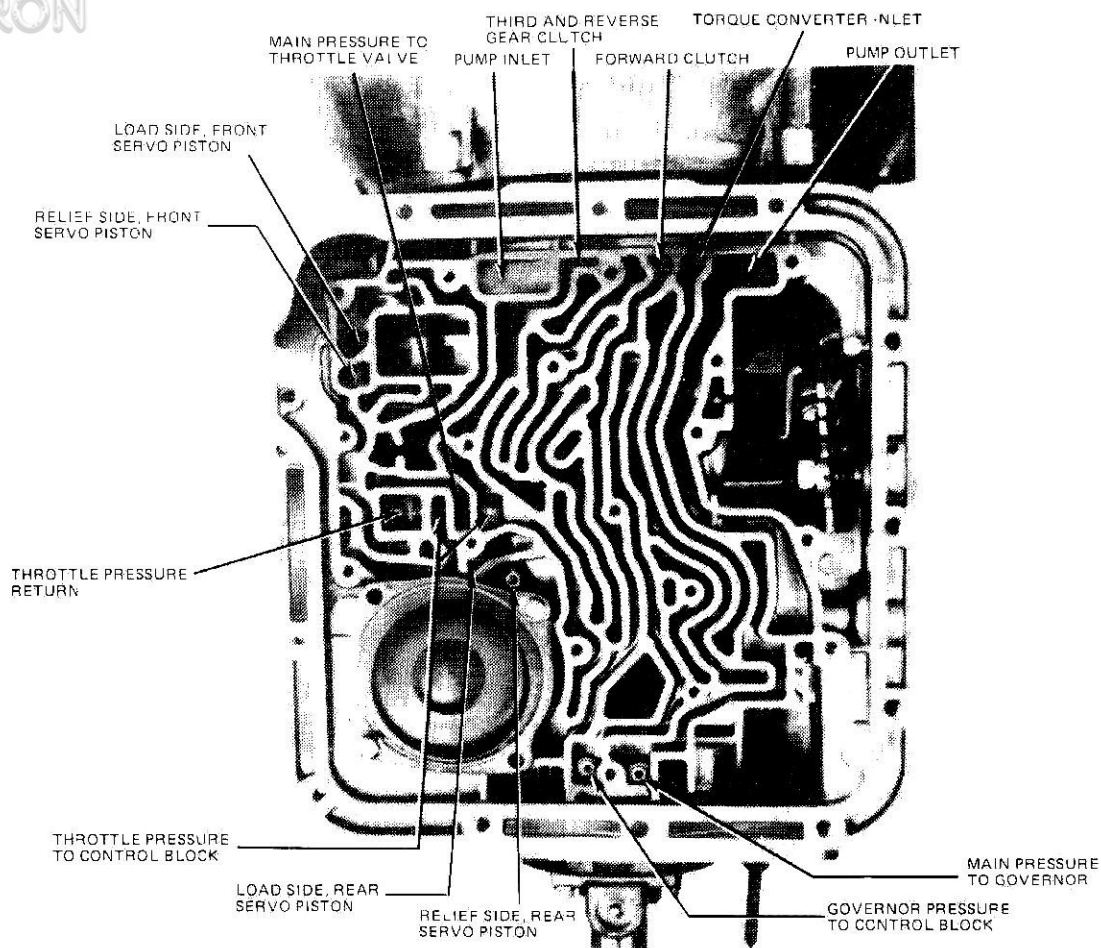
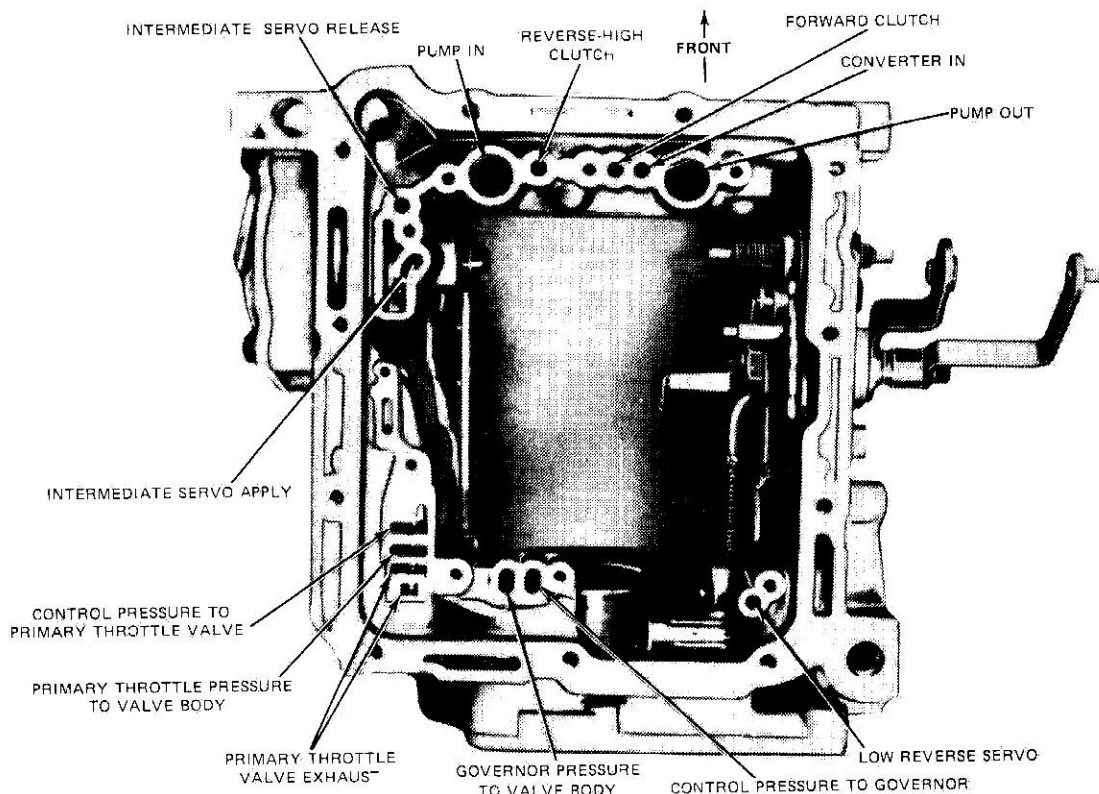




D2640-2A

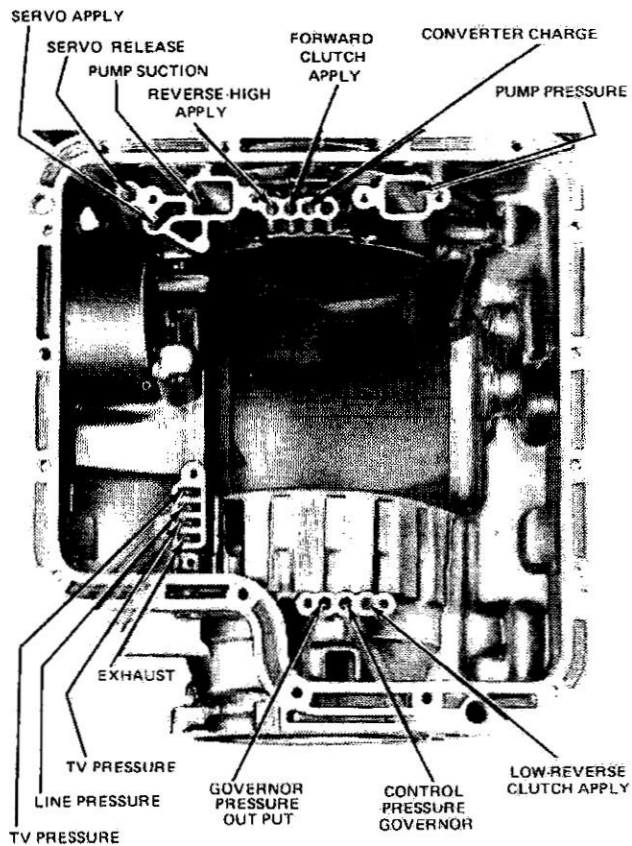
FIG. 13 Case Fluid Passage Hole Identification—C3 Automatic



D2171-2C

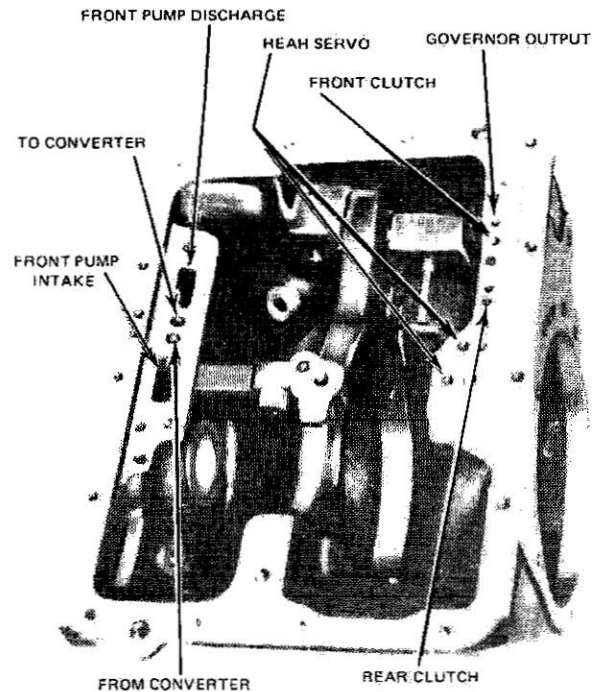
FIG. 14 Case Fluid Passage Hole Identification—C4 Automatic

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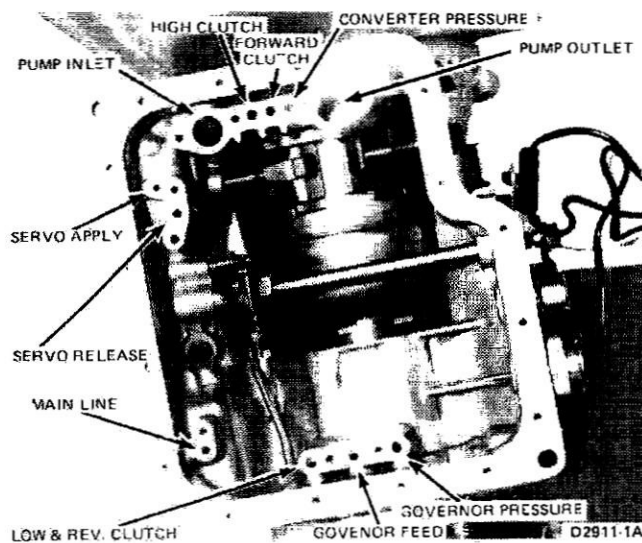
D1587-1C

**FIG. 15 Case Fluid Passage Hole Identification—
C6 Automatic**



D2349-1A

**FIG. 16 Case Fluid Passage Hole Identification—
FMX Automatic**



D2911-1A

**FIG. 17 Fluid Passage Hole Identification—
JATCO Automatic**

DIAGNOSIS – AUTOMATIC TRANSMISSION

CONDITION	POSSIBLE CAUSE	RESOLUTION
Slow initial engagement.	- Improper fluid level. - Damaged or improperly adjusted linkage. - Contaminated fluid. - Improper clutch and band application, or oil control pressure.	- Add fluid as required. - Repair or adjust linkage. - Perform fluid level check. - Perform control pressure test.
Rough initial engagement in either forward or reverse.	- Improper fluid level. - High engine idle. - Looseness in the driveshaft, U-joints or engine mounts. - Incorrect linkage adjustment. - Improper clutch or band application, or oil control pressure. - Sticking or dirty valve body.	- Perform fluid level check. - Adjust idle to specifications. - Repair as required. - Repair or adjust linkage. - Perform control pressure test. - Clean, repair or replace valve body.
No drive in any gear.	- Improper fluid level. - Damaged or improperly adjusted linkage. - Improper clutch or band application, or oil control pressure. - Internal leakage. - Valve body loose. - Damaged or worn clutches. - Sticking or dirty valve body.	- Perform fluid level check. - Repair or adjust linkage. - Perform control pressure test. - Check and repair as required. - Tighten to specification. - Perform air pressure test. - Clean, repair or replace valve body.
No drive forward – reverse OK.	- Improper fluid level. - Damaged or improperly adjusted linkage. - Improper clutch or band application, or oil pressure control system. - Damaged or worn forward clutch or governor. - Valve body loose - Dirty or sticking valve body.	- Perform fluid level check. - Repair or adjust linkage. - Perform control pressure test. - Perform air pressure test. - Tighten to specification. - Clean, repair or replace valve body.
No drive, slips or chatters in reverse – forward OK.	- Improper fluid level. - Damaged or improperly adjusted linkage. - Looseness in the driveshaft, U-joints or engine mounts. - Reverse bands out of adjustment or damaged reverse clutches. - Improper oil pressure control. - Damaged or worn reverse clutch or servo. - Valve body loose. - Dirty or sticking valve body.	- Perform fluid level check. - Repair or adjust linkage. - Repair as required. - For C-3, C-4 or FMX – adjust reverse band. For C-6 – repair reverse clutches as required. - Perform control pressure test. - Perform air pressure test. - Tighten to specifications. - Clean, repair or replace valve body.

D2875-2B

FIG. 18 Diagnosis—Automatic Transmission

DIAGNOSIS – AUTOMATIC TRANSMISSION

CONDITION	POSSIBLE CAUSE	RESOLUTION
No drive, slips or chatters in first gear in D. All other gears normal.	Damaged or worn one-way clutch.	Repair or replace one-way clutch.
No drive, slips or chatters in second gear.	- Improper fluid level. - Damaged or improperly adjusted linkage. - Intermediate band out of adjustment. - Improper band or clutch application, or oil pressure control. - Damaged or worn servo and/or internal leaks. - Dirty or sticking valve body. - Polished, glazed intermediate band or drum.	- Perform fluid level check. - Repair or adjust linkage. - Adjust intermediate band. - Perform control pressure test. - Perform air pressure test. - Clean, repair or replace valve body. - Replace or repair as required.
Starts in high – in D drag or lockup at 1-2 shift point or in 2 or 1.	- Improper fluid level. - Damaged or improperly adjusted linkage. - Damaged or worn governor. - Damaged or worn clutches and/or internal leaks. - Valve body loose. - Dirty, sticking valve body. - Poor mating of valve body to case mounting surfaces.	- Perform fluid level check. - Repair or adjust linkage. - Repair or replace governor, clean screen. - Perform air pressure test. - Tighten to specifications. - Clean, repair or replace valve body. - Replace valve body or case.
Starts up in 2nd or 3rd	- Improper fluid level. - Damaged or improperly adjusted linkage. - Improper band and/or clutch application, or oil pressure control system. - Damaged or worn governor. - Valve body loose. - Dirty or sticking valve body. - Cross leaks between valve body and case mating surface.	- Perform fluid level check. - Repair or adjust linkage. - Perform control pressure test. - Perform governor check. Replace or repair governor, clean screen. - Tighten to specification. - Clean, repair or replace valve body. - Replace valve body and/or case as required.

D2875-2B1

FIG. 19 Diagnosis—Automatic Transmission (Cont'd.)

DIAGNOSIS – AUTOMATIC TRANSMISSION

CONDITION	POSSIBLE CAUSE	RESOLUTION
Shift points incorrect.	- Improper fluid level. - Improper vacuum hose routing or leaks. - Improper operation of EGR system. - Linkage out of adjustment. - Improper speedometer gear installed. - Improper clutch or band application, or oil pressure control system. - Damaged or worn governor. - Dirty or sticking valve body.	- Perform fluid level check. - Correct hose routing. - Repair or replace as required. - Repair or adjust linkage. - Replace gear. - Perform shift test and control pressure test. - Repair or replace governor – clean screen. - Clean, repair or replace valve body.
No upshift at any speed in D.	- Improper fluid level. - Vacuum leak to diaphragm unit. - Linkage out of adjustment. - Improper band or clutch application, or oil pressure control system. - Damaged or worn governor. - Dirty or sticking valve body.	- Perform fluid level check. - Repair vacuum line or hose. - Repair or adjust linkage. - Perform control pressure test. - Repair or replace governor, clean screen. - Clean, repair or replace valve body.
Shifts 1-3 in D.	- Improper fluid level. - Intermediate band out of adjustment. - Damaged intermediate servo and/or internal leaks. - Polished, glazed band or drum. - Improper band or clutch application, or oil pressure control system. - Dirty or sticking valve body.	- Perform fluid level check. - Adjust band. - Perform air pressure test. Repair front servo and/or internal leaks. - Repair or replace band or drum. - Perform control pressure test. - Clean, repair or replace valve body.
Engine over-speeds on 2-3 shift.	- Improper fluid level. - Linkage out of adjustment. - Improper band or clutch application, or oil pressure control system. - Damaged or worn high clutch and/or intermediate servo. - Dirty or sticking valve body.	- Perform fluid level check. - Repair or adjust linkage. - Perform control pressure test. - Perform air pressure test. Repair as required. - Clean, repair or replace valve body.

D2875-2B2

FIG. 20 Diagnosis—Automatic Transmission (Cont'd.)

DIAGNOSIS – AUTOMATIC TRANSMISSION

CONDITION	POSSIBLE CAUSE	RESOLUTION
● Mushy 1-2 shift.	● Improper fluid level ● Incorrect engine performance. ● Improper linkage adjustment. ● Intermediate band out of adjustment. ● Improper band or clutch application, or oil pressure control system. ● Damaged high clutch and/or intermediate servo or band. ● Polished, glazed band or drum. ● Dirty or sticking valve body.	● Perform fluid level check. ● Tune adjust engine idle as required ● Repair or adjust linkage. ● Adjust intermediate band. ● Perform control pressure test. ● Perform air pressure test. Repair as required. ● Repair or replace as required. ● Clean, repair or replace valve body.
● Rough 1-2 shift.	● Improper fluid level. ● Incorrect engine idle or performance. ● Intermediate band out of adjustment. ● Improper band or clutch application, or oil pressure control system. ● Damaged intermediate servo. ● Dirty or sticking valve body.	● Perform fluid level check. ● Tune, and adjust engine idle. ● Adjust intermediate band. ● Perform control pressure test. ● Air pressure check intermediate servo. ● Clean, repair or replace valve body.
● Rough 2-3 shift.	● Improper fluid level. ● Incorrect engine performance. ● Improper band or clutch application, or oil control pressure system. ● Damaged or worn intermediate servo release and high clutch piston check ball. ● Dirty or sticking valve body.	● Perform fluid level check. ● Tune and adjust engine idle. ● Perform control pressure test. ● Air pressure test the intermediate servo apply and release and the high clutch piston check ball. Repair as required. ● Clean, repair or replace valve body.
● Rough 3-1 shift at closed throttle in D.	● Improper fluid level. ● Incorrect engine idle or performance. ● Improper linkage adjustment. ● Improper clutch or band application, or oil pressure control system. ● Improper governor operation. ● Dirty or sticking valve body.	● Perform fluid level check. ● Tune, and adjust engine idle. ● Repair or adjust linkage. ● Perform control pressure test. ● Perform governor test. Repair as required. ● Clean, repair or replace valve body (or on FMX – regulator assembly).

D2875-283

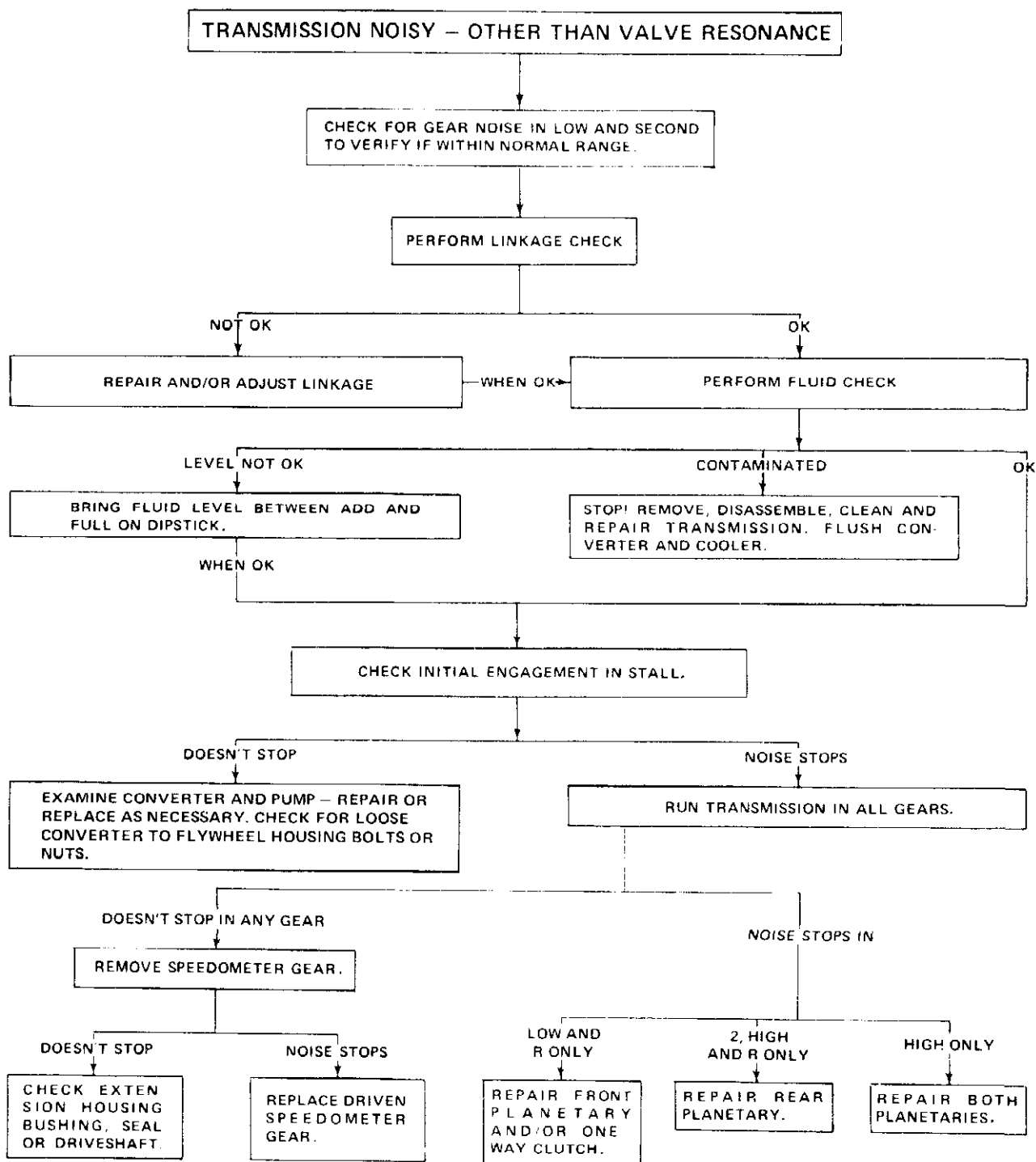
FIG. 21 Diagnosis—Automatic Transmission (Cont'd.)

DIAGNOSIS – AUTOMATIC TRANSMISSION

CONDITION	POSSIBLE CAUSE	RESOLUTION
No forced downshifts.	- Improper fluid level. - Linkage out of adjustment. - Improper clutch or band application, or oil pressure control system. - Damaged internal kickdown linkage. - Dirty or sticking valve body.	- Perform fluid level check. - Repair or adjust linkage. - Perform control pressure test. - Repair internal kickdown linkage. - Clean, repair or replace valve body.
No 3-1 shift in D.	- Improper fluid level. - Incorrect engine idle, or performance. - Damaged governor. - Dirty or sticking valve body.	- Perform fluid level check. - Tune, and adjust engine idle. - Perform governor check. Repair as required. - Clean, repair or replace valve body.
Runaway engine on 3-2 downshift.	- Improper fluid level. - Linkage out of adjustment. - Intermediate band out of adjustment. - Improper band or clutch application, or oil pressure control system. - Damaged or worn intermediate servo. - Polished, glazed band or drum. - Dirty or sticking valve body.	- Perform fluid level check. - Repair or adjust linkage. - Adjust intermediate band. - Perform control pressure test. - Air pressure test check the intermediate servo. Repair servo and/or seals. - Repair or replace as required. - Clean, repair or replace valve body.
No engine braking in manual first gear.	- Improper fluid level. - Linkage out of adjustment. - Bands or clutches out of adjustment. - Oil pressure control system. - Damaged or worn reverse servo. - Polished, glazed band or drum.	- Perform fluid level check. - Repair or adjust linkage. - On C-3, C-4 or FMX — adjust reverse band. On C-6 — adjust low-reverse clutch. - Perform control pressure test. - Perform air pressure test of reverse servo. Repair reverse clutch or rear servo as required. - Repair or replace as required.

D2875-2B4

FIG. 22 Diagnosis—Automatic Transmission (Cont'd.)



D2875-2B5

FIG. 23 Diagnosis—Automatic Transmission (Cont'd.)

DIAGNOSIS – AUTOMATIC TRANSMISSION

CONDITION	POSSIBLE CAUSE	RESOLUTION
No engine braking in manual second gear.	- Improper fluid level. - Linkage out of adjustment. - Intermediate band out of adjustment. - Improper band or clutch application, or oil pressure control system. - Intermediate servo leaking. - Polished or glazed band or drum.	- Perform fluid level check. - Repair or adjust linkage. - Adjust intermediate band. - Perform control pressure test. - Perform air pressure test of intermediate servo for leakage. Repair as required. - Repair or replace as required.
Transmission noisy – valve resonance.	- Improper fluid level. - Linkage out of adjustment. - Improper band or clutch application, or oil pressure control system. - Cooler lines grounding. - Dirty sticking valve body. - Internal leakage or pump cavitation.	- Perform fluid level check. - Repair or adjust linkage. - Perform control pressure test. - Free up cooler lines. - Clean, repair or replace valve body. - Repair as required.
Transmission overheats.	- Improper fluid level. - Incorrect engine idle, or performance. - Improper clutch or band application, or oil pressure control system. - Restriction in cooler or lines. - Seized one-way clutch. - Dirty or sticking valve body.	- Perform fluid level check. - Tune, or adjust engine idle. - Perform control pressure test. - Repair restriction. - Replace one-way clutch. - Clean, repair or replace valve body.
Transmission fluid leaks.	- Improper fluid level. - Leakage at gasket, seals, etc. - Vacuum diaphragm unit leaking.	- Perform fluid level check. - Remove all traces of lube on exposed surfaces of transmission. Check the vent for free breathing. Operate transmission at normal temperatures and inspect for leakage. Repair as required. - Replace diaphragm.

D2875-2B6

FIG. 24 Diagnosis—Automatic Transmission (Cont'd.)

REMOVAL AND INSTALLATION

VACUUM DIAPHRAGM

1. Disconnect the hoses from the vacuum unit.
2. On C3 transmissions remove the vacuum unit retaining bracket bolt and bracket (Fig. 25). **Do not pry or bend the bracket.** Pull the vacuum diaphragm, the actuating pin and the throttle valve from the transmission case. Remove the O-ring from the assembly.
3. Install a new O-ring. Install the throttle valve, the actuating pin and the vacuum diaphragm tube pointing rearward, in to the transmission case. Install the retaining bracket bolt and torque it to 15-23 in.-lbs.
4. On C4 and C6 transmissions, remove the vacuum unit retaining bracket bolt and bracket (Fig. 24). **Do not pry or bend the bracket.** Pull the vacuum unit from the transmission case.

On an FMX transmission, remove the vacuum unit with the tool shown in Fig. 27.

5. Remove the vacuum unit control rod from transmission case.
6. Install the vacuum unit control rod in transmission case.
7. On C4 and C6 transmissions, push the vacuum unit into the case and secure with the retaining bracket and bolt. Tighten the bolt, 28 to 40 ft.-lb. on C4 transmissions and 12 to 16 ft.-lb. on C6 transmissions.

On an FMX transmission, thread the vacuum unit into the case and using a torque wrench with the tool shown in Fig. 27, tighten the unit, 15 to 23 ft.-lb. torque.

8. Install the vacuum unit hose to the connector.

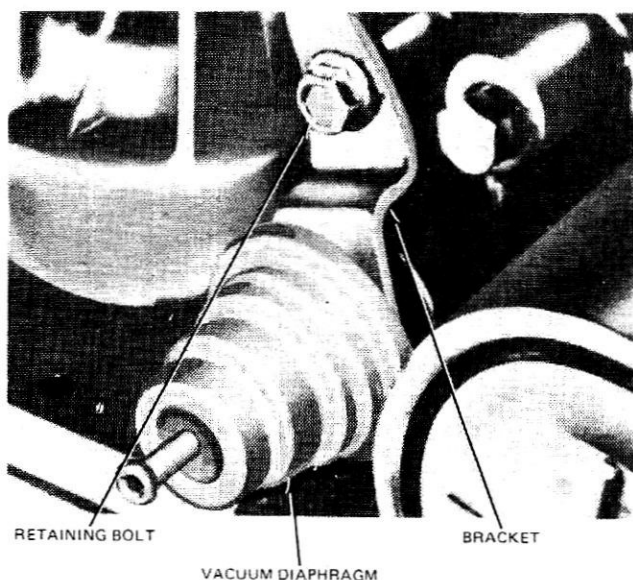


FIG. 25 Vacuum Diaphragm Installed C3 Transmission

TRANSMISSION FLUID DRAIN AND REFILL

Normal maintenance and lubrication requirements do not necessitate periodic automatic transmission fluid changes. If a major repair, such as a clutch band, bearing, etc., is required in the transmission, it will have to be removed for service. **At this time the converter, transmission cooler and cooler lines must be thoroughly flushed to remove any dirt.**

When used under continuous or severe conditions (police or taxi) the transmission and torque converter should be drained and refilled with fluid as specified in the following: C3 Automatic Transmission (Code U)*; C4 Automatic Transmission (Code W)*; and FMX Automatic Transmission (Code X)*; use fluid that meets Ford Specification ESW-M2C33-F (Type F) Certification is evidenced by the following information appearing on the fluid container: FORD, Qualification No. 25-XXXXXX, ESW-M2C33-F. C6 Automatic Transmission (Code U)* and JATCO Automatic Transmission (Code S)*. Use fluid that meets Ford Specification ESP-M2C138-CJ.

CAUTION: Use of a fluid other than specified above could result in transmission malfunction and/or failure.

*Refer to Vehicle Certification Label affixed to left front door lock face panel or door pillar for transmission code.

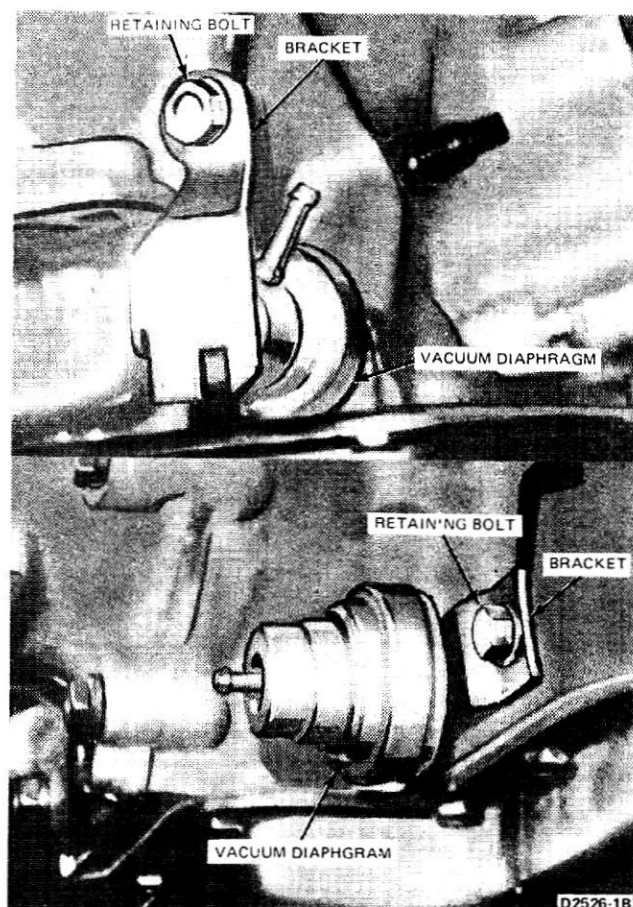


FIG. 26 Vacuum Diaphragm Installed—C4 and C6 Transmissions