

2002 Acura MDX

2001-02 AUTOMATIC TRANSMISSIONS Servicing - Acura Integra, MDX, 3.2CL & 3.5RL

2001-02 AUTOMATIC TRANSMISSIONS

Servicing - Acura Integra, MDX, 3.2CL & 3.5RL

APPLICATION

TRANSAXLE APPLICATION

| Application | Transaxle Model |
|----------------|-----------------|
| Integra (2001) | SKWA |
| MDX | MGHA |
| 3.2CL | BGFA Or MGFA |
| 3.5RL | M5DA |

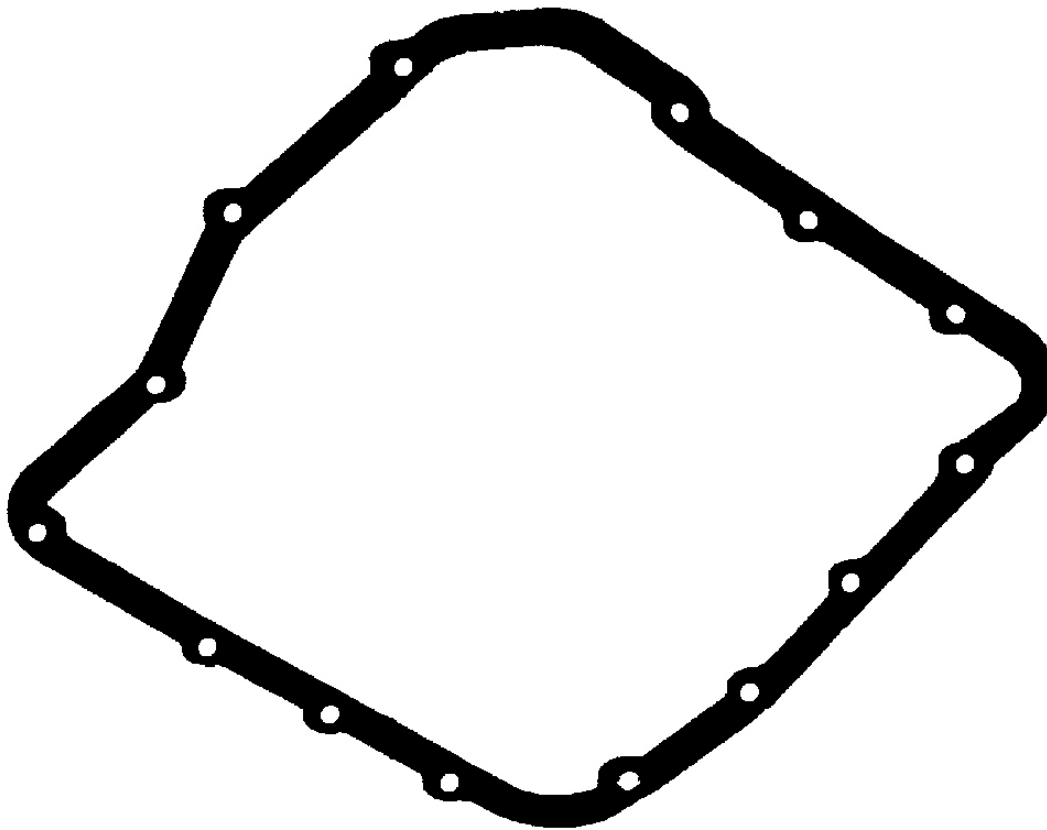
IDENTIFICATION

OIL PAN GASKET

NOTE: Illustrations for all other models are not available. All models use a drain plug to drain fluid.

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Fig. 1: Identifying Oil Pan Gasket (Acura M5DA)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

LUBRICATION

NOTE: A separate differential is attached to the transaxle on 3.5RL models.

SERVICE INTERVALS

Differential (3.5RL)

Change fluid at 30,000 mile intervals.

Transaxle

On MDX, change fluid at 45,000 miles, then every 30,000 miles. On 3.2CL, change fluid every 90,000 miles. On all other models, change fluid at 120,000 miles, then every 90,000 miles thereafter.

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CHECKING FLUID LEVEL

Start and run engine until it reaches normal operating temperature. Turn ignition off. Check fluid level with vehicle on level surface. Fluid level should be between upper and lower marks on dipstick. Add fluid if necessary.

RECOMMENDED FLUID

Differential (3.5RL)

Use GL4 or GL5 hypoid gear oil, SAE 80W if operational temperatures are less than 0°F (-18°C), or SAE 90W for temperatures greater than 0°F (-18°C).

Transaxle

Use Honda Premium Formula Automatic Transmission Fluid (ATF). Using a non-Honda ATF can affect shift quality.

FLUID CAPACITIES

DIFFERENTIAL FLUID CAPACITIES

| Application | Refill - Qts. (L) | Dry Fill - Qts. (L) |
|-------------|-------------------|---------------------|
| 3.5RL | 1.1 (1.05) | 1.2 (1.1) |

TRANSAXLE FLUID CAPACITIES

| Application | Refill - Qts. (L) | Dry Fill - Qts. (L) |
|-------------|-------------------|---------------------|
| Integra | 2.9 (2.7) | 6.2 (5.9) |
| MDX | 4.0 (3.8) | 9.0 (8.5) |
| 3.2CL | 3.1 (2.9) | 7.6 (7.2) |
| 3.5RL | 3.2 (3.0) | 9.1 (8.6) |

DRAINING & REFILLING

Warm transaxle to normal operating temperature. Remove transaxle drain plug. Use NEW gasket and replace drain plug whenever fluid is drained. Tighten drain plug to specification. See **TORQUE SPECIFICATIONS** . On MDX and 3.2CL models, remove fill plug and refill transaxle between upper and lower marks on dipstick. Tighten fill plug to specification. See **TORQUE SPECIFICATIONS** . On all other models, refill transaxle through dipstick hole. On all models, check and adjust fluid level as necessary. See **CHECKING FLUID LEVEL** .

OIL COOLER FLUSHING

NOTE: Transmission cooler flusher Kent-Moore (J38405-A) or equivalent should be used to perform this procedure. This procedure should be performed before reinstalling the transaxle.

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1. Check components for wear and cracks before using. Replace any worn or cracked components.
2. Using a measuring cup, fill the flusher with 21 ounces (about 2/3 full) of biodegradable Flushing Fluid (J35944-20). Do not substitute with any other fluid. Follow the handling procedure on the fluid container.
3. Secure the flusher filler cap, and pressurize the flusher with compressed air to 80-120 psi (551-827 kPa). The air line should be equipped with a water trap to ensure a dry air system.
4. Hang the flusher under the vehicle. Attach the flusher discharge hose to the return line of the ATF cooler using a clamp.
5. Connect the drain hose to the inlet line on the ATF cooler using a clamp. Securely clamp the opposite end of the drain hose to a bucket or floor drain. See **Fig. 2** .
6. With the water and air valves off, attach the water and air supplies to the flusher (hot water if available).
7. Turn on the water valve for 10 seconds. If water does not flow through the cooler, it is completely plugged, cannot be flushed, and must be replaced.
8. Depress the trigger to mix the flushing fluid into the water flow. Use the wire clip to hold the trigger down.
9. While flushing with the water and flushing fluid for 2 minutes, turn the air valve on for 5 seconds every 15-20 seconds to create a surging action. See **Fig. 3** . Air pressure should be 120 psi (827 kPa) maximum.
10. Turn the water valve off. Release the trigger, then reverse the hoses to the cooler so you can flush in the opposite direction. Repeat steps 7 -9 .
11. Release the trigger, and rinse the cooler with water for one minute. Turn the water valve and the water supply off.
12. Turn the air valve on for 2 minutes, or until no moisture is visible leaving the drain hose. Residual moisture in the cooler or lines can damage the transaxle.
13. Remove the flusher from the cooler line. Attach the drain hose to an ATF container. Install the transaxle, and leave the drain hose attached to the cooler line.
14. Make sure the transaxle in "P" position. Fill the transaxle with ATF, and run the engine for 30 seconds or until about one quart is discharged. Remove the drain hose, and reconnect the cooler return hose to the transaxle. Refill the transaxle with ATF to the proper level.

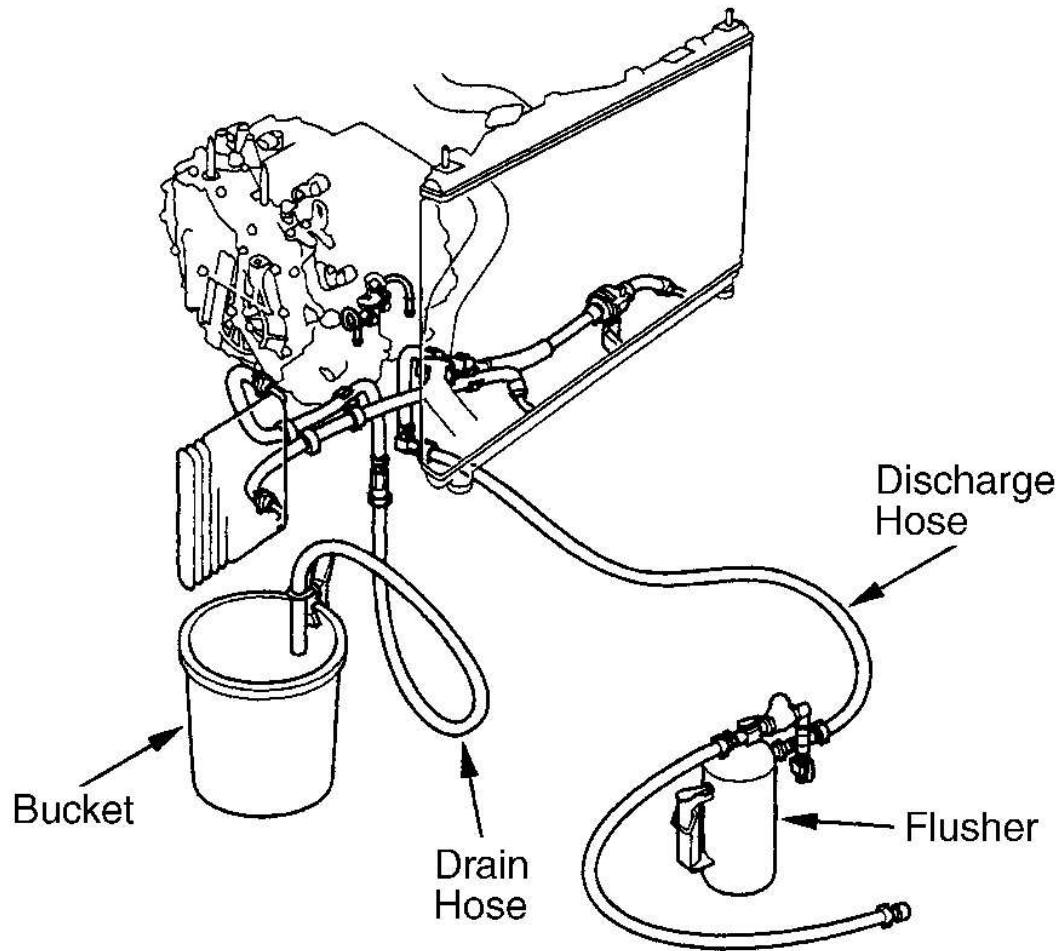


Fig. 2: Flushing Transaxle Oil Cooler
Courtesy of AMERICAN HONDA MOTOR CO., INC.

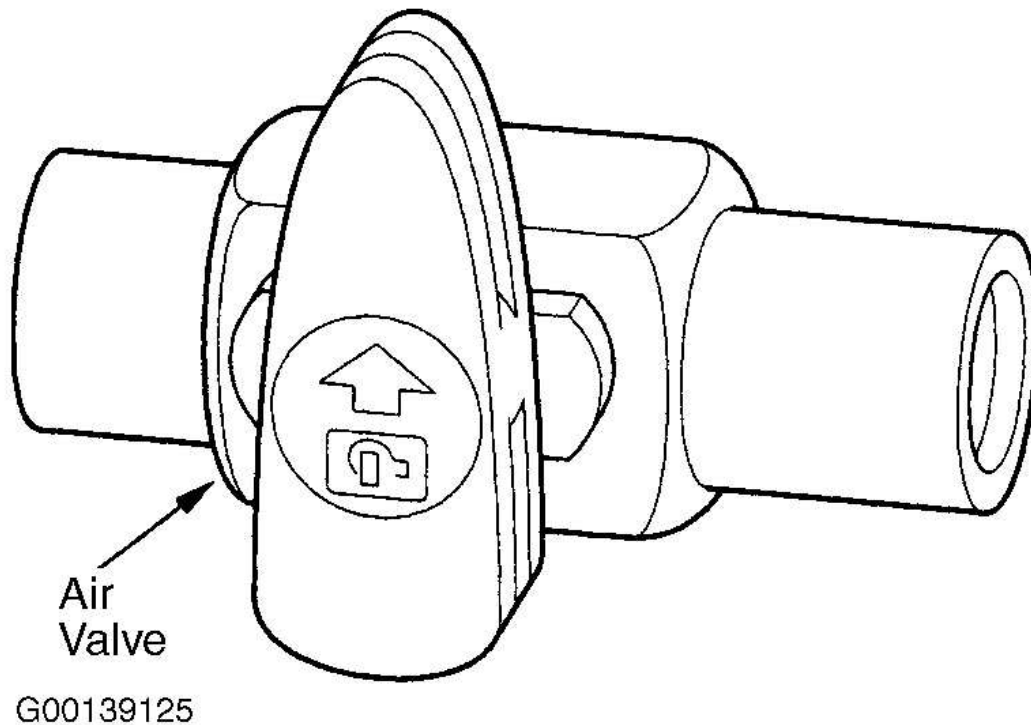


Fig. 3: Turning Air Valve Off

Courtesy of AMERICAN HONDA MOTOR CO., INC.

ON-VEHICLE REPAIRS

NOTE: Various components may be serviced without transaxle removal. For servicing of these components, see appropriate component under **REMOVAL & INSTALLATION** in appropriate **DIAGNOSIS** article. For additional information on testing electrical components, see appropriate **DIAGNOSIS** article.

ADJUSTMENTS

WARNING: All models are equipped with a Supplemental Restraint System (SRS). All SRS wiring is color-coded Yellow. **DO NOT** use electrical test equipment on these circuits. Disconnect negative and positive battery cables before removing console. Wait at least 3 minutes after deactivating air bag system. System maintains voltage for about 3 minutes after battery is disconnected. Servicing air bag system within this 3 minute time period may cause accidental air bag deployment and possible personal injury.

See appropriate AIR BAG RESTRAINT SYSTEMS article in RESTRAINTS.

NOTE: Radio has a coded theft protection circuit. Before disconnecting battery cables, obtain radio anti-theft code number from customer. After reconnecting power, turn ignition and radio on. When CODE is displayed on radio, re-enter 5-digit code to restore radio operation using radio station present buttons.

SHIFT CONTROL CABLE

Integra

1. Remove console, and place gear shift selector into Neutral. Remove selector lever cable bracket from cable adjuster. Align hole in adjuster with hole in shift cable. See **Fig. 4**.
2. Two holes in end of shift cable are positioned at 90 degrees to allow cable adjustments in 1/4 turn increments. Loosen lock nut on shift cable, and adjust if necessary. Tighten lock nut to specification. See **TORQUE SPECIFICATIONS**. Install selector lever cable bracket.
3. When installed, selector lever cable bracket should not bind. If selector lever cable bracket binds, cable is still out of adjustment. Repeat adjustment procedure. Start engine, and check shift lever selection of all gears.

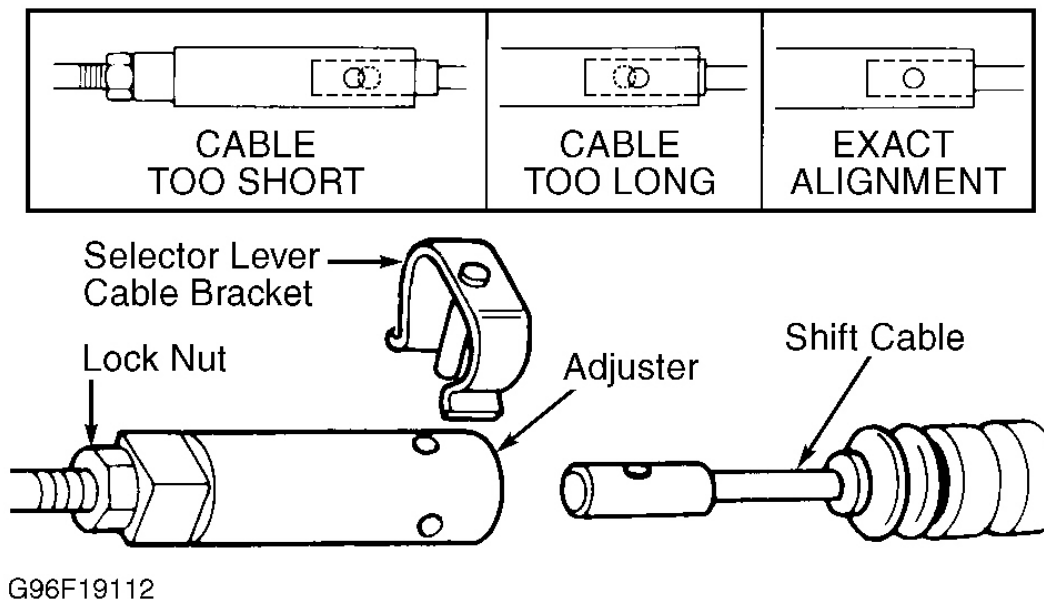
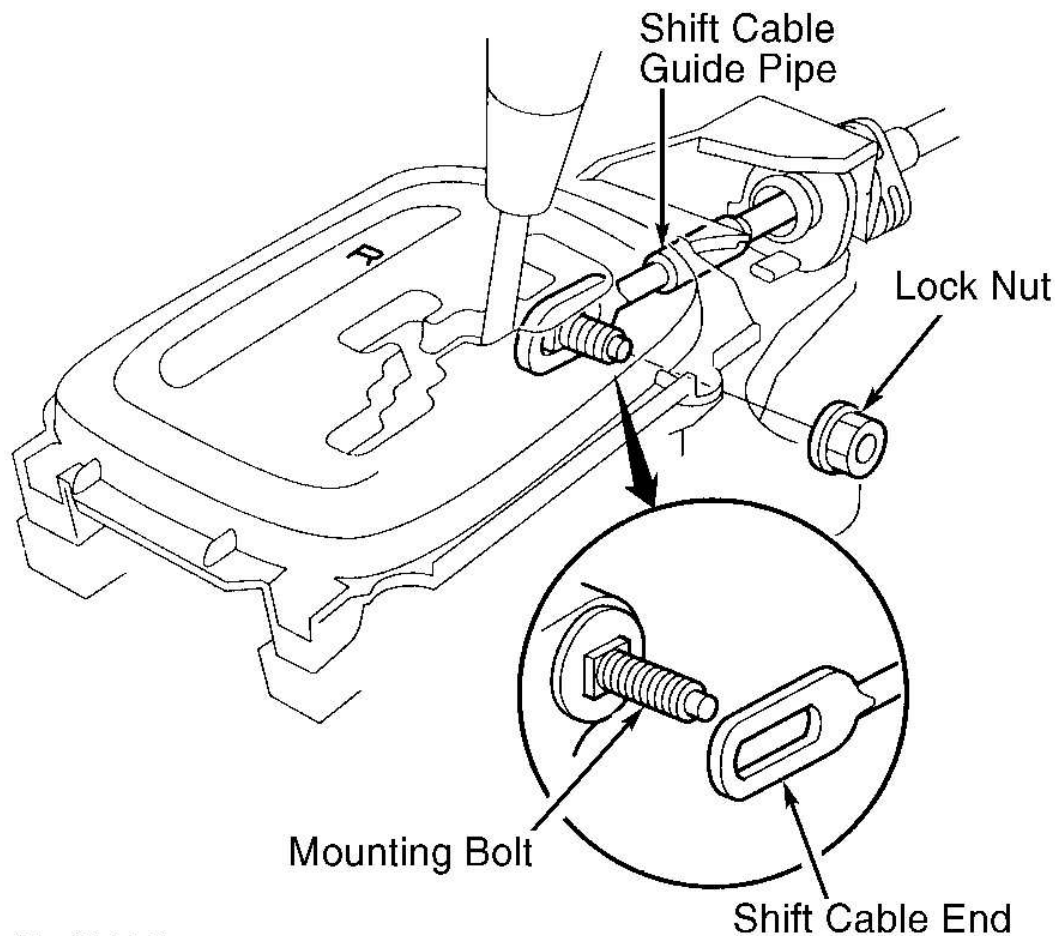


Fig. 4: Adjusting Shift Control Cable
Courtesy of AMERICAN HONDA MOTOR CO., INC.

1. Shift transmission into Reverse. Remove center console. Remove lock nut securing cable to selector, then remove cable from selector. Rotate cable socket counterclockwise 1/4 turn, then remove shift cable from bracket base. See **Fig. 5**.
2. Push shift cable in until it stops, then pull back one detent positioning cable to "R" position. Turn ignition on and verify "R" indicator light on instrument cluster is illuminated. Turn ignition off.
3. Insert a .24" (6.0 mm) pin into shift lever bracket base through positioning hole on shift lever assembly. See **Fig. 6**. Position shift cable into shift cable bracket by rotating cable socket counterclockwise 1/4 turn. Insert shift cable socket onto shift lever mounting stud. Install shift cable lock nut, then tighten lock nut to specification. See **TORQUE SPECIFICATIONS**. Remove pin from shift lever. Start engine and check shift lever operation of all gears.



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Fig. 5: Adjusting Shift Control Cable (MDX & 3.2CL)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

1. Remove center console and place gear shift selector in Neutral. Remove selector lever cable bracket from link adjuster. See **Fig. 4** . Insert a .16" (4.0 mm) pin into shift lever bracket through "N" position shift lever cutout. See **Fig. 6** .
2. Ensure transmission control lever is in Neutral. Turn ignition on and verify "N" indicator light on instrument cluster is illuminated. Align hole in adjuster with hole in shift cable. See **Fig. 4** .
3. Two holes in end of shift cable are positioned at 90 degrees to allow cable adjustments in 1/4 turn increments. Loosen lock nut on shift cable, and adjust if necessary. Tighten lock nut to specification. See **TORQUE SPECIFICATIONS** . Install selector lever cable bracket.
4. When installed, selector lever cable bracket should not bind. If selector lever cable bracket binds, cable is still out of adjustment. Repeat adjustment procedure. Start engine, and check shift lever selection of all gears.

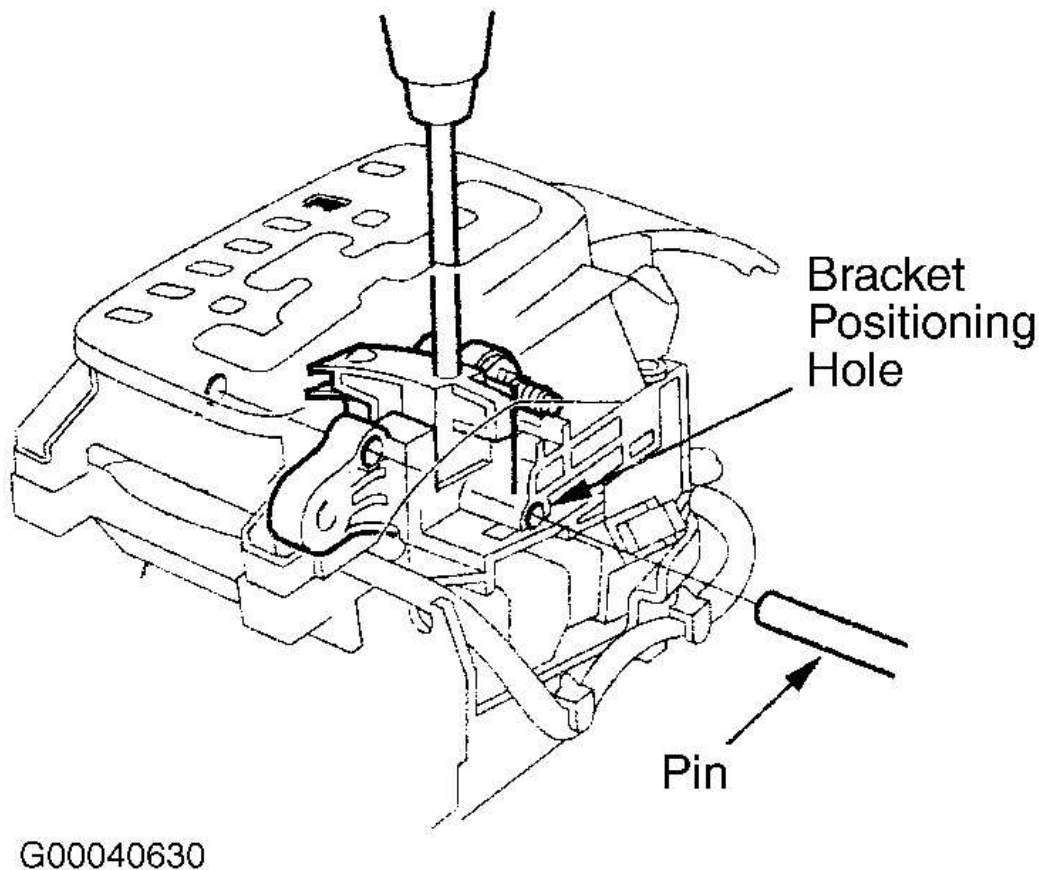


Fig. 6: Indexing Selector Lever Position
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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Integra

Move gear shift selector into Neutral. Index mark on shift indicator should align with "N" mark on shift indicator panel. See **Fig. 7** . If index mark is not aligned, remove center console. Remove shift indicator panel mounting screws, and adjust by moving panel.

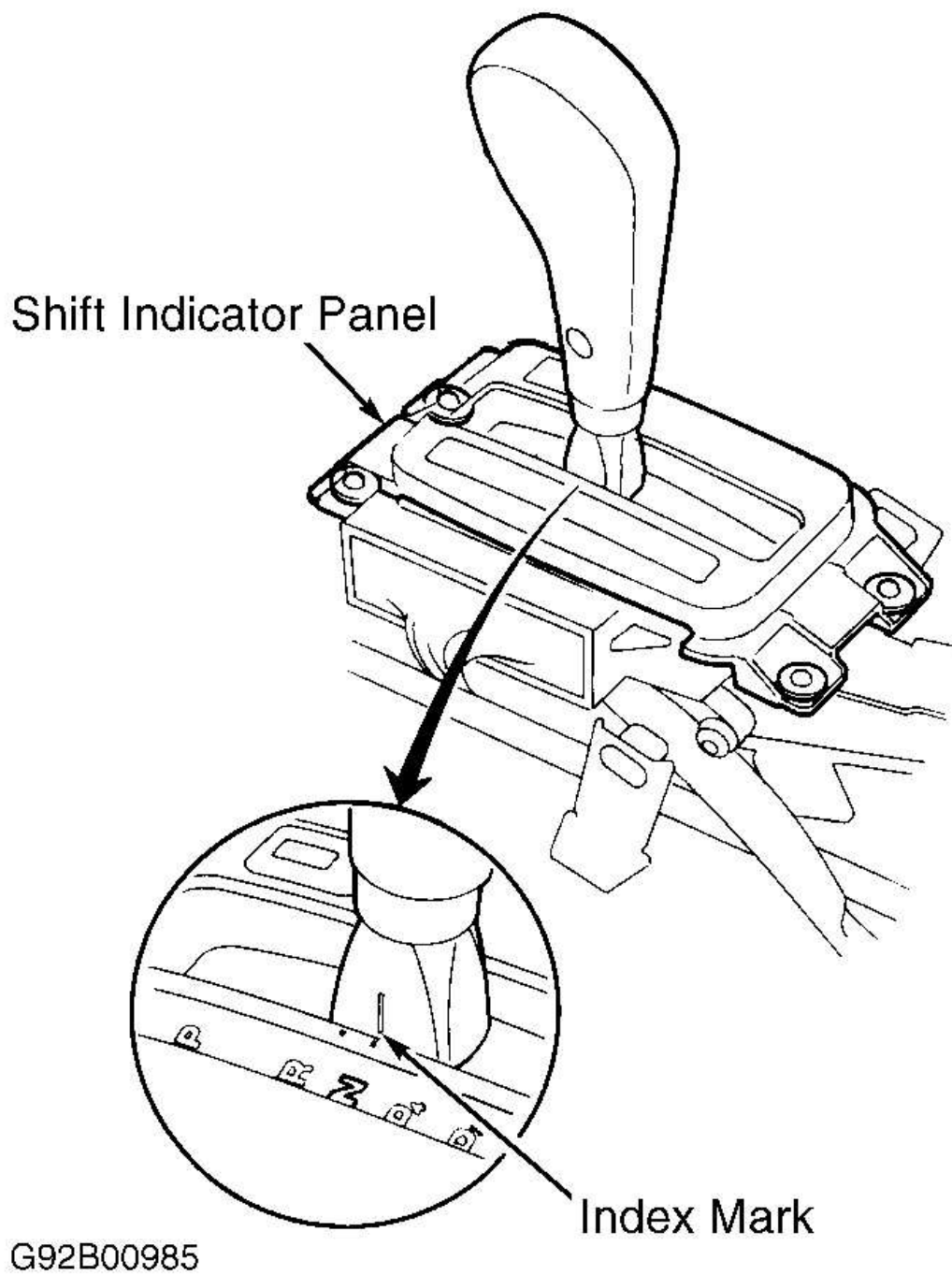


Fig. 7: Adjusting Shift Indicator Panel (Integra)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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TRANSMISSION RANGE SWITCH

NOTE: Switch may also be referred to as A/T gear position switch. Vehicles use a Powertrain Control Module (PCM) to monitor switch operation. Switch will set a Diagnostic Trouble Code (DTC) if a malfunction exists. See appropriate DIAGNOSIS article.

1. Turn ignition on. Move selector lever through all gear positions while noting instrument panel gear selection display. If gear position matches selected position on instrument panel, no adjustment is necessary.
2. If display does not match selected position, loosen switch retaining bolts and rotate switch to adjust. Ensure vehicle starts only in Park or Neutral, and that back-up light comes on with gear selector in Reverse.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

| Application | Ft. Lbs. (N.m) |
|--|-----------------|
| Differential Drain Plug (3.5RL) | 29 (39) |
| Differential Filler Plug (3.5RL) | 33 (44) |
| Shift Control Cable Lock Nut (MDX & 3.2CL) | 16 (22) |
| Transaxle Drain Plug | 36 (49) |
| Transaxle Fill Plug (MDX & 3.2CL) | 33 (44) |
| | INCH Lbs. (N.m) |
| Shift Control Cable Lock Nut (Integra & 3.5RL) | 62 (7) |