions**

Wheelbase	96.5 inches
Overall Length	171.7 inches
Overall Height	55.5 inches
Overall Width	62.2 inches
Tread, F/R	51.6/52.4 inches

Engine and Drive Line

Engine Type 4 Cyl Overhead
Cam

Displacement 1952 cc / 119.1 cu
inches

Horsepower/rpm 110/5600

Torque/rpm 112 Lbs.-ft./3600

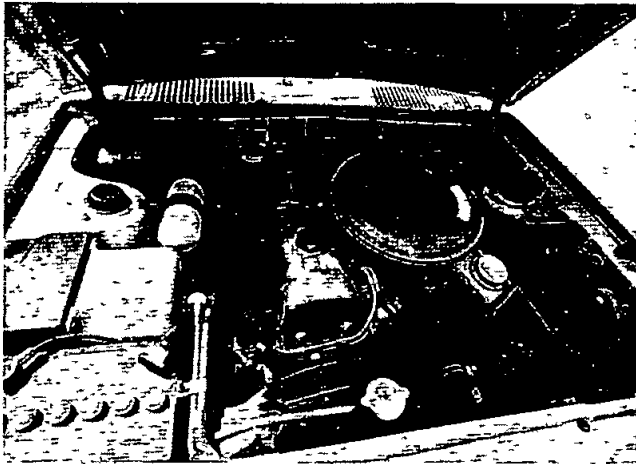
Axle Ratio 3.71

Standard Tires 6.45 x 13

long, spindly lever would produce a vague feel. It wasn't so, and we were able to shift smoothly and positively. The long lever also put the shift knob at an easy reach from the steering wheel, and so, as the British used to say, the "gears fell easily to hand." The ratios were also well-matched to the torque and power characteristics of the engine, but again, in a car that feels as peppy and sporty as the 710, the lack of a tachometer was strongly felt.

Unfortunately, the sporty character bailed out, as we went through our first hard corner. The skinny stock tires howled in protest, and massive under-

steer threatened to wrench the wheel from our hands. We had gone through the first turn unsuspecting, and wound up across the white line, which matched our knuckles. A second bend, approached even more gently, produced the same results for us, and also had somewhat of an effect on the driver of the Mercedes 450SL we met (almost literally) oncoming in the middle of the bend. From that point on, our motoring in the 710 was considerably more gentle. Right here, let's say that most of the problem is with the tires. Those little 6.45 x 13's are barely up to the weight of the car. They are not given to flinging it about with the



verve that its engine and drive line call for. With tires, wheels and a sway bar, this would be an altogether different automobile. For verification of this, just look at the number of them entered in sedan class SCCA racing. The necessary parts to make the car a real handler are there, they just aren't put on the car when it is delivered from the factory. The ride is very good for a

live axle suspension, though.

The appeal of the 710 is to people who want the performance and luxury of the 610, but at a (\$500) lower price. If the price were a little closer to the 610, and the radial tires of the 610 were part of the package, we would have a whole lot fewer reservations about the car as comfortable, economical transportation. Actually, most Dat-

sun owners who use their cars for more than home appliances tend to add better wheels and tires, and that works wonders for the 710. It's a reasonable buy, with a good combination of power and luxury in a basically economical package, but good grief, if you're going to buy one, put a decent set of tires on it from the start. The life you save may be your own.

1 Under the hood is Datsun's famous overhead-cam 4-banger. The same unit as used in the 610, it's up from 1.8 to 2.0 liters, and is an outgrowth of the old 510's rugged 1.6-liter mill.

2 Interior of the sedan is a nice place for long or short trips. That vinyl-wrapped steering wheel comes as something extra, but standard equipment includes Datsun's usual array of good instruments and reclining front seats.

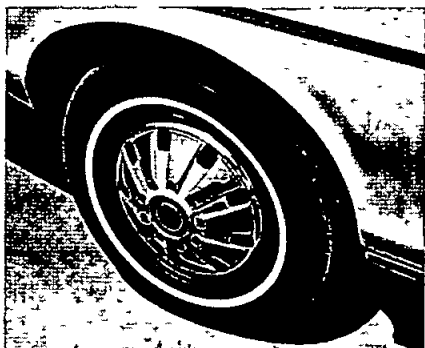
3 Most comparisons will be made with the 610 (rear), Datsun's other line of "large" cars. The 610 is slightly larger with a longer wheelbase, and has independent rear suspension instead of the 710's rigid rear axle. The 710 is prettier, and has almost all of the 610's features at a lower price.

4 The 710 was a pleasant car to drive if driven pleasantly, but if pushed hard it understeered strongly. The culprits were these stock bias-ply tires, a set of radials would help.

5 Rear seat legroom and elbowroom is adequate, and headroom is better than in the fastback coupe. Rear windows swing open, while assist bars and armrests complete the rear amenities.

6 The 710 wagon is Datsun's "bargain box," their lowest-priced wagon. It remains unchanged in size and styling from its '74 introduction, but like all the rest of the 710 line has the new and larger 2-liter engine.

7 No, Uncle Ned, you don't have to fire up your 1931 Duesenberg with its golf compartment just because you want to break 80 on your private course today. See, all your platinum clubs, your cashmere sweater, and those white unborn kangaroo-skin floppy shoes fit right into the trunk of this cute little 710 Datsun sedan. It's so very thrifty, Uncle. Think of all the money you can save and invest in Auburn Motors.



DATSUN 610 IMPRESSIONS

DATSUN WENT AFTER ECONOMICAL LUXURY AND GOT IT

The 610 was introduced by Datsun in 1972 as the successor to the popular but aging 510 series. Bigger, more powerful (and more expensive), it wrapped many of the 510's virtues into a new package. The earliest 610's were called Datsun 1800's, and they proved to be somewhat of a disappointment, as the suspension and powerplant hadn't been fully sorted out. Performance was well down from its predecessor.

Things are different today. The 610 is the flagship of Datsun's passenger car fleet in the U.S., and comes fitted with a full range of luxury features as standard equipment.

Last year, the 1800cc engine was retired in favor of a smoother and more

powerful 2-liter unit. This ohc 4 still puts out over 100 horses, even with all the required smog devices connected, including a catalytic converter. Throttle response and overall driveability are up from the older engine, as well.

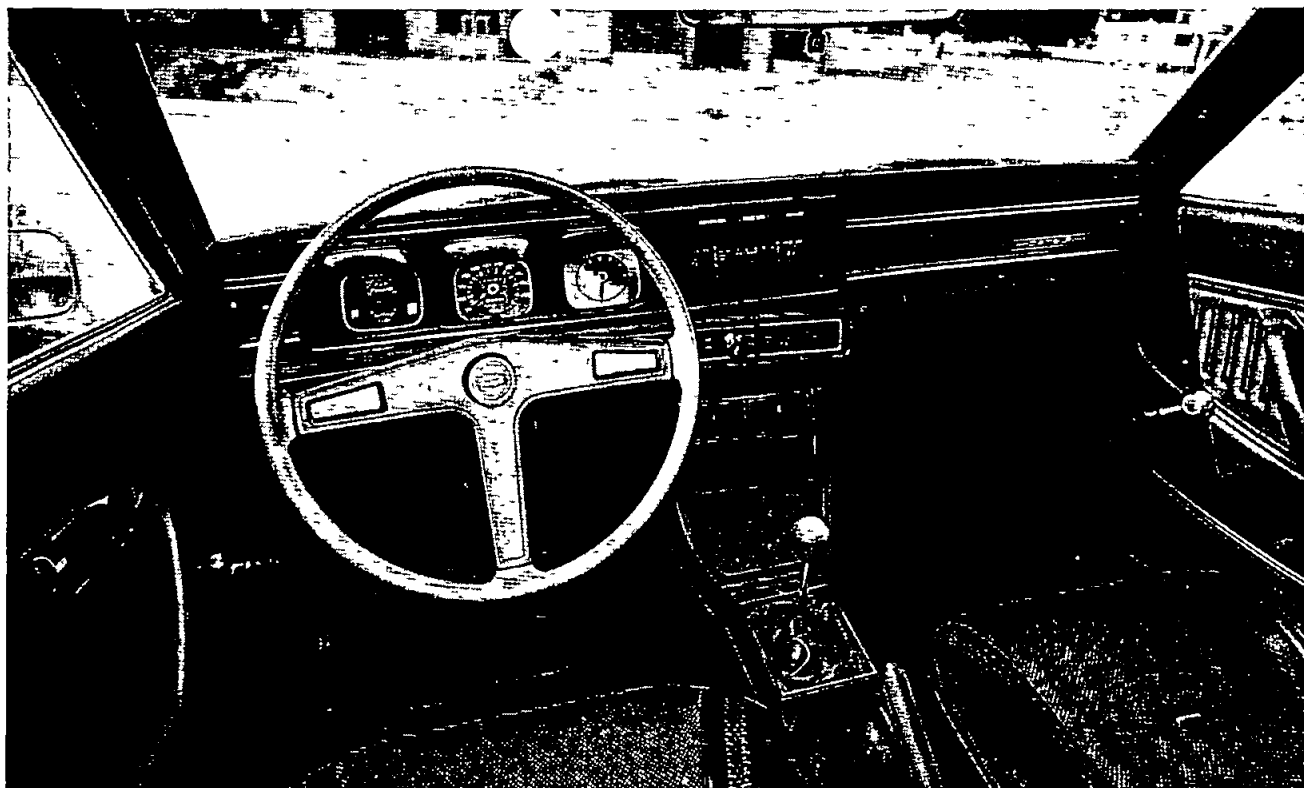
Other changes in the 1975 version of the 610 include enlarged front disc brakes, providing better stopping power, and a revised steering gear with a new ratio, to make for reduced effort at the wheel rim. In addition, passengers are treated to new upholstery, with cloth and vinyl combinations, instead of the old all-vinyl type. This makes for cooler bottoms and backsides on long summer trips, and also makes the same areas warmer in winter.

The 610 is available in three body

styles: a 4-door sedan, a 5-door wagon, and a 2-door hardtop coupe. Our test version was the coupe, in this case in a brilliant shade of yellow with a black interior. Base equipment included a 4-speed manual gearbox and an AM radio, along with a clock in the dash pod next to the speedometer.

All Datsun's body designs feature the high belt line, so a driver really feels that he sits down in the car. The window sill is so high that some may find it uncomfortable to use as an arm rest, even though it is wide and flat. The narrow windows don't seem to hamper outside visibility too much, and they give the interior a coziness that some people might enjoy. We felt it was a little claustrophobic, though.

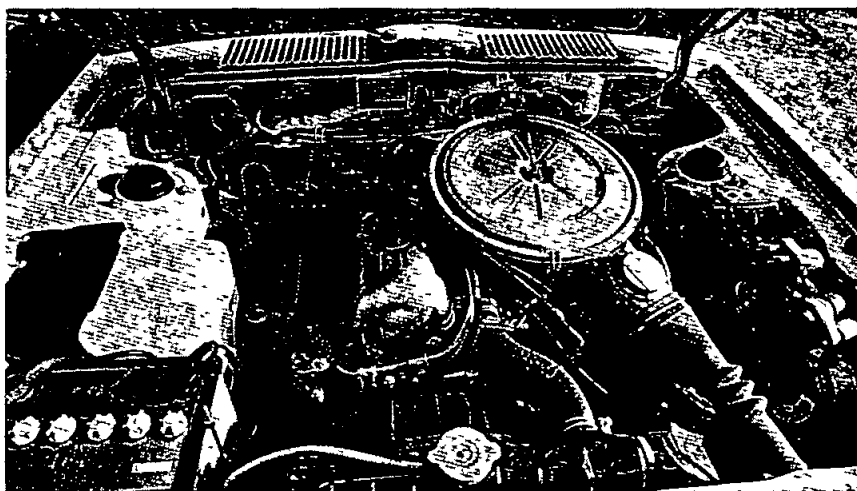




1 The success of the Datsun "luxury" 610 model isn't hard to understand, considering 22 mpg (in our hardtop test car), roadworthy independent suspension with radials, and a good list of desirable standard features

2 Ergonomically, the dash layout of the 610 was fine, the steering wheel didn't obstruct instrument viewing, and the overall interior was good-looking, too. The high belt line of the body made the windows seem a bit narrow for us, though

3 The 2000cc engine introduced last year was surprisingly responsive for a '75, even with the California smog gear. Datsun has improved throttle response and driveability, putting some pleasure into 4-speed driving. And without air, the engine has good accessibility for servicing



Settling into the seat, we found that it gave good support, but it felt a little firm. The cloth inserts really provided a greater measure of comfort than we had found in the previous all-vinyl seats, and also aided in keeping us in place in twisty road cornering maneuvers. Seatback rake is controlled by levers at the hinge point of the seat. Unfortunately, that is also the control that lets the seatback swing forward for access to the rear seat. On other makes of cars, this type of control is being phased out, but Datsun still uses it on all their models. It means that every time the driver swings the seat forward to let someone into the rear, or even to put in a briefcase, he has to fiddle around with the control for a while to find the right position. True, it's a petty annoyance, but it's one of those small things that makes the difference in a car interior.

Seated and settled, we found the relationship of steering wheel, pedals and seat to be well thought out. The design of the wheel allows the driver to see all the instruments and controls, and the design of the seat belts allows a fully belted-in driver the freedom to lean over to roll up one of the right-hand windows without unbuckling.

Instruments are set into three pods in a curved panel in front of the driver, with the controls ranged on an imitation walnut strip just below. Controls are differentiated by shape as well as color, so that there's little chance to reach for and fumble with the wrong one in the dark. Instruments consist of fuel and temperature gauges with a cluster of warning lights in the left pod, a speedometer in the center and a clock, of the electro-mechanical variety that ticks, in the right. Radio and heating-ventilation controls are in the

center of the dash, outside the instrument panel itself.

DRIVER'S VIEW

In the mild weather under which the test was conducted, the engine always started the instant the key was turned, and careful design has kept the "cold start stutters" to a minimum. Power comes in reasonably low in the rev range, which is a good thing, since the engine tends to get buzzy if it is revved too high. An optional tachometer is available to replace the clock in the dash, and we'd recommend it for any serious drivers.

Our car was reasonably well broken in, with several thousand miles showing on the odometer, so the short, straight lever could be used to change the gears with considerable verve. At first glance, the lever seemed to be a little spindly, but on the road, the

transmission and shifter proved to be among the best features of the car

On the road, the 610's independent rear suspension also proved to be a nice feature. Coupled with the now standard radial tires, it made for good handling and a soft ride over most road conditions. As the car is delivered, the suspension is set up mainly for a soft ride. Datsun's racing successes point out that there are a number of things that can be done to improve the road-hugging qualities of the suspension. A set of wider radials to give a bigger footprint, and some small playing around with sway bars, spring rates and shocks, will help the 610 hold its own around a road course with anything the world has to offer. That's probably one reason that Datsun 610 coupes are used as the official cars at Bob Bondurant's School of High Performance Driving.

Rear passengers don't quite have things as good as those in front, at least in the coupe version. The front seats have high headrests, the rear windows kick up in the rear to follow the dictates of a stylist, and the black upholstery and headliner in the test car made back seat riders feel as if they were in a cave.

Behind the seat, the trunk was reasonably roomy, but was deep, and had a high liftover. Carpeting was confined to a vinyl mat at the bottom.

Up front, the engine lives in roomy circumstances, and access to all moving parts is good. Quite possibly, the addition of an air conditioner would have destroyed this good impression, since A/C plumbing tends to loose a barrel of snakes in any well-thought-out engine compartment, unless the compressor and its associated hardware are designed in from the start.

With no air to cut down the performance, our yellow coupe averaged about 22 mpg overall in our driving. This includes a 50/50 mix of freeway and streets. That reasonable mileage, coupled with the high quality construction and the reputation of solidity that Datsun has gained over the years, probably accounts for the fact that the 610 has been a sales success since its announcement—and why it will continue to be one in the future.

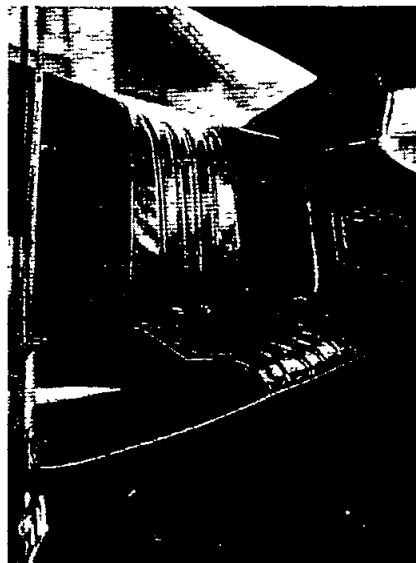
Specifications—1975 Datsun 610

Dimensions	
Wheelbase	98.4 inches
Overall Length	175.0 inches
Overall Height	54.5 inches
Overall Width	63.0 inches
Tread, F/R	51.6/52 inches
Engine	
Type	4 cylinder, OHC
Displacement	1952cc (119.1 cubic inches)
Horsepower/rpm	110/5600
Torque/rpm	112 lb ft /3600
Axle Ratio	3.7:1
Tire Size	165 - SR13 Radial

4 Backseat room in the coupe model wasn't abundant, but the new cloth-and-vinyl upholstery's breathability met our approval. Although the front buckets were firm, they proved to be comfortable even on twisty roads.

5 Like most of the basic-box-shape imports, the 610's pancake trunk lid makes for a high liftover, but the trunk was deep, and roomy enough for most couples or small families.

6 Overall, our favorite things about the 610 hardtop were the handling, responsiveness, and the improved disc brakes and reduced steering effort.



BEHOLD THE 280-Z

THOUSANDS OF SATISFIED OWNERS CAN'T BE WRONG

Recipe for instant success Take a handsome two-place coupe body Put an all independent suspension under it Add an engine capable of giving the whole outstanding performance Season with an affordably low price Serve, then stand back out of the way

That's the recipe of the Z car, and has it worked It's rare to find a Datsun dealer with a Z ready for immediate delivery even today, six years after the first introduction The Z, along with the Corvette, has become a status symbol for an entire segment of the population, and for good reason What was true in 1969 is true today, the Z car gives the most sports car for the money

So much mystique has developed around the Z car since 1969 that it's hard to approach it with an open mind We were able to simply because we may be the only members of the automotive journalist's fraternity never to have driven a Z in any of its incarnations How come? It always seemed as if everyone else always had a reason to get there first However, not too long ago, our day came, and we found a representative of Nissan Motor

USA handing us the keys to a persimmon-colored coupe "There's no air on it," he apologized, but happily, a Southern California summer took mercy on us and kept the temperature in the high 70's and low 80's, so that just opening the windows kept the interior comfortable The equipment on the car did included the standard AM/FM radio with electric antenna, the four speed shift, and the new fuel injected 2.8 liter engine

We're always concerned with seating position when we get into a strange car, because if the car doesn't sit well, nothing else can make it right, especially for a long trip Therefore, it came as no surprise that the 280-Z had high back bucket seats, fully reclining What did come as a surprise was the slightly offset feeling it gave us It was as if the center lines of the seat, pedals and steering wheel were all out of line Perhaps they are At any rate, it took us a considerable length of time to get accustomed to driving the Z, and we always had the feeling that something was just the slightest bit out of whack If we owned it, we'd no doubt get over it We must put in a word here about the upholstery On the 610 se-

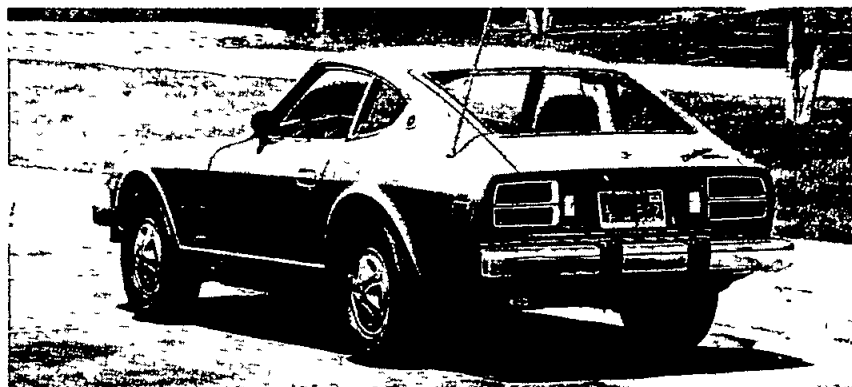
ries, the seats have comfortable cloth inserts, that keep the backside and bottom cool in warm weather and warm in cool weather, and, more important, don't get sticky The Z car really needs them We stuck to the shiny vinyl upholstery every time we got out, and the back of our shirts were always wet Come on, Nissan, you know how to do it right

SHAKING THE GLASS

Driving was something else Fuel economy goes by the boards in a car like this just because it's so much fun to punch it The fuel injected ohc 6 always started on the first turn of the key, and never missed a beat There was absolutely no sign on this car of the de-smogged stutters Our only complaint about the engine is extremely minor It's a little cammy, and doesn't really get down to pulling strongly until you get it over 3000 rpm Then it comes on with a shove in the back,

The Z-car is the GT success story of the 1970's Its styling has not lost any appeal though the car has been with us since 1970 You don't change a good idea until you come up with something better

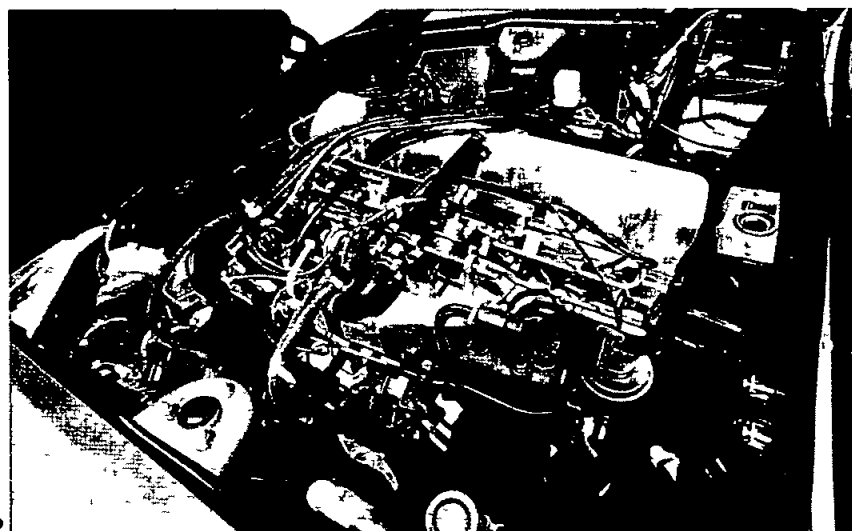




and no wonder. The 168 CID engine is putting out just over 1 horsepower per cube, and each of those horses only has to carry about 16 pounds, as against 23 pounds per horsepower in a non-air-conditioned 610, for example.

Under normal driving conditions, the car is quiet enough so that the FM radio can be enjoyed. Sliding a switch on the center console sends the antenna squirting up out of its nest in the left rear quarter until it thumps on the stops. And since the engine is turning only about 2650 rpm at 55 mph, mechanical noise is down low.

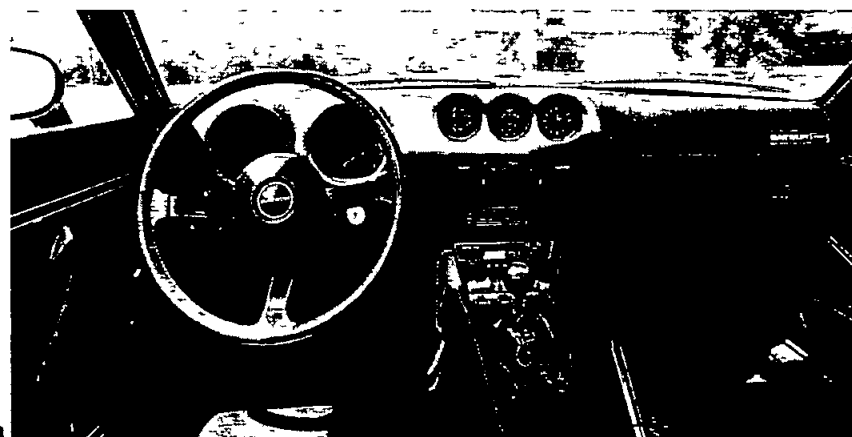
Stand on the throttle in one of the lower gears, though, and things are dif-



1 The 5-mph bumpers have given a chunkier look, but have integrated fairly well with the car's overall proportions. The 280 has not fallen to the chrome decorator's art since 1970.

2 Gone are the familiar SU-type carbs found on earlier Z-cars. The sohc 6 now displaces 2753cc (168 cu-in) via a 3.39 x 3.11-in bore and stroke. Fuel is delivered by Bosch Jetronic "L" electronically programmed, timed fuel injection. California models have the converter. The 280 engine starts instantly from cold and delivers smooth, responsive power.

3 Datsun engineers used good sense when they arranged the Z-car's interior. Semi-exposed electrics in right-hand footwell are the only bad point. Gear change on the 4-speed manual is very notchy at low speeds.

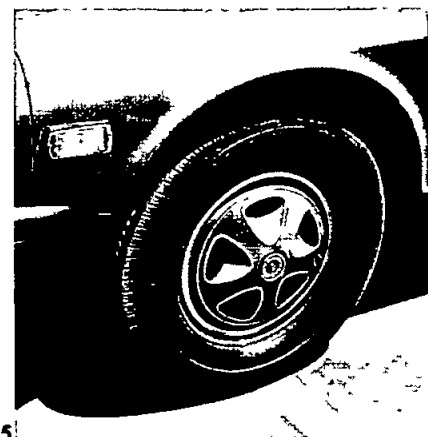


4 Our test car was fitted with Toyo 195/70 HR 14-in tires, and while they are just about the quietest radials we have ever driven, they do not fully compliment the Z's handling potential.

5 The Z is independently sprung on all four wheels, with MacPherson struts up front with lower A-arms and coil spring/shock units at the rear.

6 The roomy luggage area behind the seats is accessible through the elevating rear deck. Straps are needed to secure luggage and other heavy objects.

7 California cars are slightly heavier, and due to the converter, must ride slightly higher than cars delivered to other states.



ferent The intake of the fuel injection system is wide open, and there's some intake roar As the engine comes up on the cam, gear noises increase, and exhaust roar begins to join the symphony Add in the whine of the 70 series radial tires, and some lovely music is heard, until the engine begins to get rough at 5000 rpm All Datsun engines seem to have that characteristic They are smooth as glass at low revs, and get rough and noisy near the top end We would have hoped that the six was different, but it wasn't

Thanks to federal safety regulations, and smog regulations, and bumper regulations, etc etc, the Z car has put on weight over the years, to the tune of about 500 lbs since 1969 Most of that weight has been concentrated in the front end, so here's a sports car that really could use power steering The small, leather wrapped wheel simply requires too much effort when parking or rounding tight corners To remain in the grand touring tradition, power steering should be added as soon as

possible The steering has good road feel and is quite precise, but the effort of turning those fat tires with all that weight on them is more than the average driver cares for Macho, yes, but pleasant over a long drive, no

The independent suspension provides an excellent ride, with just enough of the taut feeling to let you know that you're in a sports car, yet not so much that you're pounded to bits The springs are long, and soft, and well damped

In severe cornering, though, another effect of all that weight up front comes in The car understeers, then suddenly shifts to oversteer This is unsettling, to say the least It's very probable that the four seat version, with more weight in the rear and a longer wheelbase, won't do it A little playing with the stock suspension is in order on the two seater, though And if suspension playing is what you want to

do, there are plenty of parts available, both from Datsun and from outside accessory manufacturers However far you want to go, you can buy the parts Z cars aren't being raced successfully on rubber band suspensions

Aside from the light tail, the only other crack in the Z car image came from the gearbox It could really have been just our car, but the lever was reluctant to move from one position to the next, although the gears themselves changed quietly and smoothly Perhaps the film company that used the car before we did never took it in for its first service

The Z was an entertaining car to live with, if somewhat expensive Hard driving kept the mileage well below 15 mpg, and we wouldn't expect much more than that on our test drive even with a balloon foot Whatever, the 280-Z offers a lot of serious motoring at what is today a bargain price

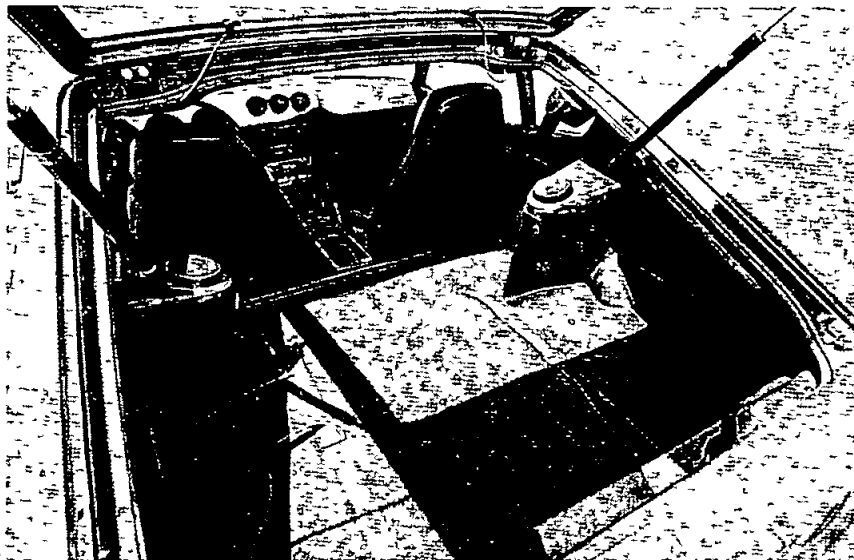
Specifications 1975 Datsun 280Z

Dimensions

	2-place
Wheelbase	90.7 inches
Overall Length	173.2 inches
Overall Height	51.0 inches
Overall Width	64.2 inches
Track, F/R	53.3/53 inches

Engine and Drive line

Engine Type	6 cylinder, Overhead Cam Fuel Injected
Displacement	2753 cc/168 cubic inches
Horsepower/rpm	170/5600
Torque/rpm	177 Lb ft /4400
Axle Ratio	3.54:1
Tire Size	195/70-HR14



THE DATSUN/DREAMER

THIS MINI-MOTORHOME GETS OVER 20-MPG. BUT YOU CAN'T BUY IT ... YET

Well, maybe it's a dream and maybe it isn't, but Datsun, a highly respected name in mini pickups, and Dreamer, a likewise respected name in camper coachwork, put their respective names together in a very exciting recreational vehicle.

Mind you, this one shown here is the pilot model, but it just may find its way into your Datsun dealer's showroom. Like availability, price is also a nebulous factor, but it should be competitive with the competition (Toyota's Chinook), and that would mean about

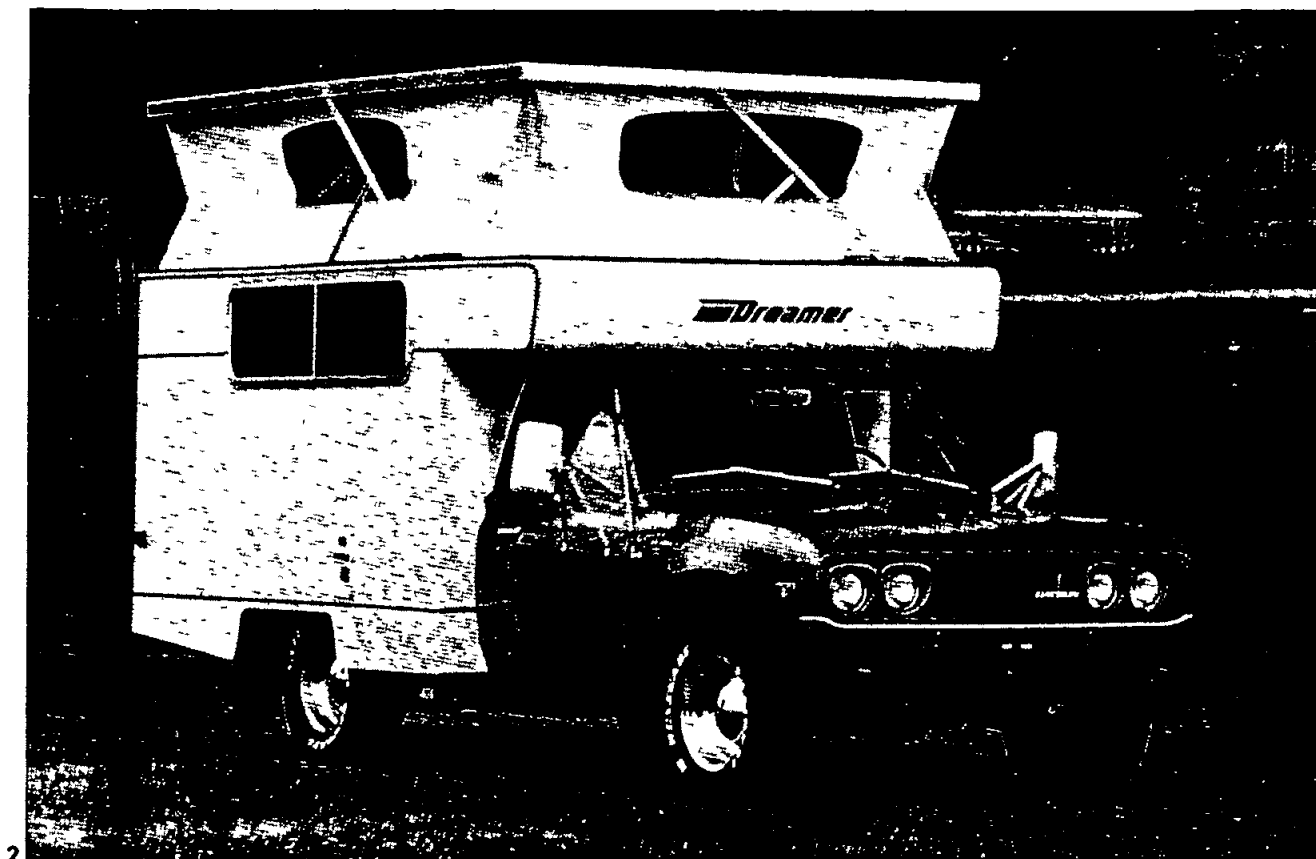
\$6000. Before you have a seizure over the cost of comfortable camping, ponder what else is available (other than Toyota's mini motorhome) at that price that can deliver over 20 miles per gallon. Those big $\frac{1}{2}$ -ton and $\frac{3}{4}$ -ton rigs are hard-pressed to do half as well in mileage.

The Datsun/Dreamer is a mini motorhome designed for the average American family (husband, wife and two children), so accommodations are restrictive if the family is larger or the two children are older (mid-teens).

Dreamer has based this prototype on the Li'l Hustler stretch pickup. The Li'l Hustler handles its mini-house well, thanks to the torsion-bar suspension and ruggedness of the chassis. Stability, braking and performance are quite acceptable and the liftup roof section provides headroom for six-footers without incurring the wind-resistance penalty normally associated with stand-up campers.

The Datsun/Dreamer mini-motorhome is a dream at present, but it may turn into reality very soon.





2



3

1 The Dreamer coachwork presents a low frontal area thanks to the use of a push-up top section with canvas walls. It's a superb sample of integrating the most liveability into the least amount of space. There are no severe problems thanks to the dependable ruggedness of the Hustler.

2 Of course, the truck can't be driven at more than cruising speed (cruising around the camp area, that is) with the "pop-up top" raised, but it gives headroom (and sleeping room over the truck cab) without sacrificing mileage to wind resistance. Getting 20-mpg is a cinch.

3 On either side of the rear-entry door are closets (a Porta-potti could be purchased to put into one), and there's storage space almost everywhere you look. Appliances include three-burner stove, oven, sink and icebox.

4 Floor area is shag carpeted, and drapes at far end allow free access to Li'l Hustler's cab. Vinyl window area assures plenty of light during the day and roll-up window covers provide privacy at night.



4

OLDIES BUT GOODIES

THE ART OF BUYING A USED DATSUN

Younger Datsun enthusiasts may be surprised to learn that the immortal Z-car was not the first Datsun sports car, nor even the first imported into the U.S. So great has been the impression of this classic design that we tend to forget its forebears. Which is too bad, for some of them were fine cars, and would make a good buy today if you are interested in purchasing a good used car.

THE SPORTS CARS

The first Datsun sports model to hit these shores went by the unlikely name of SPL-310. Introduced at the New York Auto Show in April 1962, it was an attractive little convertible powered by a 4-cylinder pushrod engine displacing 1489cc. Datsun dithered over the name of this car, at one point calling it the "Fairlady." But evidently their U.S. marketing types got to the management in time and told them to forget it, so the company reverted to the SPL-310 designation.

When first introduced it was rated at 80 hp and had an estimated price of \$2300, but when serious importation began in mid-'63 the power rating went up to 85 and the list price to \$2465. Datsun was careful to call this car a "sports roadster" rather than "sports car," the implication being that it was not intended for racing. And the company was right, for every road tester who tried one commented that the springs and shock absorbers seemed oddly out of phase with each other, and the steering was both dead and vague at speed. They also carped that everything about the car, from its styling to its mechanical bits and pieces, seemed like a Japanese copy of something British. But the car had its strong points, and they later came to be recognized as areas in which Datsun traditionally excels. One was the detail fit and finish, which was outstanding. Another was the astonishing amount of "extras" included in the low base price, things like a radio, whitewall tires, a tonneau cover, windshield washers, map light, cigarette lighter and seat belts. It even had a few unusual features. The single rear seat

faced sideways, it had a hydraulic clutch, and the top did not fold down in the normal sense, it had to be removed and then folded and stored in the trunk.

With its smooth 4-speed transmission and willing little rockerbox engine, the SPL-310 accelerated to 60 mph in 15 secs and had a top speed of 88 mph. It was an adequate but not spectacular car, and it slowly began making sales inroads among the MG's and Triumphs because of its fine finish and low price. Women liked it even more than men, since the controls were light and it was so easy to drive.

In 1966 came a greatly improved successor, which served notice to the established sports car manufacturers that Datsun was serious about their game. It was officially designated the SPL-311, but everyone called it the 1600, since that was what was written on its side. Outwardly almost identical to the previous model, it had a host of mechanical and cosmetic refinements.

The engine was increased only slightly in displacement, but this was not done simply by enlarging the older unit. In typical Japanese fashion a whole new engine nestled under the hood, with a greatly increased bore but shorter stroke, its cylinder measurements were 3.43x2.63 ins., compared to the SPL-310's 3.15x2.91 ins. Thus the new engine could rev higher, and the power was up to 96 hp at 6000 rpm. Backing up this engine was a new transmission, with synchromesh on all four speeds. It shifted cleanly, lightly and smoothly, greatly impressing everyone who used it, since most British sports cars were still making do with old truck units. Then there were the new front disc brakes and larger 14-in. wheels, which combined to give the 1600 first-rate stopping power and good handling. The car was now 2 secs quicker to 60 mph and could just top 100 mph, a great advance in driving performance.

The 1600's interior was not neglected, either. A new and very attractive console covered the transmission tunnel, a conventional bench seat now occupied the rear, and the top folded

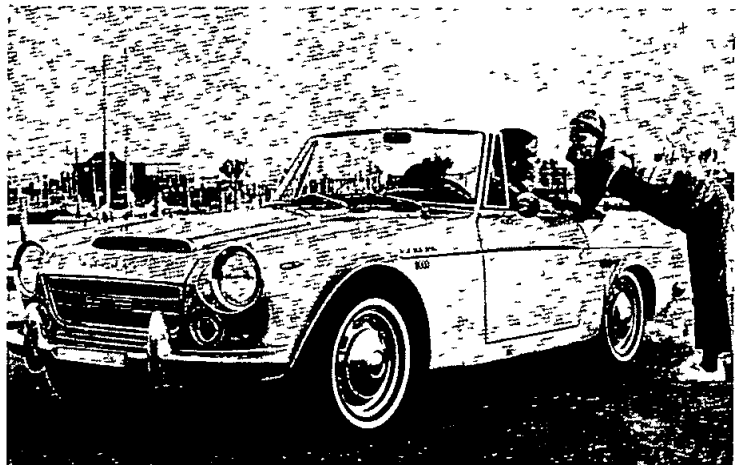
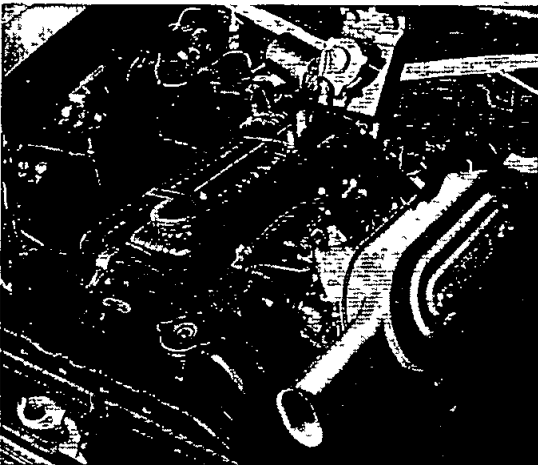
down without removing it. With all of this the price had only increased marginally, to \$2620—and that still included all those extras. So impressive was the 1600 that the most prestigious auto magazine in the country came out and stated flatly that it was the best low-priced sports car sold in America.

Only a short time later, in the spring of 1967, came yet a third revision of the roadster, and this one struck real consternation into the hearts of the traditional manufacturers. The roadster body with its faintly odd-looking front end remained unchanged except for some minor mucking about with the grille, but there were sensational changes to the drivetrain.

Gone was the pushrod engine, replaced by a 2-liter overhead-cam unit. Although greatly enlarged in capacity, the new engine had the same bore as the 1600 but a big increase in stroke, from 2.63 ins. to 3.27 ins. Along with the use of bigger Hitachi carbs and an aluminum alloy cylinder head, the power was kicked up to 135 bhp at 6000 rpm, or over 1.1 hp/cu. in. As if this weren't enough, Datsun also announced that a special 150-hp version would be available, with two Solex twin-throat carbs and a hotter cam. Yet because of the alloy cylinder head, the new engine weighed only a few pounds more than the 1600's pushrod unit, and slipped right into the car without any kind of suspension or steering changes being necessary.

Behind the new engine was a new transmission, a mind-blowing 5-speed all-synchromesh unit that shifted gears slicker than a greased rabbit whisking through a pneumatic tube. The Datsun 2000 (which the factory called the SRL-311) was the only low-priced sports car in the world besides Fiat which had a 5-speed transmission, and the 2000 was much faster than the Italian car. Also new were a higher final drive ratio and wider steel wheels.

With the high-winding new engine and low weight the 2000 was a little stormer. It could now zip up to 60 mph in 10 secs, almost hit 100 mph in 3rd gear if you were willing to over-rev a mite (the redline was at 7000



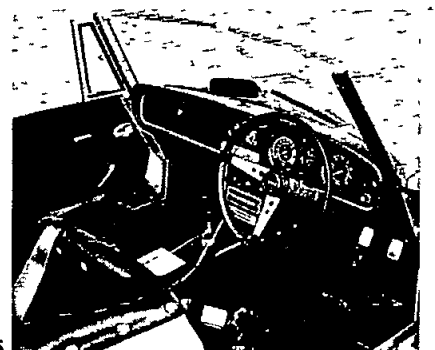
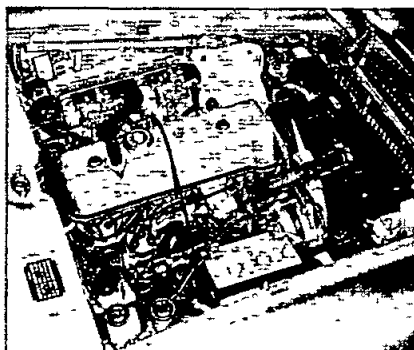
1 And the ladies loved 'em The 1600 became a favorite little car because it was low in cost, easy on the gas, and just plain fun to drive Datsun, where are your sweet roadsters now?

2 The 1600's engine was an uncomplicated little rockerbox that pumped out a healthy 96 hp with little fuss The Hitachi carbs are Japanese versions of the venerable English SU

3 The 2000 retained same body as earlier Datsun roadsters, but had overhead cam and all-synco 5-speed

4 The 2-liter engine of the 2000 had the same bore as the 1600 but a much longer stroke The standard engine was rated at 135 hp, but here is the special 150-hp optional version with its twin Solex carbs and hotter camshaft

5 Each succeeding version of the roadster became more comfortable and better detailed This is the 2000's cockpit, with its big instruments, 5-speed gearshift, and racy-looking steering wheel Note the useful "dead pedal" to the left of the clutch pedal



rpm), and top out at 115 mph in its standard form, the factory claimed 124 mph for the 150-hp version The top speed was power-limited, for the 2000 would actually go as fast in 4th gear as 5th, which was an overdrive ratio The price had gone up again, and was now right at \$3000, still a bargain

The 2000 was a great value with sophisticated mechanicals, and could run

rings around any other low-priced sports car But it still looked rather—well, *Japanese*—and the styling had not changed since the 1500cc Given this impressive track record, however, enthusiasts may well have wondered if Datsun were planning something really spectacular It was

When the 240-Z was announced in late '69, it was a bombshell Its com-

bination of features, styling and low price (or at least a reasonable price) sharply revealed the British sports cars for the venerable antiques they were, and even made more modern designs such as Fiat, Opel and the Porsche 914 look badly overpriced

For starters, it was a knockout looker. And this was no accident, the result of a lucky happenstance by a group of designers working in isolation. In the best (but often derided) Japanese tradition, the best features of the best sports cars in the world were studied at length, and then adapted for use in the Z-car. Gone was the inoffensive but unexciting little roadster, replaced by a sharklike coupe that was reminiscent of the Jaguar E-type, Ferrari GTB and Toyota 2000GT, but blended into a new and stunning shape. A lift-up tailgate gave lots of luggage room, and the plush interior was extremely comfortable. Under the hood was a 6-cylinder overhead-cam engine displacing 2.4 liters, from which the car received its designation. It owed a lot to the 4-cylinder engine of the 510 sedan, since it had the same cylinder dimensions, pistons, rods, bearings and valve gear. Rated at 150 bhp in standard 2-carb form, it could shoot the sleek coupe through a quarter-mile in under 17 secs and could also reach a top speed of over 120 mph.

The other technical specifications were just as impressive, even if not so obvious as the body and engine. A MacPherson strut front suspension (adapted from the 1800 sedan, a large model not imported into the U.S.) with coil springs and an anti-roll bar was good but not unexpected, but the rear suspension was something else. It was an independent setup that owed nothing to any previous Datsun, since it was different from the 510's semi-trailing arm arrangement. Rather like a Lotus Elan, it used large stamped lower wishbones and angled struts to locate the wheels, which were sprung by coils and fed power by splined and U-jointed axles. Notable about both front and rear suspensions were the pains Datsun

took to keep vibration isolated. Rubber bushings were used extensively, the front suspension was on a rubber-mounted subframe, and the supporting bar for the rear of the differential was anchored in large rubber doughnuts. The result was an impressively quiet and comfortable ride, allied with excellent roadholding.

There was simply nothing like the 240-Z available at anything near the price. The announced list price was \$3526 at all ports of entry, but nobody ever paid that little for one. The same disease of "option overkill" that hit the Jaguar XK-E in its early days struck the 240-Z. Dealers, knowing the immense popularity of the car, ordered them from the factory with every conceivable option and then added some of their own, such as the very attractive alloy wheels. In fact, it is almost impossible these days to find a Z with the standard steel wheels. All this rampant profit-taking drove the delivered price to over \$5000, but still the cars sold as fast as dealers could get them, it was that good. The Z-car rapidly became the fastest-selling sports car in the U.S., a position it maintained until superseded by the 260-Z and now the current 280-Z.

THE SEDANS

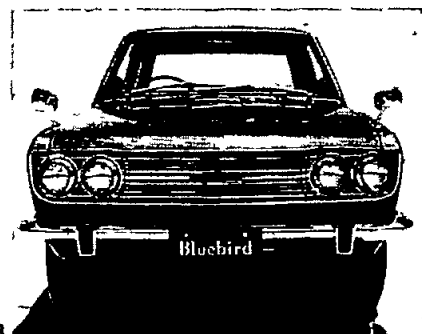
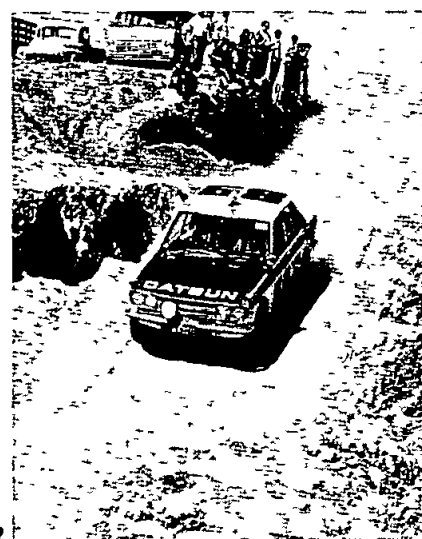
The sports cars provided the pizzazz for Datsun's line, but it was naturally the sedans which accounted for the bulk of sales. In less than 20 years Datsun has climbed from nowhere in the U.S. market to the position of 3rd-best-selling import (and threatening to move higher), and the improvement in its products is just as remarkable.

Datsun first tried the U.S. market in the late '50's with a rather miserable little sedan that was frankly a Japanese copy of an equally miserable English car. It didn't sell too well, for the same reasons that small English sedans have never sold well in the U.S.—lack of power and indifferent engineering. Things improved greatly with the 1961 introduction of the Bluebird, a much better and more attractive car which

also included a station wagon in its variations. It was powered by a 1200cc 4-cylinder pushrod engine developing only 48 bhp, sufficient to allow the squarish car to reach 75 mph. This isn't much performance, but the Bluebird was aimed at the VW market, and 1961 VW's were no balls of fire either. The engine's specifications and even appearance resembled a BMC unit (from which it had been derived), but the growing maturity of the Japanese company was reflected in the body styling and appointments, they showed much more American influence than British, and revealed how seriously Datsun was eyeing the American market. Bench front seat, 3-speed transmission, whitewall tires, conventional design, good ride, low price—they were all there. Datsun was getting its act together.

Datsun sales increased steadily in the next several years, as their U.S. dealer network expanded and more and more Americans found they liked the inexpensive little import from Japan. But in 1967 came a brand-new sedan, so advanced it became an instant success and was almost single-handedly responsible for Datsun's present eminent position.

Originally called the Bluebird 1600, the new car was shortly designated by its Nissan model number—510—since it had nothing in common with the ear-



lier Bluebird. It was a thoroughly modern design with sparkling up-to-the-minute technology, and actually more closely resembled an expensive European sports sedan in its specifications than the usual economy car. The engine was a 4-cylinder single-overhead-cam unit with cylinder dimensions of 3.27x2.90 ins (83x73.3mm), which showed that this was really a new engine, not just an overhead-cam version of the earlier 1600 pushrod engine. It featured such goodies as an alloy cylinder head and five main bearings, making it more durable than the 1600. Although its peak power was the same—96 bhp—the 510 engine developed it at a lower rpm and also had only a single carburetor and mild valve

1 The Bob Bondurant School of High-Performance Driving used Datsun roadsters and sedans to teach neophyte race drivers the tricks of the trade. Here a student leads the way out of a sweeping turn in a 1600, while watching over him is Bondurant in a 2000.

2 When prepared for off-road racing the 510 was a formidable competitor, as its light weight, strong engine and independent rear suspension enabled it to trounce many more expensive cars.

3 When the 510 sedan was introduced in 1967 it was originally called the Bluebird, the same rather delightful but quixotic name as a previous Datsun sedan. The name was soon dropped in favor of the pragmatic but sterile numerical designation. But it was a great car under any name.

4 The 2-door sedan was the most popular of the 510 line, since it appealed to such a wide variety of people. Its economy attracted the budget buyers, its clean lines satisfied those who had been repelled by the ugliness of most imported economy cars, and its advanced technical specifications drew lavish praise from sports car enthusiasts.

5 The 4-door 510 was no less handsome than its 2-door brother, and offered family-size comfort and convenience at a bargain price. Automatic and air were popular options.

6 Most practical of the 510 line was the station wagon with its large lift-up tailgate and generous cargo room.

timing. An all-synchromesh 4-speed transmission with Datsun's typically light action delivered the power to an independent rear suspension, the first on a Datsun sedan and the best on any economy car made anywhere. Its semi-trailing arm arrangement was, in fact, quite similar to that of a Rolls-Royce! The rear of the differential was supported on a short transverse leaf spring, while coil springs mounted atop the trailing arms attended to the main suspension function. The axles were splined and double-jointed, and the whole setup was as sophisticated as could be desired. The front suspension used a MacPherson strut with trailing links, anti-roll bar and coil springs, front disc brakes were standard. Datsun really over-engineered the 510, and it was a revelation to economy car buyers the world over who had grown to assume that low-priced cars had to be nasty and primitive little affairs which shouted to the world how penny-pinching their owners were.

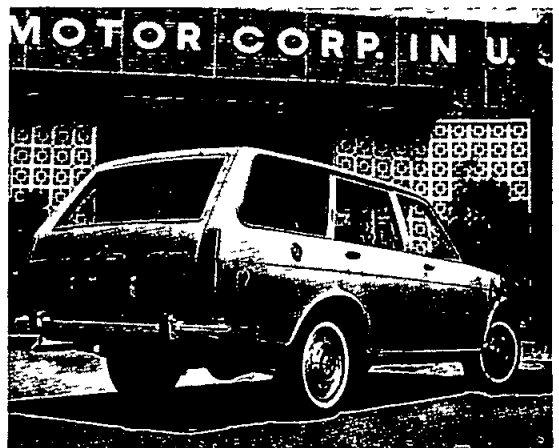
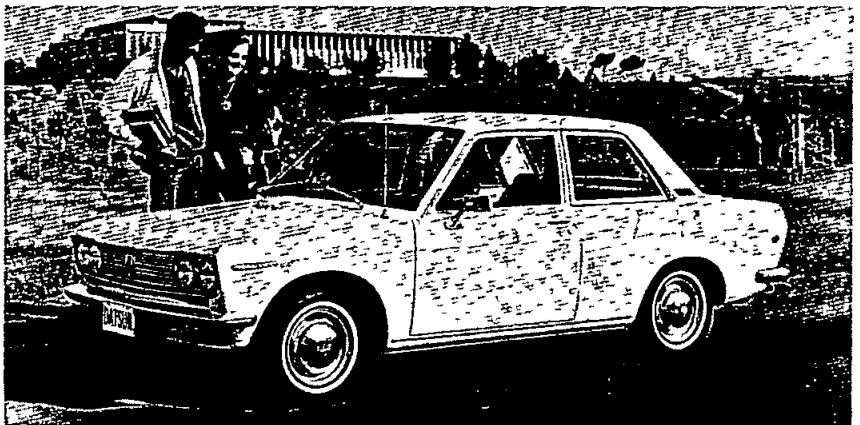
Best of all to the non-technical buyer, the 510 was a very attractive car. It had harmonious proportions, clean lines and lots of glass. It was modern-looking without trying to emulate some ego-tripping long-hooded sports car, yet practical without appearing drearily dowdy. Slightly larger than its predecessor in all exterior dimensions, the 510 was hardly a large car, yet it had

an abundance of interior room. The seats were comfortable and covered with an exceptionally soft vinyl, unfortunately, they were not adjustable for rake. There was a fair amount of luggage space, certainly more than in the space-inefficient VW Beetle.

But enthusiasts quickly found that the practical housewifely face which the 510 presented to the dollar-conscious buyer did not hide the sexy siren that lurked enchantingly within. The 510 was fun to drive, and could be hurled through corners fast enough to give fits to BMW and MG drivers. Its 1600cc engine was no larger than a VW's, yet it developed 50% more power and was a lot quieter to boot. It was inevitable that it would be raced, which was exactly what happened.

With the 510, and later reinforced by the 240-Z, Datsun gathered in hordes of both economy car buyers and sporty car customers. It had successfully established its image as a builder of sporty and technically advanced small cars, in contrast to Toyota's image as a maker of "luxurious" small cars.

In late '70 Datsun consolidated its economy line with a value-packed small car, the 1200. It was an outgrowth of a yet smaller-engined model, the Sunny, which was not imported into the U.S. A truly small car with a 90-in wheelbase, the 1200 was an attractive little fastback coupe which



looked rather like a pocket version of an early Mustang fastback. Its little 1171cc pushrod 4-cylinder engine developed 69 bhp at 6000 rpm, an efficient 1 hp/cu in. It was enough to push the light 1650-lb coupe to over 90 mph while getting about 30 miles per gallon. Its chassis engineering was nowhere as sophisticated as its bigger brother's, but it did have unibody construction and front disc brakes. Inside were all the usual Datsun amenities including fully adjustable front seats, while the rear seat folded down to create really generous cargo space. At its low list price of \$1916, it was a bargain. The current B210, Datsun's price leader, is a slightly enlarged version of the 1200.

All of the current models in Datsun's comprehensive lineup—B210, 610, 710, 280-Z—are covered separately in this book, so we won't go into them here.

SHOPPING AROUND

What to look for in a used Datsun? First you had better decide exactly what model you are most interested in. For example, if you simply must have a rag top, then the three versions of the early roadster (SPL-310, 1600, 2000) are the only ones which will fill your bill, as all other Datsuns are hardtops. (It is rather surprising that no convertible version of the 240-Z was ever offered.) If running costs and fuel economy are all-important to you, then you'd better forget about the glamorous Z-car and stick to the smaller pushrod 4-bangers. A 510 station wagon would be the most utilitarian, while the most luxurious would be a used 610. And the fastest would naturally be the 240-Z.

It would be best to forget about the SPL-310, unless you have an abiding interest in history—it was the first Datsun sports car. The 1600, with its short-stroke engine, bigger wheels, disc brakes and all-synchromesh transmission was just a much better automobile. It

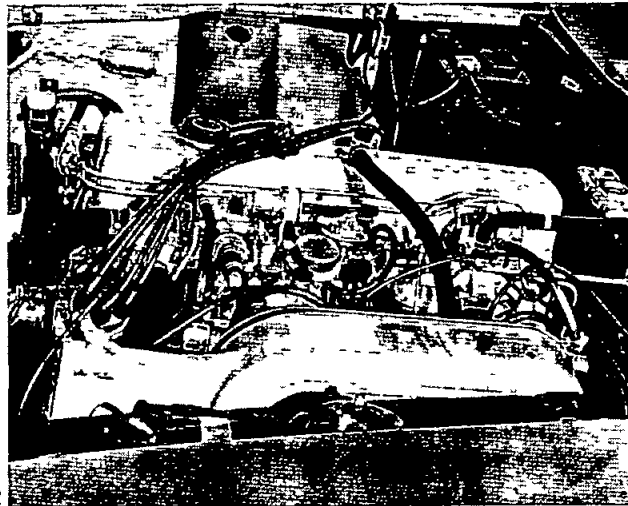
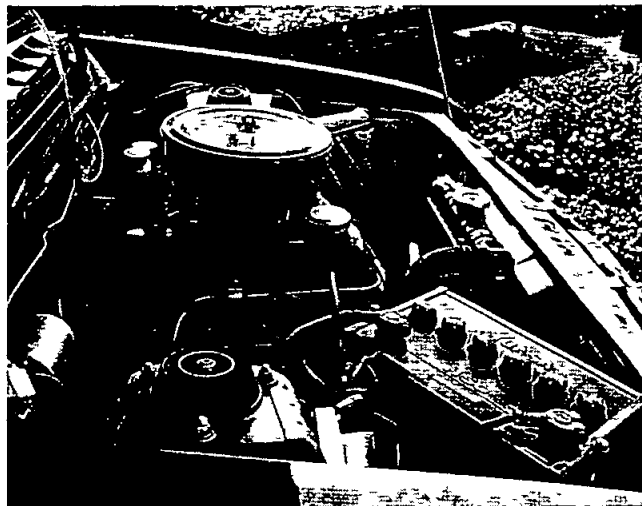
is also a most frugal machine, being noticeably more economical than the 2000 or 240-Z. It should get a reliable 25 mpg, a mileage which only the smallest-engined Datsun sedans can better. And it is sturdy and uncomplicated, virtues which make it reliable and easy to work on. Things to watch out for on this model are rubber components such as weather stripping and window moldings, many of which were susceptible to ozone attack in areas which have a smog problem. If the rubber is in good shape and you buy the car, preserve it with ArmorAll or some other rubber preservative. The rocker panels of this model were also susceptible to rust in damp climates, so check carefully to avoid grief later.

The 2000 roadster is the best compromise if you want a roadster and good performance. It costs very little more than a 1600. At the time of this writing, '67-'69 1600's are selling for approximately \$1500, with a \$300 leeway either way depending upon condition, good '69 2000's are going for around \$1900. These prices will probably not change very much in the next few years, as normal depreciation will be offset by rising demand, for these cars are roadsters (no longer available from Datsun—or practically anybody else, for that matter) and they are more economical than the Z-cars, a desirable thing in a world of increasing fuel costs. The same faults noted for the 1600 apply to the 2000, except that the rubber quality was better by the time of the 2000's introduction. The tops of these roadsters are also subject to cracking, as are the tops of any convertible. Make sure you see the car with its top up before you buy, even if it's the hottest day of the summer in Death Valley. The same thing applies to the heater. And don't forget all those rubber hoses under the hood. The 2000 is also the most satisfying Datsun to own, in a certain perverse way. Since its undramatic shape is the

same as the 1600's, it's a real "sleeping beauty." It's easy to provoke unwary Triumph and MG owners into an impromptu contest, since they can't believe that funny-looking little Japanese car really has any beans—until you haul off and leave them fumbling for 3rd gear. Driven gently, the 2000 should be quite economical. Until recently it was the only Datsun offered with a 5-speed transmission, and remember that the 5th gear was an overdrive ratio, which means relaxed cruising and good economy on the highway.

The Z-car is something else. Even now, you are going to be hard-pressed to find a '70 240-Z for under \$3000, and then only if it's not up to snuff in some respect. This must make the original owners very happy indeed, for the 240-Z has proven to be about the slowest-depreciating car around, in spite of the large numbers of them imported. Because the 240-Z is a fairly powerful car, it is sometimes not easy to tell if one that you are examining is in a poor state of tune. If you're used to driving something considerably less powerful, a Z will feel like a rocket even if it needs some strong attention from your local wrench man. It's always a good idea to take *any* car you're considering buying to a reputable mechanic or a diagnostic center, but with a complex and expensive machine like the Z it is almost mandatory, unless you're an ace wrench yourself and very familiar with the Z. A sensitive point on earlier versions (up to '72) was front end alignment, if this was not right on, the car tended to wander at high speeds and the steering effort was high.

In used sedans there are only the 510 and 1200 up until the '73 model year, when the luxury 610 made its appearance. Of these, the best buy is assuredly the 510, as its better performance, independent rear suspension, and greater interior room make it a much more satisfying vehicle to own.



than the less sophisticated 1200, yet you don't have to pay a price penalty. The current range for '69-'72 510's is \$1100-\$1650, about the same as '71-'72 1200's. And despite its sparkling performance, the 510's engine only displaces 1600cc, so it is still quite economical. A few things of which you should be aware is that earlier 510's did not have cigarette lighters or armrests or reclining seat backs, so if you want these things, be sure to look for them. Datsun sedans also seem to be more prone than usual to the rare disease of a cracked windshield, but it goes without saying that you shouldn't buy a car with a cracked windshield unless it is replaced *first*. While on the subject of windshields, small rock chips and pitting from sandstorms are much more noticeable from inside the car

1 *The 1200's engine was a sturdy and thrifty 4-cylinder unit with pushrod-operated overhead valves. A gas miser, it could easily yield over 30 mpg, yet could push the lightweight little car at speeds up to 90 mph*

2 *The 240-Z's 6-cylinder engine displaced 2.4 liters and was rated at 150 hp. The plumbing looks a little complicated, but that's mostly because of the anti-smog gear. The basic engine design was very sturdy, and used many interchangeable parts with the 510 sedan*

3 *The classic 240-Z took the sports car world by storm when it made its debut in late '69. Astonishingly low in price, its shark-sleek skin covered a powerful engine and a very advanced chassis. There are no cheap Z-cars*

4 *The 1200 was Datsun's price leader from 1970 to '73. The sporty fastback coupe is the best remembered model from this line, but the 2-door sedan would probably be a better buy now*

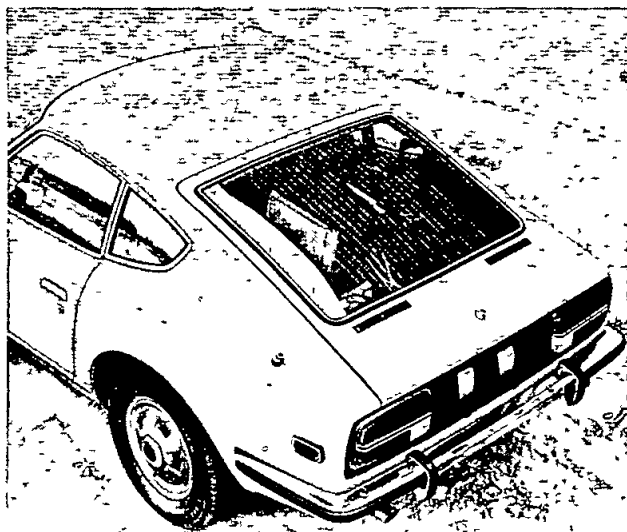
5 *Among the many extras included in the 240-Z's base price was an electrically heated rear window for its large tailgate. The standard wheels had the stamped steel hubcaps shown here, but most buyers ended up with the optional wide-rim alloy wheel with wide radials*

looking out than from outside looking in, so check carefully for these minor but important hazards to visibility.

Other than these little hints for specific models, you should naturally apply rules that hold for any used car. Again, the best bet is to take the car to a mechanic you trust. Most dealers will let you do this, but some private parties may balk. Better keep your money in your wallet. There are many things you can do on your own, however. Check all the vital fluids. It's okay if the oil's dark, but it better not be gummy, if so, it hasn't been changed in a long time or the owner has added a lot of STP to quiet down something serious. Unscrew the oil filler cap and take a peek at the overhead cam (or rocker shaft, if the car has pushrod valves). Is it clean with a transparent oil film all over it, or can you see a lot of sludge and varnish? If the latter, the engine has not had its oil and filter changed regularly, which means a lot of internal wear. Does blue smoke come out the exhaust, particularly when descending a hill with the throttle closed? Then the rings need replacing, *now*. If you can get

the car up in the air, remove one front wheel and the cap for the wheel bearing. Check the condition of the bearing and the brake rotor. If the rotor is scored from neglecting to change the brake pads in time, and/or the bearing is bone dry or falls out in pieces, you not only have expensive parts to replace but it is a sure sign of neglect in other areas.

Don't let these little horrible possibilities frighten you. Datsuns are among the sturdiest and most durable cars ever made, and most parts are relatively inexpensive. Datsun dealers are now widespread, will be glad to examine your prospective purchase, and are invariably honest. They have to be, they are pretty well controlled by the factory, which is very conscious of what has happened to a great many other imported car makes which grew careless about customer service. Datsun owners have a high loyalty to the marque, the dealer knows that even if your first Datsun is a used one from somebody else, your next one may very well be a new or used one from him, so he's going to do his best to keep you as a customer. Happy hunting! 🐾



NEW WAYS TO GO

A LOOK AT ALTERNATE FUEL SYSTEMS FOR DATSUNS

With Congress pulling one way, the President pulling the other, and no Energy Program in the foreseeable future, you and I, and good old John Q Taxpayer, have only one thing we can rely on. Like death and taxes, it is inevitable that the cost of fuel is going to go only one way UP! With this in mind, it will behoove us to take a close look at some alternate power sources. They, too, are going to go up, but hopefully not quite as high as gasoline.

Propane is currently selling for 42¢ per gallon, and is the darling of the environmentalists. You can climb on the clean air bandwagon and save some money, too.

Jody Nicholas, Technical Editor of our *Motorcyclist* magazine wants to keep the desert air clean, so he took his Datsun 1600 Pickup to Ak Miller Enterprises at 9236 Bermudez in Pico Rivera, Calif. Ak installed a complete propane kit along with a turbocharger to help hustle the little fella over the Angeles Crest highway with no strain at all, even when carrying a load of Cycles out to the desert for a *Motorcyclist* road test.

In addition to being cheaper than gasoline, propane has other more esoteric virtues that aren't readily apparent. Propane burns cleaner because it has only 3 atoms of carbon per molecule, as opposed to 5 or more in a molecule of gasoline. Being a gas at atmospheric pressure, propane burns both leaner and cleaner, since it mixes completely with the incoming air in the cylinders. There is little if any carbon formation in the combustion chamber, and plug fouling is nil, with no crankcase dilution. You eventually have to drain the oil because it gets thicker, rather than thinner. With an

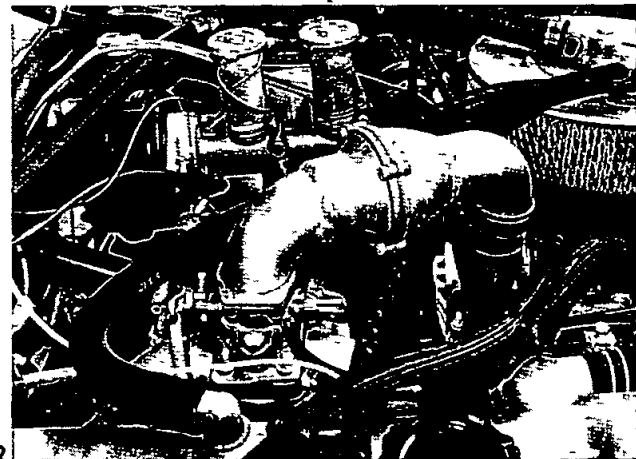
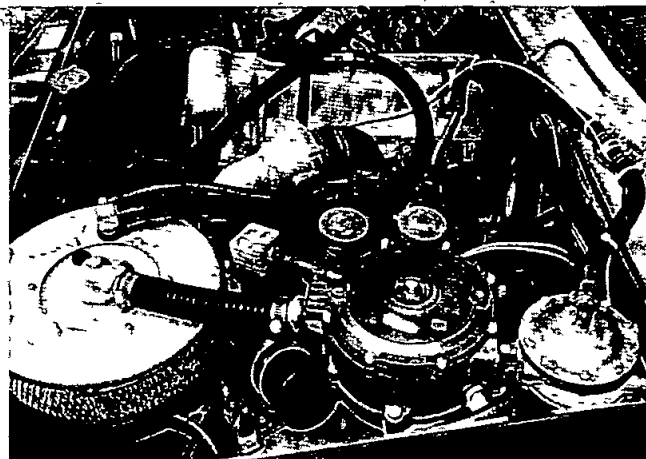
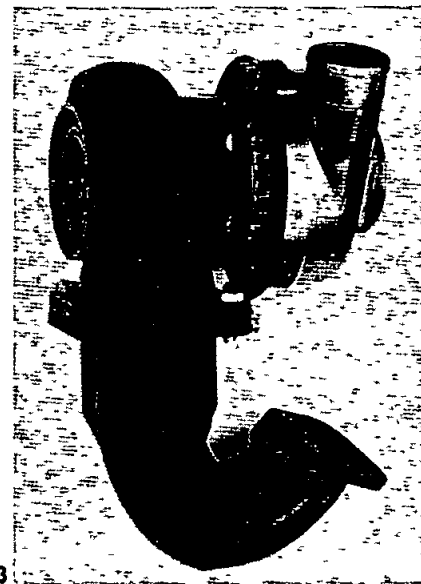
octane rating of 105, propane is equivalent to aircraft gasoline. Good automotive gasoline is rated at about 94 octane. Propane can be squeezed tighter by raising the compression, or turbocharging without detonation. With less carbon, propane doesn't burn quite as hot as gasoline, hence doesn't deliver quite as many British thermal units (BTU) per gallon, and it is heat that does the work in an internal combustion engine. However, propane weighs only 4.25 lbs per gal while gasoline weighs 5.87 lbs per gal. When you compute output in pounds of fuel per hour, per horsepower, as is done with aircraft engines, propane becomes quite efficient.

PICTURES TALK

Follow the pictures and let's take a close look at this installation. The pressurized liquid propane is first piped to a vacuum controlled shutoff valve. This valve opens after the engine develops a vacuum while being turned over by the starter, a situation that serves two purposes. Liquid propane is stored at just under 200 psi, depending on ambient temperature, so there must be a valve in the line to prevent fuel flow when the engine isn't running. But, there is no float bowl in a propane carburetor. Secondly, it shuts off the fuel if the engine stops accidentally, pun intended. The Impco converter (heat exchanger) has a big sponge in the lower section that retains enough fuel to get the engine going on that first cold start. Propane, butane and LNG (liquid natural gas) are stored under pressure, because they will boil away very quickly at normal atmospheric pressure. Even on a cold start, liquid propane will become a gas almost immediately after passing

through the pressure regulating converter, and emerging at atmospheric pressure. Within seconds after the engine starts, warm water begins to flow through the converter, changing the incoming liquid propane to a gas much more efficiently.

The vaporized gas is next routed to the Impco carburetor, which is fully enclosed by the air filter. The carburetor is designed to fit inside the air filter so that the entire unit can be installed on top of the stock gasoline carburetor. It takes no more room than the original filter, and therefore provides a dual fuel option whereby you can operate the engine on either gasoline or propane. The Impco carburetor operates like a European Solex carburetor, in that it's a vacuum controlled unit, responding to the throttle setting. As the throttle butterfly opens and the vacuum drops, the carburetor



1 From firewall forward we have, first, the vacuum controlled shut off valve, an Impco heat exchanger and pressure regulator, then the Impco Propane carb inside the air filter

2 Boost control valve is located in the intake duct. Predetermined spring loading limits boost pressure. The turbocharger is buried out of sight alongside engine close to exhaust

3 This is what you can't see, the exhaust driven turbine (black) must be close to exhaust outlet to avoid heat loss. Turbine blower (silver) has intake to carb at right. Charge exits upward to boost control valve

4 Impco Propane carb fits inside the air cleaner. Unit can be installed atop gasoline carb for a dual fuel system. Carb is vacuum controlled

5 Close up of Impco heat exchanger and vacuum control valve. The heat exchanger is heated by engine water to convert liquid Propane to vapor. Unit contains a pressure regulator. Economizer valve leans mix at cruise to a 17:1 air/fuel ratio

6 Crown Mfg Co gasoline turbo may be short on economy, but it will almost double your horsepower. This installation has a Hitachi SU carb, and should have an air cleaner. If your car is registered in Calif., you can forget this setup, it is a no-no. Although super clean at cruise, it is heavy on emissions at start-up

7 Tony Capanna can slip a small Nissan diesel into your Datsun for a price. Both the Z-car and 1600 pickup are equipped with diesels. You have to do a lot of driving to recoup your investment, but they do run cheaper, and almost forever

slide rises, conversely as the vacuum rises when the throttle closes, the slide drops

NEW POINT

Up to this point, the system we have described is the standard propane conversion, either straight propane, or while used in conjunction with your gasoline carburetor as a dual fuel system. If you choose dual fuel, and live in California, you will have to retain all the stock smog control devices in order to be legal. This will negate the whole deal, one of the primary reasons, besides fuel cost, for going to propane being to get away from those performance-strangling smog controls.

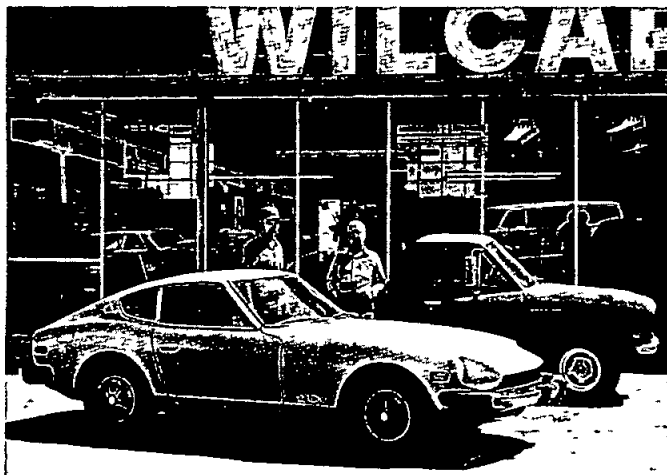
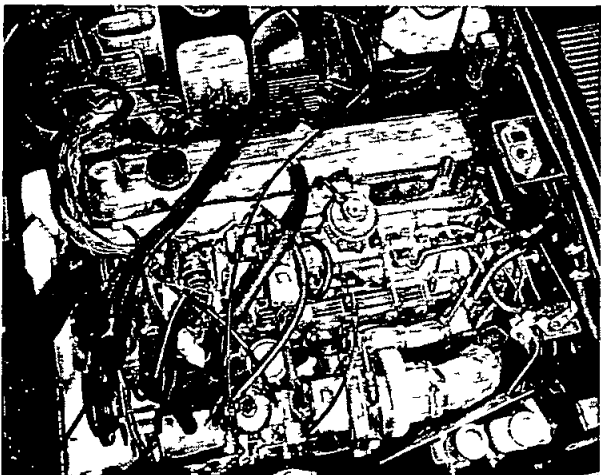
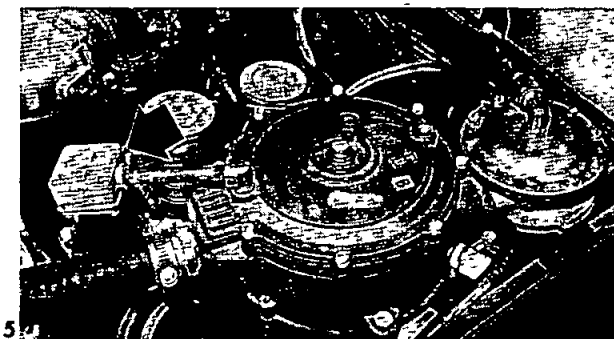
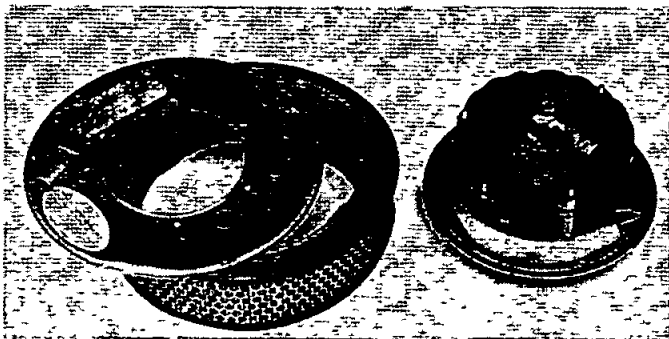
To get even better performance, hang on a turbocharger and grab your hat—this is hard to believe—you will pick up 60 to 70% more torque along with 30 to 40% more horsepower in addition to a mile- or a mile-and-a-half per gallon increase. There is a free lunch after all. You are making more horsepower and burning less fuel. Actually, you are burning about the same amount of fuel, but you are burning it more efficiently by boosting the compression ratio.

A turbocharger is a peculiar little machine, it looks like a pair of vacuum cleaners back to back. Engine exhaust drives one impeller, which spins a second impeller to force the air/gas charge into the engine. Exhaust gas is wasted power, a turbocharger puts this

free power back to work, thus recovering some of that wasted energy. Perhaps this is where the mileage increase comes from.

In addition to looking peculiar, turbos have another little idiosyncrasy that you must compensate for. Like the old Stanley Steamer, you don't hold one wide open very long. Since a turbo is driven by exhaust gas, it just so happens that the more fuel you stuff into the engine, the more exhaust you get back—which in turn stuffs in that much more fuel (the faster you go, the faster you go). The end result of this self-perpetuating merry-go-round will be a rod through the side of the engine, if you hold the throttle open too long.

To overcome this little eccentricity, racing engines utilize a spring-loaded exhaust bypass valve (called a wastegate) between the engine and the turbo. We use a TC2 boost control valve (called a poorman's wastegate) in the intake system. The TC2 is available with a selection of spring tensions that preset the valve at a maximum boost pressure. As the boost begins to approach the preset value, the valve begins to close, cutting down the charge entering the engine. This in turn reduces the amount of exhaust leaving the engine, thereby slowing the turbo and lowering the boost pressure. It prevents a runaway engine at full throttle. For normal street use, the boost begins to occur at 2300 rpm and



reaches a maximum of 10 to 11 psi at full throttle

THE BOTTOM LINE

If all this sounds too good to be true, let's look at the bottom line. Ak Miller gets \$1200 for a propane turbo conversion, including a 40 gallon tank. A straight propane conversion less turbo runs about \$600, while a gasoline turbo installation comes to only \$580. If you have a fat wallet and are more interested in performance than economy, a gasoline turbo is a great way to go.

The Crown Mfg Co of 858 Production Place in Newport Beach, Calif., makes the turbocharger installation that we show here for use on the Datsun Z-car 6-cyl engine. This kit develops some very impressive numbers. The 'stock engine is rated 135 hp at 3500 to 5500 rpm. With a Crown turbo the little 6 puts out 140 hp at 3500 rpm, 260 hp at 5000 rpm before dropping back to 255 hp at 5500 rpm on only 9 psi boost. This is almost doubling the horsepower! There is no free lunch on this job, though. More horses eat a lot more fuel, *but they do go fast*.

Unfortunately, gasoline-powered turbocharged engines are a "no-no" in California, due to the fact that they are very heavy on emissions when starting. At cruise they are actually cleaner than a stock engine, in spite of all the latter's smog equipment.

All you lucky people—out there where the air is clean—can stuff a big herd of horses under the hood with this Crown Kit. The Crown Mfg kit for the Datsun Z retails for about

\$625, but don't bother to write if your car is registered in California.

So much for cost-be-damned performance. Now let's get back to more practical matters. Diesel—at 46¢ per gal—has the highest BTU rating of all fuels. Translated, this means that it has more carbon and develops more combustion heat than any other fuel, remember, it is *heat* that does the work. Tony Capanna of Wilcap Co., 2930 Sepulveda Blvd., Torrance, Calif., will slip a Nissan diesel into your Datsun that will not only increase the horsepower, but will increase the mileage as well—on *cheaper* fuel. Tony has Chrysler/Nissan diesels available from little 2-cylinder models, to 4's, 6's and a 908 cu in monster V-8 that he will install in anything you care to set before him. His most popular conversion is a 4-cylinder diesel in a Pinto that delivers an honest 85 mpg with a 2.79:1 rear end at a steady 55 mph cruise. This little job will squeeze out 55 mpg around town!

STRONG VALUE

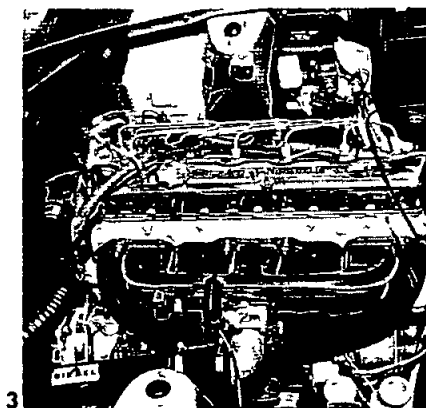
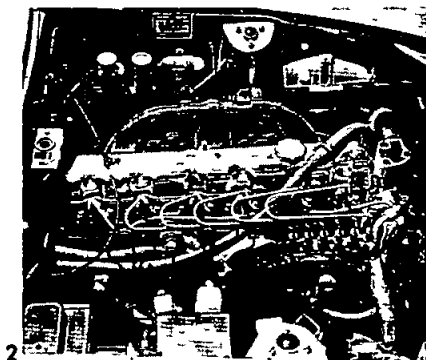
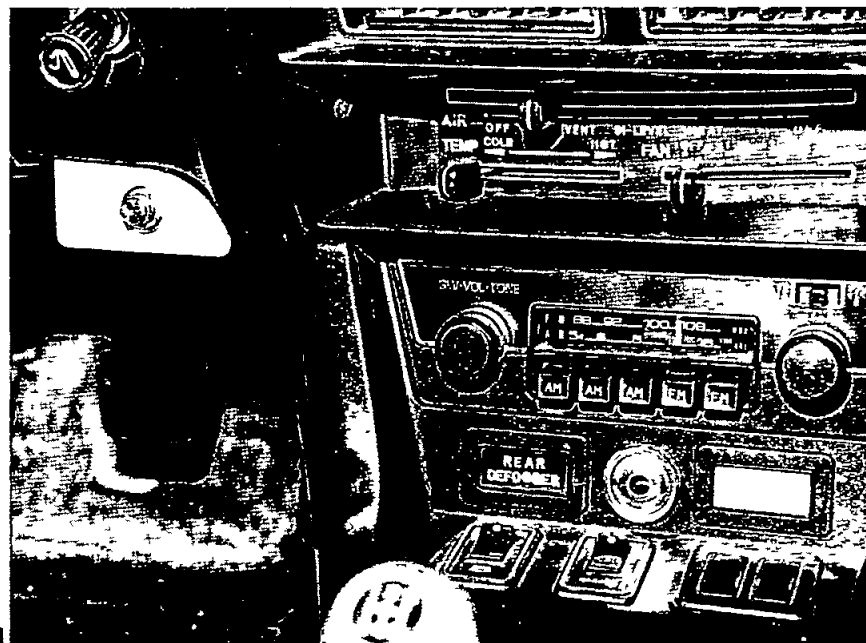
A diesel has a great many advantages. In addition to mileage and horsepower, on cheaper fuel, a diesel develops tremendous bottom-end torque, and you can put it in high gear and almost forget the transmission. Increased torque relates to the ability to pull much higher gear ratios, thereby gaining better mileage. A major advantage, however, won't become apparent for several years. And that is, with added horsepower and a compression ratio of 22:1, a diesel engine does have to be stronger (read "heavier"), a slight drawback. However, being stronger the

engine will wear forever—at least 100,000 miles before having to touch a wrench to the engine is not unusual.

One of the gasoline engine's prime maintenance problems—the electrical system—is eliminated in a diesel, the latter simply doesn't have any. It does have a set of glow plugs that are used on cold starts only. With the 22:1 compression ratio, the air in the cylinder is squeezed so hard it becomes almost red hot. When fuel is injected into this super-heated air it ignites instantly.

The Datsun 1600 pickup that we show you here belongs to Jim Reynolds of Torrance, Calif. The Wilcap conversion cost him about \$2700. Obviously, you will have to do a lot of driving to justify the added cost, but that is the name of the game with a diesel. It will run forever. Jim can look forward to wearing out a couple of cars before he will have to overhaul the engine. This little 4-banger is rated at 2200cc displacement, with 110 lbs.-ft. of torque. At present, Jim's pickup is running a standard 4-speed manual transmission with a 4.38:1 rear end, far too low a ratio with this much torque available. Jim is going to install a Vega rear end with 2.53:1 gears, a fix that will get the truck into the ball park with the high mileage Pinto. If he wants more power, Tony can install a turbocharger for an additional \$500 that will deliver 15 to 17 more horses.

The stronger and heavier engine



added another 200 pounds up front, but adjusting the little pickup's torsion bar suspension took care of the problem nicely

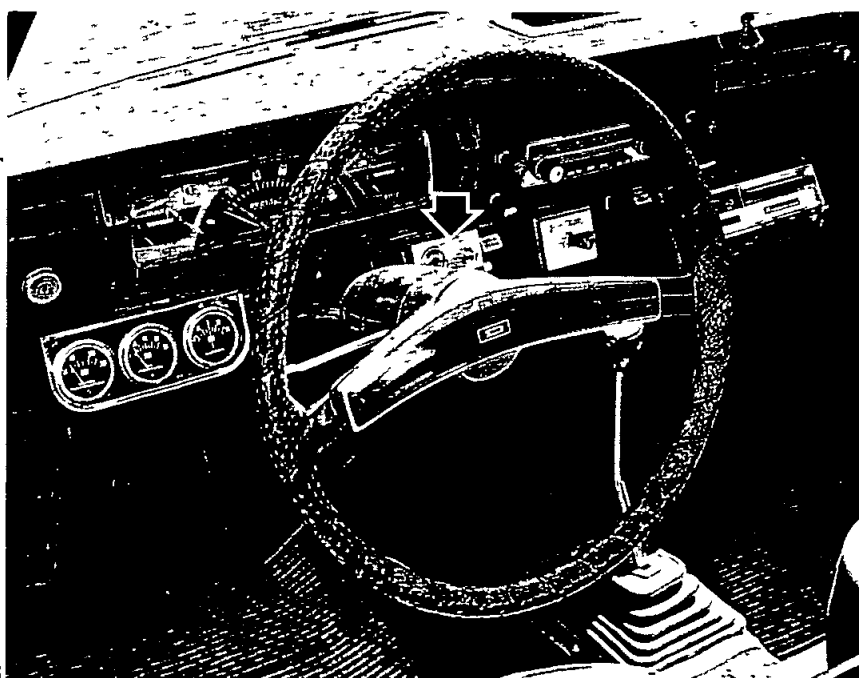
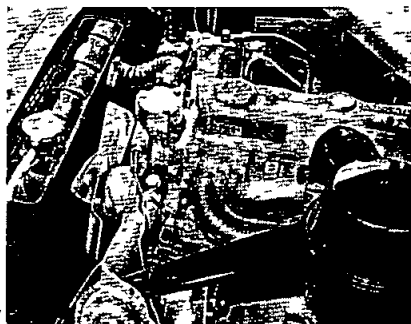
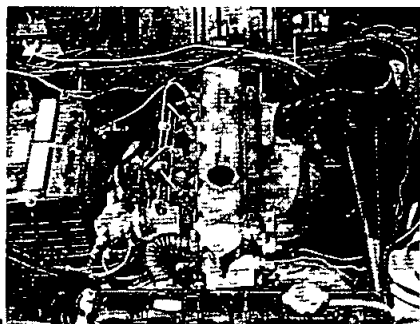
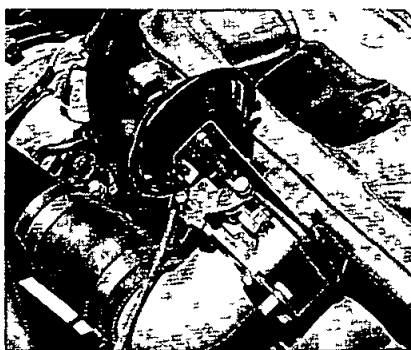
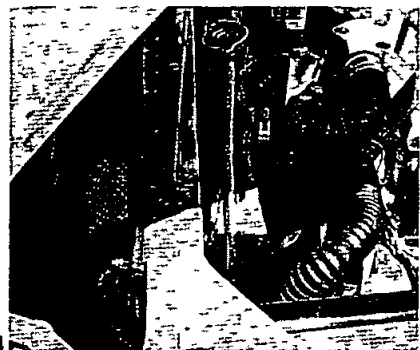
The Datsun Z-car shown here comes with a 2060cc engine. When Tony shipped a 6-cylinder diesel under the hood, the displacement jumped to 3246 cc (198 cu-ins). This workhorse is rated at 105 hp with 165 lbs-ft of torque. A turbo will add another 25 horses to this underhood stable. The 5-speed manual transmission comes stock with the 5th speed being a .865 1

(13%) overdrive. Tony reworked the OD to a .57 1 (43%) OD. With a 3.36 1 stock rear end this works out to a final drive of 1.92 1. At present, the car delivers over 56 mpg as opposed to only 28 mpg on gasoline, but still Tony isn't satisfied. With such an aerodynamic body design he should get even better mileage. The car picked up 210 pounds more weight, but no suspension changes were necessary. This little job, less air conditioner and turbo will set you back a warm \$4000. You will have to live with this little bomb for a lot

of years, and do a lot of driving to recoup your investment, though it's for sure that you're not going to wear it out.

If Bill Lear and some of the others get their acts together, we may someday get a steam engine, or better yet, a turbine. Having had the privilege of driving one of Chrysler's experimental turbine-powered cars back in the '60's, we're still not convinced that it isn't the way to go. They were smooth as silk, and with today's space-age metallurgy, building the turbine would be no problem. Economy *was* a problem, but a turbine—like a diesel—will burn anything that you can ferment or distill, from cow dung to rotten banana peels.

In the meantime you better get used to smaller cars. Our solution has amounted to more than 28,000 miles on a 45-mpg motorcycle during the past two years. "Let the good times roll."



1 Cockpit additions include a pushbutton switch and indicator light. Pushbutton energizes glow plugs in each cylinder to initiate ignition. In a cold start, glow plugs are ready in 20 seconds. A 22:1 compression ratio keeps engine running with no ignition.

2 Right side appears stock, since the Z fuel injected engine doesn't have a carb either. Note the Wilcap water elbow at front of engine. Stock radiator provides adequate cooling.

3 Since the original engine is a 6, there is plenty of room for the diesel 6. You have to look closely to be sure this isn't a fuel injected Z engine. A bellhousing adaptor plate marries engine to the 5-speed tranny.

4 Air intake is located behind the grille just ahead of radiator core. Note extra large air filter, this is a must, particularly with turbocharged engines—they use a lot more air.

5 Vacuum control closes air intake to stop engine smoothly when fuel is shut off. Existing choke cable is used to actuate vacuum control valve. High compression causes engine to buck badly on shut-down unless air is cut.

6 Nissan 4 cylinder diesel jumps 1600 Datsun pickup to 2200cc. If you want more horses, Wilcap can install a turbocharger. Note everything fits. Firewall wiring is being sanitized.

7 Datsun heavy duty (air conditioner) radiator is used after moving outlets to match engine. Note Wilcap water fitting at front of engine. With this radiator cooling is more than adequate.

8 Additional instruments are nice, this panel contains water temp, oil pressure, and ammeter. Glow plug button and indicator (arrow) appear just over center of steering wheel, very neat.

TUNE-UP AND TEST EQUIPMENT

SELECTING AND USING THESE ESSENTIAL TOOLS

ILLUSTRATIONS BY STEVE AMOS

It seems that every neighborhood can boast of at least one "Saturday afternoon mechanic." He's probably the same one who rewired his house last year and put on his own roof this spring. Although his car was "old" when you moved into the area 5 years ago, it still looks new. Your car, on the other hand, is looking pretty shabby for being "nearly new."

You've never abused your car. In fact you always took it to the car wash every Saturday—uhh, every other Saturday anyway. And until the warranty expired you had it serviced at the Datsun agency religiously. Of course the corner service station was a lot cheaper on their prices for lube job, tune-up and oil change even though they really didn't know much about them "furrin" cars. Unfortunately, it's Self-Serve now and there are no garage stalls—it's a storeroom.

Now, you have two choices. Take your Datsun to the independent garage down the road and hope their mechanics don't use sable for shop rags, or ask the neighborhood do-it-yourselfer if he'll do it. Well, there is a third alternative. You (yes, *you*) can do it yourself! After all, you've been cheating the car wash out of their profit for quite some time and with the new easy-to-apply car waxes there's no reason why you can't handle that, too.

It's just a short step from there to changing your own oil (engine, transmission and rear end). Then, doing your own lubrication work. And tune-ups would be next.

The problem confronting most would-be do-it-yourself auto mechanics is what is required in the way of gadgets. That is, of course, assuming there is a molecule of mechanical aptitude in one of those 10 thumbs. Instructional books such as this, the Datsun Owner's Manual and Shop Manual will serve as your instructor. But if you really get stuck, there's the "Saturday afternoon mechanic" in your neighborhood to fall back on. When it comes to tools, you should have your own.

HAND WRENCHES

Hand wrenches will probably be

your first addition to the very basic set of tools supplied with your Datsun, since you no doubt have a standard screwdriver set and a Phillips (cross slot) screwdriver set around the house. Pliers are also a common household item along with an adjustable wrench or two. The "bargain bin" hand wrenches are usually of the open-end type, that is, both ends are open slotted to accept bolt heads and nuts in hexagonal pattern. Occasionally, the "bargain bin" will contain box-end wrenches. Since the ends of these wrenches are closed (or "boxed") they must be dropped over the nut or bolt. You'll find box-end wrenches in 6- or 12-point patterns (12-point is preferred, but 6-point provides more grip on the nut or bolt). Box-end wrenches will not fit into some places where the nut or bolt head is too close to a perpendicular section of the part it's holding.

The most versatile of all hand wrenches is the "combination" type which has an open-end configuration on one end and a box-end pattern on the other end. Most pro mechanics use this type of hand wrench.

The important thing to remember is to avoid the "bargain bin" wrenches regardless of type. Quality wrenches are made from a high grade steel and are usually drop forged (not cast) for strength. Also, the ends that grip the nut or bolt are machined to closer tolerances so there is less slop between the wrench and the nut or bolt. Oh yes, your Datsun is equipped with metric fasteners so don't even bother with wrenches in fractional inch sizes (look for those marked 10mm, 11mm, 13mm, etc.).

SOCKET WRENCHES

Socket wrenches are the backbone tools of the professional and backyard mechanic alike. They are similar to other wrenches in application, but have more uses since they can reach into recesses that other wrenches cannot. The socket must be turned (or driven) by a handle that mates to a square hole in the back of the socket which is sized from 1/4-in. up to 2 ins. (for heavy industrial use). The most common "drive" sizes are 1/4-in., 3/8-in.

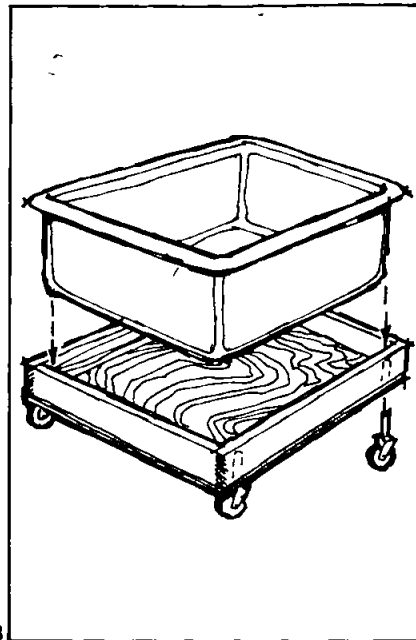
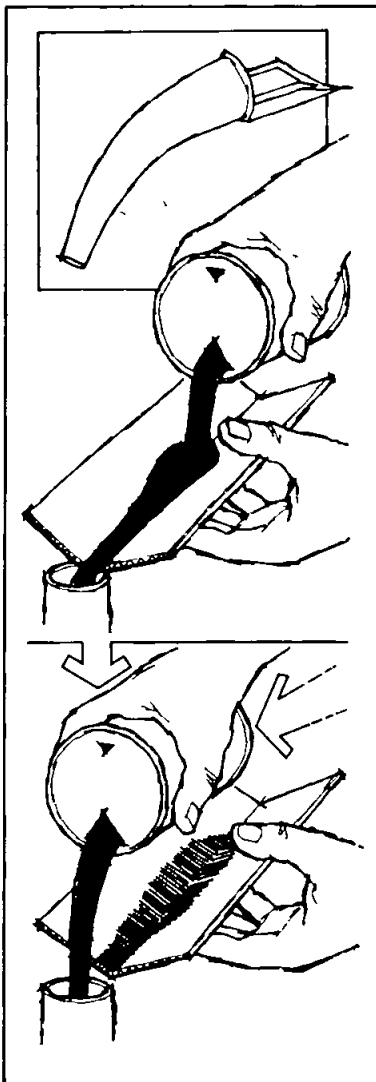
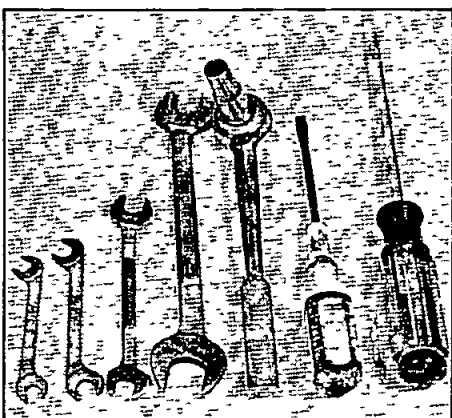
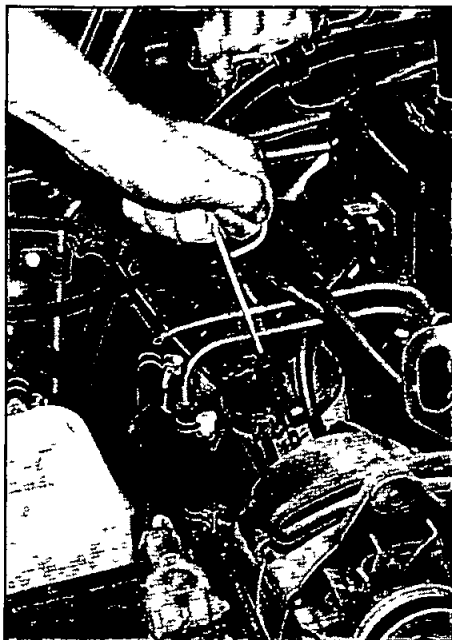
and 1/2-in. There are many different styles of handles available in each of these drive sizes, but the three most popular are the hinge handle, speed handle and ratchet handle.

Of the three, the ratchet wrench is the most useful (and most expensive). As its name implies, it has a ratcheting mechanism built into it to permit reversing direction (tightening or loosening) without removing the socket from the nut or bolt. And, the better quality ratchet wrenches possess a finer graduation so that slight handle movement translates into a turn of the nut or bolt. Nine times out of 10, though, a little more distance between the socket and the wrench will clear the path for a greater swing with the ratchet handle. That's why socket extension bars are offered. Available lengths vary depending upon drive size and some aren't a bar but a spring steel coil for flexibility. Of course, there are universal-joint sockets and adapters for angling into awkward places.

As in the choice of other automotive tools, the higher priced socket sets are usually of better quality, but don't buy by price alone. Find out what kind of guarantee is offered with the tools. Accept nothing less than lifetime!

FEELER GAUGES

There are two ways to go on feeler gauges: cheap or expensive. Even the expensive ones aren't really all that costly, so don't waste your money on "bargain box" feeler gauges. Look for a set that is marked in inches and millimeters. Shorties are less money than long feeler gauges, with tapered ones costing a little more. Price usually indicates better quality steel that results in longer service life. And longer blades make it easier to slip into those sometimes elusive valve lash places. Those that taper to a narrow tip are likewise easier to insert in tight quarters. Some feeler gauge sets are finely graduated from .0005 to .125 or thicker, but those with fewer blades are just as useful and will leave your wallet thicker. You may have to combine two or more blades to get the proper dimension, but if you avoid warping, kinking and nicking the blades, the



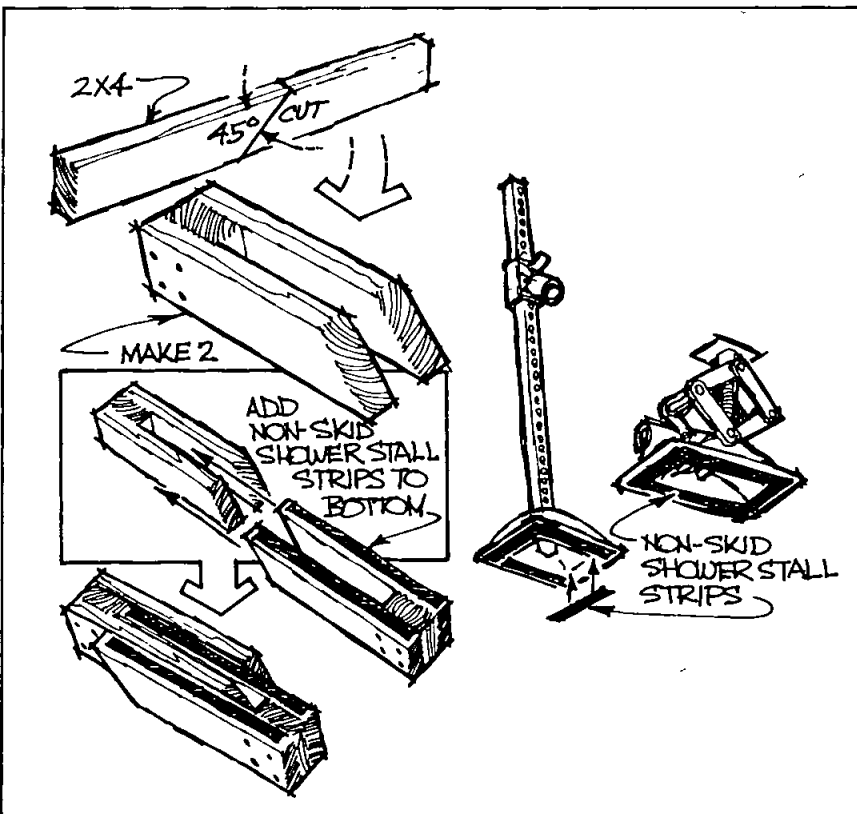
1 Hopefully, your automotive involvement with your Datsun will go beyond merely checking the dipstick for proper oil level. Beyond this is where tools become necessary.

2 Adding oil usually requires using one of those service-station spouts (top) to avoid dribbling the oil over the engine. Of course, you can save the cost by using a beer-can opener and a piece of cardboard to start the oil flowing in the right direction. (This is also handy if you misplace your store-bought spout.) Crease the cardboard (center) and pour onto creased area which is positioned in the filler neck. Then as flow of oil evens out, guide can down cardboard until it's over the filler neck (bottom). When finished adding the oil, discard can and oil stained cardboard.

3 If you elect to also change your own oil, you can make your own catch basin with discarded (or new) plastic dishpan—providing it will hold at least 2 gallons. To overcome the spillage problem, plywood base and 1x2-in. sides combined with old bed casters will permit it to roll in and out on concrete driveway.

4 Scrounging around the place may reveal something on the order of this motley assortment. The screwdrivers are okay, but the wrenches are American Standard sizes and your Datsun requires Metric items.

5 If you have a few odd lengths of two-by-four laying around, you can make up a pair of wheel chocks that will interlock for storage in the trunk of your Datsun. Contact-cementing pieces of old shower mat or non-skid strips helps on smooth concrete and while you're at it put a few pieces on the bottom of the scissors jack and your other bumper jack (in the second car?).



measurement will be accurate enough

One final item before we leave hand tools and move into meters and things. It really isn't necessary to buy all your tools from the same source, unless you crave matching brand names. There is no reason why Craftsman (Sears & Roebuck) screwdrivers, Proto sockets, S-K extension bars, Utica pliers, Snap-On combination wrenches, a Williams ratchet, Thorsen speeder handle and Challenger flex-handle can't be put in the same tool box. In other words, don't feel obliged to purchase one manufacturer's complete line of hand tools. And don't feel that you must purchase a complete set of sockets or combination wrenches or screwdrivers. In fact, before you part with even a fraction of your "meagerly monthly pittance," look in various stores, gather up some tool catalogs and compare brands feature by feature, design by design. Don't be fooled by a shiny, smooth, chrome-plated handle. Think of what would happen to your knuckles if your greasy hand slipped off that slick surface. Conversely, deep knurling or serrations on a handle might conjure up visions of blisters.

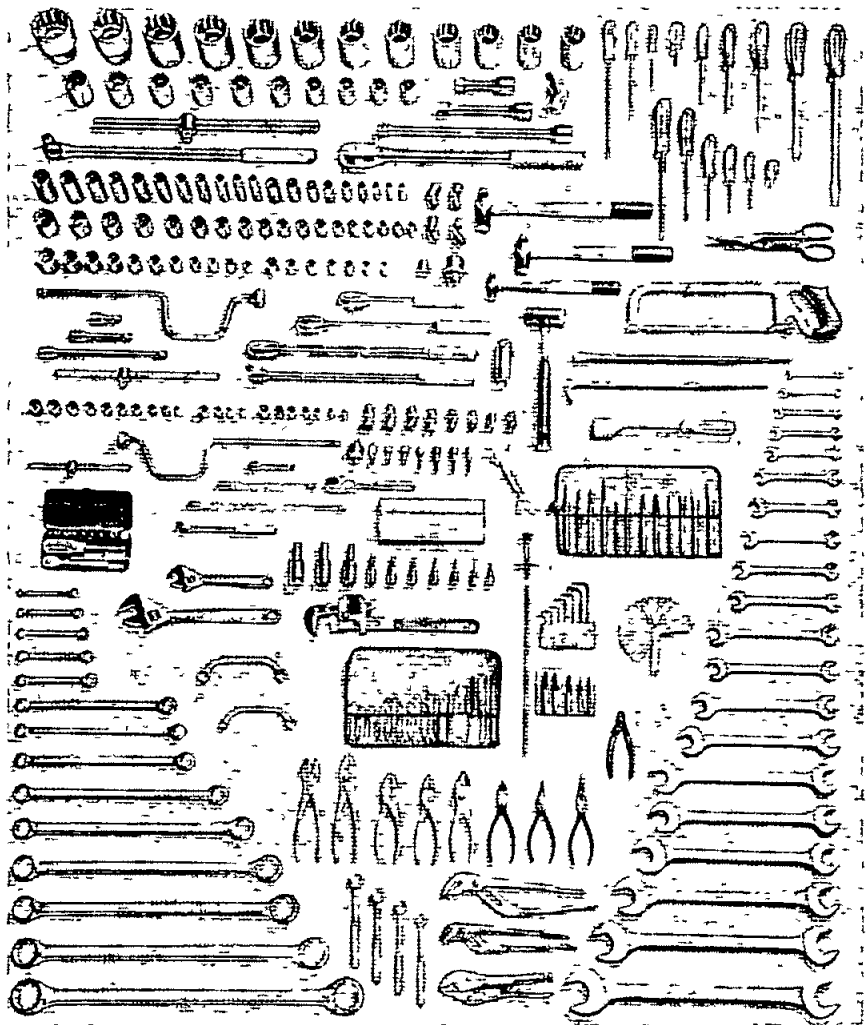
After you've integrated your hand tool purchases into your paychecks—no need to buy everything at once, begin with the purchase of the sizes most common to your model Datsun—do

some serious shopping. Take a nut and bolt along with you and use them as a quality gauge. Out of six 10mm sockets (or wrenches) perhaps five of them will be right on and the sixth will be a "hair" oversize. Pick one of the five! Be sure to examine each and every tool (even if in a set) for uniform plating, precise milling or broaching and accurate marking. When giving the once-over to pliers and wire cutters, make sure the scissors action is smooth and that the jaws grip evenly. Wire

cutters should be examined against a strong light. If there is daylight visible when the jaws are squeezed together, pick another pair and test them. A man doesn't marry the first woman he meets or buy the first house he sees, so why should he purchase the first wrench he pulls out of the bin? Just like a wife or a home, tools are a long-time investment.

TORQUE WRENCHES.

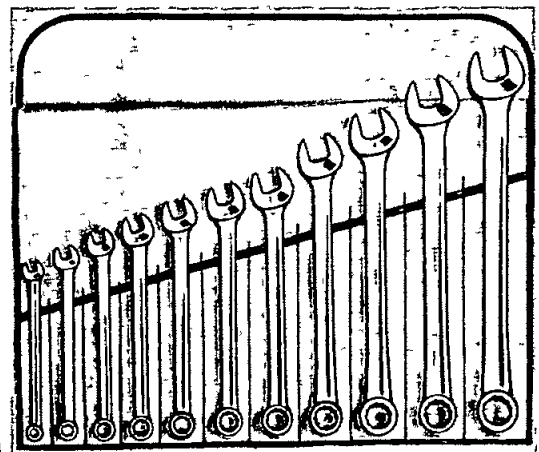
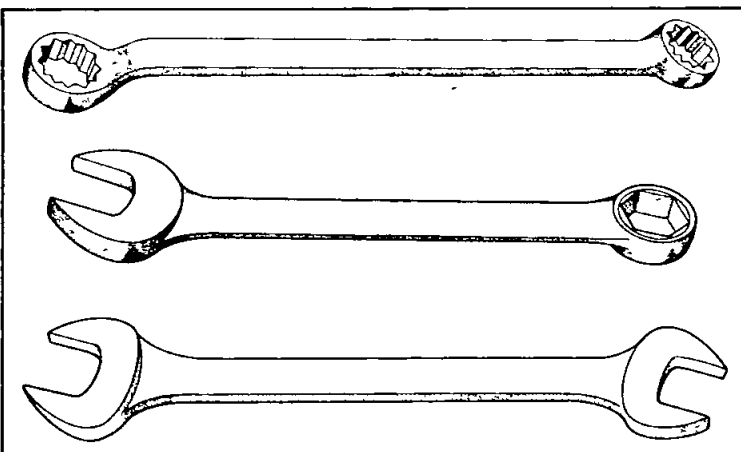
The hand tools just discussed are rel-



1 A full set of tools like this Proto "Master Maintenance Set" may be invaluable to a pro, but a weekend mechanic really doesn't require 10 pair of pliers, and one good socket set (upper left) will suffice

2 Basic wrench patterns are, open end (bottom), box end (top) and the most versatile and popular among professional mechanics, the combination wrench (center)

3 A full set of Metric-size combination wrenches may take too big a bite out of the budget, so determine the most useful sizes and purchase only those to start. Later, other sizes can be added. Remember that good hand tools are an investment not an expense



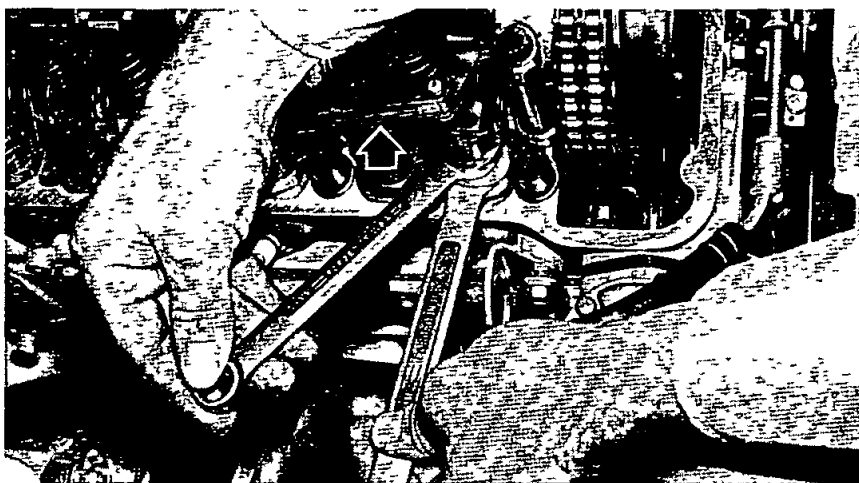
atively inexpensive and adequate for the simple "points, plugs and condenser" type of tune-up. If you practice the alternating tune-up technique (the garage does one, you do the next, etc.) you really don't need any additional tools. Should you decide to cut the garage off (like you did the car wash), then a few additional items are of value. The torque wrench is the first of these to be considered. If you flip quickly into the tune-up phase of the maintenance section you'll notice in

the step-by-step sequence that the cylinder head is always torqued before the valve lash is adjusted. This, of course, requires the use of a torque wrench. Nuts and bolts (even those securing the cylinder head to the engine block) have a tendency to loosen after prolonged operation. If tune-up intervals are frequent and you're practicing the alternating tune-up technique, there's little to worry about. If you've decided you're going to tune your Datsun every time, then the points, plug

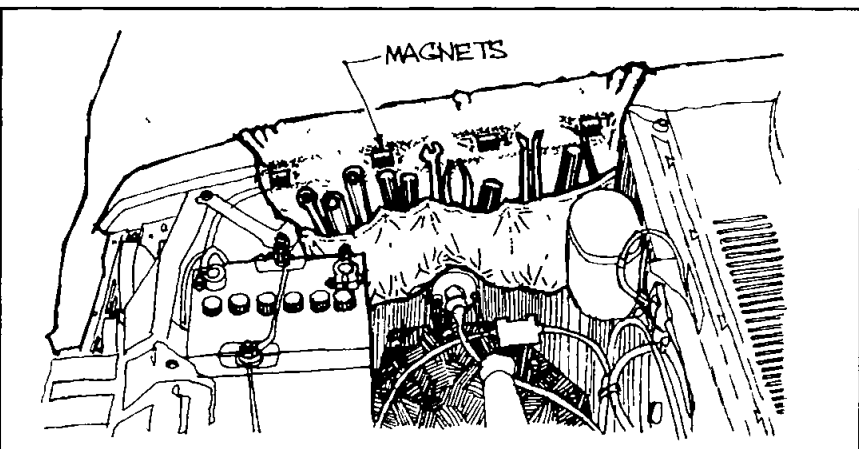
and condenser (along with valve lash, naturally) tune-up is out.

It is impossible for you or even a trained mechanic to tighten a series of nuts or bolts to an exact, predetermined tension without some way of measuring the force (torque) being applied. And the cylinder head must be uniformly tight against the cylinder block. Otherwise, gas and coolant can leak out. Too much torque will cause leaks, too, due to distortion of the mating surfaces and, ultimately, major damage to expensive parts. The answer is in using a torque wrench.

There are three basic kinds of torque wrenches. The least expensive is the deflecting beam type. It is not as accurate as the other two types and, unless the user can position himself directly over the scale (maybe by standing on the fender when torquing cylinder head bolts), false readings are easily obtained. Next on the cost scale is the dial indicating type of torque wrench. It is more accurate than the deflecting beam, but the user still has to be in a position to read the dial accurately, al-



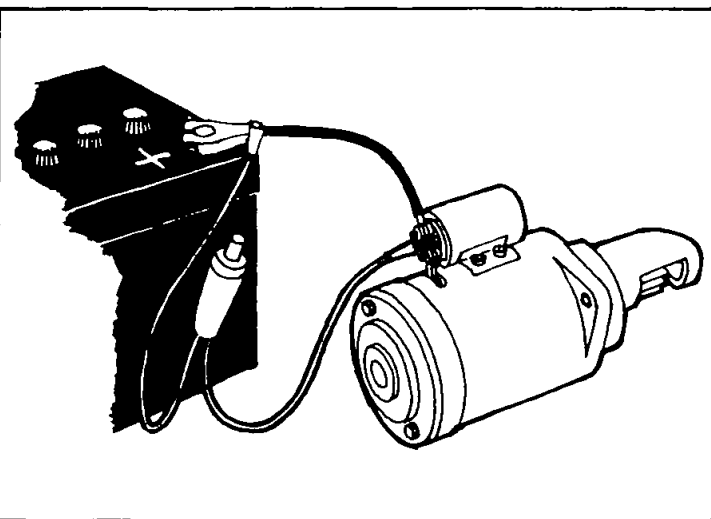
4 Adjusting valve lash isn't all that difficult with a good set of feeler gauges (arrow). The longer the blades, the easier it will be.



5 To keep from marring the finish of your Datsun fenders, you will need some kind of fender cover. The store-bought kind will set you back about \$5, but an old beach towel is a good (and inexpensive) substitute. Have the wife or girlfriend stitch pockets along one edge to hold tools.

6 Remote starter switches are hooked up directly from the positive (+) battery terminal to the small flat, tab-like terminal on the starter solenoid. Do not connect clip to either of the two big terminals on the starter!

7 To make the valve lash adjusting task easier still, a remote starter switch should be added to your tool kit. Virtually all "tune-up sets" include one of these units.



though some have added features to overcome this handicap. Some have a tattletale hand, a second pointer moves along with the first and stays at the highest reading until reset. There is also one with a light signal that's activated by an outer dial set to the desired torque (great for cavernous engine compartments or dim garages).

However, the most accurate and expensive torque wrench is the audible "click" type wherein a micrometer barrel handle is set to the desired torque reading and when this is reached there is a "click" that can be both felt and heard. A mechanism in the head of this type wrench, just like a ratchet wrench head, allows torquing to the left or right.

TIMING LIGHTS

You've probably seen a timing light offered as part of a low-cost tune-up kit at the local discount store and wondered whether they'd really get the job done. After all, there are timing lights in the automotive section of the same store that sell for more than double the cost of that entire tune-up kit. The answer is "yes" they will get the job done, but

But, the timing marks on your crankshaft vibration dampner had better be very legible, and not buried in the most remote reaches of the engine compartment obscured by hoses, tubes, wires and smog apparatus. These inexpensive neon-type timing lights are perfectly okay if you have a clear shot at the timing marks and if you're doing your tune-up in a garage where you can easily shield extraneous sunlight from dimming the lighting qualities of that inexpensive neon bulb.

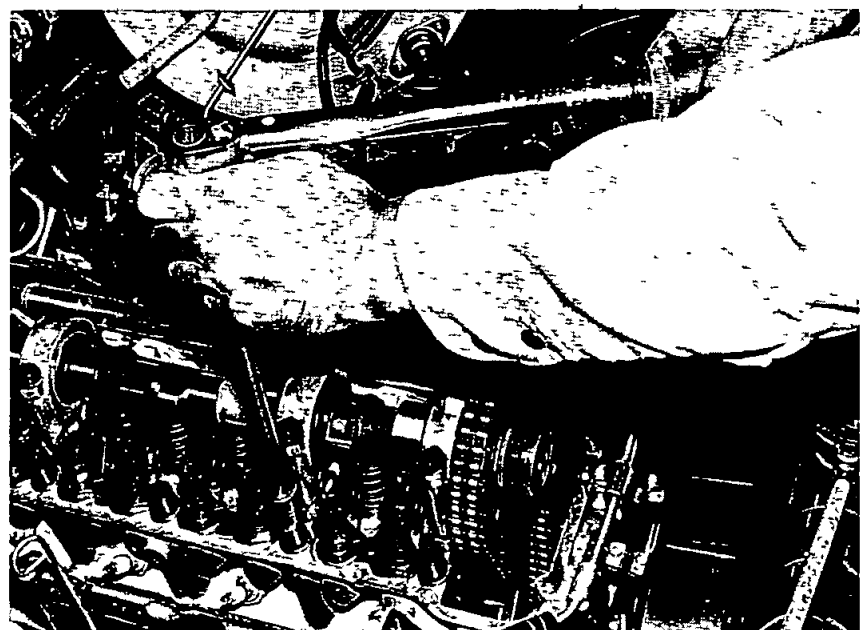
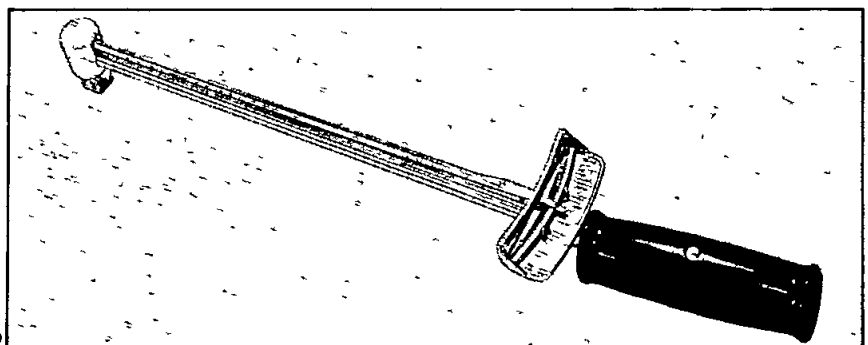
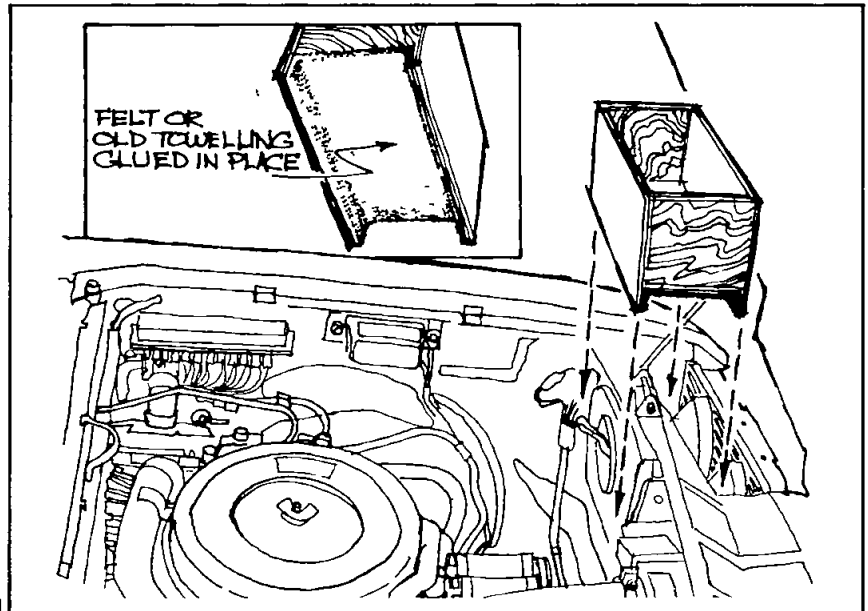
The timing light the pros use—the strobe light gun—can cost anywhere from \$20 to over \$70. Although all the strobe-type timing lights are searchlights compared to the neon-bulb variety, some are brighter than others. The brighter the strobe light gun, the farther from the \$20 price tag it'll be. Then, too, the strobe light guns at the upper end of the price range offer fea-

tures not available with the neon-type timing lights.

For example, the Proto strobe-type timing gun features not only a brilliant white light that will let you see the timing mark (even faint, buried ones) on the brightest of days, but also an automatic polarity power pickup. This

means it makes no difference what clip you hook to the two battery posts, the timing light will work just the same—without any damage to the gun.

Other (likewise expensive) strobe-type timing lights have a handy feature called induction pickup. This is a clever phrase that means no spark plug



1 If you opt for the fancy fender cover (minus pockets), a separate tool caddy can be made from scrap plywood to fit astraddle the grille guard or the radiator shroud. Use towelling or felt to prevent scratches.

2 This is deflecting beam type with tattletale indicators so that you don't have to stand directly over the scale to get accurate reading. This is fine for most jobs and less expensive than one in No. 3.

3 Torquing cylinder head before setting valve lash is a must, and that means buying a torque wrench. This is micrometer handle type with ratcheting head. It's expensive!

wire disconnection is needed to hook up the timing light. All that is required of the user of this gun is to simply clamp the clothespin-type induction pickup clip around the No. 1 spark plug wire (the ignition wire leading to the front cylinder on your Datsun). Presto! The timing gun is ready to use.

The Hawk DC Power Analyzer has

a tach/dwell meter built into the back of the strobe-type timing light, so if the treasurer of your household limits you to "one" tune-up tool, you'd better pick this one.

To sum up timing lights, if you're tuning under bright sun conditions (such as out on the driveway) or your timing marks are hard to get at or difficult to read, you'll need the extra

brilliant light that nearly all strobe-type timing lights offer. If, on the other hand, you're working in a dim garage and your timing marks are unobstructed and easy to read, you'll be hard pressed to justify anything better than that hand-flashlight style neon timing light.

TACH/DWELL METERS

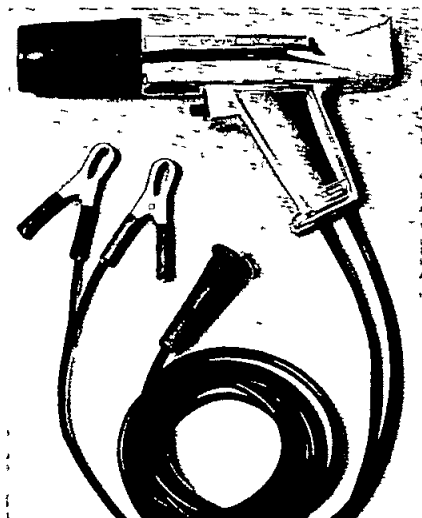
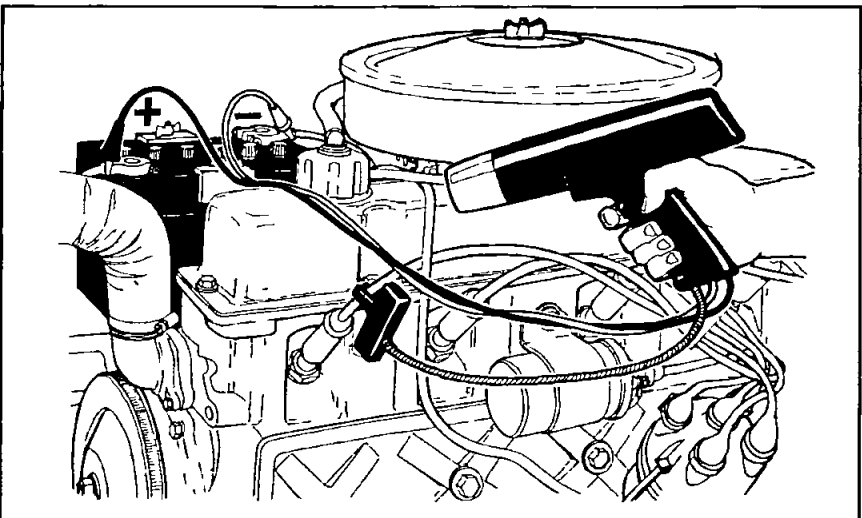
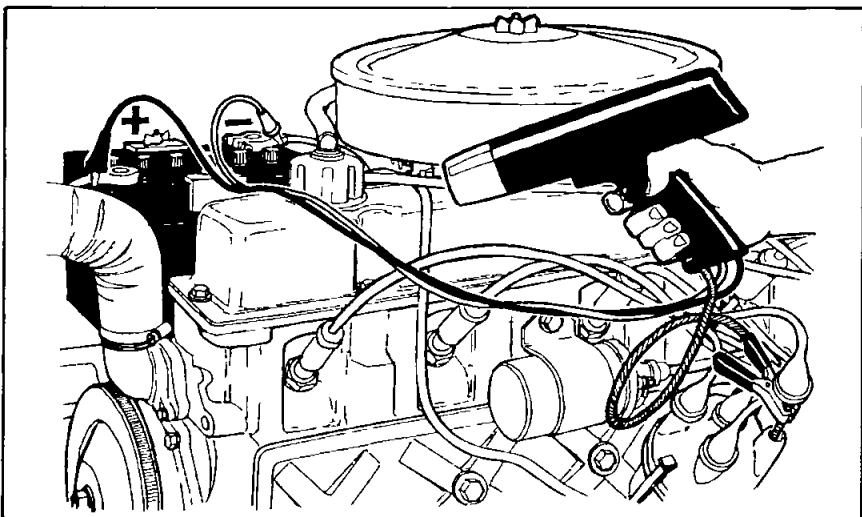
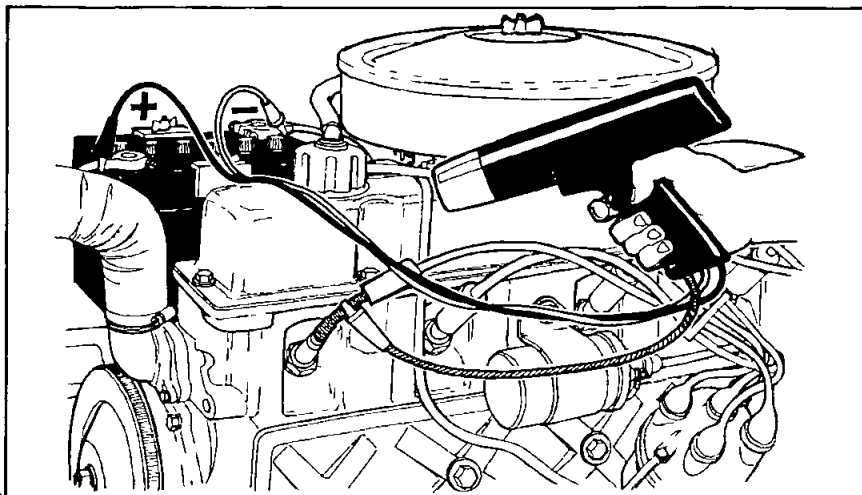
What does a tach/dwell meter do? As its name implies, it can function either as a tachometer or, by flipping a switch, as a dwell meter. The dial face is imprinted with two scales—one in rpm for the tach function, the other in degrees to read dwell. The same needle is used for both, and you simply read the scale that corresponds to the switch position. There is one major dif-

4 Hooking up the timing light is easy. Positive clamp to positive (+) battery post, negative clamp goes on the other post (-) and the hooded lead is attached to the No. 1 cylinder at the spark plug itself. An extension (usually supplied) goes between the plug and the plug wire.

5 If the No. 1 cylinder is not easily accessible at the spark plug, the wire can be traced from the spark plug to the distributor, the extension inserted between the distributor cap and plug wire and the hooded clamp from the timing light connected to it (as shown above).

6 If you opt for the more costly strobe-type timing light with an inductance pickup you don't have to disconnect anything. All you do is slip the clothes-pin-type clip over the spark plug wire on the No. 1 cylinder, the other two to the proper battery terminals first, of course, and you're ready to check the timing (the engine must be going).

7 Again, most tune-up sets will have a small, flashlight-type timing light that will be serviceable under proper conditions, but this RAC "All-Pro" model with replaceable xenon tube retails for less than \$25 and will really pick out the marks.



ference among the various brands of meters. Some have a second switch for selecting the number of cylinders, while others have double dials for rpm and degrees—one for 6 cylinders, the other for 8 cylinders (4-cylinder engines double the 8-cylinder readings). In its tachometer mode, it's used for setting idle adjustments. Most tune-up instructions, especially those for cars with automatic transmissions, specify setting the idle at a specific rpm. Since the 240-Z is the only Datsun model which comes with a tachometer as standard equipment, the tach function is most useful for carb adjustments.

To understand the dwell function, let's briefly consider the ignition system, especially the distributor points. These points are a switch which controls the flow of electricity in the primary (low-voltage) ignition circuit. When the points are closed, the circuit is grounded and electricity flows, which builds up a magnetic field in the coil. When the points open the primary circuit current stops, which collapses the coil's magnetic field, which in turn causes an extremely high voltage to be induced into the coil's secondary windings. This high voltage is routed to the proper spark plug, which fires and ignites the fuel-air mixture.

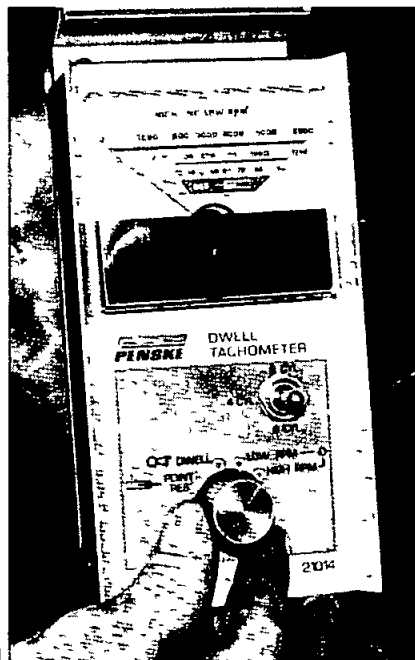
So the points are a key item in the system. The all-important gap between them which you are being forever told

to check was established by the manufacturer to ensure that they do their job. They must be closed long enough for the coil to build up its full magnetic field (called *saturating* the coil), and open long enough for the field to completely collapse and discharge its spark before starting over again. If the gap is either too wide or too narrow the spark will be weak.

Ignition *dwell* refers to the time the

points are closed, and it is measured in degrees of distributor cam angle. This is what you measure with the tach/dwell meter in its dwell function. It is another way of measuring the point gap, but more accurate than the commonly-used feeler gauge. A feeler gauge should never be used on points which have been in service, but only on new points, since the surfaces of the points become distorted from all the electrical arcing they undergo. A feeler gauge therefore cannot accurately measure the proper gap on used points, since the surfaces are no longer flat and parallel to each other, but a dwell meter can, since it is an *electrical* measurement of the gap, rather than a *mechanical* one.

Not only is a dwell meter accurate,

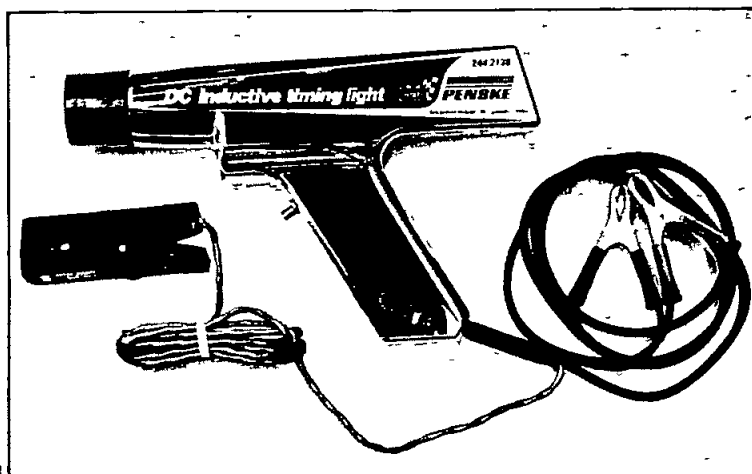


1 While it's possible to tune your Datsun to an acceptable degree of accuracy without a tach/dwell meter, superior performance and better economy justify the cost of the greater accuracy they provide. This Penske (Model No. 21014) tach/dwell meter offers point resistance check as well. You'll find it at Sears.

2 J.C. Penney's is getting a well-earned reputation for high-quality products at very reasonable prices. Their tune-up tools are a case in point. This "Precision Master" test and tune kit (Model No. 8876) has five excellent quality units (tach/dwell meter, remote starter switch, strobe-type timing light, compression gauge and vacuum/pressure gauge) with compartmented carrying case for about \$70.

3 You're interested in that easy-to-use inductive pickup timing light? Your Sears auto department offers a superb one under their top-quality Penske label.

4 Of course, tach/dwell meters are offered as part of any tune-up kit. This one from RAC is a basic tool bargain at \$22.99. Included with the tach/dwell meter and timing light is a rotating-dial compression gauge, a remote starter switch and a vacuum/fuel pump pressure tester. Accuracy can't compete with top-line units individually priced far higher, but these items are more than suitable for that "Saturday afternoon" job.



it is also fast. If you've ever fiddled with setting the points with a feeler gauge, you know what a pain it is to make sure that the points are resting *exactly* on the top of the distributor cam lobe, it means hitting the starter button (or a remote starter, if you have one) time and again. And the points *must* be in that position, or your measurement is worthless. Then you've got to lean over the distributor, peering closely at the points (perhaps with someone holding a flashlight so you can see what you're doing), while you fiddle with the feeler gauge and screwdriver. With a dwell meter, you can forget all that. You don't even have to touch the distributor to measure the gap. Just clip on the meter (one wire lead to the distributor's outside primary circuit terminal, the other to ground), fire up the engine, and you have an instant reading. Most Datsun 4-cylinder engines should read 50-54° (refer to the specific tune-up section in this book for your particular engine). If the reading is higher, the point gap is

too small, if lower, the gap is too wide, and you can then adjust the gap accordingly. All things considered, you'll find a good tach/dwell meter to be the most valuable and useful single instrument you can buy.

Tach/dwell meters vary in price range due to a variety of reasons, but chiefly because of meter accuracy, easily legible scales and the capacity of tuning 4, 6 or 8-cylinder cars.

On the more expensive deluxe models, you'll see an additional 4-cylinder mode on the selector switch dial. What happens here when the 4-cylinder mode is selected? You read the rpm and dwell, directly, without having to "double" the reading of the economy tach/dwells. This is a worthwhile feature. For example, if you're tuning your 4-cylinder Datsun and the meter you have has only 6- and 8-cylinder positions on the selector dial, you'll have to use the 8-cylinder position and then double the reading on the 8-cylinder scale. Say the dwell reads 26° on the 8-cylinder scale, you

now have to multiply this figure by two to get the value you can compare to factory specs. The answer is, of course, 26° times two—or 52° of dwell.

This 4-cylinder selector switch feature alone can give you better meter

5 A little higher on the scale is Daytona American's "Pit Stop" tune-up team of timing light, remote starter switch, compression tester, vacuum/fuel pump tester and expanded scale tach/dwell meter with points test and distributor function modes. It retails for \$99.95 as shown.

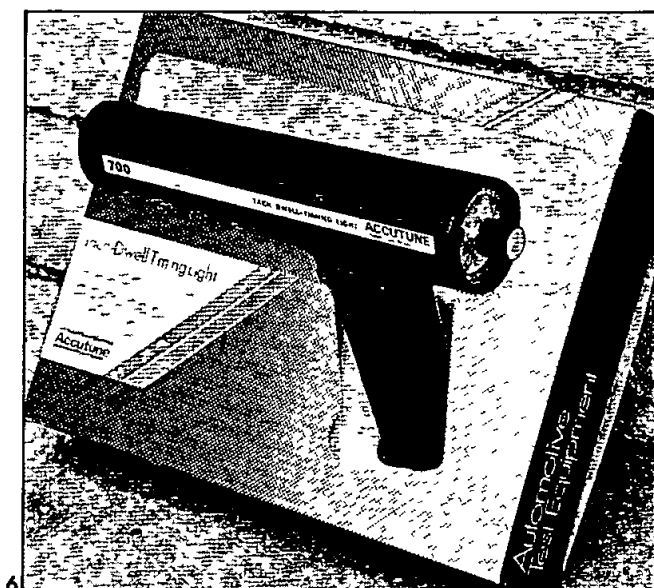
6 The J.C. Penny Accutune 700 is a timing light and tach/dwell meter in the shape of a timing light. This transistorized marvel is \$39.95.

7 All tach/dwell meters hook up in this manner: the red (positive) lead of the meter is connected in parallel to the distributor side (-) of the ignition coil. The ground (black) lead of the meter is then attached to the chassis or body.

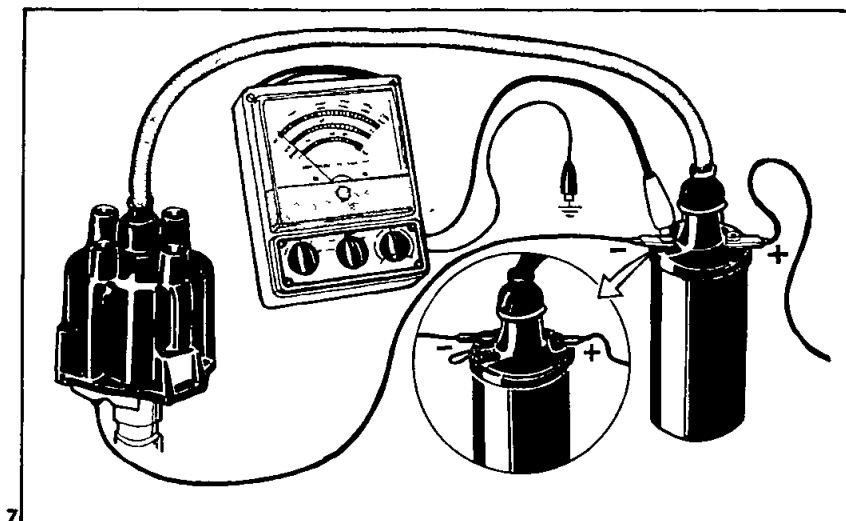
8 RAC's "Analyzer Timing Light" combines the tach/dwell meter and timing light into the shape of a tach/dwell meter. Price is \$39.99.



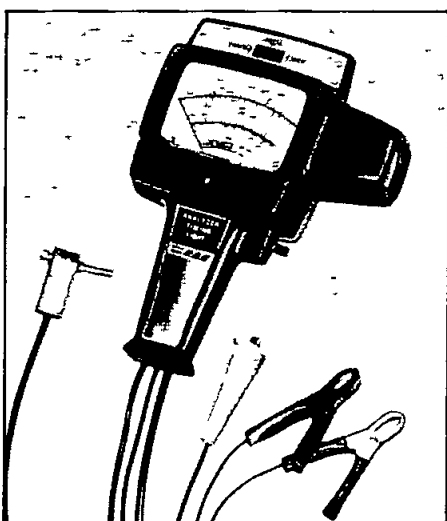
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accuracy, not to mention ease of reading the dwell or rpm. Ponder this: If the dwell calibration is off 1° on the 8-cylinder scale, on the economy tach/dwell meter it will be off 2° when doubling the reading to get an comparable 4-cylinder value. However, if you use a tach/dwell with a separate 4-cylinder selector switch position, your reading will only be off 1° in calibration. What we're saying here about tach/dwell meters is that the less expensive ones—almost all of them—will do the job, but the more expensive meters will usually get the task done a tad easier and offer a few more fringe benefits to boot.

Check high-quality tach/dwell meters such as Sears' Penske. It not only has 4, 6 and 8-cylinder selector switch positions and easy-to-read tach and dwell scales, but it also has a handy

points resistance scale to let you test and know what condition your ignition points are in.

Incidentally, all tach/dwell meters are connected to the ignition/electrical circuit in the same manner in parallel. The red (positive) lead of the tach/dwell meter is connected to the distributor or the CB side of the coil, and the black (ground) lead of the meter is connected firmly to a good ground on the car.

Tune-up tools, both the exotic and

simple ones, used in the periodic tune-up of your Datsun are, indeed, a more complex problem than sometimes tuning the car itself! So in our explanation of tune-up tools, we have tried to keep everything simple and run down what tools are offered that will get the job done. Your own judgment, whether it be the deluxe or get-the-job-done plain Jane model, and what's left in your petty cash fund, will determine which design and price of tune-up tools you will buy.

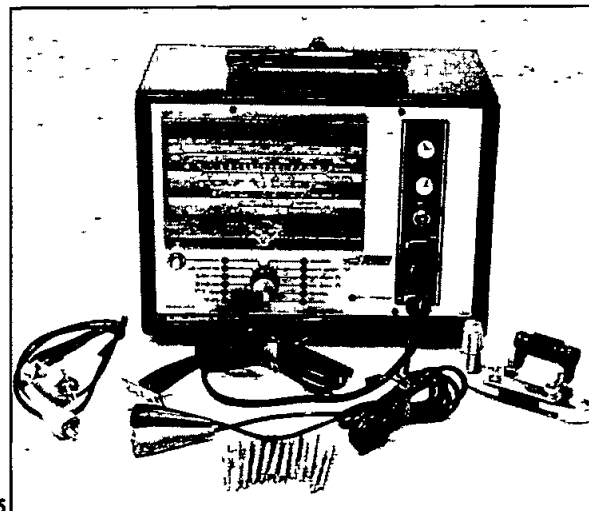
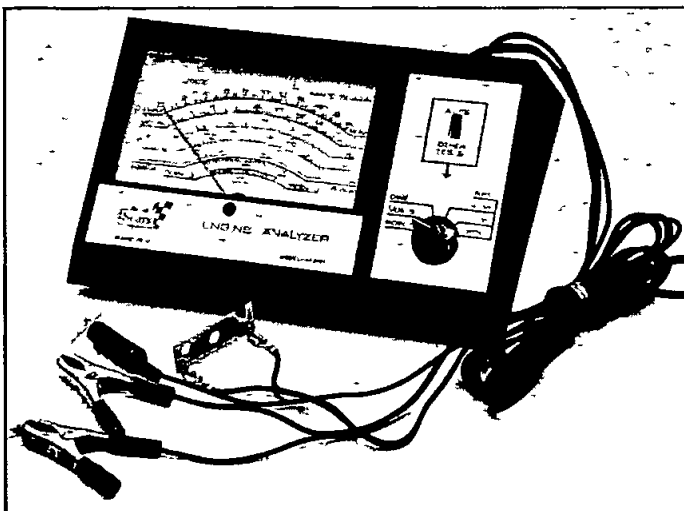
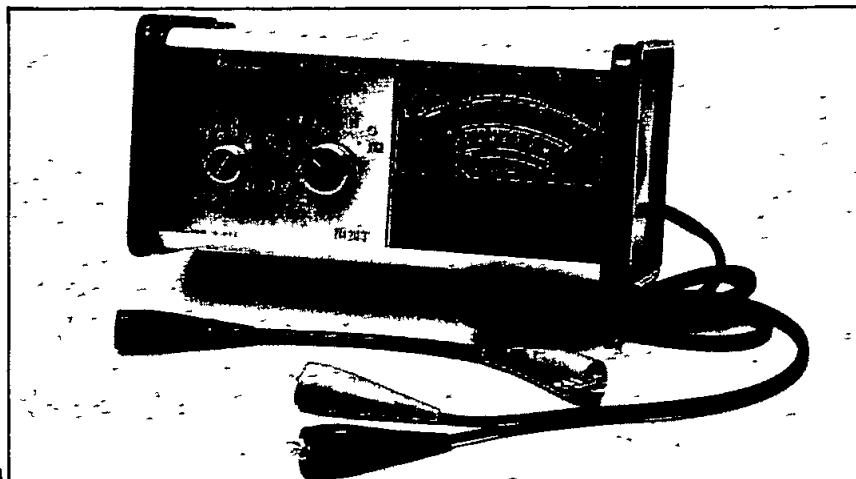
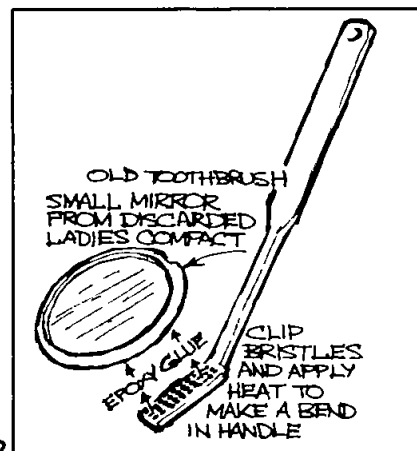
1 Returning to the 20th Century, this RAC "Maxi-Tune 560" is their newest and greatest value in an ignition analyzer. It handles 4, 6, and 8-cyl engines and reads rpm, points condition, dwell, amperage and voltage for only \$29.95.

2 Inspection mirror makes it easy to locate carb adjusting screws. Make your own with old plastic compact lid and toothbrush handle.

3 This Penske dwell/tachometer from Sears is one of the most versatile units of its kind. It can be used on 2-, 3-, 4-, 6-, and 8-cyl engines and the scale is large.

4 This moderately-priced Sears engine analyzer handles a multitude of tasks. Dwell and tach readings for 4-, 6-, and 8-cylinder engines, plus voltmeter and points condition.

5 This Sears/Penske deluxe automotive analyzer is tops for the do-it-yourselfer. It not only gives tach and dwell readings but includes condenser check, spark output, volt, ohm and amp scales for thorough checkout of your Datsun's electrical circuits. It comes complete with the attachments shown here.



MAINTENANCE, TUNE-UP AND REPAIR SECTION

The cloth handkerchief was replaced by the Kleenex, the shop rag gave way to a paper towel, the pop-up toaster that malfunctioned was discarded and replaced with a new one after hardly a second thought. Now, Americans are having second thoughts. The disposable society which we have enjoyed for many years is on the way out. Americans have been forced to realize that the world's resources are not inexhaustible. There is a definite limit to the amount of fossil fuel just as there is only a certain quantity of iron ore, or a fixed amount of oxygen and nitrogen enveloping the earth, when it is used up there is no reserve.

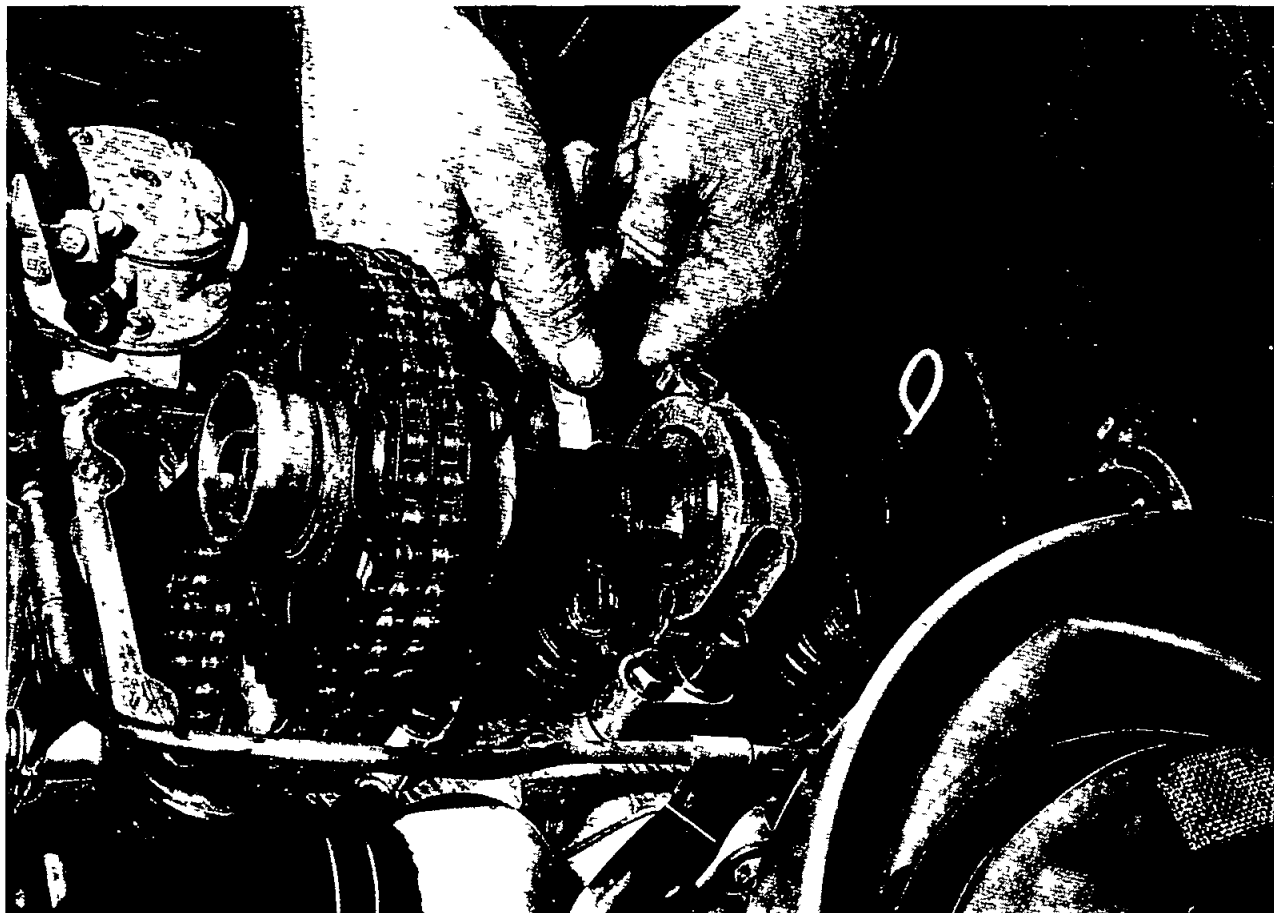
The attitude toward automobile ownership has also changed. The era of buying a new car every year or two will probably die a slow death, but the Datsun and automobiles like it will greatly help hasten the end. Datsuns

are easily capable of running 100,000 miles or more. And should the cost of new cars continue to escalate it will provide a necessary stimulus for retaining ownership beyond the few years so common nowadays. And who knows? Maybe the status of a "new" car will give way to a greater status achieved by ownership of a pristine old car.

Most cars seldom live to the ripe old age of 10 because of owner neglect. Part and parcel of the disposable society is the lack of care accorded possessions from the simplest, like a toaster, to the most complex, like a car. The time to start caring for a car is not when the final payment is made, but when it's first purchased. Make daily care and weekly inspection and cleaning a habit through repetition. On the following pages are guidelines to help you establish these good habits in addition to instructions on how to do your own tune-up and repair work. Not only

does self-care and repair save considerable money, it provides personal satisfaction that leads to having a pristine old car that not only looks like new but runs like new as well. Doing one's first tune-up may seem a bit frightening but you have the added advantage of owning a Datsun so you're well up on the problem. Datsuns are excellent cars for the do-it-yourselfer because they are simple and easy to work on.

The initial expense for tools and equipment will more than pay for itself over a 10- or 15-year period and there's certainly nothing wrong with picking up a few extra dollars for tuning a friend's Datsun on a Saturday morning. Of course you may not want to hang onto your car for 10 or 15 years, but the day is just around the corner when you may not have any choice. Like quality hand tools, a car should be viewed as an investment—a long term investment.



HOW TO: CHECK YOUR DATSUN'S FLUID LEVELS

FREQUENT MAINTENANCE

Frequent maintenance? What's that? It can be likened to the adjusting of mirrors, seats and seat belts before one drives. But instead of being primarily concerned with extending the life span of the driver, proper maintenance extends the operational longevity of the car. Its time span may be anything from daily to every two weeks, but it should be performed regularly and routinely.

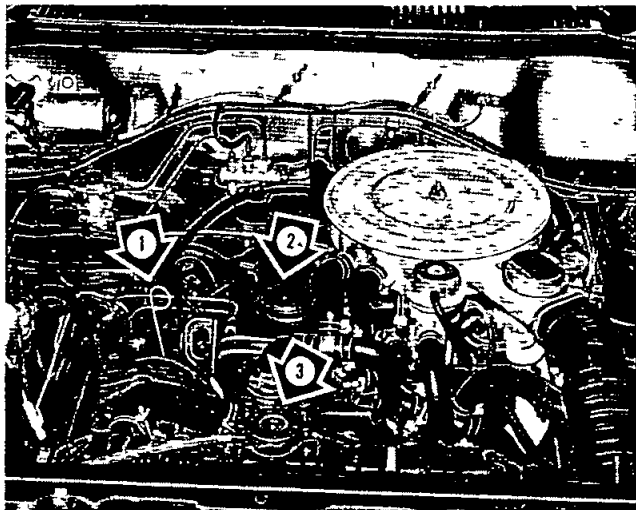
Veteran car commuters are aware of the fact that the adjustment of seat belts, mirrors, etc., comes almost automatically with driving experience—and that the brief exercise is not an incon-

venience at all to the driver starting out on that trek to work. So don't be hesitant about taking care of your car, too, on a daily pre-drive basis. Most avid car enthusiasts do, and there is good reason: higher resale value, more miles of operation per dollar invested, less mechanical breakdowns and the confidence that your car will make it from Point A to Point B without an unwanted halt. All these are benefits that frequent maintenance offers—without any great demands from you.

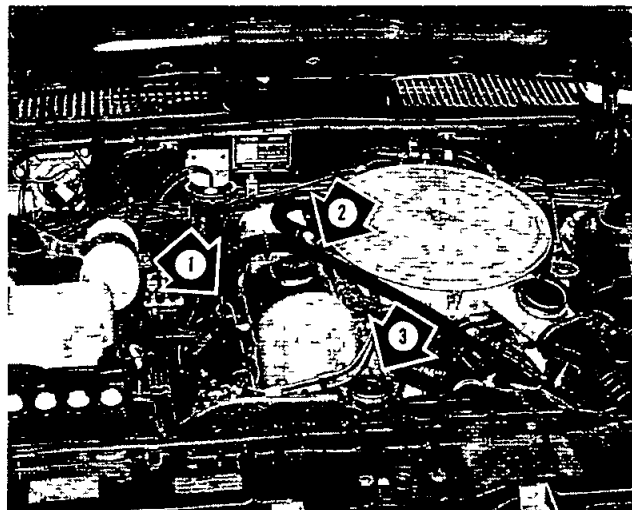
Just walking around the car each morning can be fruitful. Are the tires properly inflated? You don't have to

whip out your trusty tire pressure gauge then and there, but if one tire is considerably lower than the others you'll notice it. Any suspicious puddle on the driveway or garage floor? If so, what is it—oil, water, gas, brake fluid, transmission fluid? Spotting it while it's still small and correcting it promptly can prevent a horrendous repair bill—or even a collision.

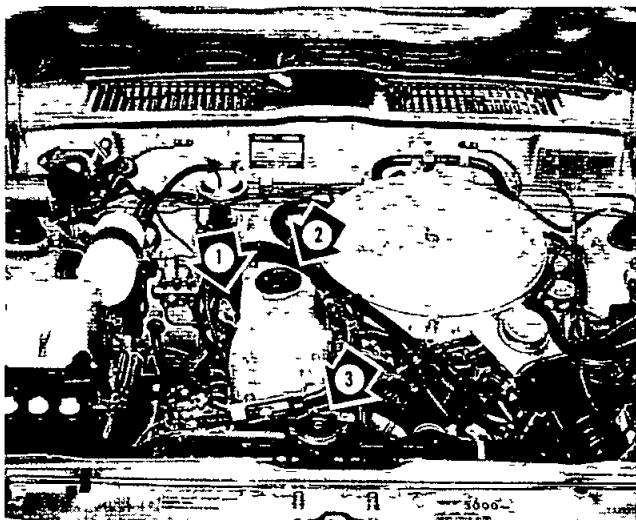
Just a few minutes a day and some tender loving care will insure that your car makes it to the magic 100,000 mile figure on your odometer or until you're ready for another new four-wheel dazzler.



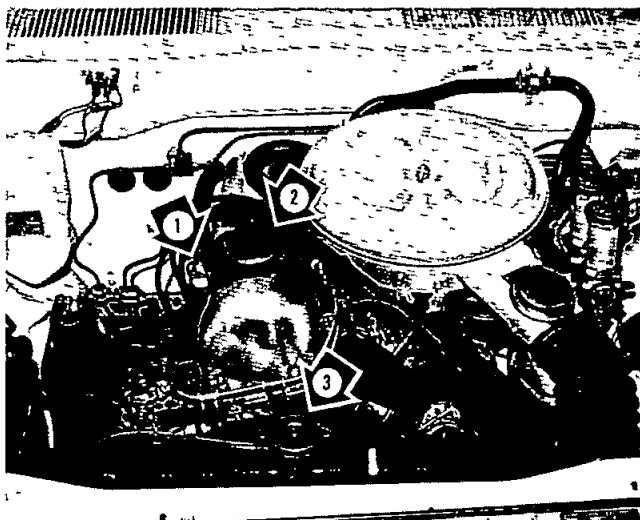
1 Daily fluid check on the various Datsun models is simple. This is the B-210. Shown at (1) is the dipstick handle, (2) the oil filler cap and (3) the radiator cap.



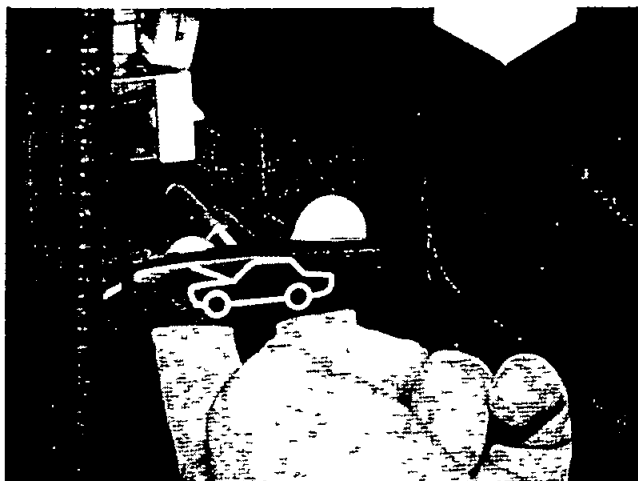
2 The underhood of the 710 is similar to the other sedans. At (1) is the dipstick, (2) is the oil filler cap and at (3) is the radiator filler cap.



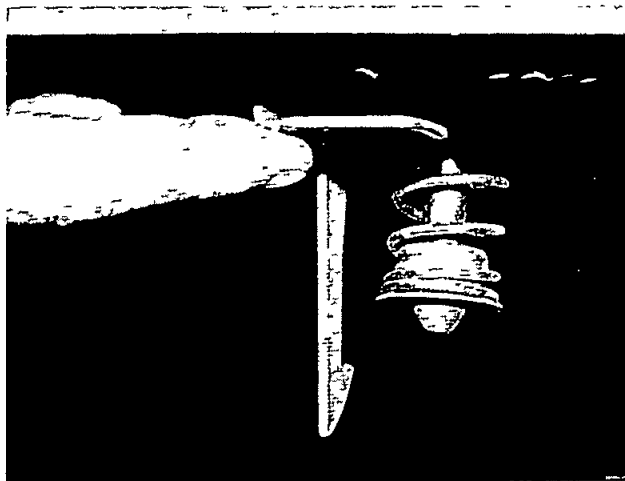
3 On the 610 series, the fluid checks are at the same points. At (1) is the dipstick, at (2) the oil filler and at (3) is the radiator cap. Simple!



4 The pickup's underhood is straightforward, and the three main fluid checks are at (1) dipstick, (2) engine oil filler, (3) radiator cap.



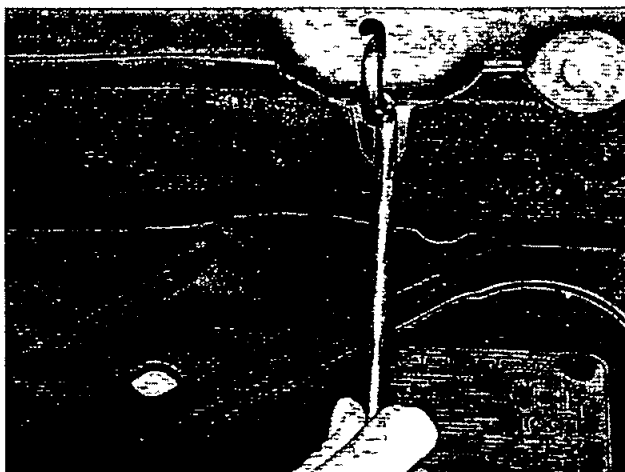
5 Lube work begins under the hood. Locate the hood release handle and pull. You're going to be seeing those "pictographs" more and more on car controls.



6 Locate the safety latch handle at the front of the hood and release it. Make a note in your head as to how well it operates. Is it in need of lubrication?



7 A rod holds the hood in the raised position. To engage it, unsnap it from its catch on the grille bulkhead and raise it upwards while holding hood.



8 Hooked end of stay rod engages a hole located in the front lip of the hood. Make sure it's fully in position as shown, and avoid bumping into it while working.

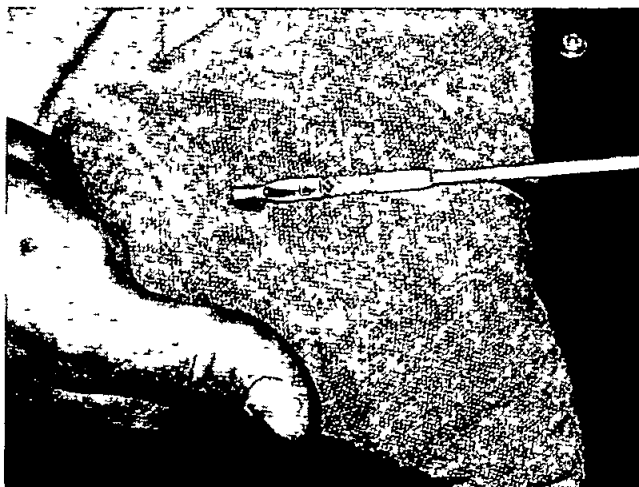


9 The dipstick is located on the left hand side of the engine. Readings are best taken while the engine is cold or after it has been standing idle for a few minutes.

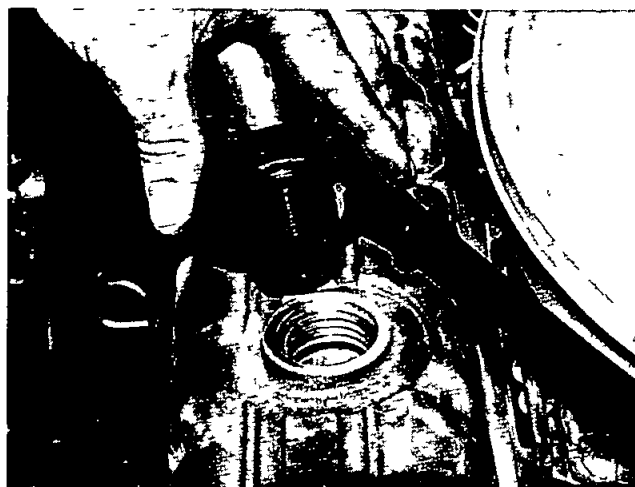


10 Wipe the dipstick clean of all oil and note the markings at its tip. Crosshatched area seen between "low" and "high" marks aids in finding exact oil level.

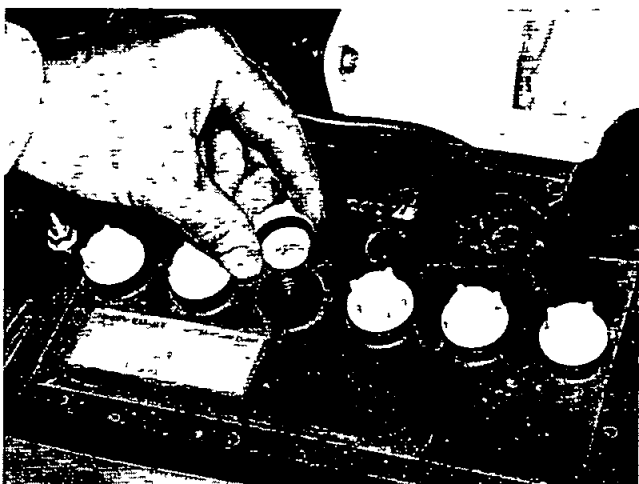
HOW TO: CHECK YOUR DATSUN'S FLUID LEVELS



11 Reinsert dipstick into its tube, and then withdraw. Note oil level at tip. It should always be between L and H marks. This one could use a quart.



12 To add oil, all you have to do is unscrew the filler cap on the valve cover and pour in the required amount. Use a funnel if needed.



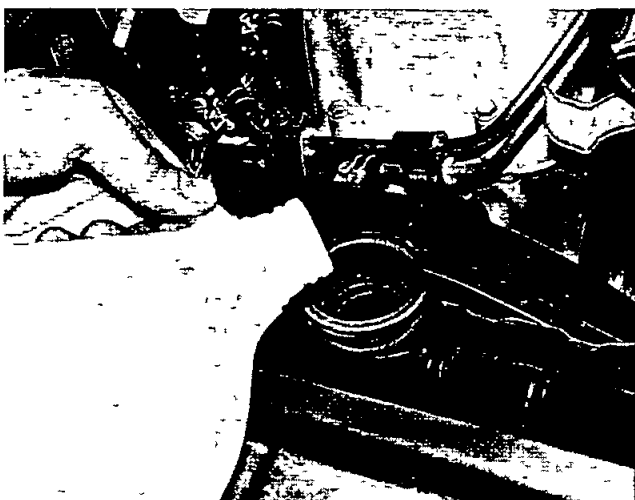
13 Batteries have a tough job, but are reliable pieces of equipment. Regular cell and terminal checks are still needed, especially in extreme weather. Check level in all cells.



14 If a cell needs topping up, use only distilled, never ordinary tap water. Don't overfill a cell, and don't smoke or have any flame near an open battery.



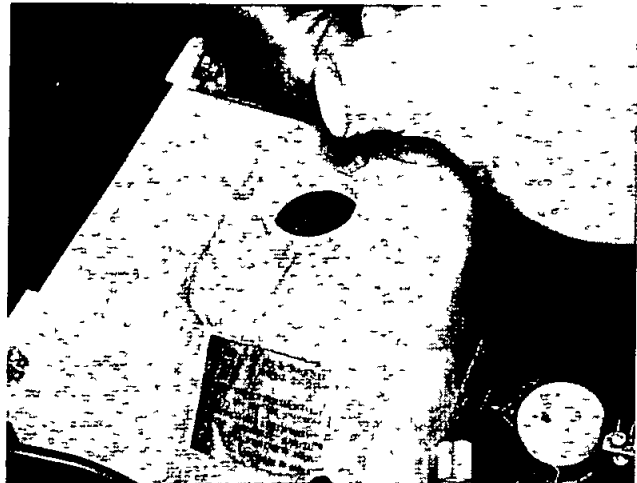
15 Don't check the coolant level in the radiator unless the engine is cold, or you're in for a scalding surprise. Release cap slowly even when cold.



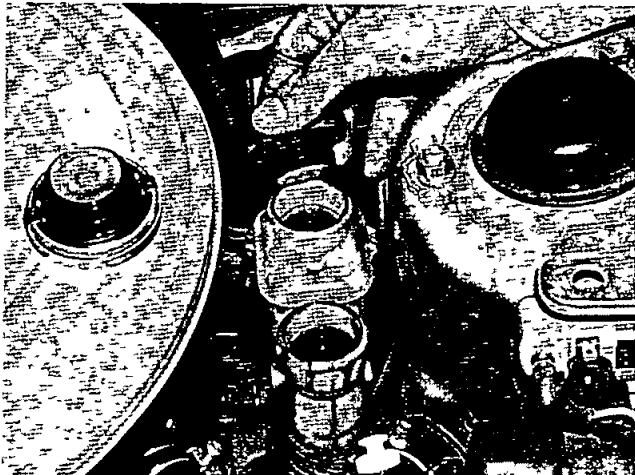
16 Add water or coolant as necessary according to instructions from manufacturer. There should always be a certain percentage of rust inhibitor in system.



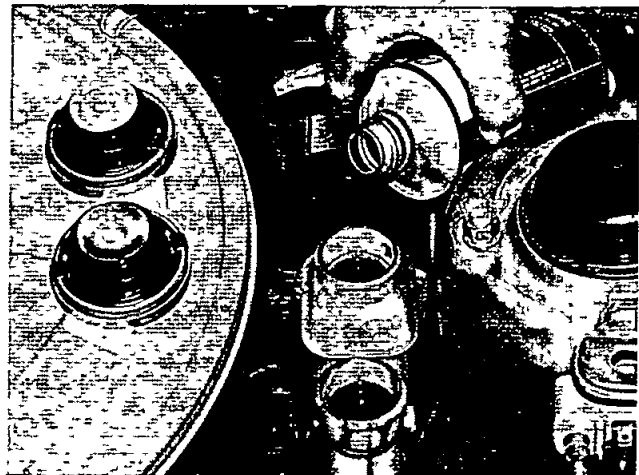
17 Windshield washer reservoirs are frequent points of neglect, because an empty one is an annoyance on the road, not a catastrophe



18 Ordinary water is useless in the washer system, use a suitable window cleaning solution as recommended. Never use any solution that could damage paint



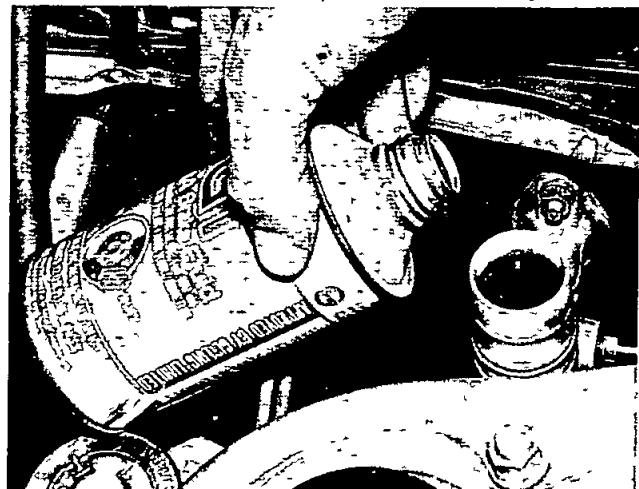
19 Check those brake reservoirs! Fluid should be up to the mark beneath the cap as shown. Keep area around filler mouth free of dirt



20 To top up reservoirs, use the recommended brake fluid. Be careful, because brake fluid will damage paint. Frequent topping up means trouble

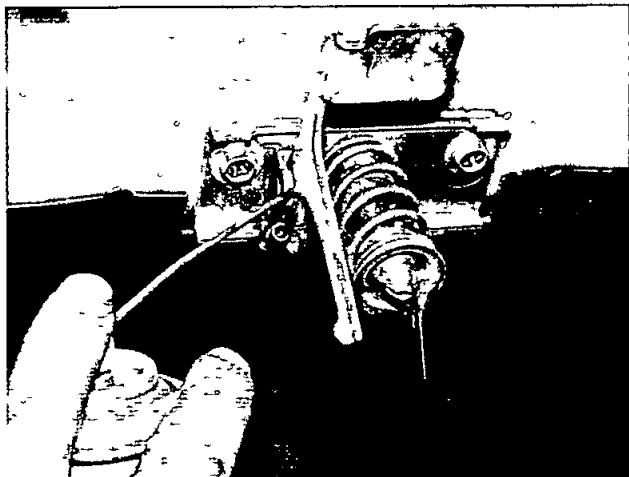


21 Don't forget to check the hydraulic clutch reservoir, and top it up if needed with the same fluid as you used in the brake system. Don't overfill

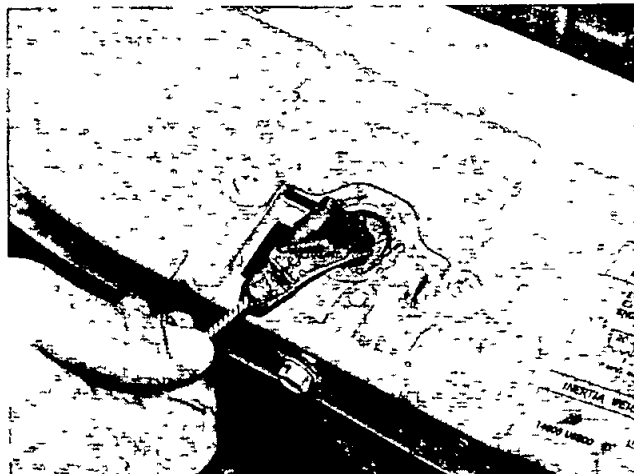


22 Topping up fluid levels in the brake and clutch reservoirs requires some care. Always clean the area around the filler opening. Don't let any dirt in

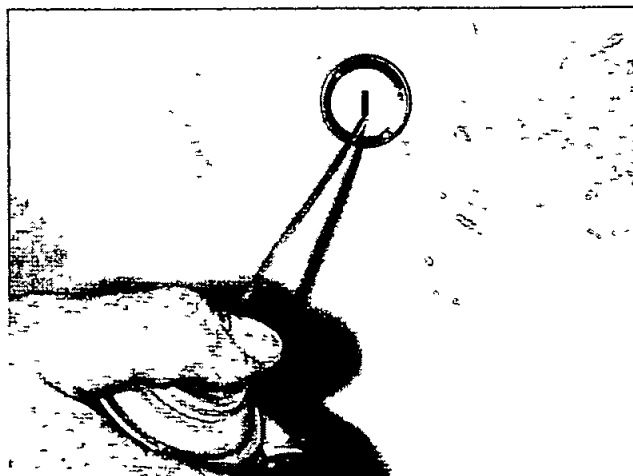
HOW TO: KEEP YOUR DATSUN SQUEAK-FREE



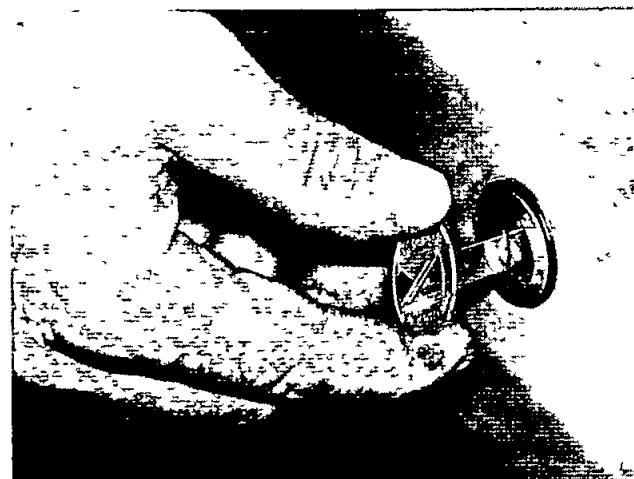
23 Now it's time to look after all those hinges and joints. Start with the secondary hood latch. Spray with lube. If dirty, flush with lube, then wipe clean.



24 Using a small brush, grease the hood latch mechanism. Don't be sparing, but don't use an excessive amount, because dirt collects here quickly.



25 Silicone spray lubes come with a small tube extension for the spray head. Use it on the door lock mechanisms as shown. Work lube into tumblers.



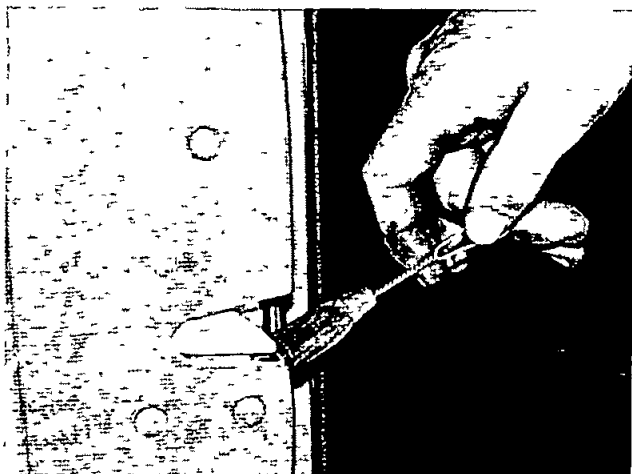
26 Insert key into lock and work around several times to spread the lubricant into the lock's internals. Twist key several times.



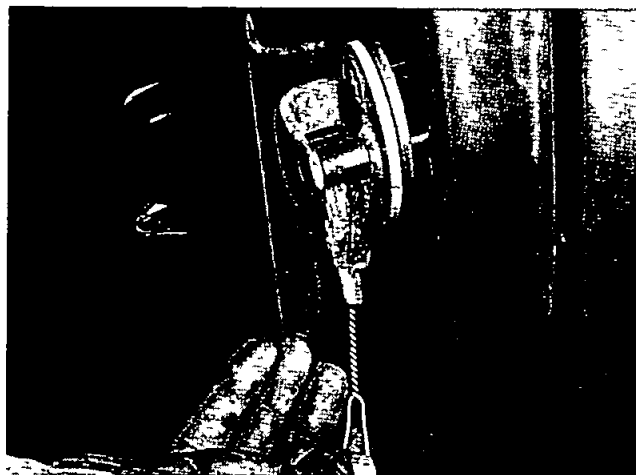
27 To keep door hinges free of water and squeaks, shoot them with silicone lube. In areas where there's a lot of rain, snow, general dampness, spray often.



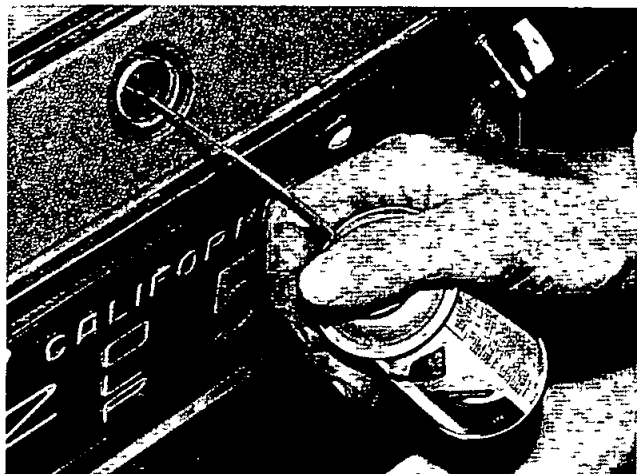
28 The door stop roller mechanism will benefit from an occasional shot of silicone spray. Even though it's painted, spray the spring as well.



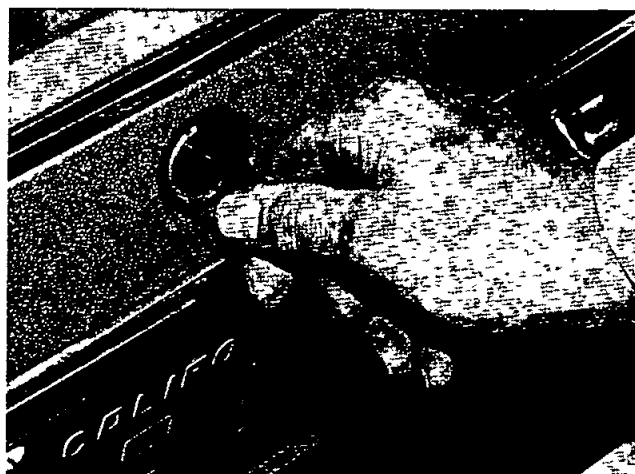
29 Apply a little grease to the fingers of the door latching mechanism in the door itself. Watch lubrication of the door that gets opened most often.



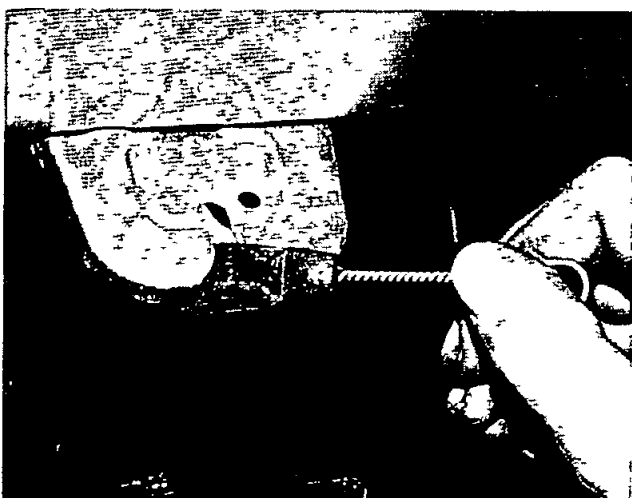
30 The door latch on the body should receive a dab of grease as well. Don't apply an excess here or you'll start finding grease on clothes.



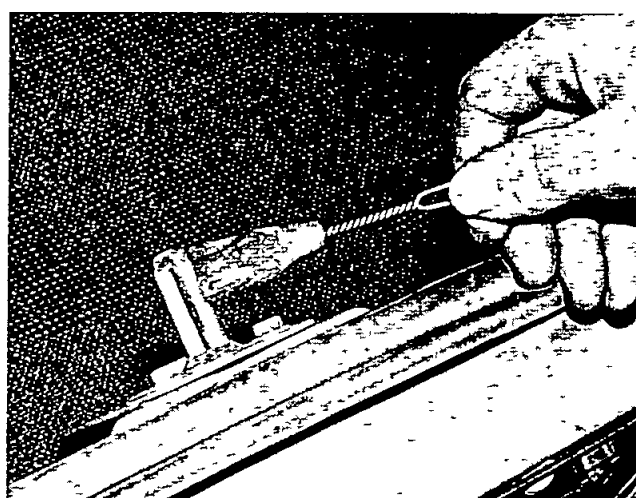
31 Use a shot of silicone spray in the trunk lock mechanism in the same way as you did into the door locks. One good shot will do the job.



32 Now, insert the trunk lock's key into the tumbler mechanism and twist it from side to side several times. This works lube into lock.



33 Apply a dab of grease to the lock fingers on the trunk lid itself. This is another one of those little jobs that is often forgotten.



34 Some grease may be applied to the latch inside the trunk itself. Here again, it's best to go sparingly to keep grease away from stored objects.

HOW TO: Z-CAR OIL CHANGE

REGULAR MAINTENANCE

Now that you've become a "pro" at those little chores that should be performed frequently, let's go up the ladder to periodic maintenance. This covers service that should be performed regularly, especially filter changes, oil changes, and chassis lubrication. Nothing in this section is complicated or requires the use of an unusual tool. You can do it all yourself, although you may prefer to leave the chassis lube to the tender care of your dealer or local garage, they will have the high-pressure grease gun and hydraulic lift which make this job much easier.

How often should this maintenance be performed? Check your owner's manual for the recommended intervals, but remember that they should be var-

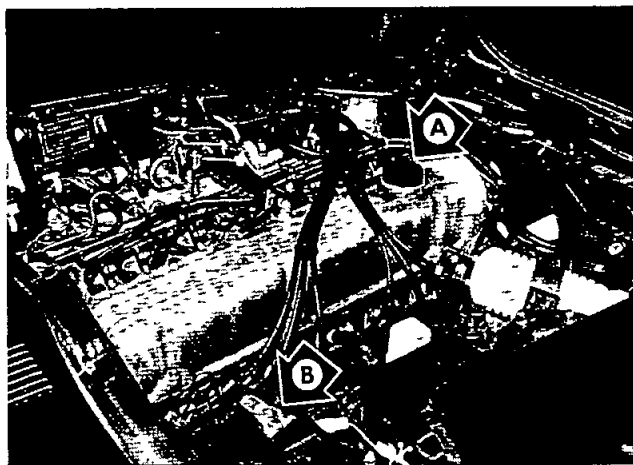
ied depending upon your driving conditions. If you drive mostly in stop-and-go city traffic, you should change the oil more frequently, especially in cold weather. If you drive in dusty conditions, change the air and oil filters frequently. Let's see where the fun and satisfaction comes in!

We're not going to tell you that crawling underneath the mud and oil-stained chassis of your Datsun is fun, but it may give you the incentive to get the undercarriage steam-cleaned. And the effort to have the rest of the car match the undercarriage will require plenty of elbow grease, needless to say, that's certainly no fun. But there will come a time when you will be more familiar with your car than even the person who sold it to you.

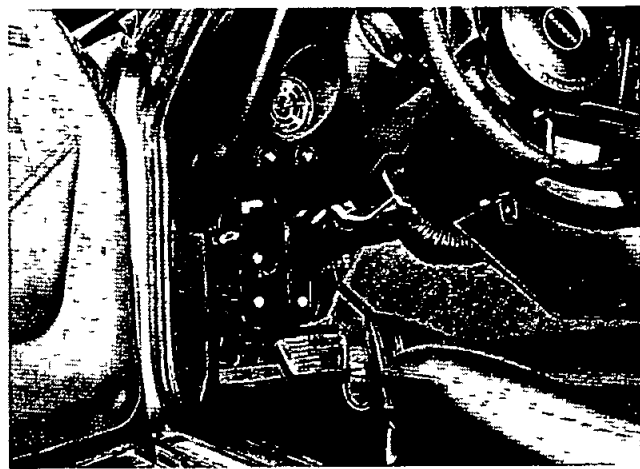
You'll know every fitting, every piece of metal that it joins, and every other component, both large and small.

Your first oil filter change may take the better part of a Saturday afternoon, but the next one will be done quicker, and before too long, you'll have matched the speed of the local mechanic, despite the advantage he has in equipment. (By the way, he has to look up the lube points, filter cartridge number, etc., while you will have long since memorized them.) Knowing that your car is in top condition and realizing that you are saving money offers enormous satisfaction.

Fun will come during trade-in time when the salesman throws away the "Blue Book" and offers you a staggering price for your "eons-old" Datsun.



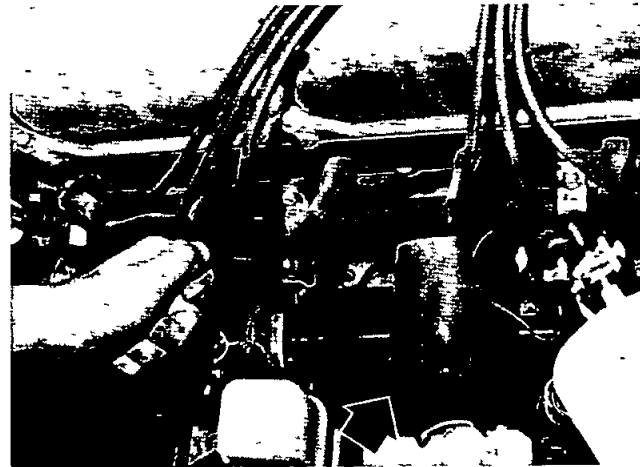
1 Checking oil level and changing/replenishing on the Z-car isn't difficult. The oil is added through the filler cap (A), and the level checked at dipstick (B).



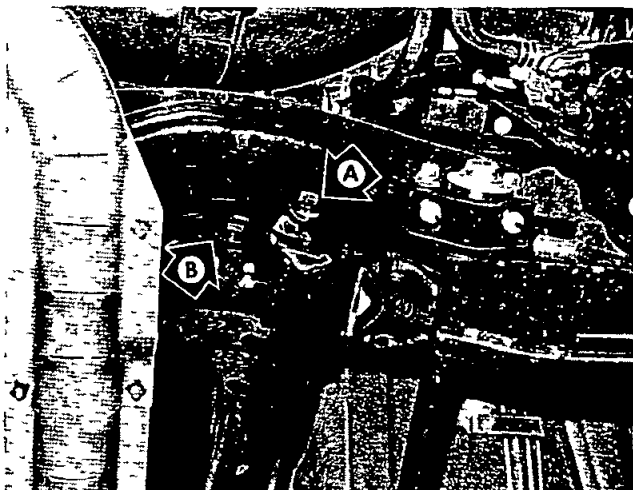
2 The Z-car's hood release is at the lower left-hand corner of the dashboard. Use of International symbols on controls is making things simpler these days.



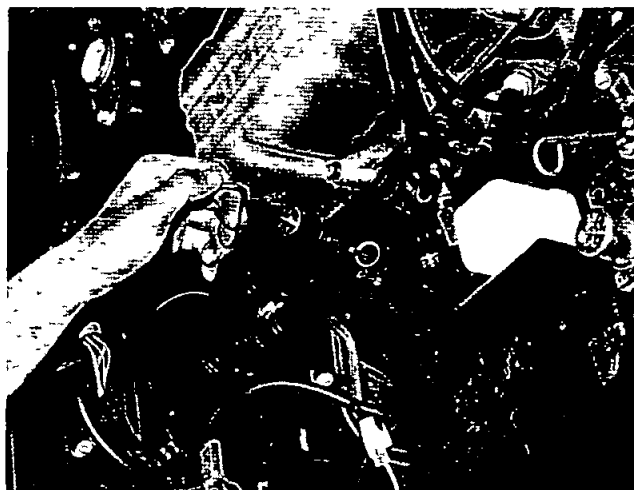
3 If you're the lucky owner of a Z-car, you may feel better in knowing that the rear suspension does not require any lubing. Check everything for soundness.



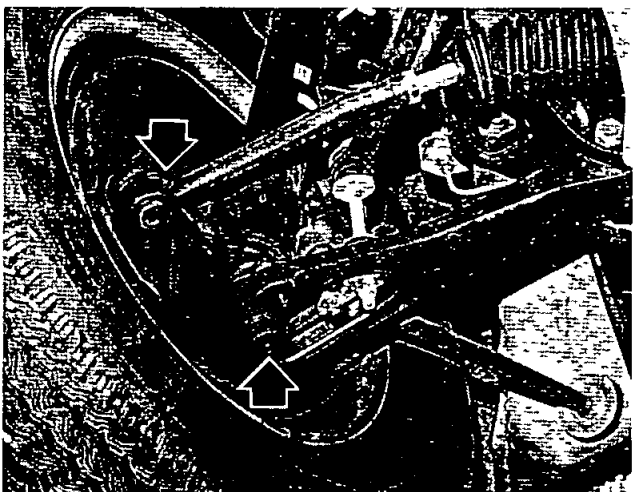
4 The Z-car's filter is positioned horizontally on the left-hand side of the block, next to the dipstick. It needs to be hand tightened into place only, no force.



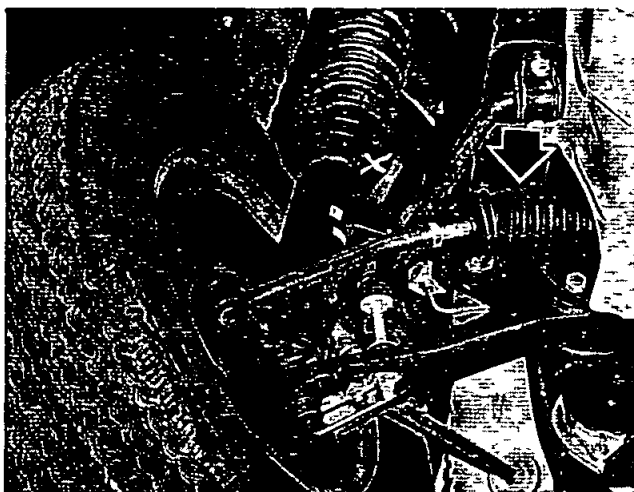
5 You're going to have to get way underneath to check the Z-car's rear end oil. At (A) is the filler plug, (B) is the drain plug. Oil should be to level of plug (A).



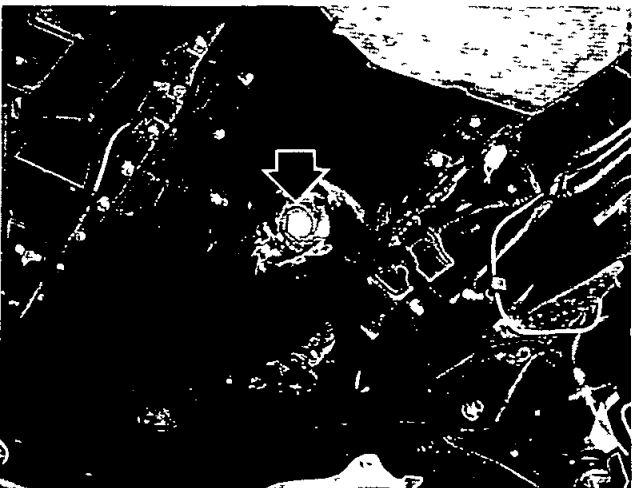
6 The automatic trans dipstick is located on the left-hand side of the firewall. Follow maker's directions in checking level—it's very important to keep topped up.



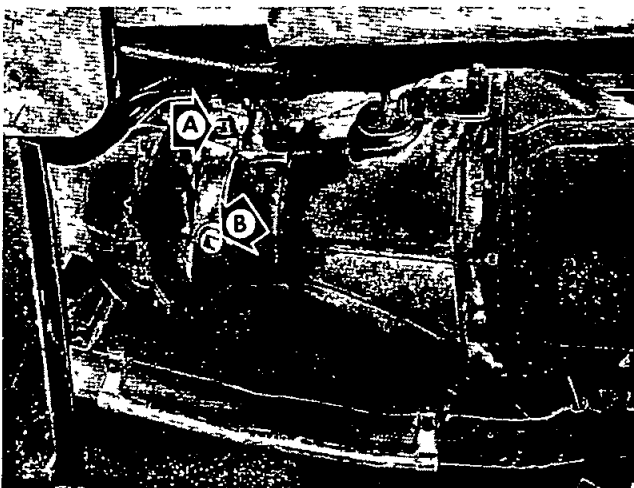
7 Current Datsuns, including the Z-car, require very little front end lubrication. Check the manual on yours for correct intervals. Arrows indicate where zerk fittings go.



8 While checking and/or greasing the front end, always check the steering gear boots for cracks or tears. Keep them in good shape with ArmorAll.

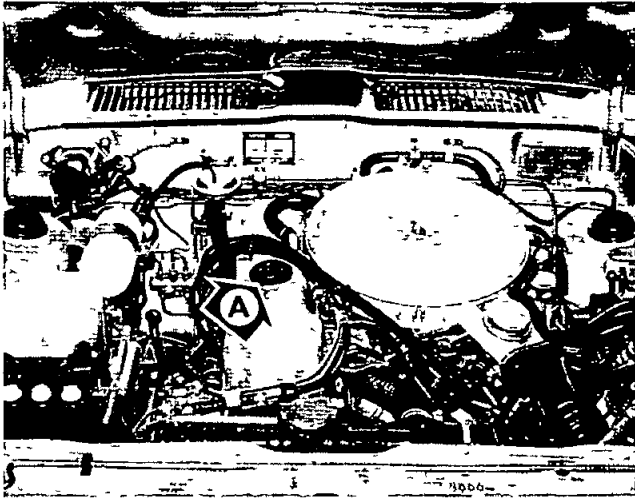


9 Z-car's drain plug for the engine sump is in a convenient location. Watch your knuckles when loosening! When replacing, don't overtighten, or you could strip threads.

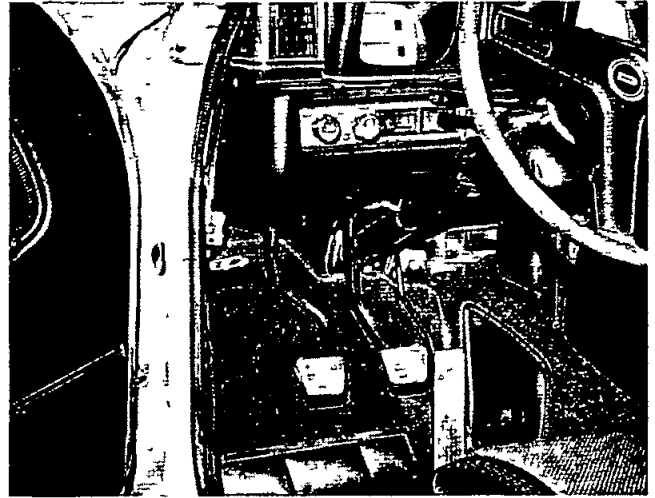


10 Standard trans on Z-car has filler plug at (A), drain plug at (B). Change oil at recommended intervals, more often if you drive hard. Watch for excessive leaks.

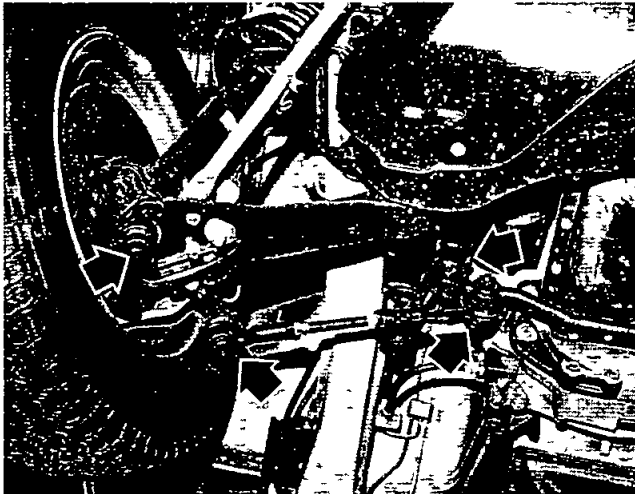
HOW TO: 610 OIL CHANGE



1 Layout of the 610 series is such that general services are carried out without difficulties. At (A) is the oil filler cap for engine lubricants.



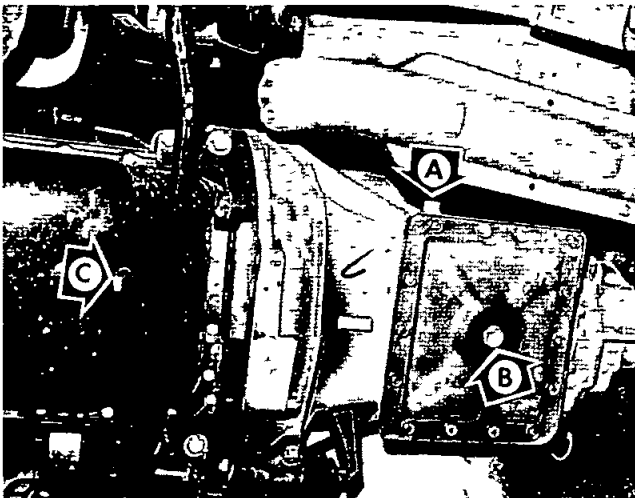
2 The 610's hood release is a T-handle positioned at the lower left-hand corner of the dash panel. With the obvious symbol stamped on, it's easy to find.



3 Front-end greasing points are few and far between compared to a few years ago. Plugs are installed where zerk fittings go, latter are put in at lube time.



4 Arrows indicate ball joint lube points as well as lower joint of MacPherson strut. Latter should be looked after according to your owner's manual.

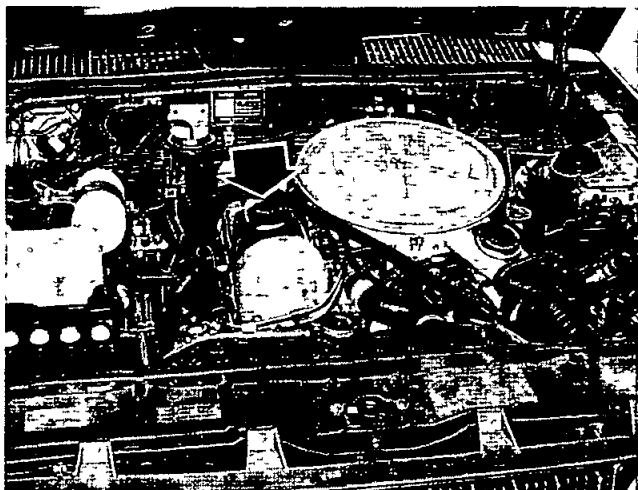


5 Engine and manual trans drain plugs are shown here. At (A) is the trans filler plug, (B) is the trans drain, while at (C) is the engine drain. Tighten securely.

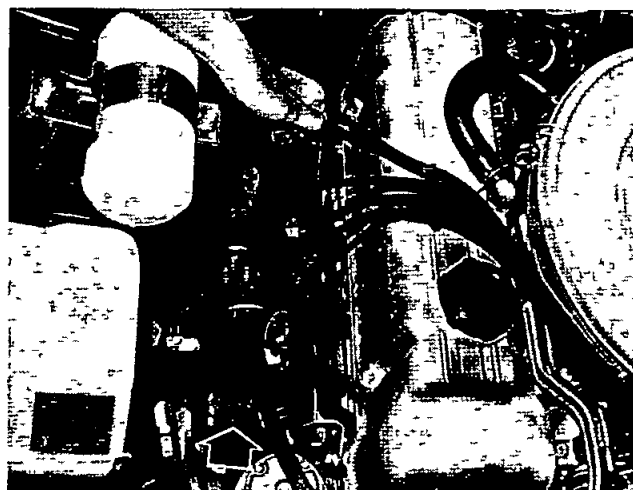


6 The 610's rear suspension needs little attention. Drain is at (B), filler at (A). Replace oil only at infrequent intervals, but check condition of rubber boots often.

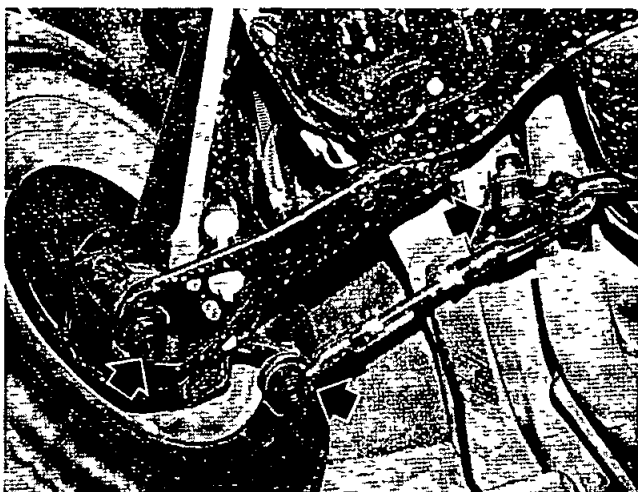
HOW TO: 710 OIL CHANGE



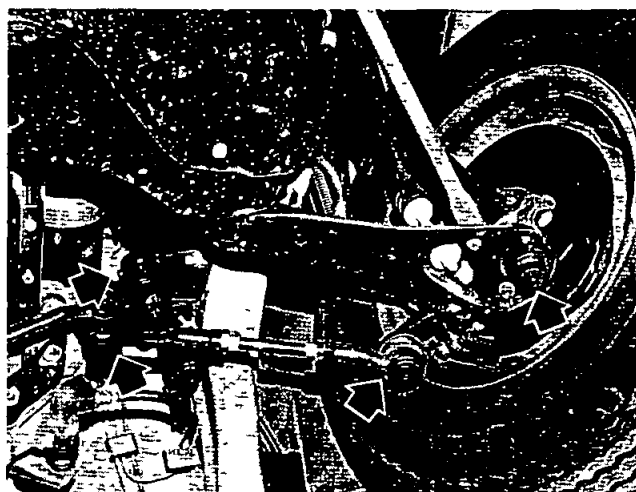
1 The 710 is well within the realm of owner maintenance. Underhood appears at first to be a maze of hoses and pipes. Look for the oil filler (arrow) and you're on the way.



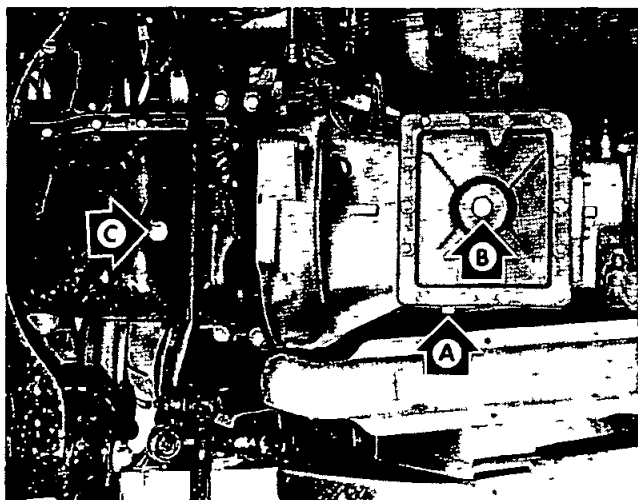
2 Dipstick is on left side of engine in common with other Datsuns. Oil filter (arrow) should be hand tightened only, even though special wrench is needed to remove.



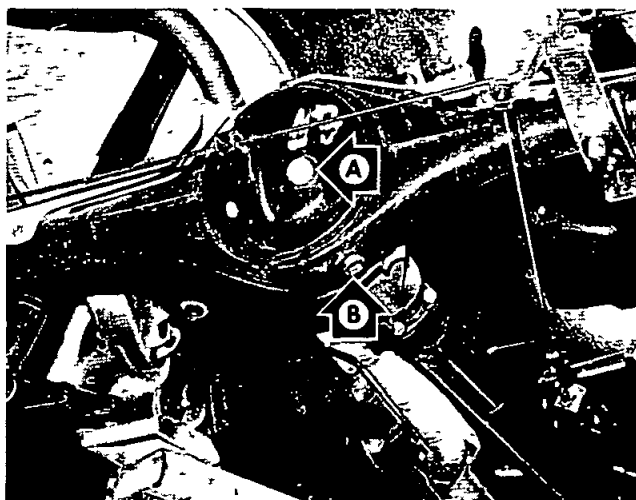
3 Modern cars don't need frequent shots with grease gun. Datsun's zerk-type grease fittings are plugged until tube time (arrows). Then zerkers are installed.



4 You can buy zerk fittings from your dealer and do the job with a hand-type grease gun. Joint at bottom of MacPherson suspension (arrows) should be checked more often.



5 Here are the 710's trans filling plug (A), drain plug (B) and engine drain plug (C). Be careful of hot oil when draining; don't overtighten when refitting.

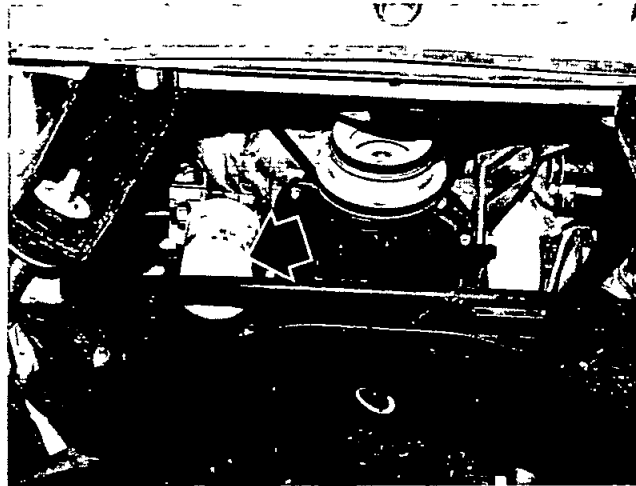


6 Rear axle drain is at (B), filler at (A). Changes are very infrequent. Consult your owner's manual for correct intervals. Never try to fill above level of (A).

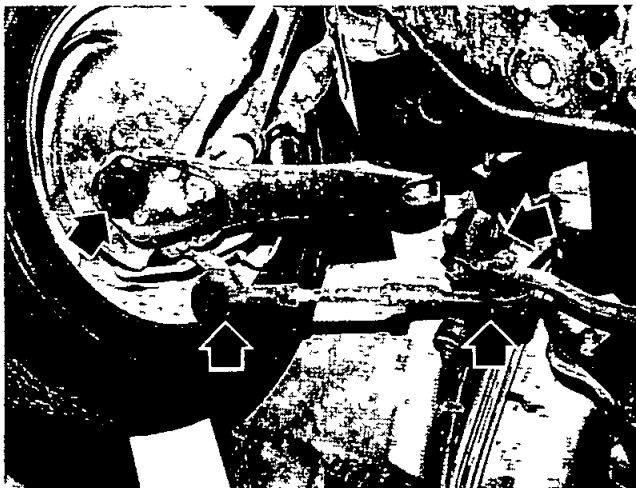
HOW TO: B-210 OIL CHANGE



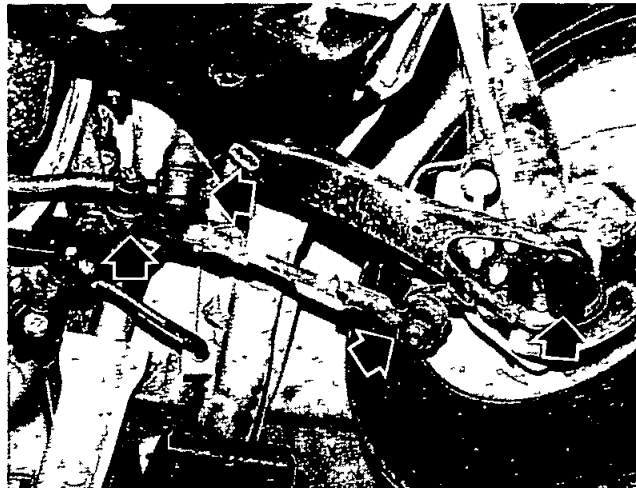
1 On the B-210, dropping the front skid pan isn't necessary for changing the oil filter, but it does make the job easier. Four bolts loosen pan from chassis.



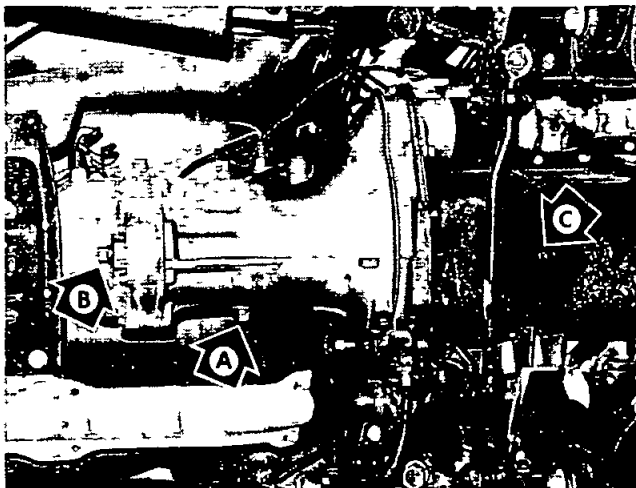
2 Oil filter is on right-hand side of engine, but unlike other Datsuns, it is in vertical position. Use strap wrench to undo, hand tighten replacement.



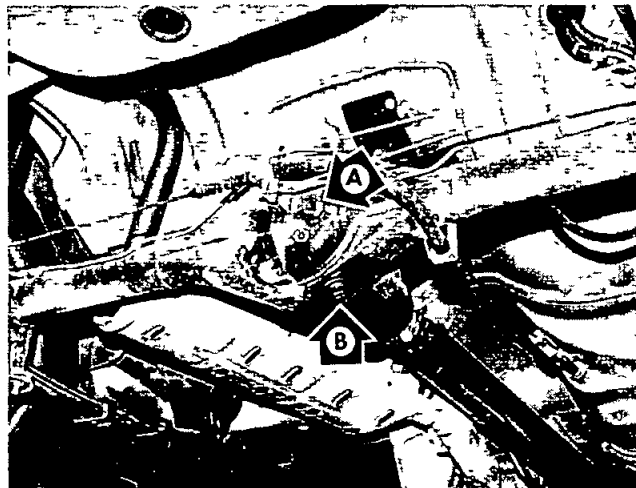
3 The B-210 has the usual front suspension lube points. They need infrequent attention, but look at your owner's manual for correct intervals. Plugs cover zerk points.



4 MacPherson lower pivot point, far right, may need more frequent attention than other front end lube points. Check condition of rubber bushings, look for bad leaks.

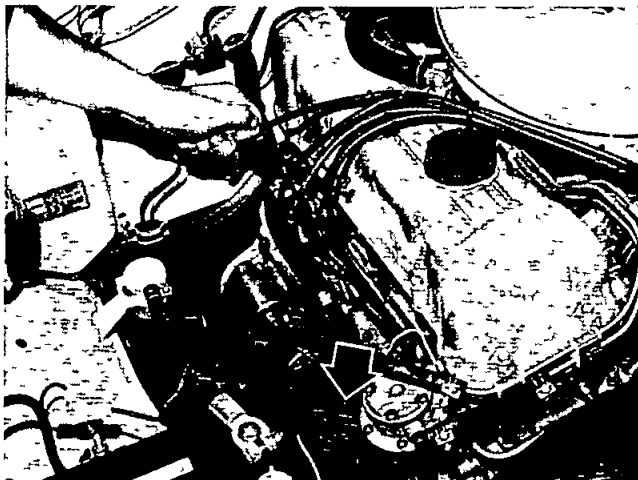


5 Engine and trans fill and drain plugs are at (A), (B) and (C). Watch your hands and knuckles when undoing, replace without excessive tightening.

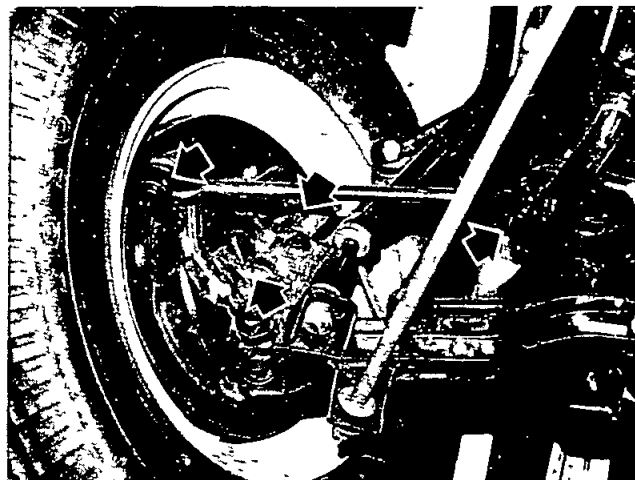


6 Rear axle oil should be drained at recommended intervals, checked at other mileage points. Drain plug is at (B), while filler is at (A). Never try to fill above (A).

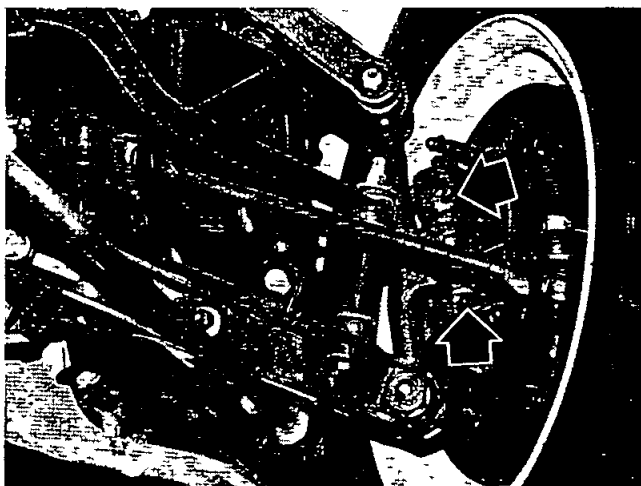
HOW TO: PICKUP OIL CHANGE



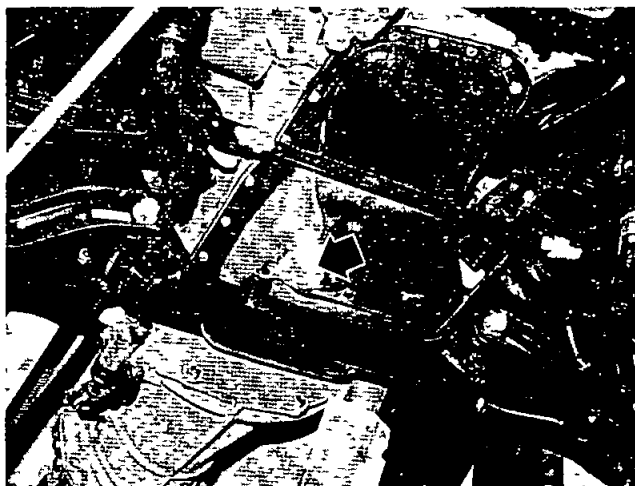
1 The Datsun pickup is one of the easiest of all the models to service and maintain—and that's just the way the makers intended it. Oil filter is under fuel pump.



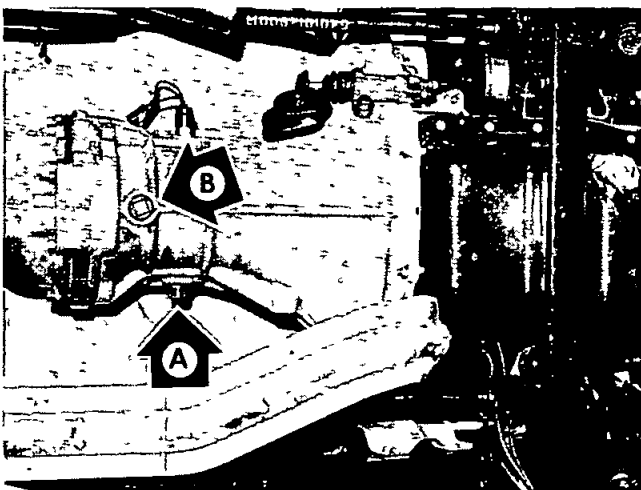
2 Double A-arm suspension has a few grease points that should be filled via zerk fittings and a grease gun at recommended intervals. Check rubber bushings.



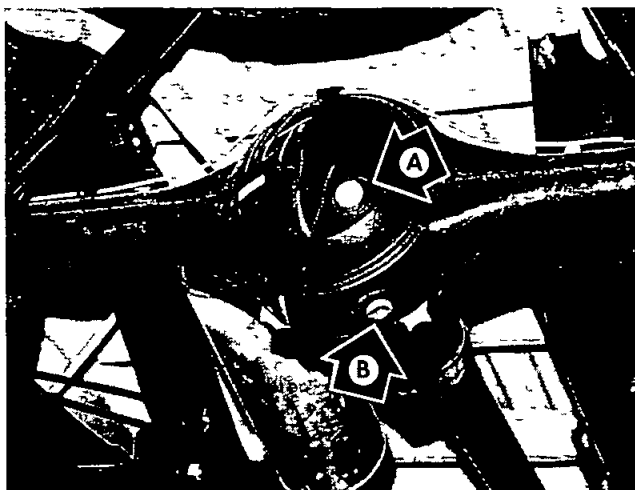
3 The two grease points on each kingpin should be checked more often on trucks put to hard use. Watch for wear on kingpins as well.



4 Engine and oil drain plugs are easily accessible once you get the truck up high. Be careful when untightening, especially after long periods. Don't overtighten.



5 Trans drain is at (A), filler at (B). When lubing gearbox, check rubber boot over clutch release and on hydraulic slave cylinder. Look at backup light terminals.



6 Rear axle drain is at (B), filler at (A). To check oil level, remove (A) and insert your finger to feel where oil is at. Do this only when axle is cool.

HOW TO: TUNE-UP THE 1200cc ENGINE

B-210 TUNING PROCEDURES

The 1975 Datsun B-210's powerplant is a marvel. Consider this: With 1397cc displacement, the 4-cyl overhead valve, high cam engine can power the B-210 well in excess of the national 55-mph speed limit—and do it with a full load of passengers and their luggage, too. Even more amazing is the fact that it achieves this performance without detriment to gas mileage. How does 41 mpg sound? That's what the EPA recorded for the B-210 in simulated highway driving. Getting

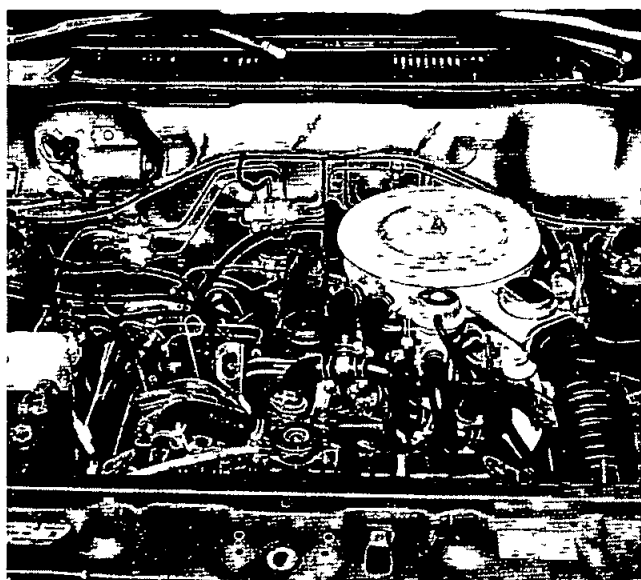
30 mpg in stop-and-go city traffic is well within the ability of any driver. Not only is the B-210 engine efficient, it's also bullet-proof. So much so that it may be the most trouble-free powerplant in Nissan's history.

The B-210 engine is derived from the powerplant used in the 1200 sedans up through 1973. In 1974, the engine size was increased to 1300cc to accommodate the emission control devices required by law on the B-210's without seriously affecting perfor-

mance. More changes came in 1975.

For 1975, the displacement was increased to nearly 1400cc, and the spark plugs were fired by capacitive-discharge ignition through a super high-voltage coil. The smog pump became mandatory, and in California so did the catalytic converter.

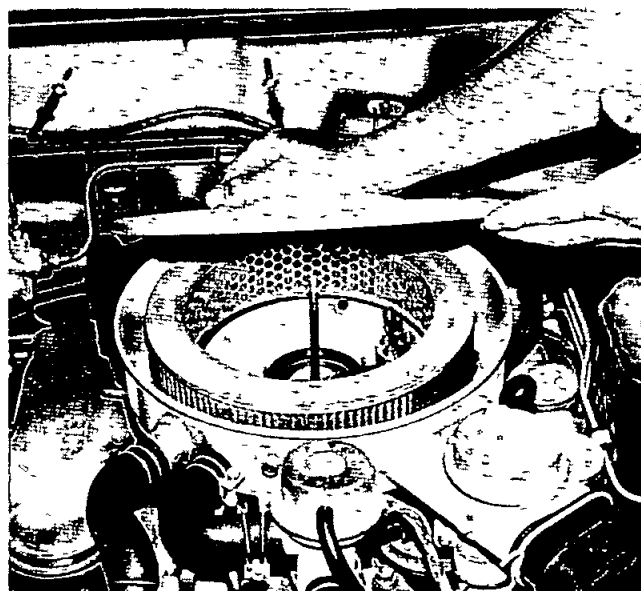
The B-210 engines are a joy to tune (the '74's because of less smog apparatus, and the '75's because there are no points to replace, adjust and re-time), so let's get started!



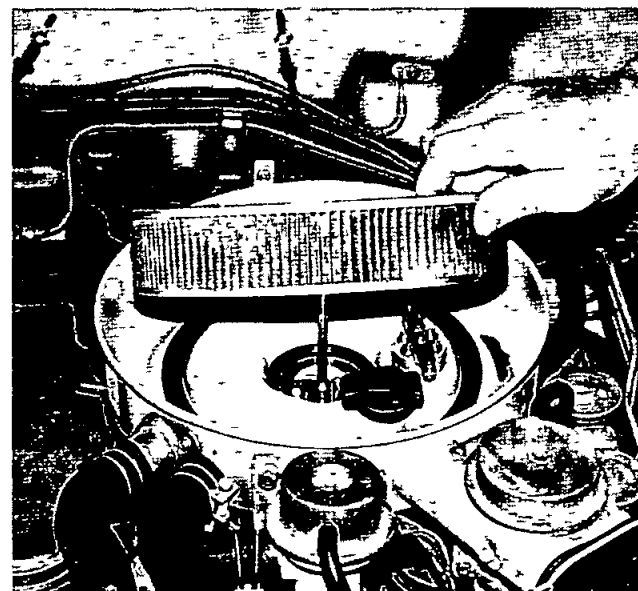
1 The 1975 version of the B-210 4-banger features a new smog pump, catalytic converter, and vacuum line plumbing



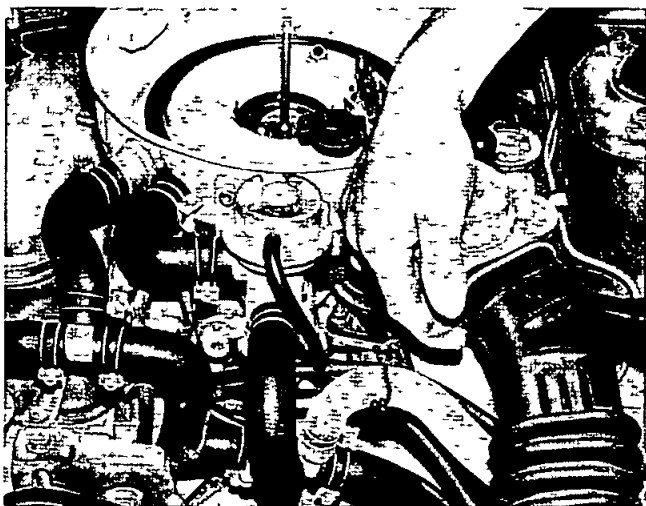
2 Don't panic. Engine can be gotten to one-step-at-a-time. Begin tune-up by loosening wingnut that holds air filter lid.



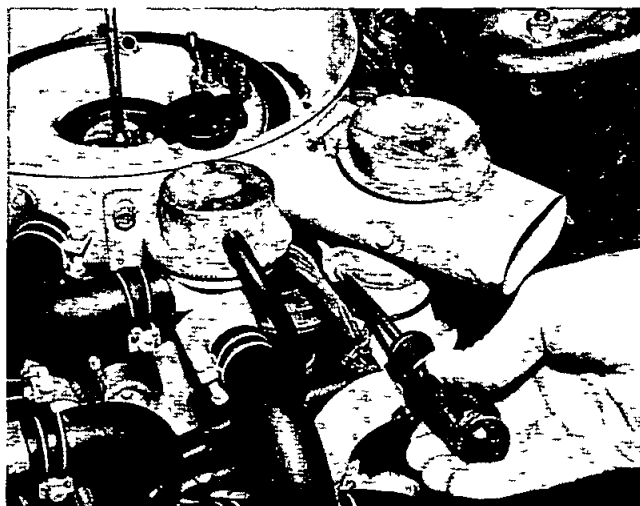
3 Remove air filter lid. B-210 is one of the most trouble-free cars on the road. Tune-ups should last 8000 miles.



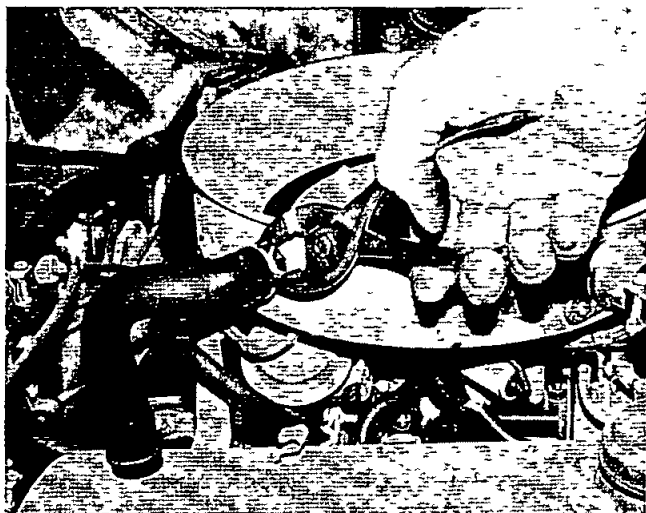
4 Air filter deserves close attention. If the filter is clogged with grit, poor gas mileage can result. Change!



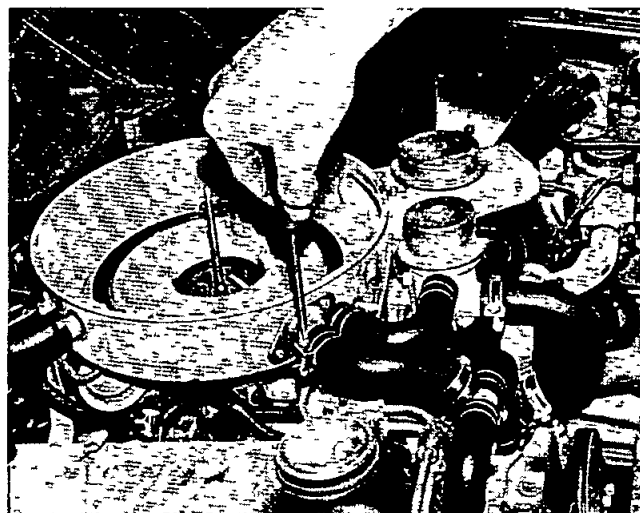
5 Compress oval wire clip that clamps black intake duct hose to air filter inlet Pull off hose from air filter inlet



6 Loosen band clamp holding hot air inlet duct to air filter housing Pull off hot air duct Be careful, it's fragile



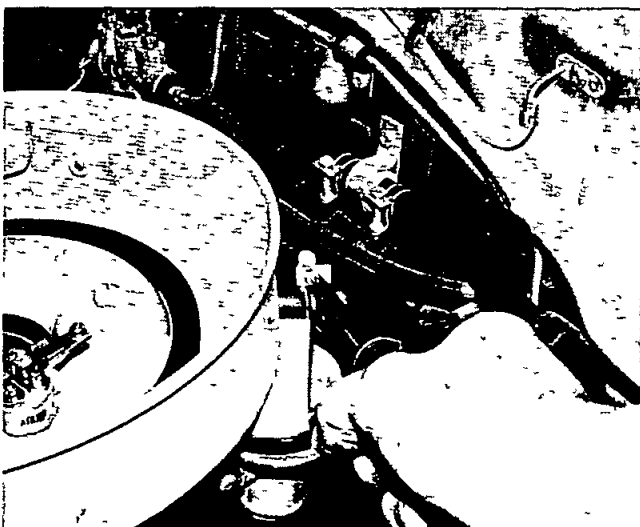
7 Use ordinary pliers if you don't have one specially made for the purpose Loosen wire hose clamps, pull hose off



8 A Phillips screwdriver is what's needed here to loosen this type of dual wire hose clamp Pull black hose off



9 This wire clamp has to be loosened so that the hose it holds can be removed If hose is tight, try to twist off

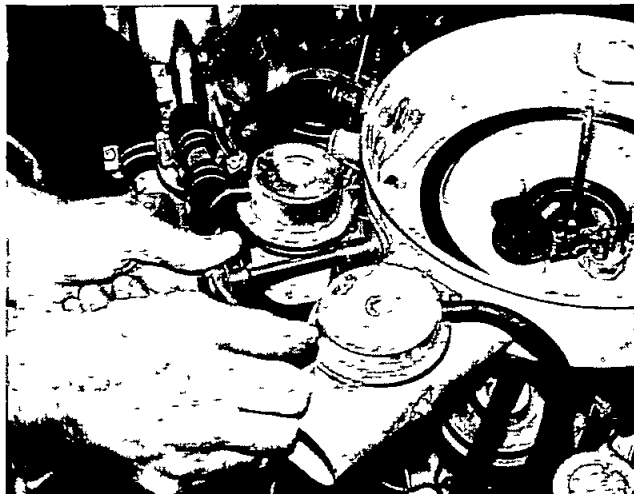


10 Loosen this clamp and remove hose to air filter housing Due to stricter '75 smog laws, there are more hoses

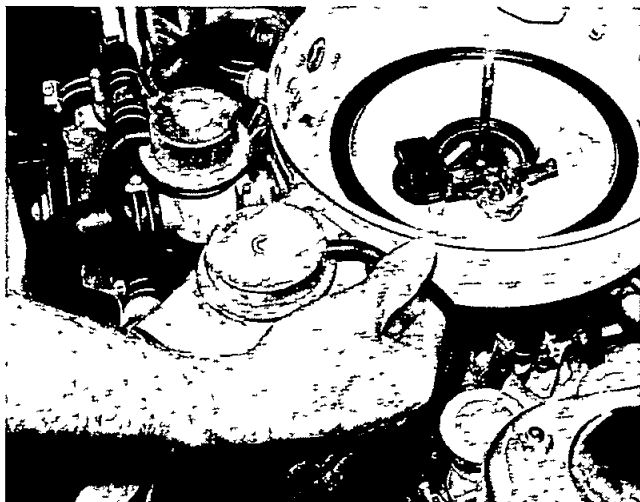
HOW TO: TUNE-UP THE 1200cc ENGINE



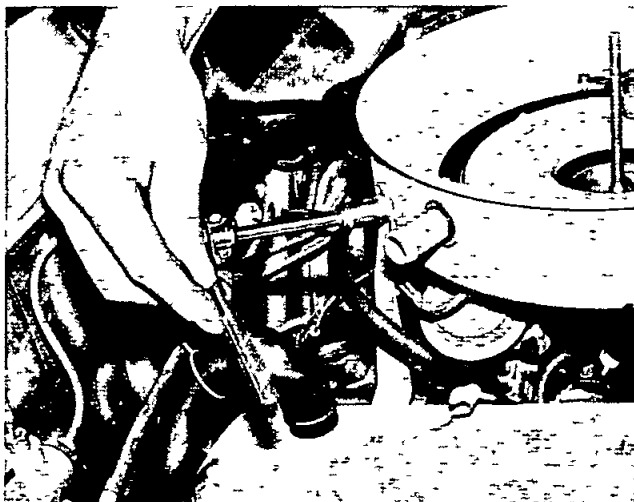
11 With 10mm socket and ratchet, spin out bolt that helps anchor smog valve to air filter housing. Note bolt location.



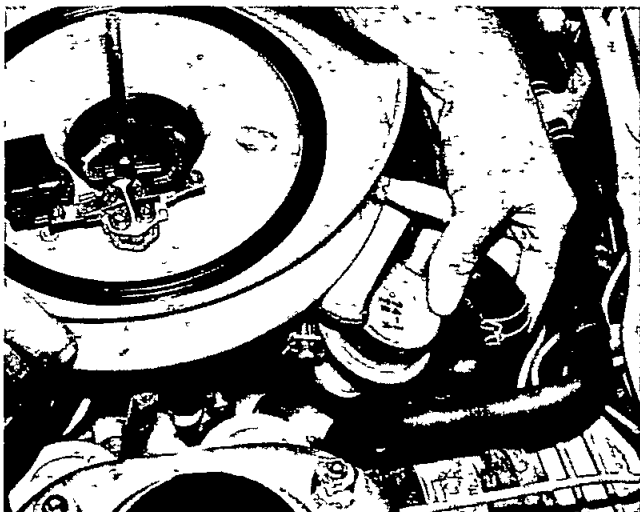
12 Use 10mm socket and ratchet to remove second bolt from air filter housing/smog valve bracket. This frees smog valve.



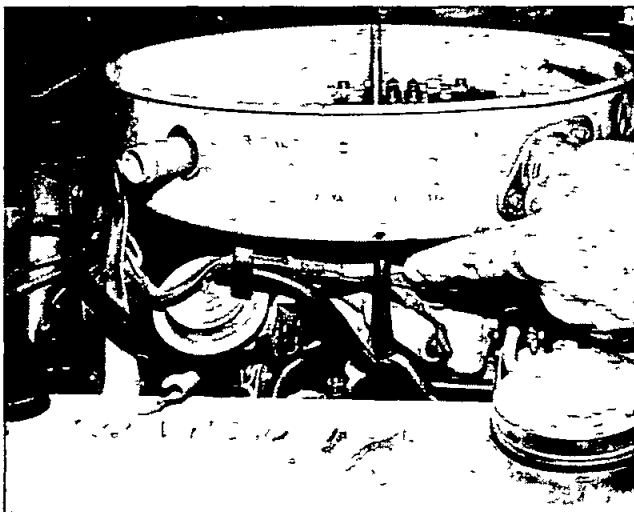
13 Pull this vacuum line off hot air sensor valve. Pull gently, hose should come off with a little patience.



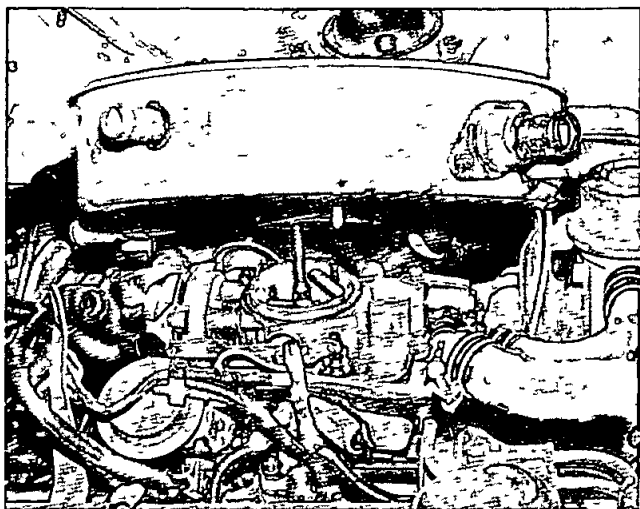
14 This is the last bolt that needs to be removed so the air filter housing can be lifted aside. It's a 10mm.



15 We can't quite lift off the air filter housing yet because we have to push this smog valve out of the way first.



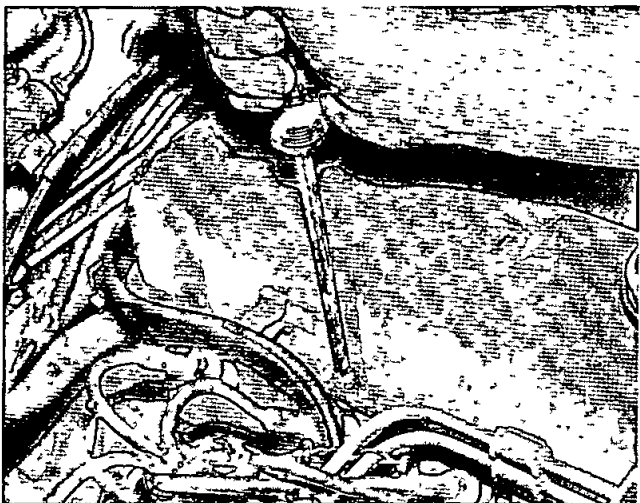
16 Secondly, we have to disconnect this black vacuum line that goes to the air filter housing, then housing will be free.



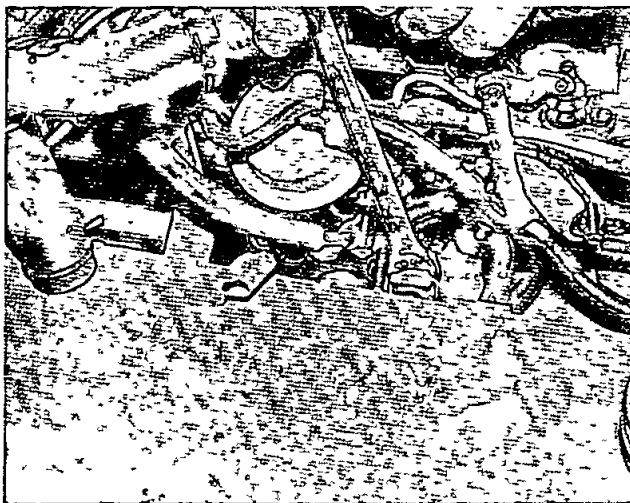
17 Lift air filter housing up over wingnut shaft, push to left side, make sure it stays out of way of work area



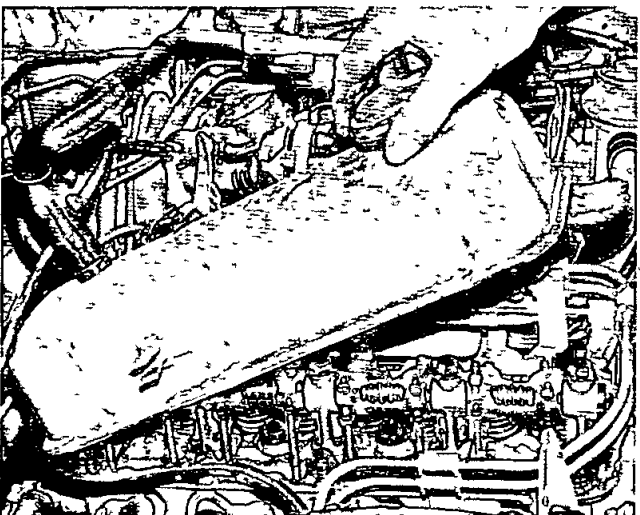
18 Remove this vacuum line from hose guide on valve cover. Vacuum line is snug fit in hose guide, so pull off gently



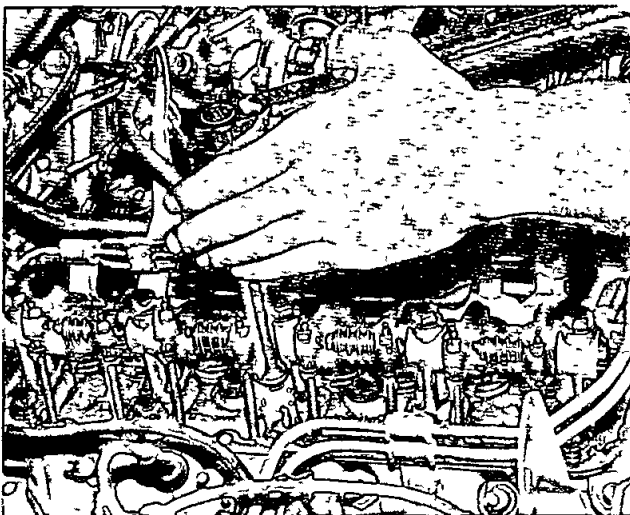
19 Use a big Phillips screwdriver and remove the six bolts that secure valve cover to cylinder head. They're on tight



20 A 10mm open end wrench here will remove the last item that prevents the valve cover from being lifted off

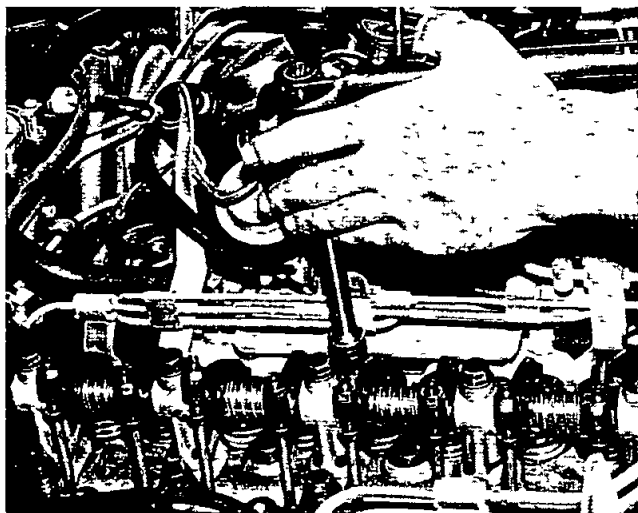


21 Remove valve cover from cylinder head. Be careful not to damage valve cover gasket, generally it can be reused

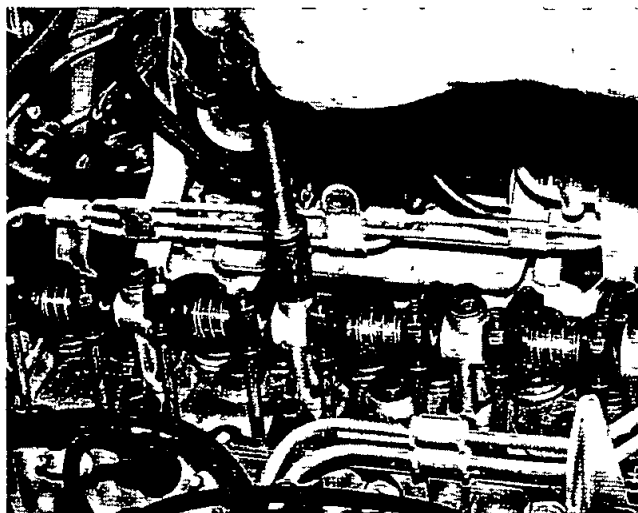


22 With a good quality torque wrench, torque cylinder head bolts to 50 ft.-lbs. Start from inner bolts, work outward

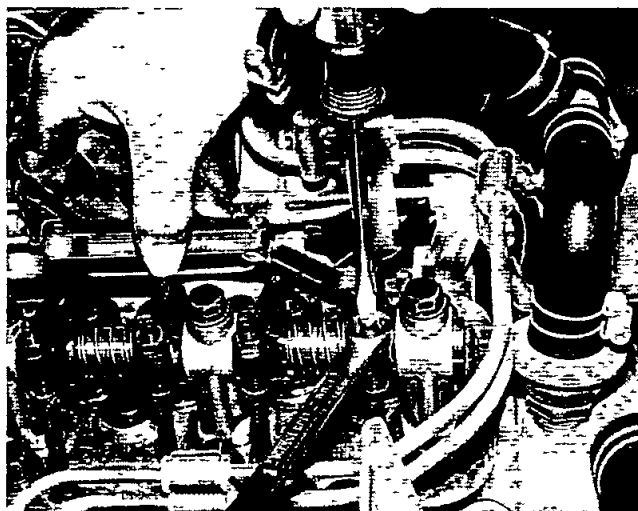
HOW TO: TUNE-UP THE 1200cc ENGINE



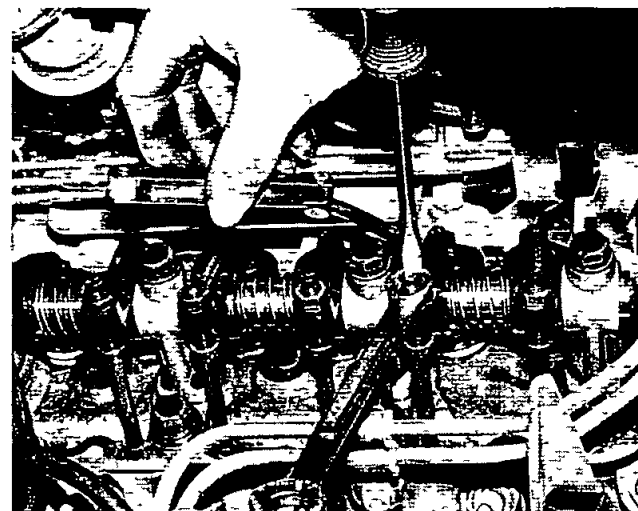
23 Be sure to criss-cross cylinder head bolt tightening pattern. Torque head when engine is cool to the touch



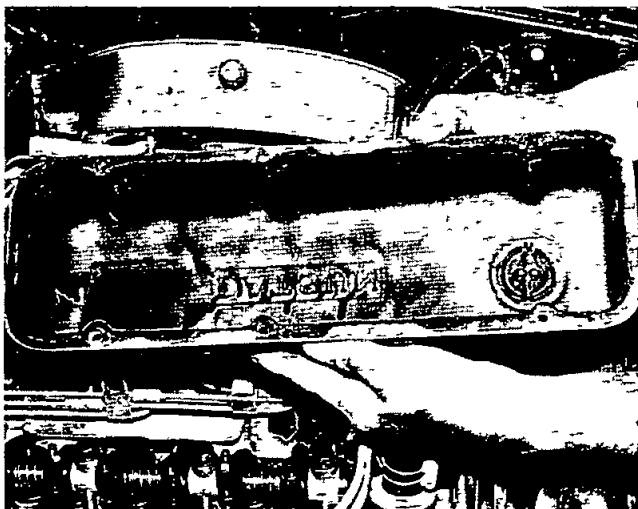
24 Rocker shaft holddown bolts have to be torqued properly also, 15 ft.-lbs. is correct. Tighten from center, outward



25 A 12mm boxed end wrench, standard screwdriver, feeler gauge are needed to set valve lash. .010-in. intake/exhaust



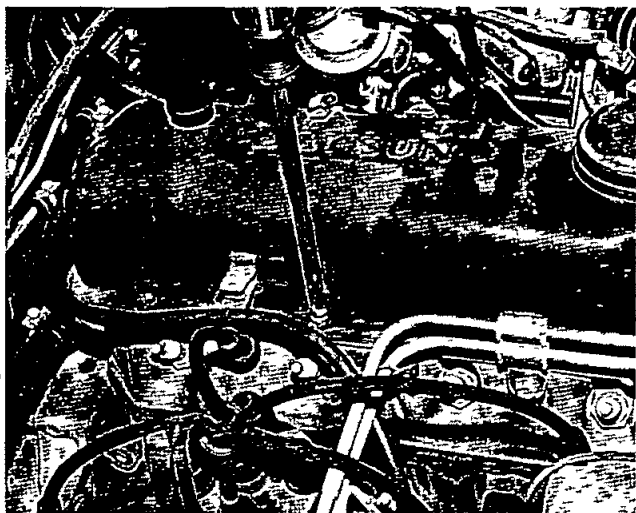
26 In the previous step we adjusted the exhaust valve lash, here the intake valves. Valve lash specs are with mill cold



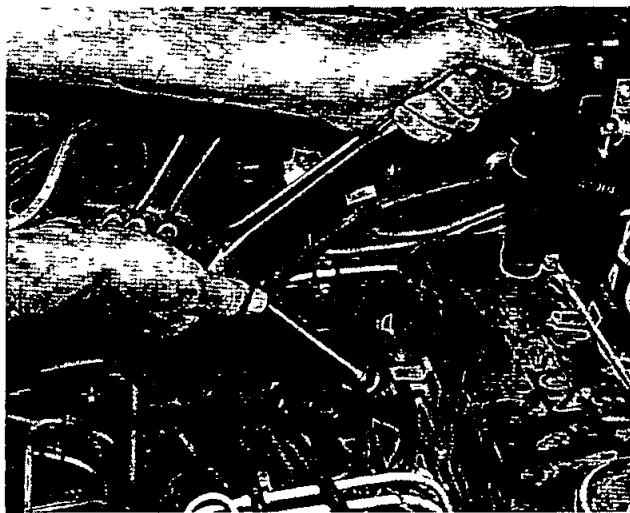
27 Upon valve cover installation, make sure that gasket is correctly positioned and in one piece. If not, oil will leak



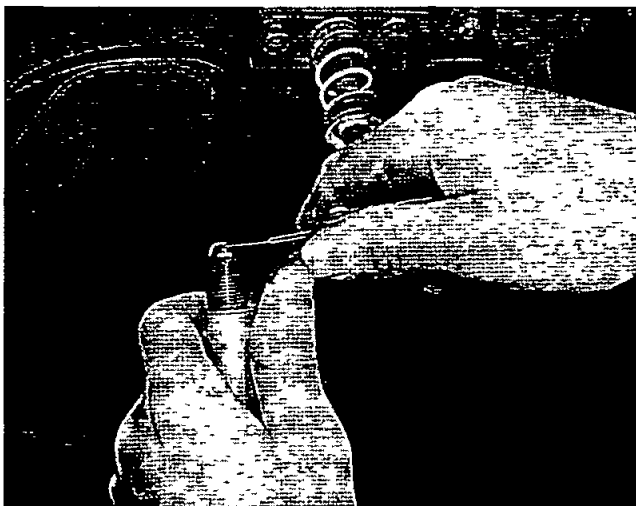
28 Do this step first, it'll make things easier. Start valve cover holddown bolt with fingers, but leave loose



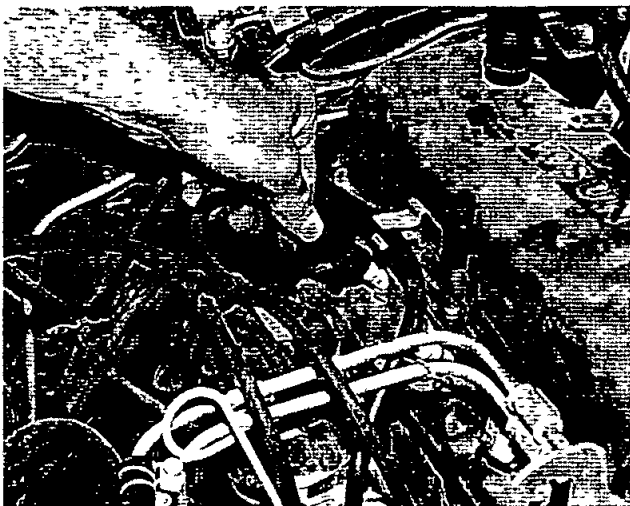
29 Now you can secure valve cover tightly by installing the six Phillips head bolts, afterward, tighten loose bolt



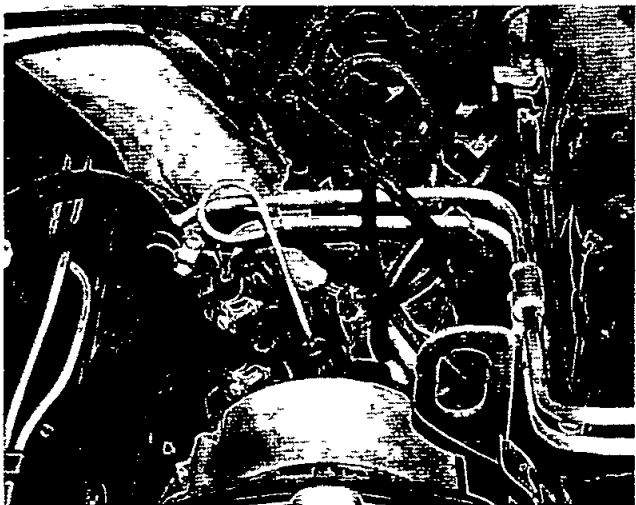
30 Remove all spark plugs Replacement is usually needed every 10,000 miles If plugs look good, regap to specs



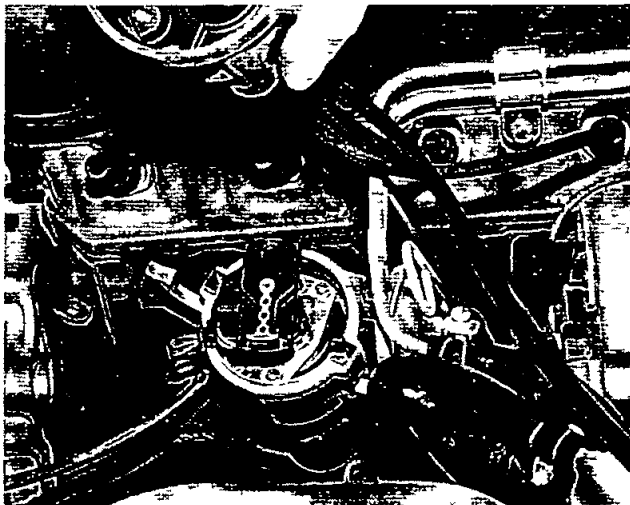
31 Use wire-type spark plug gap gauge Correct gap is .032-in Make sure electrodes are clean, in good condition



32 Fit spark plug boots back over spark plugs On '75 models with exhaust converter, secure fit is important

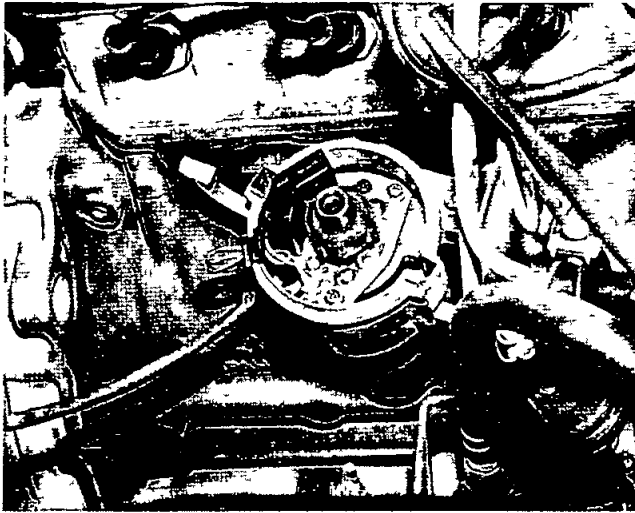


33 Push spring clips off distributor cap There are two clips that hold down cap one here, one directly opposite

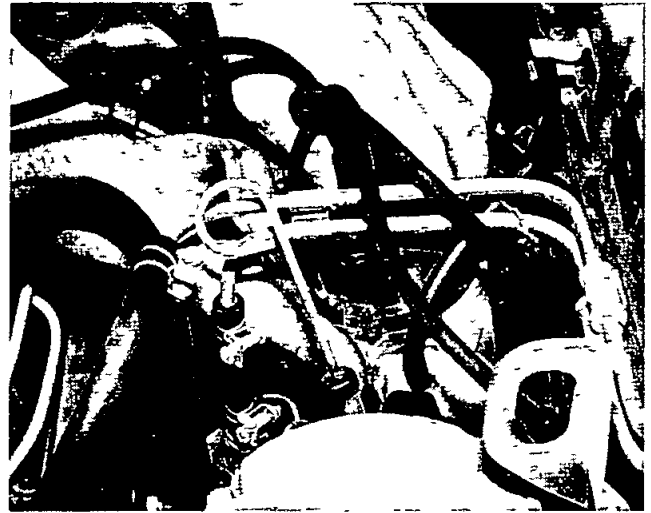


34 On '75 California B-210's, capacitor discharge ignition system is used There are no points to change

HOW TO: TUNE-UP THE 1200cc ENGINE



35 You're looking at the signal generator/signal pickup on '75 California B-210. Solid state ignition is trouble-free



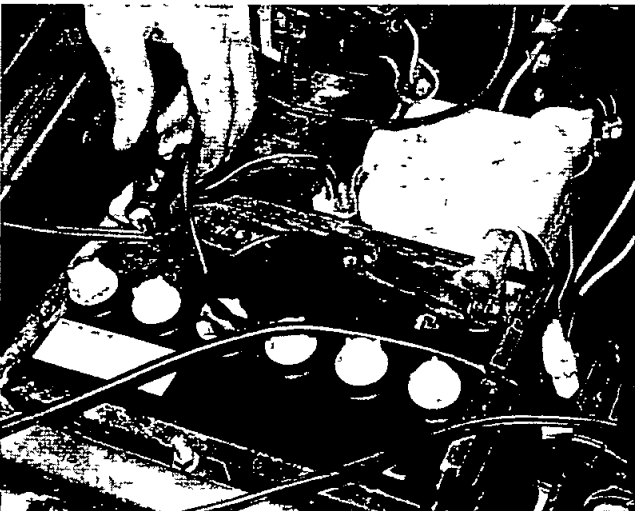
36 On other B-210 models, set point gap to .016-in. to .020-in. Install rotor, snap distributor cap back into place



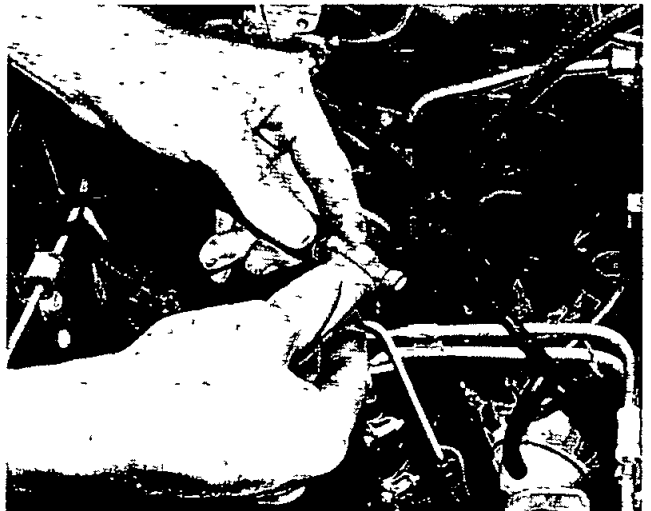
37 Connect red lead of tach/dwell meter to the negative side of coil, connect the black lead to ground



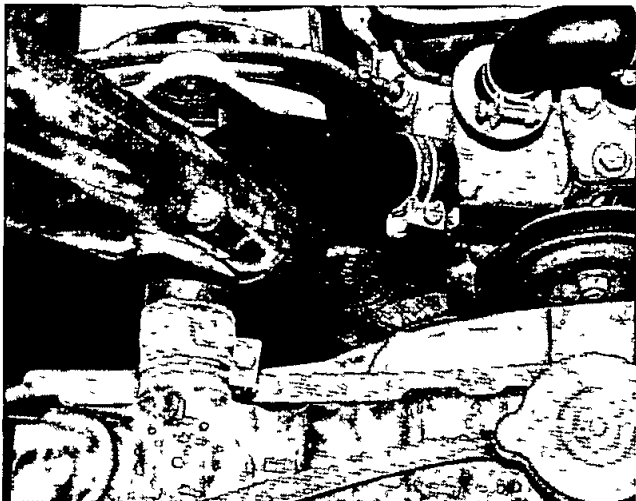
38 Set meter to dwell function, selector switch to 4-cylinder position. With engine running, dwell should be 53°



39 Connect red lead of timing light to the positive post of the battery, connect black lead to negative post



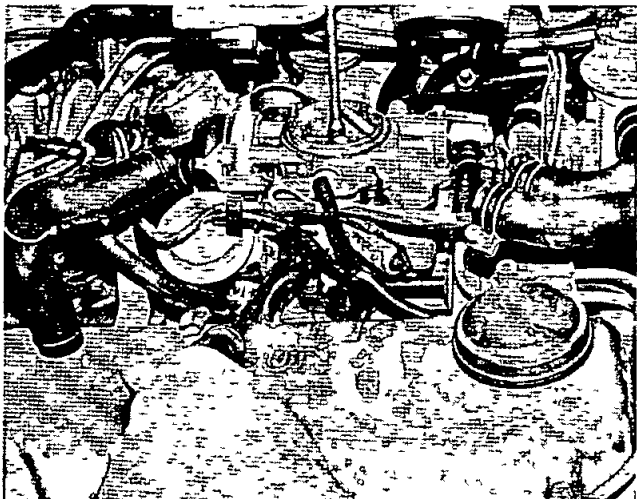
40 Insert spring adapter into No. 1 cylinder spark plug boot, clip ignition pickup lead from gun to spring adapter



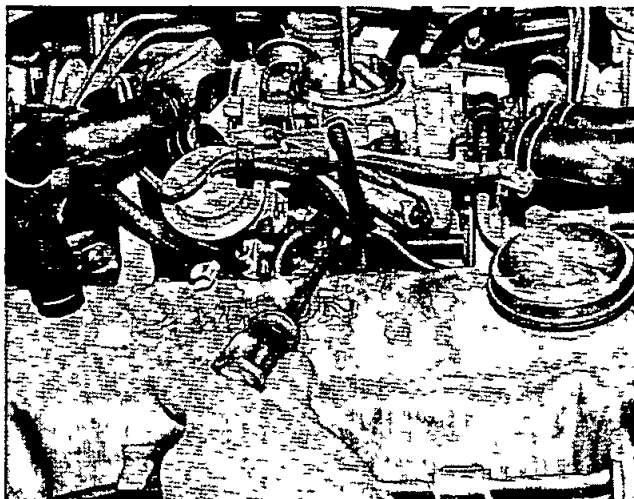
41 Attach No 1 spark plug wire with ignition pickup lead to No 1 cylinder, flash light Timing should be 10° BTDC



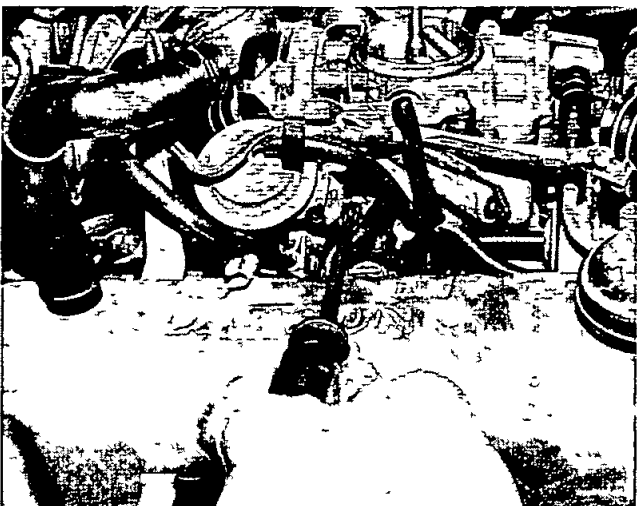
42 On both points and pointless B-210's, distributor can be turned in either direction to advance or retard timing



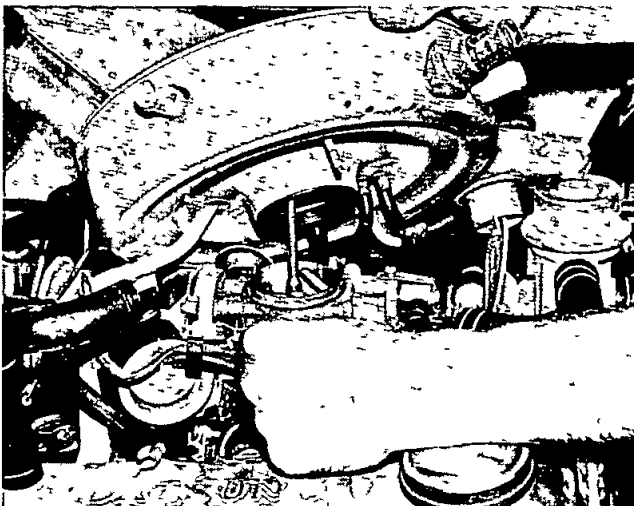
43 On cars with manual transmission (in neutral) set idle to 700 rpm, on cars with automatic (in drive) it's 650 rpm



44 Adjust idle mixture screw—back it out and screw it in—for smoothest, fastest idle Then screw it in 1/4-turn

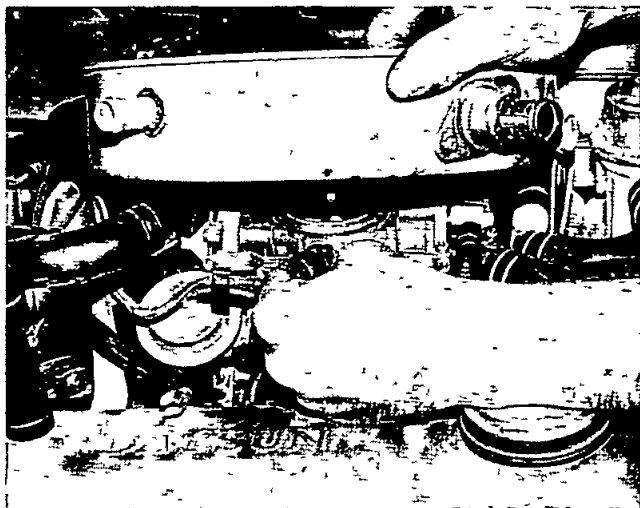


45 Go back to the idle screw, readjust engine idle speed to 700 rpm (manual), 650 (automatic) Turn screw slowly

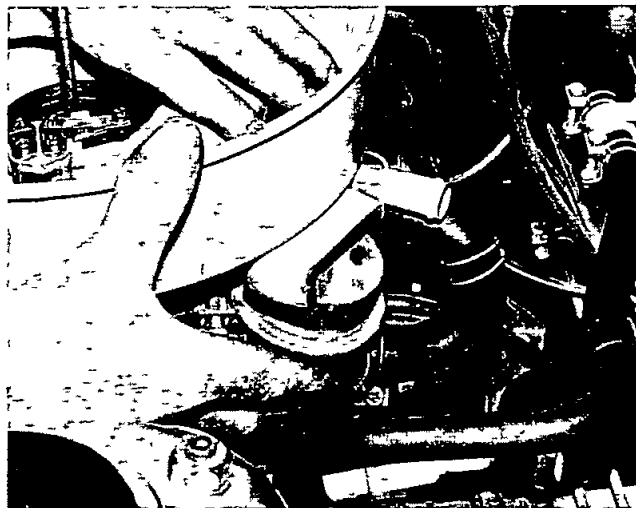


46 Tune-up is almost finished All we have to do now is button up engine compartment Start with refitting cleaner

HOW TO: TUNE-UP THE 1200cc ENGINE



47 Don't forget to attach this vacuum line to air cleaner housing nipple. Silicone spray will help it slip on.



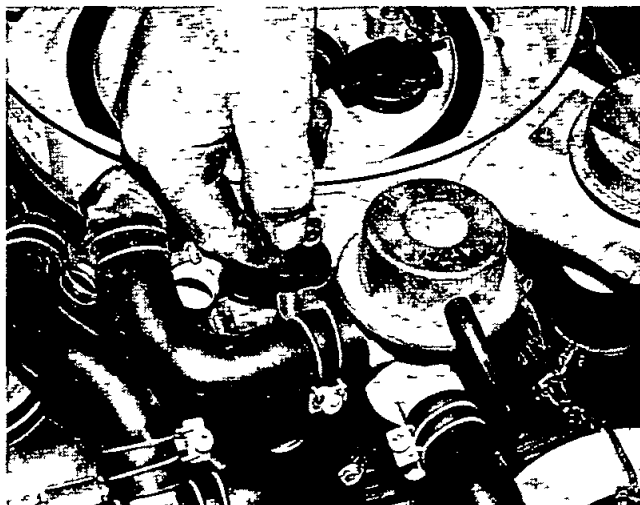
48 Slip smog valve into its rubber-fitted receptacle. A little silicone spray will help in sliding valve in.



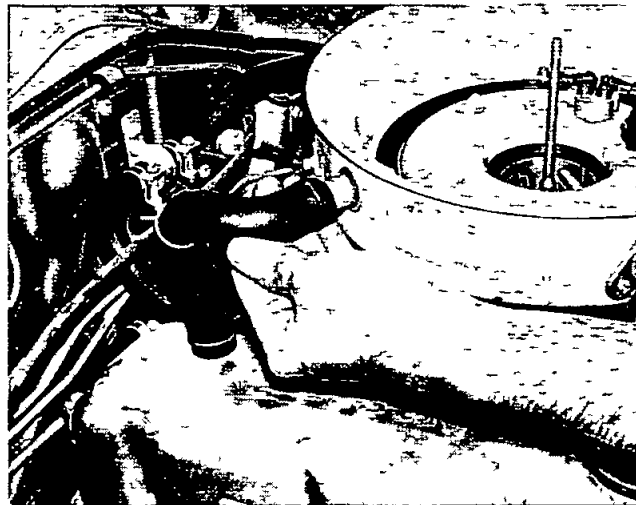
49 Reinstall air cleaner housing mounting bolt (10mm). Don't overtighten it, just snug it down firmly.



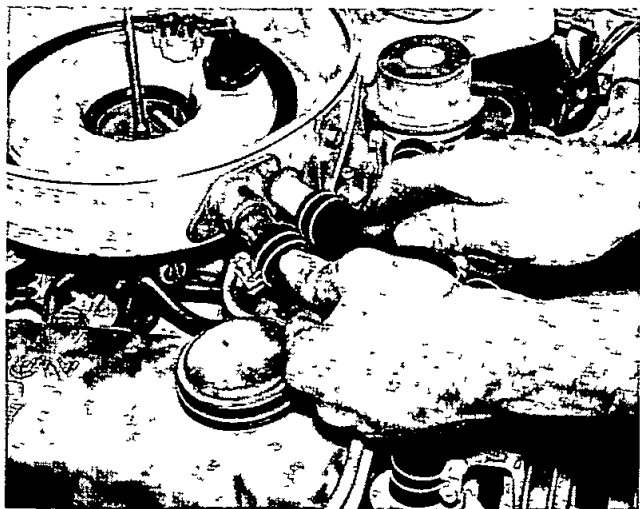
50 Another 10mm air cleaner housing bolt goes here. An extension shaft with 10mm socket and ratchet will help.



51 The third and last housing mounting bolt goes here. If any of these bolts is overtightened, it may break.



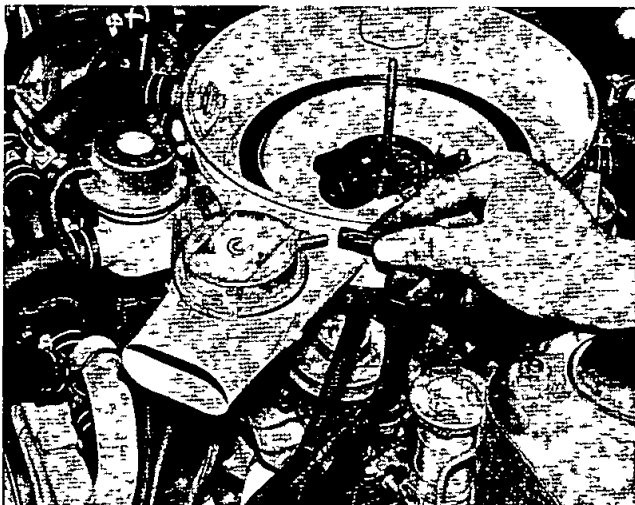
52 Valve-cover-to-air-filter hose should be connected; silicone sprayed on housing's metal tube will help refitting.



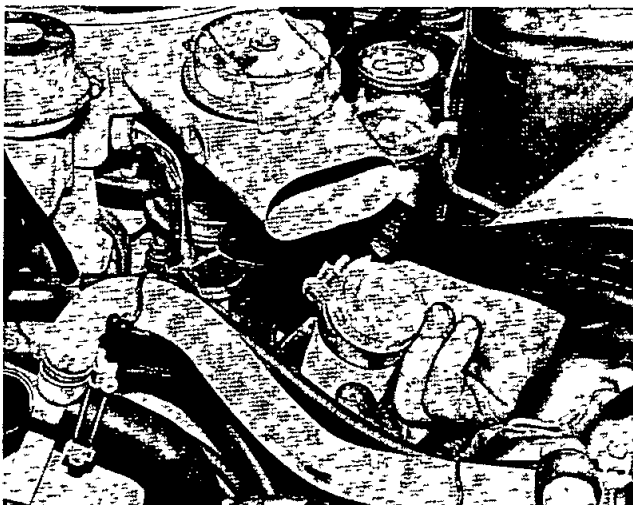
53 Install these two rubber hoses back on the air filter housing. Slide on, then tighten hoses with wire clamps.



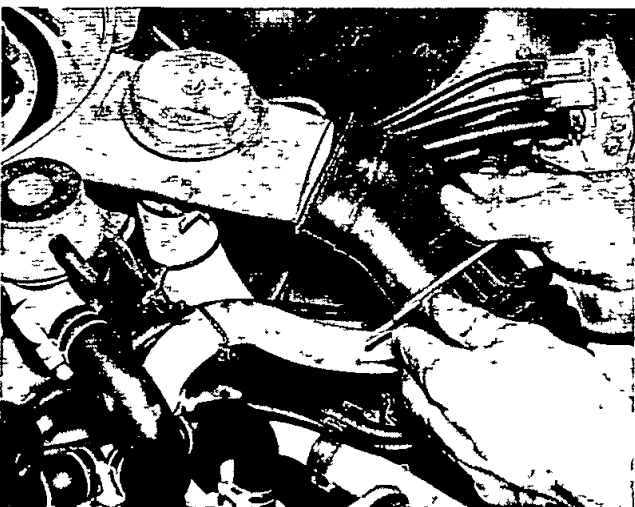
54 Don't forget to install this hose at rear of air filter housing. Slide it on, then secure it with wire clamp.



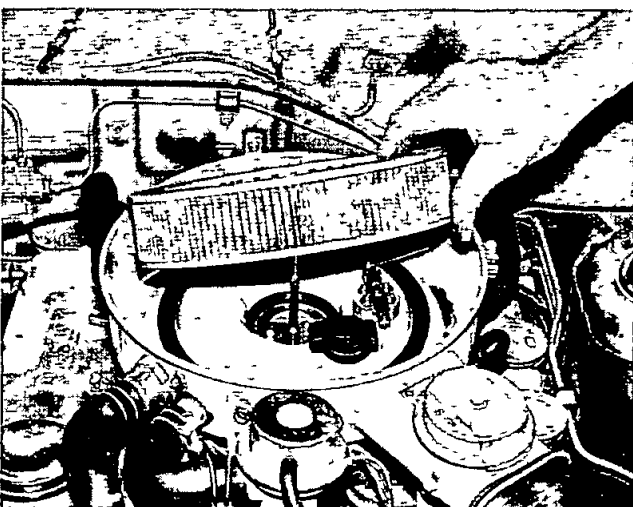
55 Hot/cold air sensor's vacuum line should be reconnected now. Hose has no holding clamp, just a snug fit on nipple.



56 Hot air duct from exhaust manifold to air intake tube on filter housing should be refitted. Slide on, band clamp.



57 Slip on rubber air intake duct from radiator area to air intake tube on filter housing, hold it with wire clamp.



58 Install new air filter if the engine needs it, refit air filter cover and hold down whole assembly with wingnut.

HOW TO: TUNE UP DATSUN'S LI'L OVERHEAD CAMMER

TUNING THE DATSUN 710

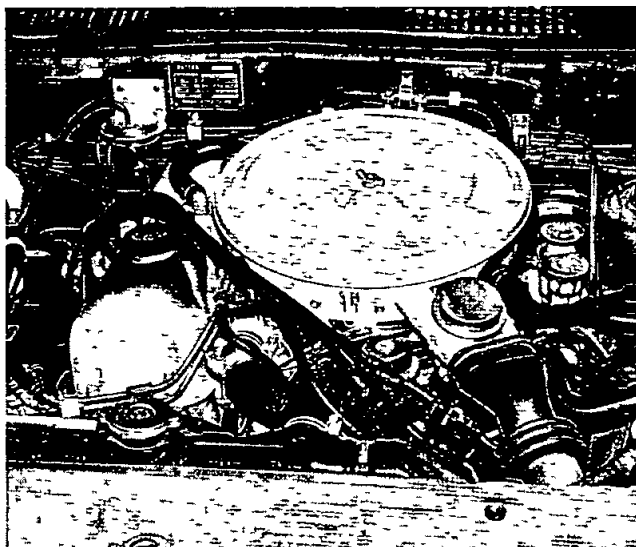
The 710 series of cars share a common powerplant with the 610's.

It is a basically simple 4-cylinder sohc unit with a bore and stroke of 3.35x3.39 ins. The close proximity of the bore and stroke dimension make this engine almost "square"—in engineering terminology. Proven in millions of driving and probably almost as many racing miles, the L20B engine is a very trustworthy package. Recent refinements in emission controls have restored much of the power lost in past efforts to clean up the exhaust and crankcase fumes. You, as an owner, can

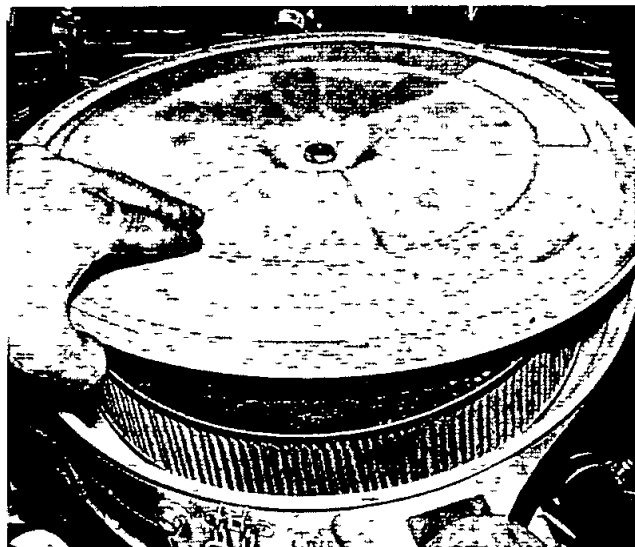
carry out many of the tune-up and adjustments on the engine. You need a little time, some tools and, if no experience is with you, patience.

Proper tuning of a modern engine is somewhat more complex than in pre-emission control days. The adoption of breakerless, transistorized ignition systems has eased the service problem to a great degree. Proper selection of tune-up equipment is important, however, and our chapter on that subject should help remove a lot of the mystery surrounding those tools. Pay close attention to such areas as valve clear-

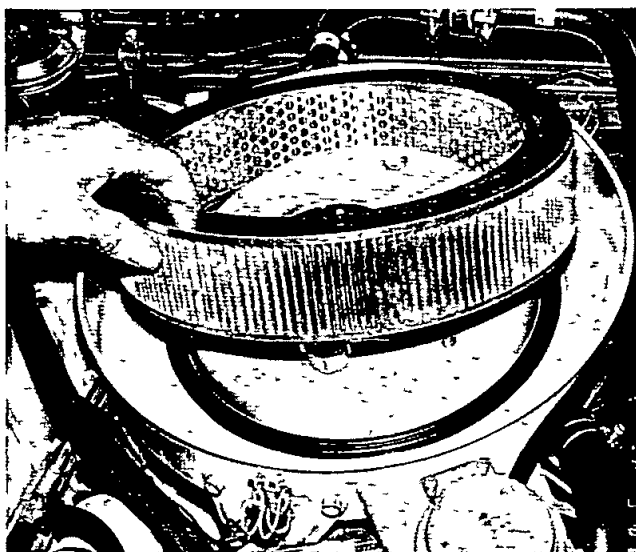
ances and carburetor settings. Overhead cam engines will maintain proper valve lash clearances over long periods of time, and therefore tend to become neglected. Carburetor setting is all-important for good running and low exhaust emission levels. Remember that the idle mixture setting is restricted, and should be adjusted only within close limits. A factory supplied service manual, available through your dealer, will be valuable in finding all the specific details on your particular car with regard to year, model and exact tune-up settings.



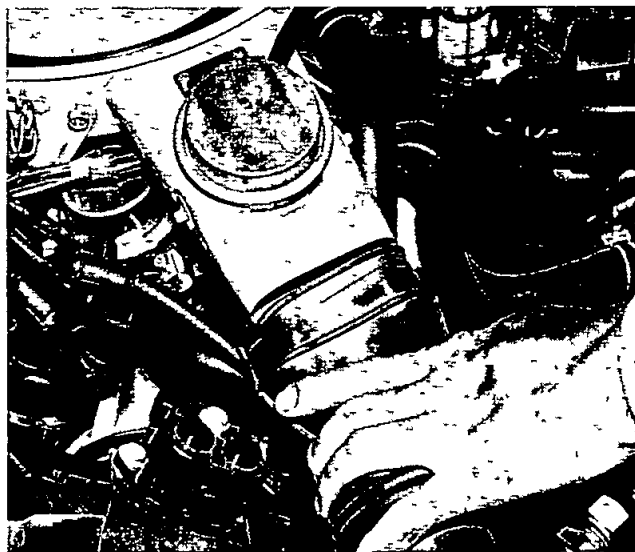
1 Like most present-day cars, the 710's underhood area looks like a jungle of rubber and metal piping



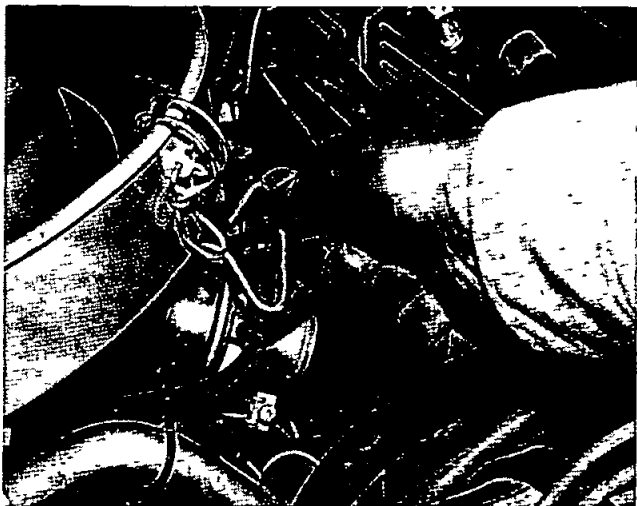
2 Begin service by removing air cleaner cover. A single wing nut holds it in place, along with three toggles



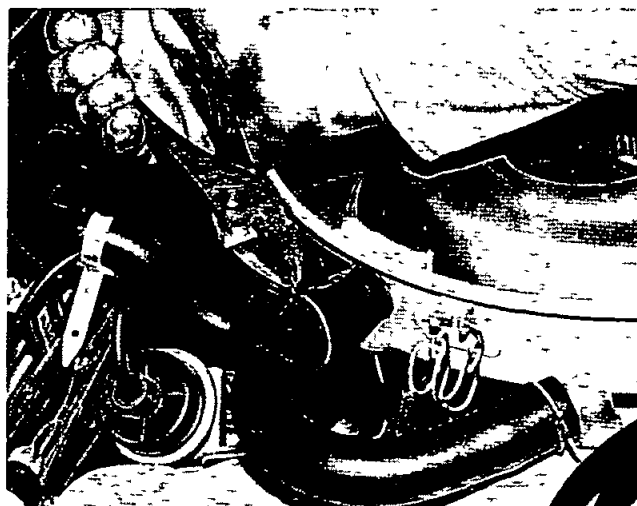
3 Dirt accumulation is obvious near intake pipe. Replace filter at recommended intervals. Clean with air-blast



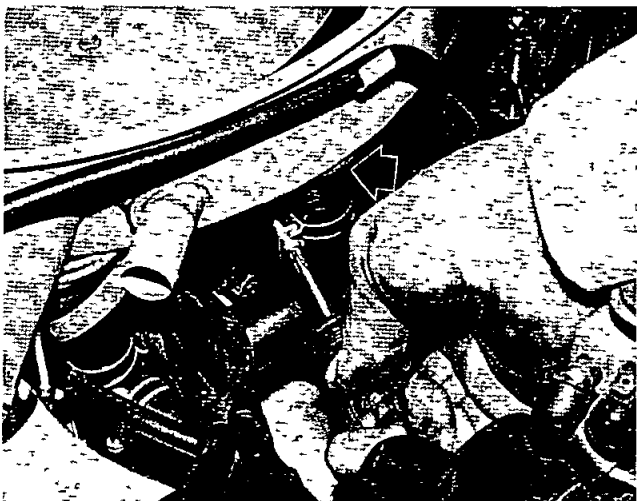
4 Disconnect the rubber extension at forward end of air cleaner housing. Work off easily, don't yank on it



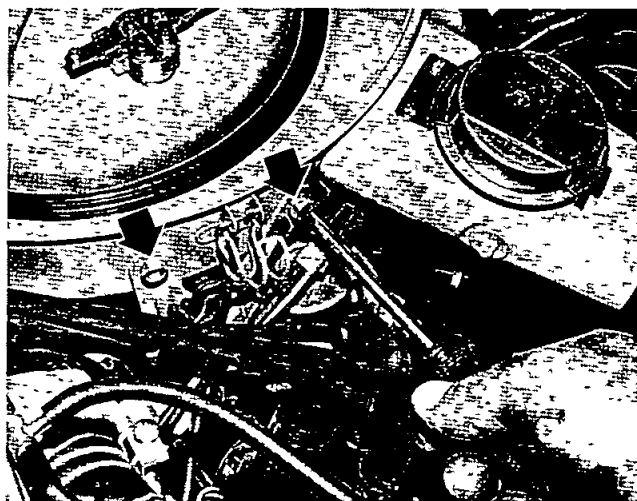
5 Air cleaner housing is held onto carb by this long thumb-screw at rear Unscrew it until loose



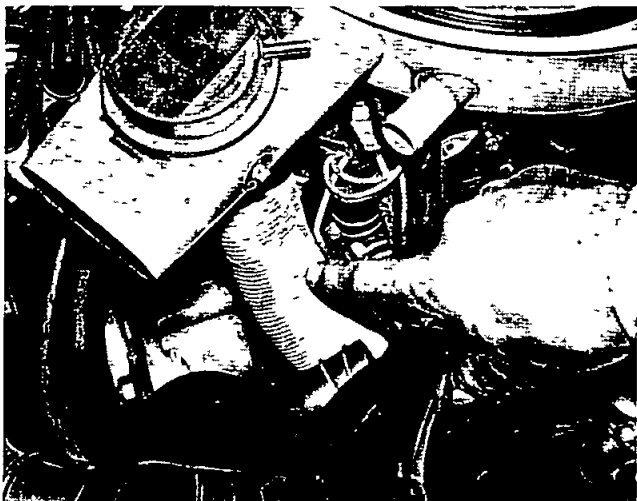
6 Disconnect crankcase breather hose clamp with a pair of slip-joint pliers Work hose off connection



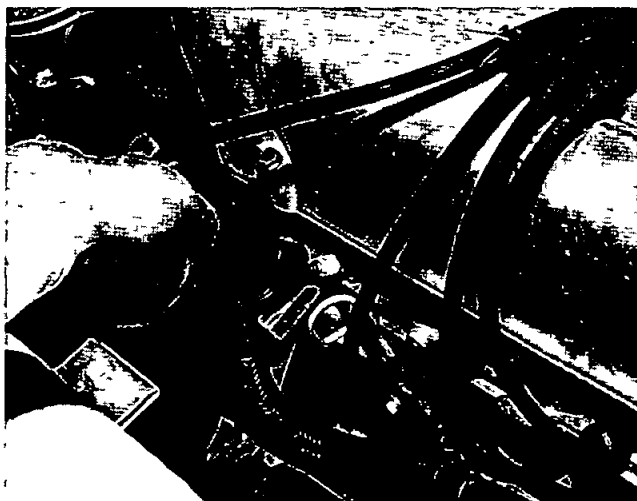
7 Use a stubby Phillips screwdriver to remove clamp on the EGR control valve Lots of connections these days



8 Disconnect the two bolts which hold the air cleaner housing to its support bracket adjacent to distributor

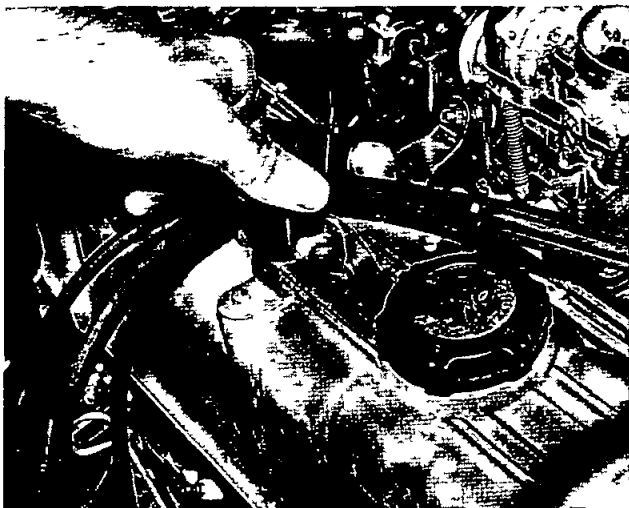


9 The hot air riser pipe from the exhaust manifold is disconnected next Release clamp and pull off

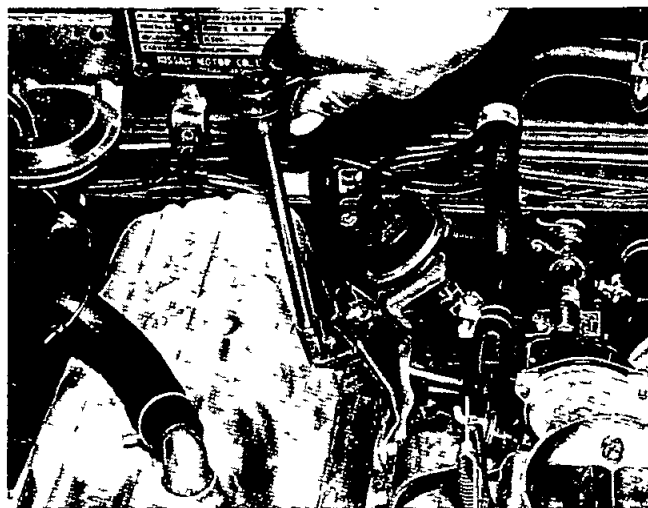


10 Remove spark plug boots by grasping and twisting Never pull on the wires themselves, or they will come off boot

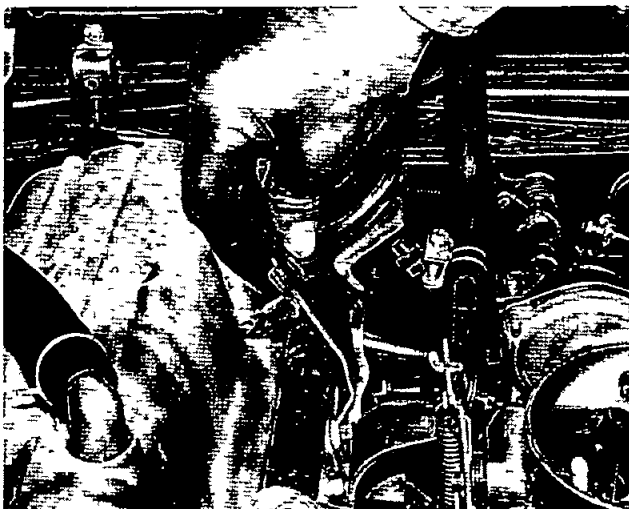
HOW TO: TUNE UP DATSUN'S LI'L OVERHEAD CAMMER



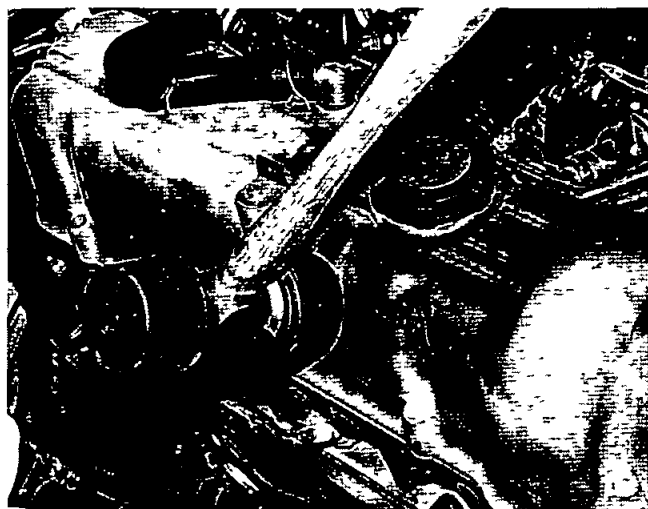
11 The ignition wire loom is held by this bracket to the cambox cover. It lifts directly off its post.



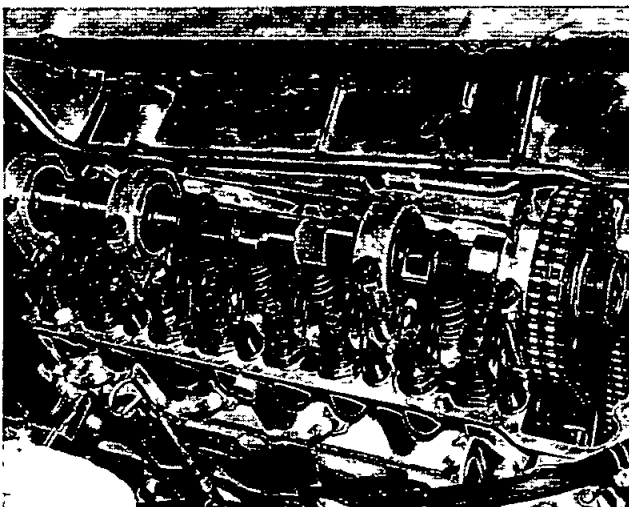
12 Disconnect the throttle delay valve bracket from the cambox cover. Don't disturb its setting to throttle.



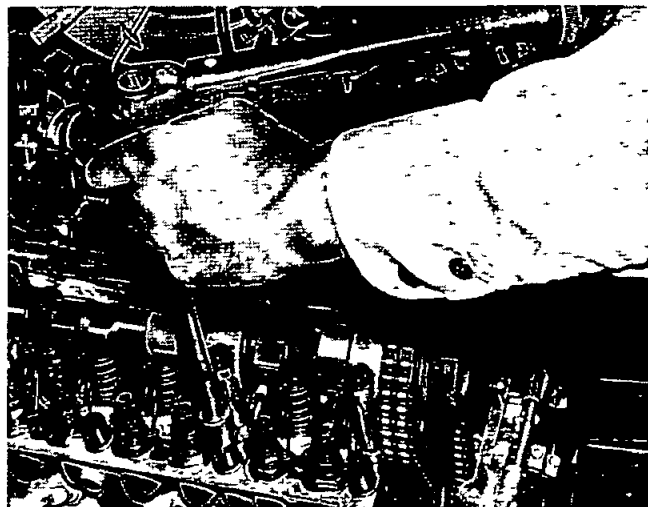
13 Remove L-bracket from cambox without moving the delay valve. Now you can unfasten all cam cover bolts.



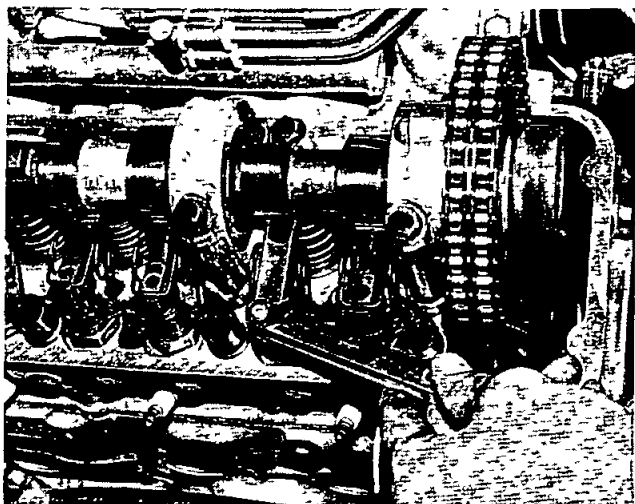
14 Cover will almost always be firmly fixed to the cylinder head. Tap, don't pound loose with soft mallet.



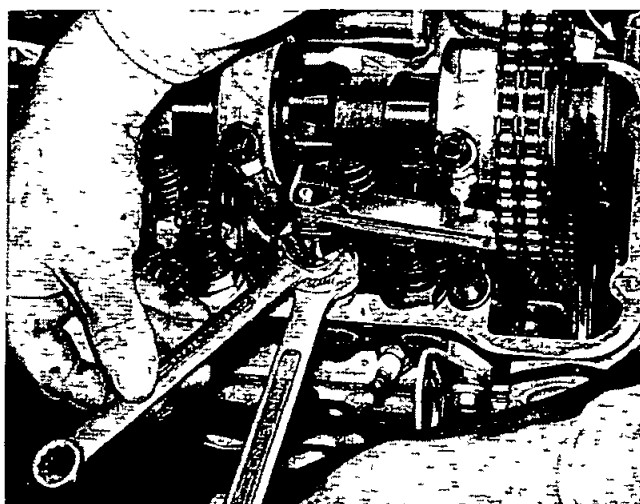
15 Once loosened, the cambox cover may be lifted off by hand. Entire valve train is exposed now for checking.



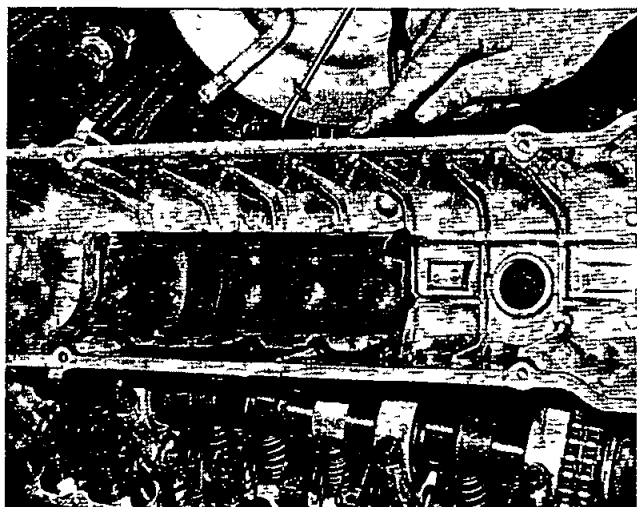
16 Using the correct socket-head bolt wrench, check the cylinder head torque to a maximum of 61 ft.-lbs.



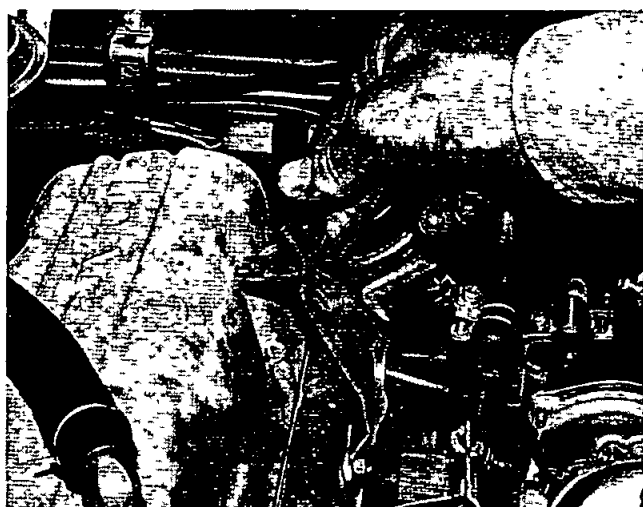
17 Check each valve for the correct lash They should be 007-in intake, 009-in exhaust with cold engine



18 Always check with cam lobe pointed upwards Turn engine with starter to turn cam Adjust lash as shown, lock securely



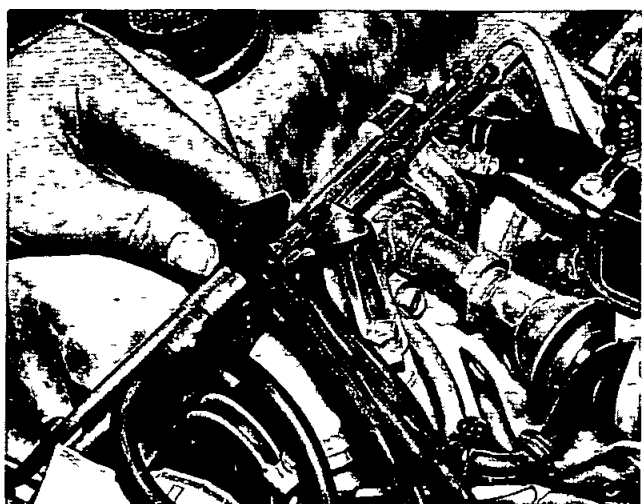
19 Replace cambox cover, checking the positioning and condition of gasket Warm up engine and recheck valves



20 Hot valve lash should be 009-in intake, 011-in exhaust Replace all bolts, reinstall decel valve bracket



21 Cam cover bolts should be cleaned and lightly oiled before replacing Tighten evenly, beginning at center



22 Replace the lower ignition wiring loom onto its bracket It should slide into place without twisting

HOW TO: TUNE UP DATSUN'S LI'L OVERHEAD CAMMER



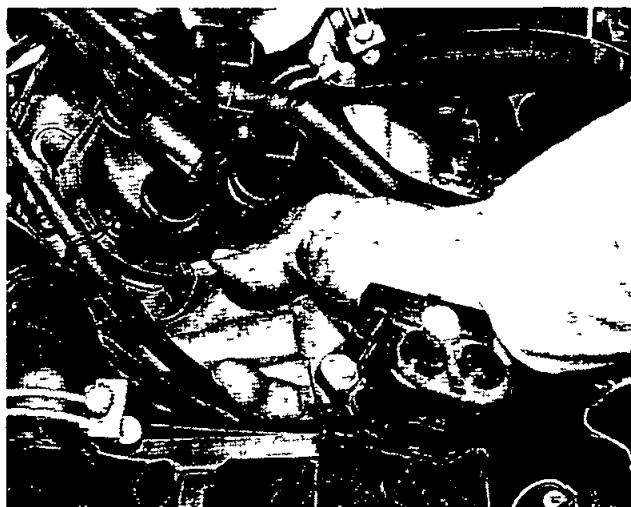
23 Replace the upper ignition wiring loom onto its bracket on the cam cover. Check condition of wiring.



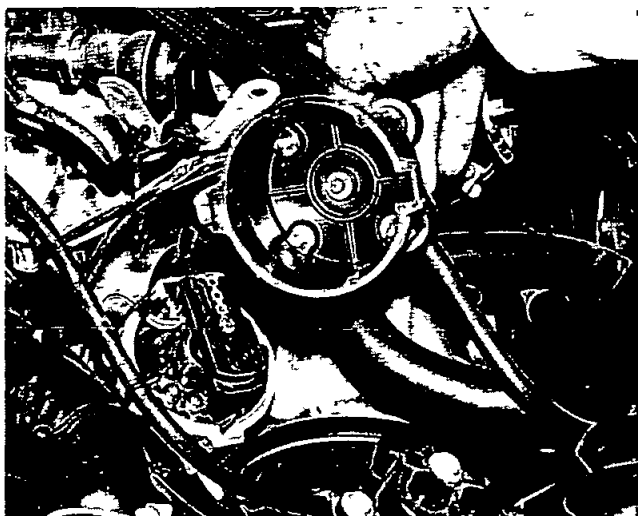
24 When replacing spark plugs, make sure threads in head and on plug are clean. Lube lightly and seat firmly.



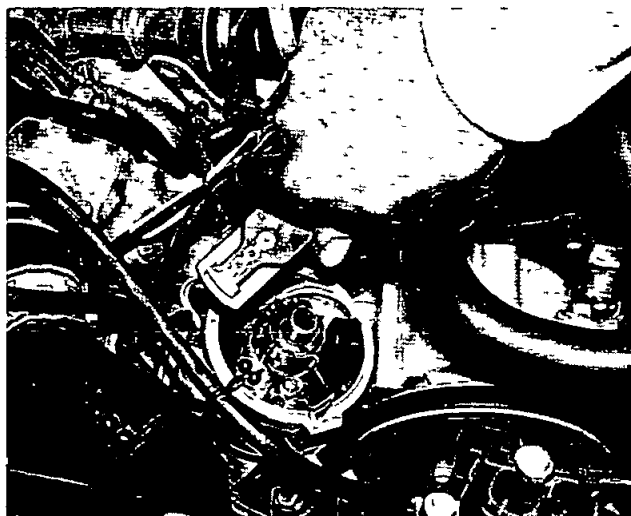
25 Replace ignition leads onto plugs holding the boot. They are a firm push fit, but should require no force.



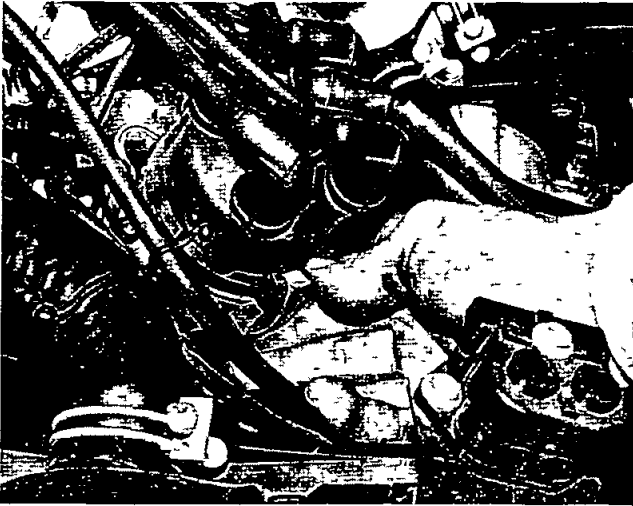
26 Ignition systems are reliable and mostly trouble-free today, but it's worthwhile to check. Unclip cap.



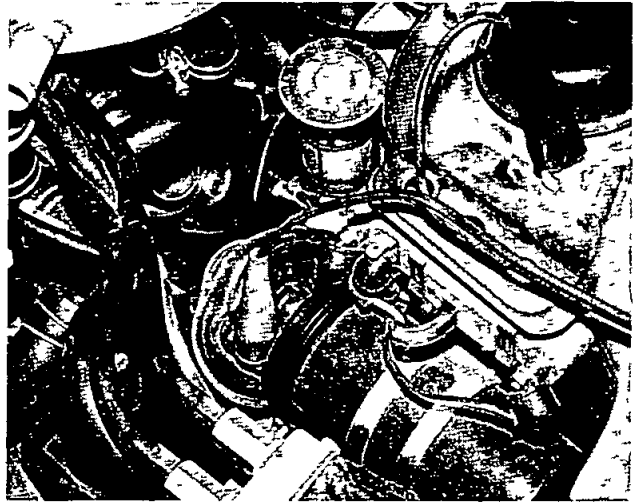
27 Check the condition of the rotor and the inside of the distributor cap. Look for cracks or carbon deposits.



28 Transistor ignition on California models has no points, but air gap between nibs on rotor and magnet must be .016-in.



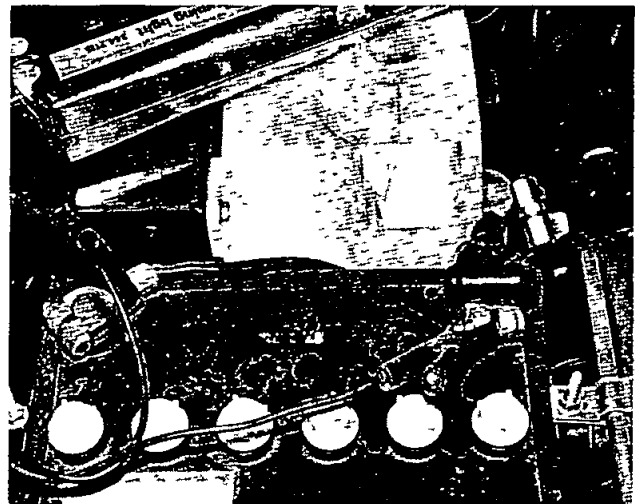
29 Replace cap correctly and snap the two clips back into place. Make sure that cap is securely in place.



30 In order to check the distributor dwell, slide off the rubber boot covering the coil, and connect the meter.



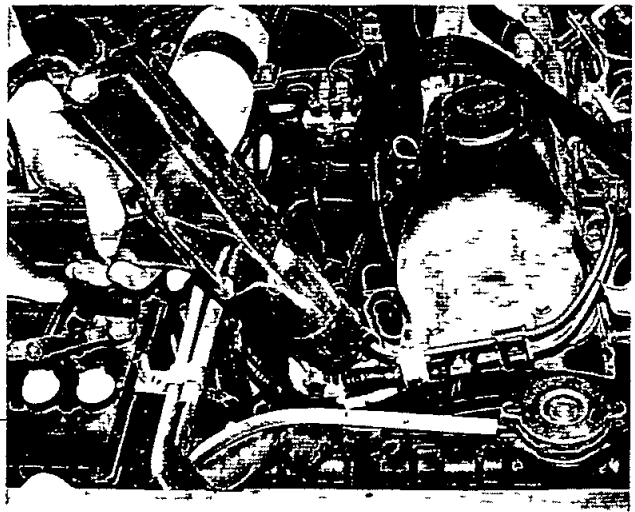
31 With the engine idling and the meter's settings adjusted properly, the dwell should be within factory specs.



32 Now, let's check the ignition timing. Connect the timing gun's two leads to the battery terminals as shown.



33 Connect the gun's third lead to the number one ignition lead. Start the engine and let it idle.



34 Aim the stroboscopic gun at the crankshaft pulley and pull the trigger. The reading should be 12° BTDC.

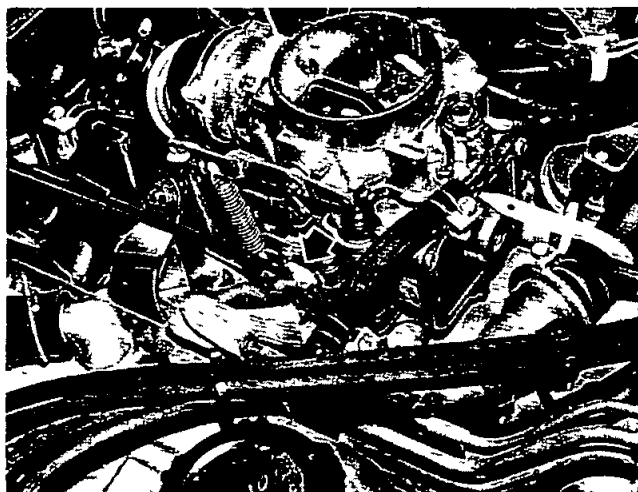
HOW TO: TUNE UP DATSUN'S LI'L OVERHEAD CAMMER



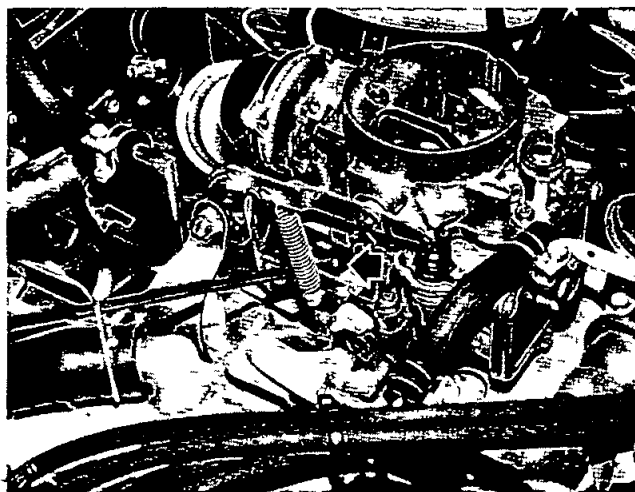
35 In order to correct the timing if it is off, loosen the distributor clamp and turn the unit until reading is OK



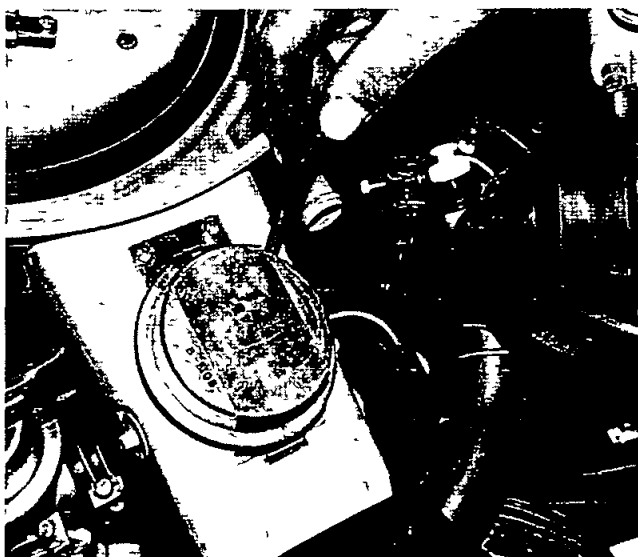
36 Idling speed may be adjusted when the engine is fully warmed up by rotating the throttle stop screw



37 The idle mixture should not be disturbed except when carb has been overhauled Plastic cap limits adjustment



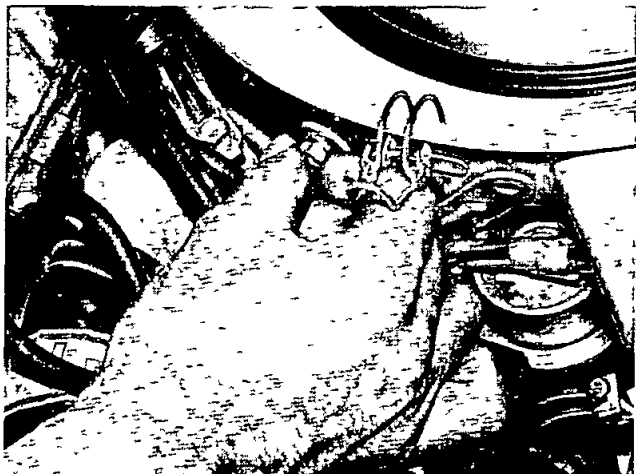
38 When idle mixture is correct, reset the idle speed with the throttle stop screw 815 rpm, manual, 670 automatic



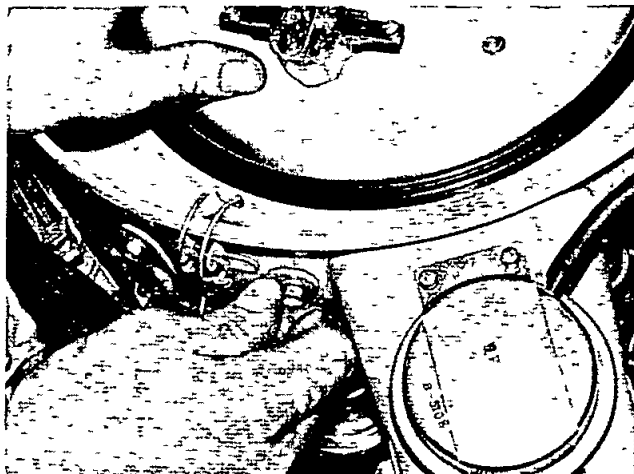
39 Replace air cleaner body onto carburetor, align correctly Hook up the rubber hose to the vacuum valve



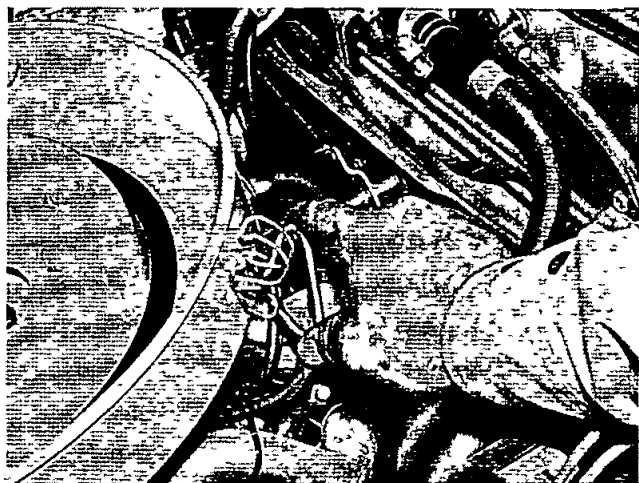
40 Clip the vacuum line into position on the side of the air cleaner body Make sure all lines are reconnected



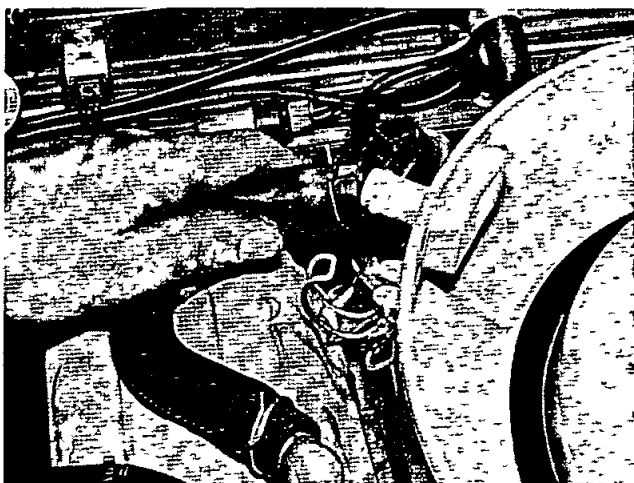
41 Reinstall the two bolts into the air cleaner through the bracket mounted to engine and secure



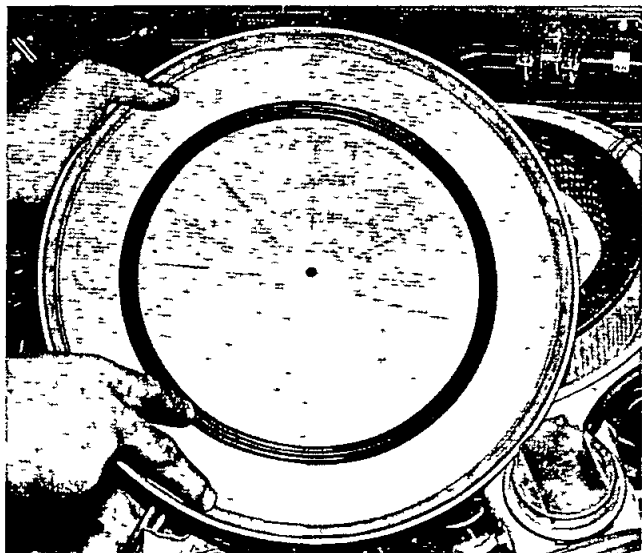
42 Check the idle compensator valves. They should be closed when the engine is cold. If one is bad, both are replaced



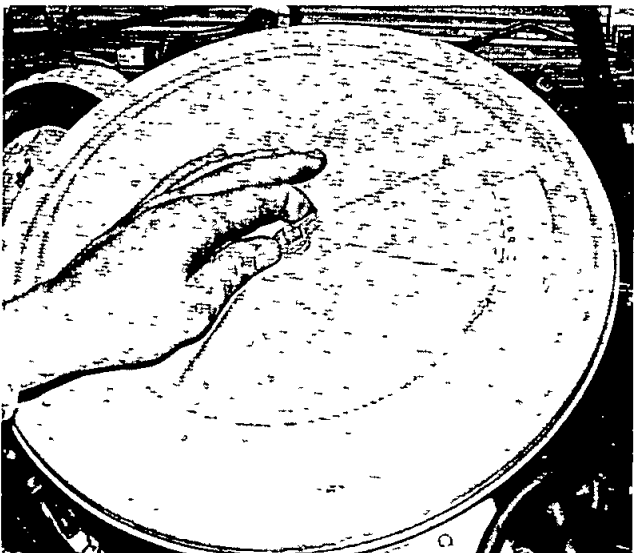
43 Secure the air cleaner to the carburetor by tightening the large wing nut at the rear of the air cleaner



44 Reconnect the crankcase breather hose to the air cleaner body. Use pliers to ease off clamp while fitting



45 Inspect the rubber gasket on the air filter lid. Make sure it is in position, if broken, replace it



46 Finally, replace the lid into position on the air cleaner. Tighten wing nut firmly, but not too tightly

CARBURETOR TEARDOWN

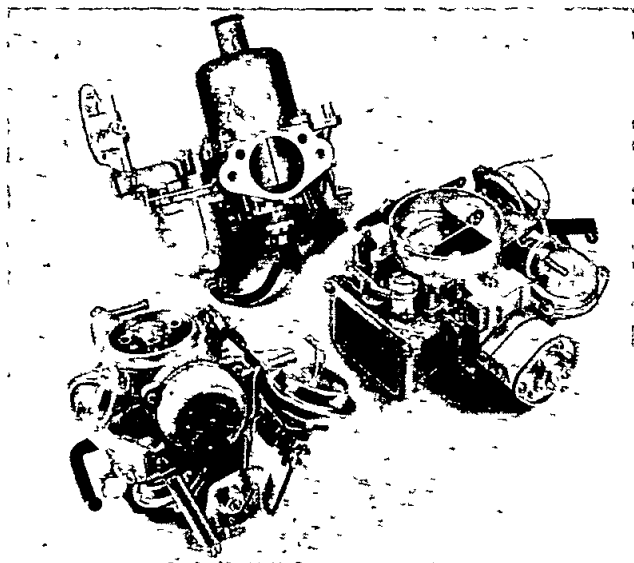
If you lift the hood on your Datsun, you are liable to find any one of three different types of "mysterious" carburetors—unless you are the proud owner of a 280-Z in which case you'll find fuel injection and we urge you to bypass this article immediately. Regardless of which of the three carburetors you discover, it will be made by either Hitachi or Nikki. We understand that Nikki is owned by Hitachi,

so it is all in the same family. Some of the carbs are obvious copies of other company's designs, in fact the twin carbs used on the 240-Z are almost an exact duplicate of the British SU. The other Hitachi carbs do not seem to have much personality of their own, but are a conglomeration of features.

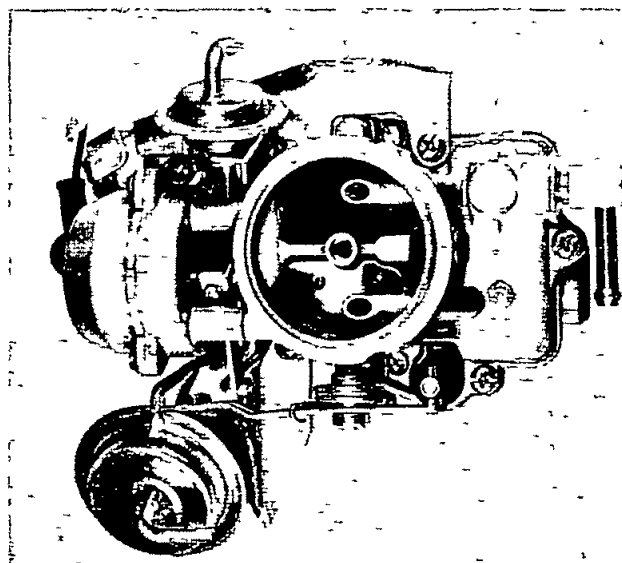
Before you tackle any Hitachi carburetor, we must warn you to bring along a bushel of patience and the

memory of an elephant. On other makes of carburetors, removing the air horn or bowl cover is a simple operation. On Hitachi carburetors, it is a major undertaking that can easily lead to disaster if you can't remember where those little parts go when you start to put it back together. The SU type on the 240-Z, of course, is an exception. Ditto for the SU type on the 260-Z, which has different looking dash

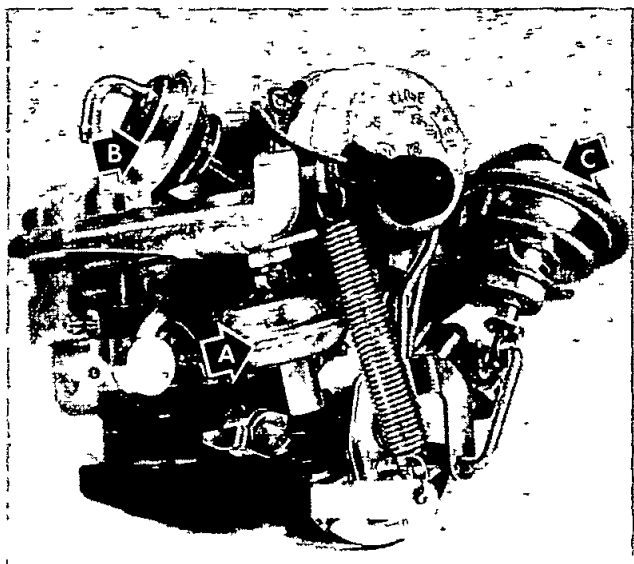
HOW TO: DISASSEMBLE THE 1200'S 2-BBL. CARB



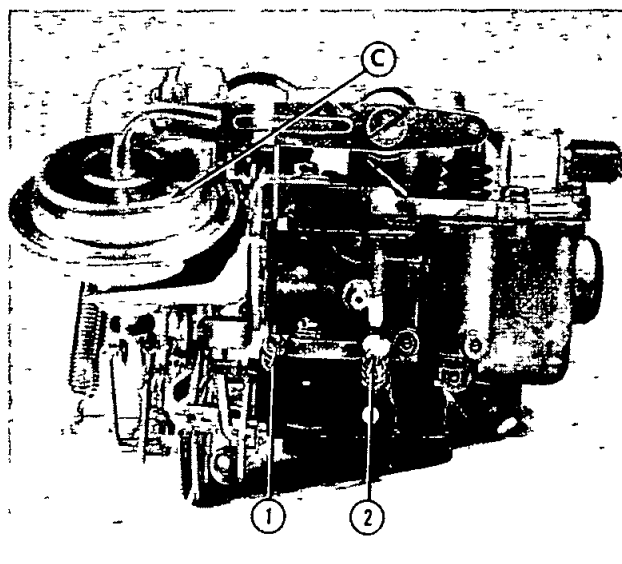
1 Here are the three basic carburetors we will be disassembling. At right is the model found on 510 sedans and wagons and the pickup trucks. In back is the SU type and up front the Datsun 1200 sedan carb.



2 As in other Japanese 2-bbl carburetors, one barrel is the primary and the other is the secondary. This particular carburetor operates the secondary through a manual linkage instead of vacuum like many.



3 Dashpots everywhere you look, but they all have a purpose. The slow-closing throttle (A) is to prevent engine stumble with automatic trans, B is vacuum diaphragm that cracks choke and C is exhaust ignition control.



4 Here is exhaust ignition control (C) again. It opens throttle slightly during deceleration for better burning of mixture. Idle speed screw (1) and idle mixture screw (2) are convenient for adjustment.

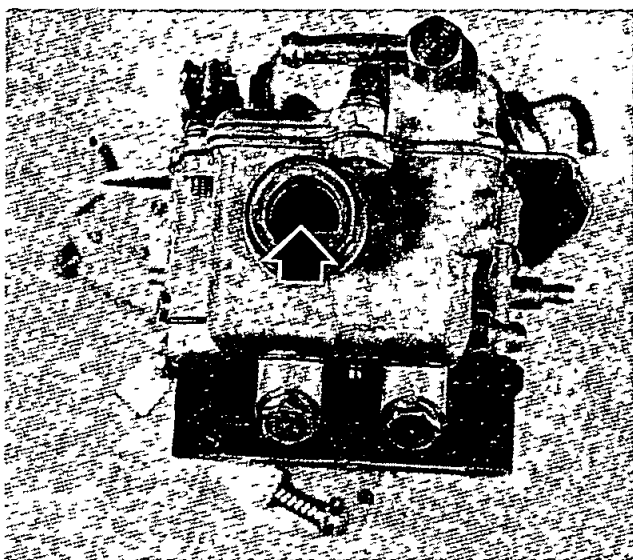
pots but is really a less cluttered version. It has always been an uncomplicated carburetor, and Hitachi saw fit to keep it that way on the 240-Z. In fact, they didn't even improve upon the simple SU design until faced with the larger displacement of the 260-Z. The SU carb has a separate float bowl with connecting hose that could and often did leak. This setup is the same on the 240-Z, and that goes for the SU float and needle seat design, an antiquated arrangement that is difficult to set, and of course you must check

the dash bots for oil level every so often to be sure that the pistons get the proper damping.

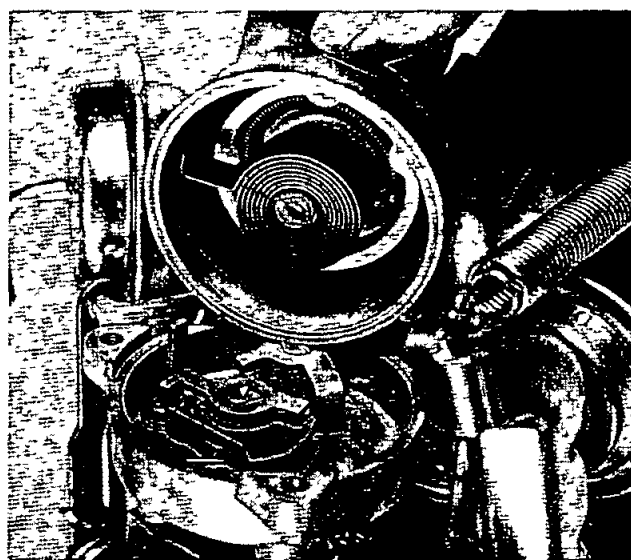
As with other engine-related items, there will be external differences between the same models of carburetor because of pollution control devices required during various model years and even among the same model years due to separate state requirements (e.g. California's far stricter regulations). Some of these variations are illustrated and differences noted. Since these are external, the basic disassembly proce-

dures apply to all. However, settings and hookups are different and the Datsun Shop Repair Manual is a must for obtaining proper settings for your particular carburetor.

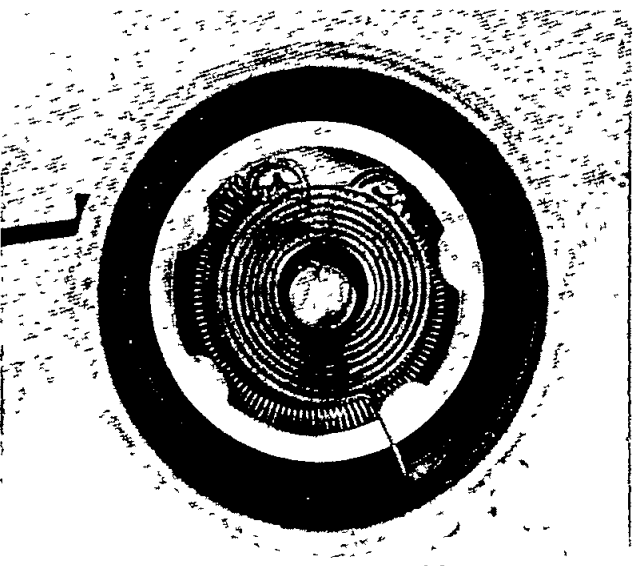
We have selected three of the most representative of the Hitachi carburetors. First we will tackle the carburetor common to the Datsun 1200. Next, the model found on the 510 in both early and later versions, and finally the twin carburetor job that comes on the 240-Z and is found on Datsun's 1600cc and 2000cc sports roadsters.



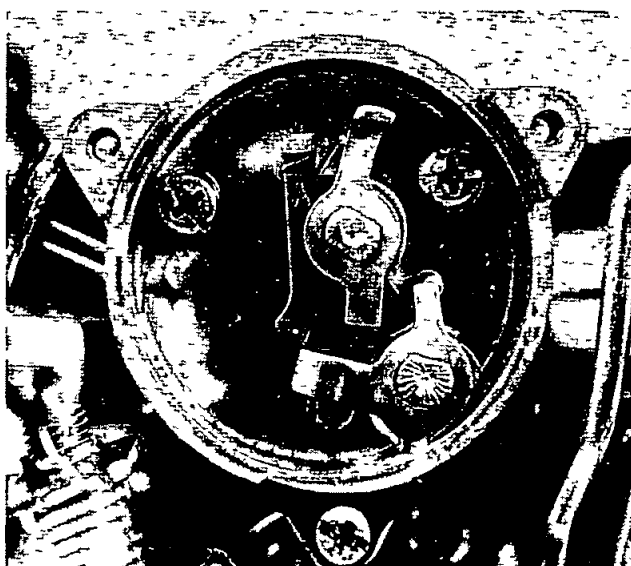
5 A neat touch that does away with a few parts is the molding of the sight glass right into the side of the float bowl. Fuel level should be even with the dot in the middle of the sight glass (arrow).



6 Three tabs secured by Phillips-head screws retain the choke coil and heating element. Marks on the housing at the top side are utilized for proper setting. Note alignment of outer cover with marks before removing.

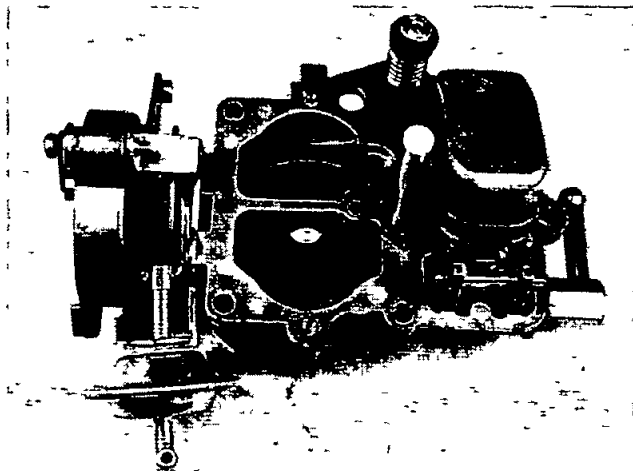


7 The choke coil is electrically heated and causes spring (foreground) to bear against cam, opening choke. If your choke doesn't open, check to make sure there is juice to the coil when the ignition switch is on.

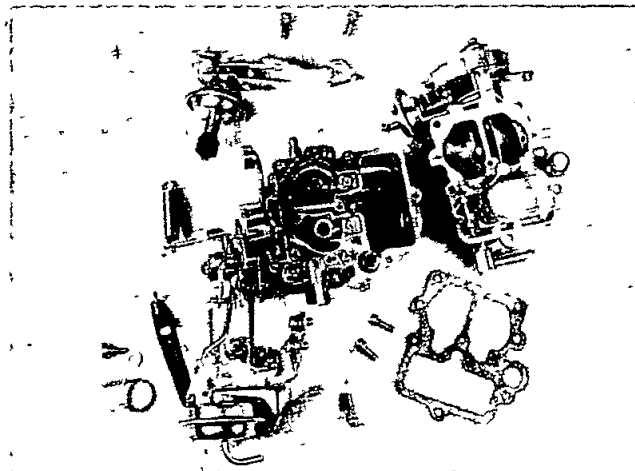


8 Fast idle cam is inside the choke housing. It is adjustable by bending the tang, but this shouldn't be necessary unless somebody has been beating on it with a ball-peen hammer. It should be left completely alone.

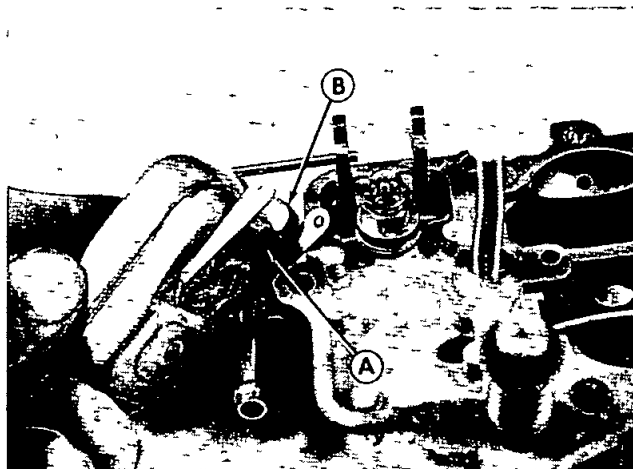
HOW TO: DISASSEMBLE THE 1200'S 2-BBL. CARB



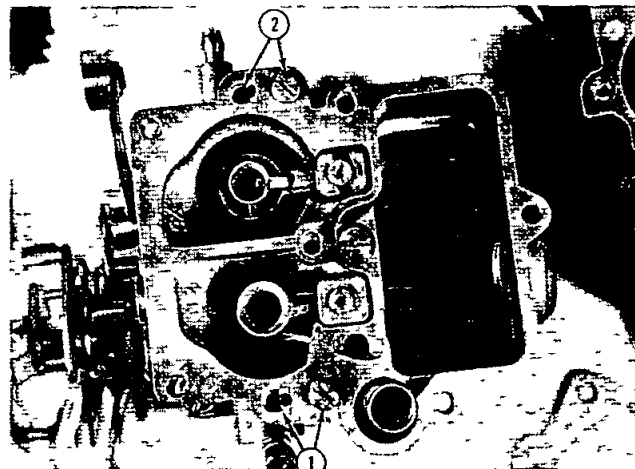
9 Underside of bowl cover shows conventional arrangement. White-tipped spring is power piston stem. It's staked in place and needn't be removed if it works freely. Choke diaphragm is removed before carb is solvent cleaned.



10 Almost everything you see in this picture had to be disconnected before we could remove the bowl cover. Of course, the throttle opener diaphragm contributes a lot to this, so pre-ignition control models are simpler.



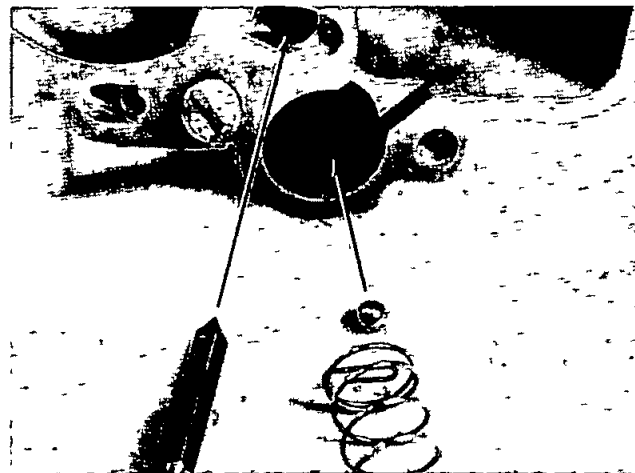
11 Float is removed by pushing retaining pin through hold-down arms. Check float for leaks. Float level is set by bending the tang on the float (A). The other tang (B) is used to set the float drop.



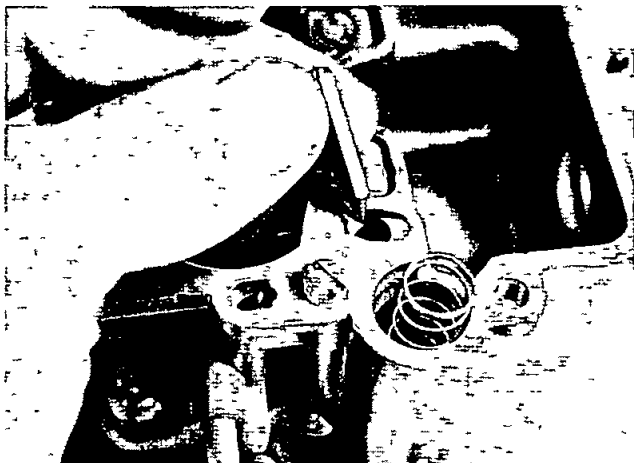
12 One peculiarity of the 1200 carb is that it feeds fuel at idle into both primary and secondary throats. Here, you can clearly see the duplication of idle systems for primary (1) and secondary (2).



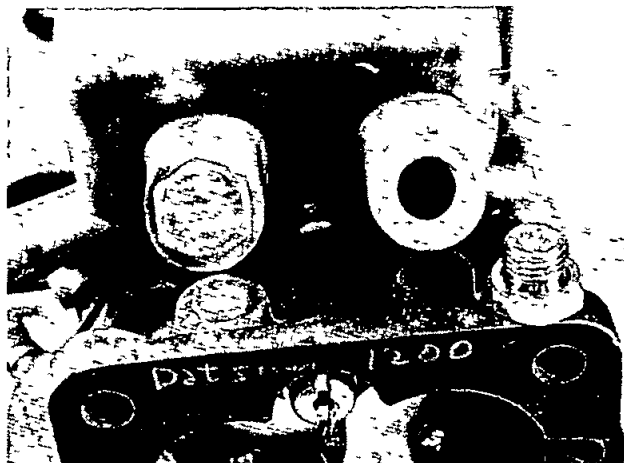
13 This tube is the primary idle jet. Unfortunately, for novices, it will also fit into the secondary side. Make whatever notes you have to in order to make sure you don't get it replaced in the wrong side.



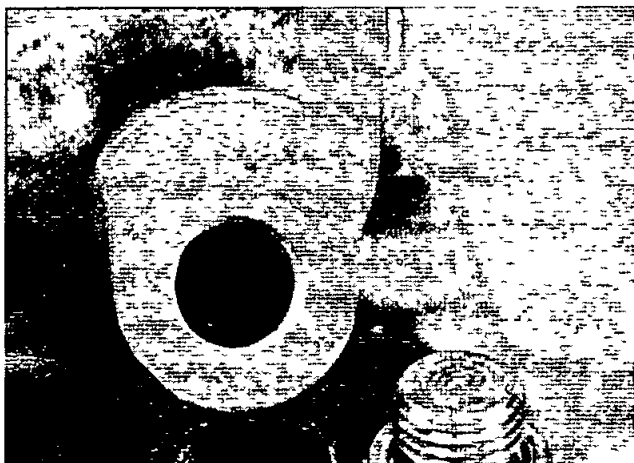
14 The accelerating pump inlet check valve utilizes a small steel ball for control. The accelerating pump outlet check valve uses the needle. Be very careful of the needle when handling to avoid burring or nicking.



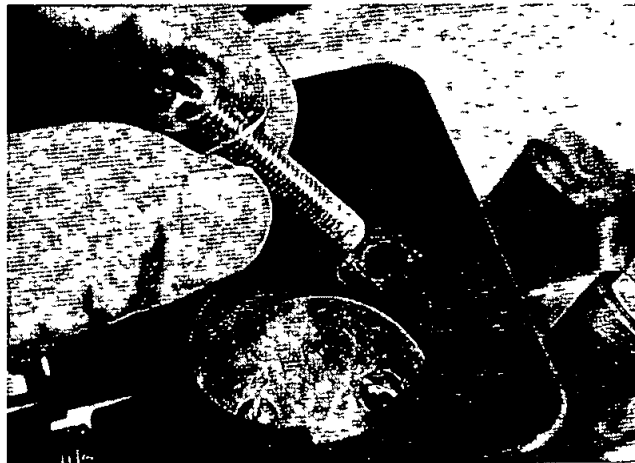
15 Under pressure from the pump, fuel comes up around, pushing it off its seat, and exits through the little nozzle just to the left of where we are holding the needle point



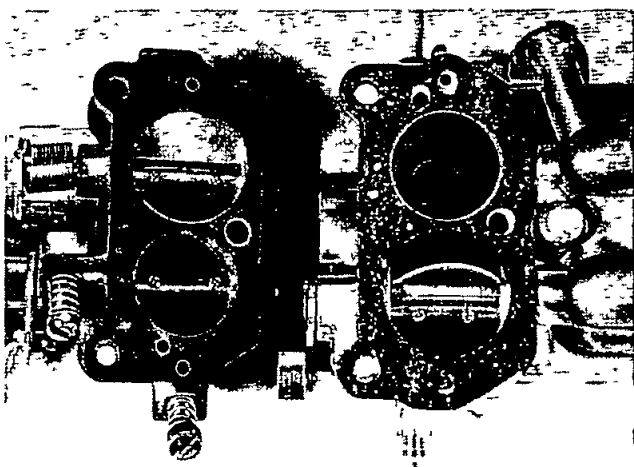
16 The carburetor main jets are located in the base of the float bowl. Access to them is gained by untightening the hex-head plugs (arrows) in the tubular protrusions. Be careful not to round off the corners with the wrench



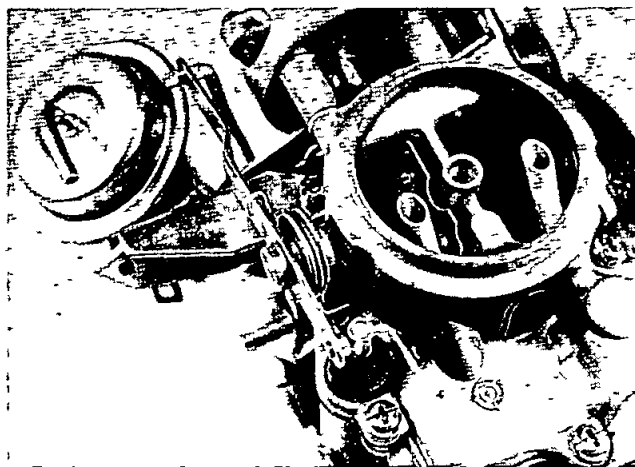
17 The main jets are exposed after the plugs are removed. The main jets themselves should be taken out with a special jet wrench available from your Datsun dealer's parts man. If you use a screwdriver, be very careful!



18 This hollow screw is found in the base of a great many Japanese carburetors. It is the beginning of the vacuum passage that leads through an intricate series of channels to the top of the power piston

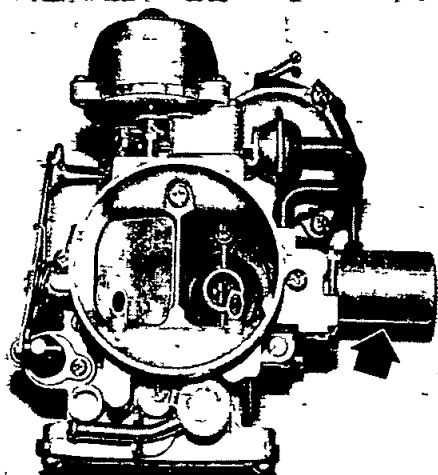


19 With throttle body (left) removed from the main body, you can see the slight difference in size between primary and secondary throttle bores. This is also good view of weighted velocity valve in secondary (lower right)

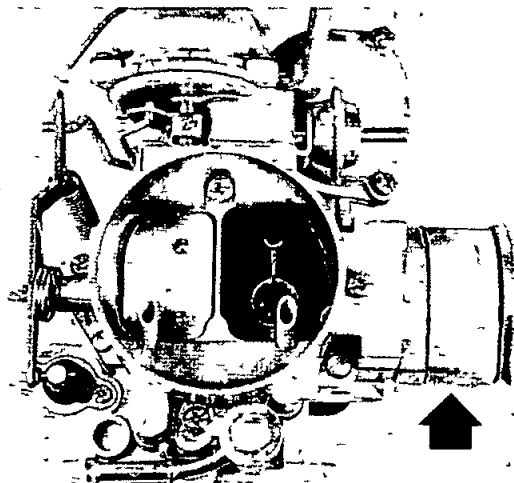


20 When you get the carburetor all back together, figuring out the way this curlyque accelerating arm spring goes can be frustrating. Its purpose is to keep the slack out of the throttle linkage

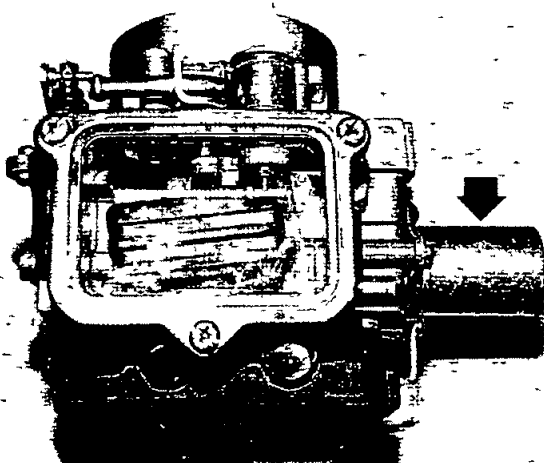
HOW TO: DISASSEMBLE THE 510-STYLE CARB



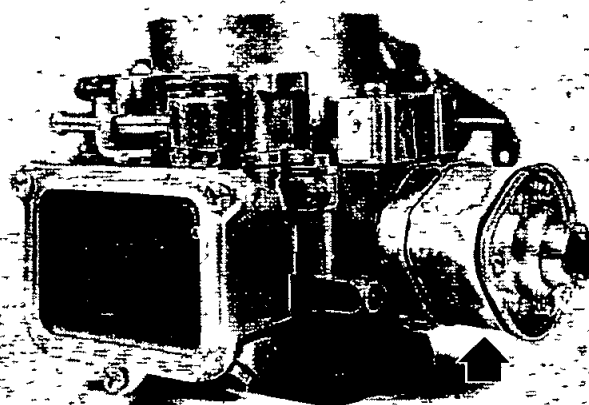
1 This is the early 2-bbl model carburetor found on Datsun's L-16 (1600cc) engine. The coasting enricher (CE) (arrow) was electrical aid to lowering emissions.



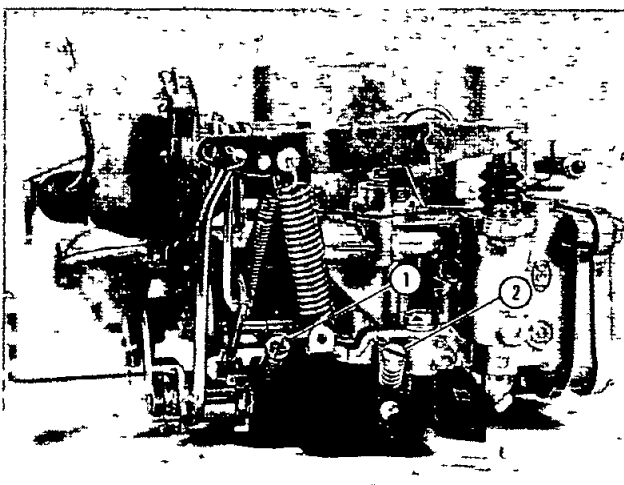
2 This is the more recent model 2-bbl carburetor used on the L-16 engine. It is almost identical to the earlier carb except for the BCDD (arrow) replacing the CE.



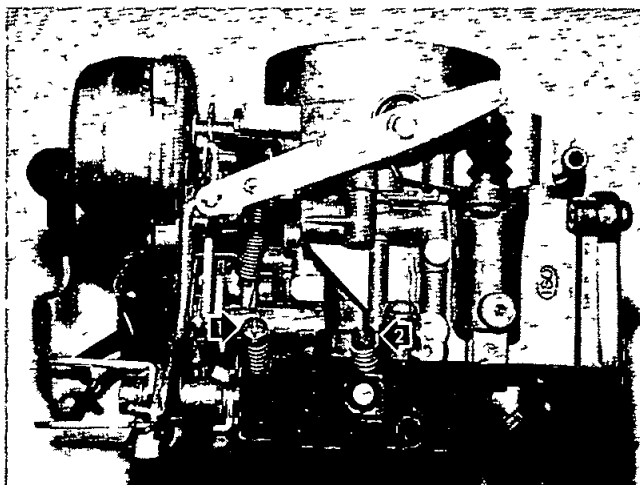
3 The Coasting Enricher (arrow) allows extra fuel to enter the manifold on deceleration for more complete combustion and fewer emissions. Float is behind glass window.



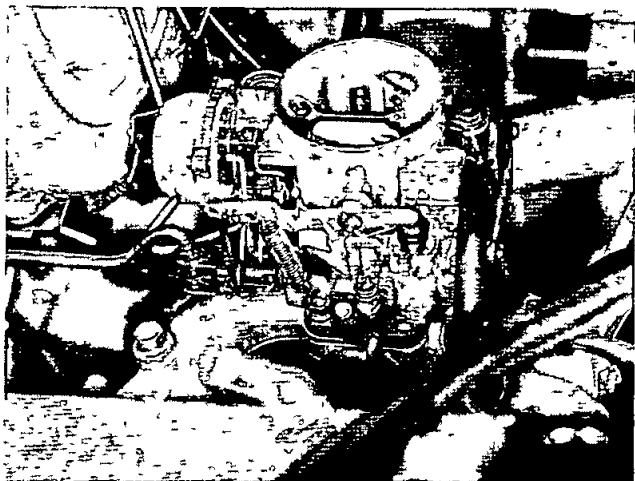
4 The BCDD (Boost Controlled Deceleration Device) on later versions of the L-16 carb performs the same function as the CE to a better degree, but it's more complicated.



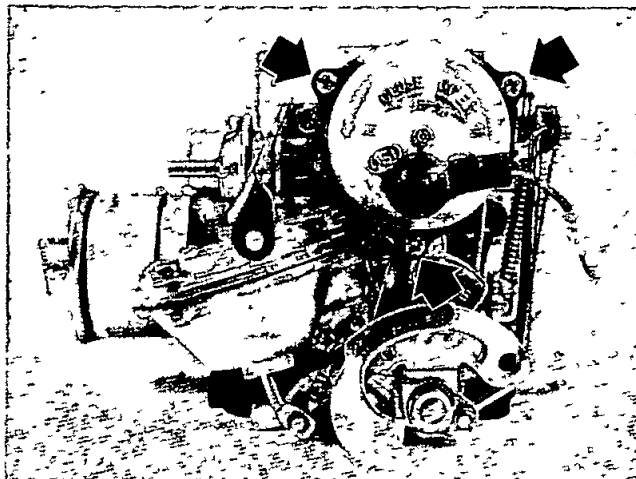
5 The CE-equipped 2-bbl carb is virtually the same in every important point as the BCDD version. Idle speed (1) and idle mixture (2) screws are conventionally placed.



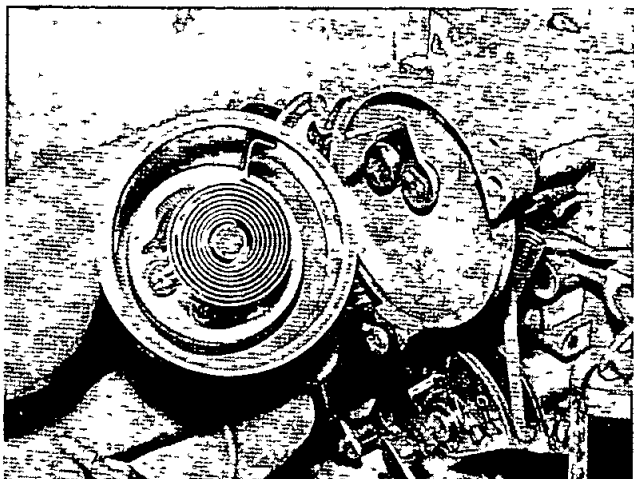
6 The BCDD-equipped later model has slight linkage difference, but idle speed (1) and idle mixture (2) screws are not involved in the changes wrought by smog.



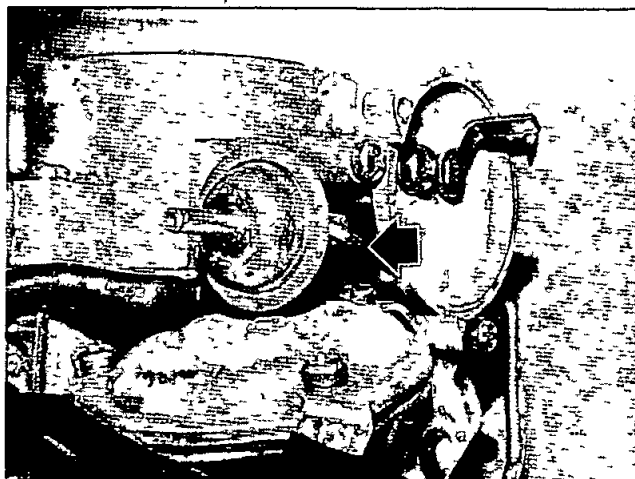
7 With the air cleaner removed, you should be able to identify this carb, which is still mounted to the manifold as the early ('72) CE-equipped 2-bbl model



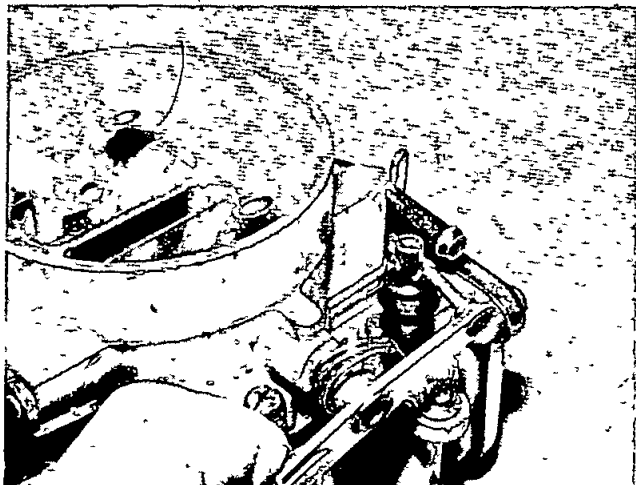
8 Common to both early and late versions of the L-16 carb, the electric choke housing can be disassembled by removing the three screws (arrows) holding locking tabs



9 The upper parts of each electric choke housing half are indexed. Make note of alignment of marks so setting is not changed. Inside is heating coil and choke coil



10 Vacuum break diaphragm is connected by a link (arrow) to crack choke open when engine starts. If yours does not work, check to see if coil is heating properly

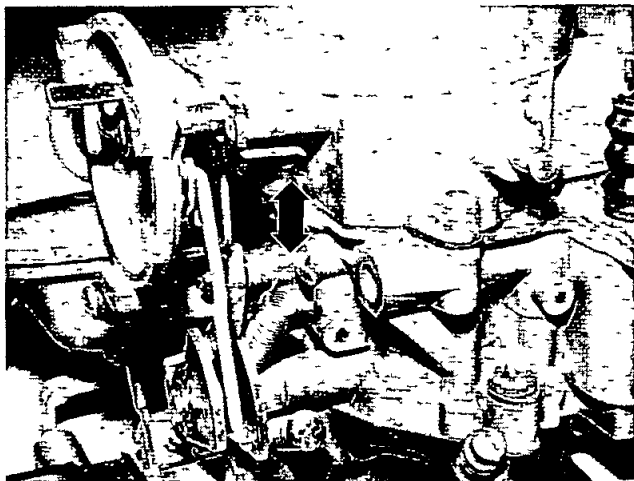


11 To remove pump arm, take off circlip or pull cotter pin (according to your model) and slide pump arm off pivot shaft and pin will come out of pump stem, too

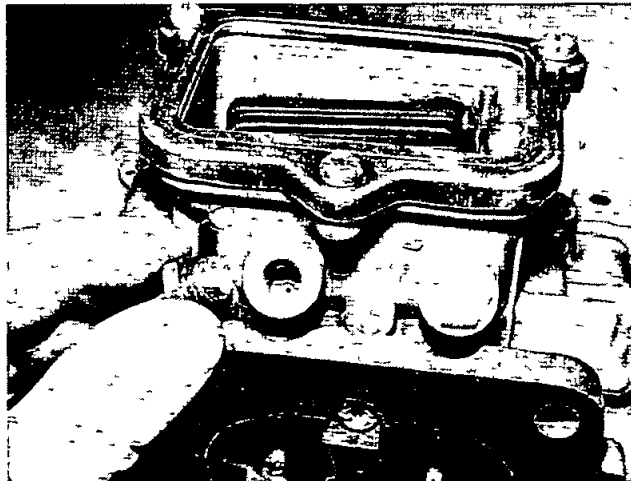


12 Free end of accelerating pump arm tension spring fits into depression in casting (arrow) upon reassembly. Two holes in pump stem accommodate different stroke lengths

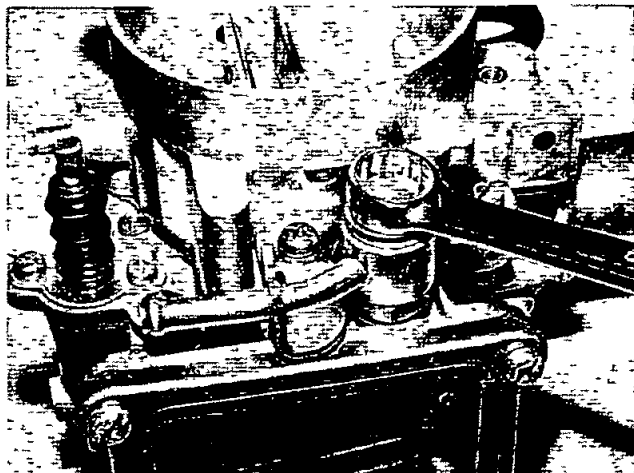
HOW TO: DISASSEMBLE THE 510-STYLE CARB



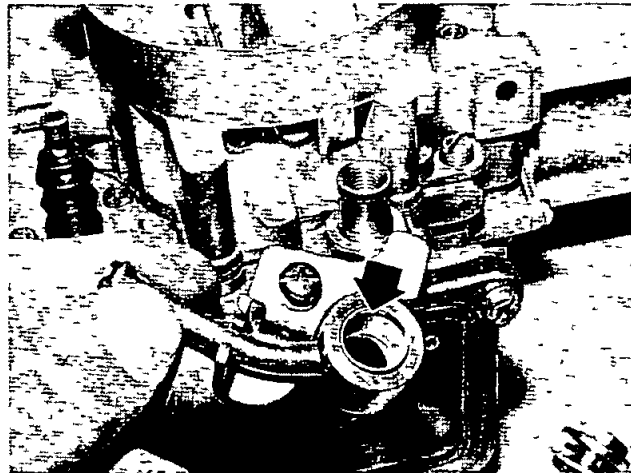
13 After removing the accelerating pump arm, remove this tension spring (arrow) to pave the way for taking off the carburetor air horn. Don't lose these springs!



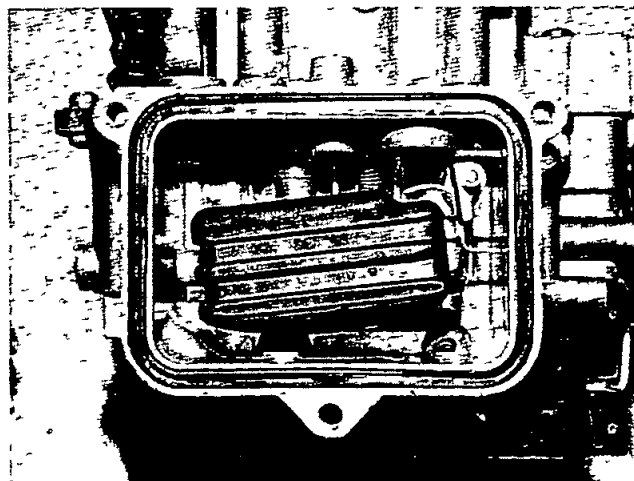
14 Main jets can be removed (or adjusted) by taking out the plugs beneath the float bowl. Use a jet wrench to avoid burring jets and/or damaging threads.



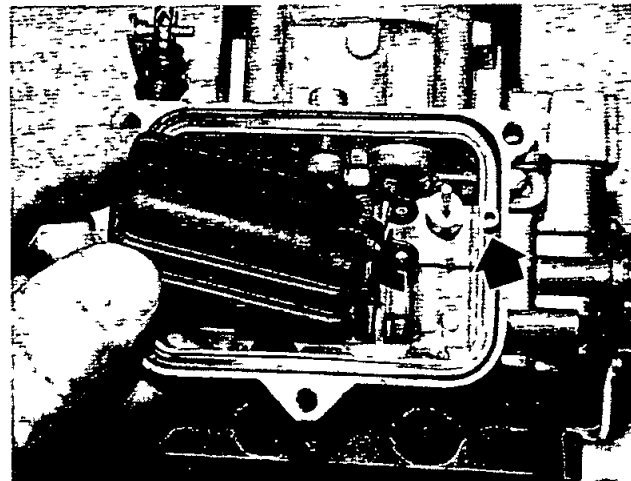
15 You must remove this nut on "banjo fitting" to take off banjo fitting and gain access to fuel metering needle and seat located above the float.



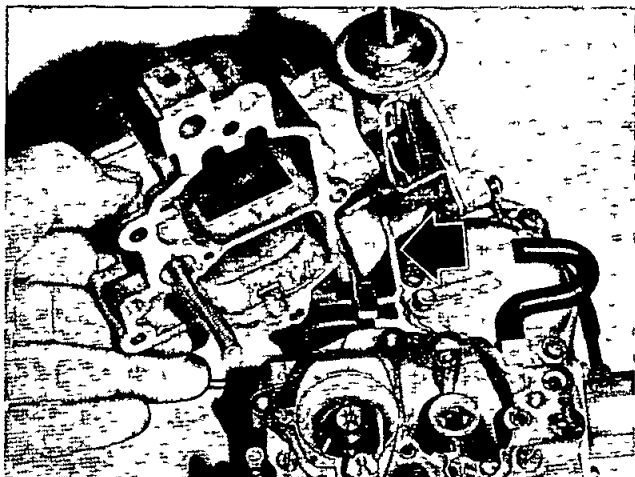
16 Loosening screw holding bracket to carb body then permits removal of banjo fitting. Note that banjo is equipped with fuel filtering screen (arrow) inside.



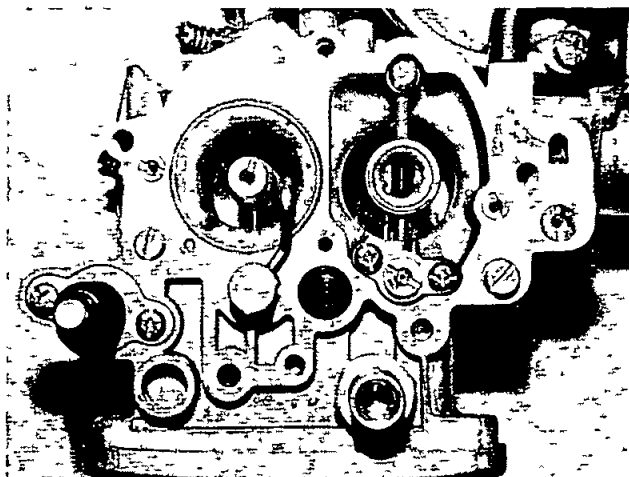
17 Now by taking out the three screws securing float sight glass to float bowl, the float can be extracted from the pivot pin (seen at upper right in photo).



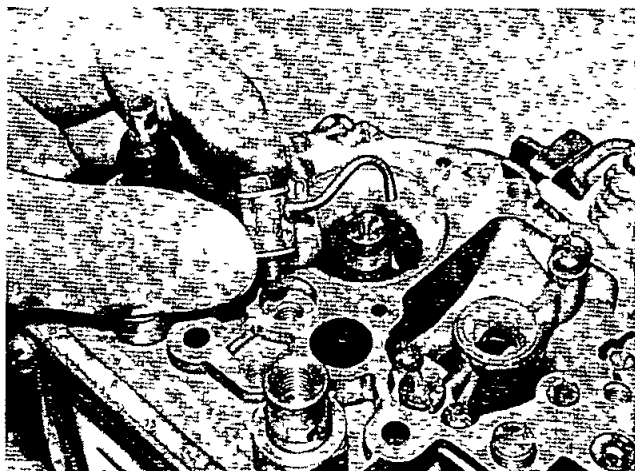
18 The little sleeve (arrow) goes on the float pin next to the glass. It's merely a spacer to keep the float in the proper position within the bowl.



19 This is all we had to take off to remove the air horn! Well, we told you it wasn't easy! Choke link (arrow) slips out as you lift the horn. Reassembly is tougher



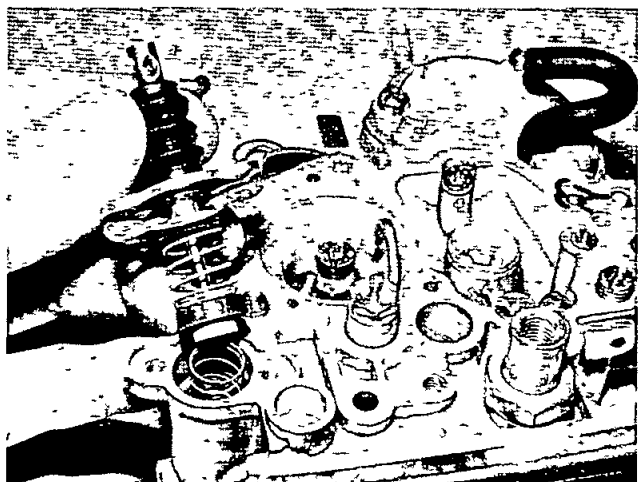
20 This is Hitachi's unique venturi and cluster setup. Primary is on the left. Note number of removable air bleeds and jets. Pay attention and we'll dig a bit deeper.



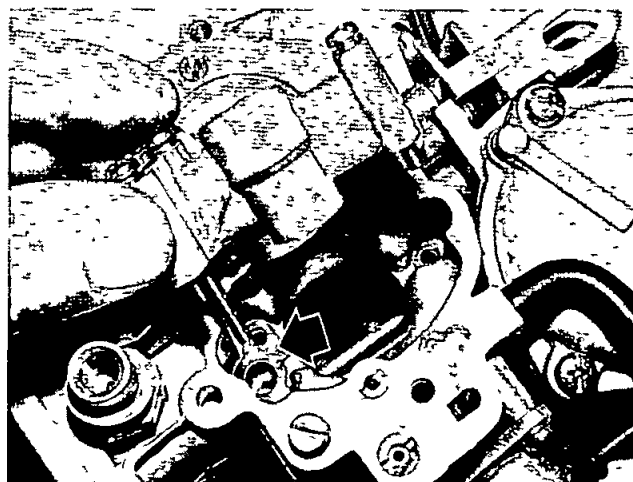
21 This funny-looking spigot is the acceleration pump nozzle. It's another "banjo" type of fuel fitting with seals on both side of the hollow bolt.



22 Beneath that banjo-style fitting known as the accelerating pump nozzle you'll find a spring and ballcheck setup exactly like the one we're holding here.

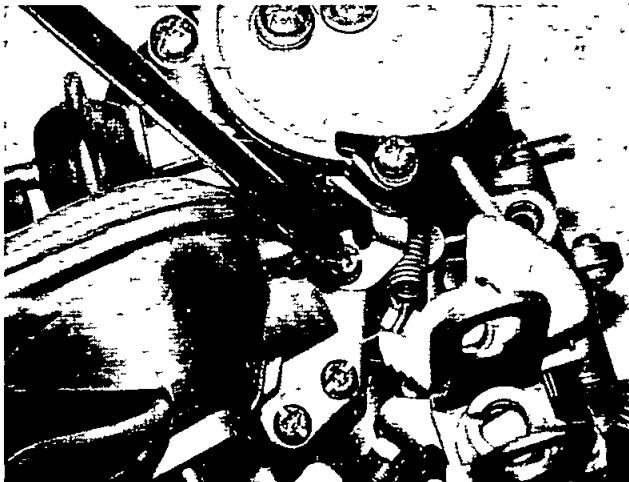


23 The accelerating pump also has a spring underneath it with a ballcheck at the bottom of the well. You don't want to immerse this unit in carburetor cleaner.

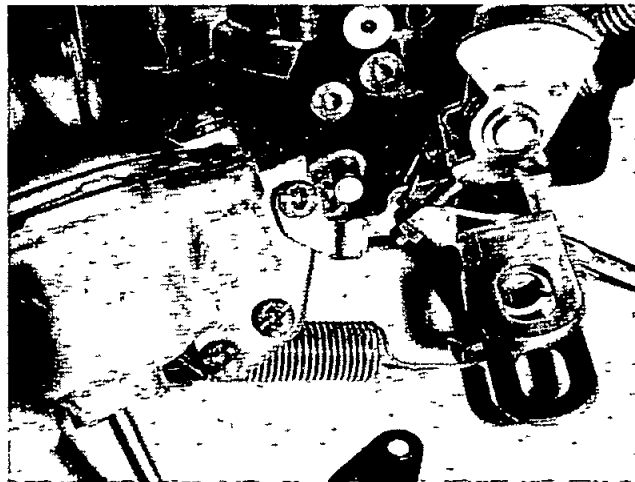


24 Loosening the three screws that hold the secondary cluster to the carb body allows you to remove it to renew the gasket underneath (arrow). This is a must!

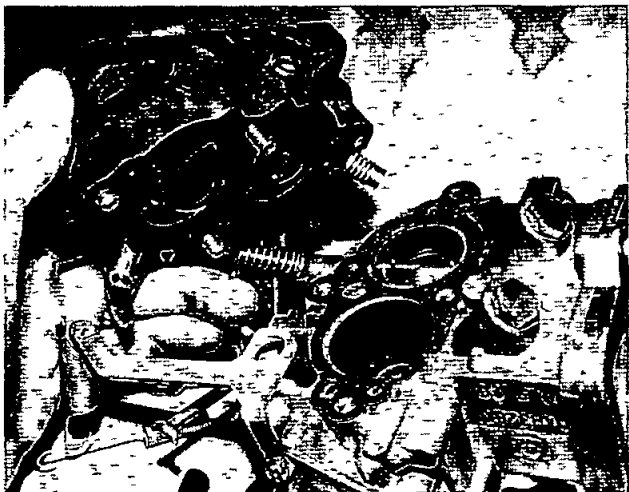
HOW TO: DISASSEMBLE THE 510-STYLE CARB



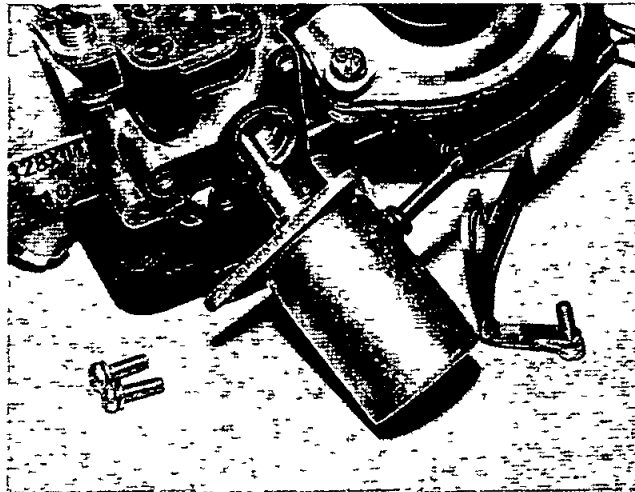
25 Next, you must remove the three screws that secure the secondary throttle diaphragm housing to the side of the carburetor. Standard or Phillips screwdriver will do.



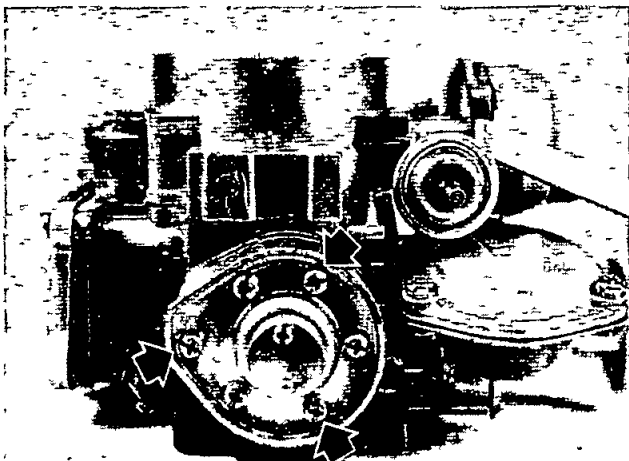
26 This large diaphragm which controls the secondary throttle action must also be kept out of the carburetor cleaner. When putting it back, don't forget the gasket.



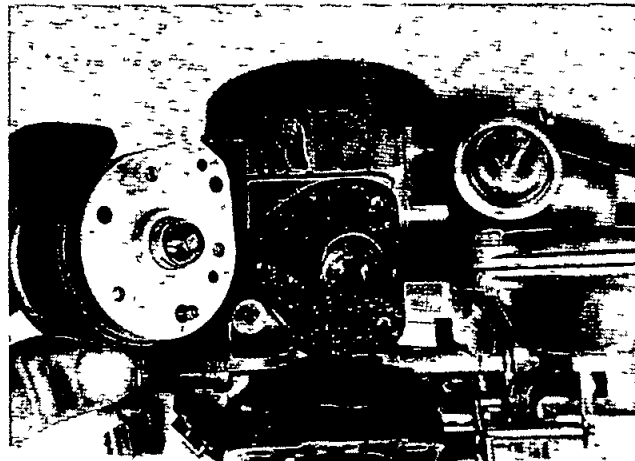
27 Four countersunk screws hold the throttle body to the main body of the 2-bbl carburetor. Removing these permits separating the two so gasket can be replaced.



28 Here we are back to the Coasting Enricher (early model 2-bbl carb). It must be removed via three screws before carburetor body is dunked in the cleaner.

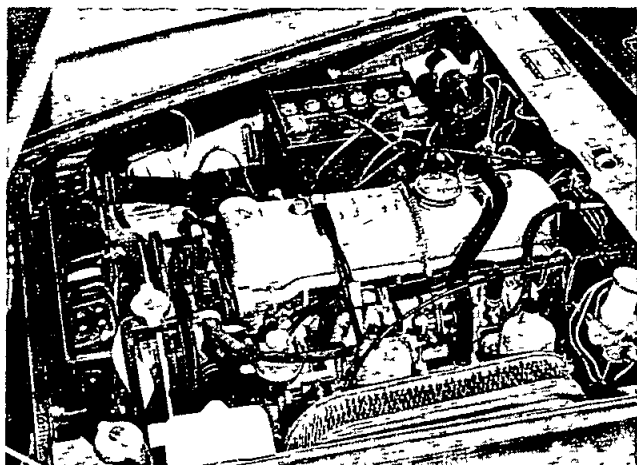


29 The later model Datsun 510 carb with the Boost Controlled Deceleration Device (BCDD) isn't difficult to remove if you take out every other screw (arrows).

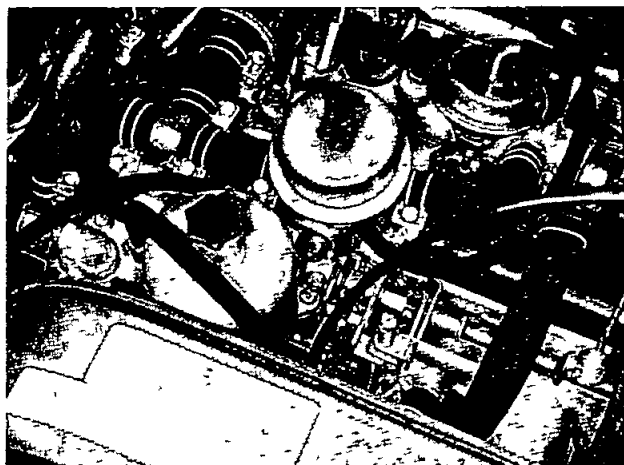


30 The BCDD and its gasket must not be permitted to be dunked in the carburetor solvent or the delicate diaphragm inside it will be ruined. Replace gasket.

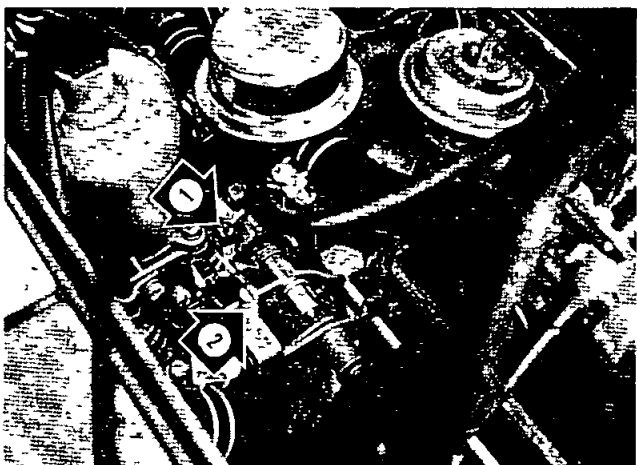
HOW TO: ADJUST AND DISASSEMBLE HITACHI'S SU



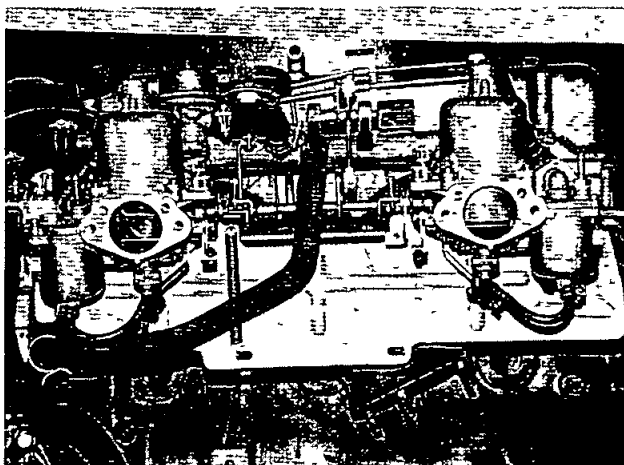
1 The 1600cc and 2000cc Datsun sports roadster as well as the Z-car utilize twin Hitachi carbs which are a dead-ringer for the British-manufactured SU carburetor. Details will differ according to year and model of car.



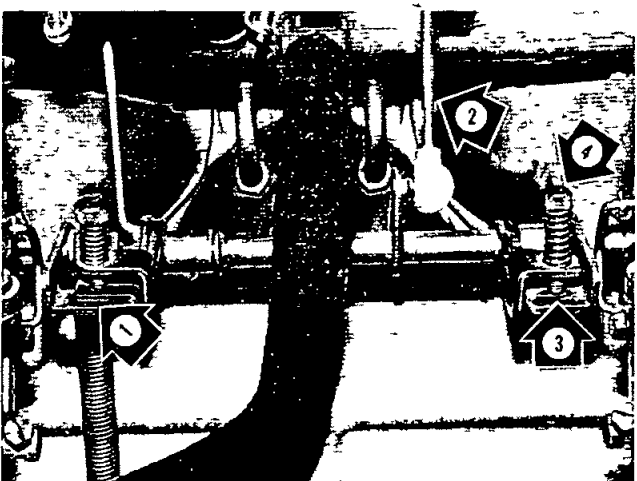
2 Since this style carburetor doesn't provide much in the way of convenient mounting points for emission-control hardware, brackets for the multiplicity of diaphragm units are affixed to the manifold and engine.



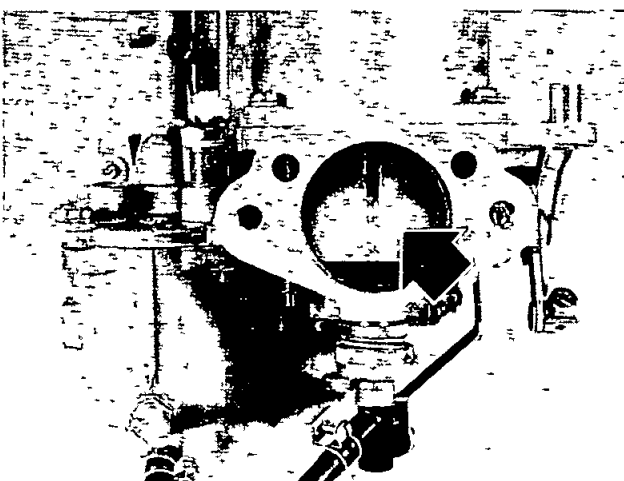
3 Throttle adjusting screw (1) for forward carburetor has mirror-image mate on rear carburetor. The conveniently located screw (2) is used only for setting engine speed with throttle opener emission control device.



4 With air cleaner completely removed, the complicated linkage required for the dual Hitachi carbs becomes mostly visible. Bellcrank setup synchronizes operation of both carbs. Note that carbs are mirror-image units.

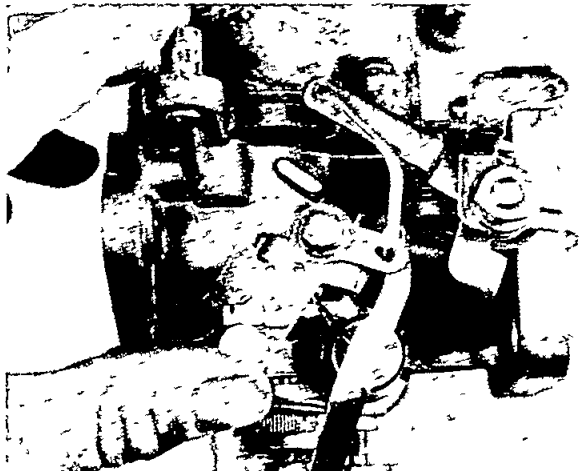


5 Throttle adjusting screws are set first, then play at (1) is set to 1/32-in. by means of linkage (2). Play at (3) is adjusted same amount by turning screw at (4). There must be a small amount of play so throttles close.

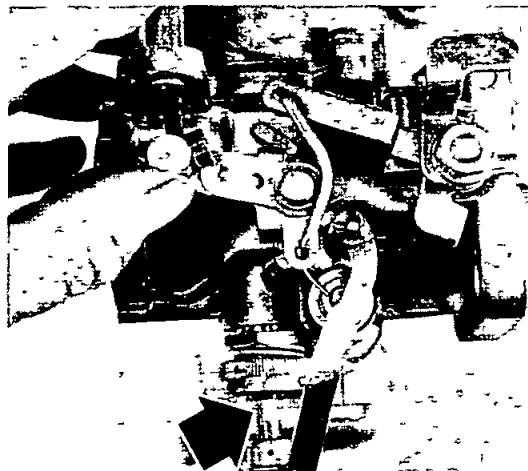


6 When viewing the SU-style Hitachi carburetor from the air cleaner end, the large piston that slides up and down to control carburetor throat diameter according to engine vacuum is plainly visible (arrow).

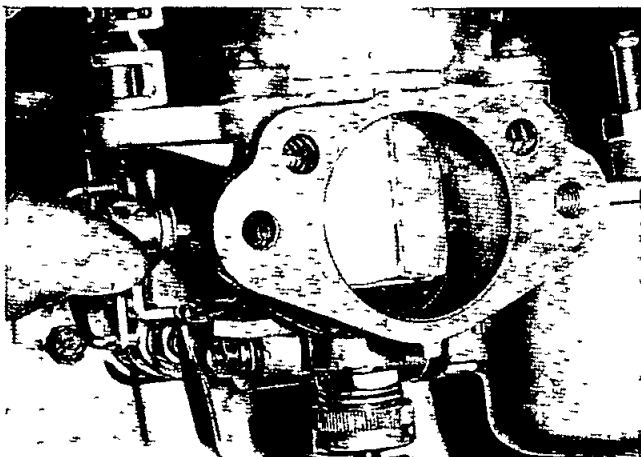
HOW TO: ADJUST AND DISASSEMBLE HITACHI'S SU



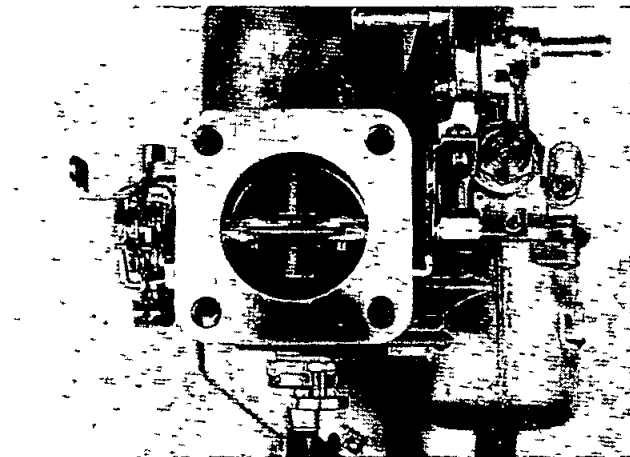
7 Choke control utilizing remote cable is seen here in the "off" position. Cable-housing secures at projection under finger, while the cable affixes to collar (above thumb) swiveling on arm mounted to control shaft.



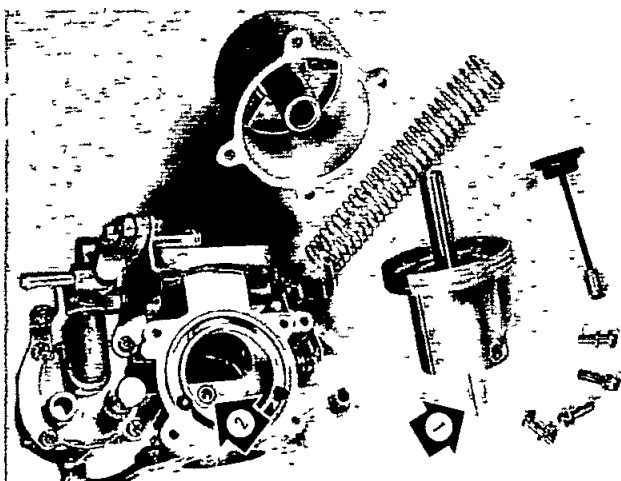
8 When the choke is pulled on, it lowers the jet away from the needle that is fastened to the piston, thereby allowing more fuel to enter the carburetor. The jet is beneath the carburetor body (arrow).



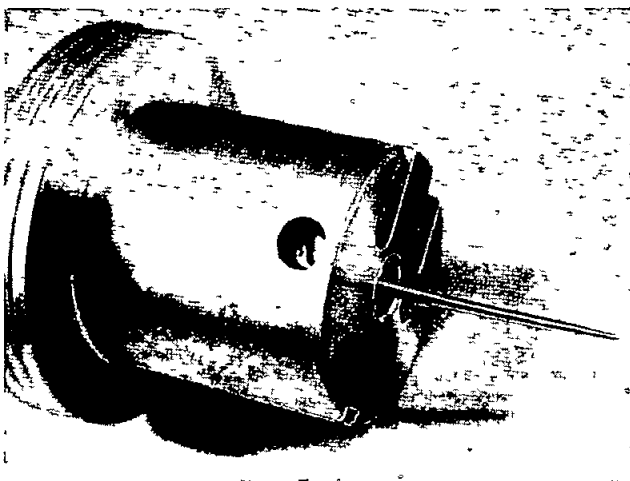
9 Here is proof that the piston and tapered needle do not move when the choke is "on." Rather, the jet metering fuel from the float bowl (at right) is lowered away to permit more fuel to enter the carb (richer mixture).



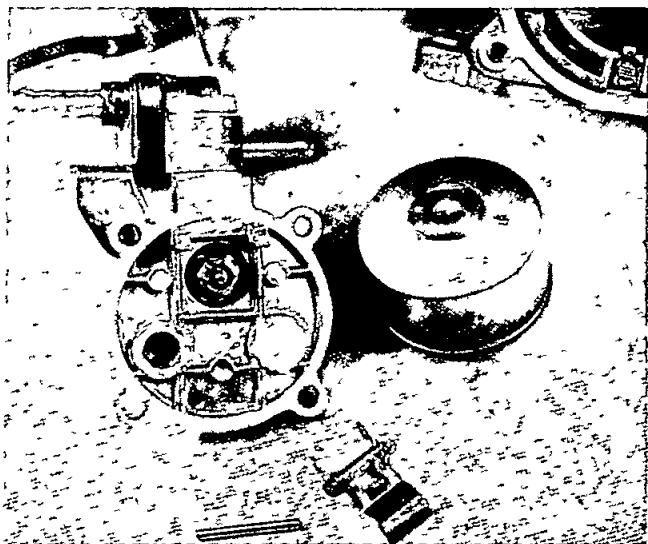
10 Peering at the engine end of the SU-type Hitachi, with the throttle butterfly open, we can see the two little notches in the bottom of the piston. These are ports where engine vacuum acts to raise the piston.



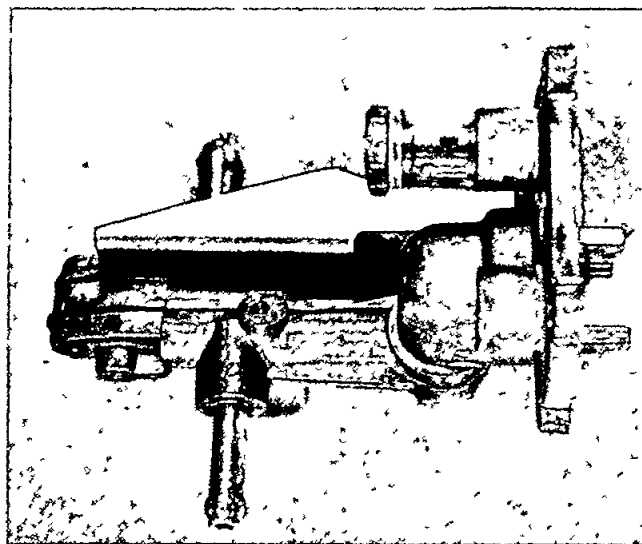
11 Suction chamber, piston (be careful of that needle), and spring are usually removed, and this is all there is to the assembly. Note the needle (1) mounted to the piston and the jet (2) into which the needle slides.



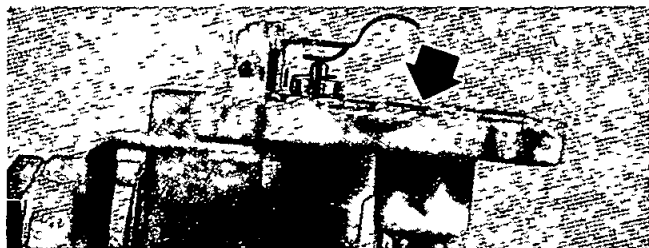
12 The needle is held in the sliding piston by a set screw. The shoulder on the needle must be even with the bottom edge of the piston. It should be obvious why the needle must be handled with care to avoid damage.



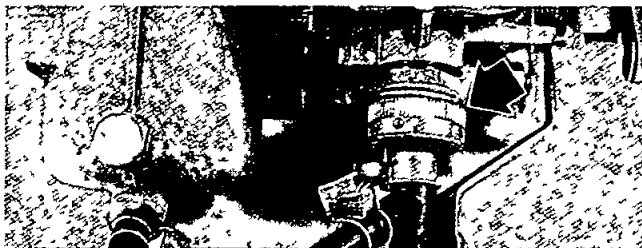
13 The float and hinge-pin arrangement on the SU-style Hitachi carburetor is reminiscent of something from an antique car. The float is held in place by the sides of the bowl (not shown). Regulator valve is in top cover.



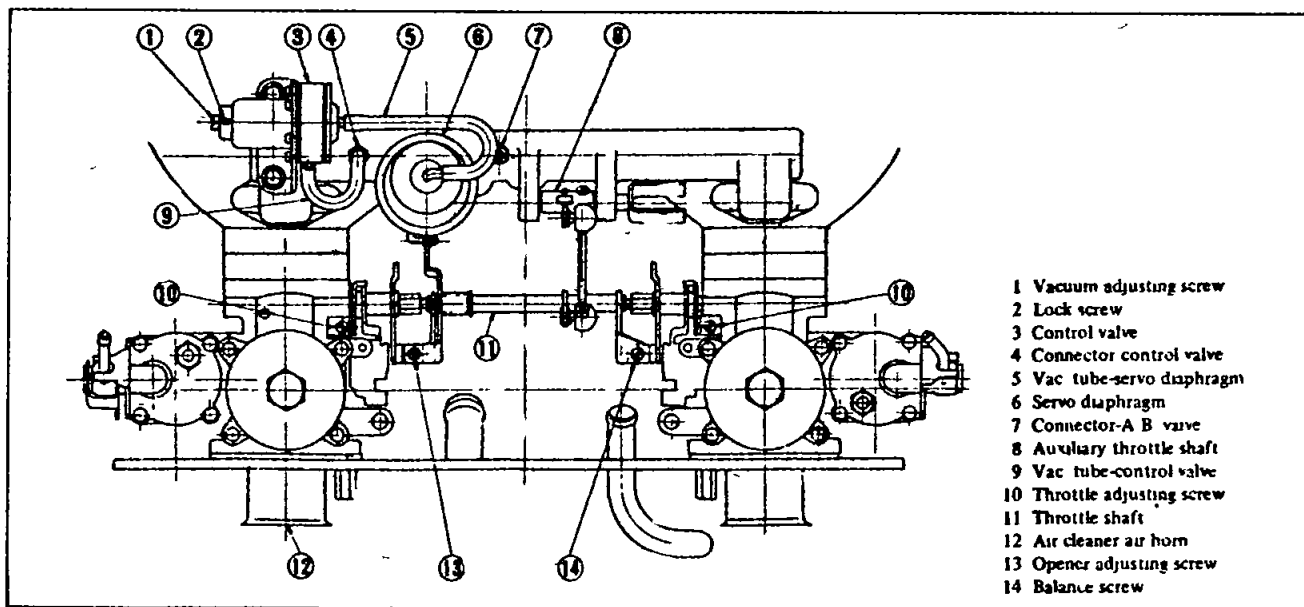
14 Fuel return system with thermostatic valve inside is attached to bowl cover. One line brings fuel from tank, the other returns it. When fuel gets too hot, the valve opens and allows it to return to tank—so no vapor lock.



15 Adjustment of float level is made by bending tang on the float arm. Specifications vary, but float adjustment is usually given as the distance from some part of the lever to the underside (arrow) of this cover.



16 Idling adjustment is made with large nut (arrow) which raises and lowers the jet. On dual carburetor models a balance device (like Uni-Syn) must be used to get the vacuum identical on each carburetor.



17 A bird's-eye view reveals all the linkages and their adjustment points. Items 3 and 6—the control valve and servo diaphragm—crack throttle open on deceleration to reduce emissions. To check them out, remove line (5) at control valve

and check engine rpm with factory spec. Adjust opener screw (13) if needed. Hook up vacuum line and check lag. If it's off, loosen set screw (2) and turn adjusting screw (1) clockwise to increase the lag time.

HOW TO: RENEW B-210 DISC BRAKE PADS

KEEP ON STOPPING

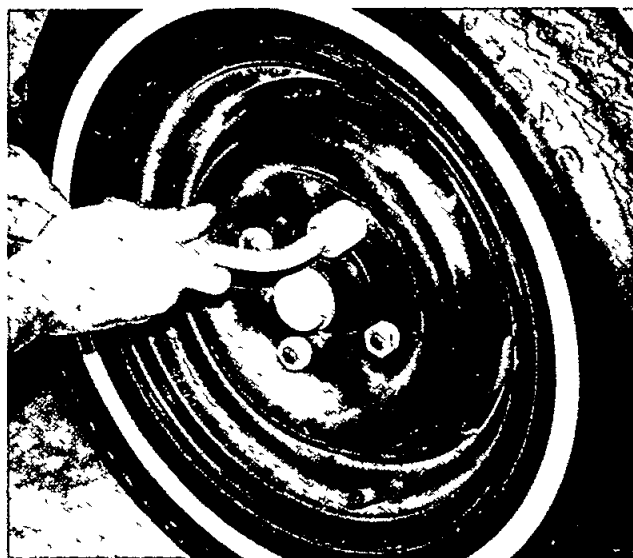
Disc brakes, now used almost universally at the front wheels, were developed from aircraft and sports car racing in the early '50's. They are a boon to the home mechanic, as not only are they a better brake design in almost all respects than drum brakes, but they are much easier to work on. It's a very simple job to renew the pads (or "pucks") on Datsun front brakes. Besides the car's jack and lug wrench, the only tools you'll need are long-nose pliers and a screwdriver. That's it! Not even any wrenches, ex-

cept possibly one to bleed the brake nipple a bit if a pad does not slip right out. You should be able to replace the pads on *both* front brakes in less than an hour with no difficulty. Certain discount houses and large "brake shop" chains offer their own replacement pads, but it's best to stick to factory replacement parts. You might be surprised to find out that they are cheaper. A few words of caution: don't clean any brake parts with petroleum-based solvents, as they can run the rubber seals in the cylinders. Use soapy water

or an alcohol-based cleaning fluid. Be sure to examine the discs for deep scoring. Minor grooving can be overlooked, since the new pads will adapt themselves to such conditions quickly, but deep scoring will require resurfacing or replacement of the disc. Scoring usually results from not replacing the pads soon enough, consult your owner's manual for the minimum pad thickness. As to the condition of a disc, remove it from the spindle and have your local dealer examine it. Replacement discs cost around \$25. 



1 First we remove the hub cap. You can use the pointed end of the lug nut wrench or a big screwdriver.



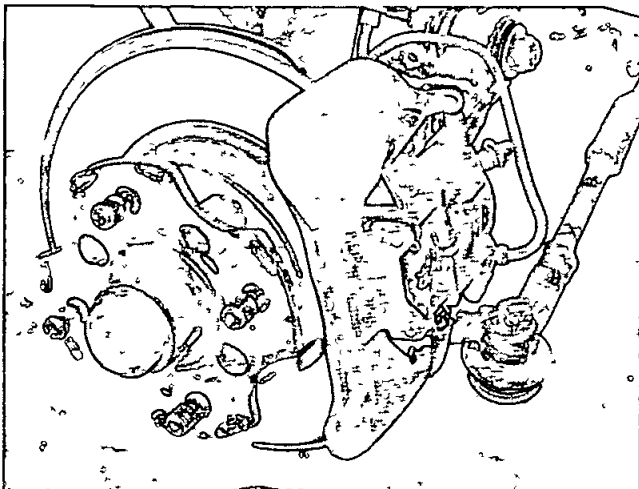
2 Loosen the lug nuts. Don't jack up the car yet, as the wheel has to be on the ground to prevent its turning.



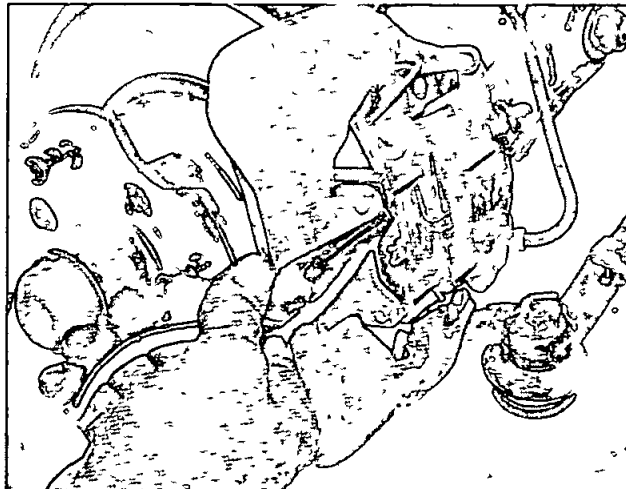
3 Now you can jack up the car. Slide the car's jack carefully on the strip under the rocker panel and turn.



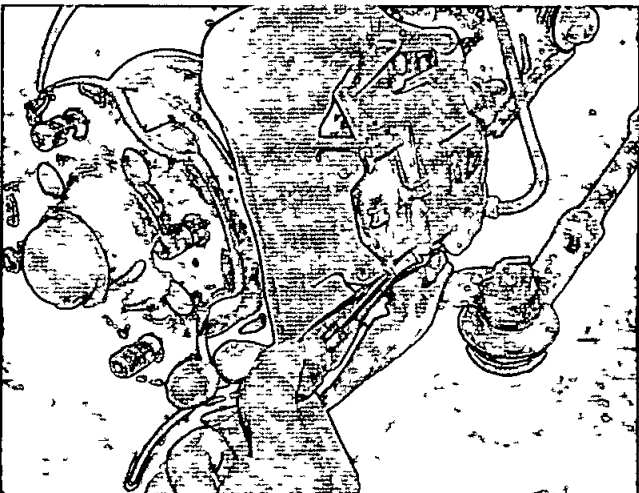
4 With the wheel up in the air, you can now safely remove the loosened lug nuts and remove the wheel.



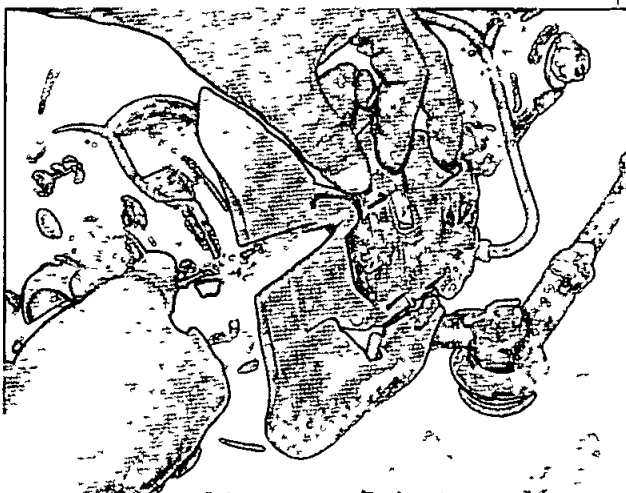
5 There's the little beauty This brake uses two pads, one on either side of the disc rotor It's easy to service



6 With long-nose pliers, pull out the small spacer clip on the upper of the two pad locating pins



7 Now repeat for the lower spacer clip Set these clips (which look like cotter pins) aside, as you'll reuse them



8 With the clips out, withdraw the upper locating pin Leave the lower one in while we tend to the pad clips



9 Each pad has its own retaining clip, which holds the pad in place Remove the outer one by lifting back and up

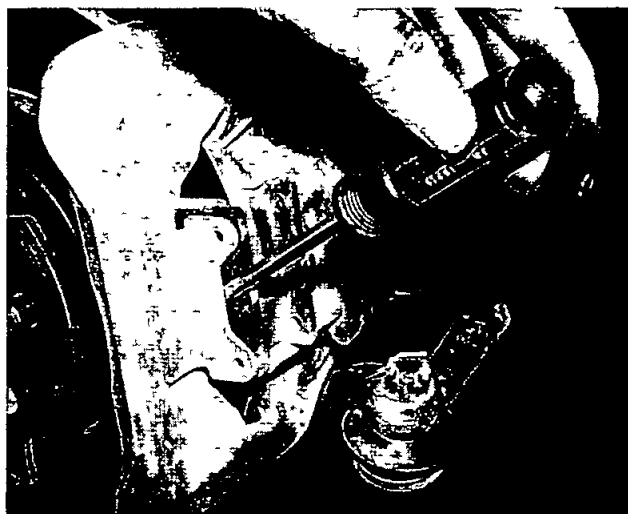


10 Now repeat for the retaining clip on the inner brake pad Set these aside also, you need them for the new pads

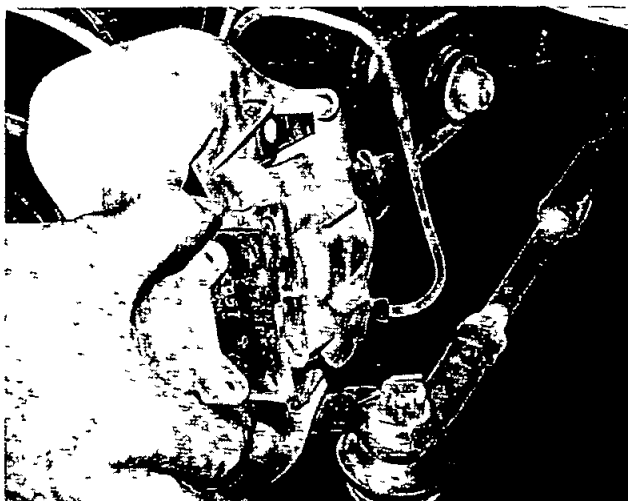
HOW TO: RENEW B210 DISC BRAKE PADS



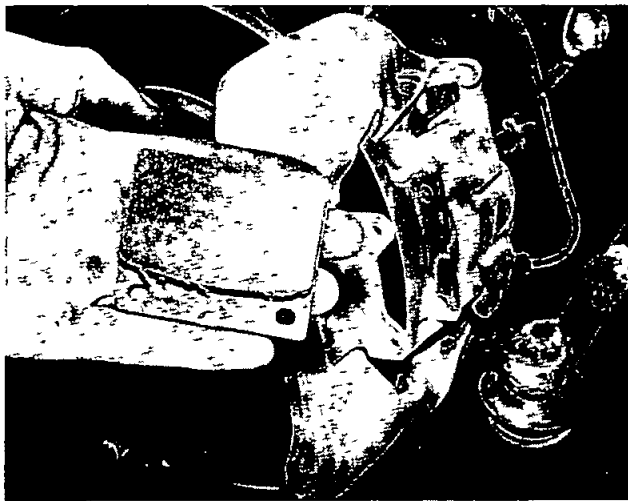
11 With the retaining clips out of the way, withdraw the lower locating pin. Don't lose its coil spring.



12 Slip a screwdriver between the pad and bracket to depress the piston. You may have to bleed the line a bit.



13 The outer pad should now slip right out as you withdraw it backwards. If it sticks, give it a little wiggle.



14 This pad had plenty of lining left, so we won't put in a new one. You may not be so lucky, so check regularly.



15 Since we know this brake doesn't need new pads, we'll just point out the other pad. It withdraws the same way.



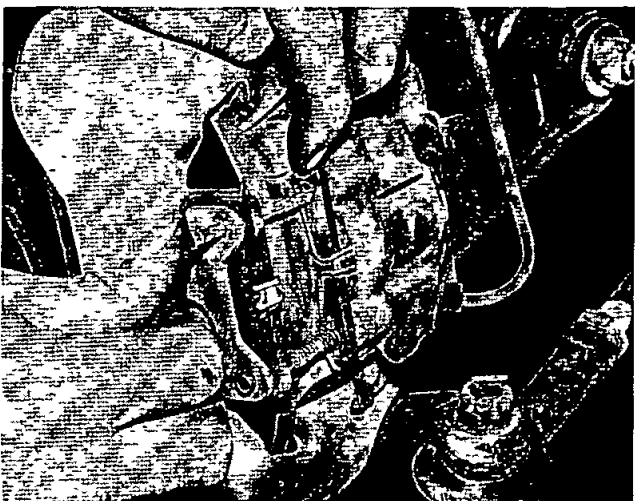
16 Slip in the new pads (in this case, the same old one) the reverse of the way you withdrew the old ones.



17 Line up the lower pin holes and push in the lower pin. Get that little coil spring positioned correctly.



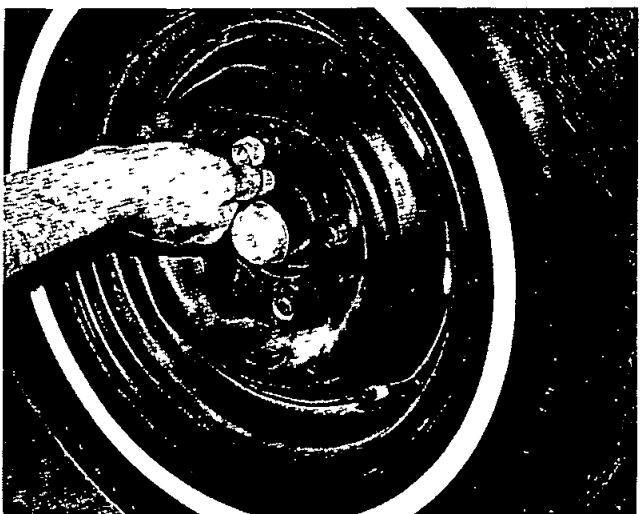
18 Now install the pad retaining clips and the upper locating pin. Remember the clip ends go behind the pins.



19 Push the upper pin home, making sure the clip ends stay behind it. The pads are now securely in place.



20 Install the two little spacer clips on the pins, which lock them in position. You've finished the brake job.

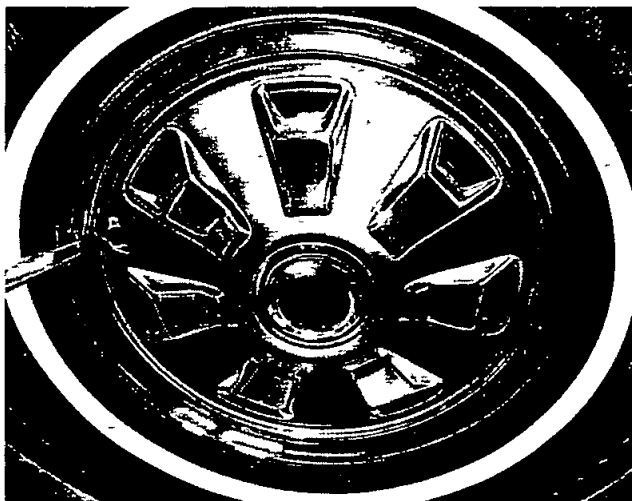


21 Put the wheel back on, and spin the lug nuts as tight as you can get them until the wheel starts to turn.



22 Then lower the car and tighten the nuts. Replace the hub cap. Now you're ready for the other front brake.

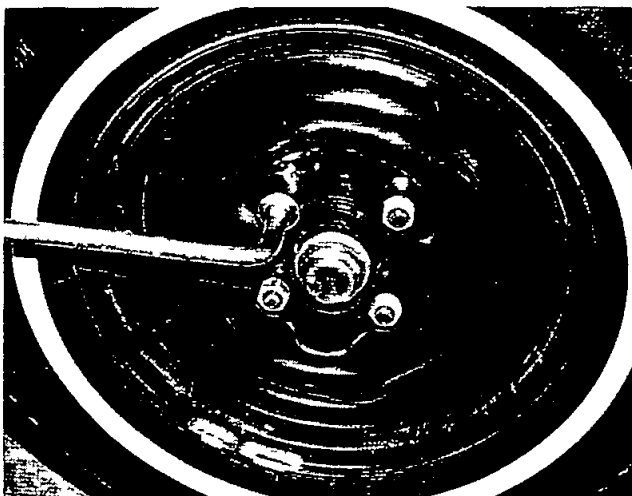
HOW TO: RENEW 510/610/710 DISC BRAKE PADS



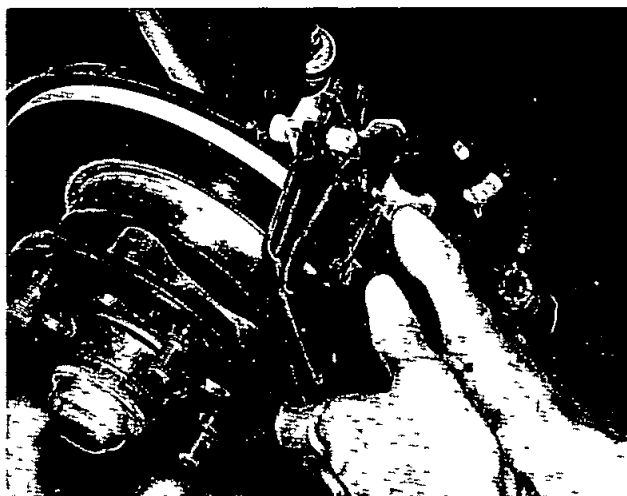
1 The first step is to remove the hubcap (this is a 710) Use a screwdriver or the pointed end of the lug wrench



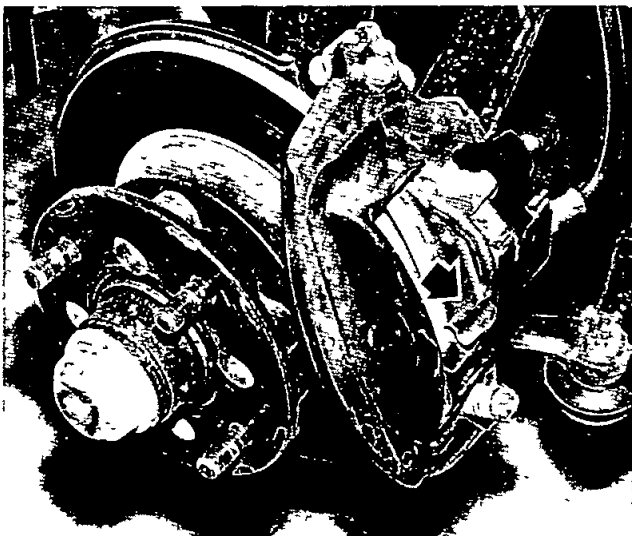
2 The jack slides on a rail under the rocker panel Lift the car, but leave the front tire touching the ground



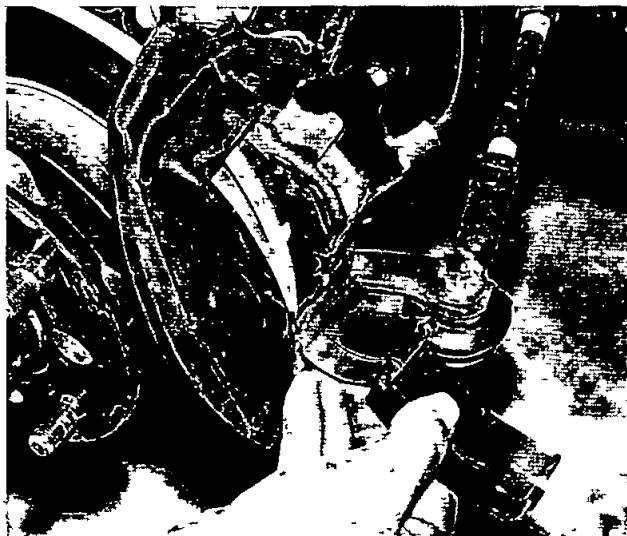
3 Loosen the four lug nuts Now finish jacking up the car, then remove the four nuts and the wheel



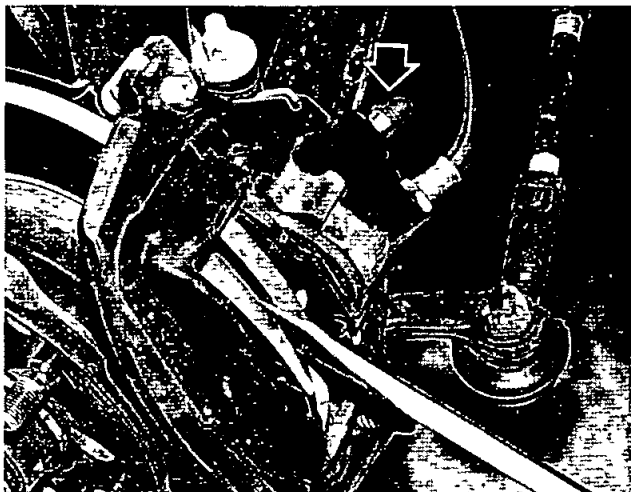
4 Now the tricky little spring steel dust cover has to be removed Press in at the top with your thumbs



5 The cover can now be swung back and down Note how it is shaped to hold the pads in position (arrow)



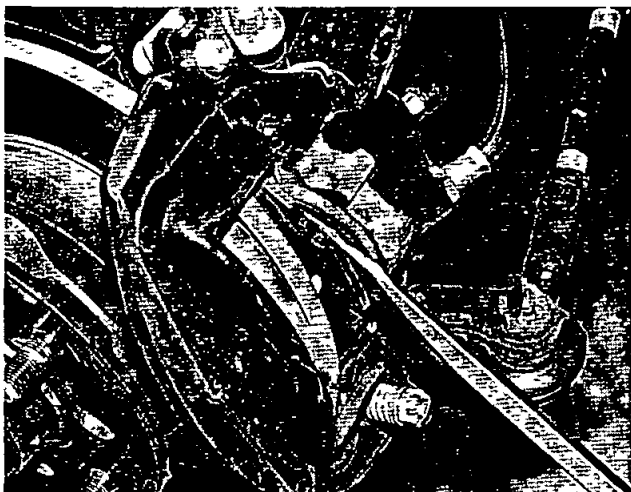
6 Keep pulling the cover down to unsnap it from the pads Remove it at the bottom by pressing upwards



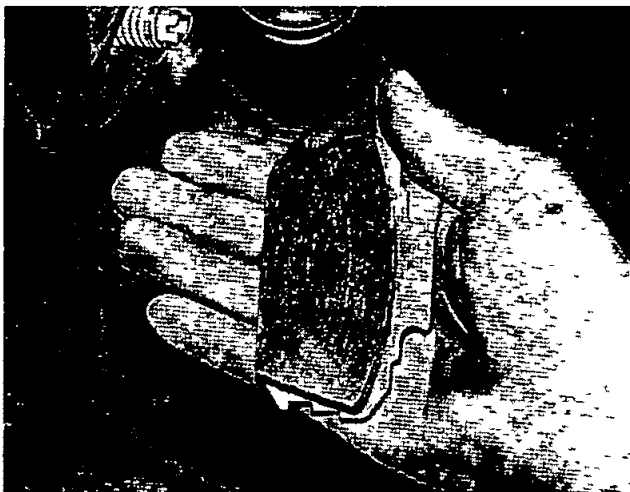
7 Insert a screwdriver blade between pad and disc to push the pad back. You may have to bleed the nipple (arrow)



8 Grasp the outer pad as shown and pull backwards. It should slip right out without any trouble



9 Now insert the screwdriver blade in the other side to get clearance for removing the inner pad



10 The inner pad removes the same way. The two pads look like this and are identical, so you can't mix them up



11 On the back of each pad is this depression, which the piston fits into. Slip in the new pads



12 Carefully replace the cover, which locks the pads in place. You're done. Replace the wheel and do the other side

HOW TO: REPLACE BULBS, TIRES AND WIPER BLADES

FIXING LITTLE THINGS

Not even frequent or regular maintenance will guarantee 100% faultless mechanical reliability. Nothing will. Fact: Cars are a careful collection of greater and lesser parts and pieces and little things will go wrong. When this occurs—through no fault of your own or the manufacturer's—what can you do?

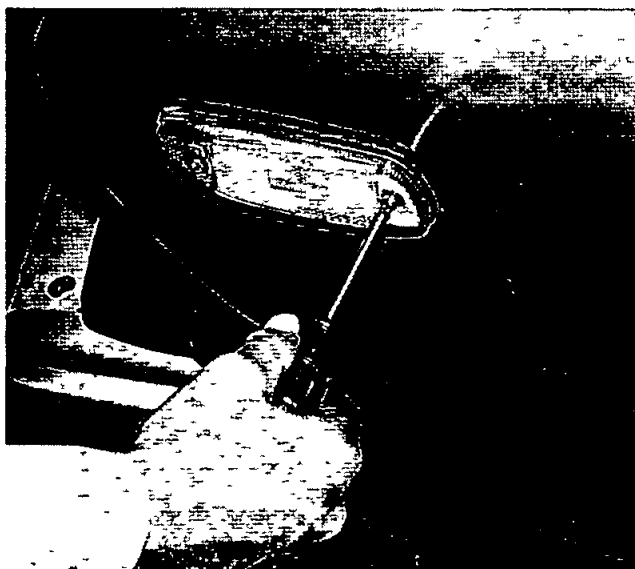
What if your backup lights stop working? They are important because without them you may overshoot where you're aiming some dark night and crunch a fender (worse yet, it may

not even be yours). Ditto for turn signals. Without turn signals, other motorists would not know your intentions, possibly resulting in an accident. Brake lights, too, are of great value. If your brake lights quit functioning and you have to jam on your brakes in an emergency situation, you may find the driver of the vehicle behind you suddenly in your trunk.

That goes for flat tires, as well. Would you know how to change a tire on your Datsun right now—this minute? If your answer is no, you'd better

get out your owner's manual and read up on this facet of ownership. Better still, simulate a flat tire in the relative security of your driveway and practice replacing, first the front, then the rear tire. As you know, the only place you'd ever get a flat is late at night in the middle of nowhere. Never around the corner from a service station, so make a dry run and you'll be better prepared to cope with it like a "pro."

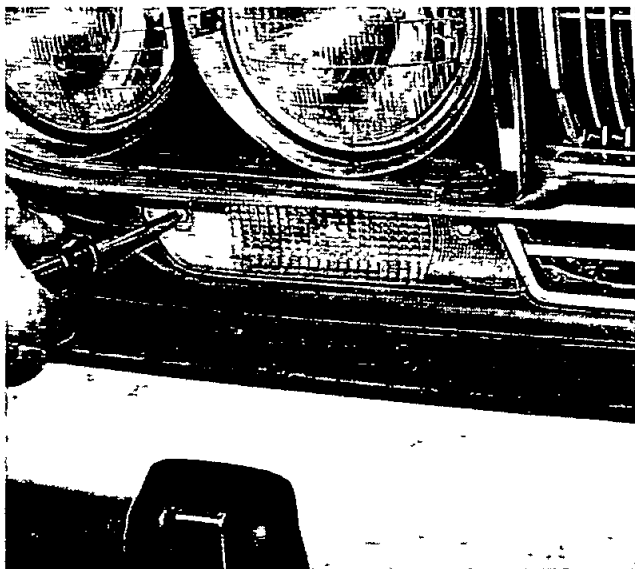
Of course there are a thousand and one "little things" that can and will go wrong. The following should help. 🛠



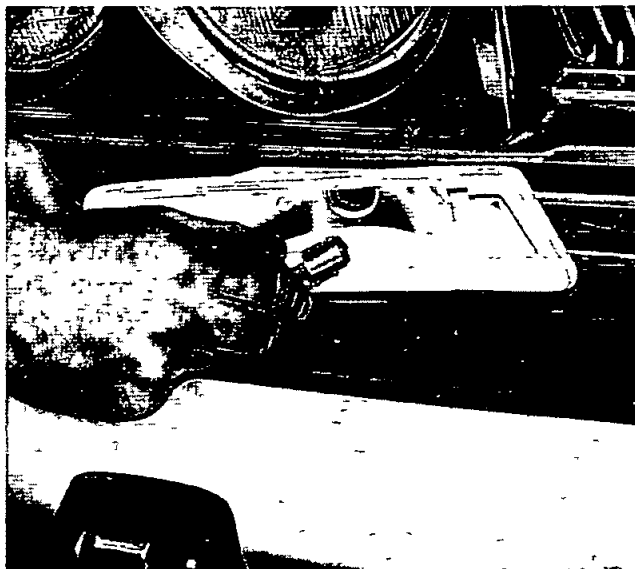
1 Side marker lights are known to burn out occasionally, but replacing them isn't difficult. Just loosen one lens screw.



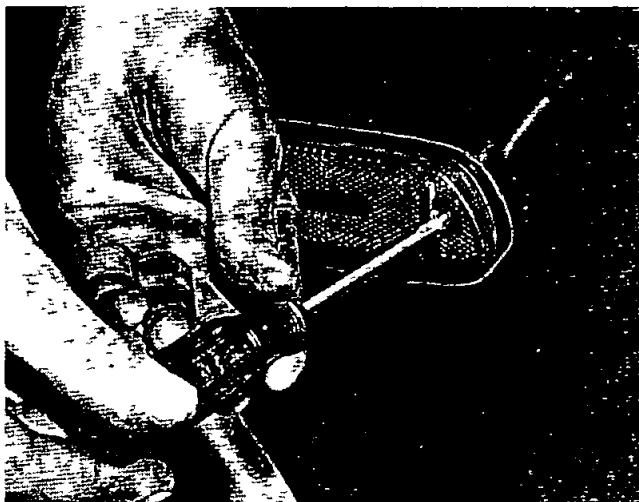
2 Allow lens to pivot downwards. Bulbs are of the bayonet type, just depress and twist to release.



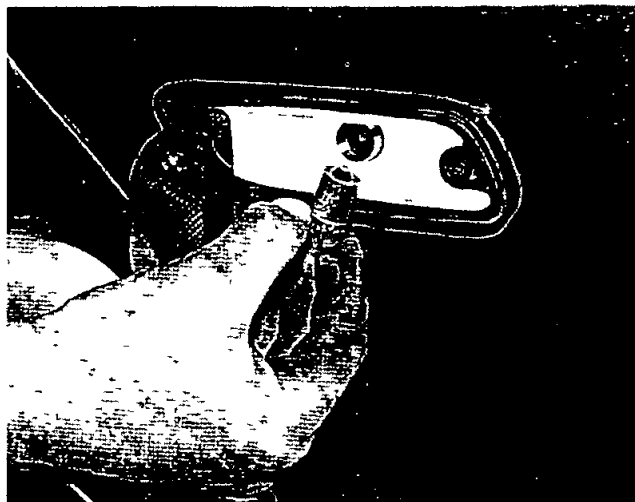
3 Front turn indicators burn out a bulb every so often, too. Undo lens with a Phillips screwdriver.



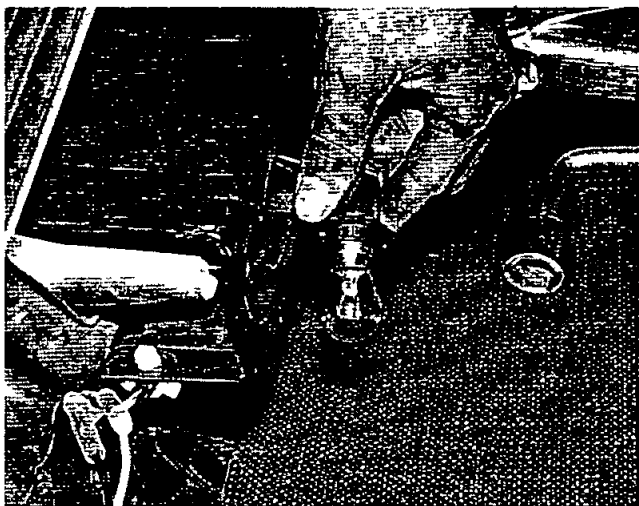
4 Remove lens and partly withdraw housing. Press down and remove bulb. When reassembling, watch lens gasket.



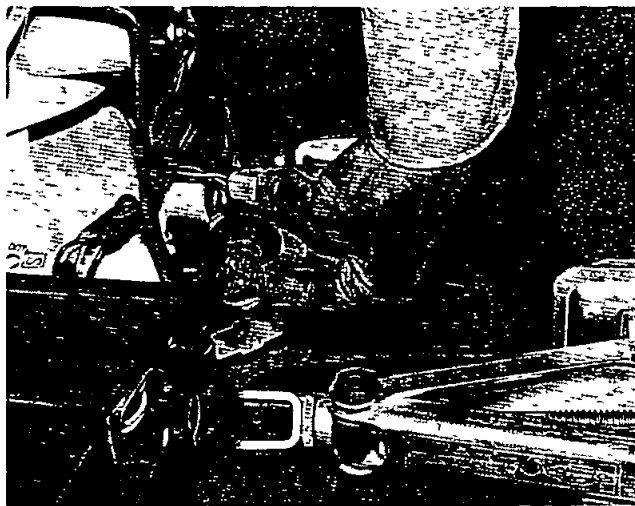
5 Rear side marker light out? Its bulb is replaced in same manner as front. Undo one screw, swing down lens



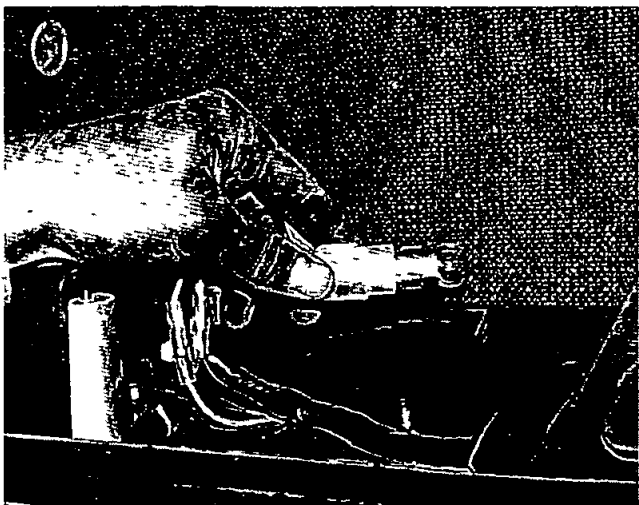
6 Rear screw will need partial removal to allow lens to pivot downward. Twist out bulb, after first pressing in



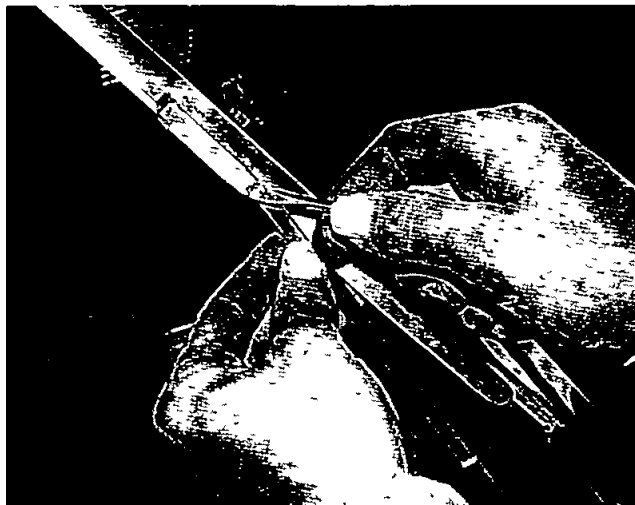
7 Access to taillights is through their housings in the trunk. Lights can be withdrawn in their sockets as seen



8 When replacing any of the rear lights, be careful not to use any unnecessary force, as the wiring could be damaged



9 License plate lights are located at the center of the rear trunk wall. They are held in small plastic sockets



10 Removing windshield wiper blades takes a little patience. With a screwdriver, raise the small clip

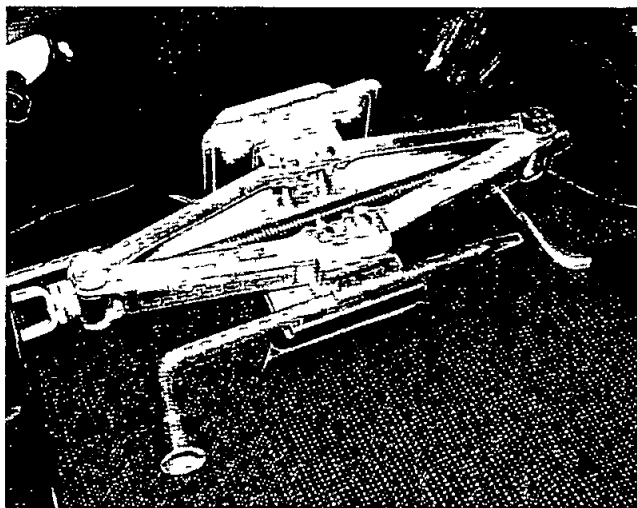
HOW TO: REPLACE BULBS, TIRES AND WIPER BLADES



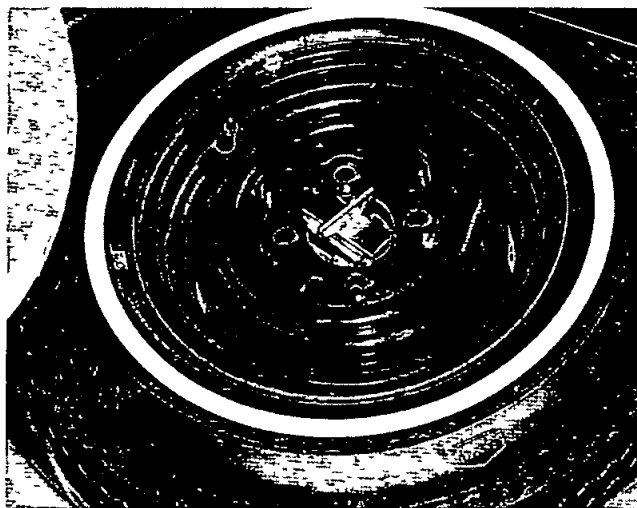
11 With clip raised, draw off blade. Note the small button on arm, detent in clip engages this



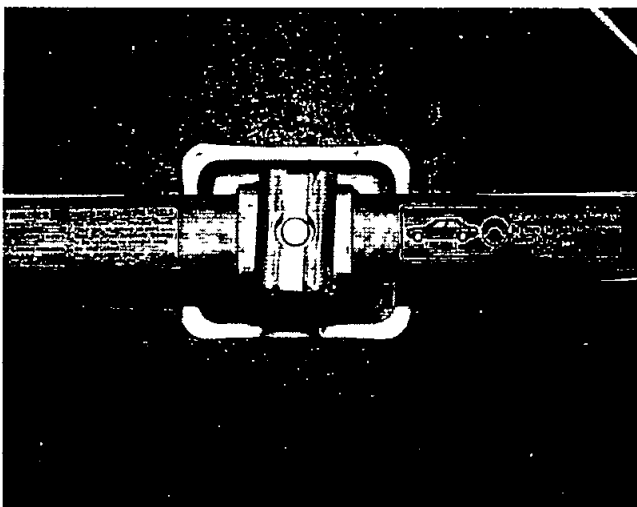
12 Pull the new blade onto arm, holding up the detent spring with screwdriver. Allow button on arm to engage



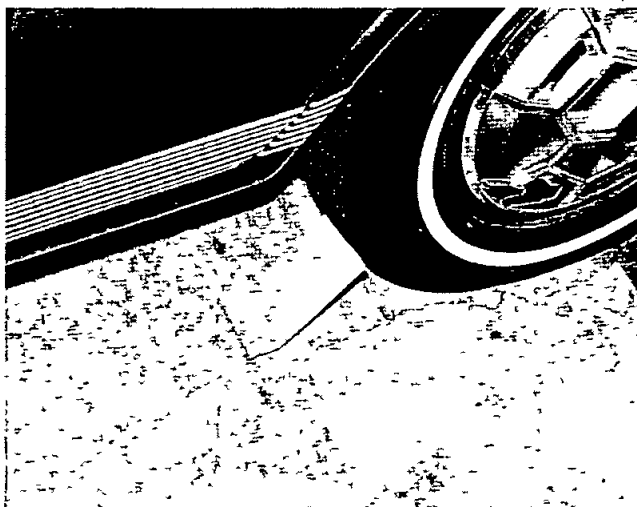
13 The Datsun's jack is conveniently located in trunk along with crank and lug wrench. Instructions are on jack



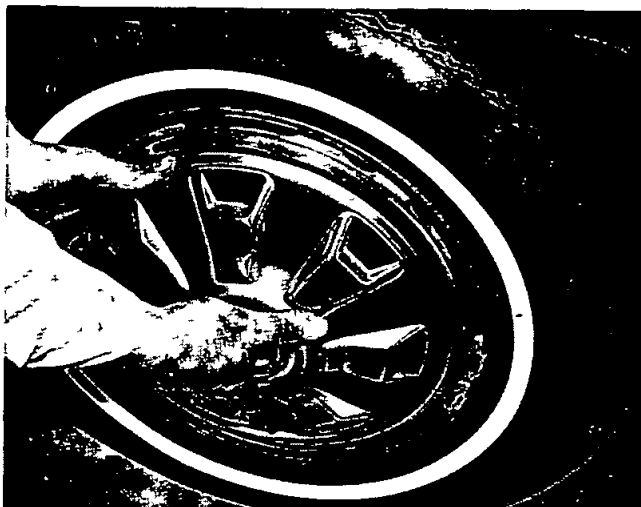
14 Spare tire is located beneath trunk floor and held by a wing nut. Remove wing nut completely to free tire



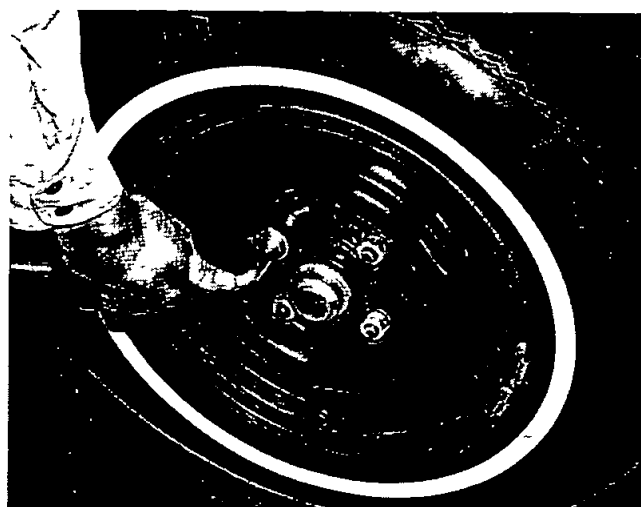
15 Scissors-type jack has a bracket that permits secure contact with car's underbody. Jack points are noted



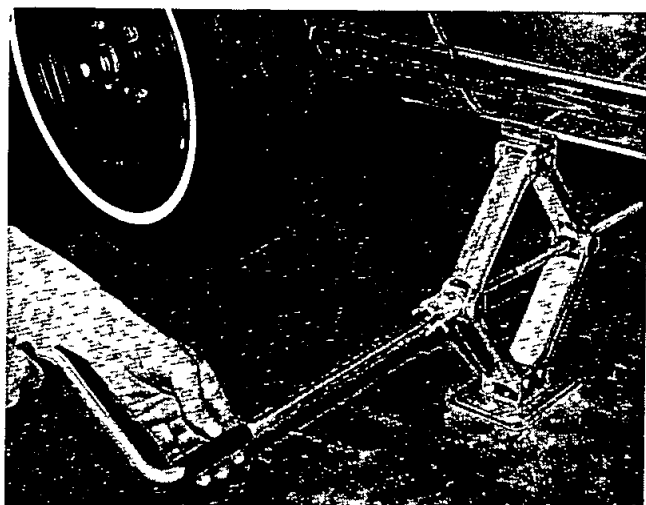
16 Wheel chock is included with car's tool kit and must always be used when jacking. Locate diagonally to jack



17 Wheel cover snaps on and off, and usually your fingers will do the job, though a screwdriver may help



18 Before jacking up wheel, loosen all four wheel lug nuts, but do not remove them until wheel is off ground



19 Elevate car using jack and hand crank. Be sure that jack is properly positioned under car



20 Once wheel is off ground, remove wheel lug nuts. Use the wheel cover to place nuts in while changing tire



21 Remove wheel carefully from lug studs. Car should be elevated enough so that there are no clearance problems



22 After installing new wheel, install lug nuts, but do not tighten them until car is back on ground again

HOW TO: REPLACE THE PCV VALVE

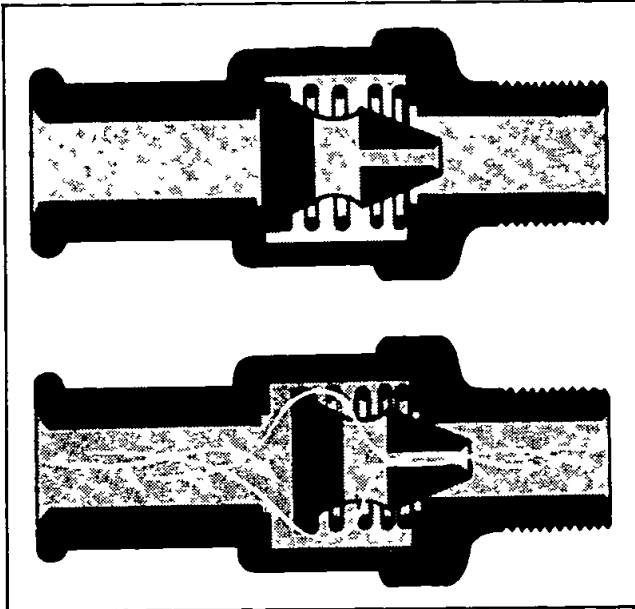
The PCV valve and Air Injection System pump (AIS) are additions to your engine to reduce air pollution. The AIS pump is found on Datsuns manufactured between 1968 and 1970. The PCV (Positive Crankcase Ventilation) valve is still with us and may become a permanent fixture on internal combustion gasoline engines.

The PCV valve can be a fixed orifice type, or may utilize a spring-loaded plunger. The result of prolonged operation without attention is the same

for both types of units. They get plugged up! This can result in serious damage to the engine. The best way to avoid this is frequent checks and replacement where indicated.

The AIS pump, made by Nippondenso, looks like an alternator and can be identified by a plate bearing the legend NO OILING. Not only is it a costly (\$113) unit to replace in case of total failure, but the carbon shoes wear sufficiently in the course of 15,000-20,000 miles to cause its partial

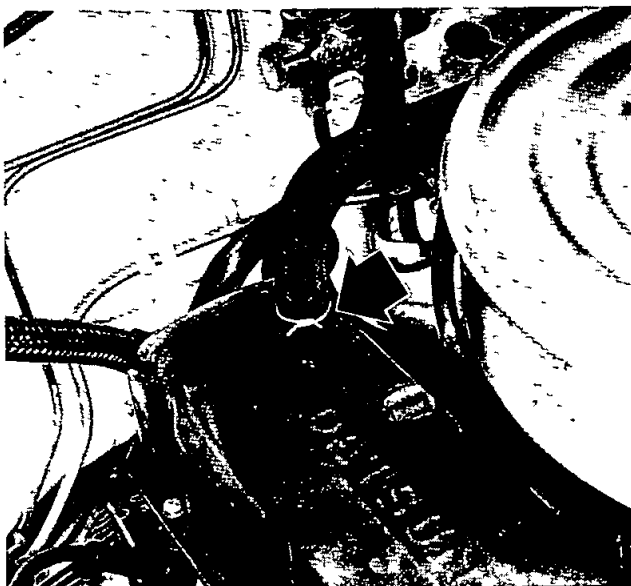
failure, and an excessively noisy rattle develops. This is the warning signal and if it's not corrected in time, you're in for a costly trip to the nearby Datsun service department. Even if you do catch it in time, a pump rebuild as shown costs upwards of \$40, but if you're willing to invest \$16 for a new set of shoes and vanes, plus about an hour of your time, we'll show you how to save some cash by doing it yourself. The only special tool required is a 4mm hex-head Allen wrench.



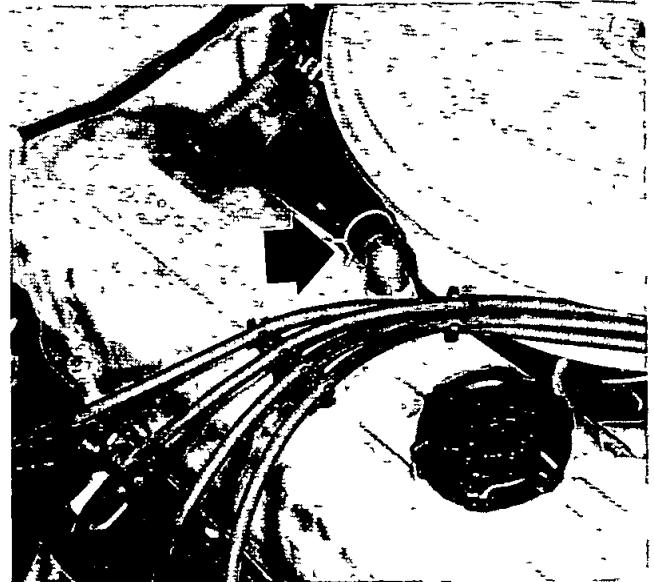
1 The spring-loaded PCV valve at idle (bottom) prevents blowby, but during acceleration (top) there is no flow. Replacement valve must be obtained from your dealer.



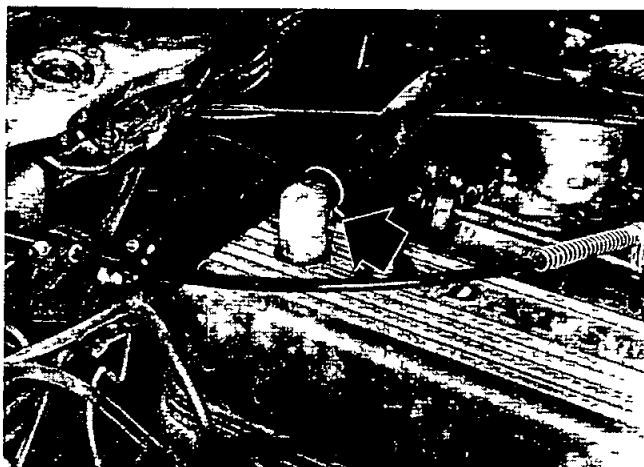
2 It's not an infallible test, but if the jiggle-pin inside your PCV valve can be heard rattling around, then you at least know that it is not gummed up.



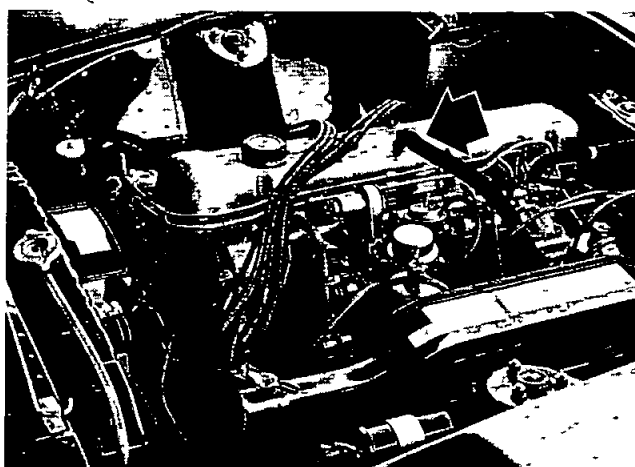
3 If you have a Datsun 1200 the PCV valve location is on the rear of the valve cover (firewall end). Remove the spring clip and the hose to gain access.



4 The Datsun 1600 engine has the PCV valve in the hose leading into the cam-box cover on the carburetor side of the engine about midway along its length.



5 The 1600 and 2000 sports cars have the PCV valve positioned at the rear of the cam-box cover (arrow) Again, get exact replacement unit from your dealer



6 On the 240-Z and 260-Z you'll find once again that the hose leading to the cam cover hooks to the PCV valve (arrow) Offset to the carburetor side

HOW TO: OVERHAUL THE AIR PUMP



1 Remove air pump from car by disconnecting inlet and outlet hoses and mounting bolts Secure pump in a vise and remove the four front cover bolts Be careful!



2 Tap lightly along the edge of the front housing to loosen the cover and finally, break the seal with the main housing Don't use any excess force during this operation

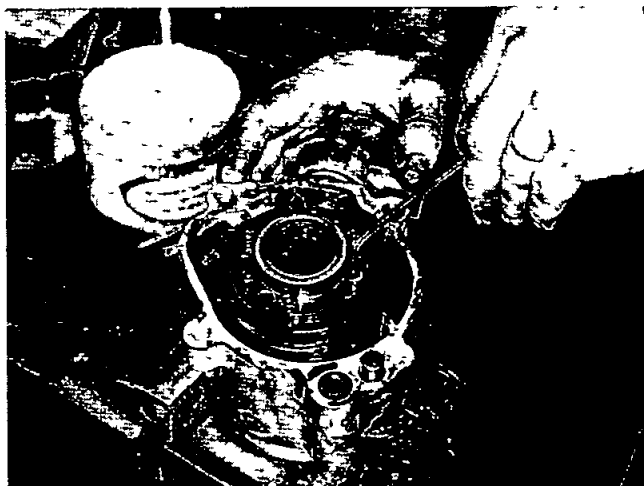


3 Cover can be completely removed after step #2 by carefully prying with a screwdriver Be careful not to damage the mating flanges, since no gasket is between housing and cover



4 Now you can lift off the cover, exposing the bearing and rotor, as well as a thorough mess inside in the case in the subject being overhauled here Carbon buildup is the culprit

HOW TO: OVERHAUL THE AIR PUMP



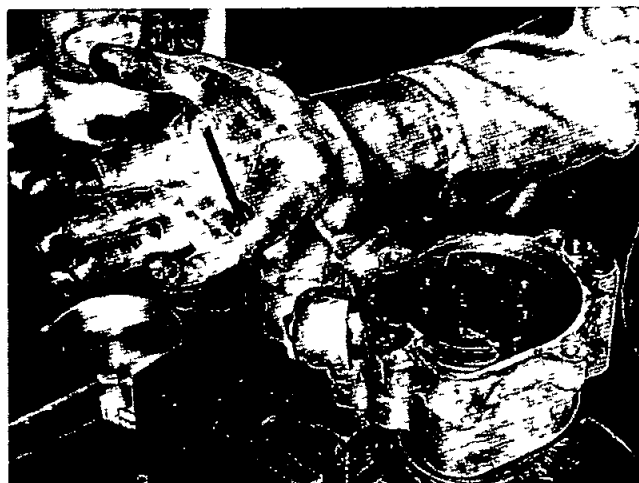
5 Loosen and remove the six 4mm Allen-head screws that hold the rotor ring in place. These have probably become tight during service, and may require effort to loosen.



6 Lift out the old carbon vanes and toss them out, they will be replaced. As they wear, they cause all the carbon deposit inside. There's more, so stay with us.



7 Now pull out the old carbon shoes, this is the messiest part of the job, but as soon as you're done here, you can clean up. Use lots of solvent and a stiff bristle brush.



8 Behind each trailing shoe is a spring. Don't lose these, as they are not supplied along with the new shoes. There is very little else in the pump that can cause trouble.



9 Clean the pump housing, rotor, cover and rear bearing assembly. Check the rear bearing for excess wear or damage, then repack with high-temperature grease.



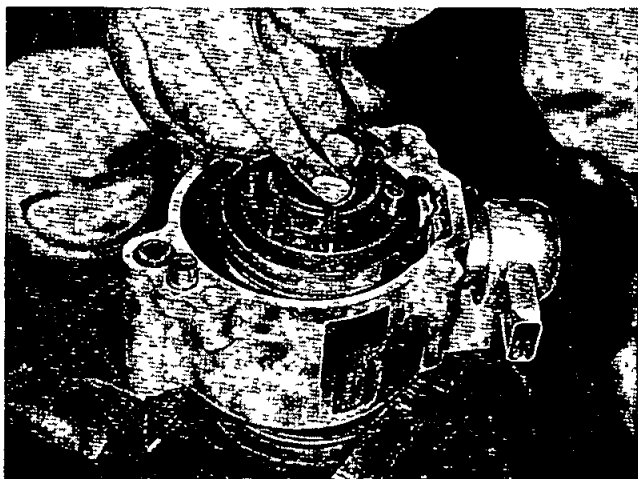
10 Insert the new carbon shoe with its tapered edge facing in the direction of the vane. This is the only way the part will fit. Did you clean everything inside and out?



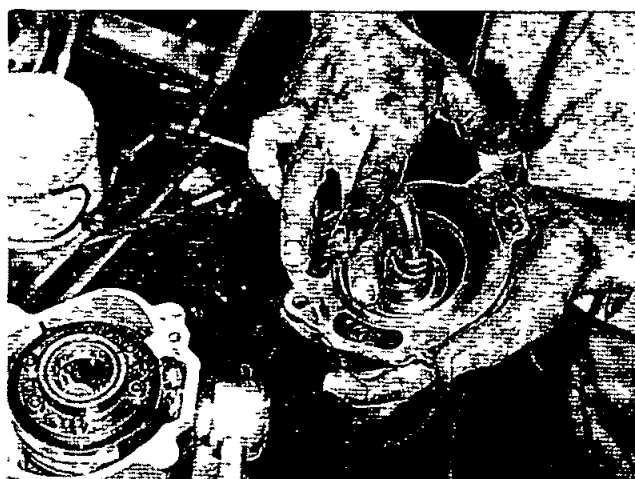
11 Drop the vanes into place as shown, then insert the trailing shoes with a spring behind each one. The curvature of the springs should face the shoe. Do not oil anything.



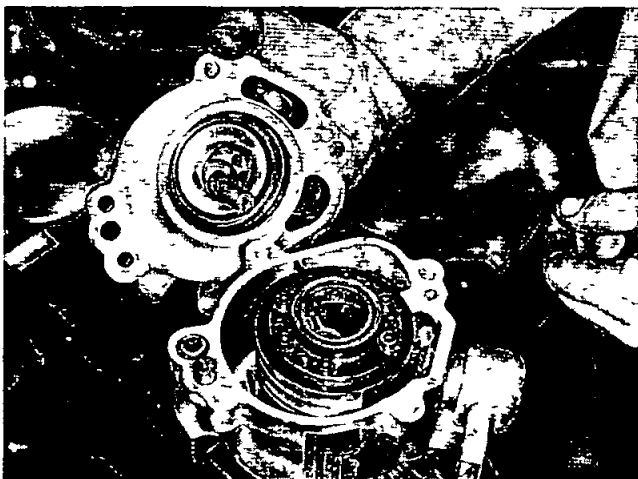
12 The rear seal protects the rear bearing and fits in only one way correctly if all holes are to line up properly for assembly. Wipe off any excess grease.



13 Invert the rear bearing assembly into place, then install and tighten all the Allen-head screws. All threads should be cleaned, and in this case, free of any lubricants.



14 Here is one point that does require thorough lubrication for efficient operation—the front housing eccentric shaft. Pack it with grease as shown, both eccentric and shaft.



15 Insert the shaft into the vane bearings and push home, it should be an easy fit most of the way down. Tap the housing cover lightly to seat it, then snug down the cover bolts.



16 Replace the air pump into its bracket on the engine and tighten the mounting bolts. Replace the V-belt around pulley and adjust to give $\frac{3}{4}$ -in deflection. Install hoses.

HOW TO: DISASSEMBLE THE GROWN-UP 1200

B-210 ENGINE TEARDOWN

This engine hit the market in late 1971 as the powerplant for the '72 model 110 series cars. Having a displacement of 1200cc it was designated the A-12.

In '73 the engine received a bore job and was moved up to an A-13—you guessed it, 1300cc's—and B-210 car.

For '75 the engine is listed as an A-14 with 1400cc's gained by boring and stroking and is still in the B-210 cars. The engine is now rated at 78 hp at 6000 rpm.

We would have preferred to have shown you an overhaul job, but overhauls of late engines are hard to come

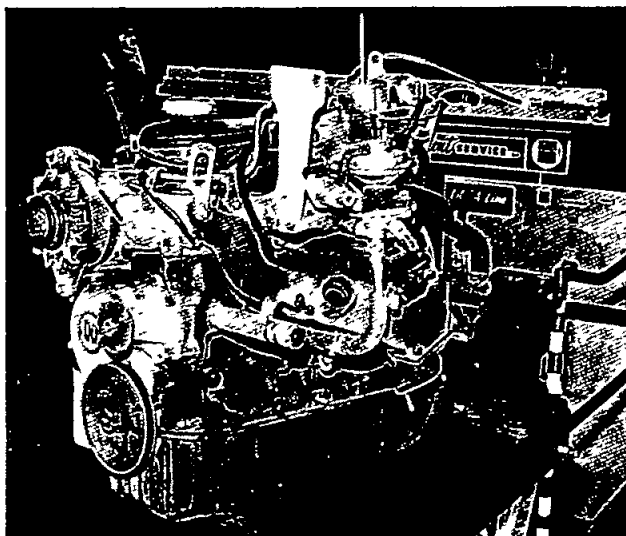
by—the engines don't wear out that quickly. An appeal to the Datsun service department brought an offer to tear down a test engine. We had to settle for showing you how this little jewel comes apart.

With a service manual and a little ingenuity you should have no trouble getting it back together. It is about as basic a 4-cylinder engine as you will find. The Japanese have made an effort to keep it clean and uncomplicated, and this is a good place to start learning how to build an engine.

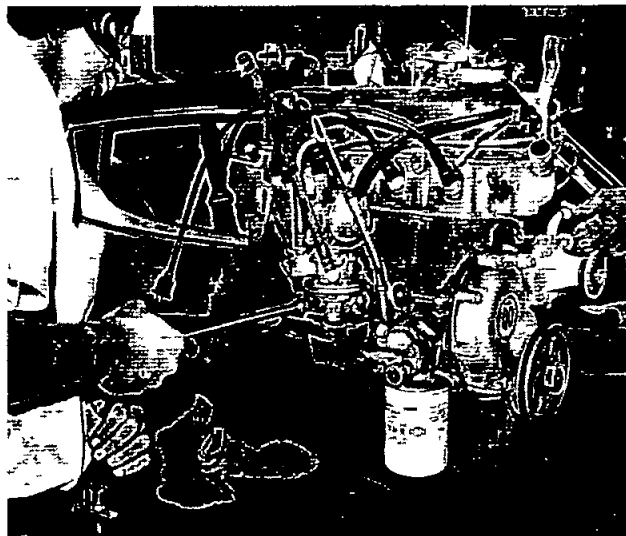
You will need a manual, which is available from your dealer. It will have

all the proper specs to set your engine up correctly including timing, valve lash, bearing clearances and, most importantly, torque figures. It is much too easy to twist off those little bolts. You will also need a set of metric tools, including Allen wrenches. It's a good investment, as we are all going metric eventually, it's the only sensible way to go.

This engine is so small you can do the job on the top of your workbench. Get a couple of foot-long pieces of 2x4, clear off the bench and we are all ready to go at it. Just follow the pictures, it's really as easy as it looks. 



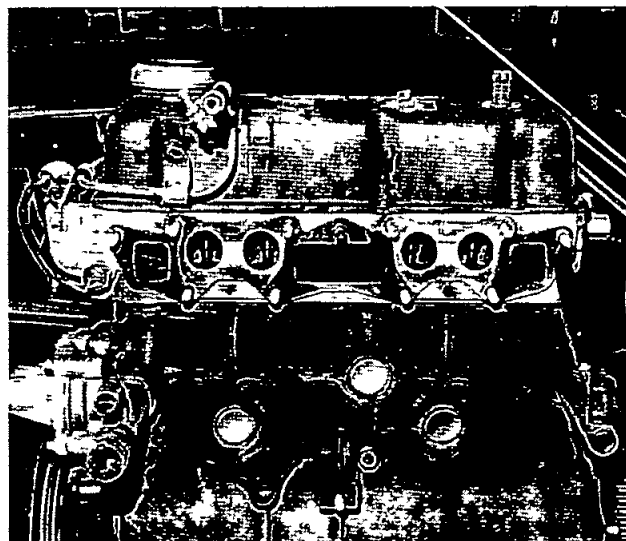
1 The 1.4-liter engine (actually 1397cc) is a beautiful example of a well planned and laid out small powerplant.



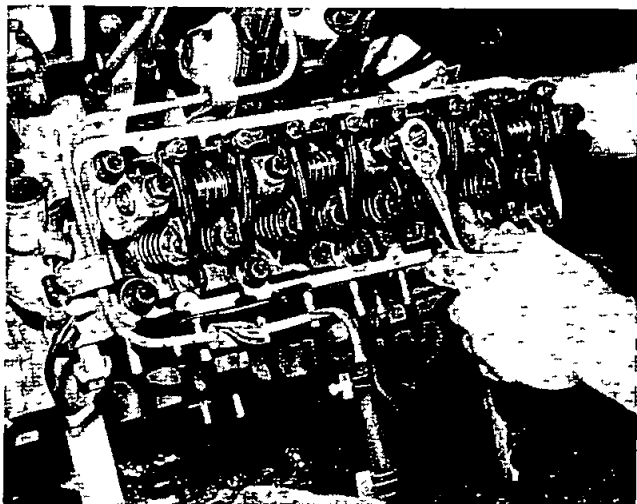
2 Begin removing the external plumbing by unbolting the fuel pump first. Anti-smog controls add to the clutter.



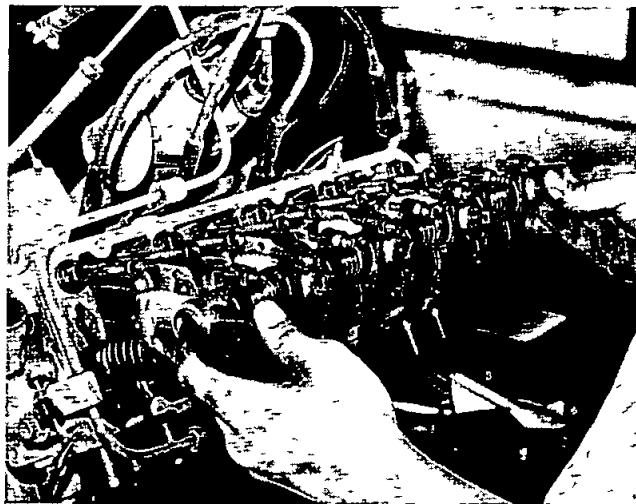
3 Manifolding and carburetion can be removed as a unit. With no engine stand the extra hands are quite welcome.



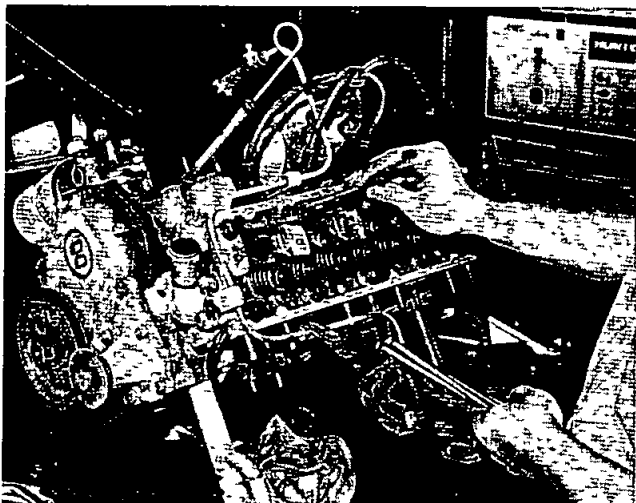
4 As with the OHC engine, the intake and exhaust head passages are well designed to deliver good performance.



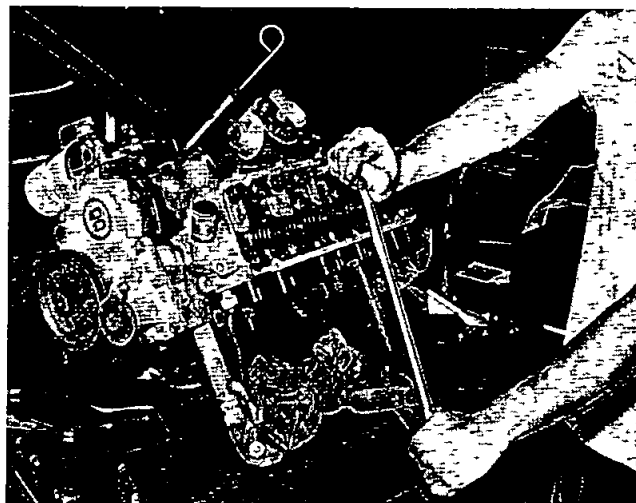
5 Loosen rocker arm bolts a little at a time, alternating from bolt to bolt to avoid bending the rocker arm shaft



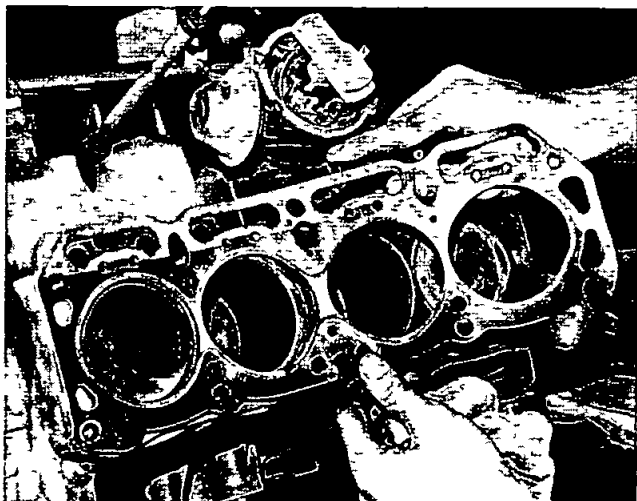
6 After unbolting evenly, lift the entire assembly off in one piece. Rocker tips can be refaced if badly worn



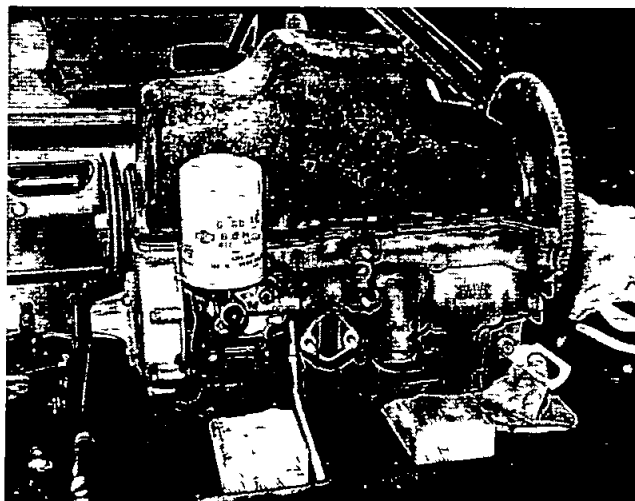
7 Pushrods will lift out; keep them in order for reuse. Inspect for bent rods and possible excessive tip wear



8 When removing bolts from aluminum heads, begin at the ends and work toward center. Reverse sequence to tighten



9 Remove old gasket and inspect top of bore for wear ledge at the end of ring travel. Ledge must be reamed out

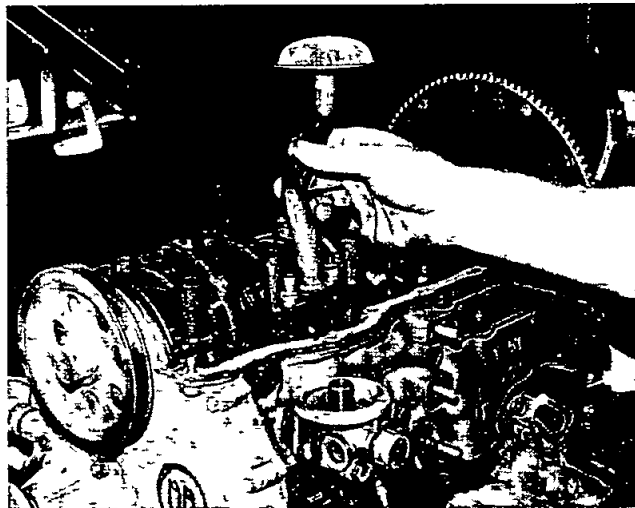


10 Be sure oil has been drained from pan, then invert engine on wood blocks on bench for convenient handling

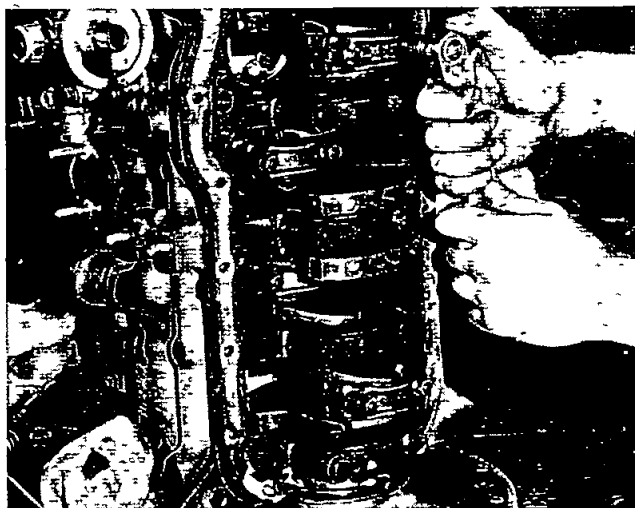
HOW TO: DISASSEMBLE THE GROWN-UP 1200



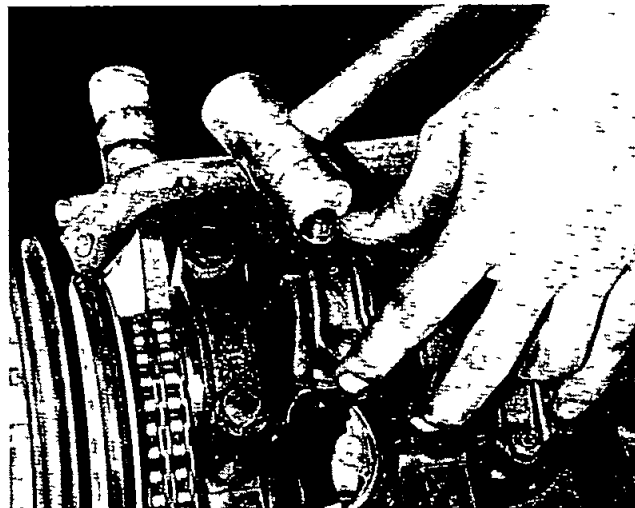
11 Remove bolts and lift crankcase off block. Inspect pan for debris and metallic paint effect signalling wear.



12 Remove oil pump pickup. Screen should be clean. If not, start looking to find where the debris came from.



13 Note engine standing on flywheel. Remove rod caps after being sure they are indexed to aid installation.



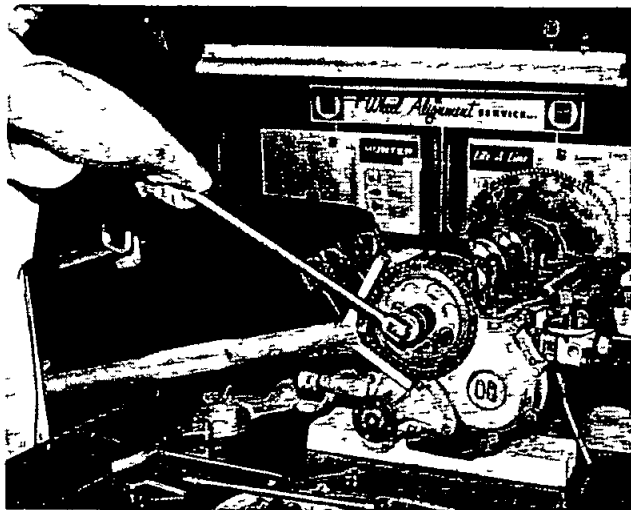
14 Tap rod cap with soft hammer to remove. The cap should be numbered by cylinder and have cam side marked.



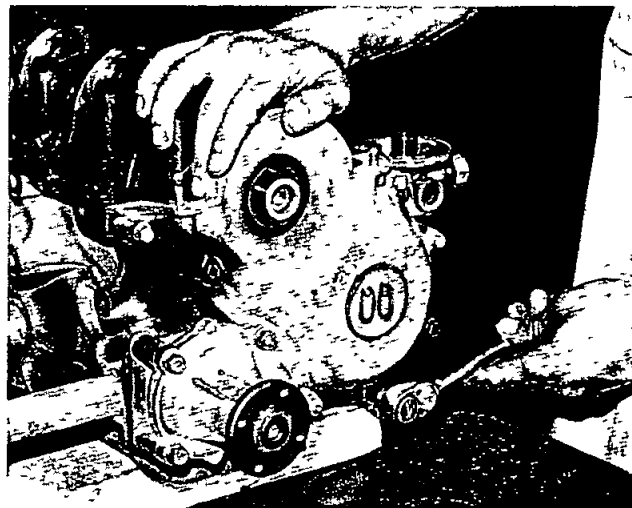
15 With cap removed, inspect crank bearing journal as well as rod cap bearing. Check upper half on removal.



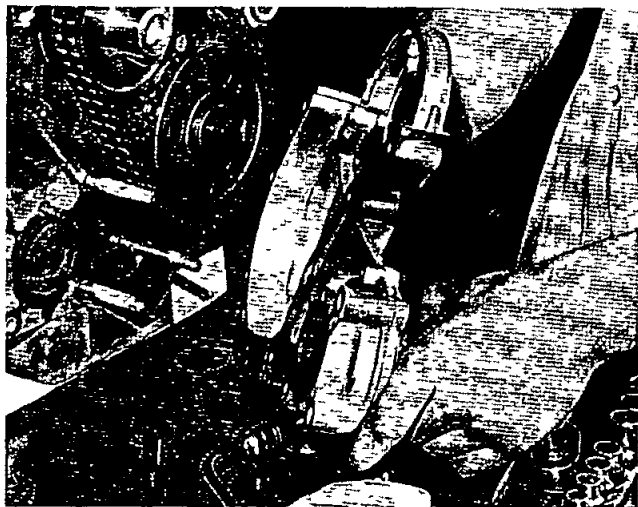
16 Tap rod and piston assembly out of block using a wooden hammer handle. Wear ledge must be removed first.



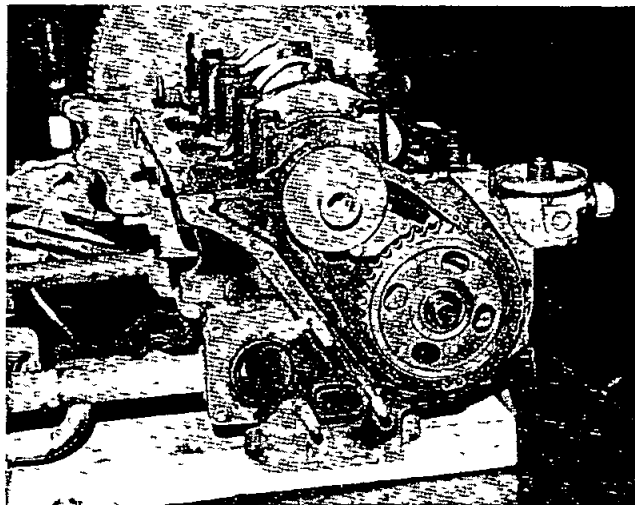
17 That special tool holding the pulley is nice, but you can accomplish the same thing by wedging the crankshaft



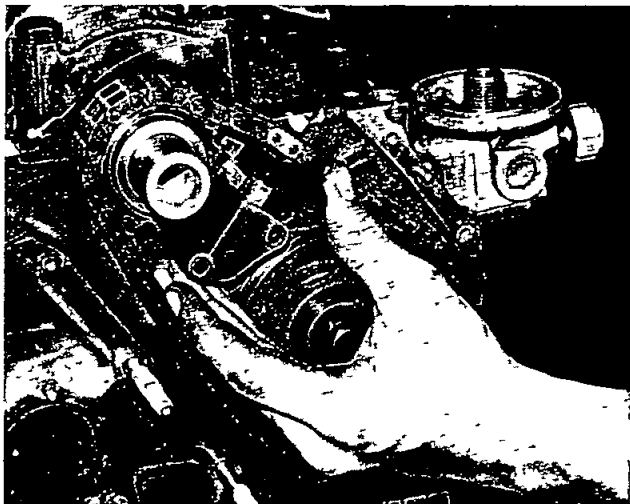
18 Pry and tap gently, pulley will slip off crankshaft Check oil seal that is pressed into timing chain cover



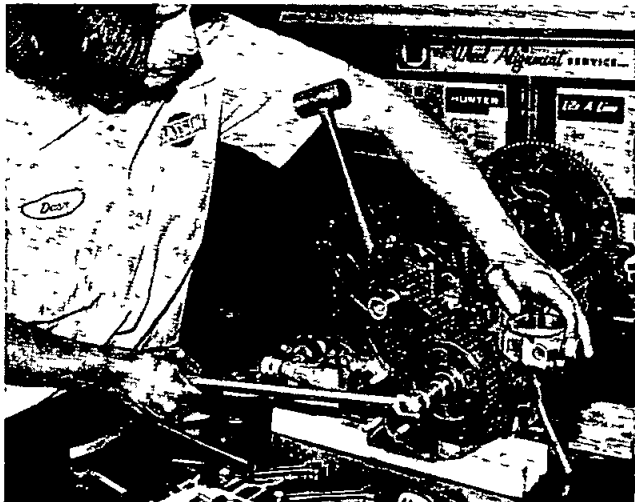
19 Tap, do not pry, the aluminum timing chain cover off Check water pump, replace oil seal in cover if doubtful



20 Cam chain and sprockets are revealed Note the oil slinger plate on end of crankshaft, it is very important

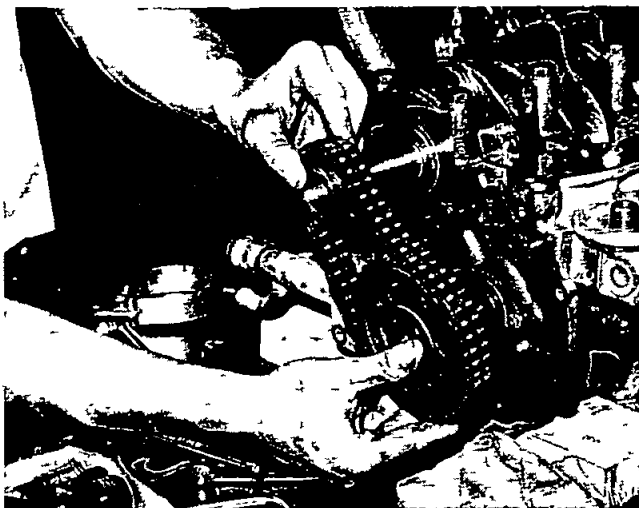


21 Remove chain tensioner and inspect shoe Replace the sprockets if teeth are worn Always replace the chain

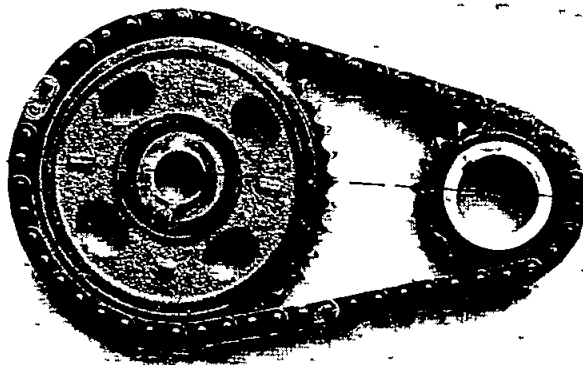


22 Wedge crank with hammer handle to remove cam sprocket nut Don't close fist on bar or you will skin knuckles

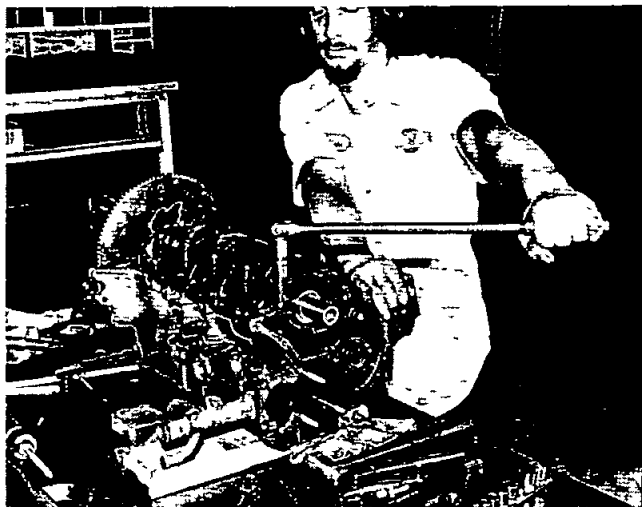
HOW TO: DISASSEMBLE THE GROWN-UP 1200



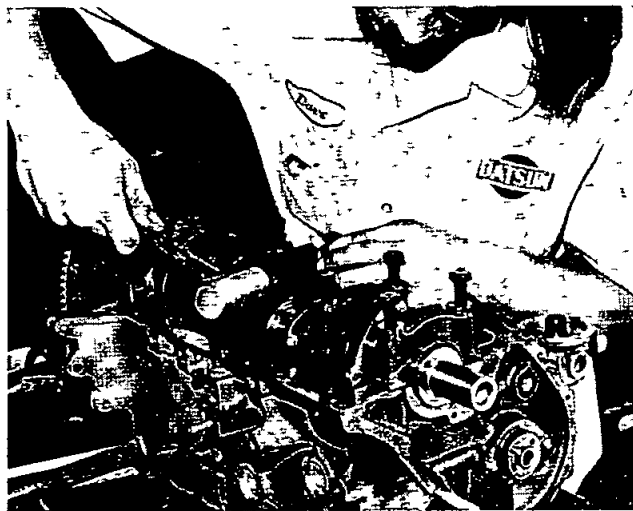
23 Sprockets will lift off easily. Don't lose the key in the crankshaft snout. Wrap snout with masking tape.



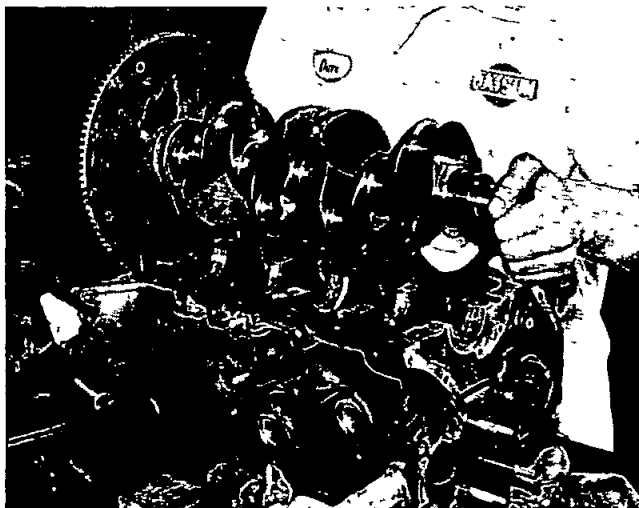
24 Align timing marks on sprockets when assembling the engine to get correct cam timing. Don't forget slinger.



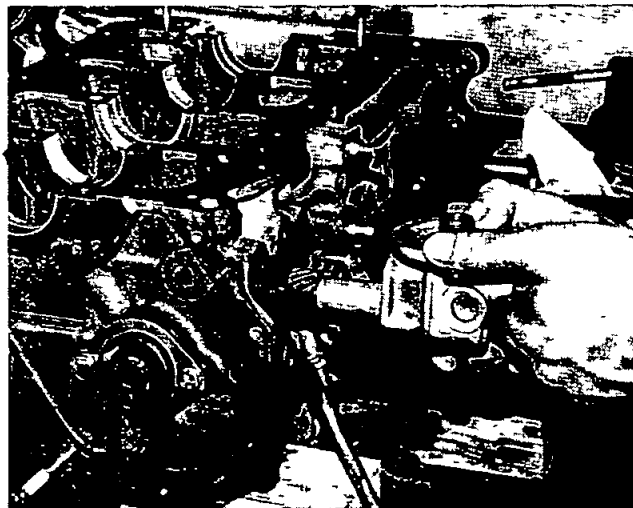
25 Back to the big bar to pull the main bearing bolts. When assembling, use a torque wrench and follow specs.



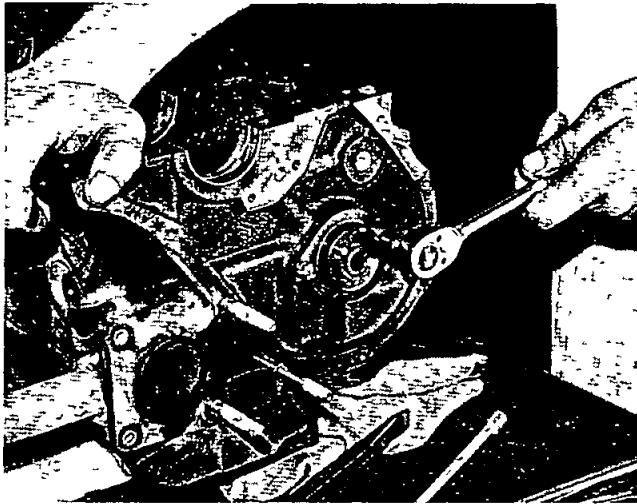
26 Use the soft hammer to tap the main caps loose. Be sure they are indexed at sides, they are already numbered.



27 Got a little ahead of ourselves, lifted the crank out with flywheel attached. Inspect all journals closely.



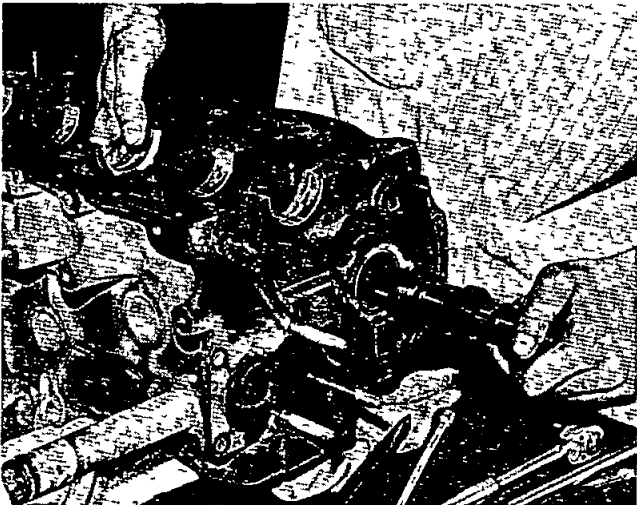
28 Remove external oil pump. Note pump includes filter mount. Inspect gear, disassemble pump to check wear.



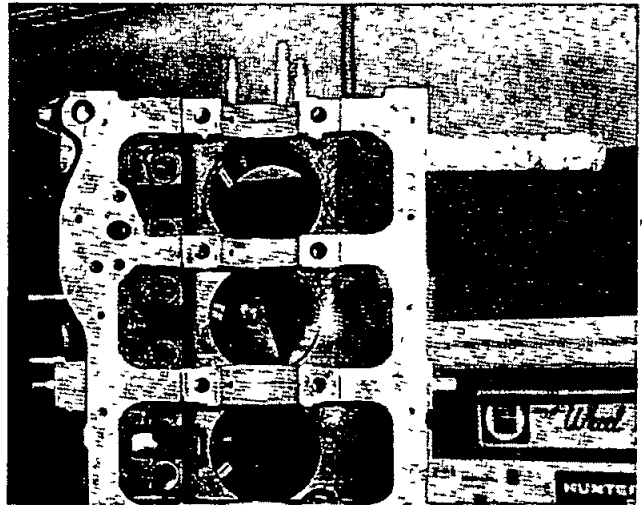
29 Remove two bolts that secure the camshaft keeper Distributor must be removed prior to removing the cam



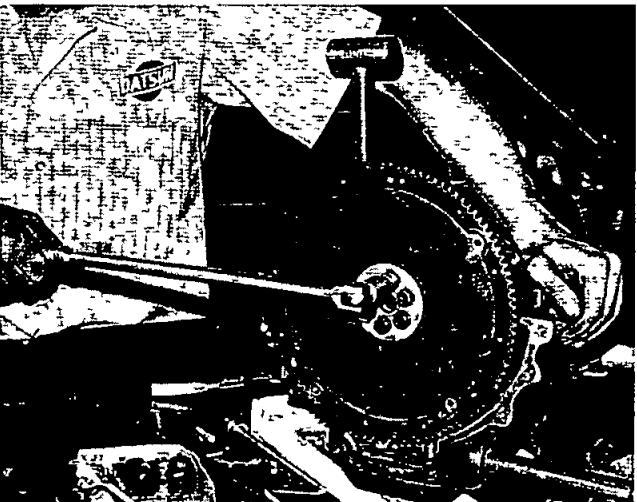
30 Lift cam retaining plate to free cam It is this type of functional design at which Japanese engineers excel



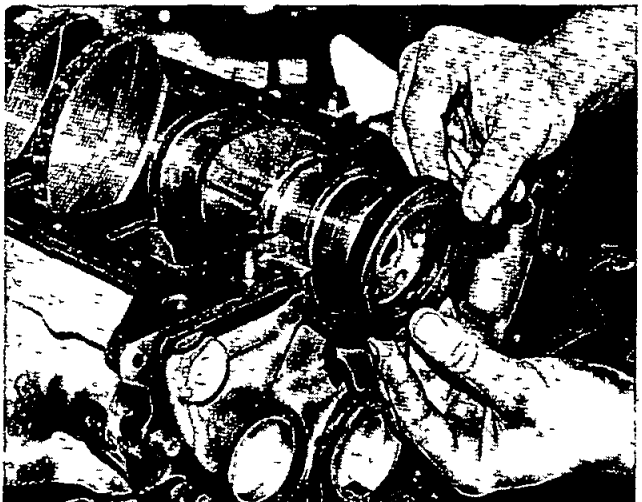
31 Slip cam out of block, carefully, unlike the OHC engine, these bearings can be replaced when worn out



32 Note paired cam followers below each cylinder bore The followers can now be pushed out and examined closely



33 We placed crank back in block and wedged it with a hammer to pull the flywheel bolts, this is the easy way



34 Remove the automatic transmission "pilot converter" plate and the one-piece oil seal to complete the job

2-LITER ENGINE TEARDOWN

Datsun overhead cam engines (ohc) are designated with an L series number, beginning in '68 with the L16 and working up through '73 and '74 to the L18 engine and the L20 in '75. As you may suspect, the 16, 18 and 20 numbers signify displacement, 1600cc, 1800cc and 2000cc, or the 2-liter engine in '75 which is rated at 110 hp at 5600 rpm. The engine we are using in this teardown sequence is an L18. All engines in the series are alike, varying only in bore and stroke to gain the added cc's. There is also an ohc 6-cylinder, fuel-injected engine in the Z-car, a very good mill.

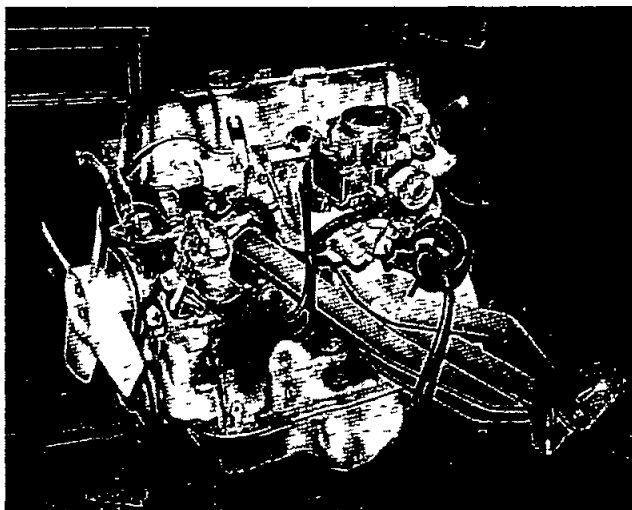
The ohc design is a classic European concept much favored in racing engines

Datsun has set many records and has won a lot of races with this engine, both on sports car courses and the Salt Flats.

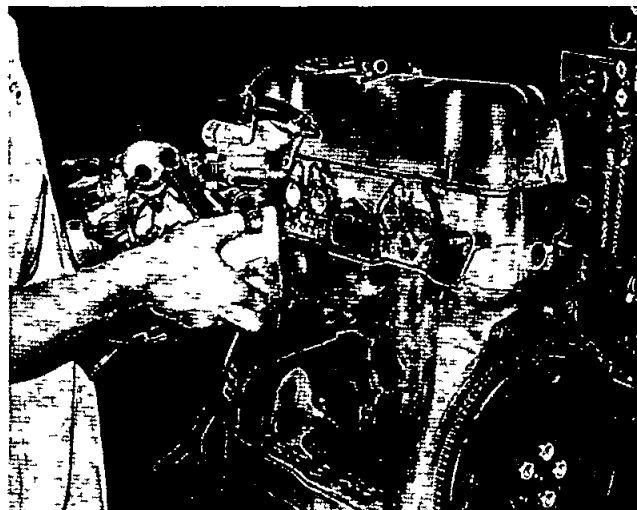
Don't let that ohc frighten you away from working on this little jewel, it's not all that exotic. There are a couple of tricky little items you must be aware of on assembly, but with your trusty Service Manual to guide you, it will be a cinch. Getting the cam in time is a matter of lining up certain marks on the chain and crank sprocket. The other pitfall will be encountered when installing the ignition system. The oil pump on one side of the engine, and the ignition on the other, are driven by a common shaft that extends diagonally through the engine, and is driven by a

worm gear on the crankshaft snout. The driven gear is on the oil pump side of the shaft and must be installed in a certain position to permit the distributor shaft to be engaged at the proper angle so the engine can be timed. All this is explained in detail in the Service Manual. When removing the cam be extremely careful. The cam towers have no bearings, and the towers are cast alloy line-bored to support the cam and serve as their own bearings. If it is nicked and has to be replaced, it would have to be re-bored for alignment. Same thing goes if you loosen them up.

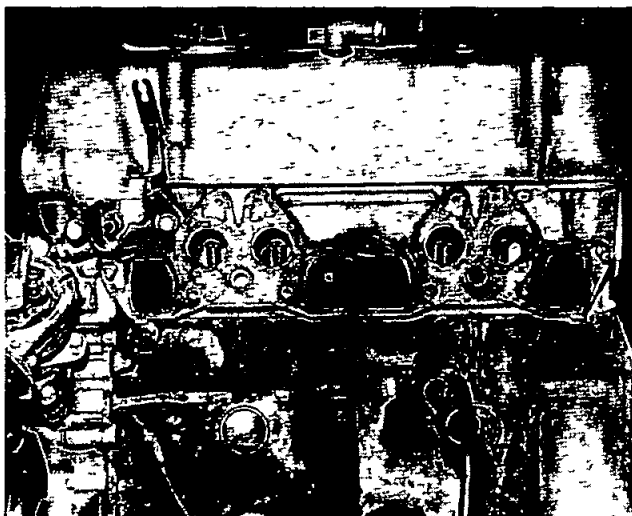
Keep these words of wisdom in mind, your Service Manual ready and you're set to tear into that ohc engine. 🛠️



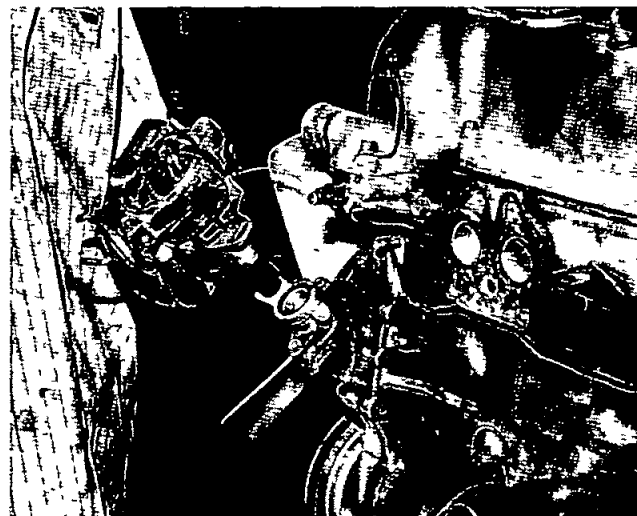
1 The 2-liter OHC engine is standard in the 610 and 710 cars and 620 trucks. Test headers worked quite well.



2 To get to the basics, both manifolds, carburetor and all associated fuel and vacuum lines are removed first.



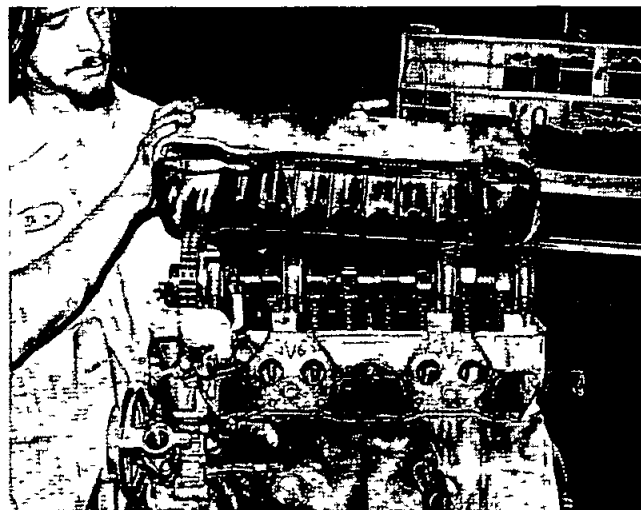
3 One reason for this engine's efficiency becomes evident immediately: note the direct intake and exhaust passages.



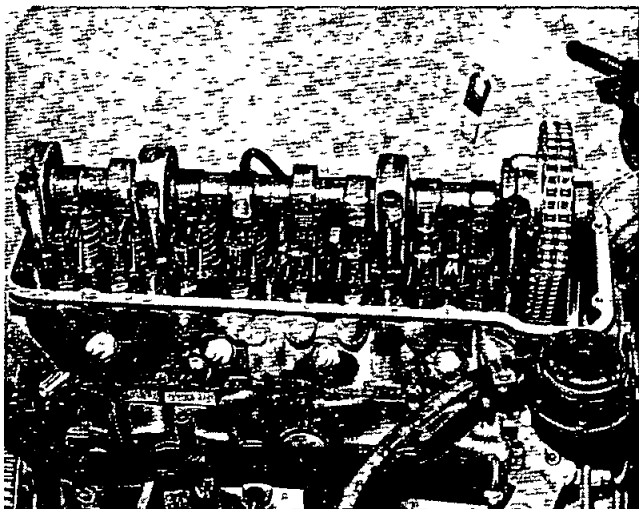
4 After removing ignition wiring, the distributor pops off with the removal of one bolt. Check O-ring for leaks.



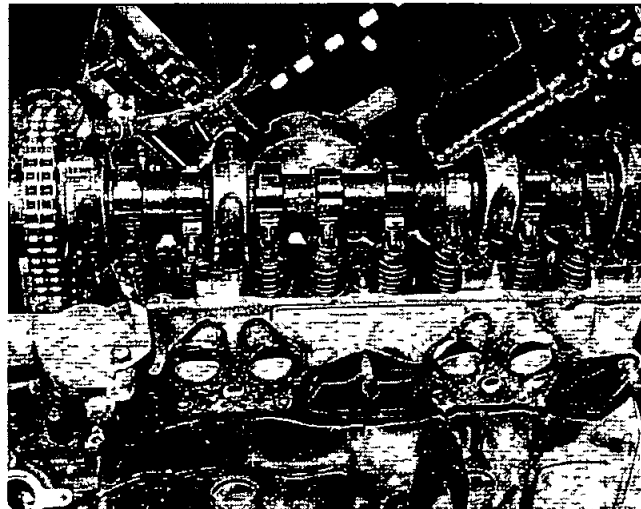
5 Now for the cam and rocker cover Work on this engine is a pleasure as Datsun has kept design clean and simple



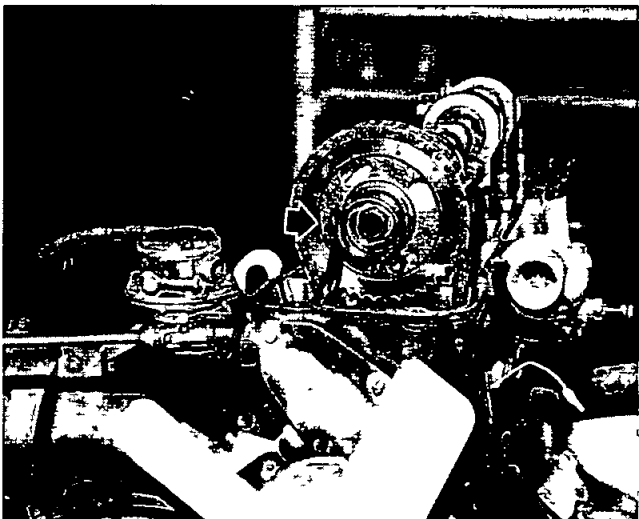
6 Rocker box lifts off easily If you have changed oil and filter regularly your engine will be this clean, too



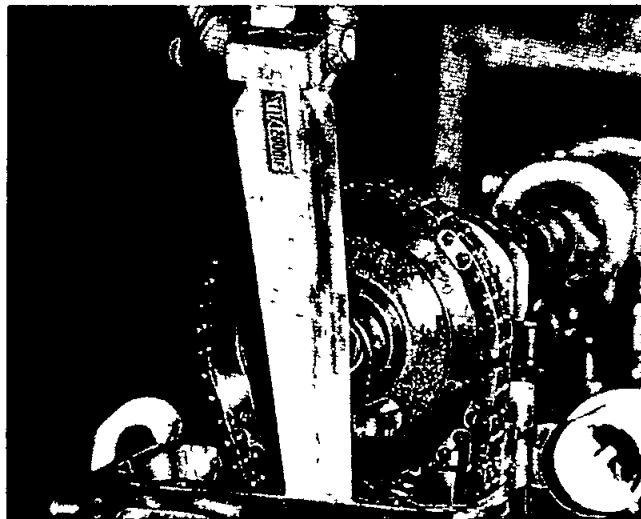
7 Right side reveals the classic rocker design Valve lash is set by adjusting easily accessible pivot balls



8 Left side reveals a very short rocker ratio, distance between cam contact and rocker tip keeps monkey motion minimal

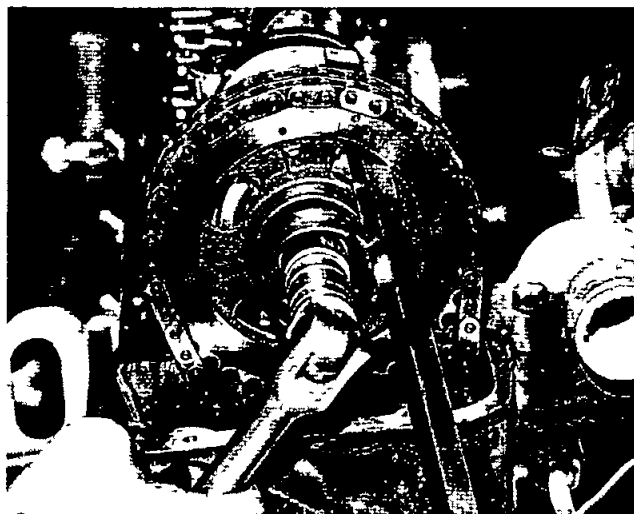


9 Remove two retaining bolts to remove the fuel pump Look for wear on cam eccentric and pump actuating lever

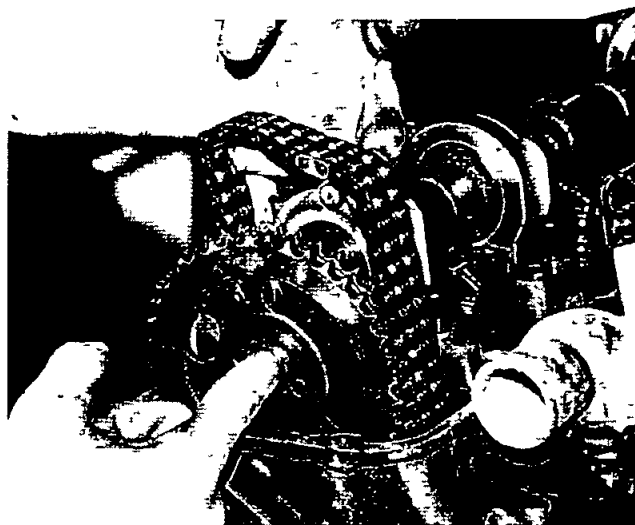


10 Before removing the cam sprocket we must make sure chain doesn't fall into the crankcase, note special tool

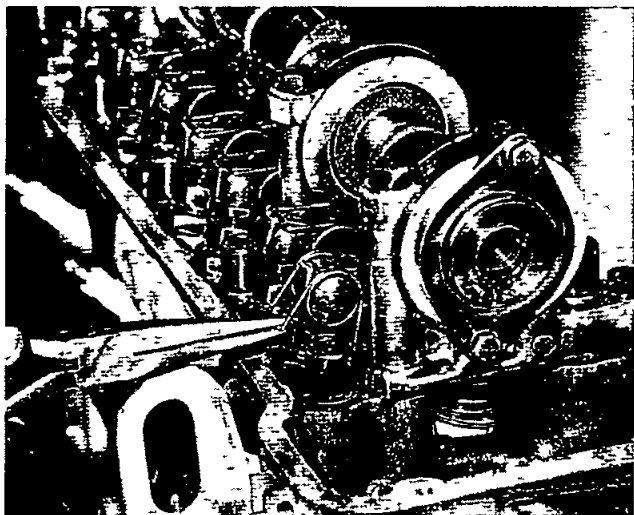
HOW TO: DISASSEMBLE DATSUN'S LITTLE CAMMER



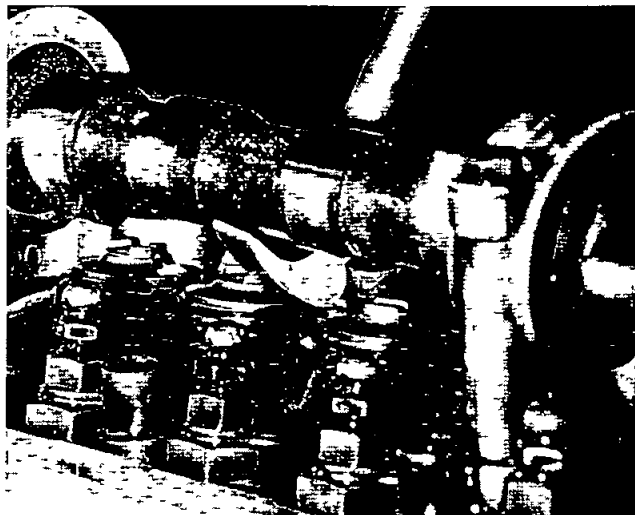
11 Hold cam sprocket with screwdriver through hole in web. Use socket and flex handle to remove sprocket bolt.



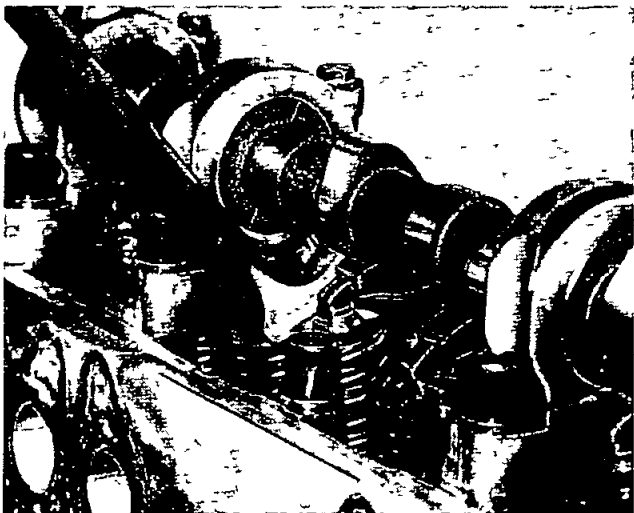
12 Chain need not be broken to lift off sprocket. After removing fuel pump eccentric the sprocket is lifted out.



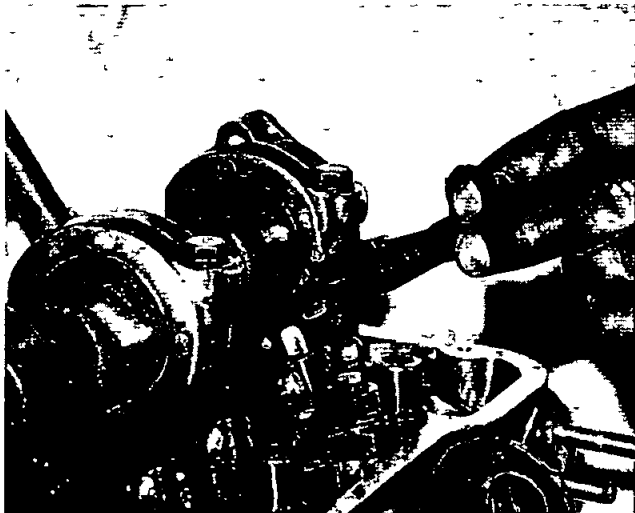
13 Drop chain into housing; wooden wedge will keep it out of crankcase. Next, remove mousetrap rocker springs.



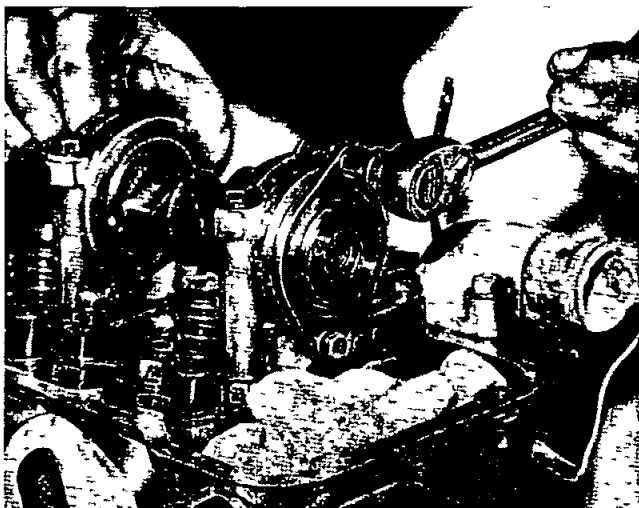
14 Use an angle-tipped bar to depress the valve springs and remove rocker arms, nice! No special tool needed here.



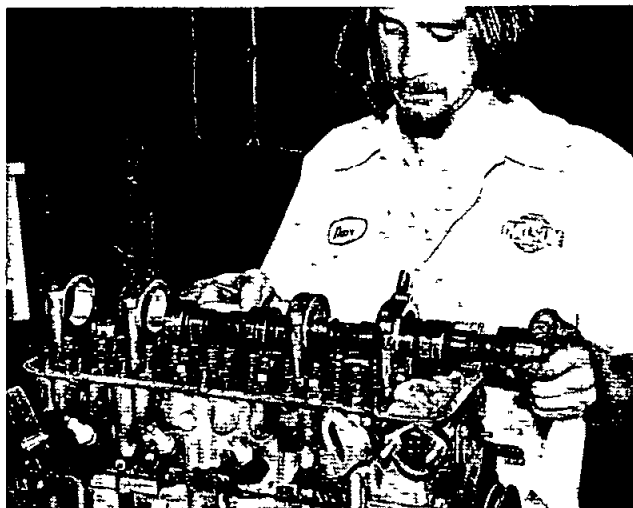
15 Back view reveals how heel of bar is used to depress the valve spring. Don't cock keeper or lock will fly out.



16 With valve spring depressed, rocker arm is lifted off pivot ball and removed from engine. Keep in order.



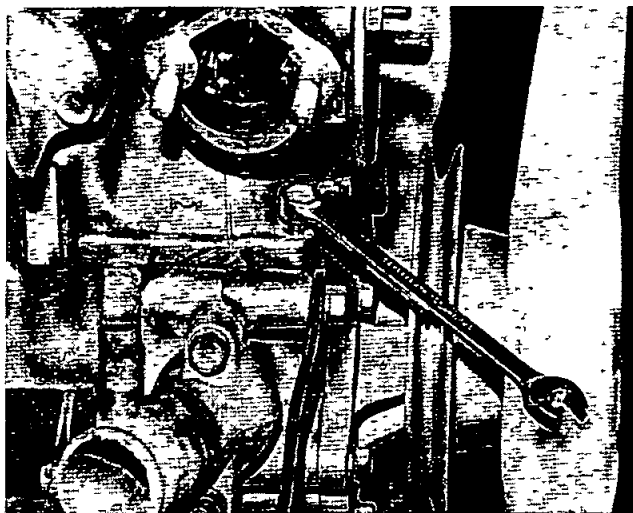
17 Remove two bolts holding the cam retainer in place and you're ready to remove the cam. Note rag in case



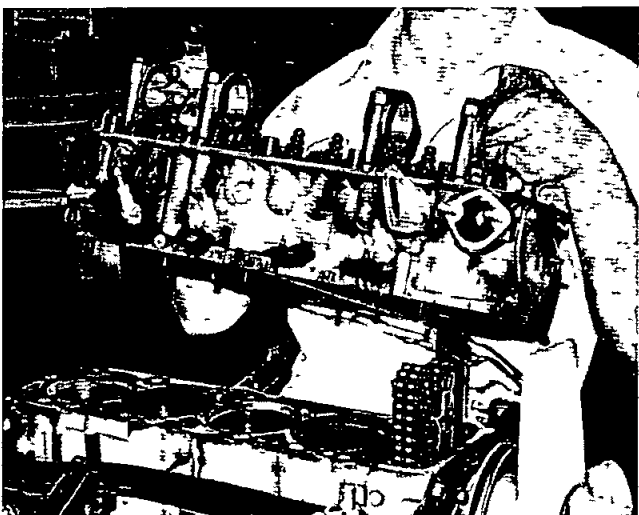
18 Slip cam forward and out of cam tower bearings. Be very careful, support cam to avoid nicking the bearings



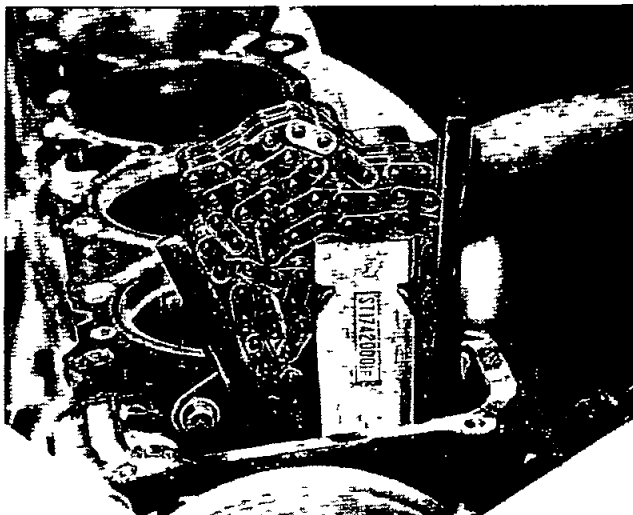
19 Do not unbolt cam bearings, they are line bored for accuracy. Use a long flex handle and remove head bolts



20 Don't overlook the two small bolts at the base of the head up front. One is just under fuel pump flange

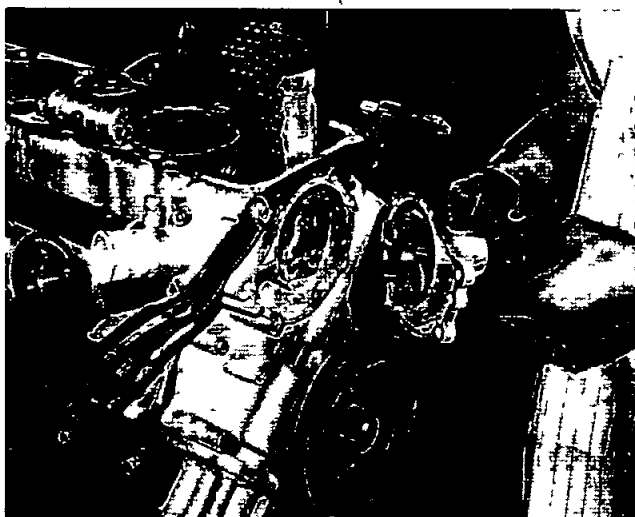


21 Head can now be lifted off. If it sticks, bump with a soft hammer. Never pry with a screwdriver, it's aluminum

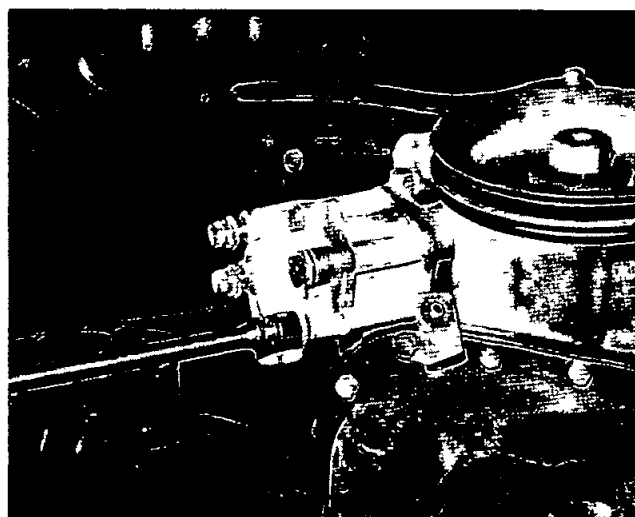


22 Now you can see where the chain went. That special tool is merely a wooden wedge, but it has a part number

HOW TO: DISASSEMBLE DATSUN'S LITTLE CAMMER



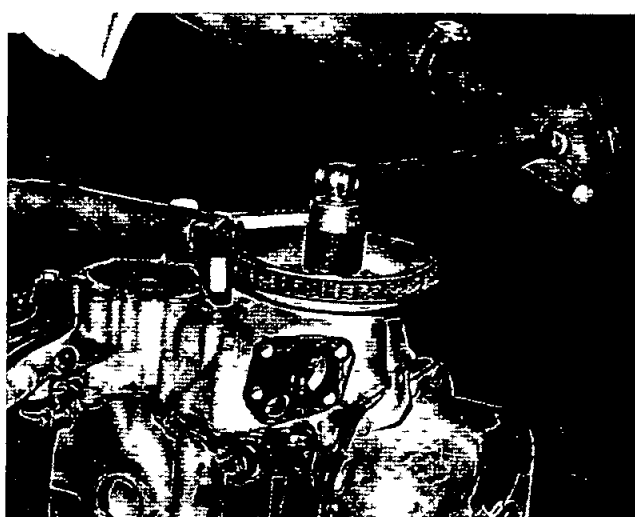
23 You don't have to take the water pump apart, but it's smart to check for a corroded impeller or worn bearing



24 The externally mounted oil pump is removed next. Disassemble later and check internal clearances for wear



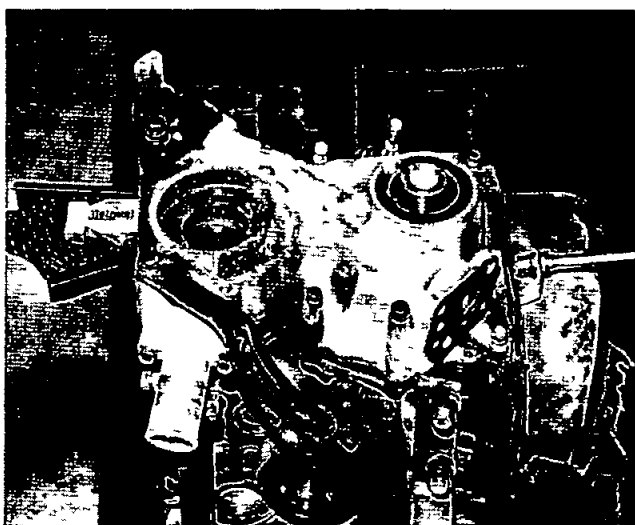
25 Oil pump pulls straight out, the long shaft reaches through the engine to drive the distributor. Check gear



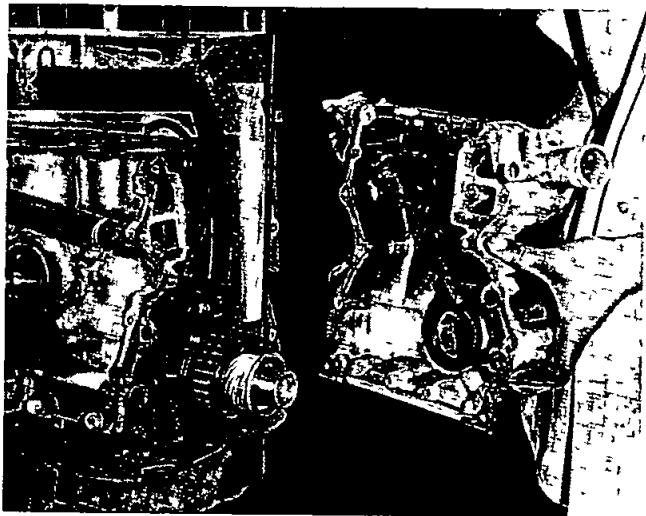
26 Special tools are nice, but the pan could be removed first and crank wedged, or lock flywheel with punch



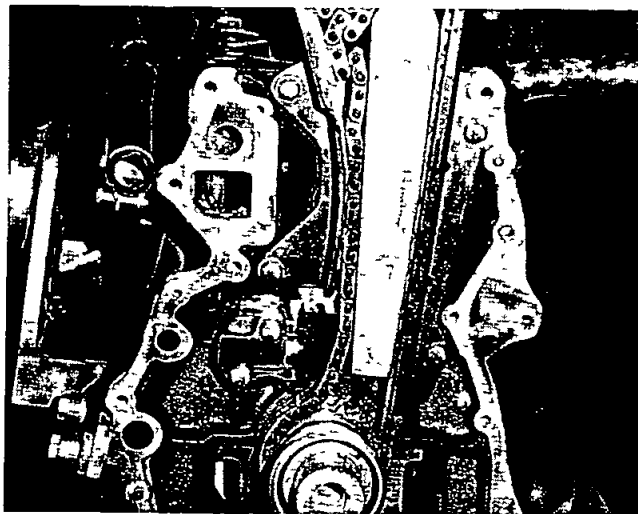
27 Angle bar and soft hammer are used to massage front pulley after unbolting in previous step. Check oil seal



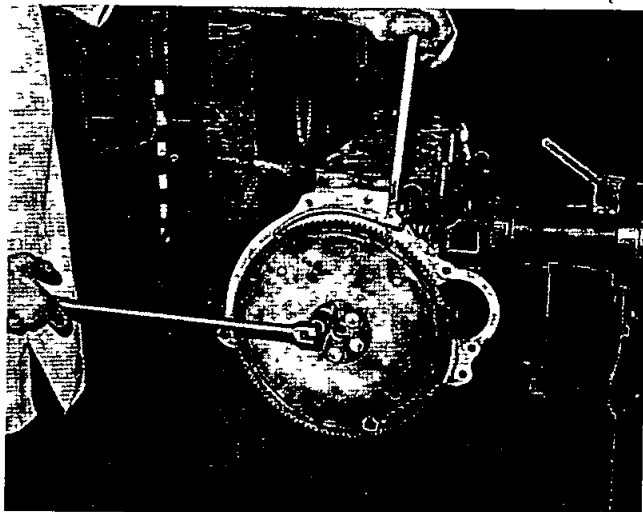
28 Remove two pan bolts, then unbolt cam chain cover. Critical oil seal appears around nose of the crankshaft



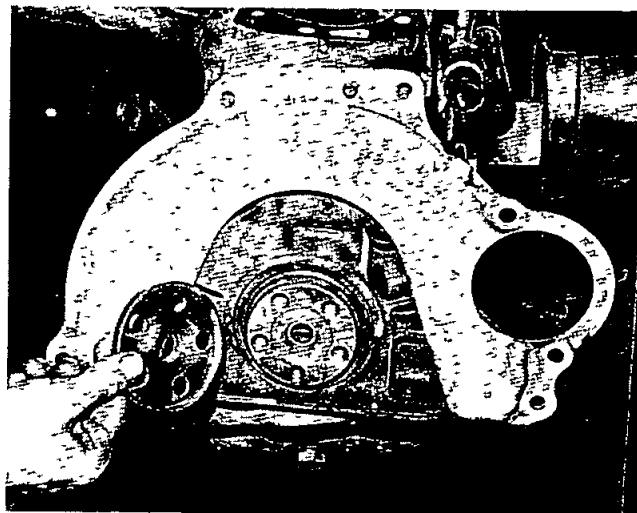
29 Tap case loose, don't pry, or aluminum cover will nick and leak Oil seal is pressed into case, always replace



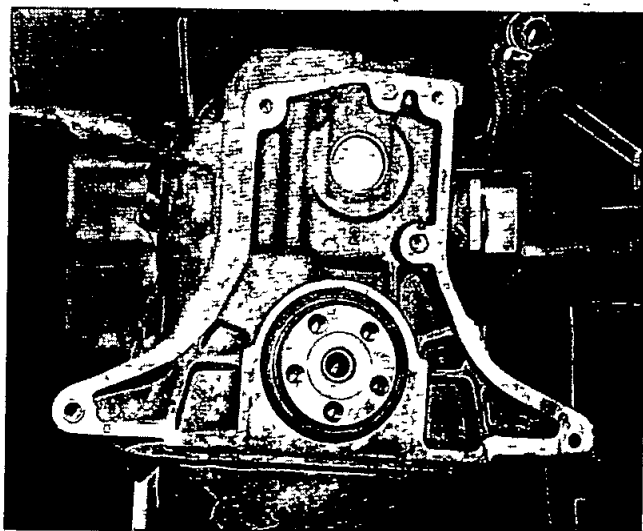
30 Now we can see the entire timing chain and the chain guides Chain is held tight by a spring-loaded tensioner



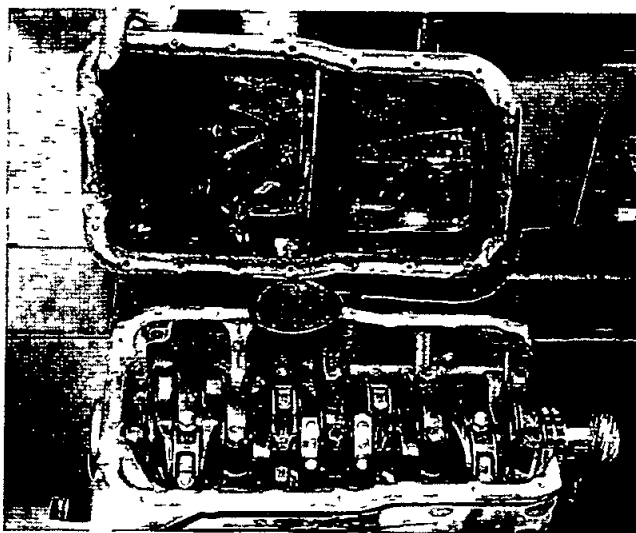
31 Here we go again with a special tool You can do as well with a rod poked through one of the flywheel holes



32 Note "Pilot converter adaptor" This little plate is used on end of crank with all automatic transmissions

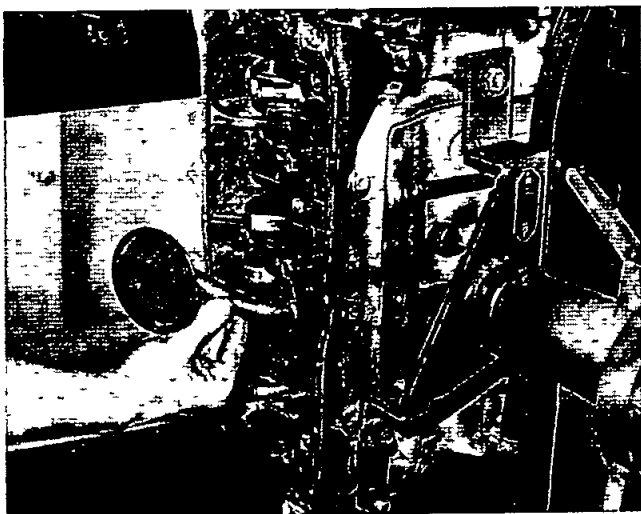


33 Bellhousing and starter mounting plate can now be removed Note the rear main oil seal is a one-piece unit

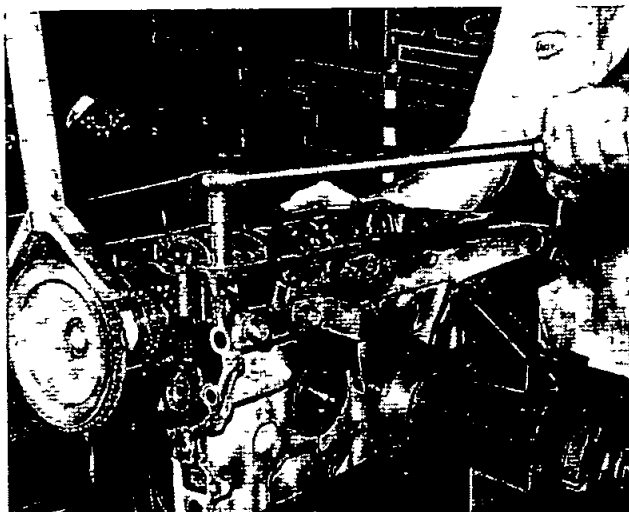


34 Remove the rest of the pan bolts now and lift the crank-case pan Note Y-block design for added strength

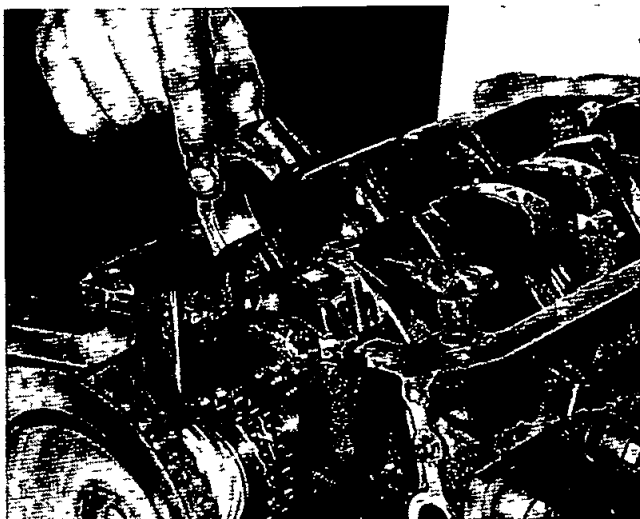
HOW TO: DISASSEMBLE DATSUN'S LITTLE CAMMER



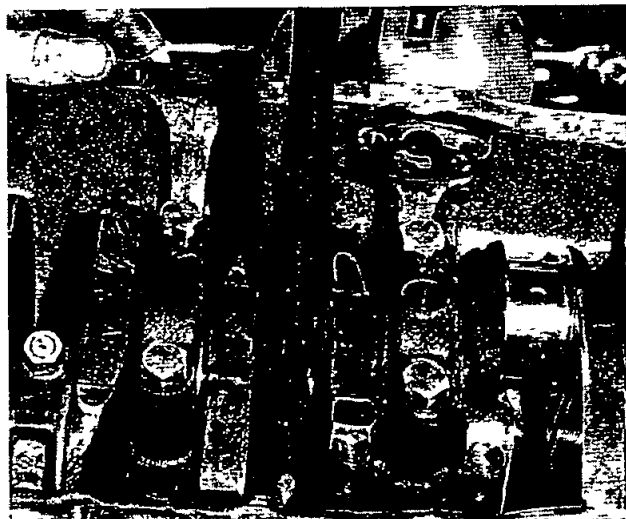
35 Remove oil pump pickup, be sure screen is clean. If any debris is present, look closely for a bad wear point



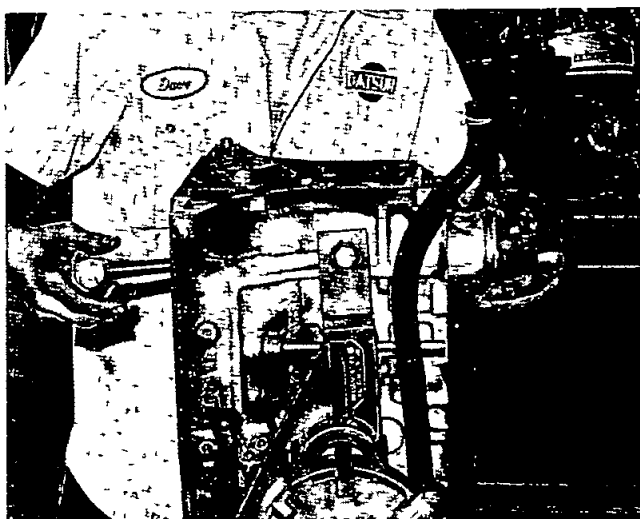
36 Now we can unbolt a rod cap. Check for indexing marks. Unbolt rod cap, then tap with soft hammer to break loose



37 Lift rod cap off, reinstall on rod later in the same relative position. Inspect both top and bottom bearings



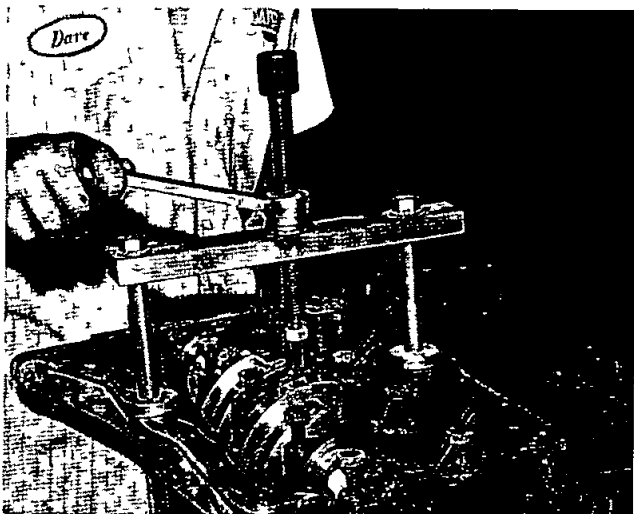
38 Rotate crank throw out of the way, use hammer handle to tap rod and piston out of block. Gently, do not force



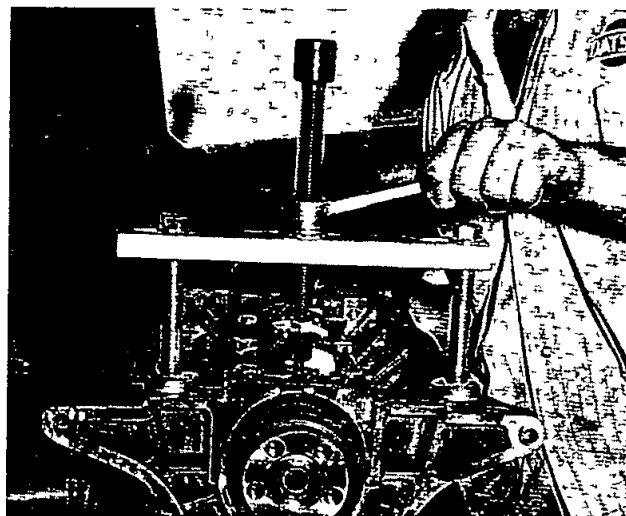
39 If piston will not come out easily, check for a wear ridge around top of bore. It must be reamed out first



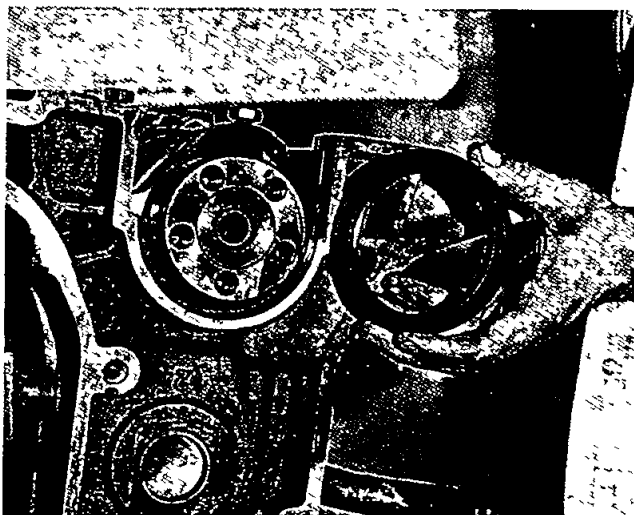
40 For the main bearings use a long flex handle on your socket. They are torqued down very tightly, brace engine



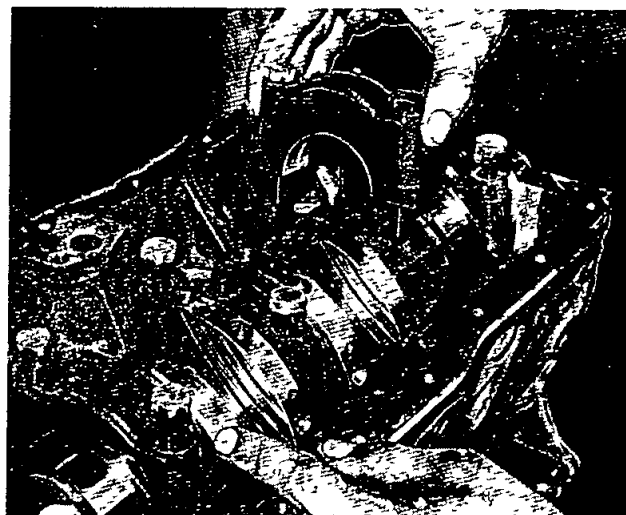
41 Datsun uses a special tool to lift rear and center mains, judicious tapping and prying will do the trick



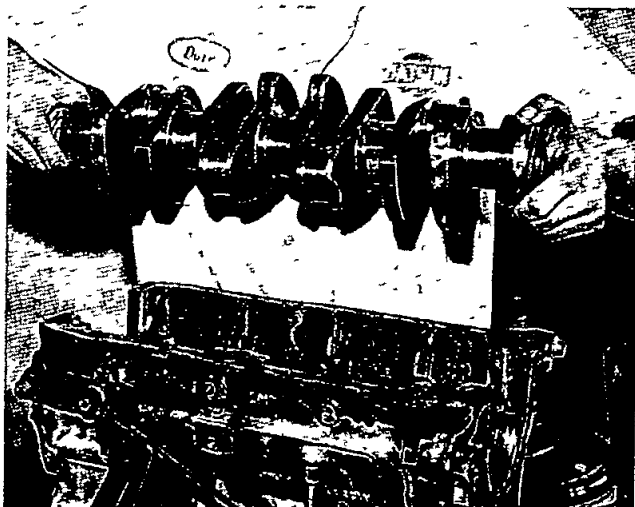
42 The rear main requires more work. It is in tight, and contains rear oil seal. Center main has thrust bearing



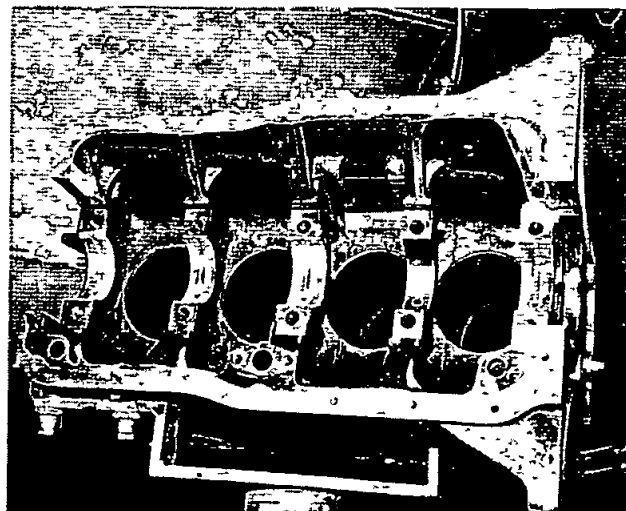
43 With the rear main bearing out, the one-piece oil seal can be removed. Use new seal when rebuilding engine



44 Intermediate bearings will come loose with a slight tap. Keep bearings in order, use index marks if necessary



45 Lift crank out, and you have completed disassembly. Inspect all bearings and crankshaft journals for wear



46 Five main bearings in this little 4-banger make it a virtually wear-proof engine. Blow out all oil passages

HOW TO: DISASSEMBLE DATSUN'S MOST POPULAR SHIFTER

4-SPEED TRANS TEARDOWN

This 4-speed transmission has been standard throughout the Datsun line since 1968. There are variations in external appearance, such as length of tailshaft housing, to suit the application, however the box itself has remained basically the same with a few updating improvements from time to time.

The same transmission is used in both the Z-car and the trucks. There are a couple of options available on special order. One is a 5-speed box, in which 5th is the 1.1 ratio, the other is also a 5-speed box, but 4th is the 1.1 ratio with 5th being an overdrive. This box is frequently used with hopped-up engines to utilize the full potential of the added horsepower.

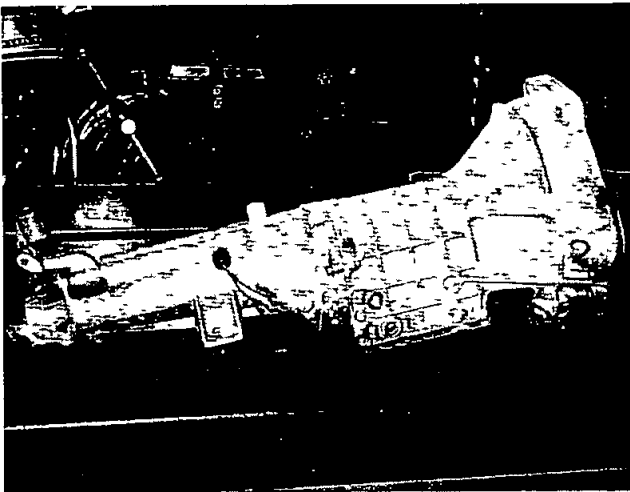
You may notice the neat way we have secured this transmission for our teardown photo session. You too can use this trick by obtaining an extra filler plug and welding or brazing a short length of bar stock to the plug head. Hold the bar stock securely in a big bench vise with the plug screwed into the transmission filler hole and you're ready to go to work, after you have drained the tranny.

This is a very simple transmission, and all you will need in the way of special tools is a pair of snap-ring pliers. You will need a second cluster gear shaft to drive the one in the transmission out. Shorten the second shaft to the exact length of the cluster gear, it can then be used to drive the

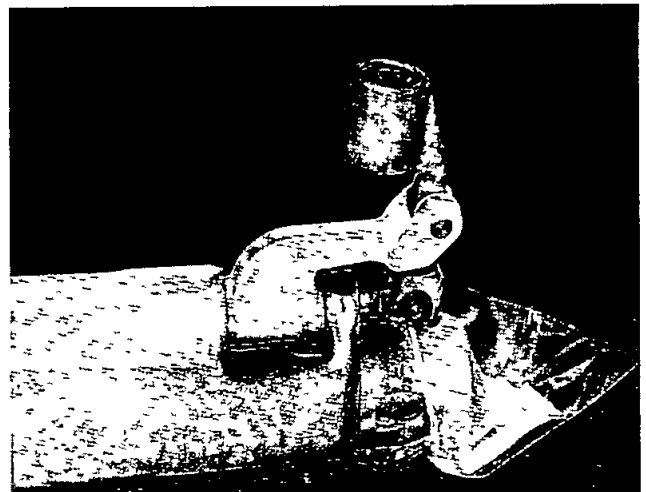
shaft out of the transmission, and hold the jillion needle bearings in place at the same time.

You will have to resort to the old trick of packing the needle bearings with heavy grease to install them inside the cluster gear when assembling. Slip the short shaft into the cluster gear as you assemble each set of needles, it will hold the needles until you install the gear in the case and are ready to push it out with the longer permanent shaft when installing the cluster gear in the case.

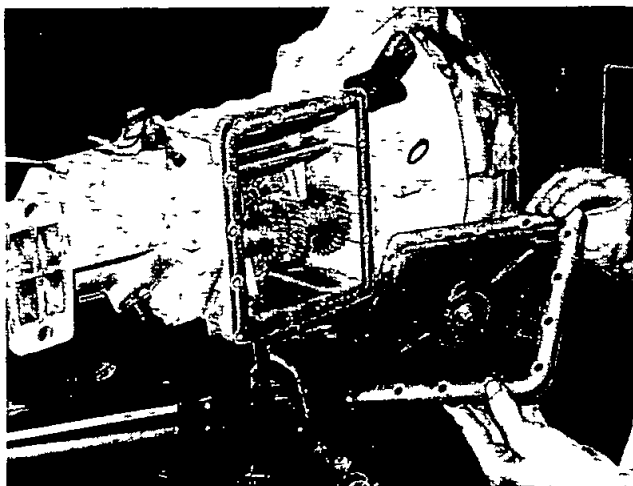
You will need a service manual to make sure you get all the gears and synchro rings back in the right place. There are a lot of small parts and each has to go back correctly.



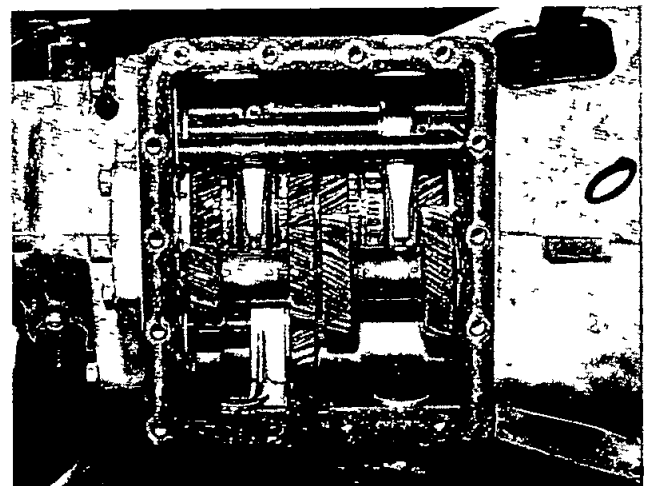
1 The Datsun 4-speed syncro transmissions may have slight external variations, but are all alike internally.



2 Shift linkage extends forward within tailshaft housing. Plastic bag prevented drips. Check rear oil seal for wear.



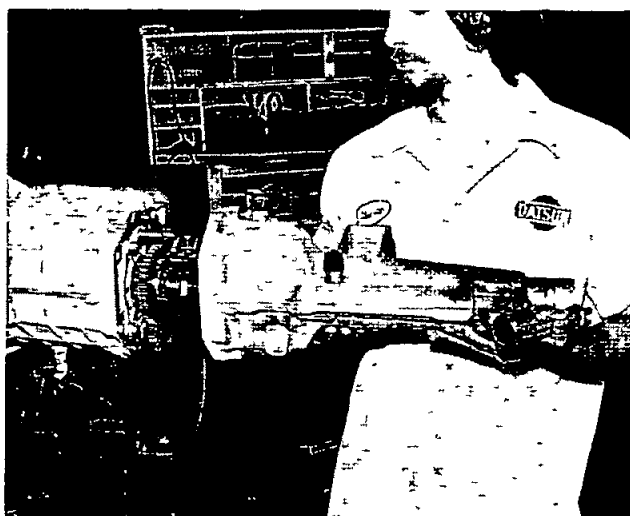
3 Drain the transmission first; then you are ready to remove gear box cover. Look closely for metallic debris.



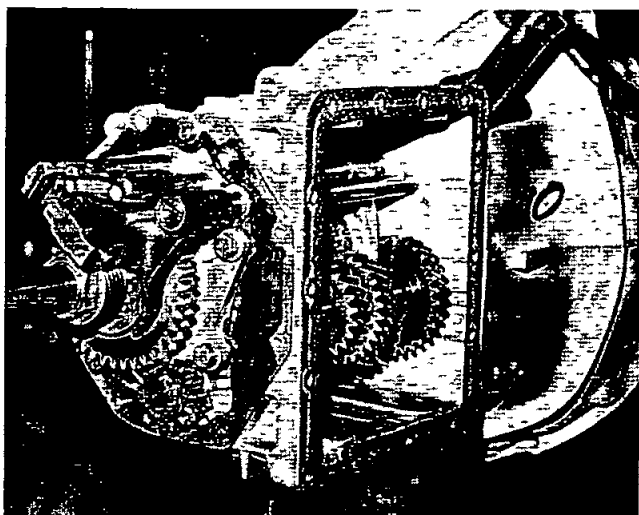
4 If debris or metallic paint effect appears, look for chipped or worn gear teeth, bushings and thrust washers.



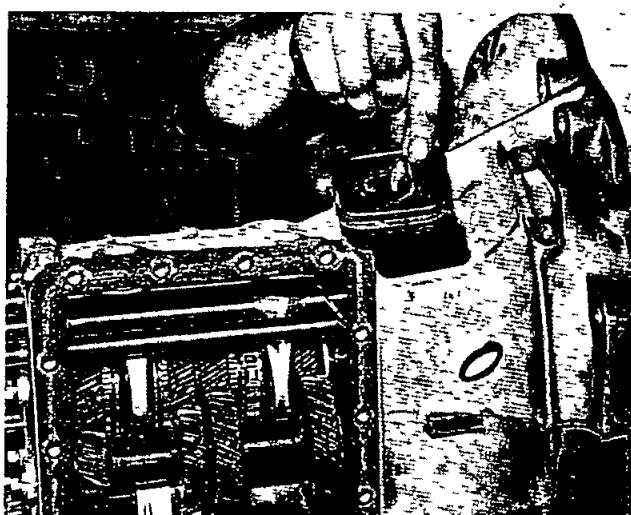
5 Remove clevis pin in shift lever linkage as the first step in disassembly. Inspect case for cracks or leaks



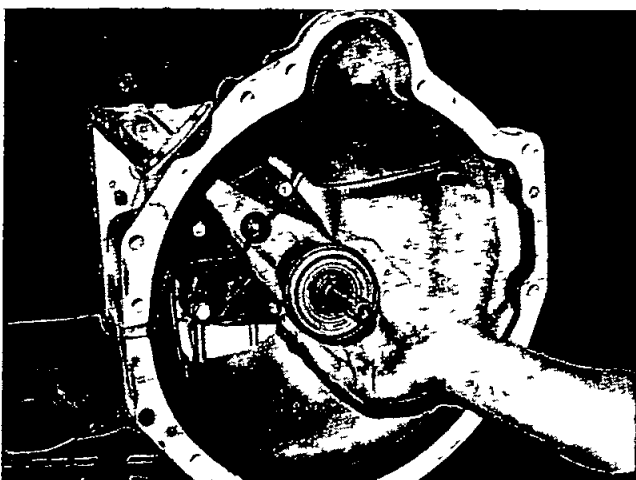
6 Remove speedo drive, then unbolt tailshaft housing. Turn housing slightly to disengage shifter rail linkage



7 Shifter rails are at top of picture. Reverse gears are spur type with a sliding mesh engagement to reduce clash



8 Clutch lever has a rubber boot to keep dirt out of the clutch housing. Remove and inspect the boot for tears

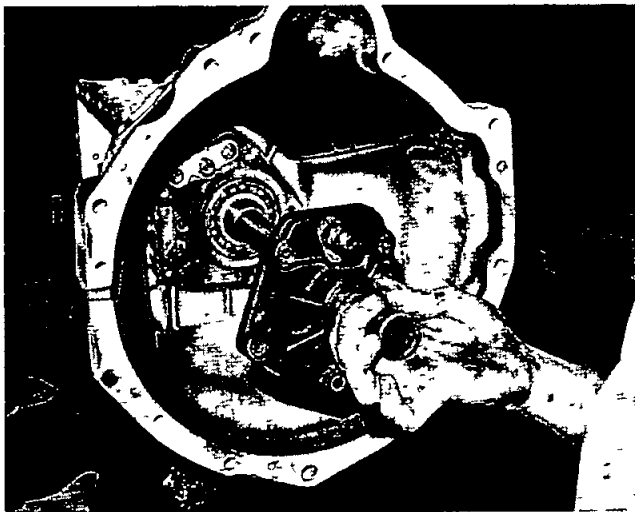


9 Clutch lever is secured to ball pivot by a spring clip. Slip lever outboard off ball and remove throwout bearing

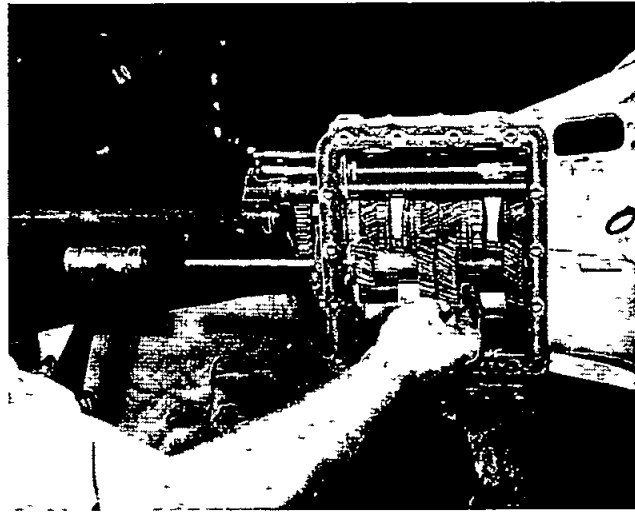


10 Unbolt throwout bearing carrier. Pry gently against pivot ball while tapping side of carrier to free unit

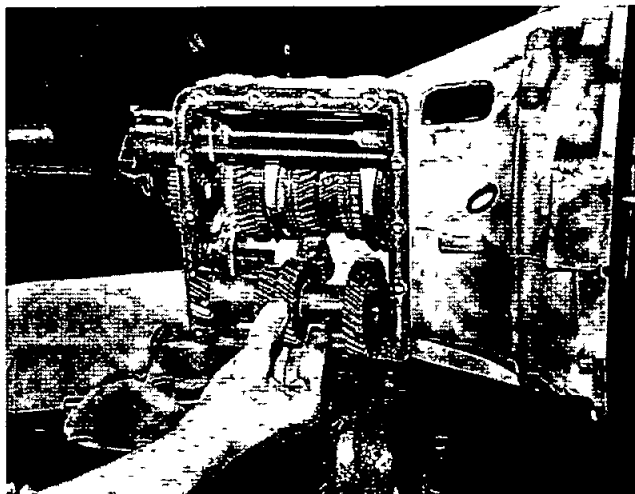
HOW TO: DISASSEMBLE DATSUN'S MOST POPULAR SHIFTER



11 Throwout bearing carrier serves as front bearing retainer, as well as anchoring the cluster gear shaft



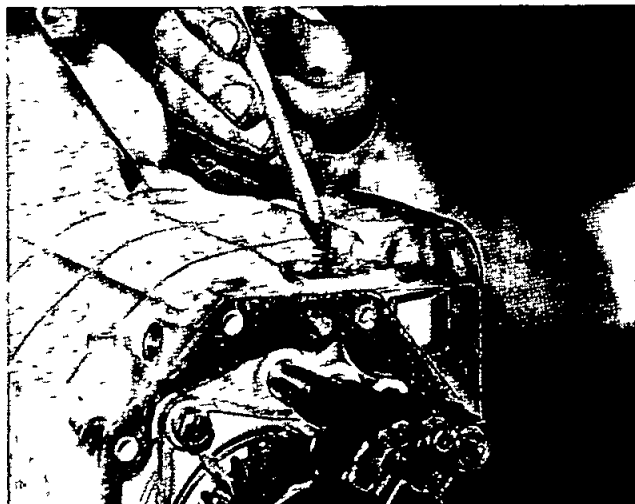
12 The cluster gear is removed by driving the carrier shaft forward with another slightly smaller shaft



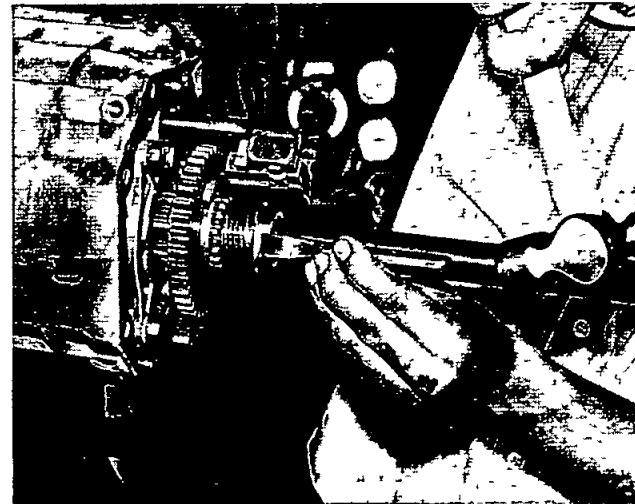
13 Remove cluster gear. Note there are several sets of loose needle bearings inside this gear, inspect closely



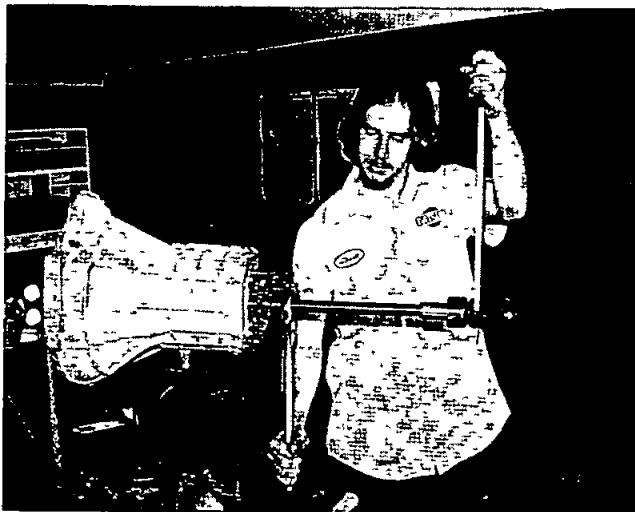
14 There are two external plugs that retain the shifter rail detents. Watch for small parts when removing plugs



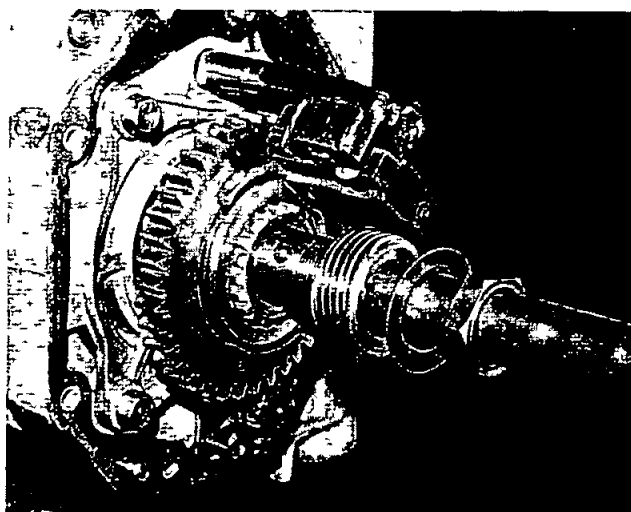
15 If the springs didn't jump out, carefully remove both the springs and detent balls with a pocket magnet



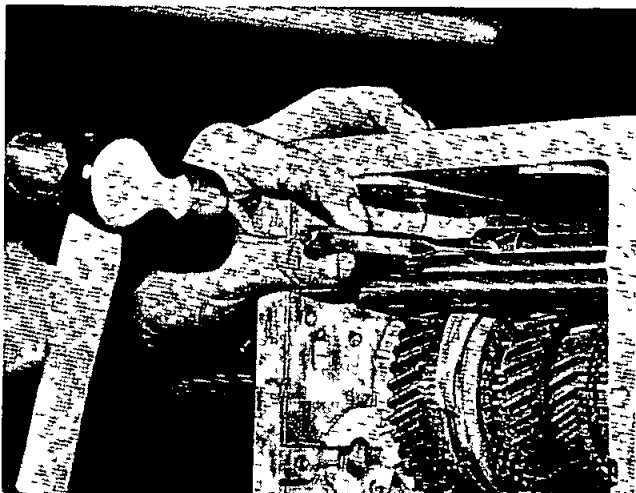
16 With a small chisel, bend down the locking tab on the lock washer that secures the tailshaft retaining nut



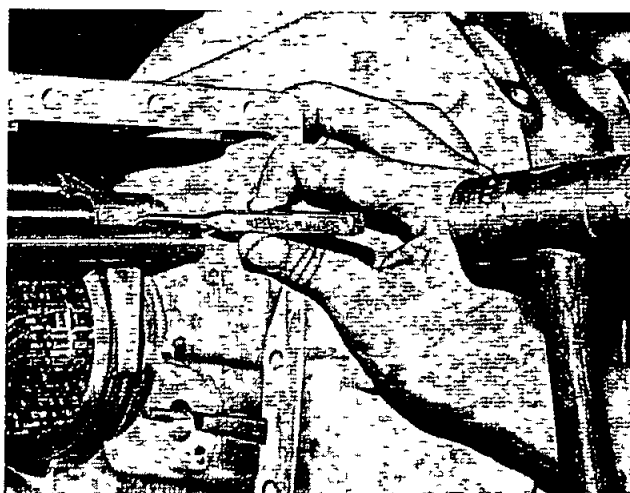
17 Slip a universal yoke on the tailshaft splines and hold the yoke with a bar while removing tailshaft nut



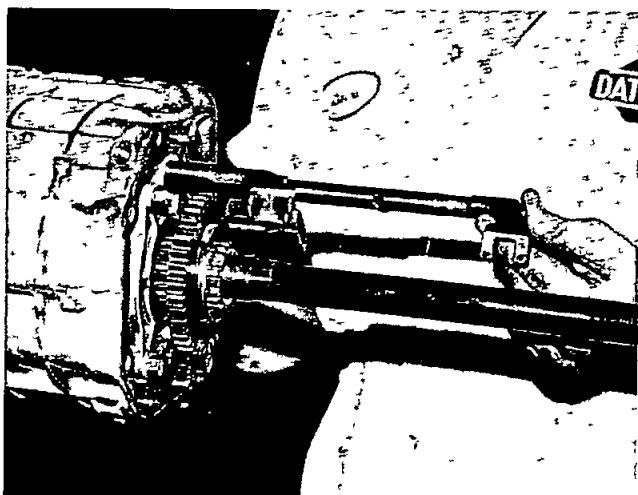
18 With tailshaft nut removed, the lock washer and speedometer drive gear can now be removed very easily



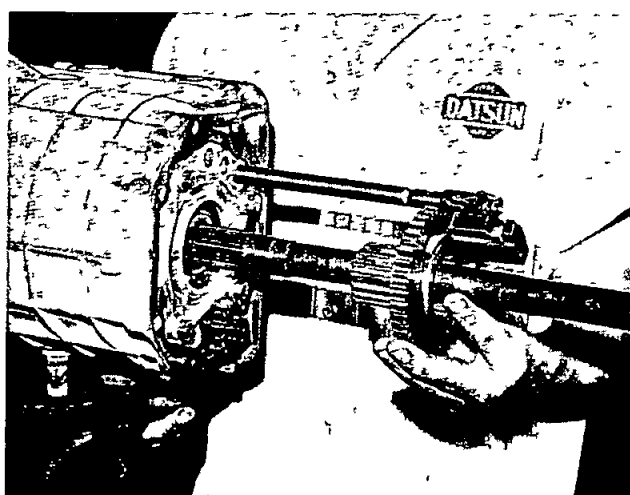
19 The shifting forks are pinned to the shift rails. Use a drift punch of proper size to drive the pins out



20 Both forks are secured in the same manner. It is very critical that the drift punch be the correct size

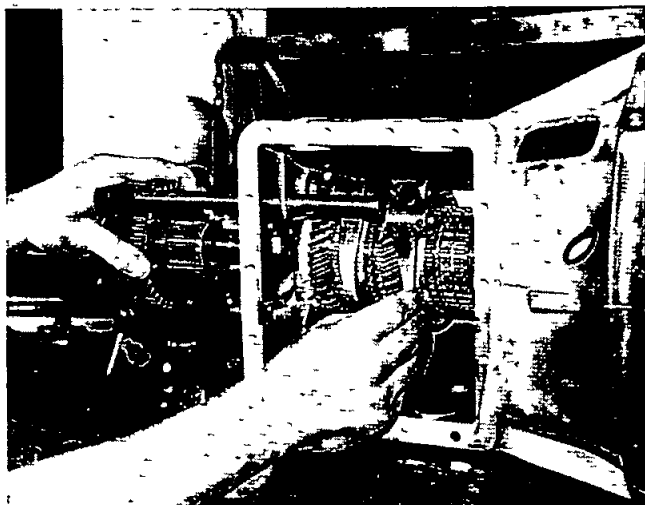


21 We can now slide the shifter rails out of the case. Remove the lower rail with the single clevis first

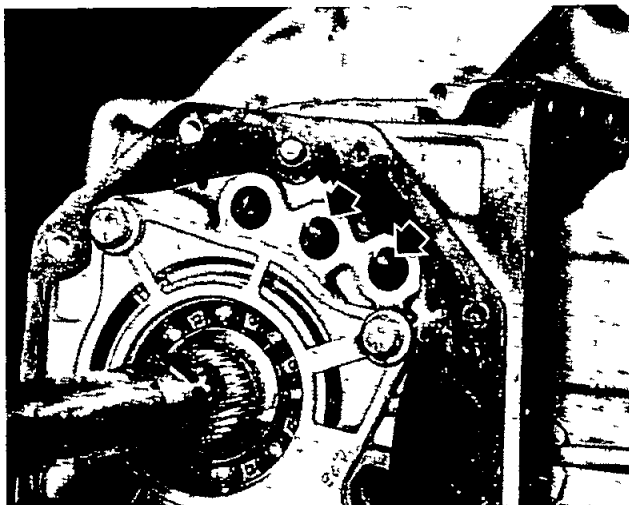


22 The upper rail and reverse gear are removed at the same time. Careful—there are more detents in the case

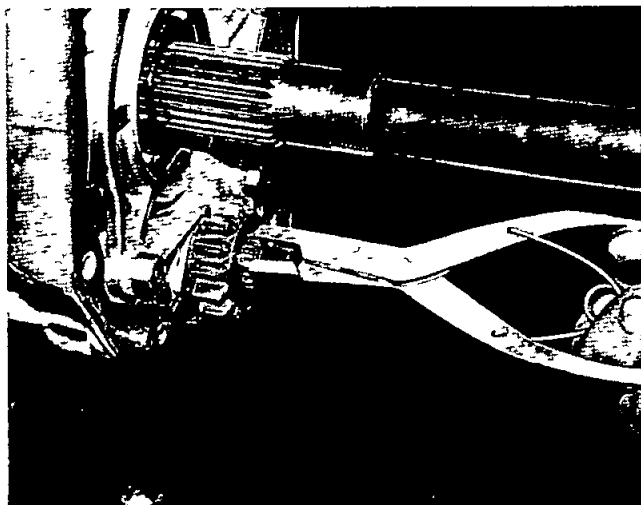
HOW TO: DISASSEMBLE DATSUN'S MOST POPULAR SHIFTER



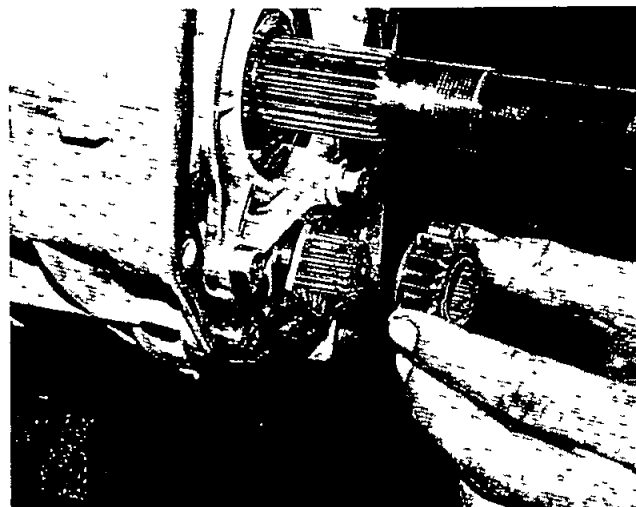
23 Shifting forks must be held in place while removing rails to prevent binding. Inspect fork tips for wear.



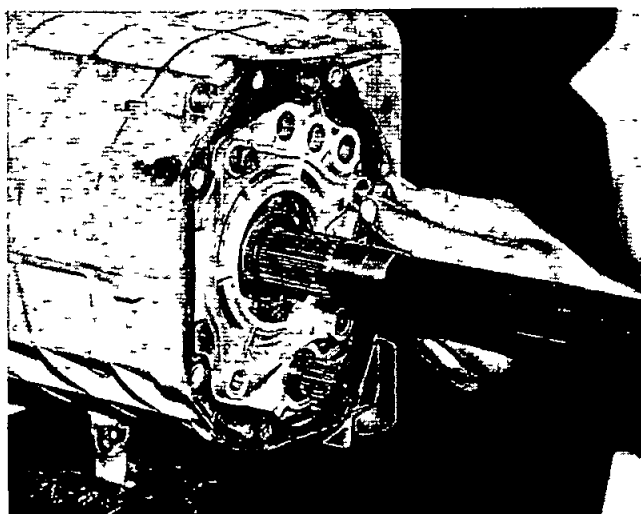
24 Detents in case serve to lock one shift rail when the other moves. Remove carefully, and note gasket condition.



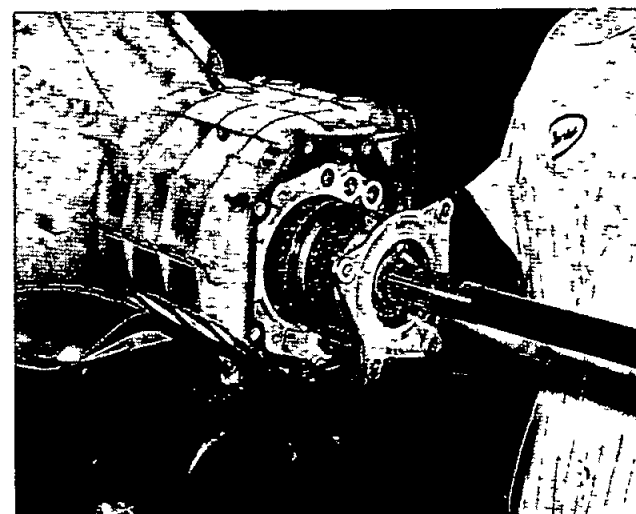
25 Using proper tool, remove snap ring from the end of the reverse gear transfer shaft.



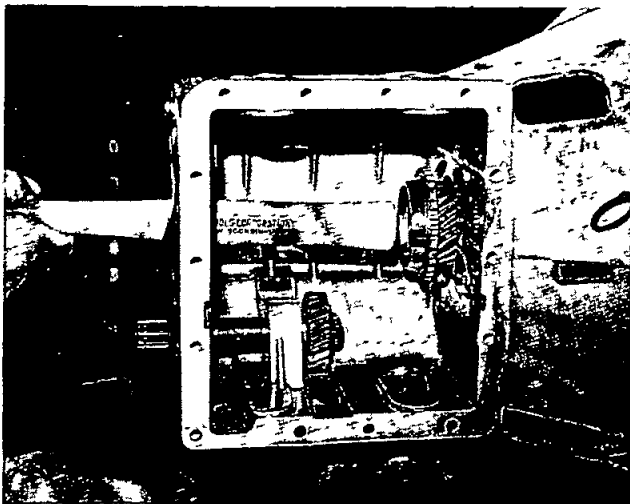
26 Small reverse driving gear can now be slipped off shaft splines. Check thrust washer behind gear for wear.



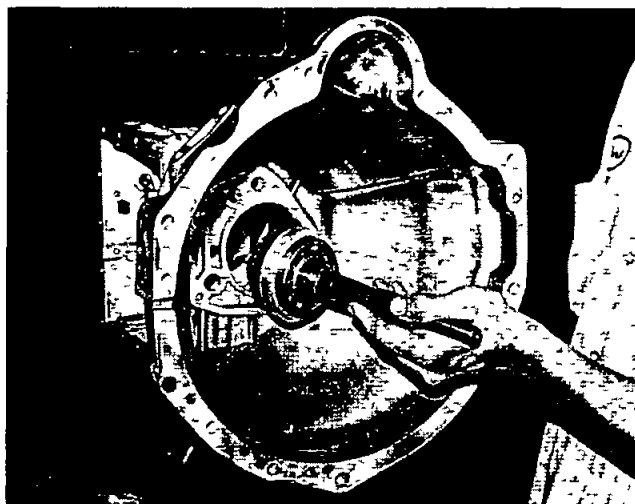
27 Carefully unbolt the transmission case rear bearing carrier. Bearing can be removed from carrier later.



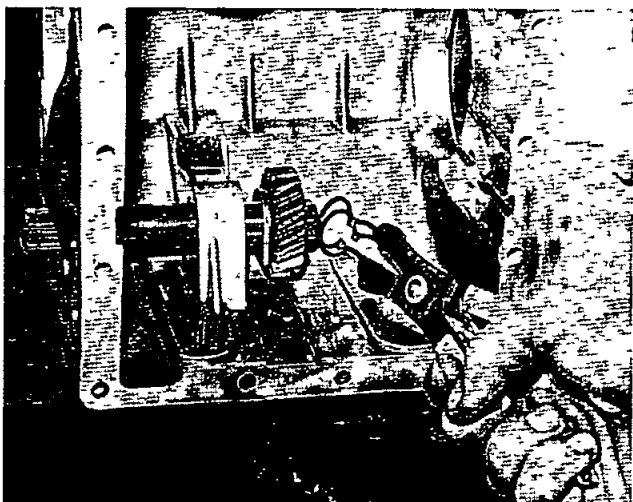
28 Rear bearing, gears, syncro rings, shifter hubs and sleeves are slipped out of the trans case as a unit.



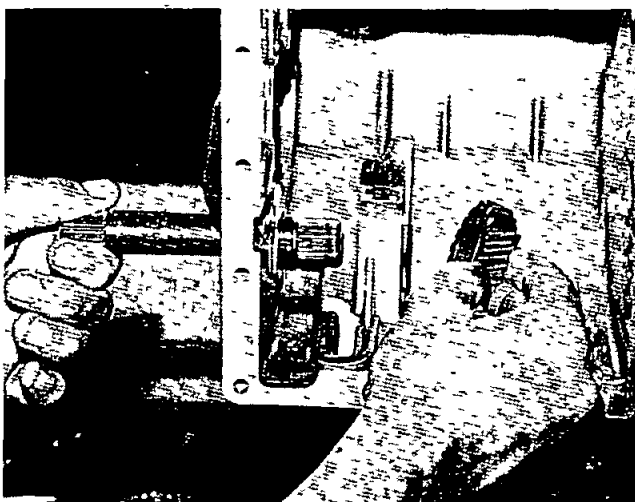
29 The input gear, bearing and shaft are driven forward out of the case Gently, this is an aluminum case



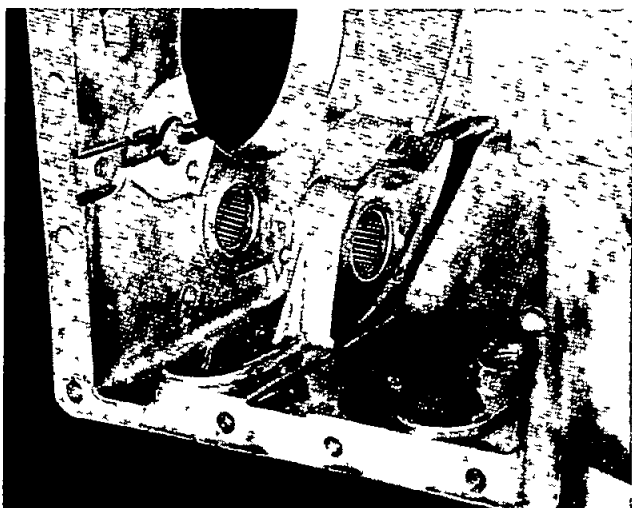
30 Input shaft, bearing and gear are removed as a unit Bearing can be removed from shaft later if necessary



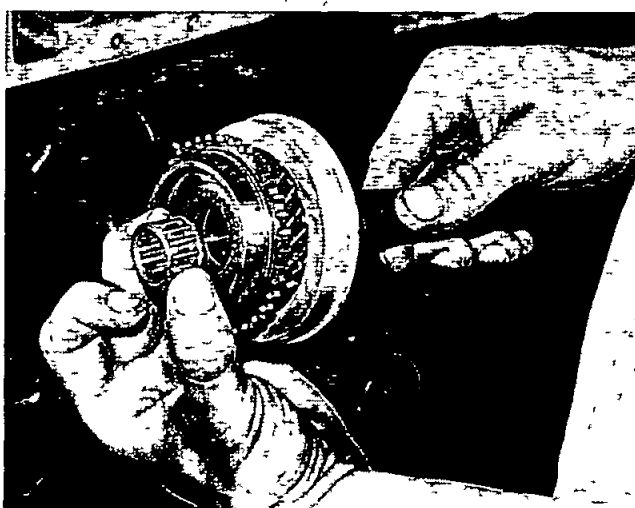
31 Using angle-nosed snap ring pliers, remove the snap ring from the forward end of the reverse transfer shaft



32 Transfer shaft and gear can now be removed from case Take no chances, inspect everything closely for wear



33 Reverse gear transfer shaft is supported by a pair of needle-roller bearings that are pressed into the case



34 A very critical needle-roller pilot bearing will be found inside the input gear hub, inspect very closely

HOW TO: REPAIR A MANUAL SHIFT TRANS

OVERHAULING THE 5-SPEED

Like most manual transmissions, those used by Datsun are hardy little beasts these days, and if you avoid power or speed shifting them (which isn't necessary anyway), you should have very little trouble with any of them 3-speed, 4-speed or 5-speed If for any reason you find it necessary to pull the transmission to work on it, you'll find that the case design is different from American and even European manual boxes

The transmission consists of three main parts a transmission case with bellhousing, a center adapter plate to which all gears and shafts are installed, and a rear extension The cast-iron adapter plate supports the mainshaft,

countershaft, reverse idler shaft and three fork rods, and is bolted at the front to the transmission case and at the rear to the extension housing by through-bolts By removing the through-bolts, the case can be split and all gears and shafts disassembled

Internally, operation of the Datsun manual transmission is pretty conventional, as they are all fully synchronized constant-mesh designs that use helical gears, with a sliding mesh reverse gear that uses spur gears Synchronizer design is a bit different from others you may have encountered, as is the use of several needle bearing sleeve assemblies on which the gears ride But if you've ever worked on a

transmission before, you can handle one of these

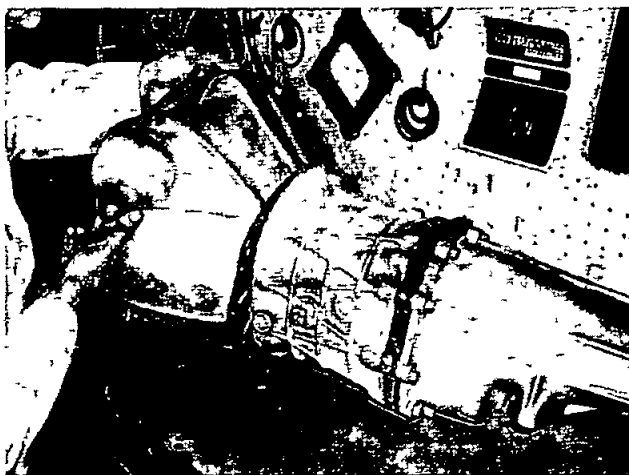
And if you've never opened a manual transmission before, the photographic sequence on the following pages will let you do it like an expert To demonstrate the sequence, we've selected the Type FS5C71A 5-speed, as it's the most complex However, with the exception of the number of gears involved, the same procedure applies to the F4W71B 4-speed, F4W63L 4-speed, F4W56L 4-speed and R3W56L 3-speed used in various Datsuns over the past 8 years—the design is identical Reassembly of the transmission can be accomplished by reversing the steps, and no special tools are required



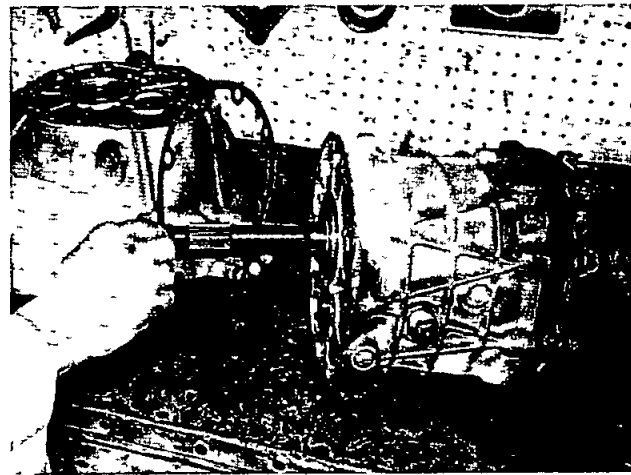
1 The Datsun 5-speed trans is a divided type, with the gear assembly secured to a center adapter plate Access to the gears is gained by removing the bellhousing, gear case and extension housing



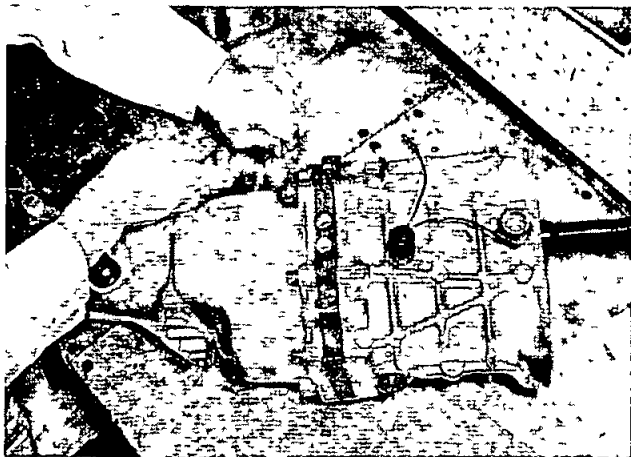
2 Begin the 5-speed overhaul by removing the bellhousing You'll need a 14mm socket for this job, a 10mm and 12mm will handle the majority of the other bolts you'll encounter with the Datsun transmissions



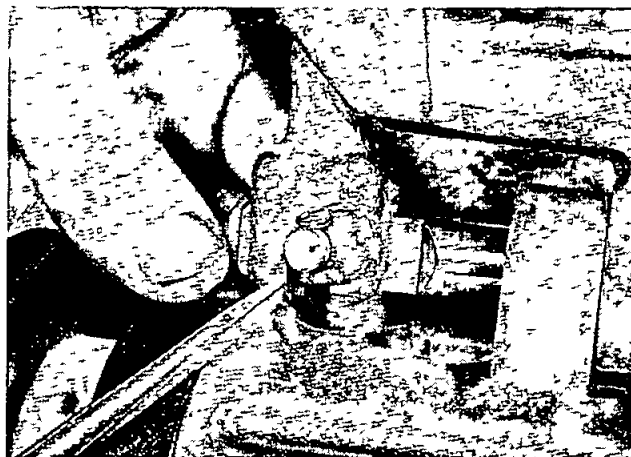
3 Even though you drained the transmission before starting disassembly, expect a bit of gear oil remaining in the case to leak out when you break the bellhousing loose Use solvent to clean components as you work



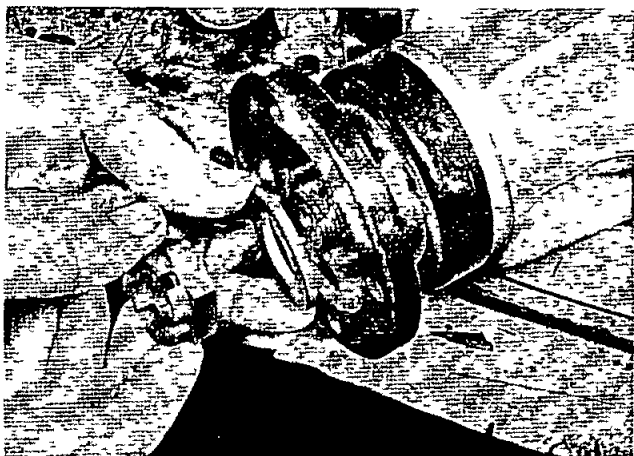
4 Remove the bellhousing-to-gear case gasket and discard, it should be replaced by a new one when you reassemble the transmission to prevent any possibility of leaks—used gaskets just don't have it



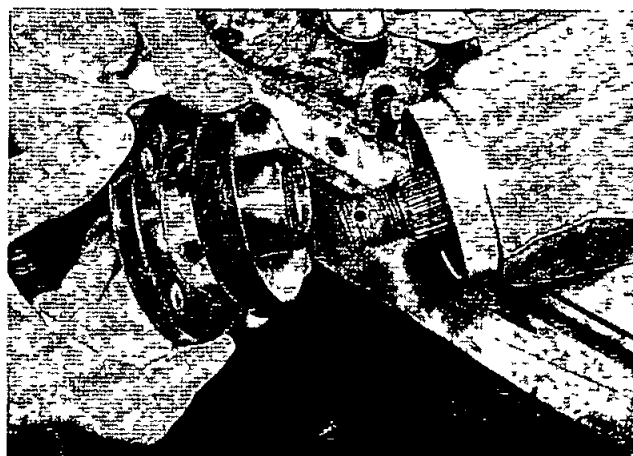
5 Now turn the transmission around and unbolt the extension housing from the center adapter plate. When you reassemble the two, you should torque these bolts to 12-15 ft.-lbs. Correct torque is important with alloy parts.



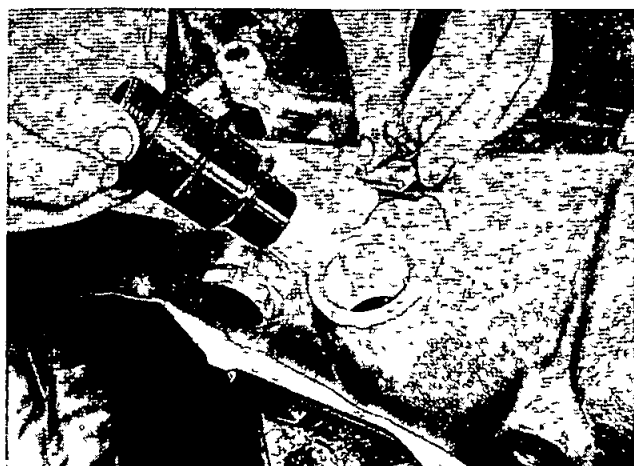
6 Use a small screwdriver to pop off the C-clip which fastens the shift mount to the speed change cross lever, or as the Japanese put it, "disconnect the striking rod from the control lever."



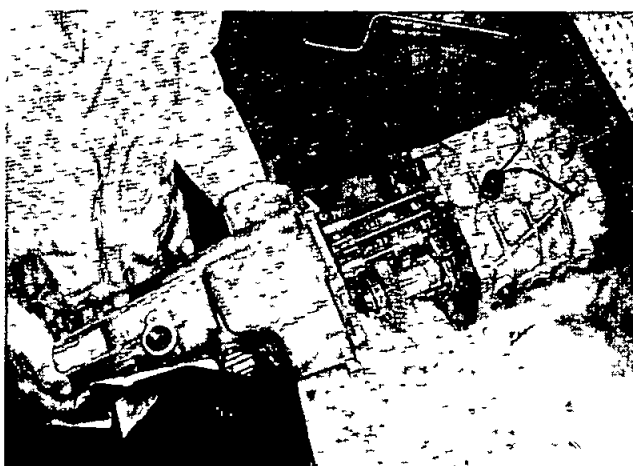
7 Remove the cotter pin from the output shaft and unscrew the split nut. This rather thick washer should also come off. If you have occasion to tap on the shaft with a hammer later on, replace the nut before doing so.



8 The companion flange should pull off easily; if not, insert a screwdriver behind it and pry carefully. If it still refuses to budge, use a puller as a last resort. Whatever you do, don't beat it off with a hammer.



9 The speedometer pinion assembly is held in place by a hex-head screw (10mm) and a small metal extension or retaining plate. Remove both the screw and the plate, then pull the gear straight out.

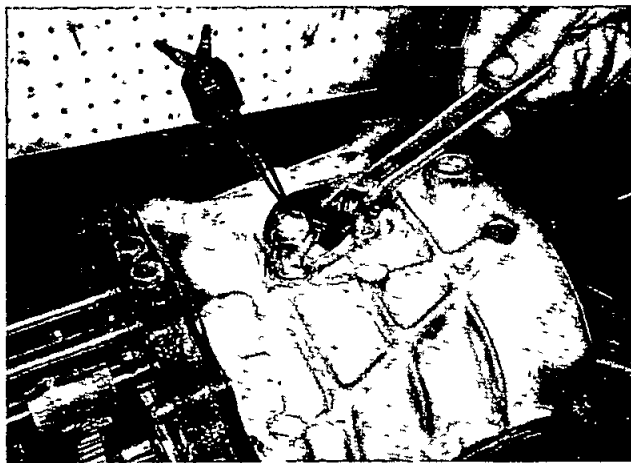


10 Now you can slide the extension housing off the output shaft. The gasket will probably stick to the center adapter plate and should be cleaned off completely before attempting reassembly.

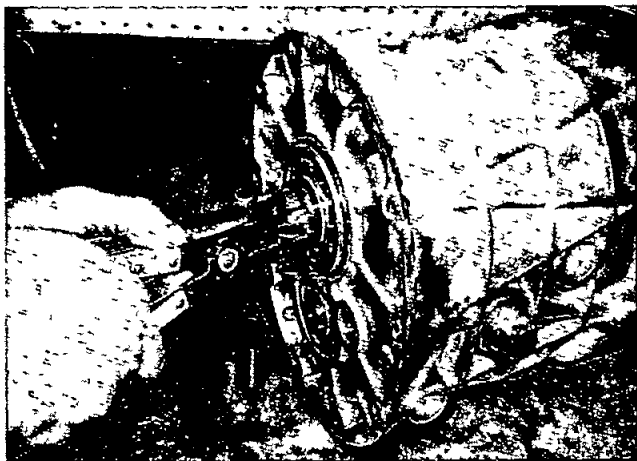
HOW TO: REPAIR A MANUAL SHIFT TRANS



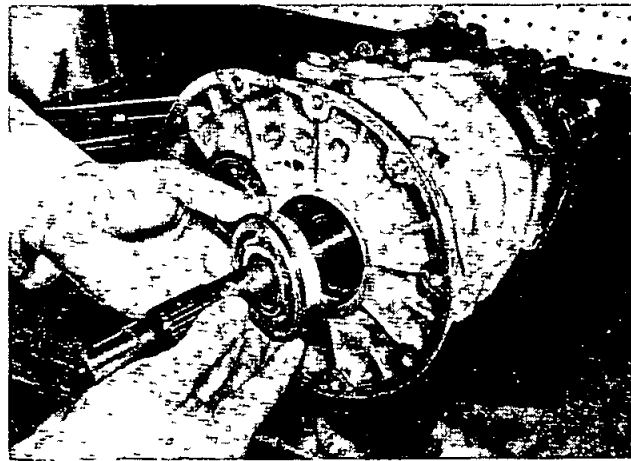
11 The speed change cross lever which engages the fork rod brackets to shift the transmission into the desired gear should be removed from the extension housing and its tip inspected for undue wear



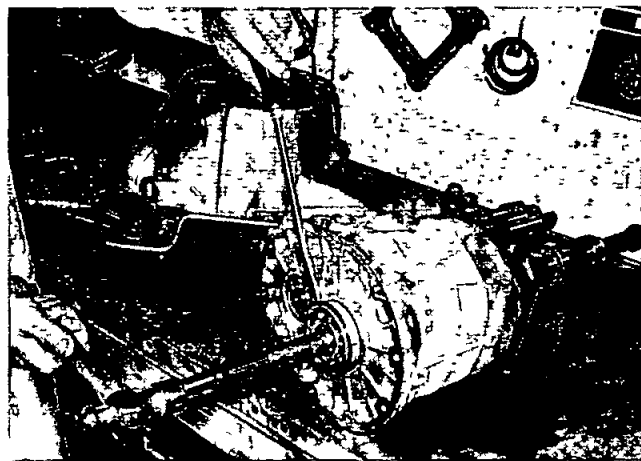
12 Before attempting to separate the gear case from the center adapter plate, you should also remove the reverse lamp/neutral safety switch from the case. Now you can concentrate on separating the two safely



13 You'll need a pair of snap ring pliers rather frequently during the overhaul, beginning with the snap ring which holds the main drive gear bearing on the input shaft. It's stiff, so go slowly to avoid breaking pliers



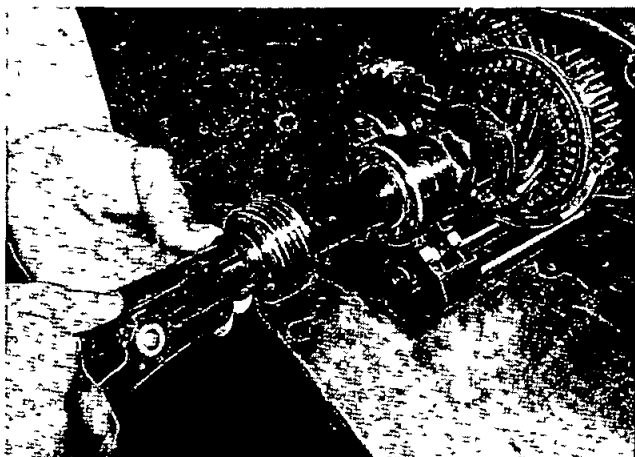
14 If you have any kind of good luck, you should be able to pop the bearing loose and remove it from the output shaft. If the transmission has never been overhauled before, it can be a real chore



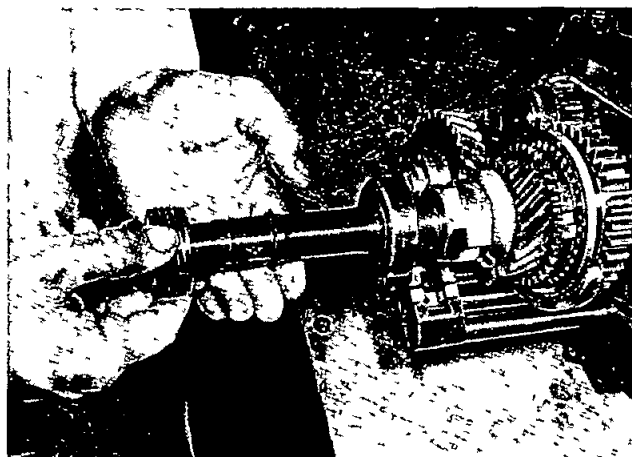
15 Here's a simple and effective way of overcoming resistance on the part of a stubborn bearing. Pry behind the bearing retainer ring as you gently tap the output shaft and you'll gradually work the bearing free



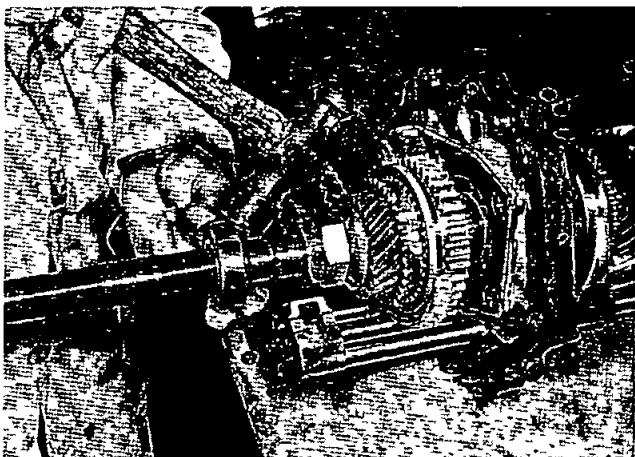
16 Once the bearing has been removed, use a screwdriver to break the gear case loose from the center adapter plate. There's a third gasket involved here, and again, clean it off thoroughly



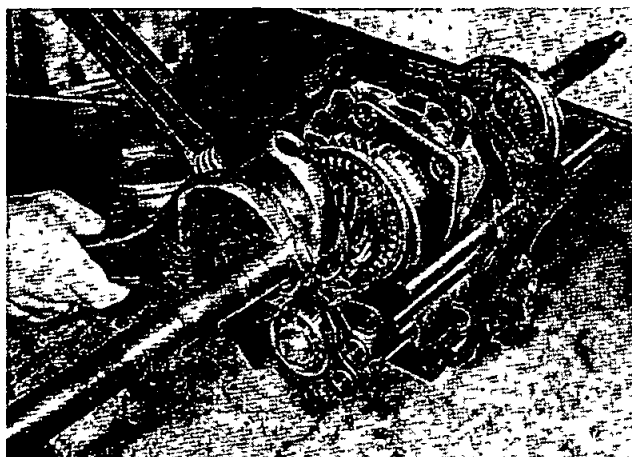
17 We begin gear disassembly from the rear, but before you can remove the speedometer drive gear from the output shaft, you must remove this snap ring. As you'll see, there's lots of work ahead for those pliers



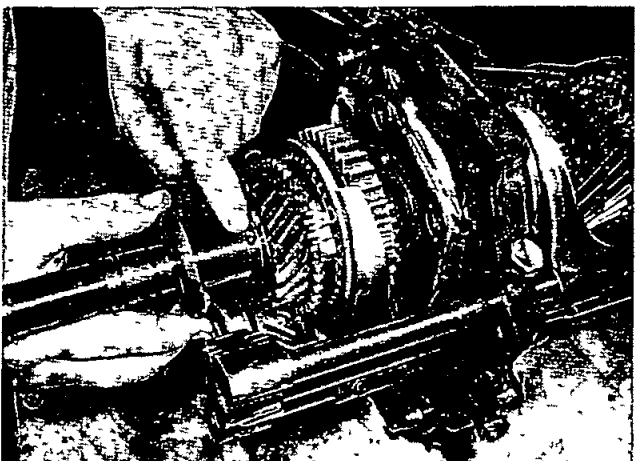
18 With the front snap ring removed, pull the speedometer drive gear off the output shaft. Don't lose that little steel ball resting in the shaft, as it positions and holds the gear in place. Keep small parts in a can.



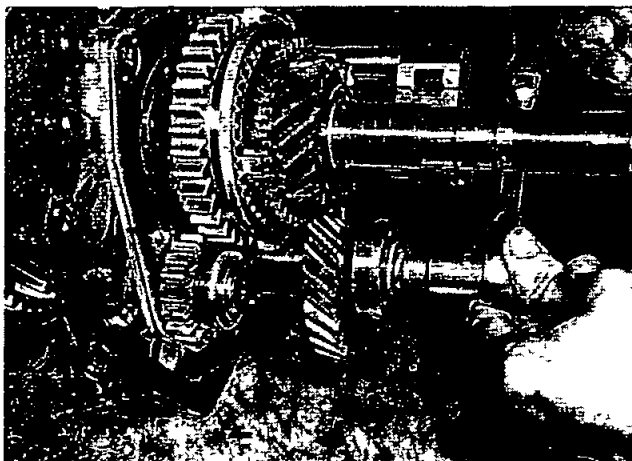
19 Now remove the speedometer drive gear rear snap ring, then the front snap ring holding the output shaft overdrive bearing and lap the bearing loose on shaft. Remove the bearing and the rear snap ring.



20 You can expect to have some real fun removing the mainshaft nuts. These are caulked at the factory. When reassembling the trans, torque the front nut to 120-140 ft-lbs and then turn over lock nut.

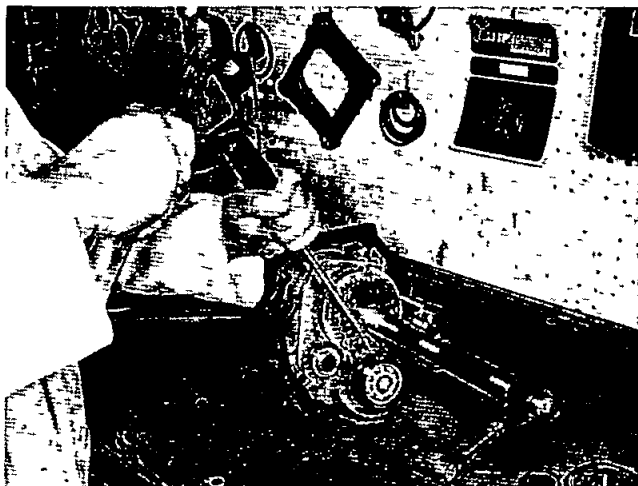


21 The mainshaft thrust washer comes off after the lock nuts are removed. Again, there's another little steel ball that must be removed—don't forget to reinstall it when reassembling the transmission.

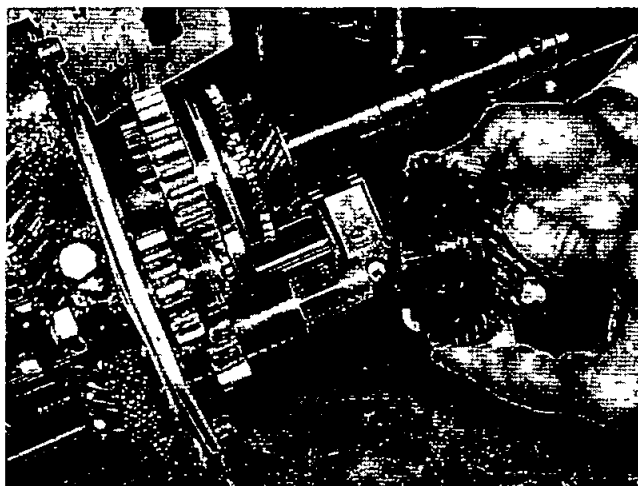


22 Use a socket to remove the bolt from the rear of the countershaft. A lock washer and bearing shim must also be taken off to gain access to the rear countershaft bearing, which we remove next.

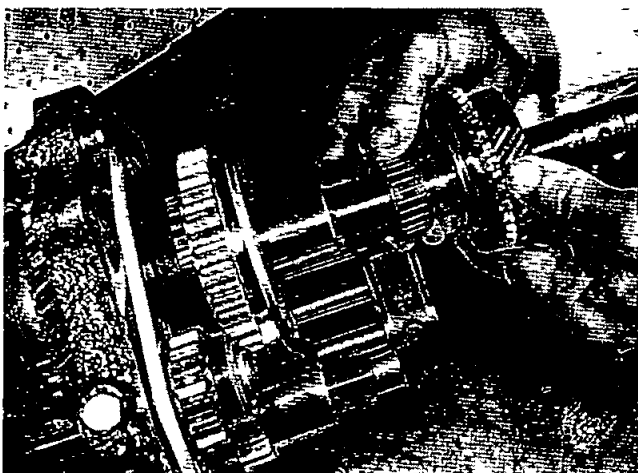
HOW TO: REPAIR A MANUAL SHIFT TRANS



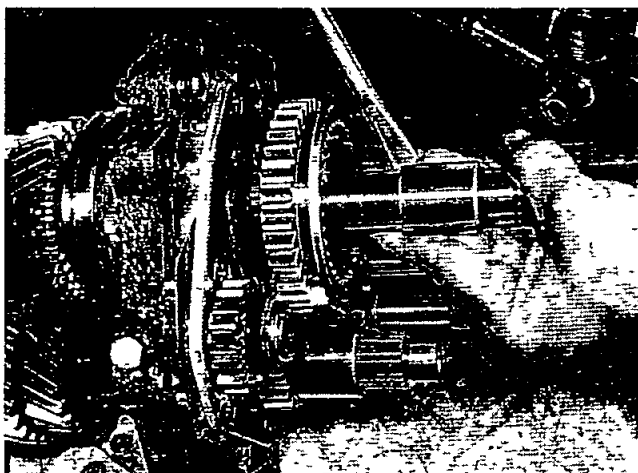
23 A bearing puller is the proper way to go when removing the rear countershaft bearing, but if you don't have one handy, you can use a screwdriver and a hammer as shown, as long as you use care in removal



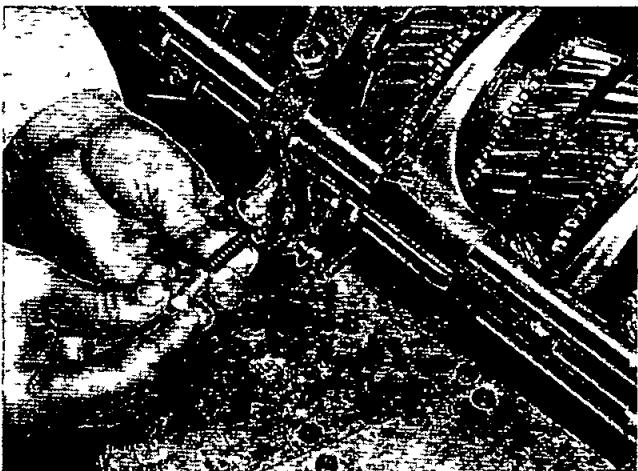
24 Once the countershaft rear bearing has been removed, you can now disengage the countershaft overdrive (5th) gear and slip it off the shaft. The 4-speed, of course, will not have this additional gear



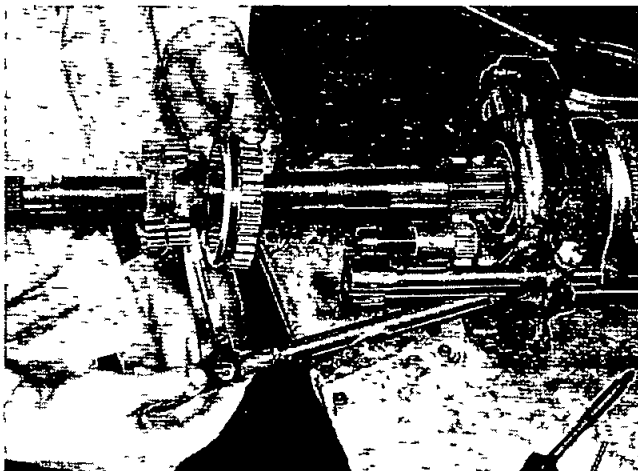
25 Now remove the corresponding 5th gear, its synchronizer ring and the needle bearing on which the assembly rides from the mainshaft by sliding it to the rear. This should present absolutely no problems



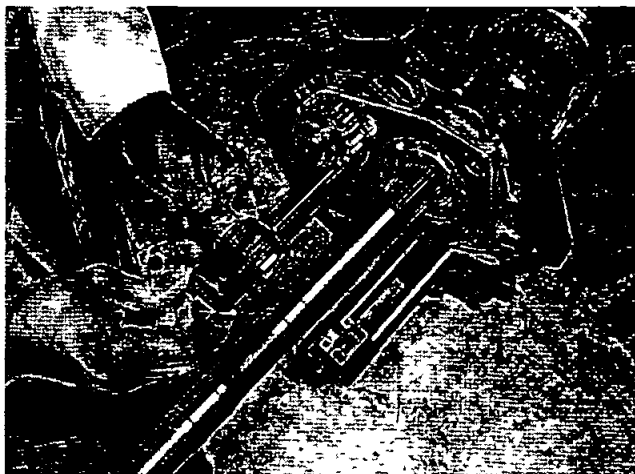
26 The needle bearing assembly which rides on top of this bushing must be pried off carefully. If the bushing is scored or otherwise damaged, replace it and the needle bearing assembly as well



27 Each shift rod uses a separate check plug and spring housed in the adapter plate. On the 5-speed, you'll find two steel check balls under each spring, the 4-speed uses three check balls and four interlock balls



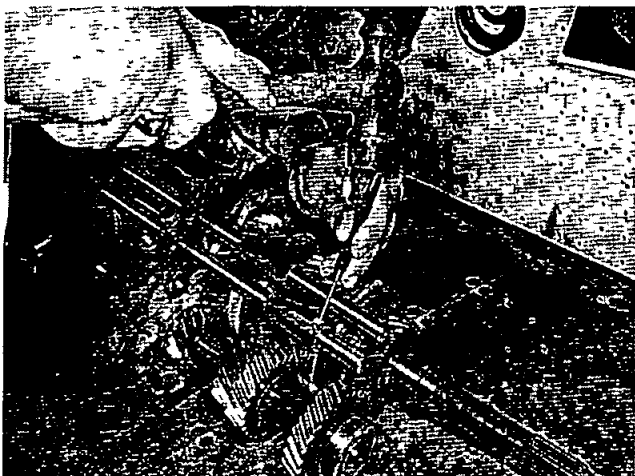
28 Driving out the drift pin holding the shift fork in place with a suitable punch, you can now remove the reverse/5th gear shift rod, fork, reverse gear and the entire synchronizer unit from the transmission



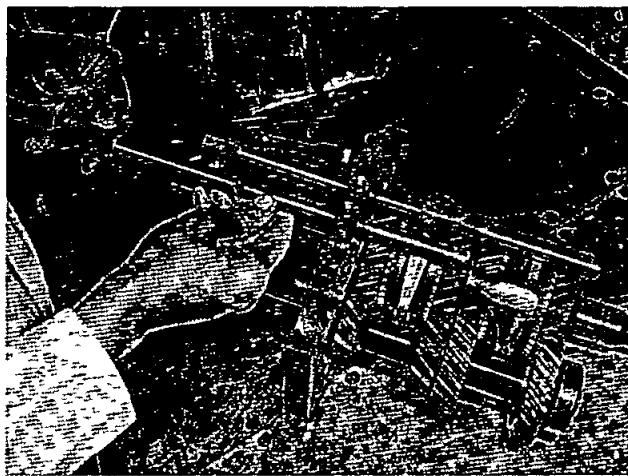
29 The reverse countergear slides off the countershaft once the mainshaft reverse gear has been removed. Its design is slightly different on the 4-speed, but removal is essentially the same for both designs.



30 Check the reverse idler gear for chipped teeth or other damage. If the gear is okay, there's really no point in going to the trouble to remove it—just leave the gear in place and proceed to the next step.



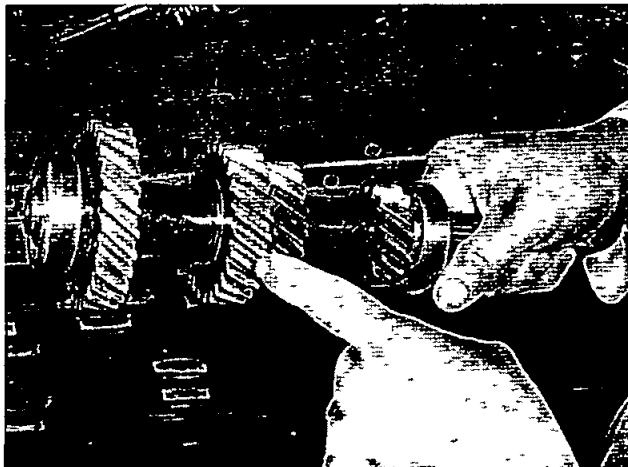
31 Using the punch, tap out the remaining drift pins holding 1st/2nd and 3rd/4th shift forks in place. Slide the forks off their shift rods, inspect and then identify each for replacement. They are not the same.



32 Work the shift rods free and withdraw each from the center adapter plate. As with the forks, these should be replaced to serve the same gears they served before disassembly, as each will have its own wear pattern.

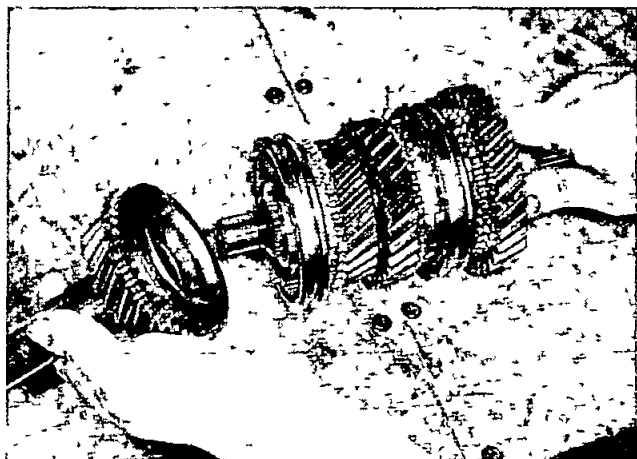


33 You can now remove the countershaft from the adapter plate. Note that the 5-speed uses three roller bearings while the 4-speed is fitted with only two. You may have to tap the end of the 5-speed shaft to free the bearing.

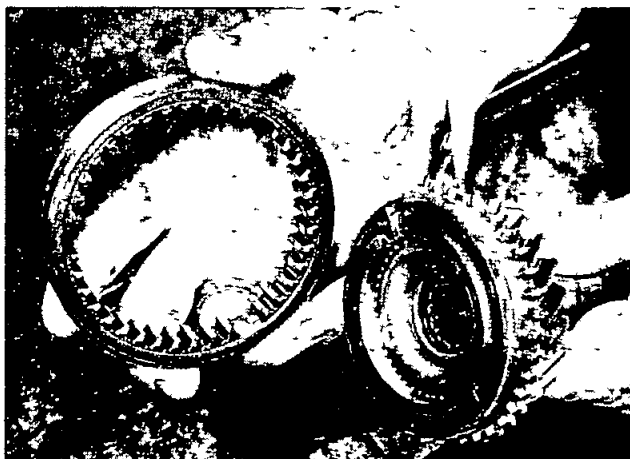


34 With the countershaft out of the case, carefully inspect each of the gears to make certain that there are no chipped or damaged teeth. If there are, you'll have to replace the entire unit as gears are integral.

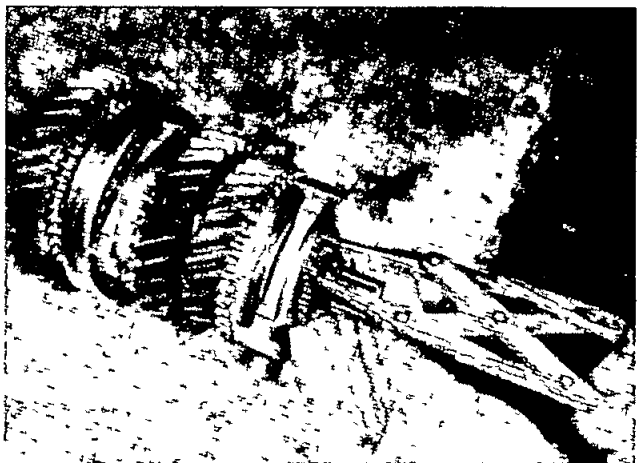
HOW TO: REPAIR A MANUAL SHIFT TRANS



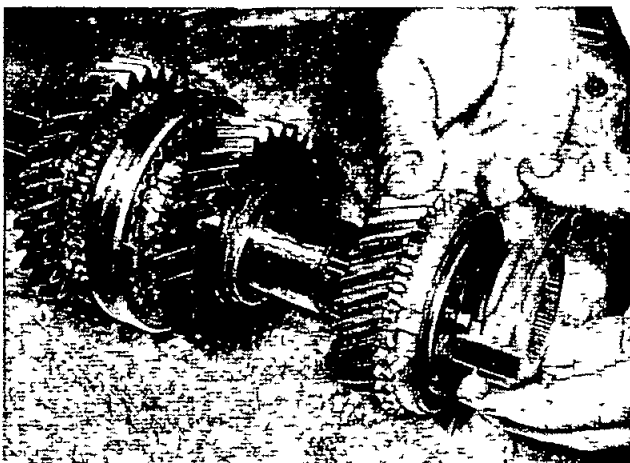
35 Now separate the main drive or input shaft from the mainshaft. Check main drive gear and 4th gear for worn or damaged teeth and then continue gear disassembly from the mainshaft.



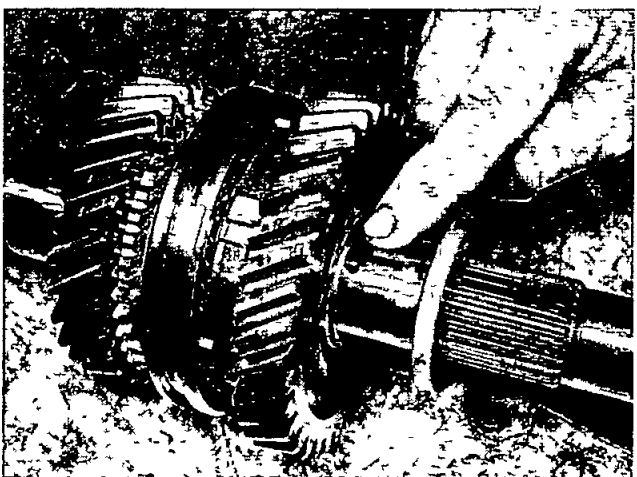
36 Also be certain to check the synchronizer rings for worn or damaged teeth. If you're having difficulty shifting up or down, chances are good that a worn synchronizer unit is probably to blame.



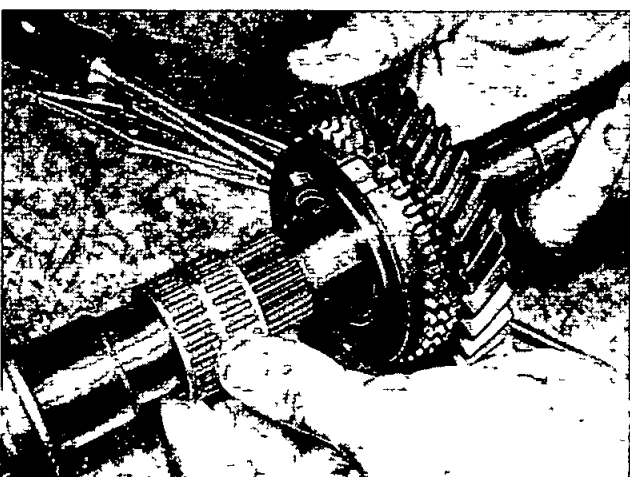
37 In order to remove the hub synchronizer and its coupling sleeve from the mainshaft front end, you'll have to take off another snap ring. Didn't we tell you that those pliers would get plenty of use?



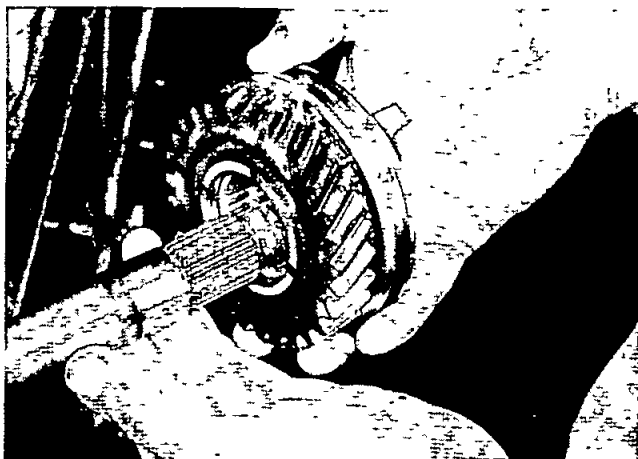
38 With the snap ring removed, the 3rd/4th synchronizer unit and 3rd gear slip off. Another needle bearing assembly and bushing must also be removed at this point—do so carefully. Always check these for wear.



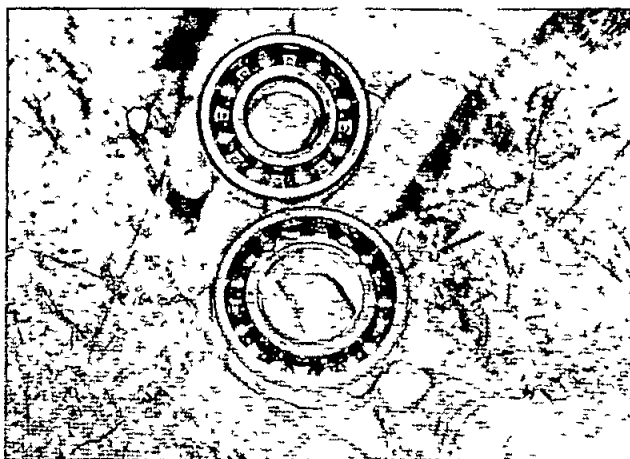
39 When you pull the thrust washer forward, it will expose another one of those little steel balls resting in the mainshaft. Remove washer and ball to gain access to 2nd gear and the 1st/2nd synchronizer unit.



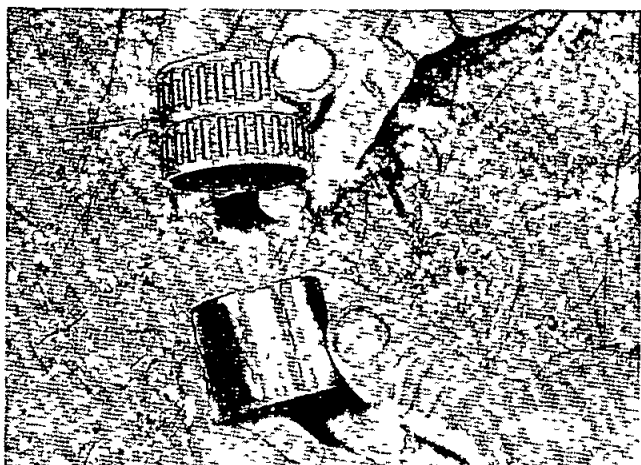
40 Still another needle bearing and bushing must be removed as 2nd gear is pulled off the mainshaft from the rear. You'll end up with almost as many needle bearings on the bench as snap rings.



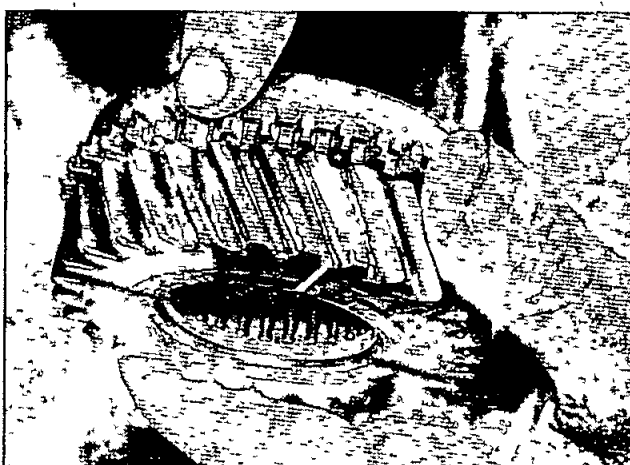
41 The remainder of the synchronizer assembly and 1st gear can now be withdrawn from the mainshaft. This completes gear disassembly. Check the mainshaft for any signs of wear or damage.



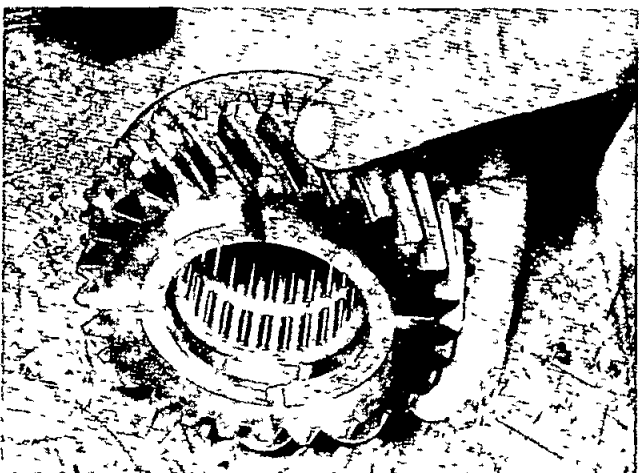
42 All roller bearings should be washed in solvent and blown dry with compressed air. Rotate outer bearing against race and check for burrs, tightness, etc., then relubricate bearings with gear oil for reassembly.



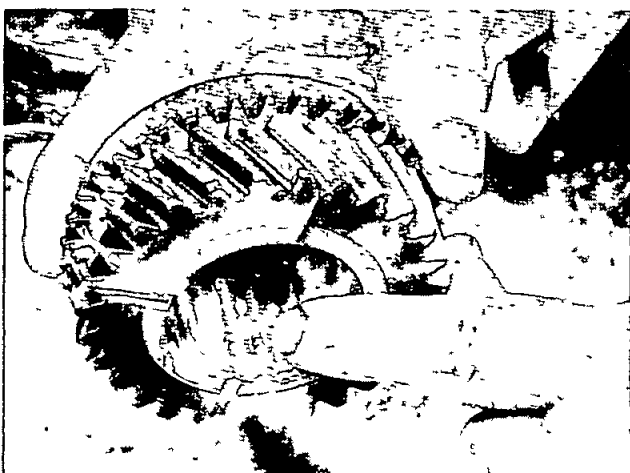
43 All needle bearings and their bushings should also be checked carefully. Should the bushing show signs of wear, scoring, burrs, etc., replace it and the needle bearing assembly that rides on it.



44 Mate synchronizer rings with corresponding gears and check teeth for chips, wear or other damage that could affect your ability to make smooth gear changes without problems. If necessary, replace.



45 Check each speed gear for the same defects. Revolve the gear until you can see the tiny hole drilled through it which allows the gear oil to lubricate the mainshaft and make certain that the passage is clear.



46 Don't overlook the inside face of the gear. Clogged oil passages will cause undue wear that shows up here. If this area is worn, be sure to recheck the mainshaft, as there'll be corresponding wear. You can now reassemble.

HOW TO: REPAIR THAT T-35 LOOK-ALIKE

AUTOMATIC TRANS OVERHAUL

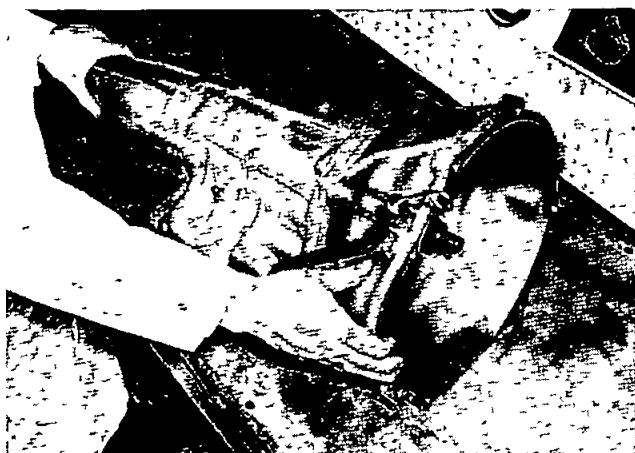
A first cousin to the American Borg-Warner T-35 automatic, the 3-speed Datsun automatic was used until 1973 when a switch was made to the Jatco automatic, but thousands of these are still on the road and interestingly enough, a very close variation of the identical design was used by Toyota until 1974. As it was built under license, you can't really consider it to be a "copy" but rather an adaptation of a design no longer used in American cars. Unfortunately, when the Japanese transferred the design to their own drawing boards, they did it a bit too faithfully, transferring also the problems that had afflicted its previous use.

One of the major problems that develops with this automatic comes

with slipping the transmission out of Reverse and into Drive before stopping the car completely, as in backing out of a driveway. This causes slippage in the rear band and coupled with low hydraulic pressure, tends to cause the "loss" of reverse gear which isn't too neat if you absolutely have to back up the car to move it. In the early stages of this problem, you can often overcome the transmission's reluctance to engage reverse gear by slipping it into Drive, edging the car slightly forward and then shifting quickly into Reverse. But once the problem has developed, it's only a matter of time before you'll have to pull the transmission down anyway and replace the rear band clutches. You can prevent this problem from recurring by enlarging the rear

servo oil feed passage. Increasing the oil flow to the rear servo will increase the hydraulic pressure, but you should also overcome the practice of slipping the car from Reverse to Drive while it's in motion.

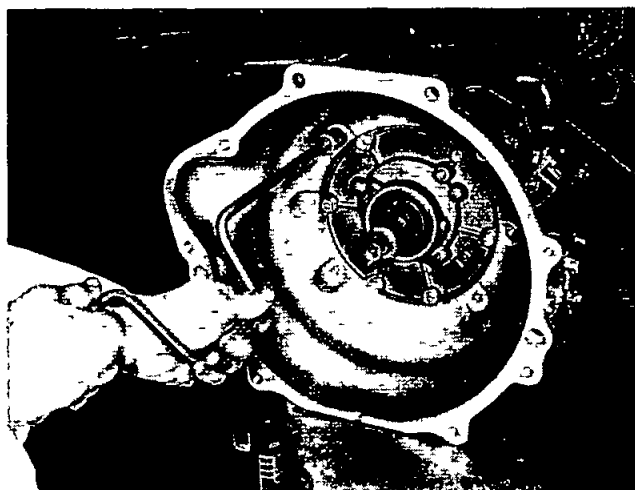
To get an expert's advice on this transmission we went to Mike Goldman who's taught transmission repair for more years than he cares to think about, and the result is a straightforward teardown procedure, to reassemble the transmission simply reverse the steps shown in disassembly. For exact specs pertaining to the application of your Datsun automatic, pick up a copy of the factory repair manual from your local dealer and use it as your specification guide.



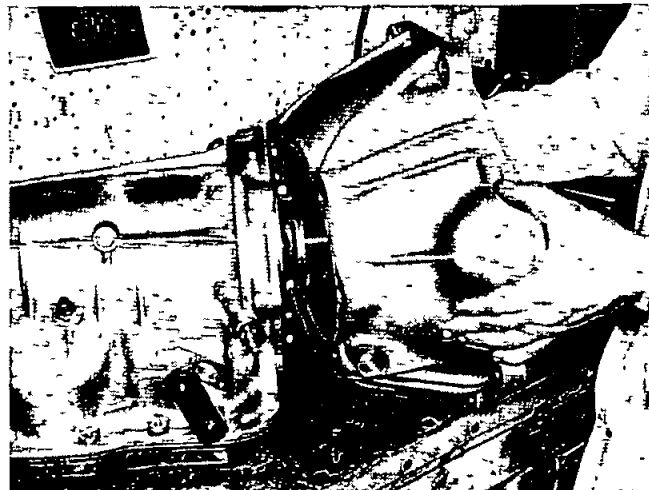
1 Although it's always handier to work with the transmission mounted on a stand, there's no reason why you can't pull down your 3-speed automatic on a bench without problems



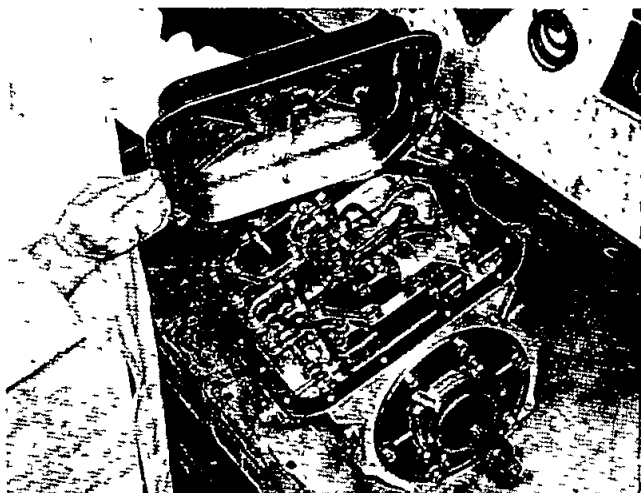
2 Begin the teardown procedure by removing the ATF (automatic transmission fluid) filler tube and dipstick. Two hex-head bolts hold it in place.



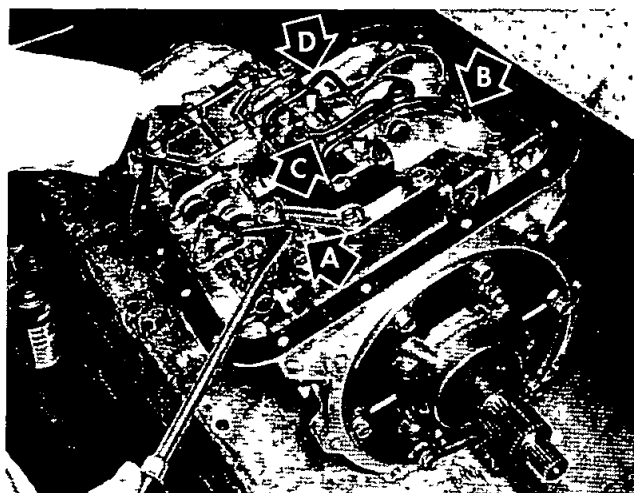
3 A 14mm socket will let you remove the six bolts holding the converter housing to the case. Other than a slide hammer and slotted spring compressor, usual tools will do.



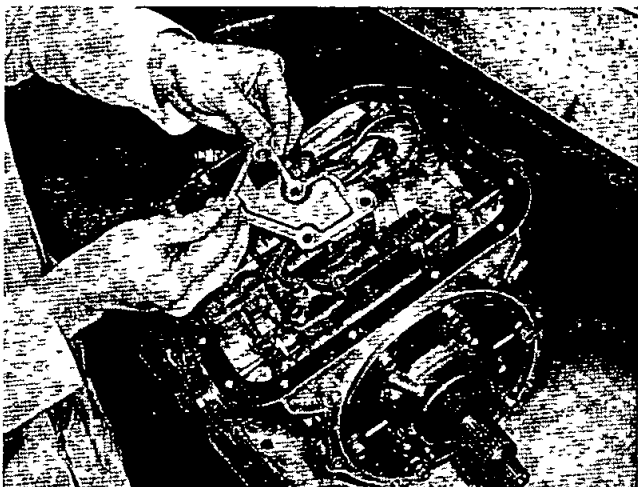
4 With the bolts removed, you should be able to break the converter housing free by hand. As the entire unit is aluminum alloy, don't pry or hammer on the case.



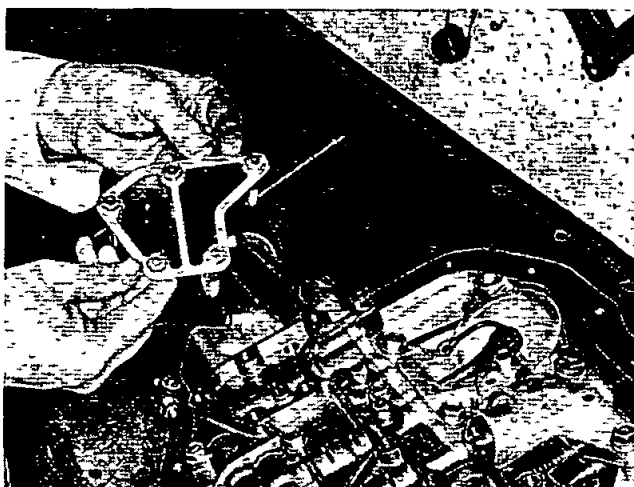
5 Now loosen and remove the oil pan bolts. Lift off the oil pan and set to one side—it's a handy container to hold other small parts to be removed.



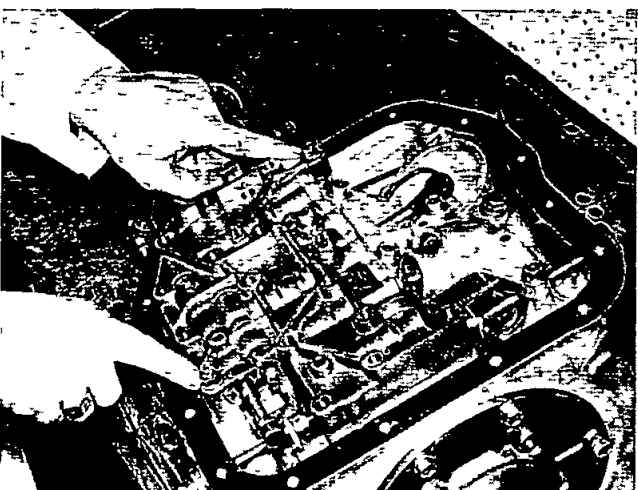
6 You'll find four small tubes—the line pressure (A), front servo release (B), front servo apply (C), and rear servo apply (D). Don't crimp or damage while removing.



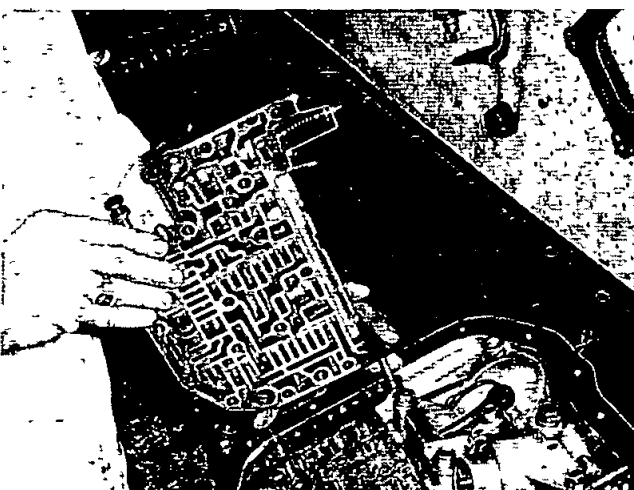
7 Five bolts hold the front oil strainer in place. Remove, and wash it thoroughly with solvent, then blow dry with compressed air—don't wipe with a cloth.



8 Five bolts also hold the rear oil strainer. Remove and clean it in the same manner, taking care not to damage or puncture the screen. If you do, replace it.



9 The valve body is secured at seven points. These two shown are not bolts but locating studs for correct replacement—only the nuts come off.

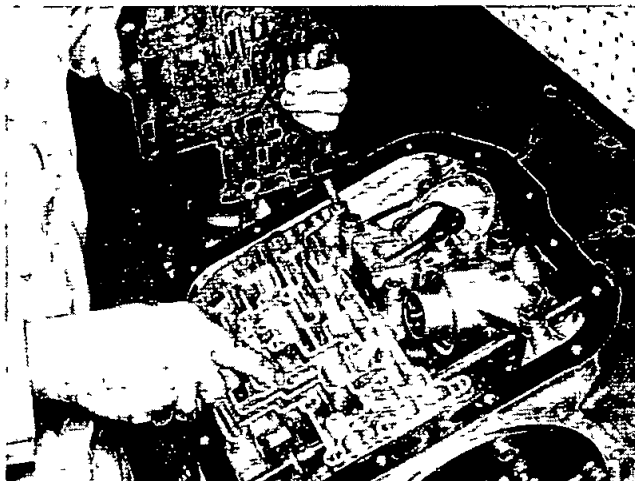


10 After unbolting, lift the valve body up and off the two locating studs. Set this to one side and we'll get to its disassembly later.

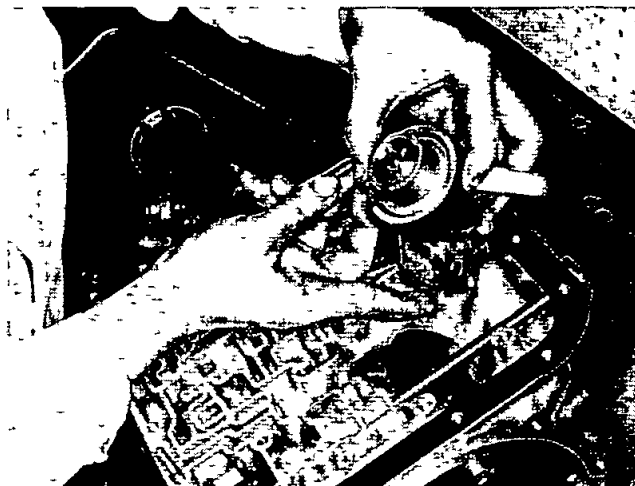
HOW TO: REPAIR THAT T-35 LOOK-ALIKE



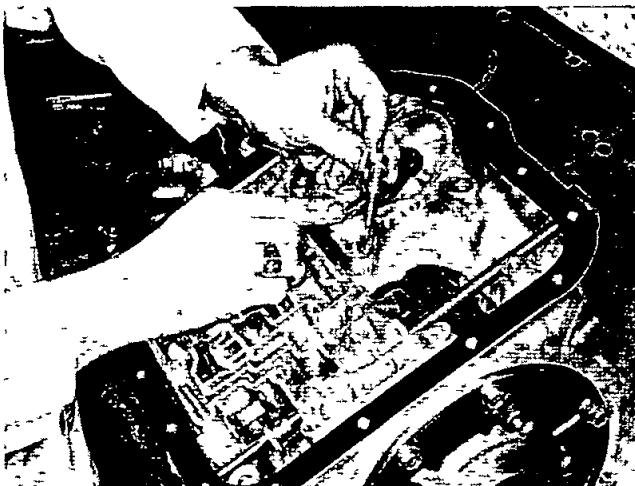
11 With the valve body removed, you'll find a front and rear oil check valve and compression spring resting in the valve body plate—don't lose or forget to replace



12 Off comes the valve body plate, which should also be thoroughly cleaned with solvent. You'll find a single throttle pressure check ball located in the passage shown



13 Now loosen and remove the two front servo securing bolts, then remove front servo and brake band apply strut. Strut may slip off and fall into case—we'll get it later



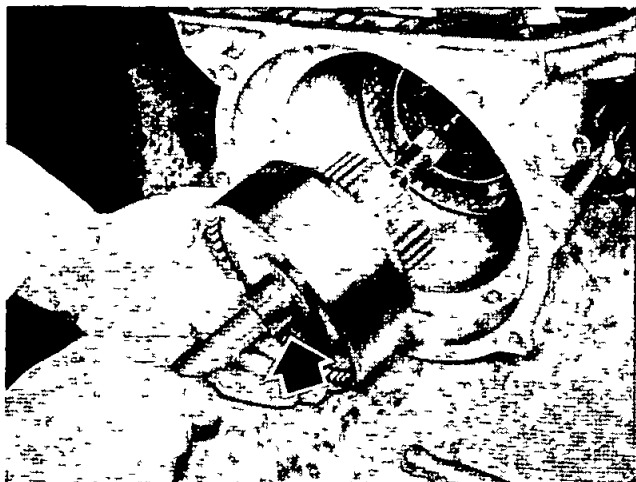
14 The rear servo is held in place by two securing bolts and this center support bolt. You'll notice the difference between them—be sure to replace support bolt here



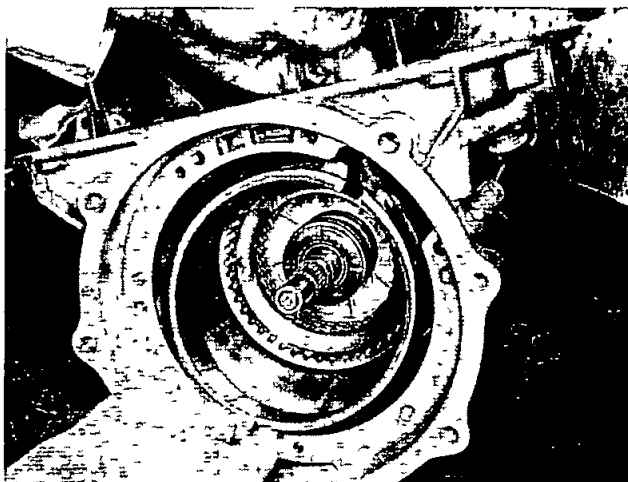
15 Now remove the rear servo and the brake band apply strut, which we dropped in the case. Use a glob of grease to hold strut to servo when reassembling transmission



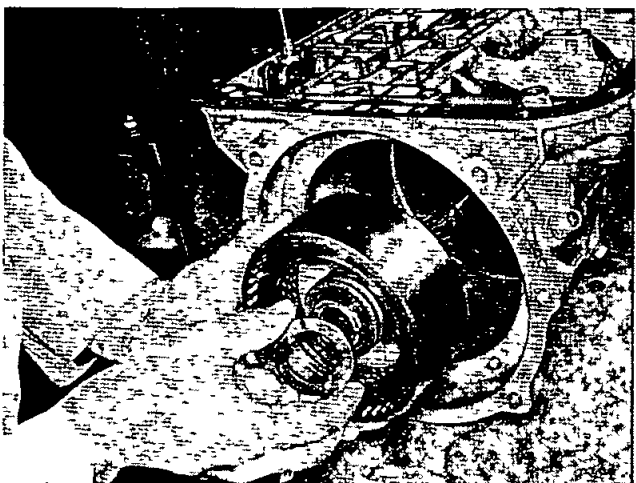
16 After removing the six front oil pump securing bolts, use a slide hammer as shown to pull the front oil pump body out of the transmission case



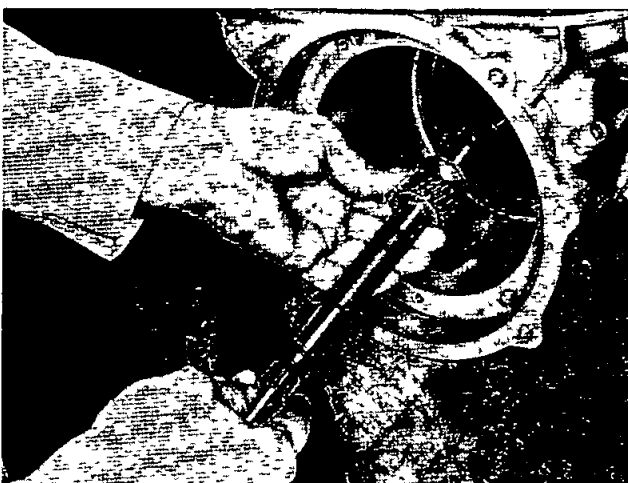
17 The clutch drum thrust washer and front multiple disc clutch come next—wiggle as you pull forward Note needle bearing (arrow) on input shaft—not all models have them



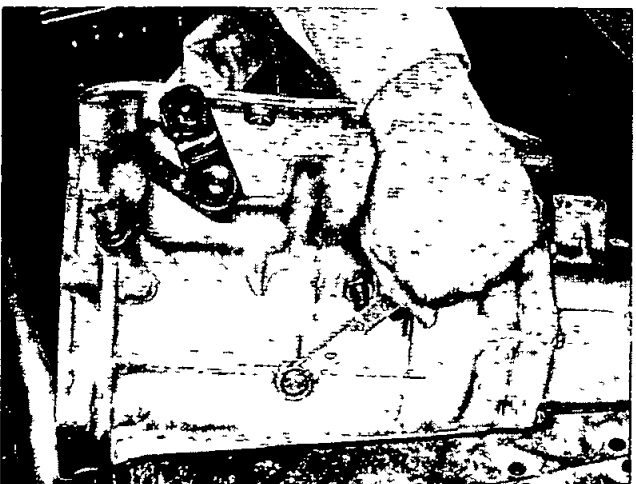
18 Wiggle the front brake band free of the rear clutch and remove After checking band for burning, scoring or other defects, mark with an "F" so you can tell where it goes



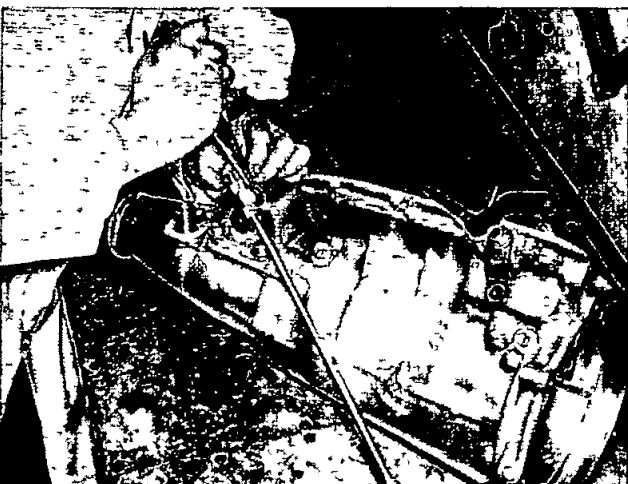
19 The second sun gear thrust washer and rear multiple disc clutch come out now without difficulty That thrust washer is important—remember where it goes



20 Remove the intermediate shaft with its two needle roller bearings, one located between the shaft and the second sun gear, the other between shaft and output shaft

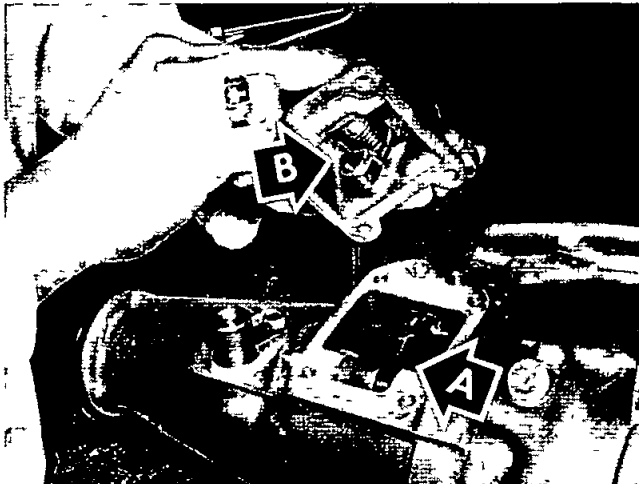


21 The next step is to loosen and remove two center support bolts (one on each side) This frees the center support, rear brake band and planetary for removal

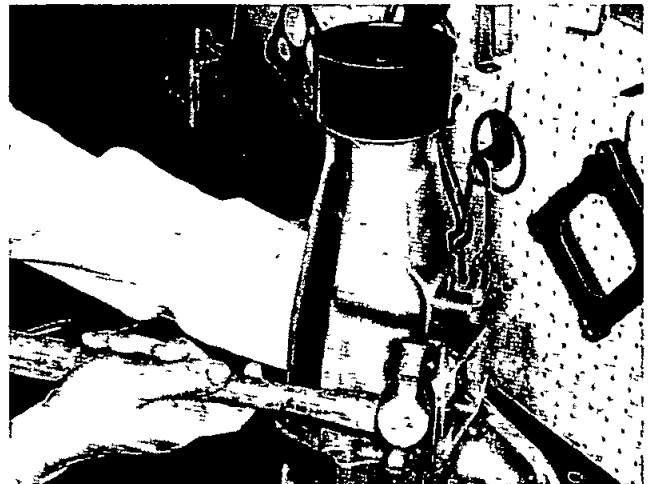


22 At the same time, unhook the cotter pins holding the parking lock rod to the control shaft lever and parking lock lever, then remove the rod

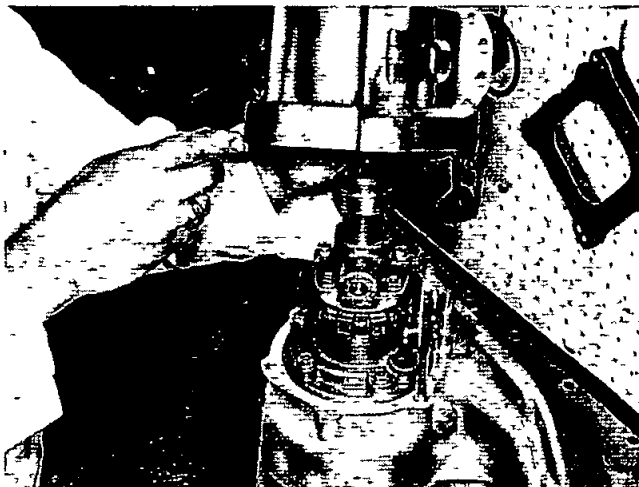
HOW TO: REPAIR THAT T-35 LOOK-ALIKE



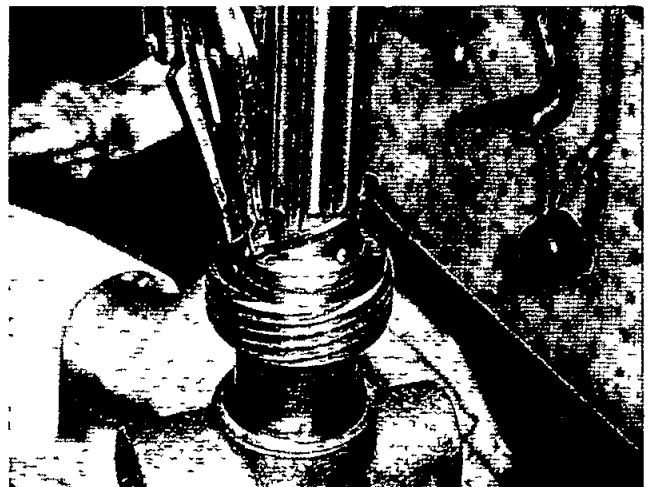
23 Unbolt and remove parking brake pawl cover. Check lock pawl (A) for excessive play by pressing downward. If cover spring (B) is damaged, remove drift pins and replace.



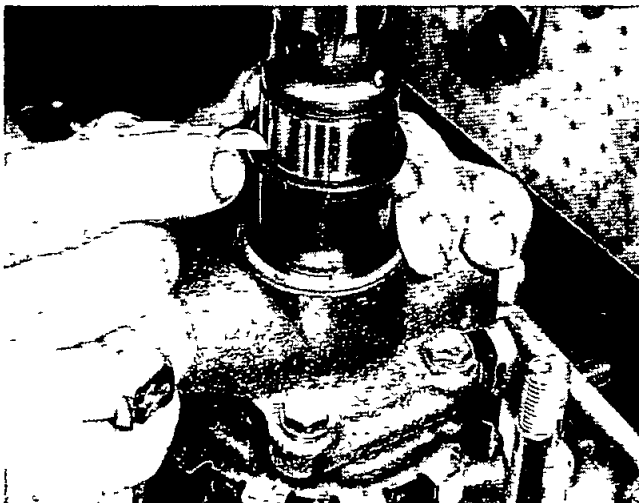
24 Unbolt extension housing from trans case and remove. If it doesn't break free by hand, tap very gently at the point shown and it'll come off.



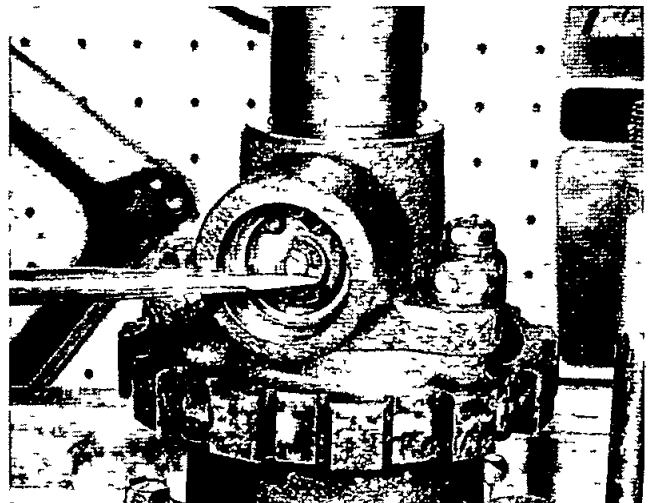
25 Now lift the extension housing up and off the output shaft. You'll find an oil seal in the black dust deflector on the housing end—replace it.



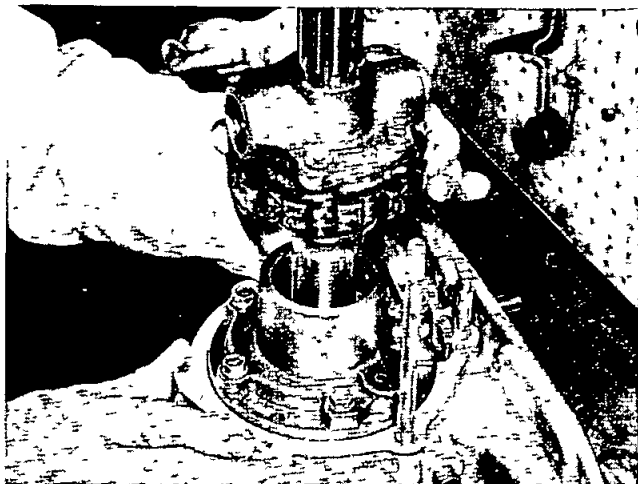
26 To remove the speedometer drive gear, you'll have to expand the rear snap ring and slip it off. Drive gear will then slide off shaft without difficulty.



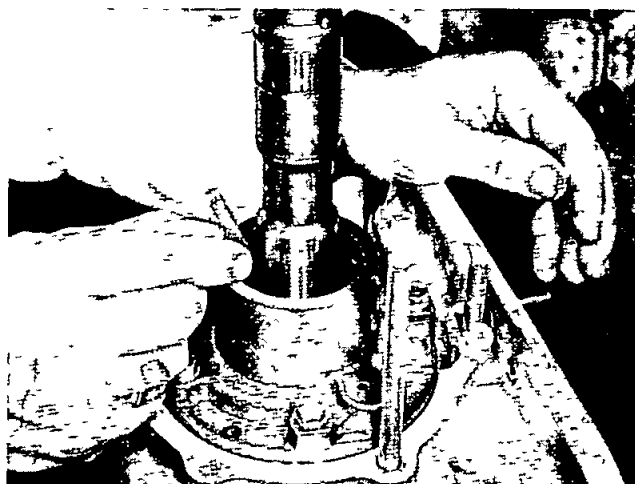
27 Under the speedometer drive gear, you'll find a small Woodruff key rather than the usual steel ball. Remove this and the front snap ring as well.



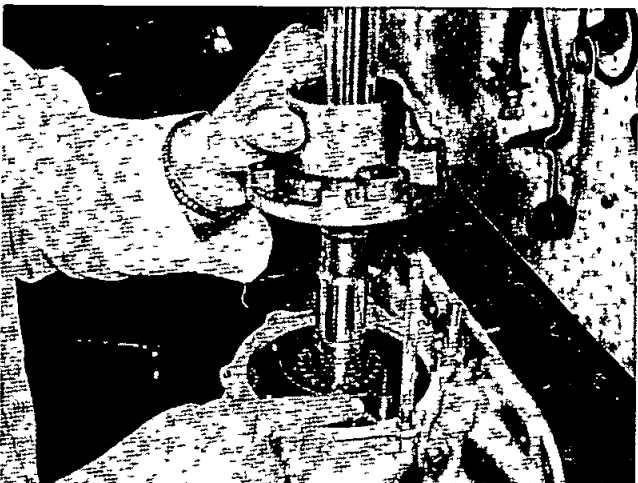
28 Pop the E-ring off the governor valve shaft, then slide shaft and valve through the governor, which can now be removed from the tail shaft.



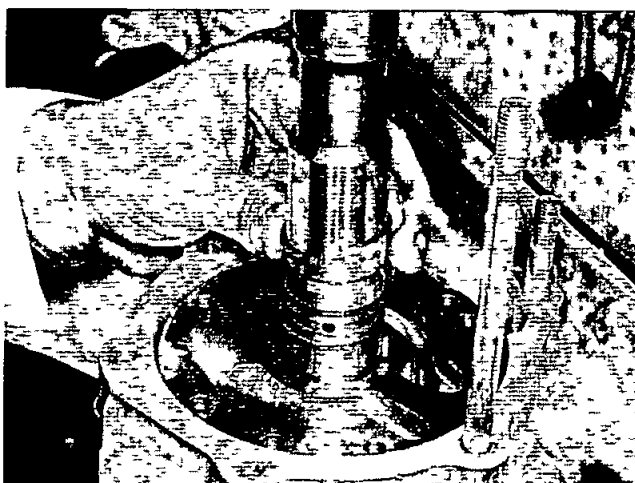
29 The governor and support will slide off easily. Work the inner and outer weights with your fingers. If they don't move freely, clean them until they do.



30 This rather long sliding key should be removed from the output shaft before you attempt to remove the rear oil pump body and drive gear.



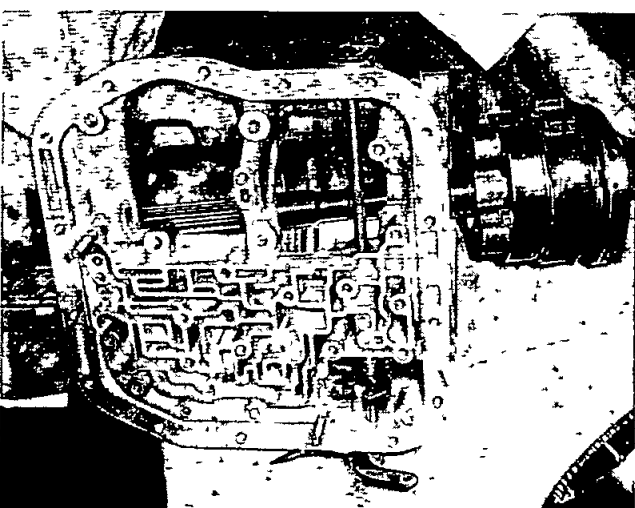
31 Then unbolt and lift the rear oil pump body off the output shaft. You'll find another check valve and spring located here—don't lose or neglect to replace it.



32 You don't have to break the oil seal rings to get them off—squeeze with your finger, stick a cotter pin under one end to disengage the tanks and they slip off.

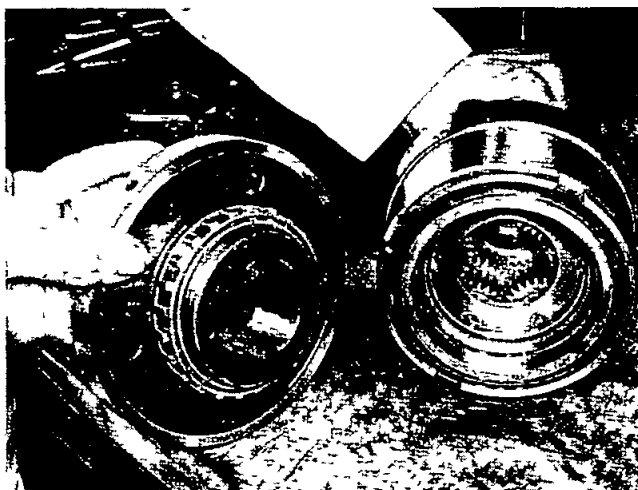


33 Late model pumps also have a priming valve and spring. This head pin drives the oil pump gear. As with the check valve, be sure to reinstall it.



34 You can now remove the planetary gear assembly, center support and rear brake band. Band is responsible for most of the transmission's problems.

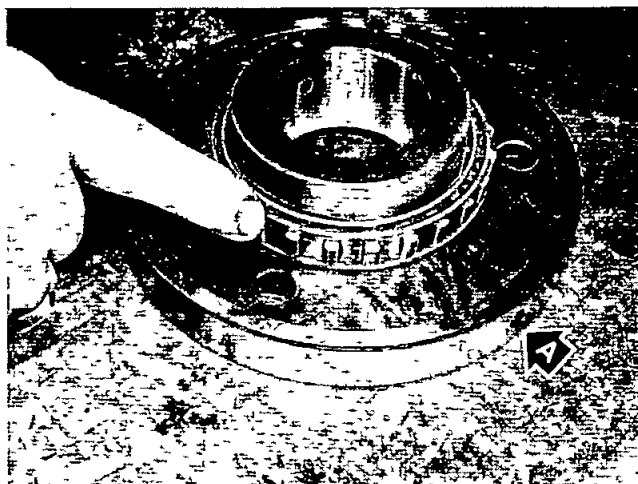
HOW TO: REPAIR THAT T-35 LOOK-ALIKE



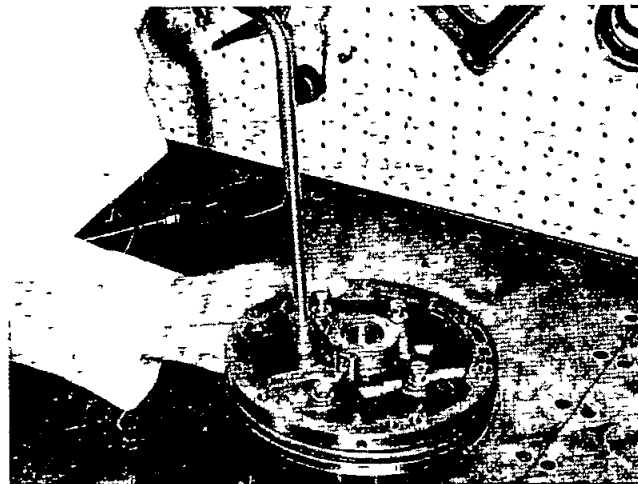
35 The sprag clutch slips out of the race on the front of the planetary. Planetary unit cannot be disassembled, if defective, the entire unit is replaced



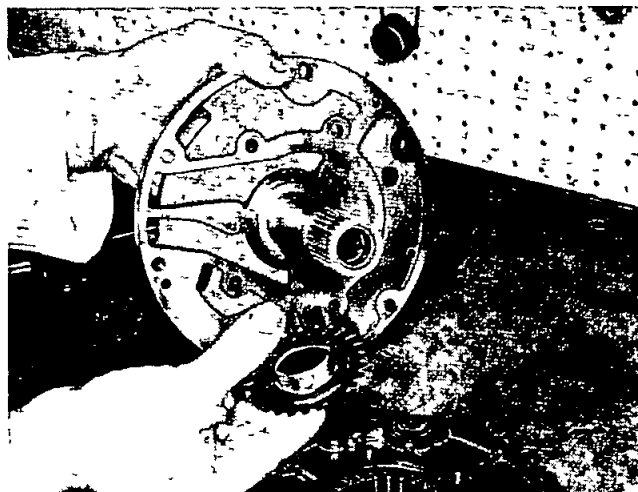
36 Note how the 1st/reverse drum is riveted to planetary unit, making disassembly impossible. Sprag clutch outer race and snap ring is reused with new unit



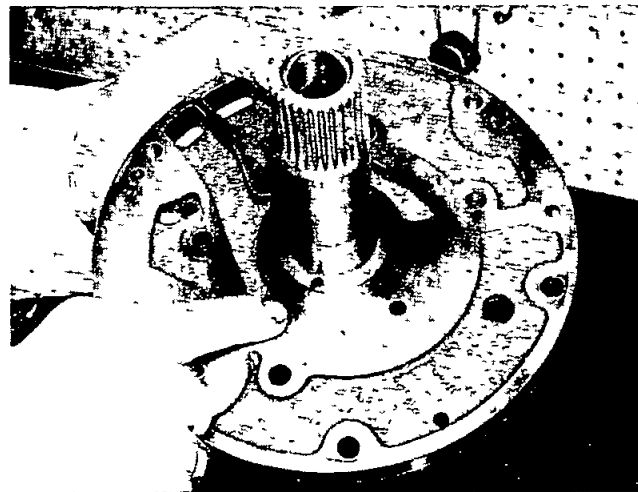
37 Check the sprag for damage, make sure oil holes are clear and replace the O-ring at (A). Reassemble so center support locks against planetary when turned clockwise



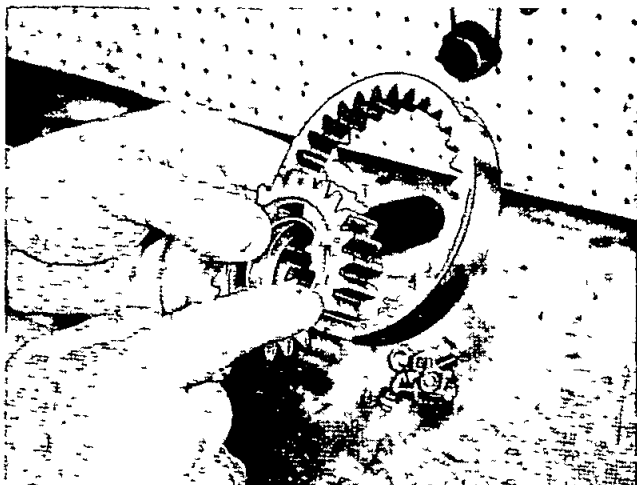
38 Holding the oil pump body as shown, remove the five bolts, then lower the body to the bench as it drops away from the stator shaft



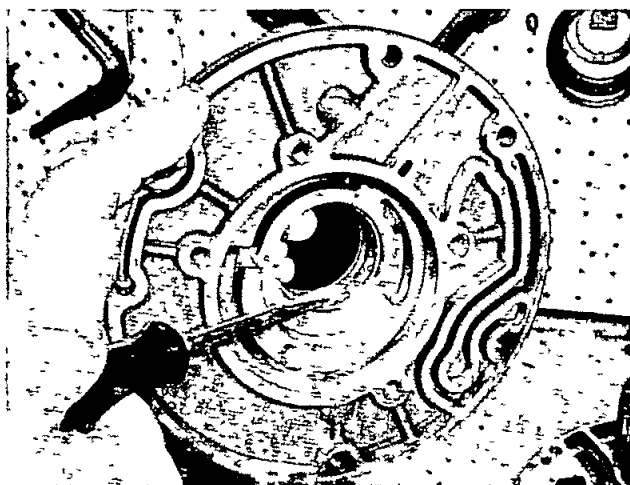
39 Separate the stator shaft from the oil pump body to expose the drive and driven gear. Wash everything with solvent and blow dry with compressed air



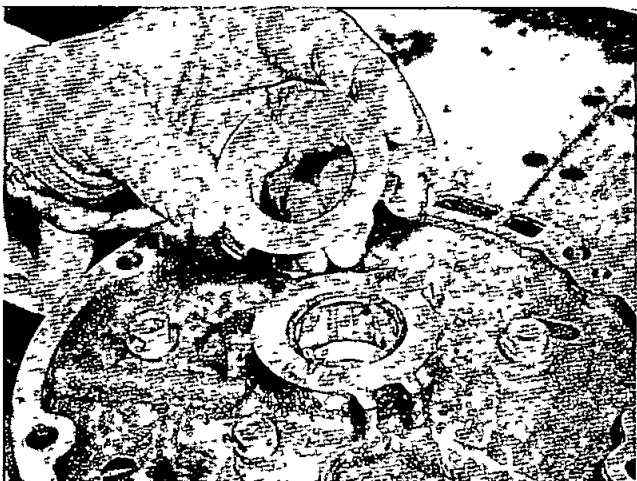
40 Inspect the stator shaft and the gear contact surface for any wear or burns. This is not known as a problem area with the Borg-Warner design



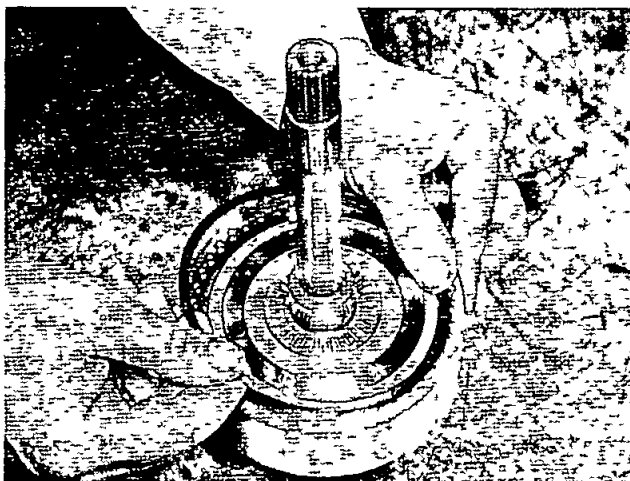
41 Inspect pump gears for wear or damage, if worn, replace in pump body and check clearance with feeler gauge. Limits



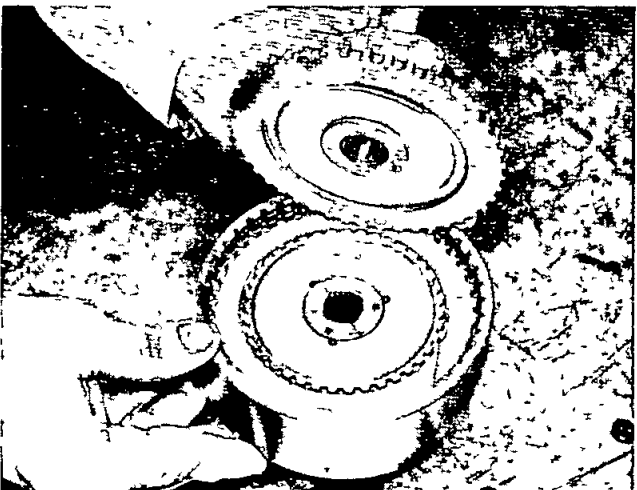
42 Check the oil pump body as you did the stator unit, paying particular attention for wear at the point shown. Replace the O-ring seal on outside of pump body.



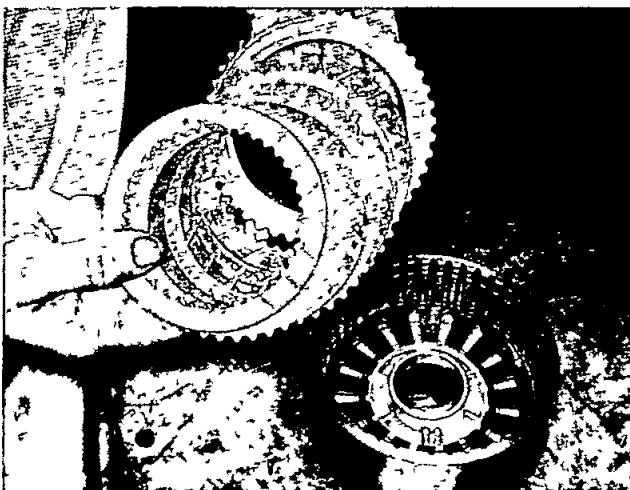
43 Reassemble unit after lubricating gears with ATF. If 6mm bolts are used, torque to 3-5 ft.-lbs., if 8mm bolts, torque to 8-11 ft.-lbs. Then add thrust washer.



44 Start disassembly of front clutch by prying end of snap ring free from its groove with a screwdriver, then remove ring by hand.

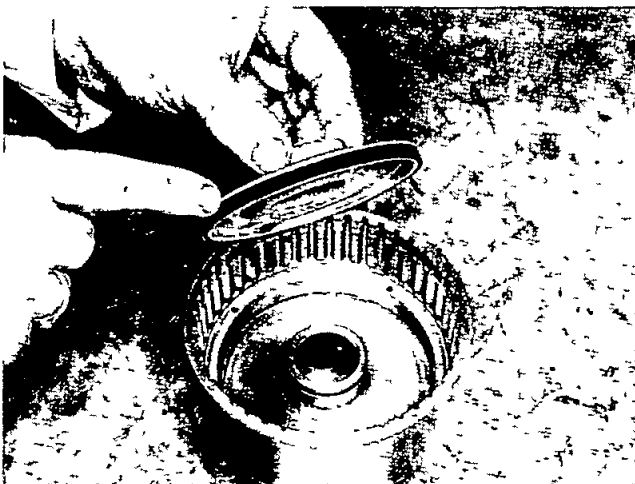


45 Lift off the input shaft and you'll find a thrust washer on top of the clutch hub. Remove washer and clutch hub and set to one side.



46 Clutch plates and discs come out next. Check both sides of each plate and disc for wear, burning or scoring. If one is bad, all must be replaced.

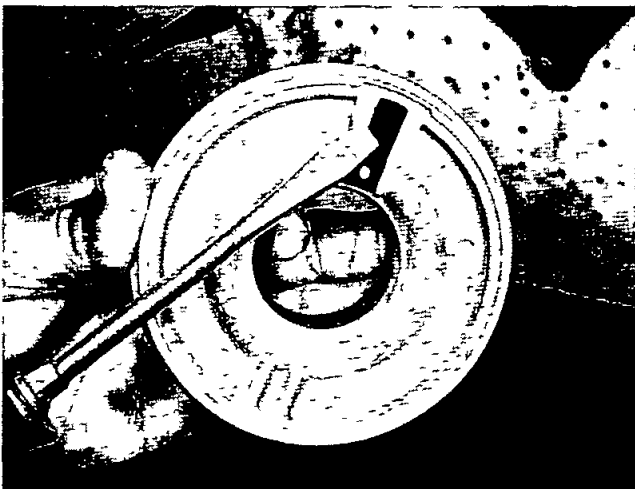
HOW TO: REPAIR THAT T-35 LOOK-ALIKE



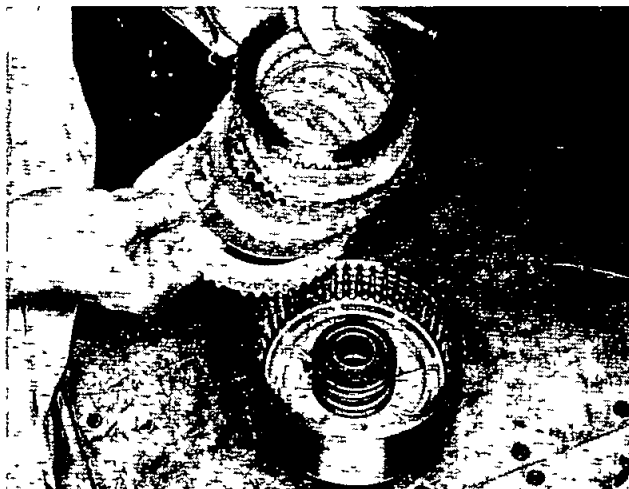
47 Now remove the piston spring retaining snap ring with a screwdriver. If piston does not lift out, apply compressed air to piston apply hole. Replace O-ring



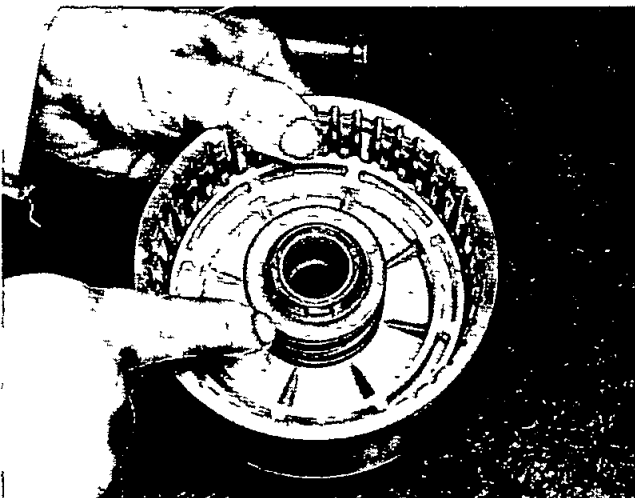
48 Don't try to pry O-ring seals from clutch, squeeze together with your fingers, grab the protruding end and peel it off the hub



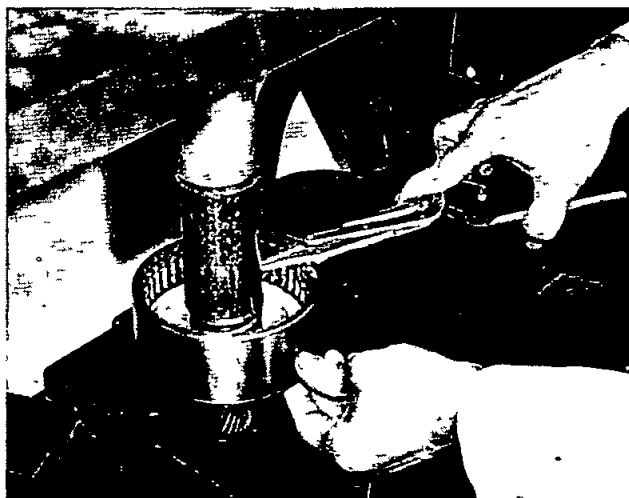
49 This piston check valve should be firmly riveted and spring back when you push it against the check valve hole. If not, replace the piston instead of trying to fix it



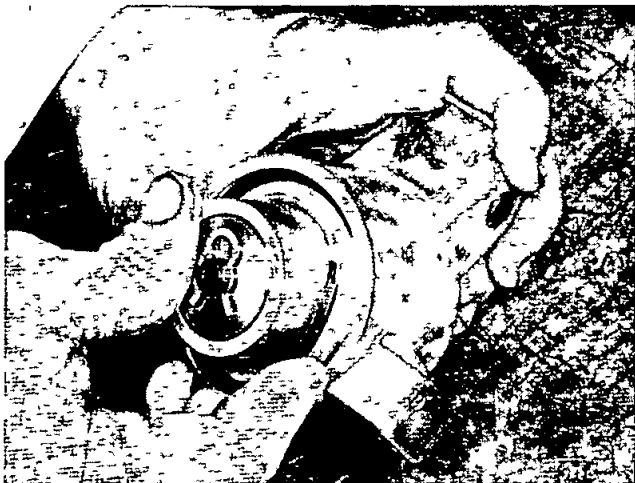
50 Disassembly of rear clutch is similar to front one. Replace all O-rings and inspect all plates and clutch discs carefully for wear or damage



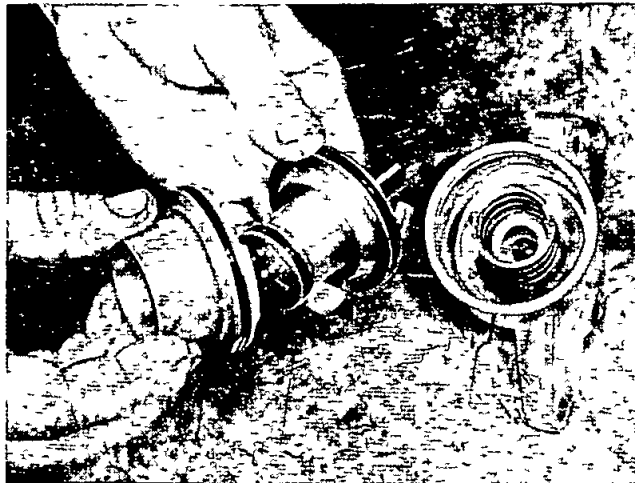
51 Before you can remove the rear clutch piston, this heavy spring must be compressed and a snap ring removed to let the spring come free



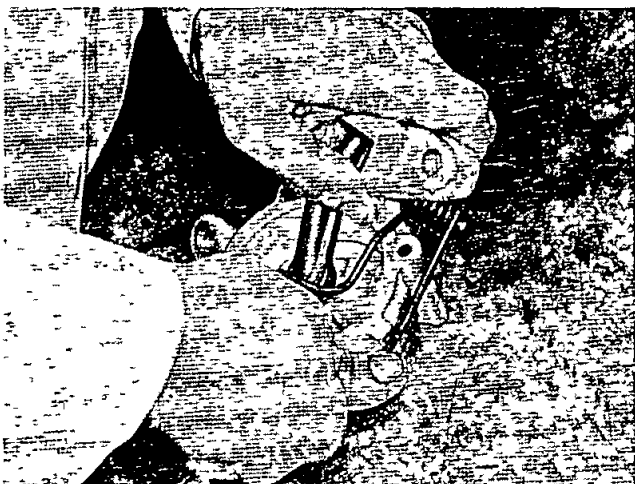
52 We made our spring compression tool from a piece of pipe with a notch cut in one side for snap ring removal. Without proper tools, this is very dangerous



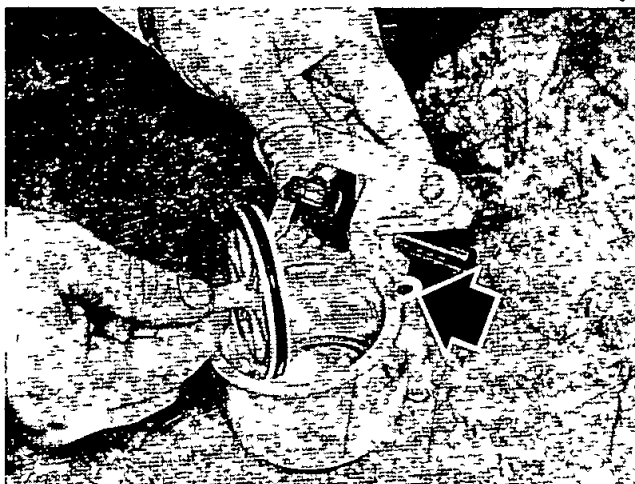
53 In order to disassemble the front servo unit, this snap ring must be pried out first. At first glance, you might think the small center retaining clip was the key



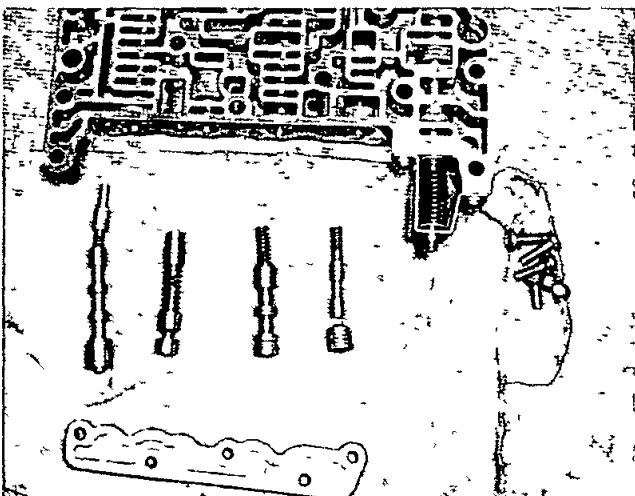
54 With the front servo apart, remove and replace both O-ring seals shown, then reassemble and clip snap ring back in position



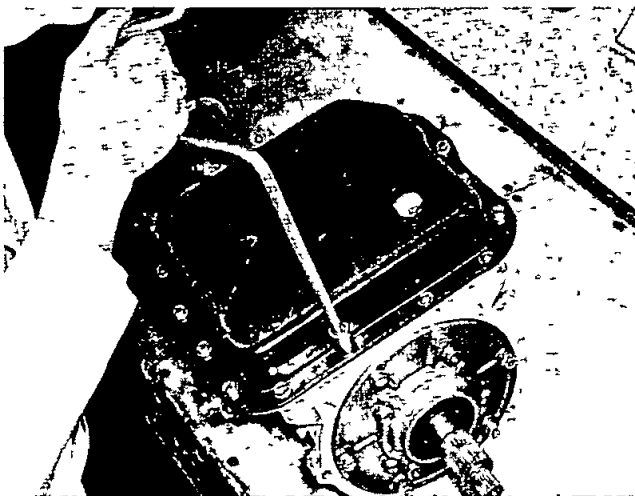
55 This torsion spring must be unfastened before you can disassemble the rear servo unit. Press down and swing out-side leg of spring to one side, releasing pressure



56 Piston should then pull out of servo, if not, apply compressed air the servo apply hole (arrow). Remove and replace the O-ring, then reinstall piston and latch spring



57 Here's the valve body disassembled. Components are held in place by cover shown. Unbolt and remove (L to R) 1-2 shift valve, orifice control, 2-3 valve, throttle relay



58 Reassemble the transmission by reversing the procedure shown in the preceding sequence. Be sure to install a new oil pan gasket and torque bolts to 4-6 ft-lbs

COMPETITION BREEDS...

SUCCESS AND MORE COMPETITION THRU DATSUN'S UNIQUE PROGRAM

Before there were cars, there were horses and people raced horses. Ever since there were cars, people have raced cars. Both types of racers have claimed that racing results in a progressive improvement of the product, and there is that tacky, outworn phrase about racing improving the breed. In today's use of the term, it's frequently better to say that racing successfully will improve somebody's image in the public's eye simply because many of the people who race cars also build cars for everyday use, and there is little resemblance between the two. Datsun believes in both ideas, and they are right now very busy in the process of proving their point.

Recently, we saw a machine called the R-382. It was painted brilliant yellow, and was powered by a turbo-charged V-12 engine. Were the aerodynamic body panels to be stripped away, you would be left looking at something like an overpowered kart. The R-382 was tucked away in a corner of the Service Department at Datsun's West Coast office and, frankly, there isn't much interest in it among the people in the competition department. Devices like the R-382 are fascinating technical exercises, and, if they clean house on the competition, will improve the company's image, yet they don't reflect current production practice, and that is just why Datsun has shelved such projects.

Dick Roberts heads up Datsun's competition department in Gardena, Calif. A few years ago, Dick was avidly competing in a production-type sports car out of Omaha. The people who built his car originally couldn't speak much English, and were very busy racing their own cars across the ocean. Dick recalls that because he had a good drill, he was considered well equipped! Things have changed.

Datsun's competition department is an impressive installation, replete with a "clean room," a parts bin that was impressive to say the least and, last but not least, a study hall. The study hall is really a dyno room where new engine components can be tested and proved on a continuous basis. There's a

nice office, too, where the phone rings anywhere between 50 to 80 times a day, and desks, across which pass 80 to 100 letters a day, both forms of communication coming from people who are racing Datsuns across the country. It's an interesting business, because these racers are running real Datsuns with numbers like B-210, 610, 710, 1600, 2000 and the Z-cars. Every one of those cars began life as showroom stockers with a lot of potential, and Datsun has done their homework well in developing a complete line of components that will help turn those cars into race winners.

Interestingly enough, there wasn't a race car in sight except for a 280-Z that was headed for Bonneville aimed at breaking some class records. It had a hot engine, roll cage, adjustable springing and a fire extinguishing system, but aside from a special paint job and some special salt tires nearby, there wasn't much to distinguish it from a stock 280. In a wooden crate next to the wall was a 280 engine

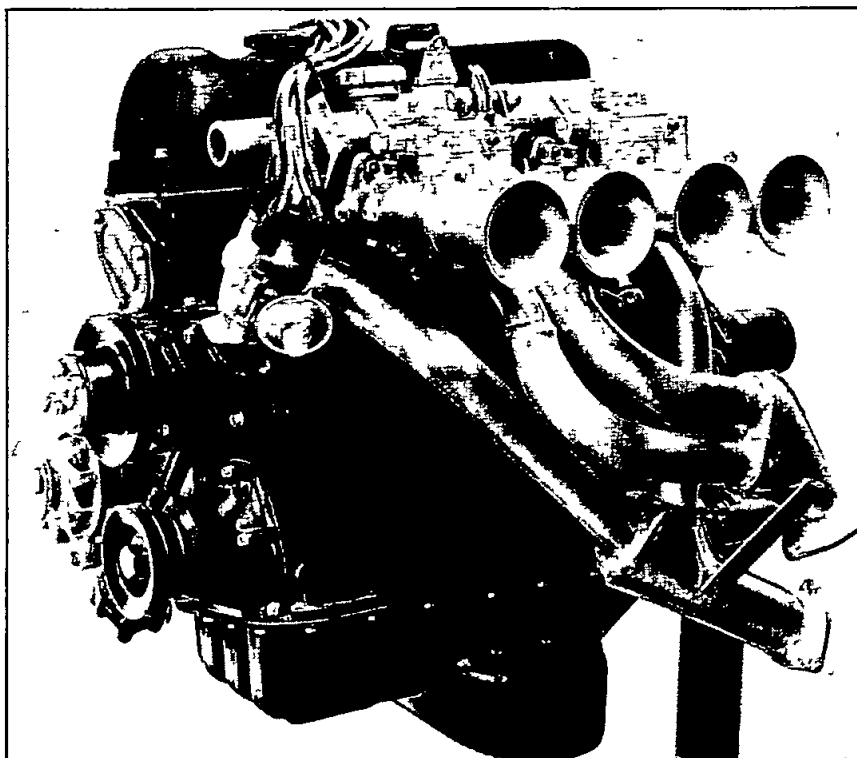
painted flat black and sporting a set of 44mm Mikuni carbs that was sent out from Bob Sharp Racing in Connecticut. The competition department doesn't spend their time building their own cars and racing them, instead they stand ready to help the guy out there racing, and that's a mighty reassuring

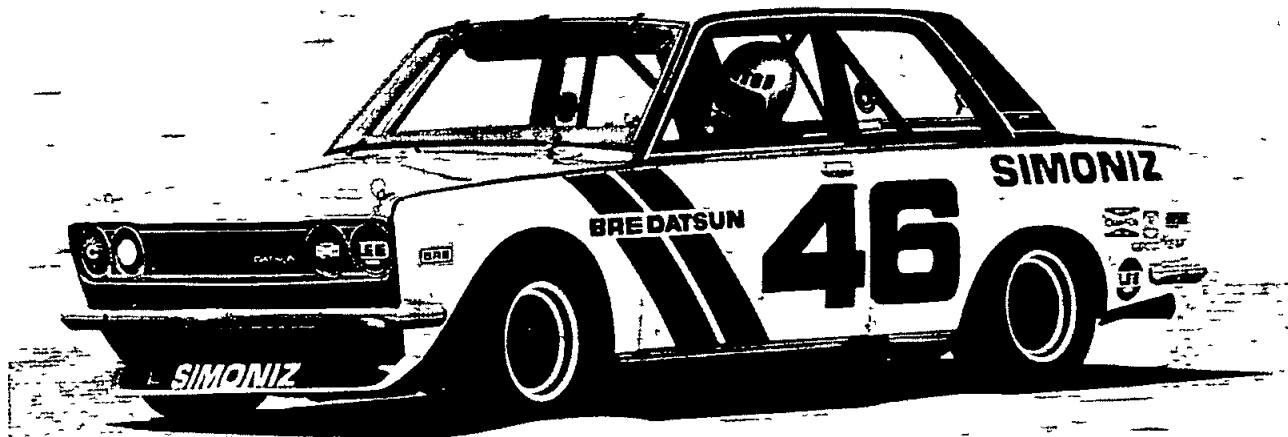
1 Raced-prepped 2-liter Datsun engine bears little external resemblance to its production counterparts. Carbs are Mikuni/Solex 44mm sidedrafts with extended "trumpet" velocity stacks. Note header configuration.

2 Pete Brock's BRE/Datsun team put Nissan on the American racing map. Their hotly contested season against the Alfa Romeos in 1971 ended with the White Datsuns on top. John Horton drove the 510 car No. 46.

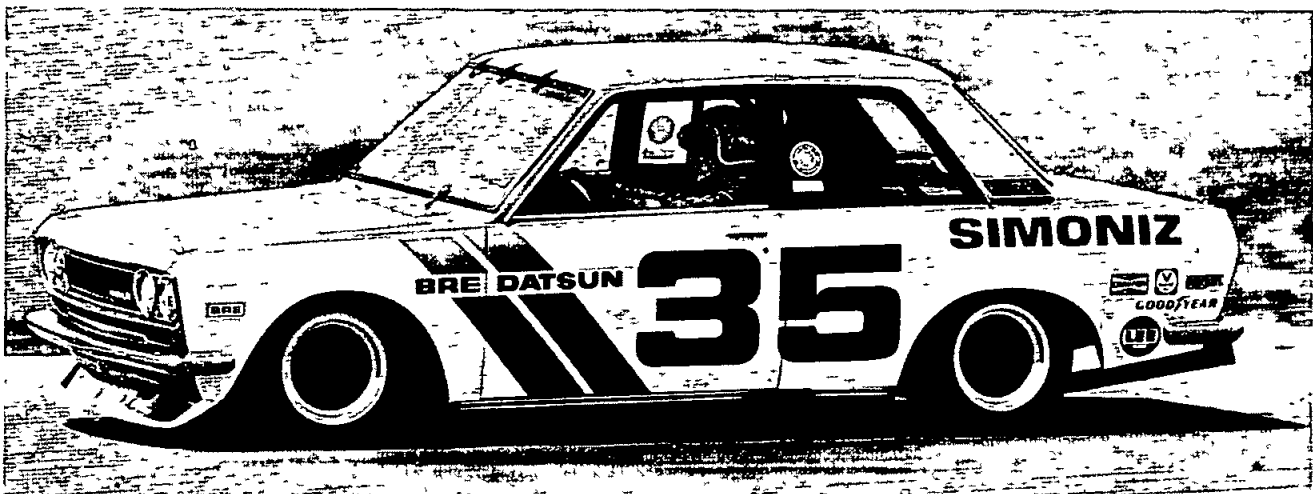
3 Mike Downey backed up Horton in the 1971 season on the BRE team.

4 Today, Datsuns of all varieties are raced across the country in a number of classes. This is Miller Imports' B/Sedan driven by SCCA Southern Pacific Division Champion, Dave Madison.

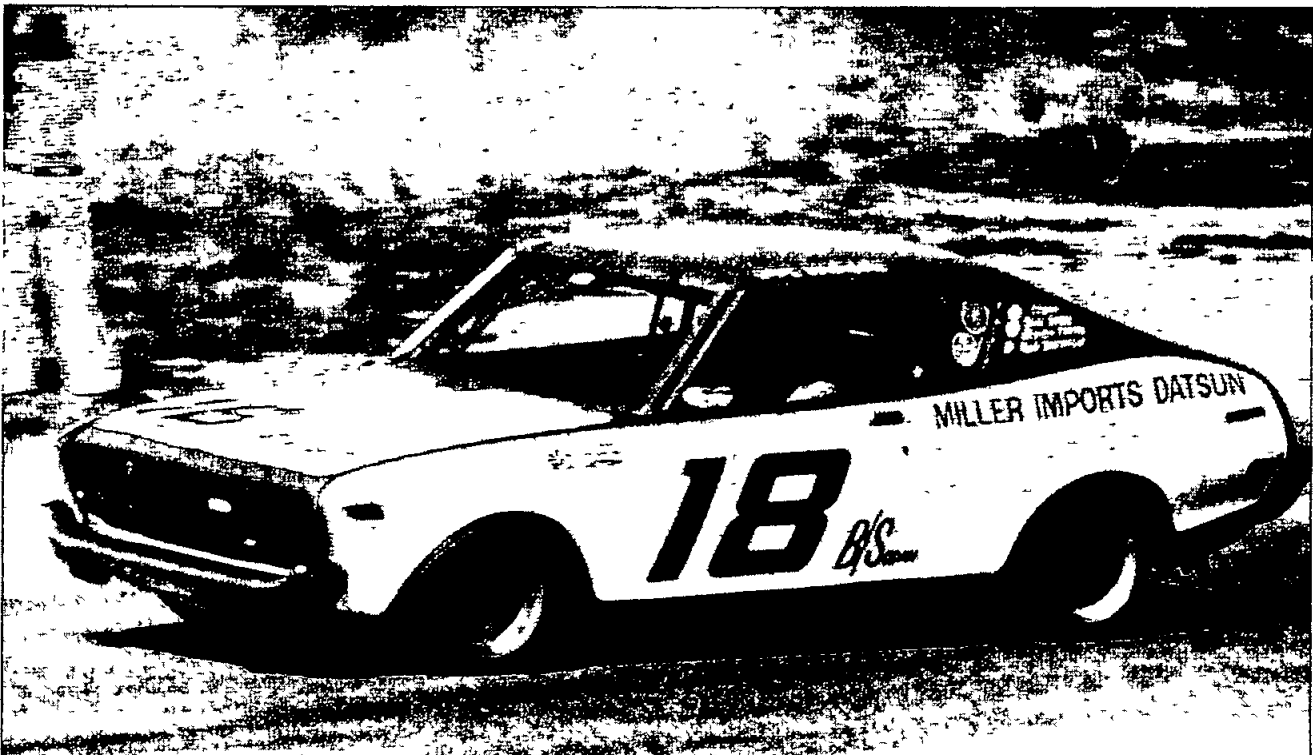




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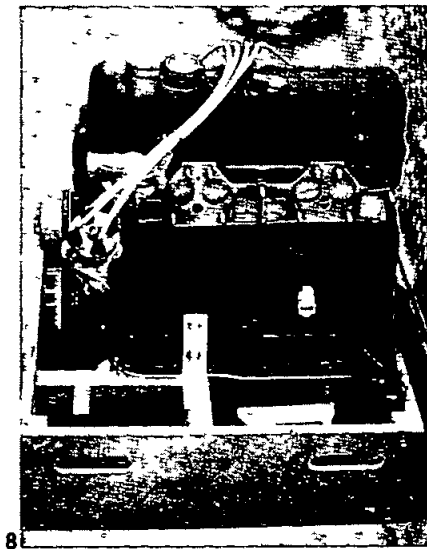
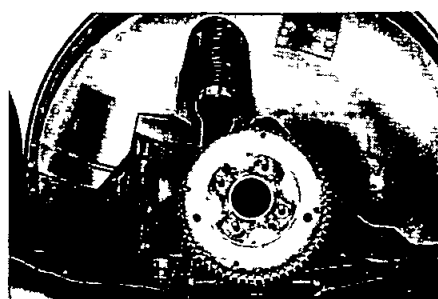
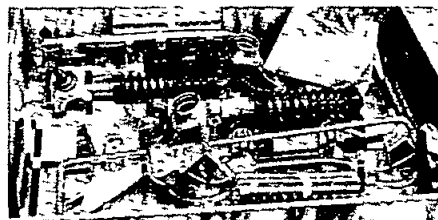
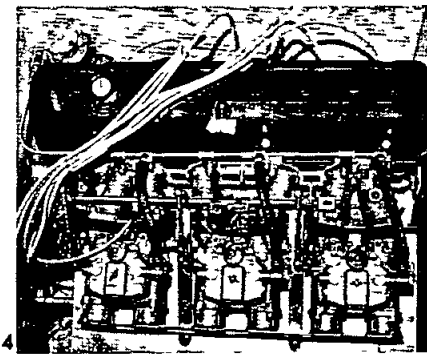
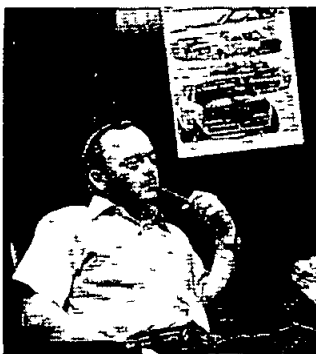
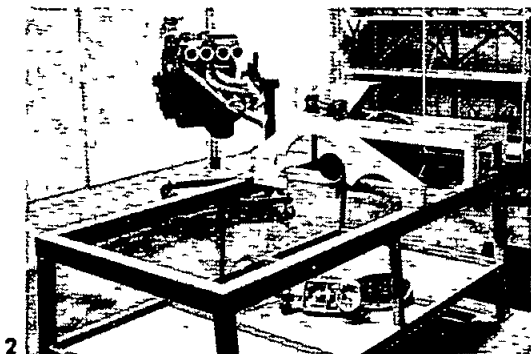
feeling to know that the factory is your silent partner in this crazy, addictive sport of going fast

Using production cars as the basis for competition, we wondered whether Datsun had directed most of their time towards developing the engine and driveline or the suspension. The obvious answer was both. Today, you can build up an engine with a lot of horses, but the real trick is putting them on the ground and keeping the car stable all the way around the

track. Datsuns are basically made of pretty tough stuff, and it's a matter of using the right combination of both horsepower and handling to come up with the competitive result. On the rows of shelves in the parts bin are the results of the competition department's testing program, and it's a program that keeps on testing, both on the dyno and during the final test on the track. But unless a particular design is no longer competitive or a better one comes along, there are no final grades

given out after the tests are over. Winning drivers and teams take home the prize money and the prestige, but Datsun continues the job of development. Racing is never a static situation, and new results are available to any team on an equal basis from Datsun.

The competition department in Gardena has gone to considerable length to develop racing components suitable for our conditions on our tracks. Racing is important in Japan, too, but the rules and frequently the conditions dif-



fer Datsun has worked with several outside outfits in order to come up with the right kind of parts for the job. A lot of parts, particularly suspension elements and kits come from the factory, but that doesn't mean that testing on them is final in every respect.

How does the factory use the knowledge gained from racing experience and apply it to production cars? That's a question asked often as a sequel to the "improving the breed" cliché, and it's not an easy one to answer in one

or two words. In the past years, the greatest gains have been in suspension design, aerodynamics and tire technology. Datsun has been applying these principles heavily in order to stay competitive, and refinements in production car suspension are frequently the result of racing experience. The same can be said for structural integrity. Any production car out on the track, no matter what modifications have been made to it, is still basically a Datsun in structure. The loads imposed on a car during a race—acceleration, cornering, braking—are tremendous, and provide an excellent check for the integrity of the car's basic soundness. Partly by intent, and partly through the medium of competition, Datsuns are among the most solid cars on the road.

Dick spoke for a while on the durability of the 4- and 6-cylinder Nissan engines. They're tough by design, and competition has proven their ability to take on more than twice their production-line output and live through more than one race without a rebuild. Much of this depends on the engine builder's talents and care, but it

also is a clear reflection of the basic solidarity of the designs. The same applies to the cars' drivelines. Again, while not specifically designed for racing, the Datsuns have proven their basic reliability through continuous racing. You can bet that any component which breaks with consistency is going to be earmarked for improvement by the factory. The competition department is able to gather together all the applied results from racing every weekend across the land and compile a very complete dossier on everything being learned.

Just how deep into racing is Datsun? Better to ask how deeply into Datsun are the people in SCCA, IMSA and other sanctioned forms of going fast. At any one time, there are as many as 1500 people involved in one way or another with racing them. Over 30% of the cars involved in rallying today are Datsuns. In club racing, you can find as many as 7 out of 10 top drivers doing their thing in a Datsun. Approximate figures, yes, but nonetheless a testimony to Datsun's reliability and basic fiber. Well, all right then, racing does improve the breed!

1 The 510 sedan still is a competitive car. This one is raced by Miller Imports out of Van Nuys, Calif.

2. Nearing completion in Gardena, Calif., is Datsun Competition's new dyno room. Here, the factory will be able to test and evaluate new components and try out some new ideas as well.

3 Dick Roberts is the man in charge of the Datsun racing program. It is his job to see that all the teams are receiving the parts, service and new information to stay on top.

4 Powerplant for the 280 was built by Bob Sharp Racing in Connecticut, a long way from the salt. Note heat shield beneath carbs. Datsun is hesitant to quote bhp figures on these engines, simply because they have found that one engine will give different figures on different dynamometers.

5 Dick shows a visitor a full-scale drawing supplied to each purchaser of a suspension kit. Drawing indicates mounting points, areas on the chassis requiring modification, etc.

6 This is the latest factory suspension kit for the 280-Z. It includes front and rear hubs, sway bars, adjustable spring/shock units, bushings, arms and installation hardware. Datsun does not sell this type of equipment to anyone who is not actively racing.

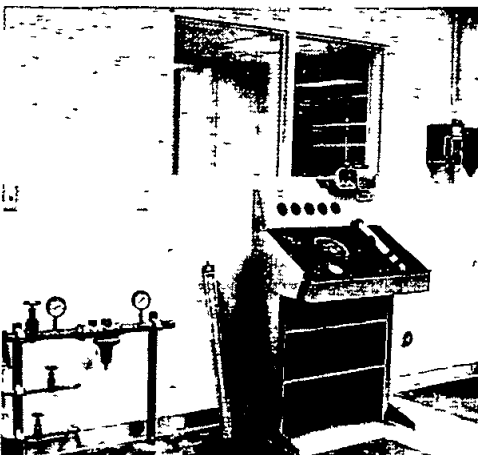
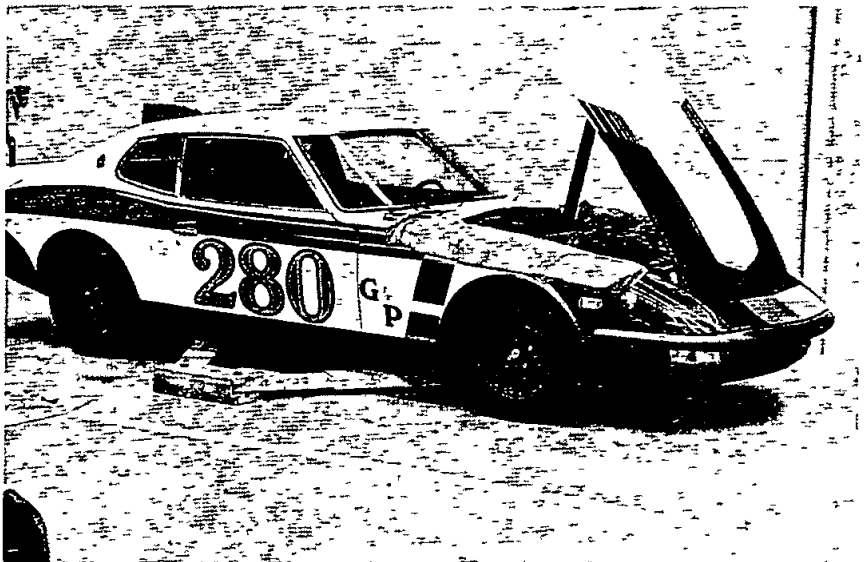
7 Right rear suspension of the 280 Bonneville car shows its adjustable spring/shock towers, and, behind a protective shield, an electric fuel pump. Drum rear brakes are retained.

8 This is a fresh, 2-liter engine prior to delivery. Engines are painted in heat-resistant flat black. Note the degreed front pulley and large oil pan.

9. Caught napping before it goes into action is the 280-Z that will be headed to Bonneville in 1975 to take a shot at some records. Temporarily mounted on street tires, the chassis is relatively stock.

10 Control panel for the Datsun dyno. Coolant water piping is at the left. A mercury gauge measuring air density in the dyno room stands against the wall. Switchboxes on wall will operate ventilation system.

11 Dick Roberts, standing behind the new dyno's water brake, is confident of the new installation's potential and versatility. Short driveshaft will couple test engine's flywheel to brake unit.



AND NOW A COMMERCIAL WORD

BY KONRAD E. SCHREIER, JR.

THE L'IL HUSTLER'S FAMILY TREE HAS ITS ROOTS DEEP INTO HISTORY

PHOTOS COURTESY NISSAN MOTOR CORPORATION

Among the popular Datsuns which Nissan Motors Corporation sells in the United States are the L'il Hustler pickups. These are economical, rugged and reliable mini-trucks. A product of Nissan's long years of automotive experience, they have worked out very well in America. It all began way back around 1910, when motor vehicles were replacing horses and wagons, and the Kwaishinaha Motor Car Co., the oldest ancestor in the Nissan line, began producing the Dat motor vehicles.

While the vast majority of all early Japanese motor vehicles were passenger cars, from the very beginning a few trucks and other commercial vehicles were built on the same chassis the early Japanese automobiles used. The primitive and undeveloped road network of Japan of those days limited all motor vehicles to the environs of the big cities.

The number of cars, trucks and commercial motor vehicles used in Japan, and the miles of roads they could operate on, were very limited until an enormous natural disaster, the Great Earthquake of 1923, wrecked the country. One of the most serious casualties of these temblors was the Japanese railroad system, on which the country placed almost complete reliance for its internal transportation. While the railways were being rebuilt the Japanese began improving their roads so they could use motor vehicle transportation until the trains could operate efficiently again.

To get the motor vehicles they needed the Japanese had to turn to foreign automobile manufacturers, mostly the Americans. While the majority of the rapidly expanding number of trucks and commercial motor vehicles used in Japan after the Great Earthquake were American-made, the Japanese began to build their own vehicles as soon as they got back into production. The Dat Automobile Manufacturing Co.,

successors to the Kwaishinsha Motor Car Co., soon began building light and heavy truck chassis. The light trucks were built on the passenger car chassis and the heavy model used a special medium truck chassis. From about 1926 until the mid-1930's, Dat was the most important producer of trucks in Japan, and for several years in the 1920's Dat was the only domestic maker of trucks for the Imperial Japanese Armed Forces.

When the militarist faction gained control of the Japanese government in 1930, they began expansionist adventures into Chinese Manchuria, and its vast size and area created a need to motorize the Imperial Japanese Army. Initially they used motor vehicles purchased in the United States, but they began to fear that the American government would cut off this supply. The militarists felt it was essential that the Japanese motor vehicle industry be encouraged to become larger and completely self-sufficient, so the Ministry of Commerce set up a Motor Industry Establishing Committee in 1931. This committee's purpose was to put the Japanese automotive industry on a sound footing, and to phase out the reliance on foreign-made vehicles. The Dat Automobile Manufacturing Co., which was already producing satisfactory medium trucks, good light trucks and successful passenger cars, was one of the companies which received considerable encouragement from the Japanese Government.

This encouragement for Dat was especially needed, as the world depression of the early 1930's had the company in financial difficulties, and they desperately needed help. A total reorganization of Dat took place in 1933, and out of it came Nissan Motors Corp.—the manufacturer of Datsun and Nissan motor vehicles. As a result of this reorganization some parts of the original Dat company were spun-off to other automotive companies.

For a couple of years Nissan built only the Datsun line of automobiles and the light trucks which shared the same chassis. These Datsun mini-cars and mini-trucks were quite successful, and by 1935 the company was again in a position to expand. At this time Nissan bought the American Graham-Paige automobile tooling and began producing their version of this car in Japan. They were also soon back into the production of a medium truck chassis.

Nissan's move back into medium truck production was further encouraged by a 1936 law which was designed to keep imported motor vehicles off the Japanese market. This Motor Vehicle Manufacturing Enterprise Law specified that the Japanese government would license all motor vehicle manufacturers, that at least one-half the capital and ownership of motor vehicle companies would have to be Japanese, and that the Japanese Imperial Army would have the right to issue orders as to what the motor vehicle industry could and could not produce. In 1939 the Japanese Foreign Exchange Control Law almost completely stopped the import of foreign motor vehicles of any sort.

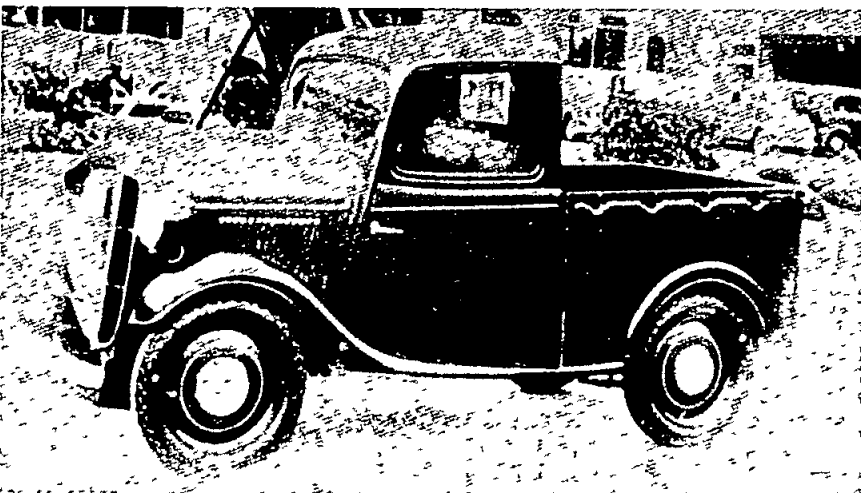
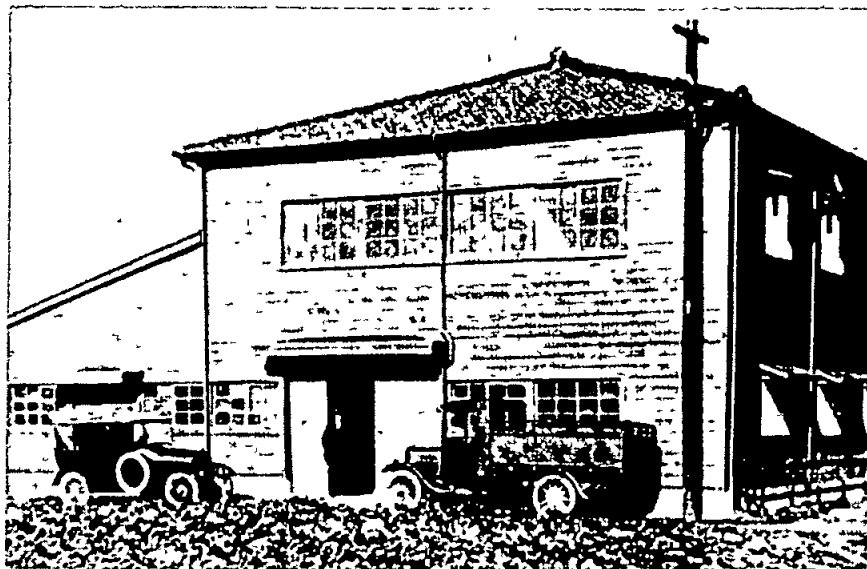
Under military direction Nissan continued to produce their Datsun mini-cars and light trucks until about 1940, and for the rest of World War II they only built light trucks on the Datsun chassis. They also developed two trucks which were the mainstays of the Imperial Japanese Armed Forces throughout the war.

The first of these, and the older, was the Nissan Model 80, a 2½-ton cab-over-engine truck with an overall design very much like an American Federal truck of the mid-1930's. It was powered by an 85-hp engine, and its whole design, layout and construction were very typical of the trucks of the mid-'30's. Its 2x4 2-axle chassis was very light but it was underpowered by

American standards of the day. It only had a top speed of 48 mph. Actually, by American standards, the Model 80 was only a 1½-tonner, however, it was rugged and dependable, and it did a good job for the Japanese, who made extensive use of it throughout the war.

The Nissan Model 80 was replaced by the Model 180 (sometimes referred to as the Model 81) about the middle of the war. The Model 180 had a conventional cab on a 2-axle 2x4 chassis and a conventional 6-cylinder engine similar to the Model 80's, but was only rated at 69 hp. The Model 180, by American standards, was even more underpowered and slower than the Model 80, but it was used very extensively by the Japanese during World War II, and seemed to do the job for them. The merit of both the Nissan Model 80 and Model 180 was that they were simple, rugged, reliable and well-built trucks. They were dependable and could do what was expected of them despite their power deficiency.

The majority of the Nissan Model 80's and Model 180's were built as open cargo body military trucks with typical military lines, and their cargo bodies were made of tough wood to relieve the wartime need for steel. These trucks were also fitted out for almost any other use: their chassis would lend itself to, from buses and fire trucks to tank trucks and searchlight trucks. About the only thing they were seldom, if ever, used for was towing trailers of field artillery pieces, and this was because they were just not



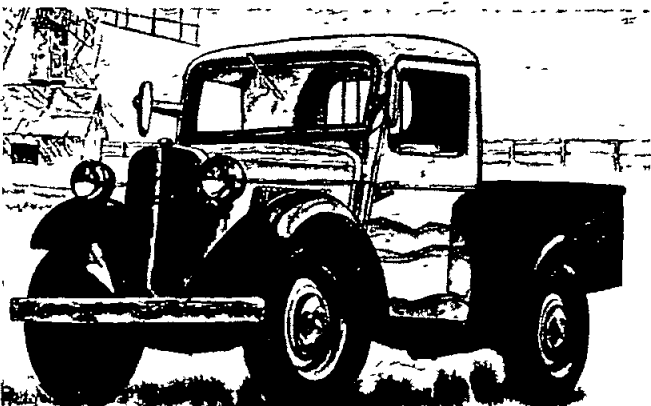
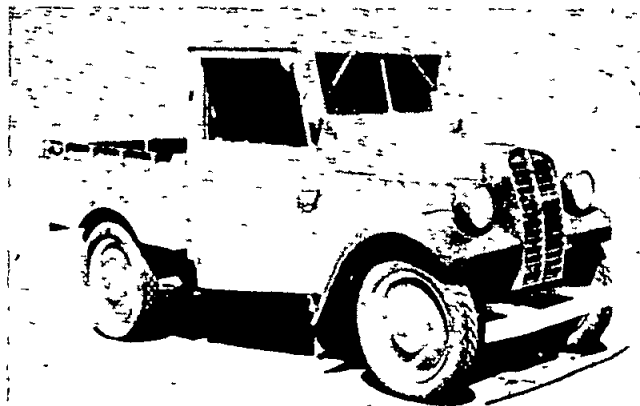
1 In front of the Datsun Automobile Manufacturing Co. In the early 1920's are displayed a Model 51 touring car and a truck that was probably a modification of that automobile

2 The successful Datsun vans of 1935 were part of the reason the company was able to expand

3 In 1936, Nissan produced this mini-pickup

4 This Datsun light pickup built about 1946 was similar to the military model they had built during WWII

5 The 1950 Datsun mini-pickup is a direct ancestor of today's L1'i Hustler



powerful enough for this demanding service

Toward the end of World War II the Japanese automotive industry began to fall apart. Steel shortages and transportation failures forced them to assemble some vehicles without fenders, and they began building chassis with wooden cabs toward the end of the war. Nissan suffered problems at the end of the war along with the rest of Japanese industry, and by the end of the war was producing practically nothing.

As soon as the war ended, U.S. Army General Douglas MacArthur began implementing the program for rebuilding Japan to get the country back on its feet economically. There was a desperate need for transportation within Japan, and the only quick way to fill it was with motor vehicles, so the Japanese automotive industry got a high priority in the rebuilding program. Nissan kept the Model 180 chassis in production, and it was used for many vehicles, but predominantly for cargo

trucks and buses. Nissan also got their prewar light car-truck chassis back into production in a slightly modified form, and was soon producing badly needed light trucks. As always, Nissan and Datsun trucks were found to be excellent utility vehicles, and they soon put the company back on its feet.

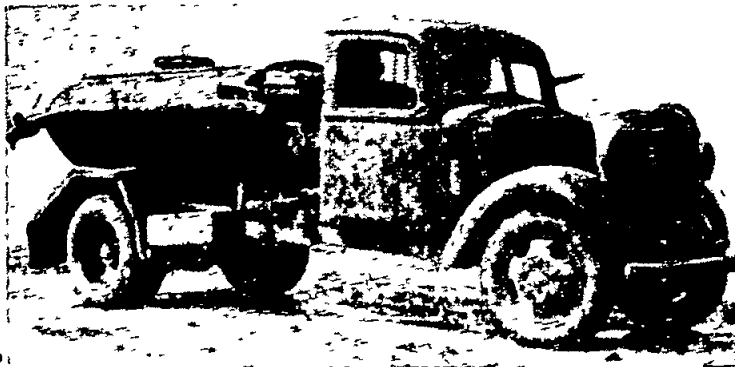
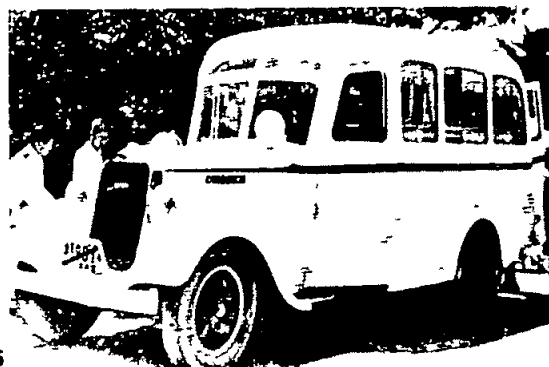
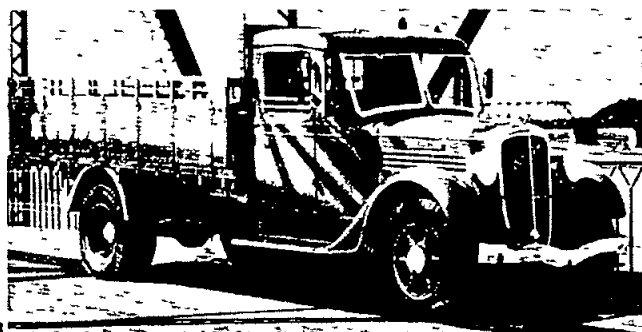
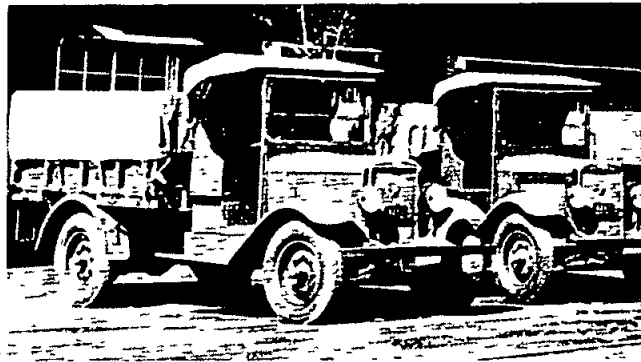
When the Korean War came along in 1950, the United States financed and supplied the United Nations Forces fighting to maintain a free Korea, and the U.S. turned to Japan as a source of many non-combat supplies. The Japanese automobile industry supplied many vehicles, rebuilt many more, and many Nissan and Datsun trucks were procured and used. These were almost all commercial model Nissan products, and they were not intended for use in the combat zones.

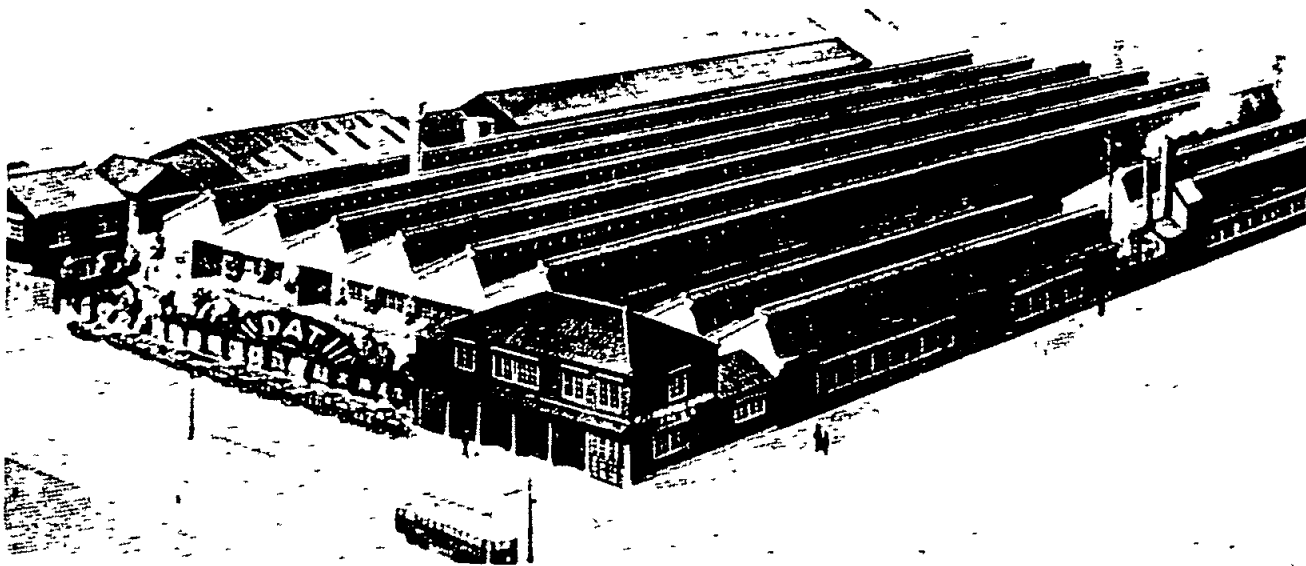
In 1952 Nissan Motors became involved in a labor strike which lasted until 1954. This strike nearly bankrupted Nissan Motors, and while it was going on the company produced nothing. When the strike finally ended the Nis-

san company went back into business with a will, and was soon back in full production. In fact, 1955 was the year they began the expansion program which has led to the successful, large, modern company they are today.

In the late 1950's Nissan began to think about exporting their motor vehicles. This was not a new idea, for Nissan had sold a few trucks and automobiles into the export market in the late 1930's, but World War II had brought an end to all such Japanese enterprise. In 1958 Nissan showed their Datsun mini-cars at the Los Angeles Imported Automobile Show, and in 1960 Datsuns were imported into the U.S. market.

Among the first Datsuns in America were the Model 320 pickups, a light mini-pickup similar in design concept to the light pickups they had been successfully building since back in the early 1930's, with a 73-cu-in. engine. The Model 320 was basically their mini-passenger car chassis and powertrain built up as a pickup, and because of the rugged nature of the Datsun

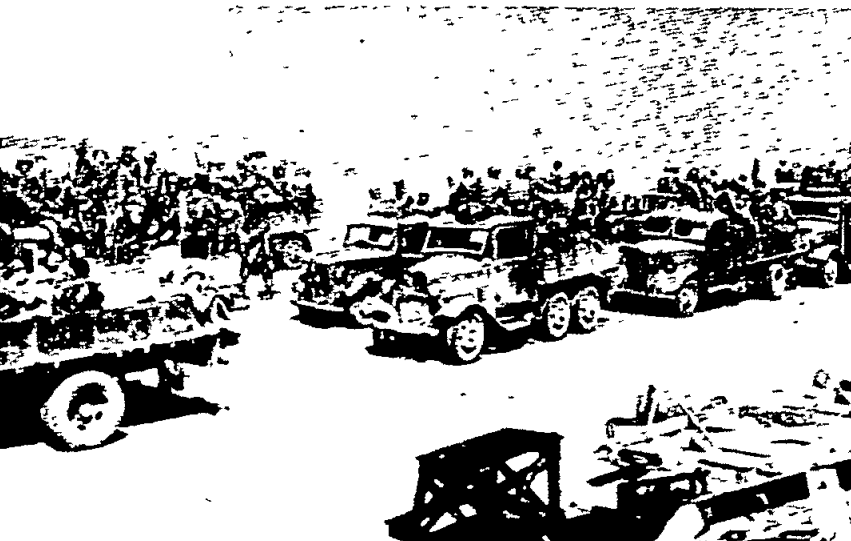




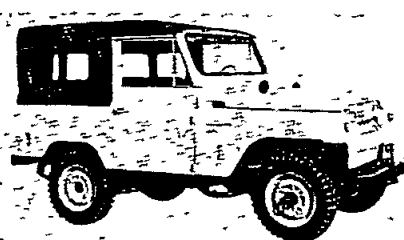
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1 Many trucks like these 1951 Datsun mini-pickups were supplied to the U S by Japan during the Korean War

2 Many Dat trucks, such as these 1928 models, were converted to military use for the Japanese Armed Services

3 Typical Japanese truck of the mid-1930's.

4 Nissan Model 80 military truck of 1937 had an overall design very much like the American Federal truck of the mid-'30's

5 This is the 1934 version of the Nissan bus, built on a medium truck chassis

6 This Nissan Model 180 tank truck was captured by the U S Army during WWII (U S Army photo)

7 The Dat Co plant in 1930 was one of the largest motor vehicle plants in Japan. Note the trucks parked in front of the Dat sign

8 Typical military trucks built by Nissan for use by the Japanese Imperial Army in China in 1940 (U S Army photo)

9. In the center of this post-WWII photo taken in Japan is a 3-axle Isuzu military truck, to its left is a Nissan Model 180 and to the right a late Nissan Model 80 (U S Army photo)

10 The 1969 Jeep-like Nissan Patrol was an excellent 4WD vehicle imported into the U S for the last time that year

mini-cars, built to stand up to the rugged roads of Japan, this made an excellent little pickup

In 1965 the Datsun 79-cu-in engine Model 520 mini-pickup, an improved version of the Model 320, was introduced into the American market. This small machine also did well in America, but it only represented one of many trucks in the Nissan-Datsun line. The last year the Model 520 was sold in America, 1969, the Nissan-Datsun commercial motor vehicle was produced in more than a dozen basic models, ranging from ½-ton rating up to 20-ton rating. This 1969 commercial line is still quite representative of what Nissan builds today, although this includes many models which are never seen in America.

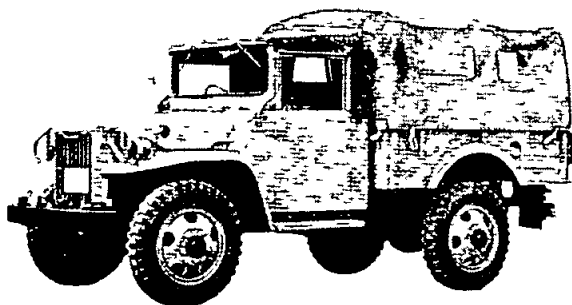
The smallest in the line was the Datsun ½-ton Model 1000 pickup and mini-panel with a 60-cu-in, 62-hp, 4-cylinder engine and a 90-in wheelbase. Next came the Datsun ½-ton 1300 se-

ries with a pickup, a crew-cab pickup and a panel-van. The 1300 chassis had a 100-in wheelbase and a 67-hp, 79-cu-in, 4-cylinder engine. Then came the Nissan Homer cab-over-engine pickup, rated at 1¼ tons. It had a 90-in wheelbase chassis powered by a 97-cu-in, 81-hp, 4-cylinder engine. Next in the line was the conventional Nissan Miler 1¾-ton pickup on a 113-in wheelbase chassis powered by a 121-cu-in, 99-hp engine. Then there was the Nissan Junior 2½-ton pickup, a conventional 110-in wheelbase model powered by a 121-cu-in, 99-hp engine. Next came the almost identical Nissan Caball and Clipper cab-over-engine pickups, both rated at 2¼ tons and powered by a 99-hp engine, but the Caball wheelbase was 98 ins while the Clipper was 92½ ins. Then came the Nissan Model C80 truck, a conventional model rated at 3¼ tons on a 140-in wheelbase chassis powered by a 6-cylinder, 182-cu-in, 130-hp engine.

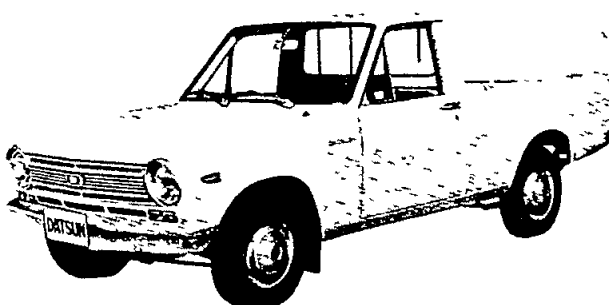
This model C80 reveals its heritage from the old Nissan Model 80 developed in the late '30's, and the Model 681 truck chassis shows lineage from the Model 180 of World War II days. The Model 681 chassis is rated at 6½ tons, has a 161-in wheelbase and a 6-cylinder, 241-cu-in, 145-hp engine. All these 1969 trucks were 2-axle 2x4 designs using gasoline engines, although there were other larger Nissan trucks available with diesel power. None of these 1969 commercial Nissans were ever sold in America.

Nissan-Datsun also builds light four-wheel-drive (4WD) vehicles, and one of these, the Nissan Patrol, was imported into the United States from 1961 until 1969. The Nissan Patrol is a Jeep-like ½-ton machine built around a heavy-duty 4WD chassis powered by a 6-cylinder, 145-hp, 242-cu-in gasoline engine. The Patrol is made in three basic models: a soft top, a hardtop (both with an 87-in wheelbase) and a

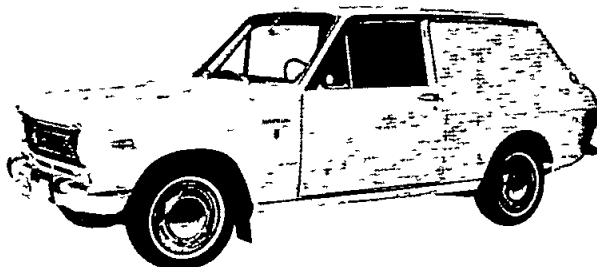
1969 MODELS



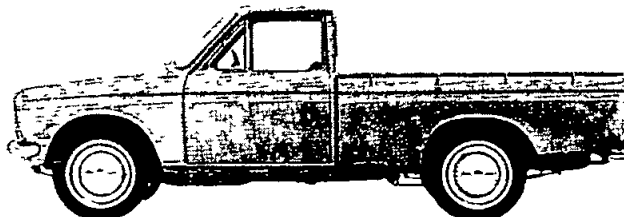
Carrier



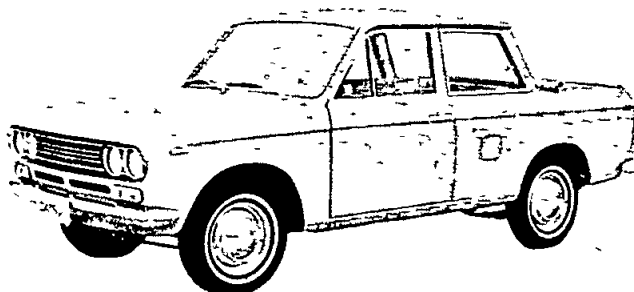
Datsun 1000 Pickup



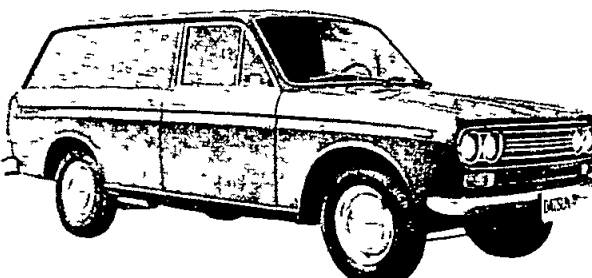
Datsun 1000 Panel Van



1300 Pickup

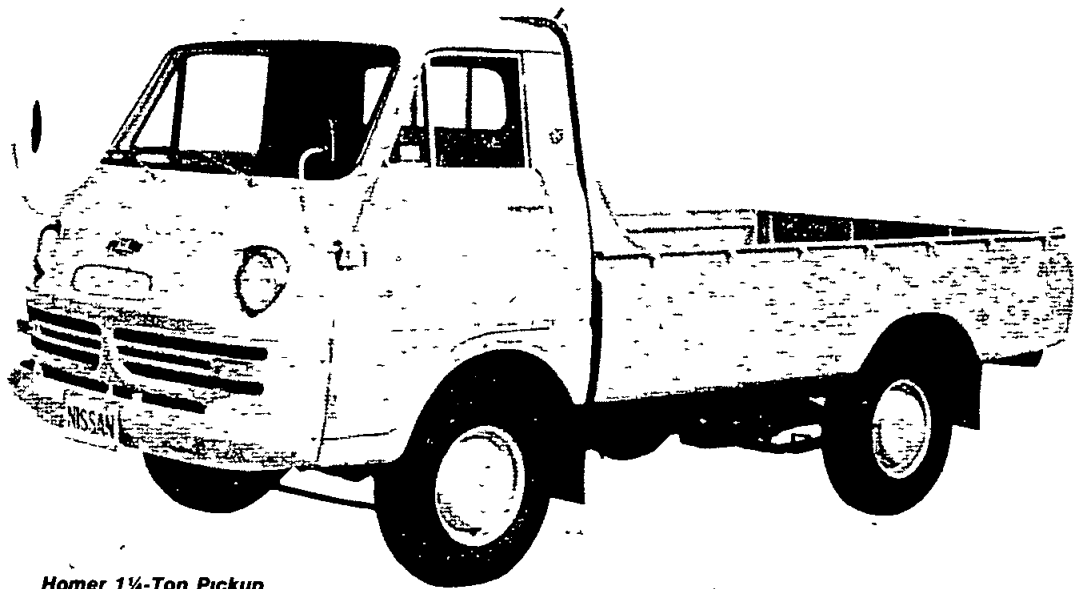


1300 Double-Seat Pickup

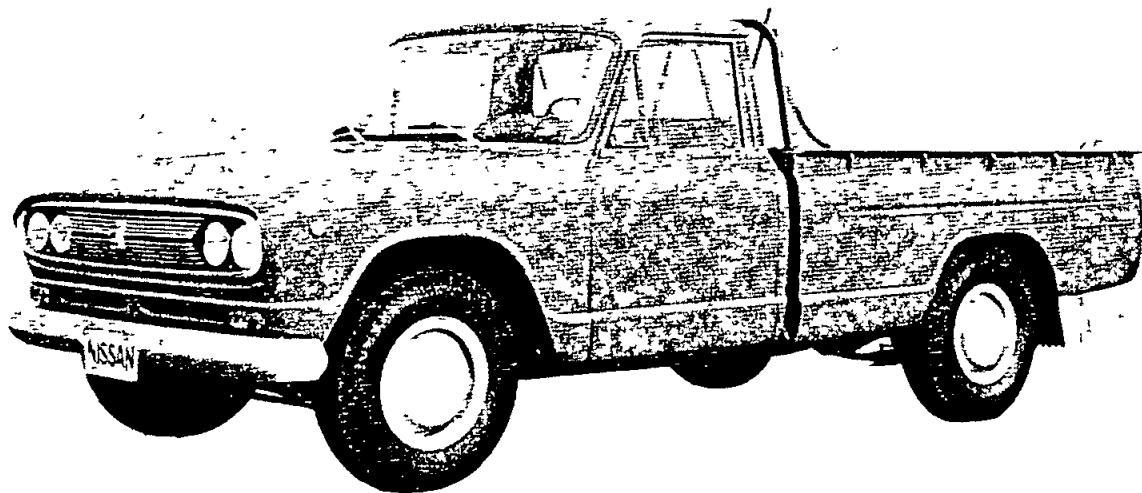


1300 Panel Van

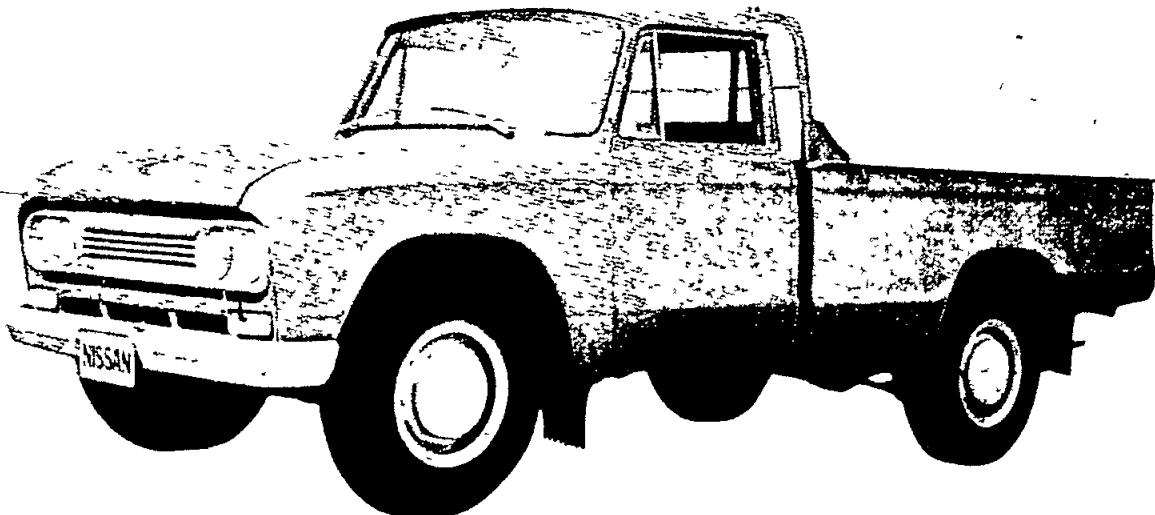
1969 MODELS



Homer 1 1/4-Ton Pickup



Miler 2-Ton Pickup



Junior 2-Ton Pickup

2-door wagon with a 98-in wheelbase. In addition to the Patrols, Nissan makes the larger Carrier, a 1½-ton rated 4WD truck with a 110-in wheelbase chassis powered by the same engine as the Patrol. The Carrier is very reminiscent of the famous ¾-ton American Dodge 4x4 "weapons carrier" light truck in concept, design and appearance. Nissan can also build these light 4WD trucks with diesel powerplants, but Nissan diesel trucks have never been sold in America.

Nissan also built buses in 1969, and, of course, still does. One type was

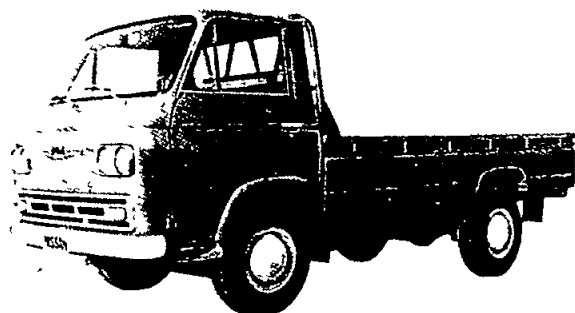
their Micro-Bus, and it was a small, 20-passenger model. Another was a large, 69-passenger model. They were typical of the type of buses seen on the streets and roads almost any place in the world, and, from what they say, Nissan buses still are.

While most Nissan-Datsun commercial vehicles are seldom, if ever, seen in the United States, they will be found many other places throughout the rest of the world. Of course, some Patrols will still be found in America, and a very few of the other trucks have somehow been brought in. All the

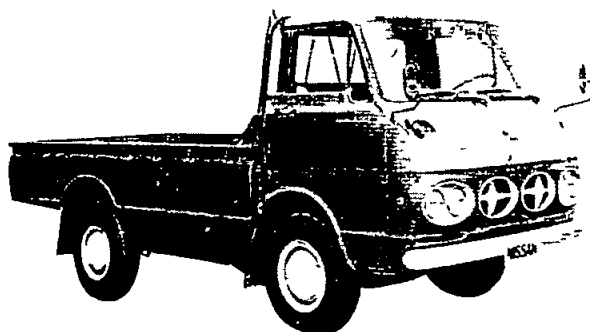
Nissan-Datsun commercial vehicles are basically designed for the conditions in Japan, where Nissan provides roughly 30% of the commercial motor vehicle market. They would have to be re-engineered and supplied with more power if they were to be used in America.

The current Datsun Lil' Hustler mini-pickup has been engineered for the American market, and that is part of the reason it is so successful here. In 1969 Nissan began bringing the Datsun Model 1300 pickup to the United States as the Model 521. The Model

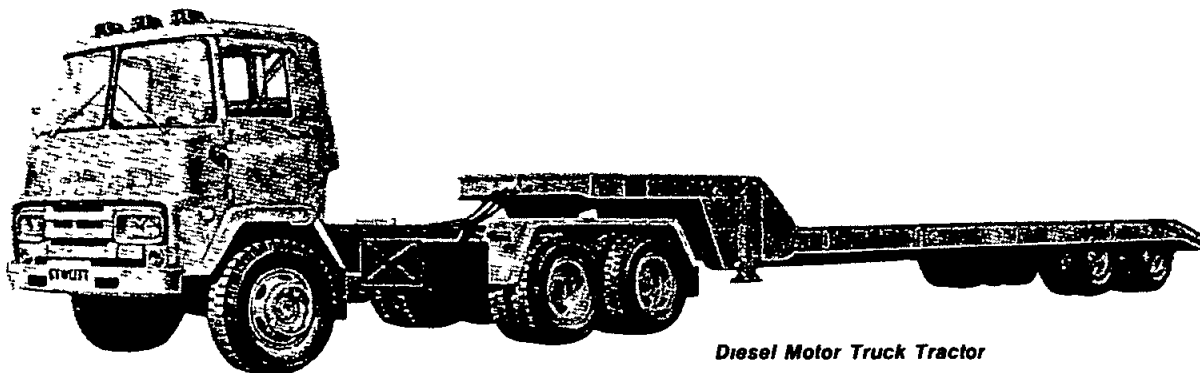
1969 MODELS



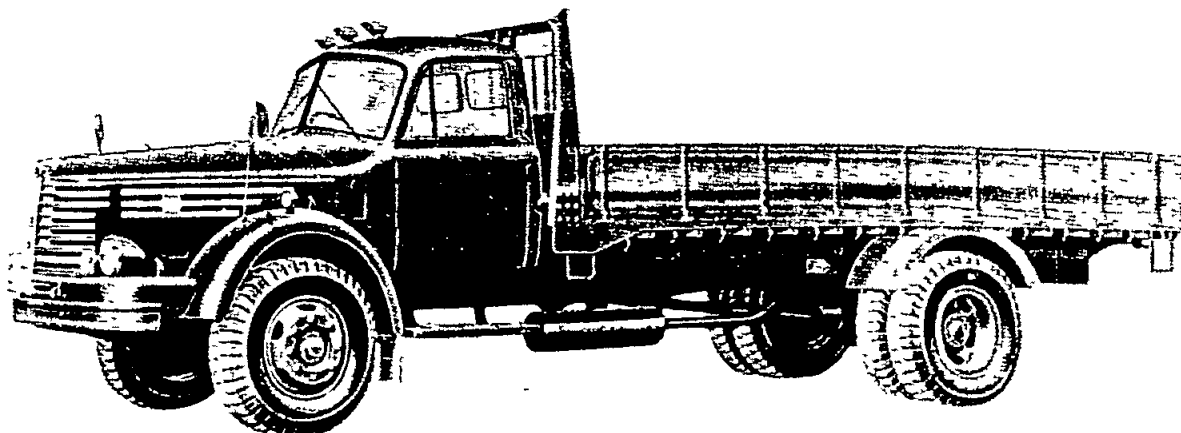
Caball 2-Ton Pickup



Clipper 2-Ton Pickup



Diesel Motor Truck Tractor



Diesel Motor Heavy-Duty Truck

521 had a 79-cu-in engine rated at 67 hp, and was well suited to American driving conditions compared to previous Datsun models

Today the Datsun Li'l Hustler pickup represents the Nissan-Datsun commercial vehicle line in the United States, and it is a very well thought of mini-pickup

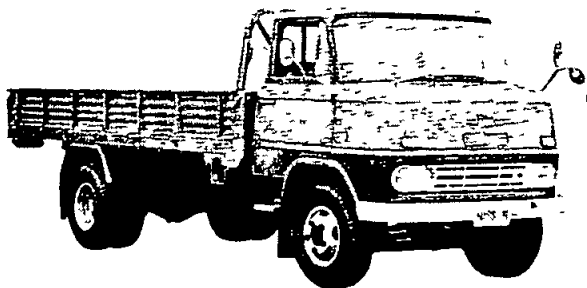
Since the Nissan company and its

ancestors have been building trucks since about 1911, and light trucks like the Li'l Hustler since the early 1930's, they know as much about this type of motor vehicle as anybody in the automobile manufacturing business today. All that experience and background, combined with Nissan's perpetual stress on economical operation, is the reason the Li'l Hustler mini-pickup is

as popular in America as it is. And it is very popular, for it has the reputation of being able to get the job done

The author wishes to give special thanks to Mr. Richard S. Hungerford of Nissan Motor Corp. in USA and Mr. Tom S. Ikkanda for their invaluable help in preparing this article

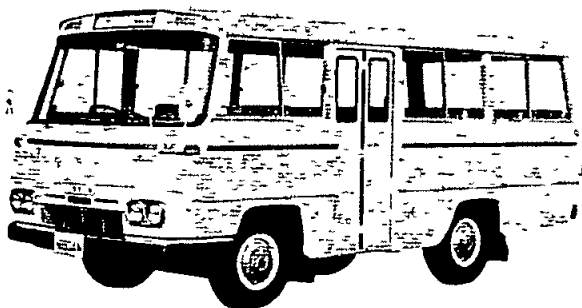
1969 MODELS



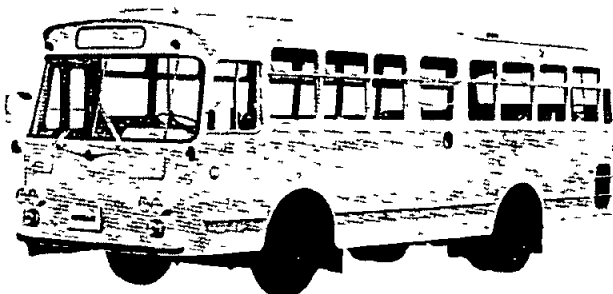
C80 3 1/2-Ton Truck



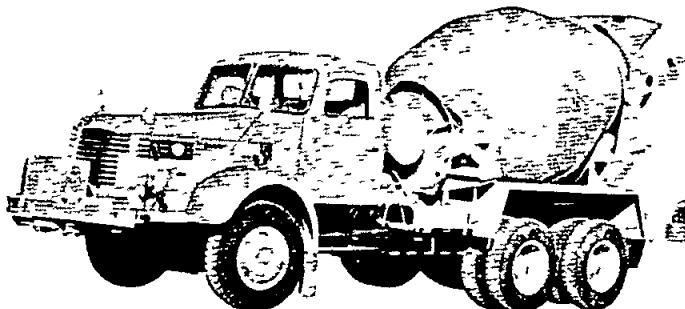
681 6 1/2-Ton Truck



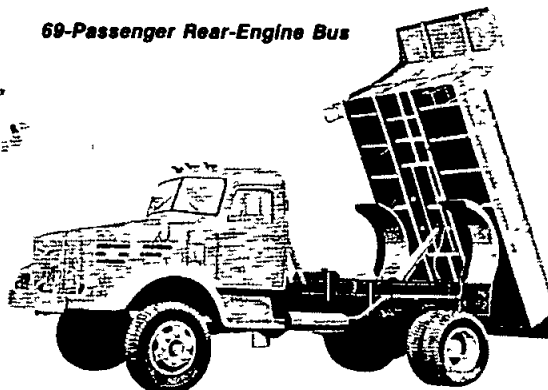
20-Passenger Micro Bus



69-Passenger Rear-Engine Bus



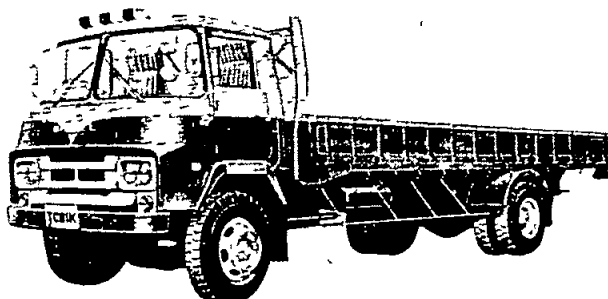
Diesel Motor Mixer Truck



Diesel Motor Dump Truck



Diesel Motor Tank Truck



Diesel Motor Heavy-Duty Truck

L'I HUSTLER IMPRESSIONS

DRIVING THE NEWEST MODEL OF THE ONE THAT STARTED IT ALL

Datsun started the mini-pickup craze when they first presented little trucks almost a decade ago. Those first models were crude and ugly compared to today's offering, but shared one virtue with the latest models. They were almost indestructible, and would go anywhere and do anything that was asked of them.

The latest version, supplied to us in a conservative shade of "signal orange," shows where the sophistication of the '70s has arrived in mini-trucks, and also where some more is needed. Styling was all new in 1973, and the tough overhead cam engine has kept pace with all emissions developments, but the chassis is still lacking, along with legroom in the cab.

Visually, the little truck created an excellent appearance, as we approached it. The handsome cab is styled well into the slab-sided pickup bed, and the whole design is enhanced by the use of simple hubcaps and white-wall tires. When we looked for a second or two, we could also see that the attitude, with the bed empty, was decidedly nose down. This gave us a clue as to what the empty ride would be really like.

Inside, the seat is upholstered in a good grade of woven vinyl, there is a headliner in the cab, and the molding on the dash panel all fits neatly. But with the seat all the way back on its

runners, there was just enough room for our six-footer-size legs, and the seat back was as upright as a church pew. Instruments and controls—what there are of them—are easily visible and reachable from the driving position. Instrumentation consists of a speedometer with odometer (but no trip recorder), a fuel gauge and a coolant temperature gauge. That coolant temperature gauge puts the Datsun one up on the biggest competition, but we'd like to see the rest of the instruments in place, too. After all, a truck is a working vehicle, and with a working vehicle, it's important to know just how well everything is working. (Not that there's no place to put the rest of the instruments.) There's a third round hole in the dash that's merely filled with a decorative plate. It's a place in which at least two more instruments and a clock could live happily. An EGR warning light has been added—as an afterthought—in a nacelle on the top of the dash just over the radio's location, and a "usefully" large glove box occupies the right hand section of the panel, a nice design, too.

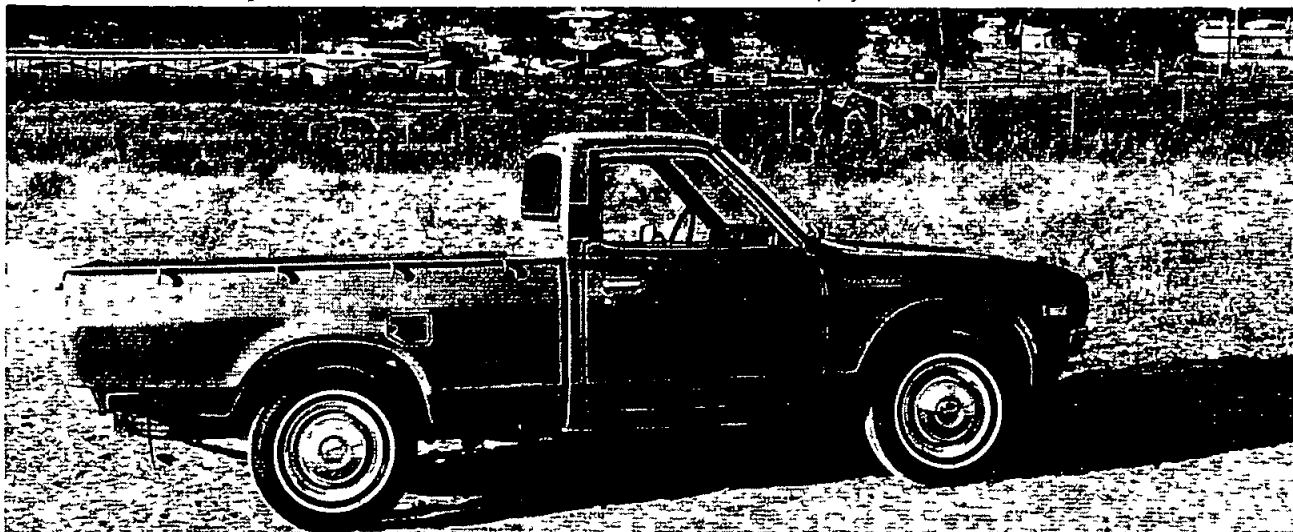
Turning on the lights brought two surprises. Surprise. The dash light dimmer isn't located inside the main light switch, and surprise. When you finally find the dimmer rheostat, all it dims are the indicator lights inside the light switch and the emergency flasher

switch. The result is that it leaves the actual instrument lights at full intensity—a somewhat strange oriental interpretation of one of our safety rules. Those safety regs are bad enough in English, much less translated into Japanese. The lighting is not so bright that it glares in the eyes. The instruments are deeply set into the panel, and shrouded so that there are no reflections from them in daylight. If only there were more of them, though.

The end of the gear lever is a comfortable reach, at the expense of a giant bite out of the center of the seat. The seat isn't really wide enough for three consenting adults, so it isn't much of a problem. The lever is long, yet the gears click in with a precise feel, and the throw isn't gigantic. (On our sample, at just over 500 miles, the synchros on third gear were going away.)

On the road, we liked the strong, torquey feel of the engine. The truck will pull smoothly from low speeds in high gear, and moving heavy loads should be no problem for it. The engine has been bored out to 2 liters this year to make up for power lost in the emissions controls. It is the same engine Datsun uses in the 610 and 710 series. (Witness the number of L'I Hustlers you see on the road motoring along contentedly with enormous campers resting in their beds.)

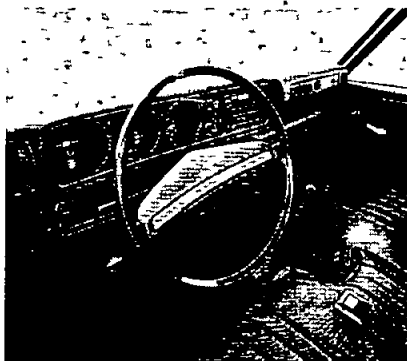




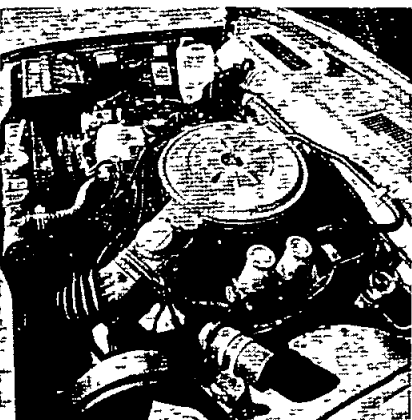
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1 Unladen, the handling leaves much to be desired because the Li'l Hustler is light in the rear. Put even a stripped camper shell or small motorcycle in the bed and the handling (and ride) improves

2 The Li'l Hustler exhibits smooth, well-contoured styling when compared with the "other" mini-trucks and because of its good mileage, is most practical as a "second car"

3 Competition from the other Japanese mini-truck maker pushed Datsun into offering a long-bed version, too. Most desirable add-ons are mag wheels, wide tires and a larger capacity fuel tank to extend intervals between fill-ups

4 Interior is much improved over earlier models, but should be refined even more for next year

5 The 2-liter engine has no problem coping with speed limits or loads

Suspension is another thing completely. We commented on the nose-down attitude of the empty truck. It takes a lot of weight to deflect the springs, and with no spring deflection, ride becomes a function of tire side-wall flex. There isn't any, because the stiff, narrow, 600 x 14 bias-ply tires are barely adequate for the load carrying capacity of the truck. Which, of course, is why so many of the Datsun pickups that you see on the road have had their wheels and tires substituted for wider rims and fatter rubber. It makes a lot of difference in ride quality of the unladen vehicle, and a lot of difference in the total carrying capacity of the loaded one. Unless you're buying a Datsun pickup as a straight utility vehicle, and want to put as little cash as possible into it, we'd strongly recommend installing wider wheels and tires.

Handling is another area that's strictly a function of the tires on the unladen truck. Understeer comes in strongly, and the wheel has to be pulled hard into any turn. But the stiff suspension doesn't give, and the rear end breaks loose before much of a roll angle has developed. Here too, wider wheels and tires could be a great asset. Radials in particular would be desirable, and would be a great help to the handling and stopping ability.

Braking was another area that could have used some improvement, at least

on our test vehicle. We have no idea of what kind of life the little truck led before it was turned over to us—as it was not part of Datsun's regular test fleet. At any rate, the brakes seemed to take a lot of pressure in order to bring the truck down to a slow speed, at which point they grabbed. In slow driving, they were not at all easy to modulate, and, combined with a somewhat fierce clutch, made stop and go traffic a jerky affair.

In the Li'l Hustler, and its new big brother "long" version, Datsun has produced a vehicle that fits neatly into a growing portion of the market. What it lacks in sophistication, it makes up for in ruggedness and (by 1975 standards, anyway) low price. Assembly quality is high, and gas economy is more than acceptable for a light truck. It's no wonder that Datsun has been able to sell every one they've been able to get to these shores.

Specifications, 1975 620 pickup truck

Dimensions	
Wheelbase	100.2 inches (110.0 inches, long bed version)
Overall Length	169.3 inches (184.7 inches, long bed version)
Overall Height	60.8 inches
Overall Width	62.6 inches
Front Tread	49.6 inches
Rear Tread	50.8 inches
Curb Weight	2380 pounds (2445 pounds, long bed version)
Engine and Driveline	
Type	I-4, single Overhead Cam
Displacement	1952cc (119.1 cu inches)
Horsepower/rpm	110 @ 5600
Torque/rpm	112 @ 3600
Transmission	4 speed manual (three speed auto optional)
Rear axle Ratio	4.375:1
Tire Size	6.00 x 14 bias ply

HUSTLIN' HUSTLER

HOW 'BOUT THAT! 4WD KICK VIA 327 POWER TO A TURBO 350

When Damon Radmilovich of San Diego bought his '70 Datsun pickup, he found the L'il Hustler was really somewhat underpowered for his tastes. Oh, he liked the little truck very much, it was just the right size, and it rode and handled fine, but that 1600cc powerplant just didn't seem to have enough guts to cut the mustard for the kind of driving he's accustomed to. So, after thinking over the alternatives, Damon decided that he might as well go all the way, so he took the pickup to Jim McFarland of L&S, 8356 Allison, La Mesa, Calif. 92041. As one of Southern California's best-known little truck customizers, McFarland has a reputation of being able to custom-build almost anything your heart desires, and Damon's request for a four-wheel-drive (4WD) installation powered by a 327 CID Chevy and Turbo Hydra-Matic 350 didn't come as any great surprise—they've done far stranger things at L&S.

McFarland began by pulling out the Datsun 4-banger and dropping in a 327 he keeps around the shop for just such purposes (it allows him to get a head start on tailoring the engine compartment for its new occupant) while Damon located a good 327 of '65 vintage and had it rebuilt from the block up—a smart thing to do anytime you plan on using an older engine. So why go back 10 years for a '65 engine, you ask? Well, remember that this is California, and state law requires that a retrofit smog device be installed on engines of '66 to '70 vintage. And as any auto enthusiast will tell you, the emissions controls used from '71 up effectively reduce the 327's power to the point where you might just as well ride with the Datsun 4-cylinder and save yourself the trouble.

You might also wonder why Damon chose a 327 over a lighter 283 installation—surely the extra weight would pose a problem. Well, if the stock suspension were going to be used, you'd probably have to modify it somewhat to beef it up for the heavier block, but with the addition of the 4WD installation, that extra bit of weight really isn't going to make any

difference at all. By replacing the Datsun suspension with the Jeep components used under the little truck in a 4WD installation, the new suspension will be sufficiently beefy to handle the 327 with no problems.

Meanwhile, McFarland had cut away the suspension and torsion bars and began work on the 4WD installation, as this is another story all by itself, we won't bore you with details of the procedure. If you're really interested in learning how this is done, see *Petersen's Complete Book of Four-Wheel Drive* for a McFarland-Datsun installation. Sliding 4WD under the Datsun pickup at the same time as the engine swap turned out to be an excellent idea, as keeping those torsion bars intact would make the engine transplant a rather hairy process at best.

But yanking out the torsion bars lets the new engine sit properly in the engine compartment, with only a minimum of rearrangement. If the stock Datsun suspension is kept and the 327 dropped in place, you have two options because of torsion bar interference, and neither one is very good. Either the engine must sit very high to clear them, requiring a bubble modification on the hood to let it close down around the carburetor and air cleaner, or you have to shove the engine down and way back into the firewall, ending up with the flywheel in the cab, so to speak. So you can see that Damon's decision to go with the 4WD meant that this could be a neat and clean transplant job, requiring considerably less modification to the truck than would have been necessary for a straight engine swap.

Once he had completed the 4WD installation, Jim was now able to drop his 327 in place and get the exact measurements of what had to be done for a perfect fit. Firewall modification was limited to bending the lip backward slightly where the top and center panels meet, and hammering a slight depression in the firewall panel to provide ample room for access to and removal of the 327's distributor, if necessary for future work.

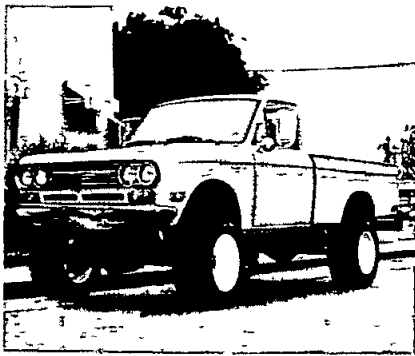
At the front of the engine compartment, he decided to notch the front

crossmember slightly, as the engine was really a close fit at that point. Cutting out a 1½x13½-in. section guaranteed that there'll be no contact between the crossmember and engine. In the case of a close fit, clearance often appears to be sufficient, but once you start the engine and rev it up, engine vibration can cause it to make contact, and that possibility should be avoided when possible.

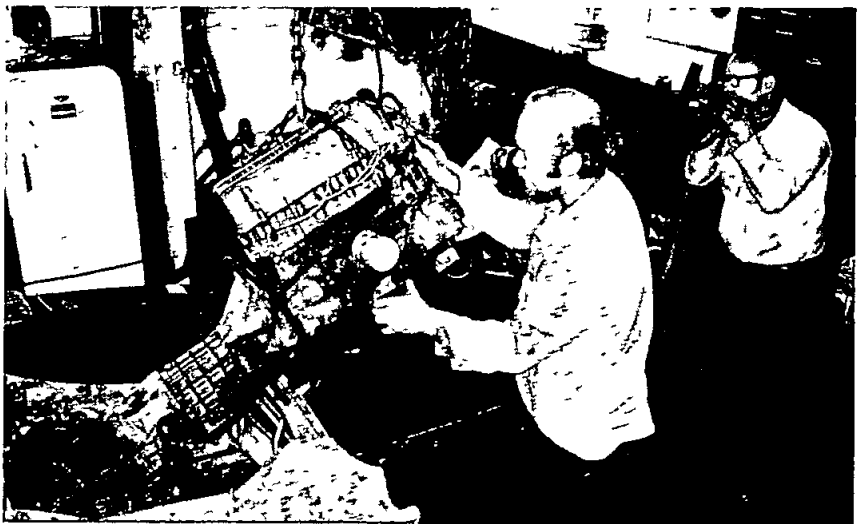
Beyond this, the only other modifications required in the Datsun engine compartment were the engine mounts. McFarland removed the stock Datsun motor mounts from the frame with a torch, moving them forward 9½ ins. where they were welded back in place after a slight reworking. On the passenger side, reinforcement gussets were welded inside the mount, but as the relocation brought the mount on the driver's side right beside the steering box, Jim placed his gusset of ¾-in. steel plate on the outside. This allows easy removal of the steering box should anything go wrong with it. Stock Chevy truck mounts bolted onto the engine and attachment holes in the Datsun frame mounts were lined up for a drop-in and bolt-down fit.

As the center crossmember interfered with engine placement, Jim had to remove it. But to assure that structural integrity would be preserved, it was moved 12 ins. to the rear and welded back to the frame, adding support for the rear of the engine. The rear crossmember also had to come out, and this was replaced by a tubular member of 1½-in. steel tubing curved backward slightly at each end and welded to the frame. A bracket was then fabricated and welded to the center of the new crossmember to accept a stock Chevy transmission mount fitted to the 350 Turbo.

With the 4WD installation completed, the 327 and Turbo 350 in place and bolted up, the time had come for the little touches. Now that the 4-speed transmission was gone for good, there was no point in retaining the clutch hydraulic cylinder, and this was removed at the same time the hydraulic master brake cylinder was pulled. In its place, a single master cylinder used



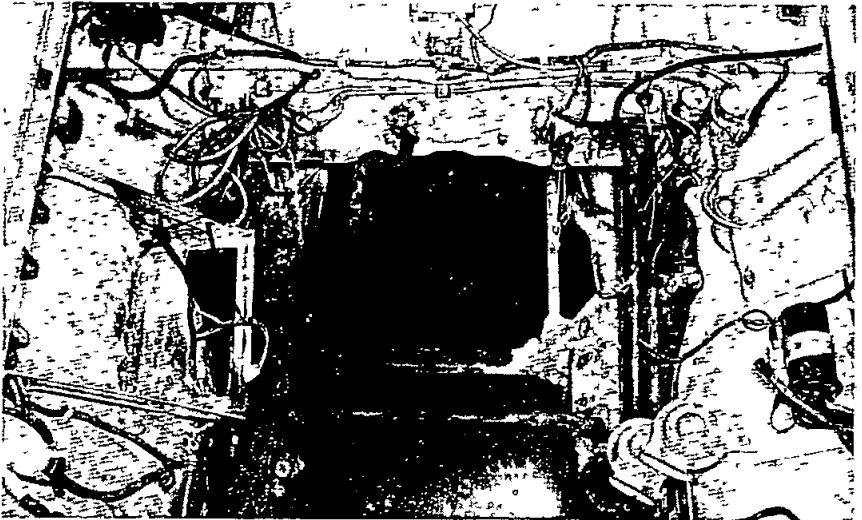
1 You can tell that Damon Radmilovich's '70 Datsun pickup is now 4WD, but neat 327 installation by Jim McFarland is well hidden from unsuspecting eyes



2 Dee Wittkop guides the 1600cc Datsun 4-banger as McFarland begins the conversion by pulling the engine

3 Here's the Datsun engine compartment before modification. Stock Datsun torsion bars and tie rod would require setting the engine high or way back, 4WD installation solves problem of engine placement neatly

4 Jim guides his 327 with Turbo 350 attached in place, this will help him determine what modifications will be necessary for a perfect fit



with a '63 Ford was installed after making the necessary modifications for mounting. This amounted to cutting down the diameter from 1 3/8 ins to 1 5/16 ins and machining off the lip for a flush fit against the firewall.

While this was being done, a custom radiator shop nearby was busy modifying a radiator from a '63 Oldsmobile F85 (with air conditioning) to replace the stock unit, which did not have sufficient capacity to handle the 327 and 4WD. Both ends were notched at the bottom so that the radiator would fit in place of the stock one without cutting the front crossmember again. The outlet pipe was retained on the same side, but moved up 3 ins, while the top-mounted inlet and filler tube was moved to the inside. The top row of the radiator core is a dummy and it was notched about 1 in to allow the hood latch to close properly. With the 327 mounted in place and the new radiator installed, a 12-in fiberglass fan was used, leaving a 3/4-in clearance between radiator and fan blades.

While there were no problems with the heater as the firewall required no cutting or welding, a substantial section of the floorpan under the passenger's seat had to be cut out to make room for the 4WD transfer case and shift levers. At the same time, the transmission shift lever cutout required a bit of modification. A shift lever from a '68 Mustang was installed and the stock Datsun cutout cover cut to fit around it. Once carpeting is installed, all you'll be able to see is the flashy-looking Mustang shift lever. As



the transfer case sits slightly above the floorpan level, a 2-in cover was made of sheetmetal to fit over it and then welded in place. Once the passenger seat is relocated in the cab, there'll be no way to tell that the transfer case is there, other than the shift levers which are located just to the front of the seat beside the drive tunnel.

Transmission shift linkage was fabricated using the same shift linkage that accompanied the Mustang shift lever. Its length had to be sized slight-

ly to fit, and the linkage bent somewhat so that it would fit around the automatic transmission's governor, but this proved to be an easier than usual solution to the problem. As a Carter AFB 4-bbl carburetor was fitted to the 327, a bracket had to be made to hold the accelerator cable, which was shortened about 3 ins to connect up to the carburetor.

Fuel line and brake lines had to be relocated, the Datsun fuel pump was on the opposite side from that of the

327, so the fuel line had to be changed over to match. Because of the cross-member relocation and modification underneath, the brake lines were routed to take advantage of the cross-members' new positioning. Instead of removing the clutch pedal, Damon decided that he'd use it to create an extra wide (and strong) brake pedal and had Jim weld a piece of steel plate across both pedals which he plans on covering with rubber to give it that stock look. Accelerator pedal location was unchanged.

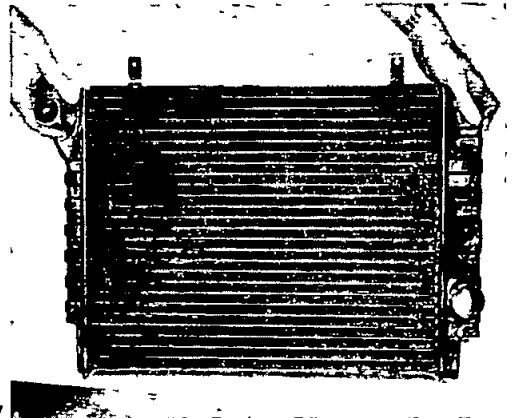
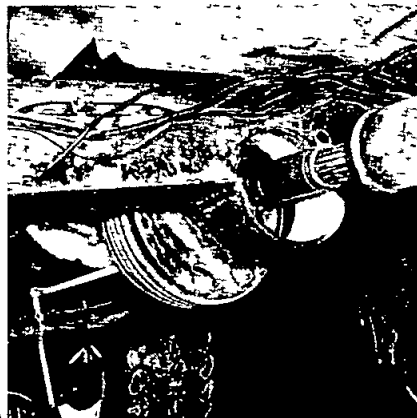
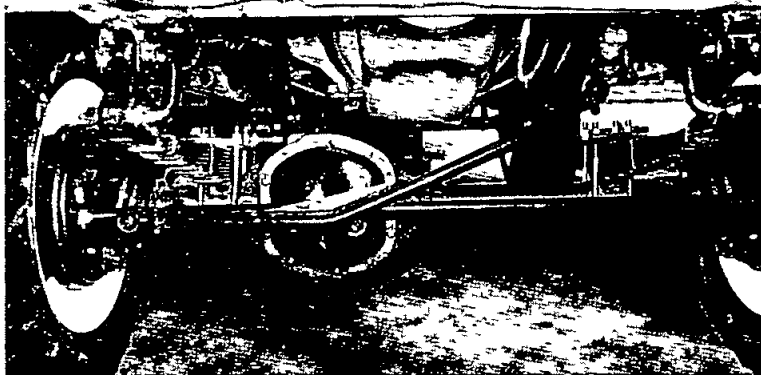
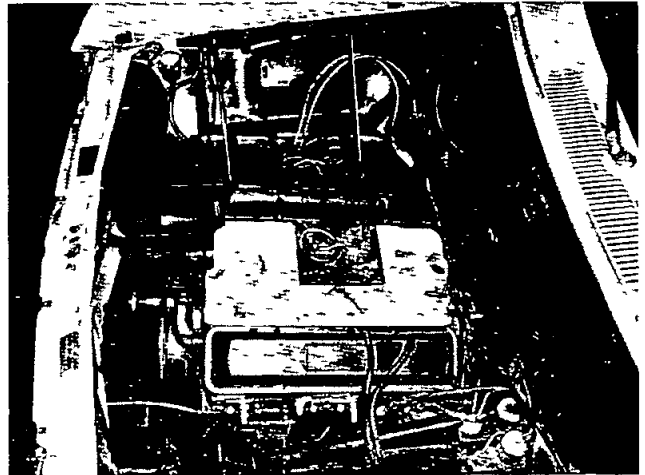
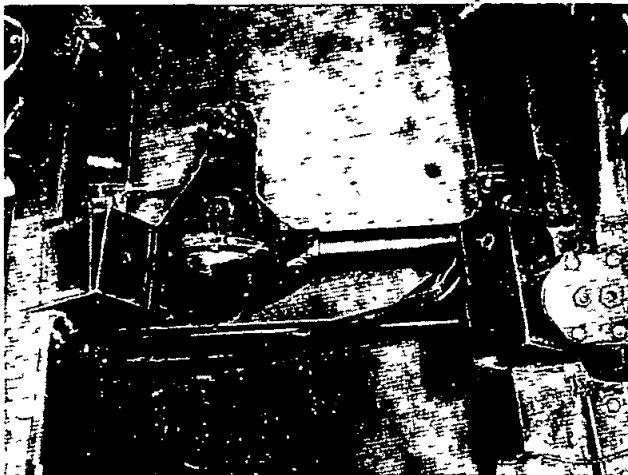
Back under the hood, the alternator was positioned using a slightly modified bracket that would provide adequate clearance with the stock battery

box. Whenever you make a swap like this, you always make the easiest modification possible, and changing the bracket angle is far easier and just as effective as having to remove the battery box and relocating it a few inches away, or even moving it to a completely different location. As the 327's oil filter hangs vertically, it posed no problem, especially with the clearance provided by the 4WD, installing a small-block Ford instead of the Chevy could cause all kinds of problems as the oil filter is horizontal and would have interfered with the steering box as well as the frame.

The end result is a '70 Datsun pickup that looks a little strange sitting on

the street (or driving down the road) because of the extra height provided by the 4WD, but one in which you could never tell that the heart of the beast had been changed for a larger, more powerful and decidedly faster one. After Jim finished with the engine installation, Damon took the truck to a header shop, where he had a set of headers and pipes custom designed, but the last time we saw the pickup, it was in the process of having a new set designed—Damon wasn't satisfied with the first set and had decided to replace them with another.

Of all the small vehicle and import marques, Datsun owners are most apt to modify what the manufacturer



provides—not because the Datsun line isn't perfectly good the way it comes from the factory, but because Datsun alone seems to offer the basic incentives to make a good vehicle better, and more personal. An engine swap and 4WD installation such as this one will cost roughly the same as the truck cost new, but ask any Datsun owner that's gone this route and he'll tell you that it's well worth it.

Of course, you don't really have to go to this length to personalize your

pickup, but the beauty of Datsun's design and styling rests in the fact that you can play out your options according to your pocketbook. And to prove our point, we've included several different variations on the pages following this story to give you some ideas on how you can tailor yours to suit yourself. And for good measure, we've even thrown in a trophy-winning Z-car, just to show you that all the action doesn't center around the Hustling Hustlers!

1 The 4WD installation is complete and engine mounts have been relocated on the frame to accept the 327. Notice how mount was built around steering box to permit its easy removal.

2 Here's how the 327 fits once the 4WD is installed. Clearance around steering is ample and firewall modification is held to a slight hammering of metal lip.

3 You can see what effect raising up the truck with 4WD has on oil pan clearance, always a sticky problem with such swaps, yet engine does not protrude above hood line.

4 Stock crossmember was removed and replaced by a tubular one repositioned to hold transmission in place.

5 A second tubular crossmember was installed to support the 4WD transfer case. Frame has plenty of structural strength as a result.

6 Rather than remove the rear crossmember because of driveshaft interference caused by 4WD, Jim modified it as shown.

7 New custom-built radiator using a core from an F85 Olds has inlet/outlet pipes relocated and bottom notched on each side to fit in stock position.

8 Mounted in place by its two upper brackets, radiator provides $\frac{1}{2}$ -in. clearance for fan and has twice the cooling capacity of stock Datsun unit.

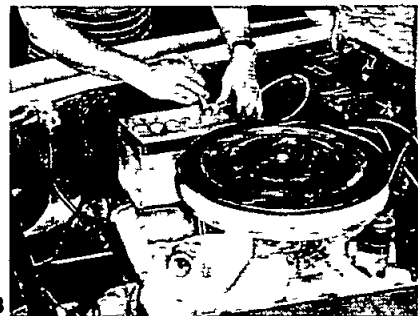
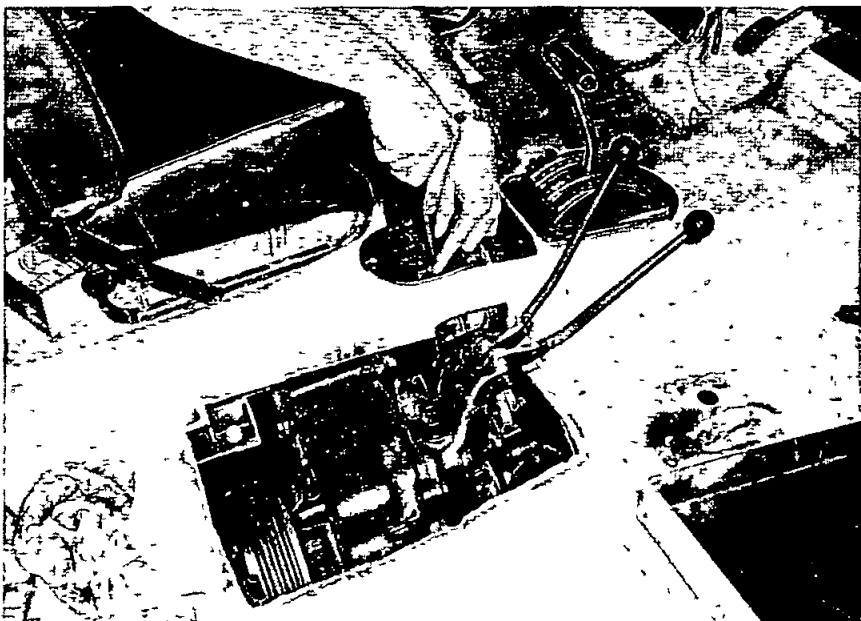
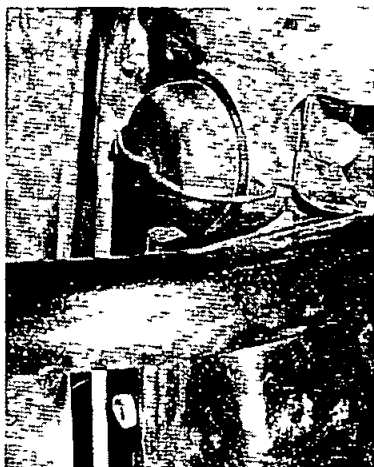
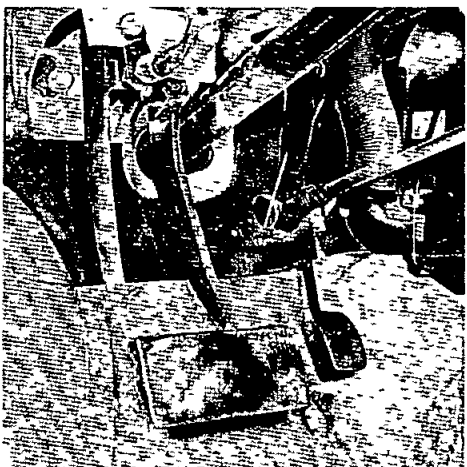
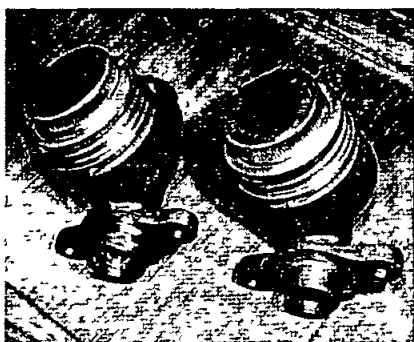
9 The name of the game is also greater capacity in the brake reservoir, and so a '63 Ford master cylinder (left) was modified for use by machining off the flange and lip as shown at right.

10 McFarland could have removed the clutch pedal, but Damon decided upon a wider than normal brake pedal and a steel plate was welded across the two, this will be covered with rubber. Accelerator pedal remains unchanged.

11 Mustang shift linkage is a near-perfect fit, putting a slight bend in it to accommodate transmission governor was all that was required.

12 After fitting Mustang shift lever in place the Datsun cover plate is cut to fit and replaced. Note position of 4WD transfer case/shift levers, sheetmetal cover will be welded over it.

13 John Ehmke did much of the shop work on this conversion and begins the finishing touches such as connecting hoses, wiring and carburetor linkage. Incidentally, that's a Carter AFB under the chrome air cleaner.



ZIGGY'S STARDUST

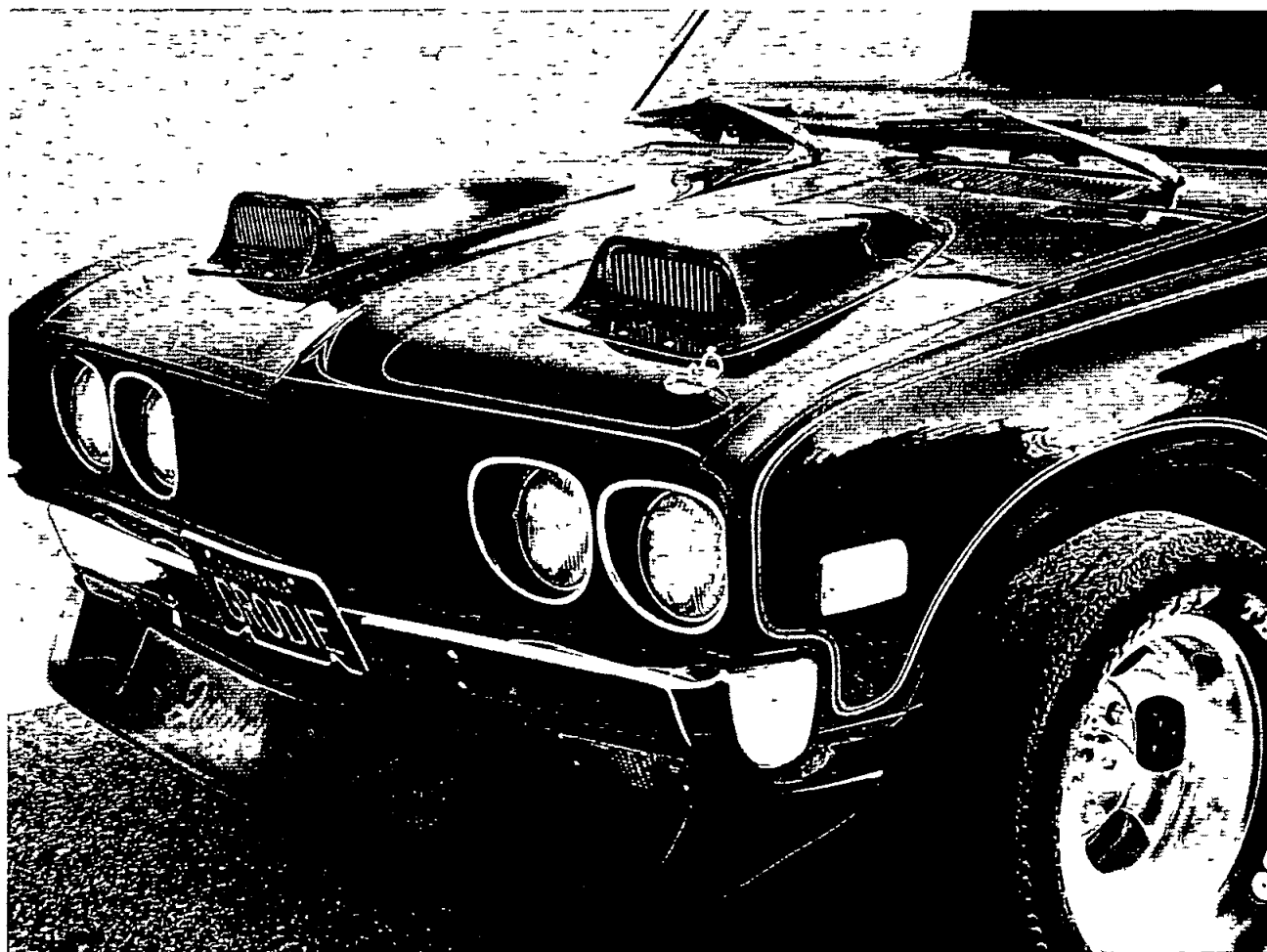
A RAZZLE-DAZZLE MINI WITH A TROPHY-WINNING FINISH

Since the foreign mini-truck invasion began in earnest a few years back, several hundred thousand of the little workhorses have been sold in the United States, a fair percentage of which have ended up in the hands of the under-25 age group. But strangely enough, customizing and personalizing of the small trucks lagged far behind what it should have, until recently. But with the rapidly increasing price structure of 1973-74 came a strengthening of interest in making the little trucks serve multiple purposes, 4WD conversions, engine swaps and custom paint now appear more and more in the form of a Courier, Luv, L'il Hustler, Hi-Lux or Mazda

One of the neatest of the little cus-

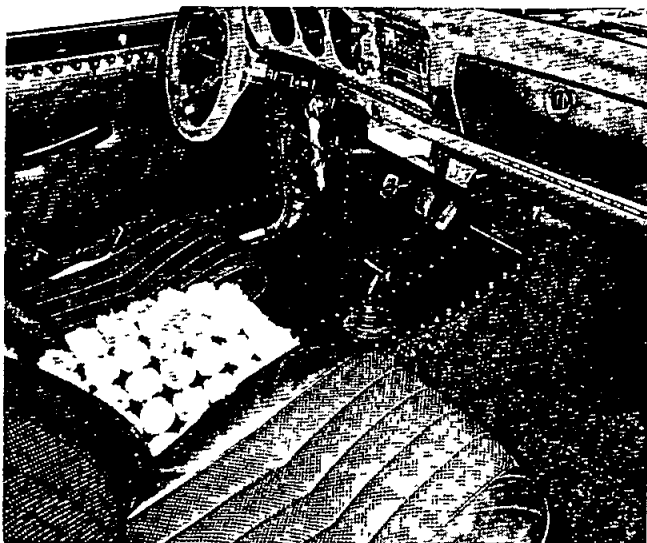
tom trucks which we've come across in several years, Ziggy's Stardust (if you're a rock fan, you won't have a hard time figuring that one out) represents the new trend better than most. Originally a stock Datsun green, his '73 pickup was hit by a car and after repairing it, owner Dwyane Clements Jr. of Downey, Calif., added green scales to the new paint job and named his truck The Killer. But leave it to fate—hit by a car a second time, Dwyane looked at the mess in the body shop and decided to pull out all the stops. Setting out to build a truck quite different from others on the street (maybe they wouldn't hit him then), he ended up with Ziggy's Stardust and you have to agree that he succeeded in his ambition.

Since putting the truck back on the road, Dwyane has become accustomed to picking up trophy after trophy from car shows around Southern California. While black-and-white photography does very little to convey the impact that the black lacquer job with red and blue pinstriping and gold leaf lettering has on the eye, just let your imagination wander as you peruse the accompanying photos. And to answer that nagging question in your mind, the last time we saw Dwyane, he was proudly exhibiting Ziggy's Stardust at a car show and picking up another trophy. Nope, they haven't hit him yet—maybe the truck's razzle-dazzle appearance lets them know he's coming before he gets there.

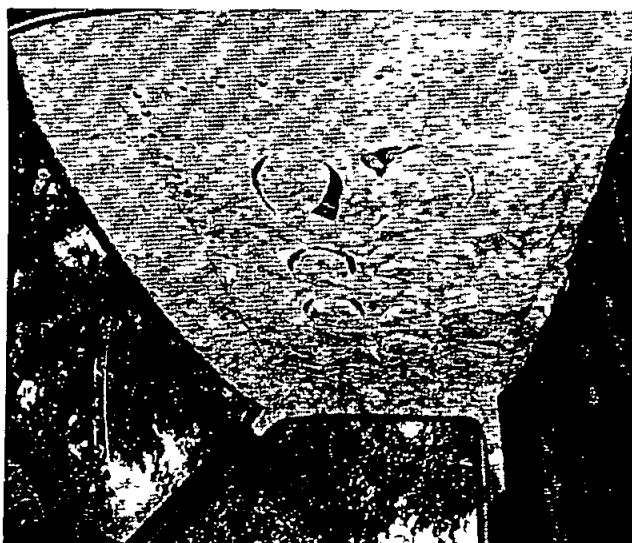




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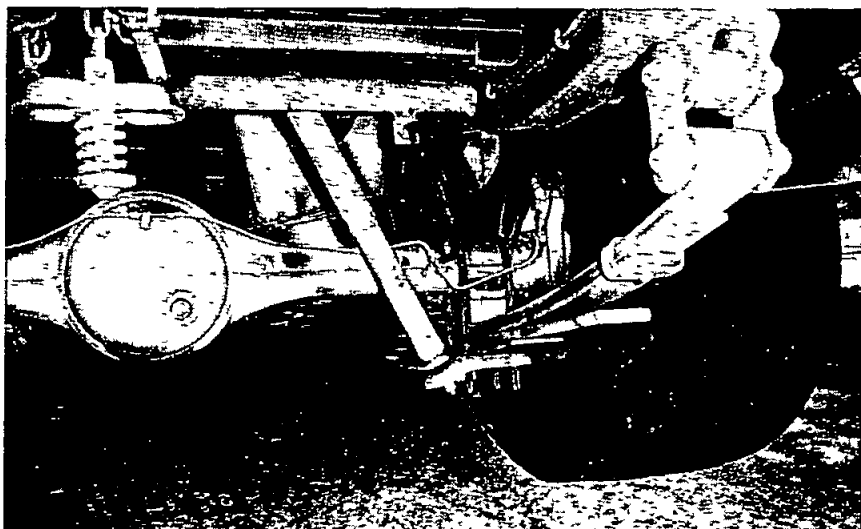
1 The all-glass hood with twin air scoops and the spoiler give the mini-truck an awesome appearance Ziggy's Stardust has won a trophy every time it's been entered in a show

2 Black lacquer with red and blue pinstriping and gold leaf lettering makes Ziggy's Stardust an eye-catcher even without the miscellaneous little touches that owner Dwayne Clements has added

3 The interior is not quite finished yet, bucket seats are to be reupholstered. Carpeting and naugahyde panels are held in place by brass studs

4 Crushed velvet headliner has "Ziggy's" worked into it, white pattern contrasts with black curtains behind the seat

5 Suspension modifications include 2 1/4 ins. cut from front torsion bar and the rear end lowered 3 ins



5

BLUE MOON

TERRY'S TRUCK IS A DOUBLE DIP OF METALFLAKE* AND CANDY

It's a wonder that Blue Moon is still on the road, since Terry Gregorio of Downey, Calif. bought the '73 Datsun pickup, it's been hit four times, the last by a diesel truck in an accident that almost totaled it. But Terry doesn't give up easily and when he put the pieces together this last time, he

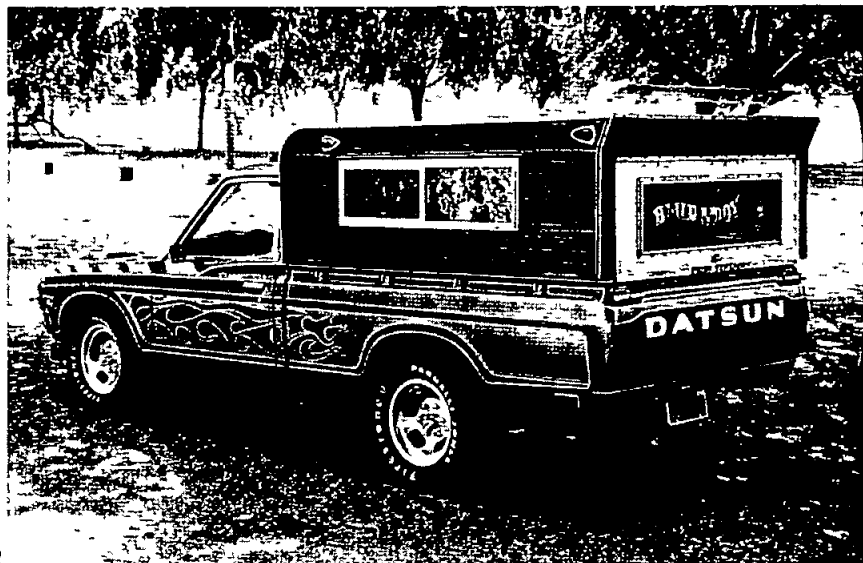
decided to go all the way and give the next accident-prone driver he met a really colorful moving target to aim at.

When we last met Terry, he hadn't quite finished the truck's interior, but after learning of his various mishaps with Blue Moon, we suggested that it be put on film just in case number five

drew a better bead on the little truck. Although the history of his pickup begins to sound something like an automotive horror story, it isn't quite that bad, as Terry is a body man and custom painter by trade.

While Blue Moon is stock mechanically, Terry's added Koni shocks at the front and H-jackers at the rear after lowering the truck 3 1/4 and 3 ins. respectively. Velvetouch Metallik brakes and a Grant steering wheel have been installed, a combination he hopes will give him the maneuverability and stopping power to avoid being clobbered a fifth time.

The Datsun pickup glistens like a jewel whenever the light strikes it, thanks to the paint job of silver flakes and candies. If Terry can keep all those staring drivers who meet him on the highway a reasonable distance away from Blue Moon, he should enjoy it for a long time to come.



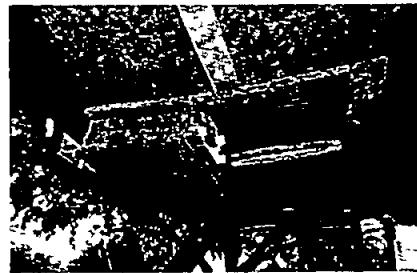
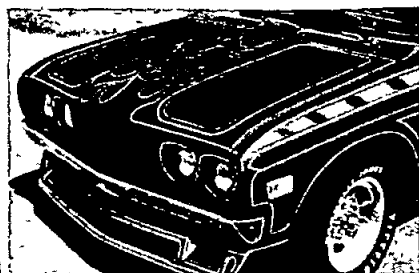
1 A complete Metallflake® paint job with blue, burgundy and gold Candies shot in various patterns including flames. Blue Moon has 20 coats of lacquer and 4 coats of clear over that.

2 The Esquire camper shell is done in blue metallic, topped by an American Hi-Performance spoiler and has a mural on the rear window.

3 Terry did the multi-colored paint work himself; base color of the truck is a silver Metallflake®. Pinstriping sets off each individual panel pattern.

4 Naugahyde, fur and velvet will top off the interior once Terry has it finished. Grant steering wheel and naugahyde door panels are the completed first stage of interior redecoration.

5 Here's a different headliner—cork was used to encase stereo unit. Note cutout in roof for air scoop; it may not be air conditioning, but it's the next best thing.



BZZZZZ

KAMINSKY KEPT COSTS DOWN, BUT INTEREST HIGH

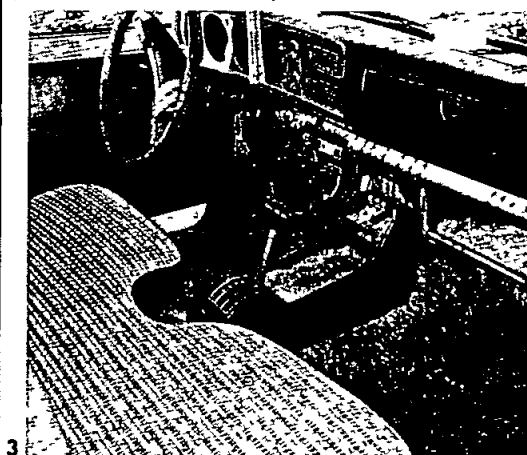
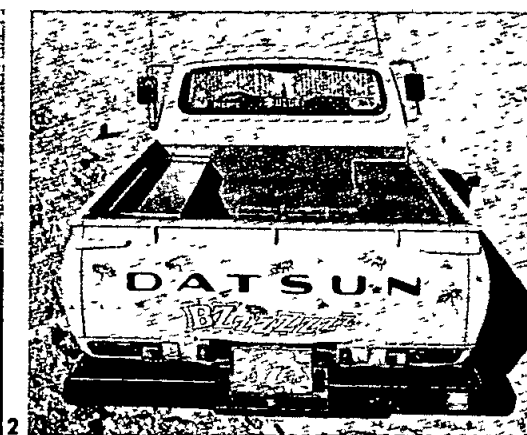
When Scott Kaminsky of Saugus, Calif. bought his '73 Datsun pickup, he decided that he'd turn out an eye-catcher on a low-buck investment, and that's just what he did. Mechanically, the L'il Hustler is stock, but by rerouting the exhaust through side pipes, he's added sufficient roar to the 4-cylinder to give on-lookers the impression that a good deal

of work has been done under the hood.

Taking the truck to Dino's in Van Nuys, Calif., Scott had 96 bees of varying sizes hand-painted over the stock yellow finish, and a large beehive added to the center of the front hood. Adding a step bumper, mud flaps, hood locks, fog lights and a whip antenna completed the exterior effect. Beads in the rear window, carpeting

on the door panels, package shelf, a bench seat and custom console highlight cab modifications.

The end result is a truck that sounds much like its name, BZZZZZ, and wherever Scott goes, mini-truck enthusiasts follow to find out just what makes BZZZZZ BZZZZZ. And that's exactly what Scott wanted when he set out to modify the truck.



1 Large beehive on truck's hood serves as focal point for the 96 bees of varying size—all are headed in that direction

2 Pattern starts on tailgate, with bees headed in opposite directions starting from the center point. Inside of bed has been carpeted in brown to contrast with bright yellow paint job

3 Bench seat, full carpeting and custom console highlight the cab, as beads hung in the back window cast their shadows across bottom of the dash

4 Each side of Bzzzzz features approximately 32 bees, all meticulously done in terms of detail, and all heading for the beehive

PINSTRIPE PICKUP

A CALM BUT NEAT APPROACH TO PERSONALIZING WITH PAINT

When we first came across Russ Zane of Panorama City, Calif., he had just finished customizing his 1972 Datsun pickup, and it was one of the neatest pinstripe jobs on the street. Once he had decided to dress up his Lil Hustler, Russ chose the calm approach—no dropped front,

jacked-up rear or chopped top. All he really wanted to do was to personalize his truck's exterior—but you should see the motorcycle he carries to the desert with him!

Russ did admit to one failing, however. He's an inveterate knickknack collector, and inside the Datsun's cab,

the instrument panel looks like a collector's showpiece, with everything from stickers to tiny figurines, all of which have a humorous appeal. But we suppose that a guy's got to let it all hang out somewhere, and better that he decorate the inside this way than the outside, eh?

Since we photographed Russ's truck, it's changed hands and he's off and running with better ideas (isn't that the way with us all?), but regardless of what he comes up with in the future, we're certain of one thing—Russ is always going to remember his very first truck with a good deal of pride, and why not? It was one of the sharpest looking trucks of its time.

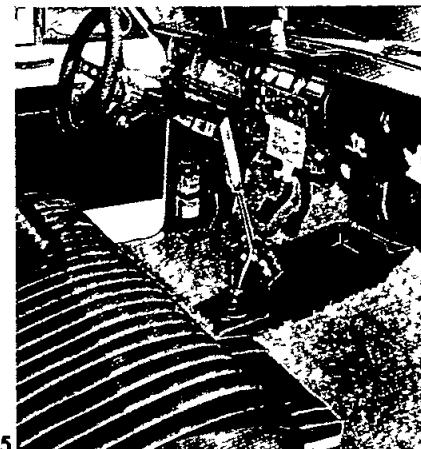
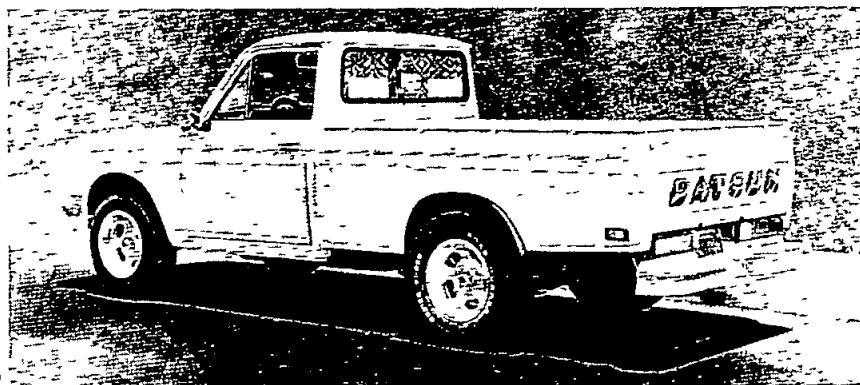
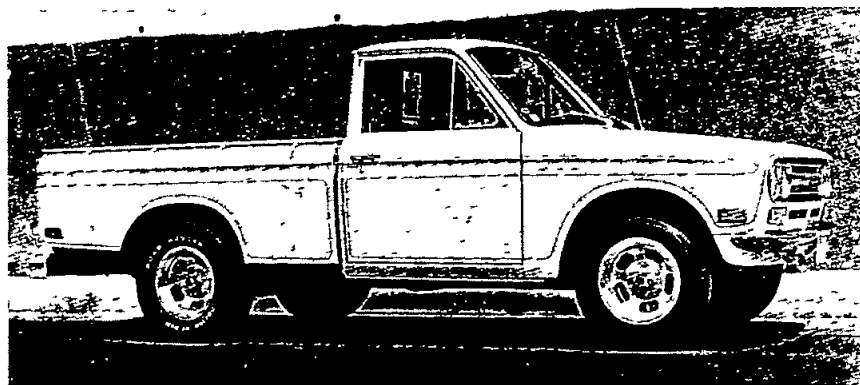
1 Seen from a distance, there's not much unusual about Russ Zane's white '72 pickup, if you look closely, you might notice the pinstriped panels

2 With the fancy paint on the tailgate, the aluminum bumper and curtains in the cab, the Pinstripe Pickup attracts a little more attention from the rear

3 Step up closer to the truck and you'll notice the blue pinstripe flames on the hood—low-key yet distinctive

4 Each panel on the truck is pinstriped according to the contour lines for a neat blend of paint and pickup

5 Here's Russ's home away from home—some would call it littered, but he really likes all those do-dads. Custom shifter with console, shag carpet and Grant wheel complete the interior



TONI'S Z

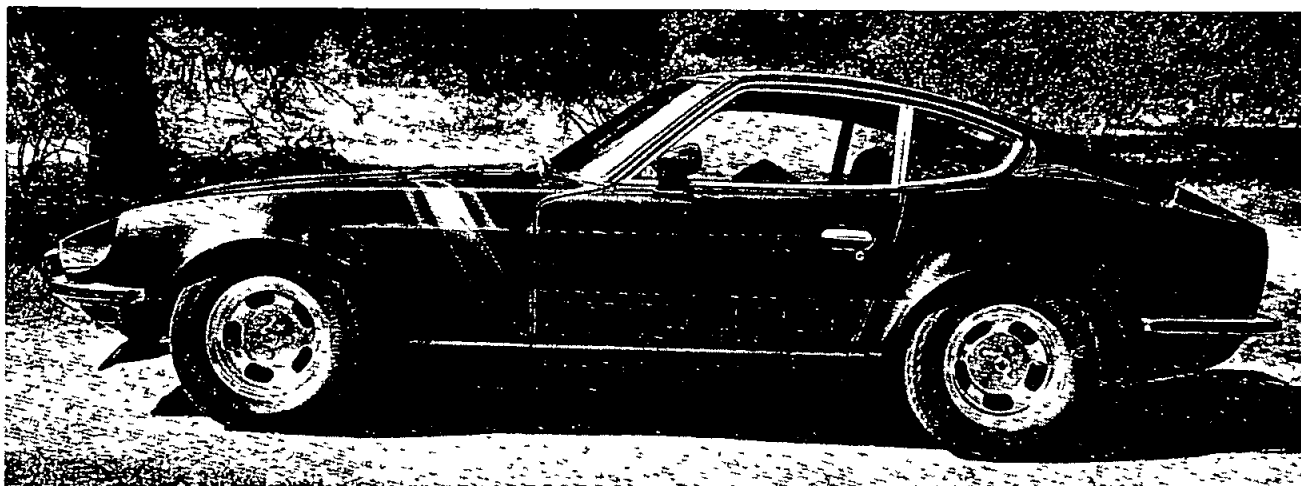
PEARL 'N PATTERN 240Z'S JUST WHAT THIS NURSE NEEDED

Toni Lynn Helvey is a most unusual girl, a registered nurse who lives in Newhall, Calif. Toni was practically born an auto enthusiast and shares husband Mike's hobby with a fervor as great as his. The two are members of the California Associated Tiger (CAT) owners and are now rebuilding a Sunbeam Tiger for future slalom meets.

When Toni bought her 1971 Z-car, it was a light blue and looked just like every other '71 Z on the road. After thinking it over, she decided to go for a deep blue pearl finish with a blue-green Z-strip pattern. With spoiler and flared fenders, the end result is a knockout, especially with Toni behind the wheel. While the engine is still stock, Toni added a BRE Mulholland

racing suspension kit, which makes cruising the rugged countryside near Newhall considerably more fun.

But now Toni's been bitten by the show car bug, and it's only a matter of time before she moves even deeper into the customizing world—we can't wait to see what this quiet little blonde lady will come up with next—it should be a real winner!



1 While major stripe goes up over roofline, a smaller stripe breaks away and down to the rear fenderwell. Fenderwells are flared fiberglass.

2 Squatty shape of Z-car seen from road level is accented by hatchback stripe pattern from roofline and personalized license plate.

3 Toni Helvey's '71 240Z is a dark blue pearl, with contrasting motion stripe containing a "Z" pattern.

4 With Toni at the wheel, everyone admires her 240Z. Now that she's been bitten by the car show bug, her next car should be super inside as well as out.

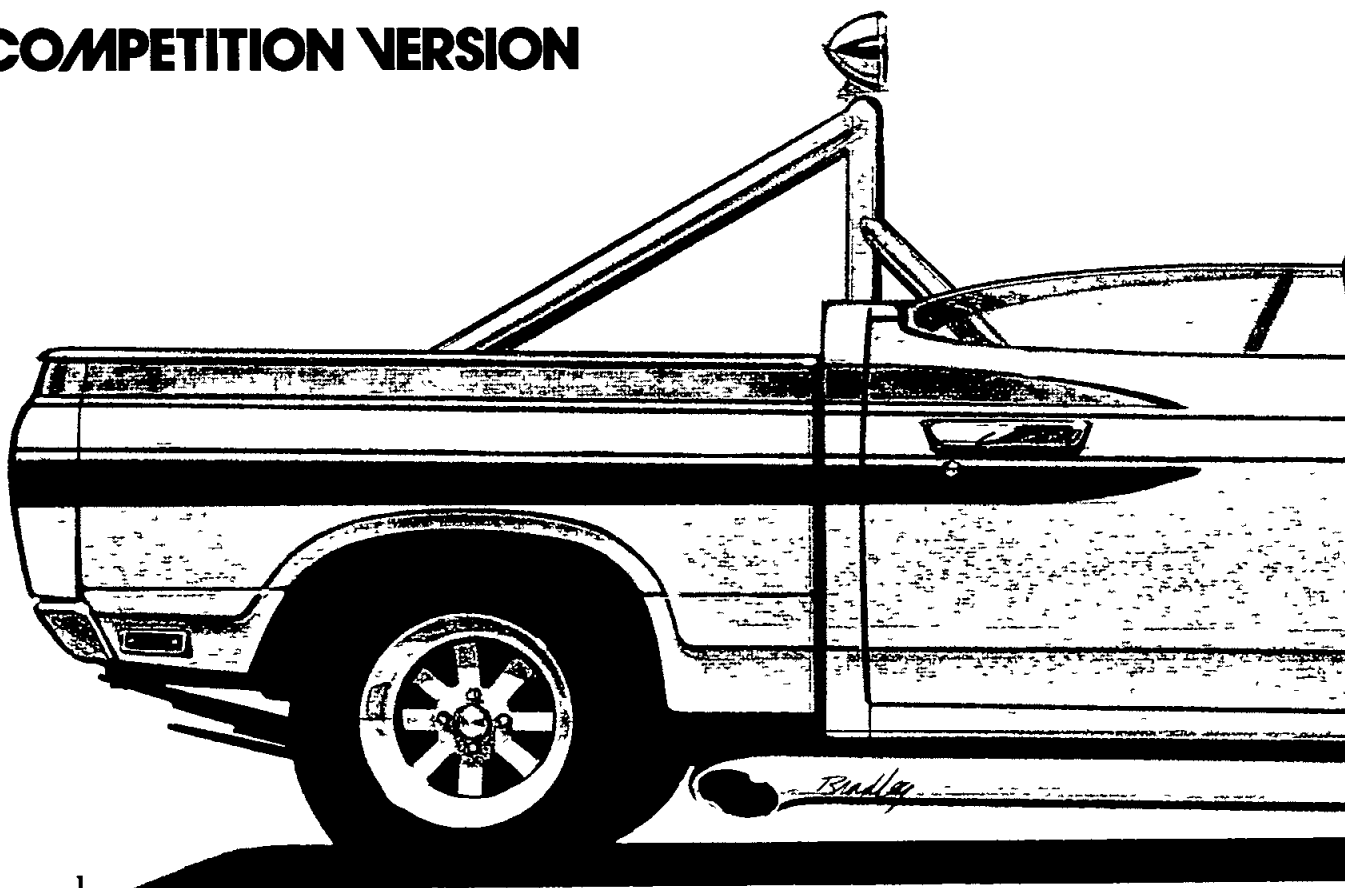
PERSONALITY PORTFOLIO

BY HARRY BRADLEY

SOME IDEAS FOR ADDING INDIVIDUALITY

ILLUSTRATIONS BY HARRY BRADLEY

COMPETITION VERSION



1

1 Our "competition styled" version of the Li'l Hustler is an exercise in cutting. Virtually no customizing is done—that is, no seams filled, emblems removed or flares added. Instead, the roof is cut off and the bed shortened to create a Datsun/Blazer-type roadster pickup. Tough part is shortening the wheelbase 8 to 10 ins., but any body shop worthy of the name can handle that. The pickup bed is reduced the same amount at the front edge. The rear is bobbed by 6 to 8 ins. These bed modifications are simple due to Datsun's multiple panel construction—unbolt front and rear caps, cut down fenders and across bed, then bolt end caps back in place.

2 Roof removal is done by cutting windshield pillars and glass off about 3 ins. above body line. Door glass is replaced by tapered plexiglass insert. Rear of roof is cut off even with bottom edge of rear window. Massive roll bar or cage bolts in easily. Grille is restyled with rectangular General Motors headlights on black mesh with chrome square tubing for border.

If the preceding personalized Datsuns have whet your appetite for wilder things, herewith are some ideas to ponder. Mind you, these don't exist (yet) in metal, but they're well within the realms of practicability. The "Competition Hustler" would best be left to a competent body shop since the frame must be chopped. However, the Datsun ladder-lattice frame construction makes even this chore far easier than might at

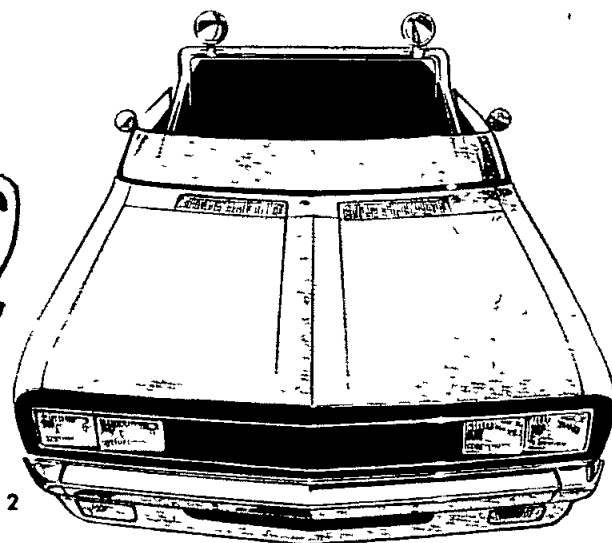
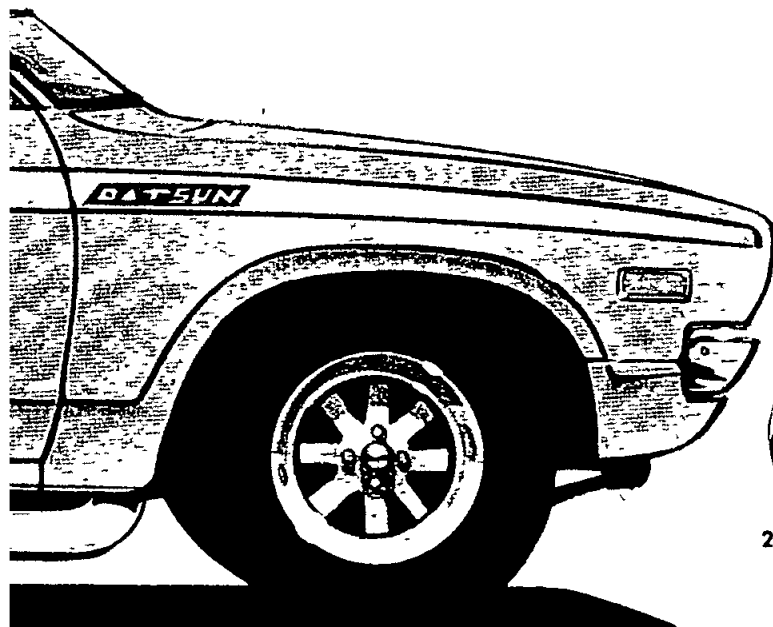
first be imagined.

You wouldn't have to go the whole route, of course. Just the incorporation of the black mesh grille with rectangular headlights would set your Li'l Hustler apart from the crowd and provide an illusion of width. The latter would be especially effective if combined with wide wheels and tires and mild lowering. And, this grille treatment would be just as effective on a B-210, 610 or

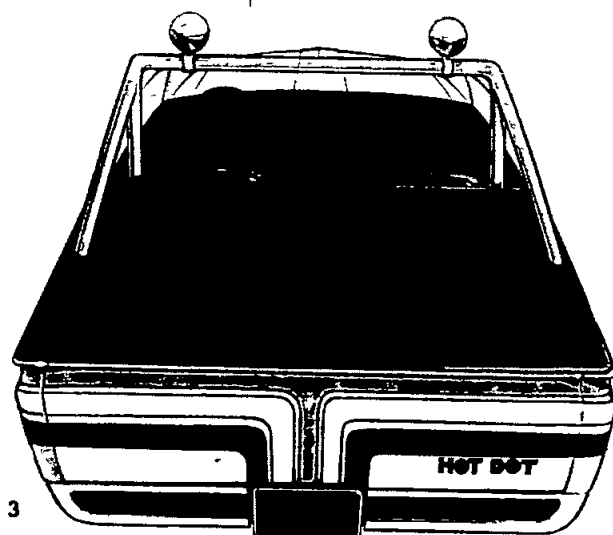
710 as it is on the pickup.

The same philosophy holds true for applying the Z-car ideas advanced here to the sedans. For example, the tail-light treatment on our restyled 240/280-Z would look quite nice on the B-210 sedan.

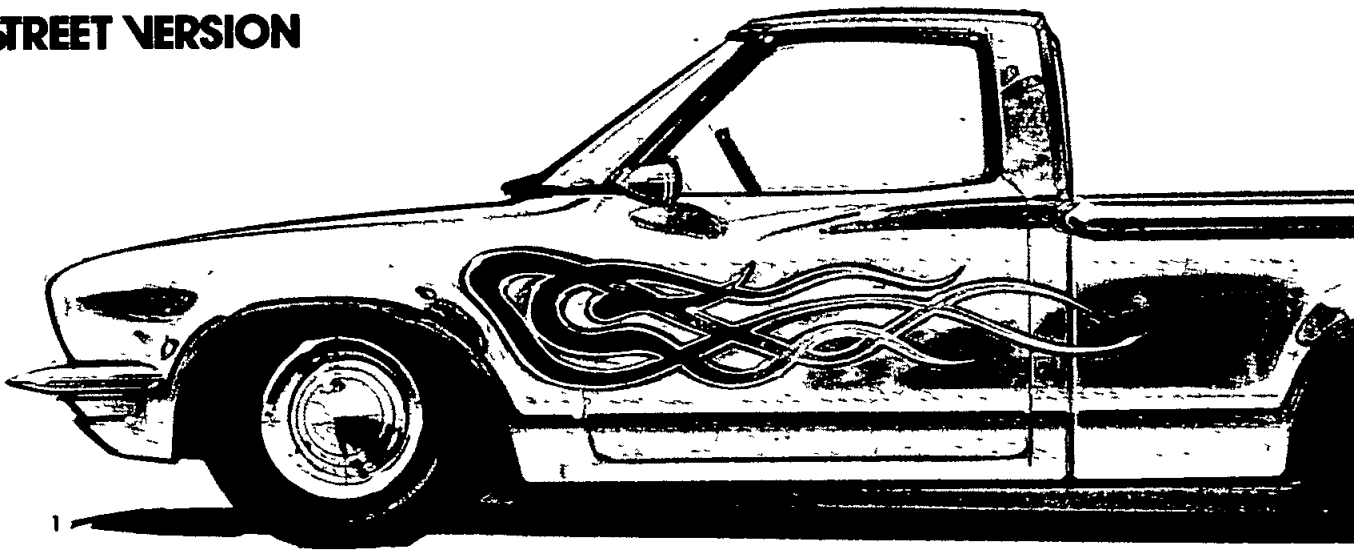
If you think our approach is a wee bit radical, then consider that the Cider-Z (page 168) started from the same point as the three we offer here.



3 Tailgate hardware (latches, etc.) has been removed on our "competition styled" Li'l Hustler. Also, the tailgate sheetmetal is paneled over to eliminate the raised letters. The red, white and blue accent stripes started on the side are brought around the tailgate and terminated at the license plate frame. Stock taillight is replaced by unit from any late-model Thunderbird in a slightly extended housing.



STREET VERSION

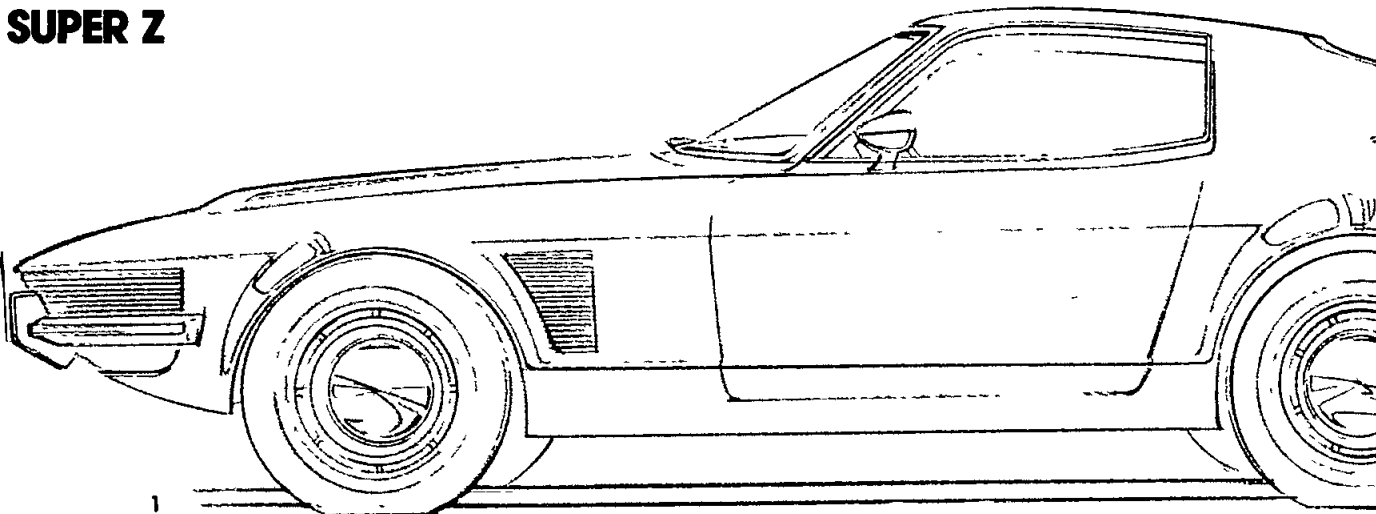


1 Major work on our "street version" of Datsun's L1i Hustler is in the areas of detailing, not radical metal surgery. One problem with these pickups is the abundance of factory seams. These need to be filled. The vehicle is lowered 3 to 4 ins. and fitted with wide chrome reversed wheels. Cargo hooks are cut off top edge of bed and dummy exhaust pipe installed.

2 L1i Hustler "street version" also sports GM rectangular headlights—stacked this time—in black mesh grille. Bumpers are late model Corvette ('63-'71) or early Camaro ('67-'69) modified by narrowing and pulling in close to the body. Those parking lights can be '74 or '75 Buick, '68 Toronado or '75 Pacer. Oh, yes, the door handles have been removed and the bed covered with a custom tarp of fiberglass or nylon.

3 Rear bumper and taillight lenses both have the same modification—an extra piece of each added in the center to continue the "car-wide" styling in an unbroken line. License plate is placed in a slightly flared opening in the tailgate. The raised letters can either be paneled over or covered by a decorative bright stainless steel or brushed aluminum panel. Frame this panel with narrow molding from a shop that installs vinyl tops. They'll be able to bend it for you.

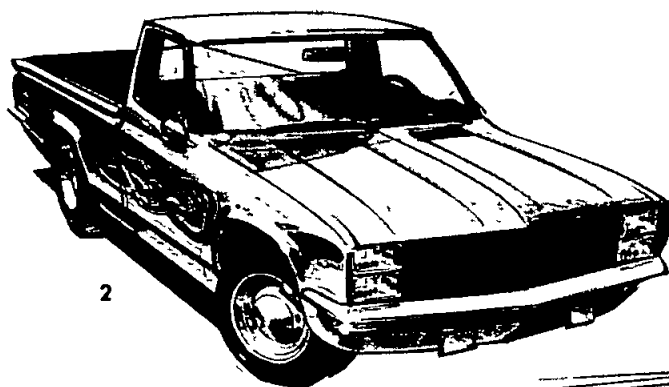
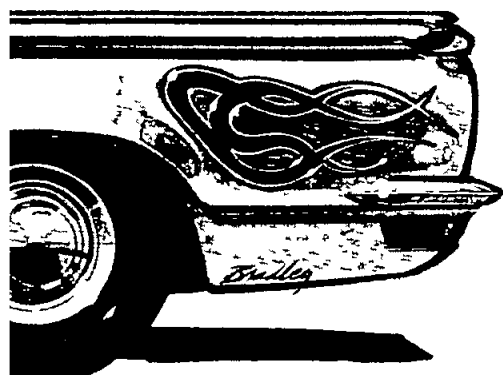
SUPER Z



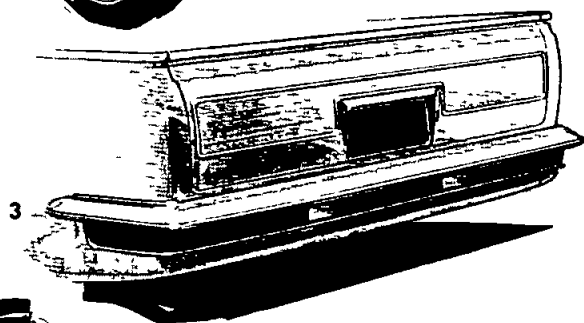
1 It's hard to resist modifying the Datsun Z-car. Its basic lines are excellent, but great appearance changes can be made with relatively minor work. Let's begin by flaring the wheel openings—not excessively, just enough to give a custom look. All emblems and handles are removed. Small front fender waste gate (so-called because it allows hot engine compartment air to escape) is made of multiple horizontal aluminum blades inserted into opening. Small quarter-window is paneled over by extending top of the rear fender up to the roof.

2 The hood, front bumper and lower pan remain stock—the only real change is paneling over headlight cavity so that front fender continues forward in a smooth contour. Then, existing grille opening is continued outward so that it wraps around front fender grille texture—again, the horizontal aluminum blades form grille bars. Rectangular GM headlights are hidden behind grille bars as are parking and side marker lights. Fender seams at cowl are filled.

3 Again, rear view of our Super Z reveals nearly stock lines. A sheetmetal insert welded to the stock rear window opening allows for tunneled rear window. Hatchback lid is retained. Recessed back panel is discarded and flush sheetmetal panel is welded in place to give back of body a smooth look. The high mounted taillight is any car-wide unit ('74-'75 T-Bird, '70-'71 Torino, etc.) narrowed to fit. Side marker lamp is relocated below bumper.

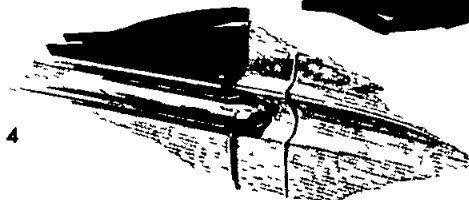


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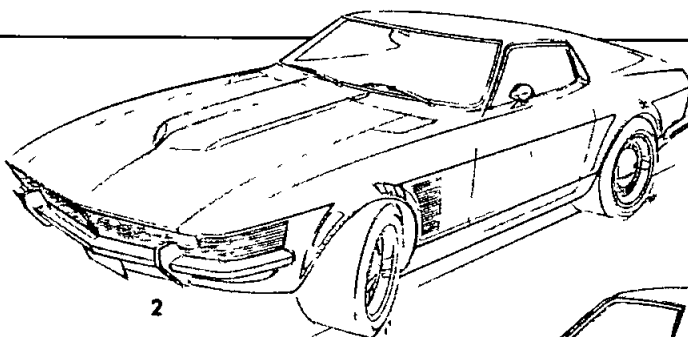
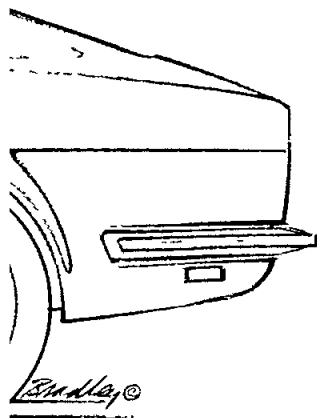


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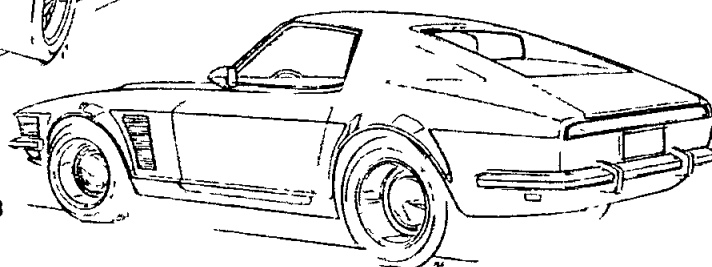
4 As mentioned, the side pipes are an appearance item only. Note how this unit fits snugly into cove along top of body side. Also, this pipe extends into trailing edge of cab. This helps visually bring the bed and cab together in a smoother line.



4

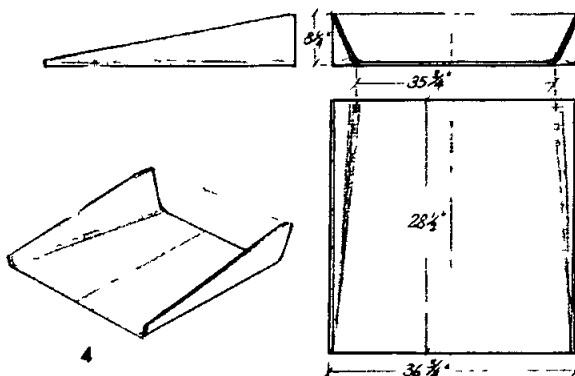


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4 These multiple views show sheetmetal panel which fits into stock rear window opening. Once trimmed and flanged, a small, flat, countersunk rear window can be installed.



4

THE CIDER-Z LIVES!

BRUCE DIEKE MADE A DREAM COME TRUE

ILLUSTRATION BY HARRY BRADLEY PHOTOS BY LELAND LORENE

There are those who look at the sketches on the preceding pages and idly dream of their set of wheels looking just like that artist's rendering. Bruce Dieke is not in that group. He saw the Datsun 240-Z station wagon designed by automotive stylist Harry Bradley and actually transformed his Z-car into a near dead ringer of Bradley's "Cider-Z."

The prime ingredient, of course, was a workable design and Bruce scored high because Harry Bradley's designs are indeed workable. This stems from Bradley's many years as a Detroit stylist and free-lance industrial designer. Among his credits are many of the Mattel "Hot Wheels" creations and model kit designs for Model Products Corp. Several of the nation's top-drawing show cars (full size) sprang from the fertile mind of Harry Bradley. Hence, the difference between a design and a workable design tipped the

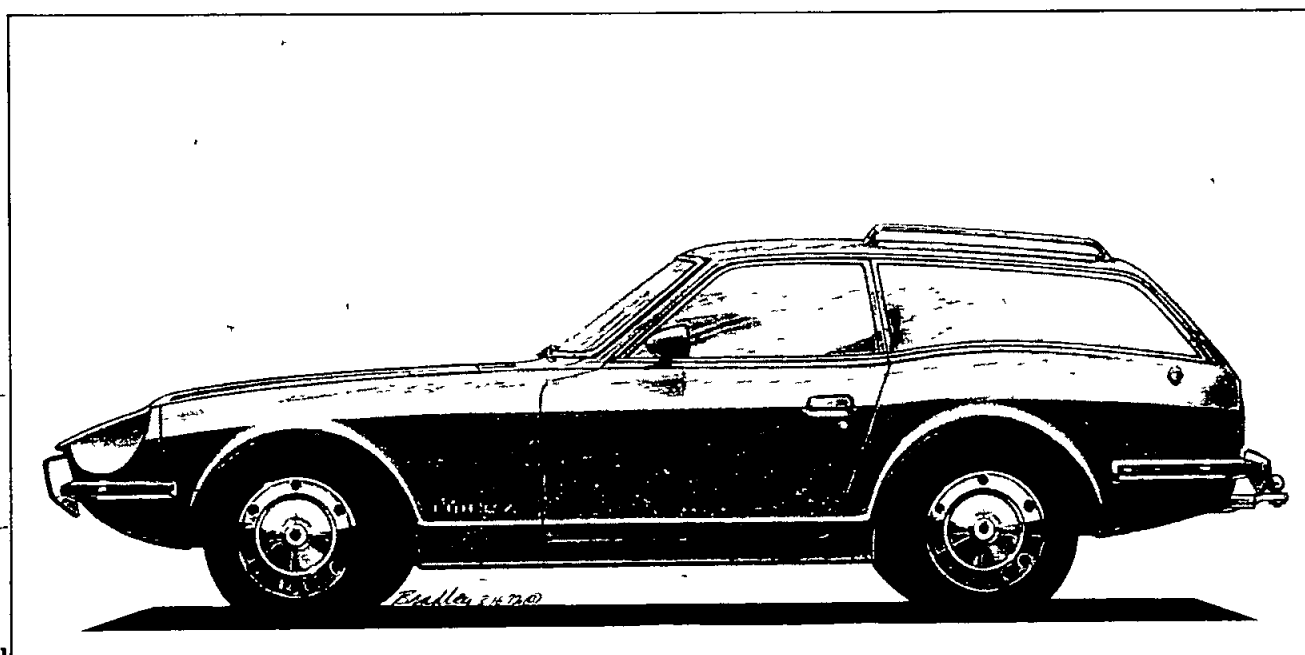
scales in favor of Dieke's success. But even Bradley was astonished at how well Bruce Dieke translated the illustration into workable reality.

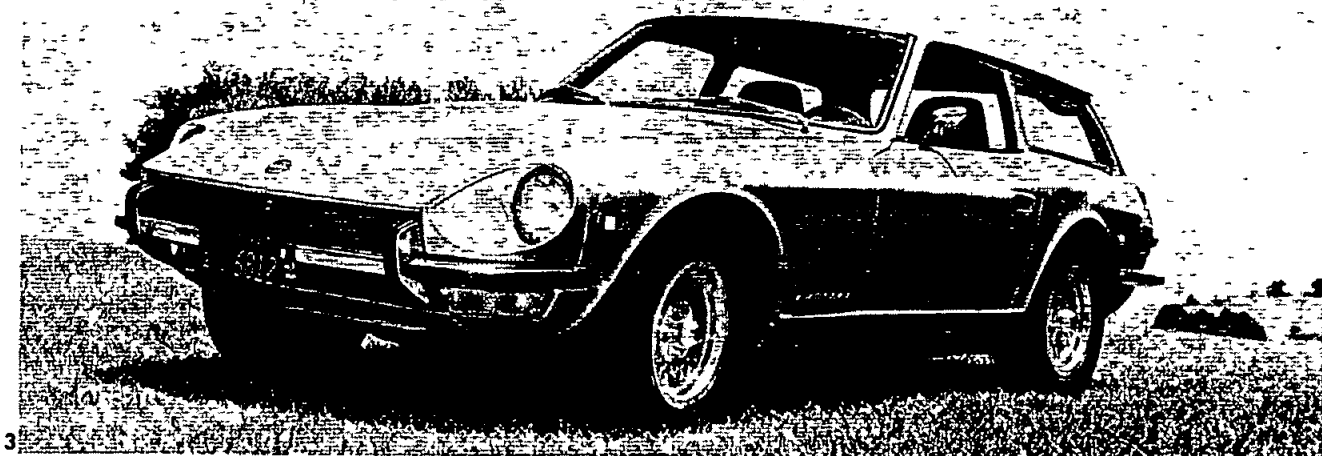
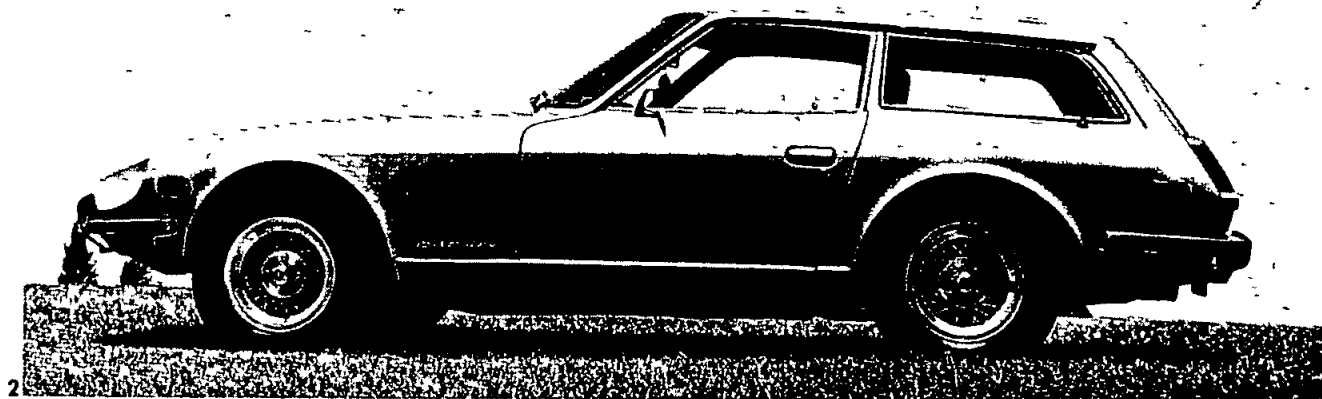
Bruce, fortunately, had a 240-Z for openers and, perhaps even more important, was owner of D&D Foreign Auto Dismantlers in Vallejo, Calif. Thus a good deal of pre-planning went into trying out a lot of tops and rear lids in order to match contours, proper lines, etc. The final combination was achieved with Opel, Vega, Jaguar and Datsun components skillfully blended by over 1000 man-hours of metal stretching, hand forming and careful welding. In addition to Bruce Dieke, Jim Higgins, John Kurtz and Richard Granger lavished about 16 hours per day for around 4 weeks to make Harry Bradley's Cider-Z live.

So flawless was their craftsmanship, that when the finished car was displayed at the Grand National Roadster

Show in Oakland, Calif., many spectators wondered out loud why a stock car was permitted in a show that was supposed to be reserved for custom works of automotive art. Obviously they weren't aware of the fact that Datsun does not build a 240-Z, 260-Z or even a 280-Z "station wagon."

When asked if he would do another 240-Z wagon, Bruce allowed as how he would if someone were to approach him with a 240-Z (or a 260 or 280), a yen for a wagon and \$3500. Naturally the next "Cider-Z" won't consume nearly as much pre-planning time, but the metal work will still constitute a major portion of the effort. Of course, Bruce may decide to take a fling at turning our "Super-Z" into reality. It shouldn't prove to be nearly as complicated or time-consuming. But what if he should finish a Super-Z and have someone say that it must be the new Datsun 290-Z? 





1 This is the Harry Bradley drawing that inspired Bruce Dieke to transform his 240-Z into a station wagon. Harry did this design exercise in March of 1972 and it appeared in Argus Publications' "1001 Custom Ideas." Harry mentioned the use of a Vega or Opel wagon rear section.

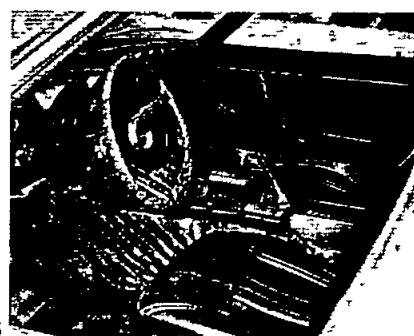
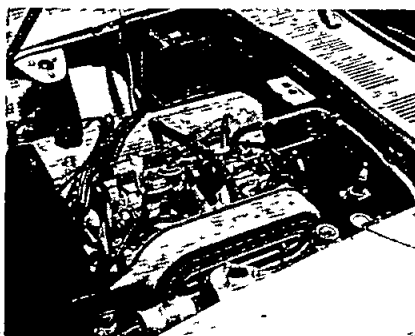
2 This is the Cider-Z wagon as Bruce Dieke rendered it in metal. The rear lines and roof-line are slightly altered to conform to the back-end sheetmetal and Bruce decided against including rooftop luggage rails. The wheels are International cross-wire mags with 175HR 14 radial tires.

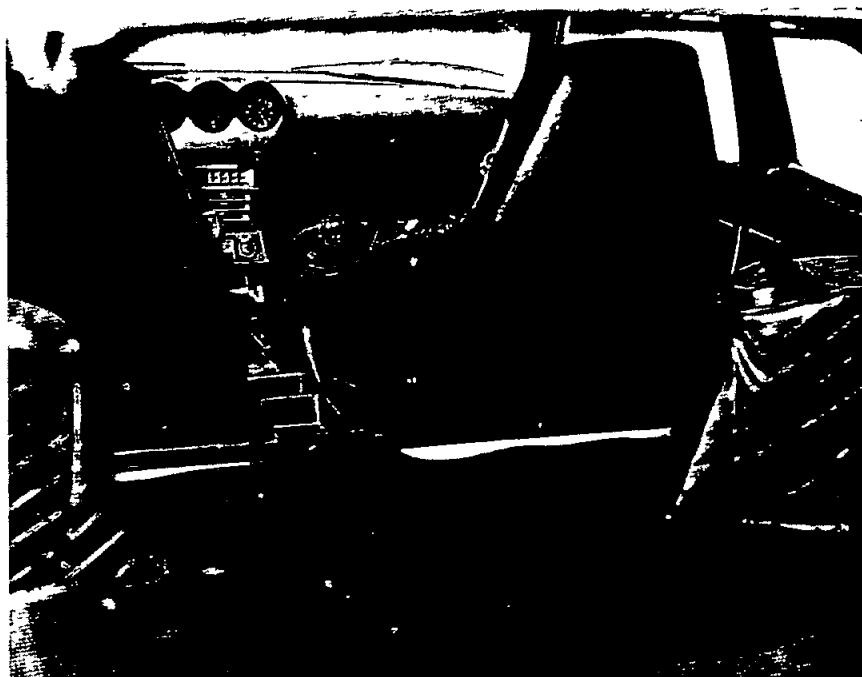
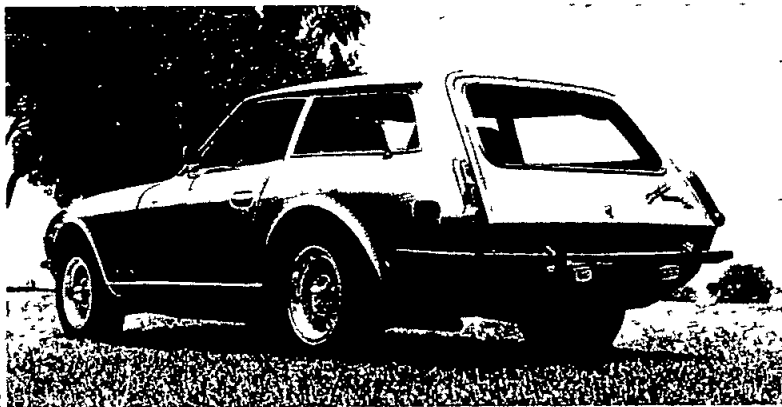
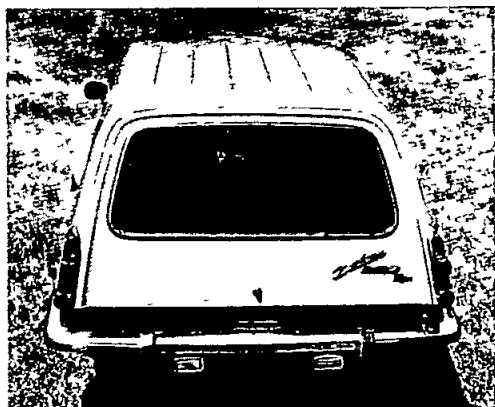
3 The appealing lines of the 240-Z are not at all disturbed by the change from coupe to station wagon.

4 Bruce retained the stock 1972 6-cyl powerplant in his 240-Z, but who knows what the future holds?

5 The forward portion of the interior is likewise stock and shows only normal wear. From this photo, who could guess that a wagon follows?

6 From this angle, Bruce Dieke's 240-Z looks like a factory-built station wagon complete with little emblem that proudly adds "wagon" to the larger Datsun 240-Z logo. That wagon monicker came from a Mazda back end.





1 The ridged outer skin of the top is from a Chevrolet Vega wagon. A lot of noodling proved that the Vega wagon rear end would not match up to the Datsun 240-Z, so Bruce, along with John Kurz, Jim Higgins, Jr. and Richard Granger modified the rear of a '69 Opel station wagon.

2 The inner roof panel, hinges, swing-up door and some surrounding sheetmetal was heated, stretched, hammer-formed and welded in place to blend these Opel components with the Datsun 240-Z rear fender panels which were also modified by heating, stretching, hammering and welding. This re-contouring of the sheetmetal from three different makes of cars took the major portion of the 1000-plus hours construction time.

3 Looking forward from the open station wagon door reveals seating for two and literally loads of luggage space. Suspension towers encroach somewhat on interior space.

4 Utilizing the entire inner part of the '69 Opel Wagon back and top permits normal operation of the wagon's cargo door. Reshaping of the 240-Z fenders to match Opel and Vega sheetmetal parts is so skillfully done that there's little wonder Bruce's wagon is mistaken for stock.

5 Lifting carpeting at rear of 240-Z wagon reveals hiding place of the stock spare tire.

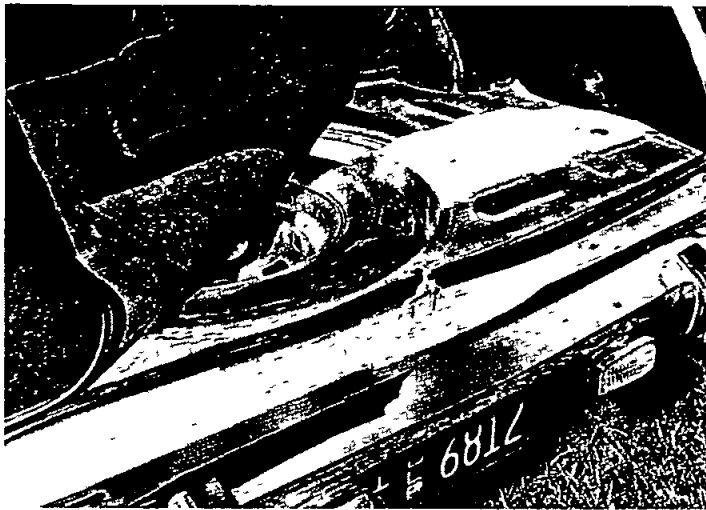
6 Quality of metal work can really be appreciated upon close inspection. Body filler is virtually non-existent since joins were hammer-welded to near perfect smoothness. Tail lights seem to have been made for Bruce's Cider-Z wagon, but were actually made for XK-E Jaguar. They have been mounted vertically instead of the horizontal placement on the XK-E.

7 The Datsun outer roof panel and the Vega outer roof panel were hammer-welded to seamless perfection, but the Opel inner roof panel presented a bit of a problem which was handily solved in this manner.

8 Rear quarter-panel windows were custom cut from safety glass to fit the Opel frames. This area required extensive metal working to blend various component contours smoothly.

9 Upon completion, Richard Granger finished the project with several hand-rubbed coats of silver lacquer.





5



6



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8



9

IMPROVING PERFORMANCE AND ECONOMY

HERE IS HOW TO GET EITHER . . . OR BOTH

So you own a Datsun. And you're wondering if there are some ways that you can improve its performance/economy/handling, without making your budget look like the national debt, or turning your friendly little car into a terrorizing pavement-ripper that you have to keep chained up at night. Well, join the crowd. A Datsun may be among the best-designed small cars in the world, but if you're reading this book, it's a cinch you'd like to know how to get a little more out of your beast. Let's take a look and see what's around.

One of the first places you can look is right down at your friendly Datsun dealer. Competition Datsuns have a tremendous reputation for performance, since from the mid-'60's the factory has taken an intense interest in racing and backed several semi-official competition teams, which has resulted in several national championships. True, you're not interested in turning your car into a racer, but this wealth of competition experience means that there are a great many performance goodies available straight from Nissan Motor Corporation USA. To list everything that it offers, the factory has prepared a comprehensive catalogue called "Datsun Competition Parts", it's available, free of charge, if you write to Datsun Competition Department, P.O. Box 191, Gardena, Calif. 90247. We'll refer to this catalogue (which lists the most incredible assortment of things) from time to time to point out some trick items which can be used on the street.

THE ENGINE

From a performance standpoint, the most encouraging thing about a Datsun is its low weight. This means that the addition of only a few more ponies under the hood will make a big difference in performance, since they will not have over 2 tons to shove around. It also means that you can end up with *both* economy and performance, something almost impossible in a big-engined full-size car.

Another encouraging thing is the basic design of the 4-cylinder and 6-cylinder engines, now available

All have an extremely oversquare bore/stroke ratio. This gives low piston speed, which allows high revs without damage. All have rugged bottom ends, and most have overhead camshafts with crossflow porting for good breathing and cylinder filling. The end result is that we have here a family of engines that will respond well to bolt-on performance equipment, despite the fact that they already produce a lot of power for their size.

Headers have traditionally been the cheapest way to gain horsepower and economy for any engine. This is especially true for a 4-cylinder, as the exhaust pulses from cylinders 1 and 4 should be separated from those of cylinders 2 and 3. Auto manufacturers invariably bolt on a simple low-cost cast iron 4-branch manifold, leaving a fertile field for the aftermarket people.

The factory is content to leave this field to the accessory people, for it offers only one street exhaust system. It's for '70-'72 240-Z's with manual transmission only, and is a complete dual exhaust system with mufflers. Both Cannon Industries and Ernie Immerso's Thunder Bird Products make headers for practically any Datsun ever imported, including the 1600 and 2000 roadsters as well as all the later sedans (see the Accessory Catalog on pp. 178-192 for their addresses).

Behind the headers you should run a low-restriction exhaust system, also available from these manufacturers as well as exhaust specialists such as Stebro—and a good system it is.

Now that things downstream of the exhaust valves are in good shape, let's look at what feeds the intake valves, namely *carbs* and *manifolds*. Here Datsun offers a raft of choices, but they are generally offered only as a complete induction system, that is, you get carbs, manifold, gaskets and linkage all at once, or nothing. Since the parts are intended for racing, no air cleaning filters are offered, if you want those filters for street use (and you should), an accessory shop can fix you up. For the 240-Z and 260-Z the factory offers a triple twin-choke 44mm Solex setup with polished air horns, an impressive array of carburetors that is almost

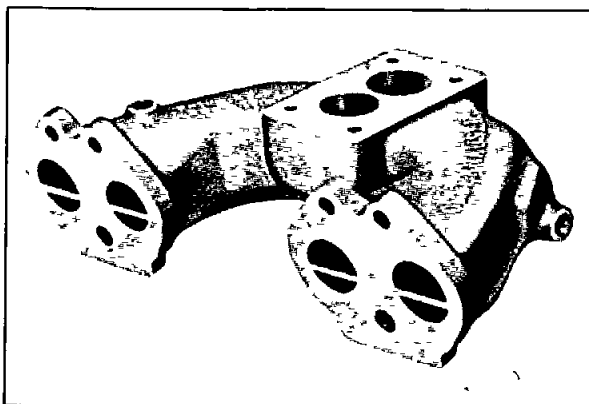
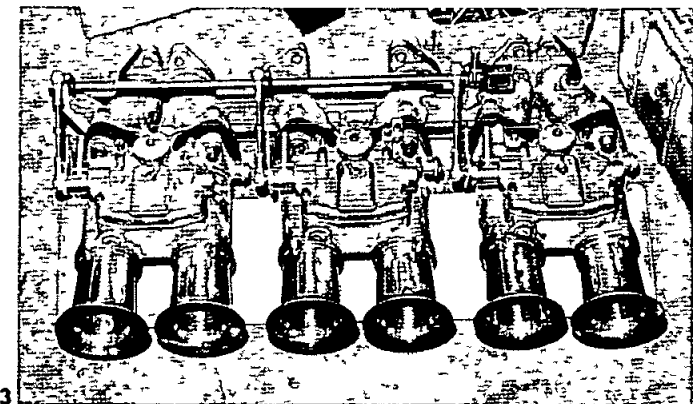
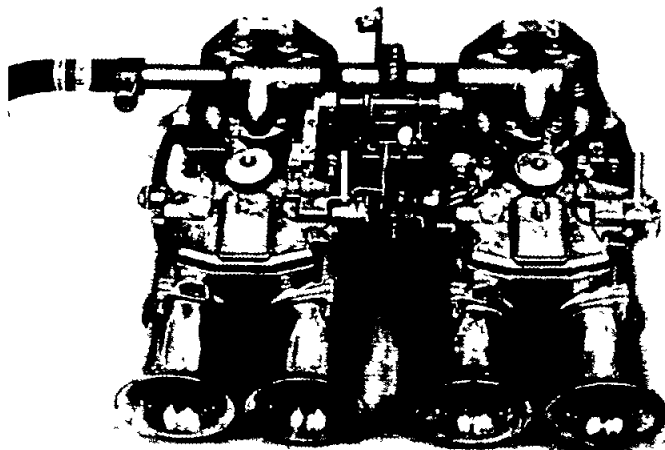
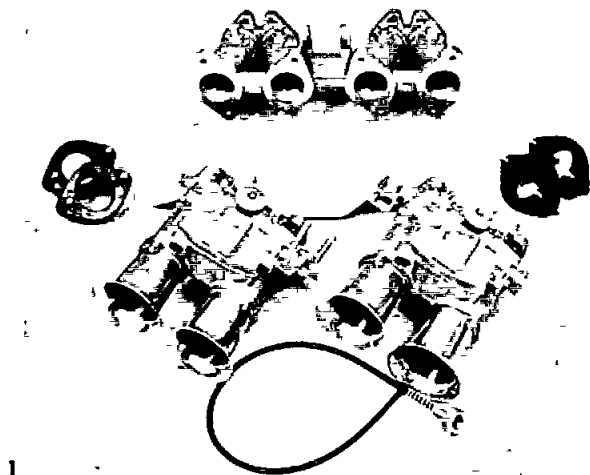
worth the (hefty) price just for looks alone. A similar kit, except that it uses two of the 44mm Solexes, is offered for the 510/610/710.

For these sedans Datsun also has two other induction systems that are interesting. One is an all-out kit meant for FIA sedan racing, which uses a special cylinder head, monster valves, and a pair of brutal-looking 50mm Solexes, you'd best forget about this one for street use, as it just won't run well at low rpm. The other, which Datsun calls the SSS engine kit, is really a complete engine rebuild kit. It comes with another special cylinder head (not the same as the FIA head), special pistons for 9.5:1 compression ratio, a hot cam, special distributor, valves, two 1½-in. Hitachi carbs, and all the needed bits and pieces to put them all together. It's available for the L16 or L18 (1600cc or 1800cc) overhead-cam engine, but not yet for the latest 2-liter form of Datsun's basic engine. This is a really good street kit as it does the job thoroughly, if you want the best street performance from your 510, look no further. But it is expensive, since you're buying everything at once. If you want to go slalom racing, Datsun will sell you the same kit with a special slalom cam which puts the torque right where you need it.

The twin-throat Solex is Datsun Competition's favorite carb, and kits with a pair of them are sold for the 1600 and 2000 sports cars (44mm size) and even the little 1200/B210 (40mm size). Oversize valves and hot cams are also listed for these engines, as well as special cylinder heads for the 1200/B210 little rockerbox engine.

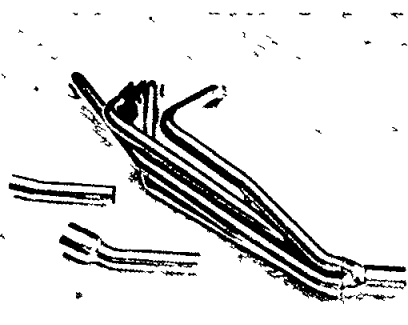
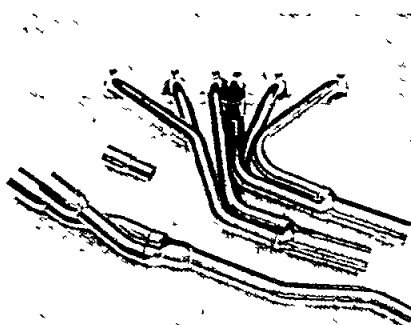
So Datsun really offers an awful lot of hot intake equipment right over the counter. Why look elsewhere? Well, for one thing, most of Datsun's stuff is genuinely intended for racing and is really too hot for street use. For another, Datsun likes to sell the whole kit, not just one part. So if you're interested in a lower-cost mild hop-up which can also improve economy, let's look at some other intake manifolds.

Offenhauser is a famous name here, and they offer a special manifold for the 1600cc cammer (510) engine. This



1 For the 510, Datsun Competition offers this twin Solex intake system that really lets the 1600cc engine breathe at high rpm. Kit cost is about \$350.

2 A similar carb and manifold kit for the 2000 sports car turns that already rapid little car into a screamin' meemie. The addition of these carbs and a special cam (also available from Datsun Competition) turns the stock 2000 into the 150-hp "Solex" version which was offered as an option.



5 DATSUN 240 Z

6 DATSUN 510

3 Check your wallets, Z-car lovers. For about \$500 paid to Datsun Competition you too can have this triple-Solex kit to dazzle your neighbors and smoke off Porsches. Kit includes all linkage.

4 Offenhauser offers this Dual Port intake manifold for the 510 that uses the stock carb. It increases both power and economy, and all the stock emission controls hook right up without fuss.

5 Cannon Industries has this elaborate header system for the 240-Z, and a similar one for the 260-Z. Two separate 3-branch headers blend into one exhaust pipe, saving you the cost of buying two mufflers. Chrome plated.

6 For the 510, Cannon makes this chromed header that adds power and economy.

7 Let's not forget the little 1200, for which Cannon has this chromed header. Octopus-like bending is to ensure equal length of the individual tubes.



7

uses the stock 2-bbl carb and linkage, so it's a simple installation. Like all of Offy's street manifolds, it has Dual Port design. This is a unique and patented Offenhauser feature, in which the primary and secondary air passages inside each branch of the manifold are completely separate from each other. A cast-in aluminum wall does this job, and its purpose is to keep the cross-sectional area of the primary passages small. This keeps primary air velocity high, which insures good fuel mixing and cylinder filling. Offenhauser claims that this principle, which they employ on all their manifolds, improves power, economy and emissions cleanliness even with a stock carburetor. When the secondaries snap open, the full area inside the manifold is available for the incoming mixture. And they are legal. Even the persnickety California Air Resources Board okayed these manifolds, since they do not interfere with emissions control equipment.

Cannon Industries is a Weber specialist, and they offer a wide variety of kits featuring the precision Italian carburetor. Single carb kits are available for all Datsuns except the 1600 and 2000 sports cars, dual carb kits are available for the 510, 610, and 710, and there's a triple-carb setup for the 240-Z and 260-Z. Webers are expensive, so the prices for these kits are too, they range from \$215 for a single-carb setup for the B210 to \$555 for the Z-car's triple. If you've already got the carbs from some old Ferrari or Alfa Romeo lying around out in your garage, then you can buy the manifolds separately, at a great savings. A word of caution: these manifolds have no provision for connecting emission controls and thus are illegal for road use on late model cars.

Weiland is another famous name in induction equipment, and specializes in "crossflow" manifolds for sidedraft carburetors on inline engines. Their manifolds will accept Weber, Solex or Dellorto twin-throat carbs, and are available in single- and dual-carb form for the 1200, B210, 510, 610 and 710, as well as a triple arrangement for the Z-cars. Emission control hookups are included. Probably the best all-around street carburetion setup for a 4-cylinder Datsun would be a Weiland manifold with a single 45mm twin-choke carb, as this will outperform a dual-carb arrangement except at extremely high revs, which you would rarely use. Besides, it's a lot cheaper.

To help breathe in all this new additional mixture you should have a hotter *cam*. The mild ones can be used with automatic transmission, and you

can get away with your old springs and retainers. For the hotter cams, you should use aluminum retainers and stiffer springs. In all cases, you should replace the cam followers with new ones, as the wear patterns on the old ones will scuff the new cam lobes.

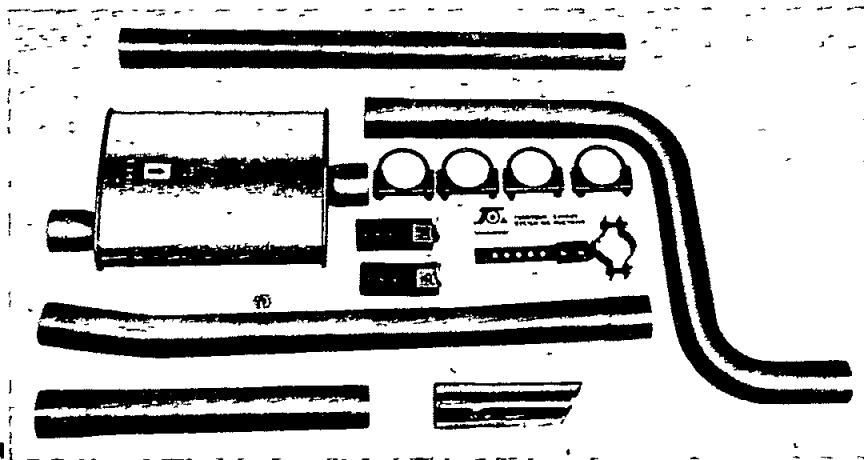
We've already mentioned those available from Datsun Competition, but those are for racing. Cannon offers a wide selection for the 240-Z, 2000 roadster, 1200/B210, and the 510/610/710 cars. They come in three stages of hot: the so-called "¼ race," full race and track. The ¼ grind is the one you want, as it has less lift and shorter duration than the other two, which are meant for road racing and track racing, respectively.

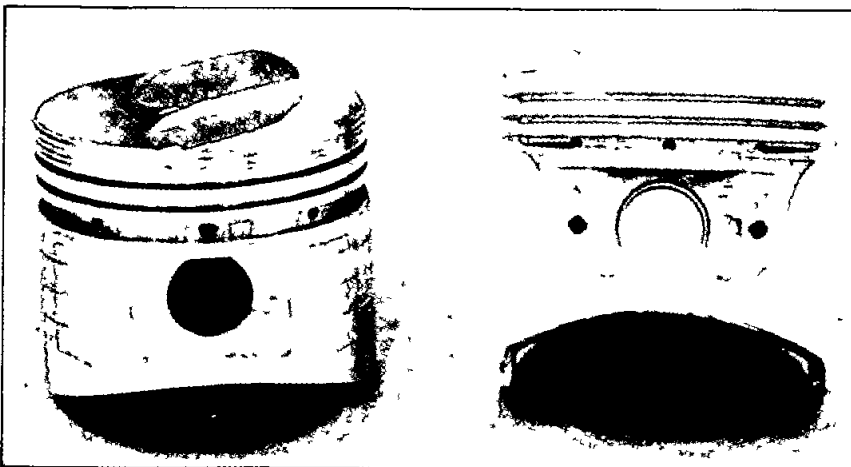
How about hotter ignition? There is great activity in this area now, and we are seeing the greatest advances in ignition technology in the last 50 years. The accessory market is flooded with interesting and effective ignition improvers. Which to buy? Without boring you with a lot of details, these aftermarket items fall into three categories. *Transistorized* ignitions have an electronic "black box" which reduces the current across the distributor points, and relegates them to the role of a signaling device; the actual switching on and off of the primary current to the coil is done by a transistor. *Capacitive Discharge* (CD) systems carry this one step further, and fire the coil with the discharge from a capacitor, which enables the coil to deliver a higher voltage to the spark plugs. *Breakerless* systems eliminate the distributor points altogether, replacing them with either an optical or magnetic device which tells a black box to trigger the coil. Of these, the breakerless systems are the most expensive (around \$100), but are not available for every car, since they must be designed to fit specific distributors. The best

compromise currently is the CD system, which costs less (\$40-\$60) and will fit any 12-volt negative-ground electrical system (which all Datsuns have). A CD kit is easy to install, will never wear out, and can be transferred to your next car when you sell your present one. Your local automotive parts store or speed shop can advise you on specific details of the various brands available.

Some items that will aid durability at sustained high speeds are an oil cooler, a flex fan and a special high-speed fan belt.

One of the most interesting developments in a long time for small cars is the *turbocharger kit*. The exhaust-driven turbocharger, originally developed for high-altitude aircraft, has replaced the belt-driven supercharger as the favorite way of raising the intake pressure above atmospheric for small and medium-displacement engines. Conventional hopping-up modifications are all aimed at reducing pressure losses in the internal airflow of the engine, supercharging or turbocharging attacks the problem from the opposite direction, raising the external pressure to blow a dense mixture past all restrictions. Because a blower can cram in so much mixture, normal hop-up procedures are not only unnecessary but even undesirable. A high-lift cam, for example, will not let in any more mixture than one of moderate lift; a large valve overlap simply means you'll be blowing a lot of unburned gasoline out the tailpipe, and you want to avoid high-compression pistons like the plague, since they'll raise the combustion pressure and temperature so high you'll wreck your engine in nothing flat. You can't use headers at all, since a special exhaust system is what drives the turbocharger in the first place. Polishing, porting and oversize valves help—a little—but are not necessary.

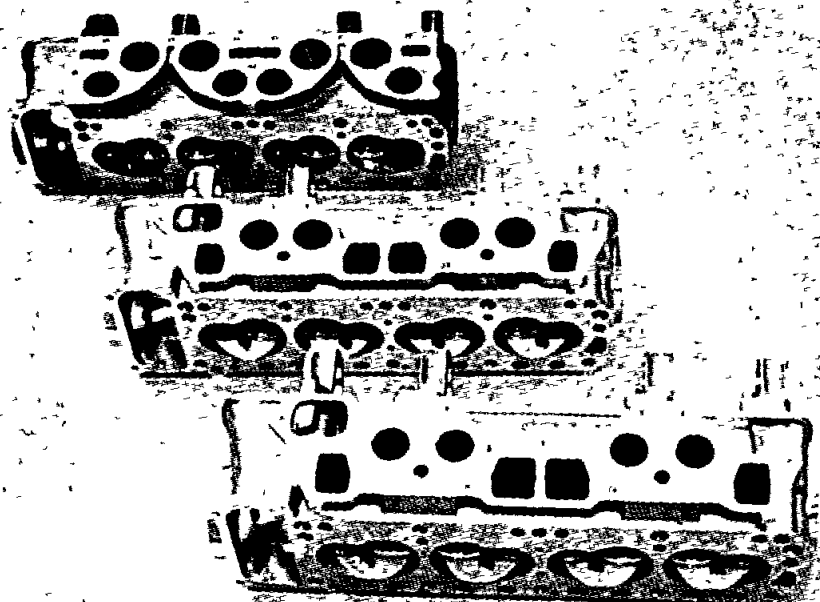




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unless you are racing. So while the price of a turbocharger kit is high, it should be looked upon as a *substitute* for all those hop-up goodies, not as an additional expense.

Ak Miller was the pioneer in turbocharger kits, and he uses an AiResearch turbine-compressor unit with associated piping, manifolds, carburetor and exhaust system. He offers it in three forms. The first has a boost limit of 8 lbs per square inch, and can be installed on any 4-speed engine, although a little shoe-horning will be necessary if you have air conditioning. No internal engine mods are necessary, and you can use the stock exhaust system. This will produce a 50% increase in horsepower, and is perfect for the street. Next up is a competition version, which provides up to 18 psi boost. It includes a large-diameter exhaust system with a special low-restriction muffler. However, since the stock head gasket will blow out at about 10 lbs boost, it is mandatory with this version that you have your cylinder head machined to take O-rings around each cylinder; this service is available at Ak's on a new or exchange basis. It is also necessary to employ water injection to cool the hot compressed mixture, otherwise the engine will overtemp; the kit includes fittings to convert the windshield washer for this purpose. The third kit is like the first street setup, but is made to run on propane, and includes everything you need except the propane tank. This kit



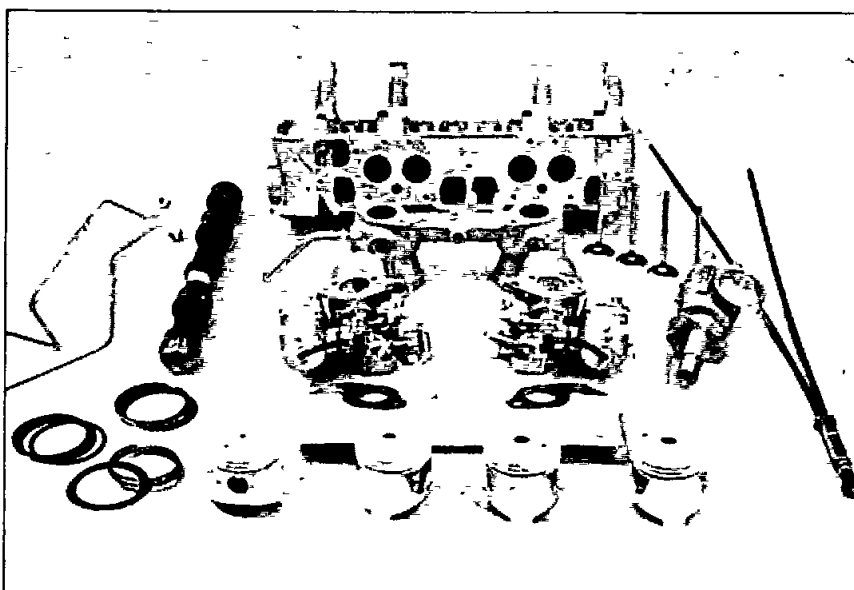
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1 Behind any header you should have a low-restriction muffler for best output. Cannon has this system, which they call *Turboquiet*, to fit most minicars including almost all Datsuns. Can be used with the stock header.

2 Datsun Competition has several high-performance pistons for the 510. On the right is a flat-top piston which gives 9.5:1 compression ratio, while the domed piston at left increases the compression ratio to 11.5:1, but requires modification to cylinder head.

3 Here are three special cylinder heads Datsun Competition has for 1600 and 1800cc overhead-cam engines. At bottom is a high-compression head with racing valves of standard size, above it is the SSS head with larger ports and oversize racing valves, at the top is the all-out FIA head for sedan racing.

4 Expensive but immensely satisfactory street conversion for the 510 is this SSS Engine Kit. It includes the SSS cylinder head, special distributor, hot cam, twin Hitachi carbs, and high-compression pistons—everything necessary to turn the 510 into a tiger.



is of particular interest to Californians, since the gasoline kits have been declared illegal in that state except for off-road and racing use. Write to Ak directly if you want more info. His address is 9238 Bermudez St., Pico Rivera, Calif 90660.

Spearco's kit differs from Ak's primarily in its use of the Rajay turbine-compressor unit instead of the more expensive AiResearch one. Their street version is limited to 7 lbs boost, a low enough pressure to allow the blown car to operate on 91 octane unleaded fuel, that new stuff that all new cars have to run on. They also have a high-pressure version (14 lbs boost) which employs a low-restriction exhaust system to speed up the turbine. Again, water injection and O-rings in the head are necessary. Spearco's address is 2054 Broadway St., Santa Monica, Calif 90404.

There are a few things to keep in mind if you are thinking of turbocharging for the street. A turbocharger uses a centrifugal type of compressor, unlike the belt-driven positive-displacement supercharger used on dragsters, a centrifugal blower has an "exponential" rise in pressure output with increase in rpm. This means that if you double its speed, you will more than double its pressure output. This tends to concentrate the turbo's kick in the

high-rev ranges of the engine. This is fine for racing, since that's where you'll be running the engine anyway, but it also is good for the street. Since there is little boost low in the rev range, you can get good fuel economy if you keep a firm grip on yourself and don't roar up through the gears at every opportunity just 'cause it feels so good. In fact, it is possible to get slightly *better* fuel economy because you can shift at a lower rpm than before. Durability is excellent. You can't break a turbo, as the only moving part is the rotating turbine-compressor unit which doesn't touch anything, it will outlast the engine. And it requires no maintenance.

There is one problem with these kits. They were designed for another car (the Ford Pinto), so they are not exactly a perfect bolt-on for a Datsun. But the Pinto 2-liter engine is quite similar to a Datsun 4-cylinder, and it should be possible to adapt these kits without a great deal of trouble—if you're determined.

THE SUSPENSION

The standard Datsun comes rather ill-equipped to be a Porsche-baiter on twisty roads. That's not its role in life. It's a bit of a shame, for Datsuns have several standard features that endow

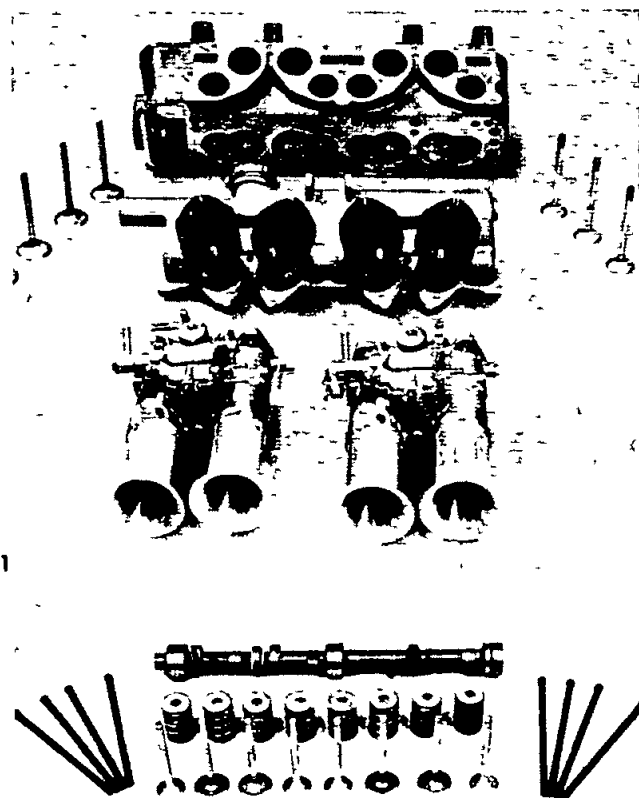
them with great handling potential, especially good steering, light weight, and independent rear suspension on the 510 and 610.

Where the Datsun falls down is the same place practically every new car does: small and narrow wheels, and tires that are barely adequate for ordinary driving.

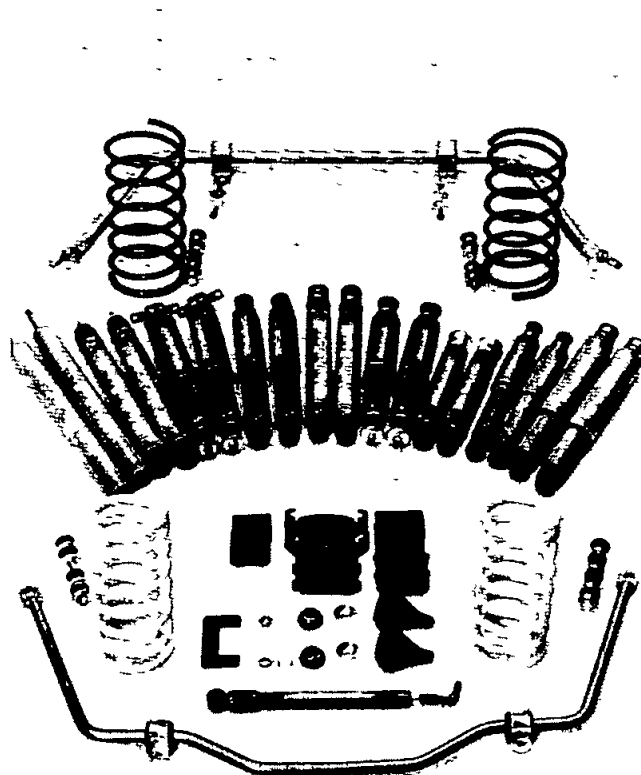
The biggest change for the better—and the most expensive—would be a set of wider wheels and bigger tires.

Cast alloy wheels are rather expensive—\$50 to \$75 each. Unless you can get a good deal or have lots of that long green stuff, you will want to weigh carefully the benefits of wide alloy wheels. You can go as wide as you want, as long as the wheel fits onto your car's bolt circle. But if you intend your car for street use, limit your ambitions to a 6-in rim width if you're going to run radials, and no more than a 7-in rim for bias or bias-belted tires. More than this and you will have to flare the wheel wells. The radial wants a narrower rim since it depends upon its flexible sidewall to keep the tread flat on the road, too wide a rim "overpowers" a radial and interferes with this flexibility.

For racing, 14-in and even 15-in alloy wheels in a variety of widths are available. It is not advisable to use these on the street, as they will cause



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interference problems unless the suspension and wheel wells are modified

Check with specific wheel manufacturers for more details. Ansen, Permacast, American Mag, Cragar, Shelby and others make a range of sizes that will fit

Larger tires of course are available from speed shops, and there's a raft of them. If you're sticking to the street, a radial is the best all-around tire. Pirelli, Michelin, Firestone, Goodrich, Semperit, Goodyear—everybody makes radials these days. And don't overlook the Sears Allstate radial, made for Sears by Michelin, the most respected name in radial tires—they invented it. If your bag is slaloms or the ultimate in street traction, a wide D70 or even 60-series bias-belted is what you want. These cost a bit less than the best radials, but have a harsher ride, don't last as long, and get poorer fuel economy. Radials also have the advantage of being insensitive to longitudinal disturbances in the road (like trolley tracks or rain grooves) which can cause

a light car like a Datsun to jump sideways if it's shod with bias tires

For yet better handling you can go to anti-roll bars and stiffer springs. Anti-roll bars (which also go by the names of stabilizer bars or sway bars) reduce roll in a corner, but they also put an increased load on the outside tire. This increases its slip angle (the angle between the direction in which the tire is pointed and the direction in which it is actually moving), which affects the steering. A front anti-roll bar will therefore increase understeer, while a rear one will reduce it.

The front suspension on a 240-Z has a stock 17mm bar, while the 260-Z has this as well as an 18mm rear bar. Therefore, one of the first things you can do to a 240-Z is to install the 260's rear bar, which will result in a better balanced car in corners. Available from Datsun Competition are a larger front bar (22mm) and two larger rear bars, 23mm and 25mm. Datsun cautions that these larger sized front and rear bars should only be used in conjunction with each other, and not mixed with the smaller stock bars. For all-around improvement, use the 23mm rear bar with the 22mm front bar, for specialized competition conditions such as slaloms or autocrosses where additional oversteer is desired, the 25mm rear bar is used with the 22mm front bar. The factory also offers two complete suspension kits for the 240-Z. One lowers the car 2 ins. for road racing, the other raises it 1½ ins. for rally work over rough roads. Take your pick. They both include different springs, struts, spindles and anti-roll bars.

For 510/610, 1600 and 2000 roadsters, and the 1200/B-210, the factory also offers complete suspension kits, though all of these are aimed at improving handling on a road racing course and will lower their respective cars about 2 ins. The factory specifically warns that the kit for the 1200/B-210 will make its ride extremely

harsh, for the roadsters the kit is available with either hard or soft springs, the latter suitable for the street. Interpart also makes suspension kits for most Datsuns.

Shocks are another area where you can greatly improve on original equipment. Both Koni and Gabriel make adjustable shocks, they not only give better handling, but will last much longer than the stock ones.

THE COSMETICS

Okay, so now your little beast is putting out bundles of power and can zip through corners with the greatest of ease, but how can you impress people who can't see all those good things? Or maybe you just want a sharper car in the first place. Striping adds a bright and distinctive touch, and makes the car look longer. Several firms offer a custom steering wheel with aluminum spokes and either a leather, vinyl or polished wood rim. Hurst makes a groovy shifter, which is shorter and stronger than the stock lever and has a trigger lockout for reverse. Virtually any accessory shop has leather or wood shift knobs, and Sun and Stewart-Warner have a line of gauges that include a tachometer, a water temp and an oil pressure gauge. Super reclining seats in either cloth or vinyl are made by Recaro and others, but are usually not stocked in accessory shops, a good place to inquire about these is at your local custom auto upholstery shop. Spoilers increase the aerodynamic downforce on your car, making it more stable at highway speeds and even saving a bit on fuel economy. Spoilers are available for both the front and rear, finished in flat black which you can leave as is or paint to match your car.

So there it is. You can have your Datsun mild or wild, depending upon your tastes and pocketbook.

1 King Kong lives! Look at the size of those Solaxes! This is the factory's FIA sedan racing kit, made for 510/610 engines that live all the time at 6000 rpm. Unless you've got some heavy sponsor, you may not even be able to afford its intake valves—they're titanium.

2 For the 1600 sports car the factory has this full-race cam kit, which includes aluminum pushrods, stiffer springs, aluminum retainers, and oversize valves. Not for the street.

3 Interpart offers complete suspension kits, or individual components, for most Datsuns. They specialize in springs and shocks under the "Mulholland" name.

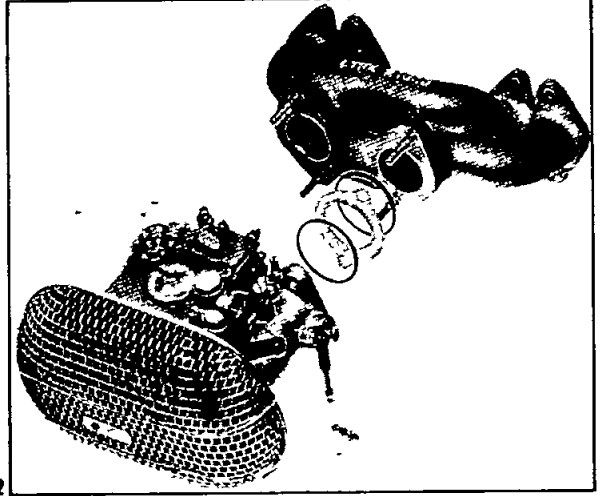
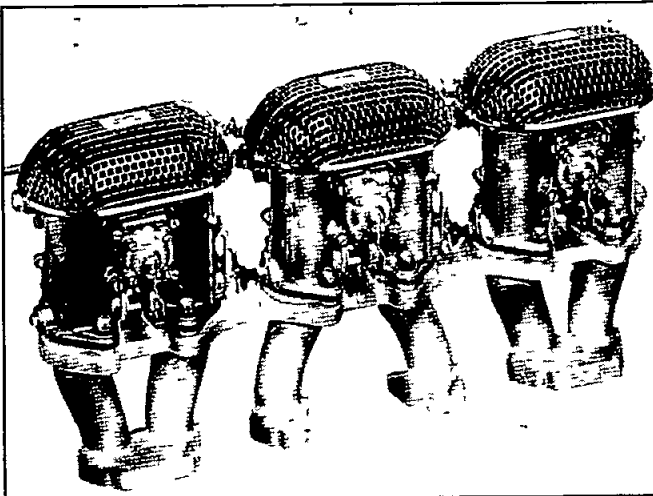
4 Limited-slip differentials help at the track but also on the street, especially if you live in a cold or wet climate. The factory offers two different sizes for the 240-Z.

5 From the factory comes this kit for the 510/610, which will lower the car 2½-ins. and greatly improve handling.



ACCESSORIES FOR YOUR DATSUN

PERFORMANCE AND APPEARANCE ITEMS APLENTY

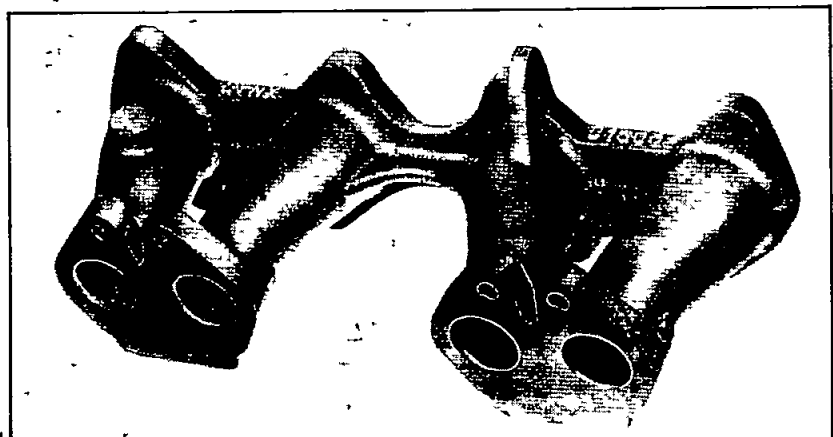
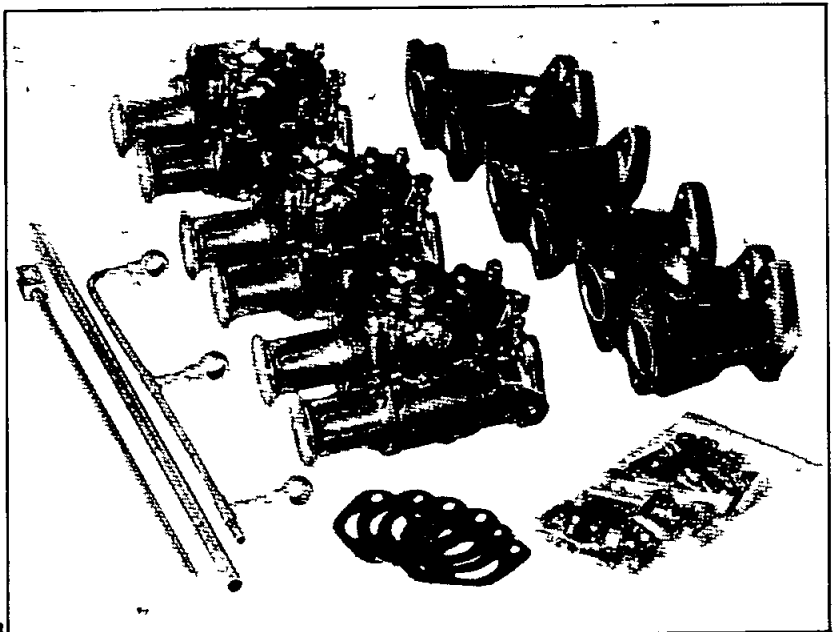


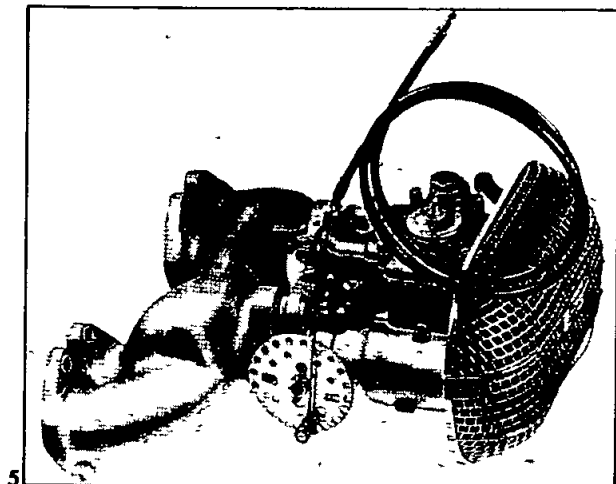
1 Weiland offers this complete carburetor and manifold kit for the 240-Z and 260-Z. Carbs are the DHLA Dellorto sidedrafts with 40mm chokes. Weiland's #1495 linkage kit is recommended, as are their Ram-Flo air filters, shown installed. Dellortos provide a wide range of tuning, particularly in the mid ranges.

2 Weiland's "Nylynx" softmount kit for Dellorto, Weber and Solex carburetors isolates the units from engine vibrations while ensuring an air-tight seal at the flange. Needle and seat life in the carb float bowl is lengthened as well. Rigid mounting of these carbs can lead to air leaks between the carb's base and manifold flange, causing what is known as "excited aeration."

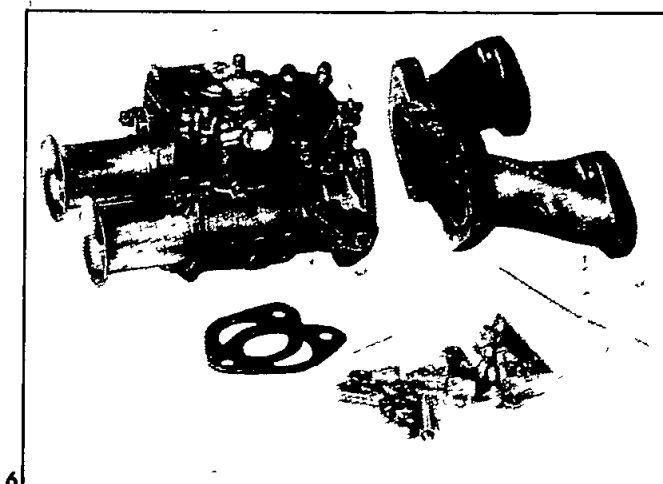
3 This is Cannon's triple Weber 40 DCOE/2 kit for the 240/260-Z Datsun. All required hardware and gaskets are included in the kit, along with jetting instructions. This kit does not interfere with air conditioning components.

4 This is Weiland's "Lynx" manifold for the 1600 engine where a pair of sidedraft carburetors are to be used. A pair of 40mm DHLA Dellortos are recommended for this application, though 40mm Webers will fit also. The #1494 linkage kit takes care of throttle operation. There is provision for emission control adaption.





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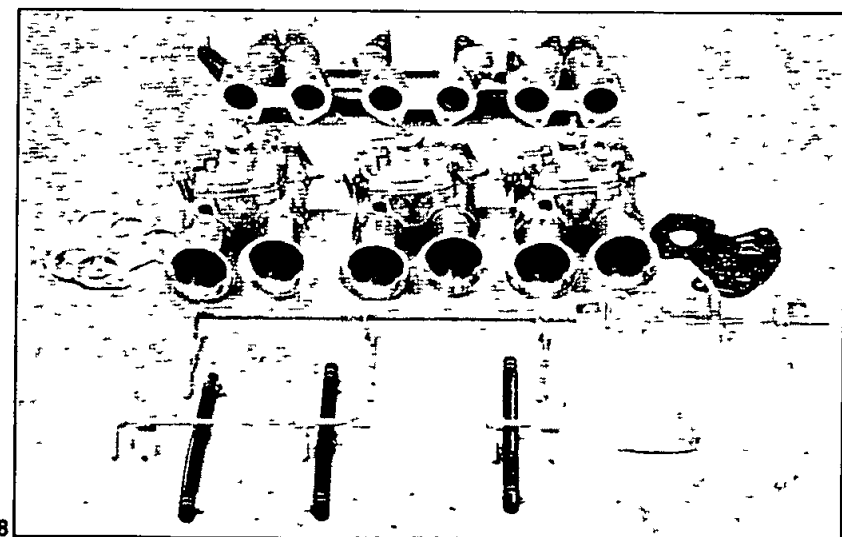
5 Weiland offers this special nylon, grease-impregnated cable in 33, 37 and 44-in. lengths to solve custom throttle installation problems. It is shown attached to a Dellorto carb with their universal throttle linkage plate.

6 Cannon Industries offers complete Weber carburetor, manifold and linkage kits for the Datsun 1200 through 1600 engines. Shown is a kit with a single 45 DCOE, but similar kits are available utilizing a pair of Webers in the 40 DCOE size. All Cannon kits include gaskets, fuel lines, hose clamps and detailed instructions, including those for correct jetting. Cannon/Weber kits are really complete in every way.

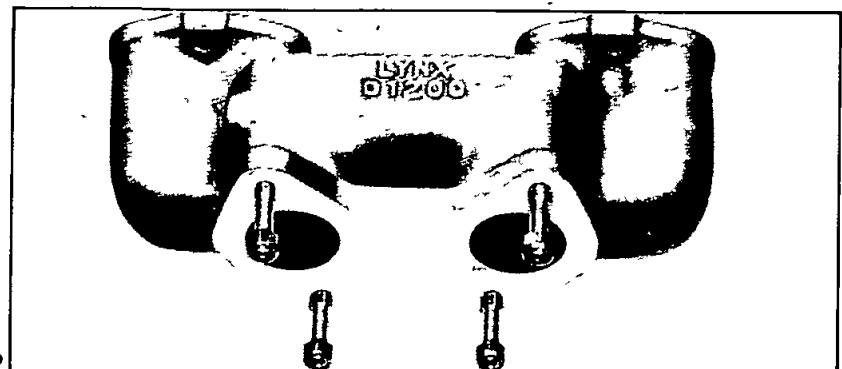
7 Weiland's #1325 Lynx manifold will adapt a pair of 40mm sidedraft Dellortos to your Datsun 1200 engine, and give you a range of tuning adjustments you never thought possible before! Use their #1492 linkage kit for throttle operation.

8 Datsun recommends the twin-choke Mikuni/Solex carburetor with 44mm barrels for the 240/260 engine. The kit includes all the necessary hardware for installation. Air cleaners are not included. Datsun maintains a full range of jets to suit various tuning needs.

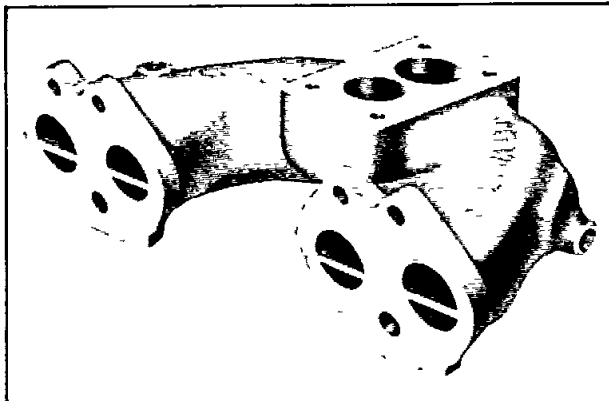
9 The Weiland #1324 Lynx manifold will adapt a single 45mm DHLA sidedraft Dellorto carburetor to the Datsun 1200 engine, along with the #1491 linkage kit. The crossover design takes full advantage of the carb's need for even induction pulsing. Provision has been made for emission control adaptation.



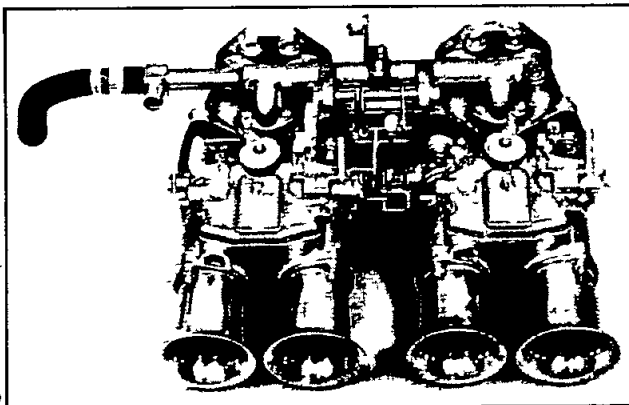
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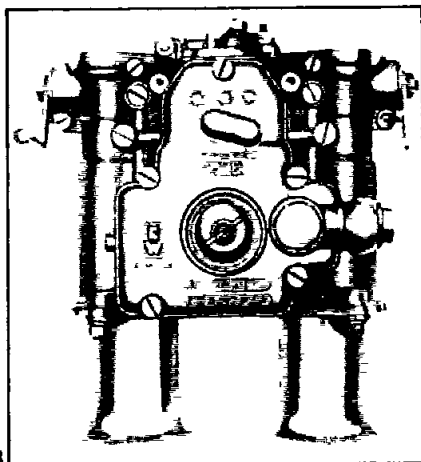
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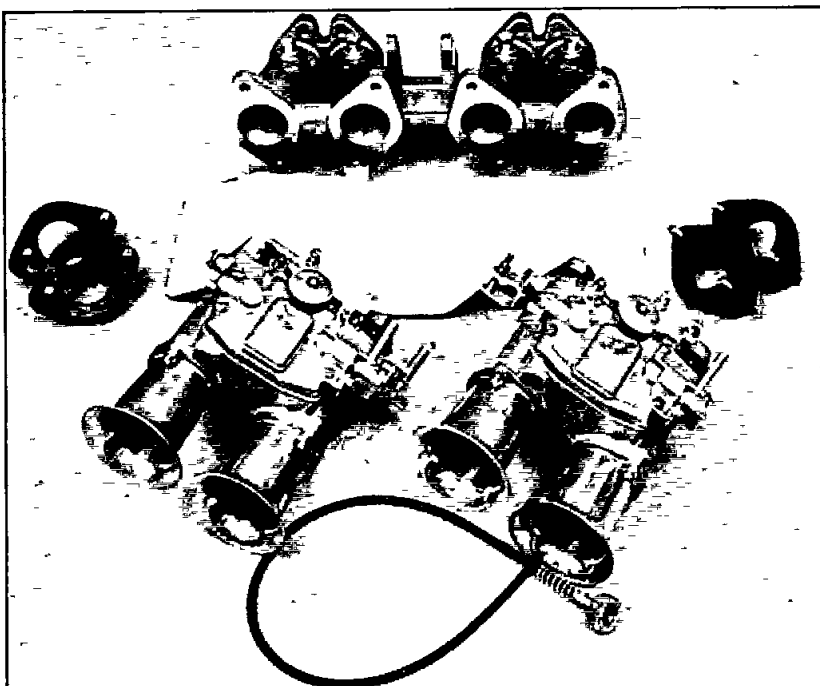


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1 Offenhauser's #6002-DP Dual Port manifold for the 1600 engine allows use of all factory carburetion and emission control components. The unique split ducting has proven itself in both engine performance as well as lower emission levels. Adapts to all 1968 through 1974 cars and 1970 through 1974 pickups.



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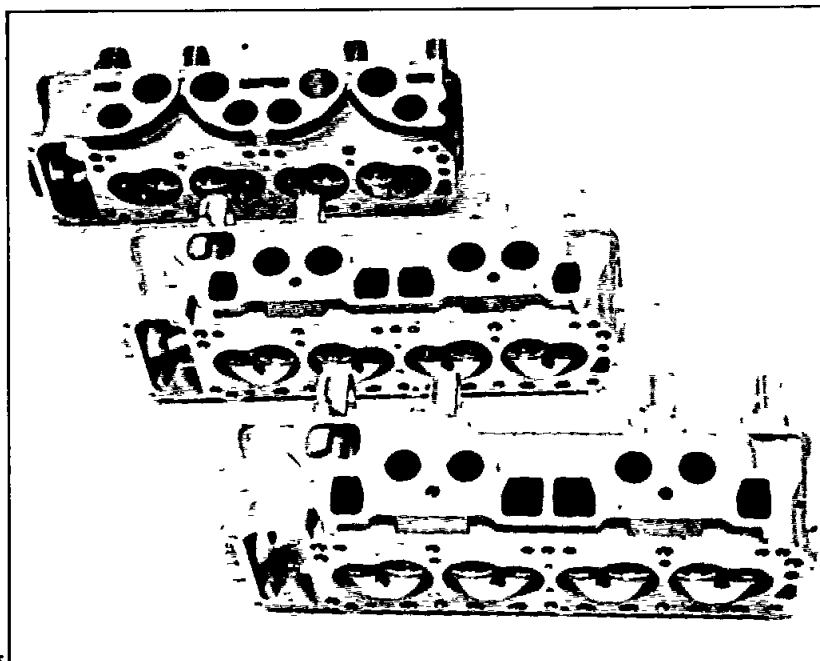
2 This complete Solex carburetor kit was designed to bolt onto the 2000 engine. With the special cam offered by Datsun, 150 bhp can be churned out by the venerable 2-liter.

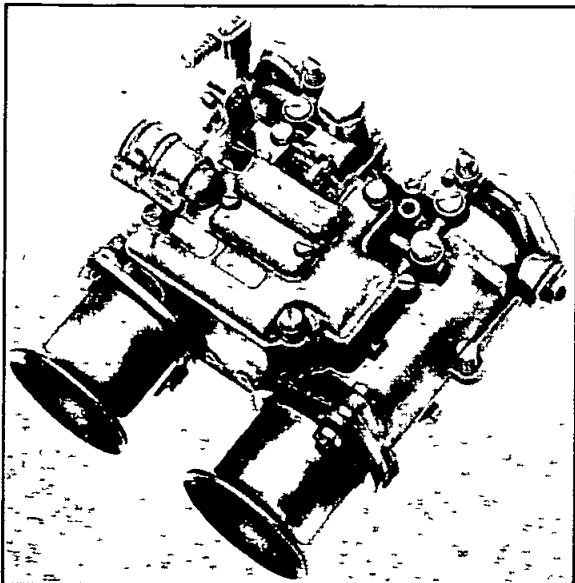
3 Weber, the name is synonymous with the story of European road racing and high-performance cars. Cannon Industries offers the full line of DCOE twin-choke sidedraft units with either 40 or 45mm barrels. They are suitable for either road or track use, and due to the wide range of jets and venturis available, a wide tuning range is possible for economy or power.

4 Datsun competition recommends this setup for carbureting the racing 510/610/710 engines. Setup consists of a pair of Mikuni/Solex 44mm carbs, manifold, throttle cable linkage and carb heat shield. Optional jets are available.

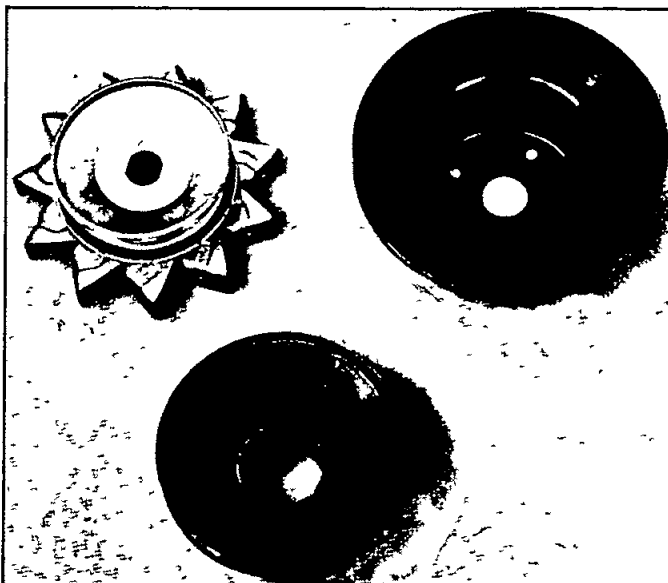
5 Competition cylinder heads for the 510, 610 and 710 engines may be ordered complete from the Datsun racing department. All necessary porting work has been carried out, along with installation of larger valves, etc. Individual components such as springs, valves and retainers may also be had.

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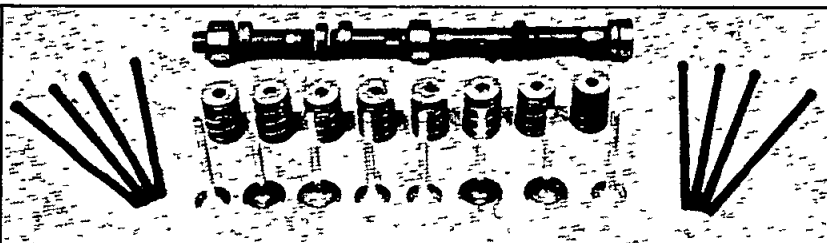




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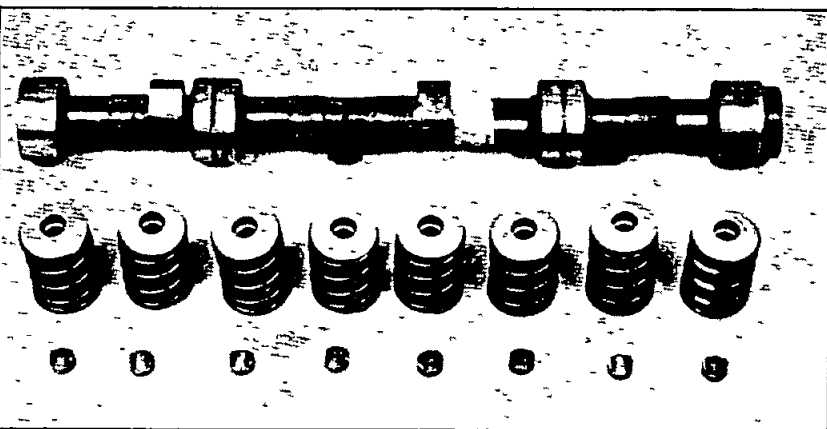
6 Weland offers the successful Italian Dellorto DHLA sidedraft twin-choke carburetor in 40, 45 and 48mm barrels. These carbs are very adaptable to street or track applications, a full range of jets being available in order to obtain the best performance for your particular driving requirements.

7 The 4-cylinder Datsun engines need this pulley and belt set when racing to prevent losing belts. The V-belt grooves are deeper than standard. A complete racing alternator with pulley is also available through the racing department.

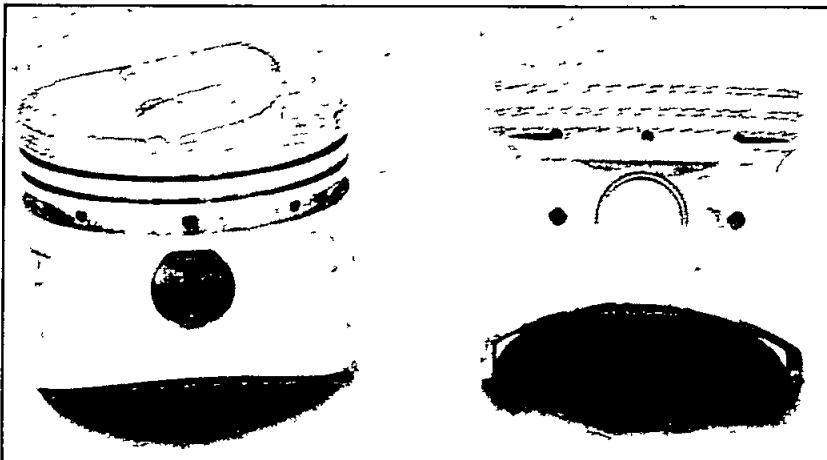
8 The earlier 1600/2000 series roadsters can still be competitive, and Datsun's competition department offers this full-race cam with 306° duration. Cam requires longer pushrods, special springs. Oversize valves are shown.

9 Datsun Racing stocks six different camshaft grinds for the 510/610/710 engines for various applications, from a street design to the radical #26 kit, which requires external oiling. Inquire regarding your plans.

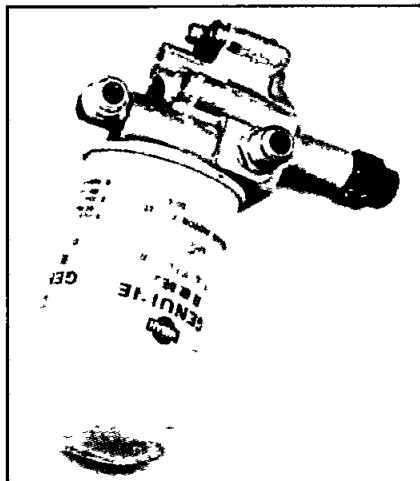
10 Datsun/Venolia pistons give approximately 11.5:1 compression in the L16 engine, and require cylinder head modifications. Supplied in .040-in. oversize. For racing only. Pistons are available for other engines as well.



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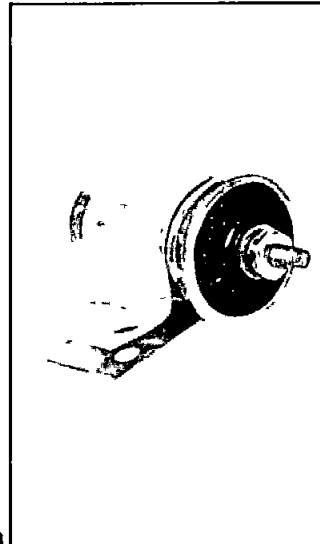
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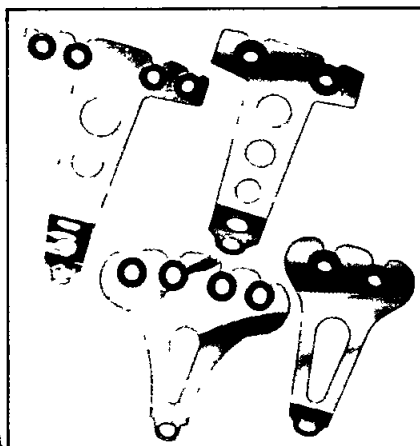
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1 Datsun's racing parts house carries a full line of equipment for the 1200/B-210 engines, including this high-capacity oil pump with fittings for oil cooler lines

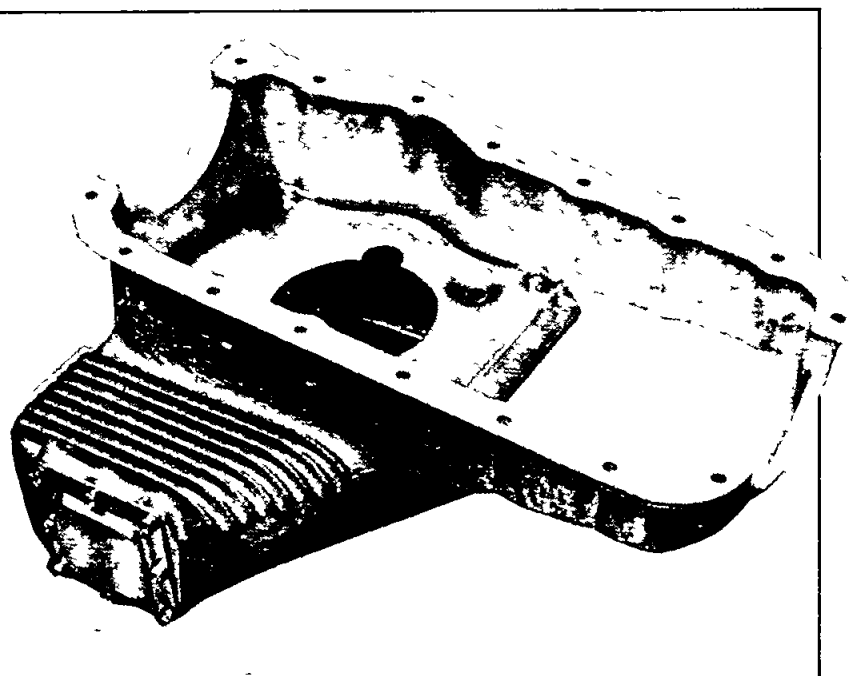
2 Jones Motorola tachometers are instruments of exceptional accuracy. They are available with or without telltale needle with either button reset or key reset for competition use. All versions read from 0 to 10,000 rpm. From Mallory

3 Forget condenser replacement with Mallory's heavy-duty unit. Universally applicable, the maker guarantees its life to be indefinite

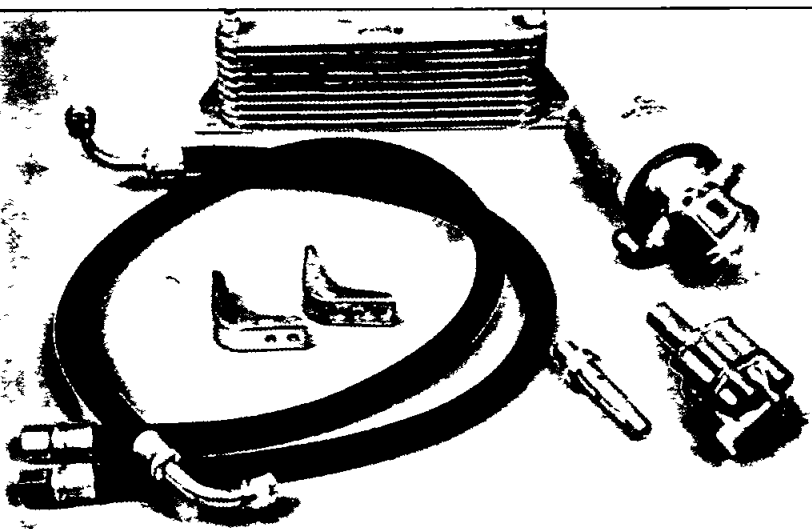
4 Keep ignition wiring isolated and in neat order with these chromed wire looms from Cal Custom. Available in 2-wire or 4-wire versions, either can be had in low or high lengths. Insulators snap in and out of looms

5 This alloy oil pan will give the A12 engine a 6-qt. capacity. It has windage trays and flappers included to prevent oil escaping from the pickup during cornering, acceleration and hard braking. From Datsun Racing

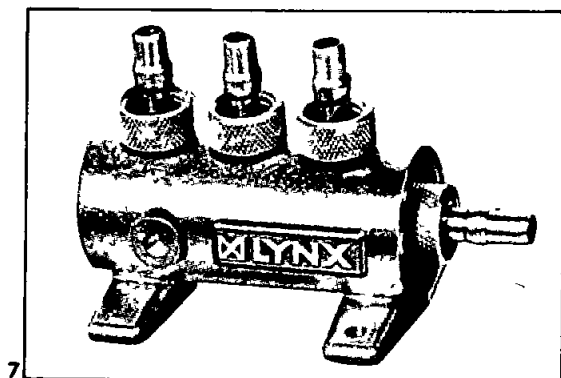
6 Datsun's racing lubrication kit for the 240/260/280 includes a high-volume pump, filter, radiator and all needed hardware for installation



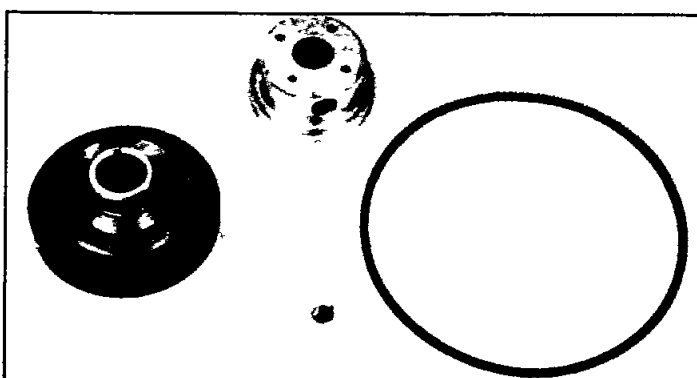
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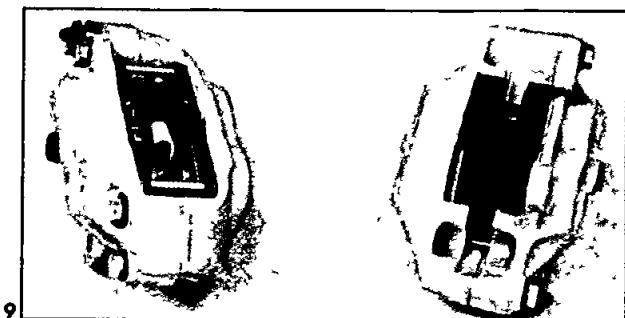
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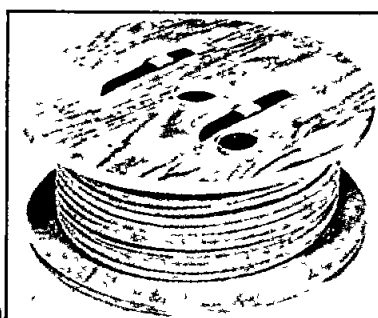
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7 Weiland's Lynx filter blocks are ideal for use with sidedraft carburetion setups. Pressure tested to 500 psi, they are based on a filter which will trap contaminants down to 50 microns in size. Available in dual or triple outlet versions.

8 This set, consisting of crank vibration damper pulley, alternator pulley and fan pulley are designed for the competition Z-car. A special Gates Polyflex belt is used. Because of the groove design, the pulleys must be used as a set only. From Datsun.

9 FIA approved brake calliper sets for the 240/260/280 are available from Datsun's racing department. They double the pad area over the stock units. These brake sets are not sold for street use, they are for racing only!

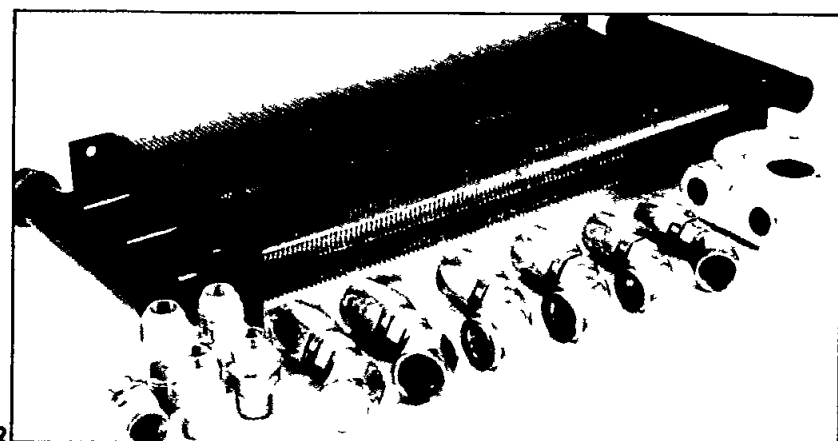
10 Mallory's silicone spark plug cable is based on a stainless steel conductor core surrounded by tough silicone rubber insulating sheath. Recommended for every application from day-to-day driving to all-out competition.

11 Datsun's competition department stocks limited-slip differentials for the 1600/2000 roadsters. Ratios range from 3.70:1 to 5.13:1. Ring and pinion sets from 4.11:1 to 5.13:1 are also available.

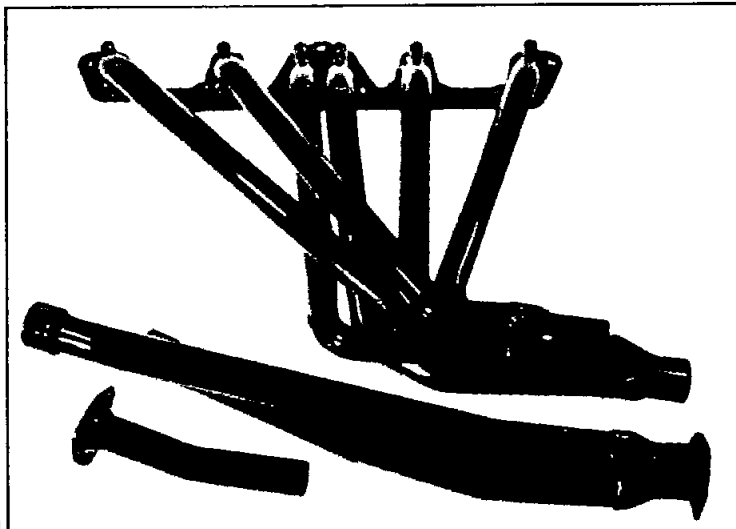
12 Your Datsun, from the 1200 to the Z-car will benefit from Cannon's oil cooler kit. Each cooler is supplied with all necessary hoses, fittings and has built-in mounting brackets. Core is tested to 300 psi, and features inner fins that cause the oil circulating to swirl as it passes through the tubing.



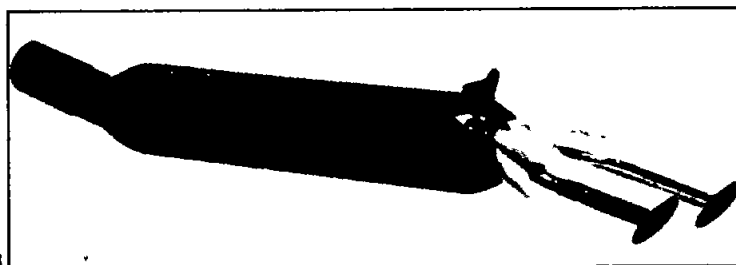
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1 Thunderbird's 240-Z header scavenges the six cylinders into two intermediary pipes before entering the collector. Provisions have been made for all emission control fittings. Installation hardware included.

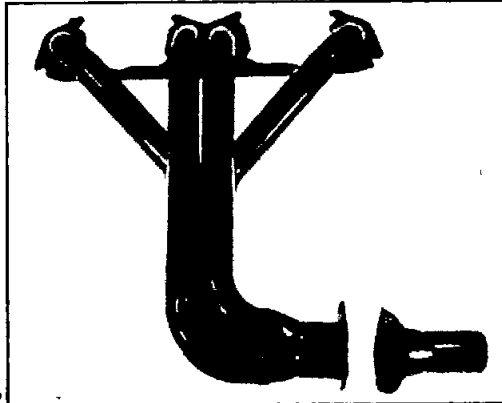
2 The Datsun 1600 roadster will benefit from this fully engineered four-into-one header by Thunderbird. Cone style outlet accommodates stock exhaust pipe.

3 Thunderbird Products designed this muffler for use either with a header system or the stock exhaust. It is a straight-through design with smart twin tailpipes. For the Z-cars.

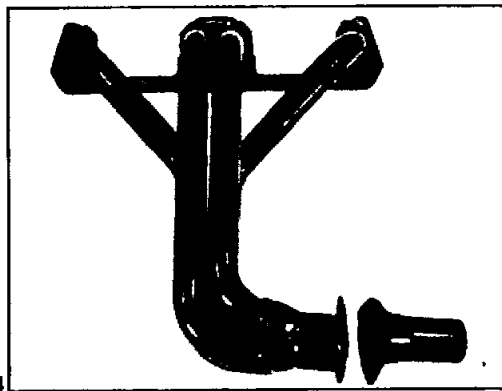
4 Thunderbird builds this compact header for the Datsun 2000 roadster. The large-bore tubing was designed for competition use, but adapts to the street with benefit. Collector adapts to factory exhaust pipe.

5 Low exhaust restriction without noise has been made widely possible by Cannon with their new "Turboquiet" exhaust system. Adaptable to most all Datsuns, including the Z-car, the system is based on a redesign of the original turbocharged Corvair Spyder muffler. Cannon's muffler is of 2-in. pipe diameter design, and each specific kit contains all necessary piping and clamps to attach to either a Cannon header or the factory system.

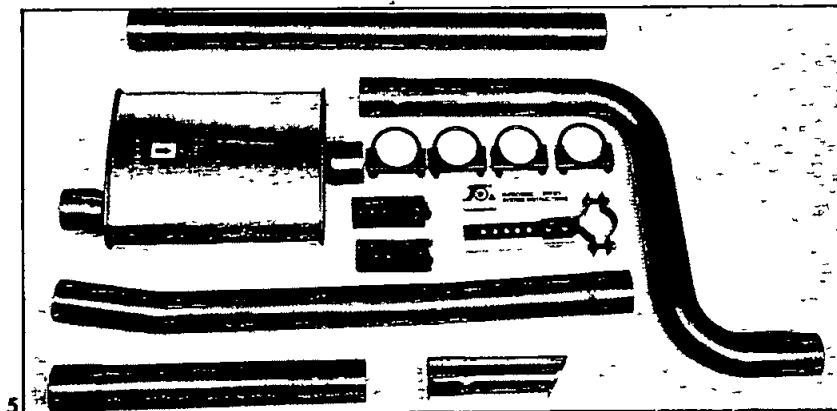
6 Cannon's chromed header manifold for the 240/260 series is an impressive piece of performance hardware. All fittings for installation are included as are attachments for emission controls.



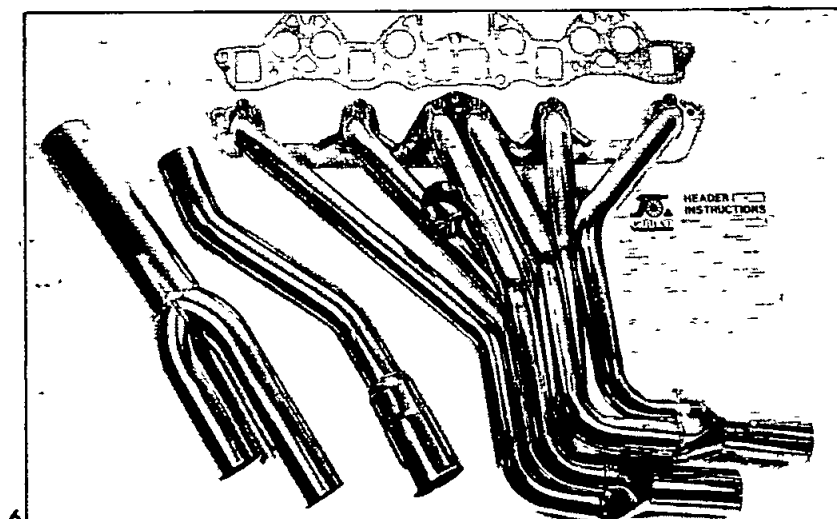
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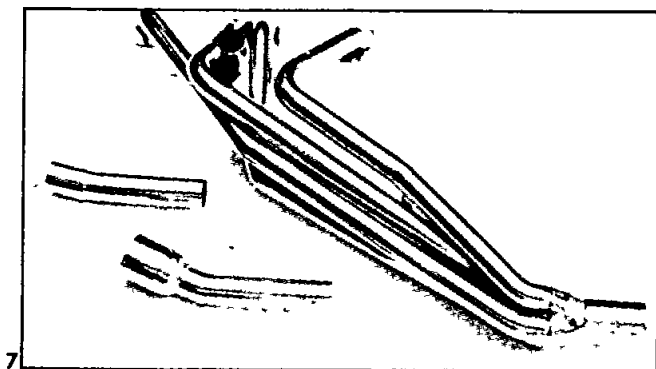
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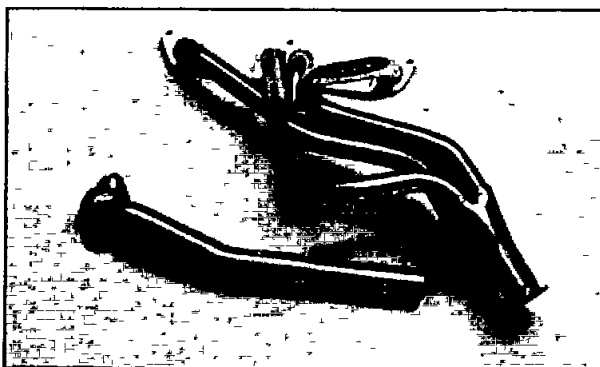
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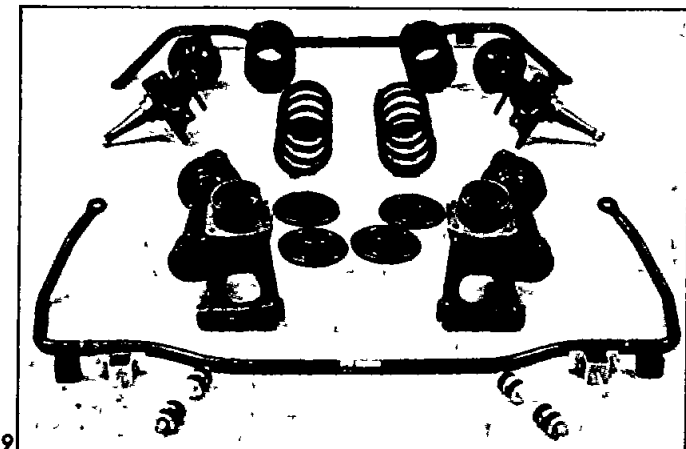
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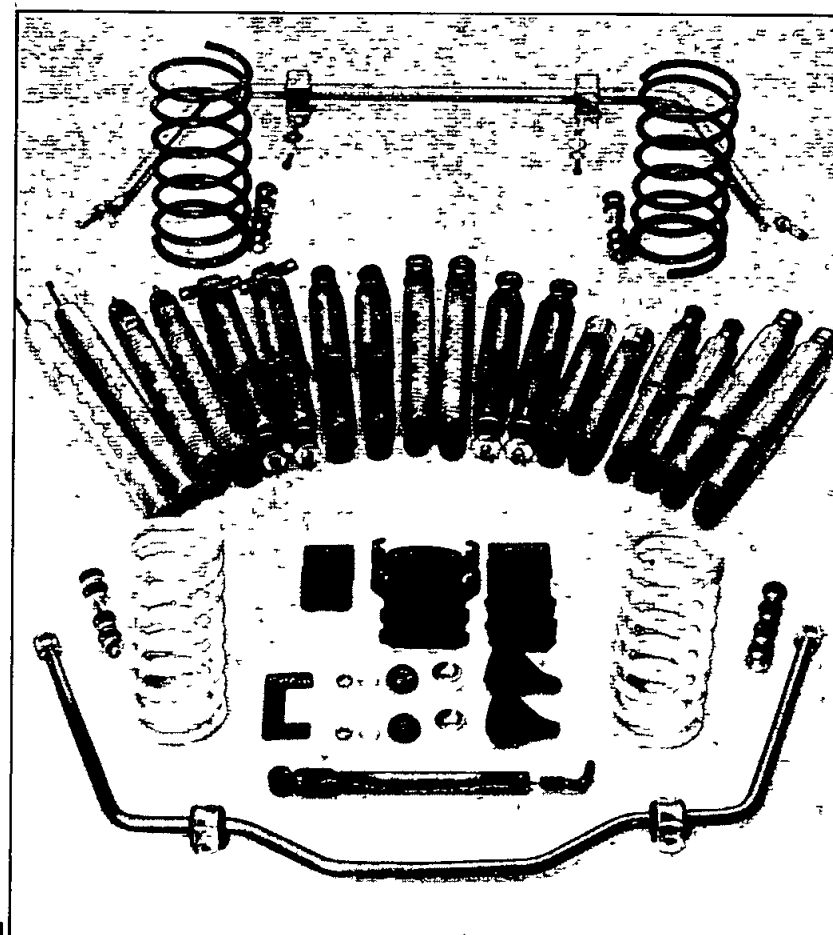
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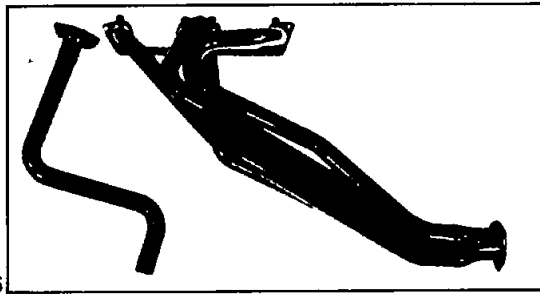
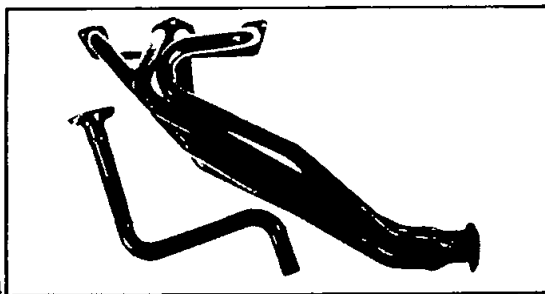
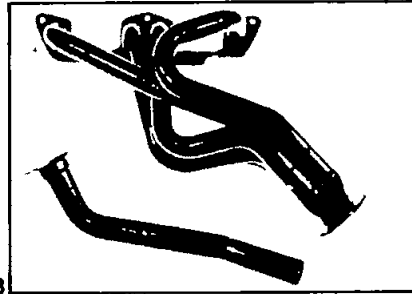
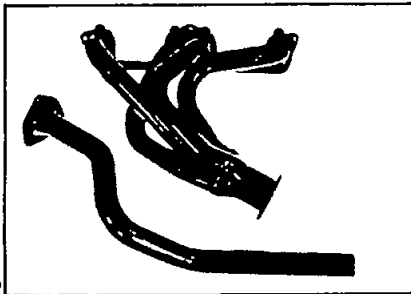
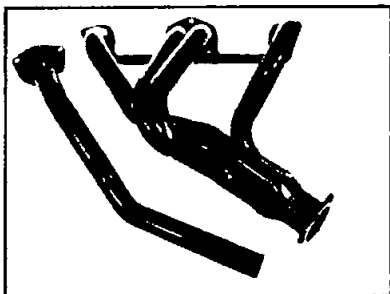
7 This is Cannon's header for the 510 series. Based on cold-rolled SAE 1010 welded tubing, it is chrome plated after buildup. Each header has provision for emission control attachments, and includes needed installation hardware.

8 The Datsun 1200 engine will take a new breath on life with Cannon's tuned header kit. Included is the pipe for the air cleaner hot air intake and all necessary installation hardware. Cannon headers are chrome plated.

9 Datsun has a complete racing suspension kit for the Z-cars in stock. The sway bars may be used on otherwise stock suspensions, but the springs and other components are for racing only! Kit lowers car about 2 ins.

10 Interpart's T C kit refers to the tension/compression loads imposed on the fore and aft suspension links by driving forces. The T C kit solves the problem of spongy reaction to these forces by replacing the stock rubber grommets on the 240/260-Z with hardened ball joints and polished alloy sockets. The result is a stronger feel of the road and better suspension response.

11 Interpart has developed an entire series of chassis components with the driving enthusiast in mind. Among the array are heavy-duty brake pads, sway bars, steering dampers and springs. Most all Datsun owners can benefit from application of one or more of these components.



1 Thunderbird's latest addition in mini-truck headers is this fully engineered setup for the Datsun 620. All gaskets and hardware are included for easy installation.

2 Owners of the 521 truck might want to take more than a passing glance at Thunderbird's header for this pint-size workhorse. Both output and economy are improved, while installation is made simple by the design configuration.

3 The little 1200 will take on added sparkle with this custom-crafted header from Thunderbird. Designed for underhood clearance as well as performance, it will adapt to the stock exhaust pipe.

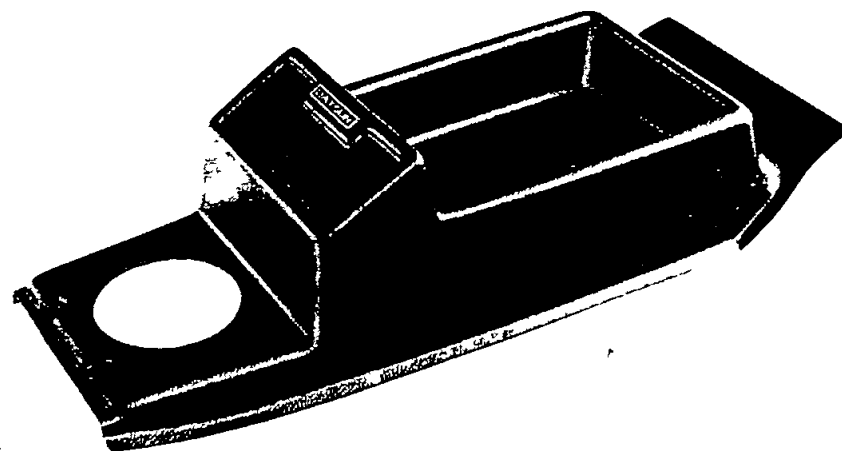
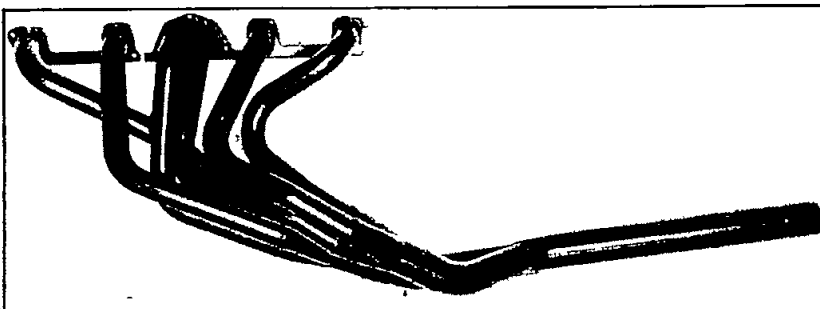
4 If you want added performance and economy on your 610, then Thunderbird has it. Their header is designed for maximum extraction effect as well as ease of installation into a stock underhood area. All hardware included.

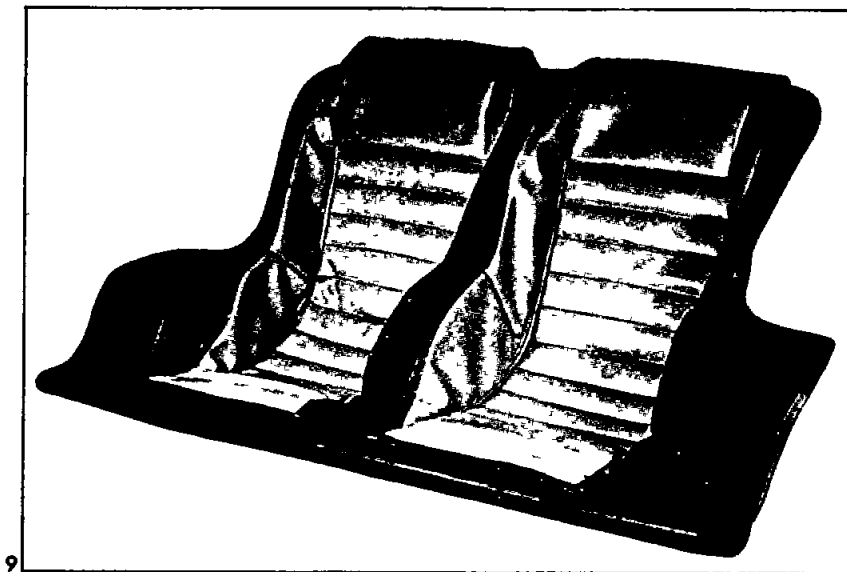
5 This header from Thunderbird was designed specifically for the 510 series. There is a model for engines with or without smog pump. Header will adapt directly to the factory tailpipe.

6 Interpart offers both street and competition header and exhaust systems for the 510's and Z-cars. They are completely designed for easy installation. **7** for either application. Shown is the street header for the Z-cars, complete with emission control fittings.

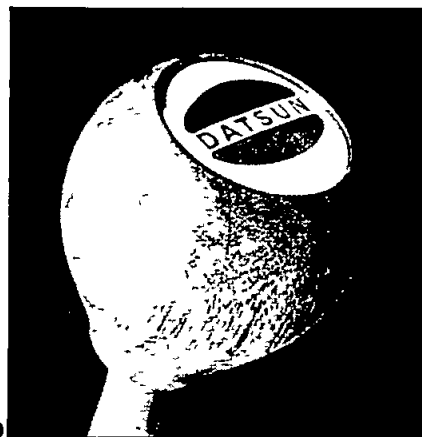
7 Add some convenience and a custom touch to your pickup with Amco's console. Open tray keeps change, cigarettes and whatever close at hand.

8 Factory-built fender flares for the Z-car are available through the competition department. They are designed to add considerable fenderwell-to-tire clearance, especially when the car is lowered for racing.

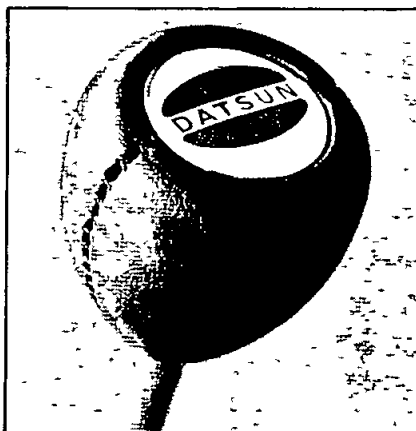




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9 Update your 240/260 to a 2+2 coupe with F A R's rear seat kit. Constructed of fiberglass, the contoured vinyl upholstery pads are available in red, black, tan or off-white. Fits 1970 models and later.

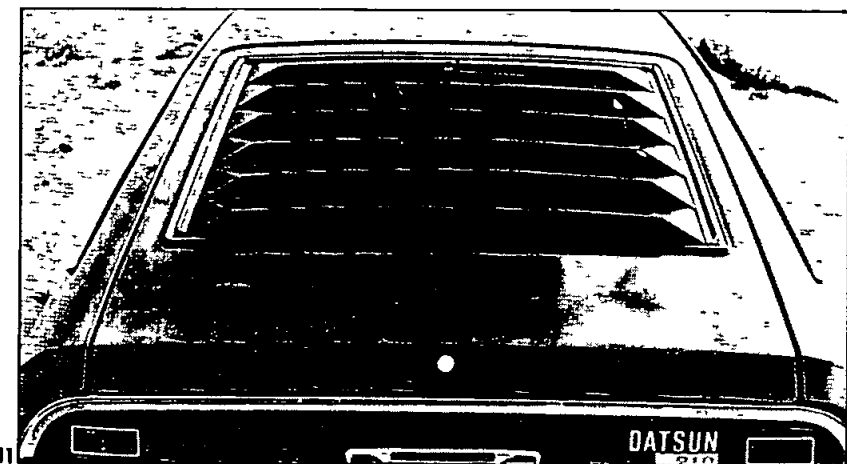
10 Do your interior a small favor with this genuine walnut gear shift lever knob from Amco. The badge atop the knob is metal construction, in red, white, blue.

11 The "Shadow" from Interpart is a rear window glare shield designed for the rear window to protect the interior from heat and the effects of sunlight on the upholstery. It is shown fitted to the Datsun B-210.

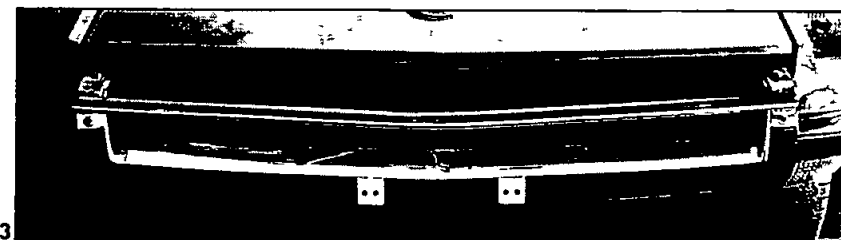
12 This leather-grained sewn vinyl shift knob with Datsun emblem from Amco will make shifting seem easier, while adding a nice touch to the car's interior decor.

13 Amco's clean, straightforward bumper guard design for the 240-Z is not only functional, but also adds a good margin of protection in today's driving situations. Bumper guards are available for other Datsun models too.

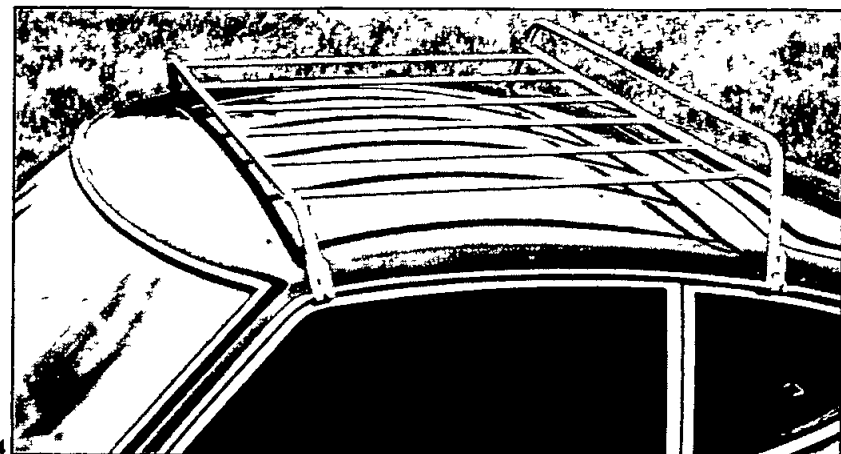
14 Amco's roof rack for Z-cars is made of heavy gauge steel tubing with a heavy layer of chrome plating overall. Safe, permanent attachment.



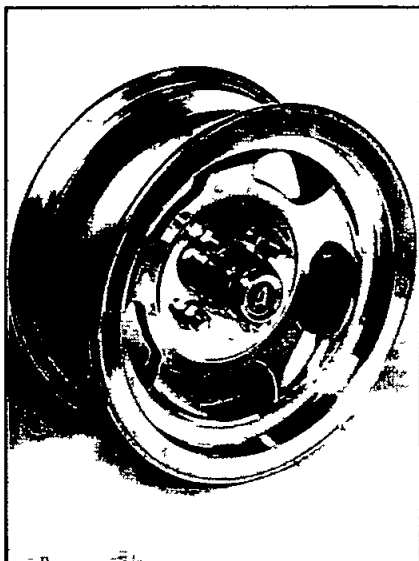
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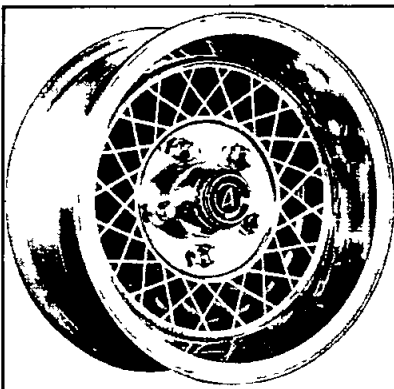
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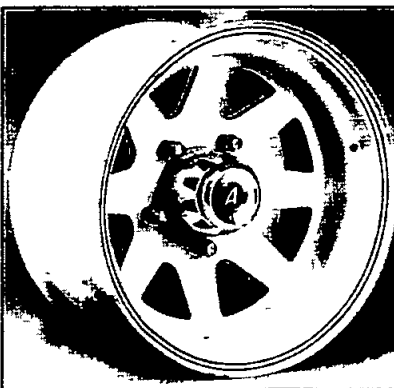
1 Appliance's Dish Mag wheel is constructed of A356 alloy, and pressure tested to 60 psi for tubeless applications. Outside and inside rim contours are carefully machined for excellent primary balance.



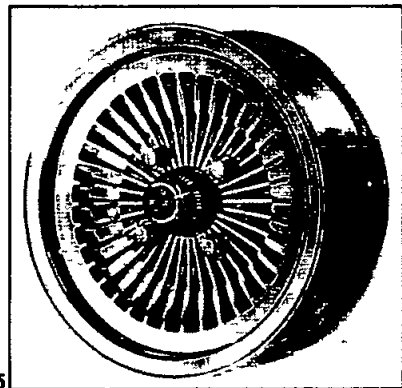
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2 Appliance Wire Mag wheel is a classic. Its structural design exceeds SEMA specs. Each wheel is cast, then precision machined and finally water tested to ensure integrity. The drop-center rim allows easy mounting.

3 Now the famed Minilite Sport cast alloy wheel is available in 13x6-in. with 4-lug bolt pattern. Each wheel is die cast and then machined to close specs, undergoing 14 quality control checks before delivery. Each wheel is stamped with a quality recall number. The polychrome paint finish is extremely durable and easy to maintain.

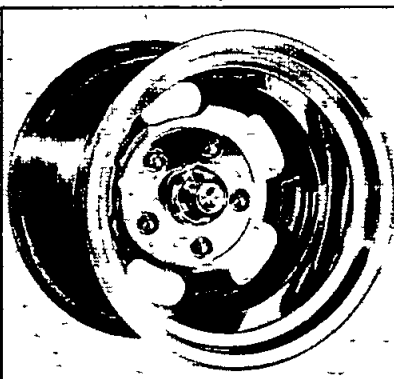
4 The Mojock from Appliance was designed for the pickup owner who wants a rugged no-nonsense steel wheel. The center section allows a full 360° contact between center and rim, distributing loads over a wider area. Raised contour around lug nut area allows steel to compress when lug nuts are tightened, acting as a lock washer.

5 Shelby's Serpent is their newest wheel design. The ribs are machined smooth and radiate out to a highly polished lip. Disc brakes present no installation difficulties.

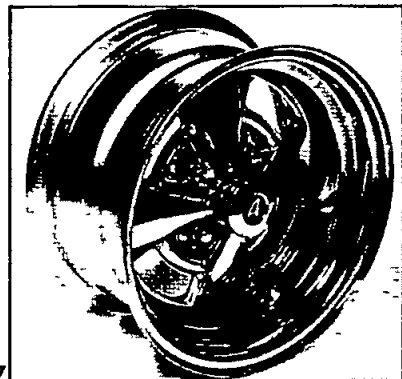
6 The Shelby Cal 500 is a single-piece, centrifugally cast alloy wheel, heat treated to T6 specifications. These wheels are guaranteed for tubeless applications. They can be balanced with clip-on or stick-on weights.

7 The Steel Spoke wheel from Appliance has the center section machined and press fitted into the rim before welding. The mounting surface is machined for a close fit to the hub.

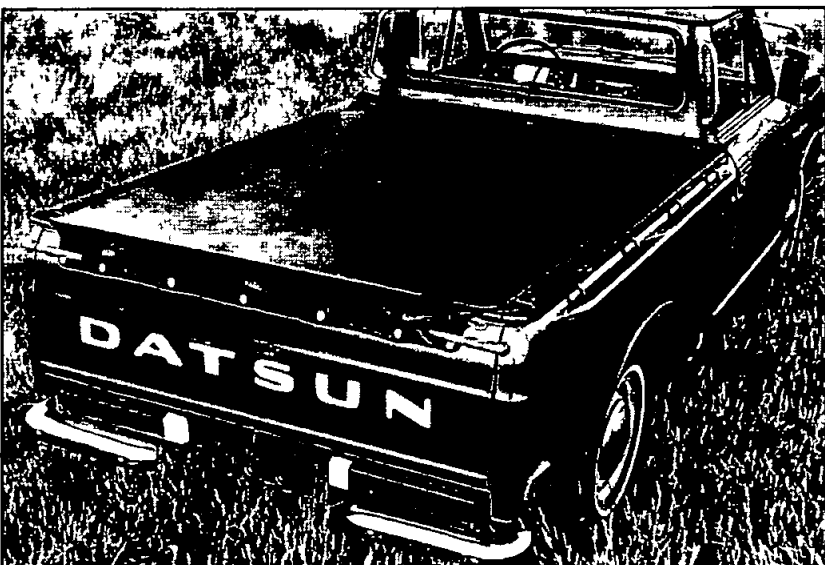
8 Keep the bed of your pickup safe and clean with Amco's prefitted tonneau cover. All heavy vinyl construction with snaps included for installation.



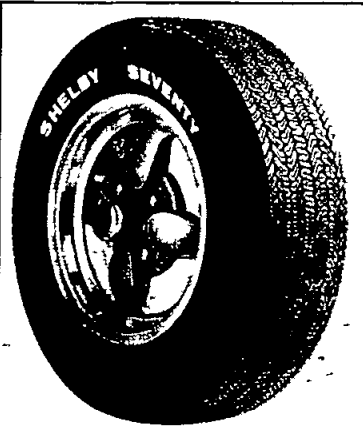
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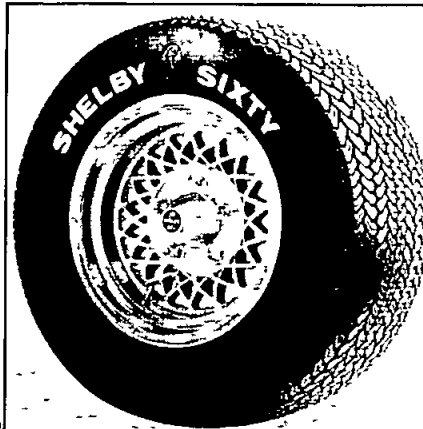
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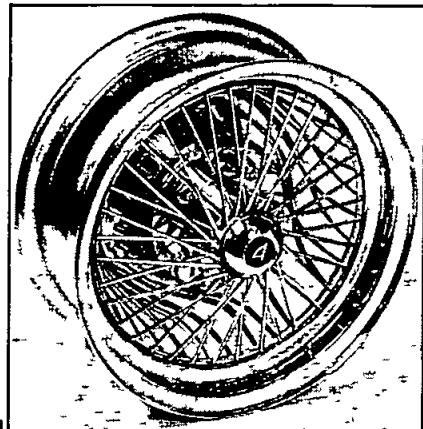
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9 The Viper wheel from Shelby is an ideal spoke design for 4-lug bolt patterns. Spoke pattern allows excellent air circulation for brake cooling. It is shown mounted to a Shelby A70x13 tire, with 5-in rim size.

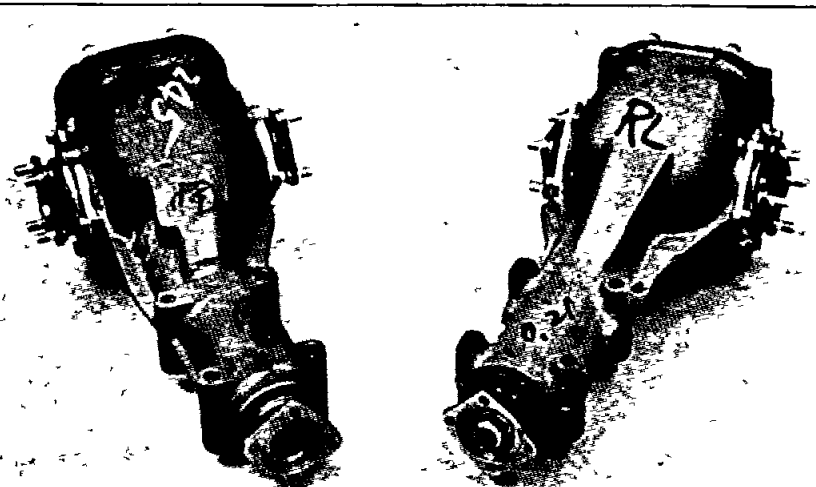
10 Shelby Diamondback wire mag wheel was designed with offset for maximum fenderwell clearance. It is shown mounted to the Shelby Sixty tire. Available are sizes 13x5-in, 14x6-in and 14x7-in.

11 Appliance's Unichrome wheel gives you the look of an extremely expensive wheel at a fraction of the cost. The heavy chrome plating will give years of service with minimum care.

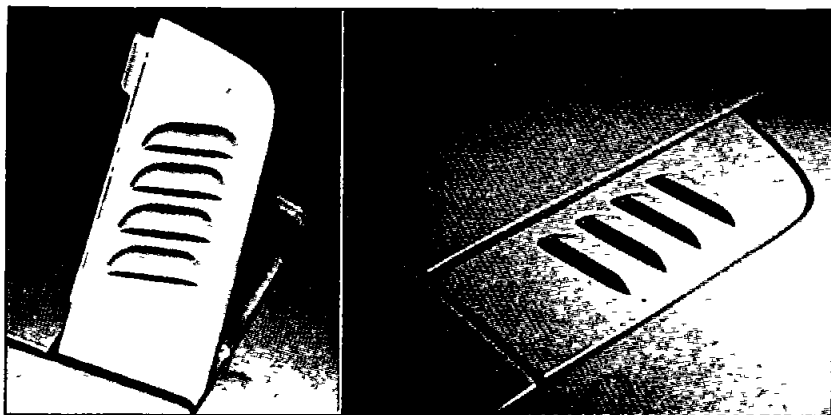
12 The Z-car uses two sizes of differential casing in production. Datsun offers both in fully assembled form with limited slip for competition. Ratios range from 3.90:1 to 5.13:1. Limited slip is of the clutch type.

13 For 1970 and later Z-cars, these louvered hood lids are available from F.A.R. on an exchange basis. Each is delivered in primer, ready to paint.

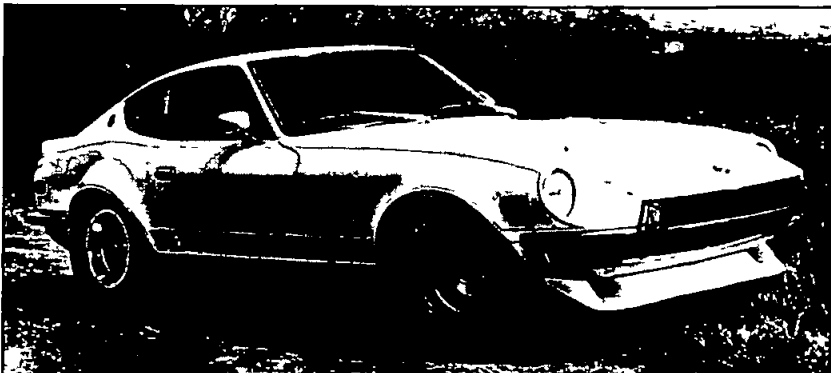
14 F.A.R. Performance has fender flare kits for the Z-cars in both street and IMSA form, allowing the use of larger tires and safe lowering of the suspension. Shown on a street 240, similar kits are also available for the 1200, 510 and 610. Fiberglass, with all hardware for installation.



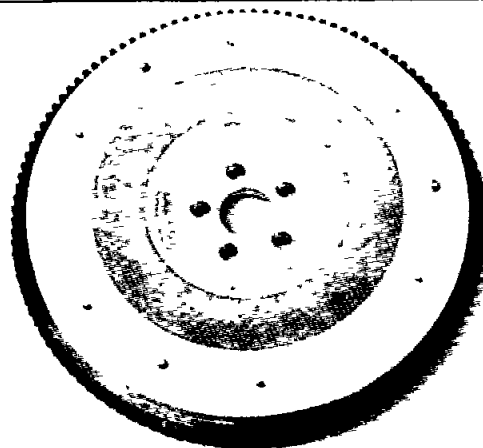
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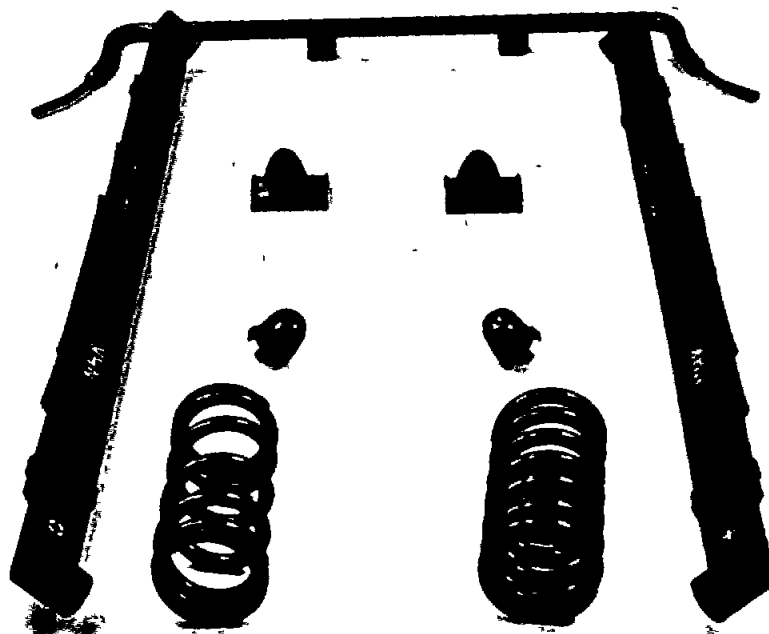
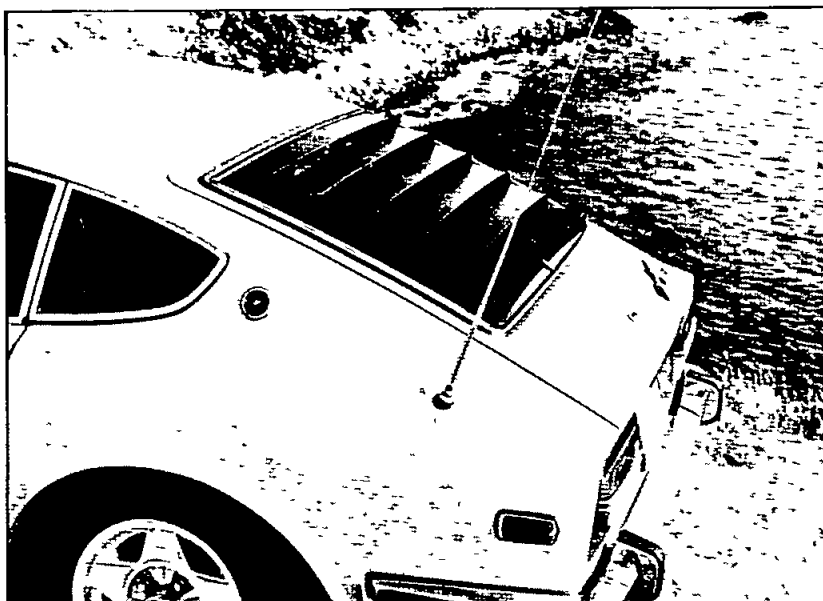
1 Wrinkle finish enamel from Cal Custom is a durable, heat-resistant finish that adds a final touch to many components, particularly underhood. Available in black, red, competition orange, gray and competition yellow.

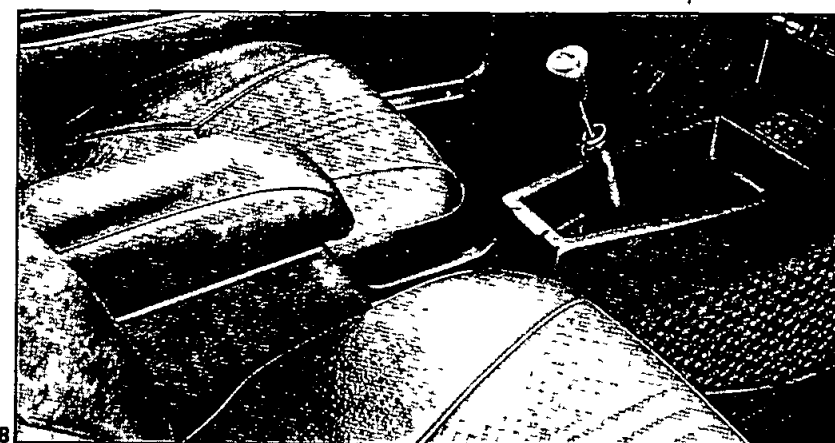
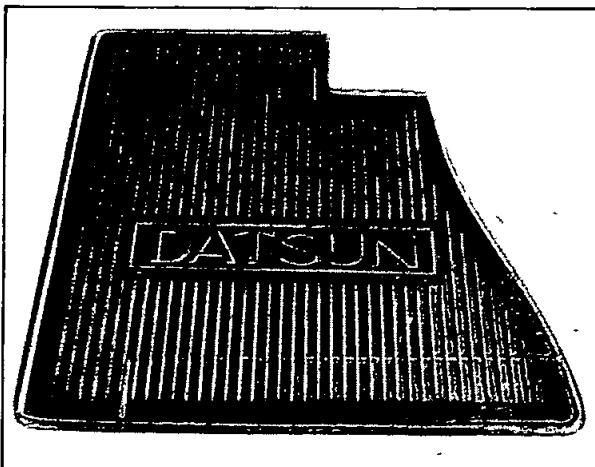
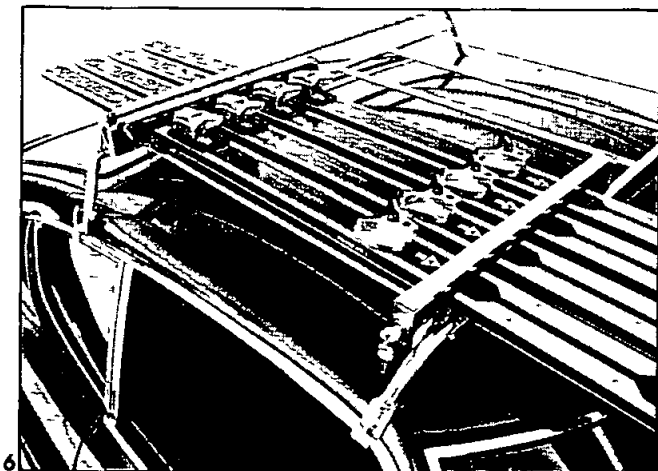
2 Cal Custom's Hood and Deck anti-glare paint is deep in texture and ideal for use on external areas where high gloss is not desirable. Most flat-texture paints won't stand up under these conditions, but Cal Custom's will.

3 Datsun's competition department offers this 8-lb alloy flywheel for the 240/260 engine for competition use. Standard crankshaft bolt pattern is used.

4 Installed on the 240/260/280-Z, the Shadow glare shield keeps the interior up to 10° cooler and helps keep the rear window cleaner. Ideal for cars with air conditioning. Rear vision is unimpaired.

5 Suspension sets for the 1600/2000 roadster are available with either intermediate or very stiff springing from Datsun competition, along with sway bars of 21mm or 23mm diameter. Either spring set will lower the roadster about 1 3/4 ins.





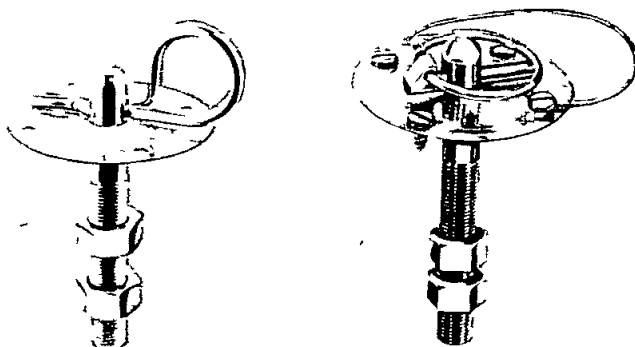
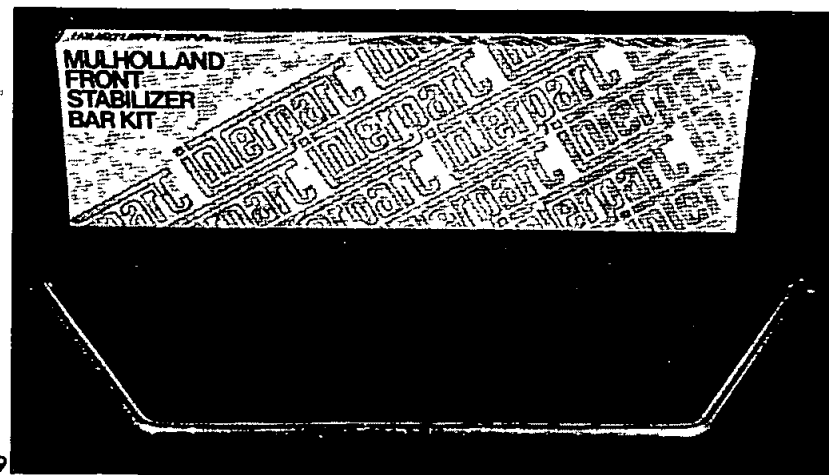
6 Going skiing? Amco's roof rack will make things a whole lot easier, and their locking ski carrier attachment will keep honest people honest. Two chrome-plated steel clamps with rubber contact surfaces clamp skis firmly. Tumbler locks have moisture caps.

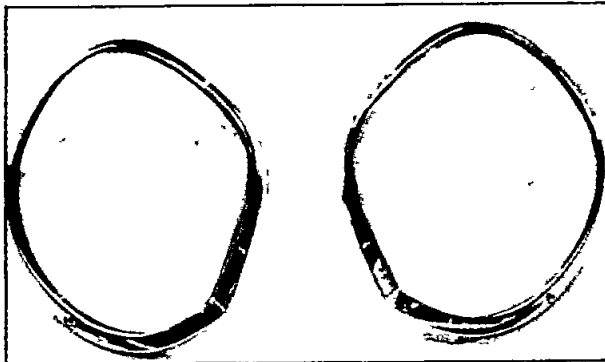
7 Amco floor mats are constructed of molded rubber and designed to give full coverage of the carpeted area. Available for all Datsun models, including Z-car.

8 An Amco custom console with armrest may be just what you're looking for to put that final touch on the interior. The console is made of durable ABS material, while the armrest is of sewn vinyl and padded. The armrest lifts up to uncover a stowage space.

9 Interpart's Muliholland front stabilizer bar kit is available for most Datsun models in either 3/4-in. or 15/16-in. diameter, depending on application. Roll stiffness is increased over that offered by the factory unit.

10 A snap-ring type hood latch may prove preferable to other types for certain uses. A vinyl-coated lanyard prevents loss of the latch pin. Scuff plate is stainless, other parts chromed.

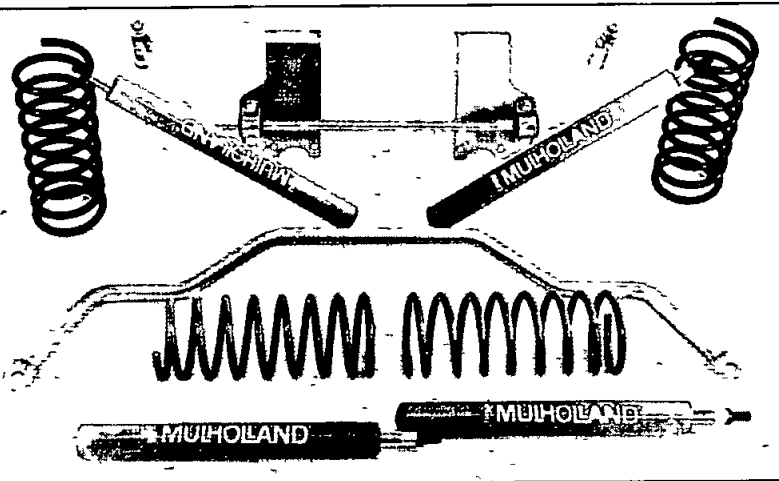
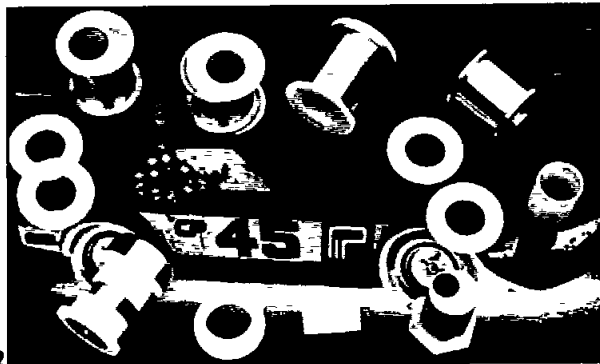




1 Z-car headlamp covers from Datsun are made of clear plexiglass secured by a chromed retaining bezel. Check with local laws before ordering.

2 F.A.R. Performance manufactures these aluminum and Delrin suspension bushings for the 240/260. They permit lowering the car, while allowing precise camber settings, both front and rear. Rear bushings provide for toe-in and toe-out settings not possible with the factory bushings.

3 Interpart offers this handling kit for the 240/260-Z. Proper installation will enhance the handling characteristics of the Z-car. Included are Boge/Mulholland shocks, front and rear springs having rates differing from the factory units and heavier sway bars both front and rear. It all makes a worthwhile package for the serious driver.



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THUNDERBIRD PRODUCTS
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Wheels

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2316 San Fernando Rd
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