



SUSPENSION AND DRIVESHAFTS

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GENERAL INFORMATION

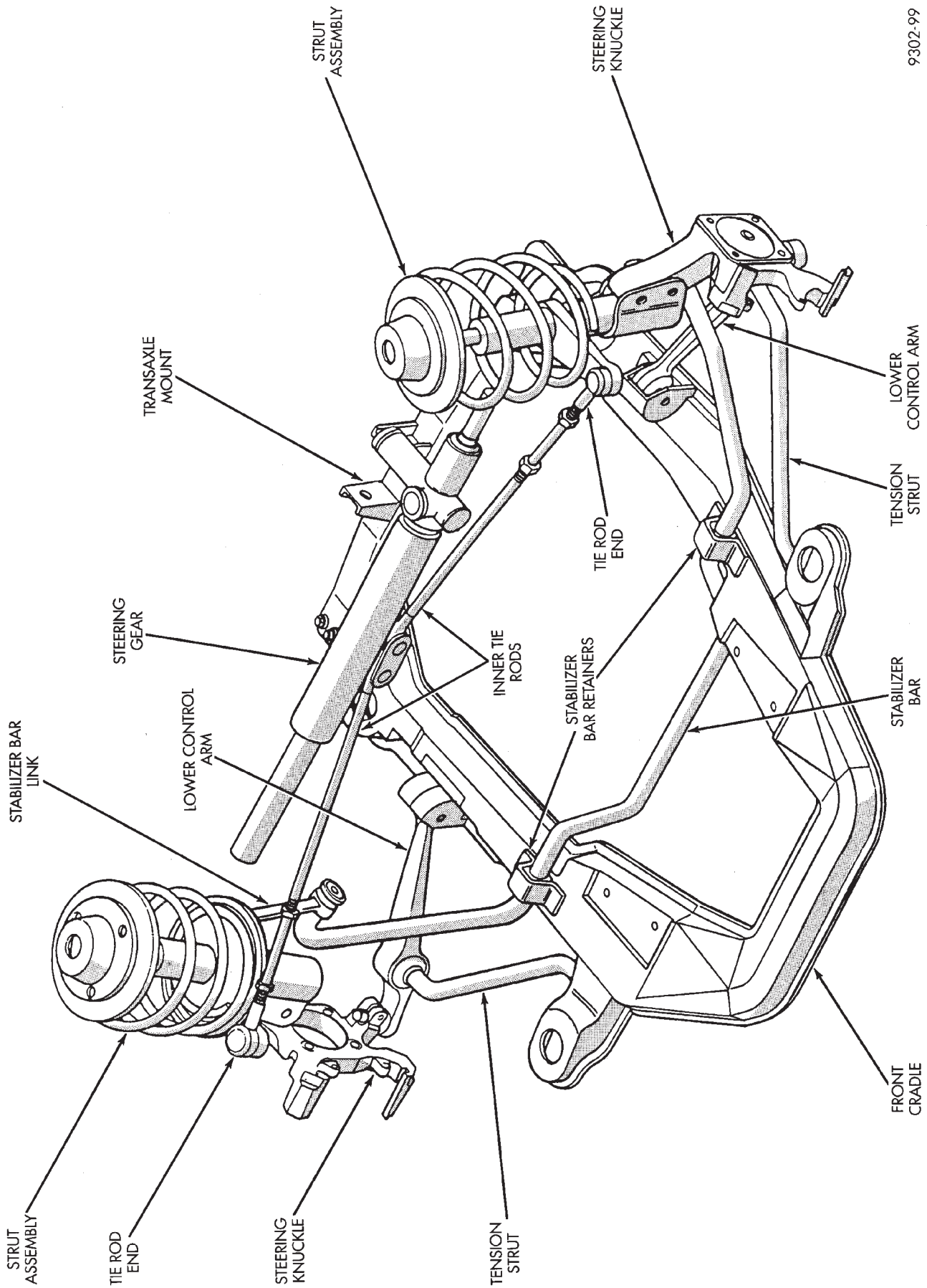
Throughout this group, references may be made to a particular L.H. platform vehicle by letter or number designation. A chart showing the breakdown of these designations is included in the Introduction section at the front of this Service Manual.

The L.H. platform vehicles have a MacPherson gas pressurized strut front suspension design (Fig. 1). The MacPherson strut shock absorber assembly includes the following components. A rubber isolated top mount, seat and bearing assembly and a coil spring insulator. The MacPherson strut assembly is attached to the vehicle at the shock tower using 3 studs which are part of the isolated top mount. The lower end of the MacPherson strut assembly is attached to the upper leg of the steering knuckle. Attachment of the MacPherson strut assembly to the steering knuckle is by 2 serrated bolts. A forged

lower control arm assembly (Fig. 1) is attached to the front cradle and steering knuckle. A tension strut (Fig. 1) connects the lower control arm assembly to the front cradle.

A sealed for life front hub and bearing assembly is attached to the front steering knuckle. The outer C/V joint assembly is splined to the front hub and bearing assembly and is retained by a prevailing torque nut.

CAUTION: ONLY FRAME CONTACT HOISTING EQUIPMENT CAN BE USED ON L.H. PLATFORM VEHICLES. The L.H. platform vehicles have a fully independent rear suspension. The L.H. platform vehicles can not be hoisted using equipment designed to lift a vehicle by the rear axle. If this type of hoisting equipment is used, damage to rear suspension components will occur.

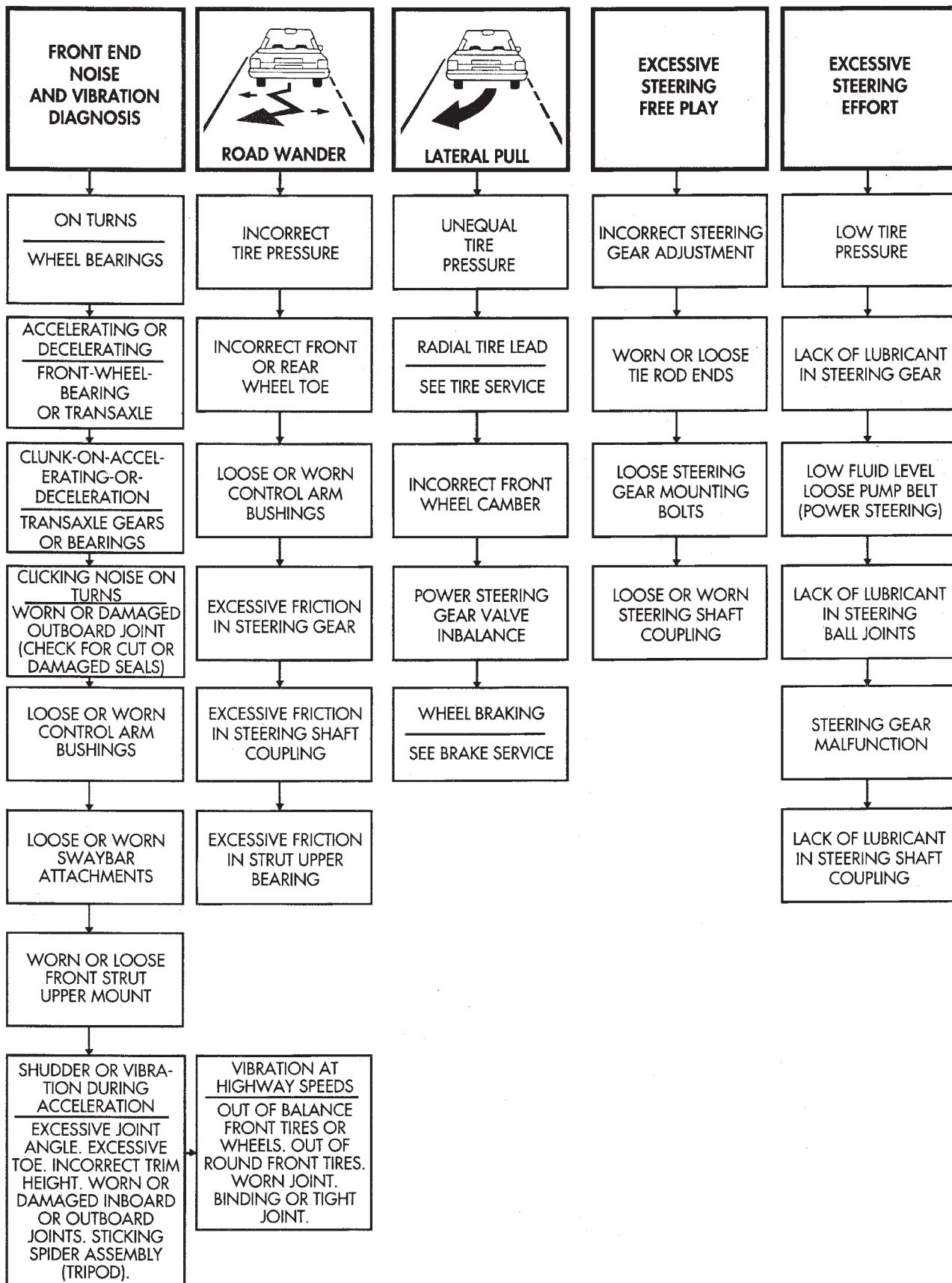


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Fig. 1 L.H. Platform Front Suspension



SUSPENSION/STEERING/DIAGNOSIS FRONT WHEEL DRIVE





FRONT SUSPENSION

FRONT SUSPENSION MAJOR COMPONENTS (FIG. 2)

STRUT ASSEMBLY

The front strut and suspension of the vehicle is supported by coil springs positioned around the struts. The springs are contained between an upper seat, located just below the top strut mount assembly (Fig. 2) and a lower spring seat on the strut lower housing.

The top of each strut assembly is bolted to the upper fender reinforcement (shock tower) through a rubber isolated mount.

The bottom of the strut assembly attaches to the top of the steering knuckle with two serrated through bolts and prevailing torque nuts. Caster is a fixed setting (net build) on all vehicles and is not adjustable.

STEERING KNUCKLE

The steering knuckle (Fig. 2) is a single casting with legs machined for attachment to the front strut assembly and lower control arm ball joint. The steering knuckle also has machined abutments on the casting to support and align the front brake caliper assembly. The knuckle also holds the front drive shaft outer C/V joint hub and bearing assembly. The hub is positioned through the bearing and knuckle, with the constant velocity stub shaft splined through the hub. The outer C/V joint is retained to the hub and bearing assembly using a prevailing torque nut.

LOWER CONTROL ARM

The lower control arm (Fig. 2) is a steel forging with 2 rubber bushings isolating the lower control arm from the front cradle assembly. The isolator bushings consist of a metal encased pivot bushing and a solid rubber tension strut bushing. The lower control arm is bolted to the cradle assembly using a pivot bolt through the center of the rubber pivot bushing and at the tension strut isolator bushing (Fig. 2).

The ball joint is an integral part of the control arm and has a non-tapered stud with a notch for clamp

bolt clearance. The stud is clamped and locked into the steering knuckle leg with a clamp bolt. The ball joint used on the L.H. Platform vehicle is non-serviceable and if defective must be serviced as part of the lower control arm.

DRIVESHAFTS

A left and right driveshaft is attached inboard to the transaxle differential output (or stub) shaft, and outboard to the driven wheel hub and bearing assembly.

To deliver driving force from the transaxle to the front wheels during turning maneuvers and suspension movement. Both shafts are constructed with constant velocity universal joints at both ends.

Both shafts have a Tripod (sliding) joint at the transaxle end and C/V joints (with splined stub shafts) on the hub ends. Due to the transaxle location the connecting shafts between the C/V joints are of different length and construction. The left shaft is longer than the right. Both the left and right drive shafts are of the solid bar type. No tubular drive shafts are used on any available L.H. platform vehicle and powertrain combinations.

TENSION STRUTS

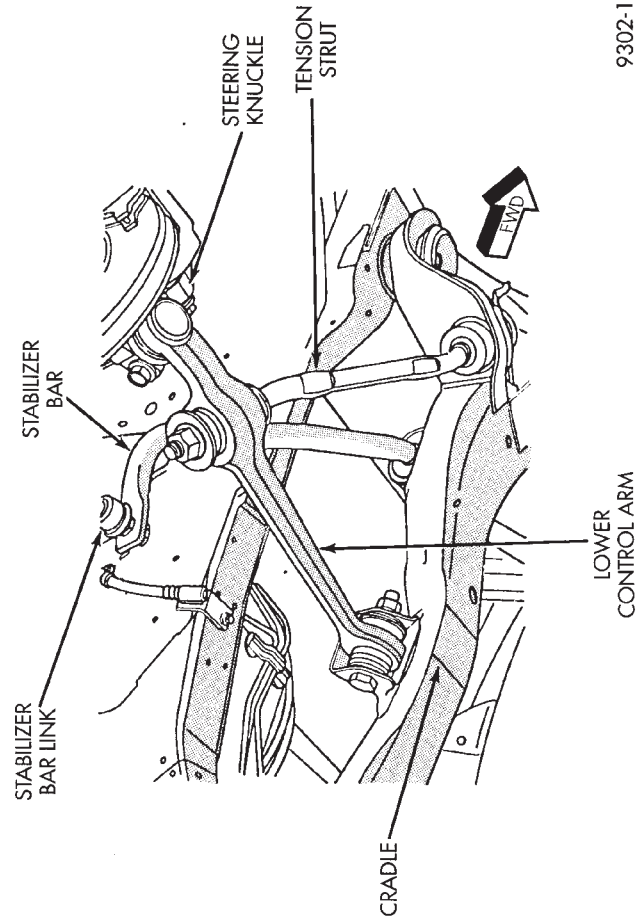
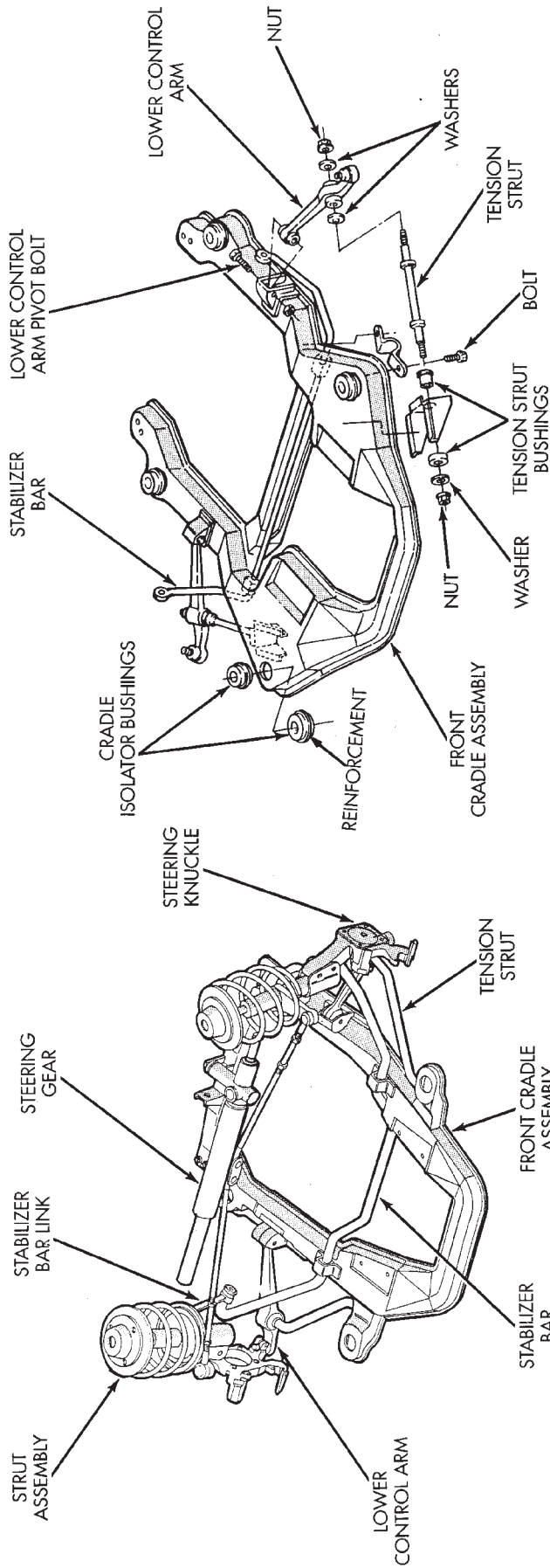
The L.H. platform vehicle uses a tension strut (Fig. 2) on each side of the vehicles front suspension. The tension strut controls longitudinal (for-and-aft) movement of the front wheels of the vehicles. Controlling the longitudinal movement of the wheels reduces harshness when wheels hit sudden irregularities in the road surface.

STABILIZER BAR (SWAY BAR)

The stabilizer bar (Fig. 2) interconnects the front strut assemblies of the vehicle. The purpose of a stabilizer bar is to control the body roll of the vehicle.

STABILIZER BAR LINK ASSEMBLY

The stabilizer bar link assembly (Fig. 2) is used to attach the stabilizer bar to the front strut assemblies. This reduces the fore-and-aft rate of the sway bar from the rest of the suspension.



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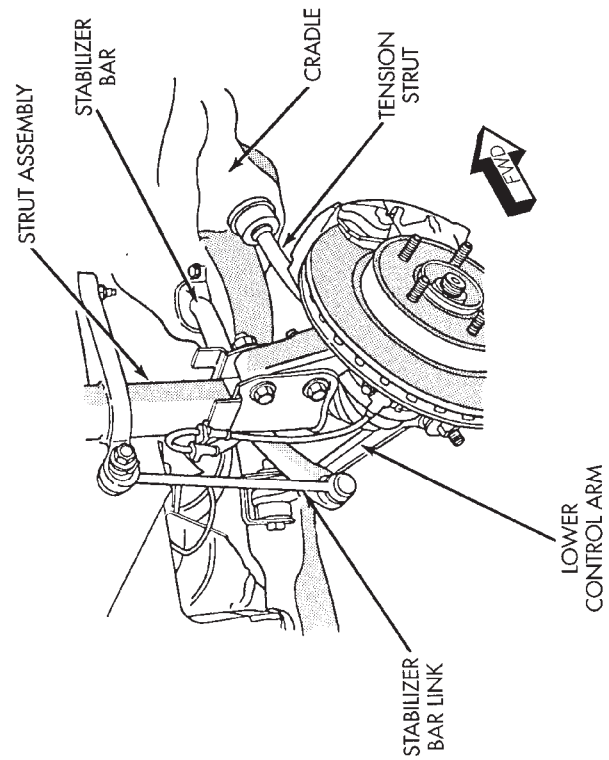


Fig. 2 L.H. Platform Front Suspension



FRONT SUSPENSION SERVICE PROCEDURES

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FRONT SUSPENSION SERVICEABLE COMPONENTS

The following components may be replaced either individually or as an assembly.

- Gas pressurized front strut must be replaced as an assembly. The strut is not serviceable. It is not necessary to replace strut assemblies in pairs.
- Strut assembly upper mounts are replaceable.
- Bearing and seat assemblies may be replaced individually.
- Coil springs may be replaced individually from the strut assemblies,
- Coil spring lower isolator may be replaced individually.
- Front wheel hub and bearing assemblies are individually replaceable.
- Front lower control arm assemblies are replaceable. The ball joint is integral to the control arm and will require replacement of the control arm if defective. The ball joint seal is individually replaceable. Lower control arm bushings are serviced as individual components of lower control arm assembly, and do not require replacement of lower control arm if defective.
- Tension struts are replaceable as are the tension strut to cradle assembly isolator bushings. Tension strut washers at the lower control arm and cradle are replaceable, with proper approved replacement parts **ONLY**.
- Front stabilizer bar is replaceable. Front stabilizer bar isolator bushings, clamps and stabilizer bar link assemblies are also replaceable.
- Driveshaft seal and boot replacement, is the only service to be performed on the driveshaft assembly. Any failure of an internal driveshaft component will require replacement of the driveshaft assembly.

FRONT WHEEL ALIGNMENT

Front wheel alignment is the proper settings of all the interrelated suspension angles affecting the running and steering of the front wheels of the vehicle.

On the L.H. platform vehicle the only adjustable suspension setting is wheel TOE.

The method of checking front alignment will vary depending on the type of equipment being used. The

instructions furnished by the manufacturer of the equipment should always be followed. With the exception that the alignment specifications recommended by Chrysler Corporation be used.

There are six basic factors which are the foundation to front wheel alignment. These are vehicle height, caster, camber, toe-in, steering axis inclination and toe-out on turns. **Of the six basic factors only TOE IN is mechanically adjustable on the L.H. platform vehicle (Fig. 1).**

CAUTION: Do not attempt to modify any suspension or steering components by heating or bending of the component.

Wheel alignment adjustments can only be made for the Toe In setting on the L.H. platform vehicles.

Toe is measured in degrees or inches and is the distance the front edges of the tires are closer (or farther apart) than the rear edges. See Front Wheel Drive Specifications for **Toe** settings.

PRE-ALIGNMENT

Before any attempt is made to change or correct front wheel alignment. The following inspection and necessary corrections must be made on those parts which influence the steering of the vehicle.

(1) Check and inflate tires to recommended pressure. All tires should be the same size and in good condition and have approximately the same wear. Note type of tread wear which will aid in diagnosing, see Wheels and Tires, Group 22.

(2) Check front wheel and tire assembly for radial runout.

(3) Inspect lower ball joints and all steering linkage for looseness.

(4) Check for broken or front and rear springs.

Alignment must only be checked after the vehicle has had the following checked or adjusted. Tires set to recommended pressures, full tank of fuel, no passenger or luggage compartment load and is on a level floor or alignment rack.

Just prior to each alignment reading. The vehicle should be bounced (rear first, then front) by grasping



bumper at center and jouncing each end an equal number of times. Always release bumpers at bottom of down cycle.

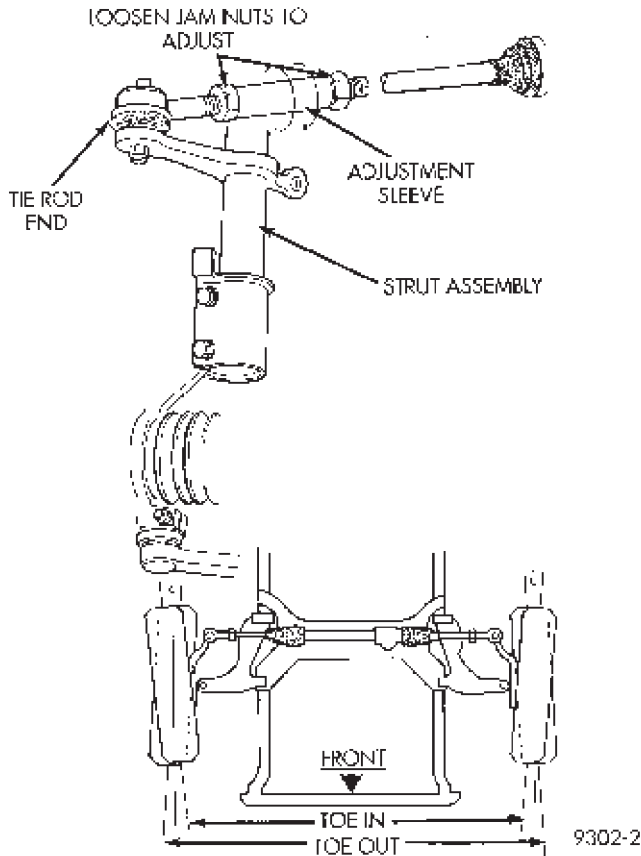


Fig. 1 L.H. Platform Toe Adjustment

WHEEL ALIGNMENT SERVICE PROCEDURE

FRONT WHEEL TOE ADJUSTMENT

- (1) Prepare vehicle as described in the Pre-Alignment procedure.
- (2) Center steering wheel and hold with steering wheel clamp.
- (3) Loosen tie rod adjustment sleeve jamnuts. Rotate adjustment sleeve to align toe to specifications (Fig. 2).

CAUTION: When setting Toe on the vehicle the maximum threads exposed on the inner and outer tie rod can not exceed the maximum amounts shown in (Fig. 3). If the maximum number of exposed threads is exceeded, inadequate retention of either the inner or outer tie rod may result. Ensure that the adjustment sleeve jam nuts are torqued to the required specifications when the Toe setting procedure is completed.

CAUTION: When torquing the adjustment sleeve jam nuts the following procedure must be followed

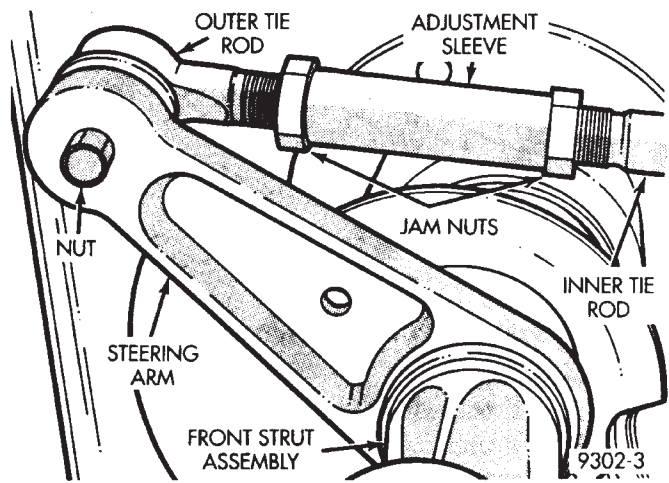


Fig. 2 Front Wheel Toe Adjustment

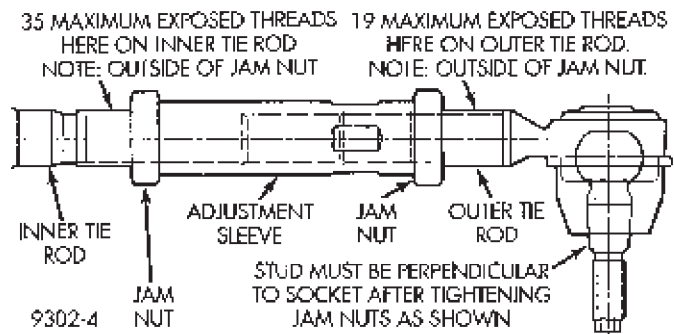


Fig. 3 Tie Rod Adjustment Sleeve Thread Engagement

to ensure adequate torquing and retention of the adjustment sleeve jam nut is obtained.

Install correct size open end wrench on flat of adjustment sleeve to keep adjustment sleeve from turning.

ONE: While holding adjustment sleeve from turning, torque outer tie rod to adjustment sleeve jam nut to 75 N•m (55 ft. lbs.). When outer tie rod jam nut is correctly torqued outer tie rod stud must be perpendicular to socket (Fig. 3).

TWO: While holding adjustment sleeve from turning, torque inner tie rod to adjustment sleeve jam nut to 75 N•m (55 ft. lbs.).

- (4) Tighten tie rod adjustment sleeve locknuts to 75 N•m (55 ft. lbs.) torque.
- (5) Remove steering wheel clamp.



STRUT DAMPER ASSEMBLY

REMOVAL

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove front wheel and tire assembly from the vehicle.

(3) Remove the stabilizer bar attaching link at the strut assembly (Fig. 1).

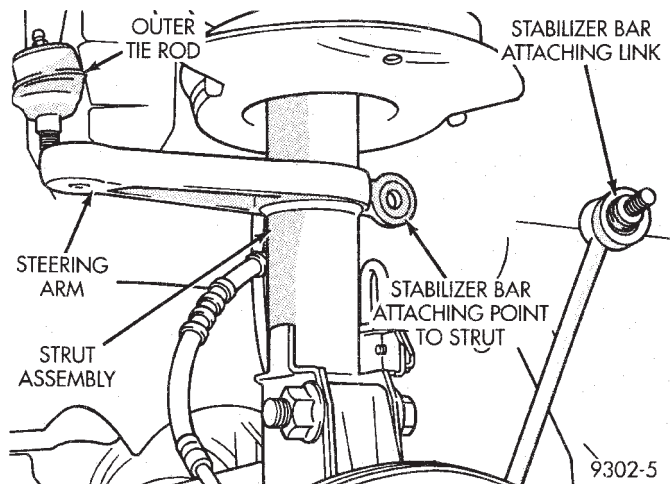


Fig. 1 Tie Rod And Stabilizer Bar Link Removed

(4) Loosen but do not remove the outer tie rod end to strut assembly steering arm attaching nut (Fig. 2). Then remove outer tie rod end from steering arm using Puller, Special Tool MB-990635 or equivalent (Fig. 2).

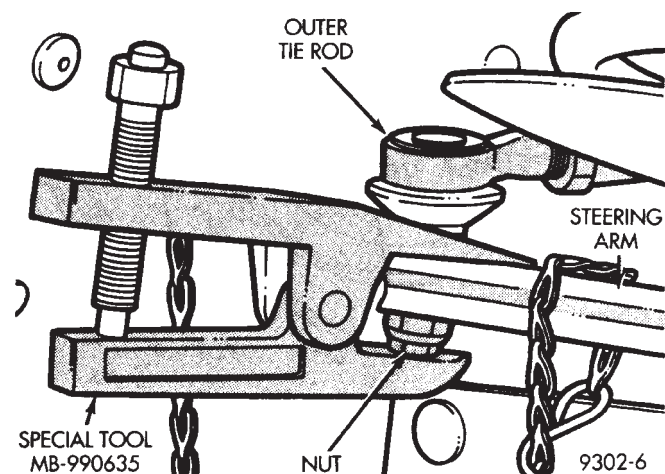


Fig. 2 Removing Outer Tie Rod From Steering Arm

(5) If vehicle is equipped with Anti-Lock brakes. Remove speed sensor cable routing bracket from front strut assembly (Fig. 3).

(6) Remove brake caliper assembly from steering knuckle and braking disc. Refer to the Brake Section

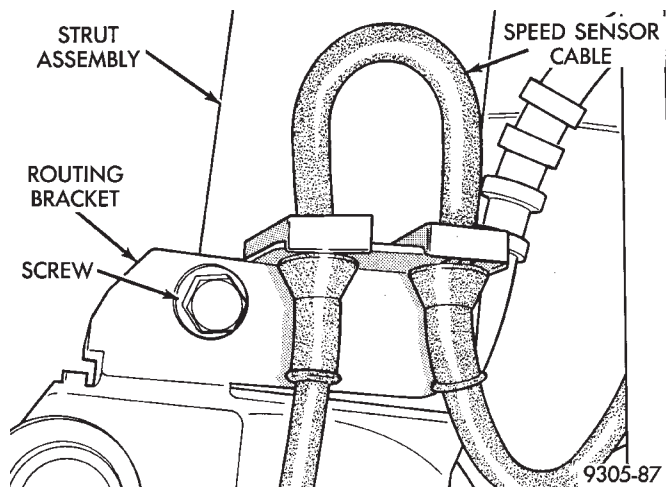


Fig. 3 Speed Sensor Cable Routing Bracket

in this service manual for the required caliper removal and storage procedure. Support caliper assembly by hanging it from frame of vehicle with wire or some other method, do not let caliper assembly hang by brake hose (Fig. 4). Remove front braking disc from hub.

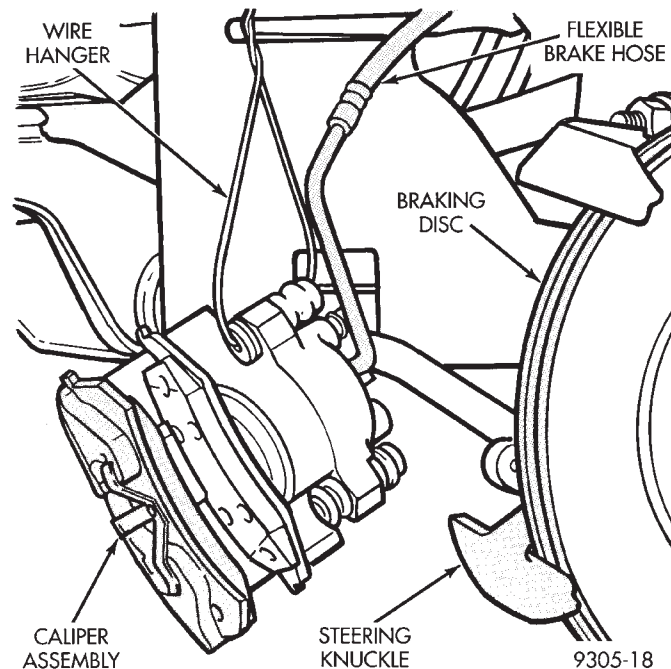


Fig. 4 Removal And Storage Of Front Caliper

CAUTION: The strut assembly to steering knuckle bolts are serrated were they go through strut assembly and steering knuckle. When removing bolts, turn nuts off bolts **DO NOT TURN BOLTS IN STEERING KNUCKLE**. If bolts are turned damage to steering knuckle will result.

(7) Remove the strut assembly to steering knuckle attaching bolts (Fig. 5).

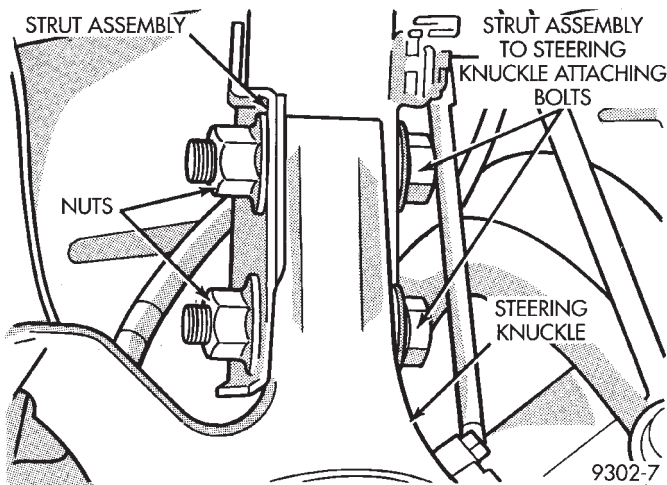


Fig. 5 Strut Assembly To Steering Knuckle Attaching Bolts

(8) Remove the 3 strut assembly upper mount to shock tower mounting nut and washer assemblies (Fig. 6).

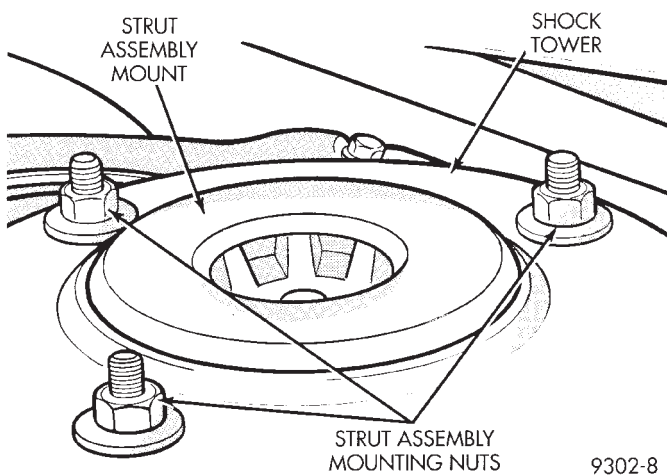


Fig. 6 Strut Assembly Mounting To Shock Tower

(9) Remove the strut assembly from the vehicle for inspection and or disassembly.

INSPECTION

Inspect for evidence of fluid running from the upper end of the reservoir. (Actual leakage will be a stream of fluid running down the side and dripping off lower end of unit). A slight amount of seepage between the strut rod and strut shaft seal is not unusual and does not affect performance of the strut assembly.

INSTALLATION

(1) Install front strut assembly into shock tower. Install the 3 strut assembly upper mount to shock tower attaching nuts (Fig. 6). Torque the 3 strut mount to shock tower attaching nuts (Fig. 6) to 33 N•m (25 ft. lbs.) torque.

(2) Position steering knuckle neck into strut assembly.

CAUTION: The strut assembly to steering knuckle bolts are serrated were they go through strut assembly and steering knuckle. When installing bolts, turn nuts onto bolts **DO NOT TURN BOLTS IN STEERING KNUCKLE**. If bolts are turned damage to steering knuckle will result.

(3) Install the strut assembly to steering knuckle attaching bolts (Fig. 5). Install nuts on attaching bolts (Fig. 5). Torque the strut assembly to steering knuckle attaching bolt nuts to 169 N•m (125 ft. lbs.). **TURN NUTS ON BOLTS DO NOT TURN BOLTS.**

(4) Install braking disc back on front hub and bearing assembly. Install front brake caliper assembly on steering knuckle attaching bolts (Fig. 7). Torque the caliper assembly attaching bolts to 19 N•m (192 in. lbs.).

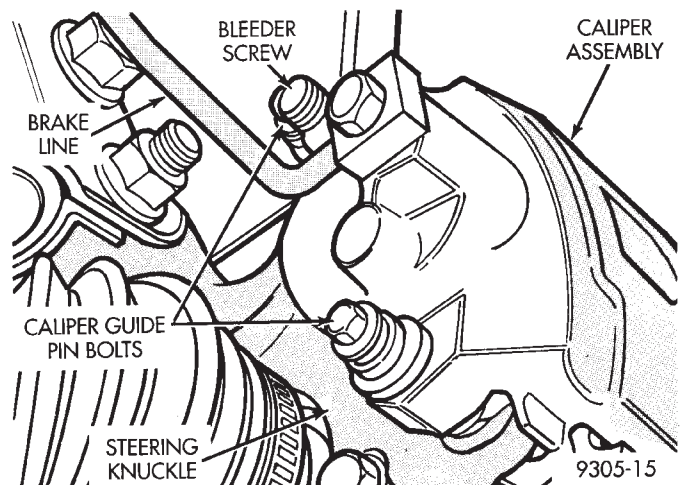


Fig. 7 Front Disc Brake Caliper Mounting Bolts

(5) If the vehicle is equipped with Anti-Lock brakes. Install the front speed sensor cable routing bracket onto the front strut assembly (Fig. 3).

(6) Install outer tie rod on steering arm of strut assembly (Fig. 8). Install tie rod to steering arm attaching nut on tie rod. Torque the tie rod to steering arm attaching nut to 37 N•m (27 ft. lbs.).

(7) Install stabilizer bar link assembly onto strut assembly (Fig. 8). Torque the stabilizer link assembly to strut assembly attaching nut to 95 N•m (70 ft. lbs.).

(8) Install the wheel and tire assembly.

(9) Tighten the wheel mounting stud nuts in proper sequence (Fig. 9) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

(10) Lower vehicle.

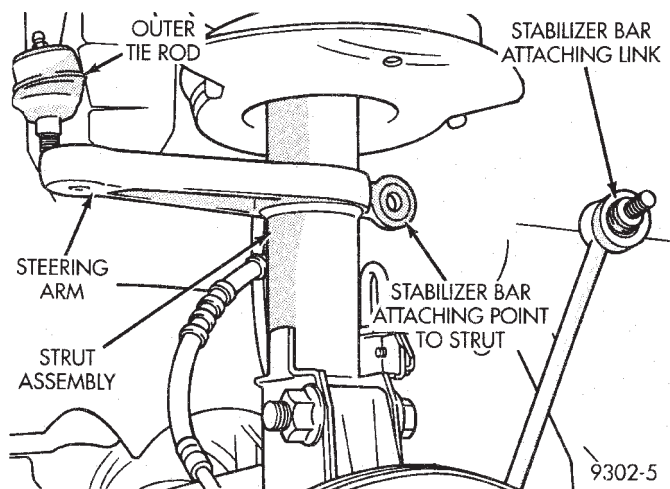


Fig. 8 Tie Rod And Stabilizer Bar Link Removed

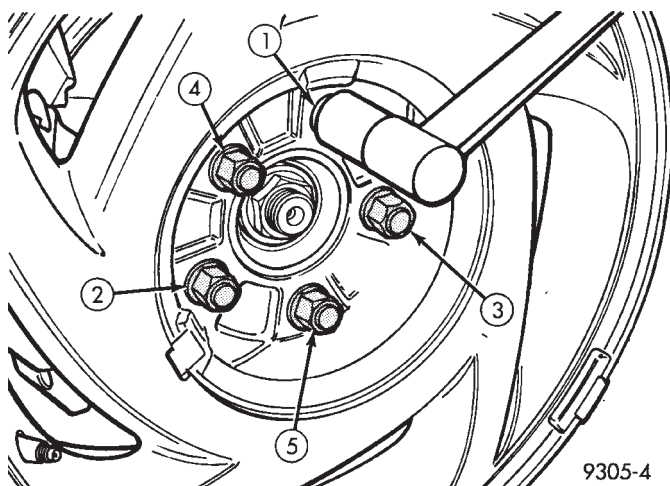


Fig. 9 Tightening Wheel Nuts

DISASSEMBLY (STRUT DAMPER)

The front strut is not serviced and must be replaced as an assembly if found to be defective. The strut is available with 2 calibrations, be sure strut is replaced with an assembly of the same calibration.

The components of the strut assembly listed below are replaceable if found to be defective.

- Coil spring (Coil springs come in a standard and high rate be sure spring is replaced with a spring of the correct rate.)
- Dust shield
- Mount assembly
- Seat And Bearing
- Jounce Bumper
- Lower Spring Isolator
- Shaft Nut

(1) Remove strut assembly requiring service from the vehicle. Refer to Strut Assembly Removal in Servicing Rear Struts, in this section of the service manual.

(2) Position strut assembly in a vise, by clamping strut assembly by the steering arm (Fig. 1). Using paint or equivalent, mark the strut unit, lower

spring isolator, spring and upper strut mount for indexing of the parts at assembly.

(3) Position Spring Compressors, Special Tool C-4838 on the strut assembly spring (Fig. 1). Compress coil spring until all load is removed from upper strut mount assembly.

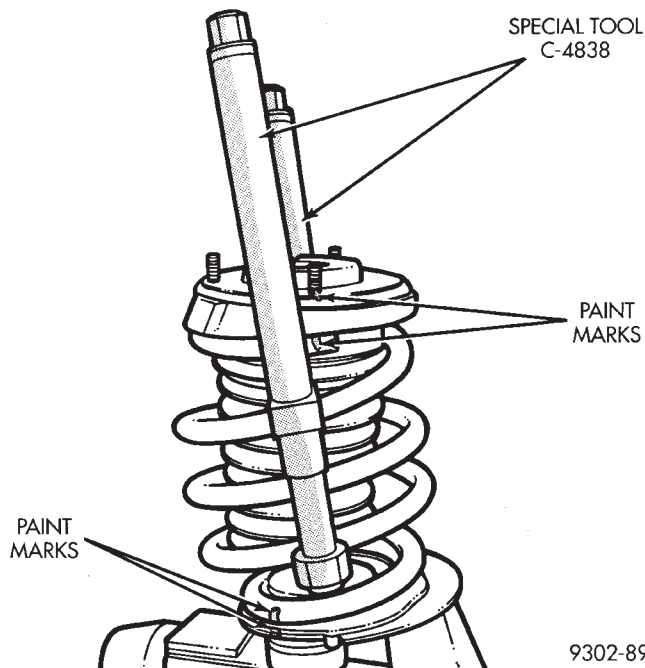


Fig. 1 Compressing Strut Assembly Coil Spring

(4) Install Strut Rod Socket, Special Tool, L-4558 or L-4558A on strut shaft nut (Fig. 2). Using a 10 mm socket on end of strut shaft to keep strut shaft from turning (Fig. 2), remove strut shaft nut.

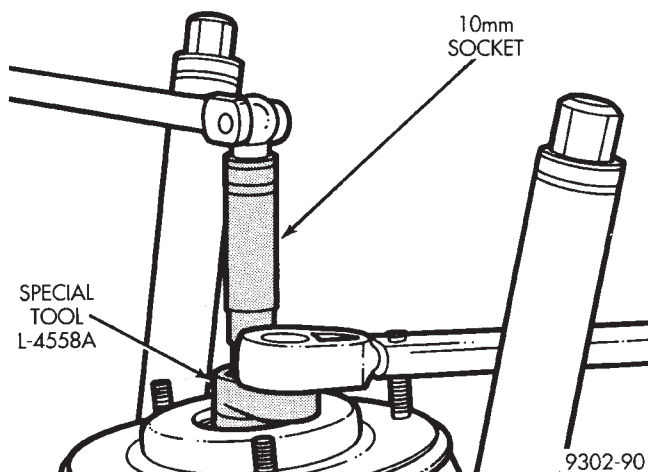


Fig. 2 Remove Strut Shaft Nut

(5) Remove upper strut mount assembly from strut shaft (Fig. 3).

(6) Remove the jounce bumper and the seat/bearing and dust shield as an assembly, from the strut assembly (Fig. 4).

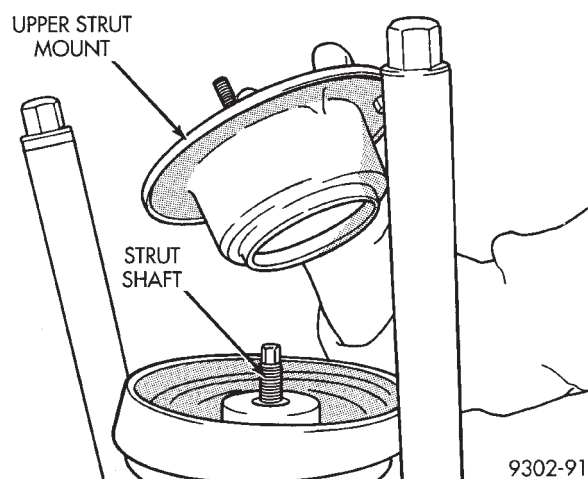


Fig. 3 Upper Strut Mount Removal

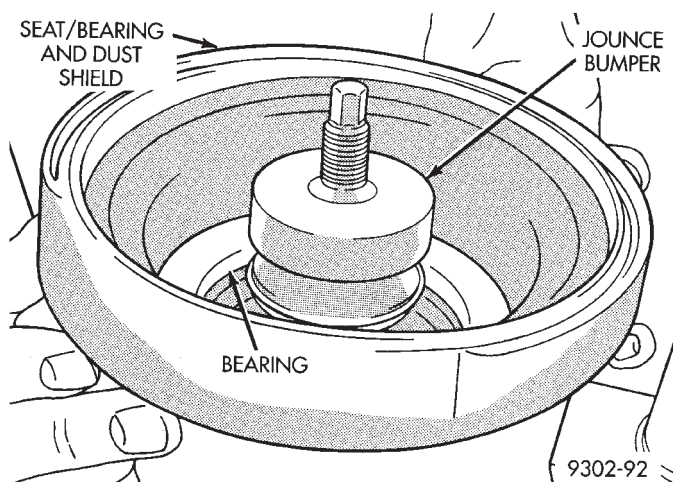


Fig. 4 Jounce Bumper and Seat/Bearing And Dust Shield

(7) Remove the coil spring and the spring compressor as an assembly from the strut unit (Fig. 5).

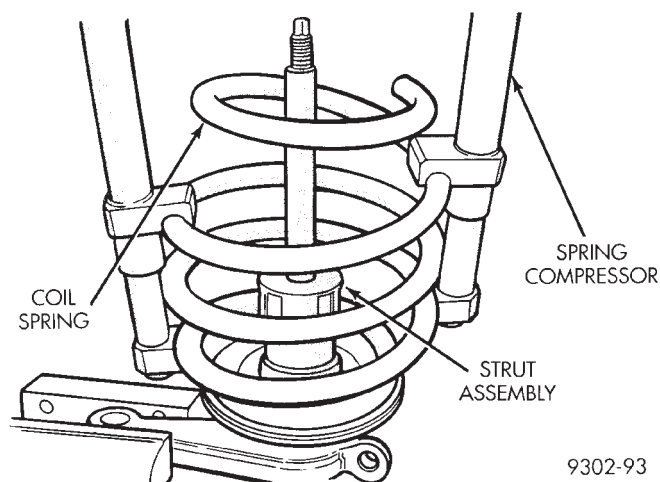


Fig. 5 Removing Coil Spring And Compressor From Strut

(8) Remove lower spring isolator from strut assembly lower spring seat (Fig. 6).

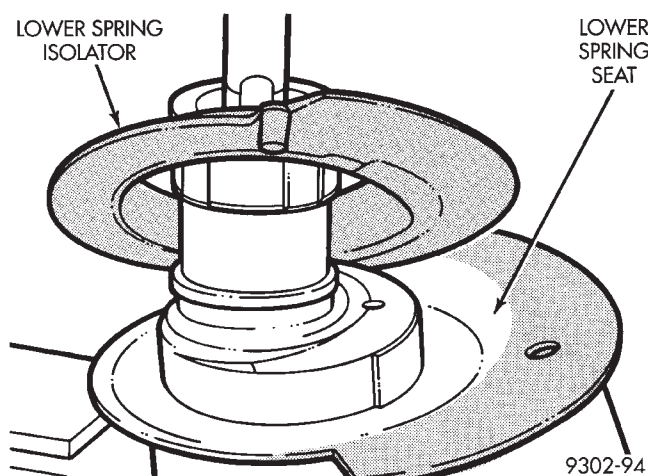


Fig. 6 Lower Spring Isolator

Inspect all disassembled components for signs of abnormal wear or failure replacing any components as required. Inspect strut unit for signs of abnormal oil leakage and for loss of gas charge. To check for loss of gas charge in strut unit. Push strut shaft into body of strut and release, strut shaft should return to its fully extended position. If strut shaft does not return to its fully extended position replace strut unit.

STRUT REASSEMBLY

(1) Install original or new, lower spring isolator on strut unit (Fig. 6).

(2) Install compressed coil spring onto strut assembly aligning paint mark on spring with paint mark on strut assembly (Fig. 7).

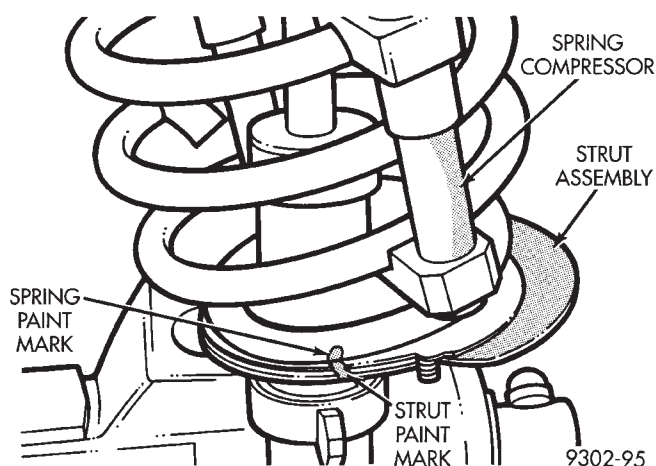


Fig. 7 Spring Installation On Strut Assembly

(3) Install the strut bearing into the bearing seat (Fig. 8). Bearing must be installed into seat with notches on bearing facing down (Fig. 8).

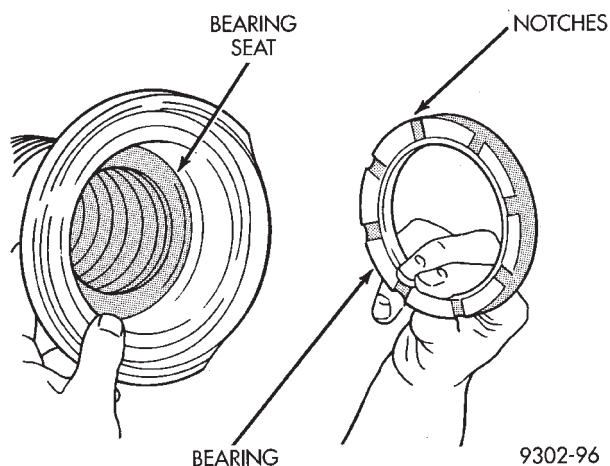


Fig. 8 Bearing Installation Into Seat

(4) Lower seat/bearing and dust shield onto strut assembly and spring. Align paint mark on seat/bearing and dust shield, with paint mark on the strut spring (Fig. 9).

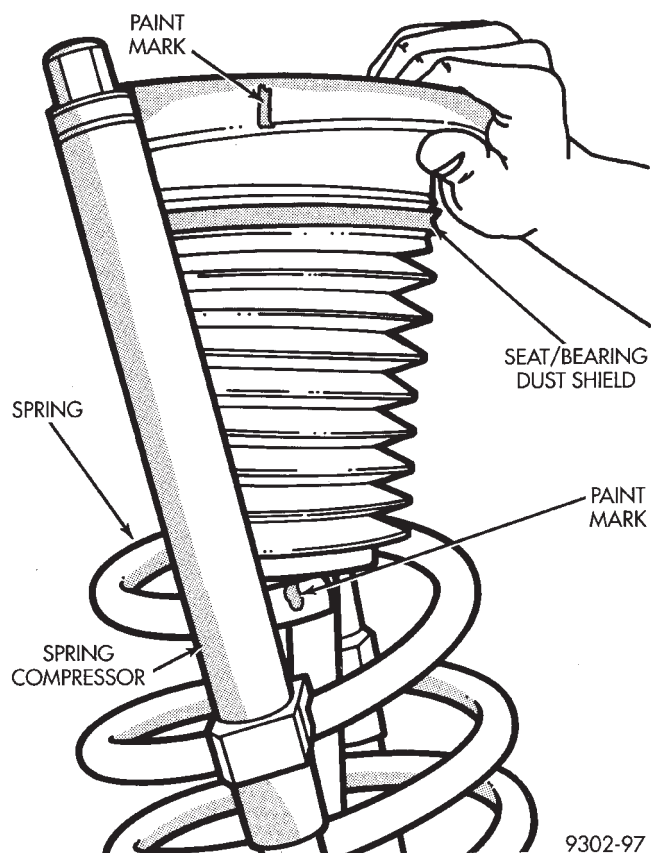


Fig. 9 Seat/Bearing And Dust Shield Installation

(5) Install original or replacement jounce bumper onto shaft of strut assembly (Fig. 10).

(6) Install the upper strut mount assembly onto the strut shaft, aligning paint marks (Fig. 3). Install the upper strut mount to strut shaft retaining nut on strut shaft.

(7) Install Strut Rod Socket, Special Tool, L-4558 or L-4558A on strut shaft nut (Fig. 2). Using a 10 mm socket on end of strut shaft to keep strut shaft

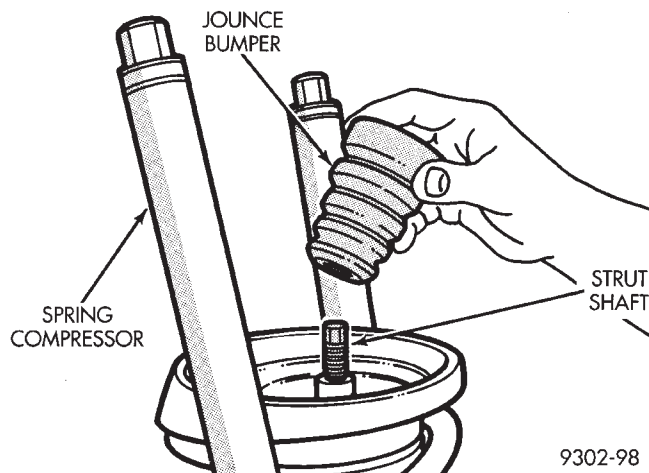


Fig. 10 Jounce Bumper Installation

from turning (Fig. 2), torque strut shaft nut to 94 N•m (70 ft. lbs.).

(8) Equally loosen the Spring Compressors, Special Tool C-4838 until spring is seated on upper strut mount and all tension is relieved from the spring compressors.

(9) Install the strut assembly back into the vehicle. Refer to Strut Assembly Removal in Servicing Front Struts in this section of the service manual.

SUSPENSION COIL SPRINGS

Springs are rated separately for each side of vehicle depending on optional equipment and type of service. During service procedures where both springs are removed, mark springs (Chalk, Tape, etc.) (Fig. 11) to ensure installation in original position. If the coils springs require replacement. **Be sure that the springs needing replacement, are replaced with springs meeting the correct load and spring rate for the vehicle.**

During service procedures requiring the removal or installation of a coil spring with Spring Compressor, Special Tool C-4838. It is required that five coils be captured within the jaws of the tool (Fig. 11).

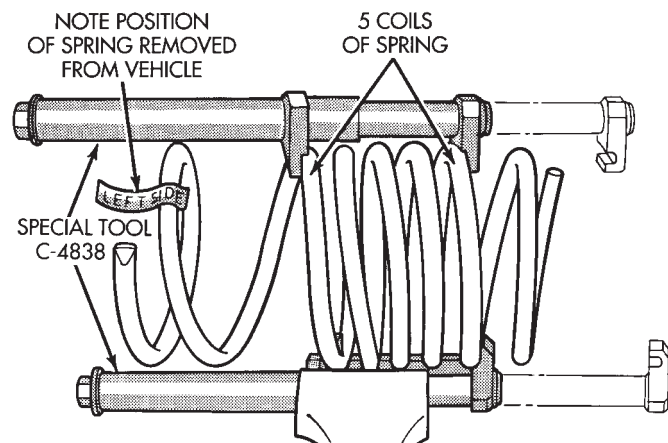


Fig. 11 Identifying Coil Springs



LOWER CONTROL ARM SERVICE

The lower control arm if damaged, is serviced only as a complete component. Do not attempt to repair or straighten a broken or bent lower control arm.

The only serviceable components of the lower control arm are, the pivot bushing, ball joint seal and tension strut bushing. The service procedure to replace these components is detailed in the specific component sections of this group.

REMOVAL (ASSEMBLY)

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove the wheel and tire assembly from the vehicle.

(3) Remove the ball joint stud to steering knuckle clamp nut and bolt (Fig. 1).

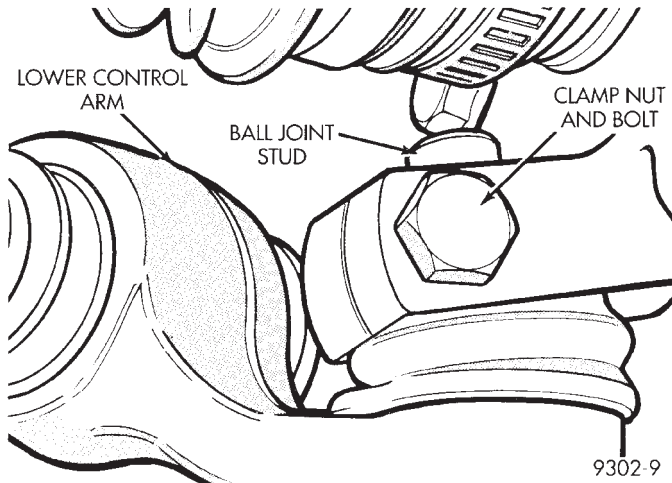


Fig. 1 Control Arm To Steering Knuckle Attachment

CAUTION: When lower control is separated from steering knuckle, do not let ball joint seal hit up against steering knuckle. If ball joint seal hits steering knuckle, seal damage may occur. If ball joint seal becomes torn, replace seal before assembling lower control arm to knuckle.

(4) Carefully insert a pry bar between lower control arm and steering knuckle (Fig. 2). Push down on pry bar to separate ball joint stud from steering knuckle (Fig. 2). **Note: Use caution when separating ball joint stud from steering knuckle so ball joint seal does not get cut.**

CAUTION: Pulling steering knuckle out from vehicle after releasing from ball joint can separate inner C/V joint. See Driveshafts.

(5) Remove tension strut to cradle attaching nut and washer from end of tension strut (Fig. 3). When removing tension strut nut, keep strut from turning

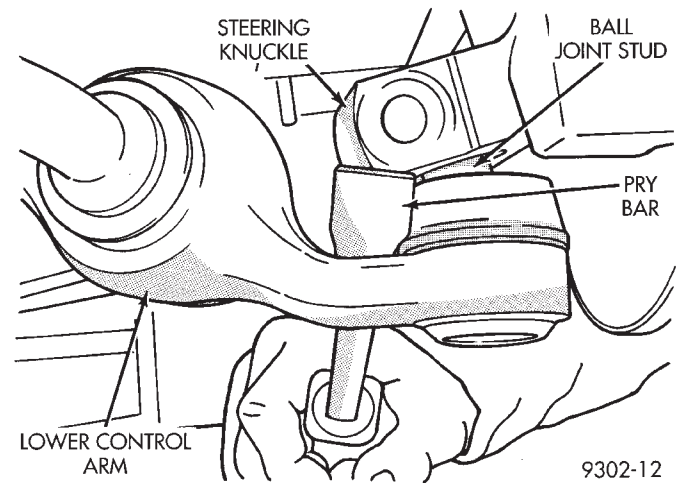


Fig. 2 Separating Ball Joint From Steering Knuckle

by holding tension strut at flat using open end wrench (Fig. 3). **Discard tension strut to cradle retaining nut. A NEW tension strut to cradle nut must be used when installing tension strut.**

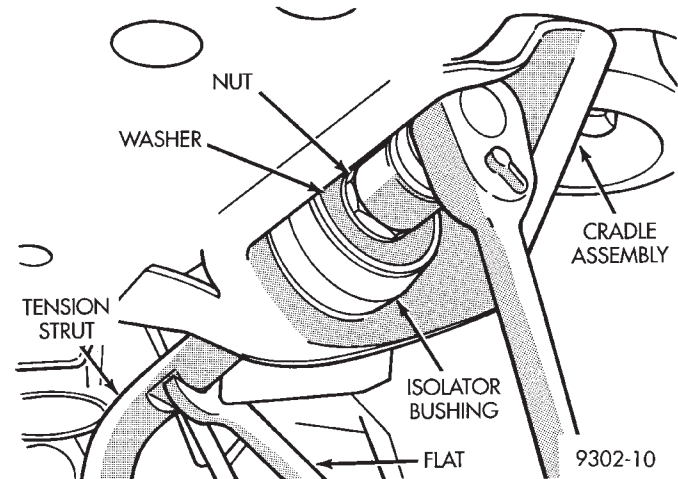


Fig. 3 Tension Strut To Cradle Mounting

(6) Loosen and remove lower control arm pivot bushing to cradle assembly pivot bolt (Fig. 4).

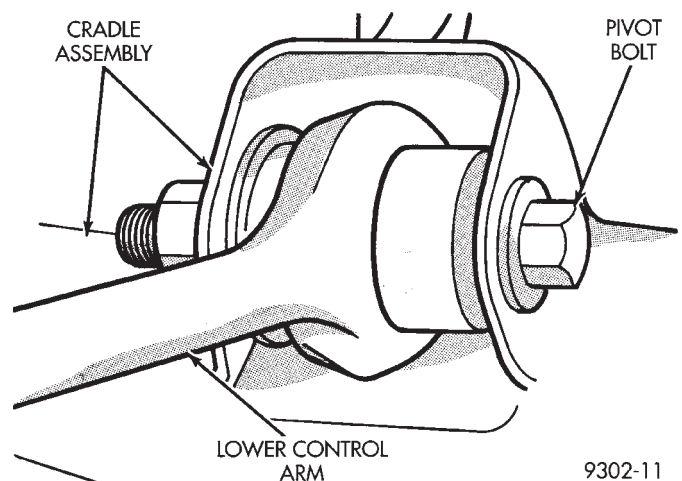


Fig. 4 Lower Control Arm Pivot Bolt



(7) Separate lower control arm and tension strut from the cradle as an assembly. Lower control arm is removed from cradle, by first removing pivot bushing from cradle and then sliding tension strut out of isolator bushing (Fig. 5).

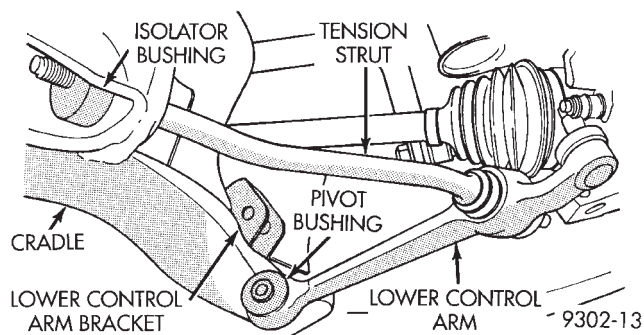


Fig. 5 Lower Control Arm Removal From Cradle

Inspect lower control arm and tension strut (Fig. 6) for distortion. Check all bushings for signs of sever deterioration. Replace any bushings that show signs of sever deterioration.

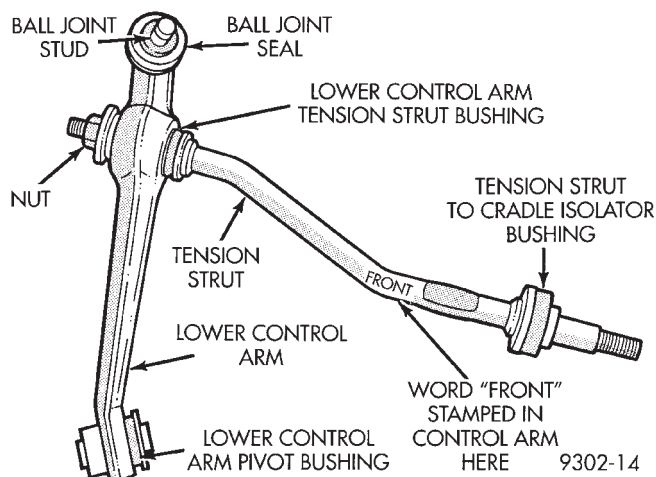


Fig. 6 Lower Control Arm And Tension Strut

INSTALLATION (ASSEMBLY)

(1) Install the lower control arm on the cradle using the following sequence. Install tension strut and isolator bushing into cradle first, then install lower control arm pivot bushing into bracket on cradle (Fig. 5).

(2) Install the lower control arm to cradle bracket attaching bolt and nut (Fig. 4). **Do not tighten the lower control arm to cradle bracket attaching bolt at this time.**

(3) Install washer on end of tension strut (Fig. 3). Install a **NEW** tension strut to cradle bracket nut, on tension strut (Fig.3). Torque the tension strut to cradle bracket retaining nut to 175 N•m (130 ft. lbs.). When torquing tension strut nut, keep tension strut from turning by holding tension strut at flat using an open end wrench (Fig. 3).

CAUTION: Pulling steering knuckle out from vehicle after releasing from ball joint can separate inner C/V joint. See Driveshafts.

CAUTION: When ball joint stud is installed into steering knuckle, do not let ball joint seal hit up against steering knuckle. If ball joint seal hits steering knuckle, seal damage may occur. If ball joint seal becomes torn, replace seal before assembling lower control arm to knuckle.

(4) Install lower ball joint stud into steering knuckle. Install steering knuckle to lower ball joint stud, clamp bolt and nut into steering knuckle (Fig. 7). Torque clamp bolt to 55 N•m (40 ft. lbs.).

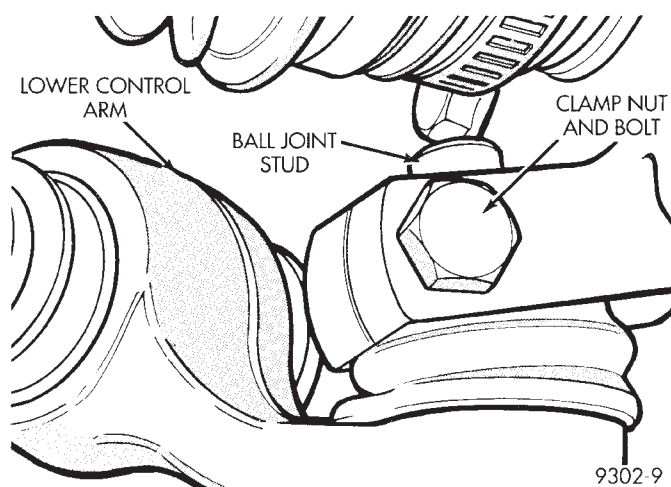


Fig. 7 Control Arm To Steering Knuckle Attachment

(5) Install the wheel and tire assembly.

(6) Tighten the wheel mounting stud nuts in proper sequence (Fig. 8) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

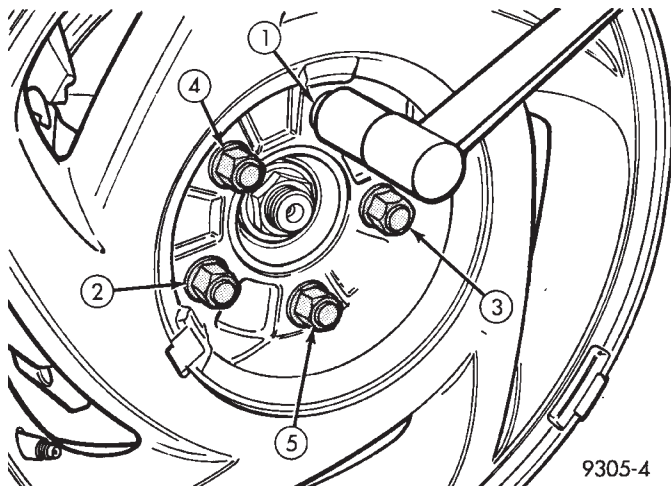


Fig. 8 Tightening Wheel Nuts



(7) Lower vehicle so the suspension is supporting vehicles weight (control arm at design height). Torque the lower control arm pivot bushing to cradle bracket attaching bolt (Fig. 9) to 123 N•m (90 ft. lbs.).

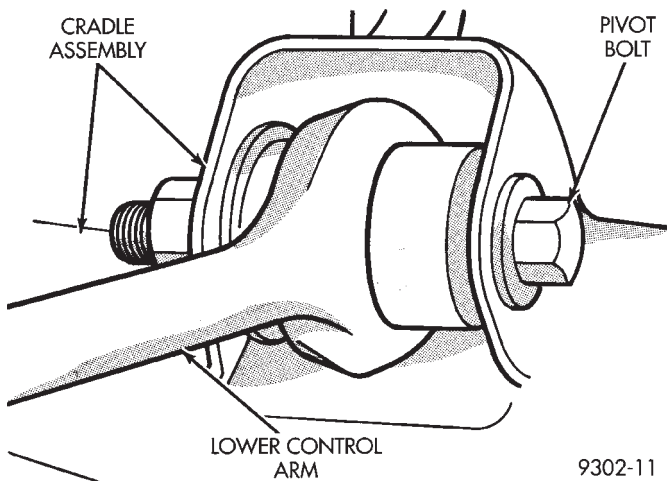


Fig. 9 Lower Control Arm Pivot Bolt

TENSION STRUT SERVICE

To remove tension strut from vehicle for replacement, the tension strut and lower control arm first **MUST** be removed as an assembly from the vehicle.

TENSION STRUT

REMOVAL AND REPLACEMENT

(1) Remove lower control arm and tension strut as an assembly from the vehicle. See Lower Control Arm Removal in this section of the service manual for the required removal procedure.

(2) Separate the tension strut from the lower control arm assembly.

(3) Inspect tension strut bushing in lower control arm for excessive wear or deterioration. If tension strut bushing is found to be defective replace lower control tension strut bushing at this time. Refer to Lower Control Arm Bushing Service in this section of the service for tension strut removal and installation procedure.

(4) Install replacement tension strut into tension strut bushing on lower control arm assembly. Position tension strut in lower control as shown in (Fig. 10), with word **FRONT** stamped in tension strut positioned away from control arm (Fig. 10). With an open end wrench on flat of tension strut to keep tension strut from turning. Torque **NEW** tension strut to lower control retaining nut to 175 N•m (130 ft. lbs.).

(5) Install lower control arm and tension strut as an assembly back on the vehicle. See Lower Control

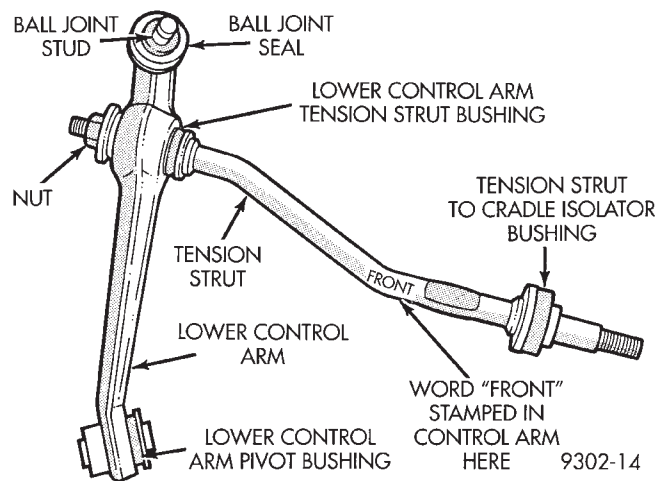


Fig. 10 Tension Strut Installed In Lower Control Arm

Arm Installation in this section of the service manual for the required installation procedure.

(6) Install washer on end of tension strut (Fig. 11). Install a **NEW** tension strut to cradle bracket nut, on tension strut (Fig. 11). Torque the tension strut to cradle bracket retaining nut to 175 N•m (130 ft. lbs.). When torquing tension strut nut, keep tension strut from turning by holding tension strut at flat using an open end wrench (Fig. 11).

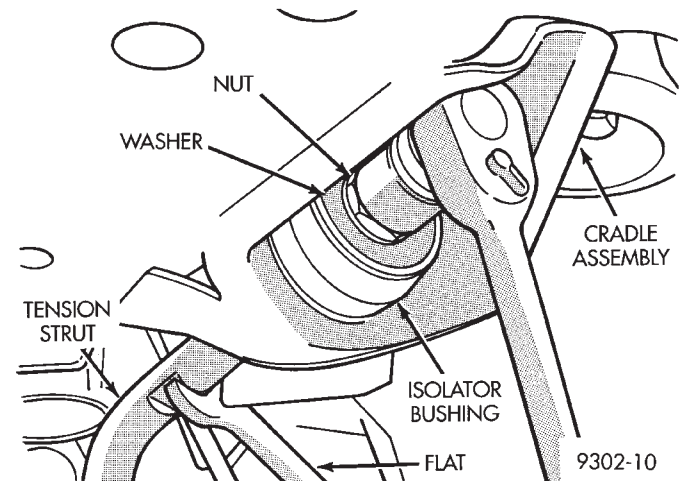


Fig. 11 Tension Strut To Cradle Mounting

(7) Install the wheel and tire assembly.

(8) Tighten the wheel mounting stud nuts in proper sequence (Fig. 12) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

(9) Lower vehicle so the suspension is supporting vehicles weight (control arm at design height). Torque the lower control arm pivot bushing to cradle bracket attaching bolt (Fig. 13) to 123 N•m (90 ft. lbs.).

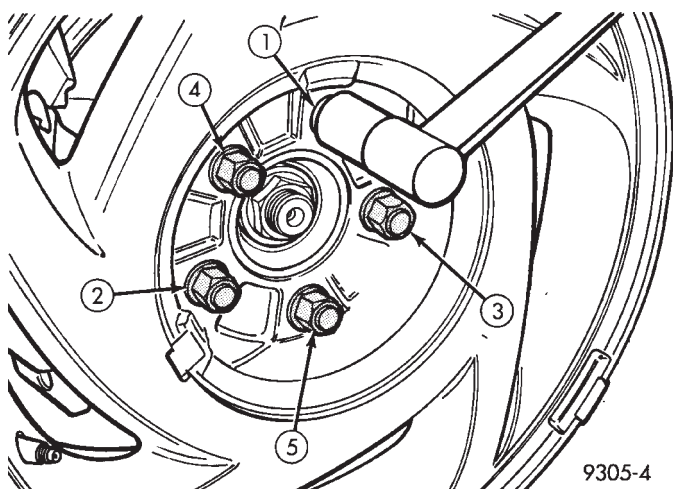


Fig. 12 Tightening Wheel Nuts

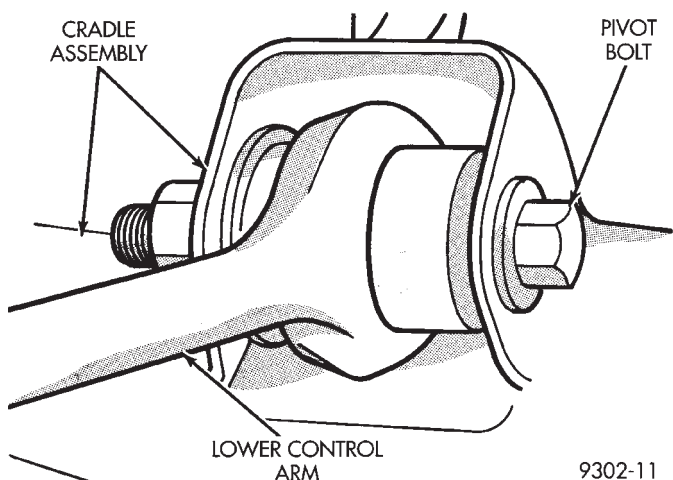


Fig. 13 Lower Control Arm Pivot Bolt

TENSION STRUT TO CRADLE BUSHING

REMOVE

To remove tension strut to cradle bushings from vehicle for replacement, the tension strut and lower control arm first **MUST** be removed as an assembly from the vehicle.

(1) Remove lower control arm and tension strut as an assembly from the vehicle. See Lower Control Arm Removal in this section of the service manual for the required removal procedure.

(2) Remove failed tension strut to cradle, isolator bushing from tension strut. Install replacement isolator bushing on tension strut until it is seated against retaining washer (Fig. 14).

(3) Remove the failed tension strut to cradle isolator bushing from the cradle assembly. Install replacement tension strut to cradle isolator bushing into cradle, until squarely seated against cradle assembly (Fig. 15).

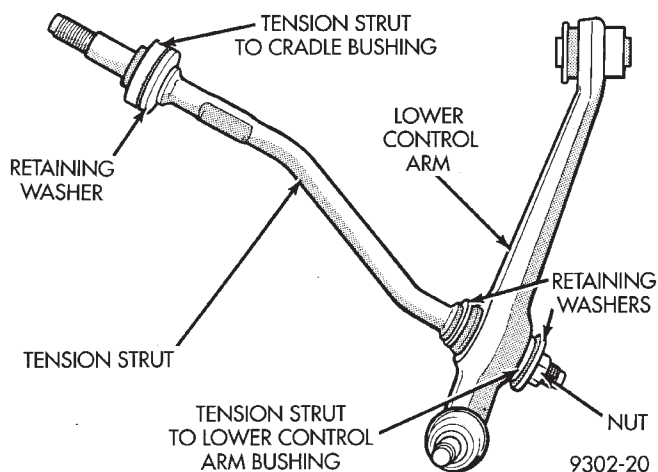


Fig. 14 Tension Strut Bushing Installed On Tension Strut

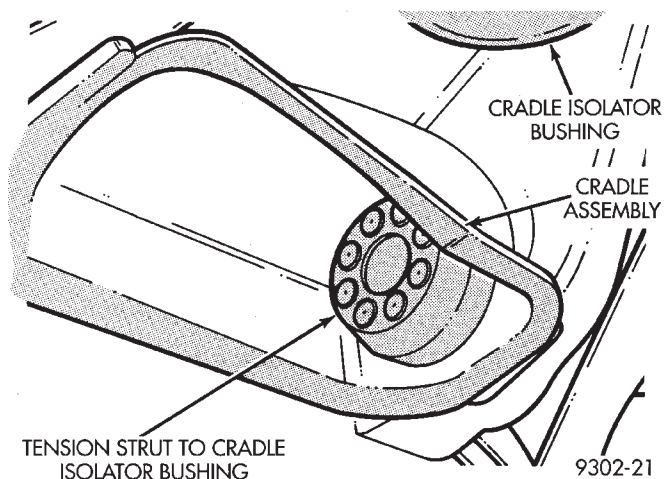


Fig. 15 Tension Strut Bushing Installed In Cradle

INSTALL

(1) Install lower control arm and tension strut as an assembly back on the vehicle. See Lower Control Arm Installation in this section of the service manual for the required installation procedure.

(2) Install washer on end of tension strut (Fig. 16). Install a **NEW** tension strut to cradle bracket nut, on tension strut (Fig. 16). Torque the tension strut to cradle bracket retaining nut to 175 N•m (130 ft. lbs.). When torquing tension strut nut, keep tension strut from turning by holding tension strut at flat using an open end wrench (Fig. 16).

(3) Install the wheel and tire assembly.

(4) Tighten the wheel mounting stud nuts in proper sequence (Fig. 17) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

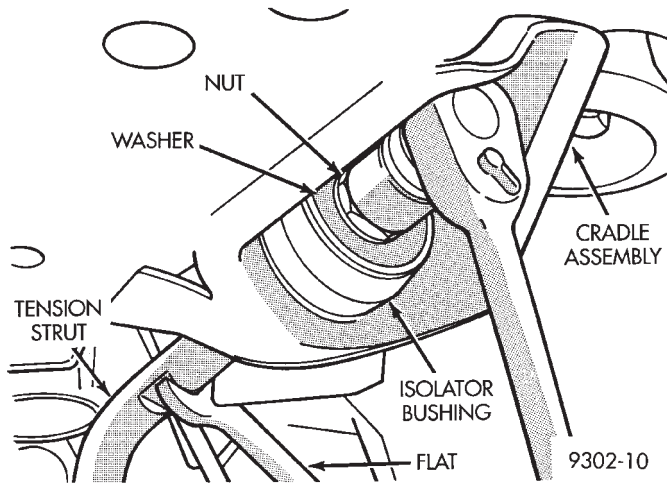


Fig. 16 Tension Strut To Cradle Mounting

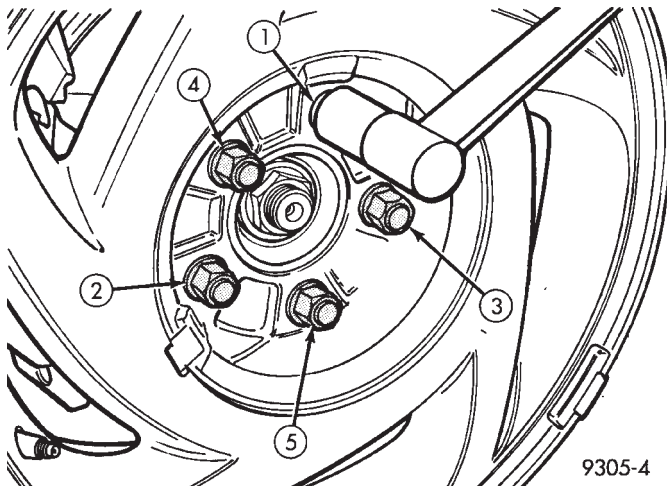


Fig. 17 Tightening Wheel Nuts

(5) Lower vehicle so the suspension is supporting vehicles weight (control arm at design height). Torque the lower control arm pivot bushing to cradle bracket attaching bolt (Fig. 18) to 123 N•m (90 ft. lbs.).

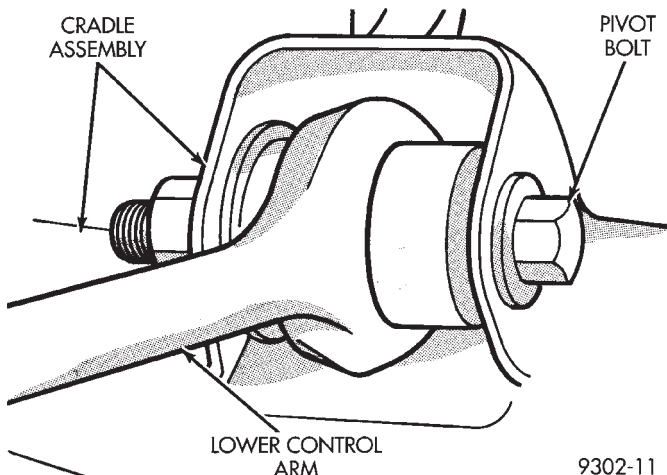


Fig. 18 Lower Control Arm Pivot Bolt

TENSION STRUT TO LOWER CONTROL ARM BUSHING

To remove tension strut to lower control arm bushing for replacement, the tension strut and lower control arm **MUST** first be removed as an assembly from the vehicle.

REMOVE

(1) Remove lower control arm and tension strut as an assembly from the vehicle. See Lower Control Arm Removal in this section of the service manual for the required removal procedure.

(2) Separate the tension strut from the lower control arm assembly (Fig. 19).

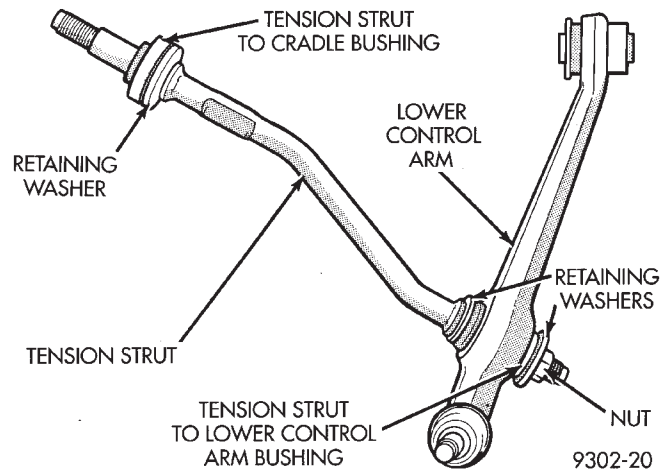


Fig. 19 Tension Strut And Lower Control Arm Bushing

(3) Replace tension strut to lower control arm isolator bushing. Refer to Lower Control Arm Bushing Service in this section of the service manual for tension strut isolator bushing removal and installation procedure.

(4) Install tension strut into tension strut bushing on lower control arm assembly. Position tension strut in lower control arm as shown in (Fig. 20), with word **FRONT** stamped in tension strut positioned away from control arm (Fig. 20). With an open end wrench on flat of tension strut, to keep tension strut from turning. Torque **NEW** tension strut to lower control arm retaining nut to 175 N•m (130 ft. lbs.)

INSTALL

(1) Install lower control arm and tension strut as an assembly back on the vehicle. See Lower Control Arm Installation in this section of the service manual for the required installation procedure.

(2) Install washer on end of tension strut (Fig. 21). Install a **NEW** tension strut to cradle bracket nut, on tension strut (Fig. 21). Torque the tension strut to cradle bracket retaining nut to 175 N•m (130 ft. lbs.).

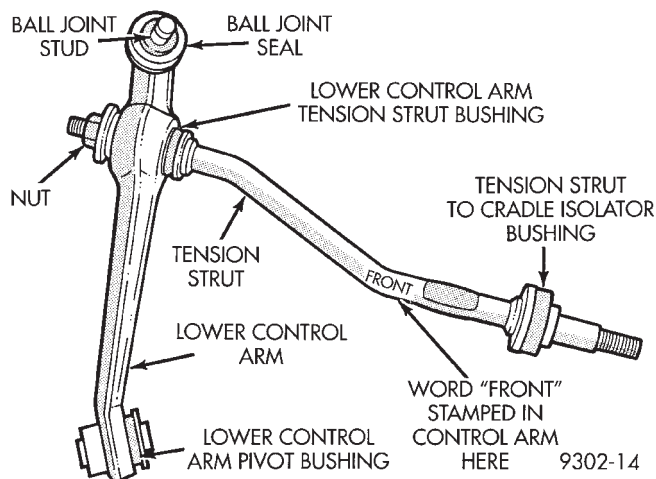


Fig. 20 Tension Strut Installed In Lower Control Arm

When torquing tension strut nut, keep tension strut from turning by holding tension strut at flat using an open end wrench (Fig. 21).

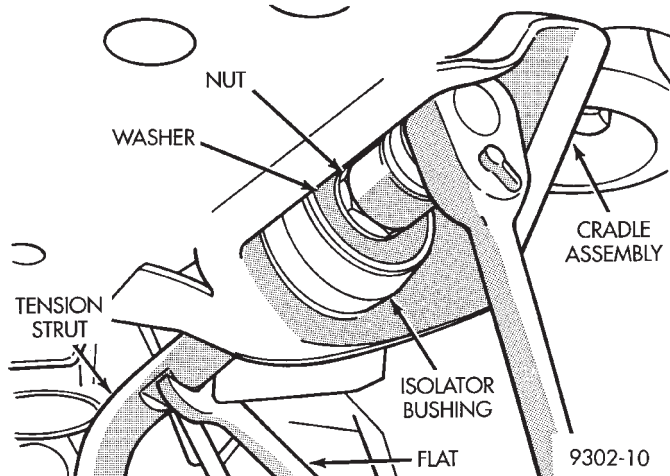


Fig. 21 Tension Strut To Cradle Mounting

- (3) Install the wheel and tire assembly.
- (4) Tighten the wheel mounting stud nuts in proper sequence (Fig. 22) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).
- (5) Lower vehicle so the suspension is supporting vehicle's weight (control arm at design height). Torque the lower control arm pivot bushing to cradle bracket attaching bolt (Fig. 23) to 123 N•m (90 ft. lbs.).

LOWER CONTROL ARM BUSHING SERVICE

PIVOT BUSHING

REMOVE

To perform removal and replacement of the lower control arm pivot bushing, the control arm and tension strut assembly must be removed from the vehi-

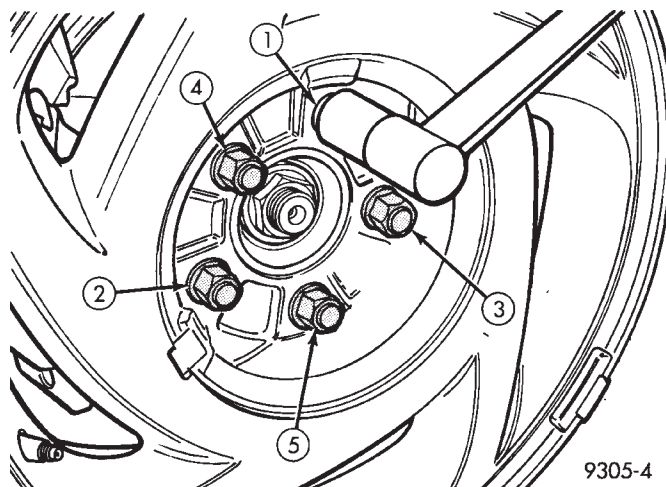


Fig. 22 Tightening Wheel Nuts

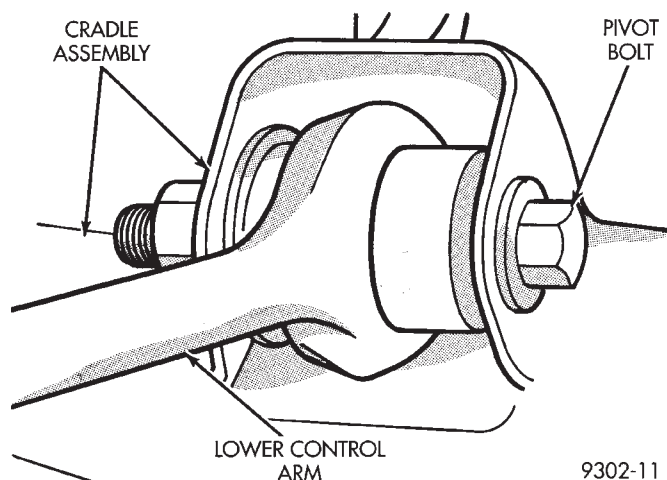


Fig. 23 Lower Control Arm Pivot Bolt

cle. The removal and replacement of the lower control arm pivot bushing must be performed using an arbor press.

- (1) Remove lower control arm and tension strut as an assembly from the vehicle. See Lower Control Arm Removal in this section of the service manual for the required removal procedure.
- (2) Separate the tension strut from the lower control arm assembly.
- (3) Position lower control arm in arbor press with large end of pivot bushing inside Receiver, Special Tool MB-990799, and special tool supporting lower control arm (Fig. 1). Position Remover, Special Tool, 6642-2 on top of pivot bushing (Fig. 1). Using arbor press, press on lower control arm pivot bushing until it falls free of lower control arm.
- (4) Remove the pressed out lower control arm pivot bushing from the Receiver, Special Tool MB-990799 and discard.

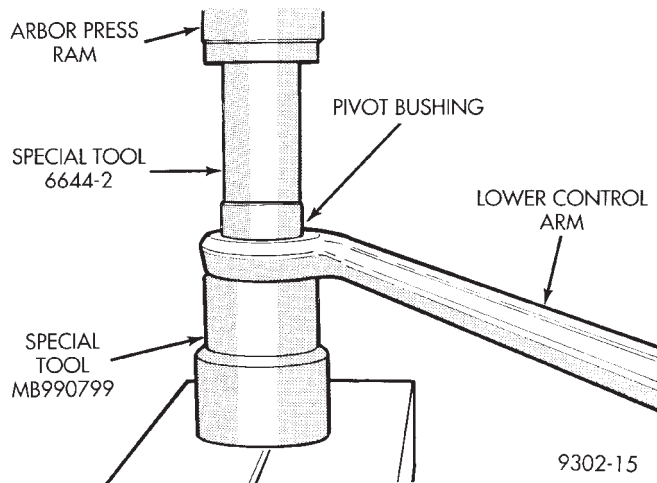


Fig. 1 Lower Control Arm Pivot Bushing Removal
INSTALL

(1) Turn the lower control arm over in the arbor press. So it is positioned on Receiver, Special Tool, MB-990799 as shown in (Fig. 2).

(2) Position new pivot bushing in lower control arm so it is square with the bushing hole. Position Installer, Special Tool 6644-1 on top of pivot bushing, with pivot bushing setting in recessed area of Installer (Fig. 2). Bring down ram of arbor press until it is close to Installer, Special Tool. Then square face of Installer, Special Tool 6644-1 with end of ram on arbor press and start to press bushing into lower control arm.

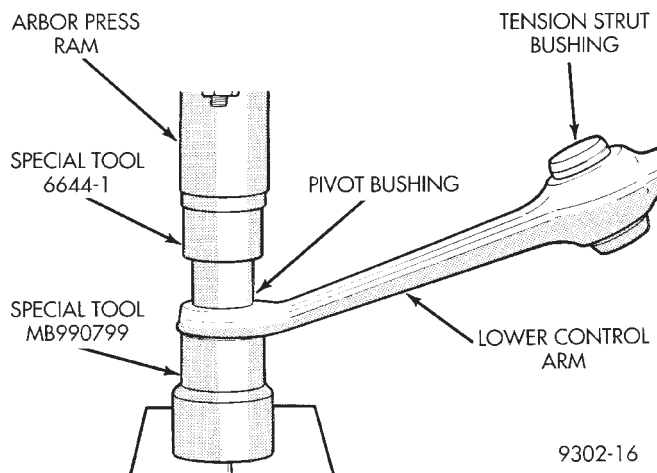


Fig. 2 Installing Lower Control Arm Pivot Bushing

(3) Press lower control arm pivot bushing into lower control arm until Installer, Special Tool 6644-1 squarely bottoms against surface of lower control arm (Fig. 3). **When Installer, Special Tool, 6644-1 squarely touches surface of control arm stop installing bushing.** When Installer, Special Tool 6644-1 squarely bottoms on control arm, bushing is installed to the correct position in control arm.

(4) Install tension strut into tension strut bushing on the lower control arm assembly. Position tension

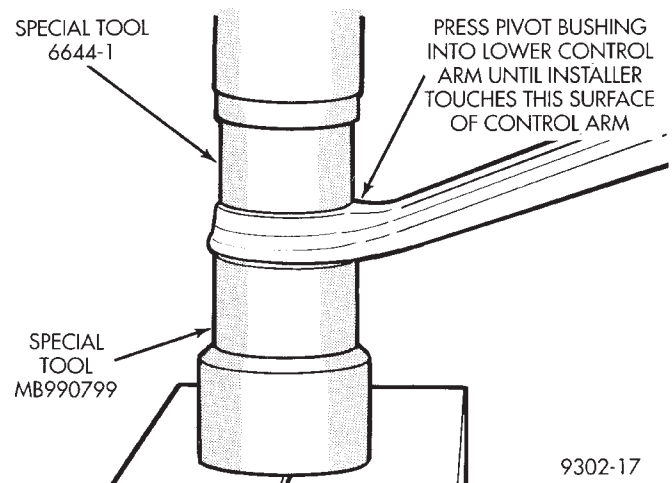


Fig. 3 Pivot Bushing Installed In Lower Control Arm

strut in lower control as shown in (Fig. 4), with word FRONT stamped in tension strut positioned away from control arm. With an open end wrench on flat of tension strut to stop tension strut from turning. Torque **NEW** tension strut to lower control retaining nut to 175 N•m (130 ft. lbs.)

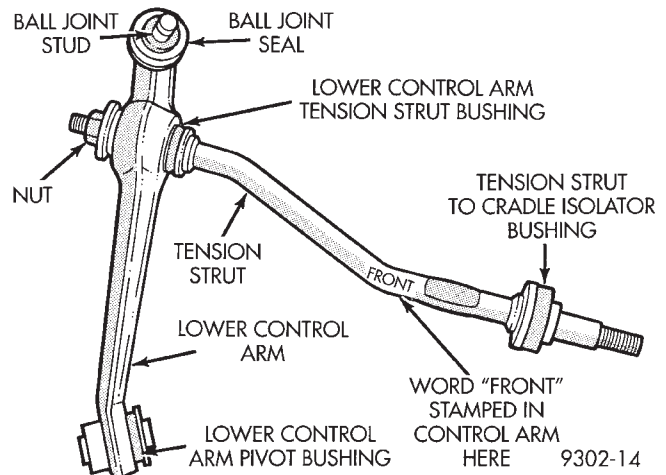


Fig. 4 Tension Strut Installed In Lower Control Arm

(5) Install lower control arm and tension strut as an assembly back on the vehicle. See Lower Control Arm Installation in this section of the service manual for the required installation procedure.

TENSION STRUT BUSHING

REMOVE

To perform removal and replacement of the lower control arm tension strut bushing. The control arm and tension strut assembly must be removed from the vehicle. The removal and replacement of the lower control arm tension strut bushing must be performed using an arbor press.

(1) Remove lower control arm and tension strut as an assembly from the vehicle. See Lower Control Arm Removal in this section of the service manual



for the required removal procedure.

(2) Separate the tension strut from the lower control arm assembly.

(3) Position lower control arm in arbor press with tension strut bushing inside Receiver, Special Tool MB-990799 and special tool supporting lower control arm (Fig. 5). Position Remover, Special Tool, 6644-4 on top of tension strut bushing (Fig. 5). Using the arbor press, press Remover, Special Tool, 6644-4 down through the tension strut bushing until the arbor press can push it no farther. As Remover, Special Tool, 6644-4 is pressed down through tension strut bushing it will cut the bushing into two pieces.

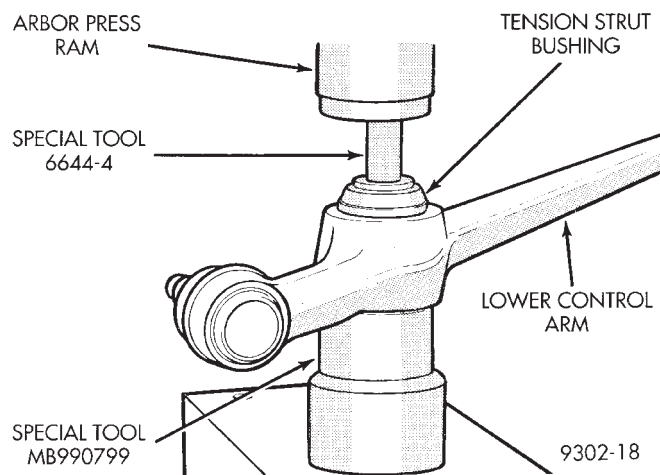


Fig. 5 Removing Lower Control Arm Tension Strut Bushing

(4) Remove lower control arm assembly from arbor press. Remove pieces of tension strut and Remover, Special Tool 6644-4, from lower control arm.

INSTALL

(1) Thoroughly lubricate the replacement tension strut bushing, lower control arm and Installer, Special Tool 6644-3 using Mopar® Silicone Spray Lube or an equivalent.

(2) By hand, install tension strut bushing into large end of Installer, Special Tool 6644-3. Press bushing into installer as far as it will go by hand.

(3) Position lower control arm in arbor press, so tension strut hole in lower control arm is centered on Receiver, Special Tool MB-990799. (Fig. 6). Position Installer, Special Tool 6644-3 with previously installed bushing, inside of tension strut bushing hole in lower control arm (Fig. 6). Position Installer, Special Tool 6644-2 on top of tension strut bushing (Fig. 6). Using the arbor press, press the tension strut bushing into the lower control arm. As the bushing is being pressed into the control arm a pop will be heard. When the pop is heard Installer, Special Tool 6644-3 will slightly move

up off the control arm. At this time remove the control arm assembly from the arbor press and pull Special Tool 6644-3 off the tension strut bushing in the control arm. Tension strut bushing is now installed.

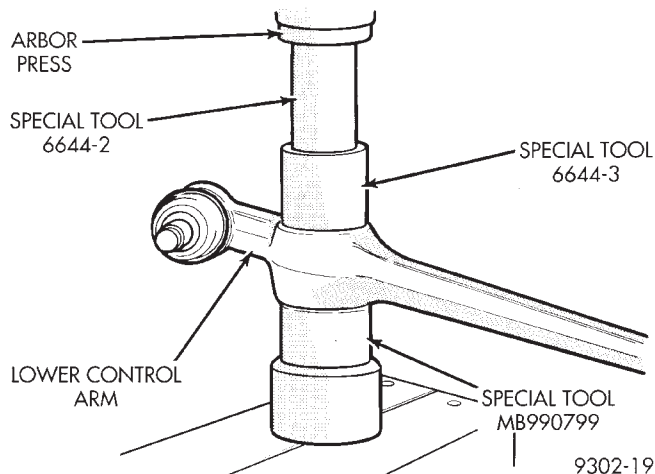


Fig. 6 Installing Tension Strut Bushing Into Lower Control Arm

BALL JOINTS

The lower front suspension ball joints operate with no free play. See Inspection Ball Joint Wear to determine if the ball joint is worn and requires replacement.

The ball joints are not replaceable as a separate component of the lower control arm assembly. If a ball joint is found to be defective, the entire lower control arm will need to be replaced. Do not attempt any type of repair on the ball joint assembly.

INSPECTION BALL JOINT WEAR

Raise front wheels of vehicle using jack stands or a frame contact hoist, until front suspension is in full rebound and tires are not in contact with the ground. Grasp tire at top and bottom, and apply an in and out force on the wheel and tire. While applying force to the tire, look for any movement between the lower ball joint and lower control arm. If any movement is evident the lower ball joint is worn and the lower control arm requires replacement.

BALL JOINT SEAL INSTALLATION

(1) By hand, initially install the ball joint seal on the lower control arm.

(2) Lower control arm is to be supported using a 1 1/4 inch socket (Fig. 7). Position the 1 1/4 inch socket, lower control arm and Seal Installer, Special Tool MB-990800 in an arbor press (Fig. 7).

(3) Using Installer, Special Tool MB-990800, press seal onto ball joint housing until it is squarely seated against top surface of control arm (Fig. 7).

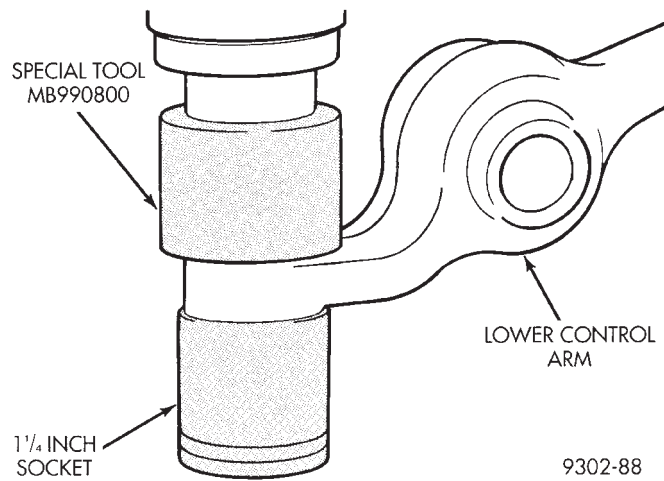


Fig. 7 Installing Ball Joint Seal

SERVICING STABILIZER BAR AND BUSHINGS

The stabilizer bar interconnects the front MacPherson strut assemblies of the vehicle and attaches to the front cradle of the vehicle (Fig. 1).

Jounce and rebound movements affecting one wheel are partially transmitted to the opposite wheel to stabilize body roll.

Attachment of stabilizer bar to cradle assembly, is through rubber-isolated bushings (Fig. 1). Stabilizer bar to strut assembly attachment is done utilizing a stabilizer bar link (Fig. 1).



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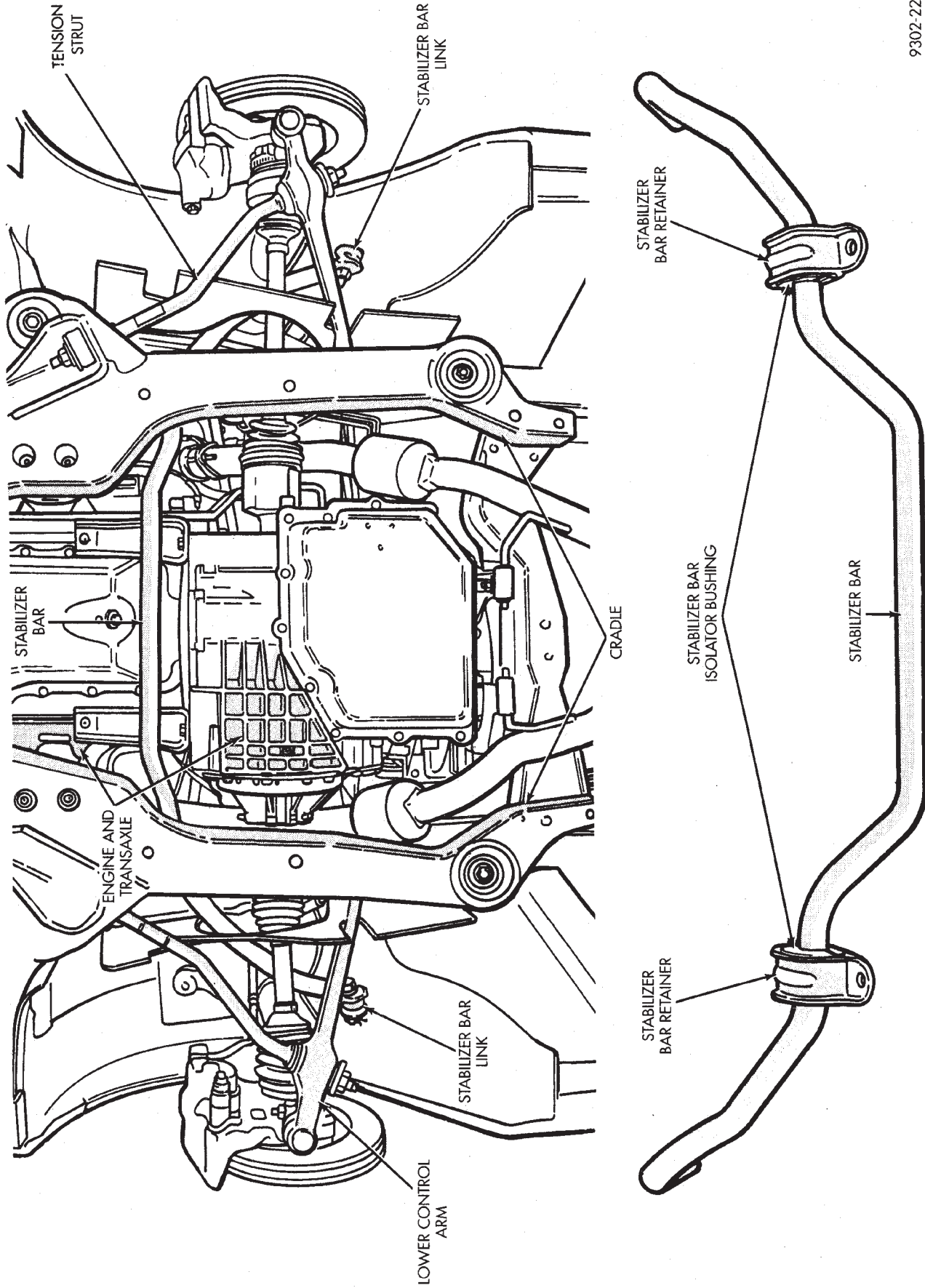


Fig. 1 Front Stabilizer Bar And Stabilizer Bar Mounting



All parts are serviceable, and the stabilizer bar to cradle isolator bushings are split for easy removal and installation. The split in the stabilizer bar to crossmember bushing should be positioned toward the front of the vehicle.

STABILIZER BAR ISOLATOR BUSHING SERVICE

If only the stabilizer bar isolator bushings require service without any service to the stabilizer bar. The stabilizer bar isolator bushings can be removed from the stabilizer bar without requiring the stabilizer bar to be removed from the vehicle.

ISOLATOR BUSHING REMOVAL

(1) Remove the 2 bolts each, attaching the stabilizer bushing retainer and bushing to cradle assembly (Fig. 2).

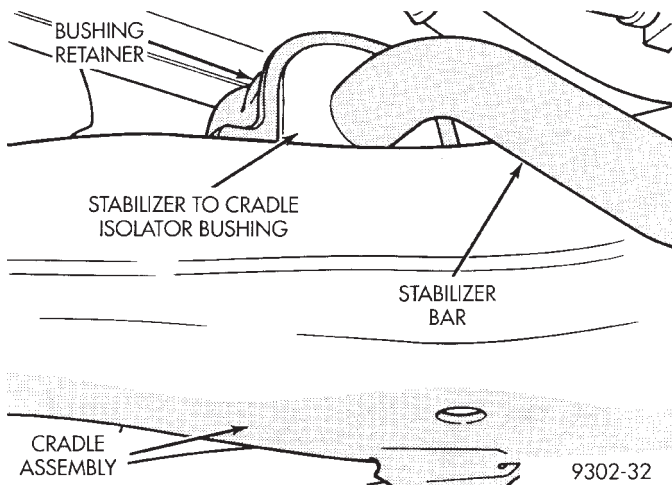


Fig. 2 Stabilizer Bar Isolator Bushing Attachment To Cradle

(2) Remove the stabilizer bar isolator bushing retainers from the isolator bushings.

(3) Inspect for broken or distorted retainers and bushings. If bushing replacement is required, bushing can be removed by opening slit in bushing and removing bushing from around stabilizer bar. The stabilizer bar to cradle assembly bushings, should be positioned on stabilizer bar, so slit in bushing is positioned toward front of vehicle (Fig. 3).

ISOLATOR BUSHING INSTALLATION

(1) Install the isolator bushing retainers back on the stabilizer bar isolator bushings.

CAUTION: When stabilizer bar is installed. Position stabilizer bar, so lower part of stabilizer bar is centered in the middle of the cradle assembly. Failure to do this may cause stabilizer bar to come in contact with other suspension components.

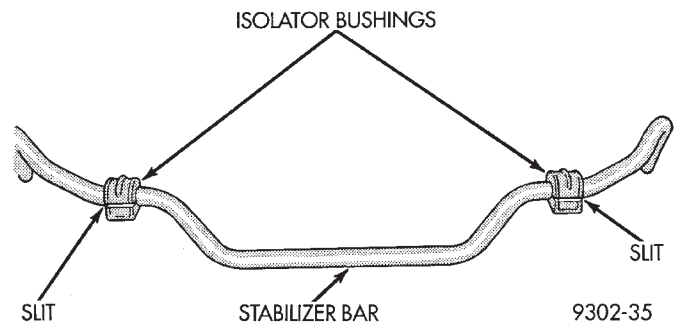


Fig. 3 Isolator Bushings Installed On Stabilizer Bar

(2) Align the stabilizer bar bushing retainers with the mounting holes in the cradle assembly (Fig. 2). **Install but do not tighten the 4 bushing retainer to cradle assembly mounting bolts. The 4 retaining bolts will be torqued when vehicle is lowered to the ground.**

(3) Lower vehicle to the ground.

(4) With the full weight of the vehicle supported by the suspension. Use a long extension, and torque the 4 stabilizer bar bushing retainer to cradle assembly attaching bolts to 55 N•m (40 ft. lbs.).

STABILIZER BAR REMOVAL

When removing the front stabilizer bar from the L.H. platform vehicle, it is necessary to remove the entire front cradle module (Fig. 4) from vehicle.

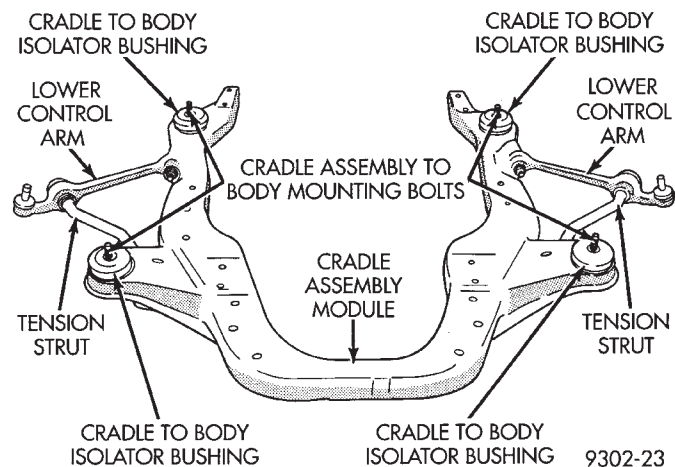


Fig. 4 L.H. Platform Front Cradle

SUPPORTING ENGINE

To allow for removal of the cradle module assembly from the vehicle. It will be necessary to support the engine and transaxle assembly using Fixture, Engine Support, Special Tool 7137 or equivalent. Refer to (Fig. 5 to 9) for engine supporting locations depending on engine application.



CAUTION: No attempt should be made to support or lift either engine application using the intake manifold, or any other location on engine not specified below.

3.3 LTR ENGINE

(1) Mount Fixture, Engine Support Special Tool 7137 or equivalent across engine compartment (Fig. 5). Using nylon webbing material such as seat belt material or equivalent, mount it to the following locations on the 3.3 ltr. engine.

(2) Remove bolt attaching A/C compressor bracket to front of engine. Install webbing material hook on A/C compressor bolt, install bolt and tighten (Fig. 5 and 6).

(3) Loosen but do not remove generator to engine mounting bolt, remove spacer between generator and engine. Install webbing material hook between generator and engine, re-install and tighten original bolt (Fig. 5 and 6).

(4) Remove electronic ignition coil, mounting bracket bolt from rear of engine. Install webbing material hook on bracket bolt and re-install and tighten bolt. **Note: Route webbing material between fuel injector rail and valve cover, not between fuel injector rail and intake manifold.**

(5) Mount remaining piece of webbing material to left cylinder head using threaded hole on back of cylinder head. Using a bolt of the correct thread size and length, install webbing hook on bolt. Then install bolt into threaded hole on back of cylinder head and tighten bolt.

(6) Securely attach pieces of webbing material to hook on engine holding fixture (Fig. 5). Tighten hook on engine holding fixture until all slack is removed from all 4 pieces of webbing material.

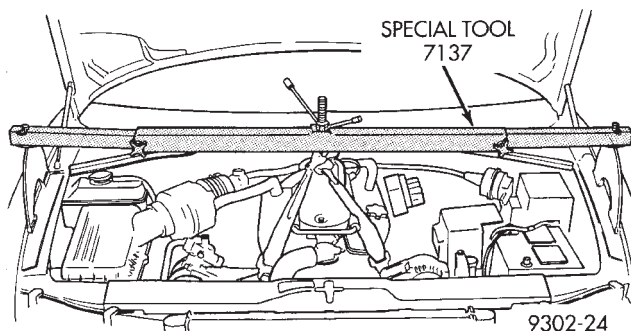


Fig. 5 Engine Supporting Fixture Installed 3.3 Ltr.

3.5 LTR ENGINE

(1) Mount Fixture, Engine Support Special Tool 7137 or equivalent across engine compartment (Fig. 7). Using nylon webbing material such as seat belt material or equivalent, mount it to the following locations on the 3.5 ltr. engine.

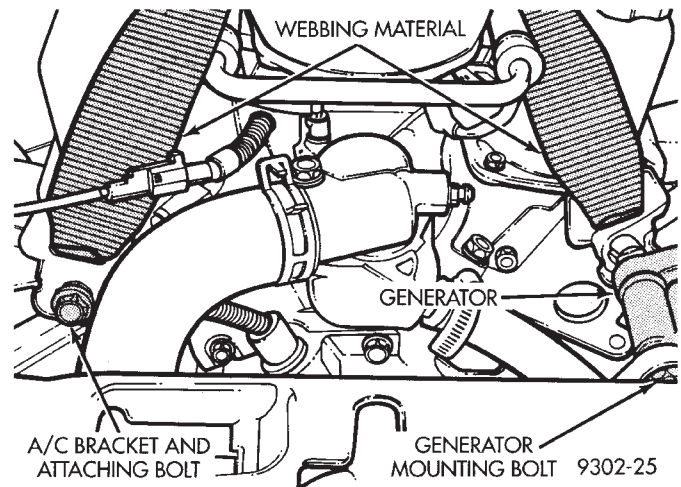


Fig. 6 Front Engine Support Attaching Locations 3.3 Ltr.

(2) Remove bolt attaching timing belt housing to front of engine assembly (Fig. 7 and 8). Install webbing material hook on timing belt housing attaching bolt, install bolt and tighten (Fig. 7 and 8).

(3) Remove generator to generator mounting bracket attaching nut and bolt (Fig. 9). Install webbing material hook on generator mounting bolt, re-install and tighten original nut and bolt (Fig. 9).

(4) Mount remaining pieces of webbing material to back of right and left cylinder head using the threaded hole on back of cylinder heads. Using a bolt of the correct thread size and length, install webbing hook on bolt. Then install bolt into threaded hole on back of cylinder heads and tighten bolt.

(5) Securely attach pieces of webbing material to hook on engine holding fixture (Fig. 7). Tighten hook on engine holding fixture until all slack is removed from all 4 pieces of webbing material.

CRADLE ASSEMBLY REMOVAL ALL ENGINES

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove both front wheel and tire assemblies from the vehicle.

(3) Remove left and right ball joint stud to steering knuckle clamp nut and bolt (Fig. 10).

CAUTION: When lower control is separated from steering knuckle, do not let ball joint seal hit up against steering knuckle. If ball joint seal hits steering knuckle, seal damage may occur. If ball joint seal becomes torn, replace seal before assembling lower control arm to knuckle.

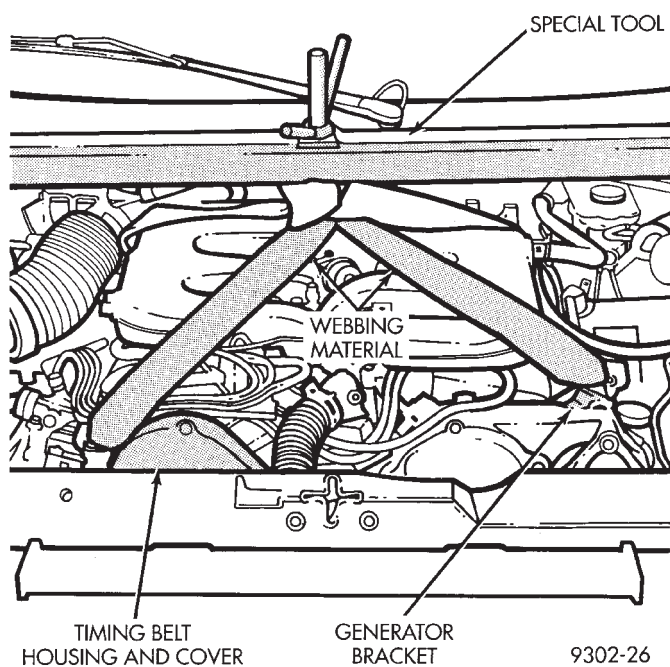


Fig. 7 Engine Supporting Fixture Installed 3.5 Ltr.

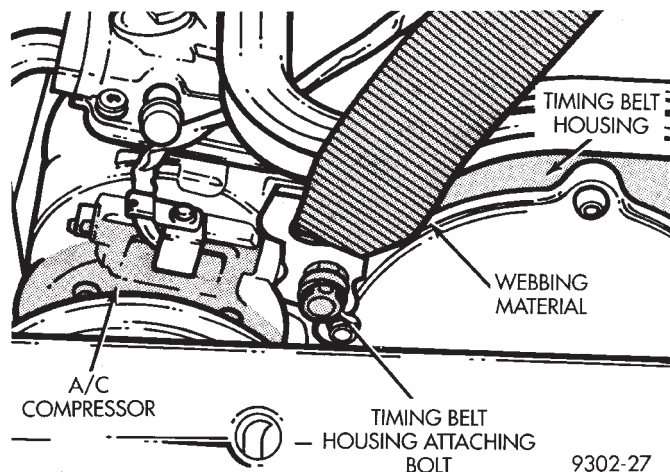


Fig. 8 Front Engine Support Attachment To Timing Belt Housing

(4) Carefully insert a pry bar between lower control arm and steering knuckle (Fig. 11), to separate ball joint stud from steering knuckle (Fig. 11). **Note: Use caution when separating ball joint stud from steering knuckle so ball joint seal does not get cut.**

CAUTION: Pulling steering knuckle out from vehicle after releasing from ball joint can separate inner tripod joint. See Driveshafts.

(5) Remove ground strap from cradle assembly. Ground strap is located on right side of cradle below half shaft (Fig. 12).

(6) Remove the 4 nuts attaching motor mounts to cradle assembly (Fig. 13).

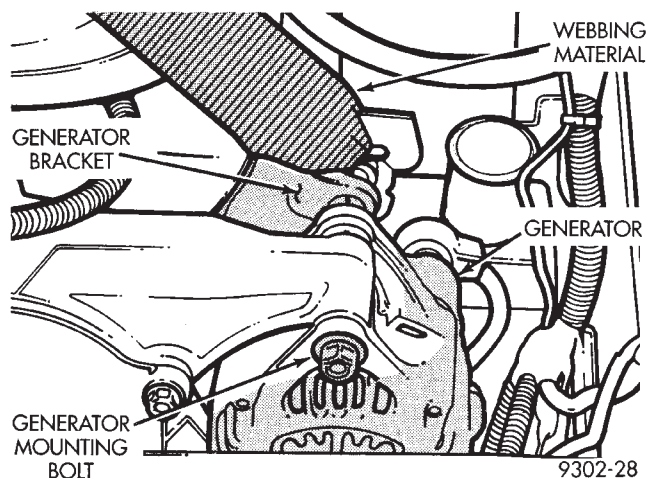


Fig. 9 Front Engine Support Attachment To Generator Bracket

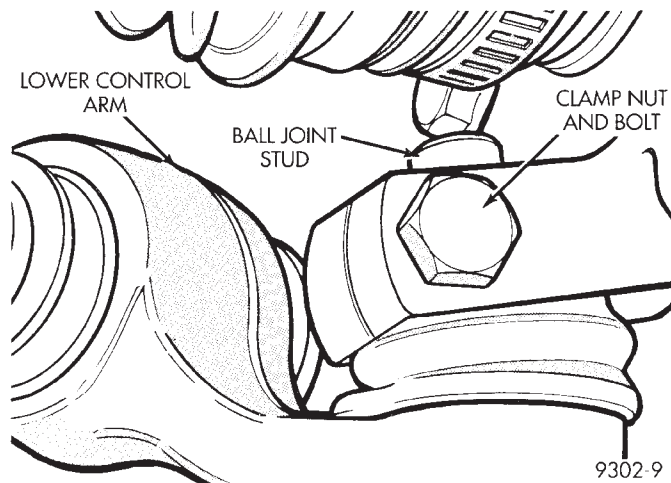


Fig. 10 Control Arm To Steering Knuckle Attachment

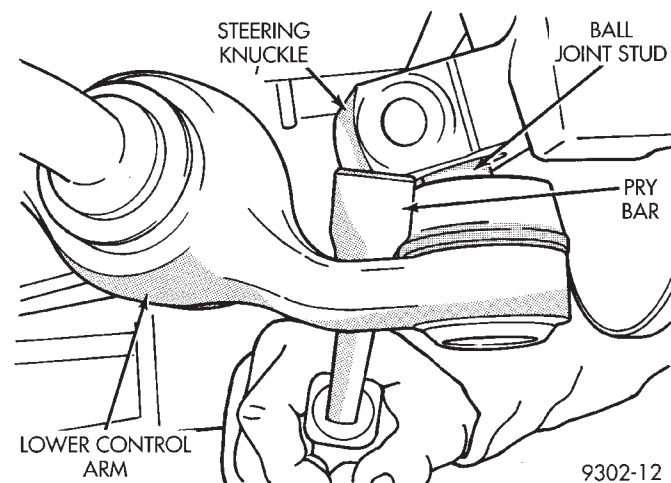


Fig. 11 Separating Ball Joint From Steering Knuckle

(7) Remove the 4 bolts attaching transaxle mount to rear of cradle assembly (Fig. 14).

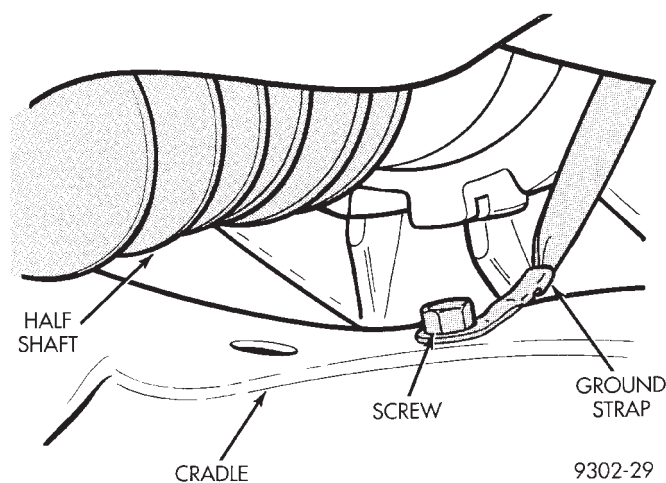


Fig. 12 Ground Strap

FRONT CRADLE ASSEMBLY TO
BODY ATTACHING BOLTS

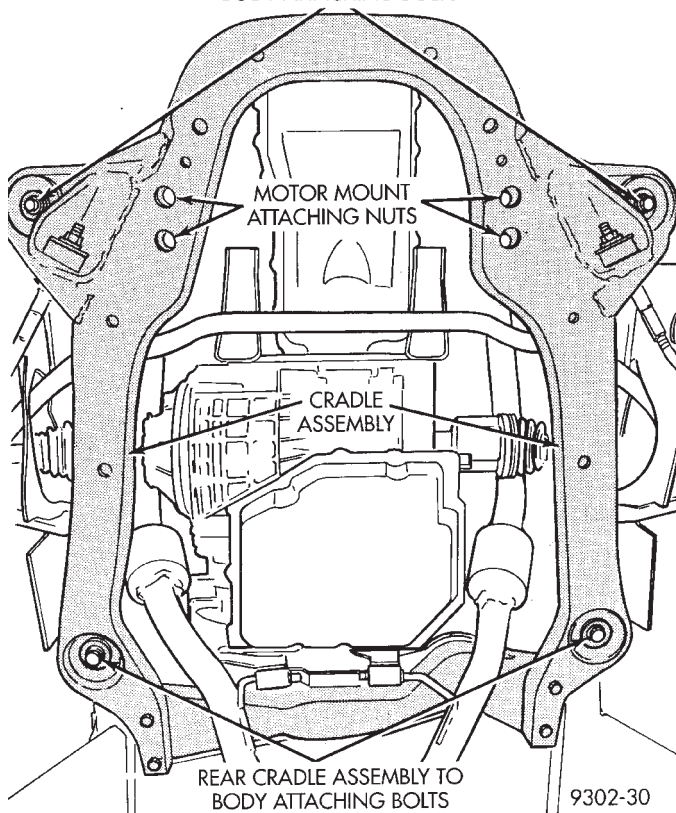


Fig. 13 Motor Mount To Cradle Assembly Attachment

(8) Remove the 2 bolts each, attaching the stabilizer bushing retainer and bushing to cradle assembly (Fig. 15).

WARNING: THE JACK STANDS ARE REQUIRED TO SUPPORT CRADLE ASSEMBLY AND TRANSAXLE ASSEMBLY DURING CRADLE ASSEMBLY REMOVAL FROM VEHICLE. DO NOT ATTEMPT TO REMOVE CRADLE WITHOUT USING JACK STANDS TO SUPPORT COMPONENTS.

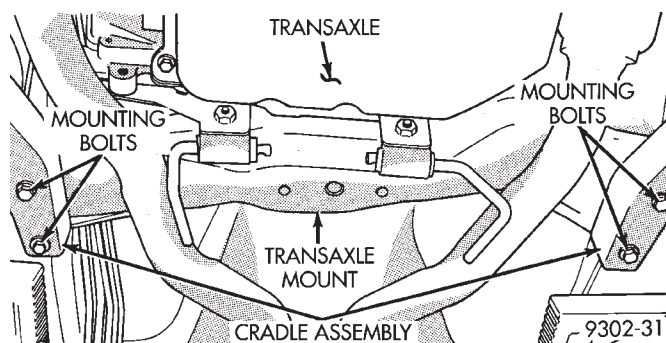


Fig. 14 Transmission Mount To Cradle Assembly Mounting Bolts

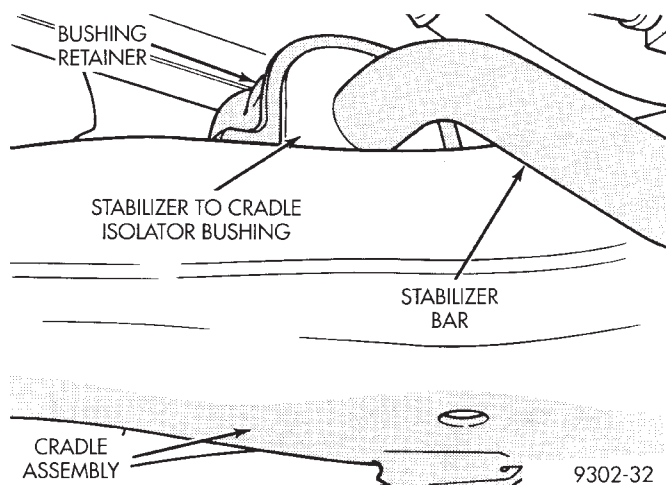


Fig. 15 Stabilizer Bar Isolator Bushing Attachment To Cradle

(9) Position a jack stand under front of cradle and at center of transaxle to cradle assembly mount (Fig. 16). Raise jack stand at transaxle mount until transaxle mount just lifts off cradle assembly.

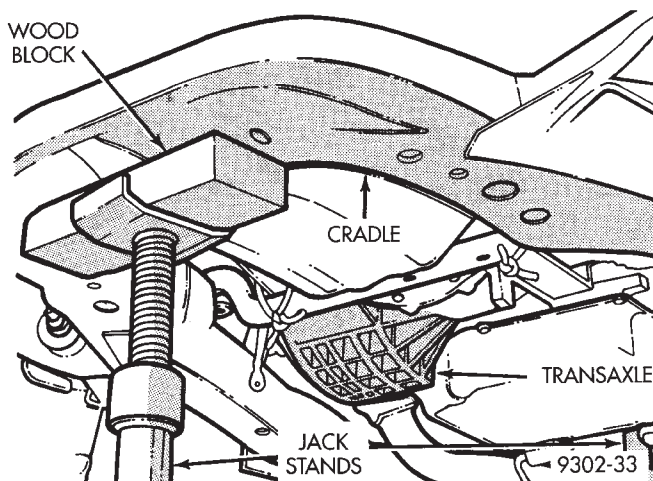


Fig. 16 Jack Stands Supporting Cradle And Transaxle



(10) Cradle assembly is now ready to be removed from vehicle using the following procedure. A helper will be required when removing cradle assembly from vehicle.

- Loosen but do not fully remove the 2 rear cradle assembly to body attaching bolts (Fig. 17).
- Loosen and remove the 2 front cradle assembly to body attaching bolts (Fig. 17).
- With a helper supporting rear of cradle assembly and the jack stand supporting transaxle. Remove the 2 rear cradle assembly to body attaching bolts (Fig. 17).
- Slowly lower front jack stand until weight of engine is supported by engine support fixture and motor mount bolts are clear of cradle assembly. With a helper at rear of cradle assembly, lift front of cradle assembly off jack stand and remove from vehicle.

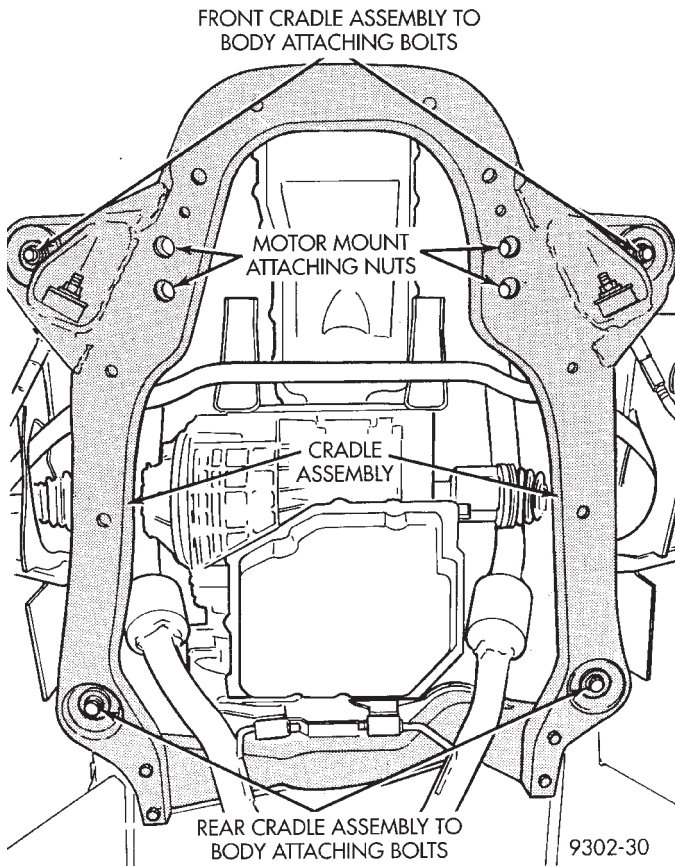


Fig. 17 Cradle Assembly To Body Attaching Locations

(11) After cradle assembly is removed from vehicle. Remove the 2 stabilizer bar, to stabilizer bar link attaching nuts (Fig. 18). Remove stabilizer bar assembly from vehicle.

STABILIZER BAR AND BUSHING INSPECTION

Inspect for broken or distorted retainers and bushings. If bushing replacement is required, bushing can be removed by opening slit in bushing and removing bushing from around stabilizer bar. The stabilizer

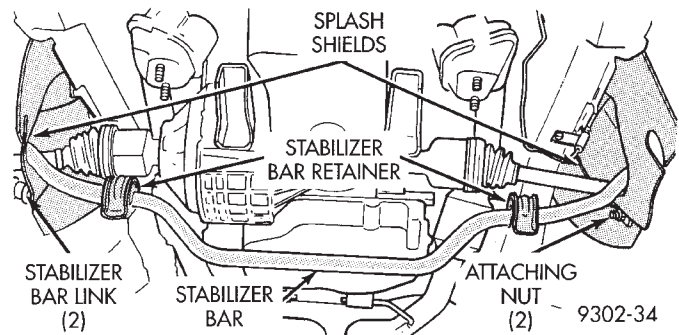


Fig. 18 Stabilizer Bar Removal And Installation

bar to cradle assembly bushings, should be positioned on stabilizer bar, so slit in bushing is positioned toward front of vehicle (Fig. 19).

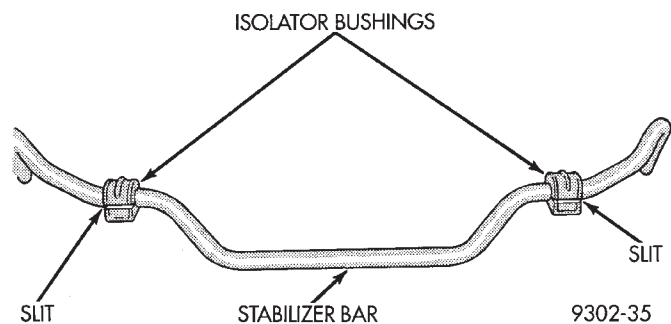


Fig. 19 Isolator Bushings Installed On Stabilizer Bar
CRADLE ASSEMBLY INSTALLATION ALL ENGINES

(1) Install stabilizer bar, isolator bushings and retainers back in vehicle as an assembly (Fig. 18). Be sure stabilizer bar is installed through openings in splash shields (Fig. 18). Install the stabilizer bar link to stabilizer bar attaching nuts. Torque stabilizer bar link to stabilizer bar attaching nut to 95 N•m (70 ft. lbs.).

(2) Tie stabilizer bar up against the 2 transaxle to engine block brackets (Fig. 20). This will keep stabilizer bar out of the way when installing cradle assembly.

(3) With the aid of a helper raise cradle assembly (Fig. 1) back up into vehicle, resting front of cradle assembly on a jack stand. Then use following procedure to install cradle assembly back into vehicle.

- With the aid of a helper, raise rear of cradle assembly up far enough by hand to start the 2 rear cradle assembly to body attaching bolts (Fig. 21). Install bolts far enough to securely hold cradle assembly in place but **DO NOT TIGHTEN**.

- Using jack stand raise front of cradle assembly up against bottom of motor mounts. Be sure all 4 motor mount studs come through holes in cradle assembly.

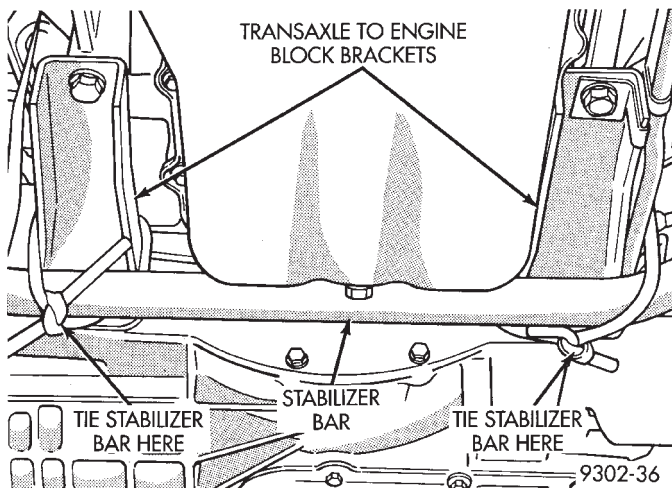


Fig. 20 Stabilizer Bar Stored For Cradle Installation

- Continue to raise cradle assembly and engine using jack stand until the 2 front cradle assembly to body attaching bolts (Fig. 21) can be started.
- Lower transaxle and align transaxle mount with the 4 transaxle mount attaching holes in the cradle assembly. Install BUT DO NOT TIGHTEN the 4 transaxle mount to cradle assembly attaching bolts (Fig. 14). **The 2 long bolts go in the front cradle assembly to transaxle mount holes.**

CAUTION: Before tightening cradle assembly to body attaching bolts. Check that all 4 cradle assembly to body mounting bolts are installed straight into mounting plates in frame rails and mounting plates are not cocked inside the frame rails.

- Using a crisscross pattern, tighten all 4 cradle assembly to body attaching bolts (Fig. 21) until cradle is seated up against body. Then repeating the crisscross pattern, torque all 4 cradle assembly to body mounting bolts to 155 N•m (115 ft. lbs.).

(4) Tighten the 4 transaxle mount to cradle assembly mounting bolts (Fig. 22).

CAUTION: When stabilizer bar is installed. Position stabilizer bar, so lower part of stabilizer bar is centered in the middle of the cradle assembly. Failure to do this may cause stabilizer bar to come in contact with other suspension components.

(5) Untie the stabilizer bar from brackets and position it on cradle assembly. Align the stabilizer bar bushing retainers with the mounting holes in the cradle assembly (Fig. 15). Install but do not tighten the 4 bushing retainer to cradle assembly mounting bolts. The 4 retaining bolts will be torqued when vehicle is lowered to the ground.

(6) Install the 4 motor mount to cradle assembly attaching nuts (Fig. 13). Torque the 4 nuts to 61 N•m (45 ft. lbs.).

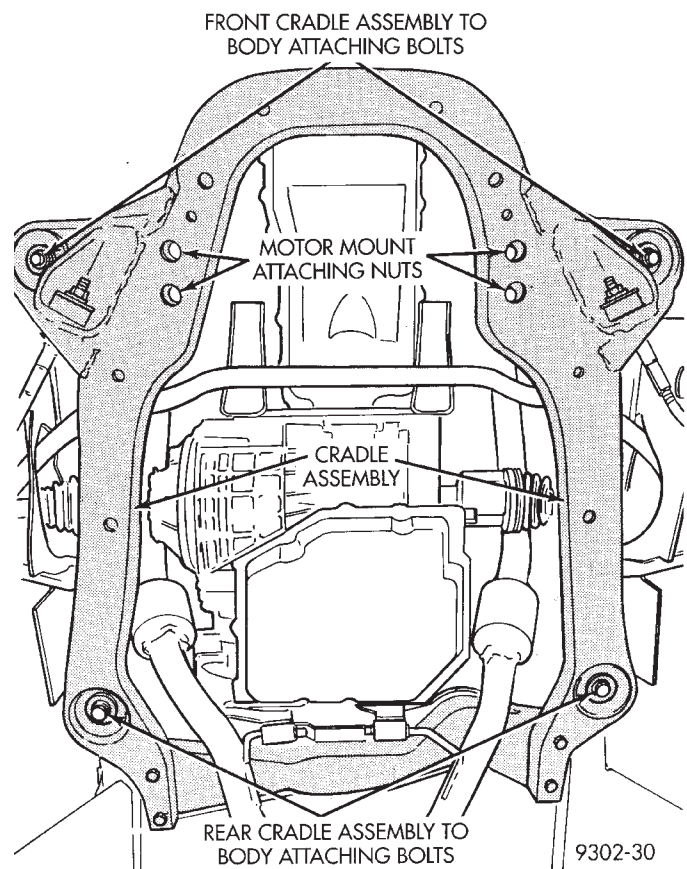


Fig. 21 Cradle Assembly To Body Attaching Bolts

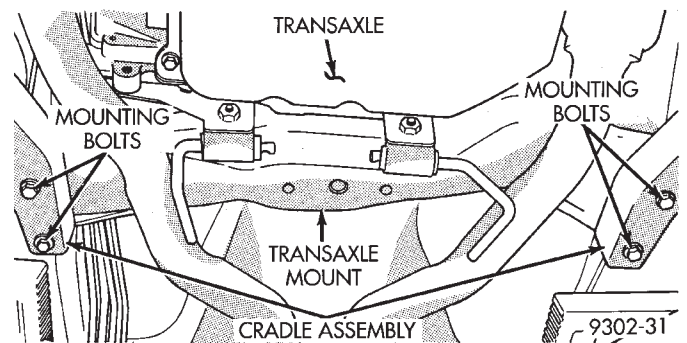


Fig. 22 Transmission Mount To Cradle Assembly Mounting Bolts

(7) Install ground strap on cradle assembly (Fig. 12). Be sure ground strap to cradle screw is securely tightened.

CAUTION: Pulling steering knuckle out from vehicle after releasing from ball joint can separate inner C/V joint. See Driveshafts.

CAUTION: When ball joint stud is installed into steering knuckle, do not let ball joint seal hit up against steering knuckle. If ball joint seal hits steering knuckle, seal damage may occur. If ball joint seal becomes torn, replace seal before assembling lower control arm to knuckle.



(8) Install lower ball joint studs into steering knuckles. Install steering knuckle to lower ball joint stud, clamp bolts and nuts into steering knuckles (Fig. 23). Torque clamp bolt to 55 N•m (40 ft. lbs.).

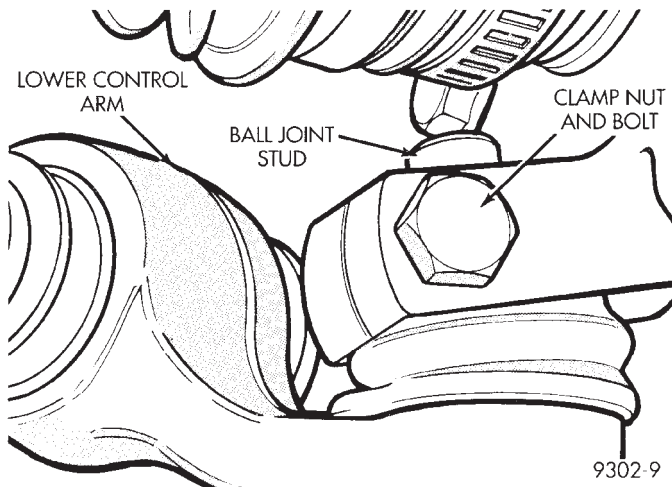


Fig. 23 Control Arm To Steering Knuckle Attachment

(9) Install the wheel and tire assembly.

(10) Tighten the wheel mounting stud nuts in proper sequence (Fig. 24) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

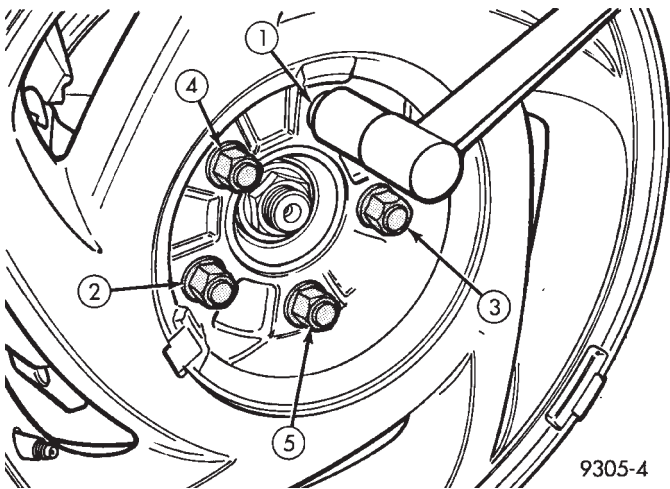


Fig. 24 Tightening Wheel Nuts

(11) Lower vehicle to the ground.

(12) With the full weight of the vehicle supported by the suspension. Use a long extension, and torque the 4 stabilizer bar bushing retainer to cradle assembly attaching bolts to 55 N•m (40 ft. lbs.).

(13) Remove the webbing material from the engine, and the engine support fixture from the vehicle.

(14) Position vehicle on an alignment rack and check that the vehicle's Toe is within specifications. Adjust the vehicle Toe setting if not within specifications.

STEERING KNUCKLE SERVICE

The front suspension knuckle (Fig. 1) provides for steering control of the vehicle. Supports the brake caliper and absorbs the loads exerted during vehicle braking. It also supports the front (driving) hub and bearing and stub axle assembly.

The front suspension knuckle also provides the ability to align the front wheels of the vehicle. This is done by allowing for front wheel Toe adjustment.

The front suspension knuckle is not a serviceable component. Do not attempt to straighten or repair the front suspension knuckle in any way.

Service repair or replacement of the front (drive) hub and bearing, can be done with the front suspension knuckle remaining on the vehicle.

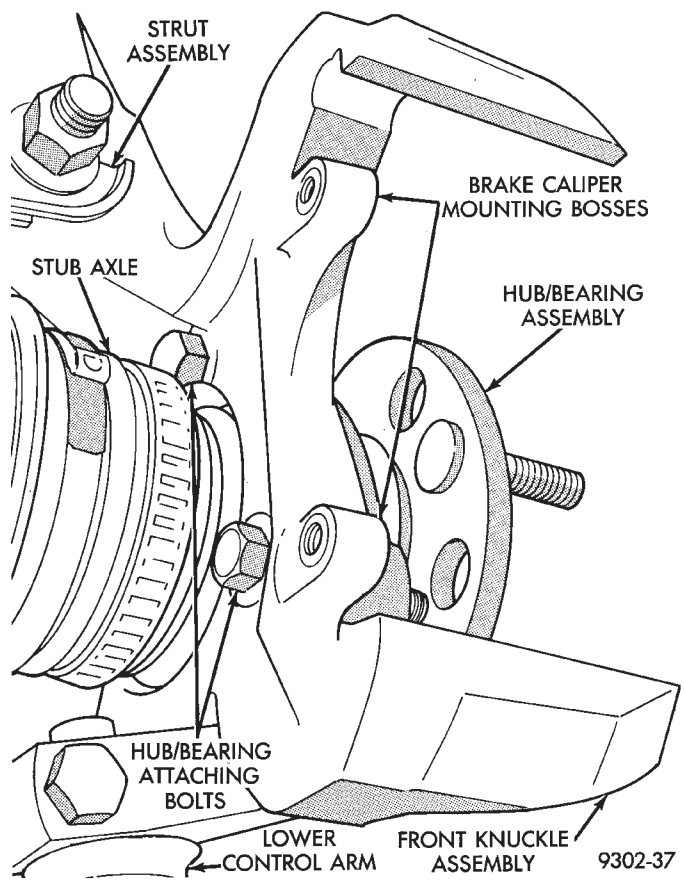


Fig. 1 Front Knuckle Assembly

REMOVE

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove the front wheel and tire assembly from the vehicle.

(3) Remove the front caliper assembly from the front steering knuckle assembly (Fig. 2). Refer to Front Disc Brake Service in the Brake Section of this service manual for caliper removal procedure.

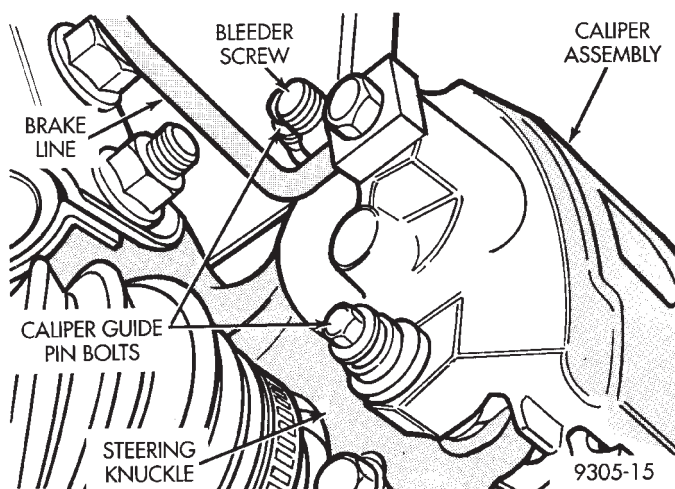


Fig. 2 Disc Brake Caliper Mounting

(4) Remove front braking disk (rotor) from hub, by pulling it straight off wheel mounting studs (Fig. 3).

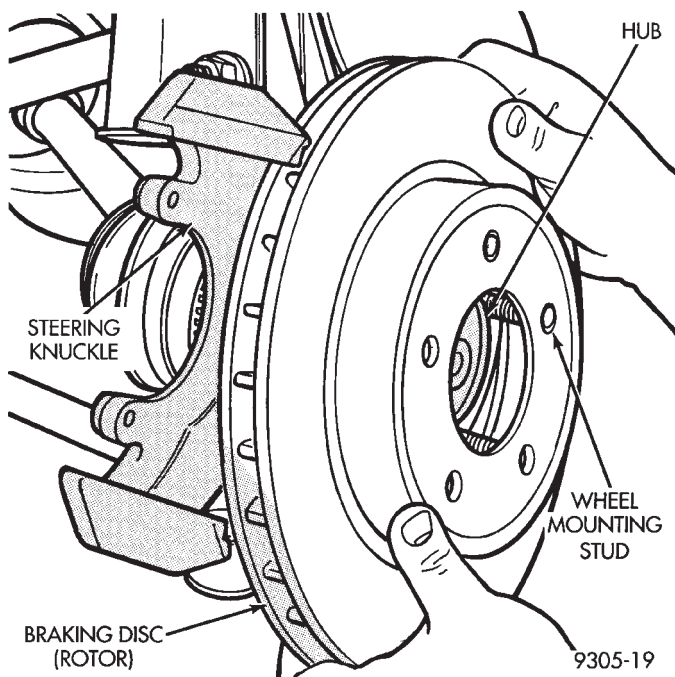


Fig. 3 Removing Braking Disc

(5) Remove screw attaching ABS speed sensor head to steering knuckle. **Speed sensor head should be removed from steering knuckle, to avoid damage to speed sensor by outer C/V joint when hub and bearing is removed.**

(6) Carefully, remove sensor head from steering knuckle. If the sensor has seized, due to corrosion, **DO NOT USE PLIERS ON SENSOR HEAD.** Use a hammer and punch (Fig. 4) to tap edge of sensor ear, rocking sensor side to side until free.

(7) Remove the hub and bearing to stub axle retaining nut (Fig. 5).

(8) Remove the 3 steering knuckle to hub and bearing assembly attaching bolts (Fig. 6).

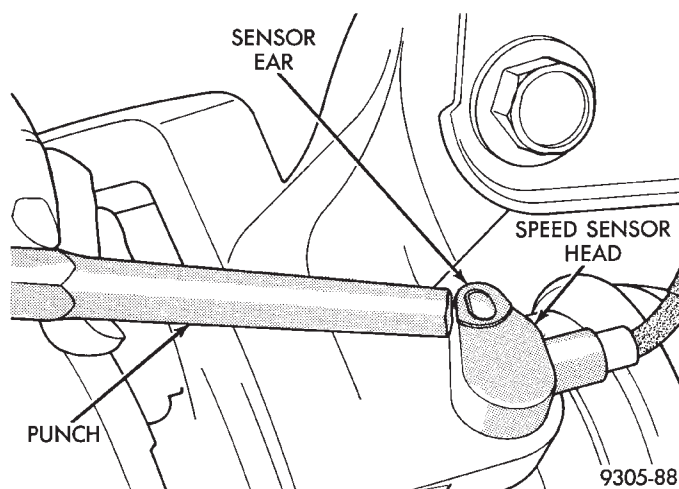


Fig. 4 Speed Sensor Head Removal (Typical)

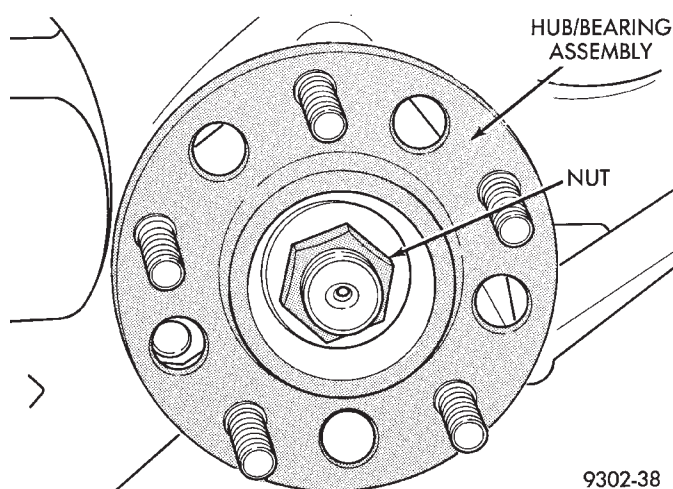


Fig. 5 Hub And Bearing To Stub Axle Retaining Nut

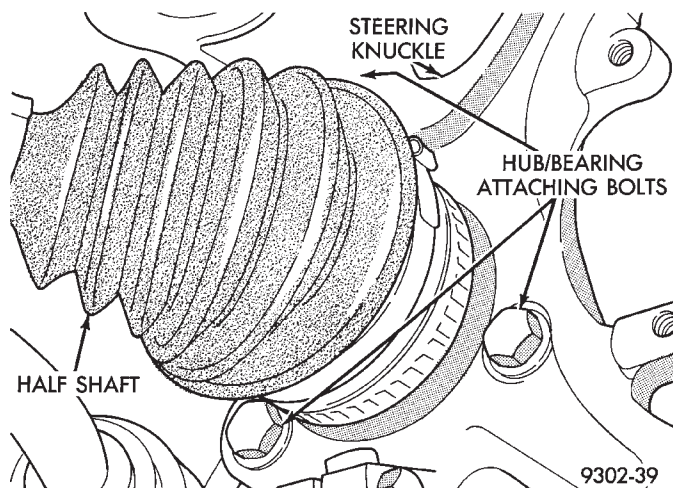


Fig. 6 Hub And Bearing Assembly Retaining Bolts



CAUTION: If metal seal (Fig. 7) on hub and bearing assembly is seized to steering knuckle and becomes dislodged on hub and bearing assembly during bearing removal. The hub and bearing assembly **MUST** not be re-used and **MUST** be replaced with a new hub and bearing assembly. Also if flinger disc (Fig. 7) becomes damaged (bent or dented) during removal, hub and bearing assembly must be replaced with a new hub and bearing assembly.

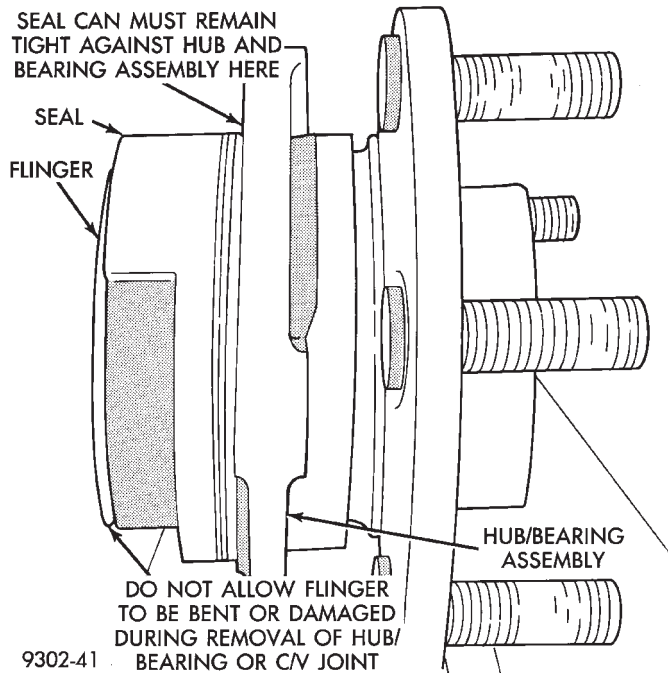


Fig. 7 Hub And Bearing Assembly Seal

(9) Remove hub and bearing assembly from steering knuckle. It is removed by sliding it straight out of steering knuckle and off end of stub axle (Fig. 8). If hub and bearing assembly will not slide out of knuckle. Insert a pry bar between hub and bearing assembly and steering knuckle (Fig. 9) and gently pry hub and bearing from knuckle. If stub shaft is frozen to hub and bearing assembly tap end of stub shaft with soft face hammer to free it from hub and bearing spline.

(10) Remove the ball joint stud to steering knuckle clamp nut and bolt (Fig. 10).

CAUTION: When lower control arm is separated from steering knuckle, do not let ball joint seal hit up against steering knuckle. If ball joint seal hits steering knuckle, seal damage may occur. If ball joint seal becomes torn, replace seal before assembling lower control arm to knuckle.

(11) Carefully insert a pry bar between lower control arm and steering knuckle (Fig. 11). Push down on pry bar to separate ball joint stud from steering knuckle (Fig. 11). **Note: Use caution when separating**

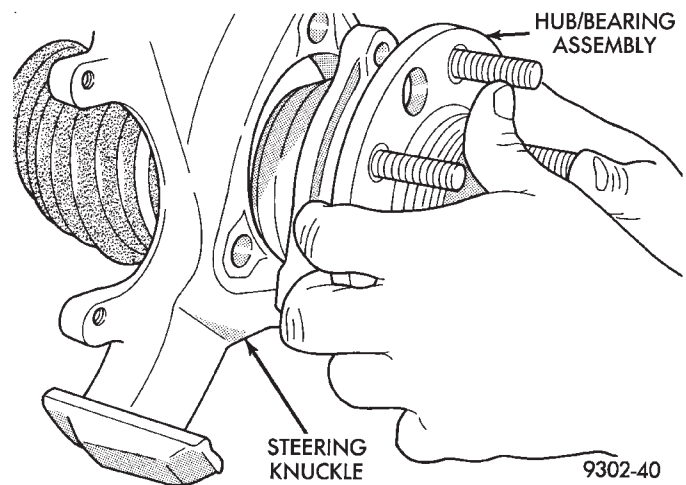


Fig. 8 Hub And Bearing Assembly Removal And Installation

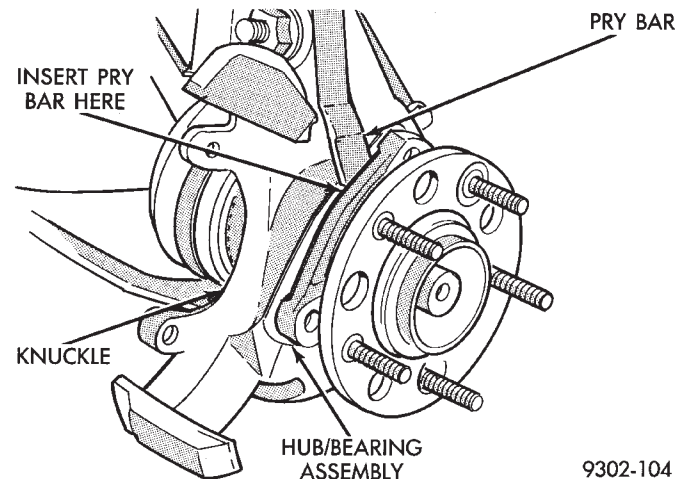


Fig. 9 Prying Hub And Bearing Assembly From Steering Knuckle

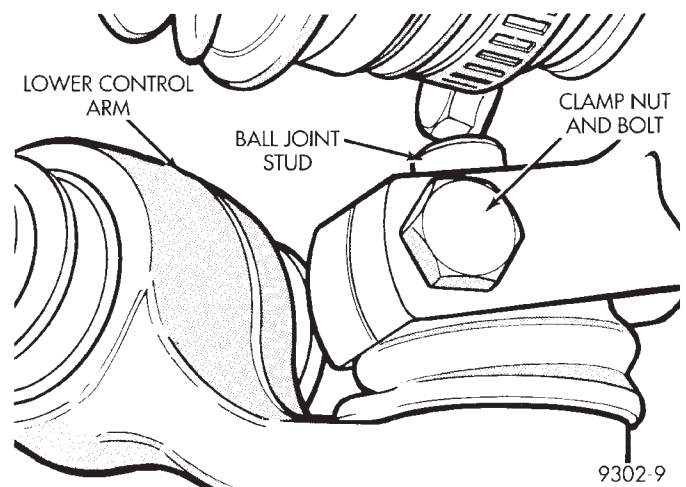


Fig. 10 Control Arm To Steering Knuckle Attachment

rating ball joint stud from steering knuckle so ball joint seal does not get cut.

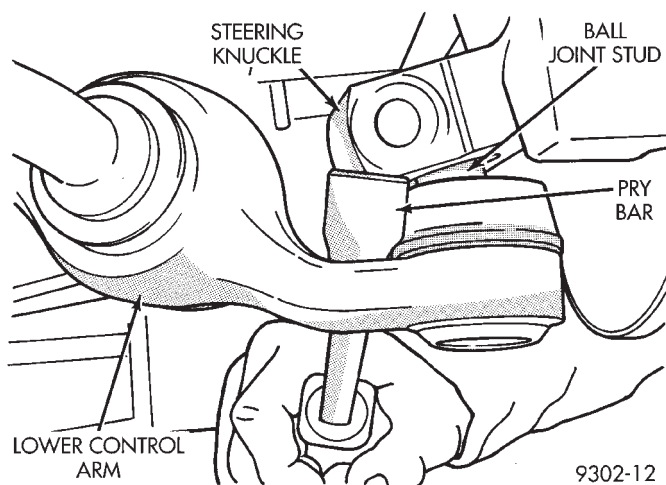


Fig. 11 Separating Ball Joint From Steering Knuckle

CAUTION: The strut assembly to steering knuckle bolts are serrated where they go through strut assembly and steering knuckle. When removing bolts, turn nuts off bolts **DO NOT TURN BOLTS IN STEERING KNUCKLE**. If bolts are turned damage to steering knuckle will result.

(12) Remove the strut assembly to steering knuckle attaching bolts (Fig. 12).

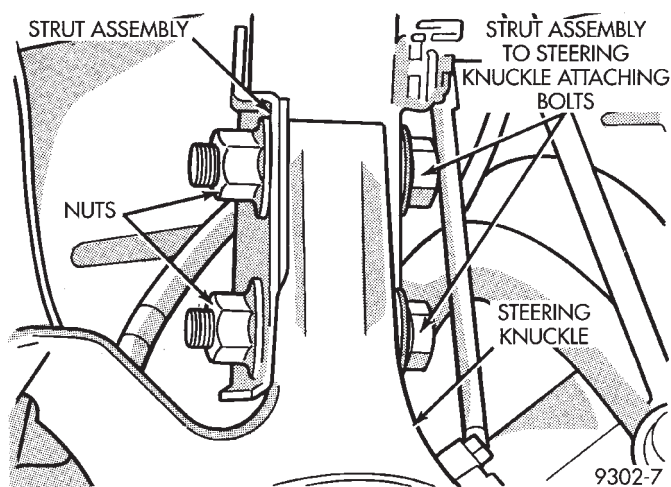


Fig. 12 Strut Assembly To Steering Knuckle Attaching Bolts

(13) Remove the steering knuckle from the vehicle.

INSTALL

(1) Install steering knuckle on ball joint stud. Install steering knuckle to lower ball joint stud, clamp bolt and nut into steering knuckle (Fig. 13). Torque clamp bolt to 55 N•m (40 ft. lbs.).

(2) Position steering knuckle neck into strut assembly.

CAUTION: The strut assembly to steering knuckle bolts are serrated where they go through strut assembly and steering knuckle. When installing bolts,

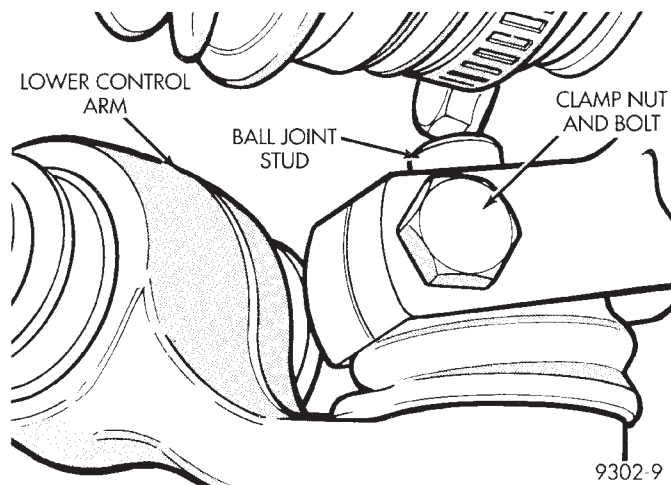


Fig. 13 Control Arm To Steering Knuckle Attachment

turn nuts onto bolts **DO NOT TURN BOLTS IN STEERING KNUCKLE**. If bolts are turned damage to steering knuckle will result.

(3) Install the strut assembly to steering knuckle attaching bolts (Fig. 12). Install nuts on attaching bolts (Fig. 12). Torque the strut assembly to steering knuckle attaching bolt nuts to 169 N•m (125 ft. lbs.). **TURN NUTS ON BOLTS DO NOT TURN BOLTS.**

CAUTION: Hub and bearing assembly mounting surfaces on steering knuckle (Fig. 14) must be smooth and completely free of foreign material or nicks.

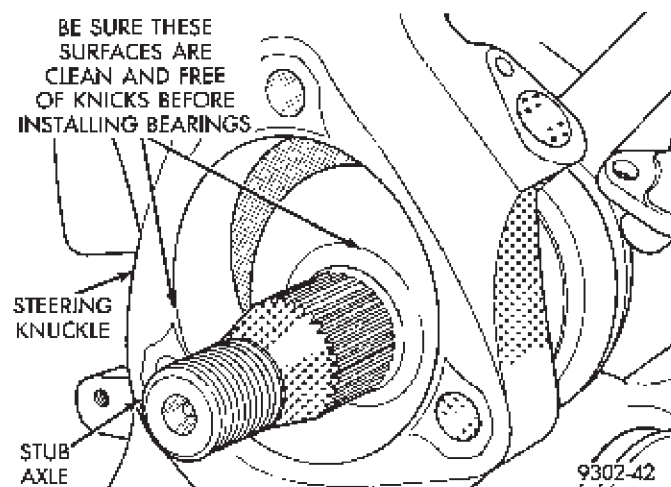


Fig. 14 Hub And Bearing Assembly Mounting Surfaces

CAUTION: When installing hub and bearing assembly into steering knuckle, be careful not to damage the flinger disc (Fig. 7) on hub and bearing assembly. If flinger disc becomes damaged, hub and bearing assembly **MUST** not be used and **MUST** be replaced with a new hub and bearing assembly.



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(4) Install hub and bearing assembly onto stub shaft and into steering knuckle until squarely seated on face of steering knuckle. (Fig. 8).

(5) Install the 3 steering knuckle to hub and bearing assembly attaching bolts (Fig. 15). Equally tighten all 3 mounting bolts until hub and bearing assembly is squarely seated against front of steering knuckle. Then torque all 3 hub and bearing assembly mounting bolts to 110 N•m (80 ft.lbs.)

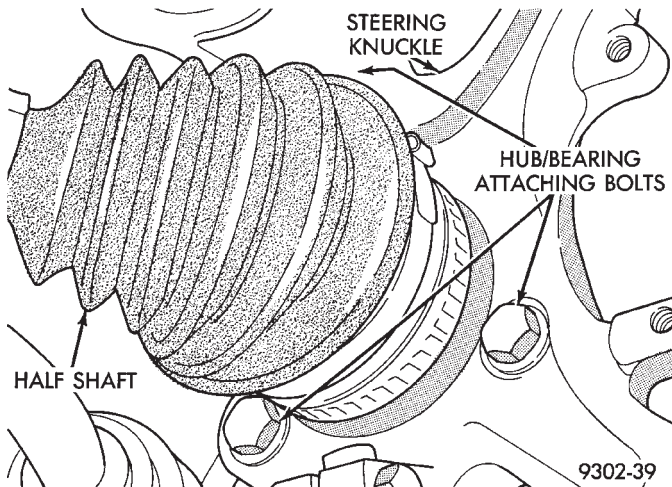


Fig. 15 Hub And Bearing Assembly Retaining Bolts

CAUTION: The hub and bearing assembly to stub shaft retaining nut (Fig. 16) is a prevailing torque nut and can not be re-used. A **NEW** retaining nut **MUST** be used when assembled.

(6) Install a **NEW** hub and bearing assembly to stub shaft retaining nut (Fig. 16). **Tighten, but do not torque the hub nut at this time.**

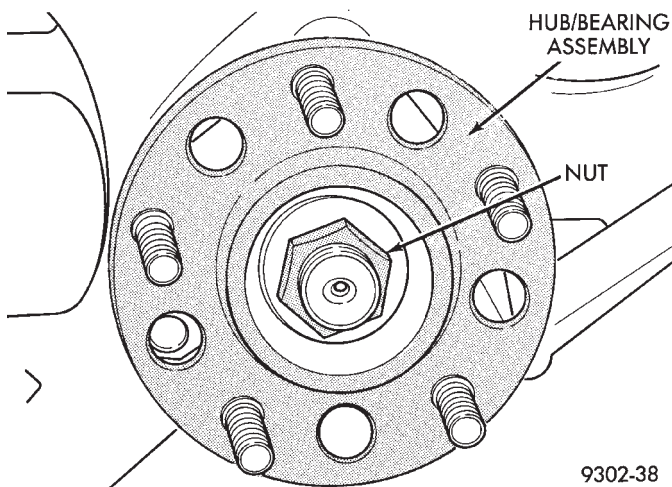


Fig. 16 Hub And Bearing To Stub Axle Retaining Nut

(7) Coat speed sensor head with High Temperature Multi-purpose E.P. Grease before installing into the

steering knuckle. Install speed sensor head into steering knuckle. Install screw tighten to 7 N•m (60 in. lbs.)

(8) Install the braking disk back on the hub and bearing assembly (Fig. 17).

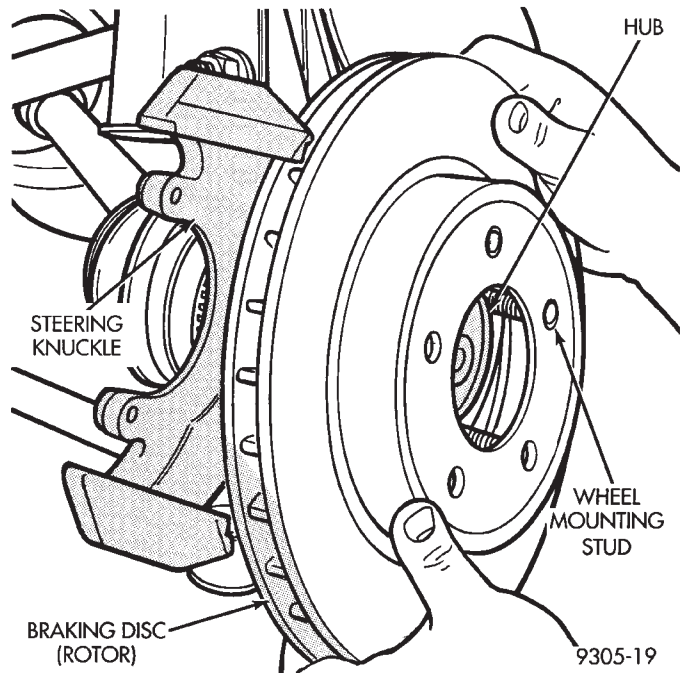


Fig. 17 Installing Braking Disc

(9) Install front brake caliper back over braking disc and align with caliper mounting holes on steering knuckle (Fig. 18). Refer to Front Disc Brake Service in the Brake Section of this service manual for caliper installation procedure. Install the caliper to steering knuckle attaching bolts and torque to 19 N•m (168 in. lbs.).

(10) Install wheel and tire assembly on vehicle. Tighten the wheel mounting stud nuts in proper sequence (Fig. 19) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

(11) Lower vehicle to the ground.

CAUTION: When torquing hub and bearing assembly to stub shaft retaining nut, do not exceed the maximum torque of **176 N•m (130 ft. lbs.)**. If the maximum torque is exceeded this may result in a failure of the drive shaft.

(12) With the vehicle brakes applied to keep vehicle from moving. Torque the **NEW** stub shaft to hub and bearing assembly retaining nut to **163 N•m ± 14 (120 ft. lbs. ± 10)** (Fig. 20).

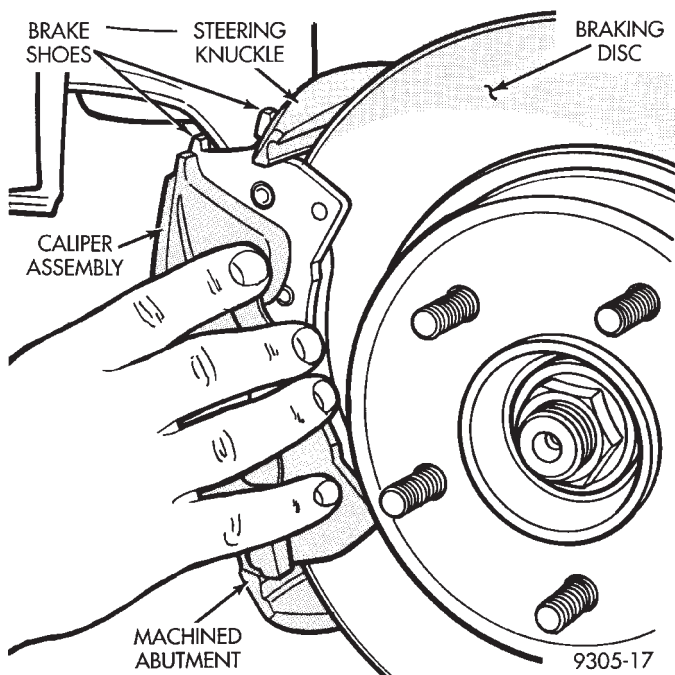


Fig. 18 Disc Brake Caliper Mounting

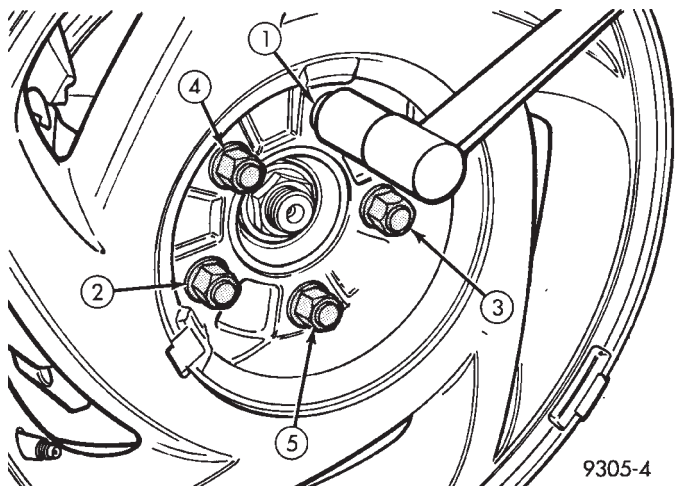


Fig. 19 Tightening Wheel Nuts

HUB AND BEARING ASSEMBLY

This unit is serviced only as a complete assembly. It is mounted to the steering knuckle by 3 mounting bolts that are removed from the rear of the steering knuckle.

REMOVAL

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove the front wheel and tire assembly from the vehicle.

(3) Remove the front caliper assembly from the front steering knuckle assembly (Fig. 1). Refer to

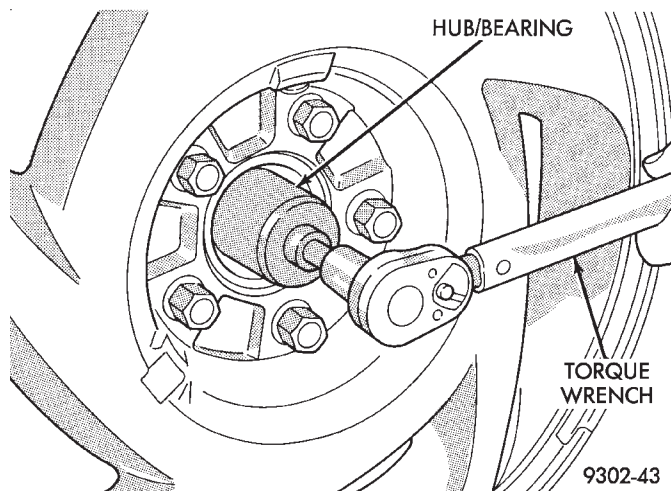


Fig. 20 Tighten Hub And Bearing Retaining Nut

Front Disc Brake Service in the Brake Section of this service manual for caliper removal procedure.

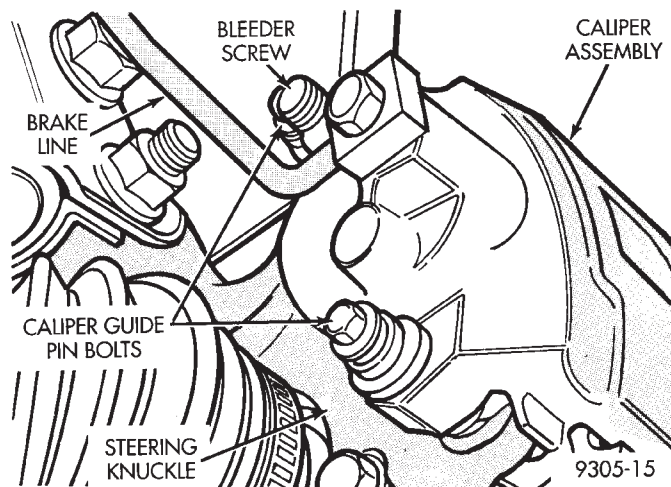


Fig. 1 Disc Brake Caliper Mounting

(4) Remove front braking disk (rotor) from hub, by pulling it straight off wheel mounting studs (Fig. 2).

(5) Remove the hub and bearing to stub axle retaining nut (Fig. 3).

(6) Remove the 3 steering knuckle to hub and bearing assembly attaching bolts (Fig. 4).

CAUTION: If metal seal (Fig. 5) on hub and bearing assembly is seized to steering knuckle and becomes dislodged on hub and bearing assembly during bearing removal. The hub and bearing assembly **MUST** not be reused and **MUST** be replaced with a new hub and bearing assembly.

CAUTION: When removing hub and bearing assembly from steering knuckle, be careful not to damage the flinger disc (Fig. 5) on hub and bearing assembly. If flinger disc becomes damaged, hub and bearing assembly **MUST** not be used and **MUST** be replaced with a new hub and bearing assembly.

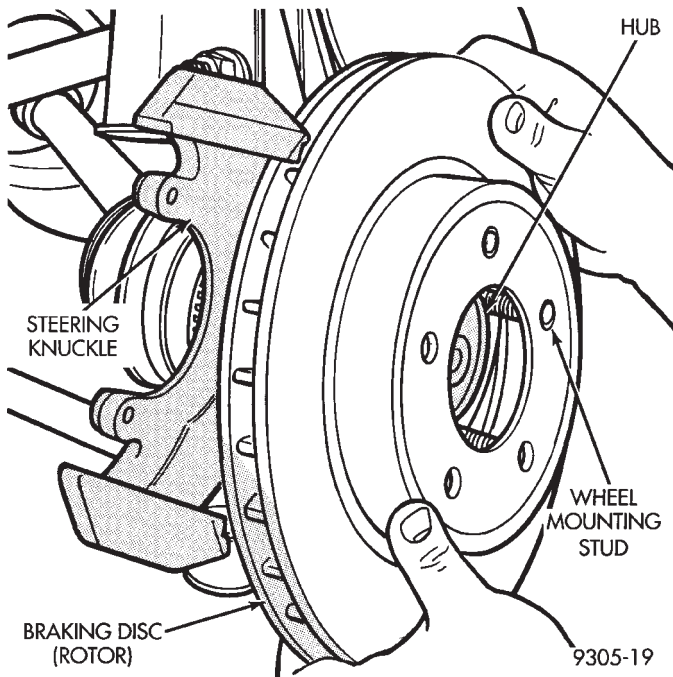


Fig. 2 Removing Braking Disc

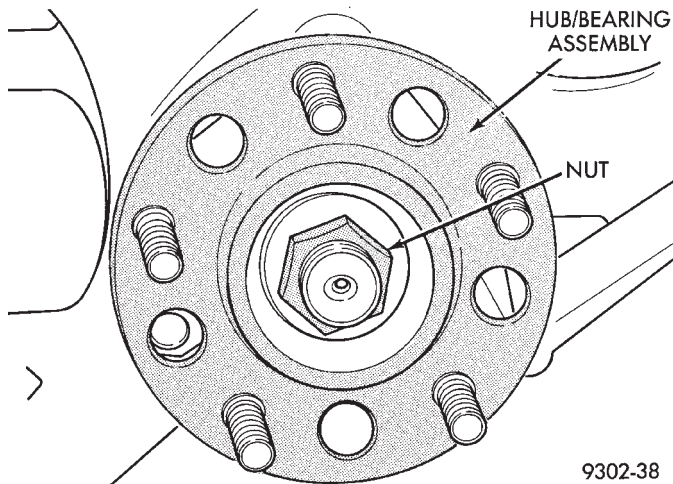


Fig. 3 Hub And Bearing To Stub Axle Retaining Nut

(7) Remove hub and bearing assembly from steering knuckle, by sliding it straight out of steering knuckle and off end of stub axle (Fig. 6). If hub and bearing assembly will not slide out of knuckle. Insert a pry bar between hub and bearing assembly and steering knuckle (Fig. 7) and gently pry hub and bearing from knuckle. If stub shaft is frozen to hub and bearing assembly tap end of stub shaft with soft face hammer to free it from hub and bearing spline.

INSTALLATION

CAUTION: Hub and bearing assembly mounting surfaces on steering knuckle (Fig. 8) must be smooth and completely free of foreign material or nicks.

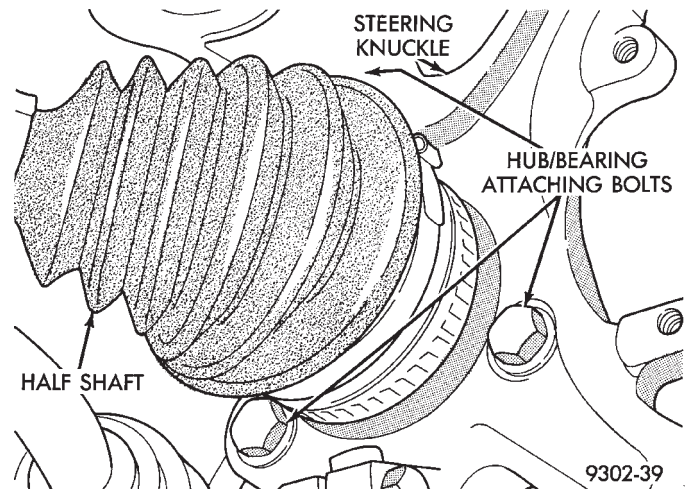


Fig. 4 Hub And Bearing Assembly Retaining Bolts

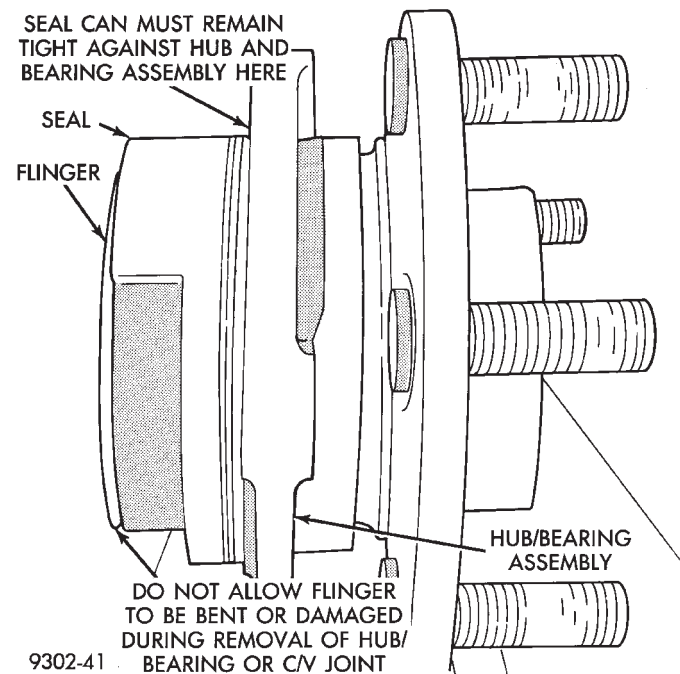


Fig. 5 Hub And Bearing Assembly Seal

CAUTION: When installing hub and bearing assembly into steering knuckle, be careful not to damage the flinger disc (Fig. 5) on hub and bearing assembly. If flinger disc becomes damaged, hub and bearing assembly **MUST** not be used and **MUST** be replaced with a new hub and bearing assembly.

(1) Install hub and bearing assembly onto stub shaft and into steering knuckle until squarely seated on face of steering knuckle. (Fig. 6).

(2) Install the 3 hub and bearing assembly to steering knuckle attaching bolts (Fig. 9). Equally tighten all 3 mounting bolts until hub and bearing assembly is squarely seated against front of steering knuckle. Then torque all 3 hub and bearing assembly mounting bolts to 110 N•m (80 ft.lbs.).

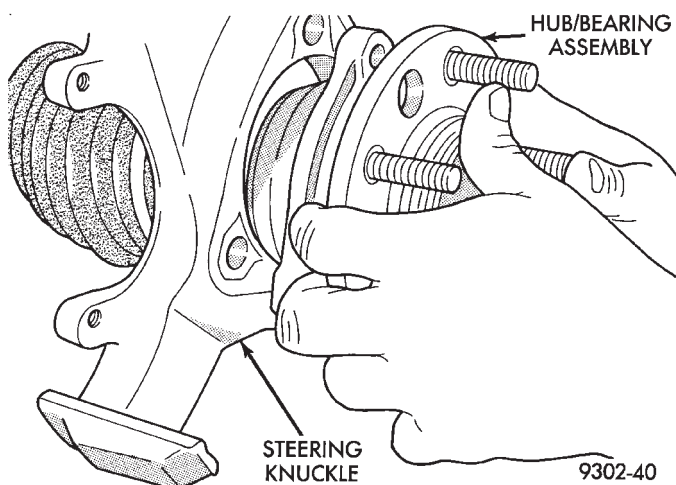


Fig. 6 Hub And Bearing Assembly Removal And Installation

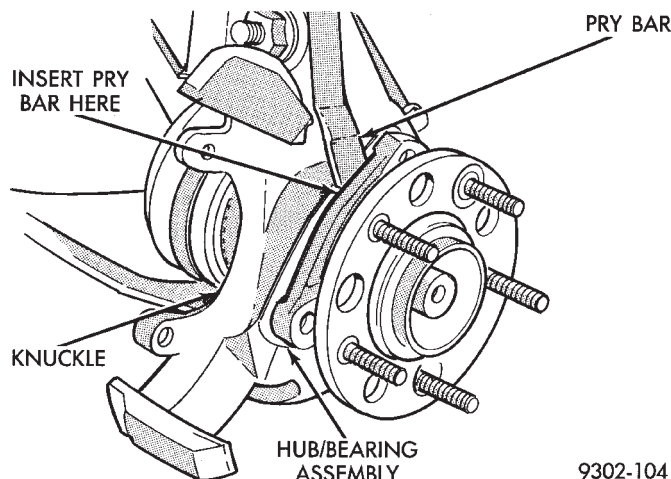


Fig. 7 Prying Hub And Bearing Assembly From Steering Knuckle

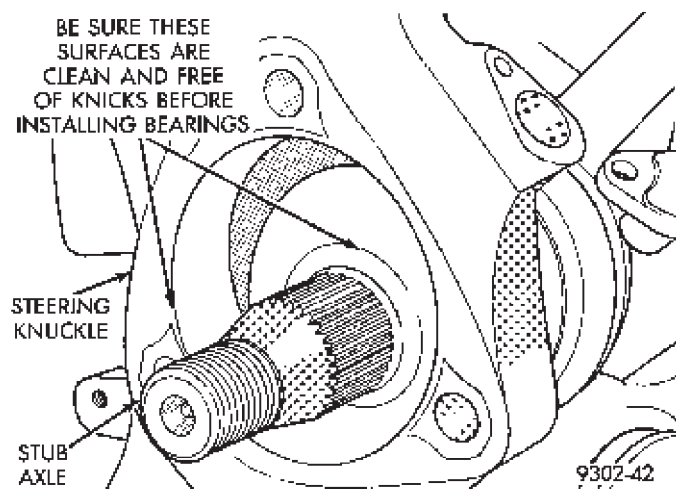


Fig. 8 Hub And Bearing Assembly Mounting Surfaces

CAUTION: The hub and bearing assembly to stub shaft retaining nut (Fig. 10) is a prevailing torque

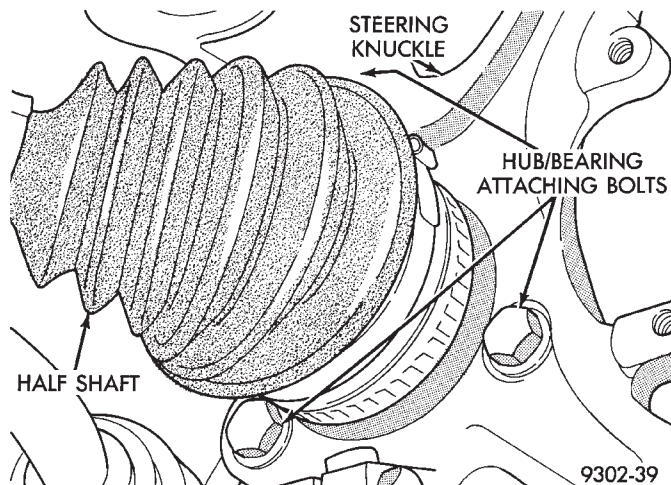


Fig. 9 Hub And Bearing Assembly Retaining Bolts

nut and can not be re-used. A **NEW** retaining nut **MUST** be used when assembled.

(3) Install a **NEW** hub and bearing assembly to stub shaft retaining nut (Fig. 10). **Tighten, but do not torque the hub nut at this time.**

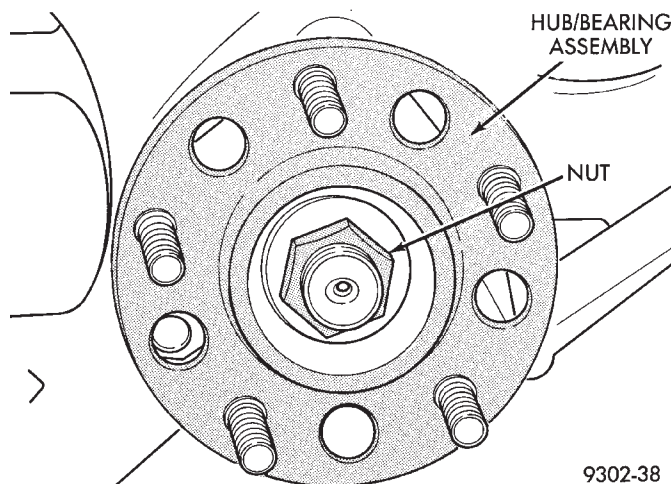


Fig. 10 Hub And Bearing To Stub Axle Retaining Nut

(4) Install the braking disk back on the hub and bearing assembly (Fig. 11).

(5) Install front brake caliper back over braking disc and align with caliper mounting holes on steering knuckle (Fig. 12). Refer to Front Disc Brake Service in the Brake Section of this service manual for caliper installation procedure. Install the caliper adapter to steering knuckle attaching bolts and torque to 19 N•m (168 in. lbs.).

(6) Install wheel and tire assembly on vehicle. Tighten the wheel mounting stud nuts in proper sequence (Fig. 13) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

(7) Lower vehicle to the ground.



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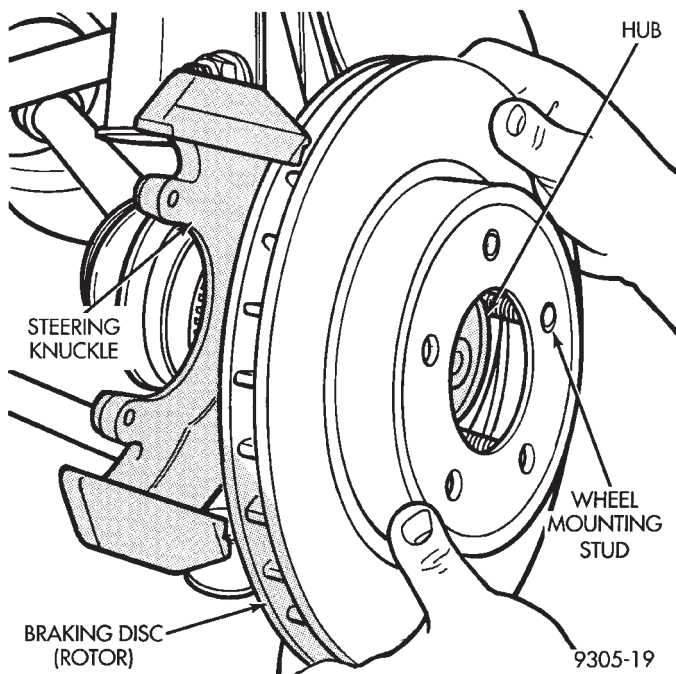


Fig. 11 Installing Braking Disc

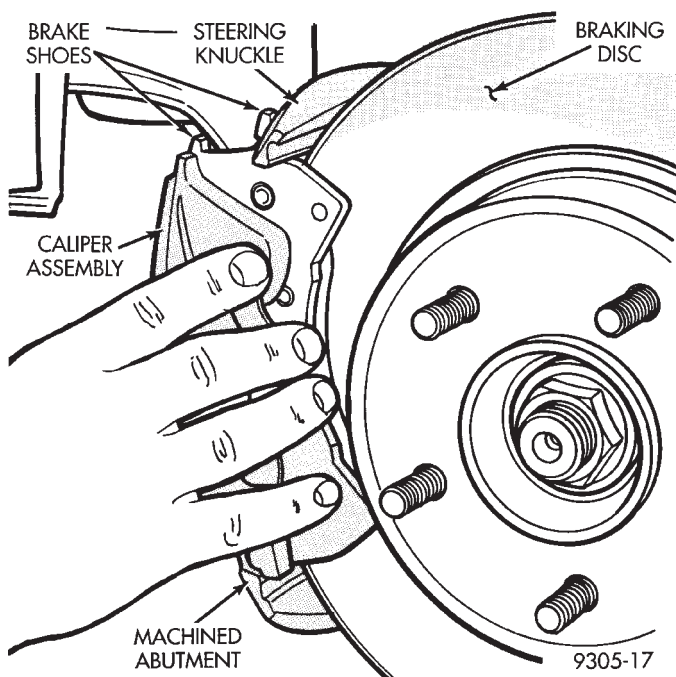


Fig. 12 Disc Brake Caliper Mounting

CAUTION: When torquing hub and bearing assembly to stub shaft retaining nut, do not exceed the maximum torque of **176 N•m (130 ft. lbs.)**. If the maximum torque is exceeded this may result in a failure of the drive shaft.

(8) With the vehicle brakes applied to keep vehicle from moving. Torque the **NEW** stub shaft to hub and bearing assembly retaining nut to **163 N•m + 14 (120 ft. lbs. + 10)** (Fig. 14).

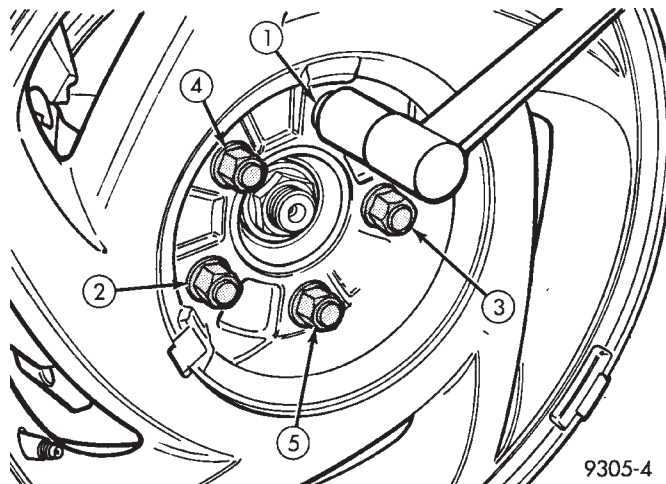


Fig. 13 Tightening Wheel Nuts

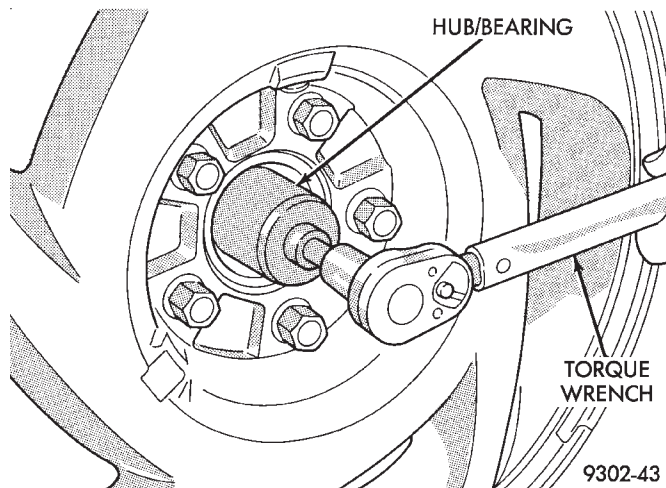


Fig. 14 Tighten Hub And Bearing Retaining Nut

(9) Check the Toe setting on the vehicle and reset if not within specifications.

SERVICING WHEEL STUDS

The L.H. platform vehicles use a one piece, lubricated for life hub and bearing assembly.

CAUTION: If wheel attaching stud needs to be replaced in the hub and bearing assembly the studs **CAN NOT** be hammered out of the hub flange. If a stud is removed by hammering it out of the bearing flange, damage to the hub and bearing assembly will occur leading to premature bearing failure.

The following procedure and special tools shown **MUST** be used when replacing wheel attaching studs.

The hub and bearing assembly does not require removal from the steering knuckle to replace wheel attaching studs in the hub and bearing assembly.



REMOVE

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove the front wheel and tire assembly from the vehicle.

(3) Remove the front caliper assembly from the front steering knuckle assembly (Fig. 1). Refer to Front Disc Brake Service in the Brake Section of this service manual for caliper removal procedure.

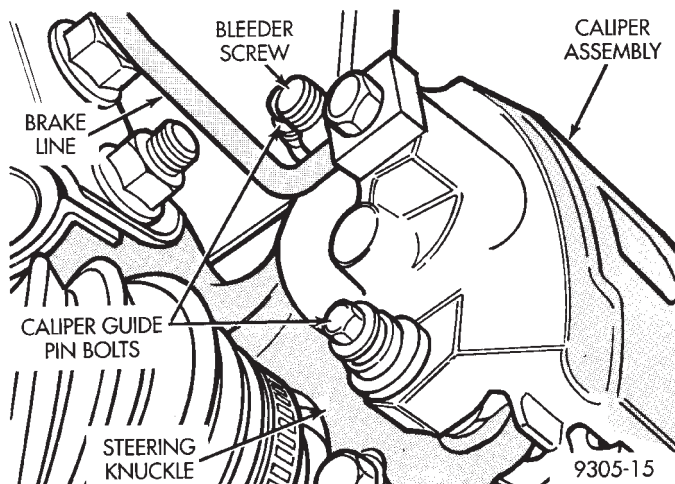


Fig. 1 Disc Brake Caliper Mounting

(4) Remove front braking disk (rotor) from hub, by pulling it straight off wheel mounting studs (Fig. 2).

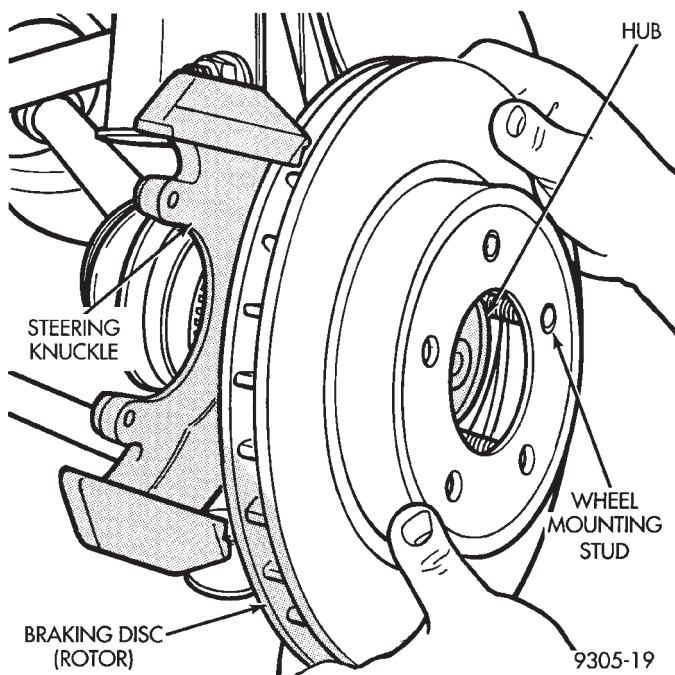


Fig. 2 Removing Braking Disc

(5) Install a lug nut on the wheel stud to be removed from the hub and bearing assembly (Fig. 3) so the

threads on stud are even with end of lug nut. Install Remover, Special Tool C-4150 on hub and bearing assembly flange and wheel stud (Fig. 3).

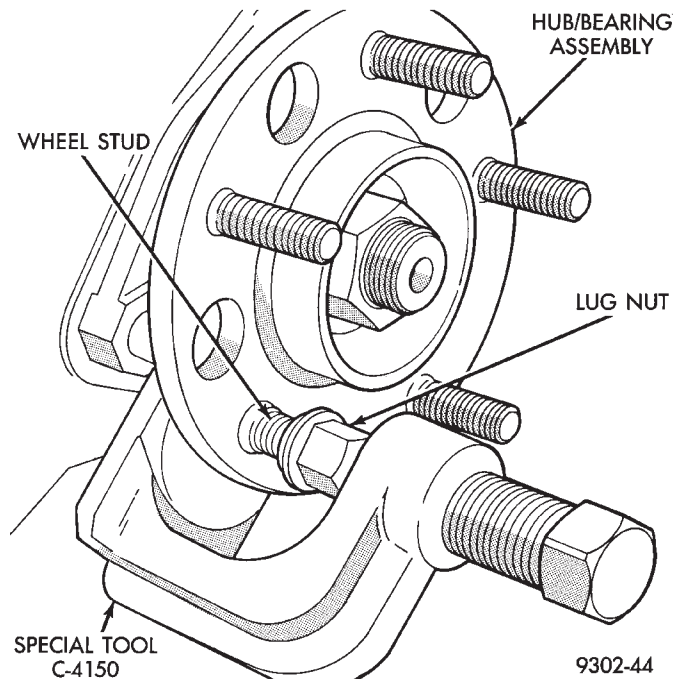


Fig. 3 Removing Wheel Stud From Hub And Bearing

(6) Tighten down on special tool, pushing wheel stud out of the hub and bearing assembly flange. When shoulder of wheel stud is past flange remove special tool from hub and bearing assembly. Remove lug nut from stud and remove wheel stud from flange.

INSTALL

(1) Install replacement wheel stud into flange of hub and bearing assembly. Install washers on wheel stud, then install a wheel lug nut on stud with flat side of lug nut against washers (Fig. 4).

(2) Tighten the wheel lug nut, pulling the wheel stud into the flange of the hub and bearing assembly. When the head of the stud is fully seated against the bearing flange, remove lug nut and washers from wheel stud.

(3) Install the braking disk back on the hub and bearing assembly (Fig. 5).

(4) Install front brake caliper back over braking disc and align with caliper mounting holes on steering knuckle (Fig. 6). Refer to Front Disc Brake Service in the Brake Section of this service manual for caliper installation procedure. Install the caliper adapter to steering knuckle attaching bolts and torque to 19 N•m (168 in. lbs.).

(5) Install wheel and tire assembly on vehicle. Tighten the wheel mounting stud nuts in proper sequence (Fig. 7) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

(6) Lower vehicle to the ground.

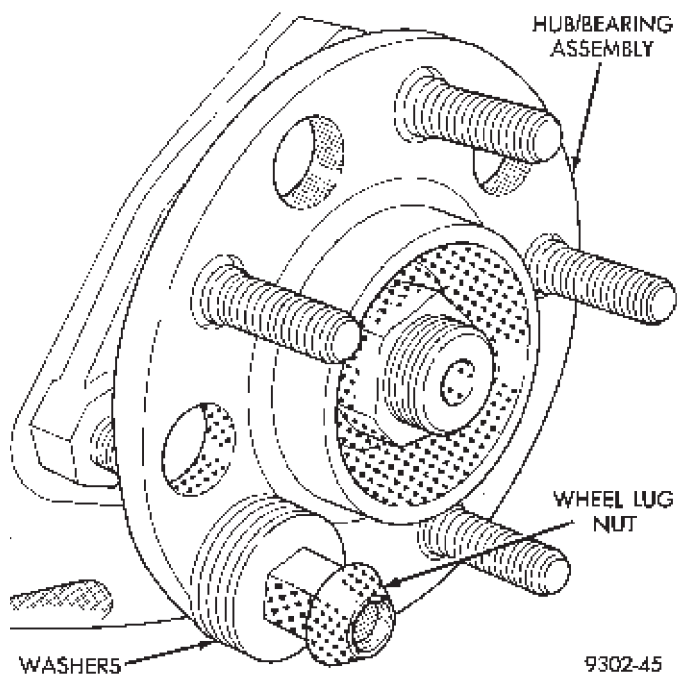


Fig. 4 Installing Wheel Stud Into Hub And Bearing

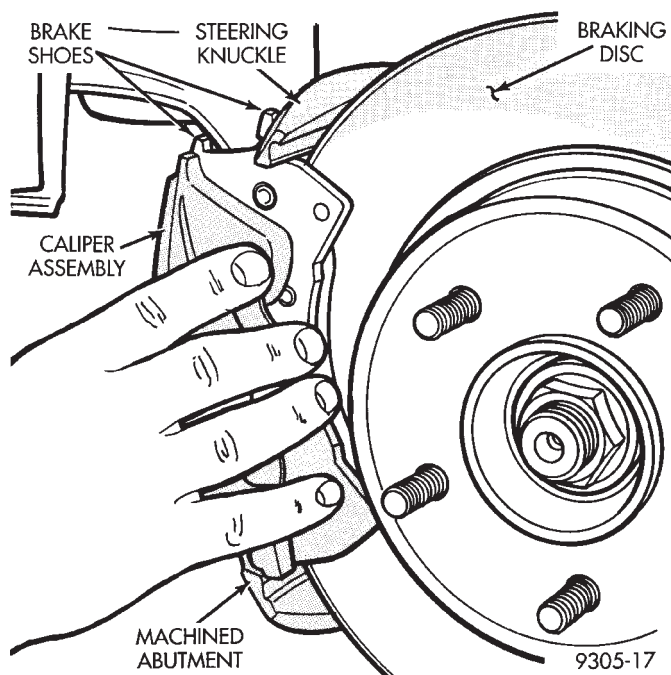


Fig. 6 Disc Brake Caliper Mounting

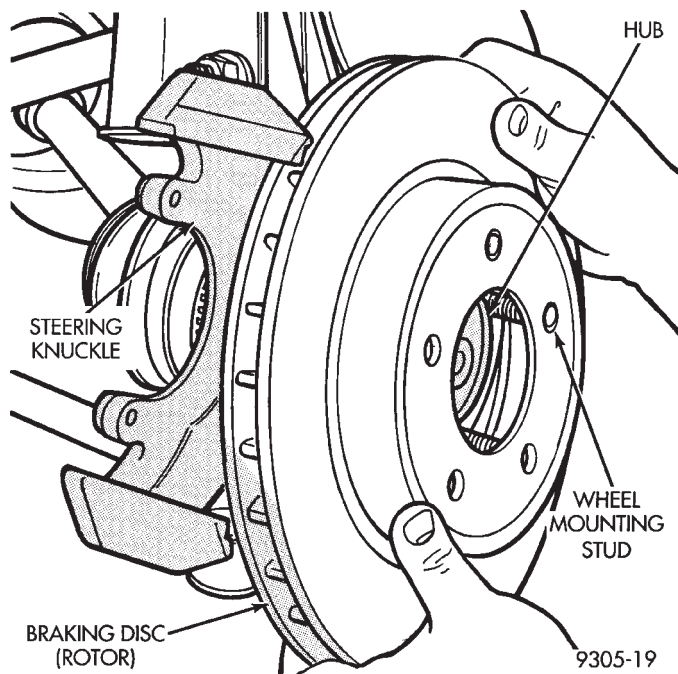


Fig. 5 Installing Braking Disc

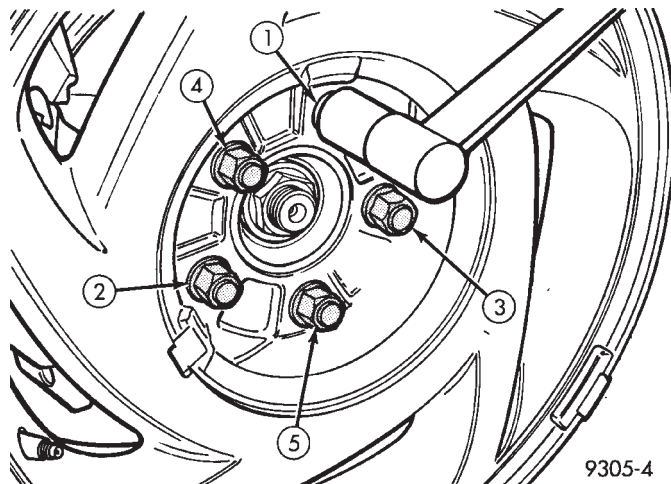


Fig. 7 Tightening Wheel Nuts



DRIVESHAFTS

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Inner Tripod Joint Seal Boot	46	Servicing Driveshafts	42

GENERAL INFORMATION

All L.H. platform vehicles are equipped with an unequal length drive shaft system (Fig. 1). The left side of the vehicle is equipped with a longer drive shaft than the right side of the vehicle. The L.H. platform uses solid interconnecting shafts on both sides of the vehicle.

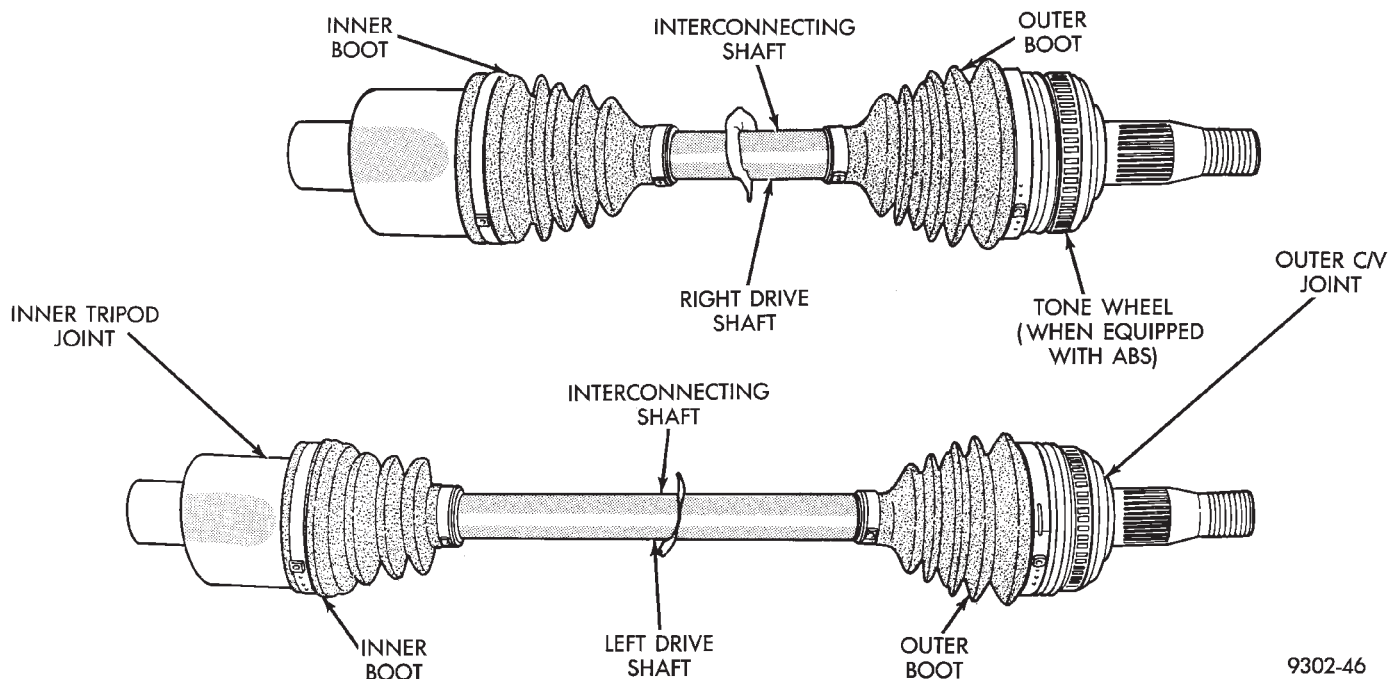
The driveshaft assemblies are three piece units. Each driveshaft has a Tripod Joint, an Interconnecting Shaft and a outer C/V joint. The Tripod Joint is splined onto the transaxle stub shaft, and the outer

C/V joint has a stub shaft that is splined into the front wheel hub and bearing assembly.

The inner tripod joint boots, on the L.H. platform vehicle are of different materials. The left inner boot is made of high temperature application silicone, and the right inner boot is made of hytrel plastic. When drive shaft boots are replaced be sure boots of the correct material are used on the correct side of the vehicle.

The driveshafts used on the L.H. platform vehicles are supplied by

Saginaw Division for all available drivelines.

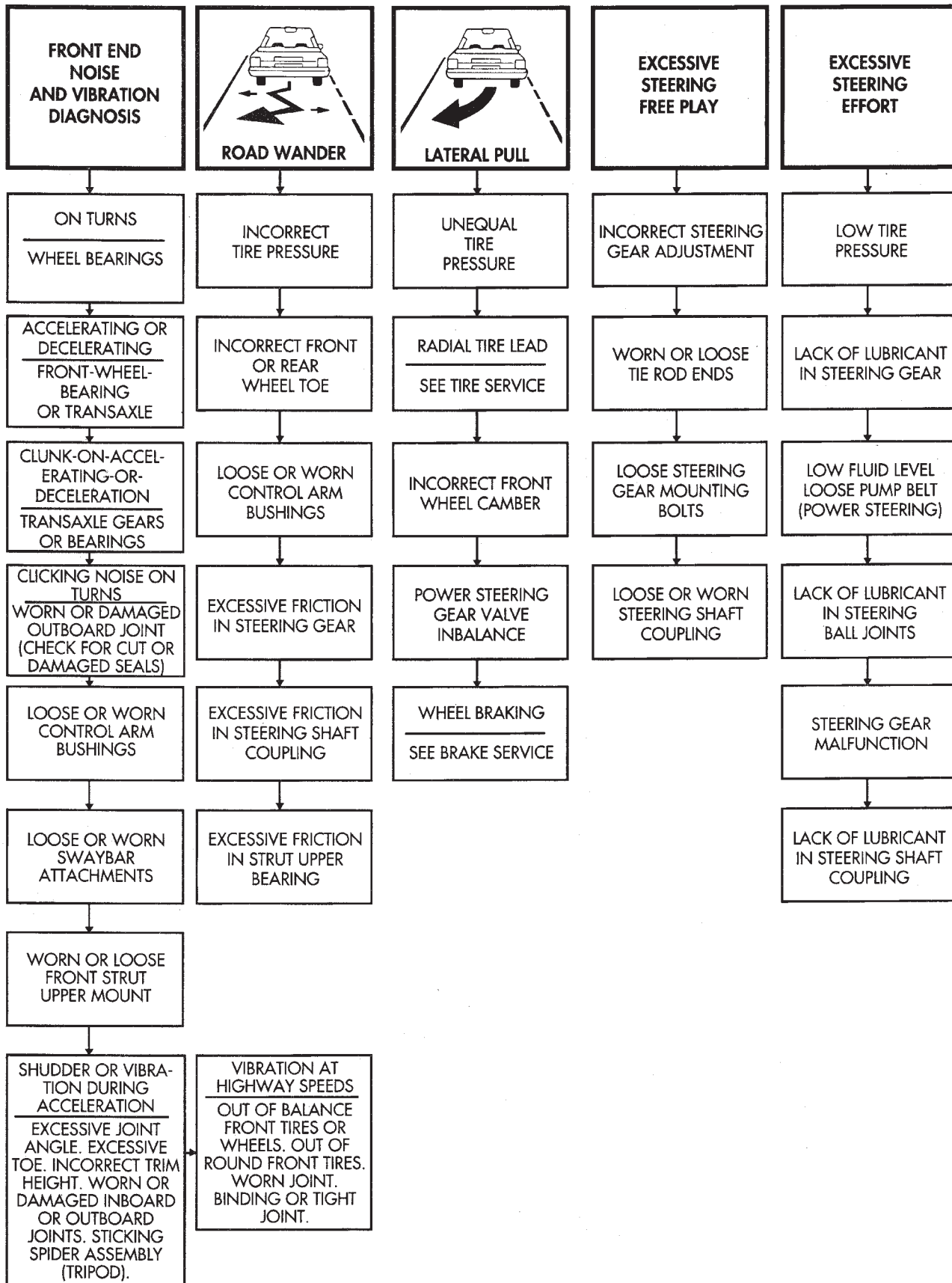


9302-46

Fig. 1 L.H. Platform Driveshafts (Halfshafts)



SUSPENSION/STEERING/DIAGNOSIS FRONT WHEEL DRIVE





SERVICE PROCEDURES

Procedures for removal and installation of drive shafts on the L.H. platform vehicles are different and somewhat easier, then those on other front wheel drive vehicles. This new drive shaft design, allows both drive shafts to be removed from the vehicle without dismantling the transaxle.

CAUTION: Boot sealing is vital to retain special lubricants and to prevent foreign contaminants from entering the C/V joint. Mishandling, such as allowing the assemblies to dangle unsupported, pulling or pushing the ends can cut boots or damage C/V joints. The L.H. platform driveshafts use no retention system to retain the tripod joint in the tripod housing. During removal and installation procedures always support both ends of the driveshaft to prevent damage or disengaging tripod joint. There is no retention mechanism holding the spider joint into the tripod housing. Therefore, do not pull on the interconnecting shaft when attempting to remove drive shafts from vehicle.

SERVICING DRIVESHAFTS

REMOVE

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove the front wheel and tire assembly from the vehicle.

(3) Remove the front caliper assembly from the front steering knuckle assembly (Fig. 1). Refer to Front Disc Brake Service in the Brake Section of this service manual for caliper removal procedure.

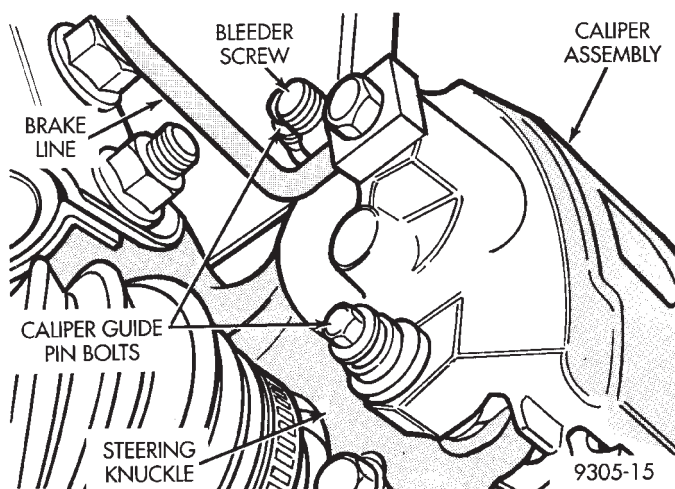


Fig. 1 Disc Brake Caliper Mounting

(4) Remove front braking disk (rotor) from hub, by pulling it straight off wheel mounting studs (Fig. 2).

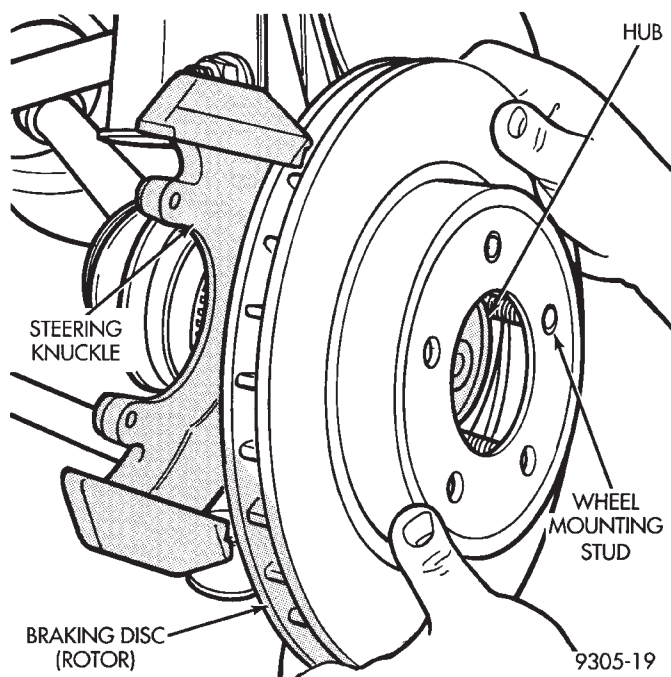


Fig. 2 Removing Braking Disc

(5) Remove the speed sensor cable routing bracket from the strut assembly (Fig. 3).

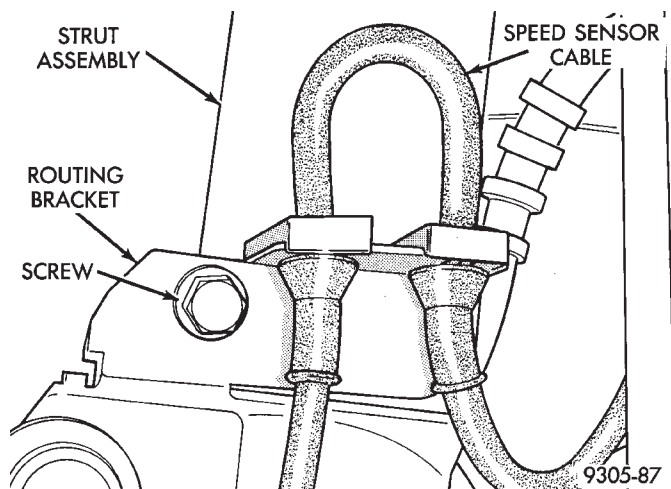


Fig. 3 Speed Sensor Cable Routing Bracket

(6) Remove the hub and bearing to stub axle retaining nut (Fig. 4).

(7) Dislodge inner tripod joint from stub shaft retaining snap ring on transaxle assembly (Fig. 5). Inner tripod joint is dislodged from stub shaft retaining snap ring, by inserting a pry bar between transaxle case and inner tripod joint and prying on tripod joint. **Only disengage the inner tripod joint from the retaining snap ring. Do not attempt to remove the inner tripod joint from the transmission stub shaft at this time.**

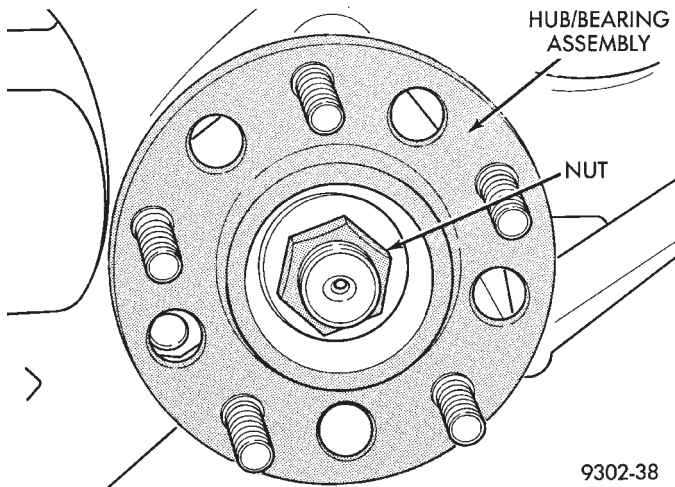


Fig. 4 Hub And Bearing To Stub Axle Retaining Nut

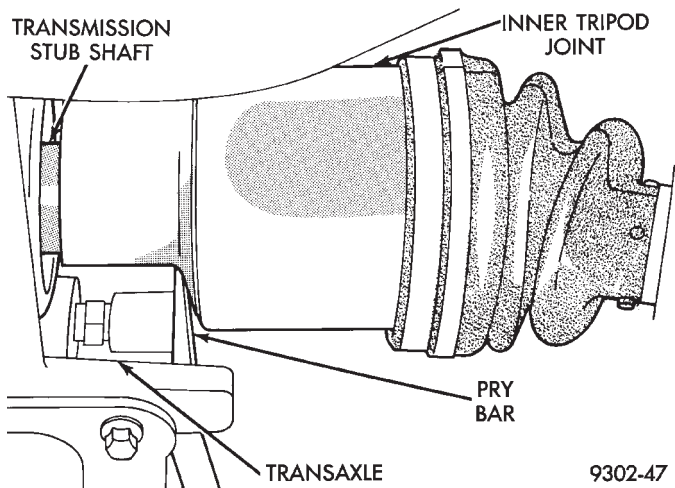


Fig. 5 Inner Tripod Joint Removal From Stub Shaft

CAUTION: The strut assembly to steering knuckle bolts are serrated where they go through strut assembly and steering knuckle. When removing bolts, turn nuts off bolts **DO NOT TURN BOLTS IN STEERING KNUCKLE**. If bolts are turned damage to steering knuckle will result.

(8) Remove the strut assembly to steering knuckle attaching bolts (Fig. 6).

(9) Remove the top of the steering knuckle from the strut assembly.

CAUTION: When removing outer C/V joint from hub and bearing assembly, do not allow the flinger disk (Fig. 7) on hub and bearing assembly to become damaged. Damage to the flinger disk will cause dirt and water intrusion into bearing and premature bearing failure.

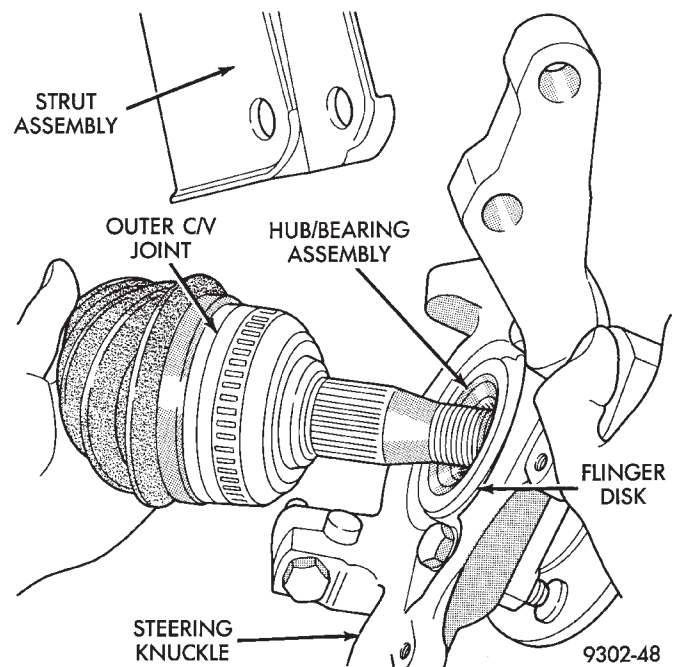


Fig. 7 Outer C/V Joint Removal From Hub and Bearing

(10) Hold outer C/V joint assembly with one hand. Grasp steering knuckle with other and rotate it out and to the rear of the vehicle, until outer C/V joint clears hub and bearing assembly (Fig. 7).

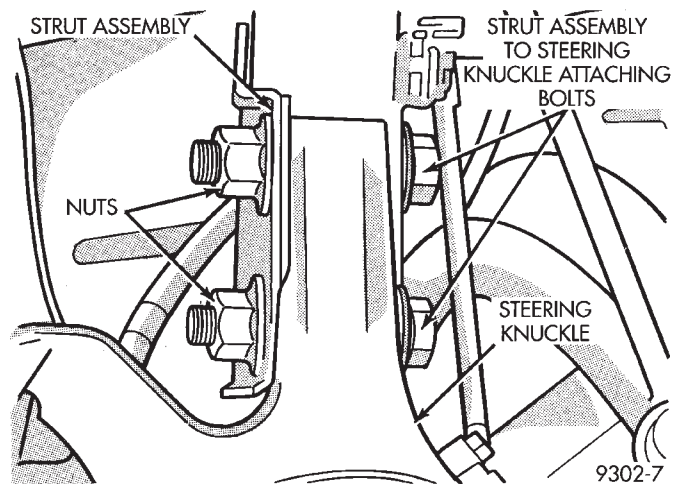


Fig. 6 Strut Assembly To Steering Knuckle Attaching Bolts

(11) Remove drive shaft inner tripod joint from transaxle stub shaft. **When removing drive shaft, do not pull on interconnecting shaft to remove inner tripod joint from stub shaft. Removal in this manner will separate the spider assembly from the tripod joint housing. Grasp inner tripod joint (Fig. 8) and interconnecting shaft and pull on both pieces at the same time.**

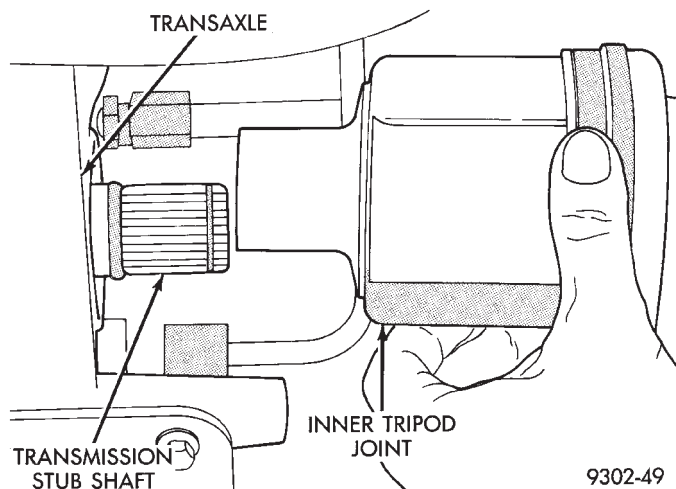


Fig. 8 Inner Tripod Joint Removal From Stub Shaft
INSTALL

CAUTION: The inboard tripod joint retaining circlip and O-Ring seal (Fig. 9) on the transaxle stub shaft are not re-usable. Whenever the inboard tripod joint is removed from the stub shaft, the retaining circlip and O-Ring seal **MUST BE REPLACED**. The retaining circlip and O-Ring seal is included in all service kits requiring removal of the inboard tripod joint from the stub shaft.

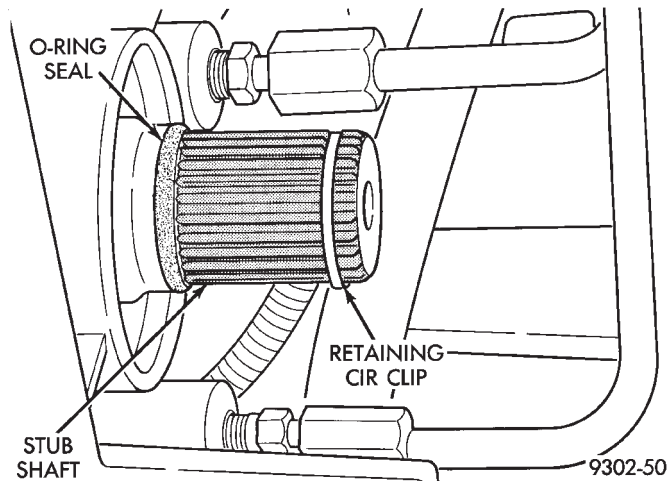


Fig. 9 Tripod Joint Retaining Circlip And O-Ring Seal

(1) Replace O-Ring seal and tripod joint retaining circlip (Fig. 9) on the transaxle stub shaft.

(2) Evenly apply a bead of grease, such as Mopar Multi-Purpose Lubricant or an equivalent, around spline of inner tripod joint (Fig. 10), where the O-Ring seats against tripod joint. This will spread grease onto stub shaft during tripod joint installation preventing corrosion and help to seal the O-ring.

(3) Install drive shaft through hole in splash shield. Grasp inner tripod joint in one hand and interconnecting shaft in the other. Align inner tripod

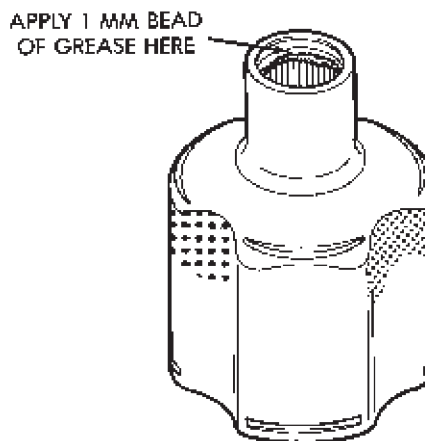


Fig. 10 Grease Applied To Inner Tripod Joint Spline
joint spline with stub shaft spline on transaxle (Fig. 11). Use a rocking motion with the inner tripod joint, to get it past the circlip on the transaxle stub shaft.

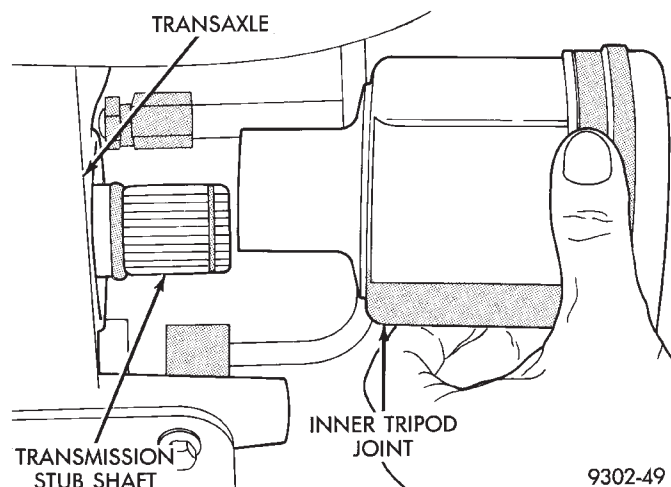


Fig. 11 Inner Tripod Joint Installation On Stub Shaft

(4) Continue pushing tripod joint onto transaxle stub shaft until it stops moving. The O-Ring seal on the stub should not be visible when inner tripod joint is fully installed on stub shaft. **To check that inner tripod joint retaining circlip is locked into tripod joint. Grasp inner tripod joint and pull on it by hand. If circlip is locked into tripod joint, tripod joint will not move on stub shaft.**

CAUTION: When installing outer C/V joint into the hub and bearing assembly, do not allow the flinger disk (Fig. 12) on hub and bearing assembly to become damaged. Damage to the flinger disk can cause dirt and water intrusion into bearing and premature bearing failure.

(5) Hold outer C/V joint assembly with one hand. Grasp steering knuckle with other hand and rotate it out and to the rear of the vehicle. Install outer C/V joint into the hub and bearing assembly (Fig. 12).

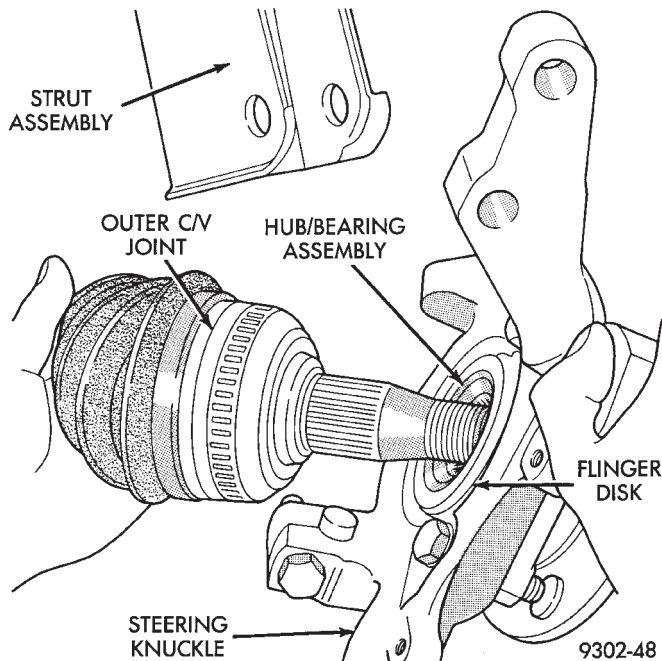


Fig. 12 Outer C/V Joint Installation Into Hub and Bearing

(6) Install the top of the steering knuckle into the strut assembly. Align the steering knuckle to strut assembly mounting holes.

CAUTION: The strut assembly to steering knuckle bolts are serrated were they go through strut assembly and steering knuckle. When installing bolts, turn nuts onto bolts **DO NOT TURN BOLTS IN STEERING KNUCKLE**. If bolts are turned damage to steering knuckle will result.

(7) Install the strut assembly to steering knuckle attaching bolts (Fig. 13). Install nuts on attaching bolts (Fig. 13). Torque the strut assembly to steering knuckle attaching bolt nuts to 169 N•m (125 ft. lbs.). **TURN NUTS ON BOLTS DO NOT TURN BOLTS.**

CAUTION: The hub and bearing assembly to stub shaft retaining nut (Fig. 14) is a prevailing torque nut and can not be re-used. A **NEW** retaining nut **MUST** be used when assembled.

(8) Install a **NEW** hub and bearing assembly to stub shaft retaining nut (Fig. 14). **Tighten but do not torque the hub nut at this time.**

(9) Install speed sensor cable routing bracket on strut assembly. Then install and securely tighten routing bracket attaching screw (Fig. 3).

(10) Install the braking disk back on the hub and bearing assembly (Fig. 15).

(11) Install front brake caliper back over braking disc and align with caliper mounting holes on steering knuckle (Fig. 16). Refer to Front Disc Brake Service in

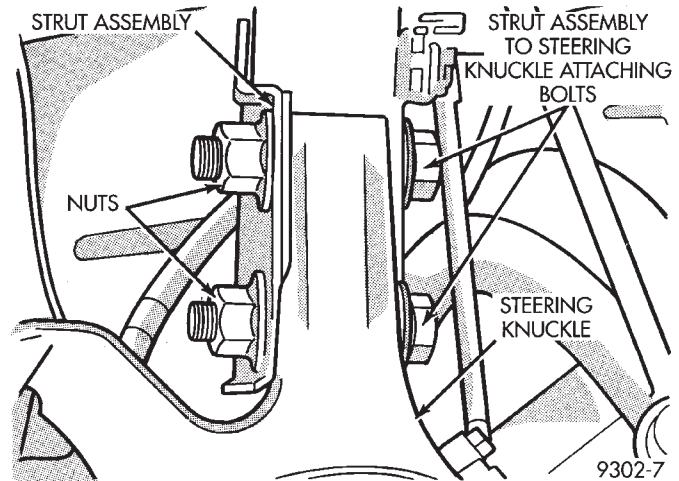


Fig. 13 Strut Assembly To Steering Knuckle Attaching Bolts

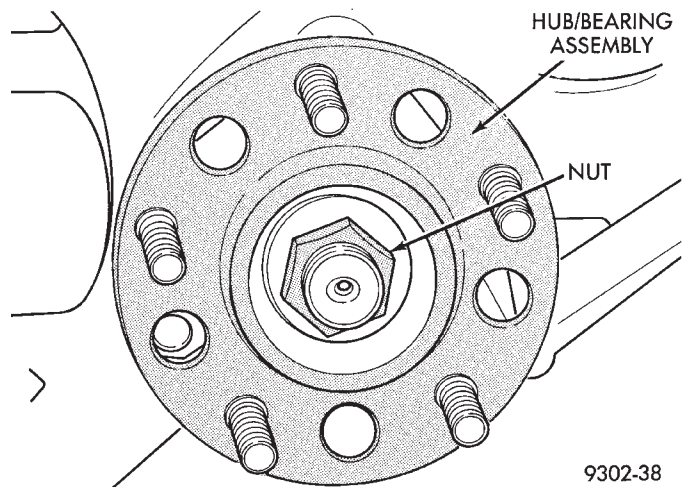


Fig. 14 Hub And Bearing To Stub Axle Retaining Nut

the Brake Section of this service manual for caliper installation procedure. Install the caliper to steering knuckle attaching bolts and torque to 19 N•m (168 in. lbs.).

(12) Install wheel and tire assembly on vehicle. Tighten the wheel mounting stud nuts in proper sequence (Fig. 17) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

(13) Lower vehicle to the ground.

CAUTION: When torquing hub and bearing assembly to stub shaft retaining nut, do not exceed the maximum torque of **176 N•m (130 ft. lbs.)**. If the maximum torque is exceeded this may result in a failure of the drive shaft.



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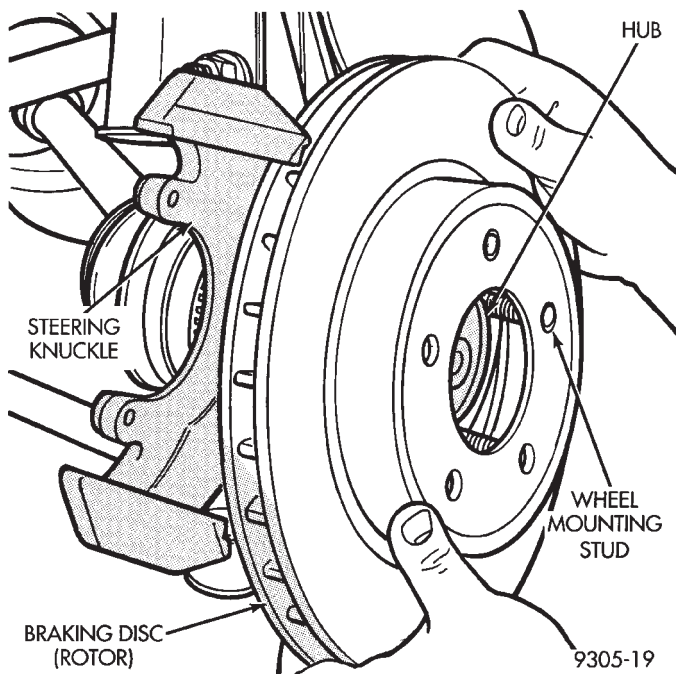


Fig. 15 Installing Braking Disc

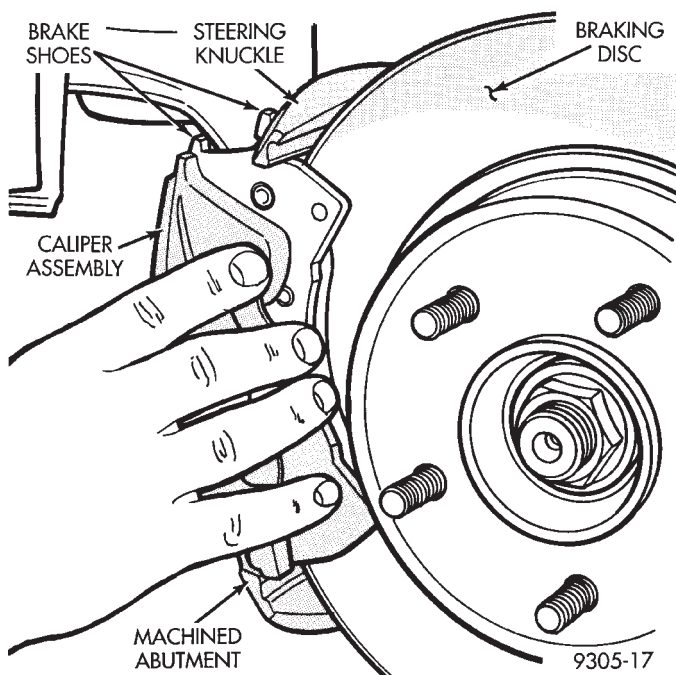


Fig. 16 Disc Brake Caliper Mounting

(14) With the vehicle brakes applied to keep vehicle from moving. Torque the **NEW** stub shaft to hub and bearing assembly retaining nut to **163 N•m + 14 (120 ft. lbs. + 10)** (Fig. 18).

DRIVESHAFT RECONDITIONING PROCEDURE

The only service which is to be performed on the driveshaft assemblies is the replacement of the drive shaft seal boots.

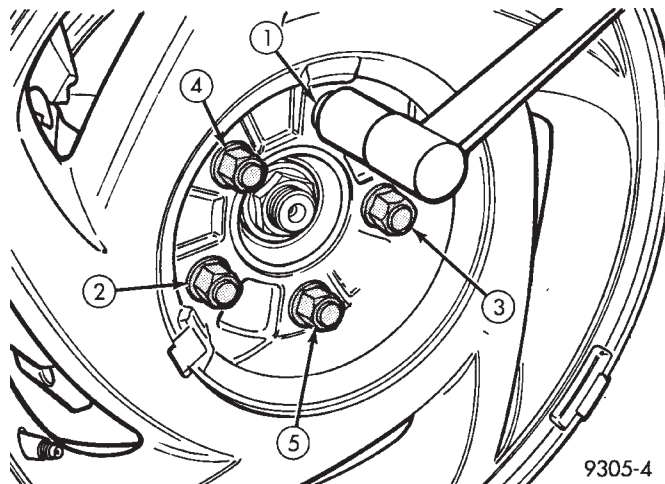


Fig. 17 Tightening Wheel Nuts

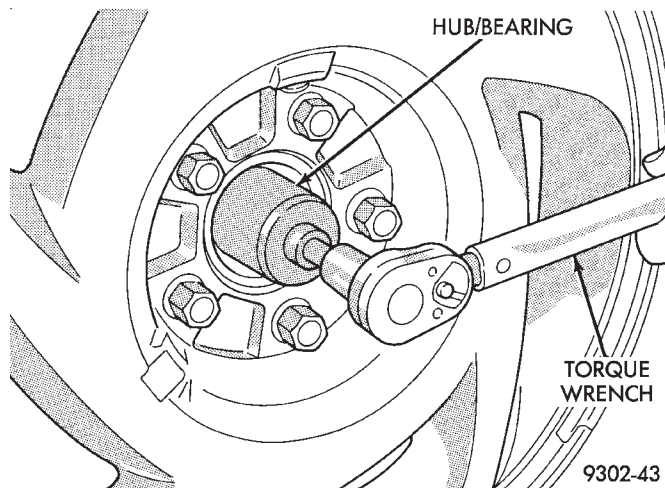


Fig. 18 Tighten Hub And Bearing Retaining Nut

If any failure of internal driveshaft components is diagnosed during a vehicle road test or disassembly of the drive shaft, the drive shaft will need to be replaced as an assembly.

Note: that lubricant requirements and quantities are different for Inner Joints than for Outer Joints. Use only the recommended lubricants.

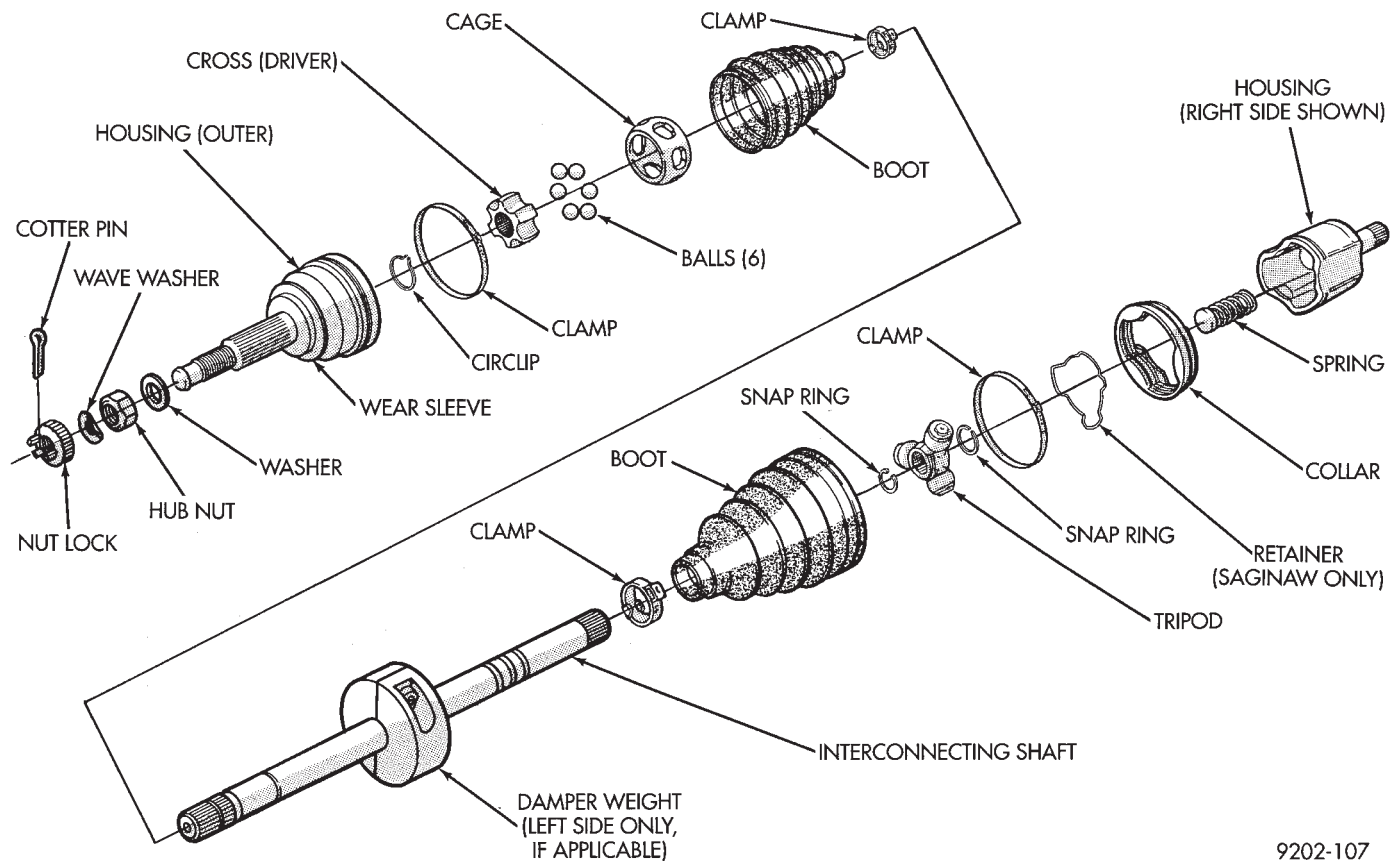
See (Fig. 1) for the exploded view of the front drive shaft components and there location in the assembly.

INNER TRIPOD JOINT SEAL BOOT

REMOVE

To remove sealing boots from driveshafts for replacement, the drive shaft assemblies must be removed from the vehicle. See Servicing Driveshaft in this section of the service manual for the required drive shaft removal and replacement procedure.

The Saginaw inner tripod joints used on the L.H. platform vehicles use no internal retention in the tripod housing to keep the spider assembly in the housing. Therefore do not pull on the interconnecting



9202-107

Fig. 1 L.H. Platform Driveshaft Components

shaft to disengage tripod housing from transmission stub shaft. Removal in this manner will cause damage to inboard boots.

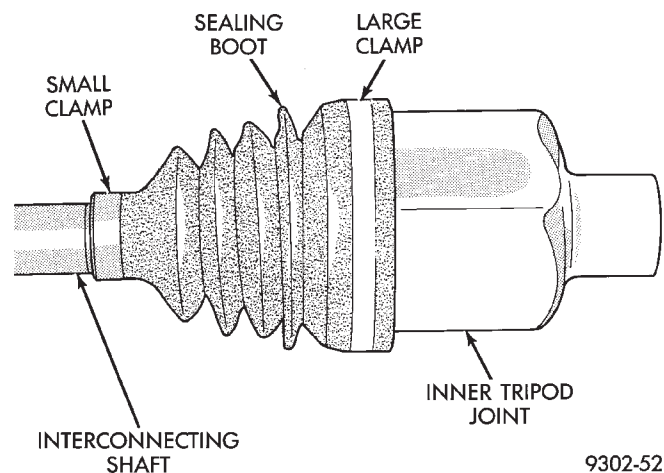
(1) Remove the driveshaft requiring boot replacement from the vehicle. See Servicing Driveshaft in this section of the service manual for the required drive shaft removal procedure.

(2) Remove large boot clamp which retains inner tripod joint sealing boot to tripod joint housing (Fig. 2) and discard. Then remove small clamp which retains inner tripod joint sealing boot to interconnecting shaft (Fig. 2) and discard. Remove the sealing boot from the tripod housing and slide it down the interconnecting shaft.

CAUTION: When removing the spider joint from the tripod joint housing. Hold the rollers in place on the spider trunions to prevent the rollers and needle bearings from falling away.

(3) Slide the interconnecting shaft and spider assembly out of the tripod joint housing (Fig. 3).

(4) Remove snap ring which retains spider assembly to interconnecting shaft (Fig. 4). Then remove the spider assembly from interconnecting shaft. If spider assembly will not come off interconnecting shaft by hand, it can be removed by tapping the end of the spider body with a brass drift. **Do not hit the**



9302-52

Fig. 2 Inner Tripod Joint Sealing Boot Clamps

outer tripod bearings in an attempt to remove spider assembly from interconnecting shaft.

(5) Slide failed sealing boot off the interconnecting shaft.

(6) Thoroughly clean and inspect spider assembly, tripod joint housing and interconnecting shaft for any signs of excessive wear. **If any parts show signs of excessive wear, the driveshaft assembly will require replacement. Component parts of the L.H. platform driveshaft assemblies are not serviceable.**

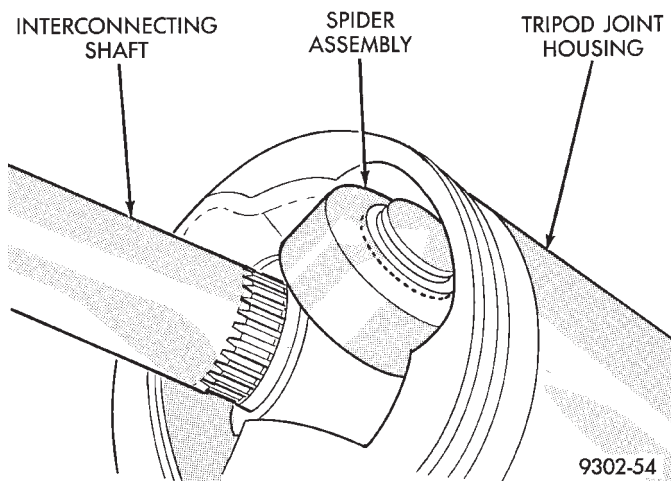


Fig. 3 Spider Assembly Joint Removal From Housing

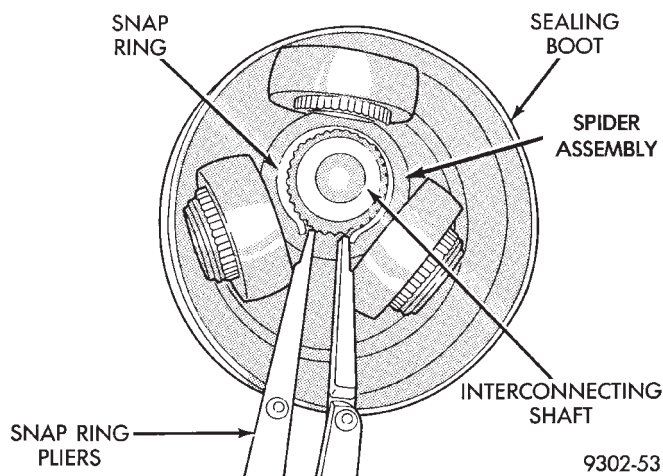


Fig. 4 Spider Assembly Retaining Snap Ring Removal

INSTALL

The inner tripod joint sealing boots used on the L.H. platform vehicles are made from 2 different types of material. High temperature applications use silicone rubber where as standard temperature applications use hytrel plastic. The silicone sealing boots are soft and pliable. The Hytrel sealing boots are stiff and rigid. The replacement sealing boot **MUST BE** the same type of material as the sealing boot which was removed.

(1) Slide a new seal boot retaining clamp, onto the interconnecting shaft. Then slide the replacement inner tripod joint sealing boot onto the interconnecting shaft.

(2) Install the spider assembly onto the interconnecting shaft. Spider assembly must be installed on interconnecting shaft far enough to fully install the retaining snap ring. If spider assembly will not fully install on interconnecting shaft by hand, it can be installed by tapping the spider body with a brass drift.

Do not hit the outer tripod bearings in an attempt to install spider assembly on interconnecting shaft.

(3) Install the spider assembly to interconnecting shaft retaining snap ring into groove on end of interconnecting shaft (Fig. 5). Be sure the snap ring is fully seated into groove on interconnecting shaft.

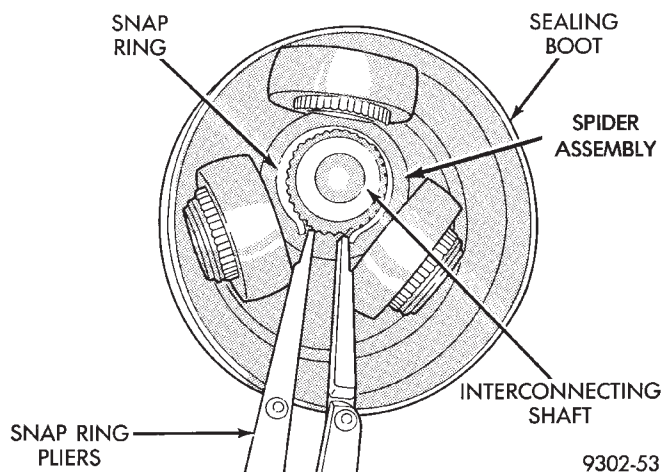


Fig. 5 Spider Assembly Retaining Snap Ring Installation

(4) Distribute 1/2 the amount of grease provided in the seal boot service package (**DO NOT USE ANY OTHER TYPE OF GREASE**) into tripod housing. Put the remaining amount into the sealing boot.

(5) Slide the spider assembly and the interconnecting shaft into the tripod joint housing (Fig. 6).

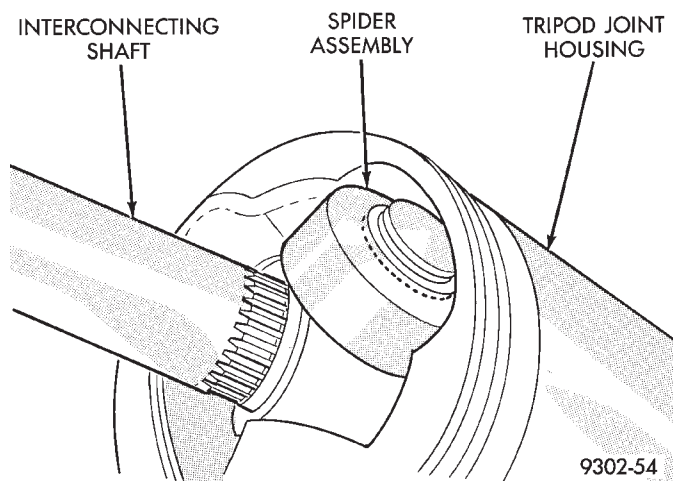


Fig. 6 Spider Assembly Installed In Housing

(6) Position the sealing boot over the boot retaining groove on the interconnecting shaft. Install seal boot retaining clamp evenly on sealing boot.

(7) Clamp sealing boot onto interconnecting shaft using Crimper, Special Tool C-4975 and the following procedure. Place crimping tool C-4975 over bridge of



clamp (Fig. 7). Tighten nut on crimping tool C-4975 until jaws on tool are closed completely together, face to face (Fig. 8).

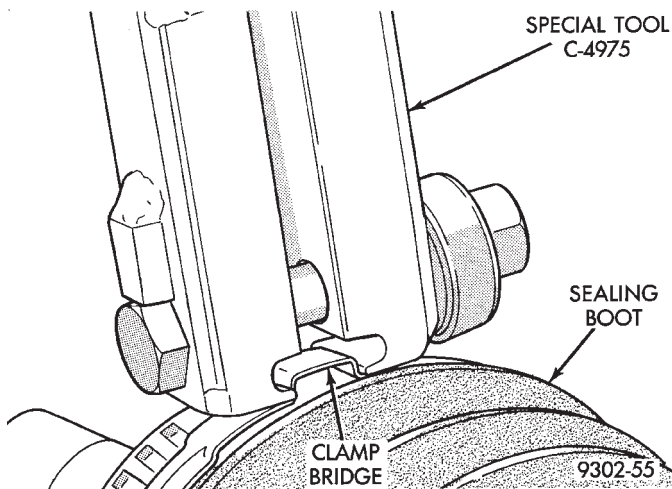


Fig. 7 Crimping Tool Installed On Sealing Boot Clamp

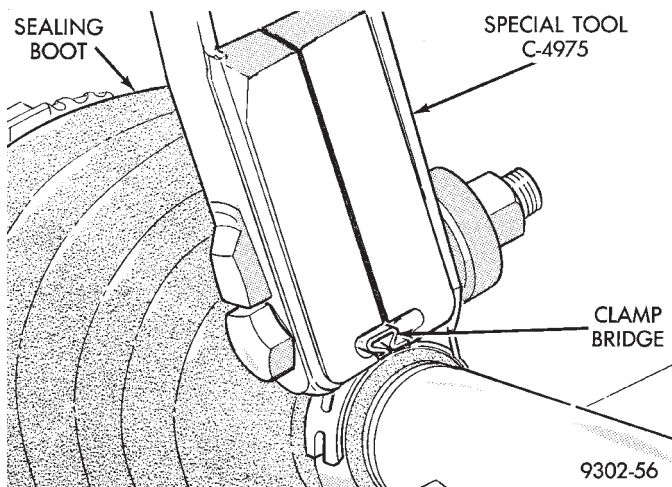


Fig. 8 Sealing Boot Retaining Clamp Installed

CAUTION: Seal must not be dimpled, stretched or out of shape in any way. If seal is NOT shaped correctly, equalize pressure in seal and shape it by hand.

(8) Position the sealing boot into the tripod housing retaining groove (Fig. 9). Install seal boot retaining clamp evenly on sealing boot.

(9) Before crimping sealing boot to tripod housing clamp, **the inner tripod joint must be at the correct stroke positioned (Fig. 10)**. This procedure is required to ensure that the proper amount of air is inside sealing boot before clamp is crimped. **Failure to perform this operation will result in inner tripod sealing boot failure.**

(10) Clamp sealing boot onto tripod housing using Crimper, Special Tool C-4975 and the following procedure. Place crimping tool C-4975 over bridge of

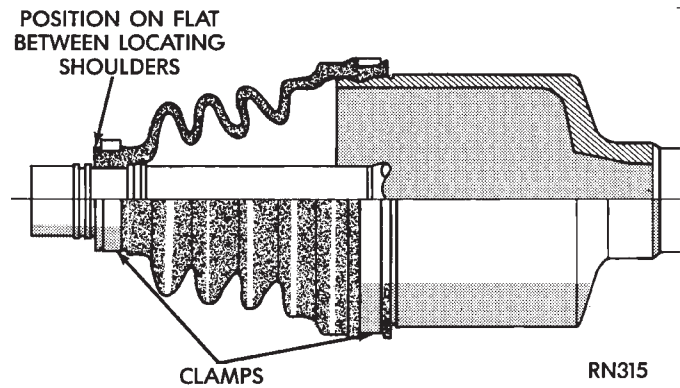
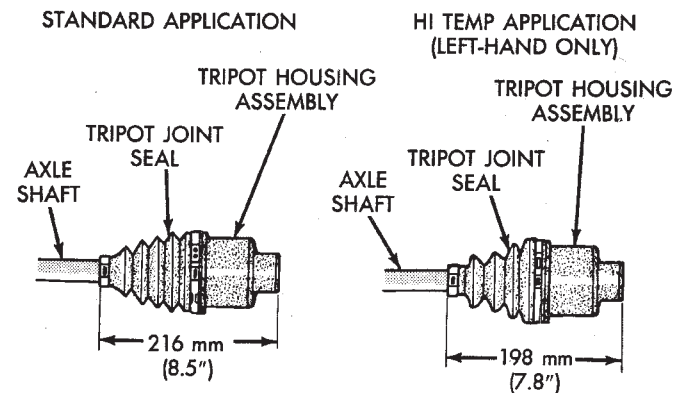


Fig. 9 Boot and Clamp Positioning



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Fig. 10 Proper Inner Tripod Joint Stroke Position

clamp (Fig. 7). Tighten nut on crimping tool C-4975 until jaws on tool are closed completely together, face to face (Fig. 8).

(11) Install the driveshaft requiring boot replacement back into the vehicle. See Servicing Driveshaft in this section of the service manual for the required drive shaft installation procedure.

OUTER C/V JOINT SEALING BOOT

REMOVE

To remove sealing boots from driveshafts for replacement, the drive shaft assemblies must be removed from the vehicle. See Servicing Driveshaft in this section of the service manual for the required drive shaft removal and replacement procedure.

(1) Remove the driveshaft requiring boot replacement from the vehicle. See Servicing Driveshaft in this section of the service manual for the required drive shaft removal procedure.

(2) Remove large boot clamp, which retains C/V joint sealing boot, to C/V joint housing (Fig. 1) and discard. Then remove small clamp which retains outer C/V joint sealing boot to interconnecting shaft



and discard. Remove the sealing boot from the outer C/V joint housing and slide it down the interconnecting shaft.

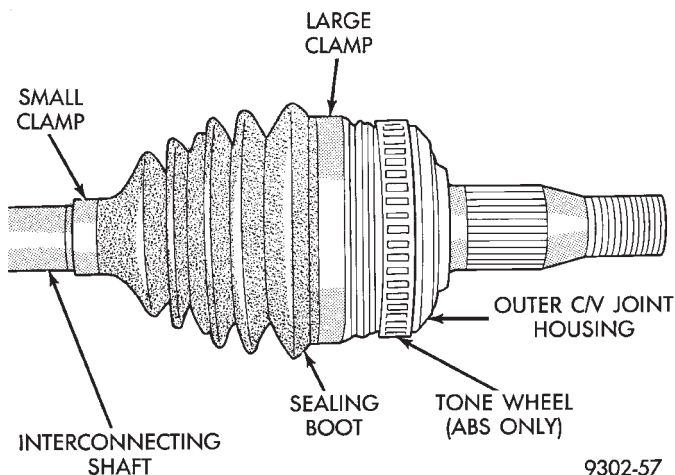


Fig. 1 Outer C/V Joint Sealing Boot Clamps

(3) Wipe away grease to expose outer C/V joint to interconnecting shaft retaining ring (Fig. 2). Spread ears apart on C/V joint assembly to interconnecting shaft retaining snap ring (Fig. 2). Slide outer C/V joint assembly off end of interconnecting shaft.

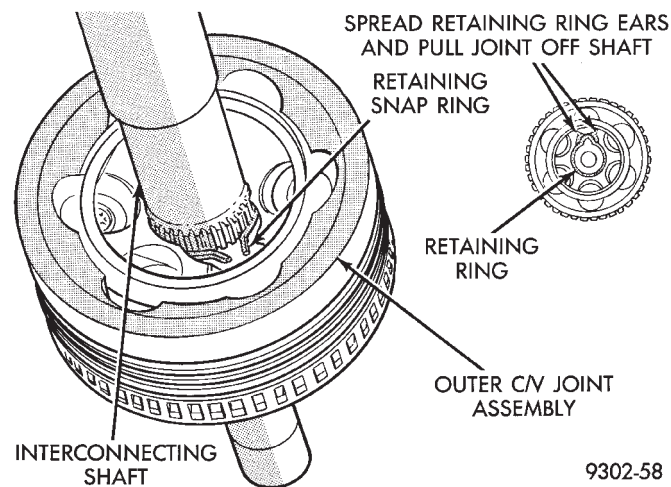


Fig. 2 Outer C/V Joint Removal From Interconnecting Shaft

(4) Slide failed sealing boot off the interconnecting shaft.

(5) Thoroughly clean and inspect outer C/V joint assembly and interconnecting joint for any signs of excessive wear. **If any parts show signs of excessive wear, the driveshaft assembly will require replacement. Component parts of the L.H. platform driveshaft assemblies are not serviceable.**

INSTALL

(1) Slide a new seal boot to interconnecting shaft retaining clamp, onto the interconnecting shaft. Then

slide the replacement outer C/V joint assembly sealing boot onto the interconnecting shaft.

(2) Install outer C/V joint assembly onto interconnecting shaft. Joint is installed on interconnecting shaft, by pushing interconnecting shaft into outer C/V joint, until retaining snap ring is seated in groove on interconnecting shaft (Fig. 3). Be sure the snap ring is fully seated into groove on interconnecting shaft.

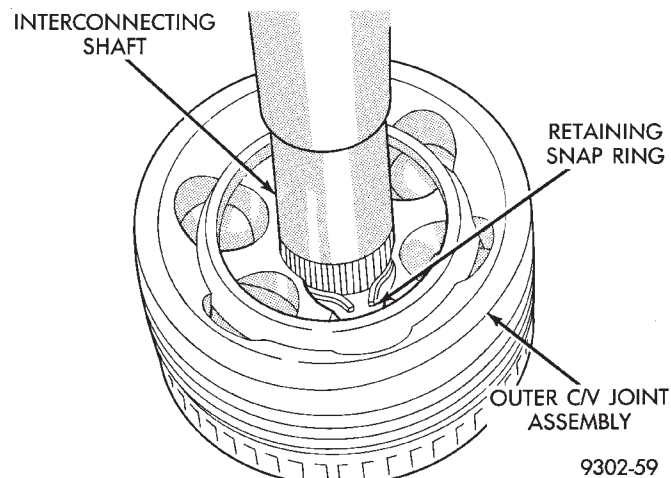


Fig. 3 Outer C/V Joint Installed On Interconnecting Shaft

(3) Distribute 1/2 the amount of grease provided in seal boot service package (DO NOT USE ANY OTHER TYPE OF GREASE) into outer C/V joint assembly housing. Put the remaining amount into the sealing boot.

(4) Position the sealing boot over the boot retaining groove on the interconnecting shaft. Install seal boot retaining clamp evenly on sealing boot.

(5) Clamp sealing boot on interconnecting shaft using Crimper, Special Tool C-4975 and the following procedure. Place crimping tool C-4975 over bridge of clamp (Fig. 4). Tighten nut on crimping tool C-4975 until jaws on tool are closed completely together, face to face (Fig. 5).

CAUTION: Seal must not be dimpled, stretched or out of shape in any way. If seal is NOT shaped correctly, equalize pressure in seal and shape it by hand.

(6) Position the sealing boot into the boot retaining groove on the outer C/V joint housing (Fig. 6). Install seal boot retaining clamp evenly on sealing boot.

(7) Clamp sealing boot onto outer C/V joint housing using Crimper, Special Tool C-4975 and the following procedure. Place crimping tool C-4975 over bridge of clamp (Fig. 4). Tighten nut on crimping tool C-4975 until jaws on tool are closed completely together, face to face (Fig. 5).

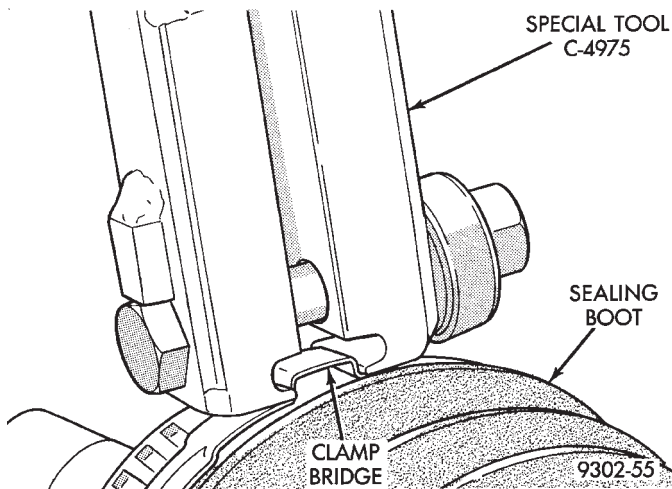


Fig. 4 Crimping Tool Installed On Sealing Boot Clamp

(8) Install the driveshaft requiring boot replacement back into the vehicle. See Servicing Driveshaft in this section of the service manual for the required drive shaft installation procedure.

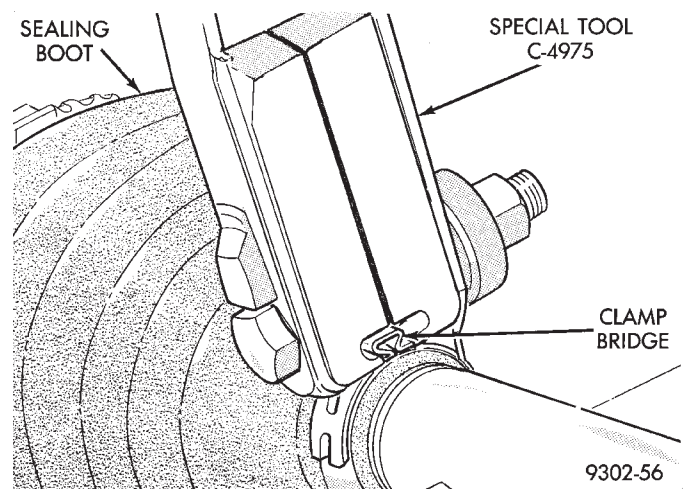


Fig. 5 Sealing Boot Retaining Clamp Installed

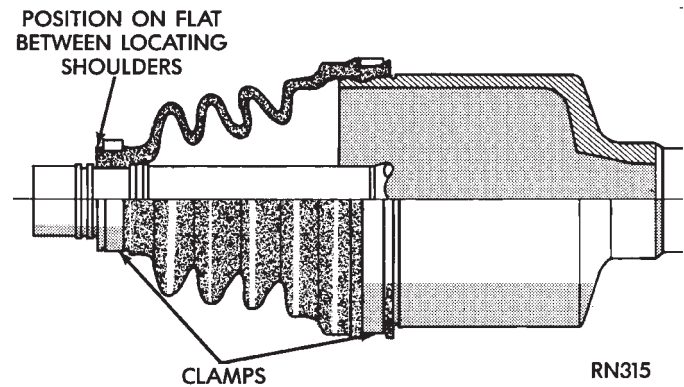


Fig. 6 Boot and Clamp Positioning



REAR SUSPENSION

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Rear Spindle	60	Servicing Rear Struts	54
Rear Stabilizer Bar	66	Suspension Coil Springs	60

GENERAL INFORMATION

The rear suspension used on the L.H. platform is a fully independent rear suspension. The suspension utilizes a MacPherson strut assembly at each rear wheel of the vehicle.

CAUTION: ONLY FRAME CONTACT HOISTING EQUIPMENT CAN BE USED ON L.H. PLATFORM VEHICLES. The L.H. platform vehicles have a fully independent rear suspension. The L.H. platform vehicles can not be hoisted using equipment designed to lift a vehicle by the rear axle. If this type of hoisting equipment is used damage to rear suspension components will occur.

A forged rear spindle bolts to each rear strut assembly. The movement of the rear spindle is controlled laterally using lateral links going from the front and rear of the spindle to the rear cross member. Fore and aft movement of the spindle is controlled by a trailing arm

The lateral links and trailing arm have rubber isolator bushings at each end. The lateral links are attached to the rear crossmember and spindle, using a common bolt and nut assembly at each end. The trailing arm bolts to the bottom of the spindle and to a bracket attached to the floor pan of the vehicle.

Lateral links, trailing arms and spindles are normally replaced only when the part has been damaged or when the vehicle has been involved in an accident. If a suspension part has been damaged, be sure to check the underbody dimensions of the car. If the underbody dimensions are not correct, the frame of the vehicle must be straightened, before replacement suspension components are installed.

Note: If a rear suspension component becomes bent, damaged or fails, no attempt should be made to straighten or repair it. Always replace with a new component.



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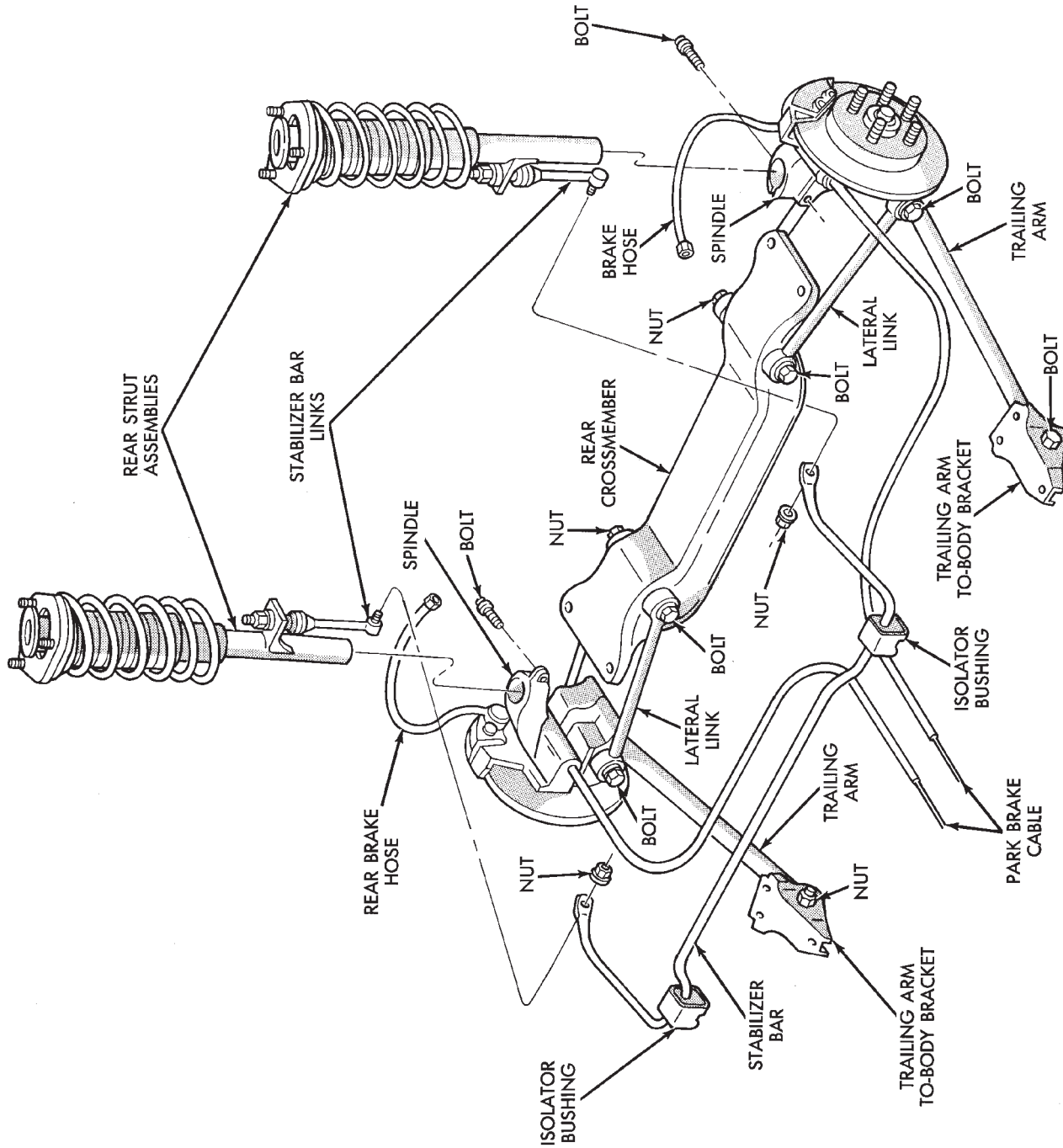


Fig. 1 L.H. Platform Fully Independent Rear Suspension



REAR WHEEL TOE SETTING PROCEDURE

Rear Wheel alignment adjustments can only be made for the Toe In setting on the L.H. platform vehicles.

Toe is measured in degrees or inches and is the distance the front edges of the tires are closer (or farther apart) than the rear edges. See Front Wheel Drive Specifications for Toe settings.

REAR WHEEL TOE ADJUSTMENT

(1) Prepare vehicle as described in the Pre-Alignment procedure.

(2) Loosen lateral link, adjustment link jamnuts (Fig. 1). Rotate adjustment links as required to set rear wheel Toe to specifications. **Do not exceed the maximum length dimensions of the lateral links shown in (Fig. 2). Both dimensions must be checked to ensure they do not exceed maximums allowed.**

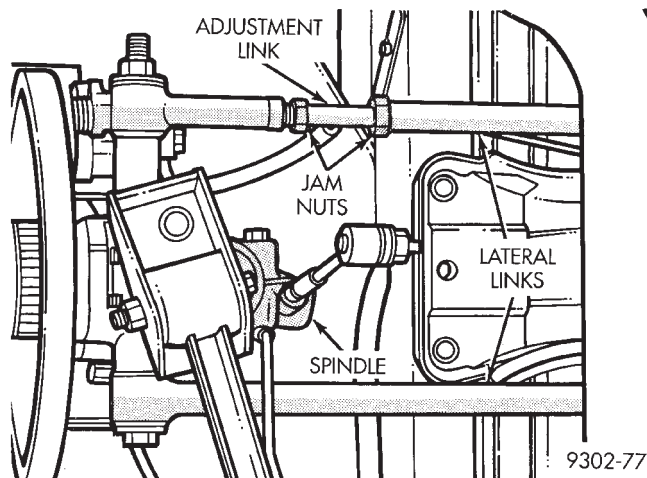


Fig. 1 Rear Wheel Toe Adjustment At Lateral Links

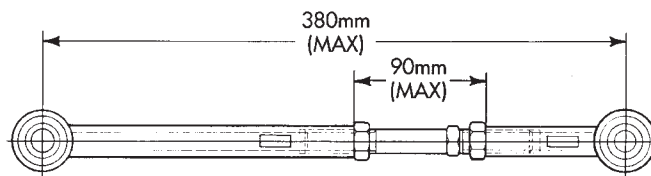
CAUTION: When setting rear "Toe In" on vehicle. The maximum lengths of the adjustable lateral link at the locations shown in (Fig. 2) must not be exceeded. If these maximum lengths are exceeded, inadequate retention of adjustment link to the inner and outer link may result. Ensure that the adjustment sleeve jam nuts are torqued to the required specifications when the Toe setting procedure is completed.

(4) Tighten lateral link, adjustment link locknuts to 65 N•m (48 ft. lbs.) torque.

SERVICING REAR STRUTS

REMOVAL

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.



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Fig. 2 Lateral Link Maximum Length Dimensions

(2) Remove the rear wheel and tire assembly from the vehicle.

(3) If vehicle is equipped with rear disc brakes, remove the rear caliper assembly from the adapter. Refer to Rear Disk Brakes in Group 5 Brakes of this Service manual for required caliper removal procedure. After removing caliper assembly store caliper by hanging it from vehicle (Fig. 1). Do not let rear caliper assembly hang from flexible brake hose. If vehicle is equipped with rear drum brakes, remove the brake flex hose bracket from the support plate and wheel cylinder (Fig. 2).

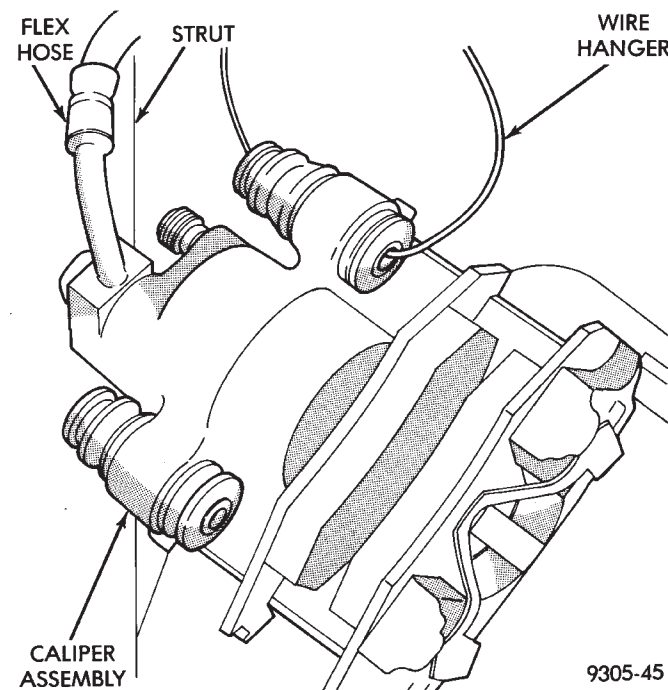


Fig. 1 Storing Rear Caliper Assembly

(4) If vehicle is equipped with rear disc brakes, remove rear braking disc from hub.

(5) If vehicle is equipped with rear disc brakes. Remove the speed sensor cable routing tube on trailing arm and the routing bracket on the trailing arm bracket to spindle (Fig. 3). **If spindle and trailing arm assembly is lowered from strut with the**

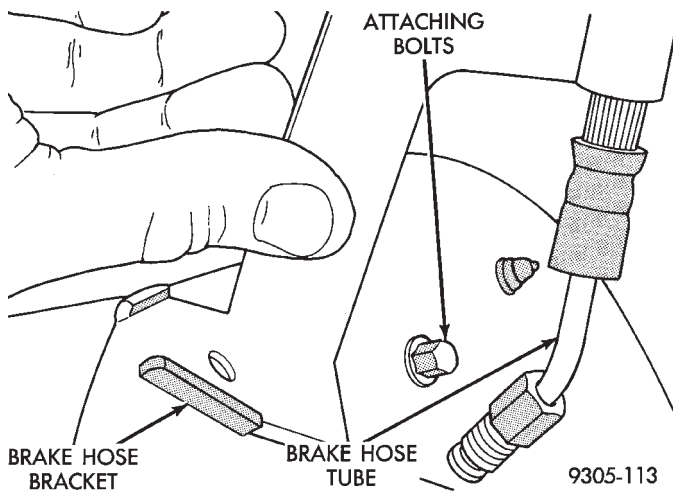


Fig. 2 Brake Hose Bracket And Tube

speed sensor cable attached damage to speed sensor cable may occur.

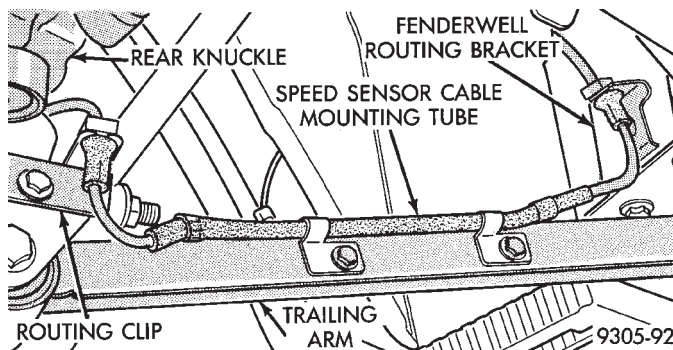


Fig. 3 Speed Sensor Routing Tube And Bracket

(6) Remove the bolt (Fig. 4) attaching the lateral links to the rear spindle assembly.

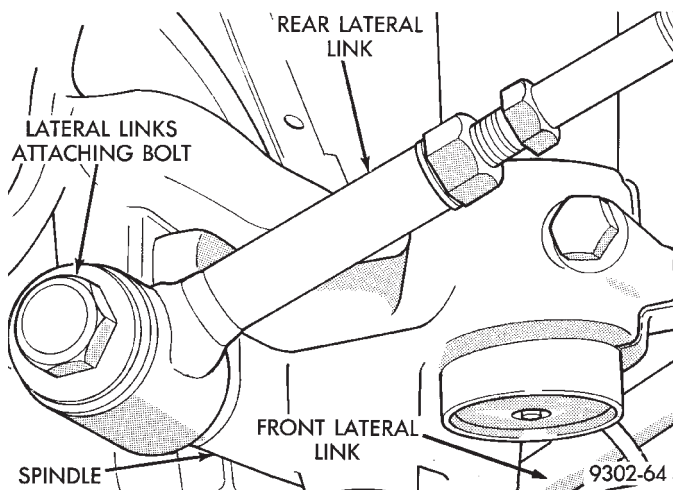


Fig. 4 Lateral Links To Spindle Attaching Bolt

(7) Remove the rear strut assembly to stabilizer bar attaching link, at the stabilizer bar (Fig. 5). Hold hex on attaching link stud while breaking nut loose. This will keep bushing in attaching link from slipping. The attaching link does not have to be removed from strut assembly.

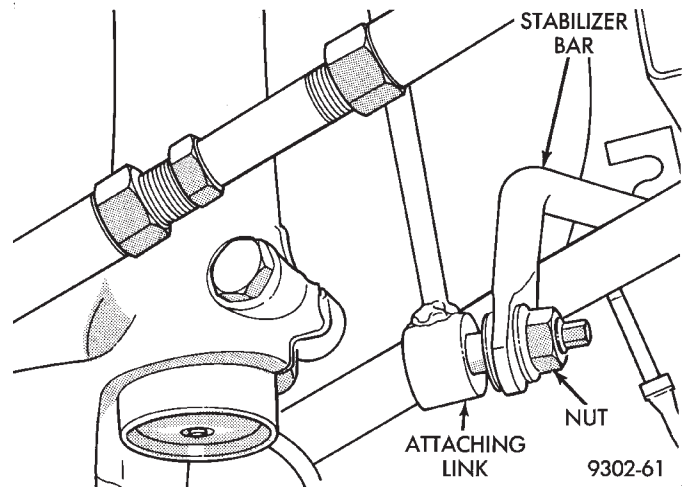


Fig. 5 Attachment Link To Stabilizer Bar Attaching

(8) Loosen and fully remove, the rear spindle to strut assembly pinch bolt (Fig. 6).

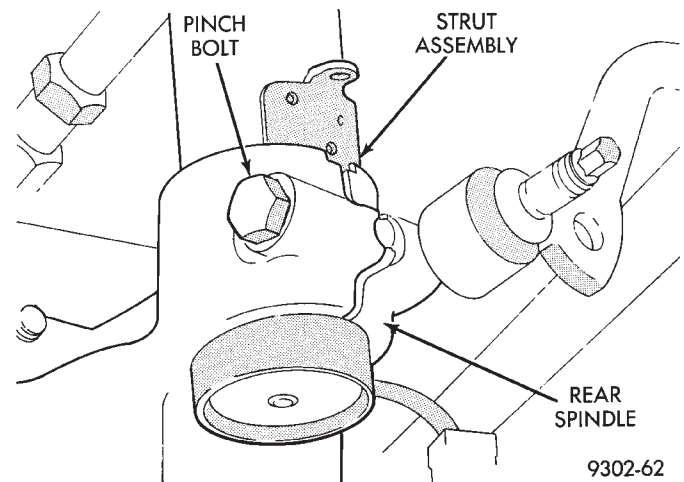


Fig. 6 Spindle To Strut Assembly Pinch Bolt

(9) Insert a center punch into the hole on the spindle (Fig. 7). Center punch must be tapped into spindle until jammed into hole. This will spread spindle casting allowing it to be removed from strut assembly. Do not punch hole in strut with center punch.

(10) Using a hammer, tap on top surface of spindle driving it down and off the end of the strut assembly (Fig. 8).

(11) Let the rear spindle and assembled components hang from trailing arm (Fig. 9) while strut assembly is out of the vehicle.

(12) Lower vehicle.

(13) To remove the rear upper strut mount from the vehicle, access the upper strut mount to strut tower attaching nuts from the trunk of the vehicle.

(14) Remove the 3 rear strut assembly to body mounting nuts, and remove strut assembly from vehicle.

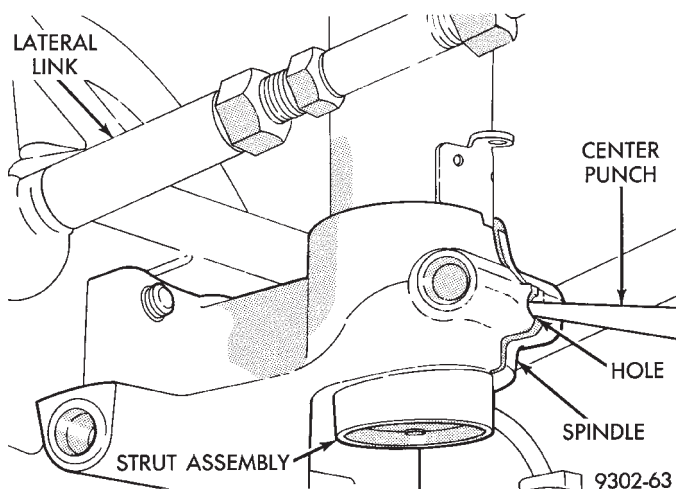


Fig. 7 Center Punch Installed In Spindle

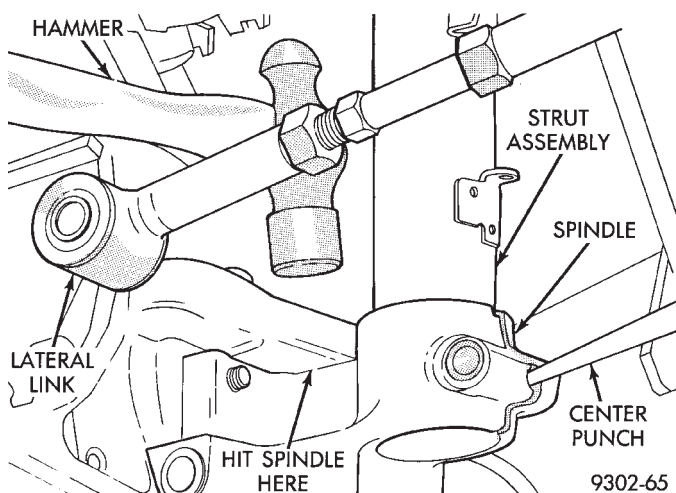


Fig. 8 Removing Spindle From Strut Assembly

INSPECTION

Inspect for evidence of fluid leakage from upper end of reservoir. (Actual leakage will be a stream of fluid running down and leaking off lower end). Slight seepage is not unusual and will not effect performance.

INSTALLATION

(1) Position strut assembly back into vehicle with the 3 studs on strut mount assembly through holes in strut tower of vehicle. Install the 3 strut mount to body attaching nuts onto mount studs. Torque the 3 strut mount to body attaching nuts to 28 N•m (20 ft. lbs.).

(2) Install the spindle assembly onto the bottom of the strut assembly. Push and or tap spindle assembly onto strut, until notch in spindle is tightly seated against locating tap on strut assembly (Fig. 10). Then remove center punch from hole in spindle. Install spindle to strut assembly pinch bolt into spindle (Fig. 10). Torque spindle to strut assembly pinch bolt to 55 N•m (40 ft. lbs.).

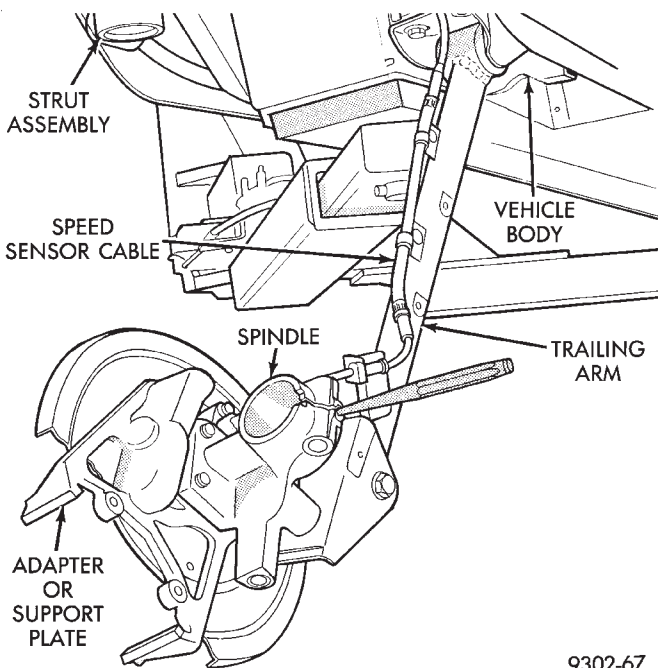


Fig. 9 Spindle Assembly Removed From Strut

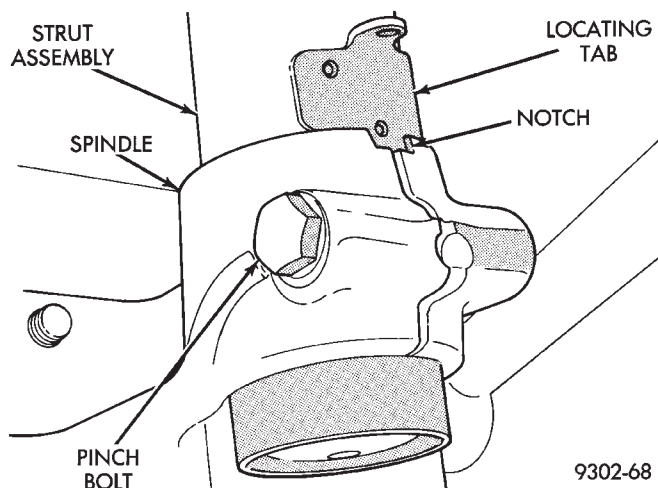


Fig. 10 Spindle Mounted To Strut Assembly

(3) Install the lateral links to spindle attaching bolt (Fig. 11) Torque the lateral links to spindle attaching bolt to 140 N•m (105 ft. lbs.).

(4) Install the stabilizer bar attaching link onto stabilizer bar. Install the stabilizer link to stabilizer bar attaching nut (Fig. 12). While holding stabilizer link stud at hex, torque the stabilizer link to stabilizer bar attaching nut to 95 N•m (70 ft. lbs.).

(5) Mount rear speed sensor cable routing tube to the rear trailing arm and speed sensor cable routing bracket to trailing arm bracket at rear spindle (Fig. 13).

(6) If vehicle is equipped with rear disc brakes, install rear braking disc on hub. Carefully install rear brake caliper over braking disc and install on adapter. Tighten the caliper assembly to adapter

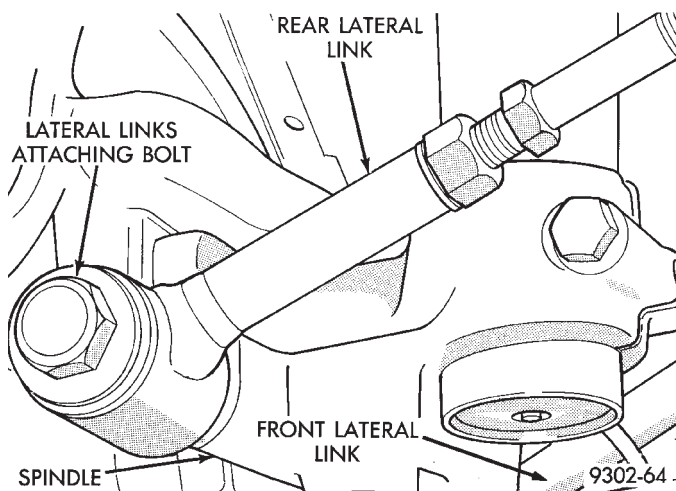


Fig. 11 Lateral Links To Spindle Attaching Bolt

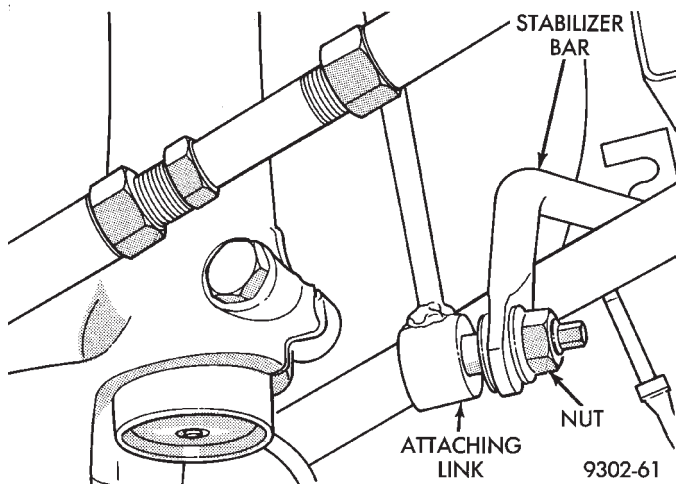


Fig. 12 Attachment Link To Stabilizer Bar Attaching

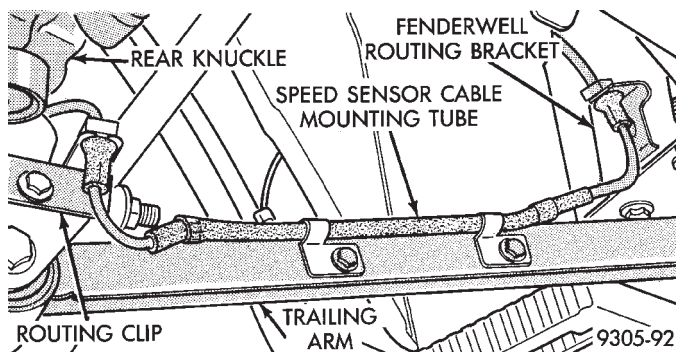


Fig. 13 Speed Sensor Routing Tube And Bracket

mounting bolts to 22 N•m (192 in. lbs.). Refer to Rear Disc Brakes in Group 5 Brakes in this service manual for required caliper installation procedure.

(7) If vehicle is equipped with rear drum brakes install rear brake flex hose onto wheel cylinder and support plate (Fig. 14). Torque the brake hose to wheel cylinder tube nut to 17 N•m (145 in. lbs.). Torque the brake hose bracket to support plate bolt to 8 N•m (75 in. lbs.).

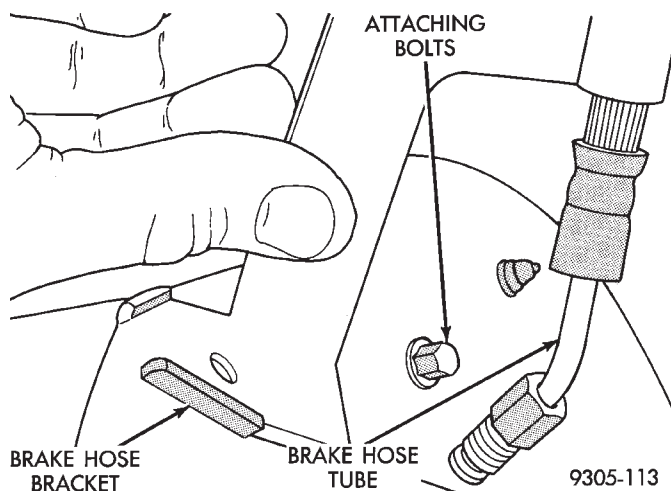


Fig. 14 Brake Hose Bracket And Tube Nut

(8) If vehicle has rear drum brakes, brake system will require bleeding. Refer to Bleeding Brake System in the Service Adjustments Section of Group 5 Brakes in this service manual.

(9) Install wheel and tire assembly on vehicle. Tighten the wheel mounting stud nuts in proper sequence (Fig. 15) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

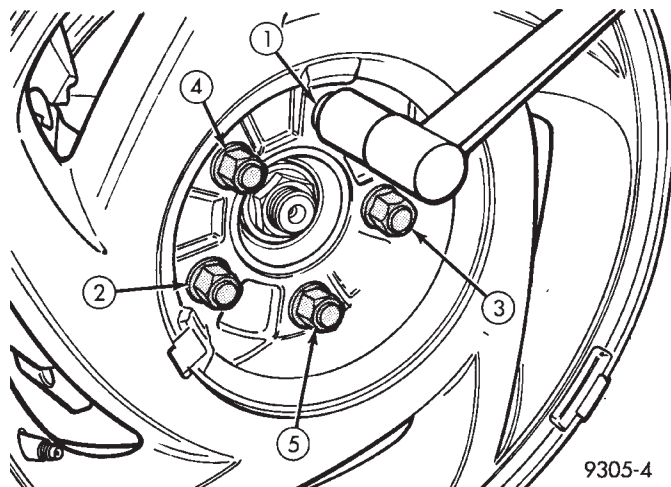


Fig. 15 Tightening Wheel Nuts

(10) Lower vehicle to the ground.

(11) Check and reset rear wheel TOE to specifications if required.

STRUT DISASSEMBLY

The rear strut is not serviced and must be replaced as an assembly if found to be defective. The strut is available with 2 calibrations, be sure strut is replaced with an assembly of the same calibration.

The components of the strut assembly listed below are replaceable if found to be defective.

- Coil spring (Coil springs come in a standard and high rate be sure spring is replaced with a spring of the correct rate.)



- Dust shield
- Mount assembly
- Jounce Bumper
- Lower Spring Isolator
- Shaft Nut

(1) Remove strut assembly requiring service from the vehicle. Refer to Strut Assembly Removal in Servicing Rear Struts, in this section of the service manual.

(2) Position strut assembly in a vise (Fig. 1). Using paint or equivalent, mark the strut unit, lower spring isolator, spring and upper strut mount for indexing of the parts at assembly.

(3) Position Spring Compressors, Special Tool C-4838 on the strut assembly spring (Fig. 1). Compress coil spring until all load is removed from upper strut mount assembly.

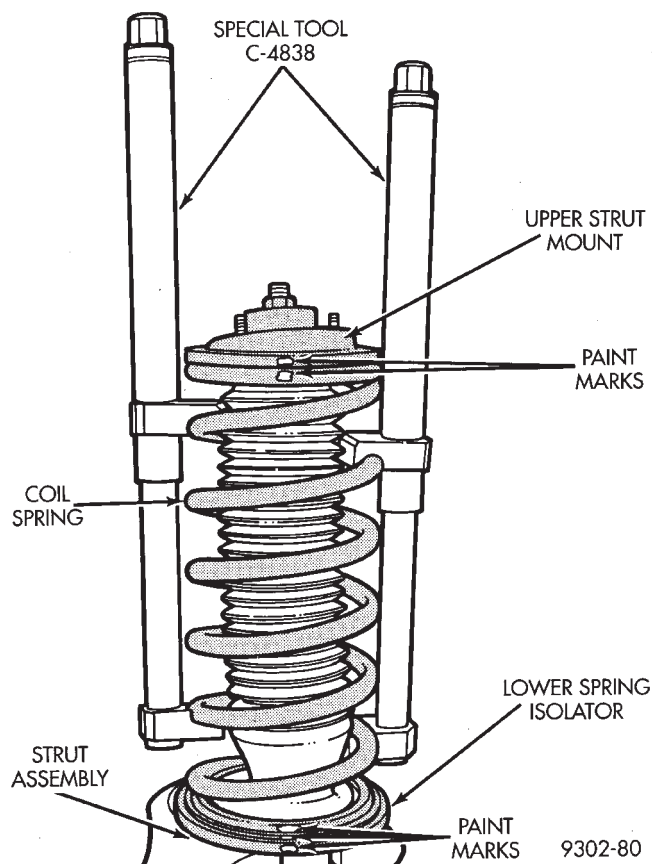


Fig. 1 Compressing Strut Assembly Coil Spring

(4) Install Strut Rod Socket, Special Tool, L-4558 on strut shaft nut (Fig. 2). Use a 8 mm allen wrench inserted into end of strut shaft to keep strut shaft from turning (Fig. 2). Remove strut shaft nut from shaft.

(5) Remove upper strut mount assembly from strut shaft (Fig. 3).

(6) Remove the coil spring and spring compressor as an assembly from the strut (Fig. 4).

(7) Remove the plate, dust shield and jounce bumper as an assembly from the strut unit (Fig. 5).

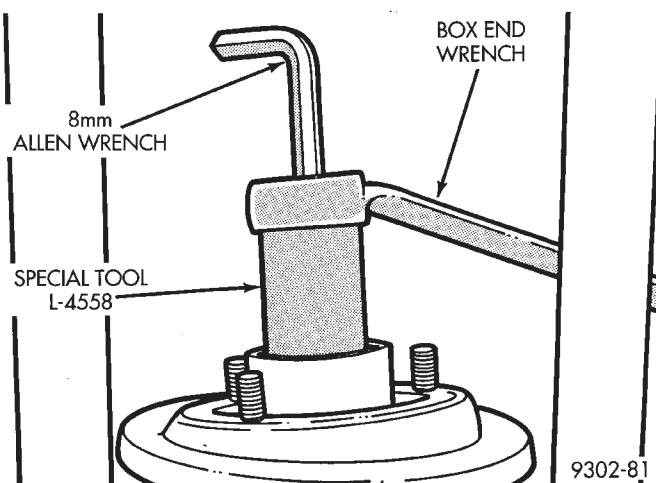


Fig. 2 Removing Strut Shaft Nut

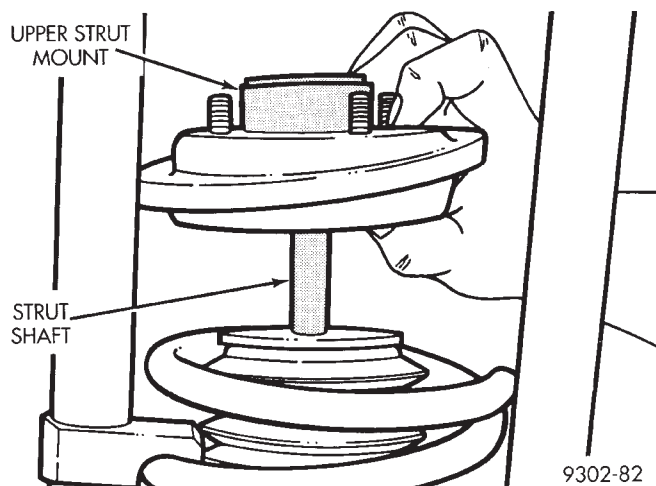


Fig. 3 Upper Strut Mount Removal

(8) Remove lower spring isolator from strut assembly (Fig. 6).

Inspect all disassembled components for signs of abnormal wear or failure replacing any components as required. Inspect strut unit for signs of abnormal oil leakage and for loss of gas charge. To check for loss of gas charge in strut unit. Push strut shaft into body of strut and release, strut shaft should return to its fully extended position. If strut shaft does not return to its fully extended position replace strut unit.

STRUT REASSEMBLY

(1) Install original or new, lower spring isolator on strut unit (Fig. 6). If installing original isolator align paint marks on isolator and strut unit.

(2) Install jounce bumper into dust shield (Fig. 7). Install plate on top of dust shield and into jounce bumper (Fig. 8).

(3) Install the dust shield, jounce bumper and top plate as an assembly onto the strut unit (Fig. 5).

(4) Lower the coil spring and compressor onto the strut unit (Fig. 4) Align the paint mark on the spring with the paint mark on the strut unit (Fig. 1).

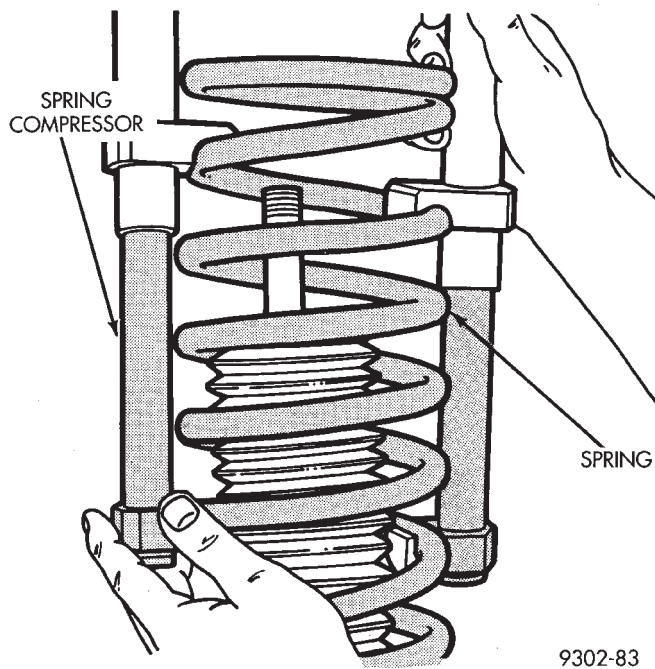


Fig. 4 Coil Spring Remove And Replace

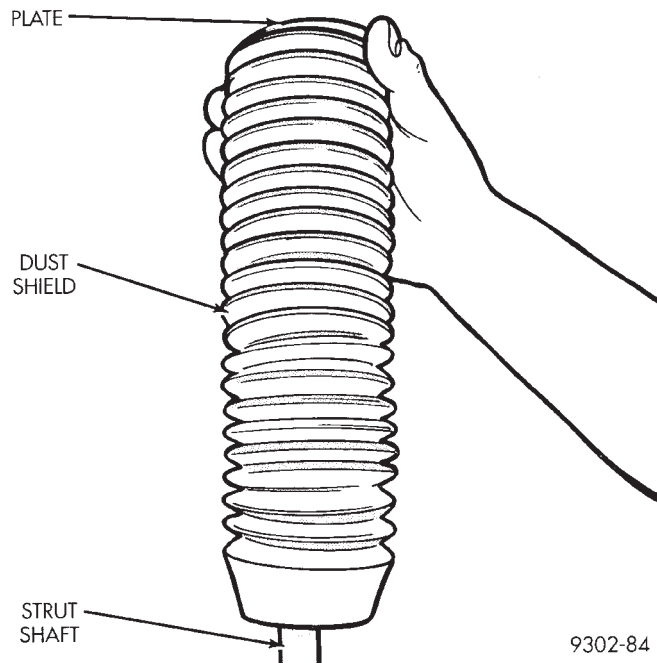


Fig. 5 Plate, Dust Shield And Jounce Bumper Remove And Replace

(5) Install the upper strut mount assembly onto the strut shaft, aligning paint marks (Fig. 3). Install the upper strut mount to strut shaft retaining nut on strut shaft.

(6) Using Strut Rod Socket, Special Tool, L-4558 and a 8 mm allen wrench to keep strut shaft from turning. Torque the strut shaft nut to 95 N•m (70 ft. lbs.).

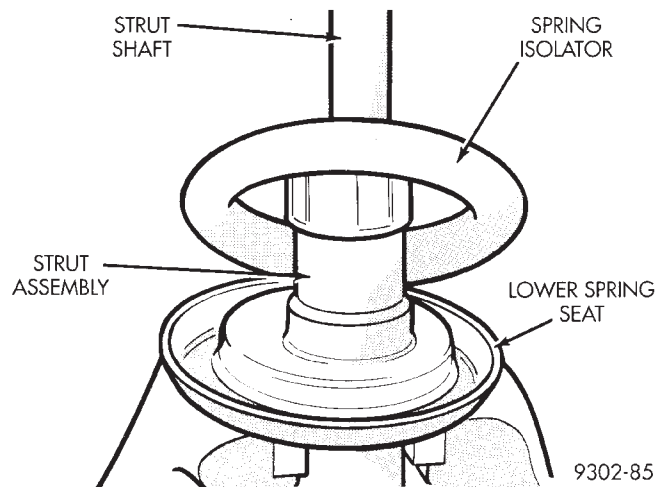


Fig. 6 Lower Spring Isolator

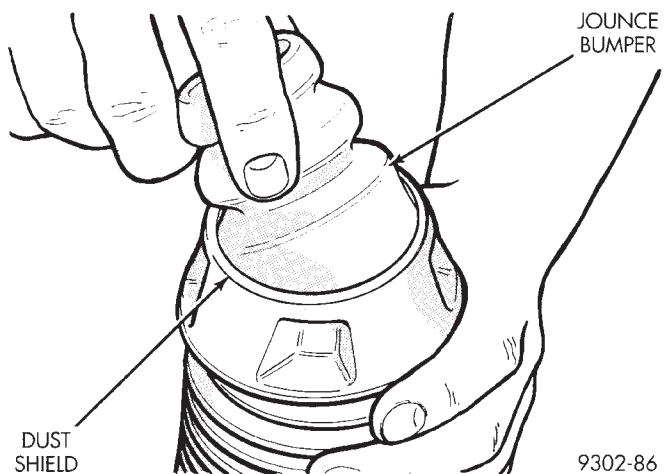


Fig. 7 Jounce Bumper Installed Into Dust Shield

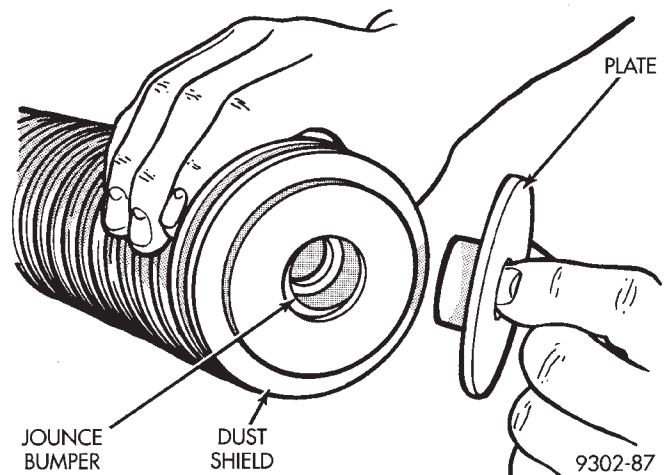


Fig. 8 Plate Installation Into Jounce Bumper And Dust Shield

(7) Equally loosen the Spring Compressors, Special Tool C-4838 until spring is seated on upper strut mount and all tension is relieved from the spring compressors.



(8) Install the strut assembly back into the vehicle. Refer to Strut Assembly Removal in Servicing Rear Struts in this section of the service manual.

(9) Check and reset rear wheel TOE to specifications if required.

SUSPENSION COIL SPRINGS

Springs are rated separately for each side of vehicle depending on optional equipment and type of service. During service procedures where both springs are removed, mark springs (Chalk, Tape, etc.) (Fig. 9) to ensure installation in original position. If the coils springs require replacement. **Be sure that the springs needing replacement, are replaced with springs meeting the correct load and spring rate for the vehicle.**

During service procedures requiring the removal or installation of a coil spring with Spring Compressor, Special Tool C-4838. It is required that five coils be captured within the jaws of the tool (Fig. 9).

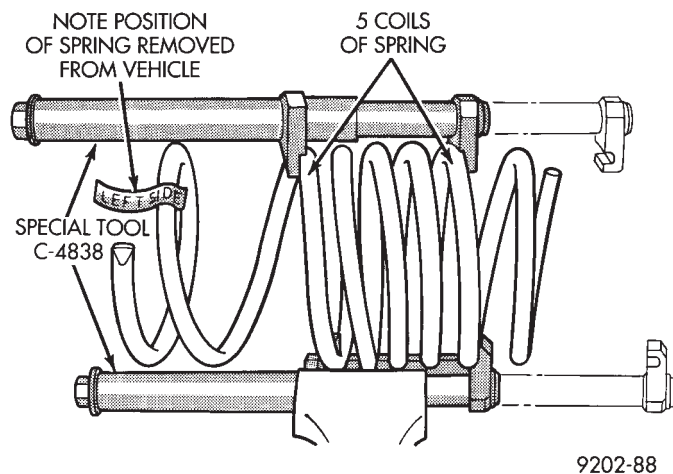


Fig. 9 Identifying Coil Springs

REAR SPINDLE

REMOVE

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove the rear wheel and tire assembly from the vehicle.

(3) If vehicle is equipped with rear disc brakes, remove the rear caliper assembly from the adapter. Refer to Rear Disk Brakes in Group 5 Brakes of this Service manual for required caliper removal procedure. After removing caliper assembly store caliper by hanging it from frame of vehicle (Fig. 1). Do not let weight of rear caliper assembly hang from flexible brake hose. If vehicle is equipped with rear drum brakes, remove the brake flex hose bracket from the support plate and wheel cylinder (Fig. 2).

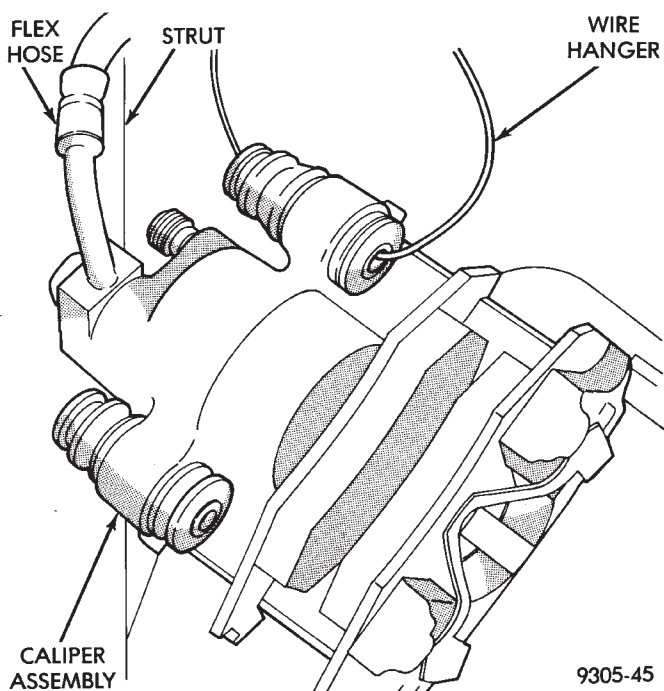


Fig. 1 Storing Rear Caliper Assembly

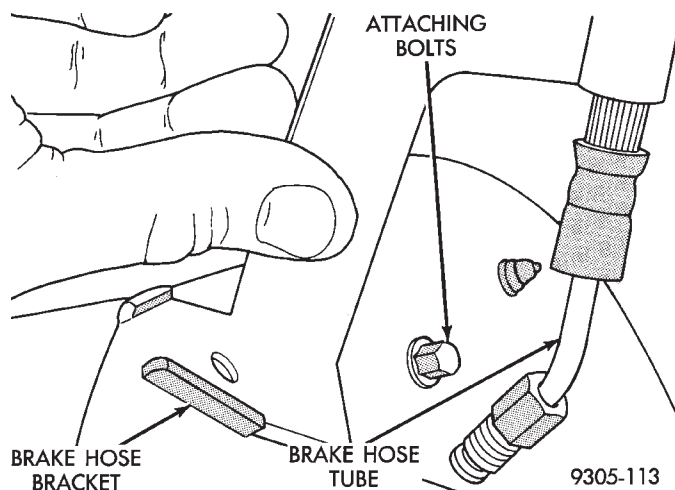


Fig. 2 Brake Hose Bracket And Tube

(4) If vehicle is equipped with rear disc brakes, remove rear braking disc from hub. If vehicle is equipped with rear drum brakes, remove the brake drum from the hub.

(5) On all rear brake applications, remove rear hub and bearing assembly retaining nut and washer (Fig. 3). Then remove the hub and bearing assembly from spindle.

(6) On vehicles equipped with rear drum brakes. Remove the 4 bolts attaching the rear brake support plate to the rear spindle (Fig. 4). Then remove rear brake support plate with parking brake cable attached, from rear spindle.

(7) If vehicle is equipped with Anti-Lock brakes. Remove speed sensor head from the rear disc brake adapter (Fig. 5).

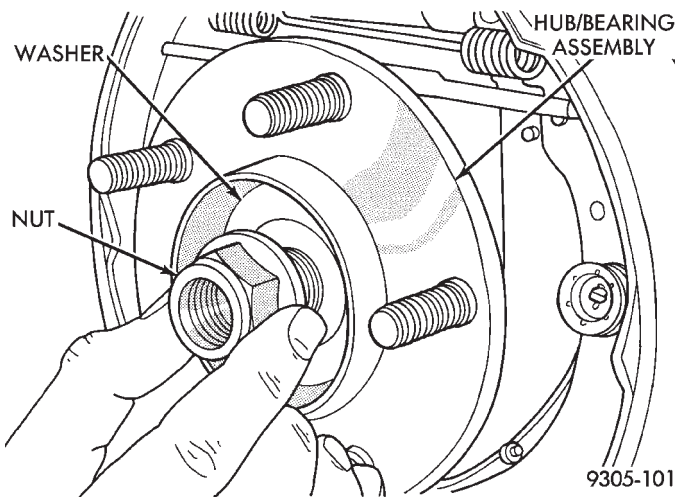


Fig. 3 Rear Hub And Bearing Retaining Nut and Washer Removal

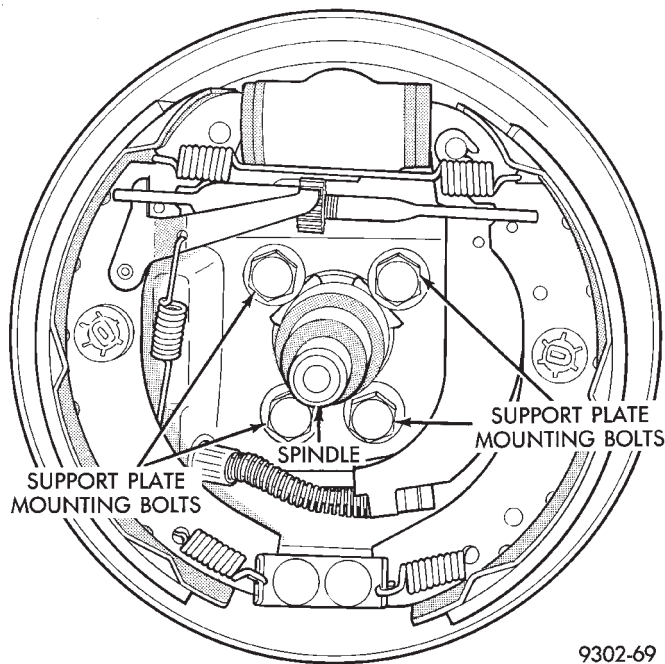


Fig. 4 Brake Support Plate Mounting Bolts

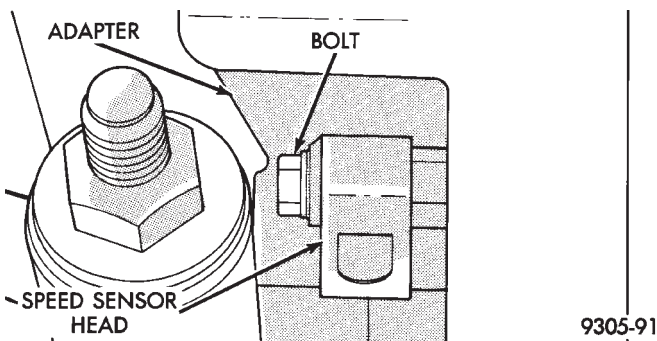


Fig. 5 Speed Sensor Head Removal From Adapter

(8) On vehicles equipped with rear disc brakes. Remove the 4 bolts attaching the disc brake adapter to

the rear spindle (Fig. 6). Then remove the adapter, disc shield, park brake shoes and park brake cable as an assembly from spindle.

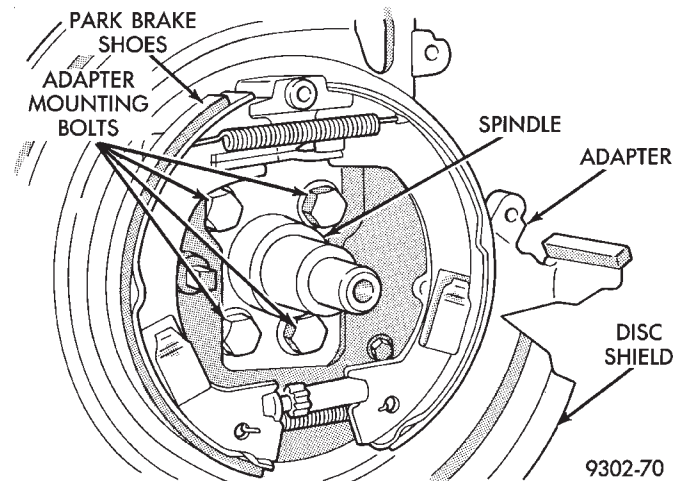


Fig. 6 Disc Brake Adapter Mounting

(9) If vehicle is equipped with Anti-Lock brakes. Remove the speed sensor cable routing tube on trailing arm and the routing bracket on the trailing arm bracket to spindle (Fig. 7). **If trailing arm is lowered from strut with the speed sensor cable attached damage to speed sensor cable may occur.**

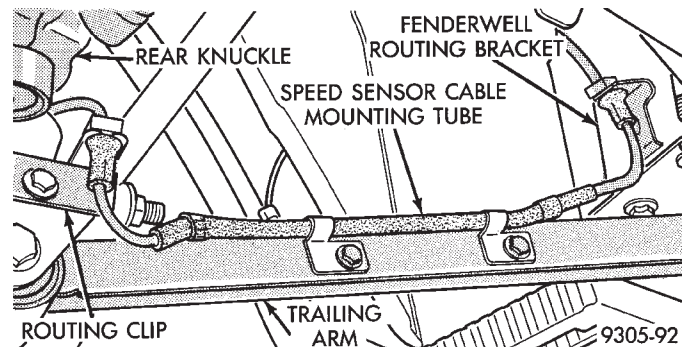


Fig. 7 Speed Sensor Routing Tube And Bracket

(10) Remove bolt attaching trailing arm to trailing arm bracket on bottom of spindle (Fig. 8).

(11) Remove the bolt (Fig. 9) attaching the lateral links to the rear spindle assembly.

(12) Loosen and fully remove, the rear spindle to strut assembly pinch bolt (Fig. 10).

(13) Insert a center punch into the hole on the spindle (Fig. 11). Center punch must be tapped into spindle until jammed into hole. This will spread spindle casting allowing it to be removed from strut assembly. Do not punch a in strut assembly with center punch.

(14) Using a hammer, tap on top surface of spindle driving it down and off the end of the strut assembly (Fig. 12).

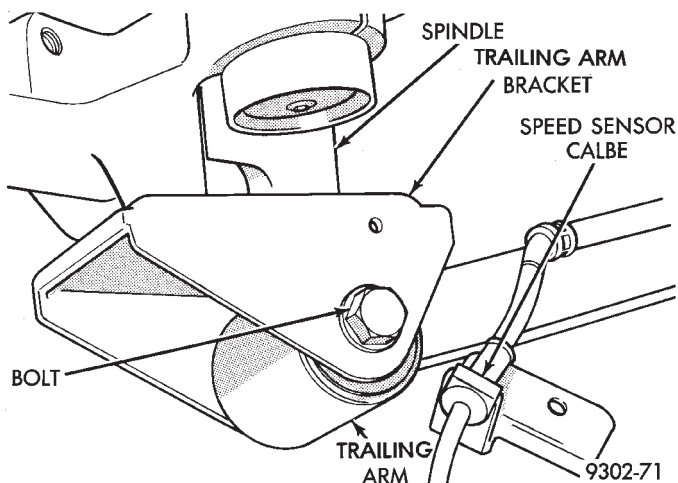


Fig. 8 Trailing Arm To Spindle Bracket Bolt

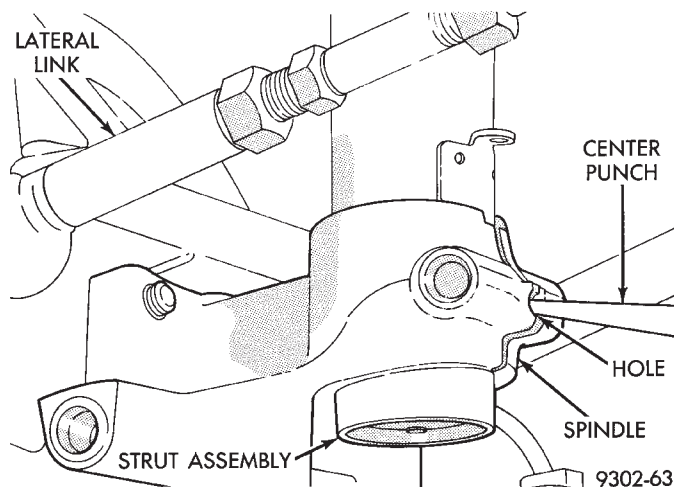


Fig. 11 Center Punch Installed In Spindle

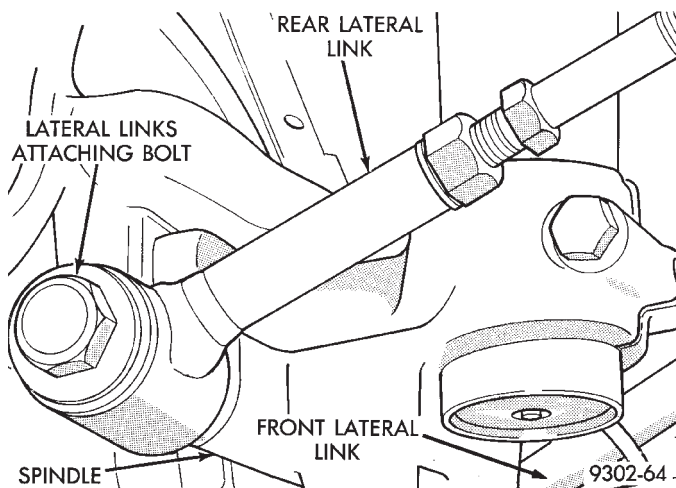


Fig. 9 Lateral Links To Spindle Attaching Bolt

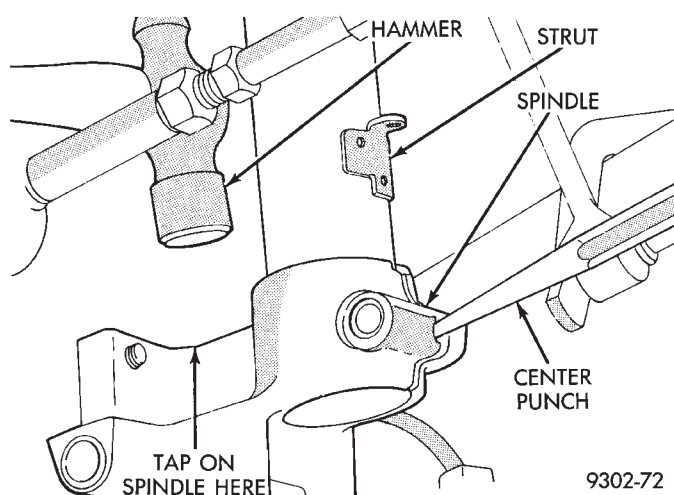


Fig. 12 Removing Spindle From Strut Assembly

Then remove center punch from hole in spindle. Install spindle to strut assembly pinch bolt into spindle (Fig. 13). Torque spindle to strut assembly pinch bolt to 55 N•m (40 ft. lbs.).

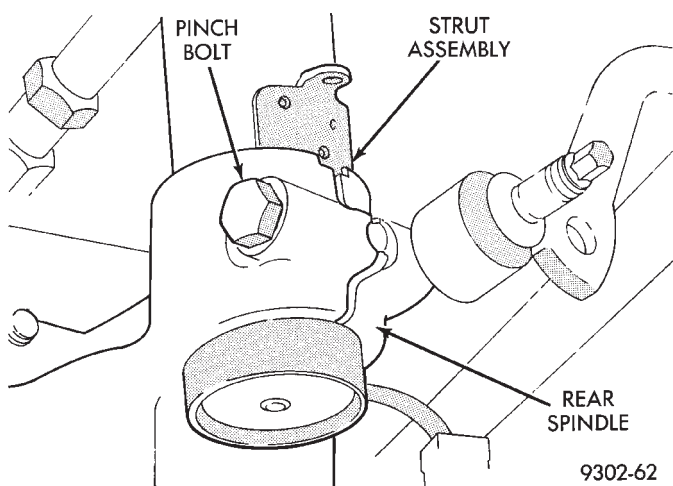


Fig. 10 Spindle To Strut Assembly Pinch Bolt

INSTALLATION

(1) Install spindle onto the bottom of the strut assembly (Fig. 13). Push and or tap spindle assembly onto strut, until notch in spindle is tightly seated against locating tap on strut assembly (Fig. 13).

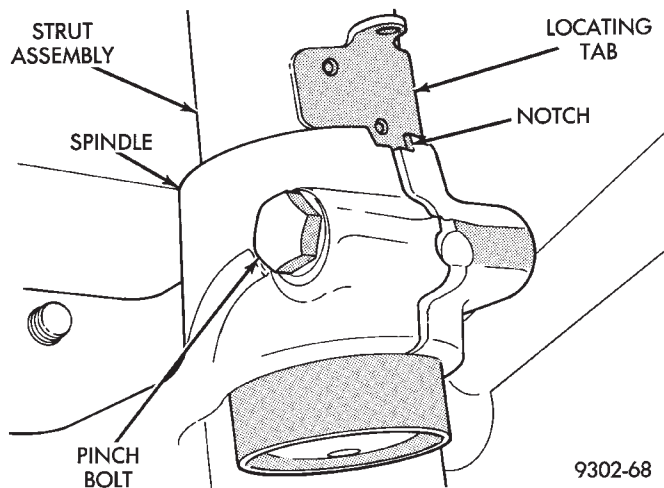


Fig. 13 Spindle Mounted To Strut Assembly



(2) Install the lateral links to spindle attaching bolt (Fig. 14). Torque the lateral links to spindle attaching bolt to 140 N•m (105 ft. lbs.).

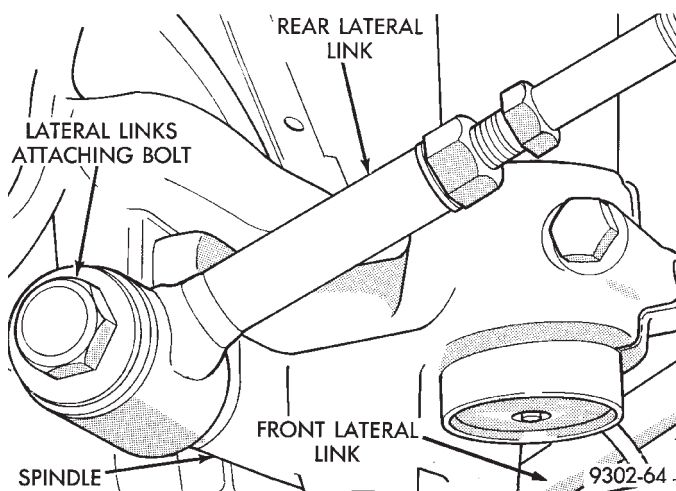


Fig. 14 Lateral Links To Spindle Attaching Bolt

(3) Install bolt attaching trailing arm to trailing arm bracket on bottom of spindle (Fig. 15). Torque trailing arm to trailing arm bracket attaching bolt to 100 N•m (74 ft. lbs.).

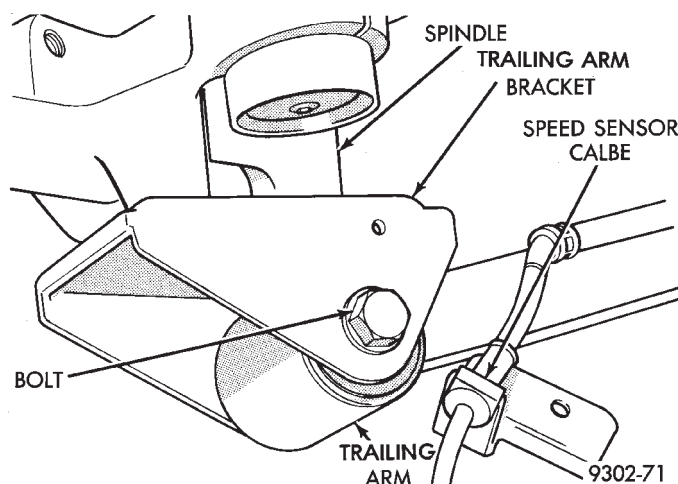


Fig. 15 Trailing Arm To Spindle Bracket Bolt

(4) If vehicle is equipped with Anti-Lock Brakes. Mount rear speed sensor cable routing tube to the rear trailing arm and speed sensor cable routing bracket to trailing arm bracket at rear spindle (Fig. 16).

(5) On vehicles equipped with rear drum brakes. Install the rear brake support plate onto the spindle (Fig. 17). Install the 4 bolts attaching the rear brake support plate to the rear spindle (Fig. 17). Torque the brake support plate to spindle mounting bolts to 115 N•m (85 ft. lbs.).

(6) On vehicles equipped with rear disc brakes. Install the disc brake adapter back on the spindle (Fig. 18). Install the 4 bolts attaching the disc brake

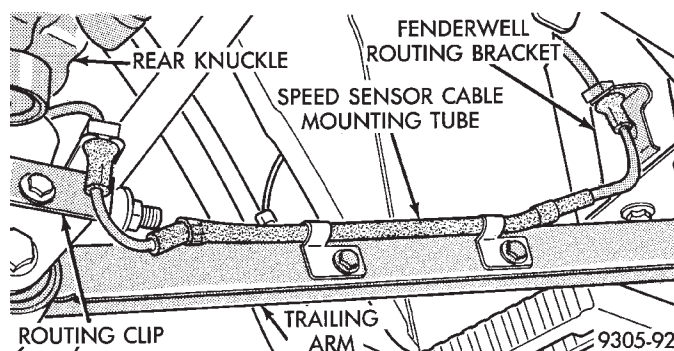


Fig. 16 Speed Sensor Routing Tube And Bracket

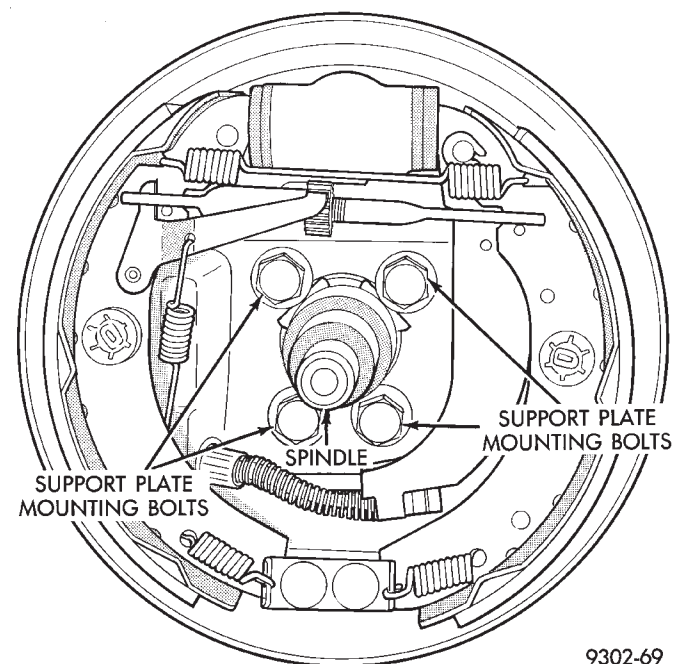


Fig. 17 Brake Support Plate Mounting Bolts

adapter to the rear spindle (Fig. 18). Torque the disc brake adapter to spindle mounting bolts to 115 N•m (85 ft. lbs.).

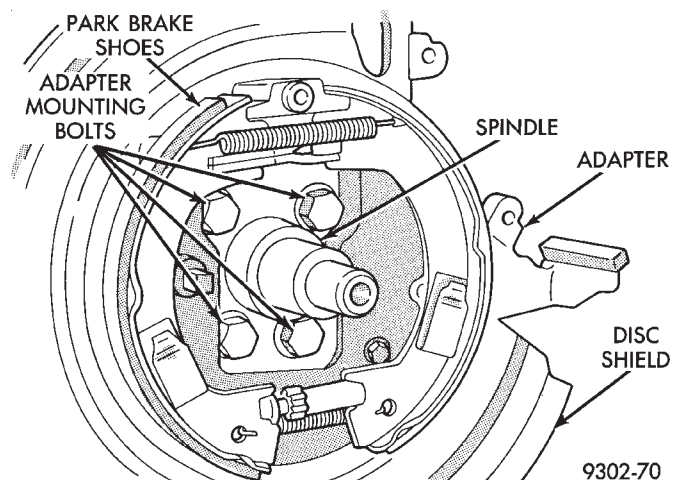


Fig. 18 Disc Brake Adapter Mounting



(7) If vehicle is equipped with Anti-Lock brakes. Install the speed sensor head into the rear disc brake adapter (Fig. 19). Torque speed sensor head to adapter attaching bolt to 7 N•m (60 in. lbs.).

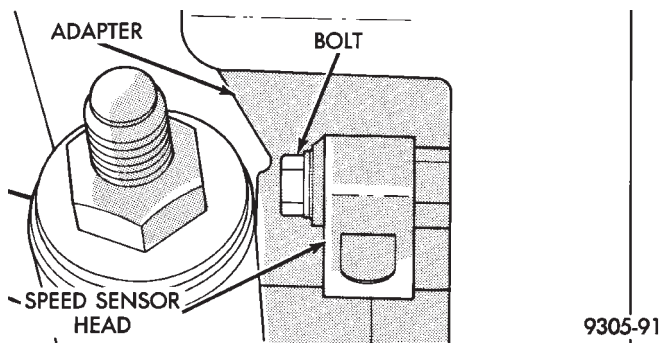


Fig. 19 Speed Sensor Head Installed In Adapter

(8) Install the rear hub and bearing assembly on the rear spindle. Install hub and bearing assembly retaining washer and nut on spindle (Fig. 20). Torque hub and bearing retaining nut to 168 N•m (124 ft. lbs.).

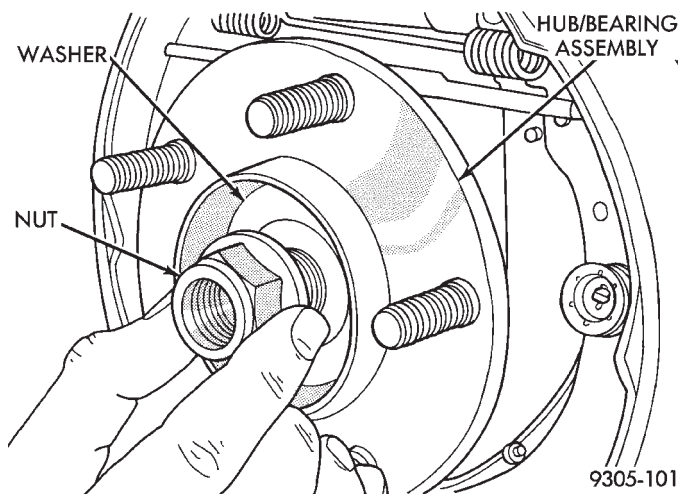


Fig. 20 Rear Hub And Bearing Retaining Nut and Washer Removal

(9) If vehicle is equipped with rear disc brakes, install rear braking disc on hub. If vehicle is equipped with rear drum brakes, install the brake drum on hub.

(10) If vehicle is equipped with rear disc brakes, install rear braking disc on hub. Carefully install rear brake caliper over braking disc and install on adapter. Tighten the caliper assembly to adapter mounting bolts to 22 N•m (192 in. lbs.). Refer to Rear Disc Brakes in Group 5 Brakes in this service manual for required caliper installation procedure.

(11) If vehicle is equipped with rear drum brakes install rear brake flex hose onto wheel cylinder and support plate (Fig. 21). Torque the brake hose to

wheel cylinder tube nut to 17 N•m (145 in. lbs.). Torque the brake hose bracket to support plate bolt to 8 N•m (75 in. lbs.).

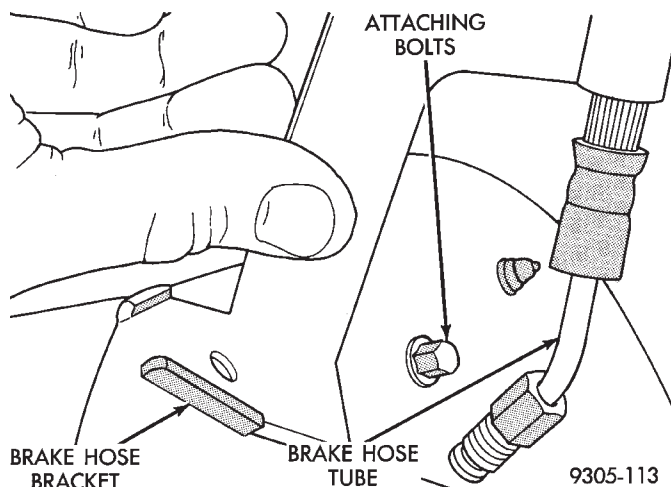


Fig. 21 Brake Hose Bracket And Tube Nut

(12) If vehicle has rear drum brakes, brake system will require bleeding. Refer to Bleeding Brake System in the Service Adjustments Section of Group 5 Brakes in this service manual.

(11) Install wheel and tire assembly on vehicle. Tighten the wheel mounting stud nuts in proper sequence (Fig. 22) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

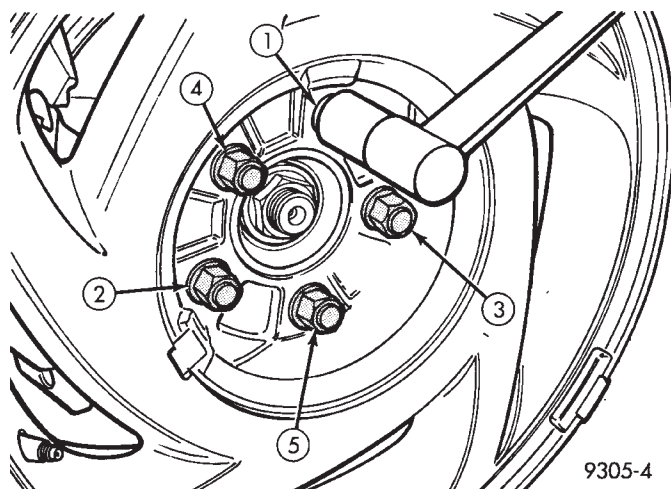


Fig. 22 Tightening Wheel Nuts

(12) Lower vehicle to the ground.

(13) Check and reset rear wheel TOE to specifications if required.

REAR CROSSMEMBER

The L.H. platform vehicles are available with two different rear crossmembers depending on the suspension package the vehicle was built with. The crossmembers visually look the same between the standard and performance suspension packages, but the mounting location for the lateral links is differ-



ent. The performance suspension crossmember is identified by a hole in the crossmember. Hole is located on left side of crossmember, on rear vertical wall (Fig. 1). **If crossmember is replaced be sure the correct crossmember is installed or handling of the vehicle will be adversely affected.**

REMOVE

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove both rear wheel and tire assemblies from the vehicle.

(3) Position a transmission jack under the fuel tank just forward of the crossmember to help support fuel tank when crossmember is removed.

(4) Remove the nut and bolt on each side of vehicle attaching the lateral links to the spindle (Fig. 2).

(5) Remove the 4 bolts attaching rear crossmember to frame rails (Fig. 3)

(6) Lower the crossmember and lateral links as an assembly out of the vehicle.

(7) Transfer lateral links to the replacement crossmember before installing crossmember back in vehicle. **Adjustable lateral link to be positioned to the rear of vehicle on crossmember.** Torque the lateral links to crossmember attaching bolts to 140 N•m (105 ft. lbs.). **Install lateral link to crossmember bolts so head of bolt will be to front of vehicle when crossmember is installed.**

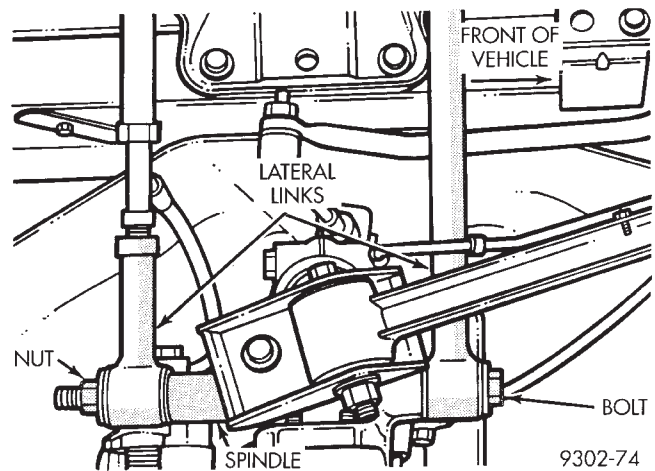


Fig. 2 Lateral Link Attachment To Spindle

INSTALL

(1) Install the crossmember and lateral links back into vehicle as an assembly.

(2) Position crossmember on frame rails and install the 4 crossmember to frame rail attaching bolts (Fig. 3). Torque the crossmember to frame rail attaching bolts to 95 N•m (70 ft. lbs.).

(3) Align lateral links with spindles and install the lateral link to spindle attaching bolts (Fig. 2). Torque the lateral link to spindle attaching bolts to 140 N•m (105 ft. lbs.).

(4) Remove transmission jack supporting fuel tank.

(5) Install wheel and tire assembly on vehicle. Tighten the wheel mounting stud nuts in proper sequence (Fig. 4) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

(6) Lower vehicle to the ground.

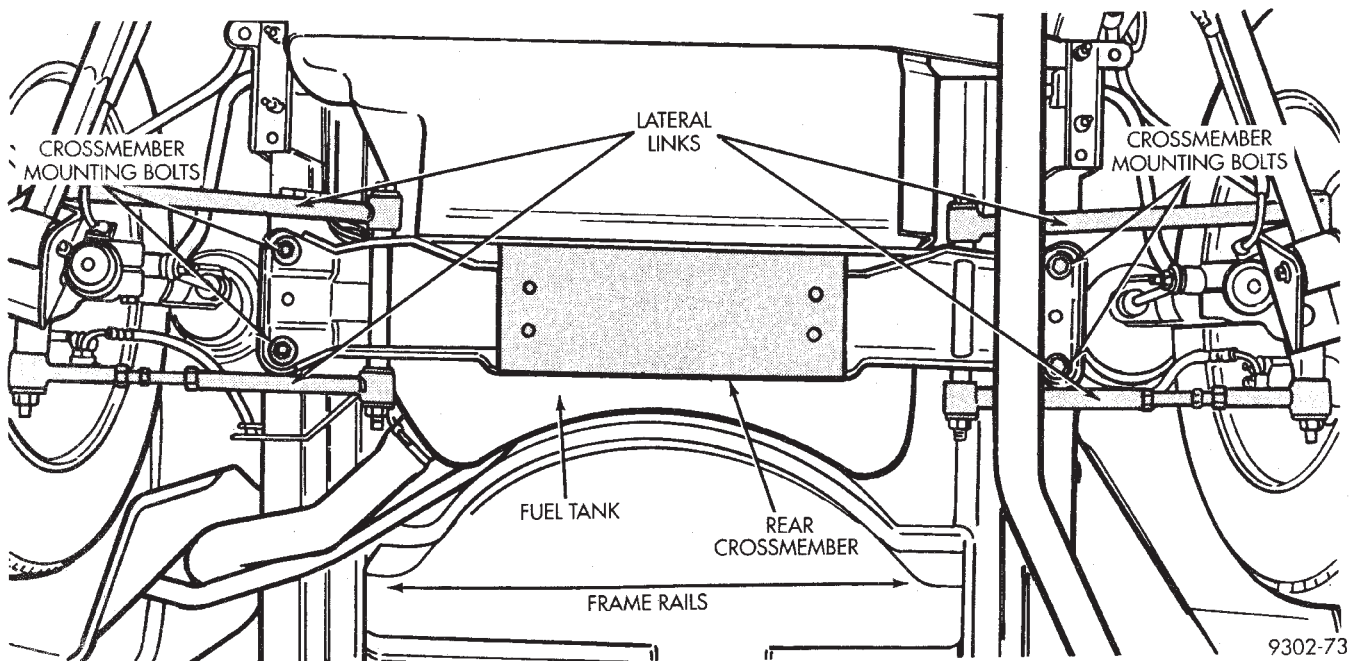


Fig. 1 Rear Suspension Crossmember

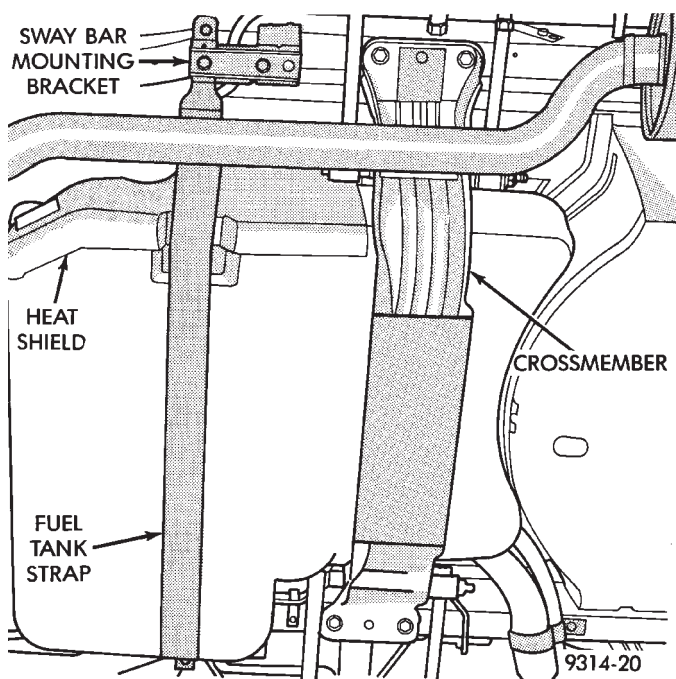


Fig. 3 Crossmember To Frame Rail Attaching Bolts

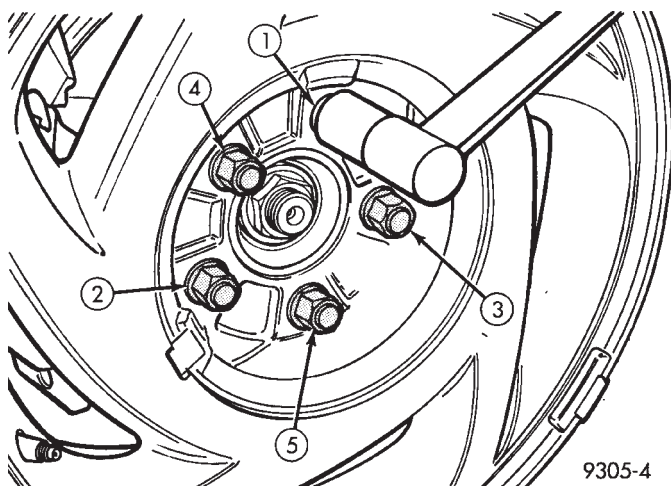


Fig. 4 Tightening Wheel Nuts

(7) Check and reset rear wheel TOE to specifications if required.

REAR STABILIZER BAR

REMOVE

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove both rear wheel and tire assemblies from the vehicle.

(3) Position a transmission jack under the fuel tank just forward of the crossmember to help support fuel tank when crossmember is removed.

(4) Remove the 4 crossmember to frame rail attaching bolts (Fig. 1).

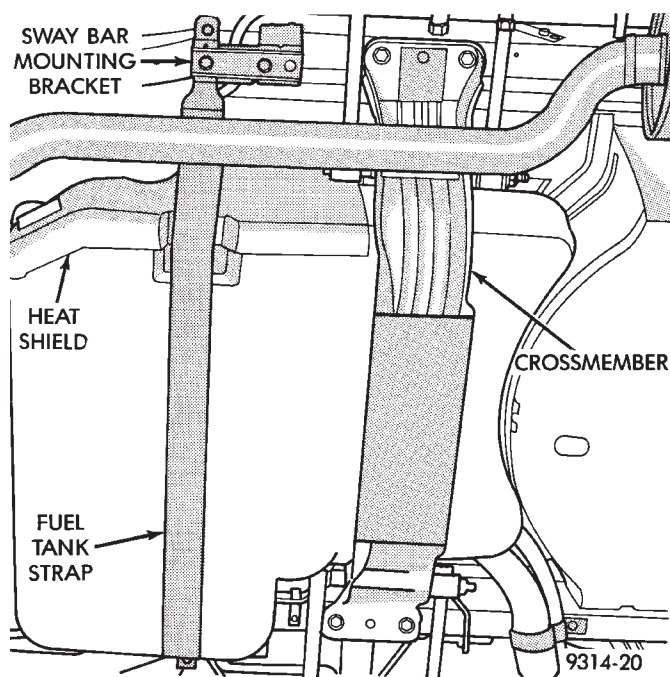


Fig. 1 Crossmember To Frame Rail Attaching Bolts

(5) Remove fuel tank. Refer to Group 14 Fuel, in this service manual for the required fuel tank removal procedure.

(6) Remove the stabilizer bar to link assembly attaching nuts (Fig. 2)

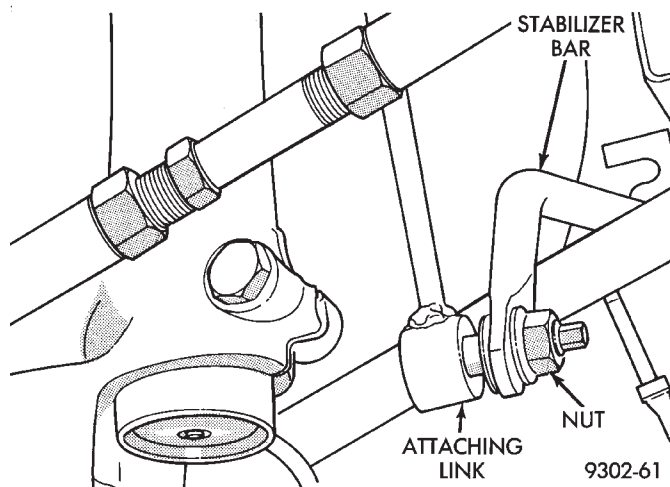
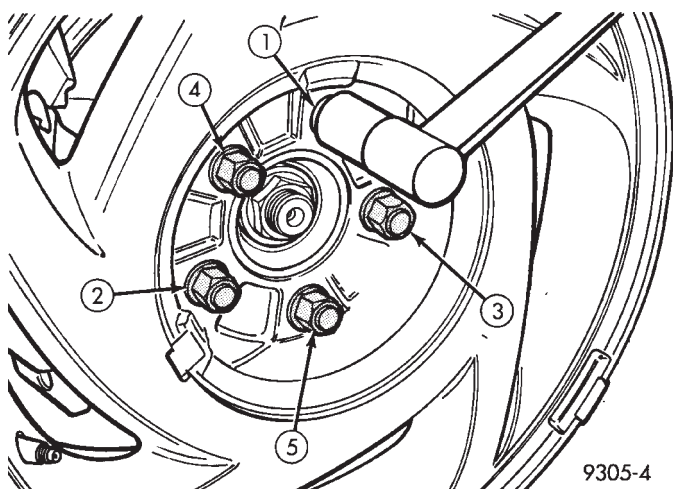


Fig. 2 Stabilizer Bar To Link Attaching

(7) Remove stabilizer bar and isolator bushings as an assembly from the vehicle.

STABILIZER BAR AND BUSHING INSPECTION

Inspect for broken or distorted retainers and bushings. If bushing replacement is required, bushing can be removed by opening slit in bushing and removing bushing from around stabilizer bar.



9305-4

Fig. 3 Tightening Wheel Nuts**INSTALL**

(1) Install the stabilizer bar and isolator bushings back into the vehicle as an assembly. Position stabilizer bar so it is centered in the vehicle so it does not contact other suspension components or vehicle body.

(2) Install the stabilizer bar attaching link onto stabilizer bar. Install the stabilizer link to stabilizer bar attaching nut (Fig. 2). Torque the stabilizer link to stabilizer bar attaching nut to 95 N•m (70 ft. lbs.).

(3) Install fuel tank back in vehicle. Refer to Group 14 Fuel, in this service manual for the required fuel tank installation procedure.

CAUTION: The sway bar bracket bolts must be replaced after loosening or removing them. Only use original equipment bolts as replacements.

(4) Position crossmember on frame rails and install the 4 crossmember to frame rail attaching bolts (Fig. 1). Torque the crossmember to frame rail attaching bolts to 95 N•m (70 ft. lbs.).

(5) Remove transmission jack supporting fuel tank.

(6) Install wheel and tire assembly on vehicle. Tighten the wheel mounting stud nuts in proper sequence (Fig. 3) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

(7) Lower vehicle to the ground.

(8) Check and reset rear wheel TOE to specifications if required.

SERVICING LATERAL LINKS

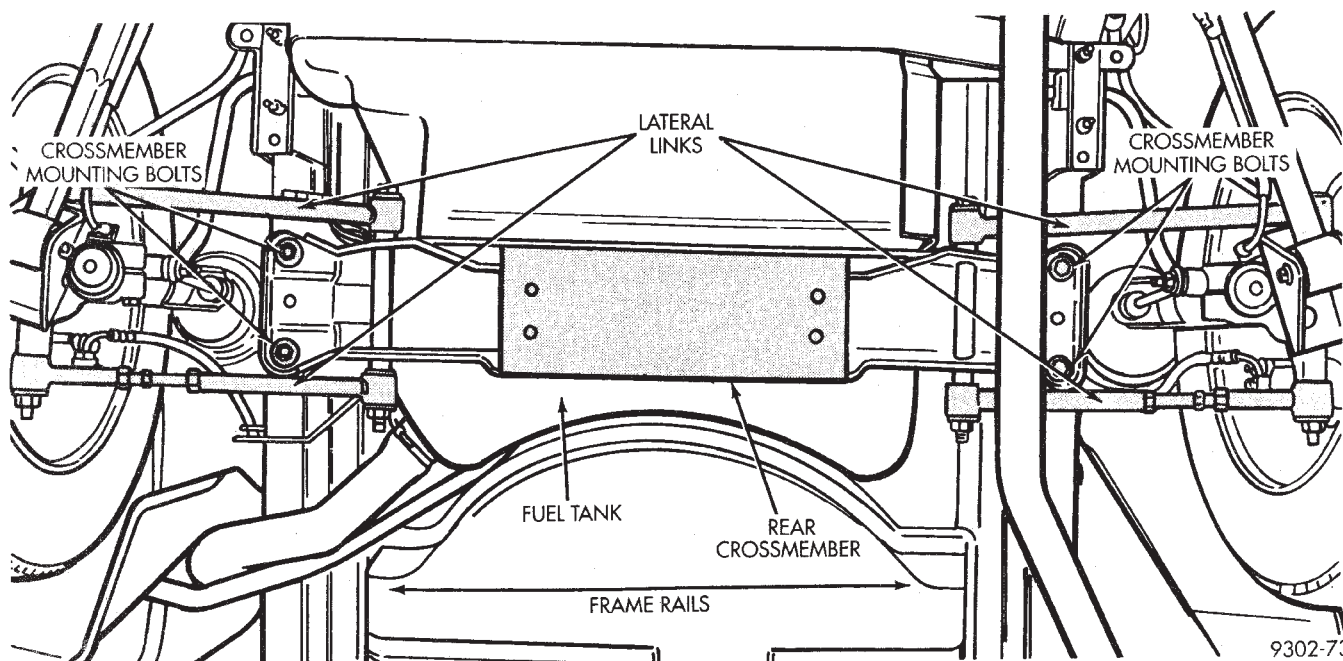
The lateral links are only serviced as complete assemblies. The isolator bushings used in the lateral links are not serviced as separate components. The left and right lateral links are serviced using different procedures. See procedures below for the side of the vehicle requiring service to the lateral links.

LEFT LATERAL LINKS**REMOVE**

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove left rear wheel and tire assembly from the vehicle.

(3) Remove the nut and bolt attaching left lateral links to the spindle (Fig. 2).



9302-73

Fig. 1 Rear Suspension Lateral Links

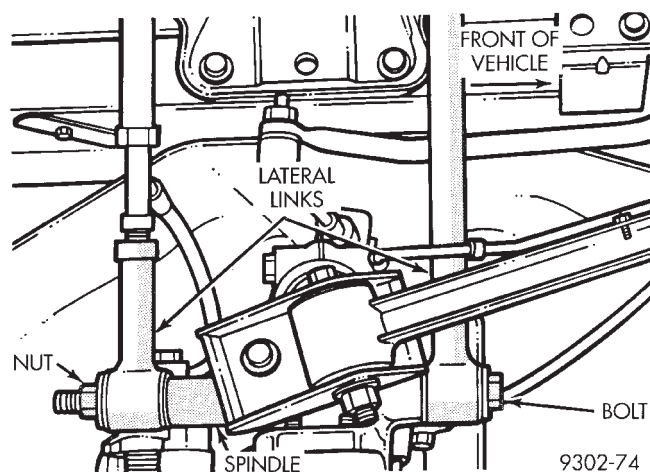


Fig. 2 Lateral Link Attachment To Spindle

(4) Remove the nut and bolt attaching the left lateral links to the rear crossmember (Fig. 3). Remove lateral links from vehicle.

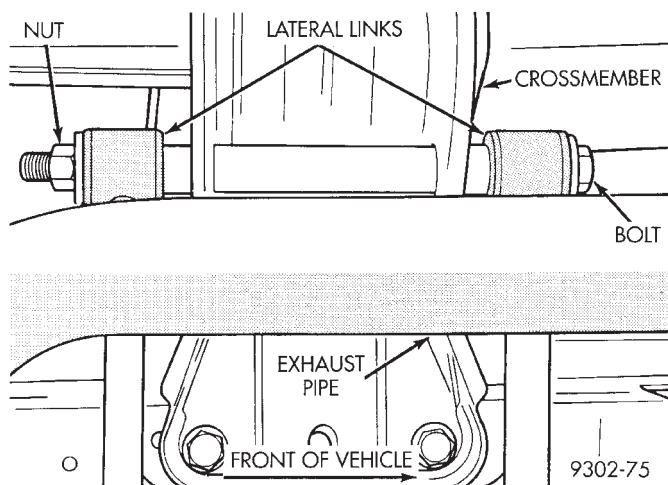


Fig. 3 Left Lateral Links To Crossmember Bolt

INSTALL

(1) Replacement lateral links are installed on the crossmember in the following order.

- Solid lateral link is installed on crossmember toward the front of the vehicle.
- The adjustable lateral link is installed on crossmember toward rear of vehicle, with the adjustable link positioned toward the spindle (Fig. 1).

(2) Install the lateral link attaching bolt at the spindle and crossmember. **Note: Both lateral link attaching bolts must be install, so head of bolt is facing front of vehicle (Fig. 2 and 3).**

(3) Torque both lateral link attaching bolts to 140 N•m (105 ft. lbs.).

(4) Install wheel and tire assembly on vehicle. Tighten the wheel mounting stud nuts in proper sequence (Fig. 4) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

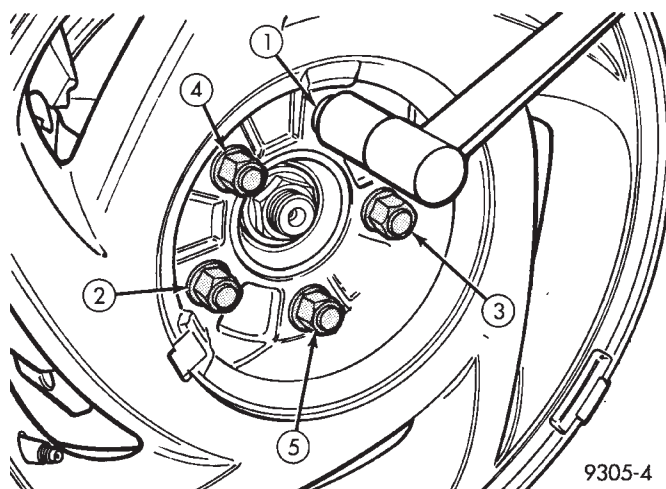


Fig. 4 Tightening Wheel Nuts

(5) Lower vehicle to the ground.

(6) Check and reset rear wheel TOE to specifications if required.

RIGHT LATERAL LINKS

To allow for removal of right rear lateral links to rear crossmember attaching bolt. The rear crossmember will have to be lowered so attaching bolt will clear fuel tank for removal and installation.

REMOVE

(1) Raise vehicle on jackstands or centered on a frame contact type hoist. See Hoisting in the Lubrication and Maintenance section of this manual, for the required lifting procedure to be used for this vehicle.

(2) Remove right rear wheel and tire assembly from the vehicle.

(3) Remove the nut and bolt attaching right lateral links to the spindle (Fig. 5).

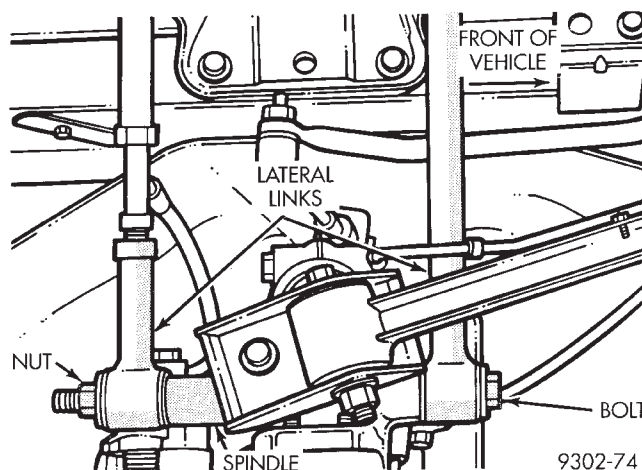


Fig. 5 Lateral Link Attachment To Spindle

(4) Position a transmission jack under the fuel tank just forward of the crossmember to help support fuel tank when crossmember is lowered.



(5) Remove the 4 crossmember to frame rail attaching bolts (Fig. 6).

(6) Lower rear crossmember far enough so right lateral links to crossmember attaching bolt will clear fuel tank.

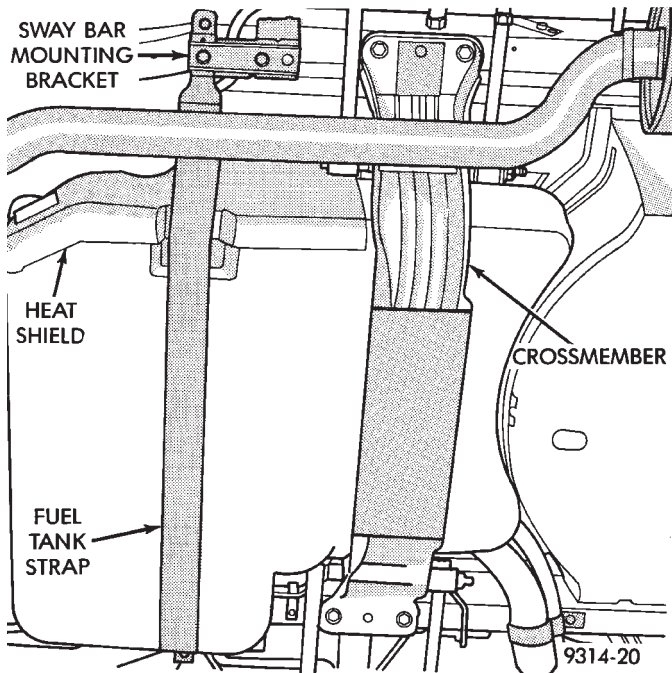


Fig. 6 Crossmember To Frame Rail Attaching Bolts

(7) Remove the nut and bolt attaching the right lateral links to the rear crossmember (Fig. 7). Remove lateral links from vehicle.

INSTALL

(1) Replacement lateral links are installed on the crossmember in the following order.

- Solid lateral link is installed on crossmember toward the front of the vehicle.
- The adjustable lateral link is installed on crossmember toward rear of vehicle, with the adjustable link positioned toward the spindle (Fig. 1).

(2) Install the right lateral links attaching bolt at the crossmember. **Note: Right lateral link attaching bolts MUST be install, so head of bolt is facing front of vehicle (Fig. 5 and 7).**

(3) Position crossmember on frame rails and install the 4 crossmember to frame rail attaching bolts (Fig.

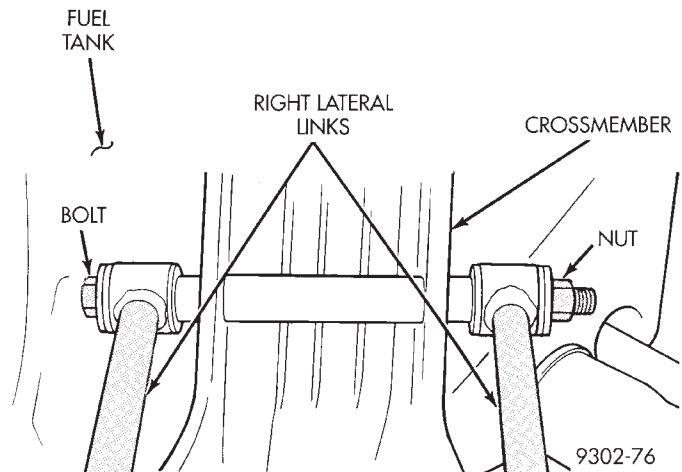


Fig. 7 Right Lateral Links To Crossmember Bolt

6). Torque the crossmember to frame rail attaching bolts to 95 N•m (70 ft. lbs.).

(4) Torque the lateral links to crossmember attaching bolt to 140 N•m (105 ft. lbs.).

(5) Align right lateral links with spindle and install the lateral link to spindle attaching bolt (Fig. 5). Torque the lateral link to spindle attaching bolt to 140 N•m (105 ft. lbs.).

(6) Install wheel and tire assembly on vehicle. Tighten the wheel mounting stud nuts in proper sequence (Fig. 8) until all nuts are torqued to half specification. Then repeat the tightening sequence to the full specified torque of 129 N•m (95 ft. lbs.).

(7) Lower vehicle to the ground.

(8) Check and reset rear wheel TOE to specifications if required.

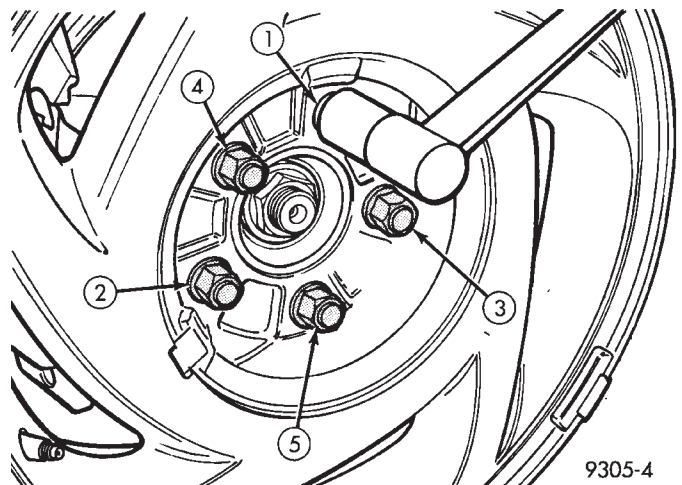


Fig. 8 Tightening Wheel Nuts



SPECIFICATIONS

ALIGNMENT SPECIFICATIONS AT CURB HEIGHT

FRONT WHEEL ALIGNMENT	ACCEPTABLE ALIGNMENT RANGE AT CURB HEIGHT	PREFERRED SETTING
CAMBER .. All*	-0.6° to +0.6°	+0.0°
*Side To Side Differential	0.7° or less	0.0°
TOTAL TOE All Vehicles (See Note) Specified In Degrees	0.4° in to 0.0°	0.2° in
CASTER*	REFERENCE ANGLE	
All Models	+2.0° to +4.0°	+3.0°
*Side To Side Caster Differential Not To Exceed	1.0° or less	0.0°
REAR WHEEL ALIGNMENT	ACCEPTABLE ALIGNMENT RANGE AT CURB HEIGHT	PREFERRED SETTING
CAMBER .. All Models	-0.6° to +0.4°	-0.1°
TOTAL TOE* All Vehicles (See Note) Specified In Degrees	0.2° Out To 0.4° In	0.1° In
THRUST ANGLE	-0.15° to +0.15°	
*TOE OUT When Backed On Alignment Rack Is TOE IN When Driving.		
NOTE: Total toe is the arithmetic sum of the left and right wheel toe settings. Positive is Toe-in, negative is Toe-out. Total Toe must be equally split between each front wheel to ensure a centered steering wheel. Left and Right toe must be equal to within 0.02 degrees.		



1993 Concorde/Intrepid/Vision
Publication No. 81-270-3140
TSB 02-17-94 November 18,1994

**REAR SUSPENSION TORQUE
SPECIFICATIONS**

DESCRIPTION	TORQUE
Brake Support Plate To Spindle Mounting Bolts	109 N·m (80 ft. lbs.)
Sway Bar Isolator Bushing Retainer To Frame Bolt	55 N·m (40 ft. lbs.)
Sway Bar To Rear Strut Attaching Link Nut	95 N·m (70 ft. lbs.)
Strut Assembly To Body Attaching Nuts	28 N·m (21 ft. lbs.)
Strut Assembly To Spindle Pinch Bolt	55 N·m (40 ft. lbs.)
Rear Crossmember To Frame Rail Attaching Bolts	92 N·m (70 ft. lbs.)
Trailing Arm Bracket To Body Attaching Bolts	70 N·m (50 ft. lbs.)
Link Assembly Attaching Nut	140 N·m (105 ft. lbs.)
Bolt Hanger To Spindle	115 N·m (85 ft. lbs.)
Drum/Hat To Spindle Bolt	115 N·m (85 ft. lbs.)
Caliper To Drum/Hat Assembly Mounting Bolt	22 N·m (16 ft. lbs.)
Hub And Bearing Assembly To Spindle Retaining Nut	170 N·m (125 ft. lbs.)
Brake Hose Mounting Bolt	45 N·m (35 ft. lbs.)
Link To Hanger Bolt	95 N·m (70 ft. lbs.)
Adjustable Link Jam Nut	65 Nm (48 ft. lbs.)
Brake Hose Bracket Mounting Bolt	23 N·m (17 ft. lbs.)
Stabilizer Bar Attaching Link To Strut Assembly Nut	23 Nm (17 ft. lbs.)
Strut Assembly Shaft Nut	68 N·m (50 ft. lbs.)

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**FRONT SUSPENSION TORQUE
SPECIFICATIONS**

DESCRIPTION	TORQUE
Sway Bar To Strut Attaching Link Nut	95 N·m (70 ft. lbs.)
Strut Assembly To Shock Tower Attaching Nuts	37 N·m (28 ft. lbs.)
Strut Assembly To Steering Knuckle Bolt Nut	170 N·m (125 ft. lbs.)
Ball Joint Stud To Steering Knuckle Nut And Bolt	55 N·m (40 ft. lbs.)
Tie Rod End To Strut Steering Arm Attaching Nut	37 N·m (27 ft. lbs.)
Steering Gear To Body Attaching Bolts	68 N·m (50 ft. lbs.)
Tie Rod End Adjusting Sleeve Jam Nuts	75 N·m (55 ft. lbs.)
Front Cradle Assembly To Body Mounting Bolts	155 N·m (115 ft. lbs.)
Lower Control Arm To Cradle Pivot Bolt	123 N·m (90 ft. lbs.)
Tension Strut Mounting Nuts	175 N·m (130 ft. lbs.)
Stabilizer Bar Bushing Retainer To Cradle Bolts	55 N·m (40 ft. lbs.)
Stabilizer Bar Attaching Link To Strut Assembly Nut	11 N·m (8 ft. lbs.)
Strut Assembly Shaft Nut	95 N·m (70 ft. lbs.)
Hub and Bearing Assembly To Steering Knuckle Bolts	110 N·m (80 ft. lbs.)
Disc Brake Caliper Assembly To Steering Knuckle Bolts	22 N·m (16 ft. lbs.)
Front Stub Axle To Hub And Bearing Retaining Nut	163 N·m ± 14 (120 ft. lbs. ± 10)

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