

2002 Acura MDX

2002-03 STEERING Steering Columns - MDX, RSX, 3.2CL & 3.5RL

2002-03 STEERING

Steering Columns - MDX, RSX, 3.2CL & 3.5RL

DESCRIPTION

All models use a 2-piece safety steering column with a slip joint flange connection. The steering column is supported by a column tube.

WARNING: All models are equipped with Supplemental Restraint System (SRS). All SRS wiring is color coded Yellow. Before performing any repairs on steering column, disable air bag system. See DISABLING & ACTIVATING AIR BAG SYSTEM .

DISABLING & ACTIVATING AIR BAG SYSTEM

DISABLING SYSTEM

WARNING: Wait at least 5 minutes after deactivating air bag system. System maintains voltage for about 5 minutes after battery is disconnected. Servicing air bag system before 5 minutes may cause accidental air bag deployment and possible personal injury.

CAUTION: Radio has a coded theft protection circuit. Before disconnecting battery cables, obtain radio anti-theft code number from customer. After reconnecting power, turn radio on. Word CODE will be displayed. Enter customer 5-digit code to restore radio operation.

Driver-Side Air Bag (Except 3.5RL)

1. Turn ignition off. Disconnect both battery cables. Remove access panel from steering wheel. See Fig. 1 .
2. Disconnect air bag connector from cable reel connector. Driver's air bag is now disabled. Disable passenger-side air bag.

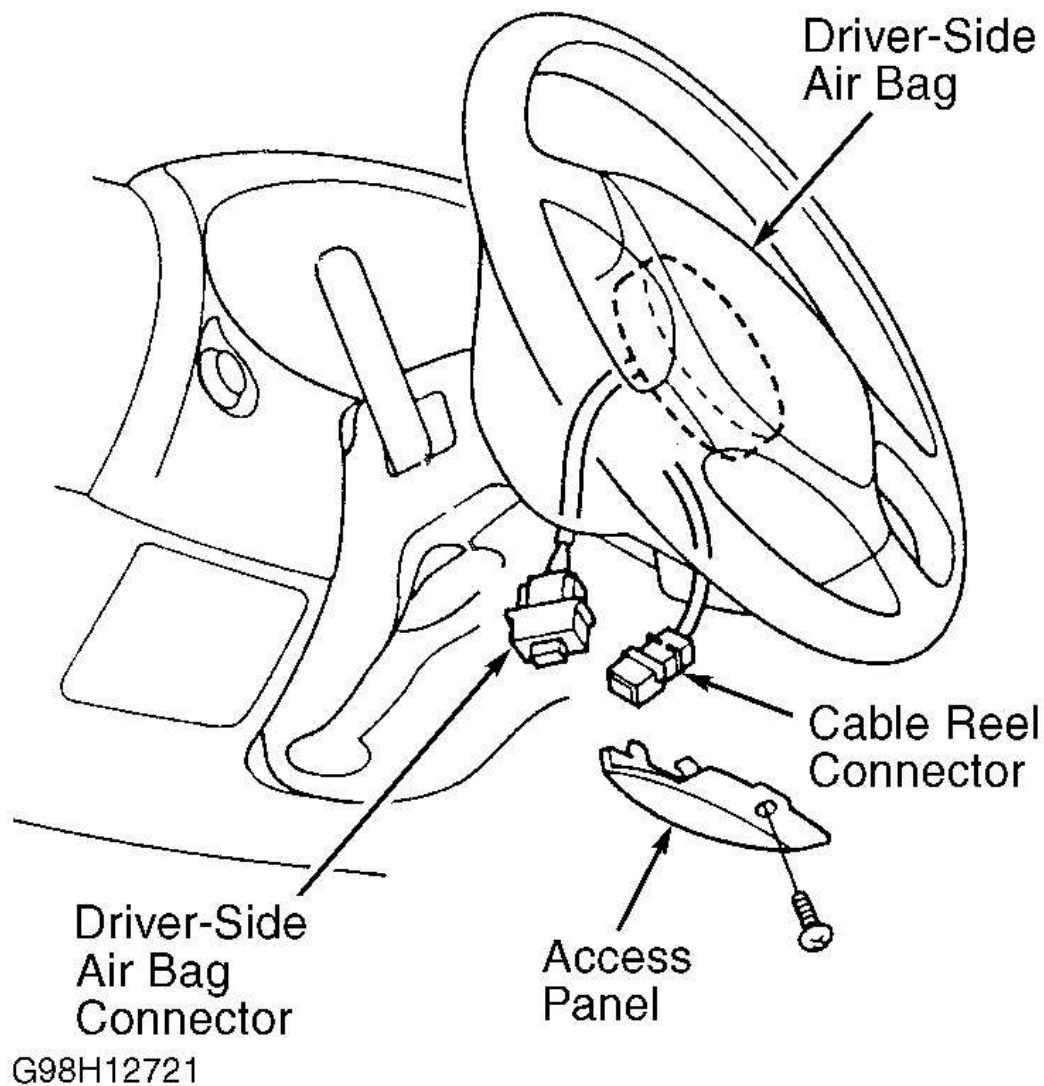


Fig. 1: Locating Driver-Side SRS Maintenance Lid & Connector (Typical)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Driver-Side Air Bag (3.5RL)

Turn ignition off. Disconnect battery cables. Wait at least 5 minutes to allow capacitor in back-up circuit to discharge. Remove access panel below driver's air bag on steering wheel. See **Fig. 1** . Disconnect driver-side air bag 2-pin connector from cable reel 2-pin connector.

Passenger-Side Air Bag (Except 3.5RL)

Remove glove box. Disconnect harness connector from passenger-side air bag connector. See **Fig. 2** . Passenger's air bag is now disabled.

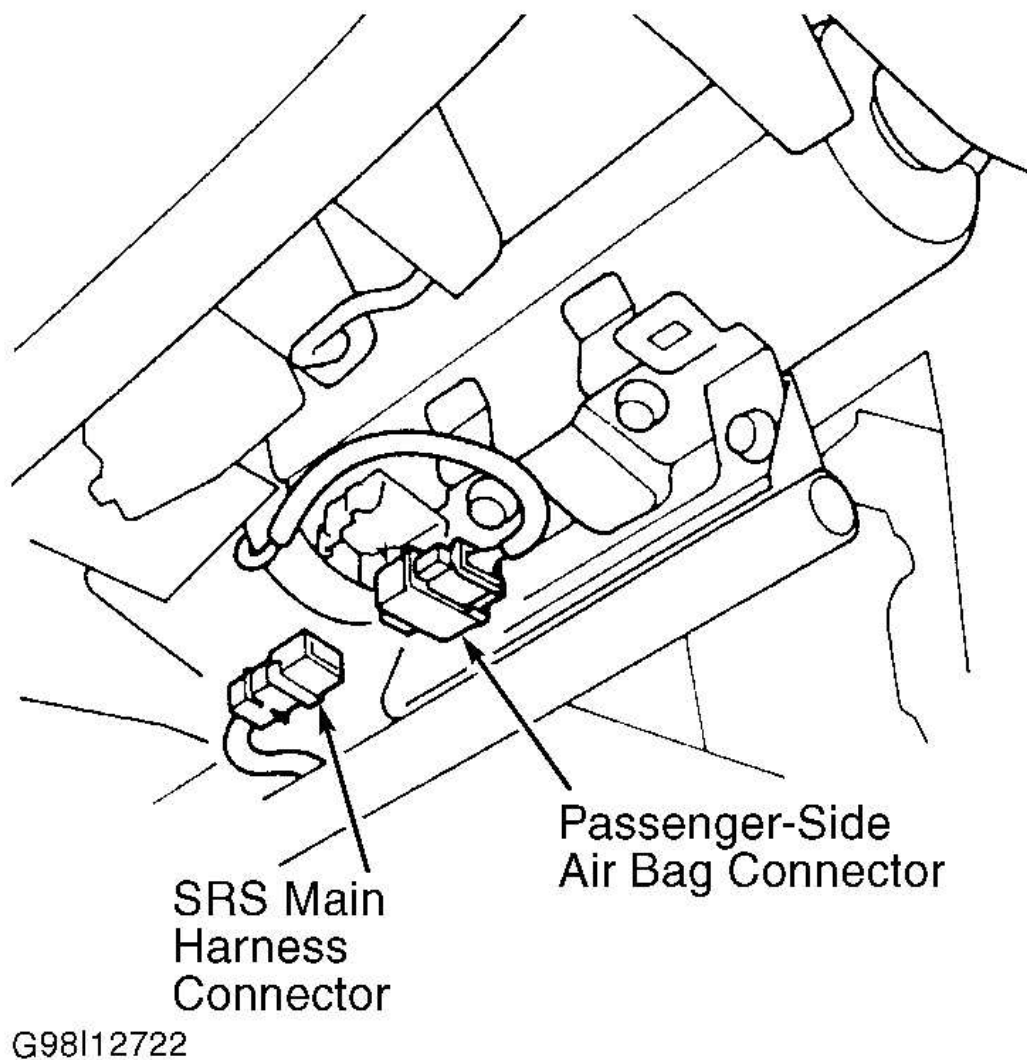


Fig. 2: Locating Passenger-Side Air Bag Connector (Typical; Except 3.5RL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Passenger-Side Air Bag (3.5RL)

Remove glove box. Unplug connector between passenger-side air bag and SRS main harness. See **Fig. 3** .

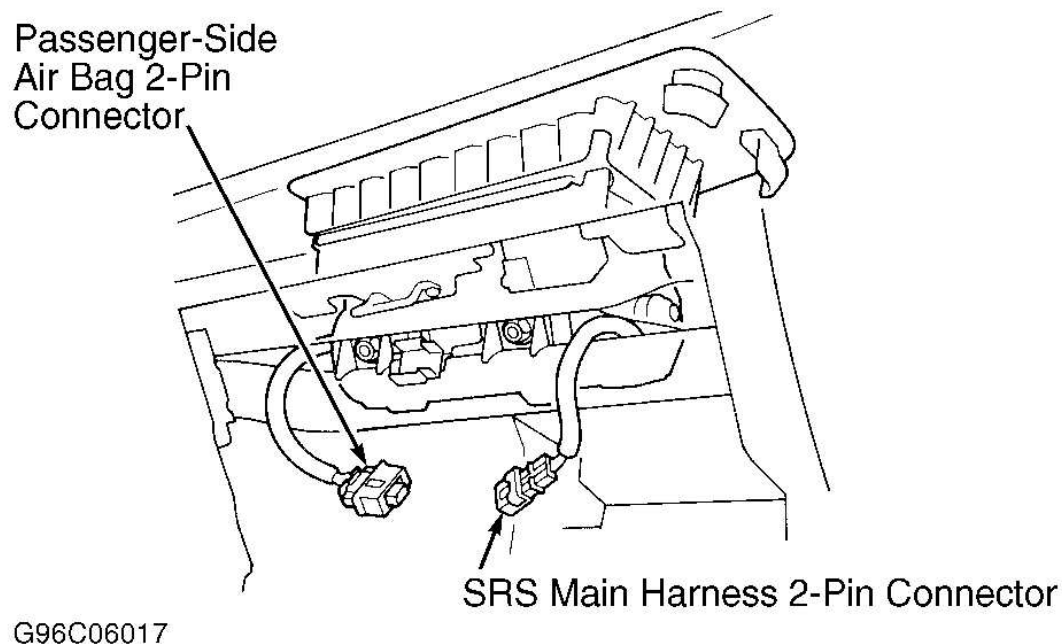


Fig. 3: Locating Passenger-Side Air Bag Connector (3.5RL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Seat Belt Pretensioner (3.5RL)

Remove lower seat belt anchor bolt and quarter trim panels. Disconnect seat belt tension reducer 2-pin connector and seat belt pretensioner 2-pin connector from right and left seat belt pretensioners. See **Fig. 4**.

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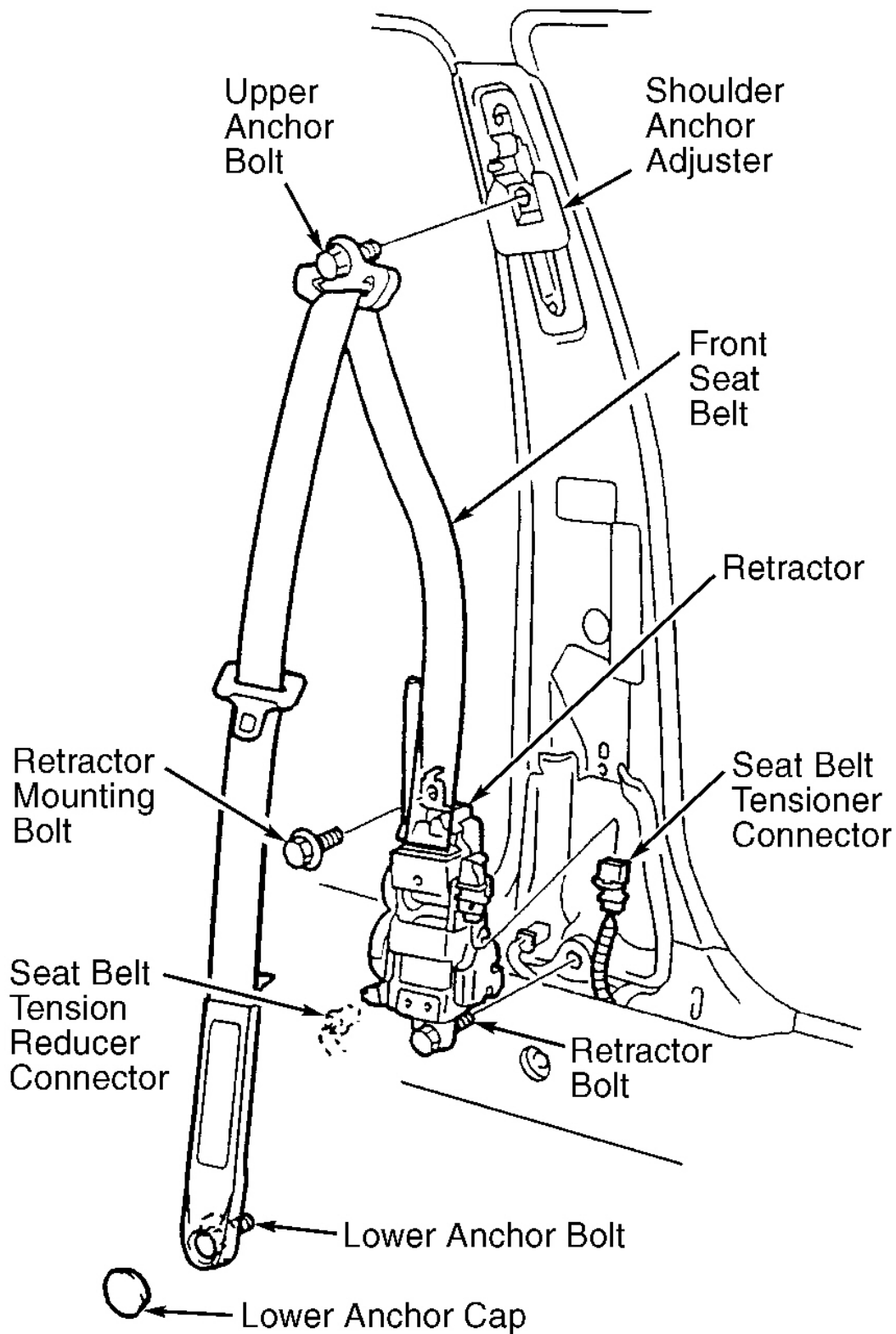


Fig. 4: Locating Seat Belt Pretensioner Connector (3.5RL)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

ACTIVATING SYSTEM**Except 3.5RL**

1. Ensure ignition switch is off and battery cables are disconnected. Reconnect air bag harness connectors.
2. Install access panel to steering wheel. Install glove box. Reconnect battery cables.
3. Turn ignition on. Observe SRS indicator light to verify system is functioning properly. SRS indicator light should come on for about 6 seconds and then go off. While vehicle is driven, SRS light should not come on or flash. If SRS indicator light does not operate as indicated, system must be inspected/repaired as soon as possible. See appropriate AIR BAG RESTRAINT SYSTEMS article in RESTRAINTS.

3.5RL

1. Reconnect seat belt tension reducer 2-pin connector and seat belt pretensioner 2-pin connector to right and left seat belt pretensioners. Reinstall quarter trim panel and lower seat belt anchor bolt and tighten to specifications. See **TORQUE SPECIFICATIONS** .
2. Reconnect passenger-side air bag 2-pin connector to SRS main harness 2-pin connector. Reinstall glove box.
3. Reconnect driver's air bag 2-pin connector to cable reel 2-pin connector. Reinstall access panel under driver's air bag. Reconnect battery. Check SRS indicator light to verify system functions properly.

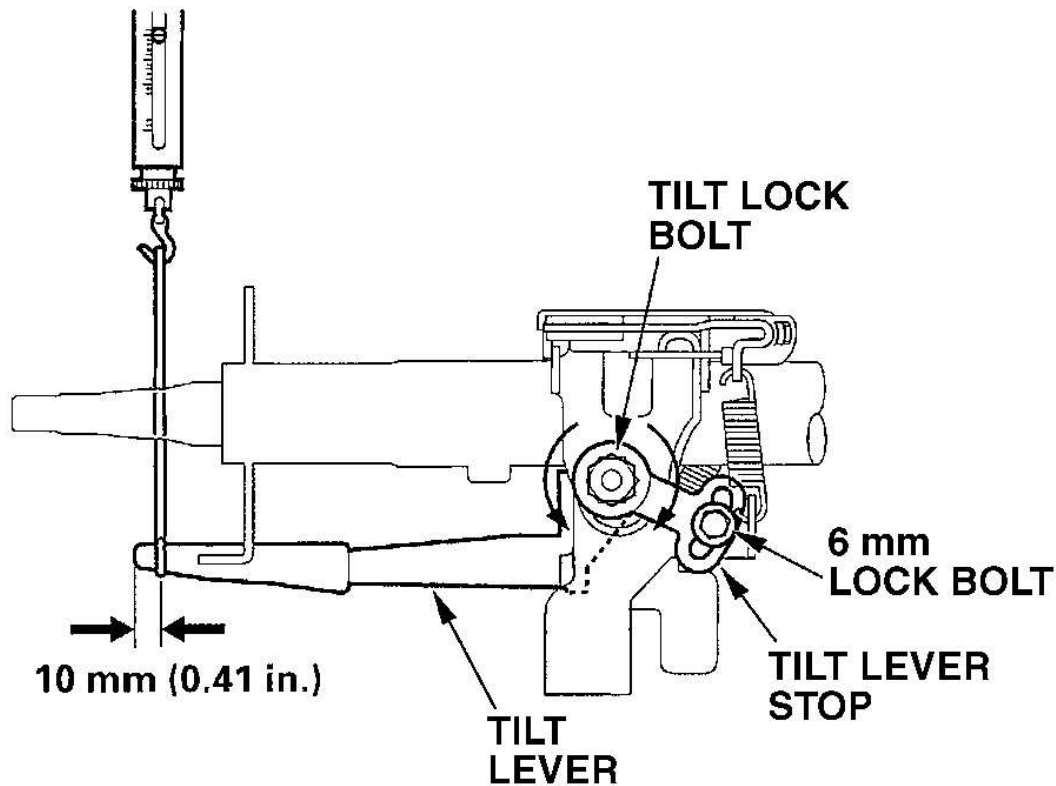
ADJUSTMENTS**STEERING WHEEL TILT LEVER (EXCEPT 3.5RL)**

1. Move the tilt lever from the loose position to the lock position 3 to 5 times; then measure the tilt lever preload 0.4" (10 mm) from the end of the tilt lever. See **Fig. 5** .

1. Tilt Lever Preload

15-20 Ft. Lbs. (20-27 N.m)

2. If the measurement is out of the specification, adjust the preload using the following steps.
 - Loosen the tilt lever and set the steering column in the neutral position. Remove the 6 mm lock bolt and remove the stop. Be careful not to loosen the tilt lever when installing the stop or tightening the 6 mm lock bolt.
 - Adjust the preload by turning the tilt lock bolt left or right. Pull up the tilt lever to the uppermost position, and install the stop. Check the preload again. If the measurement is still out of specification, repeat the procedures.



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Fig. 5: Measuring Steering Column Tilt Lever (Typical; Except 3.5RL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

REMOVAL & INSTALLATION

COMBINATION/TURN SIGNAL/HEADLIGHT SWITCH

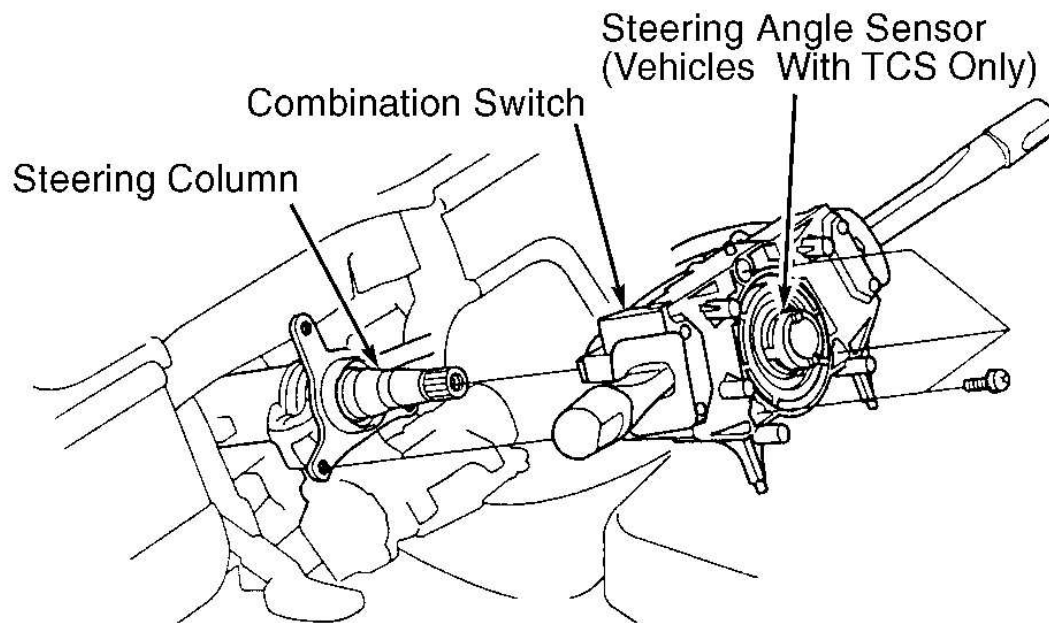
Removal & Installation

Disable air bag system. See **DISABLING SYSTEM** under DISABLING & ACTIVATING AIR BAG SYSTEM. Remove upper and lower steering column covers. Remove lower dashboard panel and knee bolster, if equipped. Unplug combination switch connectors and remove turn signal canceling sleeve. Remove combination switch mounting screws and switch. To install, reverse removal procedure.

CAUTION: On vehicles with TCS, DO NOT remove steering angle sensor from the combination switch.

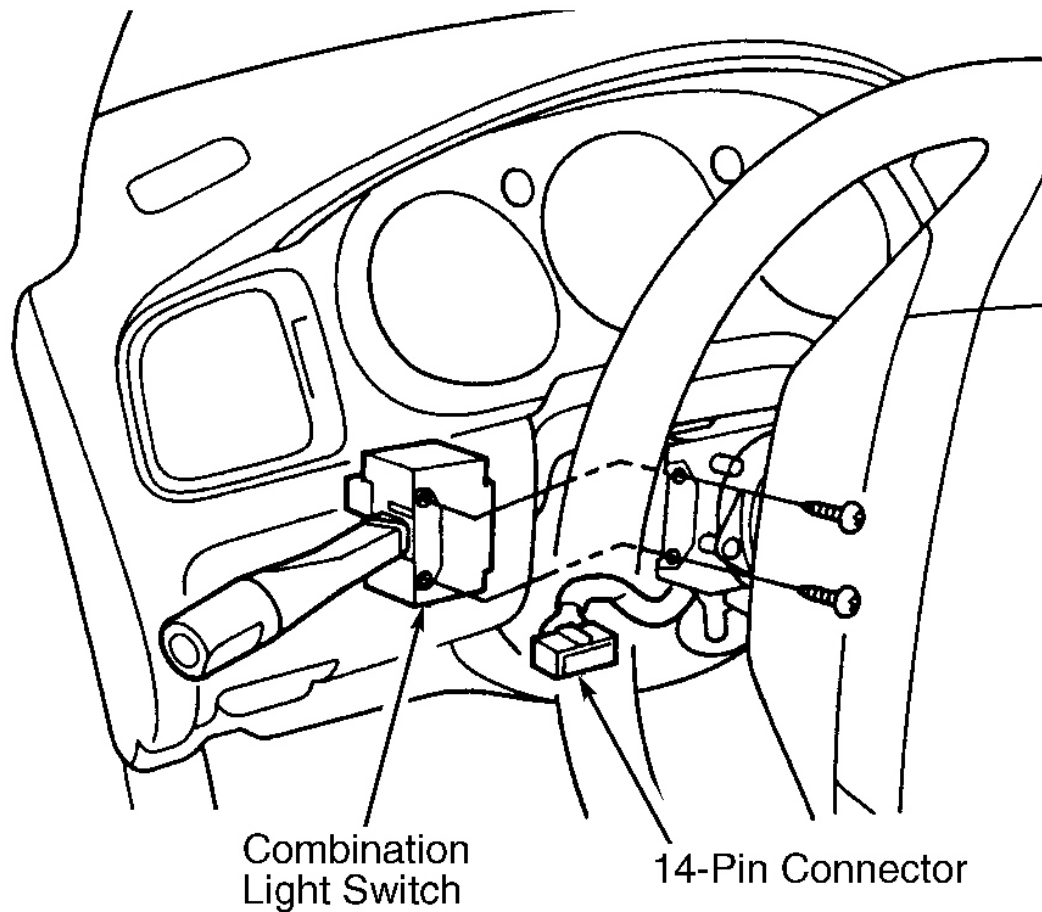
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Fig. 6: Removing Combination Switch
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 7: Removing/Installing Turn Signal/Headlight Switch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

IGNITION SWITCH

Removal & Installation

Disable air bag system. See **DISABLING SYSTEM** under **DISABLING & ACTIVATING AIR BAG SYSTEM**. Remove steering wheel. Remove upper and lower steering column covers. Remove lower dashboard panel and left knee bolster, if equipped. On all other models, unplug connector from ignition switch or underdash fuse block. Set ignition switch to "O" position. Remove 2 screws and ignition switch. To install, reverse removal procedure.

STEERING WHEEL & HORN PAD

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WARNING: Never store air bag upside down. Accidental deployment could cause serious injury. Store air bag with pad surface up and away from work area. DO NOT disassemble or tamper with air bag assembly.

CAUTION: Do not tap on steering wheel or the steering wheel column shaft when removing the steering wheel. If you thread the puller bolts into the wheel hub more than five threads, the bolts will hit the cable reel and damage it. To prevent this, install a pair of jam nuts five threads up on each puller bolt.

Removal

1. Deactivate air bag system. See **DISABLING SYSTEM** under DISABLING & ACTIVATING AIR BAG SYSTEM. Position front wheels straight-ahead. Remove left side maintenance lid and cruise control switch lid. Note position of all connectors. Disconnect cruise control, horn and radio switch, if equipped. See **Fig. 9** , **Fig. 10** or **Fig. 11** . Remove Torx bolts and discard. Remove air bag assembly. See **Fig. 8** .
2. Mark steering wheel and shaft for installation reference. Remove steering wheel shaft bolt/nut. Use suitable puller to remove steering wheel.

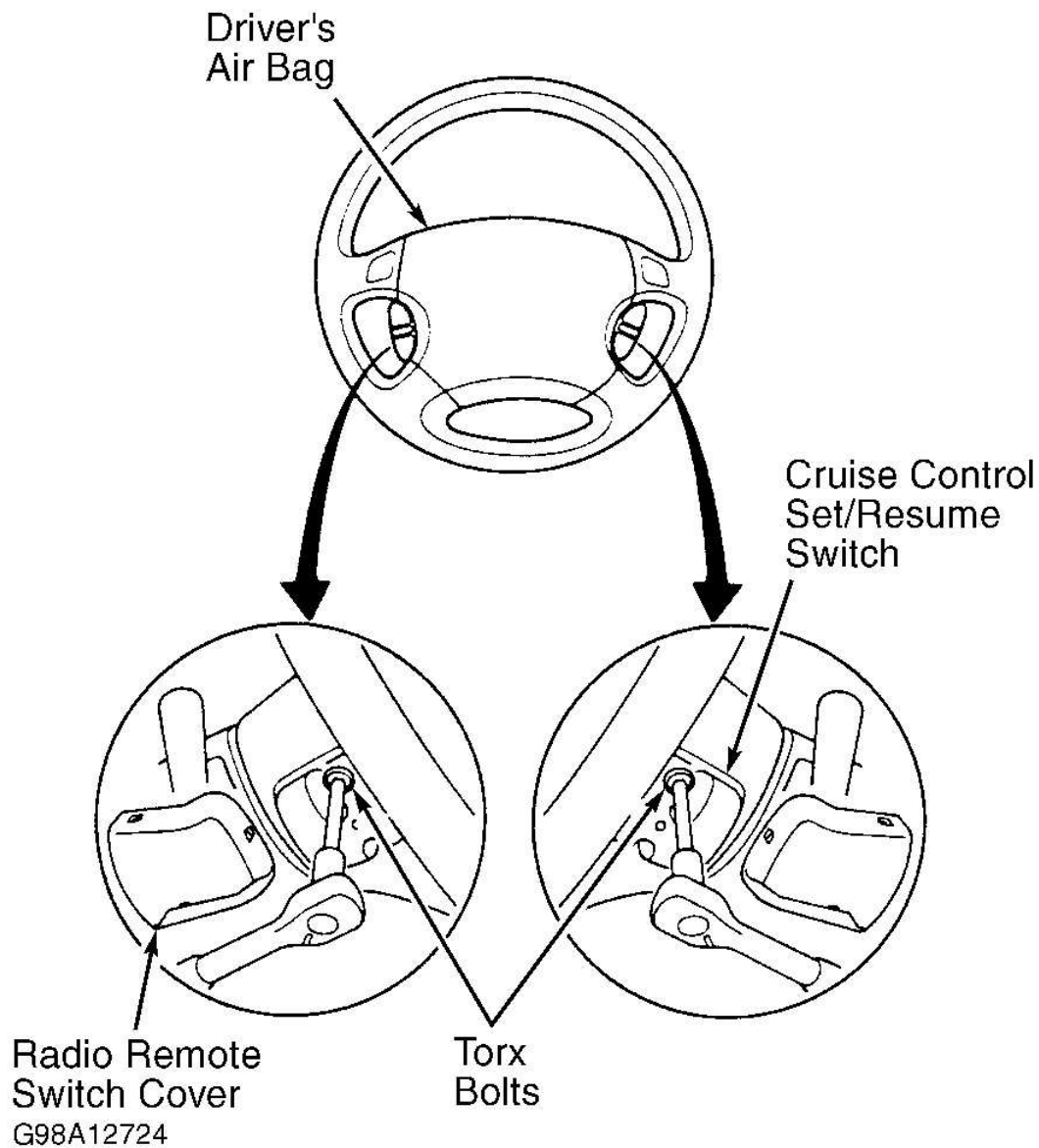


Fig. 8: Removing Driver-Side Air Bag Assembly (All Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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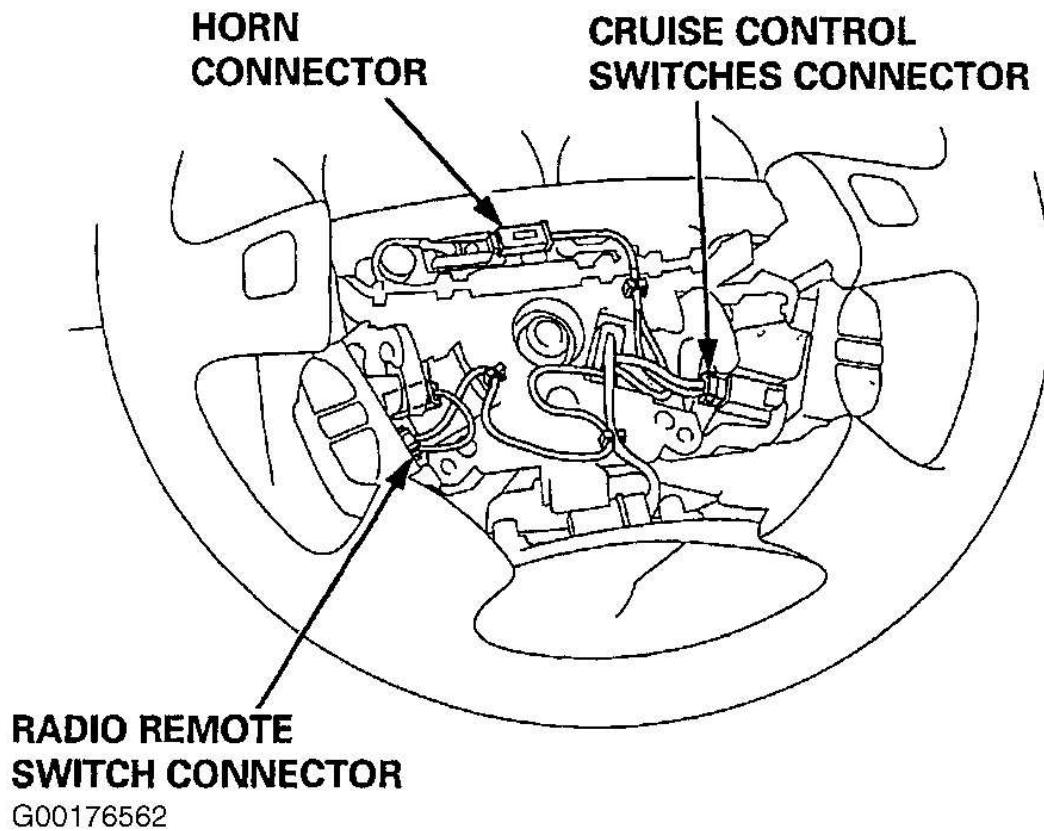
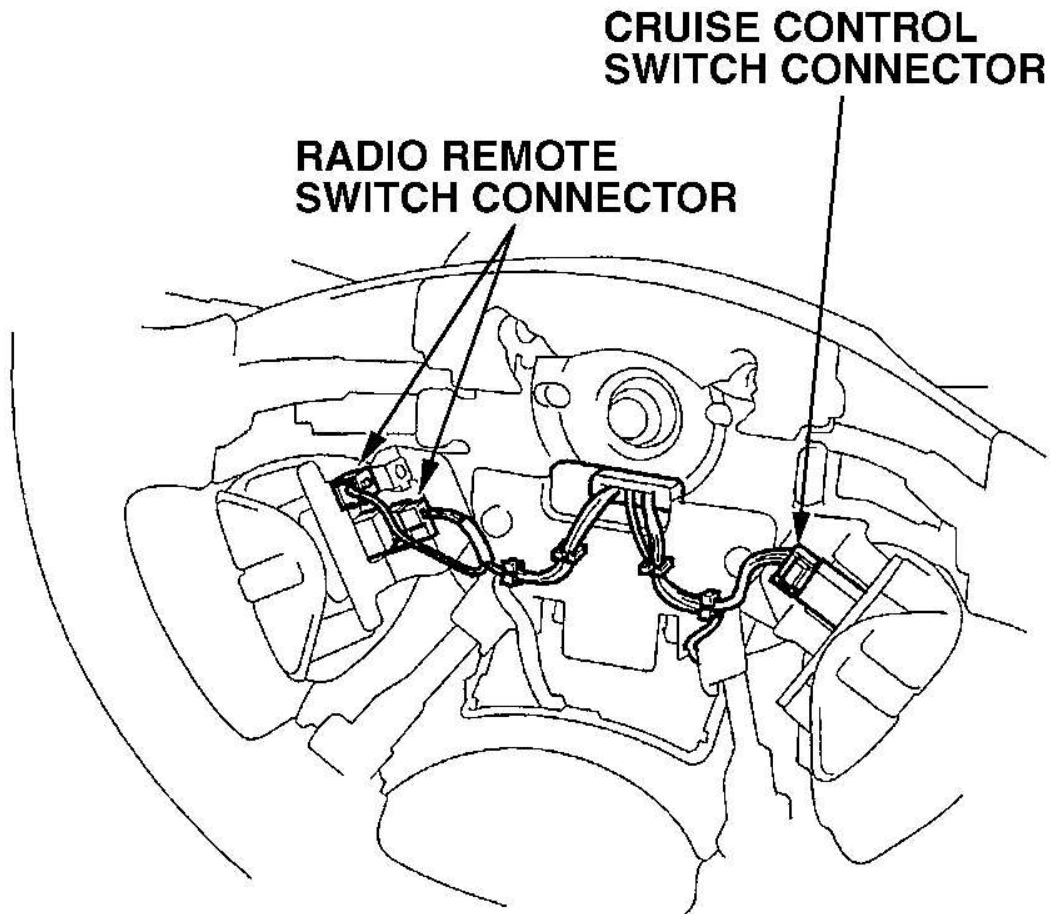


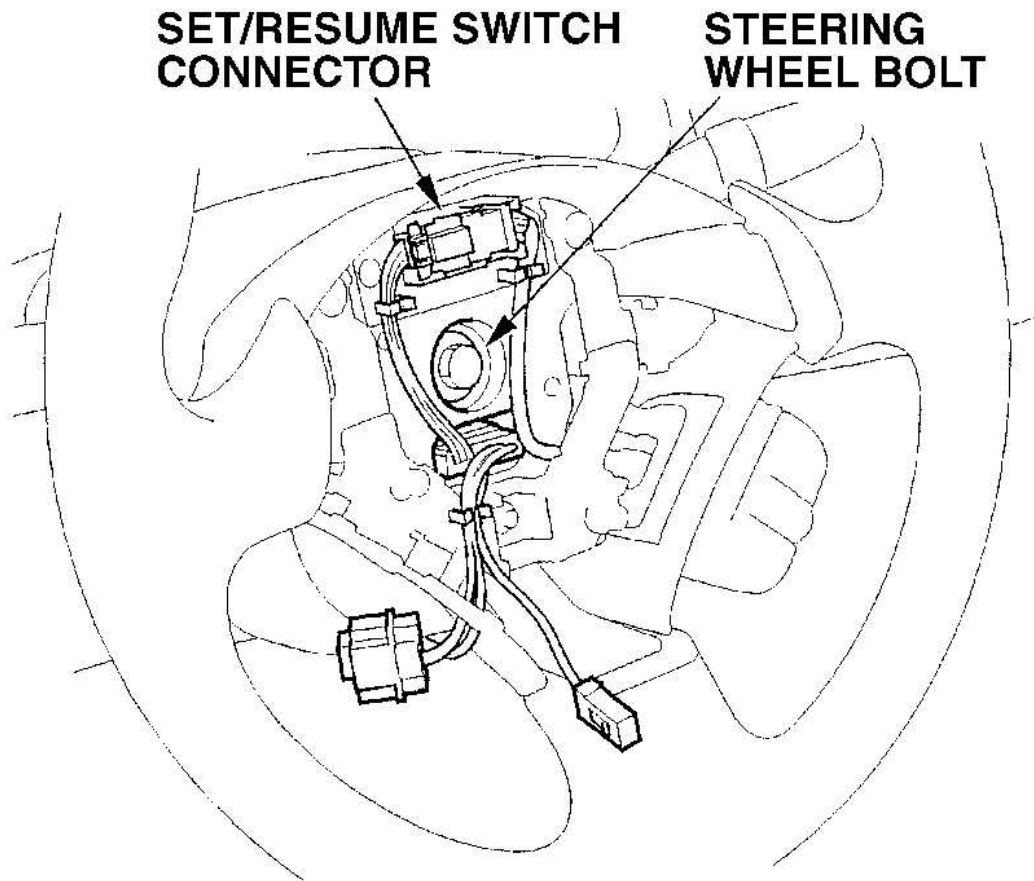
Fig. 9: Locating Horn Connector, Cruise Control Switch & Radio Remote Switch (3.5RL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 10: Locating Radio Remote Switch Connectors & Cruise Control Switch Connectors (MDX, 3.2CL & 3.2TL)

Courtesy of AMERICAN HONDA MOTOR CO., INC.



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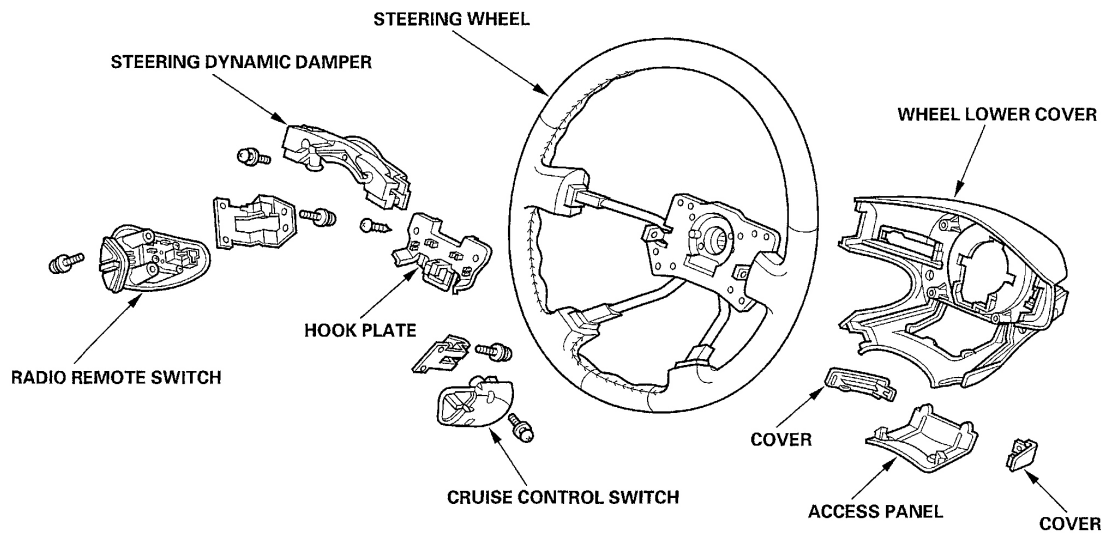
Fig. 11: Locating Cruise Control Set/Resume Switch Control & Steering Wheel Bolt (RSX)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Disassembly/Reassembly

NOTE: See Fig. 12 ,Fig. 13 , Fig. 14 or Fig. 15 for exploded views.

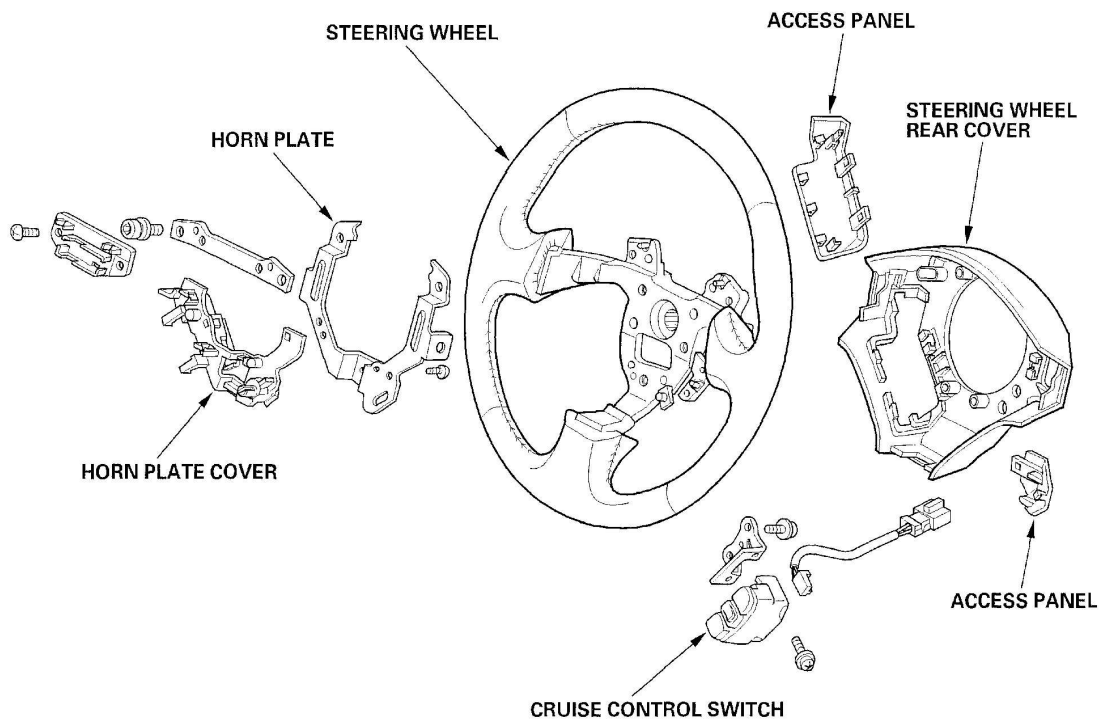
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Fig. 12: Exploded View Of Steering Wheel Disassembly/Reassembly (MDX)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

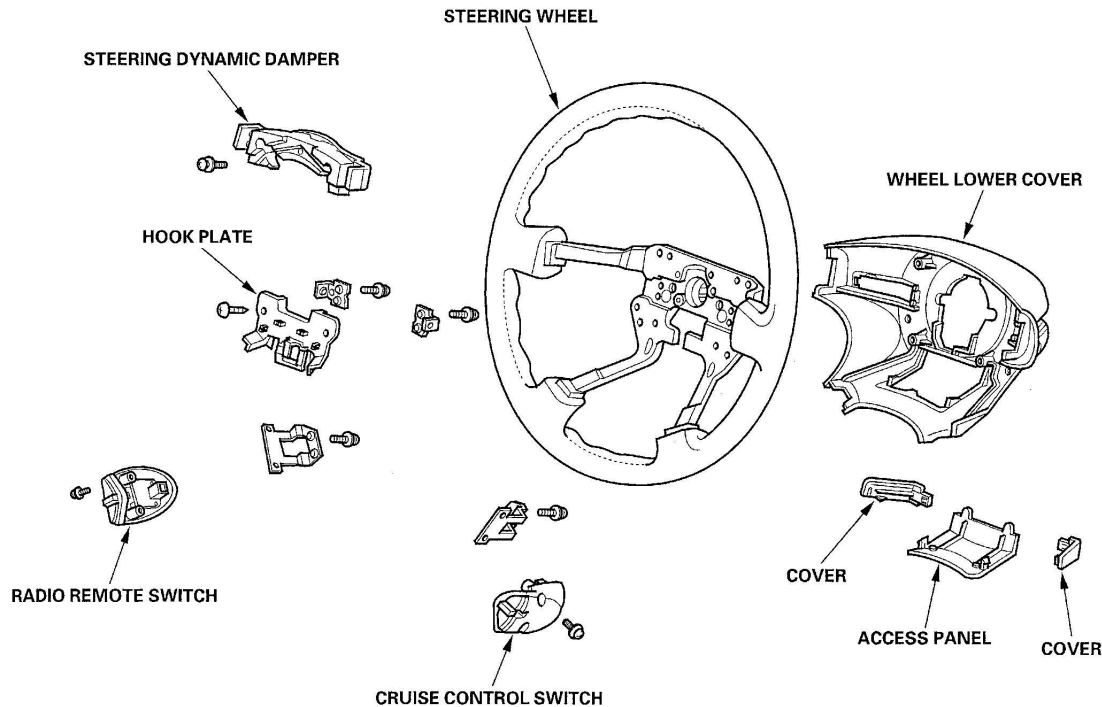


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Fig. 13: Exploded View Of Steering Wheel Disassembly/Reassembly (RSX)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

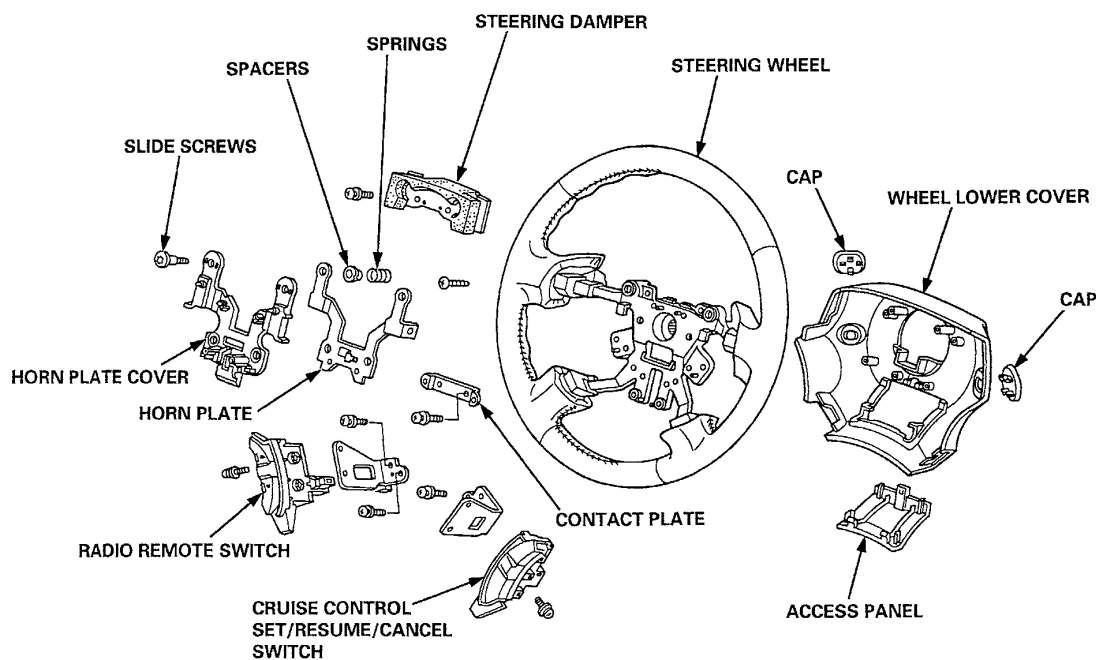
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Fig. 14: Exploded View Of Steering Wheel Disassembly/Reassembly (3.2CL & 3.2TL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.



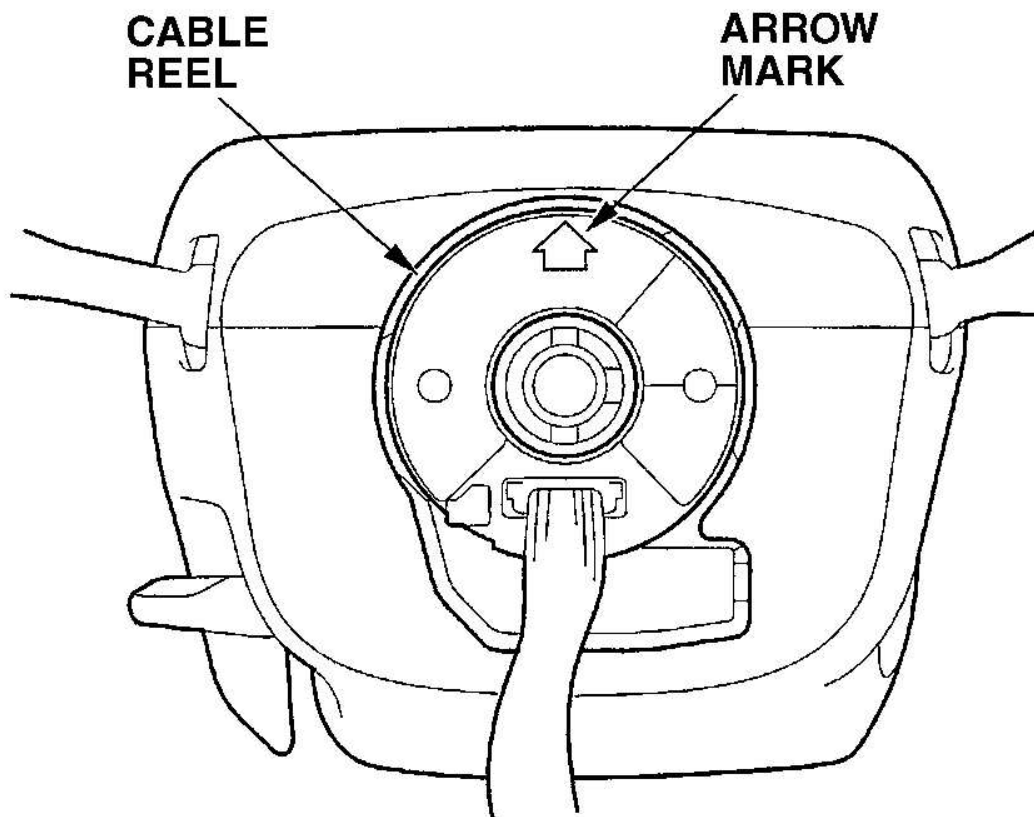
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Fig. 15: Exploded View Of Steering Wheel Disassembly/Reassembly (3.5RL)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

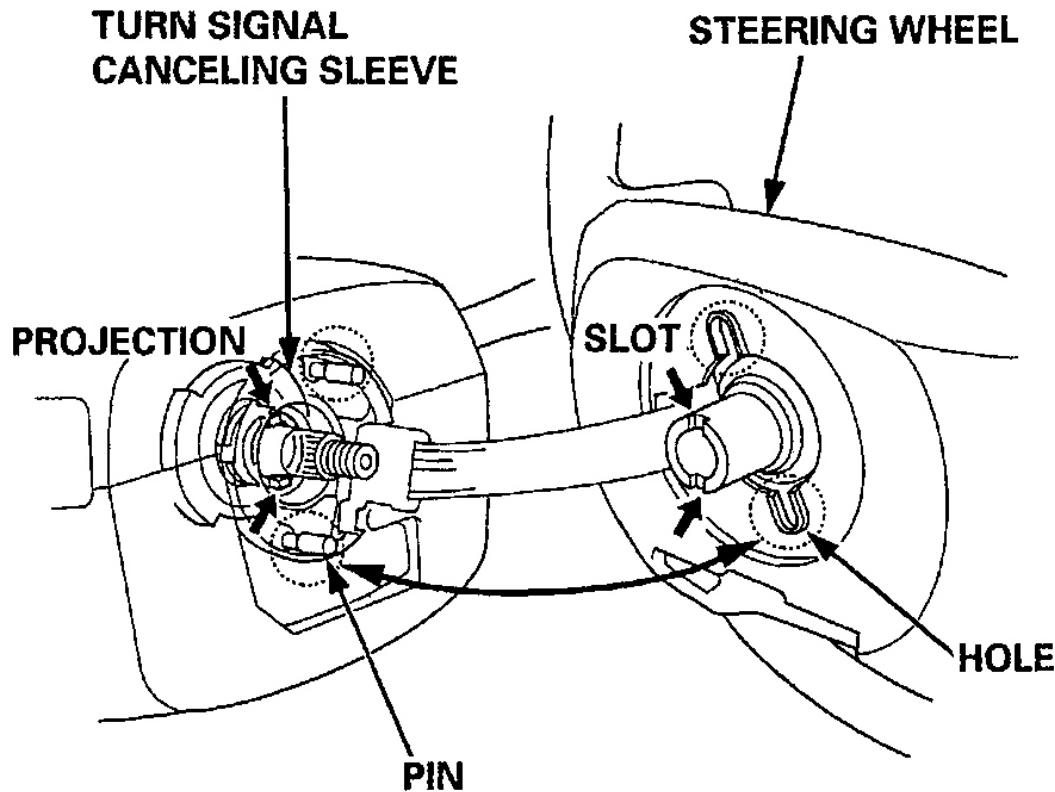
Installation

1. Align reference marks. Center cable reel by rotating cable reel clockwise until it stops. Rotate cable reel counterclockwise about 2 turns for the 3.5RL. Rotate the cable reel counterclockwise about 2 1/2 turns for the MDX, RSX, 3.2CL and the 3.2TL.
2. Arrow mark on cable reel should point straight up. See **Fig. 16** . Install steering wheel, ensure steering wheel shaft engages cable reel and canceling sleeve. See **Fig. 17** .
3. To complete installation, reverse removal procedure. Install air bag. Install new Torx bolts and tighten to specifications. Check horn, cruise control switch connector and radio remote switch (if equipped) for proper operation. See **TORQUE SPECIFICATIONS** . Reactivate air bag system. See **ACTIVATING SYSTEM** under DISABLING & ACTIVATING AIR BAG SYSTEM.



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Fig. 16: Centering Steering Wheel For Installation (All Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 17: Installing Steering Wheel (All Models)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

STEERING LOCK ASSEMBLY

Removal & Installation (Except 3.5RL)

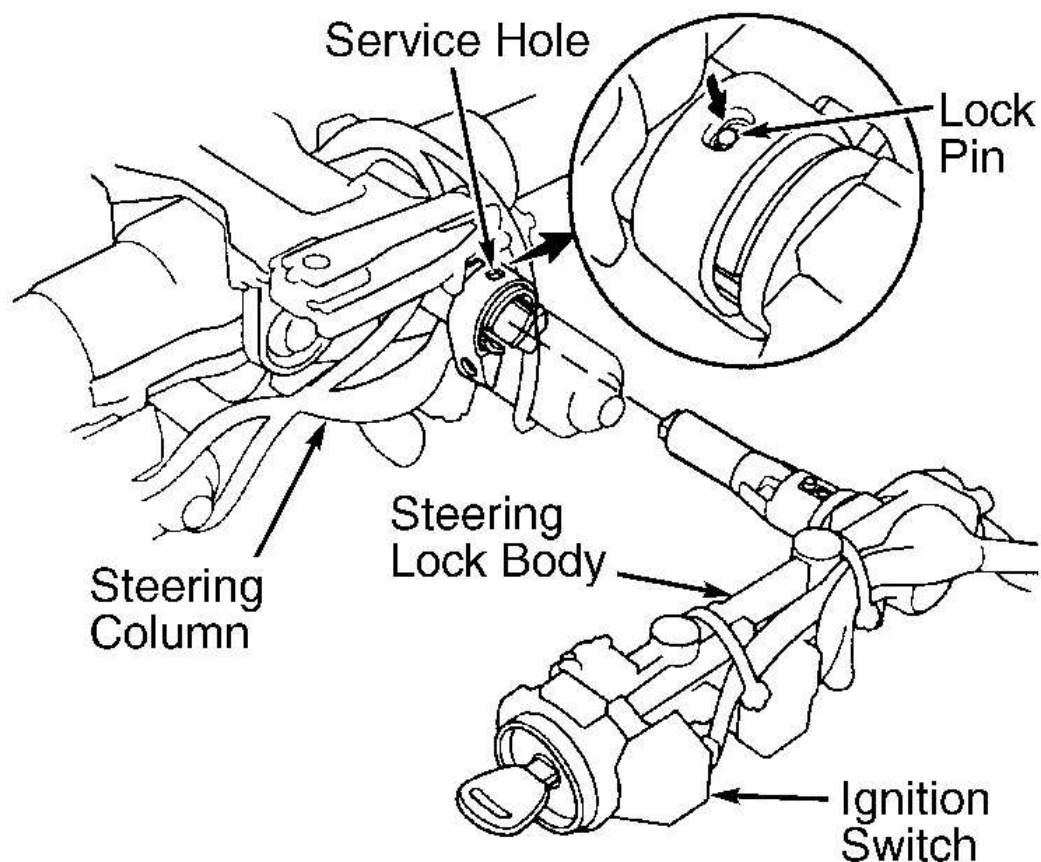
1. Disable air bag system. See **DISABLING SYSTEM** under DISABLING & ACTIVATING AIR BAG SYSTEM. Remove upper and lower steering column covers. Remove lower dashboard panel and left knee bolster, if equipped. Unplug connector from ignition switch or underdash fuse block.
2. Remove steering column mounting bolts/nuts. Lower steering column. Center-punch both shear bolts. Using a 3/16" bit, drill heads from bolts. Remove shear bolts and steering lock assembly.
3. Install new switch without key inserted. Finger-tighten new shear bolts. Insert key. Check for proper operation. Tighten shear bolts until heads break off. To complete installation, reverse removal procedure.

Removal & Installation (3.5RL)

1. Disable air bag system. See **DISABLING SYSTEM** under DISABLING & ACTIVATING AIR BAG SYSTEM. Remove steering column. See **STEERING COLUMN ASSEMBLY** . File notch into shear

bolt head. Set tip of chisel in notch and loosen bolt by tapping on chisel. Remove shear bolt from switch body. Insert ignition key and turn to "ACC" (1) position. Push lock pin down and pull out steering lock body from steering column. See **Fig. 18**.

2. Insert ignition key into new steering lock body and turn to "ACC" (1) position. Push lock pin down and insert steering lock into steering column until it clicks into place. See **Fig. 18**. Loosely install new shear bolt. Ensure steering wheel lock operates smoothly and ignition key turns freely. Tighten shear bolt until hex head twists off.



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Fig. 18: Removing & Installing Steering Lock (3.5RL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

STEERING COLUMN ASSEMBLY

Removal (Except 3.5RL)

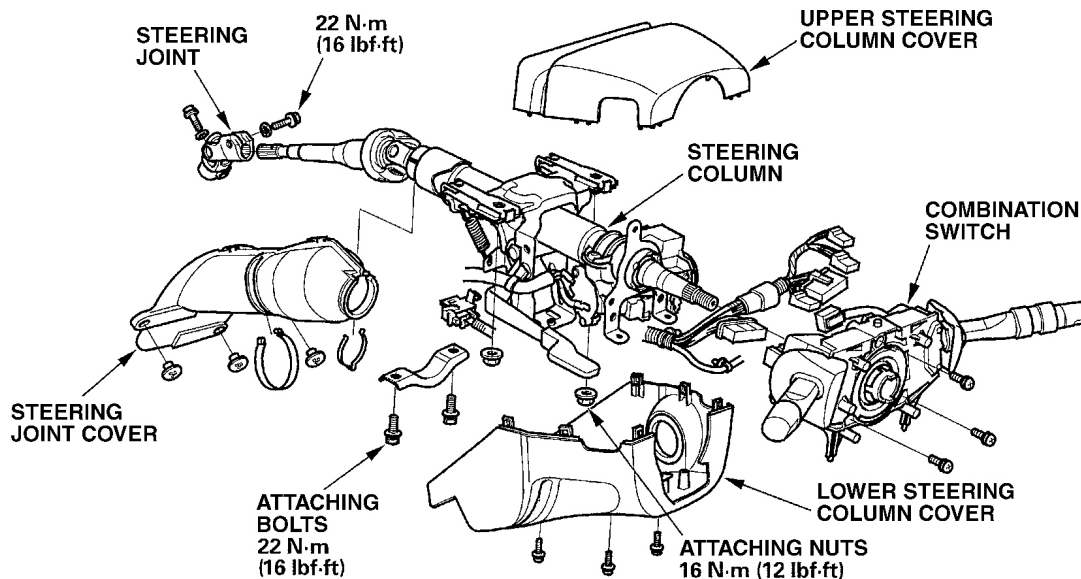
1. Deactivate air bag system. See **DISABLING SYSTEM** under DISABLING & ACTIVATING AIR BAG

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SYSTEM. Remove steering wheel. See **STEERING WHEEL & HORN PAD** . Remove left and right lower covers from instrument panel. Remove front console. Remove left knee bolster from steering hanger.

2. Remove steering joint cover. See **Fig. 19** , **Fig. 20** or **Fig. 21** . Remove steering shaft joint pinch bolts. Mark steering joint and pinion shaft for installation reference. Disengage steering joint from pinion shaft by moving steering joint toward steering column.
3. Remove upper and lower steering column covers. Unplug all wiring harness connectors. Remove air bag wiring harness from connector holder under steering column. Remove turn signal canceling sleeve and combination switch. See **Fig. 19** , **Fig. 20** or **Fig. 21** . Remove steering column mounting bolts. Remove steering column assembly.

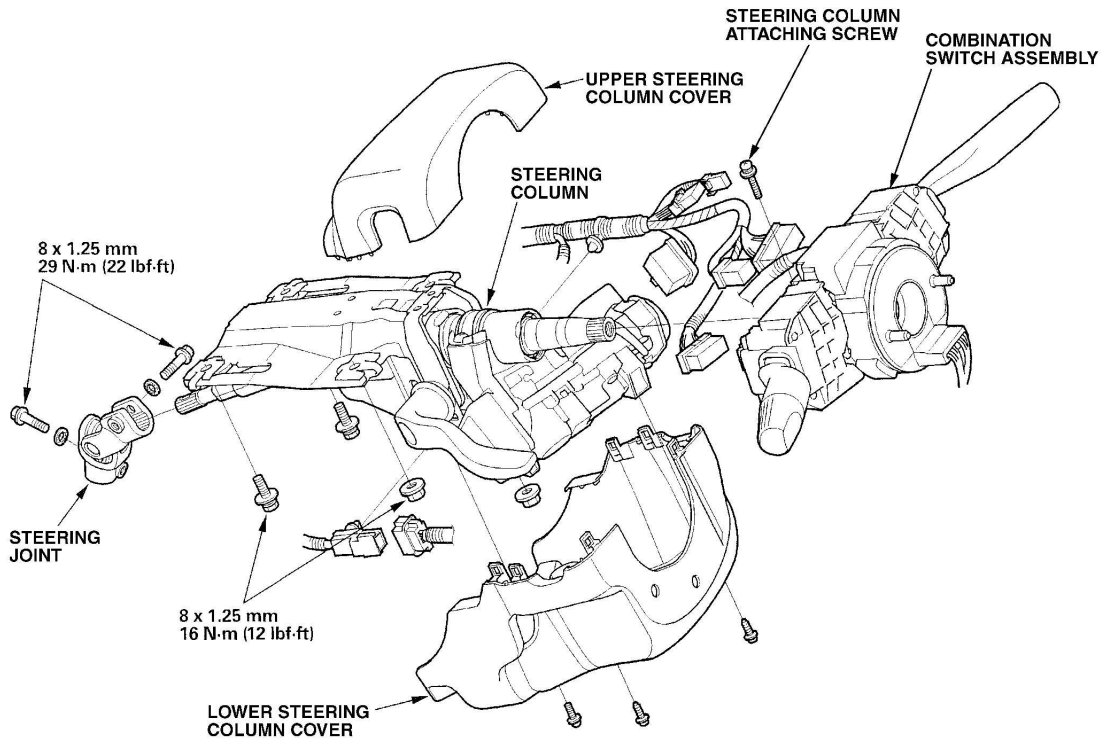


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Fig. 19: Exploded View Of Steering Column (MDX)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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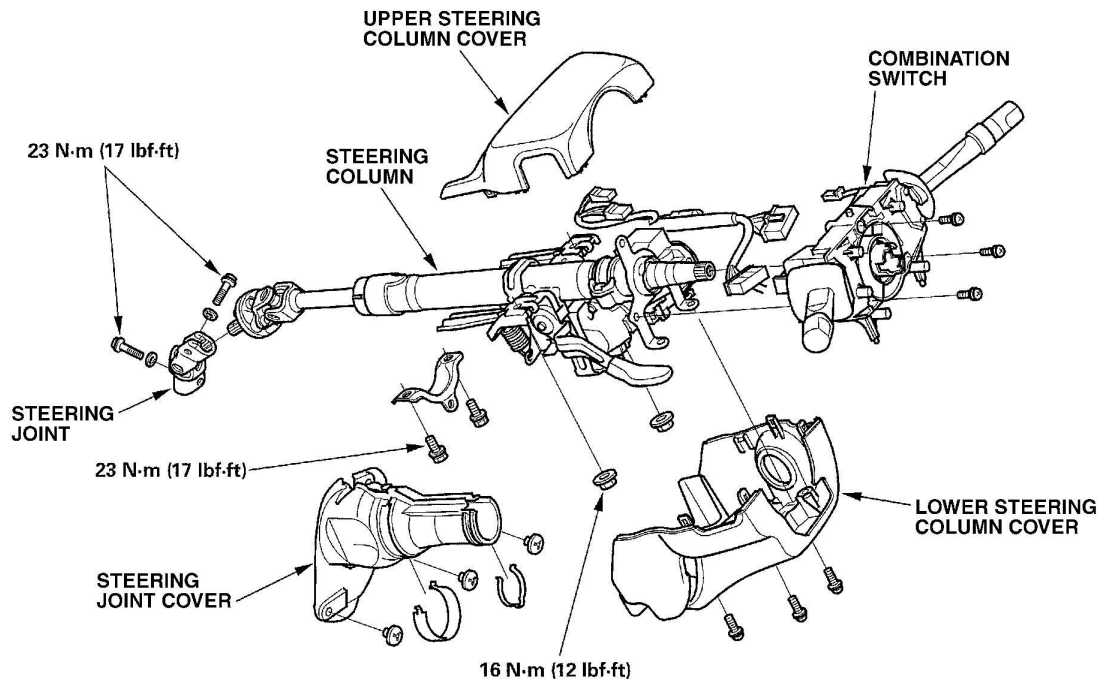


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Fig. 20: Exploded View Of Steering Column (RSX)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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Fig. 21: Exploded View Of Steering Column (3.2CL & 3.2TL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Removal (3.5RL)

CAUTION: On the 3.5RL vehicles with VSA, do not remove the steering angle sensor from the combination switch. When removing and installing the combination switch, keep grease, oil, dirt and foreign objects out of the steering angle sensor.

NOTE: Before removing the steering column, remove the driver's side air bag and cable reel. See [Fig. 22](#) .

1. Deactivate air bag system. See **DISABLING SYSTEM** under DISABLING & ACTIVATING AIR BAG SYSTEM. Remove steering wheel. See **STEERING WHEEL & HORN PAD** . Remove driver's side dashboard lower cover and knee bolster. Remove the column covers. See [Fig. 23](#) . Remove the combination switch assembly from the steering column shaft by disconnecting the connectors and removing screws. See [Fig. 22](#) .
2. Disconnect the ignition switch connectors, the tilt/extend-retract motor connectors and the sensor connectors. Remove steering joint cover. Disconnect the steering joint and remove it from the column shaft.
3. Remove the steering column by removing the attaching nuts and bolt.

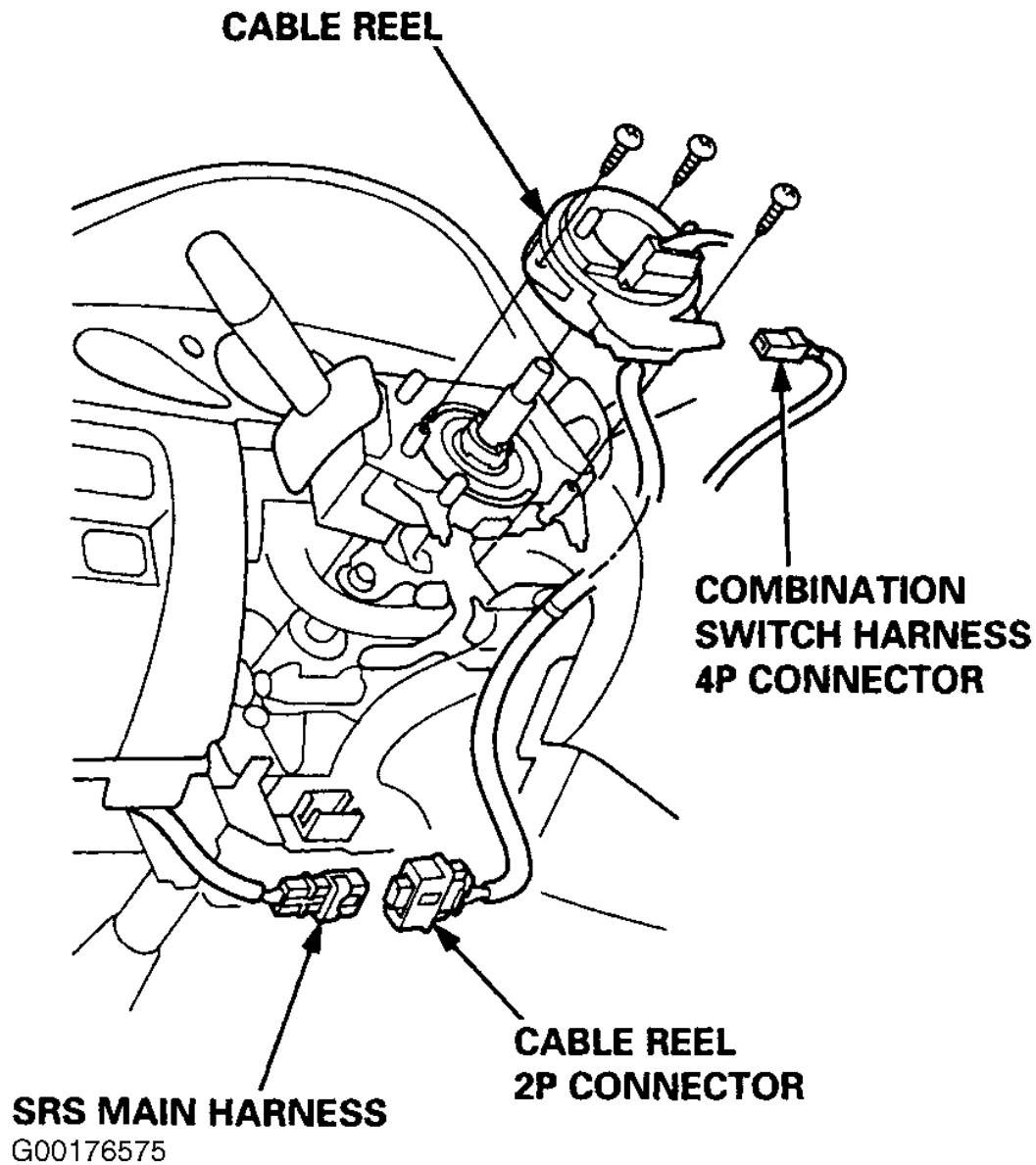
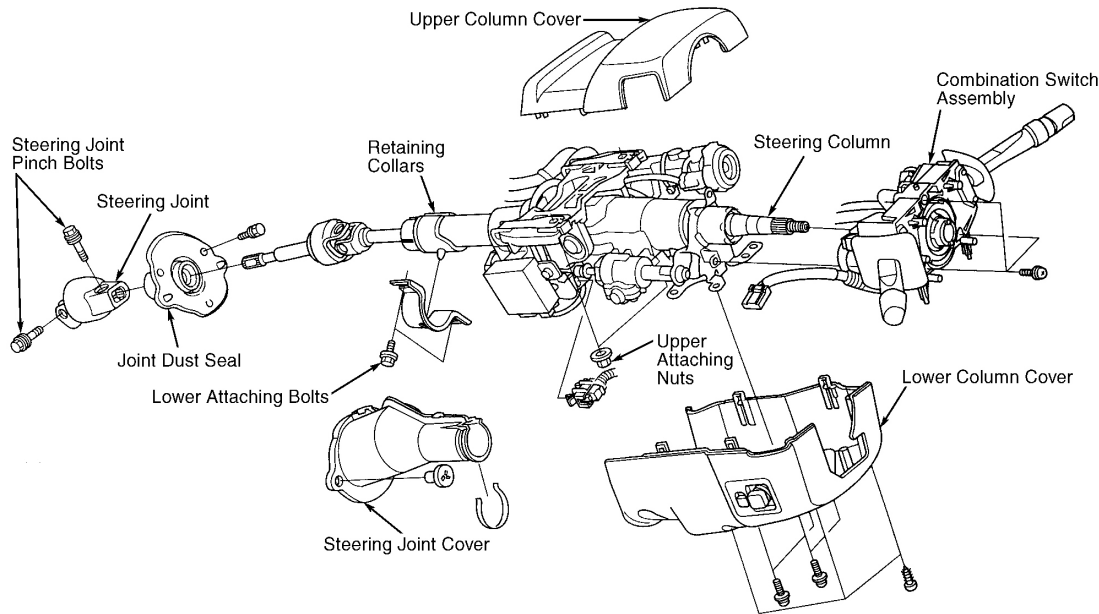


Fig. 22: Removing Cable Reel From Steering Column (3.5RL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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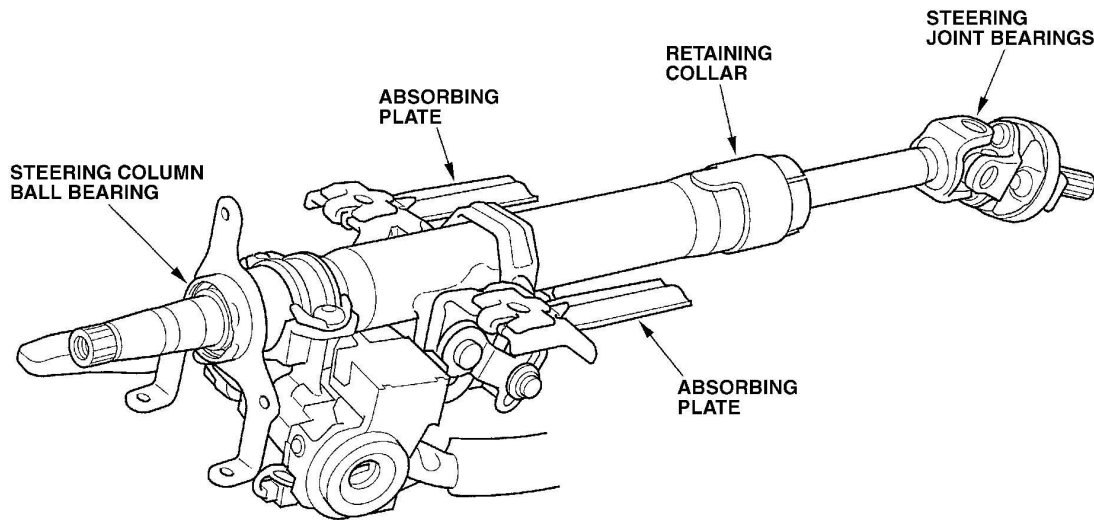
Fig. 23: Exploded View Of Steering Column Assembly (3.5RL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Inspection (All Models)

- Check the steering column bearing and the steering joint bearings for play and proper movement. If any bearing is noisy or has excessive play, replace the steering column as an assembly (all models).
- On 3.2CL, 3.2TL & MDX only, check the retaining collar for damage. If it is damaged, replace the steering column assembly. See **Fig. 24** or **Fig. 26**.
- On 3.2CL and 3.2TL only, check the absorbing plates for distortion or breakage. If there is distortion or breakage, replace the steering column assembly. See **Fig. 24**.
- On 3.5RL and MDX only, check the absorbing plates, absorbing plate guides and sliding capsules for distortion or breakage. The sliding capsule is attached to the column with plastic injections. See **Fig. 26** or **Fig. 27**.
- On 3.5RL only, for tilt/extend-retract motors and sensors (Driving Position Memory System) inspection, see appropriate STEERING COLUMN SWITCHES article in ACCESSORIES & EQUIPMENT. See also, **Fig. 28**.
- On RSX only, check the sliding capsules for distortion and breakage. If there is distortion or breakage replace the steering column assembly. See **Fig. 25**.

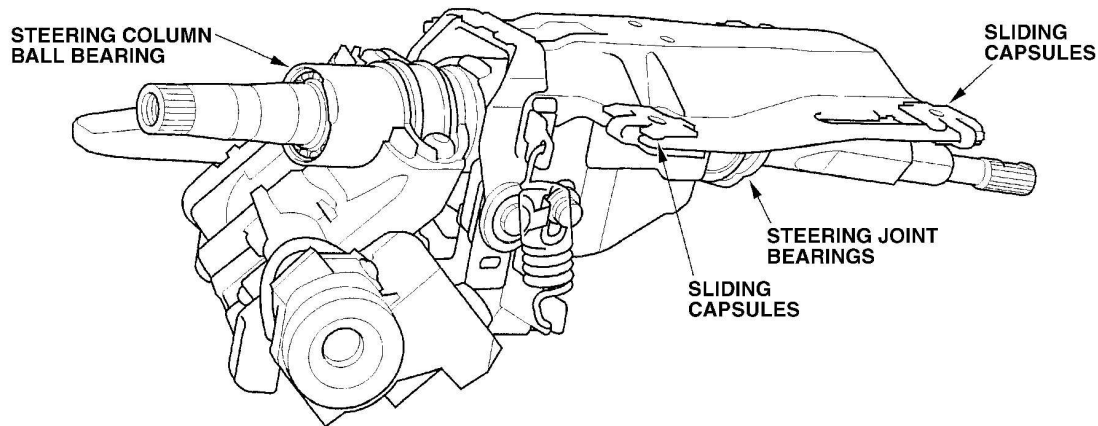
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Fig. 24: Exploded View Of Steering Column Tilt Lever Component (3.2CL & 3.2TL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

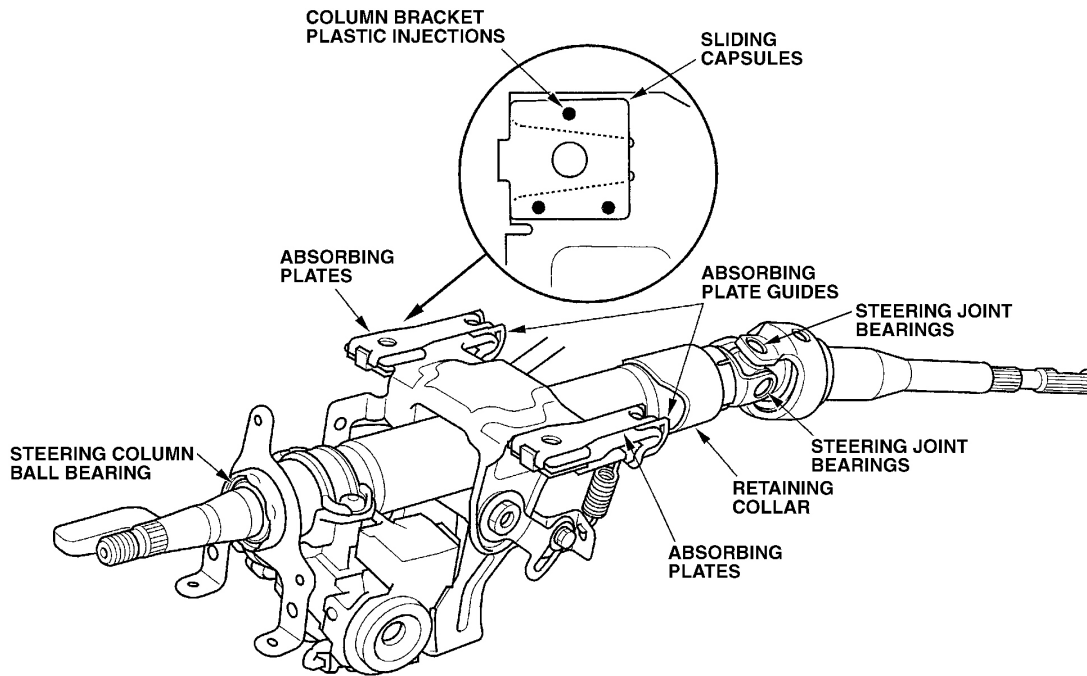


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Fig. 25: Exploded View Of Steering Column Tilt Lever Component (RSX)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

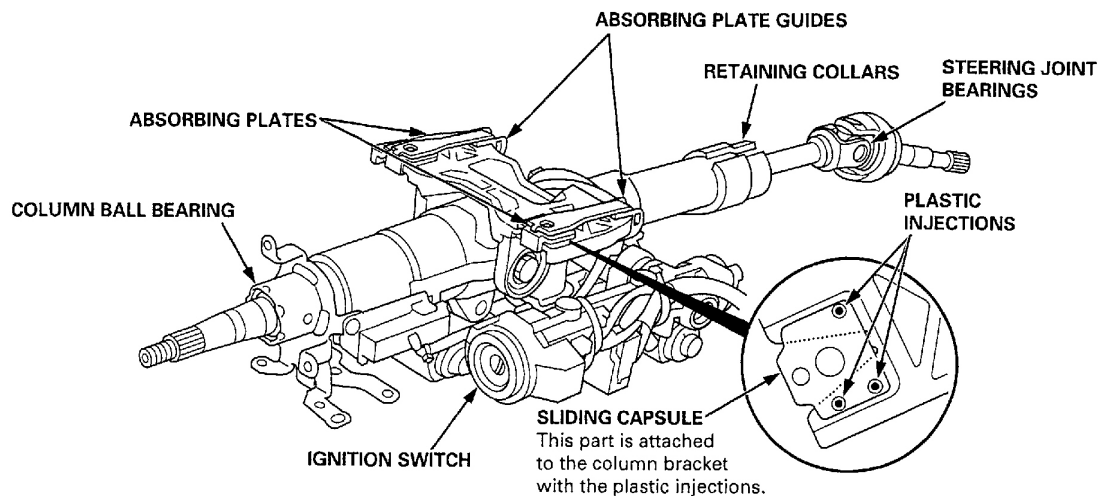
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Fig. 26: Exploded View Of Steering Wheel Tilt Lever Components (MDX)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

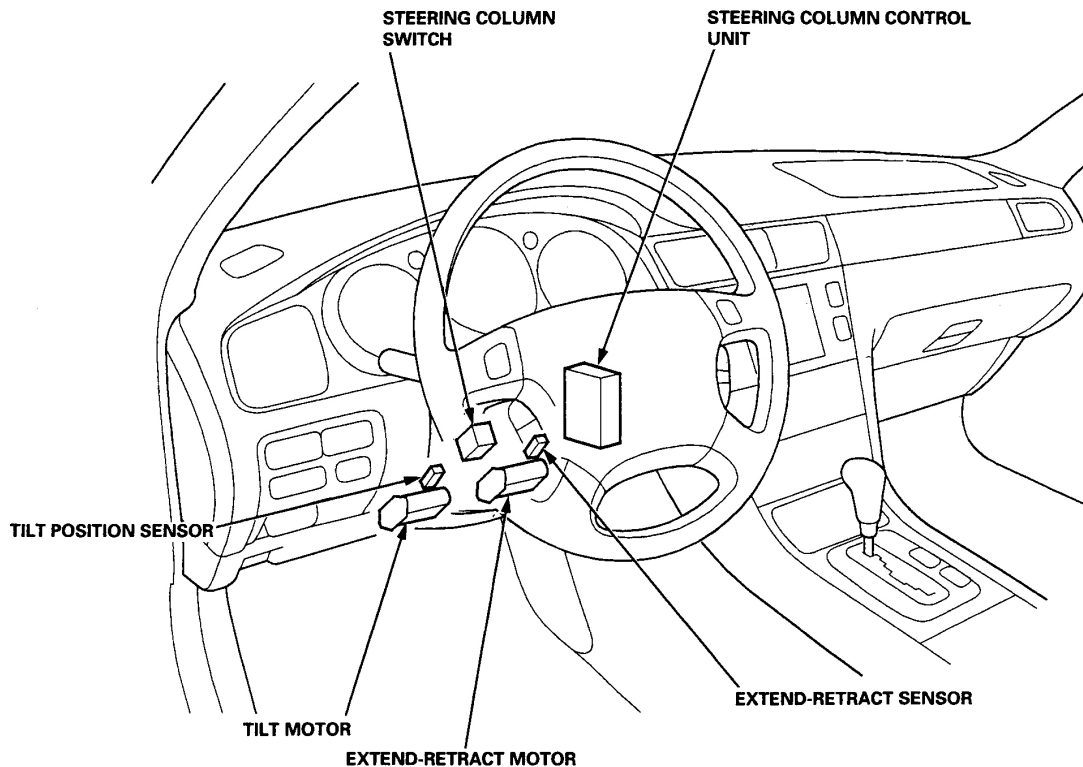


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Fig. 27: Exploded View Of Steering Wheel Tilt Lever Components (3.5RL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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Fig. 28: Locating Driving Position Memory System Sensors (3.5RL)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Installation (All models)

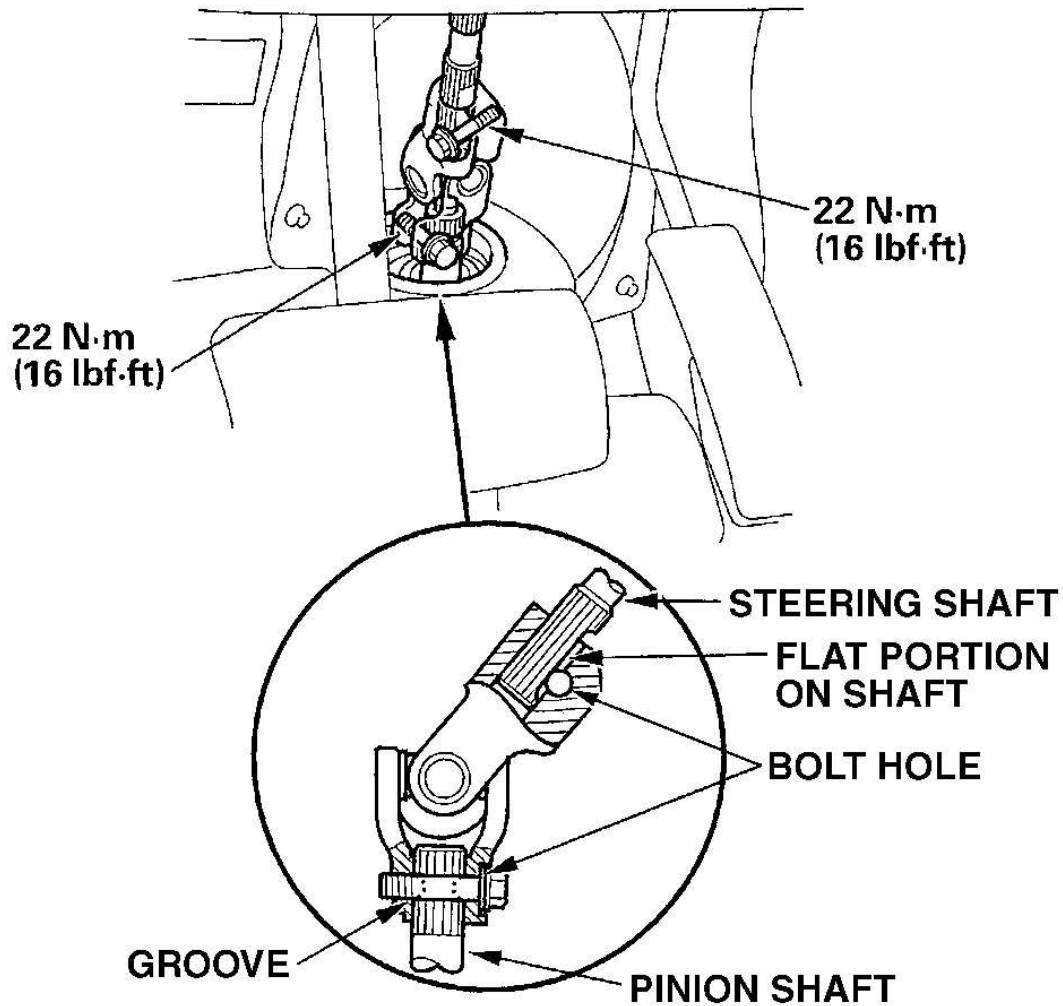
CAUTION: On 3.5RL, alternately tighten the upper attaching nuts and lower attaching bolts in several steps. Tighten the upper attaching nuts to the specified torque last. See TORQUE SPECIFICATIONS .

NOTE: Take care not to let the sliding capsules fall out of position during installation. Make sure the wires are not caught or pinched by any parts.

1. Install the steering wheel column and make sure the wires are not caught or pinched by any parts. Insert the upper end of the steering joint onto the steering shaft. Line up the bolt hole with the flat portion of the shaft. See Fig. 29 Fig. 30 Fig. 31 .
2. Slip the lower end of the steering joint onto the pinion shaft. Line up the bolt hole with the groove around the shaft, and loosely install the lower joint bolt. Be sure that the lower joint bolt is securely in the groove in the pinion shaft. See Fig. 29 , Fig. 30 , Fig. 31 or Fig. 32 .
3. Pull in the steering wheel joint to make sure that the steering wheel joint is fully seated. Then install the upper joint bolt and tighten it to specifications. See TORQUE SPECIFICATIONS .
4. Finish installation in the reverse order of removal.

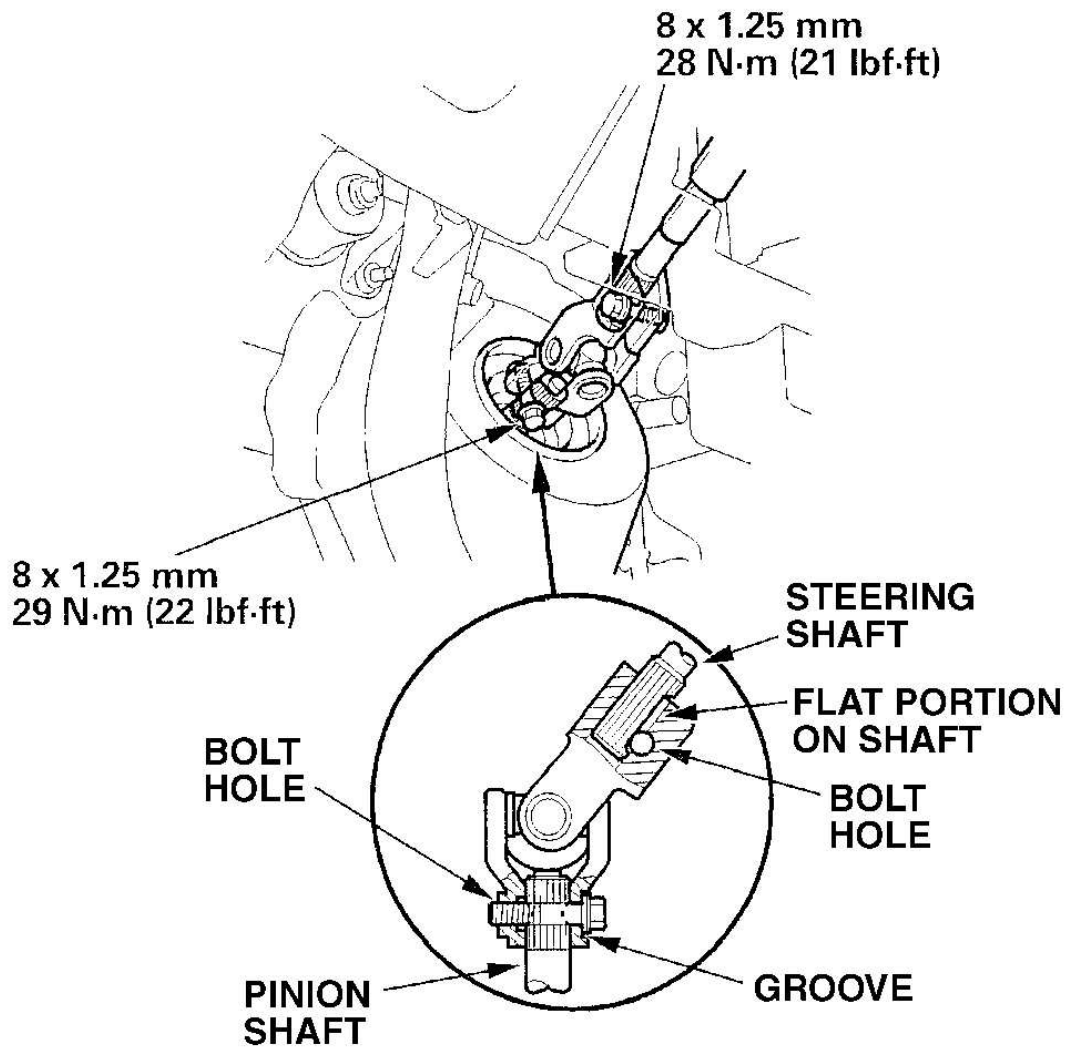
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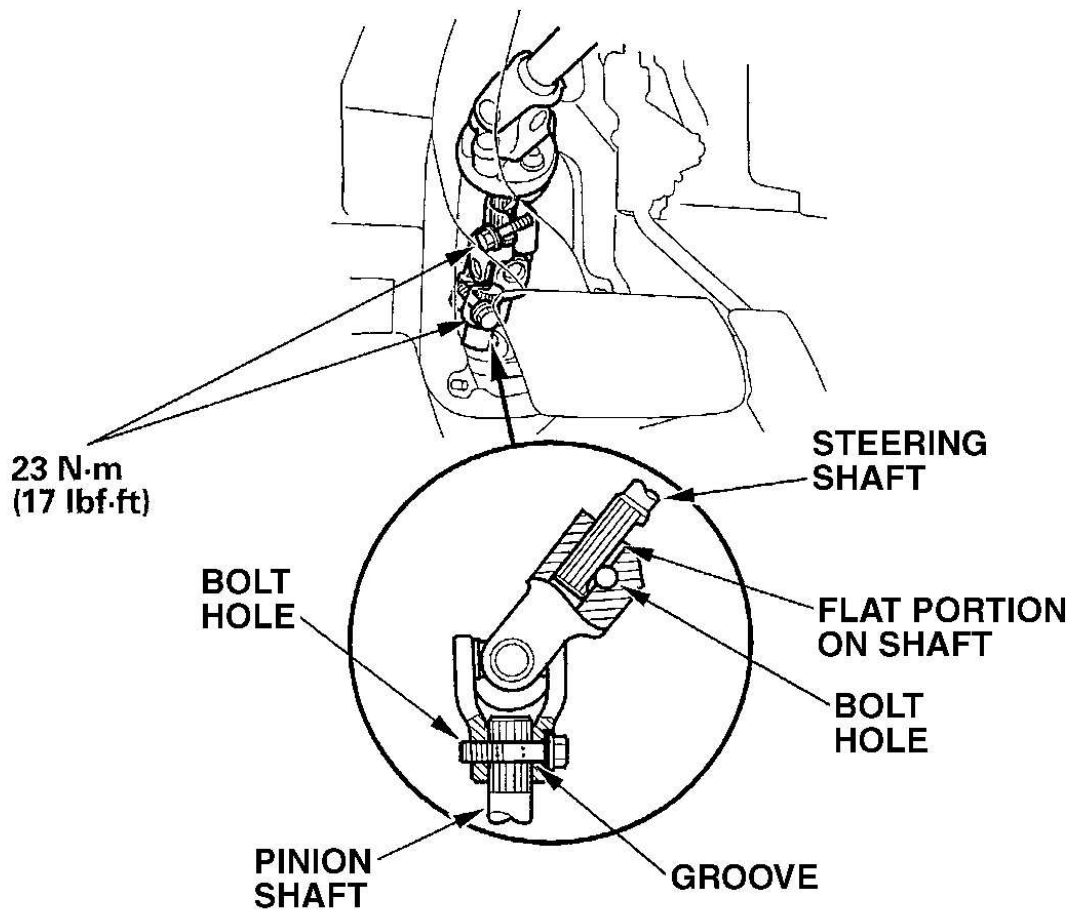
Fig. 29: Installing Steering Column (MDX)
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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Fig. 30: Installing Steering Column (RSX)

Courtesy of AMERICAN HONDA MOTOR CO., INC.



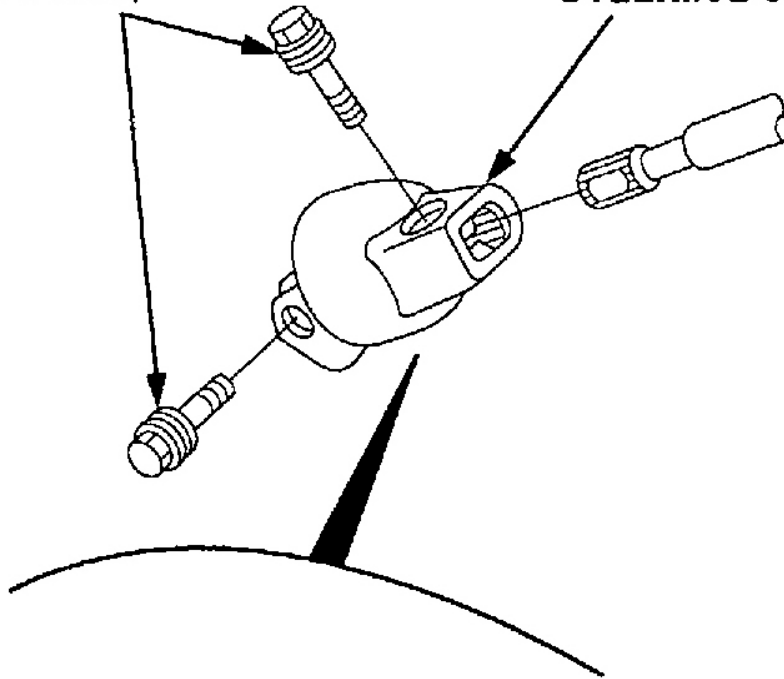
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Fig. 31: Installing Steering Column (3.2CL & 3.2TL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

STEERING JOINT BOLTS

22 N·m (16 lbf·ft)

STEERING JOINT



UPPER JOINT BOLT

Flat portion.

Groove.

STEERING
SHAFT

STEERING JOINT

LOWER JOINT BOLT

PINION
SHAFT

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Fig. 32: Installing Steering Column (3.5RL)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

WIPER/WASHER SWITCH

Removal & Installation

Disable air bag system. See **DISABLING SYSTEM** under DISABLING & ACTIVATING AIR BAG SYSTEM. Remove upper and lower steering column covers, dashboard lower panel and knee bolster, if equipped. Unplug wiper/washer wiring harness connectors. Remove 2 screws and wiper/washer switch. To install, reverse removal procedure.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Column Holder Bolts (3.5RL & MDX)	16 (22)
Column Holder Nuts (MDX)	12 (16)
Seat Belt Pretensioner Lower Mounting Bolt (3.5RL)	24 (32)
Shoulder Harness Upper & Lower Anchor Bolts (3.5RL)	24 (32)
Steering Column Bracket Nuts	12 (16)
Steering Joint Pinch Bolt	16 (22)
Steering Wheel Bolt	28 (38)
Steering Wheel Nut	37 (50)
Steering Wheel Joint Bolts	16 (22)
Steering Wheel Joint Nuts	36 (49)
INCH Lbs. (N.m)	
Air Bag Torx Bolts (Driver & Passenger Side)	88 (10)
Seat Belt Pretensioner Upper Mounting Bolt (3.5RL)	87 (10)
SRS Unit Torx Bolts	88 (10)