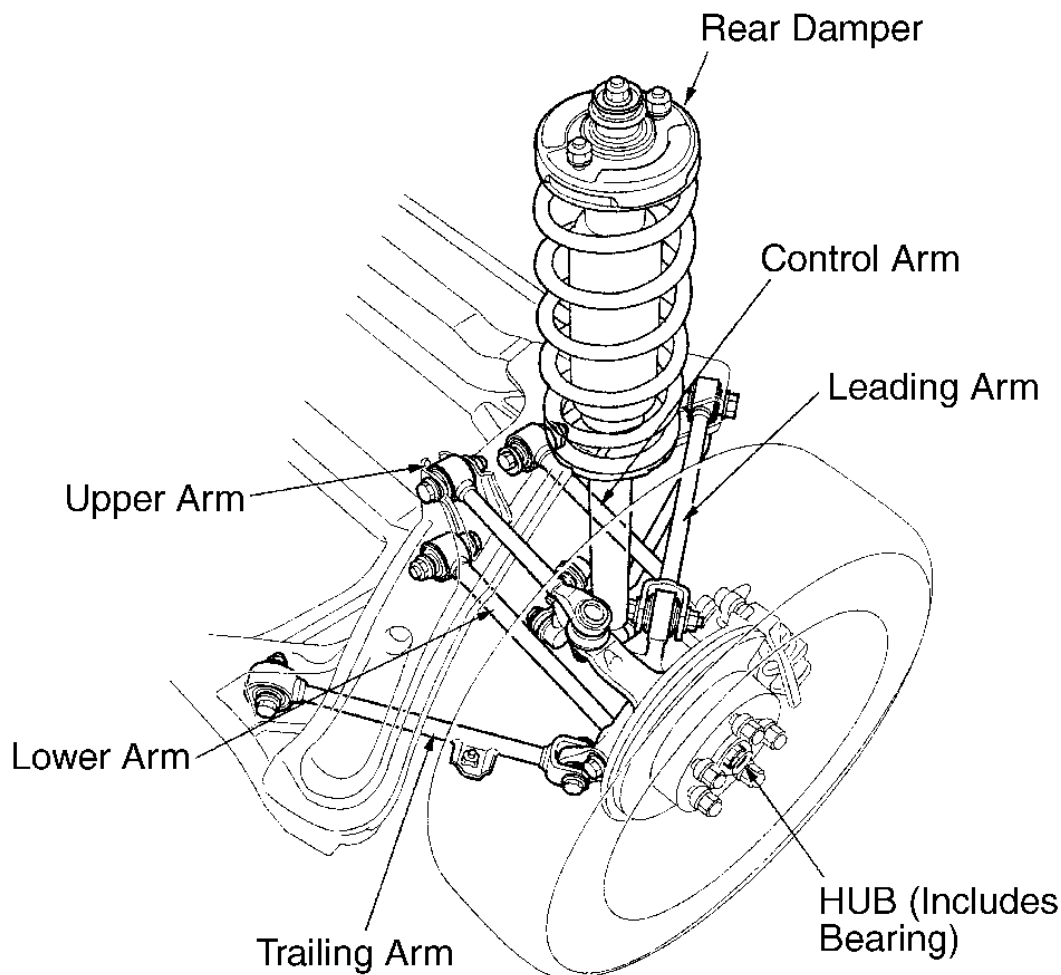


2004 SUSPENSION

Rear - TSX

DESCRIPTION

Model uses an independent control arm suspension system. Suspension consists of a vertically mounted strut or damper, and coil spring connected to a knuckle/spindle assembly, upper control arm, lower control arm, trailing arm, and a stabilizer bar. See **Fig. 1**.



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Fig. 1: Identifying Rear Suspension Components
Courtesy of AMERICAN HONDA MOTOR CO., INC.

ADJUSTMENTS & INSPECTION

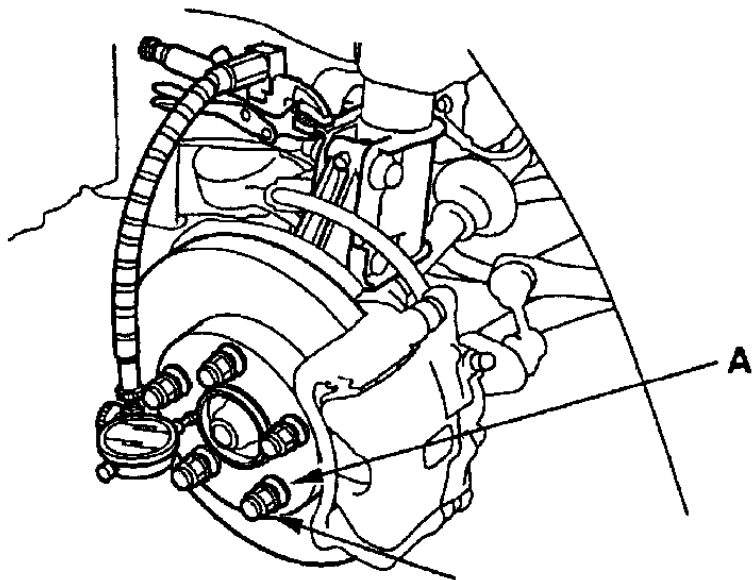
WHEEL ALIGNMENT

NOTE: See SPECIFICATIONS & PROCEDURES article.

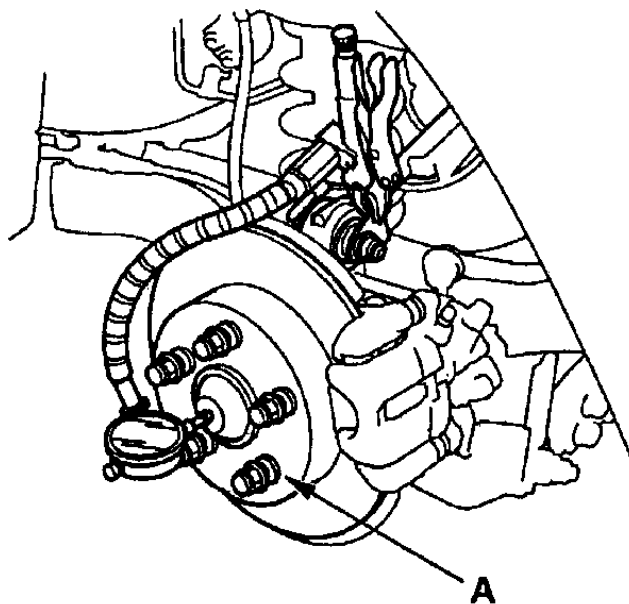
WHEEL BEARING

Wheel bearings are not adjustable. Remove tire and wheel assembly. Install wheel lug nuts. Check wheel bearing end play using a dial indicator. See **Fig. 2** . If rear wheel bearing end play is greater than .002" (.05 mm), replace hub and wheel bearing assembly. See HUB/BEARING ASSEMBLY under REMOVAL & INSTALLATION.

Front:



Rear:



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Fig. 2: Measuring Wheel Bearing End Play
Courtesy of AMERICAN HONDA MOTOR CO., INC.

REMOVAL & INSTALLATION

BALL JOINT

Removal

NOTE: Always use a ball joint remover to disconnect a ball joint. DO NOT strike the housing or any other part of the ball joint connection to disconnect.

1. Install the ball joint thread protector onto the threads of the ball joint (A) by hand until it stops to prevent damage to the threaded end of the ball joint pin. See **Fig. 3**.
2. Apply grease (A) to the ball joint remover on the areas shown. See **Fig. 4**. These will ease installation of the tool and prevent damage to the pressure bolt threads.
3. Loosen the pressure bolt (A), and install the ball joint remover. See **Fig. 5**. Insert the jaws carefully, making sure not to damage the ball joint boot. Adjust the jaw spacing by turning the adjusting bolt (B).
4. After adjusting the adjusting bolt, make sure the head (C) of the adjusting bolt is in the position shown to allow the jaw to pivot.

NOTE: DO NOT use pneumatic or electric tools on the pressure bolt.

5. With a wrench, tighten the pressure bolt until the ball joint pin pops loose from the ball joint pin hole. If necessary, apply penetrating type lubricant to loosen the ball joint pin.
6. Remove the tool, then remove the nut from the end of the ball joint pin, and pull the ball joint out of the ball joint pin hole. Inspect the ball joint boot, and replace it if damaged.

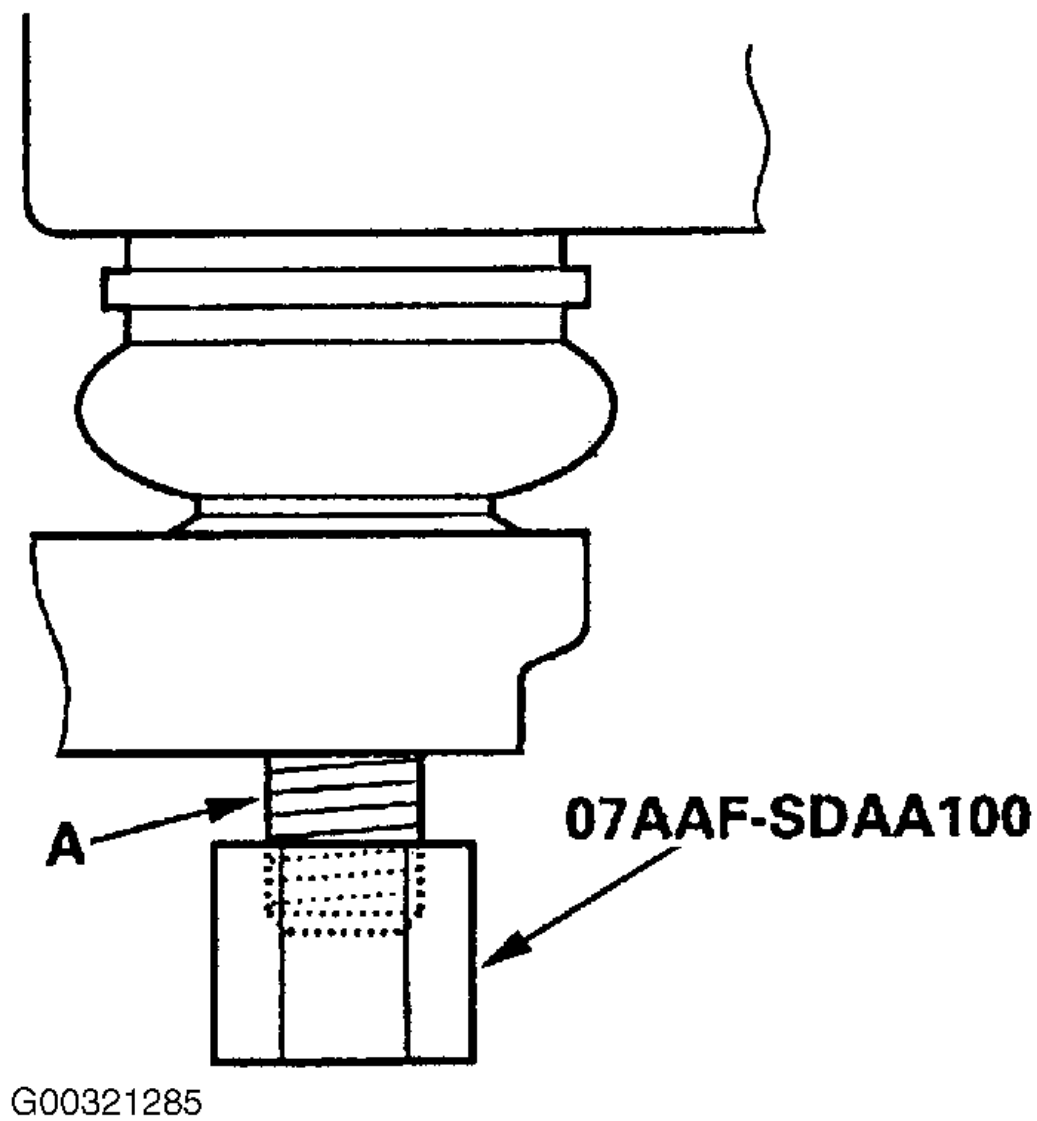
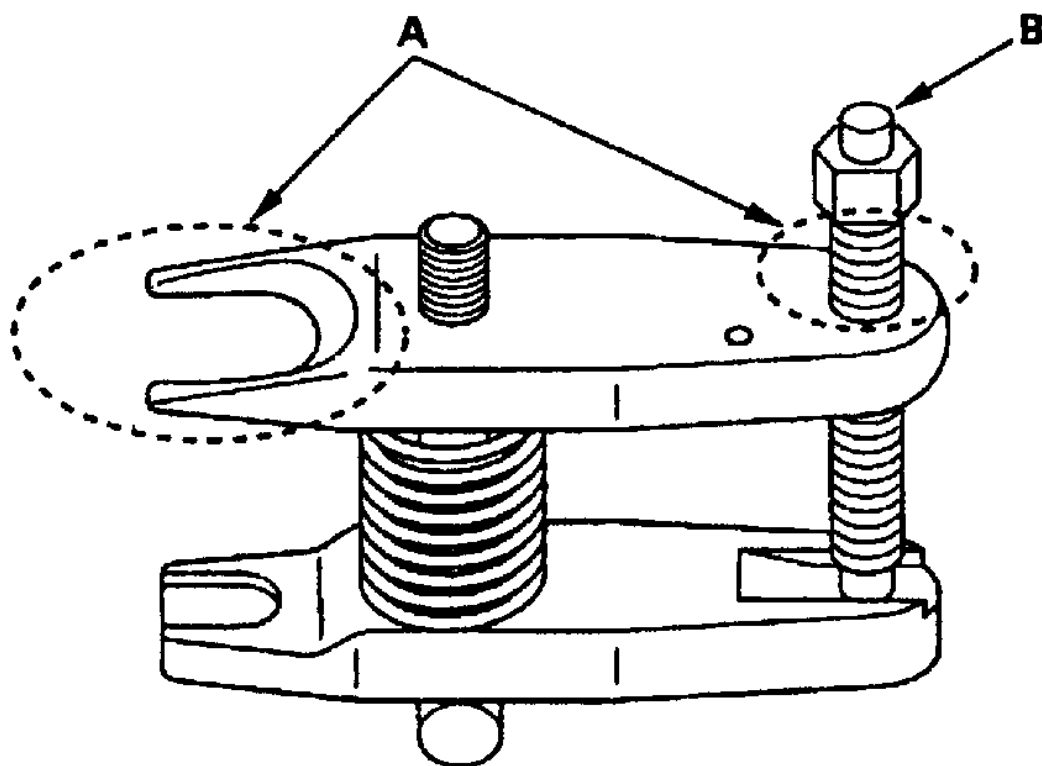


Fig. 3: Installing Ball Joint Thread Protector
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 4: Applying Molybdenum Grease To Ball Joint Remover
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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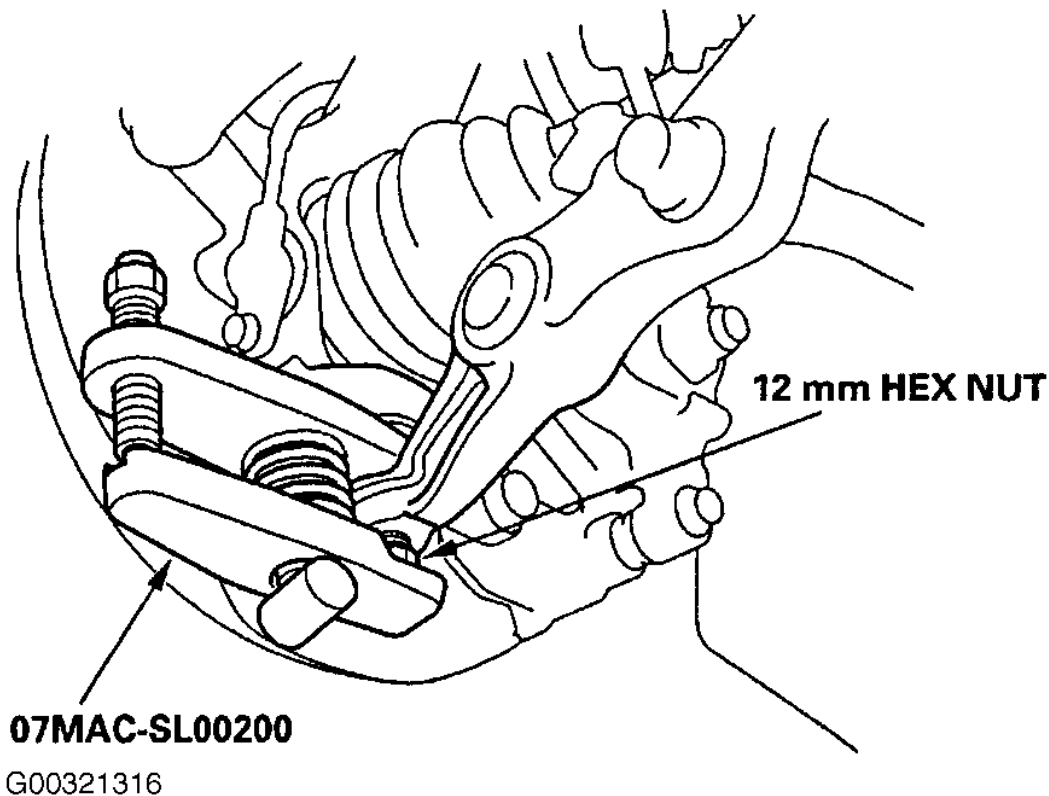


Fig. 5: Installing Ball Joint Remover

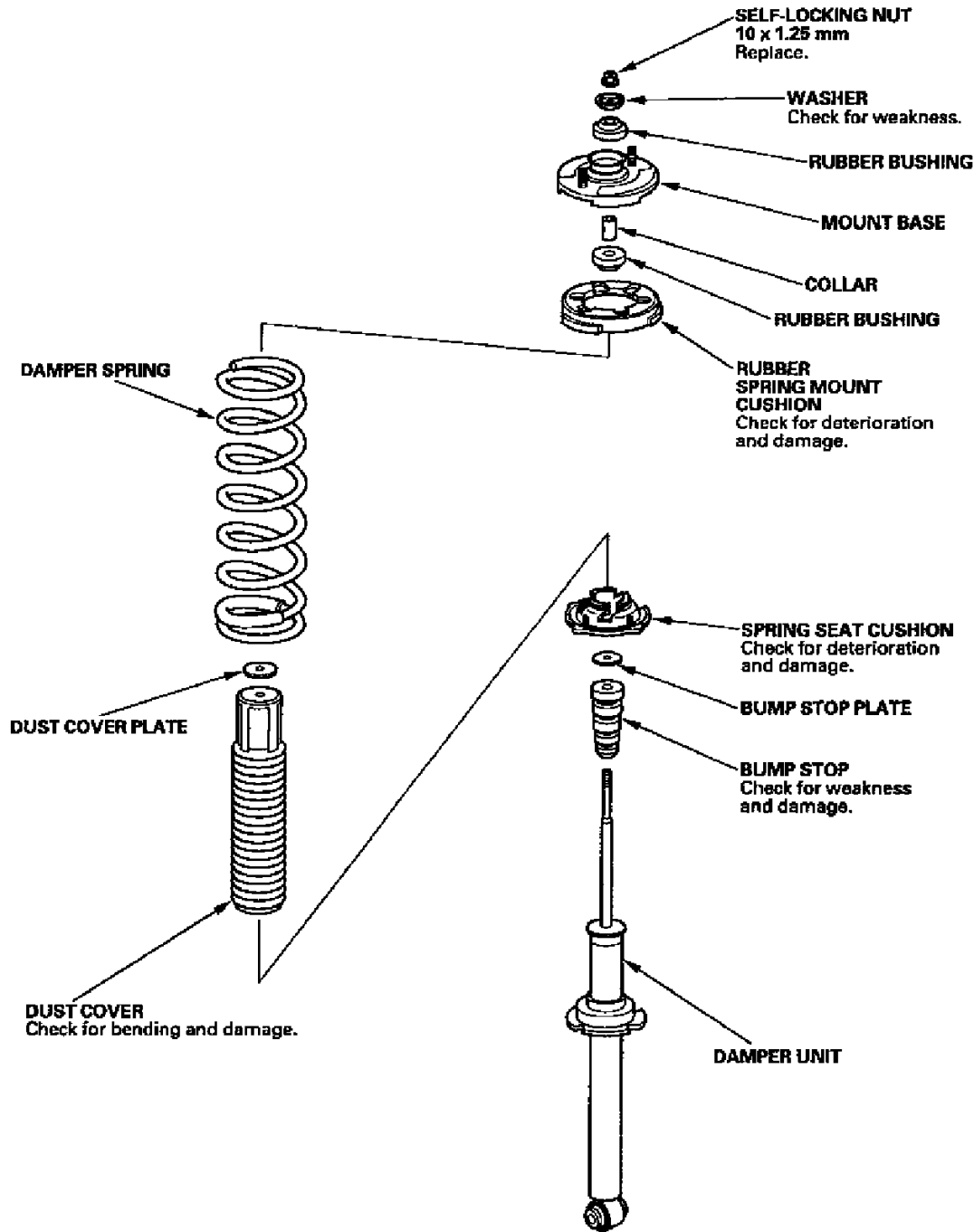
Courtesy of AMERICAN HONDA MOTOR CO., INC.

DAMPER/SPRING

For exploded view of damper/spring, see **Fig. 6**.

Removal

1. Raise the rear of the vehicle, and make sure it is securely supported. Remove the rear wheels.
2. Remove the rear shelf. See **Fig. 7**.
3. Remove the seat side bolster. See **Fig. 8**.
4. Remove the 2 flange nuts (B). See **Fig. 9**.
5. Remove the flange bolt (A) from the knuckle.
6. Remove the flange nut (B) while holding the joint pin (C) with a hex wrench (D), and disconnect the stabilizer link (E) from the stabilizer link bracket. See **Fig. 10**.
7. Lower the rear suspension, then remove the damper (G) from the vehicle. Damper springs are different, left and right. Mark the spring "L" and "R" before you continue.

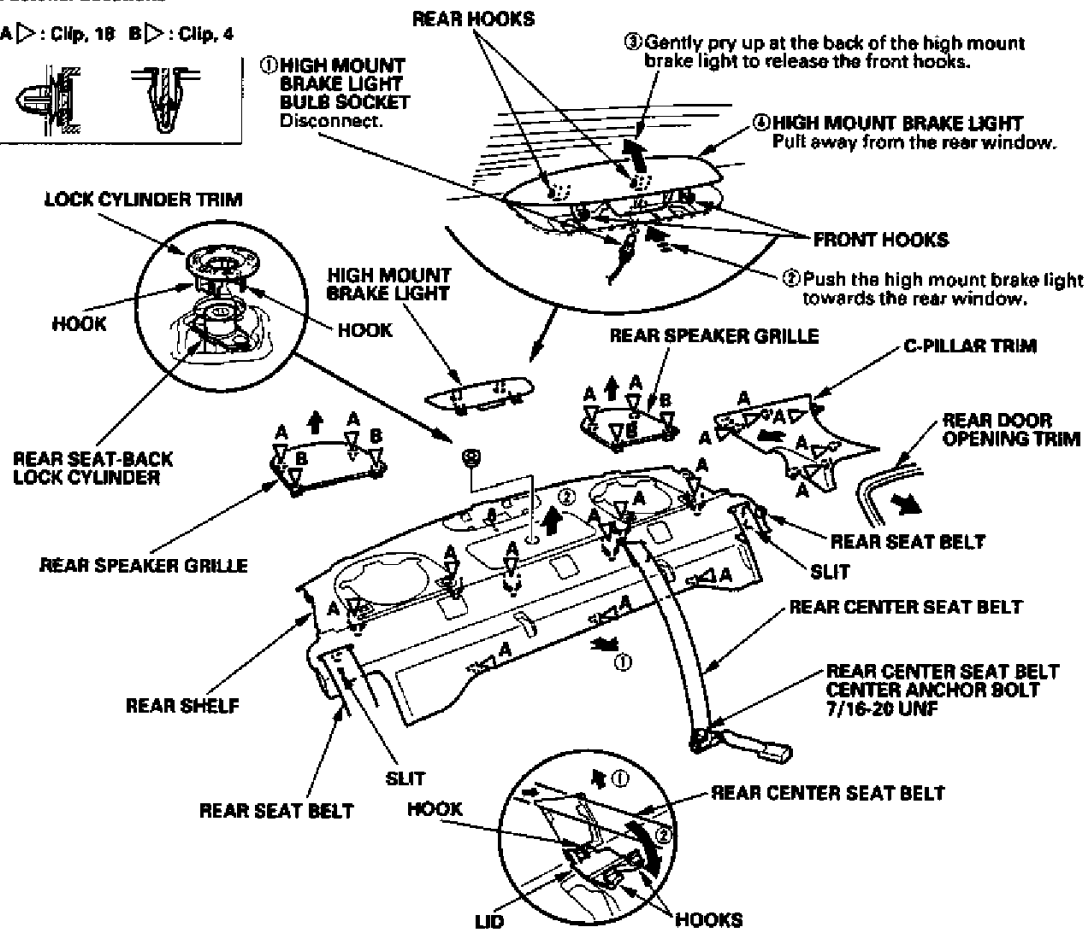


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Fig. 6: Exploded View Of Damper/Spring
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Fastener Locations

A▷: Clip, 18 B▷: Clip, 4



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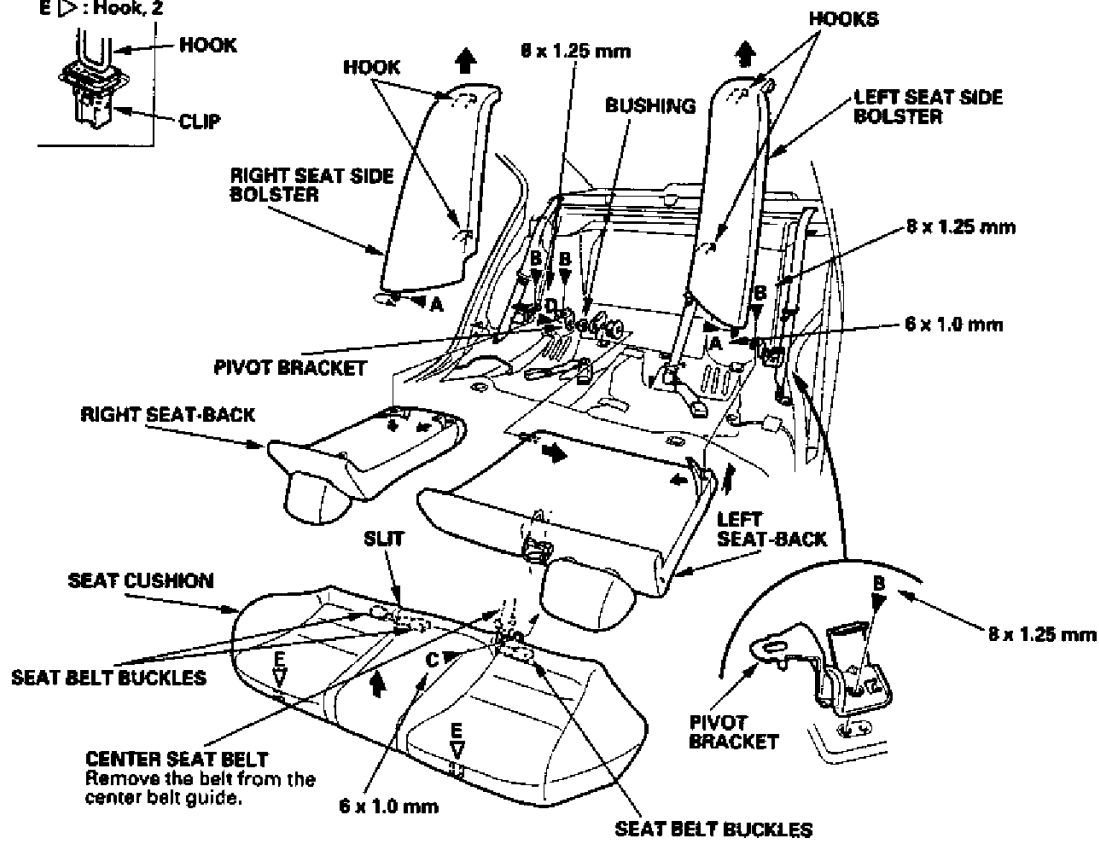
Fig. 7: Removing Rear Shelf
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Fastener Locations

A ►: Bolt, 2 B ►: Bolt, 4 C ►: Bolt, 1 D ►: Bolt, 1



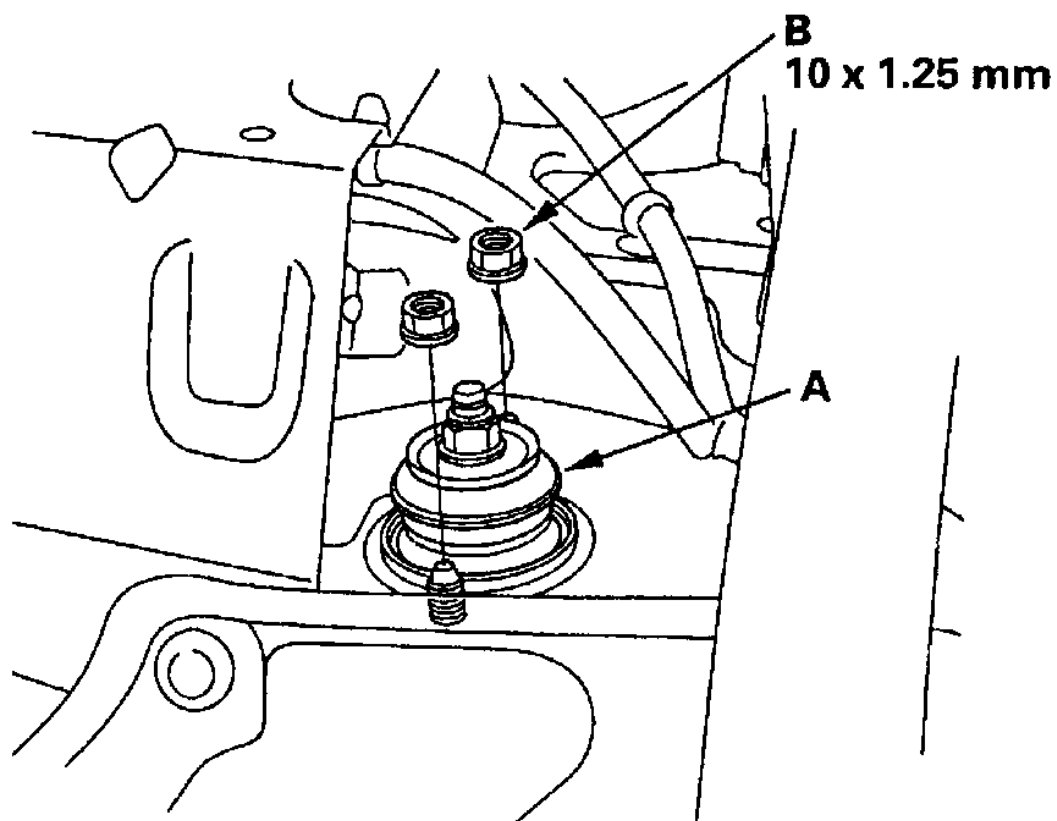
E ►: Hook, 2



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Fig. 8: Removing Seat Side Bolster

Courtesy of AMERICAN HONDA MOTOR CO., INC.

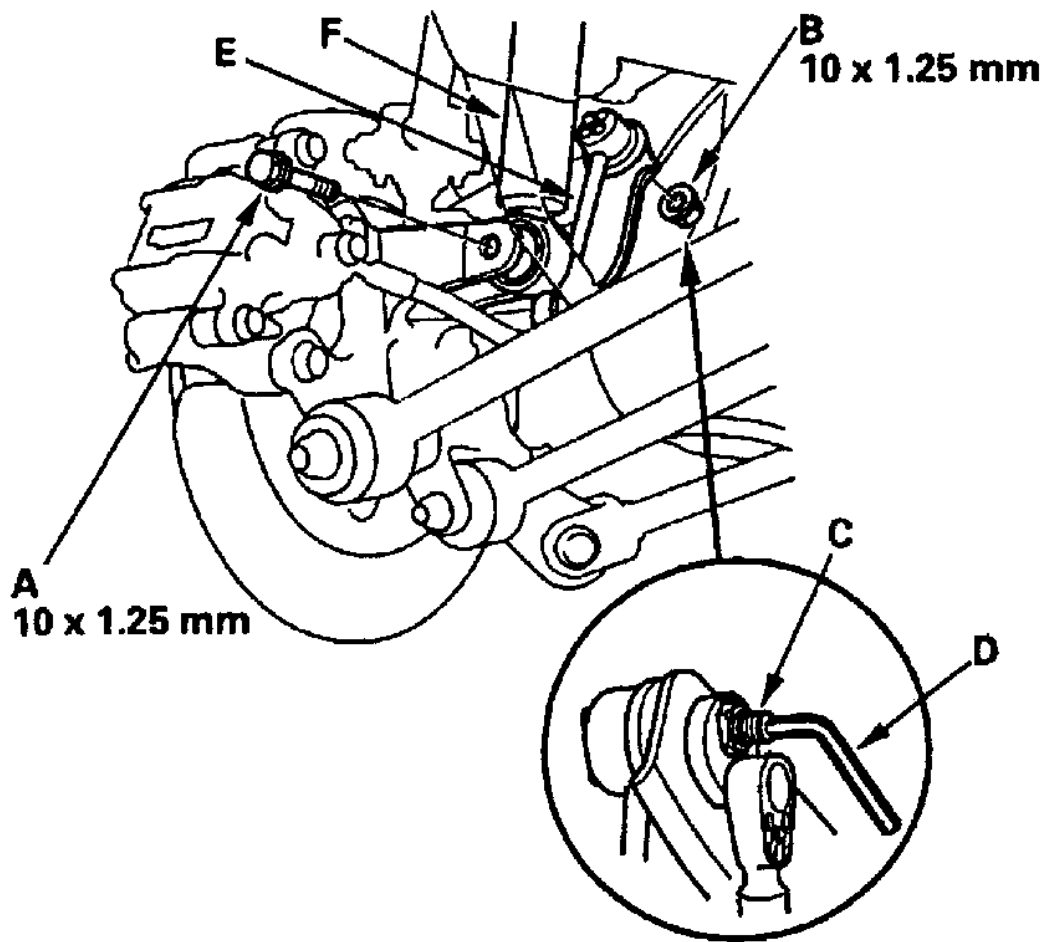


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Fig. 9: Removing Flange Nuts

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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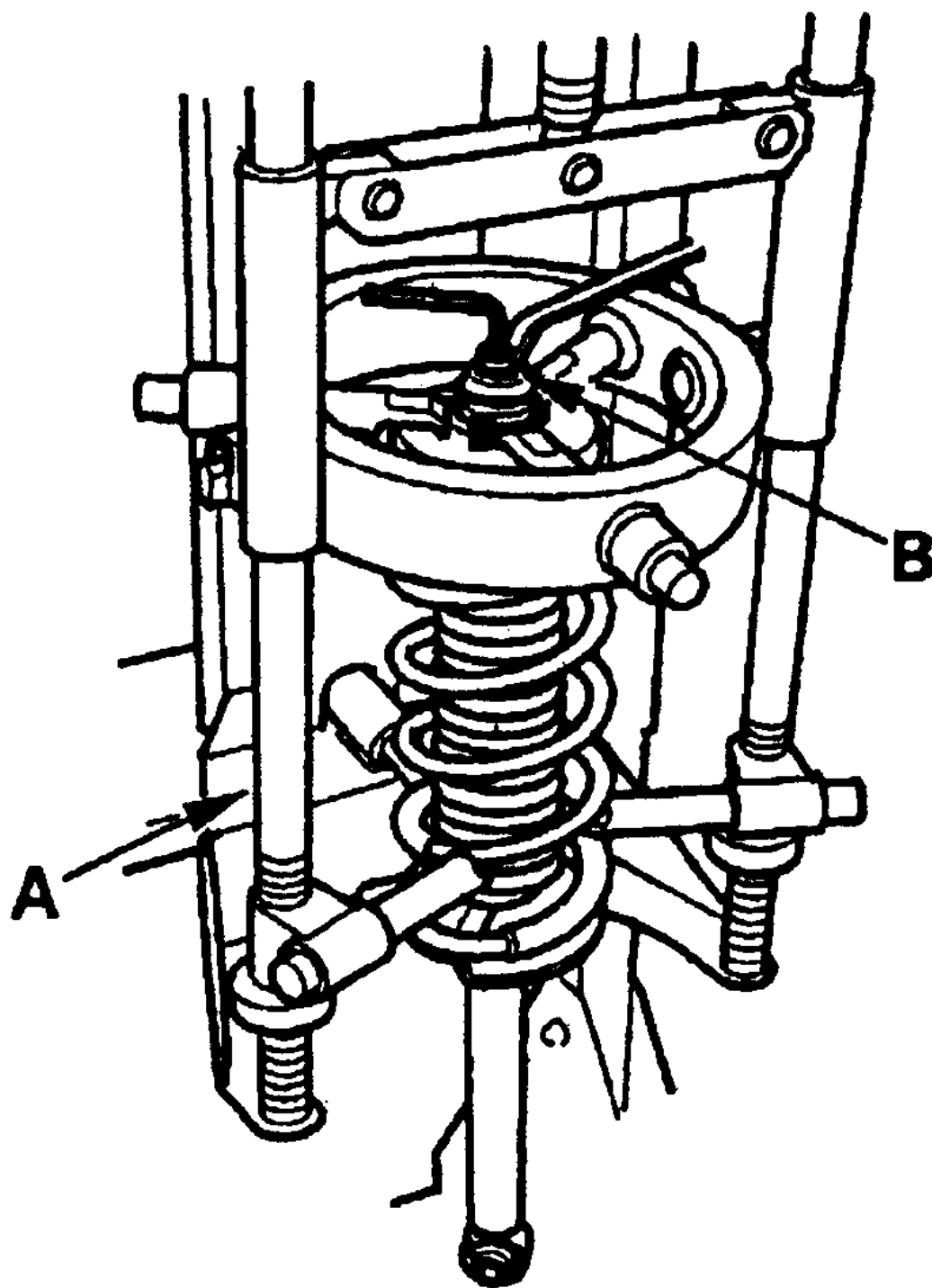


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Fig. 10: Removing Flange Bolt From Knuckle
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Disassembly/Inspection

1. Compress the damper spring with appropriate strut spring compressor (A) according to the manufacturer's instructions, then remove the self-locking nut (B). See **Fig. 11** . DO NOT compress the spring more than necessary to remove the self-locking nut.
2. Release the pressure from the strut spring compressor, then disassemble the damper. See **Fig. 6** .
3. Reassemble all parts, except the spring.
4. Compress the damper assembly by hand, and check for smooth operation through a full stroke, both compression and extension. The damper should extend smoothly and constantly when the compression is released. If it does not, the gas is leaking, and the damper should be replaced.
5. Check for oil leaks, abnormal noises, and binding during these tests.



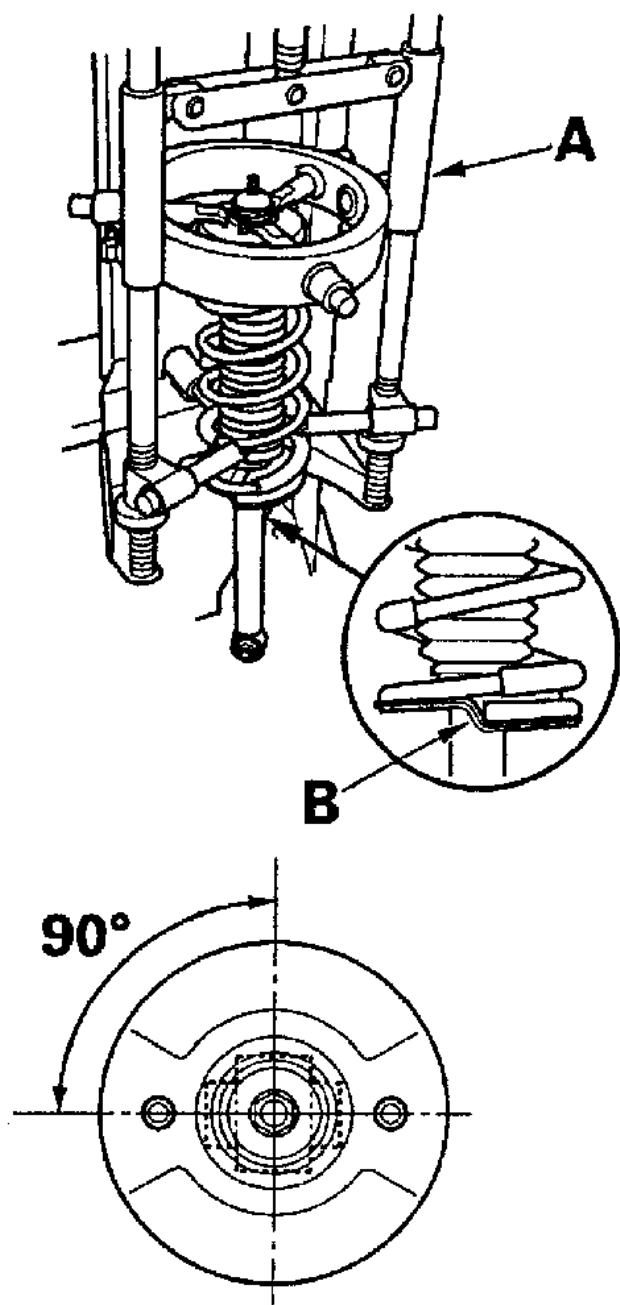
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Fig. 11: Removing Self-Locking Nut

Courtesy of AMERICAN HONDA MOTOR CO., INC.

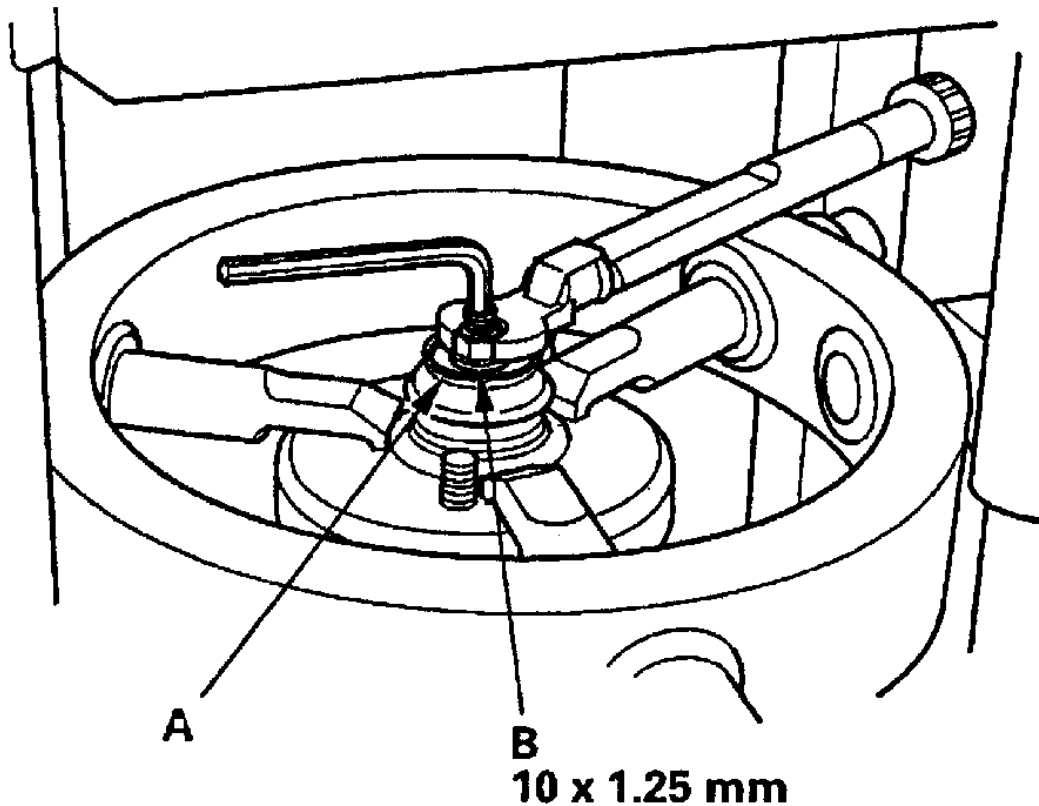
Reassembly

1. Install the damper unit on appropriate strut spring compressor (A). See **Fig. 12** .
2. Assemble the damper in the reverse order of disassembly, except for the washer and self-locking nut. Align the bottom end of the damper spring and the stepped part of the spring lower seat (B).
3. Position the damper mounting base on the damper unit.
4. Compress the damper spring with the spring compressor.
5. Install the washer (A), and loosely install a new self-locking nut (B). See **Fig. 13** .
6. Hold the damper shaft with a hex wrench, and tighten the self-locking nut.



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Fig. 12: Installing Damper Unit
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 13: Installing Washer & Self-Locking Nut
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Installation

1. Lower the rear suspension, position the damper (A), and loosely install the 2 flange nuts (B). See **Fig. 9** .
2. Loosely install the flange nuts (B) onto the top of the damper.
3. Loosely install the flange bolt (A) on the bottom of the damper. Connect the stabilizer link (A) on the bracket, and loosely install the flange nut (B). See **Fig. 10** .
4. Raise the rear suspension with a floor jack load the vehicle's weight, and tighten the flange bolt to specification. See **TORQUE SPECIFICATIONS** .
5. Tighten the flange nut while holding the joint pin (C) with a hex wrench (D).
6. Tighten the 2 flange nuts on top of the damper to specification.
7. Install the seat side bolster. See **Fig. 8** .
8. Install the rear shelf. See **Fig. 7** .
9. Clean the mating surface of the brake disc and the inside of the wheel, then install the rear wheel.
10. Check the rear wheel alignment, and adjust it if necessary. See **WHEEL ALIGNMENT** under

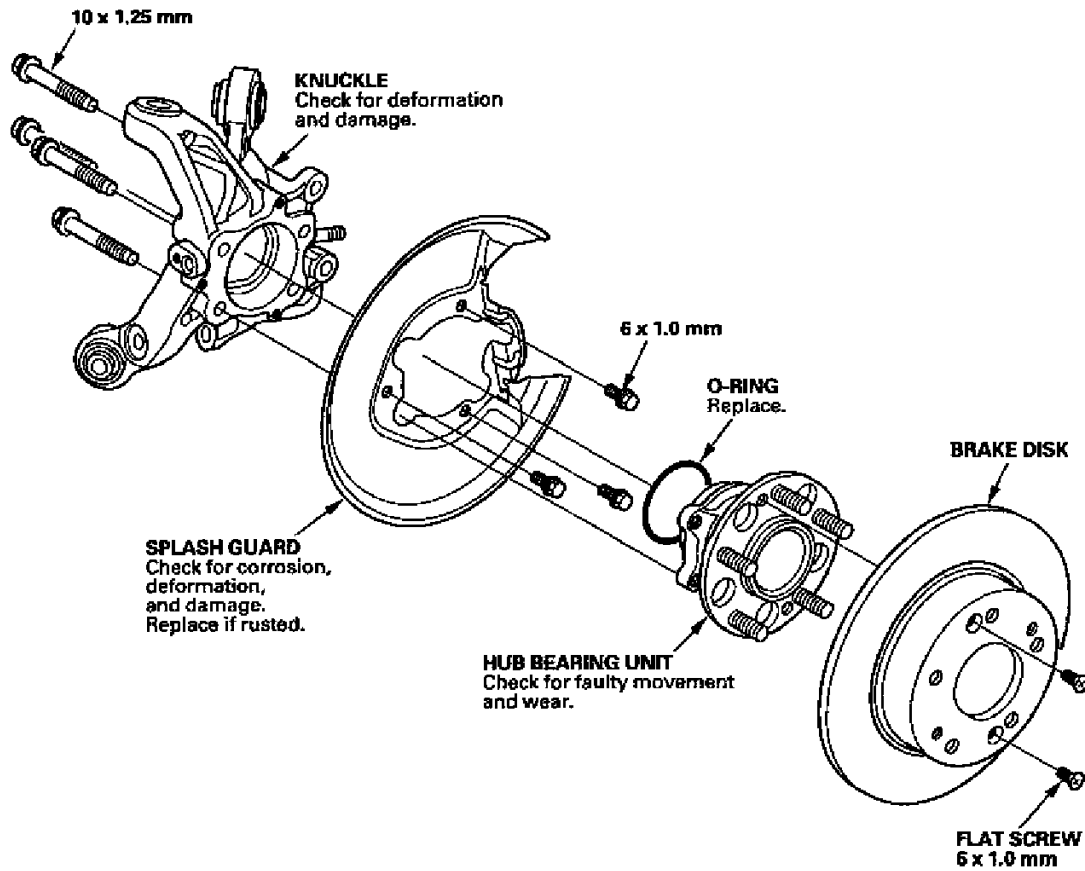
ADJUSTMENTS & INSPECTION.

KNUCKLE/HUB ASSEMBLY

For exploded view of hub bearing, see **Fig. 14** .

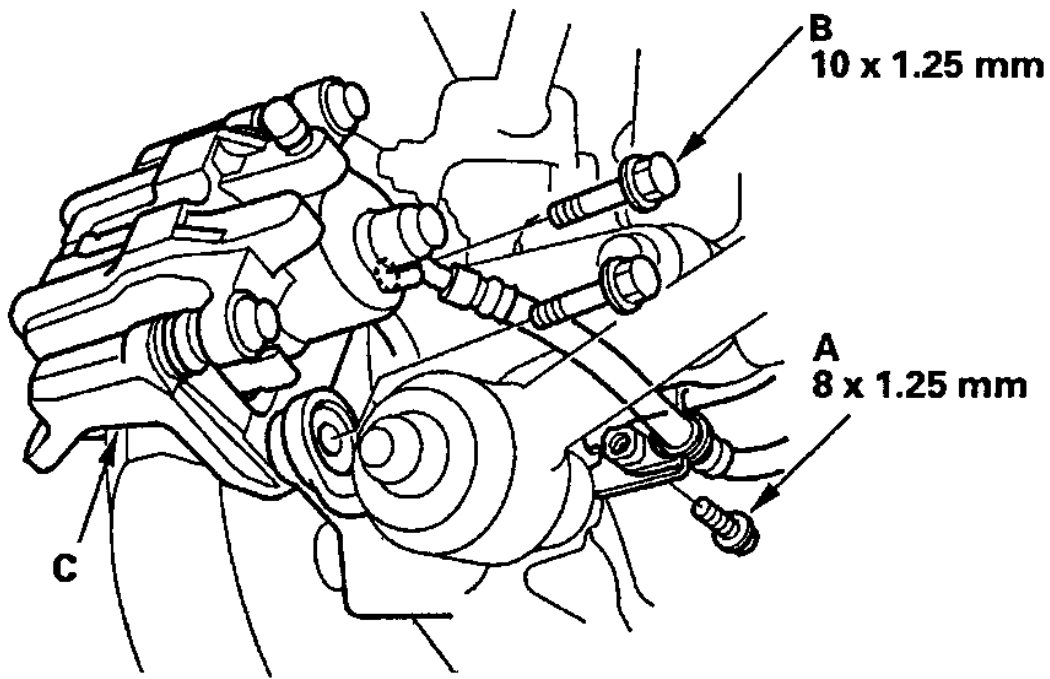
Removal & Installation

1. Raise the rear of the vehicle, and make sure it is securely supported.
2. Remove the wheel nuts and rear wheel.
3. Remove the brake hose mounting bracket (A). See **Fig. 15**
4. Remove the brake caliper bracket mounting bolts (B), and remove the caliper assembly (C) from the knuckle. To prevent damage to the caliper assembly or brake hose, use a short piece of wire to hang the caliper assembly from the undercarriage. DO NOT twist the brake hose with force.
5. Remove the 2 washers (A). See **Fig. 16** .
6. Remove the 6-mm brake disc/drum retaining flat screws (A). See **Fig. 17** .
7. Screw two 8 x 1.25 mm bolts (B) into the disc/drum to push it away from the hub. Turn each bolt 2 turns at a time to prevent cocking the disc/drum excessively.
8. Remove the brake disc/drum (C).
9. Remove the hub bearing unit (A) and "O" ring (B). See **Fig. 18** .
10. Install the hub bearing unit in the reverse order of removal, and note the following items:
 - Use a new "O" ring on reassembly.
 - Tighten all mounting hardware to specification. See **TORQUE SPECIFICATIONS** .
 - Before installing the brake disc, clean the matching surfaces of the hub bearing unit and brake disc.
 - Before installing the wheel, clean the mating surface of the brake disc/drum and the inside of the wheel.



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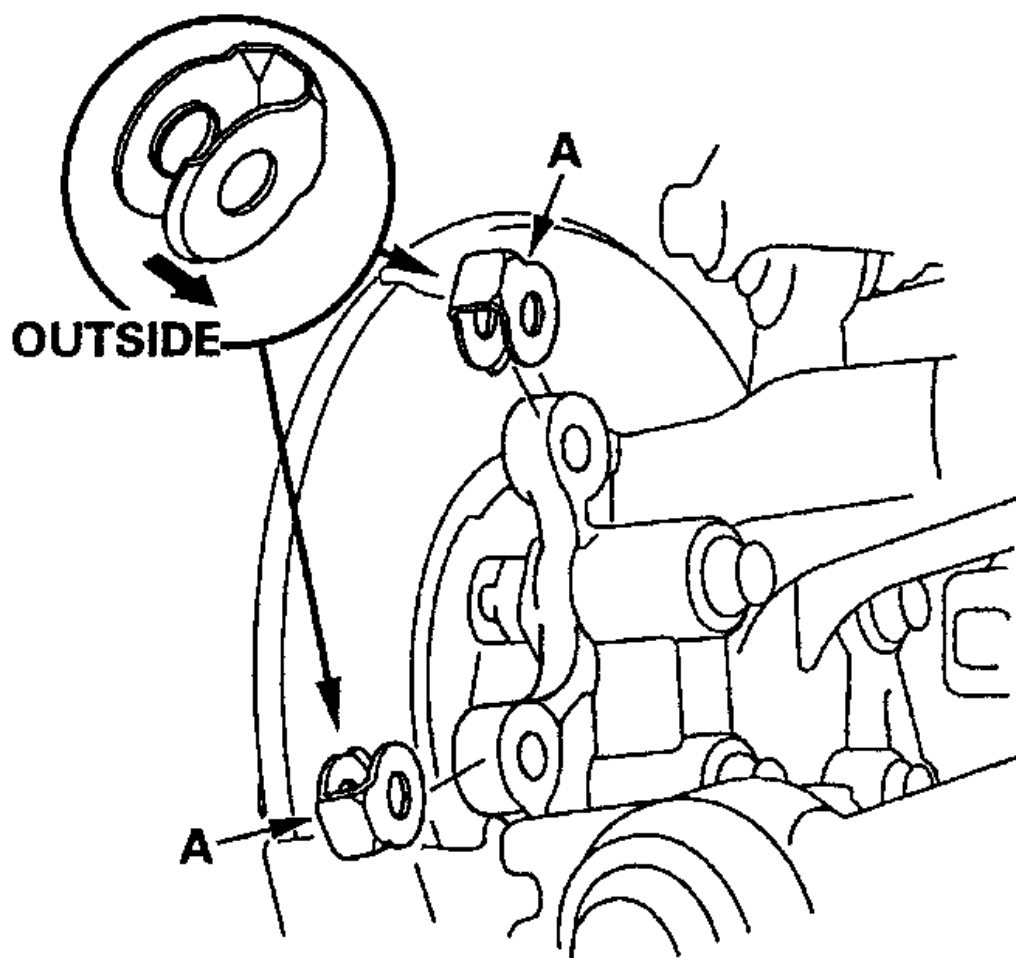
Fig. 14: Exploded View Of Knuckle/Hub Assembly
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 15: Removing Brake Hose, Caliper Bracket & Assembly
Courtesy of AMERICAN HONDA MOTOR CO., INC.

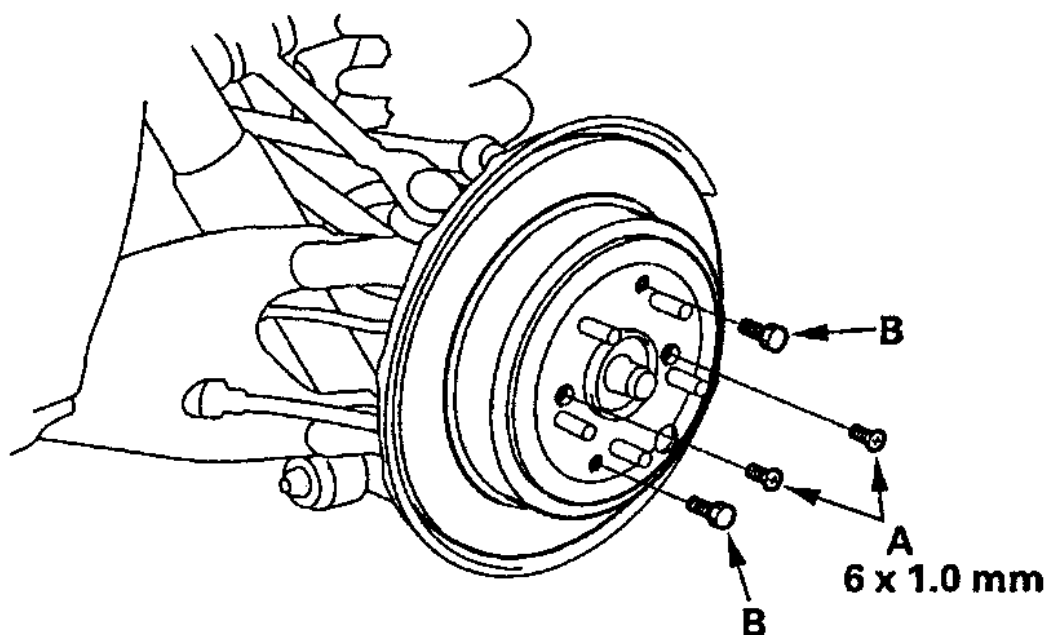
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Fig. 16: Removing Caliper Washers

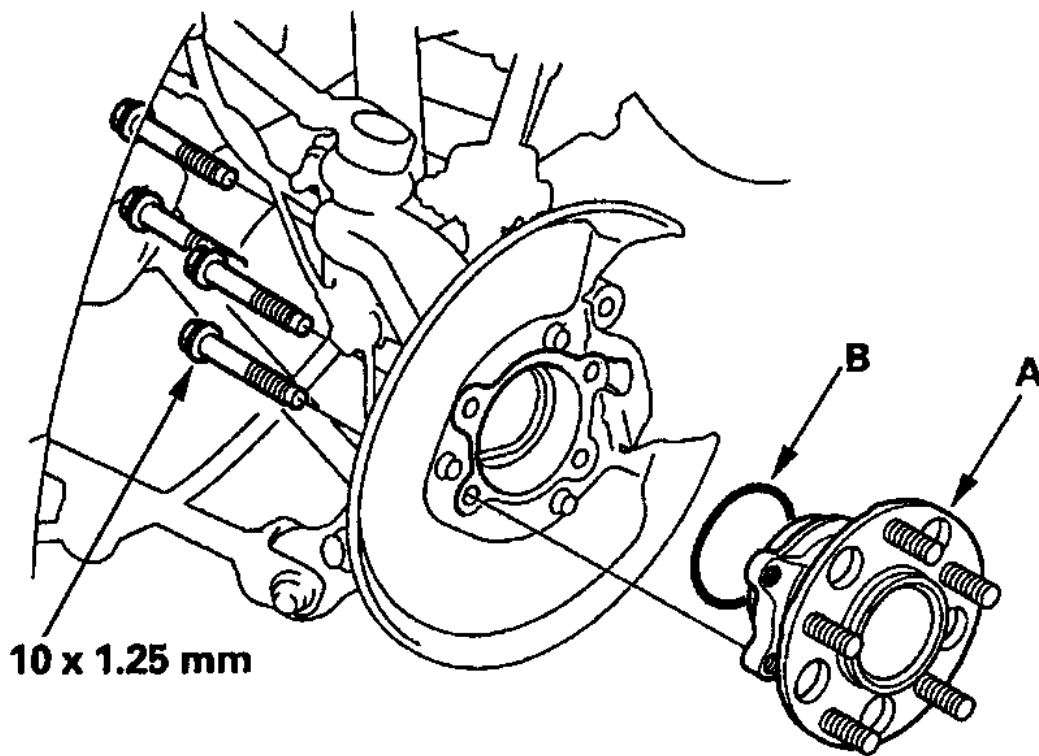
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 17: Removing Brake Disc Retaining Screws
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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Fig. 18: Removing Hub Bearing Unit

Courtesy of AMERICAN HONDA MOTOR CO., INC.

KNUCKLE**Removal & Installation**

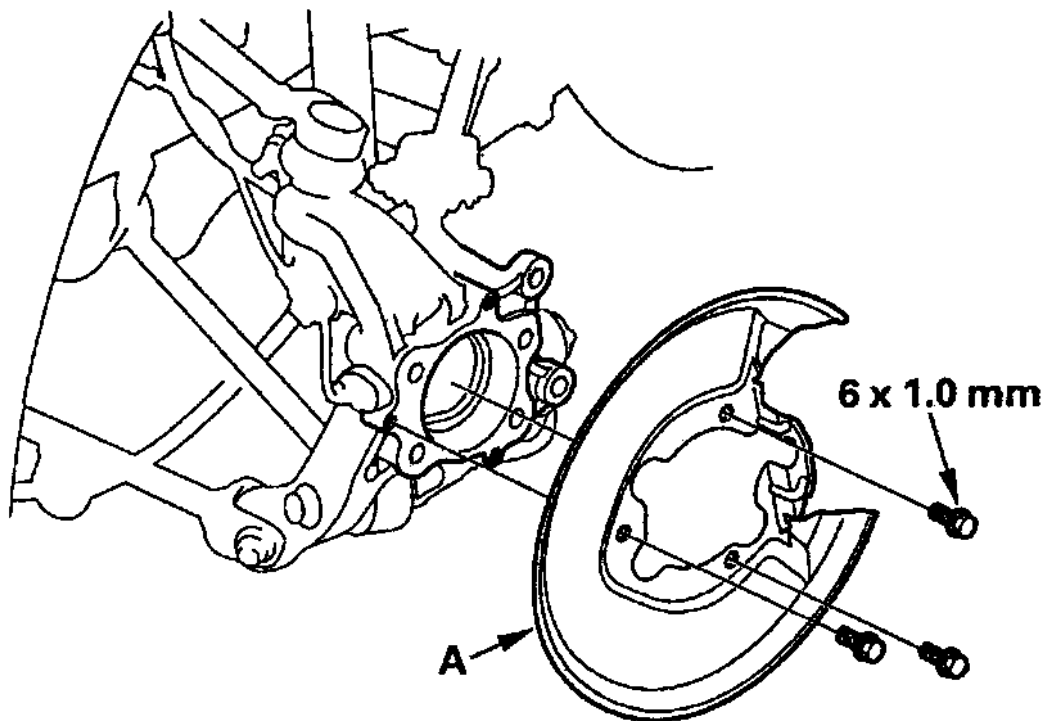
1. Remove the hub bearing unit. See **Fig. 14**.
2. Remove the splash guard (A). See **Fig. 19**.

NOTE: During installation, install the new lock pin after tightening the nut.

3. Remove the lock pin (A) from the upper arm ball joint, and remove the castle nut (B). See **Fig. 20**.
4. Disconnect the upper arm ball joint from the knuckle using the ball joint remover.
5. Remove the flange nut (A) while holding the joint pin (B) with a hex wrench (C), and disconnect the stabilizer link (D) from the stabilizer link bracket (E). See **Fig. 21**.
6. Remove the damper lower mounting bolt (F), and disconnect the damper from the knuckle.
7. Remove the wheel sensor (A) from the knuckle. See **Fig. 22**. DO NOT disconnect the wheel sensor

connector.

8. Remove the stabilizer link bracket (B) from the knuckle.
9. Remove the leading arm mounting bolt (A) from the knuckle. See **Fig. 23**.
10. Remove the control arm mounting nut (A) and washer (B). See **Fig. 24**.
11. Remove the trailing arm mounting bolt (A) from the knuckle. See **Fig. 25**.
12. Remove the lower arm mounting bolt (A), then remove the knuckle (B). See **Fig. 26**.
13. Install the knuckle in the reverse order of removal, and note the following items:
 - Be careful not to damage the ball joint boot when installing the knuckle when connecting the upper arm to the knuckle.
 - Use a new lower arm mounting nut and control arm mounting nut on reassembly.
 - Tighten the castle nut to the lower torque specification, then tighten it only far enough to align the slot with the ball joint pin hole. DO NOT align the castle nut by loosening it.
 - Tighten all mounting hardware to specification. See **TORQUE SPECIFICATIONS**.
 - Before installing the wheel, clean the mating surface on the brake disc/drum and the inside of the wheel.
 - Set the wheel alignment. See **WHEEL ALIGNMENT** under ADJUSTMENTS & INSPECTION.



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Fig. 19: Removing Splash Guard

Courtesy of AMERICAN HONDA MOTOR CO., INC.

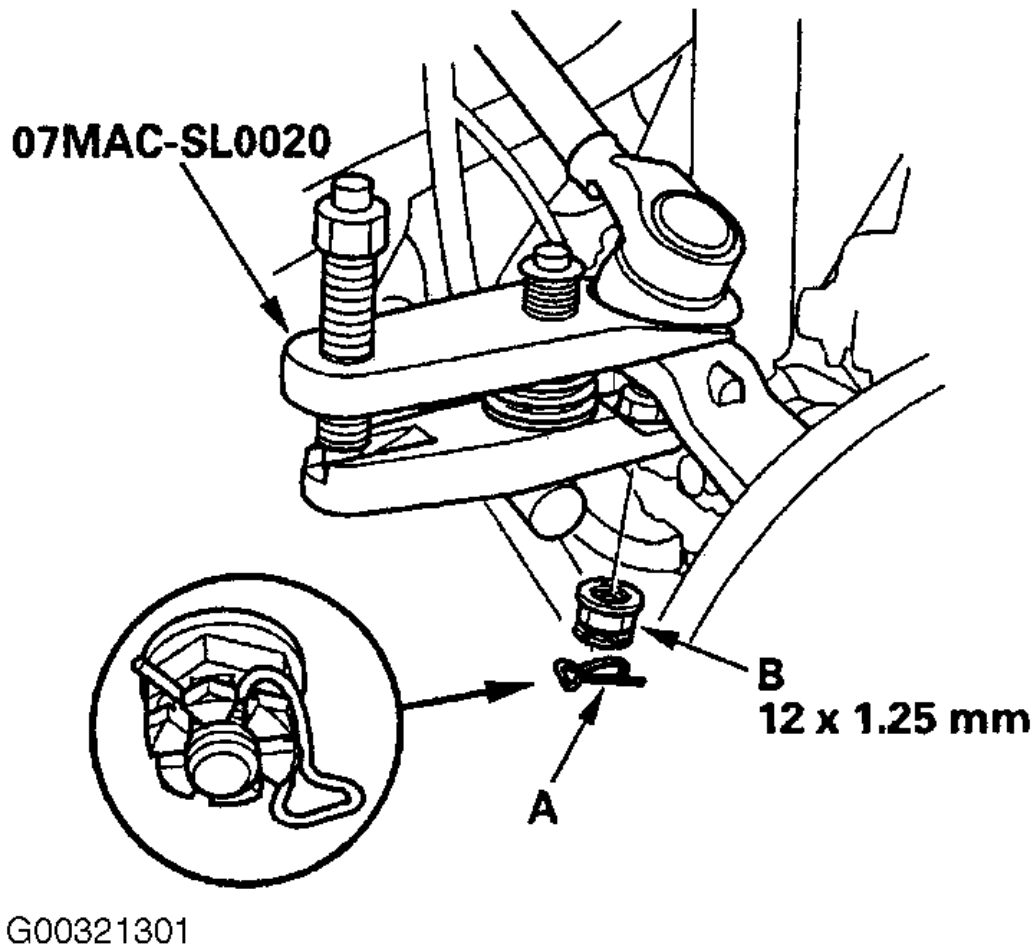
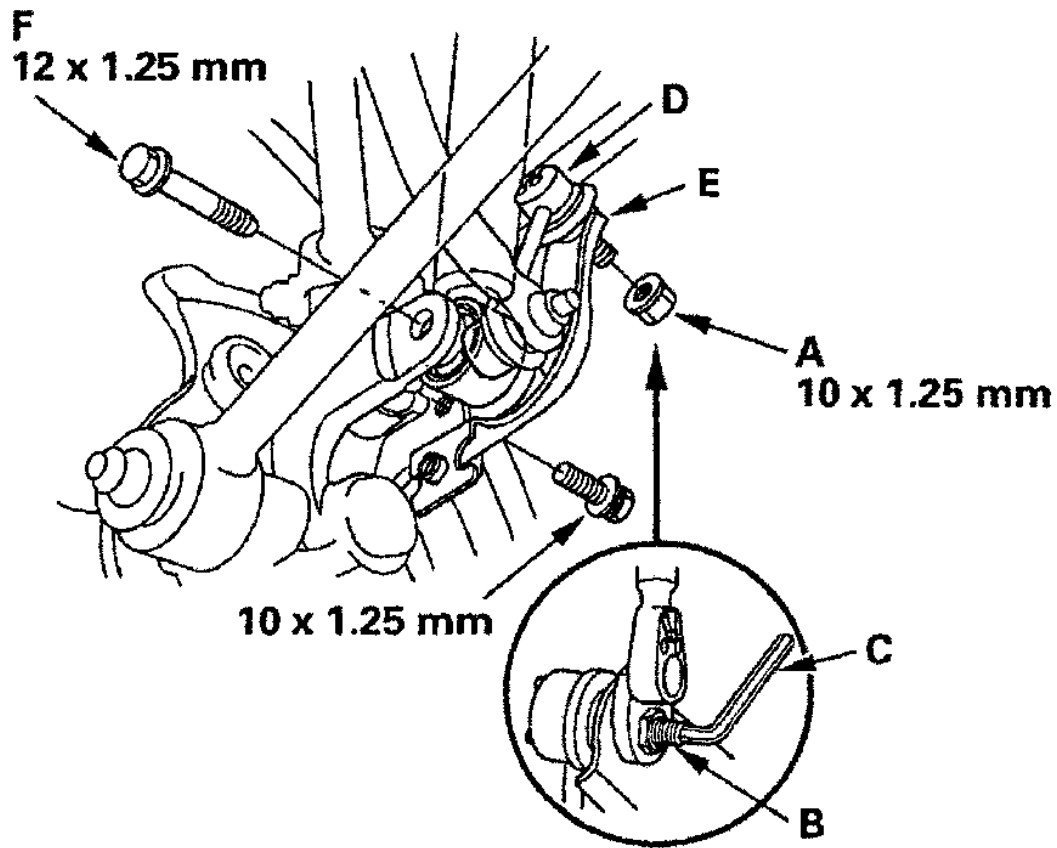
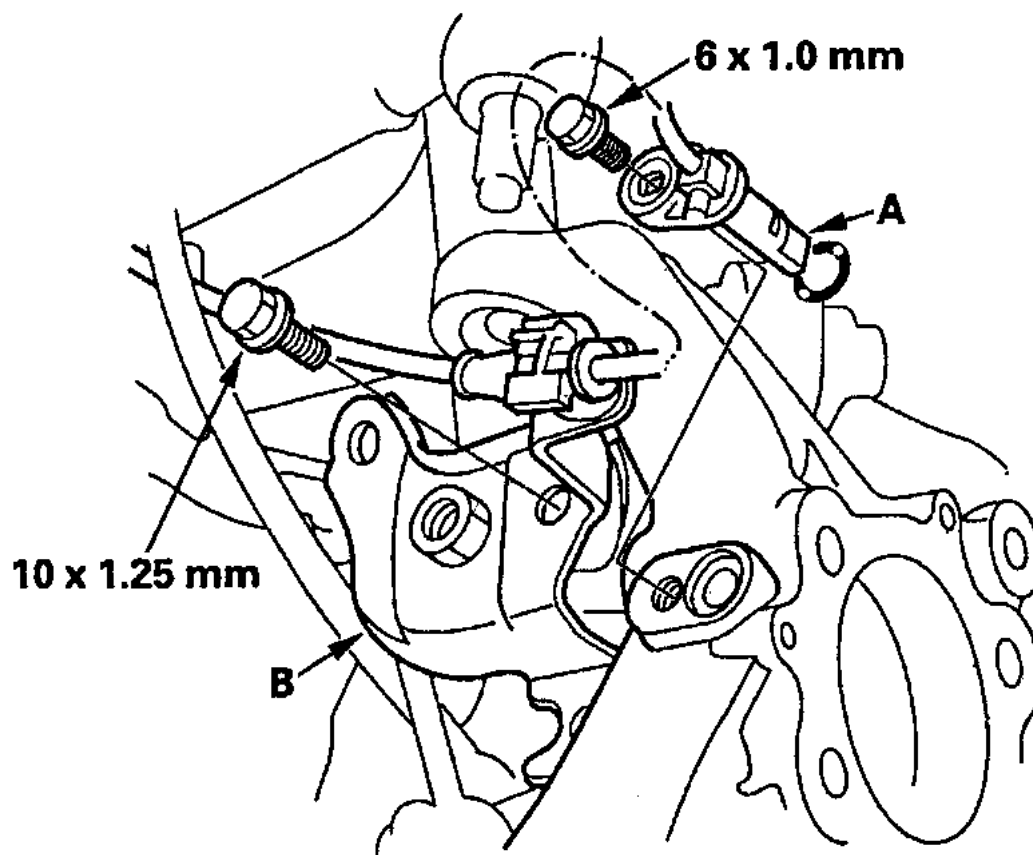


Fig. 20: Removing Lock Pin From Upper Arm Ball Joint
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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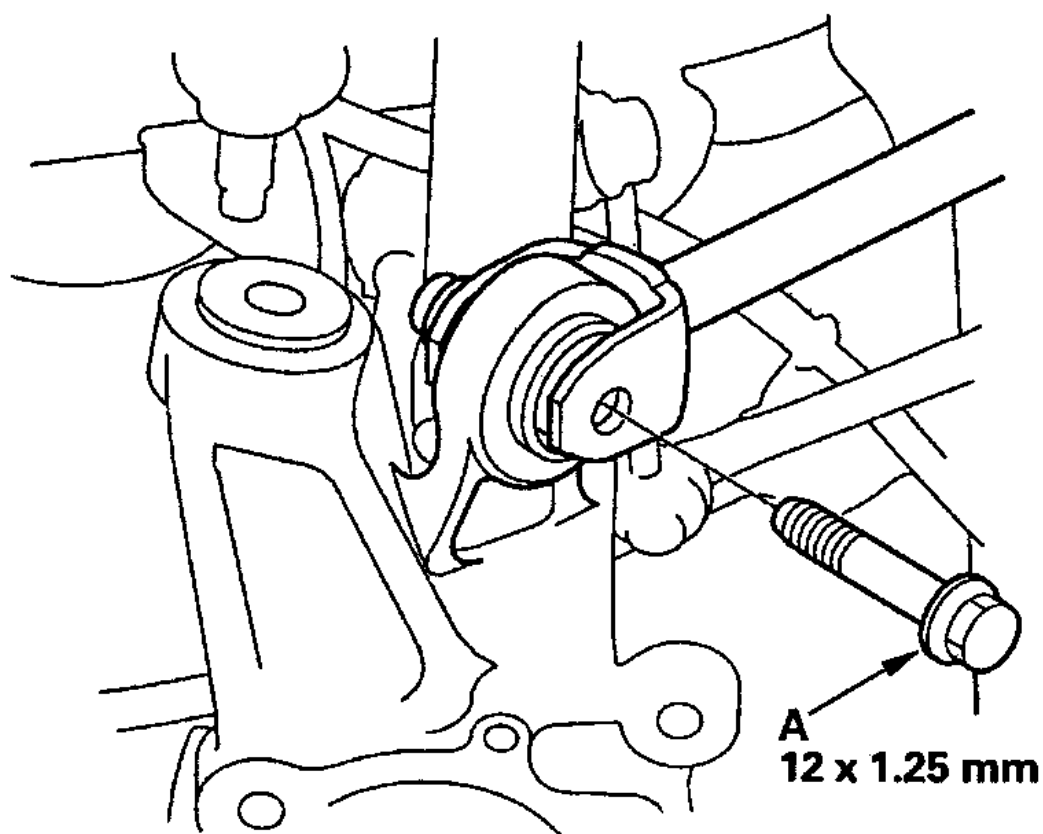
Fig. 21: Removing Flange Bolts Holding Joint Pin
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 22: Removing Wheel Sensor From Knuckle
Courtesy of AMERICAN HONDA MOTOR CO., INC.

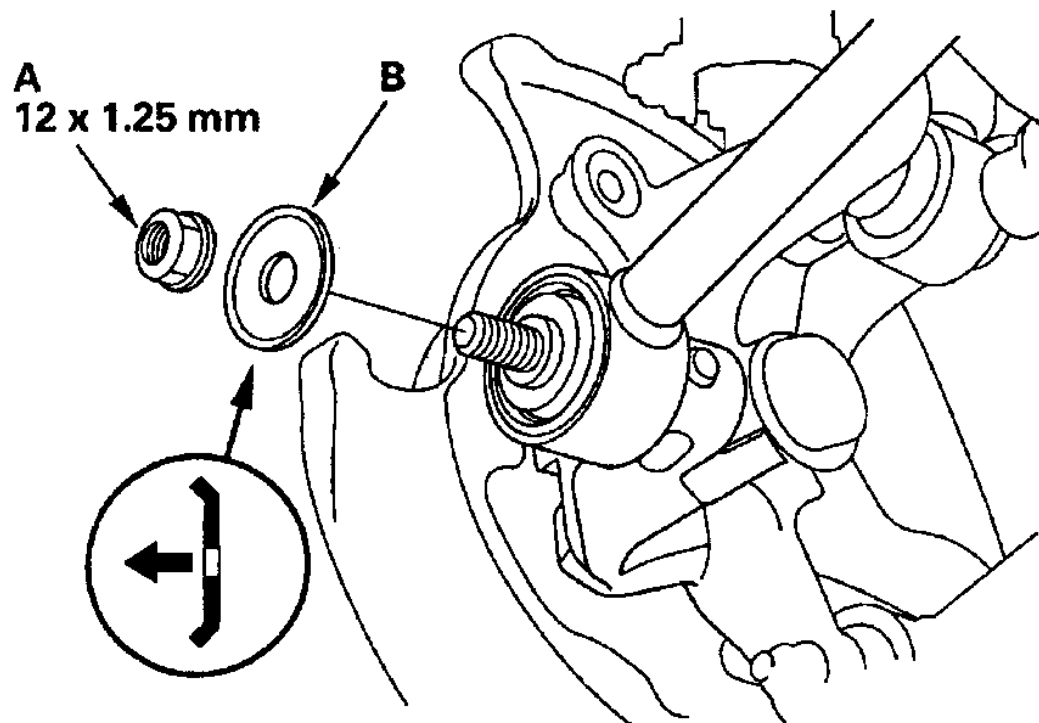
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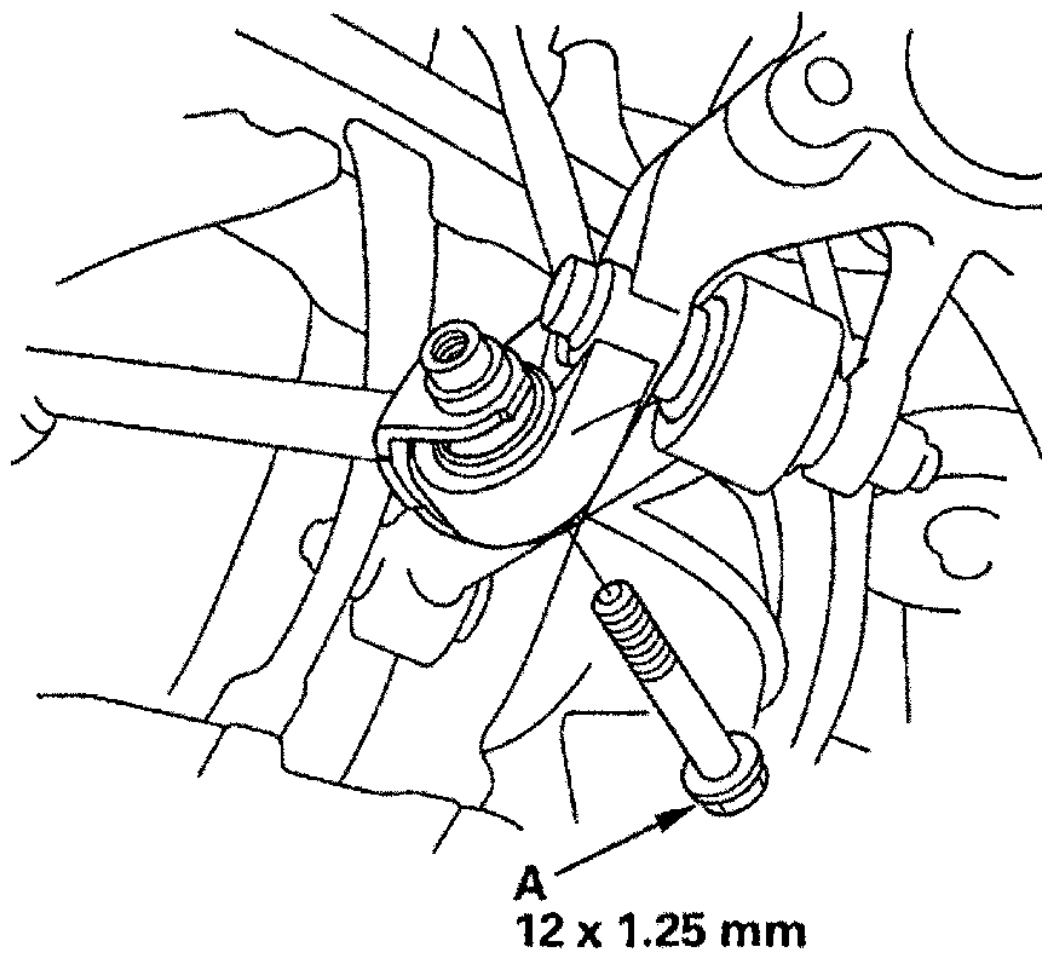
Fig. 23: Removing Leading Arm Mounting Nut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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Fig. 24: Removing Control Arm Mounting Nut & Washer
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 25: Removing Trailing Arm Mounting Bolt
Courtesy of AMERICAN HONDA MOTOR CO., INC.

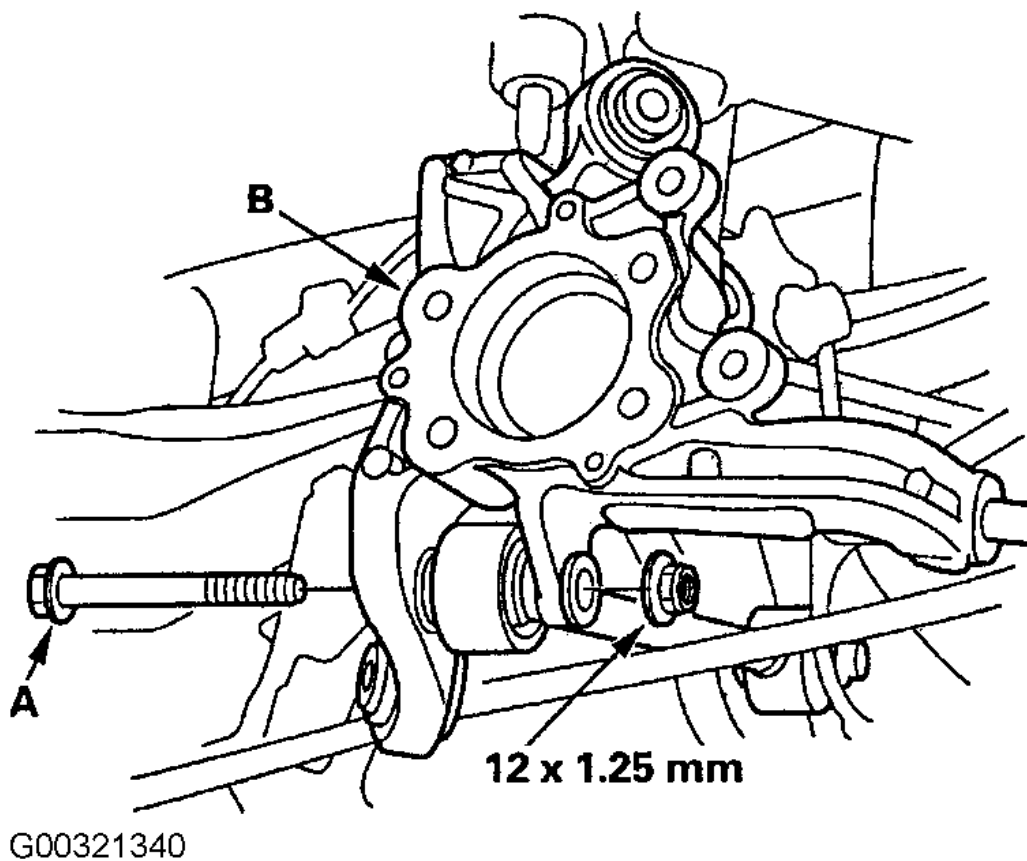
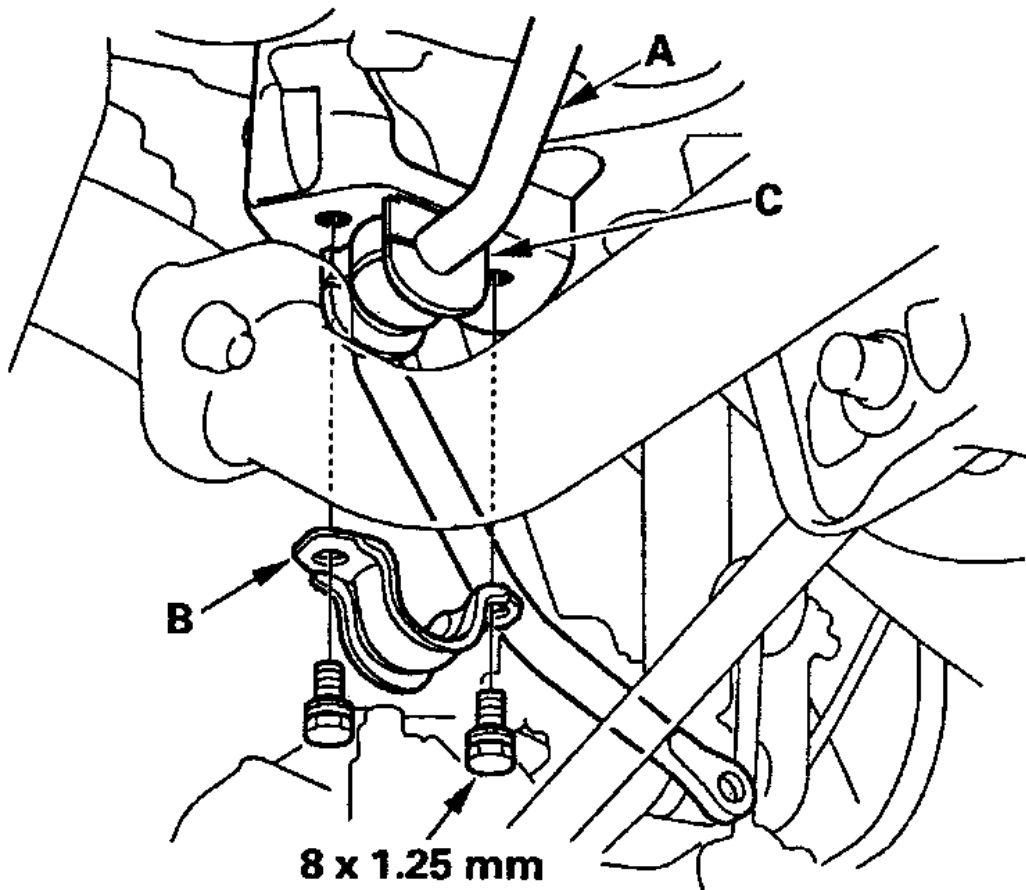


Fig. 26: Removing Lower Arm Mounting Bolt
Courtesy of AMERICAN HONDA MOTOR CO., INC.

STABILIZER BAR

Removal & Installation

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations. Remove the rear wheels.
2. Disconnect the stabilizer links from the stabilizer bar (A) on the right and left. See **STABILIZER LINK** . See **Fig. 27** .
3. Remove the flange bolts and bushing holders (B), then remove the bushing (C) and the stabilizer bar.
4. Install the stabilizer bar in the reverse order of removal, and note the following items:
 - Make sure the right and left ends of the stabilizer bar are installed on their respective sides of the vehicle.
 - Align the ends of the paint marks (A) on the stabilizer bar with the bushing (B). See **Fig. 28** .
 - See **STABILIZER LINK** to connect the stabilizer to the links.



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Fig. 27: Disconnecting Stabilizer Links

Courtesy of AMERICAN HONDA MOTOR CO., INC.

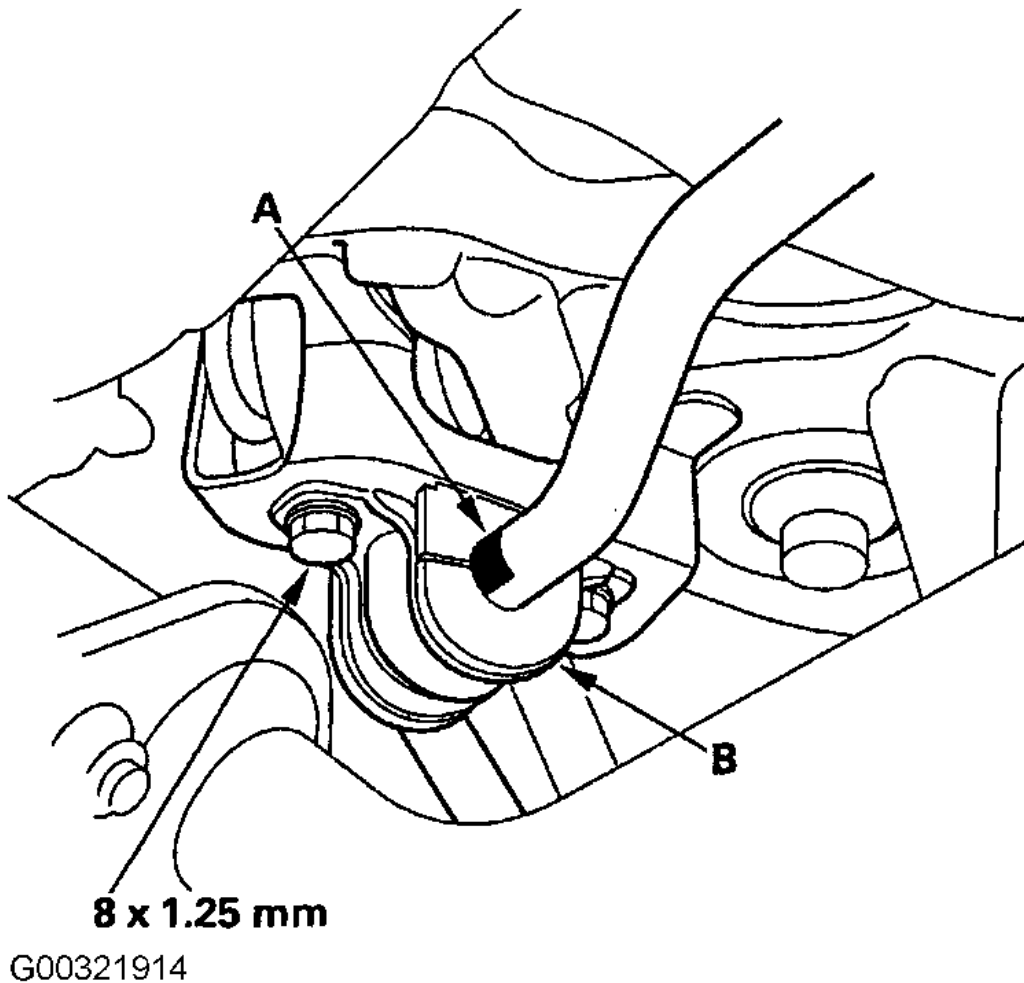


Fig. 28: Aligning Ends Of Paint Marks
Courtesy of AMERICAN HONDA MOTOR CO., INC.

STABILIZER LINK

Removal & Installation

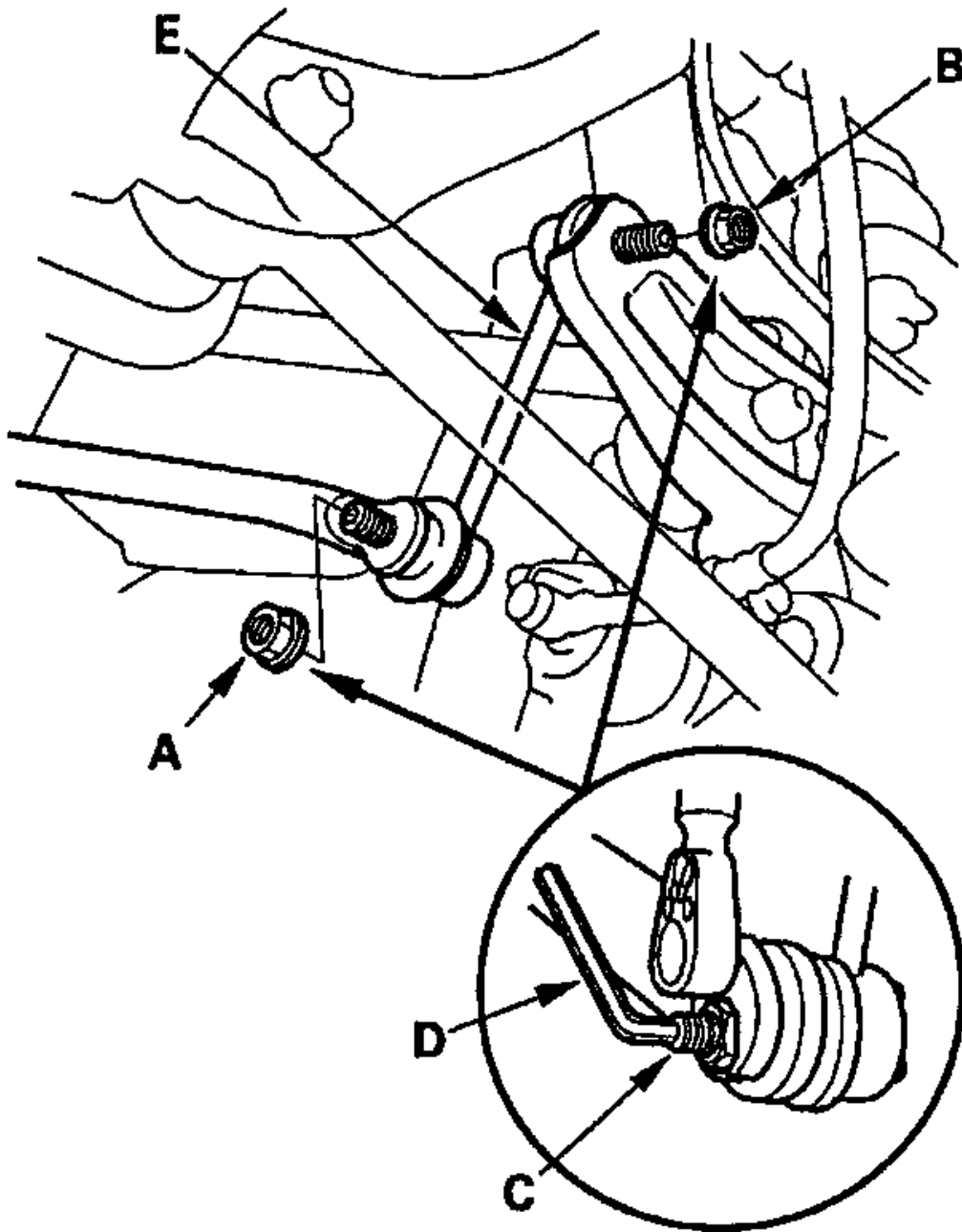
1. Raise the rear of the vehicle, and make sure it is securely supported. Remove the rear wheels.
2. Remove the self-locking nut (A) and flange nut (B) while holding the respective joint pins (C) with a hex wrench (D), and remove the stabilizer link (E). See **Fig. 29**.

NOTE: The left stabilizer link has a White paint mark (D), while the right stabilizer link has a Yellow painting mark.

3. Install the stabilizer link (A) on the stabilizer bar (B) and stabilizer link bracket (C) with the joint pins set at the center of each moving range. See **Fig. 30** .

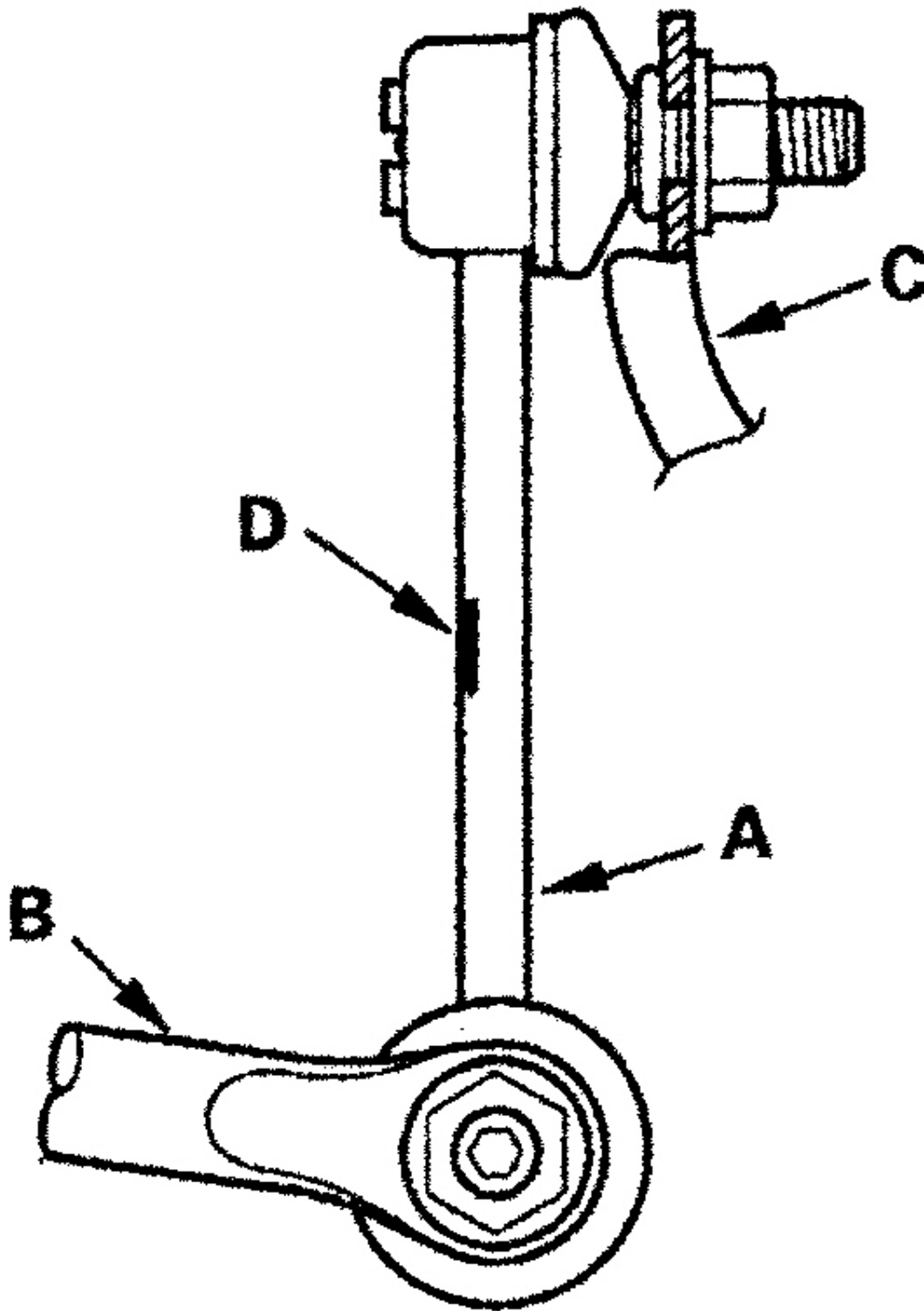
NOTE: **Use a new self-locking nut on assembly.**

4. Install the self-locking nut and flange nut, and lightly tighten them.
5. Place a jack under the knuckle, and raise the suspension to load the vehicle weight.
6. Tighten the self-locking nut (A) and flange nut (B) to specification while holding the respective joint pins (C) with a hex wrench. See **TORQUE SPECIFICATIONS** . See **Fig. 29** .
7. After 5 minutes of driving, tighten the self-locking nut again to specification.



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Fig. 29: Removing Self-Locking Nut & Flange Nut Holding Joint Pins
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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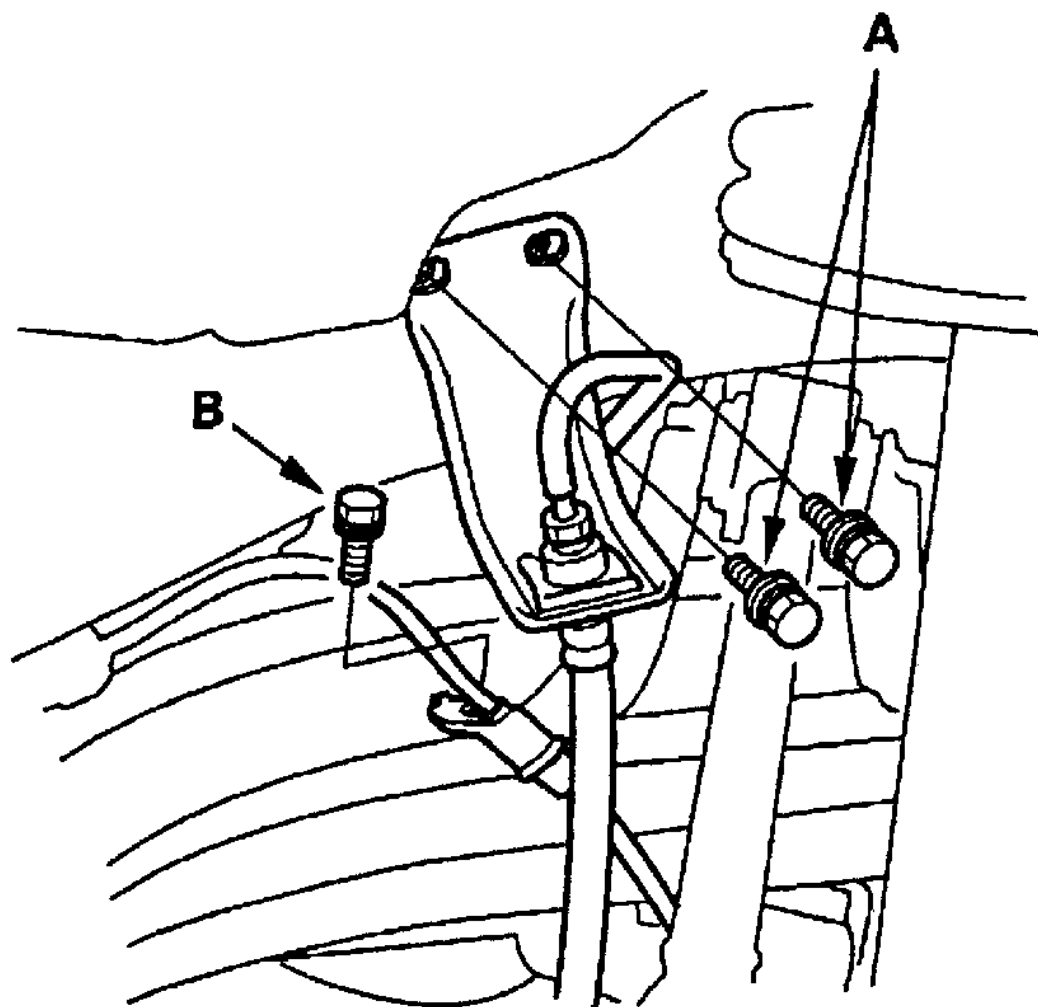
Fig. 30: Installing Stabilizer Link

Courtesy of AMERICAN HONDA MOTOR CO., INC.

UPPER ARM**Removal & Installation**

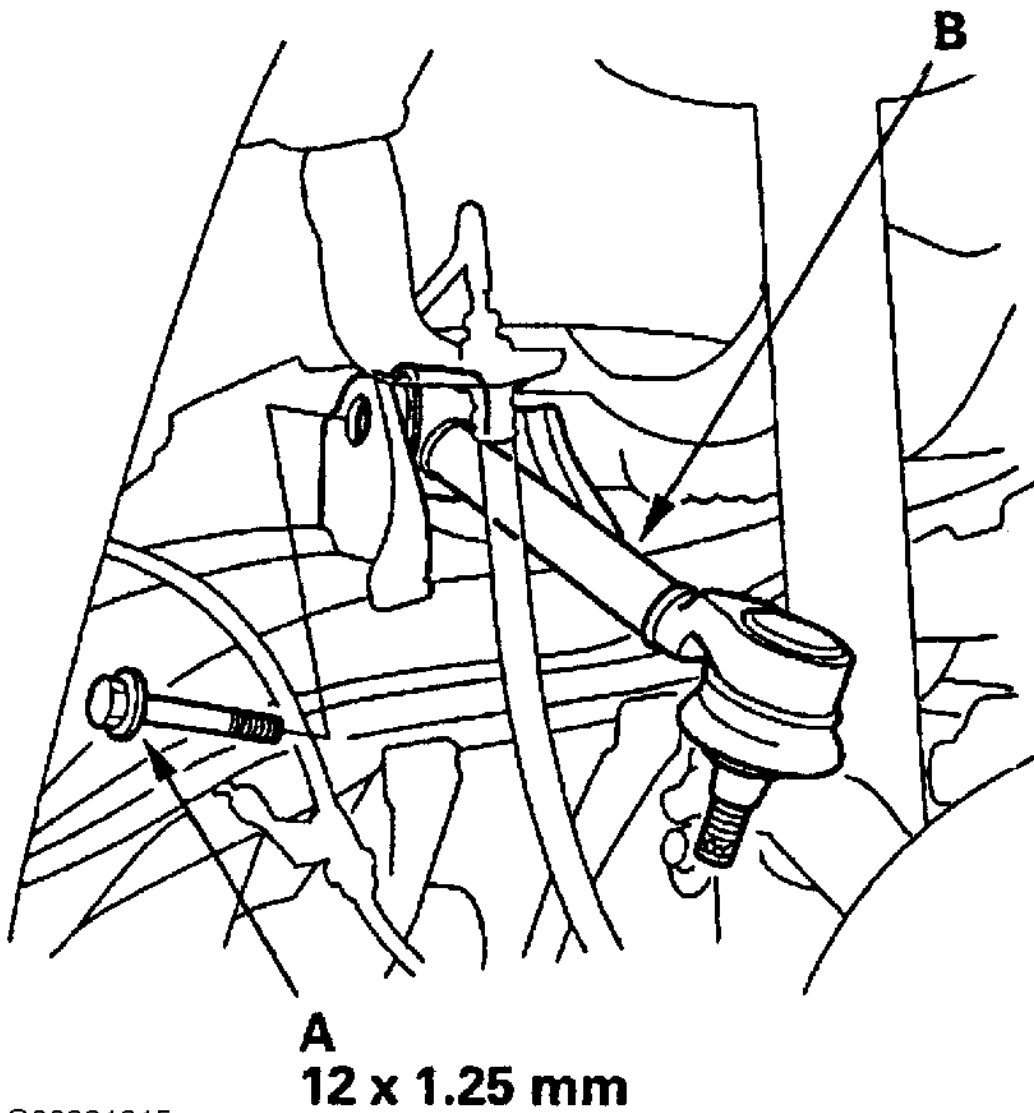
NOTE: During installation, install the new lock pin after tightening the nut.

1. Remove the lock pin (A) from the upper arm ball joint, and loosen the nut (B). See **Fig. 20** .
2. Disconnect the upper arm ball joint from the knuckle using the ball joint remover.
3. Remove the brake hose mounting bracket (A). See **Fig. 31** . DO NOT disconnect the brake line.
4. Remove the wheel sensor harness mounting bracket (B).
5. Remove the flange bolt (A), and remove the upper arm (B) from the vehicle. See **Fig. 32** .
6. Install the upper arm in the reverse order of removal, and note the following items:
 - Be careful not to damage the ball joint boot when connecting the upper arm to the knuckle.
 - Tighten all mounting hardware to specifications. See **TORQUE SPECIFICATIONS** .
 - Install all the components and lightly tighten bolts and nuts, then raise the suspension to load it with the vehicle weight before fully tightening bolts and nuts to specification.
 - Tighten the castle nut to the lower torque specification, then tighten it only far enough to align the slot with pin hole. DO NOT align the castle nut by loosening it.
 - Before installing the wheel, clean the mating surface on the brake disc/drum and the inside of the wheel.
 - Set the rear wheel alignment. See **WHEEL ALIGNMENT** under ADJUSTMENTS & INSPECTION.



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Fig. 31: Removing Brake Hose Mounting Bolts
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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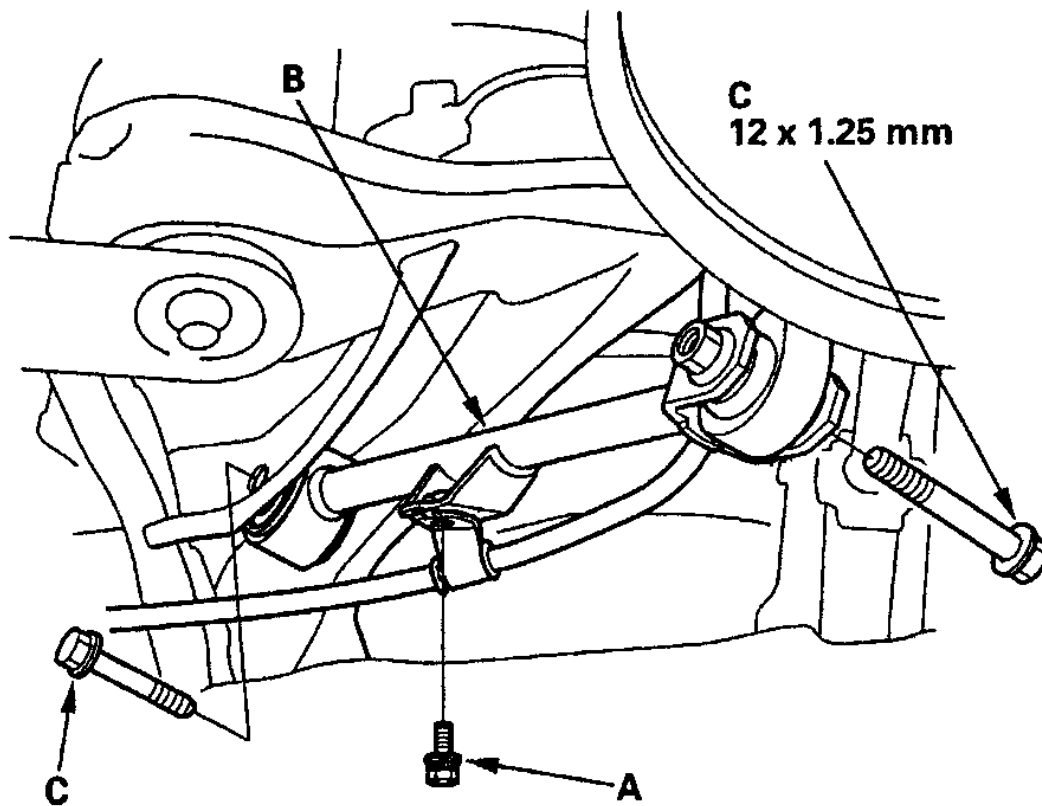
Fig. 32: Removing Upper Arm Mounting Bolt
Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRAILING ARM

Removal & Installation

1. Raise the rear of the vehicle and make sure it is securely supported.
2. Remove the rear wheels.
3. Remove the parking brake cable bracket (A) from the trailing arm (B). See **Fig. 33**.

4. Remove the mounting bolts (C), then remove the trailing arm.
5. Install the trailing arm in the reverse order of removal, and note the following items:
 - Tighten all mounting hardware to specification. See **TORQUE SPECIFICATIONS**.
 - Before installing the wheel, clean the mating surfaces on the brake disc/drum and the inside of the wheel.
 - Check the rear wheel alignment. See **WHEEL ALIGNMENT** under ADJUSTMENTS & INSPECTION.



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Fig. 33: Removing Parking Cable From Trailing Arm
Courtesy of AMERICAN HONDA MOTOR CO., INC.

LEADING ARM

Removal & Installation

1. Raise the rear of the vehicle, and make sure it is securely supported. Remove the rear wheels.
2. Remove the leading arm mounting bolts (A), and remove the leading arm (B) from the vehicle. See **Fig.**

34 .

3. Install the trailing arm in the reverse order of removal, and note the following items:
 - Tighten all mounting hardware to specification. See **TORQUE SPECIFICATIONS** .
 - Before installing the wheel, clean the mating surfaces on the brake disc/drum and the inside of the wheel.
 - Set the rear wheel alignment. See **WHEEL ALIGNMENT** under ADJUSTMENTS & INSPECTION.

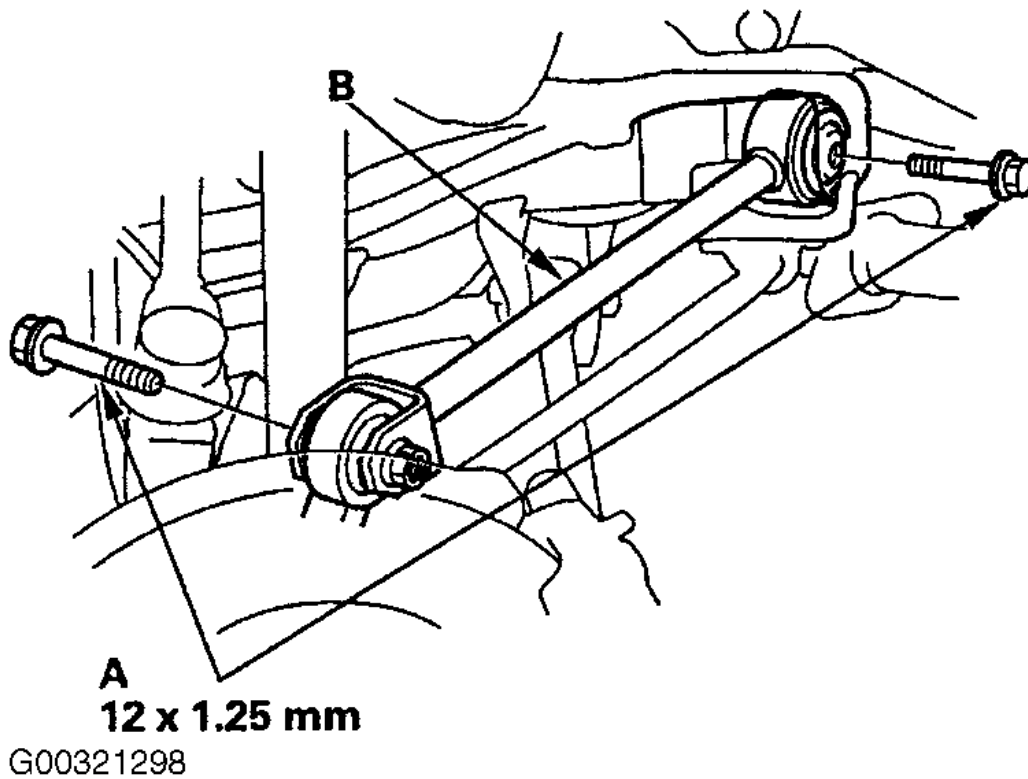


Fig. 34: Removing Leading Arm

Courtesy of AMERICAN HONDA MOTOR CO., INC.

LOWER ARM

Removal & Installation

1. Raise the rear of the vehicle, and make sure it is securely supported.
2. Remove the rear wheels.
3. Remove the lower arm mounting bolts (A) and self-locking nut (B), and remove the lower arm (C) from the knuckle side. See **Fig. 35** .

4. Remove the flange bolt (C), and remove the lower arm (D).
5. Install the lower arm in the reverse order of removal, and note the following items:
 - Use a new lower arm mounting nut on reassembly.
 - Tighten all mounting hardware to specification. See **TORQUE SPECIFICATIONS** .
 - Before installing the wheel, clean the mating surfaces on the brake disc/drum and the inside of the wheel.
 - Set the rear wheel alignment. See **WHEEL ALIGNMENT** under ADJUSTMENTS & INSPECTION.

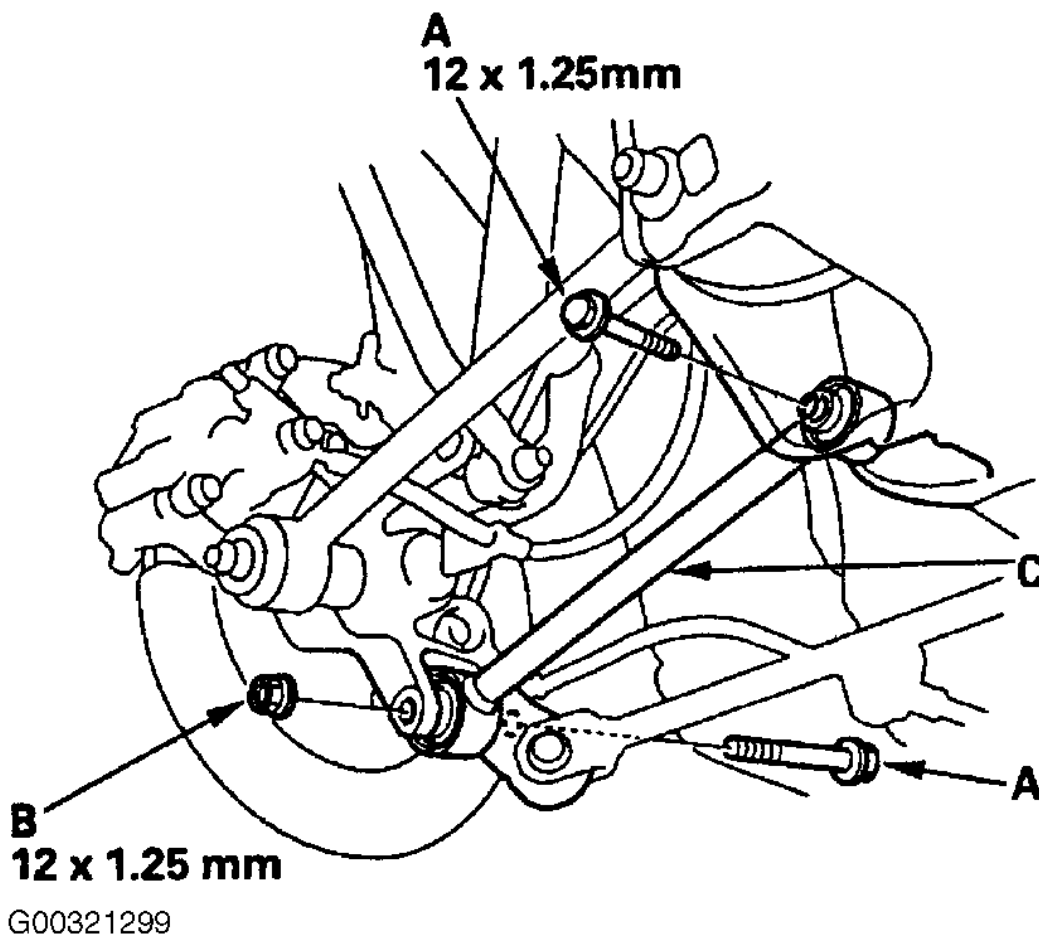


Fig. 35: Removing Lower Arm & Self-Locking Nut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CONTROL ARM

Removal & Installation

1. Raise the rear of the vehicle, and make sure it is securely supported.
2. Remove the rear wheels.
3. Remove the control arm mounting nut (A) and washer (B) from the knuckle side. See **Fig. 36** .
4. Mark the cam positions of adjusting bolt (C) and adjusting cam (D), then remove the self-locking nut (E), adjusting cam, and adjusting bolt. Discard the self-locking nut and control arm mounting nut.
5. Remove the control arm (F).
6. Install the control arm in the reverse order of removal, and not the following items:
 - Align the cam positions of the adjusting bolt and adjusting cam with the marked positions when tightening.
 - Use a new self-locking nut and control arm mounting nut on reassembly.
 - Tighten all mounting hardware to specification. See **TORQUE SPECIFICATIONS** .
 - Install all the components and lightly tighten the bolts and nuts, then raise the suspension to load it with the vehicle's weight before fully tightening to specification.
 - Before installing the wheel, clean the mating surface on the brake disc/drum and inside of the wheel.
 - Check the wheel alignment, and adjust if necessary. See **WHEEL ALIGNMENT** under ADJUSTMENTS & INSPECTION.

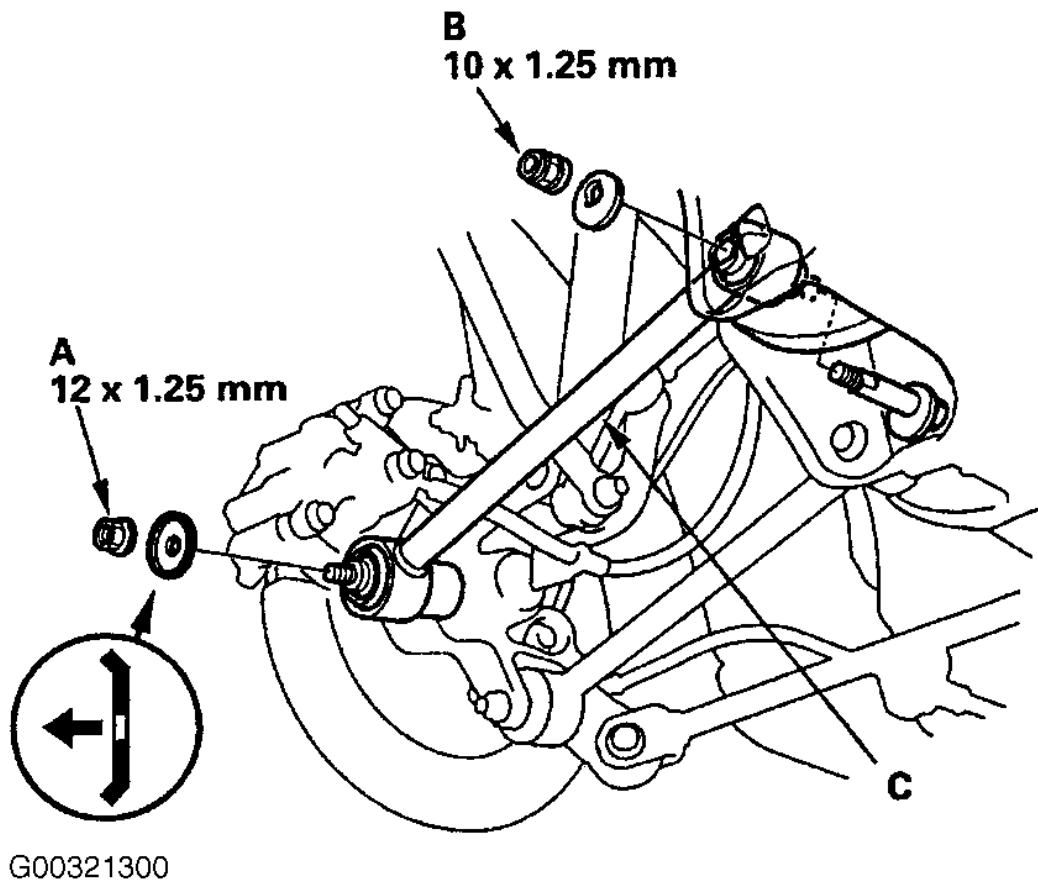


Fig. 36: Removing Self-Locking From Knuckle Bolt
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Brake Caliper Bracket Bolt	41 (55)
Brake Hose Mounting Bolt	
8-mm	16 (22)
10-mm	54 (74)
Castle Nut	36-43 (49-58)
Control Arm Mounting Nut	51 (69)
Hub Bearing Bolt	47 (64)
Leading Arm Bolt	43 (59)
Lower Arm Bolt	43 (59)

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Lower Mounting Bolt	80 (108)
Parking Brake Cable Bracket Nut	16 (22)
Spindle Nut	134 (181)
Stabilizer Link Bracket Bolt	33 (44)
Stabilizer Link Nut	29 (39)
Stabilizer Mounting Bolt	16 (22)
Strut Center Nut	22 (30)
Strut-To-Body Nut	37 (50)
Trailing Arm Bolt	43 (59)
Upper Arm Attaching Bolt	43 (59)
Upper Ball Joint Nut	36-43 (49-58)
Wheel Lug Nut	80 (108)
INCH Lbs. (N.m)	
Brake Disc Retaining Screw	89 (10)
Splash Guard Bolt	89 (10)
Wheel Sensor Bolt	89 (10)