

2002 Acura MDX
2001-02 SUSPENSION Front - MDX

2001-02 SUSPENSION

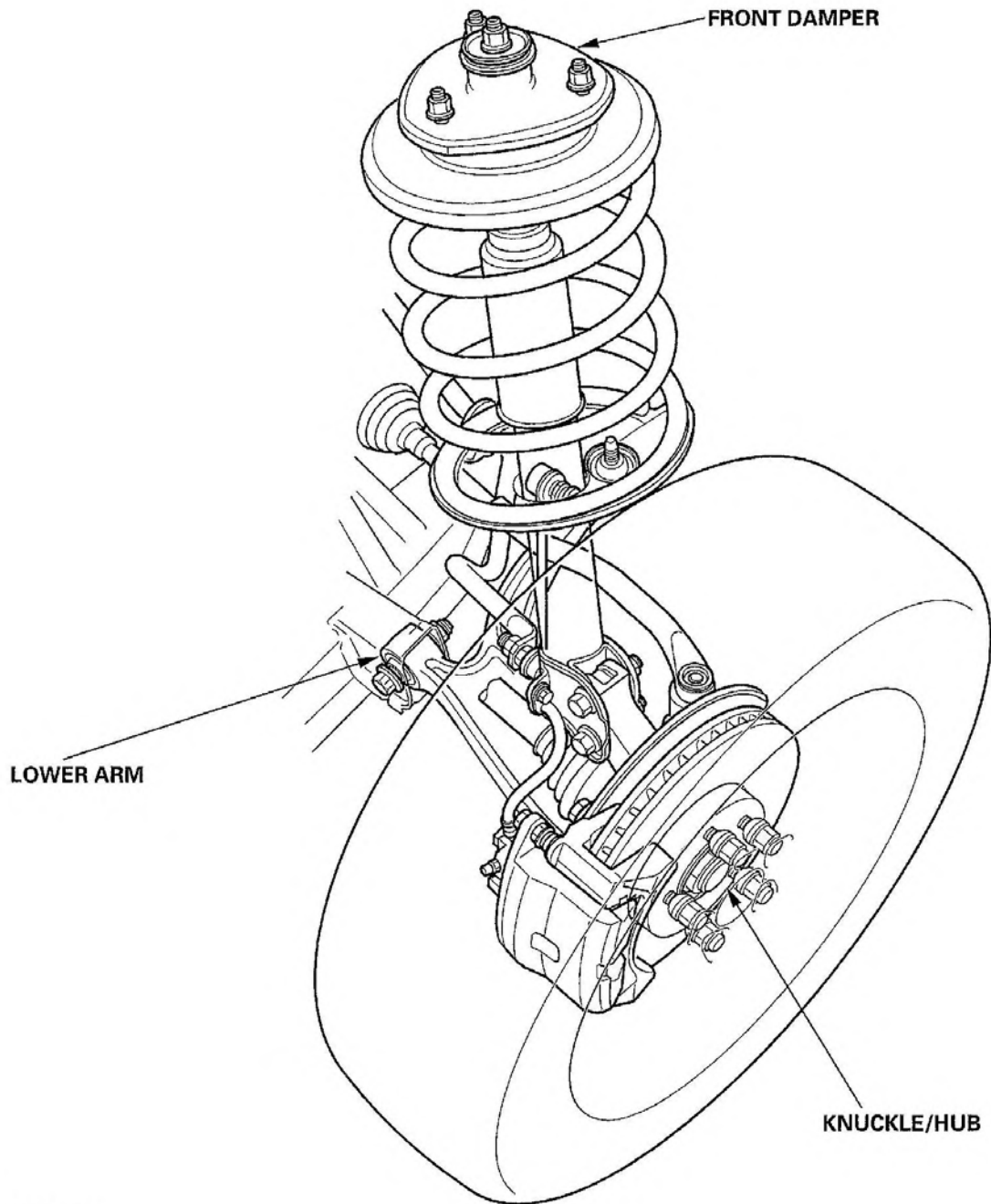
Front - MDX

DESCRIPTION

NOTE: For system description and component location, see [Fig. 1](#) .

2002 Acura MDX

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Fig. 1: Locating Components

Courtesy of AMERICAN HONDA MOTOR CO., INC.

ADJUSTMENTS

WHEEL ALIGNMENT

See appropriate SPECIFICATIONS & PROCEDURES article in WHEEL ALIGNMENT.

WHEEL BEARING END PLAY

1. Raise vehicle, and make sure it is securely supported. Remove wheels, then reinstall wheel nuts. Check for bent or deformed wheels. Attach dial gauge against hub flange.
2. Measure bearing end play moving the brake disc inward or outward. If the bearing end play measurement is more than .002" (.05 mm), replace the wheel bearing.

REMOVAL & INSTALLATION

BALL JOINT

Removal & Installation

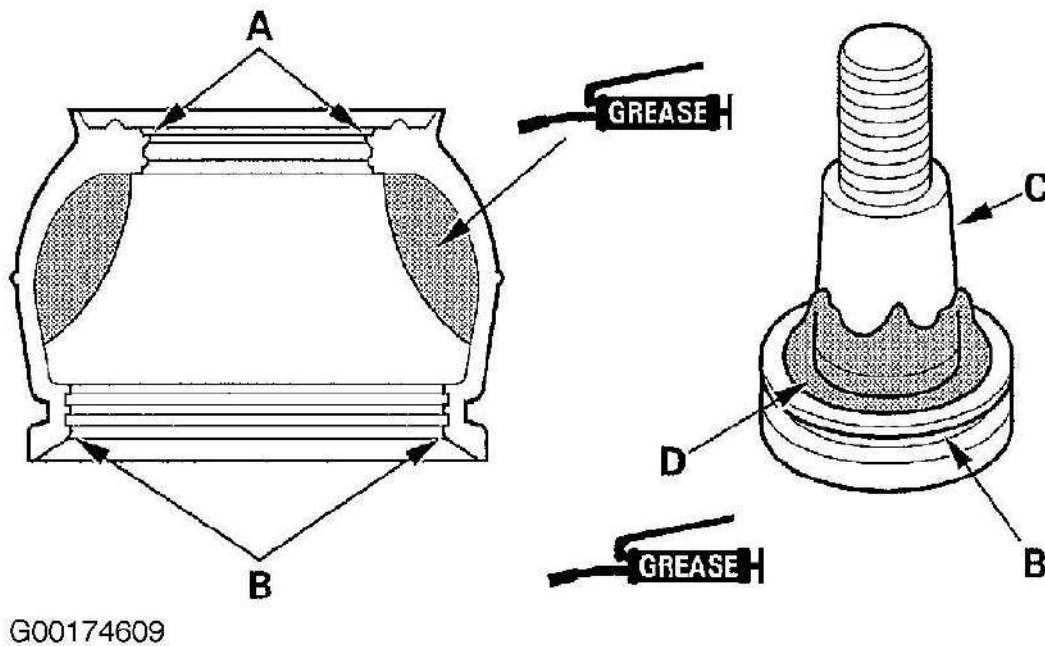
NOTE: The front lower arm ball joint is not replaceable separately. If the ball joint is worn or damaged, replace the lower arm and ball joint as an assembly. See **LOWER ARM & BALL JOINT** .

BALL JOINT BOOT

Removal & Installation

CAUTION: When packing new grease into boot, **DO NOT** contaminate lower collar of boot. Be sure to not let foreign materials enter boot joint.

1. Separate ball joint from knuckle. See **LOWER ARM & BALL JOINT** . Remove boot clip and boot. Pack interior and lip (A) of a new boot with grease. **DO NOT** contaminate the lower collar of the boot (B) with grease. See **Fig. 2** .
2. Wipe grease off the tapered section of pin, and pack fresh grease into base. Do not let dirt or other foreign materials get into the boot. Install boot onto ball joint, then squeeze it gently to force out any air.
3. Adjust Ball Joint Boot Clip Guide (07974-SA50700) with adjusting bolt until its base is just above the groove around bottom of boot. Then slide clip over the ball joint boot clip guide and into position on the boot. After installing boot, wipe any grease off exposed portion of ball joint pin.
4. To install, reverse removal procedures.



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Fig. 2: Inspecting Ball Joint Boot

Courtesy of AMERICAN HONDA MOTOR CO., INC.

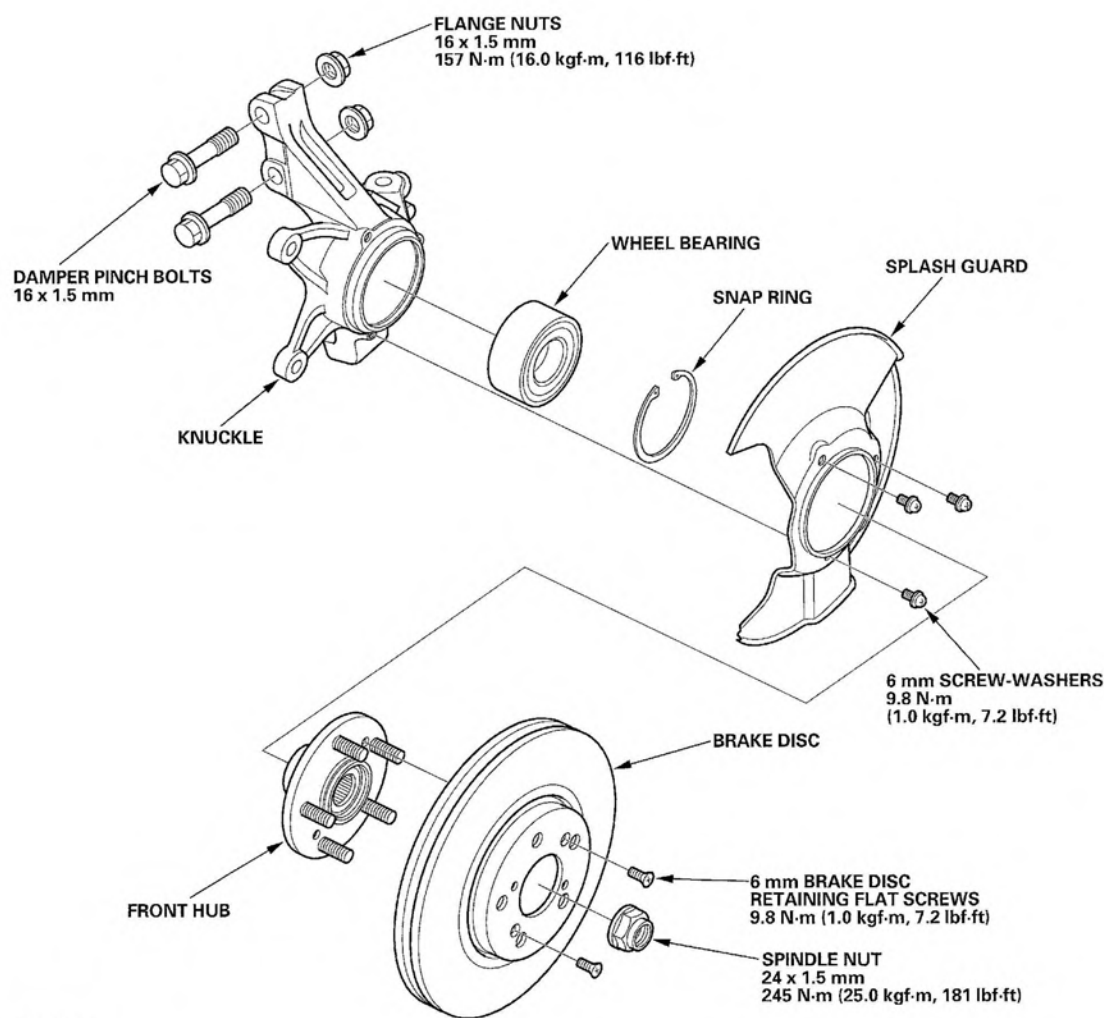
KNUCKLE & HUB**Removal**

1. Remove wheel. Remove brake hose mounting bolt (A). See **Fig. 3** . Remove caliper mounting bolts (B), and hang caliper assembly (C) to one side. To prevent damage to caliper assembly or brake hose, use a short piece of wire to hang caliper from undercarriage. See **Fig. 4** .
2. Remove wheel sensor from knuckle. Do not disconnect wheel sensor connector. Raise the stake of the spindle nut, then remove nut.
3. Remove brake disc retaining screws. Screw two 8 x 1.25 mm bolts into brake disc to push it away from hub. Turn each bolt two turns at a time to prevent cocking the disc excessively.
4. Remove brake disc from hub. Check front hub for damage and cracks. Remove cotter pin from tie-rod end ball joint, then loosen nut. Remove tie-rod ball joint from knuckle. Remove the lock pin from lower arm ball joint castle nut, and remove nut.

NOTE: Do not force or hammer on lower arm, or pry between lower arm and knuckle. You could damage the ball joint.

5. Remove lower arm ball joint from knuckle using Ball Joint Remover (07MAC-SL00200). Remove strut pinch bolts and flange nuts from strut. Pull the knuckle outward, and remove driveshaft outboard joint (C)

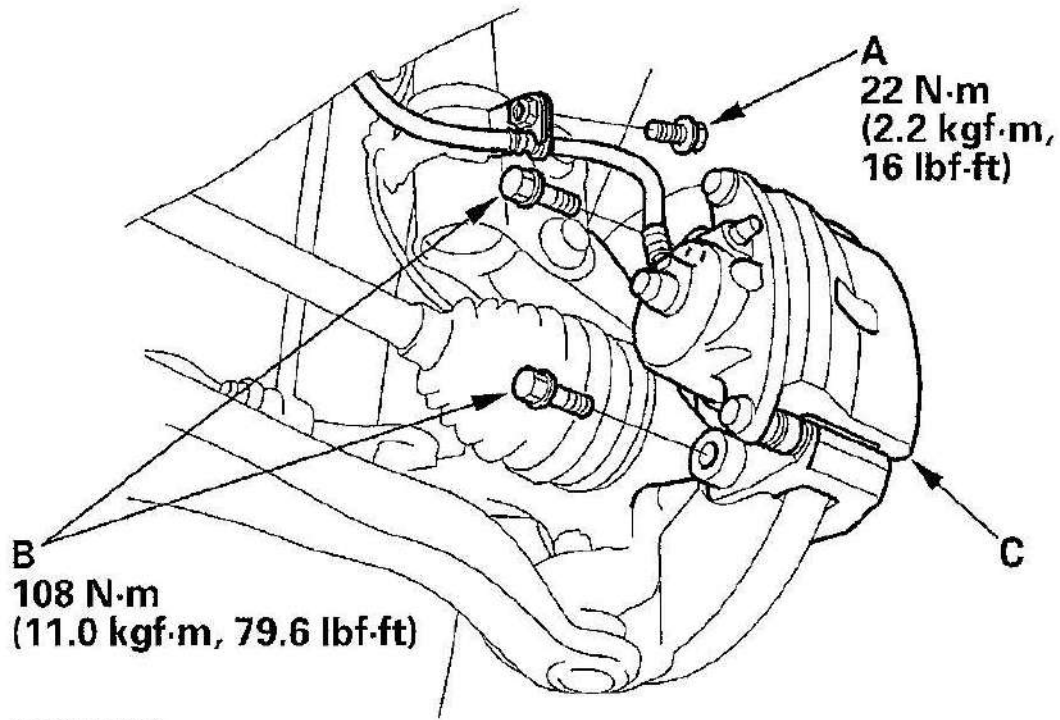
- from knuckle (D) by tapping driveshaft end (E) with a plastic hammer, then remove knuckle. See **Fig. 6** .
6. Separate the hub (A) from the knuckle (B) using the Hub Dis/assembly Tool (07GAF-SE00100) and a hydraulic press. Take care not to deform splash guard. Hold onto hub to keep it from falling when pressed clear. See **Fig. 5** .
 7. Remove snap ring and splash guard from knuckle. Press wheel bearing out of knuckle using the Driver (07749-0010000) and Attachment Tools (07746-0010500) and a press. Press wheel bearing inner race from hub using Hub Dis/assembly Tool, a commercially available bearing separator, and a press.
 8. Wash knuckle and hub thoroughly in high flash point solvent before reassembly.



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Fig. 3: Exploded View Of Knuckle/Hub

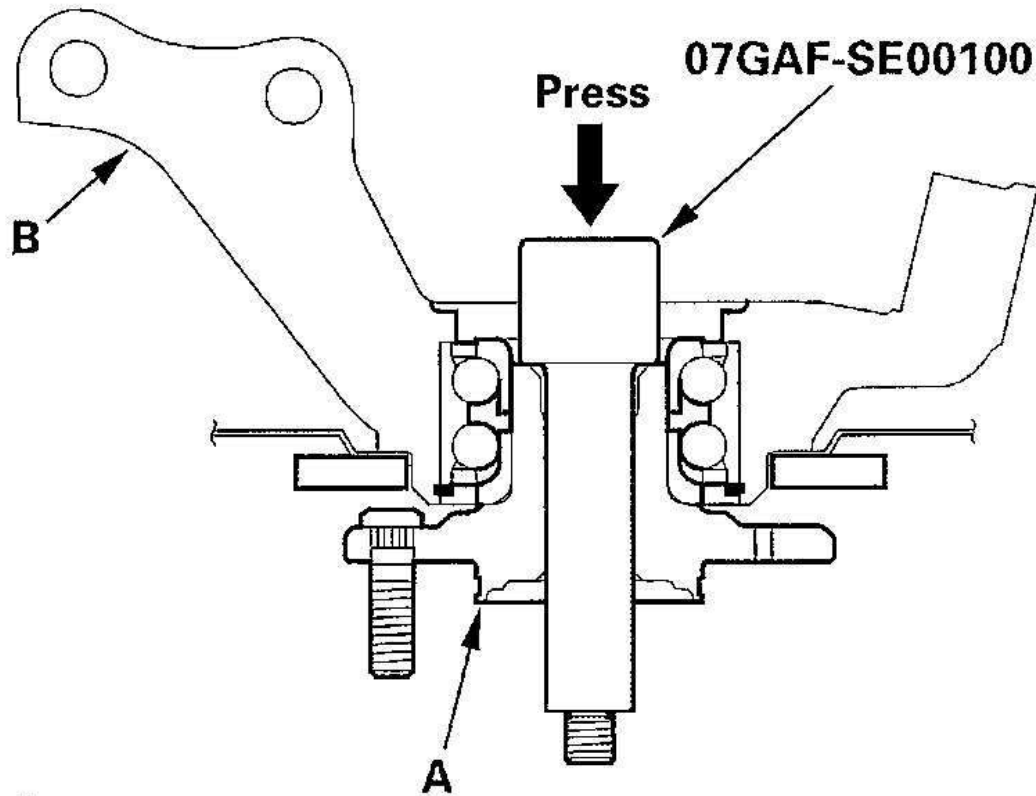
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 4: Removing Caliper

Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 5: Removing Hub From Knuckle
Courtesy of AMERICAN HONDA MOTOR CO., INC.

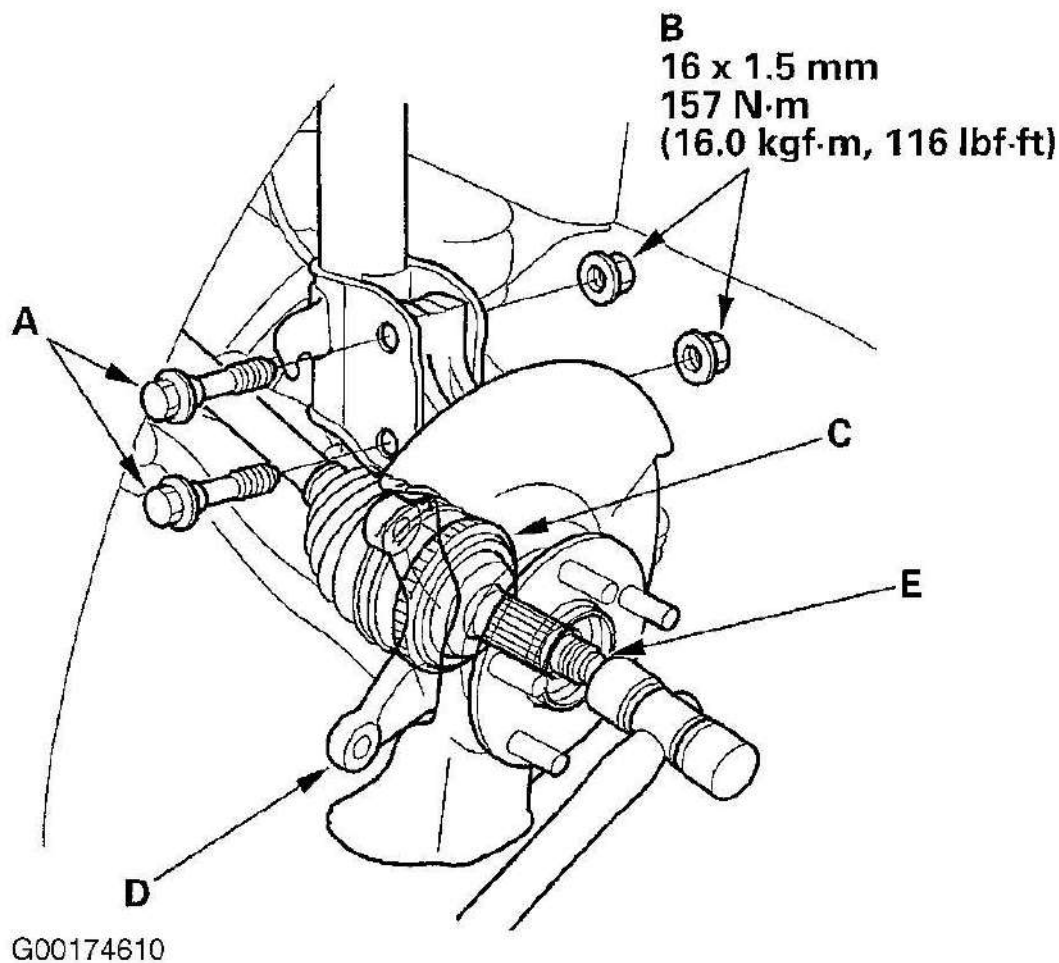


Fig. 6: Removing Knuckle

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Installation

1. Press a new wheel bearing (A) into knuckle (B) using old bearing (C), a steel plate, a 96 mm Attachment Tool or a 86 mm Attachment Tool, and a press. Be careful not to damage the sleeve of the pack seal. See **Fig. 7**.
2. Install snap ring securely in knuckle. Install splash guard; and tighten screws to specifications. See **TORQUE SPECIFICATIONS**. Install hub onto knuckle using the Driver, the Attachment, Support Base and a press. Be careful not to deform splash guard.
3. Install knuckle in reverse order of removal, and note these items:
 - Be careful not to damage ball joint boots when installing knuckle. Tighten all mounting hardware to specified torque values. Torque castle nut to the lower torque specification, then tighten it only far enough to align the slot with the pin hole. See **TORQUE SPECIFICATIONS**.

- Do not align the castle nut by loosening it. Install a new lock pin on castle nut after torquing. Use a new spindle nut on reassembly. Before installing spindle nut, apply a small amount of engine oil to the seating surface of nut. After tightening, use a drift to stake the spindle nut shoulder against the driveshaft.
- Before installing the brake disc, clean the mating surfaces of the front hub and the inside of the brake disc. Before installing the wheel, clean the mating surfaces of the brake disc and the inside of the wheel. Check the front wheel alignment, and adjust it if necessary. See **WHEEL ALIGNMENT**.

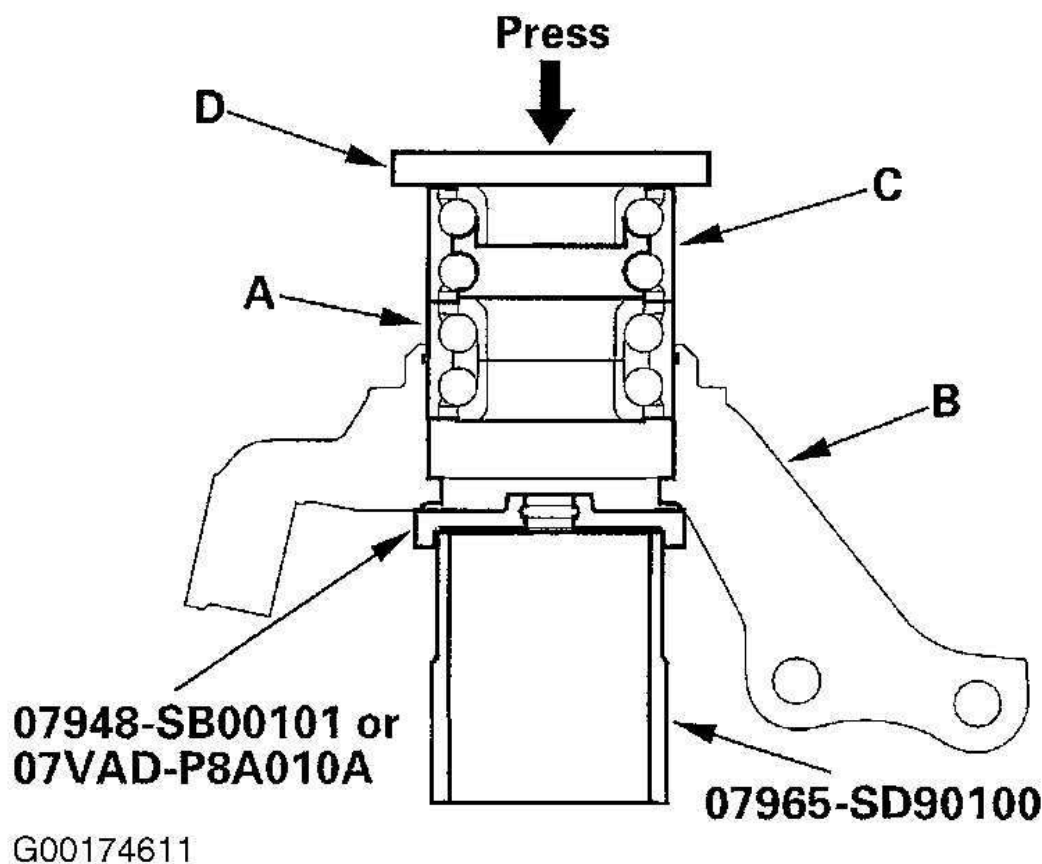


Fig. 7: Installing Wheel Bearing To Knuckle

Courtesy of AMERICAN HONDA MOTOR CO., INC.

LOWER ARM & BALL JOINT

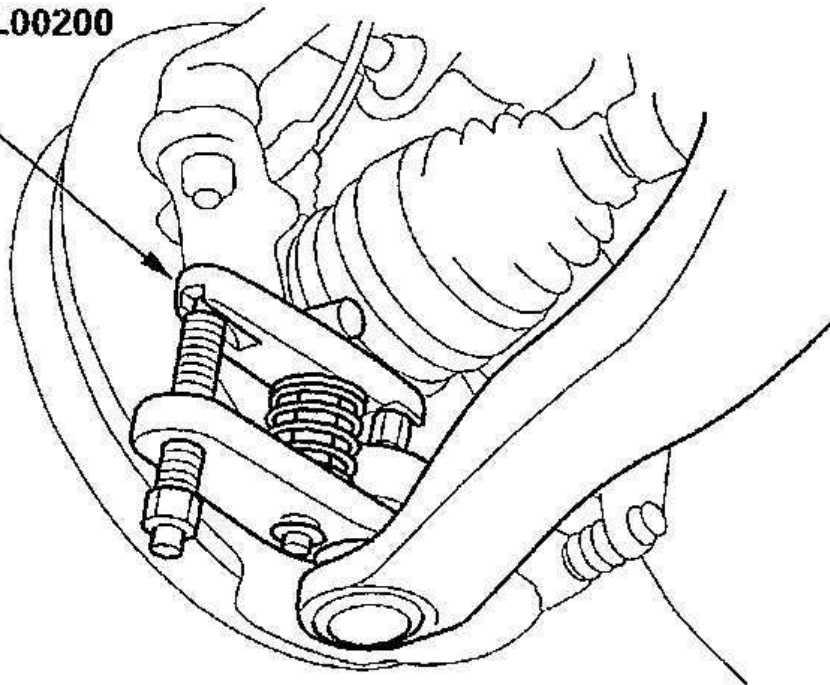
Removal & Installation

1. Remove the front wheels. Remove lock pin from lower arm ball joint castle nut, and remove nut.

CAUTION: Do not force or hammer on lower arm, or pry between lower arm and knuckle. You could damage the ball joint.

2. Screw Ball Joint Thread Protector (07AAF-S3VA100) all the way onto ball joint stud. Apply molybdenum grease to 28 mm Ball Joint Remover (07MAC-SL00200). This makes installing the tool easier and prevents damage to the pressure bolt threads. To install ball joint remover, insert the jaws carefully, making sure you do not damage the ball joint boot. Adjust jaw spacing by turning the pressure bolt. See **Fig. 8** .
3. Once the ball joint remover is in place, turn adjusting bolt (A) as necessary to make jaws parallel. Then hand-tighten the pressure bolt (B), and recheck jaws to make sure they are still parallel. After making adjustment to adjusting bolt, make sure head of the adjusting bolt is in position to allow the jaw to pivot. See **Fig. 9** .
4. Tighten pressure bolt. If ball joint does not pop loose, strike side of knuckle with a hammer and a Ball Joint Striker (07AAD-S3VA100), to dislodge ball joint.
5. Remove ball joint striker. Then remove thread protector from the end of ball joint, and pull ball joint out of the knuckle. Inspect ball joint boot, and replace it if damaged.
6. Remove lower arm ball joint from knuckle using Ball Joint Remover.
7. Remove lower arm by doing the following steps: See **Fig. 10** .
 - Remove forward lower arm mounting bolt (A).
 - Remove rearward lower arm mounting bolt (B).
 - Remove lower arm (C) from sub frame.
8. Install lower arm in reverse order of removal, and note these items:
 - Be careful not to damage ball joint boot when connecting lower arm to the knuckle.
 - Tighten all mounting hardware to specified torque values. Tighten castle nut to lower torque value, then tighten it only far enough, to align slot with the pin hole. See **TORQUE SPECIFICATIONS** .
 - Do not align the castle nut by loosening it. Install a new lock pin on castle nut after torquing.
 - Before installing the wheel, clean mating surfaces of brake disc and inside of the wheel. Check front wheel alignment, and adjust if necessary. See **WHEEL ALIGNMENT** .

07MAC-SL00200



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Fig. 8: Installing Ball Joint Remover
Courtesy of AMERICAN HONDA MOTOR CO., INC.

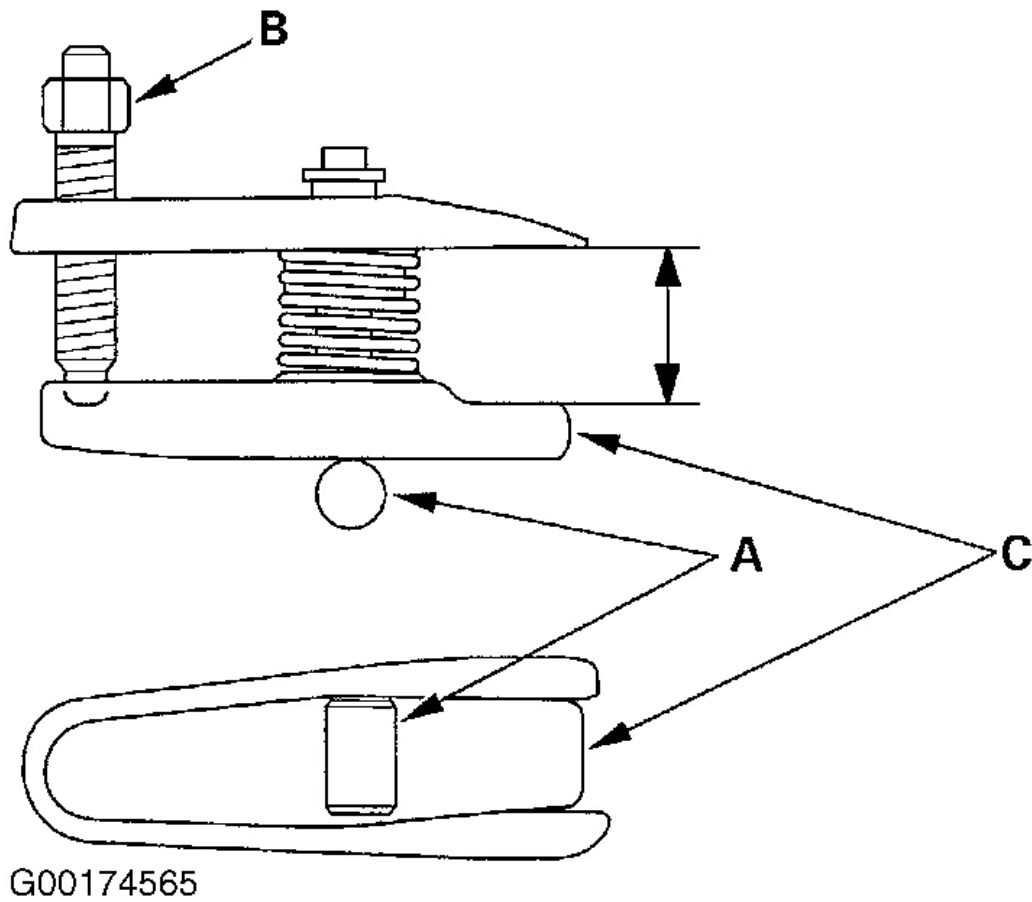
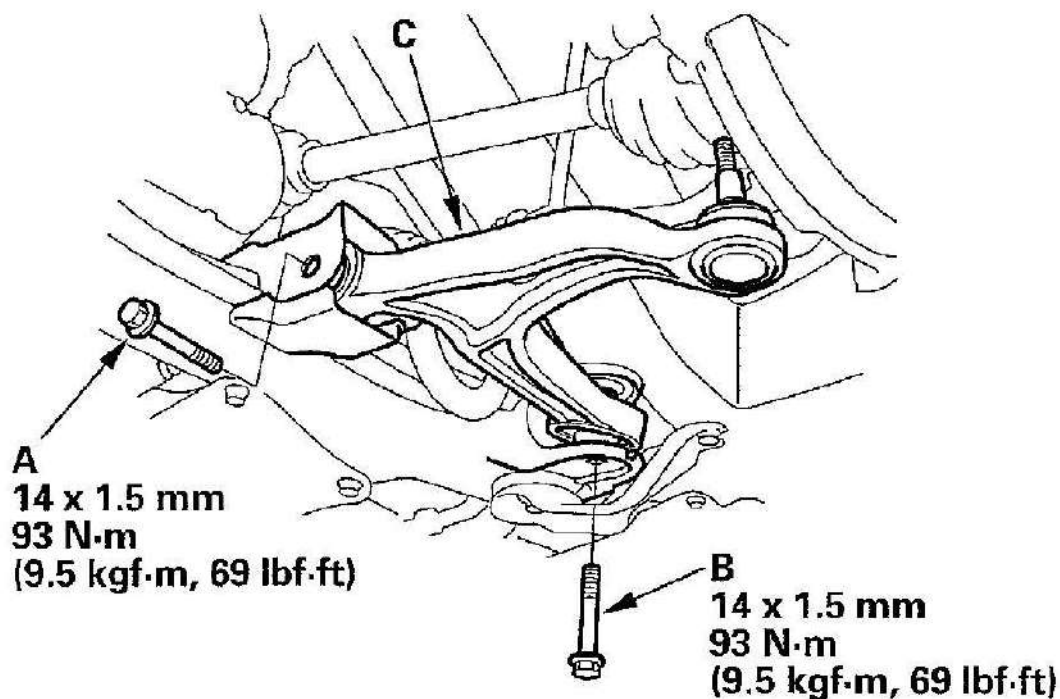


Fig. 9: Inspecting Special Tool Placement
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 10: Removing Lower Arm

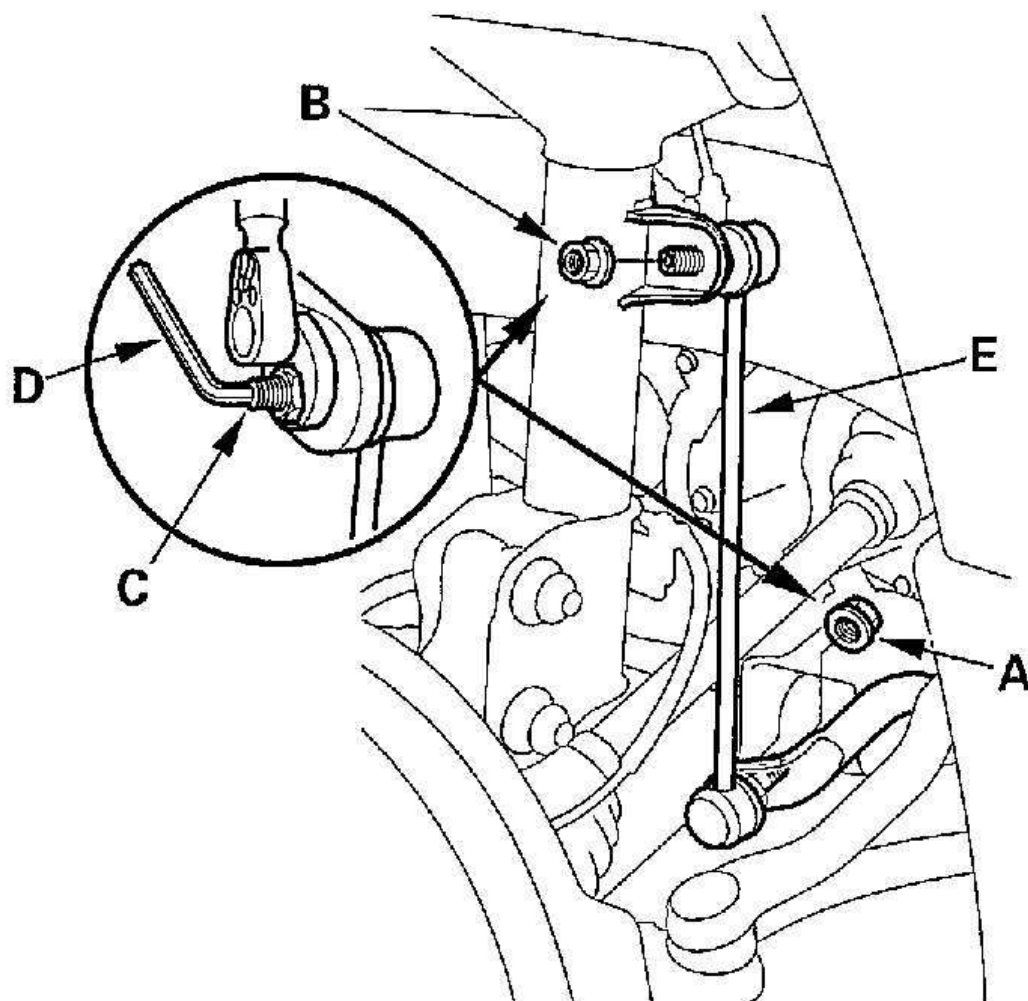
Courtesy of AMERICAN HONDA MOTOR CO., INC.

STABILIZER LINK**Removal & Installation**

1. Remove the front wheels. Remove self-locking nut (A) and flange nut (B) while holding the respective joint pins (C) with a hex wrench (D), and remove stabilizer link (E). See **Fig. 11** .
2. Install stabilizer link (A) on stabilizer bar (B) and damper (C) with joint pins set at the center of each moving range. See **Fig. 12** .

NOTE: Use a **NEW** self-locking nut on reassembly.

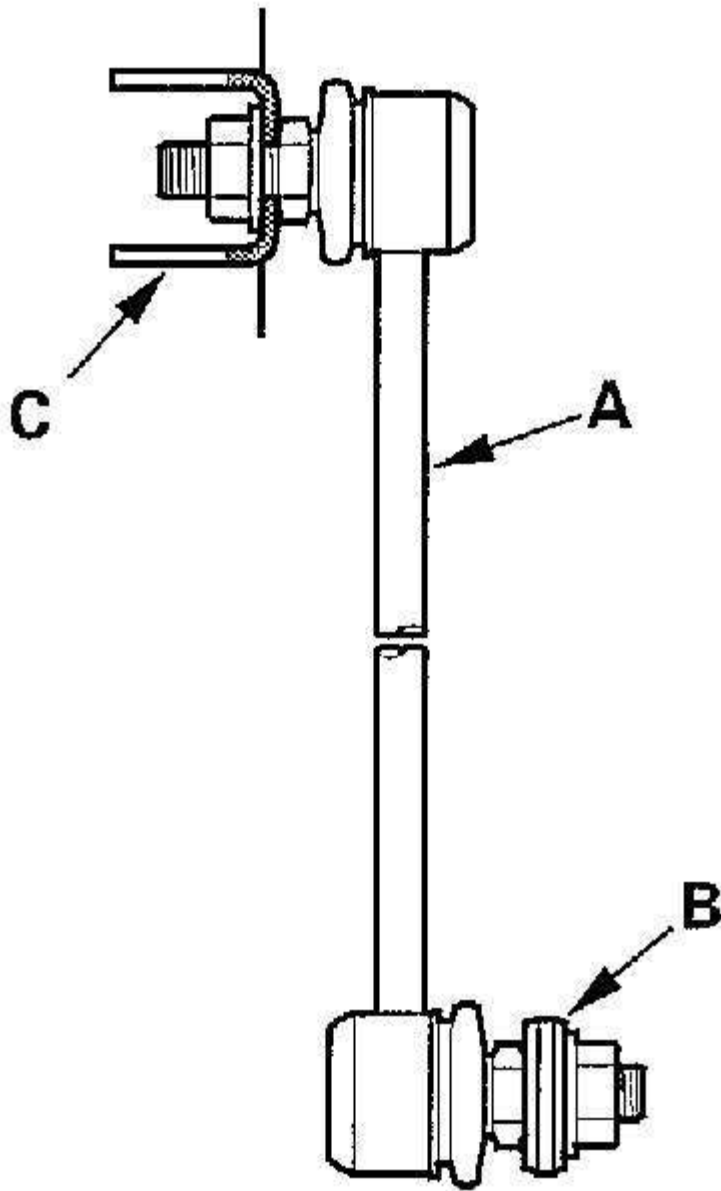
3. Install self-locking nut and flange nut, and lightly tighten them. Place a jack under lower arm, and raise suspension to load vehicle weight.
4. Tighten self-locking nut and flange nut to specified torque values while holding the respective joint pins with a hex wrench. After 5 minutes of driving, retighten self locking nut to specified torque. See **TORQUE SPECIFICATIONS** .



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Fig. 11: Removing Stabilizer Link

Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 12: Identifying Stabilizer Link & Bar
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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Removal

NOTE: See **Fig. 13** for exploded view.

1. Remove front wheels. Remove wheel sensor harness from strut. Do not disconnect wheel sensor connector. Remove brake hose bracket from strut. Disconnect stabilizer link from strut. Remove flange nuts and strut pinch bolts from the strut.

NOTE: **Strut springs are different, left and right. Mark springs L and R before you continue.**

2. Remove the service caps, and remove strut by removing the three flange nuts.

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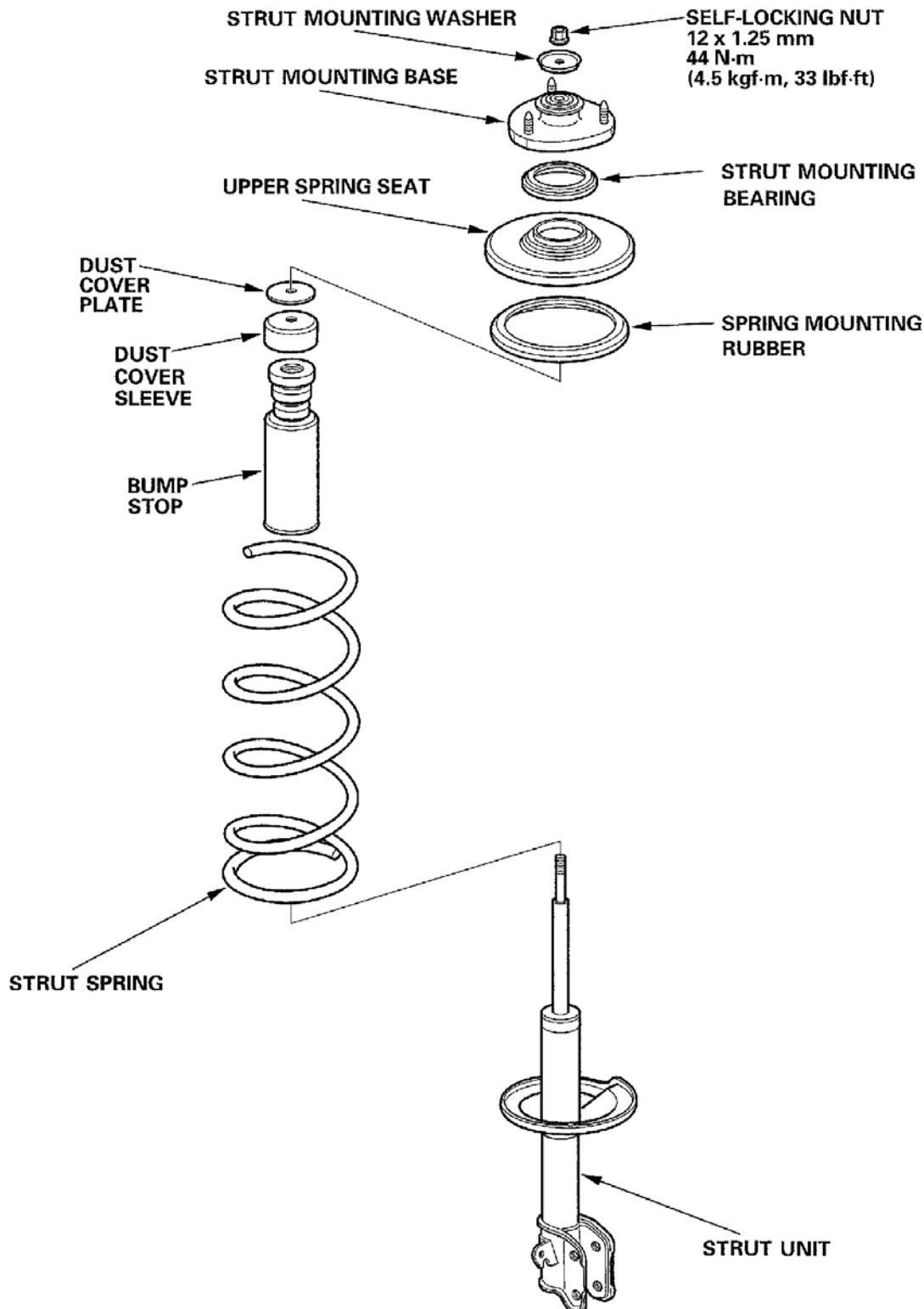
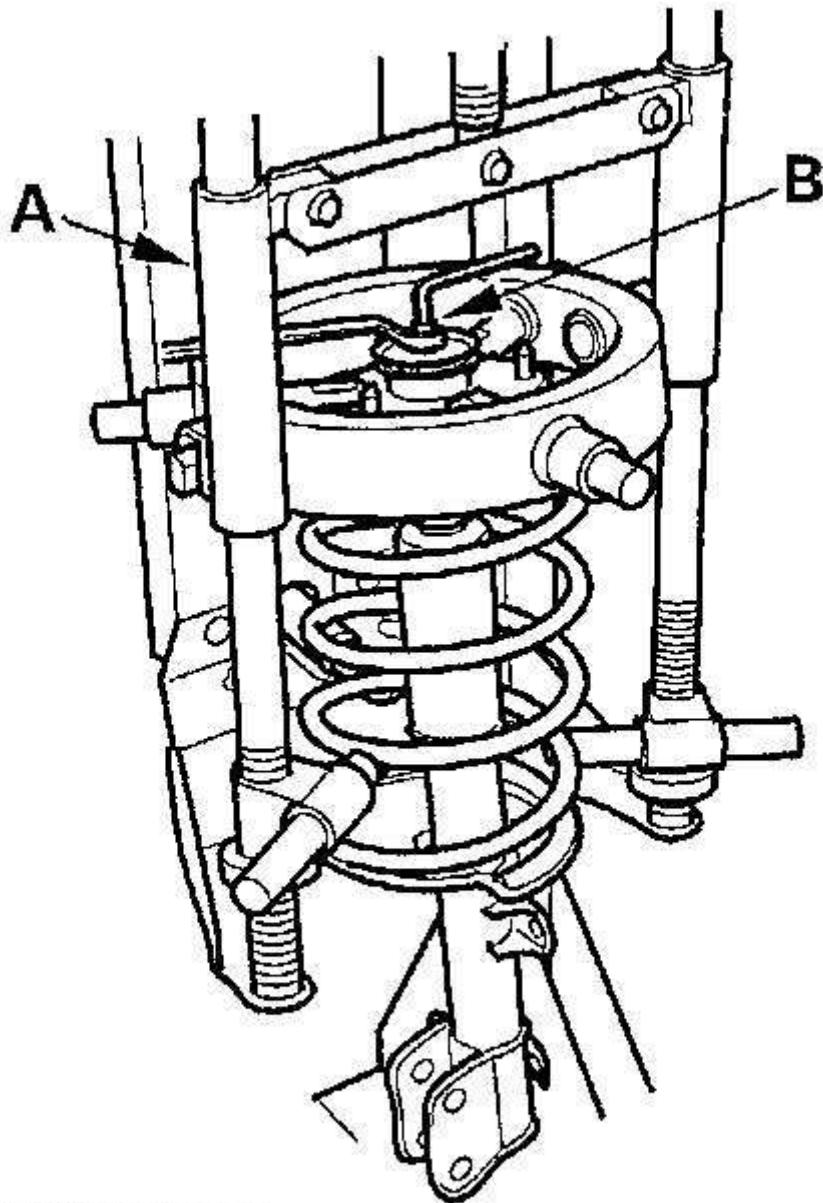


Fig. 13: Exploded View Of Strut

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Disassembly/Inspection

1. Compress strut spring with a commercially available strut spring compressor like, Branick (MST-580A), Model 7200 or equivalent (A), according to the manufacturer's instructions, then remove self-locking nut (B). Do not compress spring more than necessary to remove nut. See **Fig. 14** .
2. Release pressure from strut spring compressor, then disassemble strut. See **Fig. 13** .
3. Reassemble all parts, except for the spring. Compress strut assembly by hand, and check for smooth operation through a full stroke, both compression and extension. The strut should extend in a smooth, continuous motion when compression is released. If it does not (no compression or no extension), gas is leaking, and strut should be replaced.
4. Check for oil leaks, abnormal noises, or binding during these tests.



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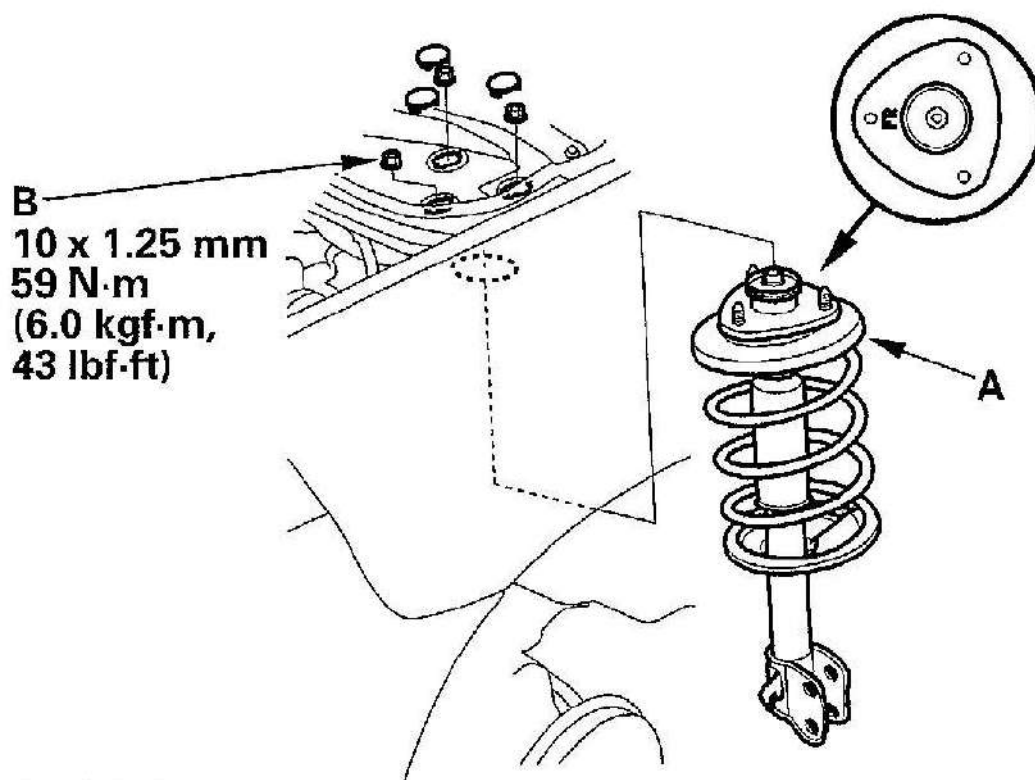
Fig. 14: Compressing Strut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Reassembly

1. Install strut unit on a commercially available strut spring compressor like, Branick (MST-580A), Model 7200 or equivalent. Assemble strut in reverse order of removal except for washer and self-locking nut.
2. Align the bottom of strut spring and spring lower seat. Compress strut spring, and install the strut mounting washer and a NEW self-locking nut.
3. Hold strut rod using a hex wrench, and tighten self-locking nut.

Installation

1. Loosely install strut (A) onto frame, then loosely install the three flange nuts (B). See **Fig. 15**.
2. Install strut onto knuckle. Loosely install strut pinch bolts and flange nuts to strut. Install the wheel sensor harness to strut. Install brake hose bracket to strut. Loosely install stabilizer link to strut.
3. Raise front suspension with a floor jack to load vehicle weight. Tighten strut pinch bolts and flange nuts to specified torque. See **TORQUE SPECIFICATIONS**.
4. Tighten flange nuts on top of the strut to specified torque. See **TORQUE SPECIFICATIONS**. Install service caps. Install the front wheels. Check front wheel alignment, and adjust it if necessary. See **WHEEL ALIGNMENT**.



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Fig. 15: Installing Strut To Frame

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TORQUE SPECIFICATIONS**TORQUE SPECIFICATIONS**

Application	Ft. Lbs. (N.m)
Knuckle & Hub	
Flange Nuts	116 (157)
Spindle Nut	181 (245)
Brake Hose Mounting Bolt	16 (22)
Caliper Mounting Bolts	80 (108)
Tie-Rod Ball Joint Nut	40 (54)
Strut Pinch Bolts	116 (157)
Lower Arm	
Lower Arm Ball Joint Castle Nut	116 (157)
Forward & Rearward Lower Arm Mounting Bolt	69 (93)
Stabilizer Link	
Self Locking Nut & Flange Nut	58 (78)
Strut	
Self Locking Nut	33 (44)
Flange Nuts-To-Frame	43 (59)
Lower Strut Pinch Nuts	116 (157)
Brake Hose Bracket-To-Strut Bolt (8 mm)	16 (22)
Stabilizer Link Nut	58 (78)
Wheel Lug Nuts	80 (108)
INCH Lbs. (N.m)	
Knuckle & Hub	
Splash Guard Srew-Washers	87 (9.8)
Brake Disc Retaining Flat Screws	87 (9.8)
Wheel Sensor Mounting Bolt	87 (9.8)
Strut	
Brake Hose Bracket-To-Strut Bolt (6 mm)	87 (9.8)