

Suspension

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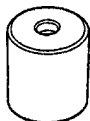
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Special Tools

Ref. No.	Tool Number	Description	Q'ty	Page Reference
①	07GAF—SD40100	Hub Dis/Assembly Pin	1	18-32, 33
②	07GAF—SD40200	Hub Assembly Driver Attachment	1	18-18, 33
③	07GAF—SD40700	Hub Dis/Assembly Base	2	18-18, 32
④	07GAG—SD40700	Ball Joint Boot Clip Guide	1	18-38
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⑥	07MAC—SL09100	Ball Joint Remover	1	18-21, 22, 23, 36
⑦	07MAG—SL00200	Ball Joint Boot Clip Guide	1	18-25
⑧	07941-6920003	Ball Joint Remover	1	18-21, 35
⑨	07965—SD90100	Hub Dis/Assembly Base	1	18-18, 33
⑩	07974—SA50800	Ball Joint Boot Clip Guide	1	18-38



①



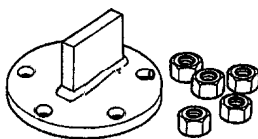
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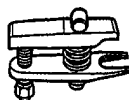
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④



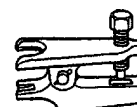
⑤



⑥



⑦



⑧



⑨



⑩



Component Location

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⚠ WARNING

The front and rear dampers contain nitrogen gas and oil under pressure. The pressure must be relieved before disposal to prevent explosion and possible injury when scrapping.

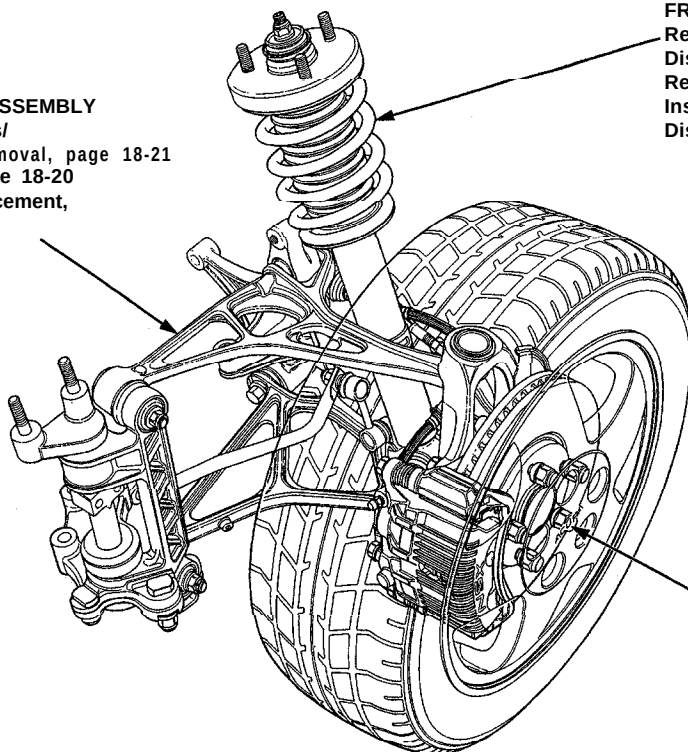
Front Suspension:

FRONT SUSPENSION ASSEMBLY

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FRONT DAMPER

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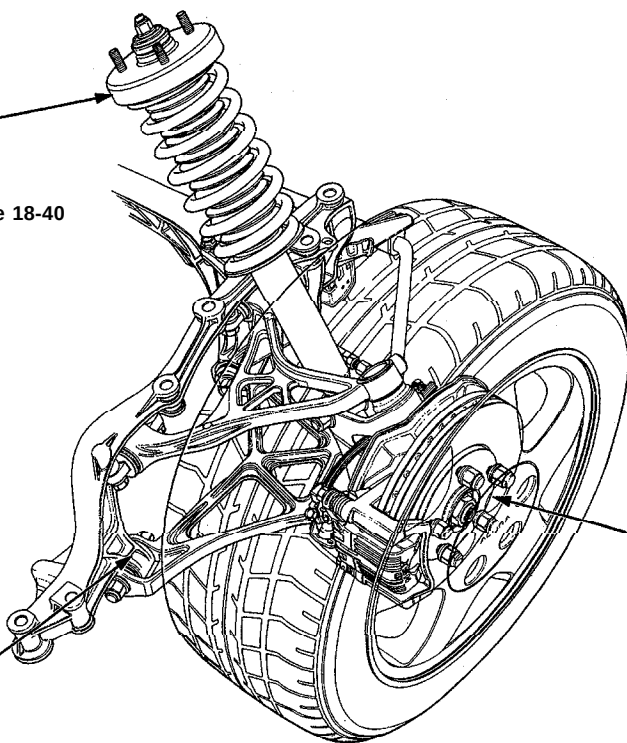
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Rear Suspension:

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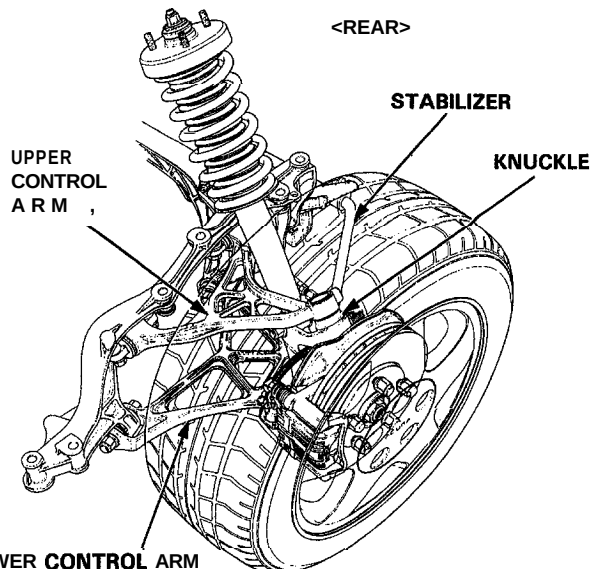
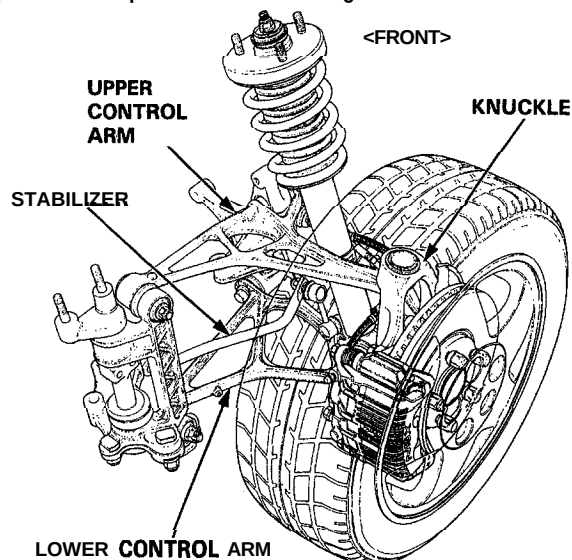
System Description

Suspension Composition

Outline

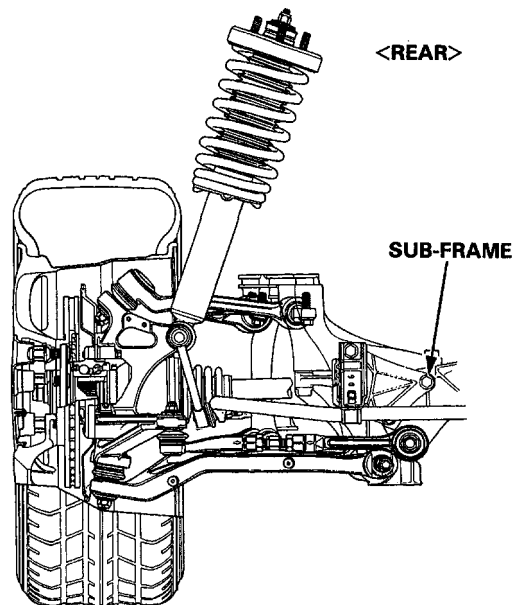
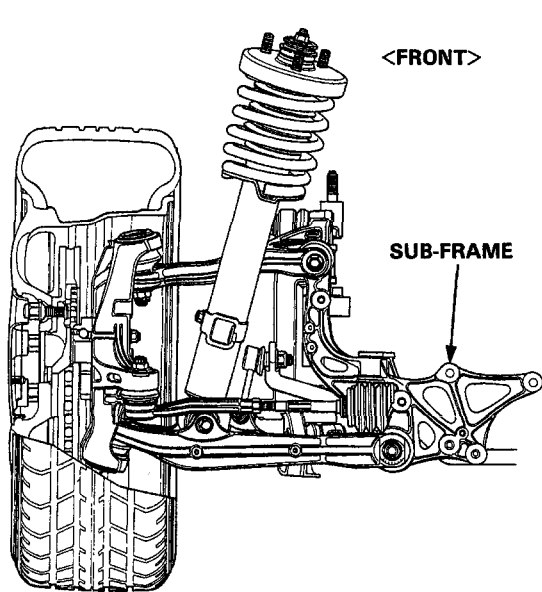
Double wishbone independent suspension has been selected for each of the four wheels. This eliminates damper friction along the steering axis and permits suspension geometry that takes full advantage of the performance potential of the wide, low aspect ratio tires. The double wishbone design also allows the use of aerodynamically-efficient and aesthetically pleasing low fender lines.

The knuckles and the suspension arms are manufactured from light-weight, high-strength aluminum alloys. This gives a notable reduction in unsprung weight which results in increased traction and improved ride. It also allows the individual suspension components to be designed in detail for maximum strength and rigidity.



To further increase suspension link rigidity and to obtain optimum knuckle geometry, the knuckles and ball joints are contained within the wheel profile. At each corner of the car, the individual suspension system is attached to the aluminum stressed skin chassis by a cast aluminum sub-frame. This design further reduces overall weight and ensures that suspension loads are fed into the chassis at the most efficient points and in the most efficient directions.

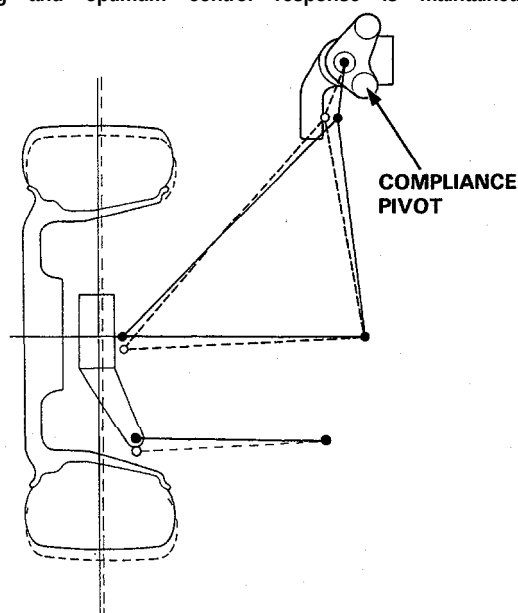
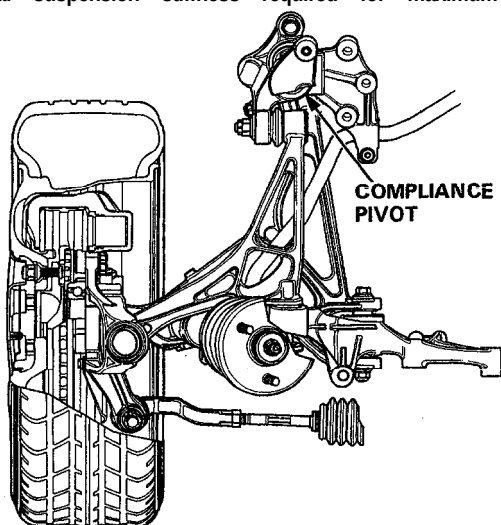
A large front caster angle combined with small trail distance improves straight-line stability and response without causing heavy steering effort.





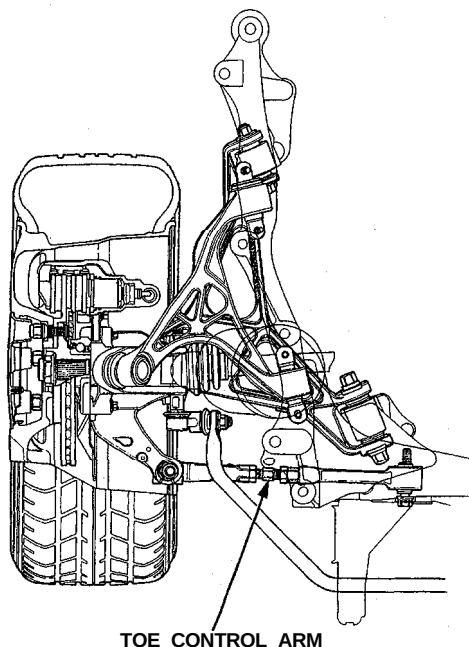
(Front Compliance Mechanism)

To avoid the usual compromise between ride quality and handling characteristics, a pivot-type "compliance mechanism" has been designed as an integral part of the front suspension. When one of the front wheels is subjected to a rearward movement by an uneven road surface or by heavy braking, the load produced has two separate effects. As with any suspension system, the load acts in the vertical direction to compress the suspension spring and reduce the ride height. On the NSX the load also acts through both the upper and lower control arms to twist the compliance pivot. This allows the wheel to move rearward by a controlled amount, thus absorbing energy. The result is an outstanding ride quality with only minimal changes to track width and wheel geometry. In Corning, the compliance pivot does not come into play and the lateral suspension stiffness required for maximum roadholding and optimum control response is maintained.



(Rear Toe Control Arm)

Many conventional passenger-car independent rear suspension systems are subject to undesirable changes in toe-in angle with wheel movement. This results in instability both in Corning and in acceleration. In the NSX, the design and pivot locations of the rear toe control arm produce a slight controlled increase in toe-in during bump travel. As a result, the NSX is extremely stable under heavy cornering loads and over bumpy road surfaces.



Wheel Alignment

Height

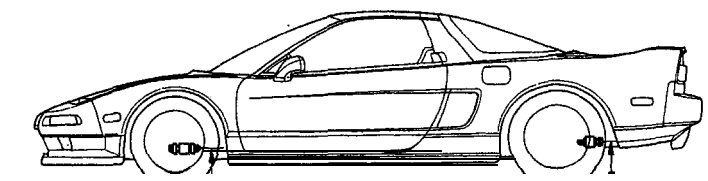
NSX four wheel alignment requires the use of equipment designed specifically for four wheel independent suspensions and capable of immediate feedback.

NOTE: For proper inspection/adjustment of the wheel alignment, check and adjust the following before checking the alignment.

- Check that the suspension is not modified.
- Check the tire size and tire pressure.
- Check the runout of the wheels and tires.
- Check the suspension ball joints. (Hold a wheel with your hands and move it up and down and right and left to check for wobbling.)
- Check the height of each suspension (see below).

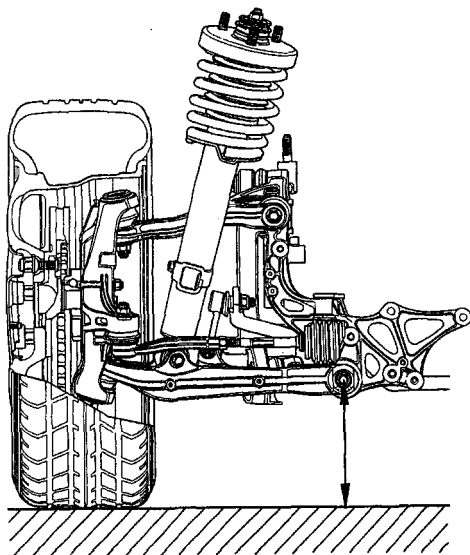
Standard value

	Tire size	Tire pressure psi (kpa)	Standard height mm (in) [empty car]
Front	205/50 ZR15	33 (230)	170-180 mm (6.7-7.1 in)
Rear	225/50 ZR16	40 (275)	213-223 mm (8.4-8.9 in)



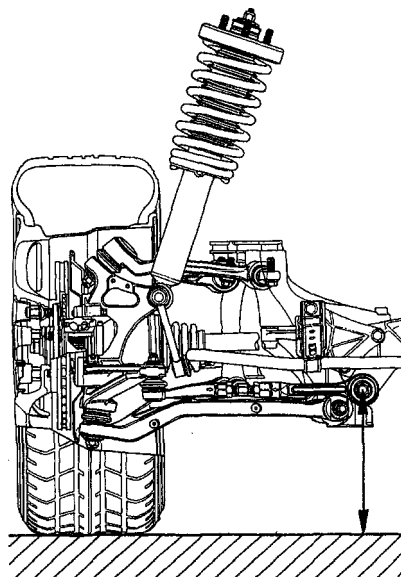
Front:

Ground clearance to the center of the lower control arm bolt



Rear:

Ground clearance to the center of the toe control arm bolt



Height inspection:

- Before checking for the height, bounce the car up and down several times before measuring.
- Check the height with the car empty, parked on a level surface, with properly inflated tires (tread wear indicators must not be showing). If the height is out of specification, load or unload the car as necessary.



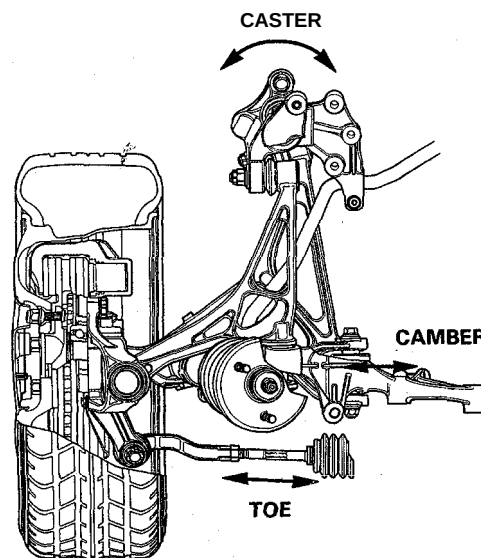
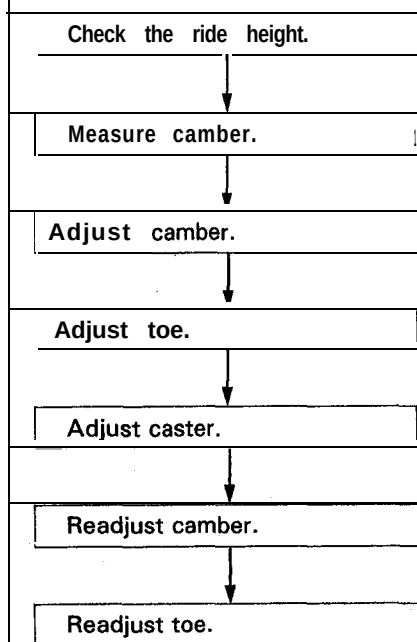
Front Wheel Alignment Adjusting Procedure

Adjustment

NOTE: NSX four wheel alignment requires the use of equipment designed specifically for four wheel independent suspensions and capable of immediate feedback.

The NSX suspension can be adjusted for camber, caster (front only), and toe. However, because each of them relates to the other, the camber changes when the toe is adjusted for example. Therefore, the total adjustment of the front/rear wheel alignment is required whenever either one of the elements (i.e. camber, caster, or the toe) is adjusted.

<Front wheel alignment adjusting procedure>



(cont'd)

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Wheel Alignment

Front Wheel Alignment Adjustment Procedure (cont'd)

NOTE:

- NSX four wheel alignment requires the use of equipment designed specifically for four wheel independent suspensions and capable of immediate feedback.
- The ride height is very important for setting the alignment. For every 10 mm of change in the front ride height, the camber will change approximately 10 minutes.
- The front alignment settings on the NSX are interactive.
A slight change in toe will dramatically change the camber.

1. Drive the car on the alignment rack.
2. Check the tire pressure and ride height as described on page 18-6.
3. Center the steering wheel.

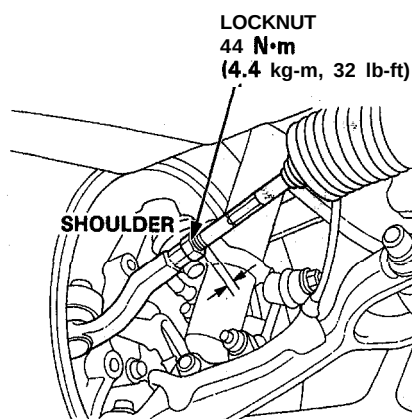
Toe

- 1. Measure the length of the threaded section on the right and left rack ends.

Standard: 11 mm for shoulder

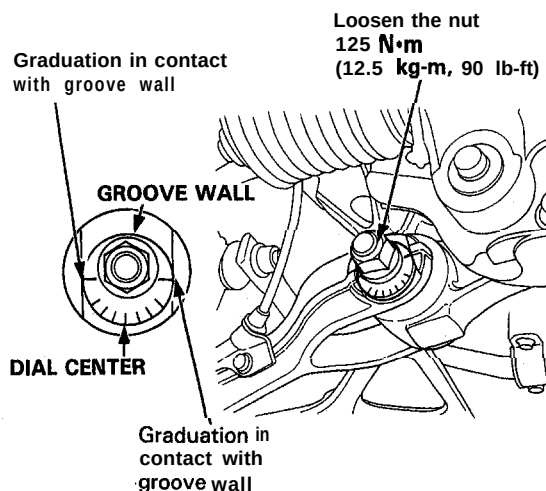
Difference between right and left: 1 mm max.

- 2. If the measurement is out of the specification, loosen the locknut and adjust properly.



Camber

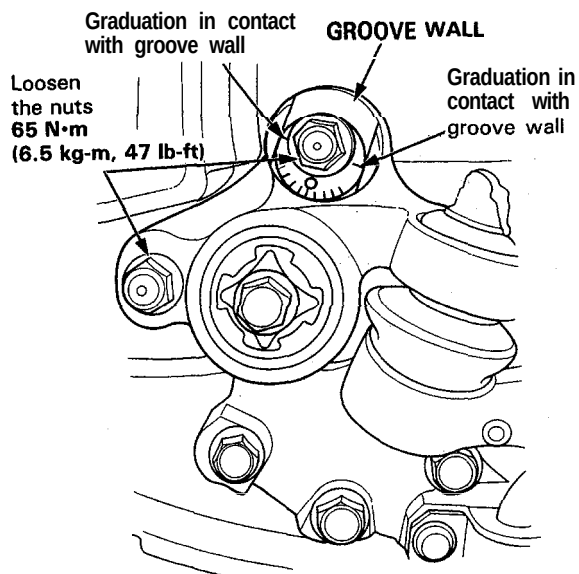
- 1. Loosen the locknut on the front lower control arm adjusting point and adjust the cam position so that the right and left graduations on the adjusting cam are in contact.
- 2. Mark the arm in the position which aligns with the dial center of the adjusting cam.





Caster

- Loosen the pivot adjuster mounting nuts under the compliance pivot and adjust the cam position so that the right and left graduations on the adjusting cam are in contact with the groove walls.



4. Measure and record the readings for the camber and toe according to the alignment equipment manufacture's instructions.

5. Adjust the camber and toe at the same time on one side of the car. Repeat for the other side of the car.

NOTE:

- One graduation on the camber adjusting cam equals approximately 10 minutes of camber change.
- One full turn of the tie rod equals approximately 8 mm.

6. Measure the caster according to the alignment equipment manufacture's instructions.

7. Adjust the caster.

NOTE: One graduation on the caster adjusting cam equals approximately 10 minutes of caster change.

8. Measure the readings for camber and toe.
9. Readjust the camber and toe to the specifications shown.

Front Specifications

Toe $-3.5 \text{ mm} \pm 1.0 \text{ mm}$
Camber $-0 \text{ degrees } 20' \pm 30'$
Caster $+8 \text{ degrees } 00' \pm 45'$

Wheel Alignment

. Front Turning Angle Inspection

NOTE:

- Place a car on a level surface before inspection.
- Release the parking brake and be sure that the car is empty.
- Check that the suspensions are at the standard height (page 18-6).

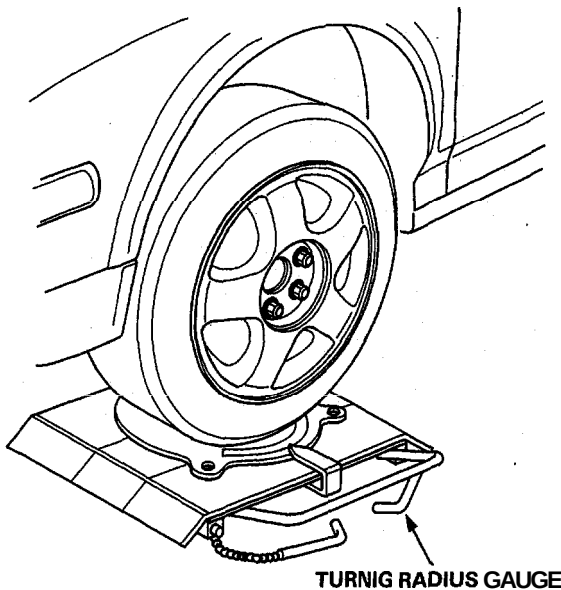
1. Jack up the car and set the turning radius gauges beneath the front wheels, and place boards under the rear wheels the same thickness as one of the turning radius gauges, then lower the car.

NOTE:

Be sure that the car is parallel to the ground with the wheels on the turning radius gauges and boards.

2. Remove the lock pin on the gauge.
Turn the steering wheel fully to the right and left while applying the brake, and measure the turning angle of both wheels.

Turning angle: inward: $33^{\circ}06' \pm 2^{\circ}$
Outward: $26^{\circ}34'$ (Reference value)

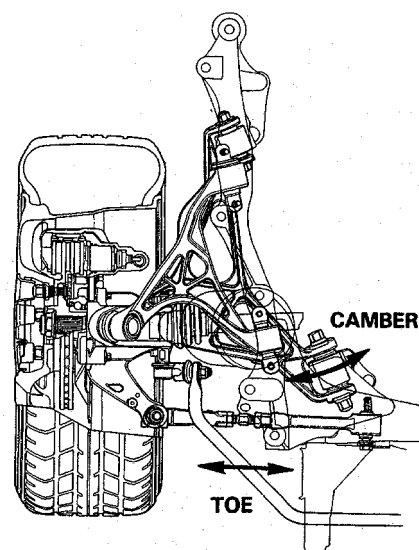
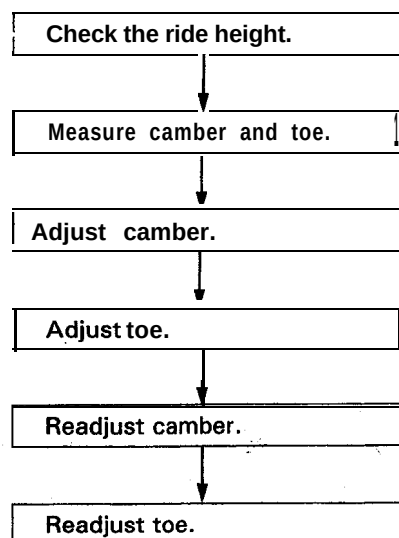


3. If the measurements are not within the specifications or if the inward turning angles differ between the right and left, check the toe and adjust accordingly (page 18-8).



Rear Wheel Alignment Adjusting Procedure

<Rear wheel alignment adjusting procedure>



(cont'd)

Wheel Alignment

Rear Wheel Alignment Adjusting Procedure (cont'd)

NOTE:

- NSX four wheel alignment requires the use of equipment designed specifically for four wheel independent suspensions and capable of immediate feedback.

1. Drive the car on the alignment rack.
2. Check the tire pressure and ride height as described on page 18-6.
3. Center the steering wheel.

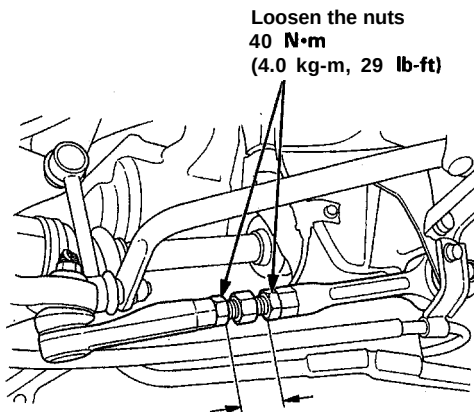
Toe

- 1. Measure the length of the threaded section on the right and left toe control arms.

Standard: 40 mm

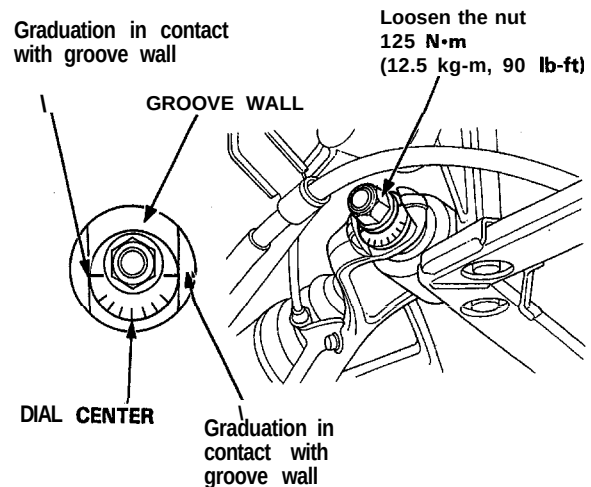
Difference between right and left: 1 mm max.

- 2. If the measurement is out of the specification, loosen the locknut and adjust properly.



Camber

- 1. Loosen the locknut on the rear lower control arm adjusting point and adjust the cam position so that the right and left graduations on the adjusting cam are in contact.
- 2. Mark the arm in the position which aligns with the dial center of the adjusting cam.



4. Measure the readings for camber and toe according to the alignment equipment manufacture's instructions.
5. Adjust the camber and toe at the same time on one side of the car. Repeat for the other side of the car.

Rear Specifications

Toe +6.0 mm $\pm$ 1.0 mm

Camber -1 degrees 30' $\pm$ 30'



Runout

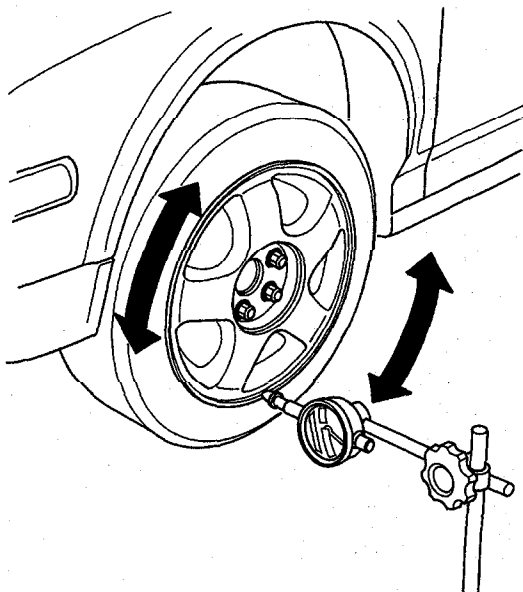
Jack up the car and raise the wheels off the ground (Section 1).

Place the dial gauge on each front and rear wheel rim, turn the wheel slowly by hand, and check the front/rear wheel runout.

Front and Rear Wheel Axial Runout

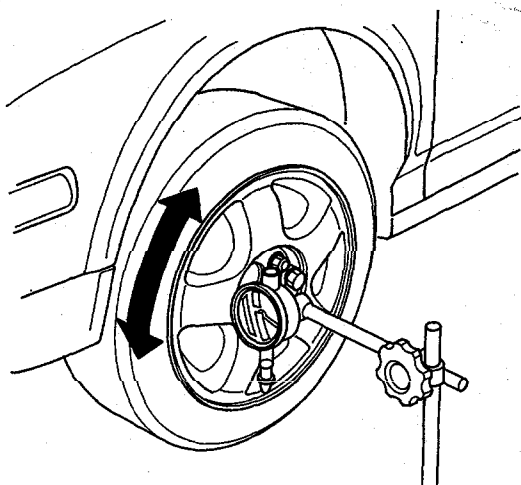
Standard:

0-0.7 mm (0-0.028 in)



Front and Rear Wheel Radial Runout

Standard: 0-0.7 mm (0-0.028 in)



Turn the wheel slowly by hand and check for excessive axial and radial runout.

Bearing End Play

Front Wheel End Play

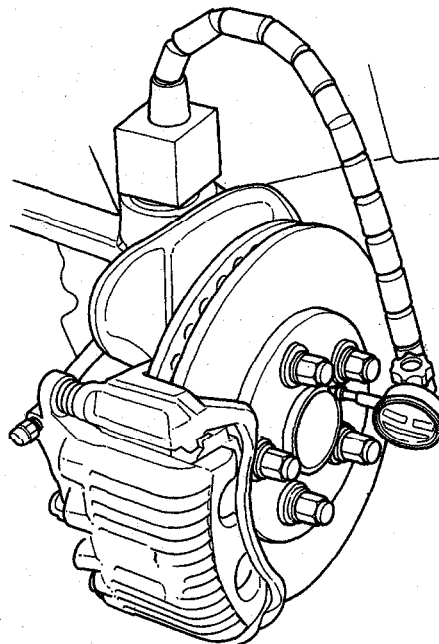
Standard: 0 mm (0 in)

Service limit: 0.05 mm (0.002 in) max. Replace.

Rear Wheel End Play

Standard: 0 mm (0 in)

Service limit: 0.05 mm (0.002 in) max. Replace.



Front Suspension

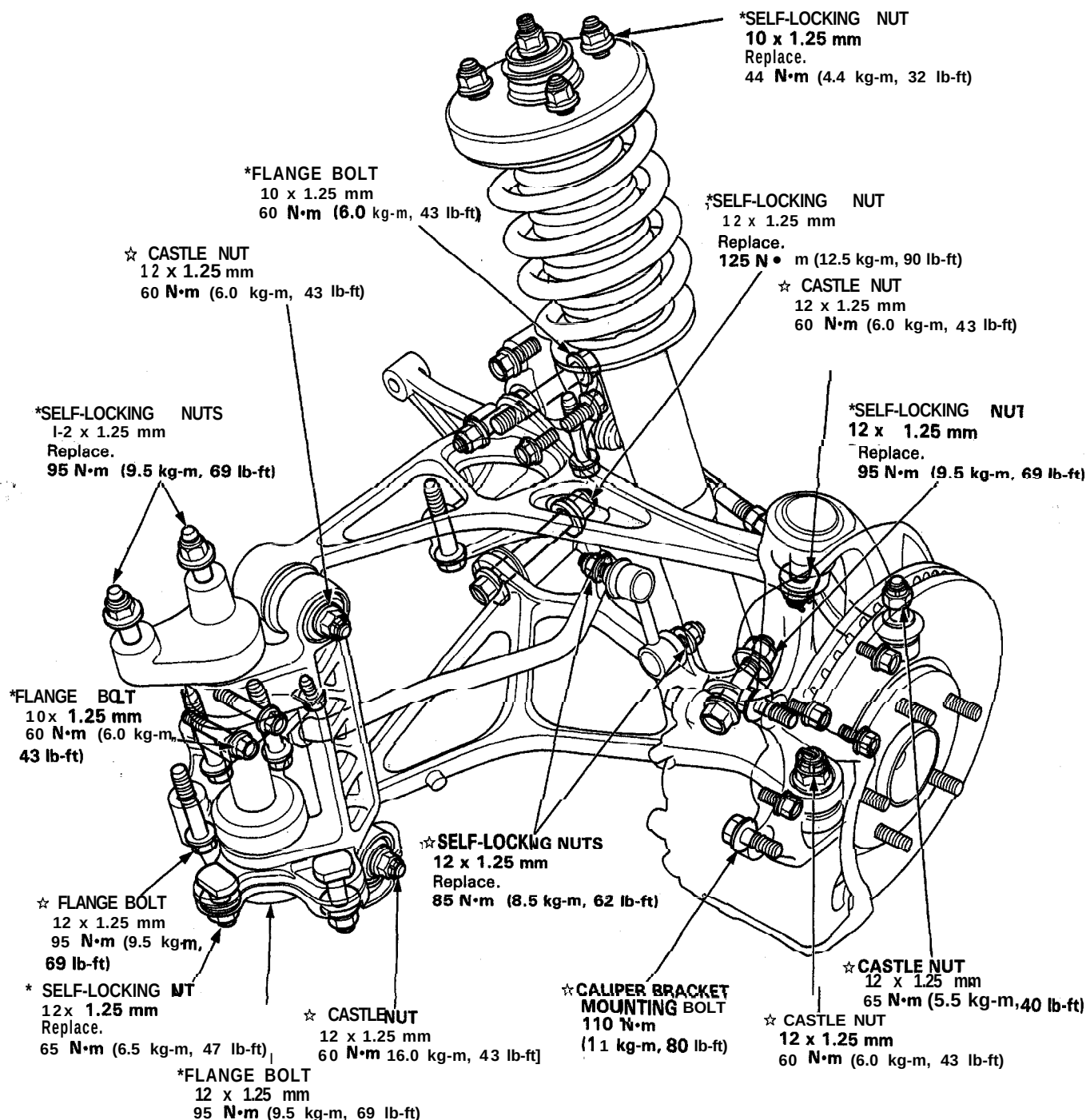
Torque Specifications

CAUTION:

- Replace the self-locking nuts after removal.
- Replace the self-locking bolts if you can easily thread a non-self-locking nut past their nylon locking inserts. (It should require 1 N·m (0.1 kg-m, 0.7 lb-ft) of torque to turn the test nut on the bolt).
- The vehicle should be on the ground before any bolts or nuts connected to rubber mounts or bushings are tightened.

NOTE: Wipe off the grease before tightening the nut at the ball joint.

☆ Corrosion resistant bolt/nut.





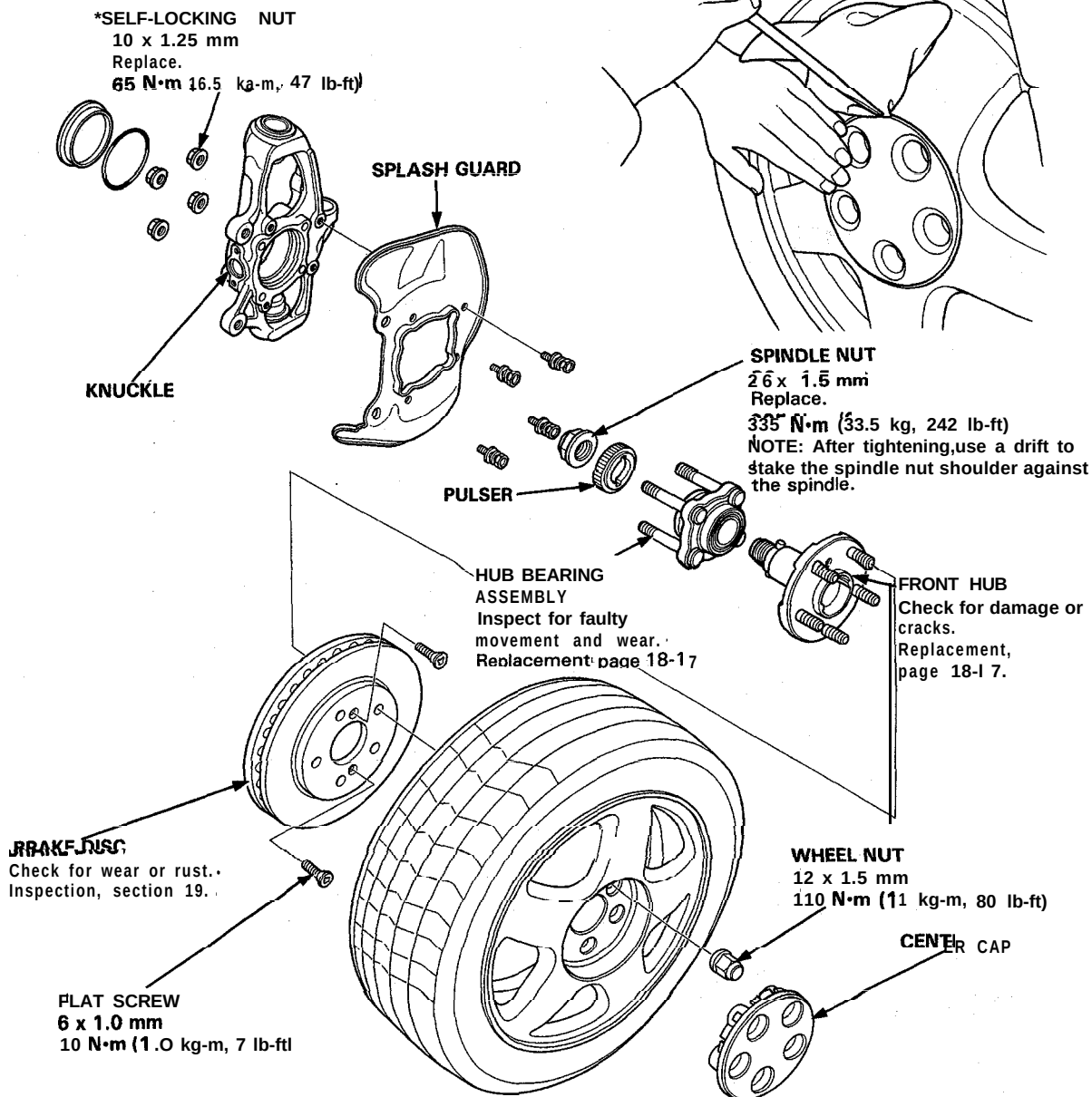
Hub Replacement

NOTE:

- Use only genuine Honda aluminum wheel weights. Non-genuine aluminum wheel weights may corrode and damage aluminum wheels.
- Remove the center cap by prying it out with a flat screwdriver. Avoid damage to the cap by not allowing it to fall during removal.
- Before installing the wheel, clean the mating surfaces of the brake disc and inside of the wheel.

CAUTION: Use a rag at the point you are going to pry, because aluminum alloy wheels can be easily damaged.

☆ Corrosion resistant bolt/nut.

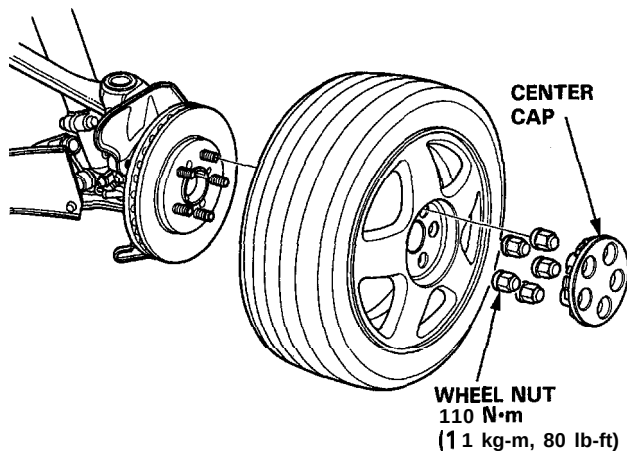


Front Suspension

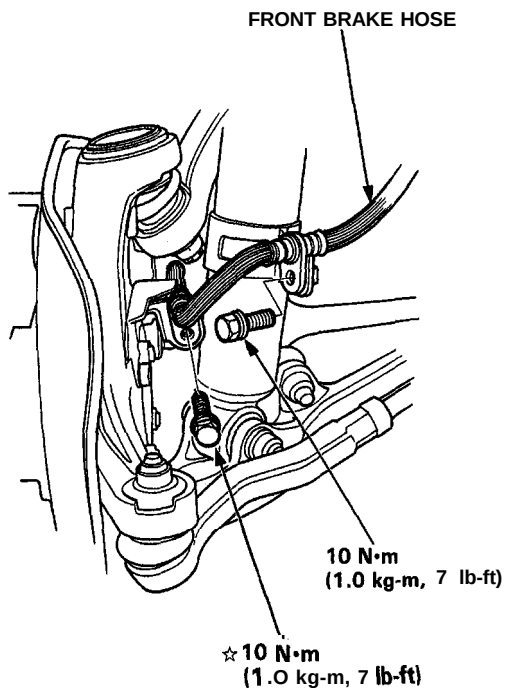
Hub Replacement

1. Loosen the wheel nuts slightly.
2. Raise the front of car and support on safety stands in proper locations (See section 1).
3. Remove the wheel nuts and wheel.

NOTE: Before installing the wheel, clean the mating surfaces of the brake disc and inside of the wheel.



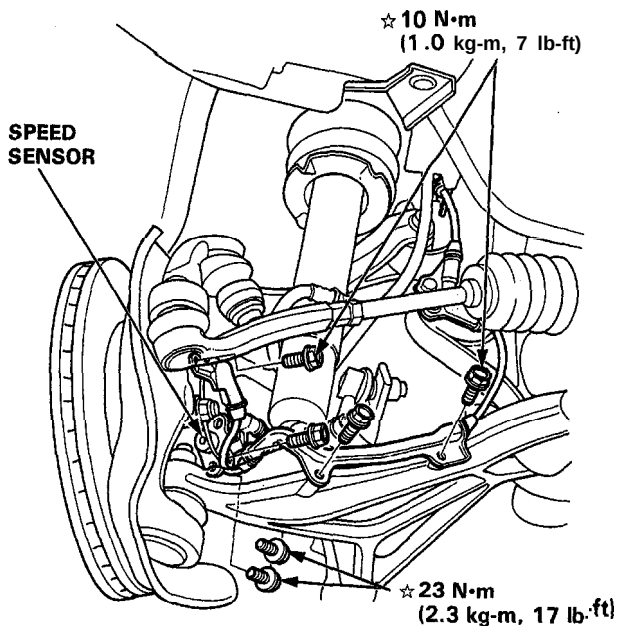
4. Remove the brake hose mounting bolts.



*Corrosion resistant bolt/nut

5. Remove the speed sensor from the knuckle and front lower control arm, but do not disconnect it.

NOTE: Be careful when installing the sensors to avoid twisting wires.

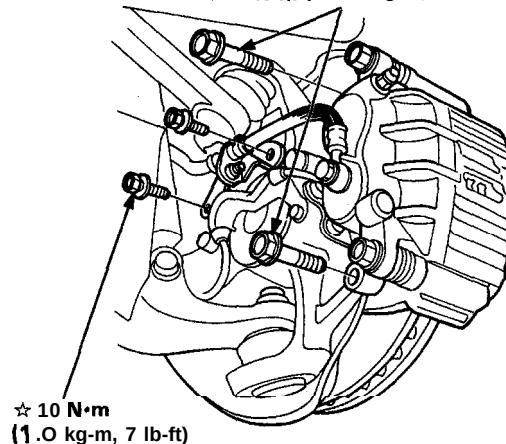


☆ Corrosion resistant bolt/nut

6. Remove the caliper bracket mounting bolts and hang the caliper assembly to one side.

CAUTION: To prevent accidental **damago** to the caliper assembly or brake hose, use a short piece of wire to hang the caliper assembly from the undercarriage.

CALIPER BRACKET MOUNTING BOLTS
110 N·m (11 .0 kg-m, 80 lb-ft)



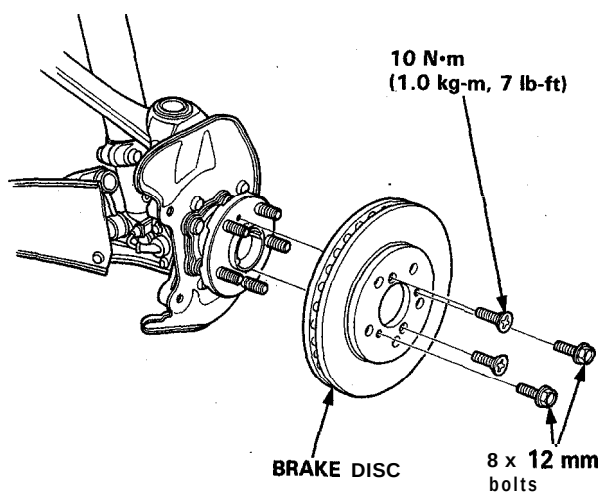
☆ Corrosion resistant bolt/nut



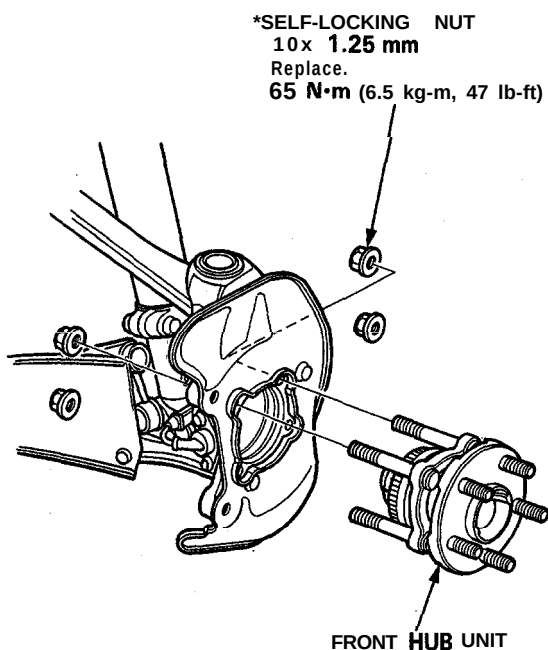
7. Remove the 6 mm brake disc retaining screws.

Screw two 8 x 12 mm bolts into the disc to push it away from the hub.

NOTE: Turn each bolt two turns at a time to prevent cocking the disc excessively.



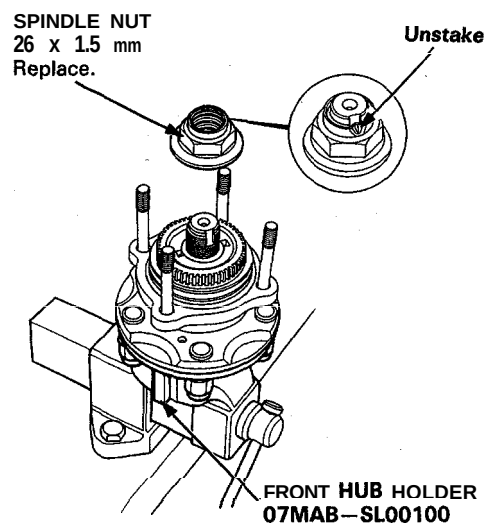
8. Remove the hub unit from the knuckle.



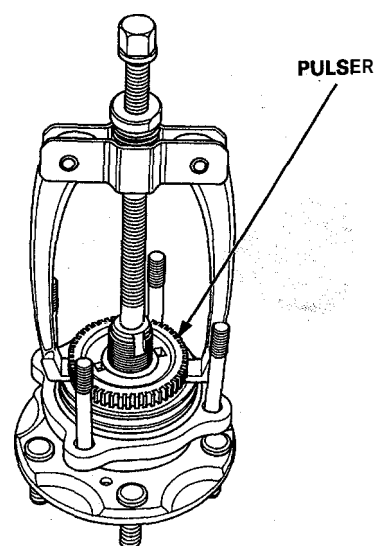
*Corrosion resistant bolt/nut

Front Wheel Bearing Replacement:

1. Attach the special tool to the hub and tighten the nuts, then set the special tool in a vise and secure it.
2. Pry the spindle nut stake away from the spindle, then remove the spindle nut.



3. Remove the special tool.
4. Remove the pulser using a commercially available bearing puller.



(cont'd)

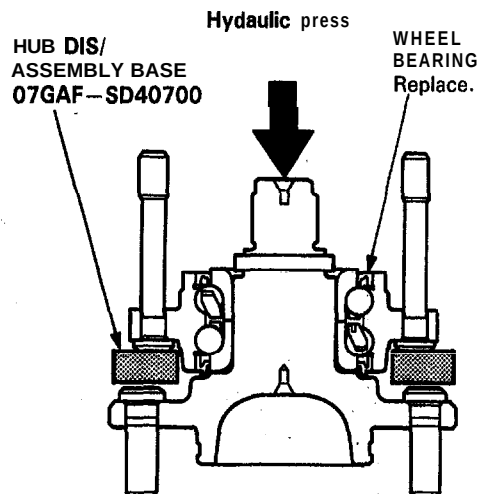
Front Suspension

Hub Replacement (cont'd)

5. Separate the wheel bearing from the hub using the special tools and a hydraulic press.

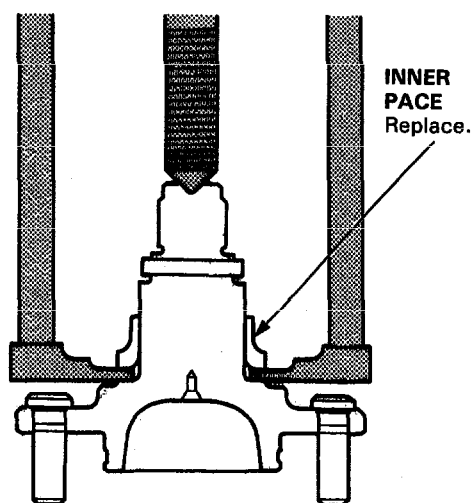
CAUTION:

- Hold onto the hub to keep it from falling when pressed clear.



6. Remove the outboard bearing inner race from the hub using the a commercially available bearing puller.

CAUTION: To prevent damage to the tool make sure the threads are fully engaged before pressing.

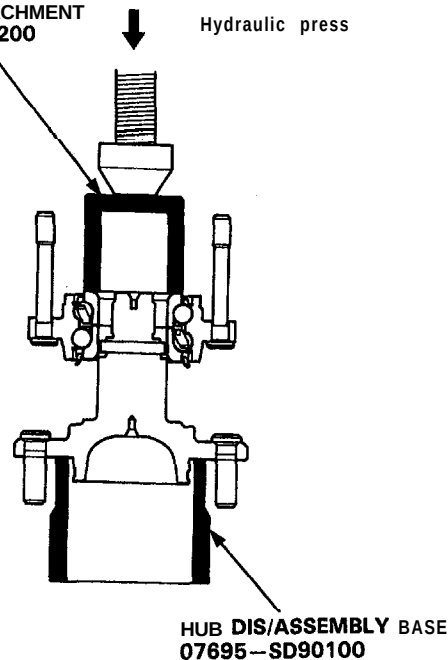


NOTE: Wash the bearing and hub thoroughly in high flash point solvent before reassembly.

NOTE: Replace the bearing with a new one after removal.

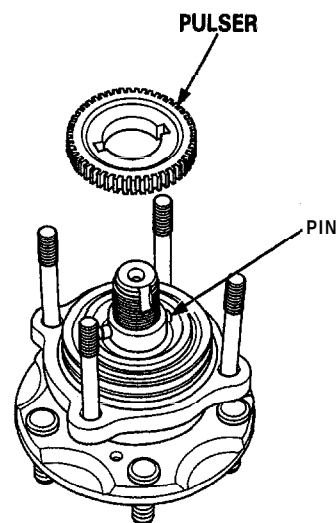
7. Press a new wheel bearing into the hub using the special tools shown and a hydraulic press.

HUB ASSEMBLY
DRIVER ATTACHMENT
07GAF-SD40200



8. Install the pulser.

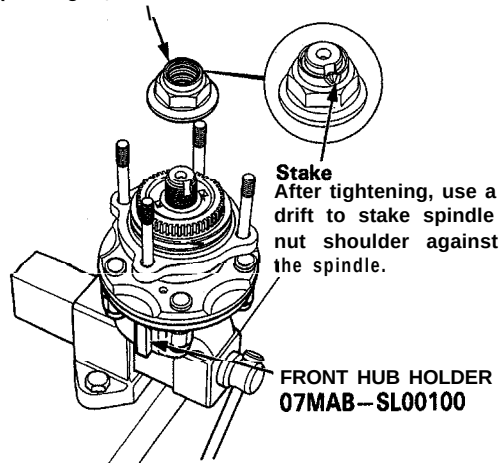
NOTE: Be sure the pulser engages with the pin on the spindle.





9. Attach the special tool to the hub and tighten the nuts, then set the special tool in a vise and secure it.
10. Tighten the new spindle nut to specified torque, then stake the spindle nut shoulder against the spindle.

335 N·m
(33.5 kg-m, 242 lb-ft)



11. Remove the special tool.

Knuckle/Control Arms/Compliance Pivot

Illustrated Index

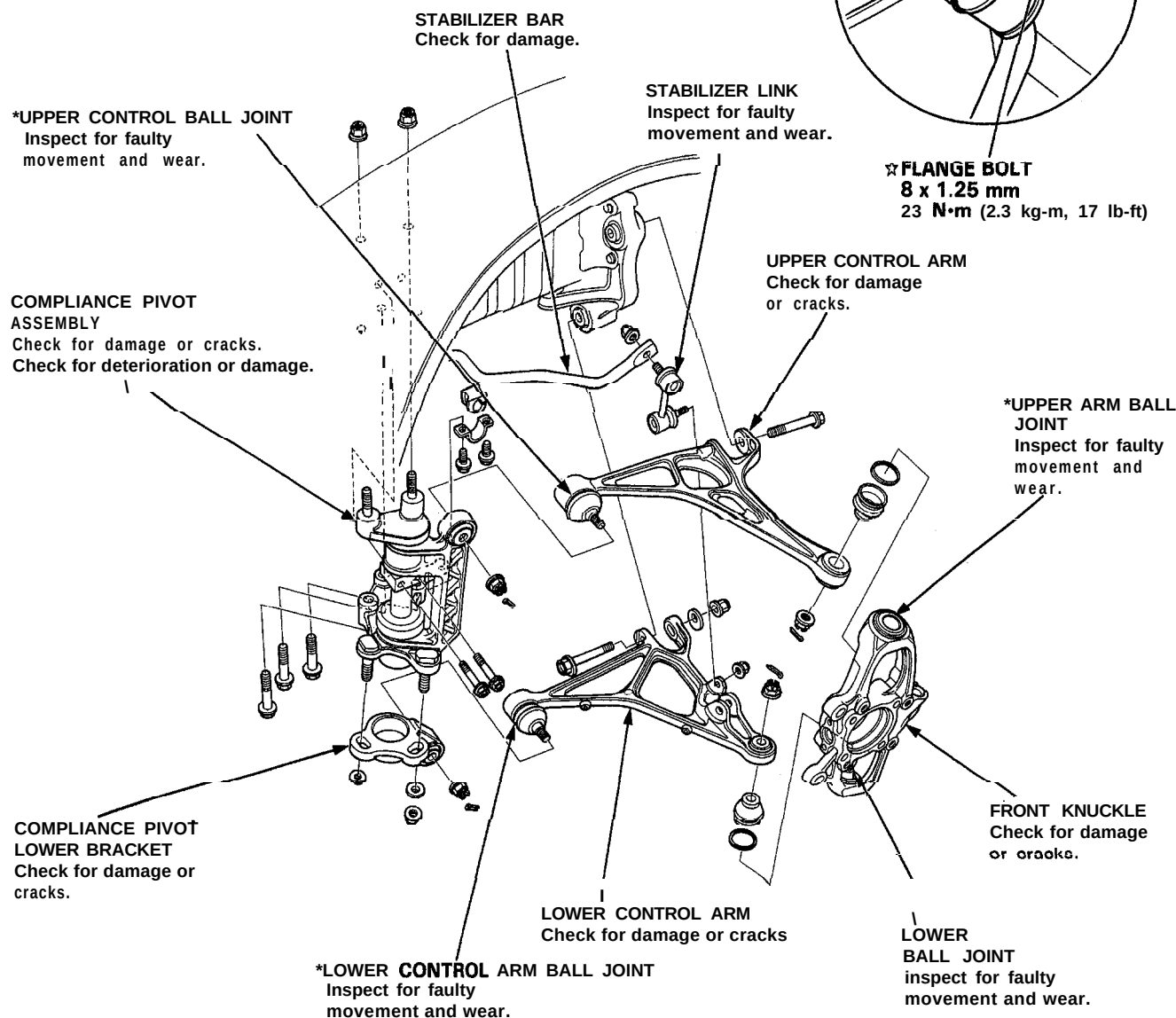
Overall Suspension

NOTE: Align the white line on the stabilizer bar with the bushing end and install the stabilizer bar.

NOTE:

- Wipe off the grease before tightening the nut at the ball joint.
- Torque specifications, see page 18-14.

☆ Corrosion resistant bolt/nut



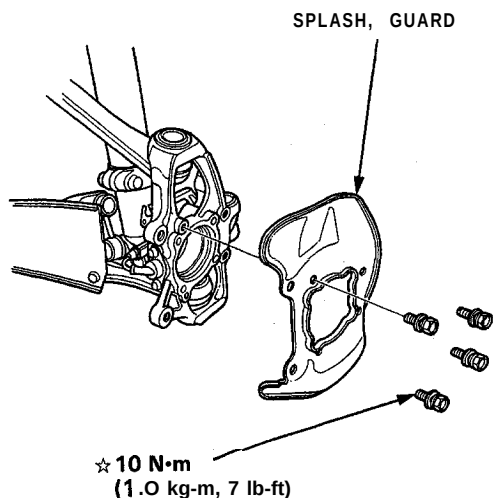
NOTE: Replace the joint boot if any are damaged. The parts marked with an asterisk (*) have a retainer attaching the ball joints. Replace the retainer whenever the boot is replaced.

CAUTION: Do not remove the arms, knuckle, and compliance pivot by striking them with a hammer, and take care not to drop them.

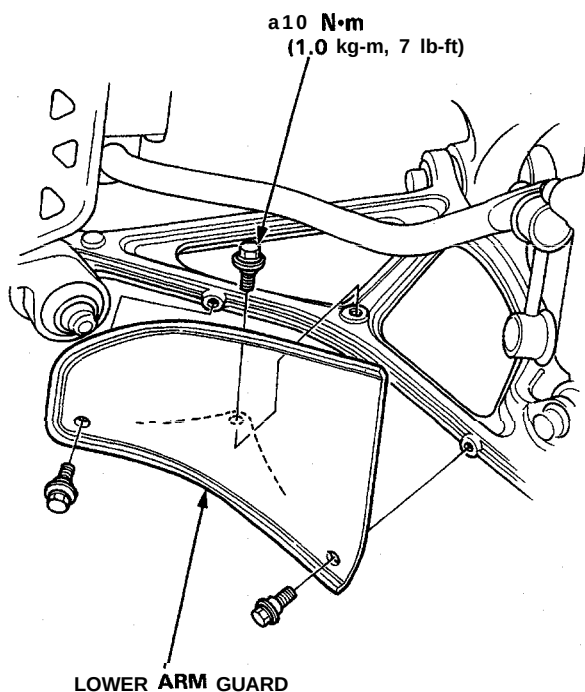


Removal

1. Remove the front wheel and bearing unit assembly (page 18-I 5).
2. Remove the splash guard from the knuckle.



3. Remove the lower control arm guard.



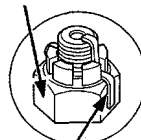
4. Remove the cotter pin and the tie-rod ball joint nut.
5. Install the 12 mm hex nut on the ball joint. Be sure that the 12 mm hex nut is flush with the ball joint pin end, or the threaded section of the ball joint pin might be damaged by the ball joint remover.
6. Break loose the tie-rod ball joint using the special tool, then lift the tie-rod out of the knuckle.

CAUTION: Avoid damaging the ball joint boot.

NOTE: If necessary, apply penetrating type lubricant to loosen the ball joint.

☆ CASTLE NUT
55 N·m
15.5 kg-m, 40 lb-ft)

BALL JOINT REMOVER
07941-6920003

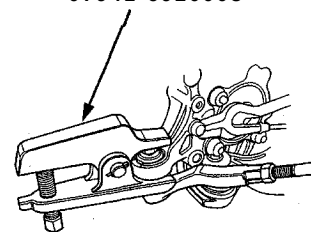


COTTER

PIN

Replace.

On reassembly, bend the pin as shown.



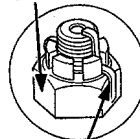
*Corrosion resistant bolt/nut

7. Remove the cotter pin and lower control arm ball joint nut.
8. Install the 12 mm hex nut on the ball joint. Be sure that the 12 mm hex nut is flush with the ball joint pin end, or the threaded section of the ball joint pin might be damaged by the ball joint remover.
9. Separate the ball joint and lower control arm using the special tool.

CAUTION: Avoid damaging the ball joint boot.

NOTE: Use the ball joint remover (07MAC-SL00100) by adjusting it so that its upper section and lower section are parallel to each other.

☆ 12 x 1.25 mm
CASTLE NUT
60 N·m
(6.0 kg-m, 43 lb-ft)

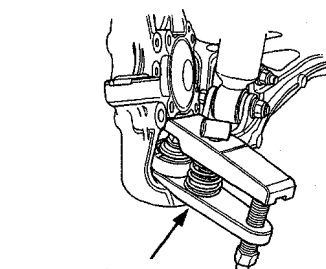


COTTER

PIN

Replace.

On reassembly, bend the cotter pin as shown.



BALL JOINT
REMOVER
07MAC-SL00100

☆ Corrosion resistant bolt/nut (cont'd)

Knuckle/Control Arms/Compliance Pivot

Removal (cont'd)

10. Remove the cotter pin and the upper ball joint nut.

11. Install the 12 mm hex nut on the ball joint. Be sure that the 12 mm hex nut is flush with the ball joint pin end, or the threaded section of the ball joint pin might be damaged by the ball joint remover.

12. Break loose the upper ball joint using the special tool.

NOTE: Use the ball joint remover (07MAC-SL00100) by adjusting it so that its upper section and lower section are parallel to each other.

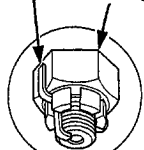
CAUTION: Avoid damaging the ball joint boot.

NOTE: If necessary, apply penetrating type lubricant to loosen the ball joint.

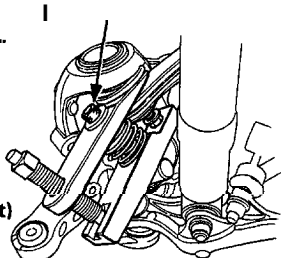
COTTER PIN

Replace.
On reassembly, bend the cotter pin as shown.

☆ **CASTLE NUT**
12 x 1.25 mm
60 N·m
(6.0 kg-m, 43 lb-ft)

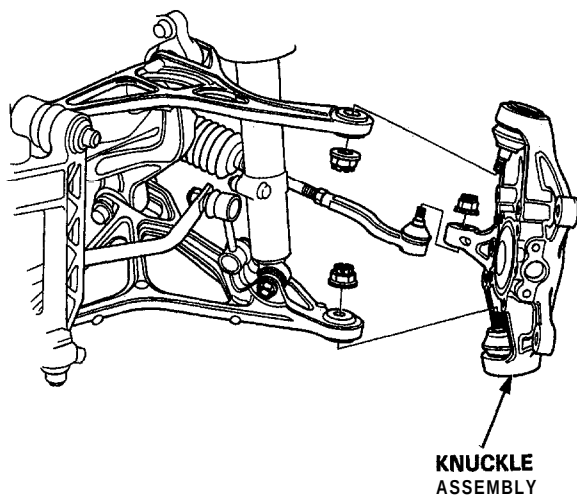


BALL JOINT REMOVER 07MAC-SL00100



*Corrosion resistant bolt/nut

13. Remove the knuckle assembly.

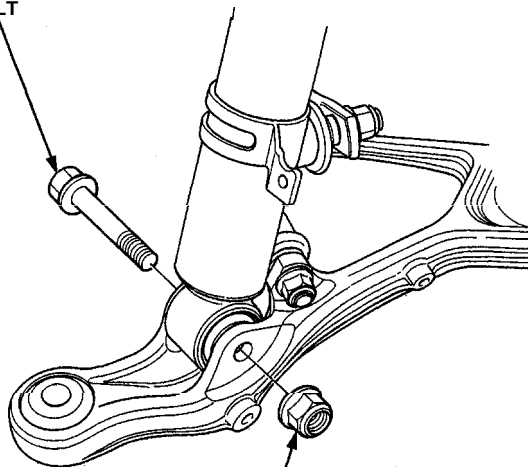


KNUCKLE
ASSEMBLY

14. Separate the lower control arm and damper by removing the damper mounting bolt.

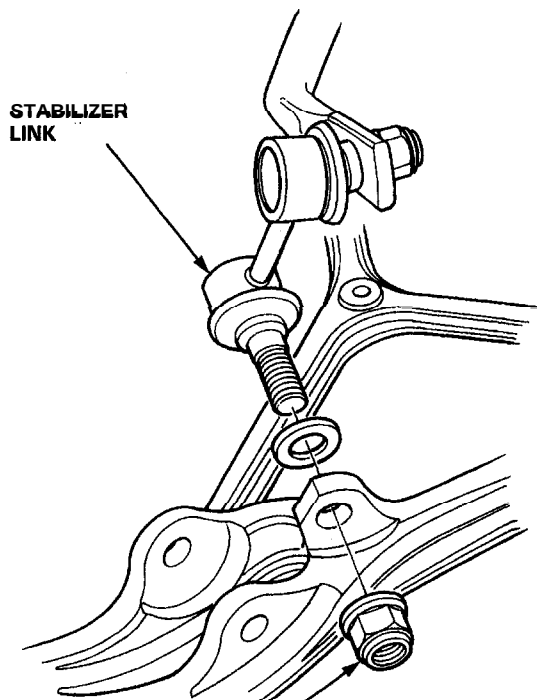
☆ **DAMPER MOUNTING BOLT**

*Corrosion resistant bolt/nut



☆ **SELF-LOCKING NUT**
12 x 1.25 mm
Replace.
95 N·m (9.5 kg-m, 69 lb-ft)

15. Separate the lower control arm from the stabilizer link by removing the link connecting nut.



***SELF-LOCKING NUT**
12 x 1.25 mm
85 N·m (8.5 kg-m, 62 lb-ft)

*Corrosion resistant bolt/nut

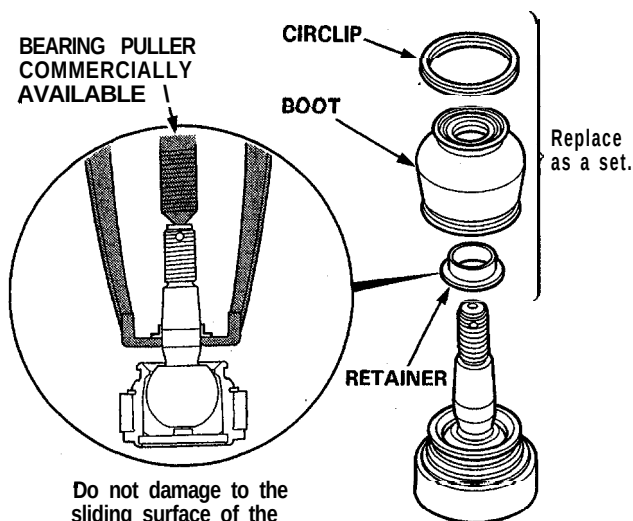


Ball Joint Boot Replacement

CAUTION: The upper control arm ball joint, lower control arm ball joint and knuckle upper ball joint are attached with the boot retainer to improve the sealing efficacy of the boot.

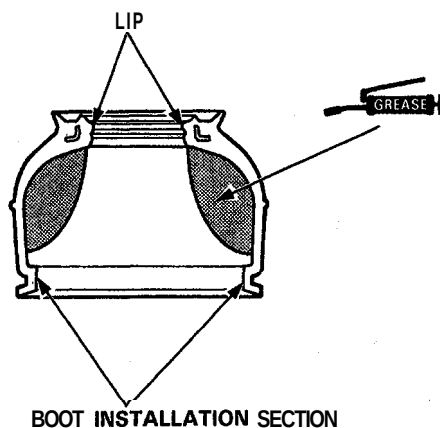
1. Remove the circlip and boot.
2. Remove the retainer.

NOTE: The knuckle lower ball joint dose not have a retainer.



Do not damage to the sliding surface of the ball pin with the bearing puller.

3. Pack the interior of the boot and lip with grease.

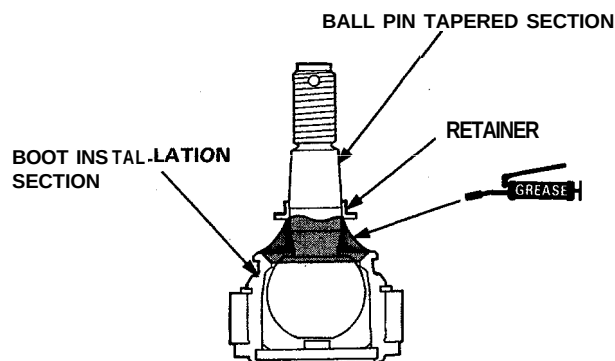


BOOT INSTALLATION SECTION

CAUTION: Do not contaminate the boot installation section with grease.

4. Wipe the grease off the sliding surface of the ball pin and pack with fresh grease.
5. Insert the new retainer lightly into the ball joint pin.

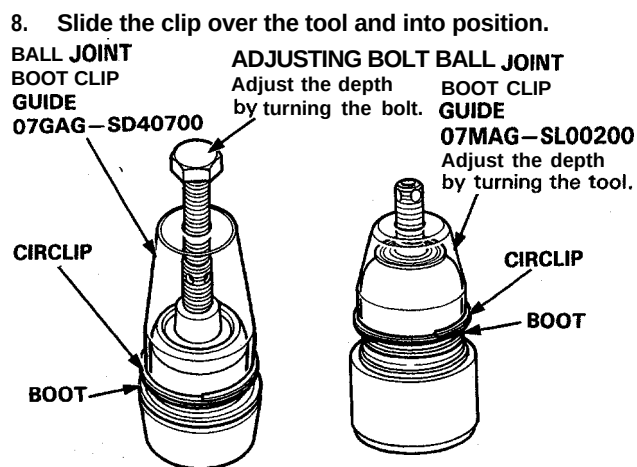
NOTE: When installing the ball joint, press the retainer into the ball joint pin.



CAUTION:

- Keep grease off the boot installation section and the tapered section of the ball pin.
- Do not allow dust, dirt, or other foreign materials to enter the boot.

6. Install the boot in the groove of the boot installation section securely, then bleed air.
7. Adjust the special tool with the adjusting bolt until the end of the tool aligns with the groove on the boot.



- knuckle lower ball joint only.

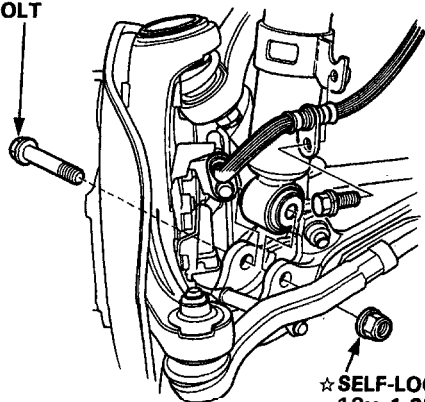
CAUTION: After installing the boot, check the ball pin tapered section and threads for grease contamination and wipe them if necessary.

Damper Front

Damper Removal

1. Remove the front wheel.
2. Remove the brake hose clamps from the damper.
3. Separate the damper and lower arm by removing the damper mounting bolt.

*DAMPER MOUNTING BOLT



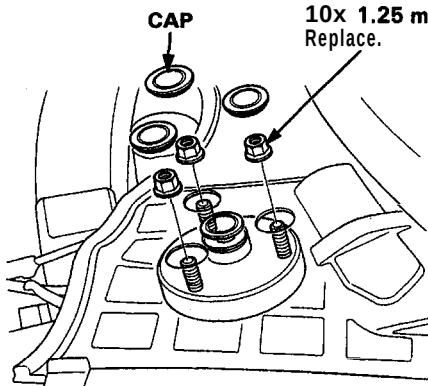
☆ SELF-LOCKING NUT
12x 1.25 mm
Replace.

☆ Corrosion resistant bolt/nut

4. Remove the caps from the top of the cowl then remove the self-locking nuts.
5. Remove the damper assembly.

☆ Corrosion resistant bolt/nut

*SELF-LOCKING NUT
10x 1.25 mm
Replace.

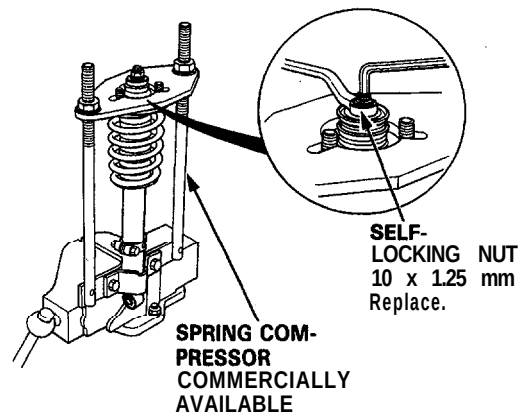


Damper Disassembly/Inspection

Disassembly:

1. Compress the damper spring with the spring compressor according to the manufacturer's instructions, then remove the self-locking nut.

CAUTION: Do not compress the spring more than necessary to remove the nut.



2. Remove the spring compressor then disassemble the damper as shown on the next page.

Inspection:

1. Reassemble all parts, except the spring.
2. Push on the damper assembly as shown.
3. Check for smooth operation through a full stroke, both compression and extension.

NOTE: The damper should move smoothly. If it does not (no compression or no extension), then gas is leaking, and the damper should be replaced.

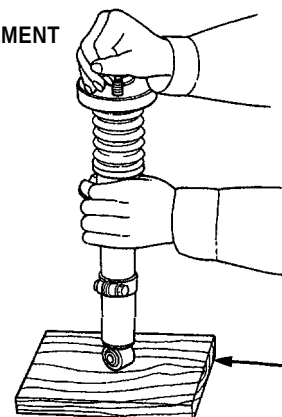
NEEDS
NORMAL REPLACEMENT

0

×



1



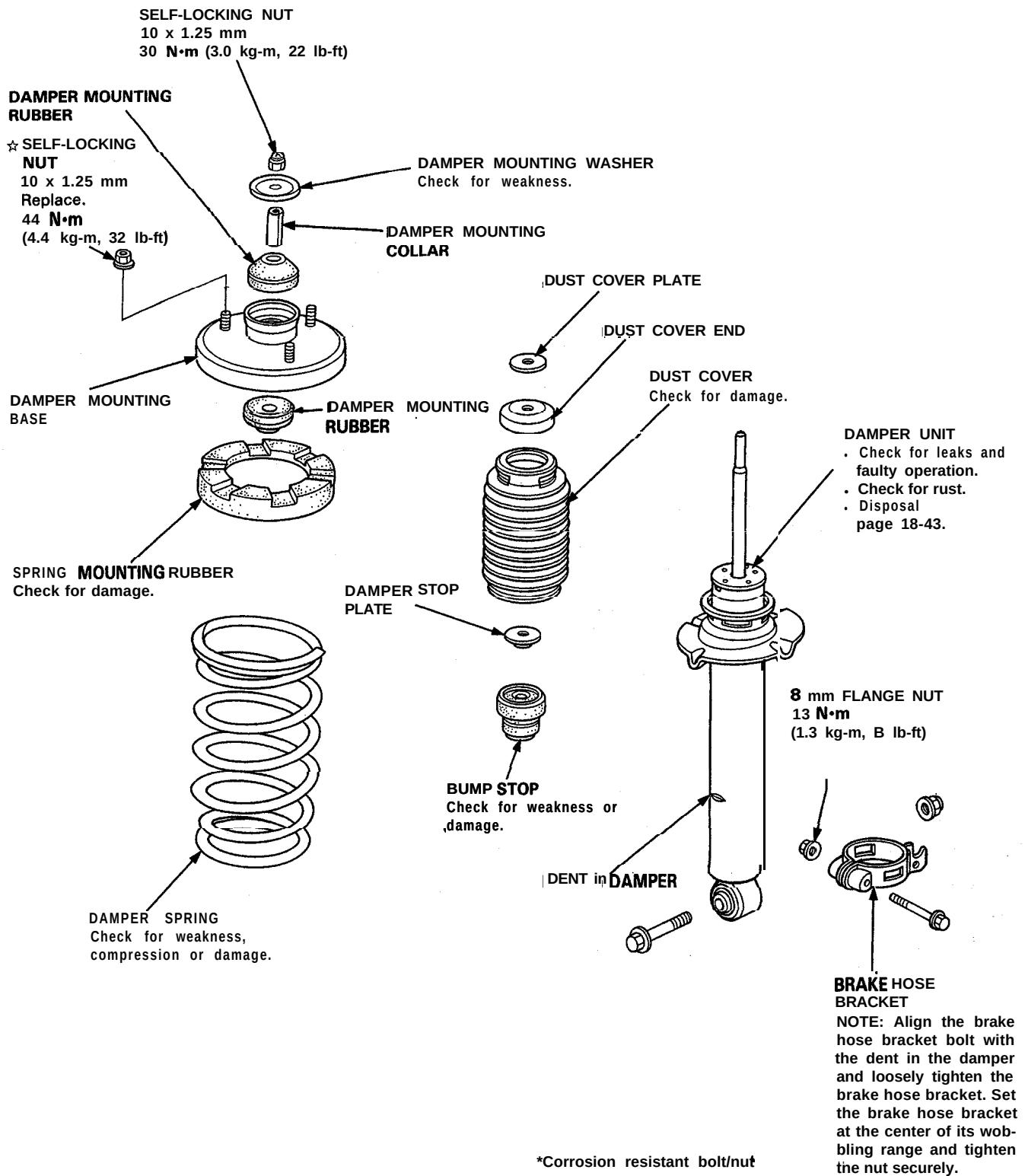
Wood
block

4. Check for oil leaks, abnormal noises or binding during these tests.

NOTE: Disposal is see page 18-43.

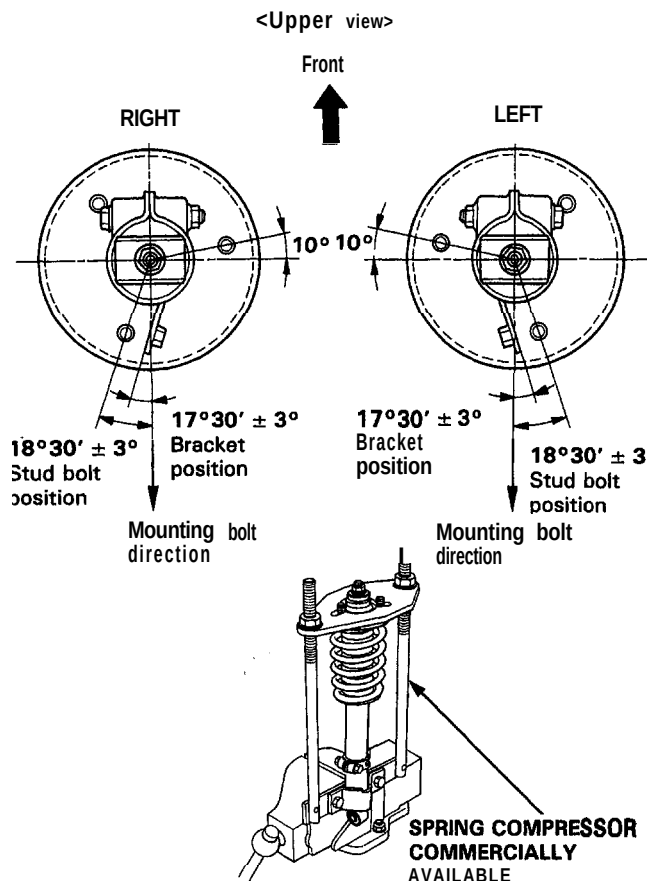


Inspecton

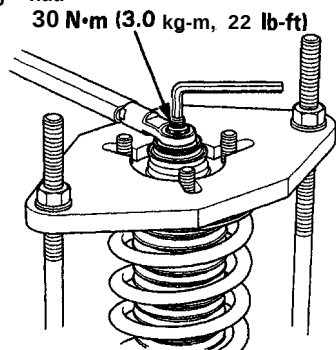


Damper Reassembly

1. Install the damper unit, damper spring, bump stop, bump stop plate, dust cover, dust cover end, dust cover plate, spring mounting rubber, damper bushings, and collar on the spring compressor.
2. Install the damper mounting base on the damper unit as shown.

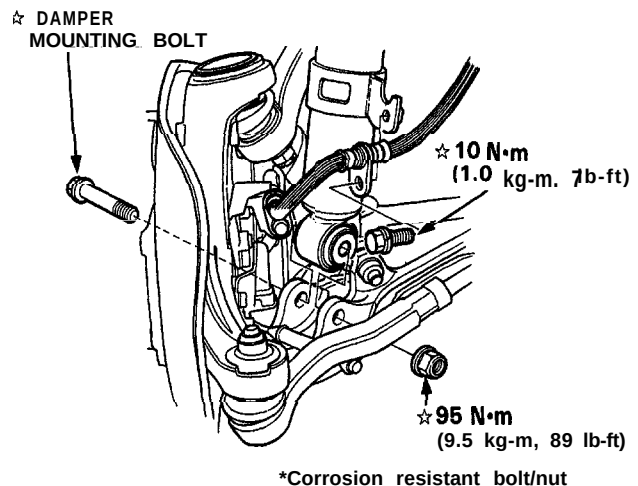


3. Compress the damper spring.
4. Install the damper mount washer and a new self-locking nut 10 mm.
5. Hold the damper shaft and tighten the 10 mm self-locking nut.



Damper Installation

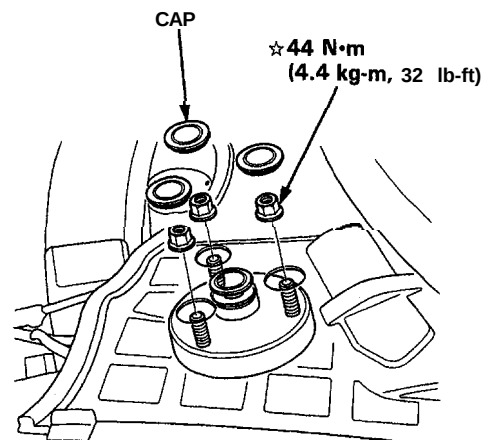
1. Reposition the damper on the frame with the welded nut of the hose bracket facing outside as shown.



2. install the damper end on the lower arm and loosely tighten the mounting nut.

NOTE: The bolts and nuts should be tightened with the vehicle's weight on the damper.

3. Secure the damper mounting bolt using a new self-locking nut.
4. Secure the damper assembly to the frame with the new three self-locking nuts.
5. Install the caps in the top of the cowl.



☆ Corrosion resistant bolt/nut

6. Install the brake hose clamps with the two bolts.



Rear Suspension

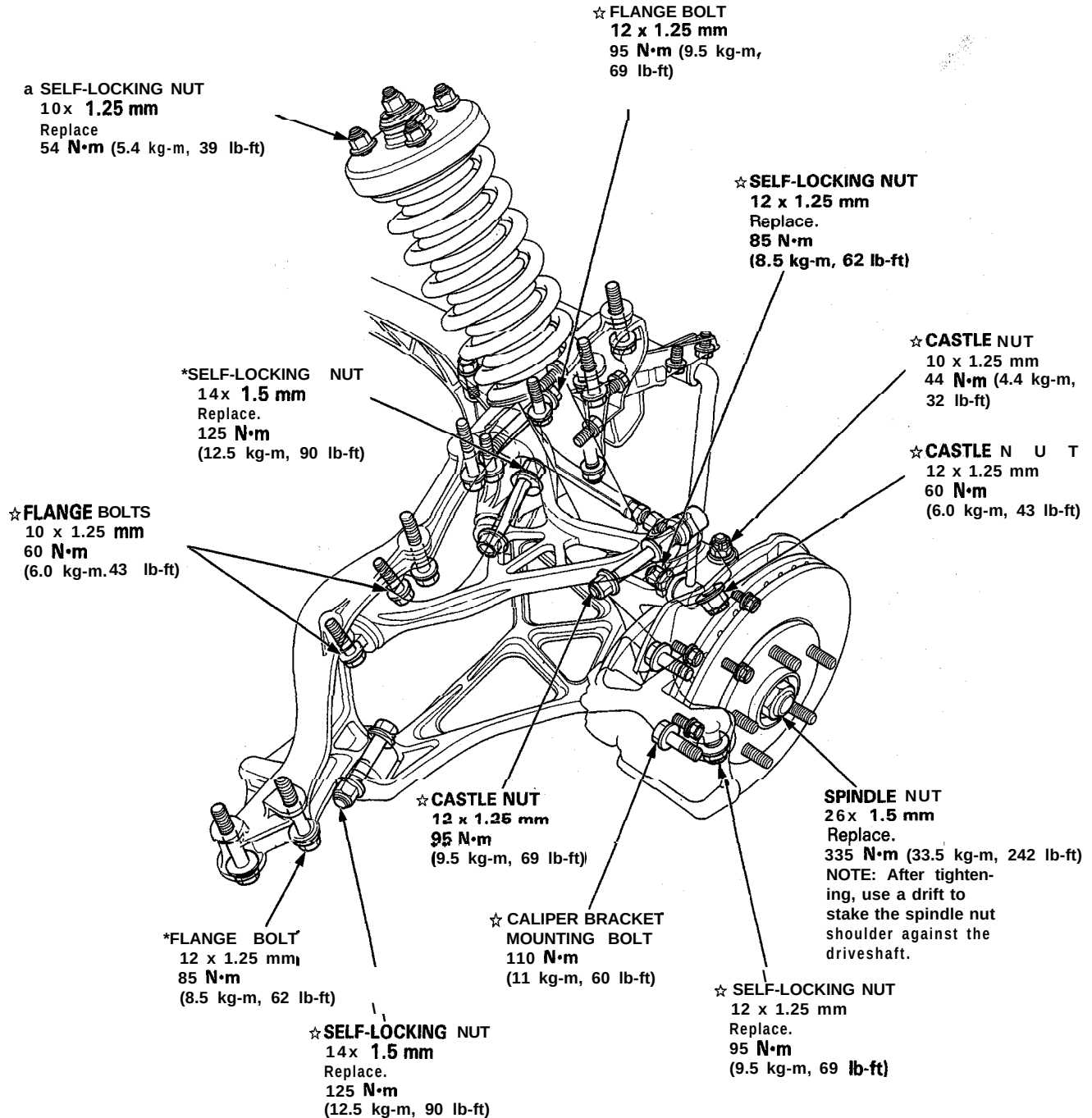
Torque Specifications

CAUTION:

- Replace the self-locking nuts after removal.
 - Replace the self-locking bolts if you can easily thread a non-self-locking nut past their nylon locking inserts.
(It should require 1 **N·m** (0.1 kg-m, 0.7 lb-ft) of torque to turn the test nut on the bolt).
- The vehicle should be on the ground before any bolts or nuts connected to rubber mounts or bushings are tightened.

NOTE: Wipe off the grease before tightening the nut at the ball joint.

*Corrosion resistant bolt/nut



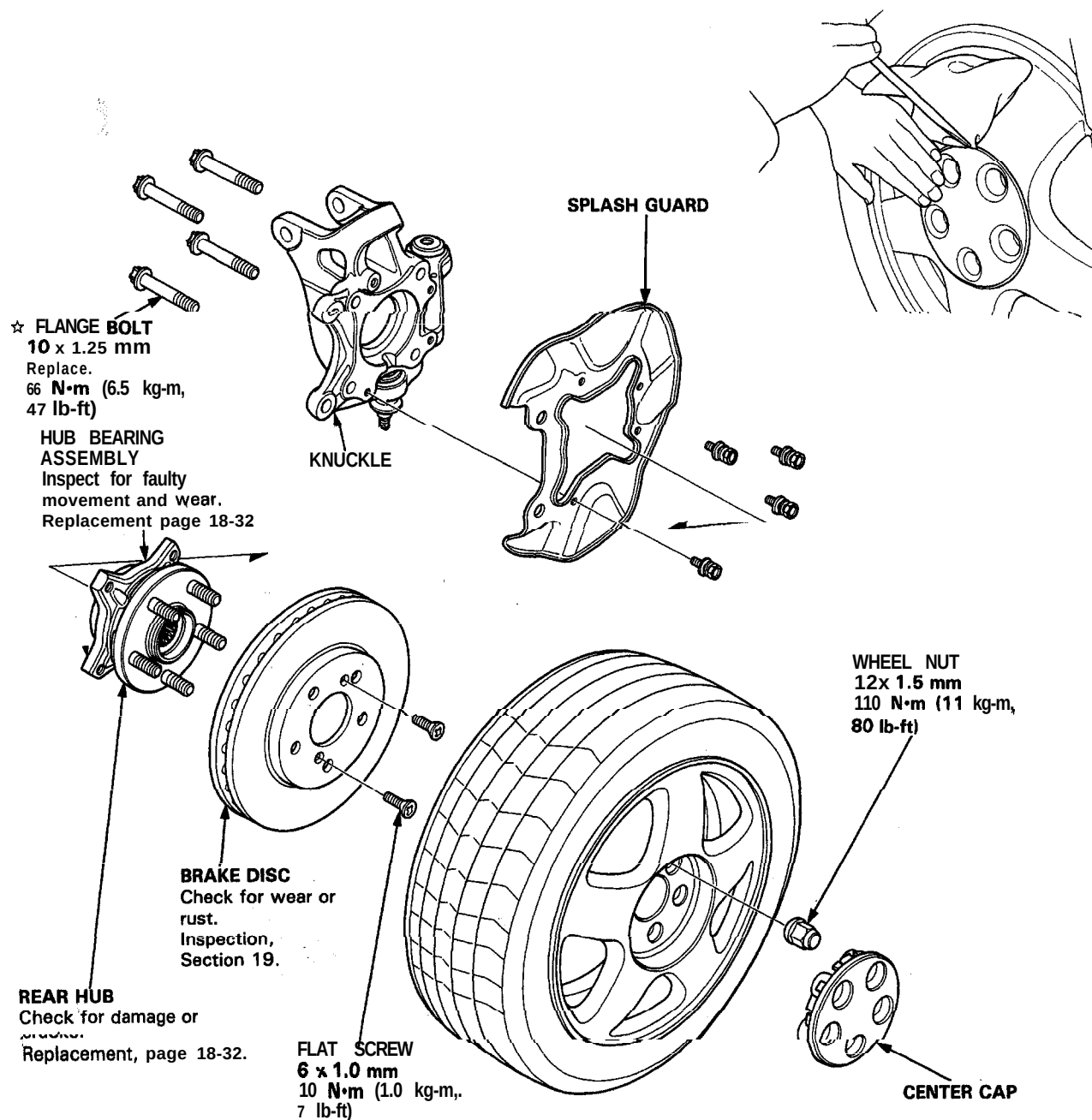
Rear Suspension

Hub Replacement

NOTE:

- Use only genuine Honda aluminum wheel weights. Non-genuine aluminum wheel weights may corrode and damage aluminum wheels.
- Remove the center cap by prying it out with a flat screwdriver. Avoid damage to the cap by not allowing it to fall during removal.
- Before installing the wheel, clean the mating surfaces of the brake disc and inside of the wheel.

CAUTION: Use a rag at the point you are going to pry, because aluminum alloy wheels can be easily damaged.

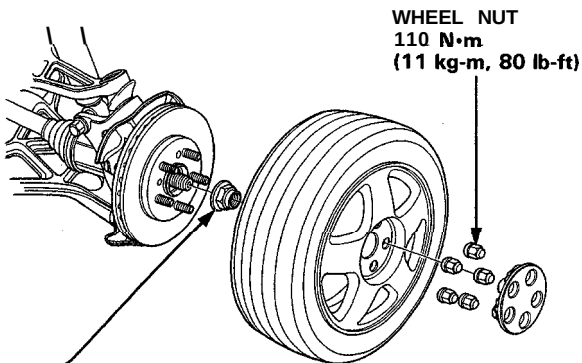


*Corrosion resistant bolt/nut



Hub Replacement

1. Remove the center cap, then pry the spindle nut lock tab away from the spindle and loosen the nut.
2. Raise the car and support it with safety stands (see Section 1).



SPINDLE NUT
26 x 1.5 mm

After tightening, use a drift to stake spindle nut shoulder against the driveshaft.

3. Remove the rear wheels.

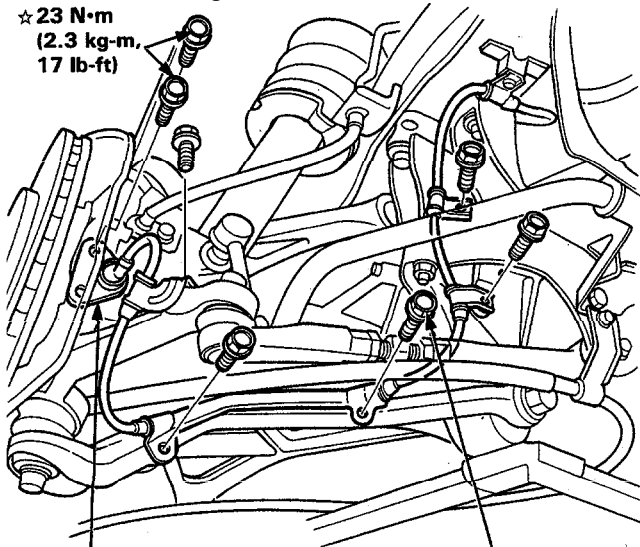
NOTE: Before installing the wheel, clean the mating surfaces of the brake disc and inside of the wheel.

4. Remove the spindle nut.

5. Remove the speed sensor from the knuckle and rear lower control arm, but do not disconnect it.

NOTE: Be careful when installing the sensors to avoid twisting wires.

☆ 23 N·m
(2.3 kg-m,
17 lb-ft)



SPEED SENSOR

a Corrosion resistant bolt/nut

☆ 10 N·m
(1.0 kg-m, 7 lb-ft)

6. Remove the banjo bolt and disconnect the brake hose, then remove the brake hose clamp from the knuckle.

CAUTION: Avoid spilling brake fluid on painted, plastic or rubber surfaces as it can damage the finish;
Wash spilled brake fluid off immediately with clean water.

BANJO BOLT
35 N·m
(3.5 kg-m, 25 lb-ft)

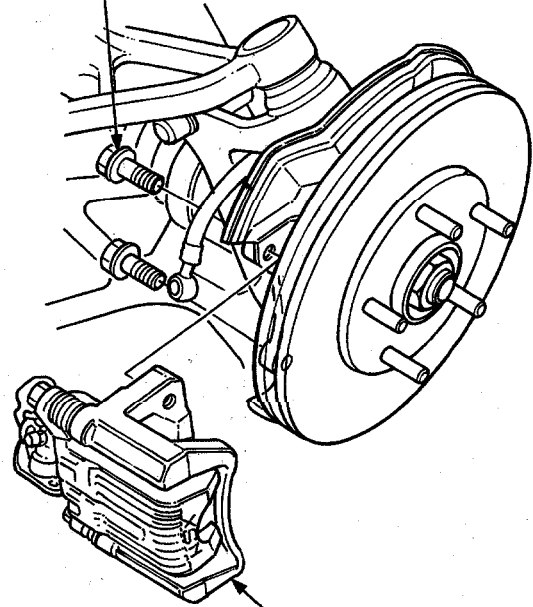
BRAKE HOSE

WASHER
Replace.

☆ BOLT 6 mm
10 N·m
(1.0 kg-m, 7 lb-ft)

7. Remove the rear caliper by removing the mounting bolts.

☆ CALIPER MOUNTING BOLT
110 N·m
(11 kg-m, 80 lb-ft)



CALIPER ASSEMBLY

☆ Corrosion resistant bolt/nut

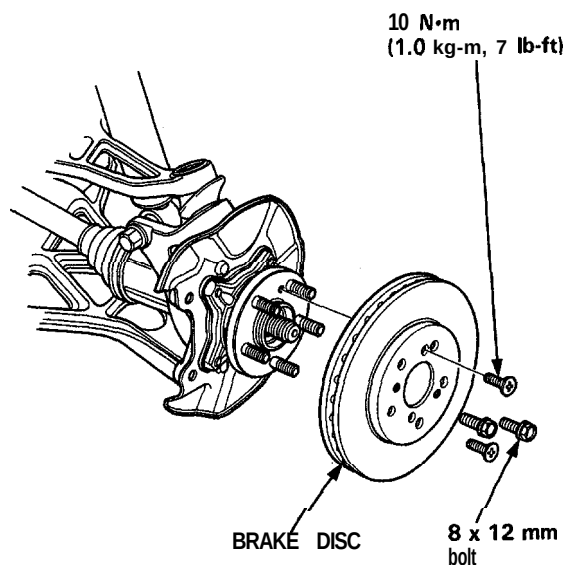
(cont'd)

Rear Suspension

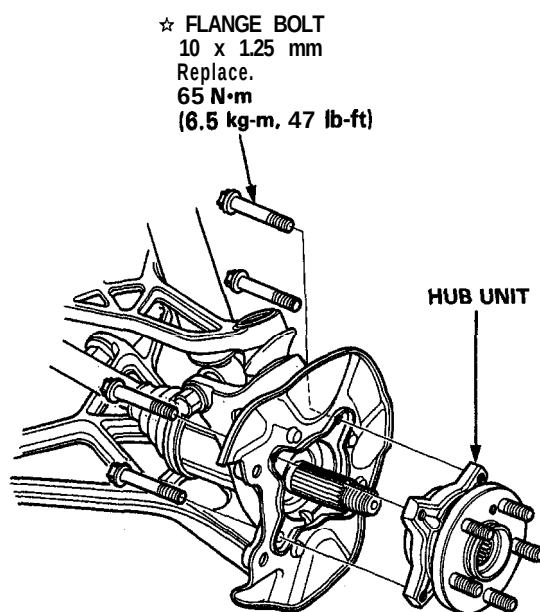
Hub Replacement (cont'd)

8. Remove the 6 mm brake disc retaining screws. 'Screw two 8 x 12 mm bolts into the disc to push it away from the hub.

NOTE: Turn each bolt two turns at a time to prevent cocking disc excessively.



9. Remove the hub unit from the knuckle.



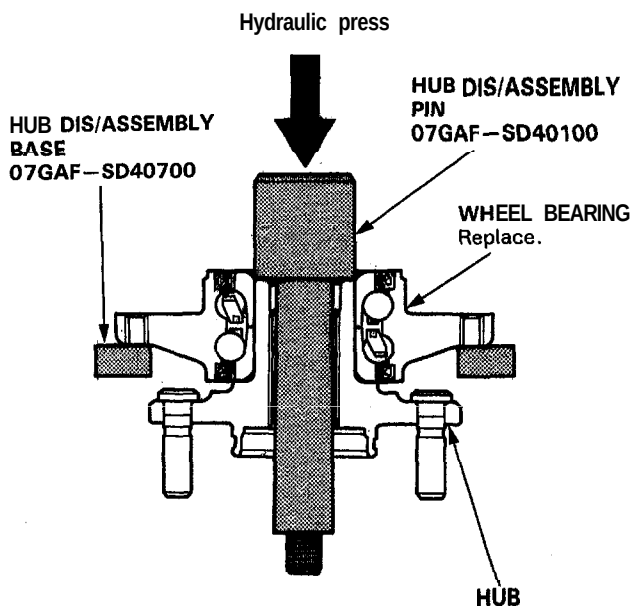
☆ Corrosion resistant bolt/nut

Rear Wheels Bearing Replacement:

1. Separate the wheel bearing from the hub using the special tools and a hydraulic press.

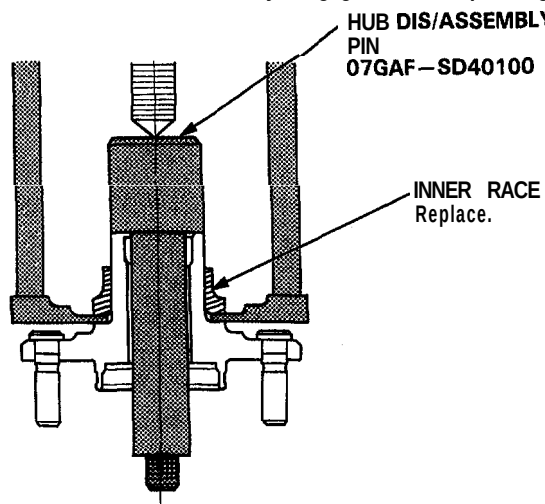
CAUTION:

- Hold onto the hub to keep it from failing when pressed clear.



2. Remove the outboard bearing inner race from the hub using the a commercially available bearing puller.

CAUTION: To prevent damage to the tool make sure the threads are fully engaged before pressing.

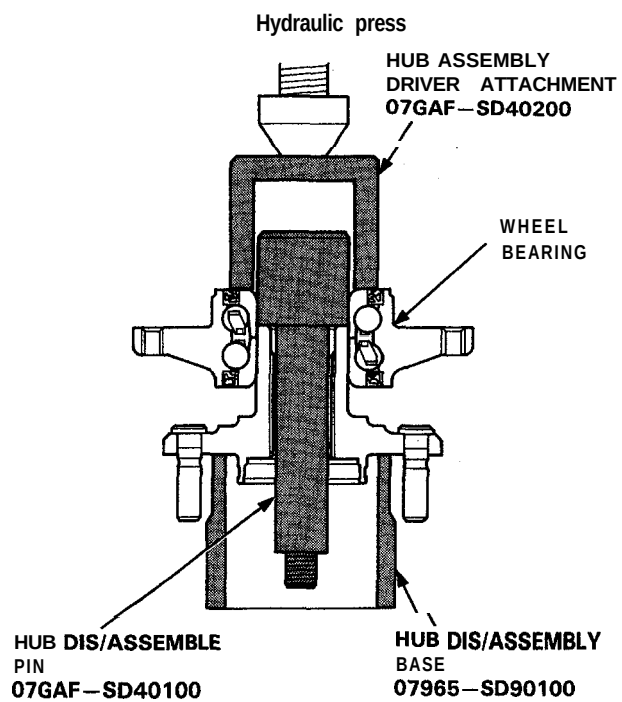


NOTE: Wash the bearing and hub thoroughly in high flash point solvent before reassembly.



NOTE: Replace the bearing with a new one after removal.

3. Press a new wheel bearing into the hub using the special tools shown and a hydraulic press.



4. Install in reverse order of removal.

Knuckle/Control Arms

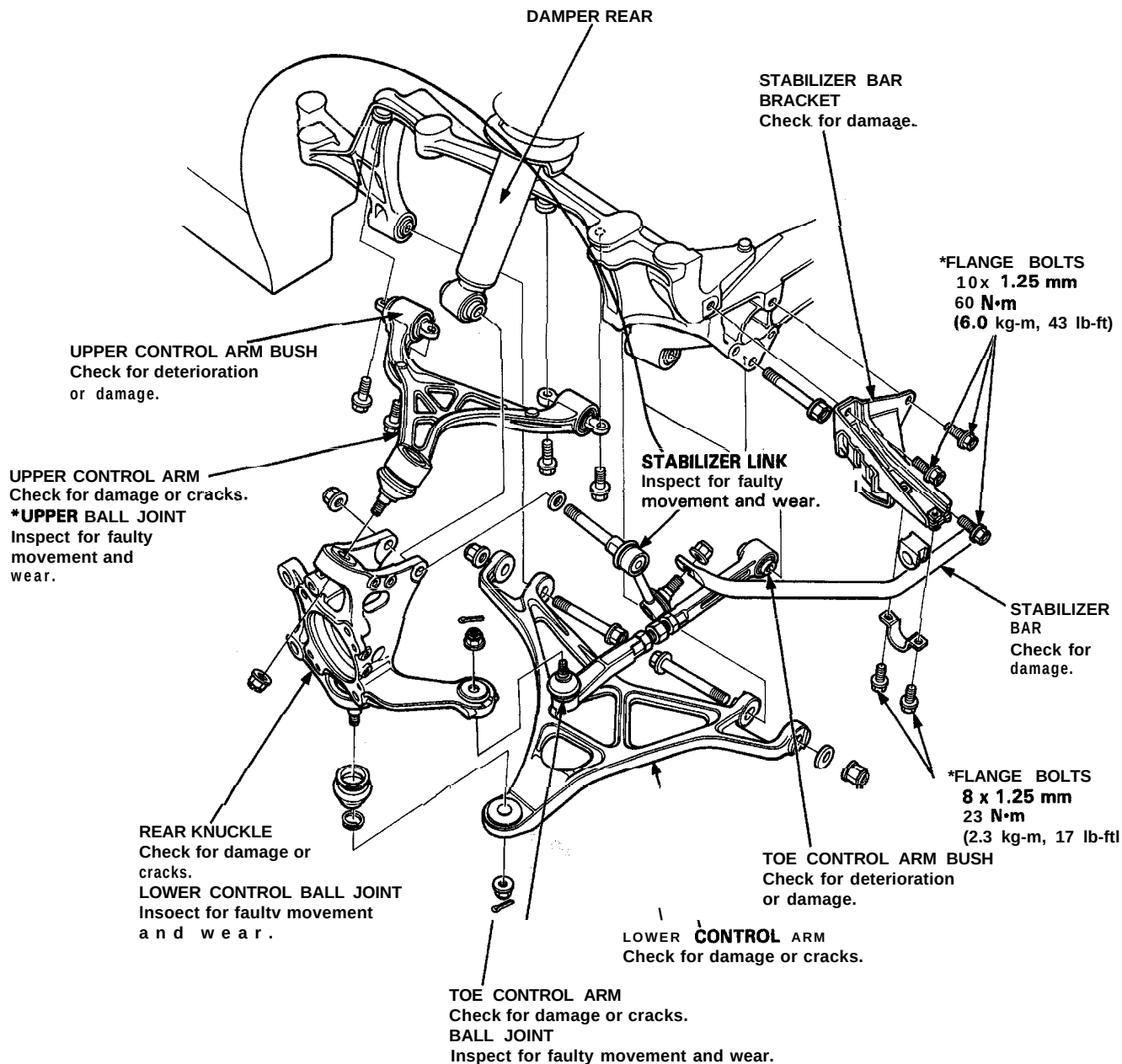
Illustrated Index

Overall Suspension

NOTE:

- Wipe off the grease before tightening the nut at the ball joint.
- Torque specifications, see page 18-29.
- Align the white line on the stabilizer bar with the bushing end and install the stabilizer bar.

*Corrosion resistant bolt/nut



NOTE: Replace the joint boot if any are damaged. The parts marked with an asterisk (*) have a retainer attaching the ball joints. Replace the retainer whenever the boot is replaced.

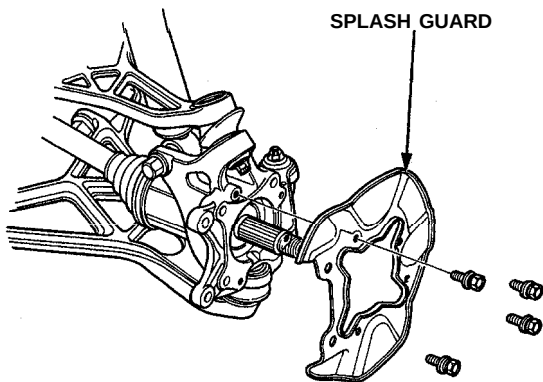
CAUTION:

- Do not remove the arms and knuckle by striking them with a hammer, and take care not to drop them.
- Make sure that the reference marks on the toe control arm are aligned.



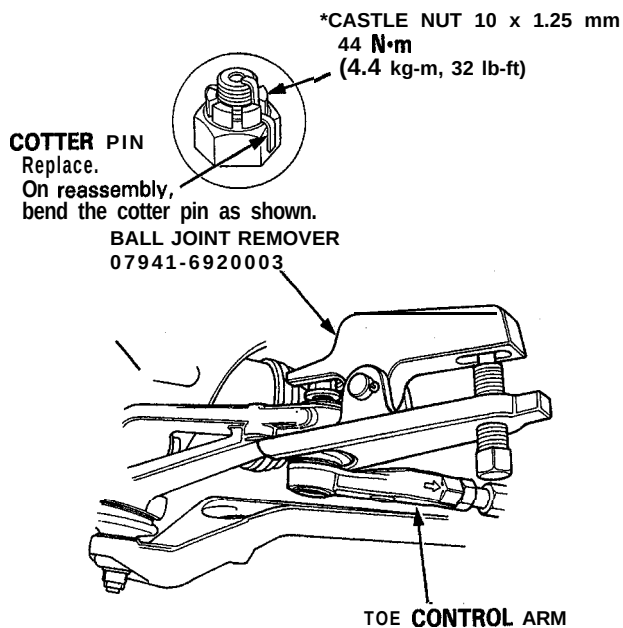
- Removal

1. Remove the rear wheel and bearing unit assembly (page 18-30).
2. Remove the splash guard from the knuckle.



3. Remove the cotter pin from the castle nut of the toe control arm.
4. Install the 10 mm hex nut on the ball joint. Be sure that the 10 mm hex nut is flush with the ball joint pin end, or the threaded section of the ball joint pin might be damaged by the ball joint remover.
5. Position the special tool between the knuckle and toe control arm as shown, and separate the toe control arm.

CAUTION: Be careful not to damage the ball joint boot.

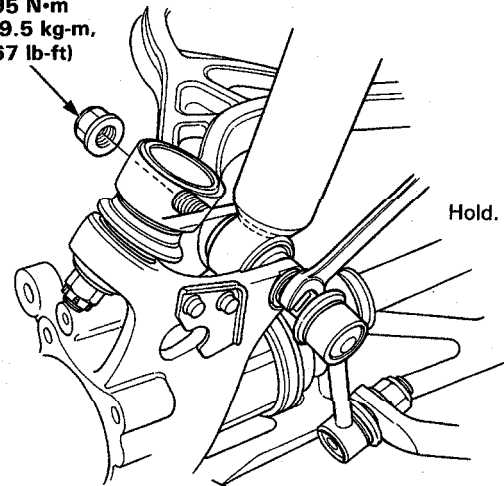


☆ Corrosion resistant bolt/nut

6. Hold the stabilizer link with the wrench and remove the damper mounting nut.

☆ DAMPER MOUNTING

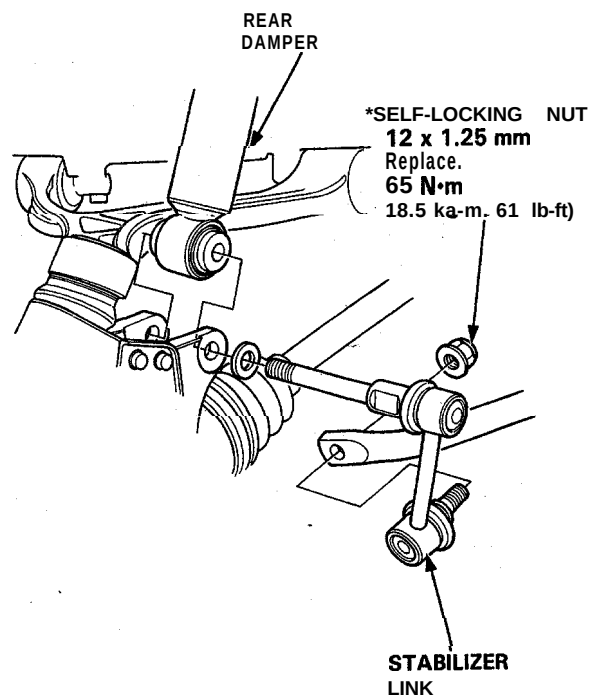
NUT
12 x 1.25 mm
Replace
95 N·m
(9.5 kg-m,
67 lb-ft)



*Corrosion resistant bolt/nut

7. Remove the stabilizer link from the stabilizer bar and knuckle.

☆ Corrosion resistant bolt/nut



(cont'd)

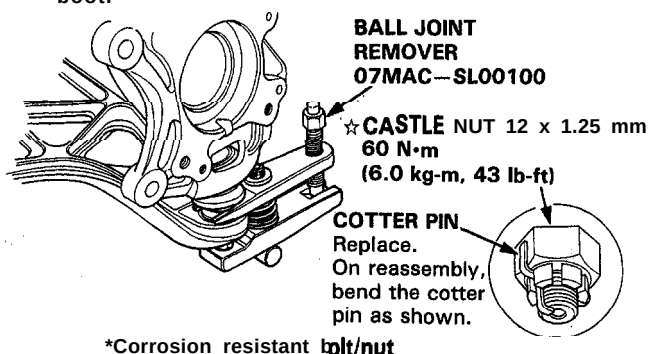
Knuckle/Control Arms

Removal (cont'd)

8. Remove the cotter pin from the castle nut of the lower control arm ball joint and remove the nut.
9. Install the 12 mm hex nut on the ball joint. Be sure that the 12 mm hex nut is flush with the ball joint pin end, or the threaded section of the ball joint pin might be damaged by the ball joint remover.
10. Position the special tool between the knuckle and lower control arm as shown, and separate the lower arm.

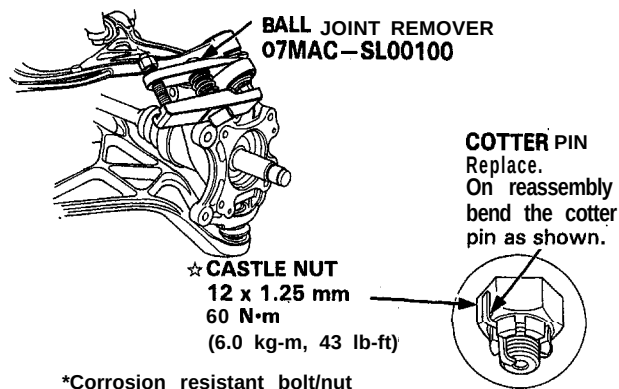
NOTE: Use the ball joint remover (07MAC—SL00100) by adjusting it so that its upper section and lower section are parallel to each other.

CAUTION: Be careful not to damage the ball joint boot.



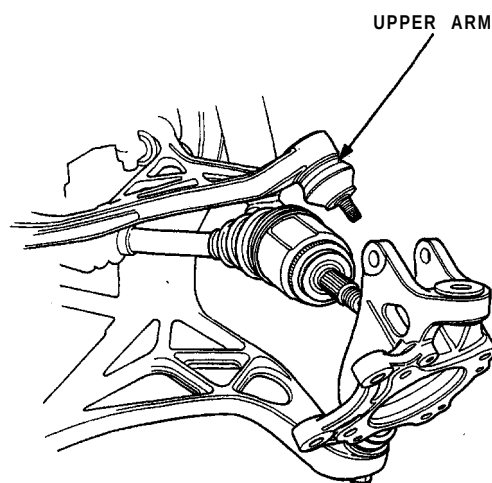
11. Remove the cotter pin from the castle nut of the upper control arm ball joint and remove the nut.
12. Install the 12 mm hex nut on the ball joint. Be sure that the 12 mm hex nut is flush with the ball joint pin end, or the threaded section of the ball joint pin might be damaged by the ball joint remover.
13. Position the special tool between the knuckle and upper control arm as shown.

CAUTION: Be careful not to damage the ball joint boot.



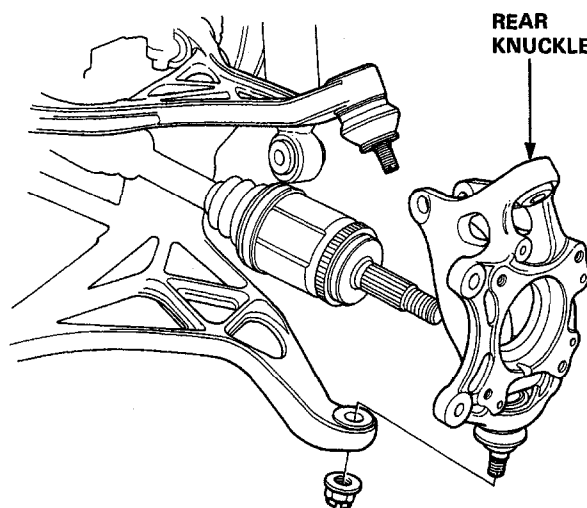
14. Separate the knuckle from the upper control arm and driveshaft outboard joint.

NOTE: Do not remove the driveshafts from the differential case or intermediate shaft.



NOTE: Tie plastic bags over the driveshaft ends.

15. Remove the knuckle assembly from the lower control arm.

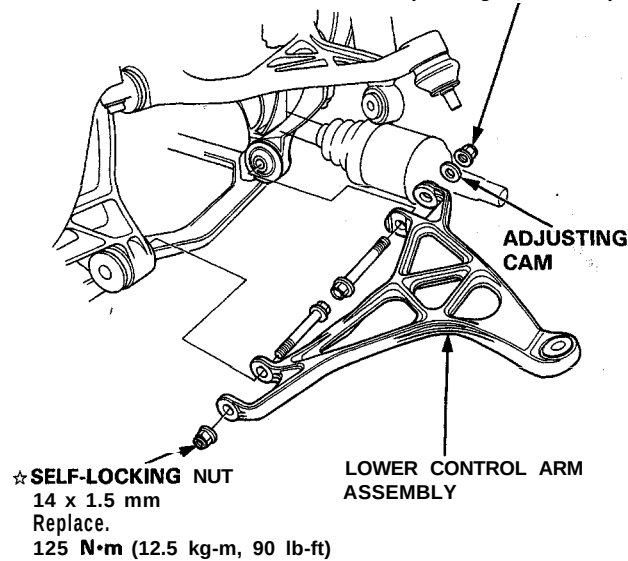




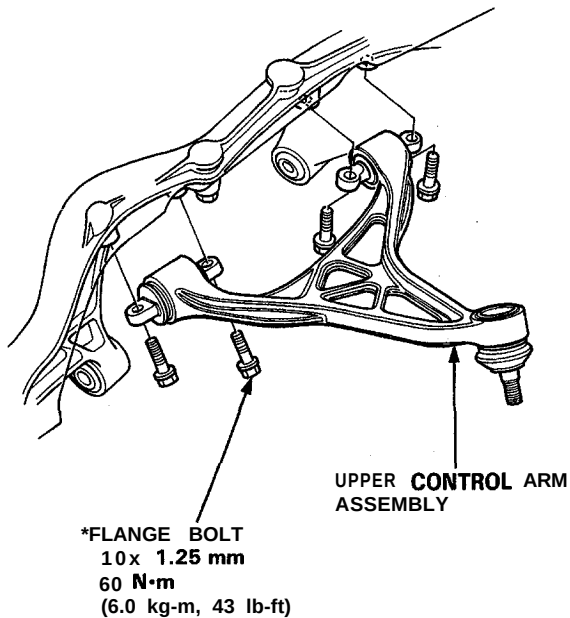
16. Remove the lower control arm by removing the adjusting bolt and flange bolt.

*Corrosion resistant bolt/nut

☆ SELF-LOCKING NUT
14x 1.5 mm
Replace.
125 N·m
(12.5 kg-m, 90 lb-ft)



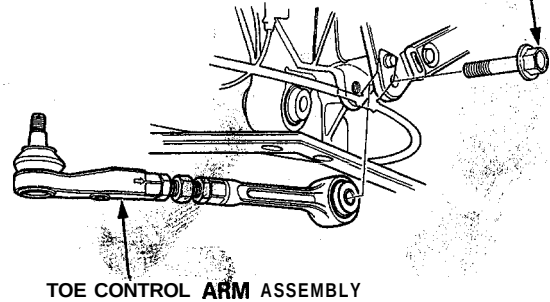
17. Remove the upper control arm by removing the flange bolts.



*Corrosion resistant bolt/nut

18. Remove the toe control arm.

*FLANGE BOLT
12x 1.25 mm
95 N·m
(9.5 kg-m, 69 lb-ft)



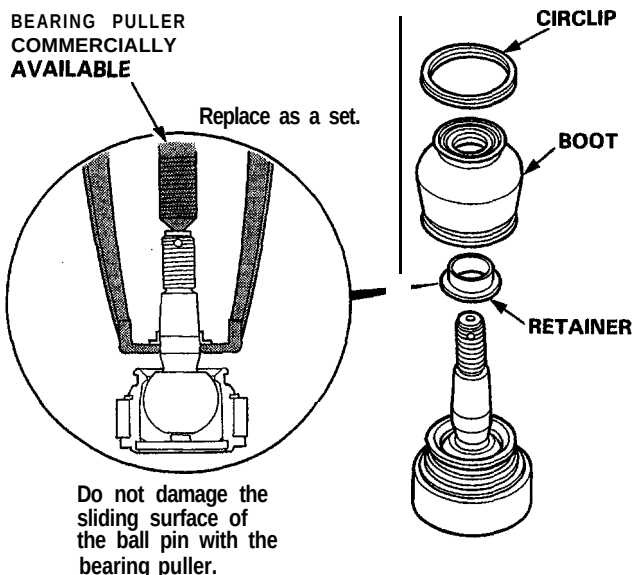
CAUTION: Make sure that the reference marks on the toe control arm are aligned.

Knuckle/Control Arms

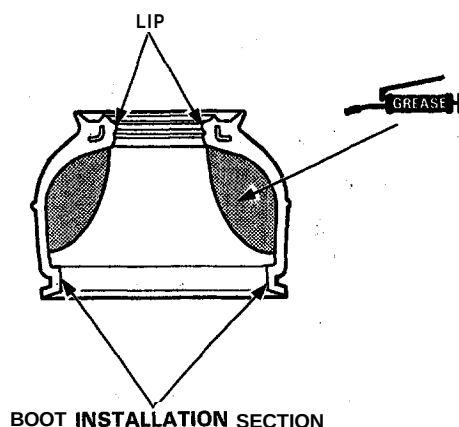
Ball Joint Boot Replacement

NOTE: The upper control arm ball joint is attached with the boot retainer to improve the sealing efficacy of the boot.

1. Remove the circlip and boot.
2. Remove the retainer (upper ball joint only).



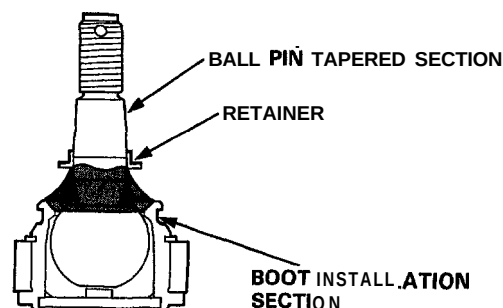
3. Pack the interior of the boot and lip with grease.



CAUTION: Do not contaminate the boot installation section with grease.

4. Wipe the grease off the sliding surface of the ball pin and pack with fresh grease (upper ball joint only).
5. Insert the new retainer lightly into the ball joint pin.

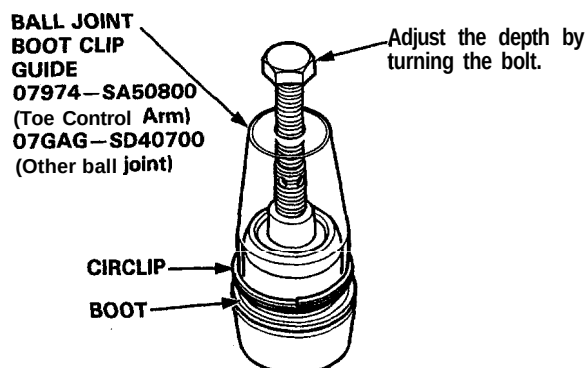
NOTE: When installing the ball joint, press fit the retainer into the ball joint pin.



CAUTION:

- Keep grease off the boot installation section and the tapered section of the ball pin.
- Do not allow dust, dirt, or other foreign materials to enter the boot.

6. Install the boot in the groove of the boot installation section securely, then bleed air.
7. Adjust the special tool with the adjusting bolt until the end of the tool aligns with the groove on the boot.
8. Slide the clip over the tool and into position.



- Upper control arm ball joint
- Toe control arm ball joint
- Knuckle lower ball joint

CAUTION: After installing the boot, check the ball pin tapered section and threads for grease contamination and wipe them if necessary.

Damper Rear

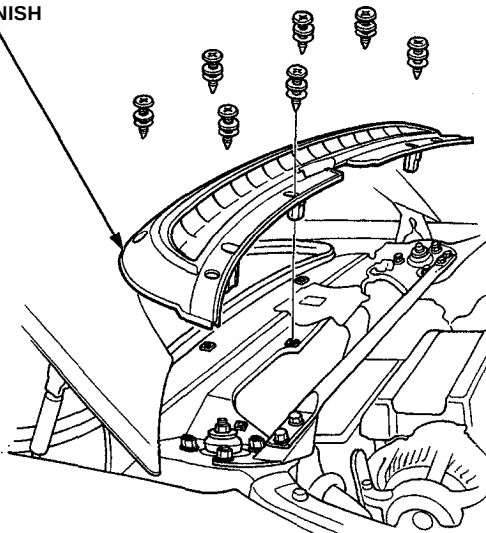


Removal

1

1. Remove the rear wheel.
2. Remove the lower rear hatch glass garnish.

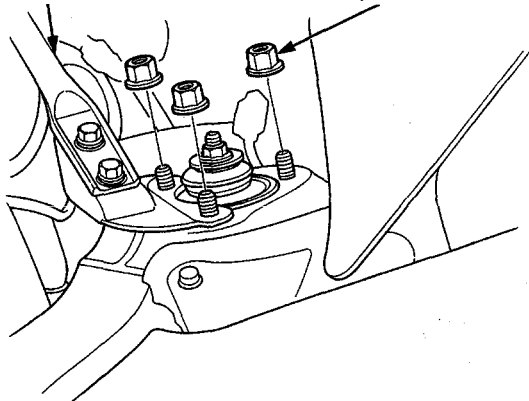
REAR HATCH GLASS
GARNISH



3. Remove the three self-locking nuts.
4. Remove the rear damper bar.

REAR
DAMPER BAR

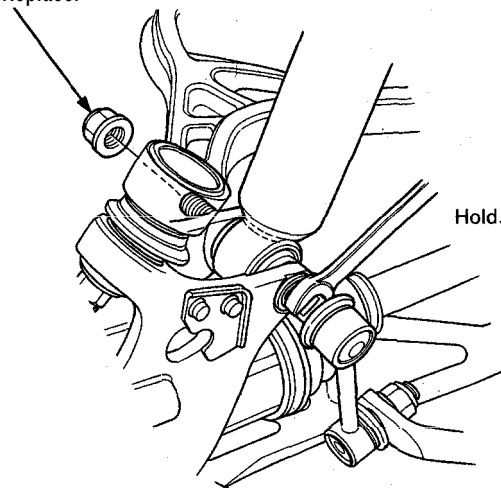
*SELF-LOCKING NUT
10 x 1.25 mm
Replace.



*Corrosion resistant bolt/nut

5. Hold the stabilizer link with a wrench and remove the damper mounting nut.

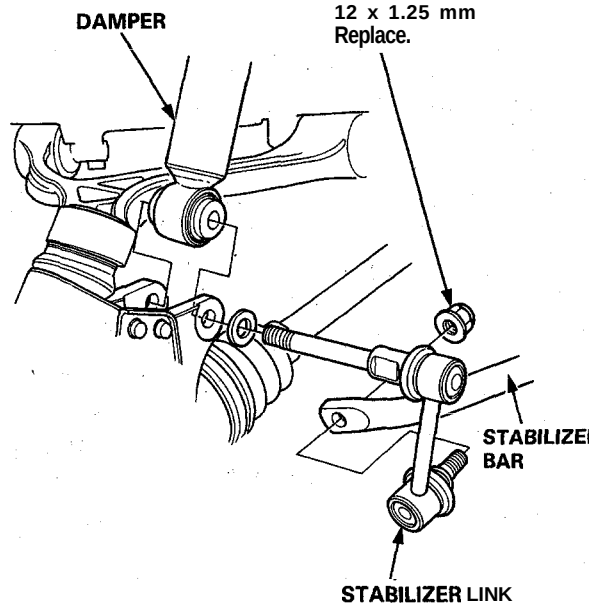
*DAMPER MOUNTING NUT
12 x 1.25 mm
Replace.



*Corrosion resistant bolt/nut

6. Remove the stabilizer link from the stabilizer bar and knuckle.
7. Remove the rear damper assembly.

*SELF-LOCKING NUT
12 x 1.25 mm
Replace.



☆ Corrosion resistant bolt/nut

Damper Rear

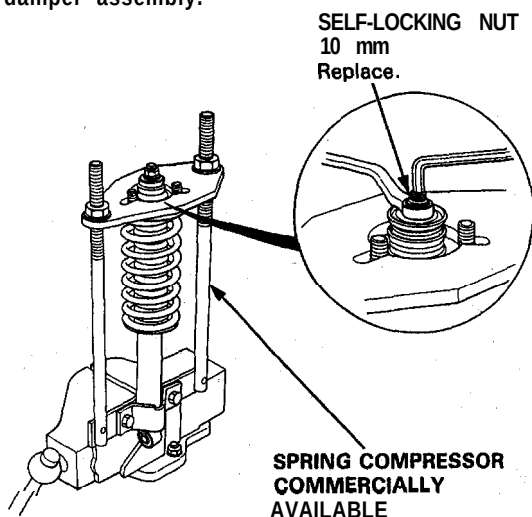
Damper Disassembly/Inspection

Disassembly:

1. Compress the damper spring with the spring compressor according to the manufacture's instructions.

CAUTION: Do not compress the spring more than necessary to remove the 10 mm flange nut.

2. Remove the 10 mm self-locking nut from the damper assembly.

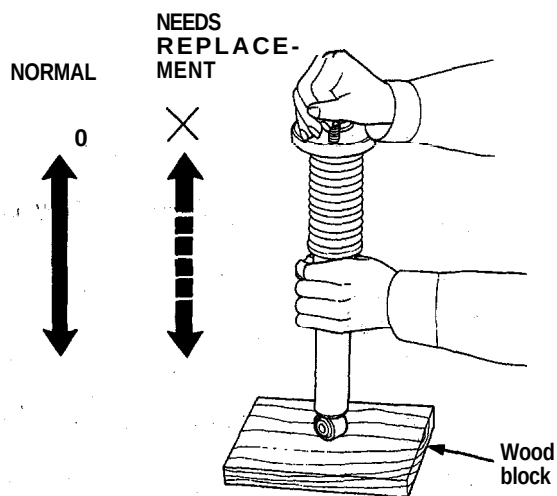


3. Remove the spring compressor and disassembly the damper as shown on page 18-41.

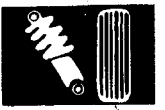
Inspection:

1. Reassemble all parts, except the spring.
2. Push on the damper assembly as shown.
3. Check for smooth operation through a full stroke, both compression and extension.

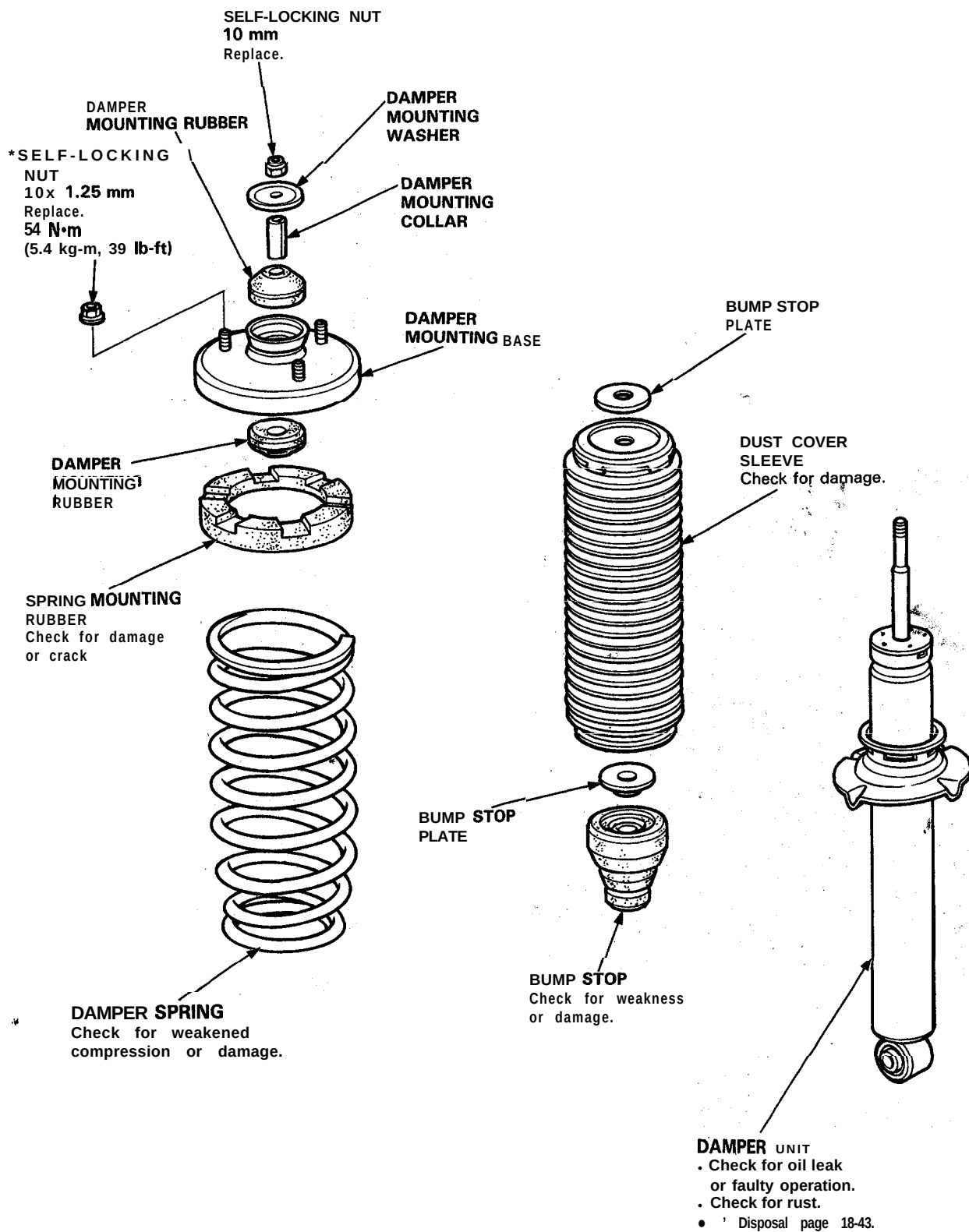
NOTE: The damper should move smoothly. If it does not (no compression or no extension), then gas is leaking, and the damper should be replaced.



4. Check for oil leaks, abnormal noises or binding during these tests.



Inspection

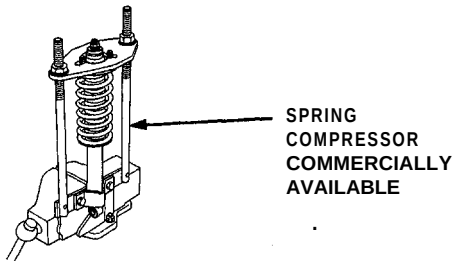


*Corrosion resistant bolt/nut

Damper Rear

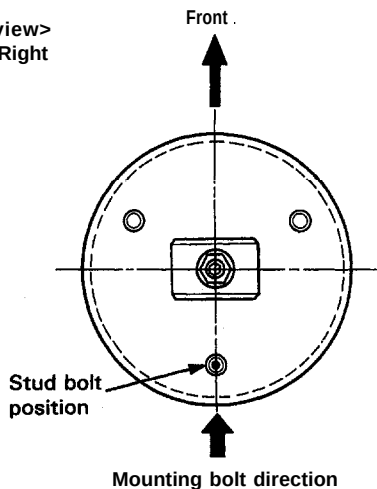
Reassembly

1. Install the damper unit on a spring compressor.
2. Install the bump stop, bump stop plate, dust cover sleeve, damper spring, bump stop plate, damper mounting collar, damper mounting rubber, spring mounting rubber and damper mounting base on the damper unit.
3. Compress the damper spring.



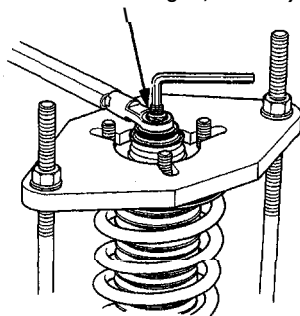
CAUTION: Install the damper mounting base so that the angle of the stud bolts is as shown.

<Upper view>
Left and Right



4. Install the damper mounting rubber and damper mounting washer, and loosely install a new 10 mm self-locking nut.
5. Hold the damper shaft and tighten the 10 mm self-locking nut.

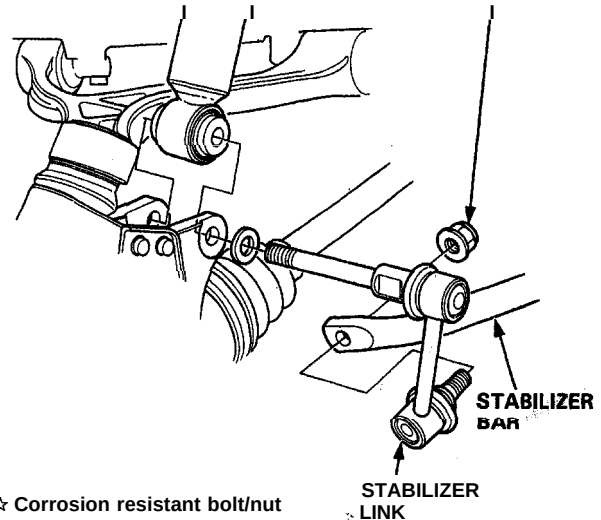
30 N·m (3.0 kg-m, 22 lb-ft)



Installation

1. Reposition the damper assemble between the frame and knuckle.
2. Install the stabilizer link and connect the stabilizer bar.
3. Loosely tighten the new self-locking nut.

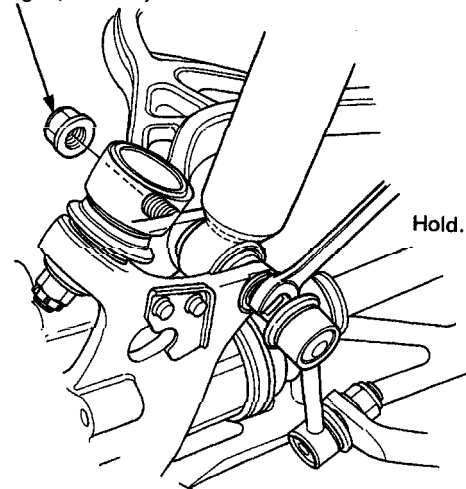
☆ SELF-LOCKING NUT
12 x 1.25 mm
85 N·m
(8.5 kg-m, 82 lb-ft)



4. Loosely tighten the new damper mounting nut.

NOTE: The damper mounting nuts should be tightened with the damper under vehicle load.

☆ DAMPER MOUNTING NUT
12 x 1.25 mm
95 N·m
(9.5 kg-m, 87 lb-ft)



*Corrosion resistant bolt/nut

Damper Disposal

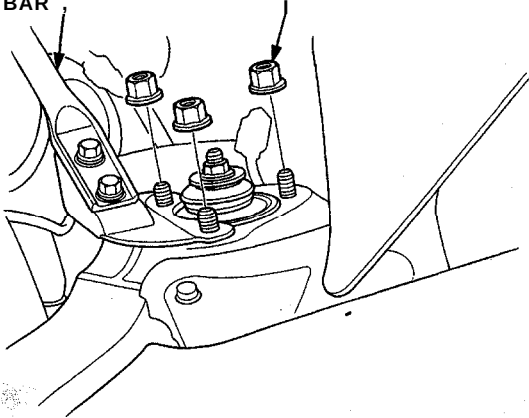


5. Install the rear damper bar on the stud bolts of damper as shown.

6. Loosely tighten the new self-locking nuts.

REAR
DAMPER
BAR

*SELF-LOCKING NUT 10 x 1.25 mm
54 N·m (5.4 kg-m, 39 lb-ft)

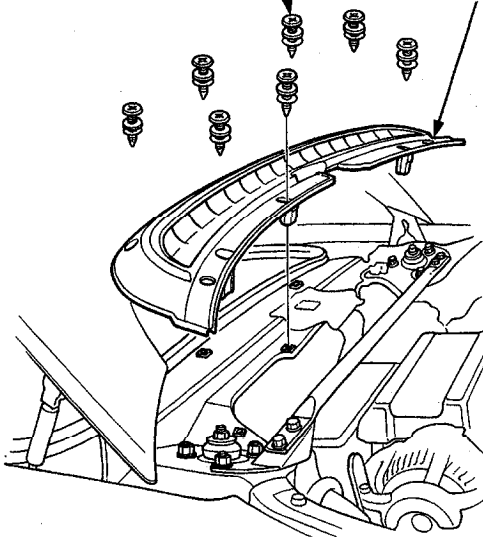


☆ Corrosion resistant bolt/nut

7. Secure the damper mounting nut and stabilizer link nut.
8. Secure the damper assembly to the frame with the self-locking nuts.
9. Install the rear hatch glass garnish.

TAPPING SCREW

REAR HATCH GLASS
GARNISH

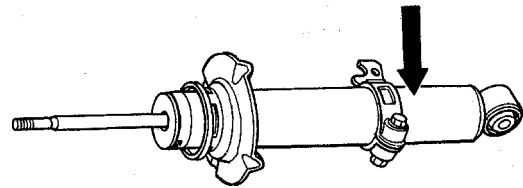


⚠ WARNING The dampers contain nitrogen gas and oil under pressure.

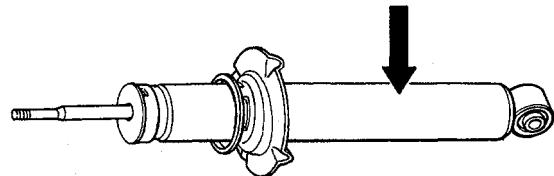
The pressure must be relieved before disposal to prevent explosion and possible injury when scrapping.

Place the damper on a level surface with its rod extended and drill a hole of 2-3 mm (0.078-0.118 in) diameter in the body to release the gas.

Front Damper



Rear Damper



⚠ WARNING Always wear eye protection to avoid getting metal shavings in your eyes when the gas damper pressure is relieved.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

The NSX includes a driver's side airbag, located in the steering wheel hub, as part of a Supplemental Restraint System (SRS). Information necessary to safely service the SRS is included in this Service Manual. Items marked * in this section include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special cautions and tools, and should therefore be done by an authorized Acura dealer.

⚠ WARNING

- To avoid rendering the SRS inoperative, which can lead to personal injury or death in the event of a severe frontal collision, all maintenance must be performed by an authorized Acura dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the **airbag**.
- All SRS electrical wiring harnesses are covered with yellow outer insulation and related components are located in the steering column, center console, dash, and dashboard lower panel. Do not use electrical test equipment on these circuits.