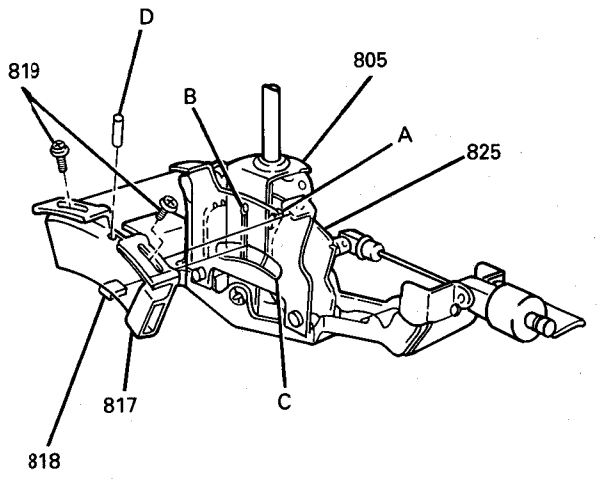

A NEUTRAL NOTCH
B PARK NOTCH
C TANG SLOT
D PIN, GAGE
805 CONTROL ASSEMBLY, AUTOMATIC TRANSMISSION
817 SWITCH ASSEMBLY, PARK/NEUTRAL POSITION
818 TANG, PARK/NEUTRAL POSITION SWITCH CARRIER
819 BOLT/SCREW, PARK/NEUTRAL POSITION SWITCH, 2.2 N•m (19 LB. IN.)
825 DETENT PLATE, PARK/NEUTRAL POSITION SWITCH

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Figure 9 – Park/Neutral Position Switch Assembly

3. Bolts/screws (819).
4. Switch assembly (817).

Park/Neutral Position Switch Assembly Adjustment Using Old Switch Assembly

Install or Connect

NOTICE: See "Notice" on page 7A-1 of this section.

1. Place automatic transmission control assembly (805) in "NEUTRAL."
2. Tang (818) on switch assembly (817) into slot on automatic transmission control assembly (805).
3. Bolts/screws (819) to automatic transmission case, loosely.
4. Insert 2.34 mm (3/32-inch) gage pin into service adjustment hole, and rotate switch assembly (817) until gage pin drops to 15 mm (19/32-inch) depth.

Tighten

- Bolts/screws (819) to 2.2 N•m (19 lb. in.).

5. Front floor console assembly. Refer to SECTION 8C.
6. Battery negative cable assembly.

Important

- After park/neutral position switch assembly adjustment, verify engine will only start with ignition key in "PARK" or "NEUTRAL." If engine will start with ignition key in any other position, readjust park/neutral position switch assembly.

Park/Neutral Position Switch Assembly Adjustment Using New Switch Assembly

Install or Connect

1. Place automatic transmission control assembly (805) in "NEUTRAL."
2. Tang (818) on switch assembly (817) into slot on automatic transmission control assembly (805).
3. Bolts/screws (819) to automatic transmission case.

Tighten

- Bolts/screws (819) to 2.2 N•m (19 lb. in.).

Important

- If park/neutral position switch bolt/screw holes will not align with automatic transmission control assembly, verify automatic transmission control assembly is in "NEUTRAL" position. Do not rotate park/neutral position switch assembly. If switch assembly has been rotated and the pin is broken, the switch assembly can be adjusted using the procedure under "Park/Neutral Position Switch Assembly Adjustment Using Old Switch" in this section.

4. Front floor console assembly. Refer to SECTION 8C.
5. Battery negative cable assembly.

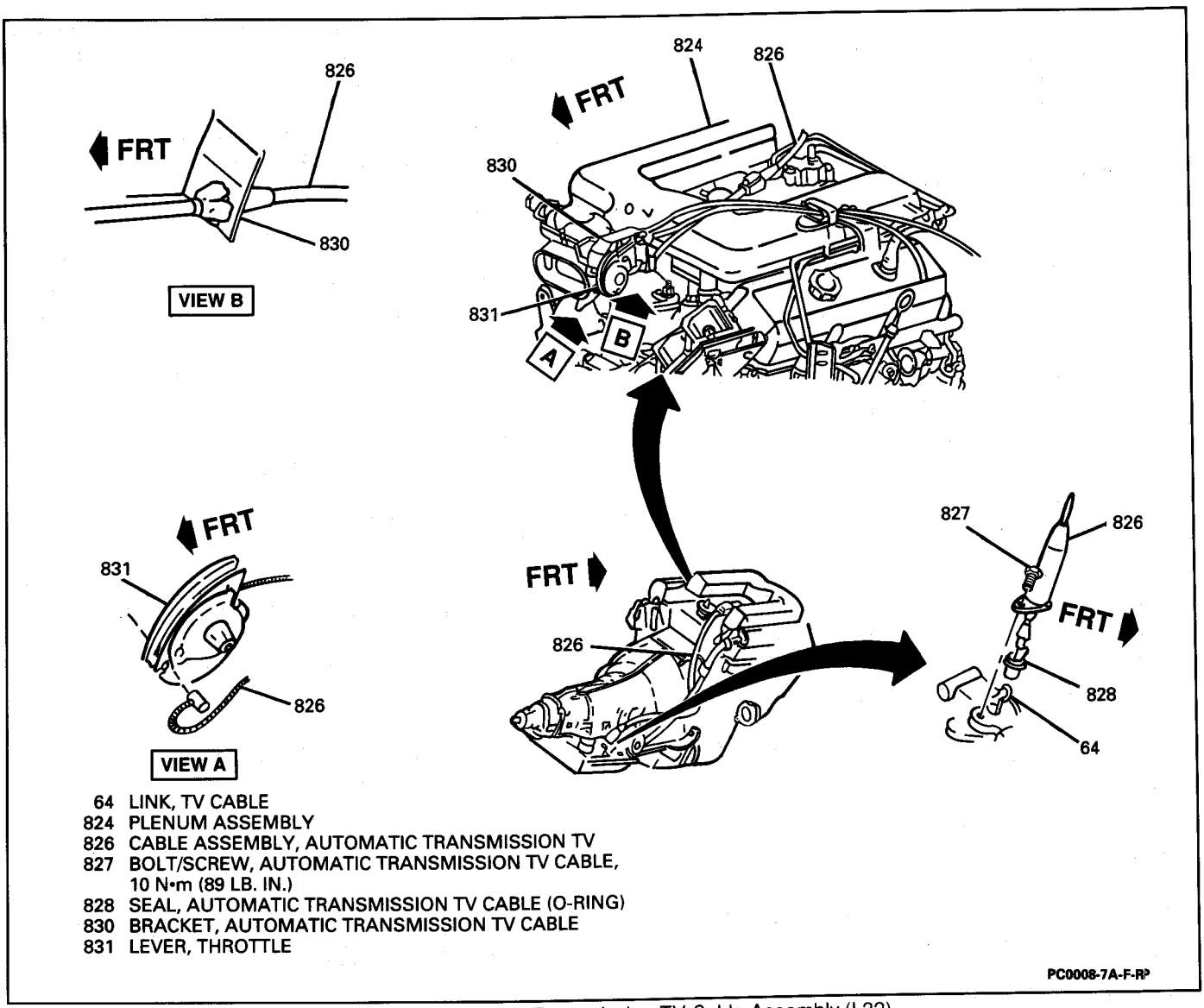
AUTOMATIC TRANSMISSION TV CABLE ASSEMBLY SYSTEM

Figures 10 through 12

The TV cable assembly (826) used on the HYDRA-MATIC 4L60 automatic transmission assembly controls line pressure, shift points, shift feel, part throttle downshifts and detent downshifts. The TV cable assembly (826) operates the throttle lever (831) in the control valve assembly.

The TV cable assembly (826) serves two basic functions:

1. To transfer throttle lever movement to the TV plunger in the control valve assembly. This causes TV pressure and line pressure to increase according to engine throttle opening and controls part throttle and detent downshifts.
2. To prevent the automatic transmission assembly from operating at low (idle) pressures, if the TV cable assembly (826) should be broken or disconnected.
   - If the TV cable assembly (826) is properly connected, the TV lifter rod will remain in its normal position, holding the TV exhaust check ball off its seat.
   - If the TV cable assembly (826) is broken, disconnected or out of adjustment, the TV lifter



64 LINK, TV CABLE
824 PLENUM ASSEMBLY
826 CABLE ASSEMBLY, AUTOMATIC TRANSMISSION TV
827 BOLT/SCREW, AUTOMATIC TRANSMISSION TV CABLE, 10 N•m (89 LB. IN.)
828 SEAL, AUTOMATIC TRANSMISSION TV CABLE (O-RING)
830 BRACKET, AUTOMATIC TRANSMISSION TV CABLE
831 LEVER, THROTTLE

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Figure 10 – Automatic Transmission TV Cable Assembly (L32)

rod will drop down to allow the TV exhaust check ball to seat.

Inspect

- With automatic transmission oil pan removed, pull down on TV exhaust valve lifter rod. Spring should return rod to its normal up position.
  - If throttle lever (831) and bracket (830) or lifter rod cannot lift exhaust check ball off its seat, high line pressure and delayed upshifts will result.
  - TV lifter rod will not function properly if bent.

AUTOMATIC TRANSMISSION TV CABLE ASSEMBLY SYSTEM DIAGNOSIS

CAUTION: To avoid possible personal injury and/or damage to the vehicle, the vehicle parking brake assembly must be applied at all times during all diagnosis procedures.

Inspect

- The following conditions possibly are caused by the automatic transmission TV cable assembly system:
  - Delayed or harsh upshifts.
  - Early and slipping upshifts.
  - High or low line pressure.
  - No upshifts.
  - Chatter on takeoff.
  - 1-2 shift at full throttle only.
  - No full throttle or part throttle detent downshifts.
  - Intermittent second gear starts.
- The above conditions can be caused by an automatic transmission TV cable assembly that is:
  - Improperly set.
  - Kinked or binding.
  - Disconnected.

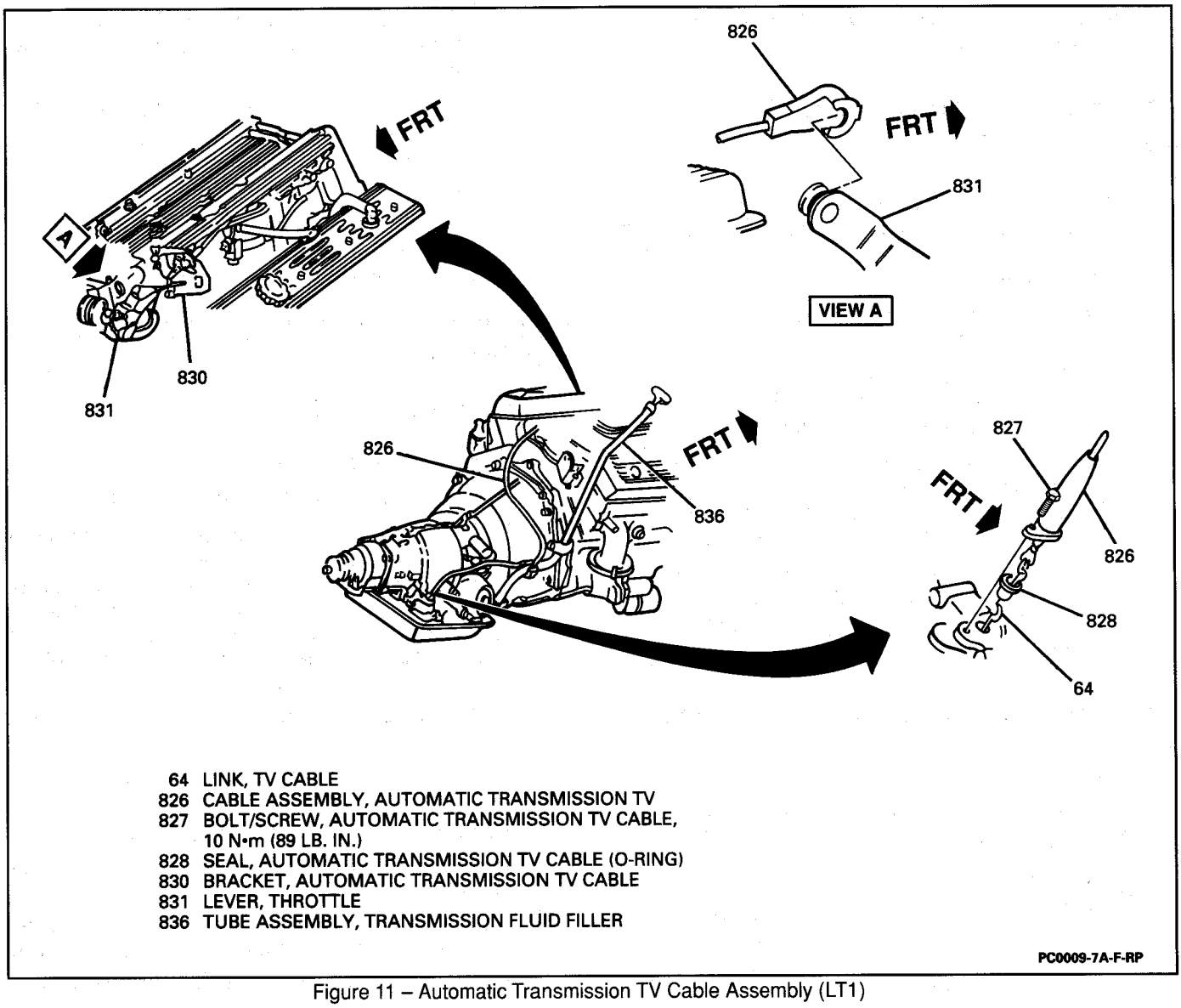


Figure 11 – Automatic Transmission TV Cable Assembly (LT1)

– Broken.
– Wrong part.

Make sure the engine fuel, electrical and mechanical systems are performing properly before attempting transmission diagnosis. Transmission performance can be affected by a problem existing in another system.

Do not attempt to correct a condition by changing the automatic transmission TV cable assembly setting from its proper adjustment. Apparent improvement as a result of changing the setting indicates further diagnosis is required to identify the real cause of the condition (such as engine performance or control valve assembly).

Line Pressure Checks

1. Install oil pressure gage.
2. Install engine tachometer.
3. Warm up engine to normal operating temperature.
4. Run engine at 1000 rpm.
5. Make sure parking brake assembly is applied.
6. Place automatic transmission control assembly in "PARK." Note oil pressure.
7. Place automatic transmission control assembly in "DRIVE." Oil pressure should be equal to or not more than 69 kPa (10 psi) higher than in "PARK."
8. Increase engine speed to 1400 rpm. If oil pressure does not increase, set automatic transmission TV cable assembly. Refer to "Setting Automatic Transmission TV Cable Assembly" in this section.

Inspect

- Automatic transmission TV cable assembly for kinked, binding, disconnected or broken condition.

- Automatic transmission TV cable assembly for correct part number.

Checking Line Pressure Regulation

Inspect

1. Oil pressure gage while manually pulling out full length of automatic transmission TV cable assembly. Oil pressure should increase as cable assembly is pulled out.
   - Do not increase engine's throttle opening while performing this test.
   - If oil pressure does not increase, refer to "Inspection of Automatic Transmission TV Cable Assembly System Parts" in this section.
2. Oil pressure gage as automatic transmission TV cable assembly is returned to its original position. Oil pressure should decrease smoothly as automatic transmission TV cable assembly is returned.
   - If oil pressure does not decrease smoothly, refer to "Inspection of Automatic Transmission TV Cable Assembly System Parts" in this section.

Checking Lifter and Check Ball "Fail-Safe" System

1. Run engine.
2. Disconnect automatic transmission TV cable assembly at throttle linkage.
3. Read oil pressure gage.
   - Line pressure should increase to maximum. If line pressure does not increase, refer to "Inspection of Automatic Transmission TV Cable Assembly System Parts" in the following procedure.
4. Connect automatic transmission TV cable assembly at throttle linkage.
5. Set automatic transmission TV cable assembly as described in "Setting Automatic Transmission TV Cable Assembly" in this section.
6. Repeat line pressure checks in "PARK" and "DRIVE" as described in "Line Pressure Checks" in this section.
   - If automatic transmission TV cable assembly system does not come out of "fail-safe" mode (pressure remains high), refer to "Inspection of Automatic Transmission TV Cable Assembly System Parts" in the following procedure.

Inspection of Automatic Transmission TV Cable Assembly System Parts

Inspect

- Throttle lever and automatic transmission TV cable bracket. Make certain:
  - TV exhaust lifter rod is not distorted and not binding in control valve assembly or spacer plate.
  - TV exhaust check ball moves up and down as lifter does.
  - Lifter spring holds lifter rod up against bottom of control valve assembly.
  - TV plunger does not stick at any position of travel.
- Replace or clean parts as necessary.

AUTOMATIC TRANSMISSION TV CABLE ASSEMBLY

Figures 10 through 12

Remove or Disconnect

1. Air cleaner. Refer to SECTION 6E3-C14.

   NOTICE: Do not pry on plastic cable terminal to disconnect automatic transmission TV cable assembly from throttle lever. Prying on cable terminal may cause breakage of terminal or kinking of automatic transmission TV cable assembly. Pull automatic transmission TV cable assembly toward front of the vehicle.
2. Cable terminal from throttle lever (831) at throttle body.
3. TV cable assembly (826) from bracket (830) by compressing locking tangs.
4. Routing clips or straps, if necessary.
5. Raise and suitably support vehicle. Refer to SECTION 0A.
6. Bolt/screw (827) and washer securing TV cable assembly (826) to automatic transmission assembly.
7. Seal (828) from hole in automatic transmission case, and discard.
8. TV cable assembly (826) from link (64).

Install or Connect

NOTICE: See "Notice" on page 7A-1 of this section.

1. New seal (828) into hole in automatic transmission case.
2. Transmission end of TV cable assembly (826) to link (64) and to automatic transmission case with bolt/screw (827) and washer.

   Tighten
   - Bolt/screw (827) to 10 N•m (89 lb. in.).
3. Lower vehicle.
4. Routing clips or straps, if necessary.
5. Pass TV cable assembly (826) through bracket (830) and engage locking tangs of TV cable assembly (826) on bracket (830).
6. Cable terminal to throttle lever (831) at throttle body.

Adjust

- Automatic transmission TV cable assembly. Refer to "Setting Automatic Transmission TV Cable Assembly" in the following procedure.

7. Air cleaner. Refer to SECTION 6E3-C14.

SETTING AUTOMATIC TRANSMISSION TV CABLE ASSEMBLY

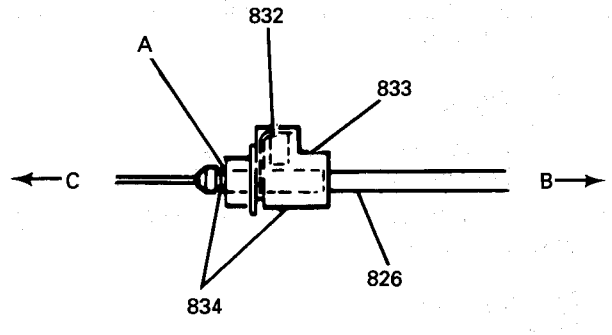
Figure 12

The automatic transmission TV cable assembly must be set by rotating the throttle lever at the throttle body. Do not use the accelerator pedal assembly to rotate the throttle lever.

1. Stop engine.
2. Hold down tab (832) at engine end of TV cable assembly (826).
3. Move slider (834) until it stops against fitting (833).
4. Release tab (832).
5. Rotate throttle lever to "full travel" position.
6. Slider (834) must move (ratchet) toward throttle lever when throttle lever is rotated to its "full travel" position.

Inspect

- Check that TV cable assembly (826) moves freely. The TV cable assembly (826) may appear to function properly with engine stopped and cold. Recheck after engine is hot.
- Road test vehicle.



A SLIDER AGAINST FITTING (ZERO OR RESET POSITION)
B RESET DIRECTION
C DIRECTION OF CABLE ACTUATING LEVER
826 CABLE ASSEMBLY, AUTOMATIC TRANSMISSION TV
832 TAB, AUTOMATIC TRANSMISSION TV CABLE RESET
833 FITTING, AUTOMATIC TRANSMISSION TV CABLE
834 SLIDER, AUTOMATIC TRANSMISSION TV CABLE

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Figure 12 – Setting Automatic Transmission TV Cable Assembly (Part Rotated 90 Degrees)

CHANGING TRANSMISSION FLUID AND AUTOMATIC TRANSMISSION OIL FILTER ASSEMBLY

Figures 13 and 14

Remove or Disconnect

1. Raise and suitably support vehicle. Refer to SECTION 0A.
2. Place drain pan under oil pan (73).
3. Bolts/screws (74) from front and sides only.
4. Loosen rear bolts/screws (74) approximately four turns.

   NOTICE: When removing automatic transmission oil pan bolts/screws, use caution in order not to damage the automatic transmission case or automatic transmission oil pan sealing surfaces.
5. Lightly tap oil pan (73) with rubber mallet or pry to allow fluid to drain.

Inspect

- Fluid color and condition. Refer to Figure 3.

6. Remaining bolts/screws (74), oil pan (73) and gasket (72).
7. Filter assembly (71) and seal (70).
   - Seal (70) may be stuck in automatic transmission case.

Clean

- Automatic transmission case and gasket surfaces with solvent, and air dry. All traces of gasket material must be removed.

Install or Connect

NOTICE: See "Notice" on page 7A-1 of this section.

1. Coat new seal (70) with small amount of Transjel™, or equivalent.
2. New seal (70) to filter assembly (71).
3. Filter assembly (71) and seal (70) into automatic transmission case.
4. New gasket (72), oil pan (73) and bolts/screws (74).

   NOTICE: Automatic transmission oil pan bolt/screw and washer assembly must not be reused if conical washer is reversed. Failure to replace the bolt/screw and washer may result in improper fastening of system components.

Tighten

- Bolts/screws (74) to 16 N•m (12 lb. ft.).

5. Lower vehicle.
6. Fill automatic transmission fluid to proper level.
7. Check "COLD" fluid level reading for initial fill only. Refer to "Transmission Fluid Checking Procedure" in this section.
   - Do not overfill.