

SECTION IV

CLUTCH, FLUID DRIVE AND FLUID TORQUE DRIVE

SPECIFICATIONS

	S-18	S-16	S-17
CLUTCH MODELS			
3-Speed Transmission	930	1335	1335
Fluid Torque Drive.....	....	*9½E—1221	*10E—1222
Tip-Toe Shift Hydraulic Drive.....	953	*9½E—1215	*9½E—1215
TYPE	Molded Woven Asbestos		
FACINGS			
SIZE			
3-Speed Transmission	10 in OD 7 in ID .125 in thick	10 in OD 6 in ID .125 in thick	10 in OD 6 in ID .125 in thick
Fluid Torque Drive.....	....	9½ in OD 6 in ID .125 in thick	10¼ in OD 6½ in thick .125 in thick
Tip-Toe Shift Hydraulic Drive.....	9¼ in OD 6 in ID .125 in thick	9½ in OD 6 in ID .125 in thick	9½ in OD 6 in ID .125 in thick
SPRINGS			
NUMBER AND COLOR			
3-Speed Transmission	9 light blue	12 light blue	12 light blue
Fluid Torque Drive.....	....	12 black	12 black
Tip-Toe Shift Hydraulic Drive.....	9 orange	12 lavender	12 lavender
SPRING PRESSURE (each)			
3-Speed Transmission	157 lb.	157 lb.	157 lb.
Fluid Torque Drive.....	....	230 lb.	230 lb.
Tip-Toe Shift Hydraulic Drive.....	166.8 lb.	150 lb.	150 lb.
TOTAL SPRING PRESSURE			
3-Speed Transmission	1413 lb.	1889 lb.	1884 lb.
Fluid Torque Drive.....	....	2760 lb.	2760 lb.
Tip-Toe Shift Hydraulic Drive.....	1501 lb.	1800 lb.	1800 lb.
CLUTCH PEDAL FREE PLAY	1 in.		
FLUID-TORQUE DRIVE			
LUBRICANT CAPACITY			
Pump Fed Model.....	....	....	10½ qts.
Engine Fed Model.....	....	**12 qts.	**12 qts.

*Strap-Drive Clutch.

**Add 1 additional quart when engine oil filter cartridge is changed.

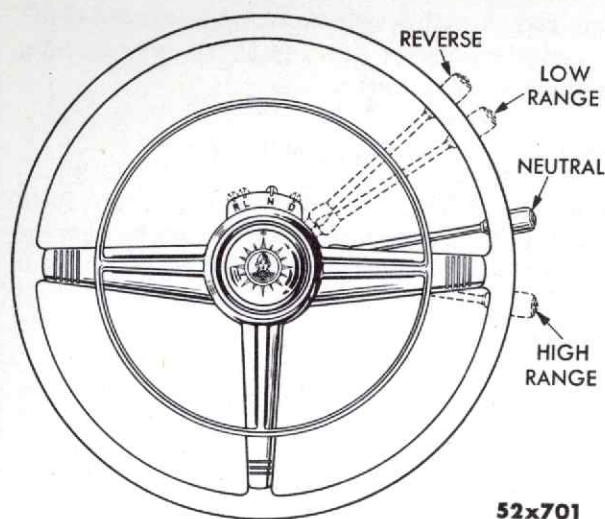


Fig. 58 — Transmission Control Settings

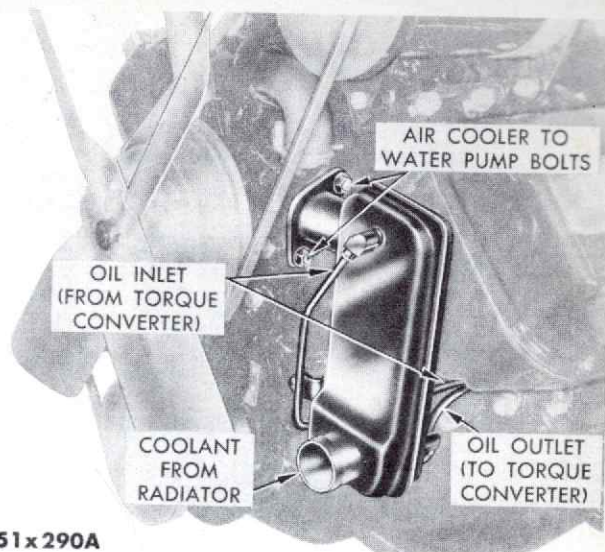


Fig. 59 — Torque Converter Oil Cooler (Pump-Fed Models)

mains unchanged. A number of parts, such as clutch operating fingers, driving plate and cover, have been redesigned to reduce deflections. The spring load has been increased to 3,000 lbs. to make it possible to transmit the increased torque, but pedal pressures have been kept down by changing from a lug type to a strap type drive and by reducing linkage friction throughout.

OIL SYSTEM — Basically the torque converter oil system consists of an oil reservoir mounted to the underside of the clutch housing. A gear driven pump embodied in the torque converter support plate, an oil exchanger or cooler located at the front of the engine (Fig. 59) and oil pressure relief valve (Fig. 65). The oil is drawn from the oil reservoir (Fig. 65), by the pump and delivered to converter support plate where it is maintained at approximately 30 pounds per square inch pressure. Pressures above 30 pounds actuates the pressure relief valve which

returns the excess oil to the oil reservoir. The function of the oil pump is to keep the operating parts of the converter cool and to prevent excessive heat build-up in the oil during extreme operation. All the oil flowing through the converter passes through the oil cooler, where it is cooled by the air from the engine fan and water circulating through the cooler from the radiator. The total capacity of the torque converter oil system is 10½ quarts of fluid drive oil or SAE 10W motor oil.

IGNITION NEUTRALIZER SWITCH (S-17 Models)

The neutralizer switch mounted on the base of the steering column is a device which prevents starting of the engine unless the gear shift lever is in the neutral (Nu) position. Adjustment of the trigger of this switch should be checked in the event the engine will not start.

SERVICE INFORMATION

36. REMOVING TORQUE CONVERTER

a. Removal

- (1) Disconnect storage battery.
- (2) Remove floor board solenoid cover and remove ignition interrupter governor and solenoid wires.

- (3) Raise car off floor.
- (4) Remove front end of propeller shaft and slide to one side.
- (5) Remove transmission as outlined in the **Transmission Section**.
- (6) Remove clutch housing to exhaust pipe

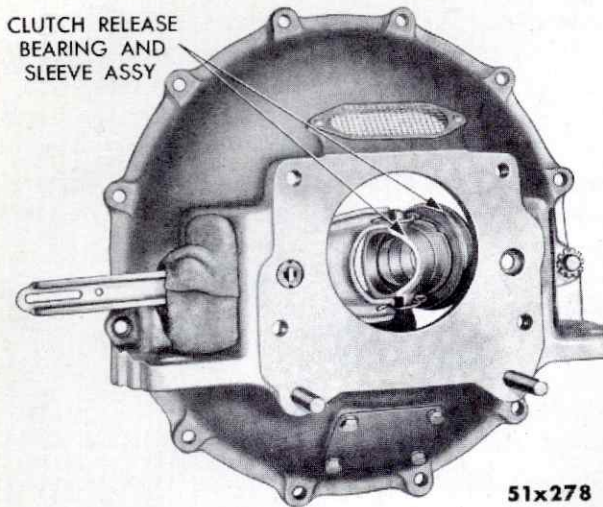


Fig. 60 — Pivoting Clutch Release Bearing for Removal or Installation

bracket bolt and shift bracket away from housing.

(7) Remove breather oil line from right side of oil reservoir.

(8) Disconnect oil lines from torque converter support plate on left side of clutch housing.

(9) Remove clutch release fork pullback spring, as shown in Figure 15.

(10) Disconnect rear end of clutch fork rod assembly by removing cotter key, pin and two washers. Disconnect the front end of clutch

fork rod at clutch release bearing torque shaft by removing cotter key and three flat washers, as shown in Figure 15.

CAUTION

When clutch fork rod assembly is removed, push clutch pedal in until over center spring brings clutch pedal down on floor board, so as to avoid personal injury should pedal be pushed in while the linkage is disconnected.

(11) Remove pivot bracket assembly from clutch housing, and remove torque shift.

NOTE

To avoid spreading release bearing pullback springs apart; pivot release bearing assembly away from clutch fork, as shown in Figure 60, enough to slide the bearing off the prongs of the fork without effort. If any attempt is made to pull the bearing straight off the clutch fork without pivoting the release bearing, the release bearing pullback spring will be spread causing lost motion between fork and bearing when unit is reassembled.

(12) Remove release bearing (do not remove clutch fork).

(13) Remove rear engine to crossmember support bolts.

(14) Turn front wheels to extreme right, and remove starting motor.

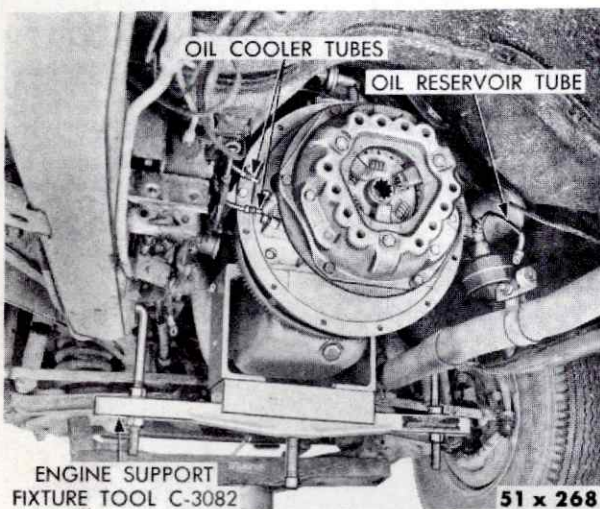


Fig. 61 — Engine Support Fixture in Place (Tool C-3082)

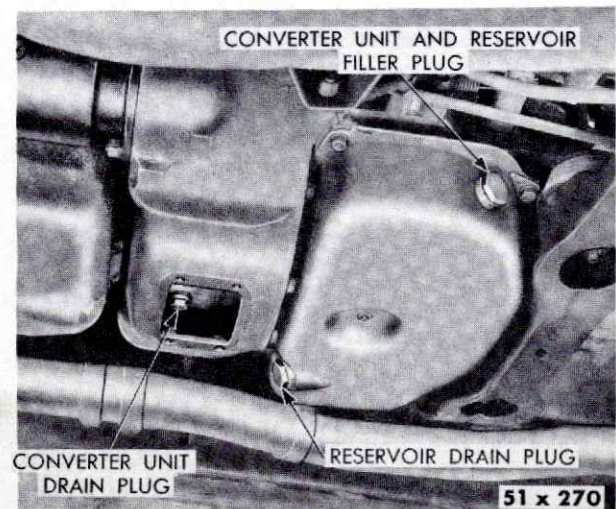
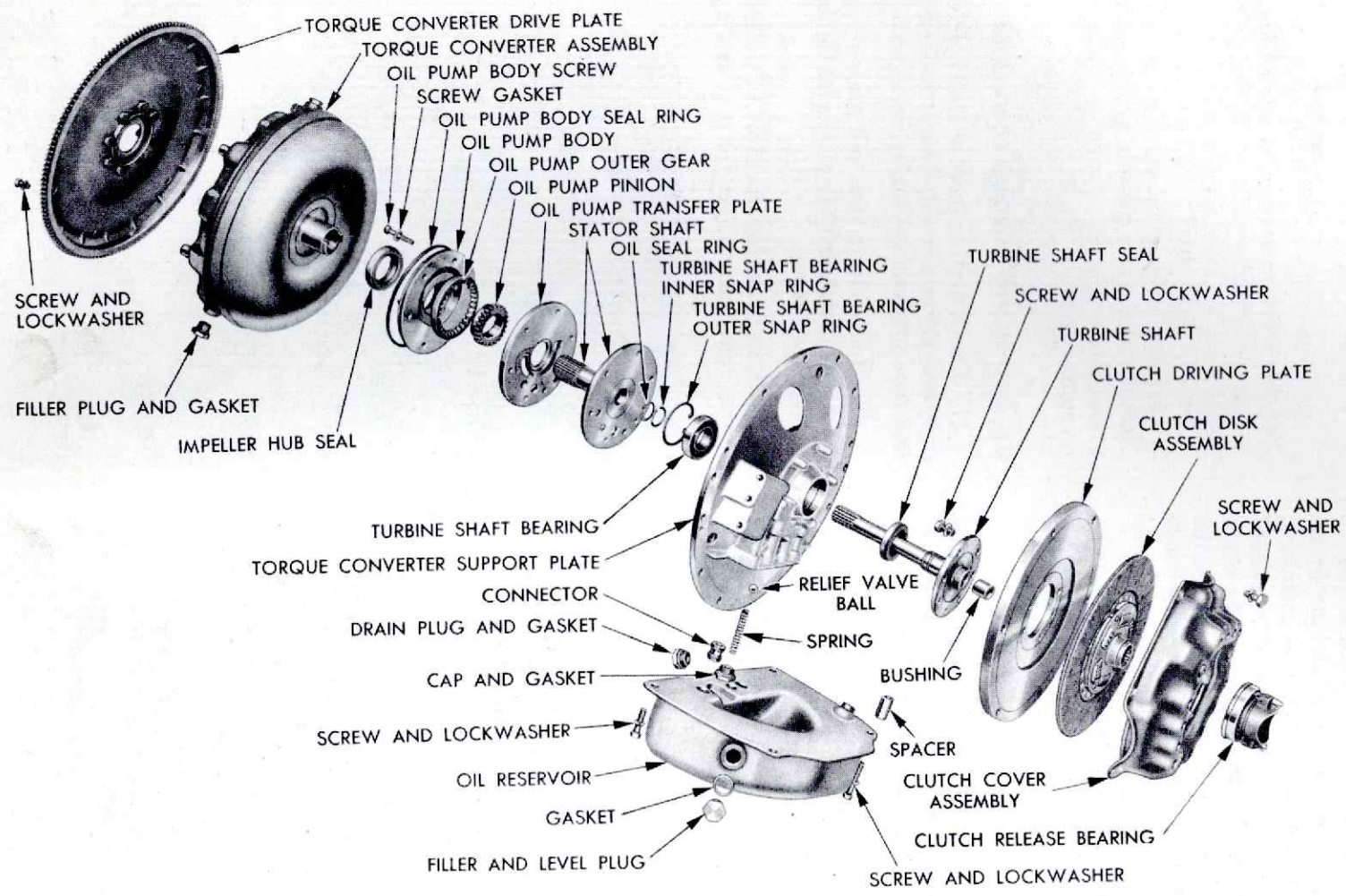


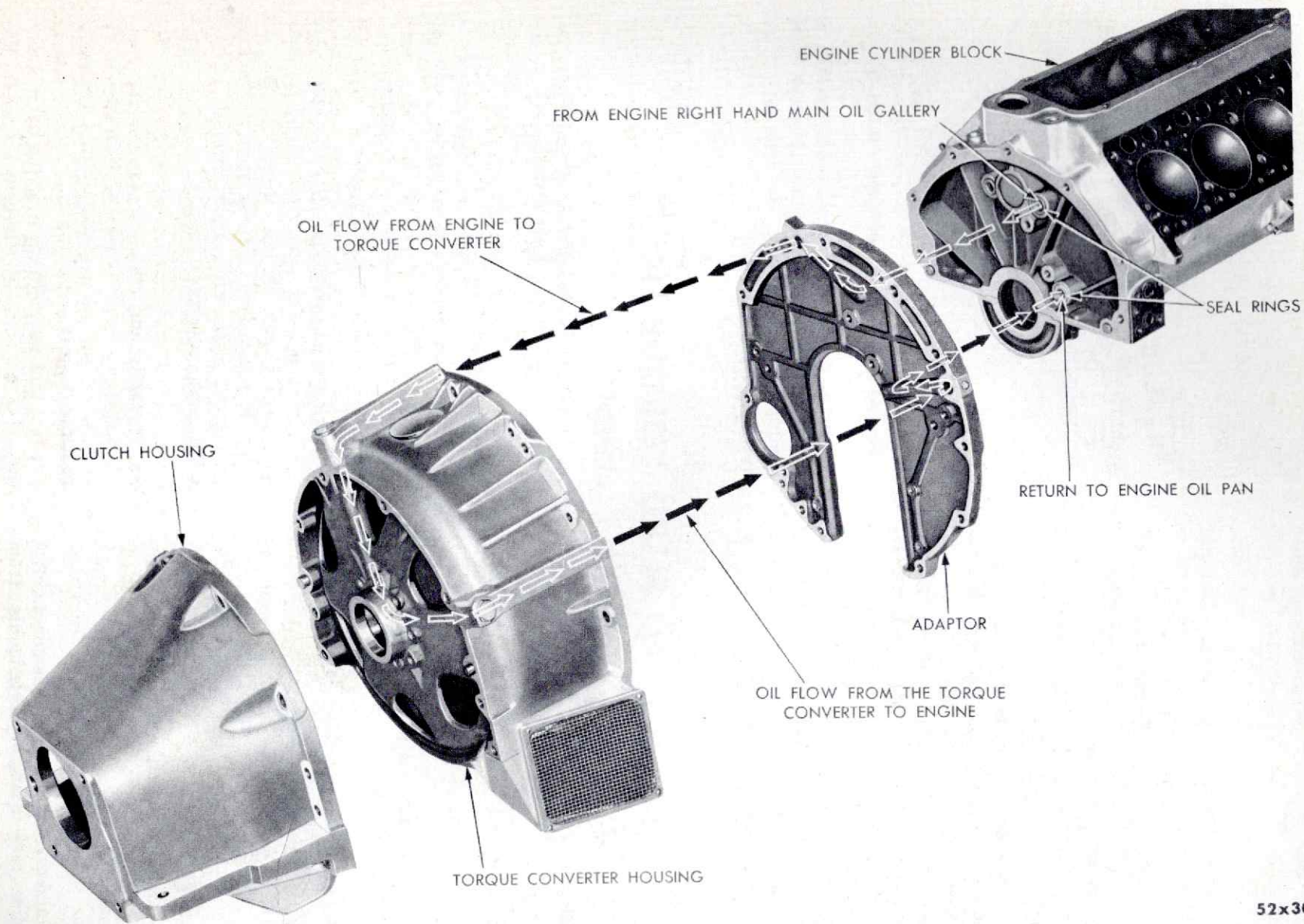
Fig. 62 — Reservoir Drain and Filler Plugs



51x88B

51x88B

Fig. 64 - Pump-Fed Torque Converter and Clutch Assemblies (Exploded View)



52x306

Fig. 82 - V-8 Engine Block and Fluid-Torque Drive Oil Flow System (Late S-17 and S-16 Models)