

CLARK HRS33000 LD POWERSHIFT TRANSMISSION

COMONENT TECHNICAL MANUAL CLARK HRS33000 LD TRANSMISSION CTM365 (25AUG04)

**CALIFORNIA
Proposition 65 Warning**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.



WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

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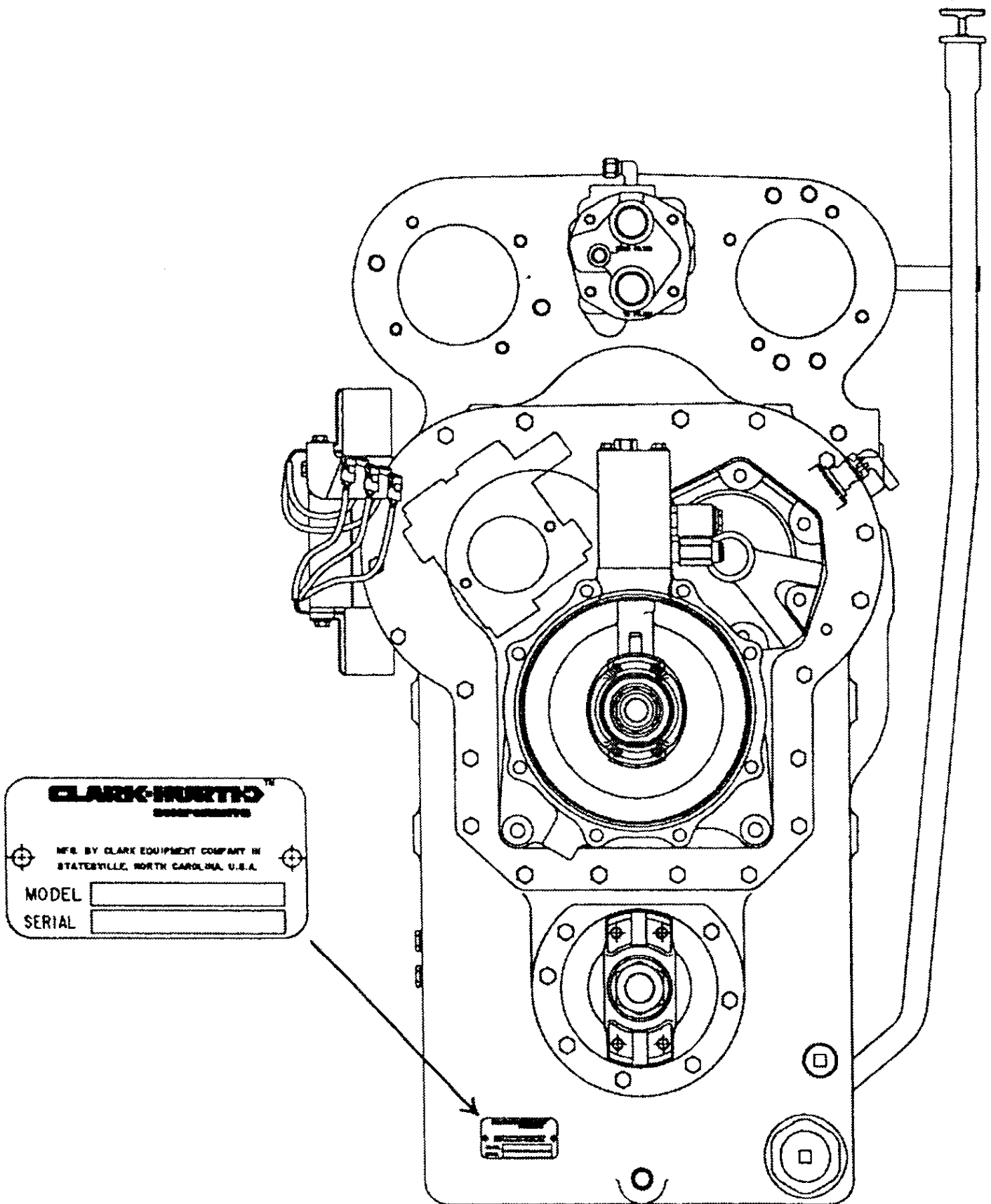


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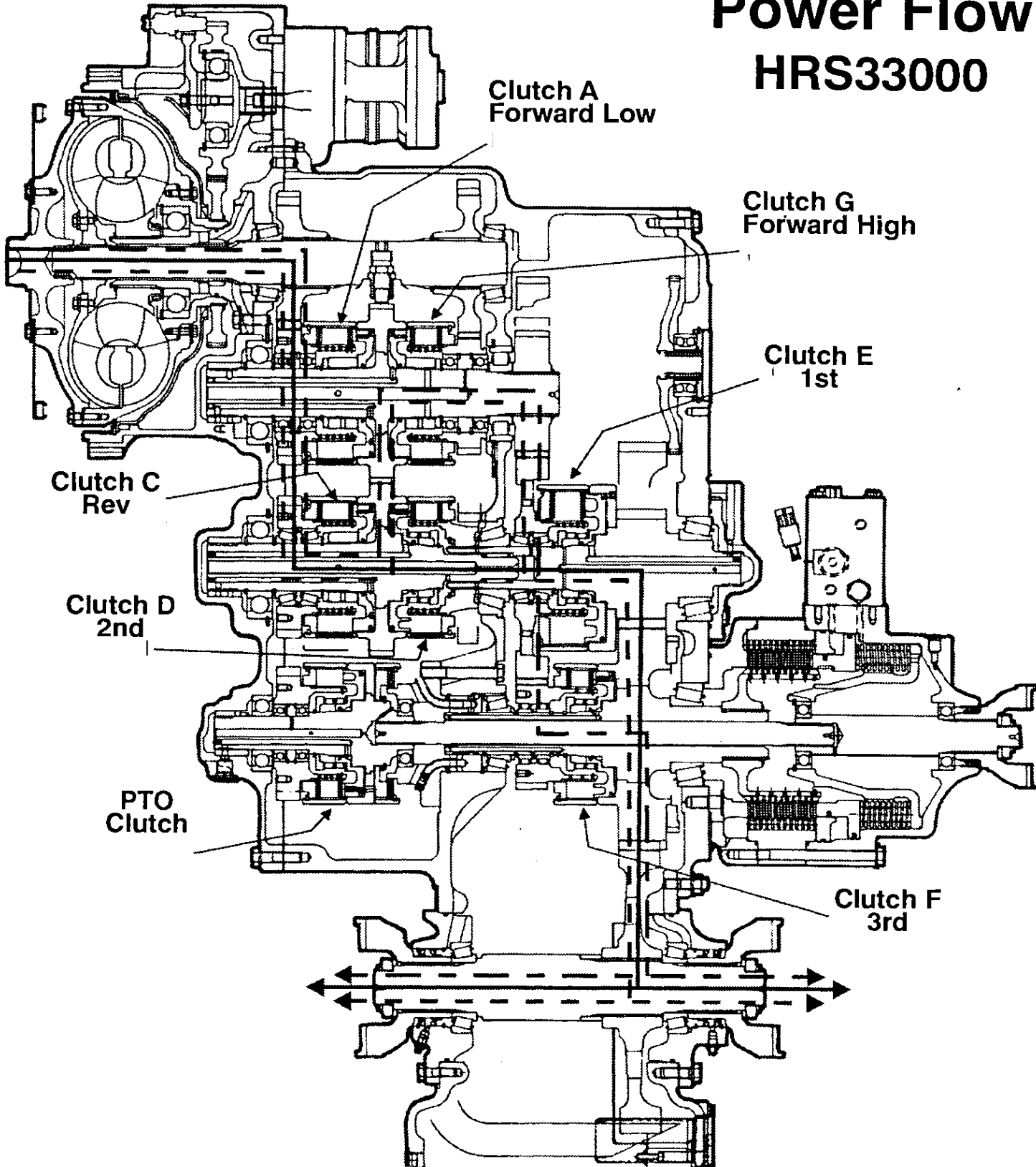
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TRANSMISSION IDENTIFICATION

NAMEPLATE LOCATION ON REAR LEFT LOWER CORNER OF TRANSMISSION CASE

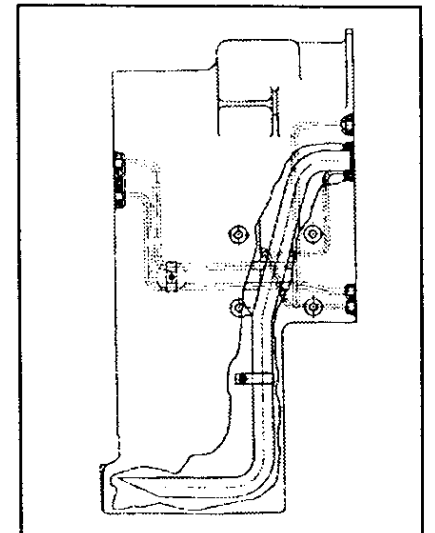
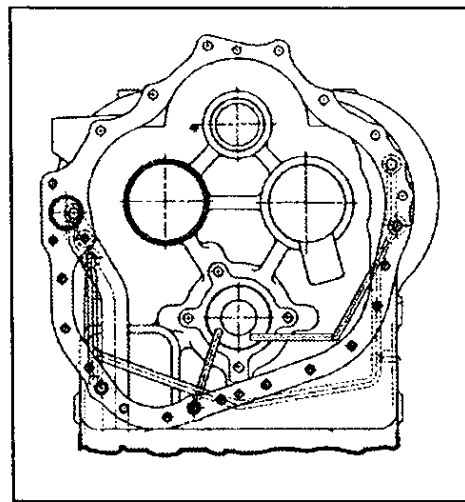
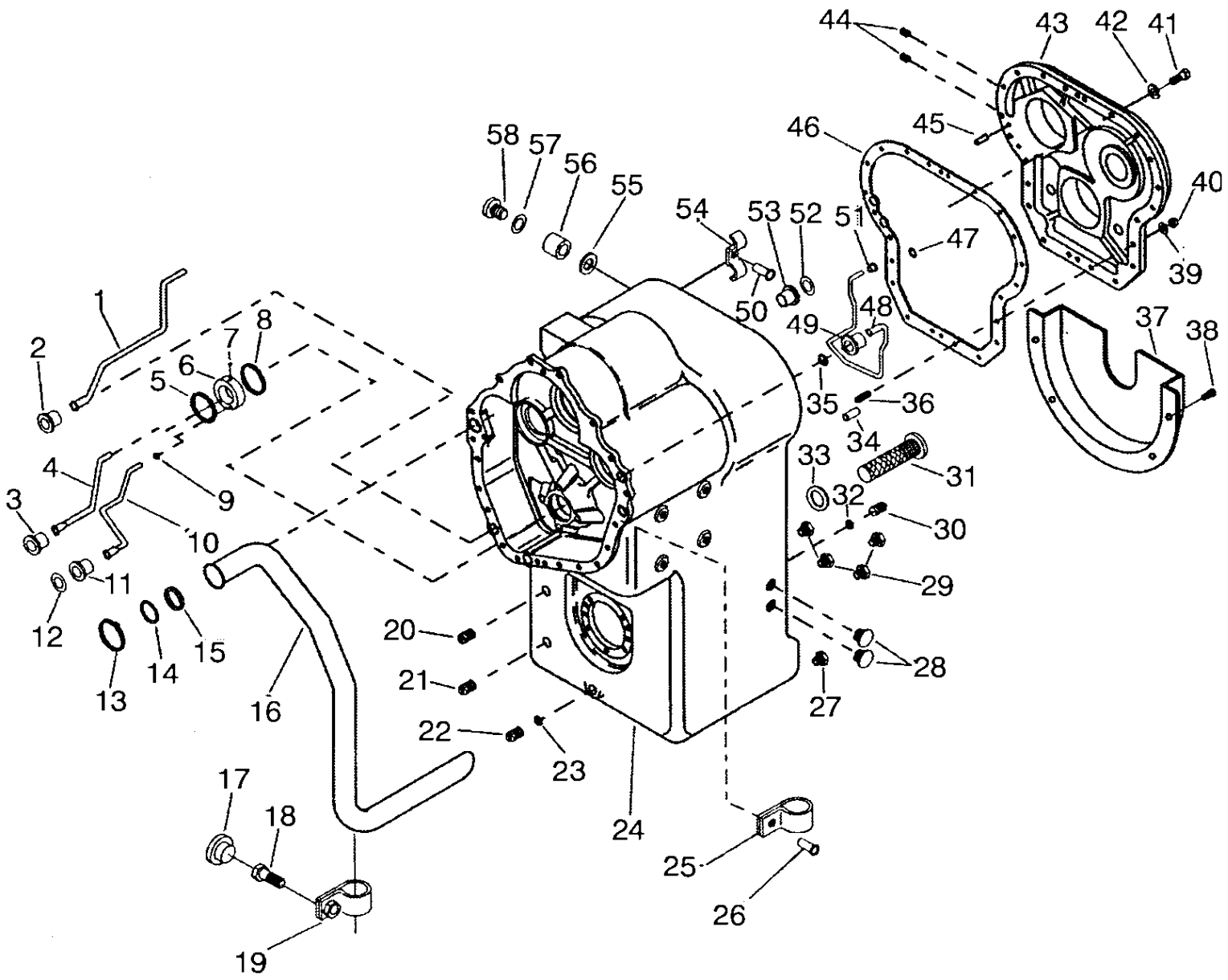


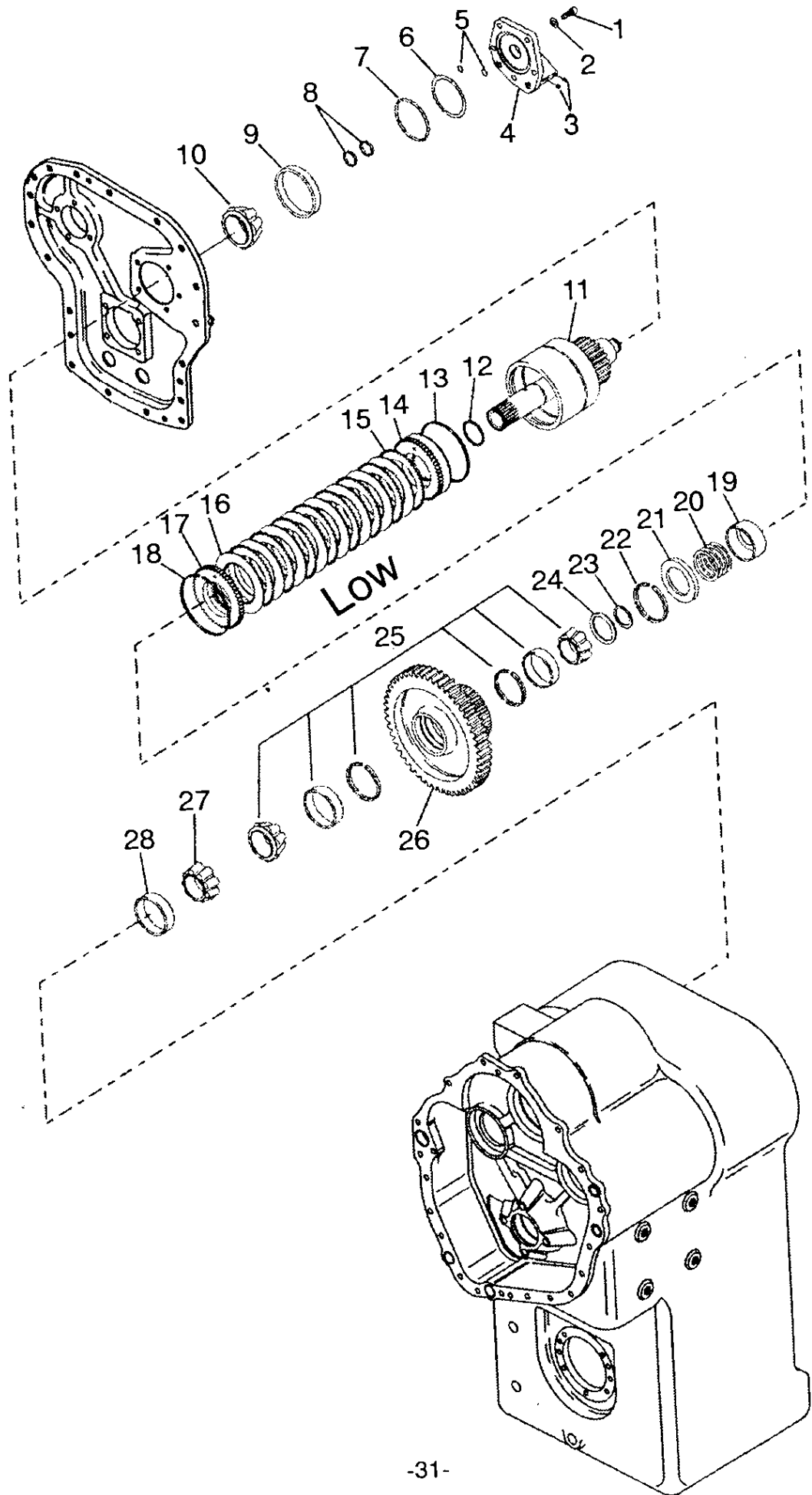
Power Flow HRS33000

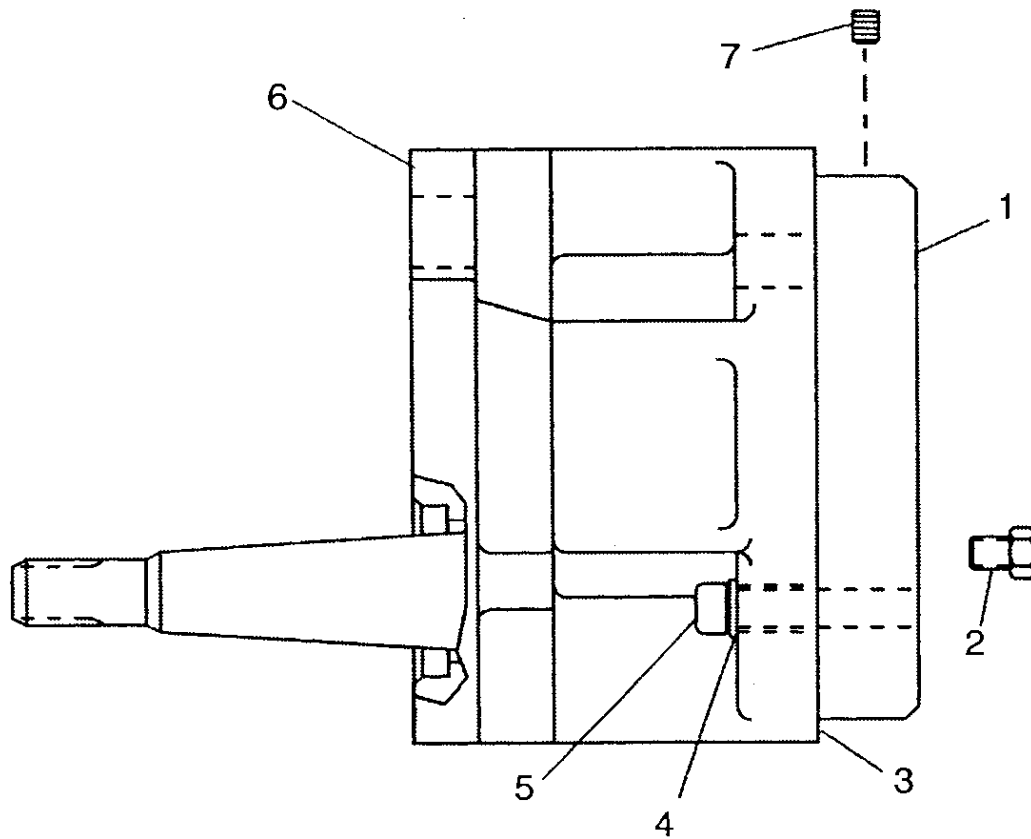


FWD 5th **-----**
FWD 6th **—————**

Direction & Speed	Engaged Clutch						
	A	C	D	E	F	G	
Forward 5th	●					●	
Forward 6th					●	●	







CHARGING PUMP AND COVER ASSEMBLY

ITEM	DESCRIPTION	QTY.
1	Pump Cover.....	1
2	Brake Pipe Plug.....	1
3	Pump To Cover Gasket.....	1
4	Pump To Cover Screw Washer.....	4
5	Pump To Cover Screw.....	4
6	Charging Pump.....	1
7	Pipe Plug.....	1

MAINTENANCE AND SERVICE

The instructions contained herein cover the disassembly and reassembly on the transmission in a sequence that would normally be followed after the unit has been removed from the machine and is to be completely overhauled. Drain as much oil from unit as possible before disassembly.

CAUTION: Cleanliness is of extreme importance and an absolute must in the repair and overhaul of this unit. Before attempting any repairs, the exterior of the unit must be thoroughly cleaned to prevent the possibility of dirt and foreign matter entering the mechanism.

DISASSEMBLY

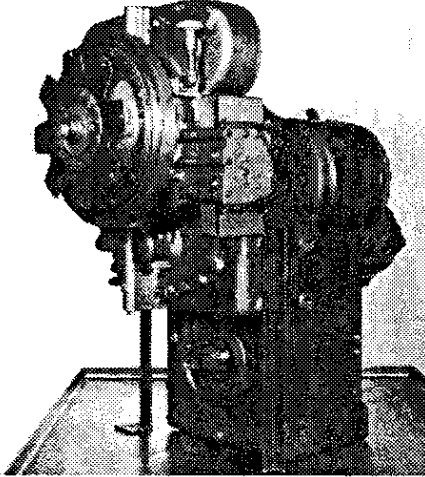


Figure 1
Side view of transmission.

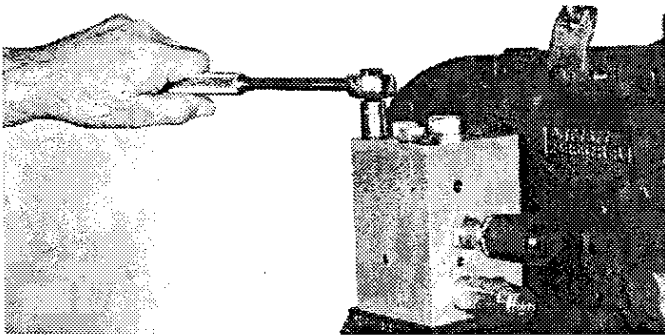


Figure 2
Remove parking brake manifold to brake cover screws and washers.

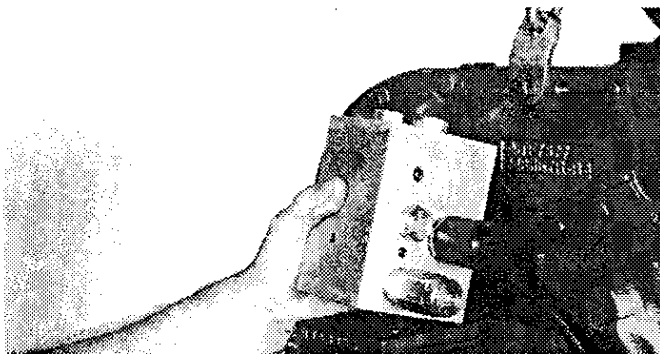


Figure 3
Remove manifold assembly.

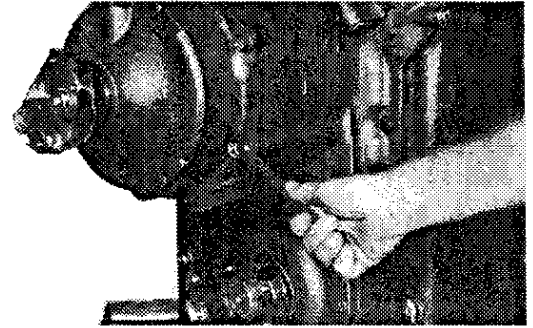


Figure 4
Remove two (2) brake extension housing to adapter screws across from each other.

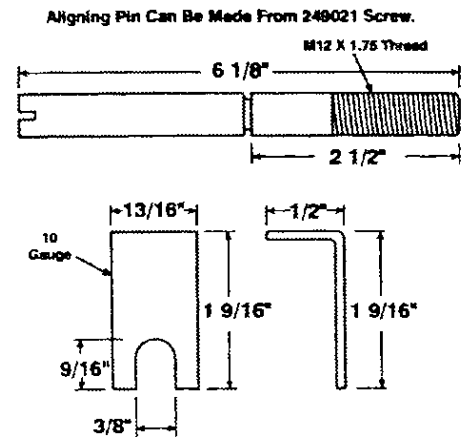


Figure 5
Install an aligning stud in each of the screw holes. A groove cut in each of the studs above the threads will allow a clip to be inserted after the remaining screws are loosened. See line drawing in Figure 5 for aligning stud and clip fabrication.

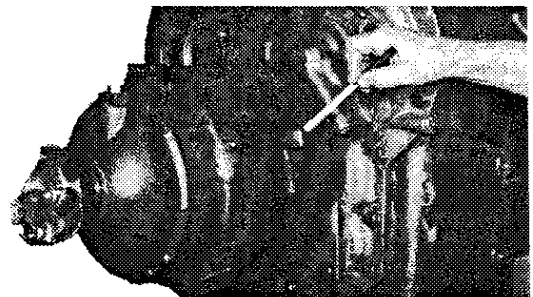


Figure 6
Loosen housing to adapter screws, housing will push away from adapter. Loosen screws to about 1/2 inch. Insert clip in groove of aligning stud and tighten stud and clip against adapter.

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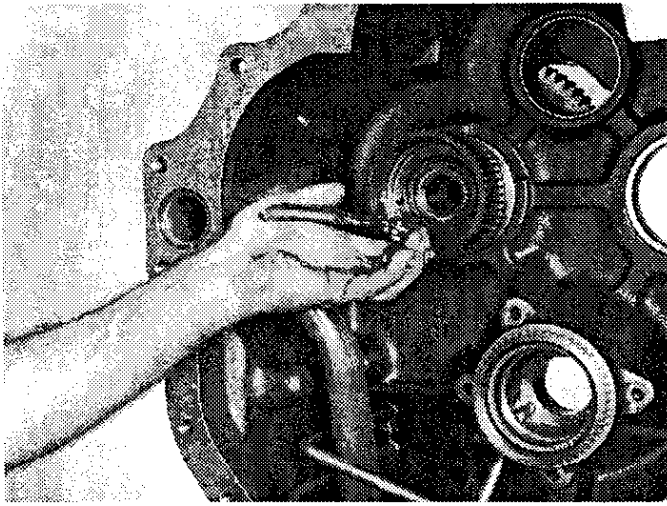


Figure 61
With the help of an assistant, support the low clutch assembly from the rear. Remove the 2nd clutch disc hub retainer snap ring.

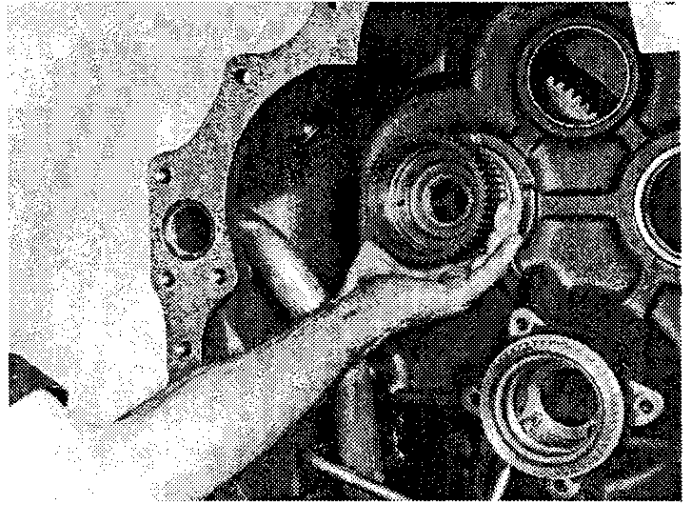


Figure 64
Remove 2nd clutch disc hub.

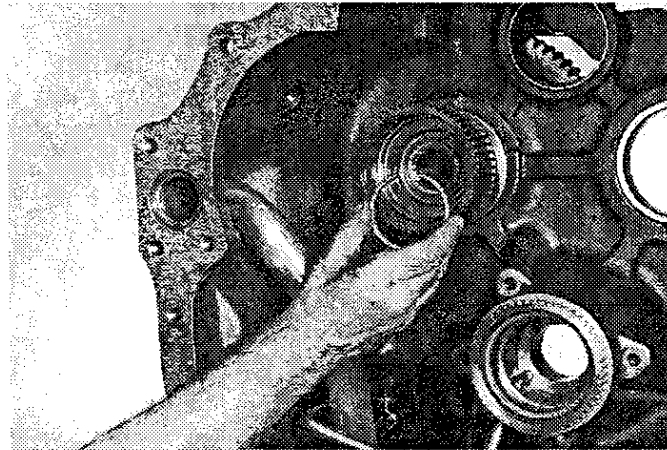


Figure 62
Remove snap ring retainer.

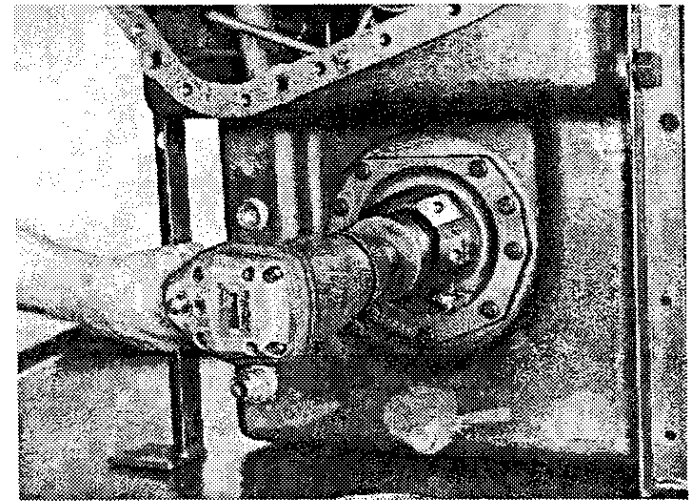


Figure 65
Block the output shaft to prevent moving. Remove the front output flange nut.

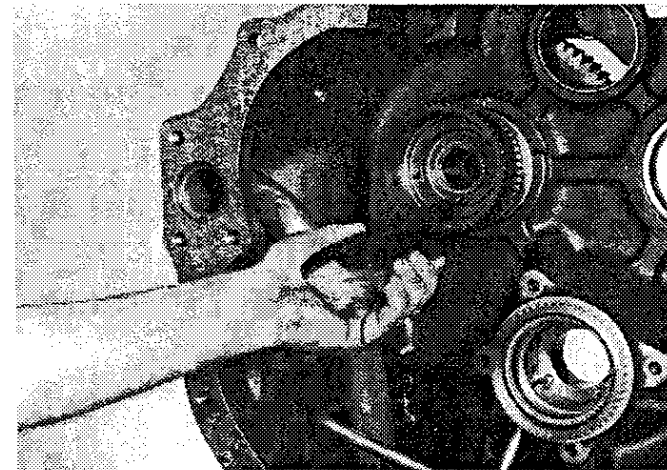


Figure 63
Remove the disc hub snap ring. NOTE: This is a select at assembly snap ring. Wire ring to disc hub for reassembly.

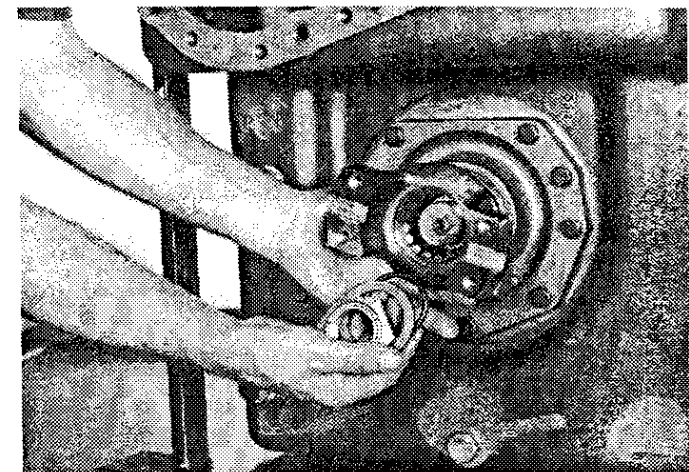


Figure 66
Remove flange nut, washer, "O" ring and output flange.

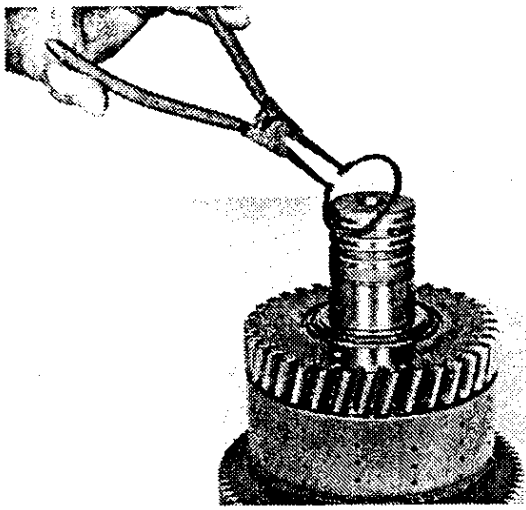


Figure 121
Remove the reverse driven gear bearing retaining snap ring.

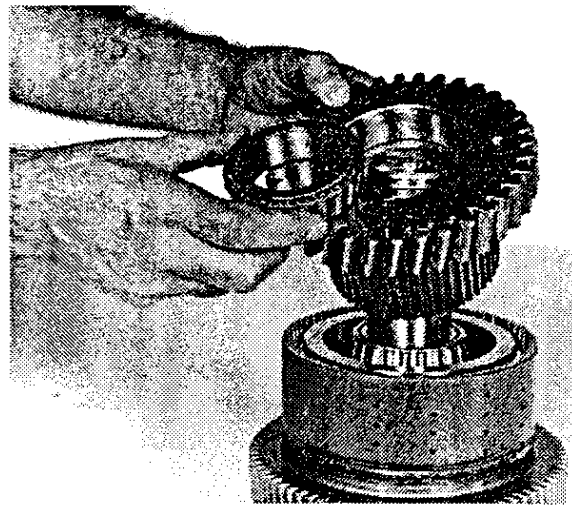


Figure 124
Taper bearing and gear removed.

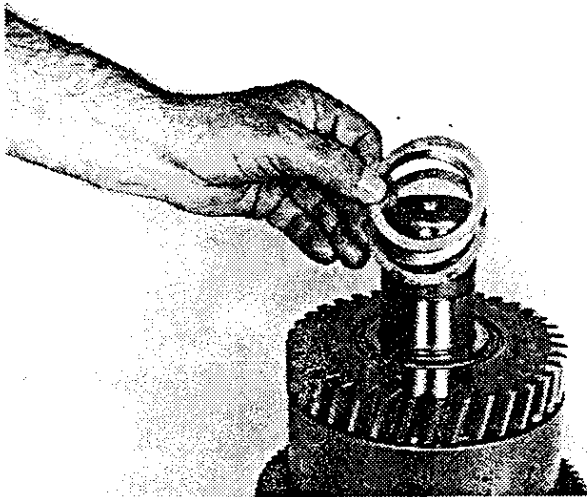


Figure 122
Remove gear bearing shims and keep shims with snap ring for reassembly.

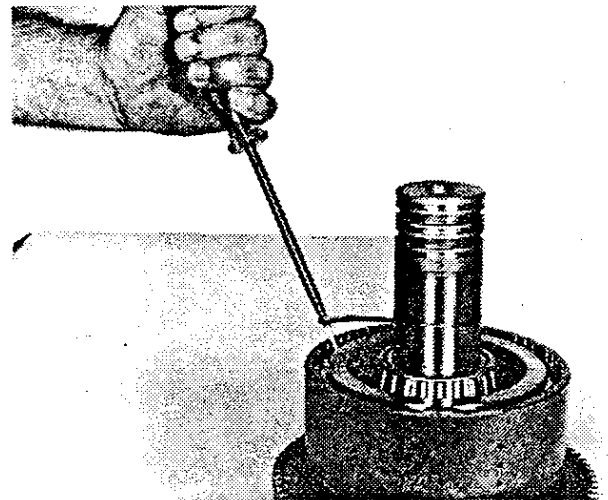


Figure 125
Remove clutch disc backing plate snap ring.

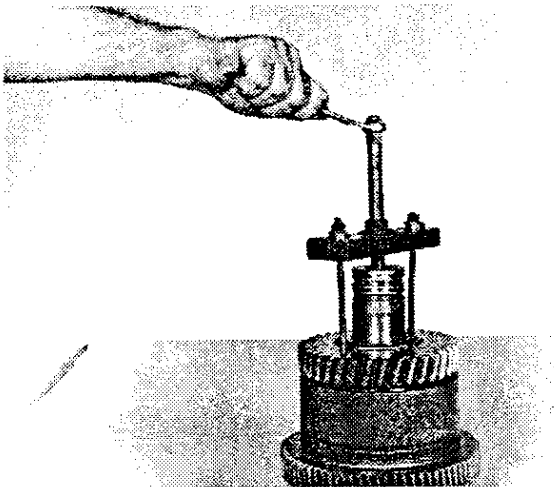


Figure 123
Remove reverse driven gear and outer taper bearing.

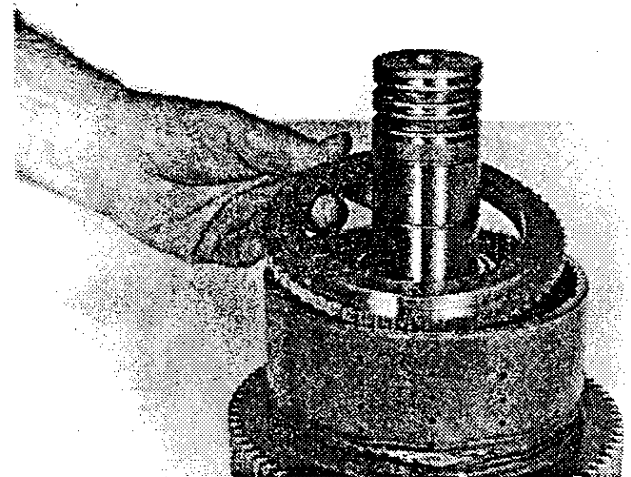


Figure 126
Remove backing plate.

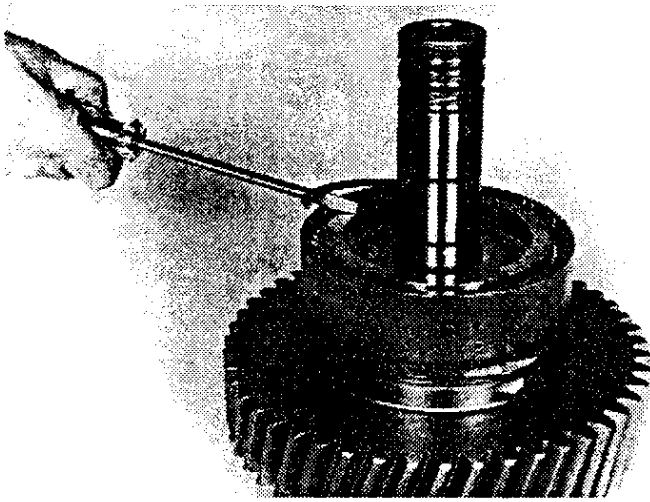


Figure 181
Remove clutch disc backing plate snap ring.

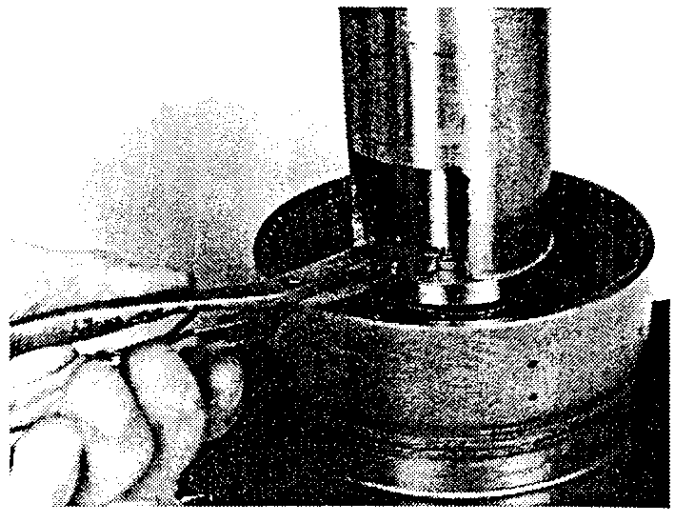


Figure 184
Compress piston return wave spring and retainer. Remove spring retainer ring from ring groove. Remove ring from shaft.

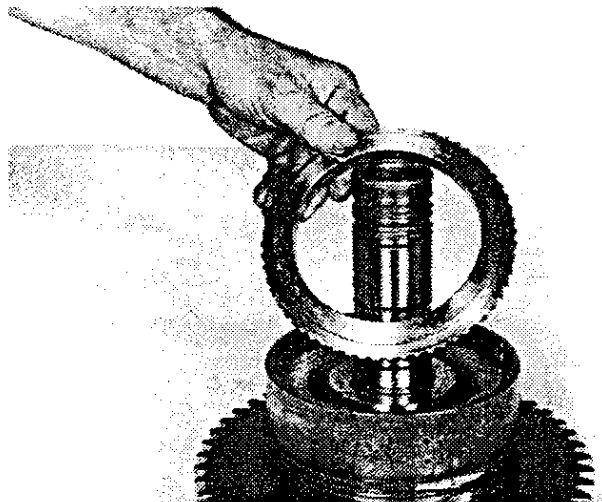


Figure 182
Remove backing plate.

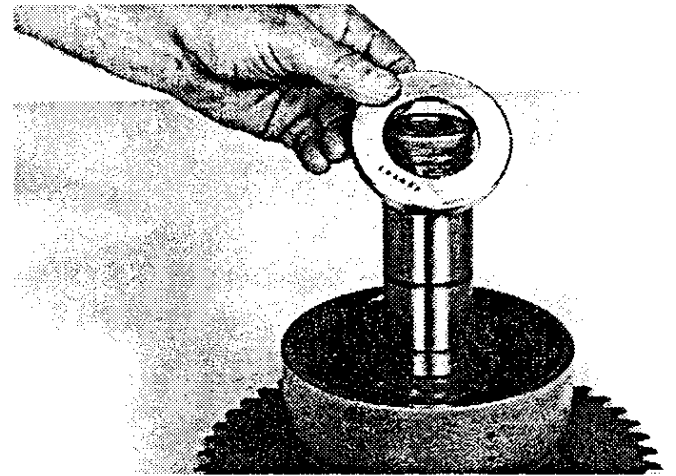


Figure 185
Remove wave ring retainer.

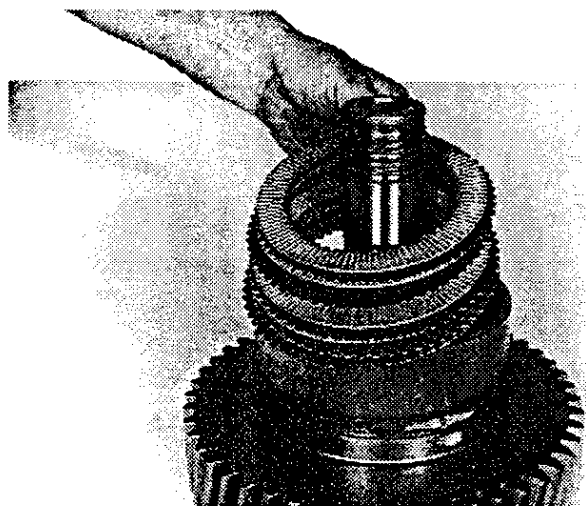


Figure 183
Remove inner and outer clutch disc.

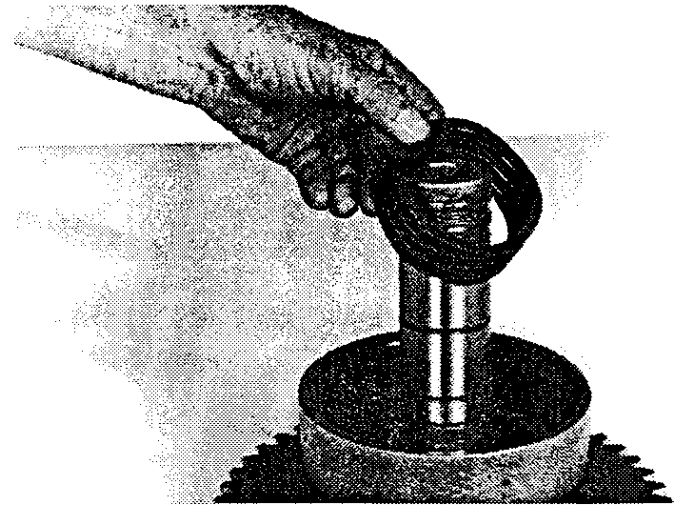


Figure 186
Remove wave spring.

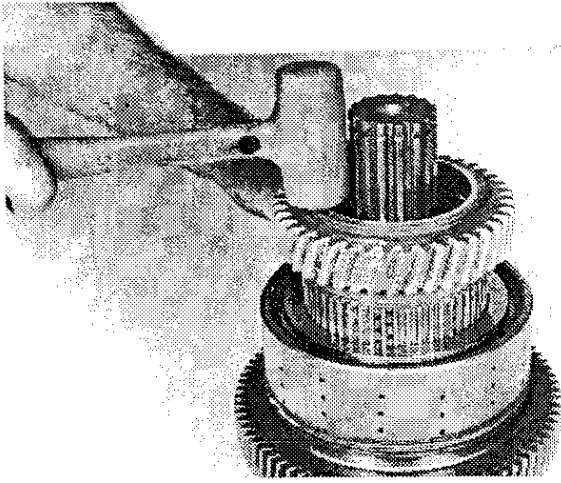


Figure 241
Install clutch driven gear into clutch drum. Align splines on clutch gear with internal teeth of friction discs. Tap gear into position. Do not force this operation. Gear splines must be in full position with internal teeth of all friction discs.

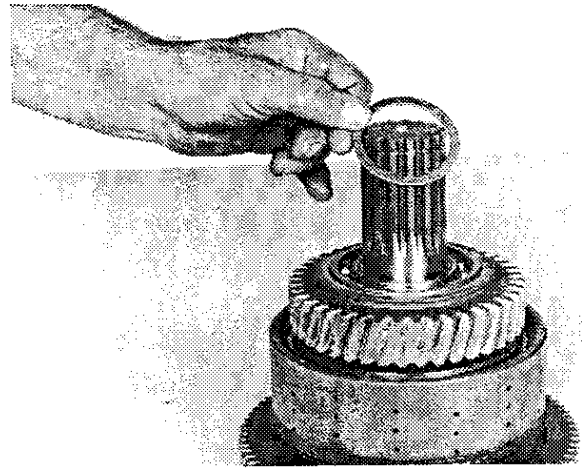


Figure 244
Position rear bearing spacer on shaft.

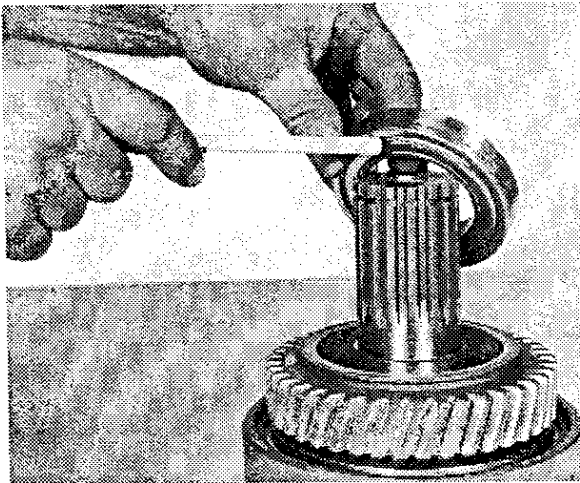


Figure 242
Position clutch gear outer bearing on shaft. NOTE: Bearing shield, in (down).

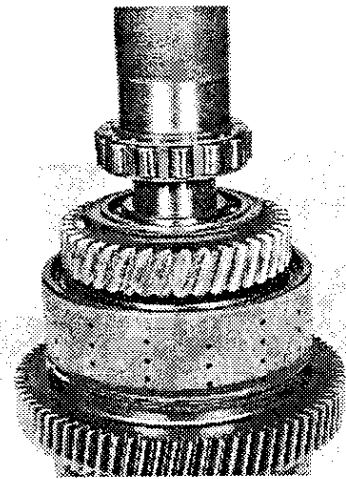


Figure 245
Press rear bearing into position. Turn clutch over.

FORWARD LOW CLUTCH REASSEMBLY

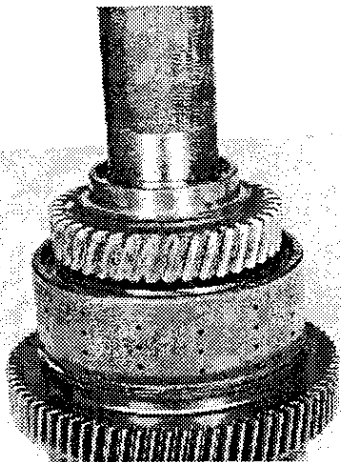


Figure 243
Press outer bearing into position.

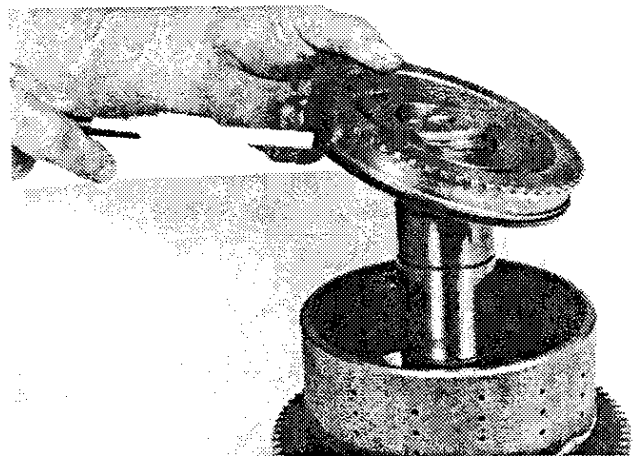


Figure 246
Position new inner and outer clutch piston sealing ring on piston. Install piston in clutch drum. Use caution as not to damage seal rings.

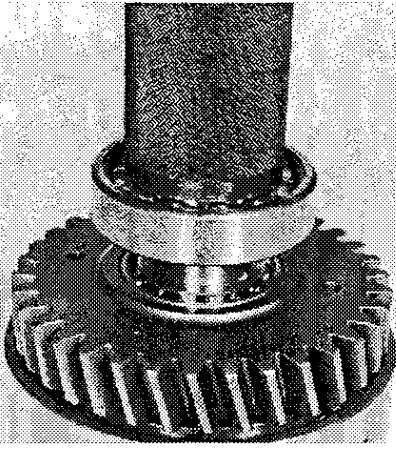


Figure 301
Press front bearing on shaft against spacer. Pack ring grooves with grease and install P.T.O. Shaft sealing rings. Center rings in grooves before assembly of converter housing.

TURBINE SHAFT DISASSEMBLY AND REASSEMBLY

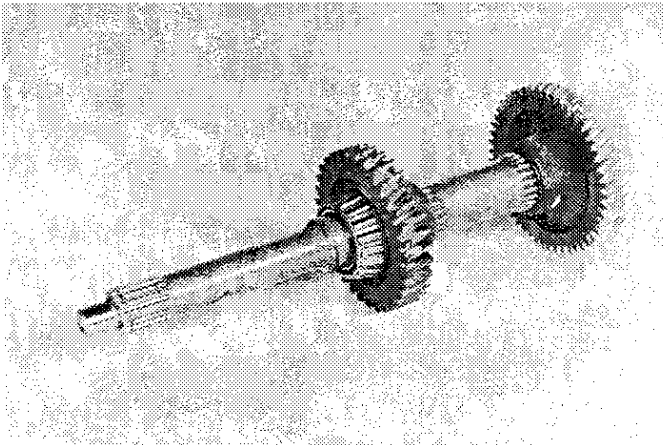


Figure 302
Turbine shaft gear and bearing assembly.

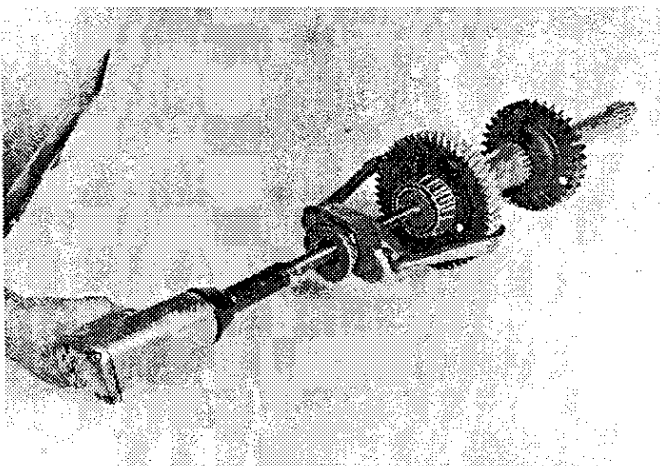


Figure 303
Using a press or gear puller, remove rear bearing and forward high gear.

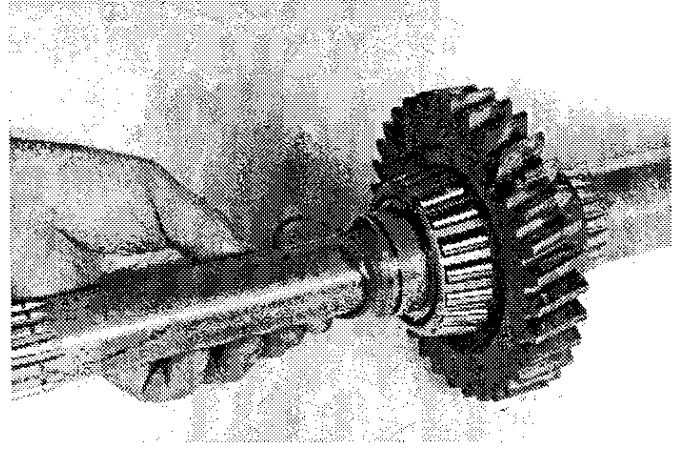


Figure 304
From the front, remove the turbine shaft sealing ring.

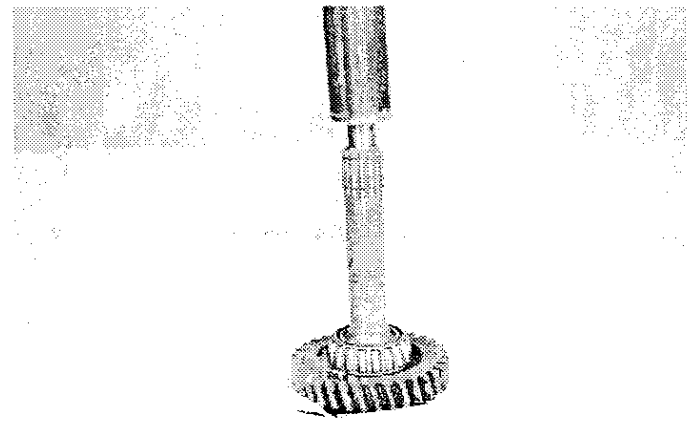


Figure 305
Press the front taper bearing and forward, reverse gear from turbine shaft.

TURBINE SHAFT REASSEMBLY (See Cleaning and Inspection Page)

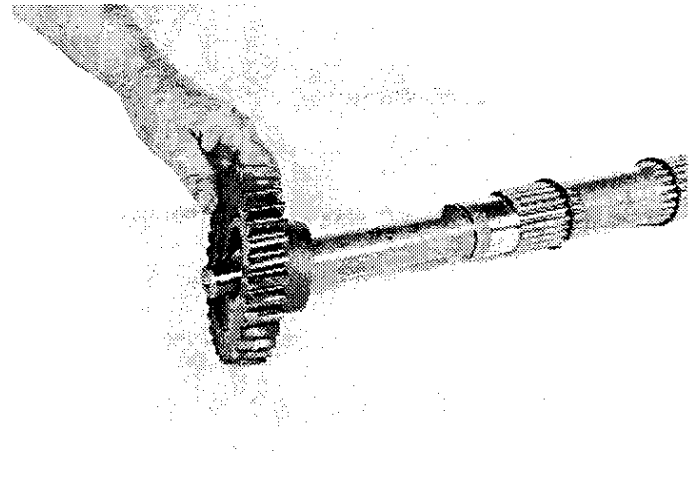


Figure 306
With the drive gear locating snap rings installed, position the forward, reverse drive gear on the turbine shaft with the long hub of the gear in (toward snap ring).

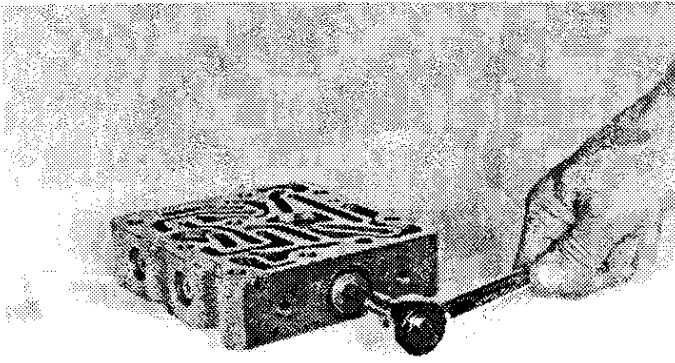


Figure 361
Install bore plug and tighten to specified torque.

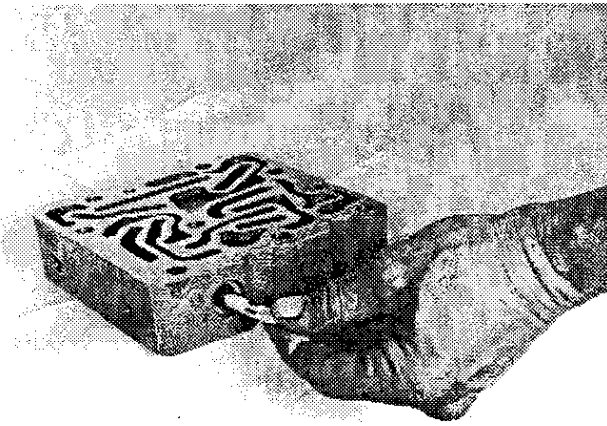


Figure 362
Install shuttle spool in cover.

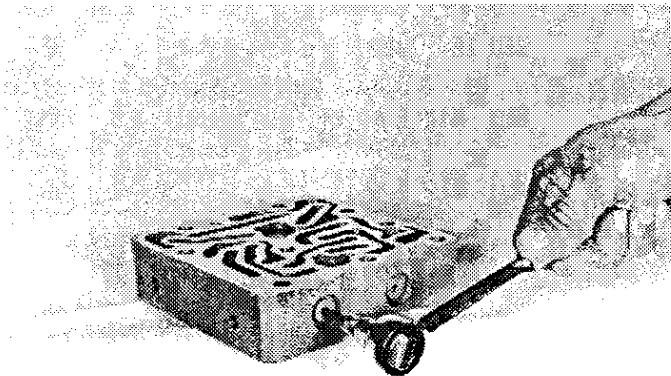


Figure 363
Install bore plug to specified torque.

TRANSMISSION REASSEMBLY
(See Cleaning and Inspection Page for
All Reusable Parts.)
(See Assembly Instruction Page for
Guidelines on Sealants, Rolling Torques and
General Instructions.)

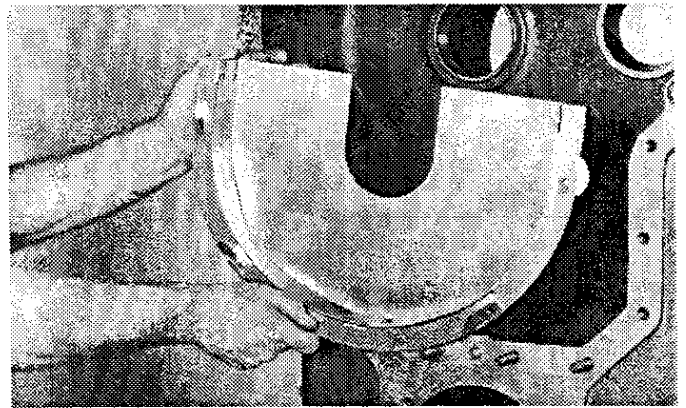


Figure 364
Position the transmission oil baffle assembly in transmission case, aligning case to baffle screw holes.

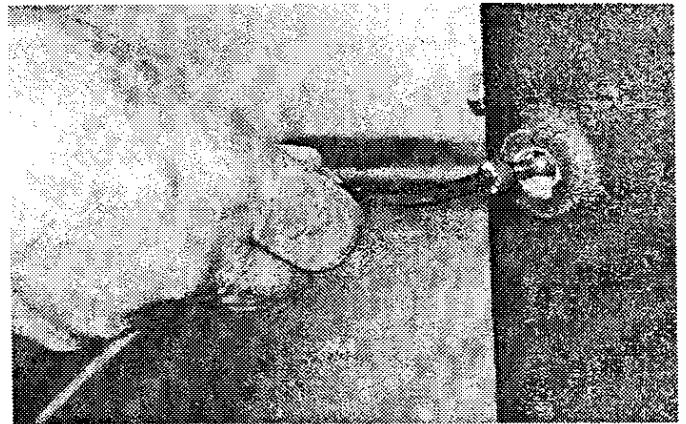


Figure 365
Install case to baffle screws (4 places). Tighten screws to specified torques.

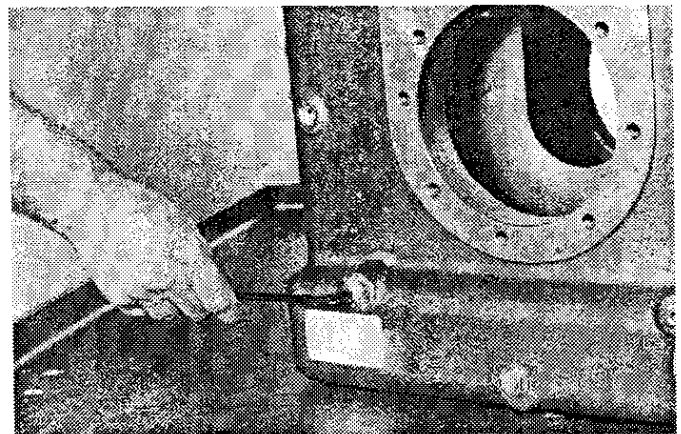


Figure 366
Apply loctite #592 to baffle screw hole plug, install plug and tighten securely (4 places).

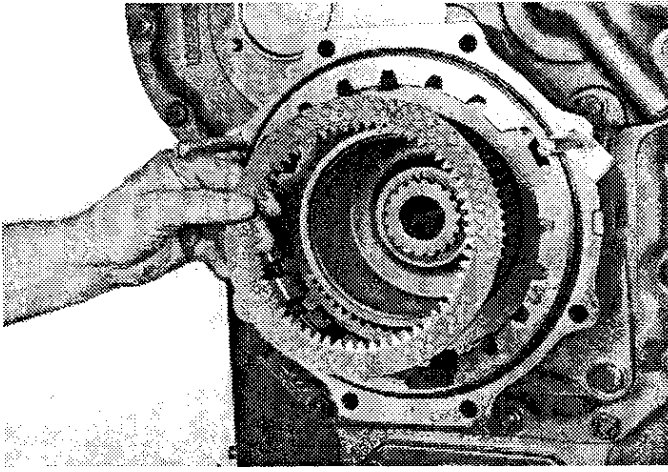


Figure 421

Install first friction inner disc. Alternate steel and friction discs until 11 friction and 12 steel discs are installed; start with steel. NOTE: Measure the distance from the face of the discs housing to the last steel disc, if the distance is more than .177 [4.50] or above, add another steel disc to achieve the proper distance.

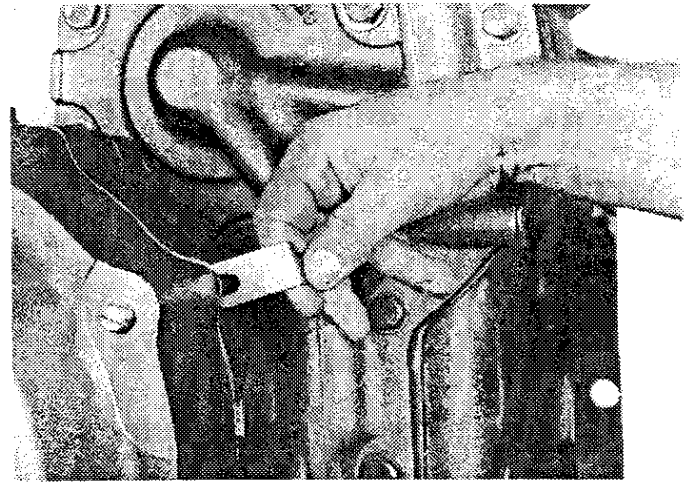


Figure 424

Install brake housing to adapter screws and washers, tighten screws just enough to loosen aligning studs and remove clips. Remove aligning studs.

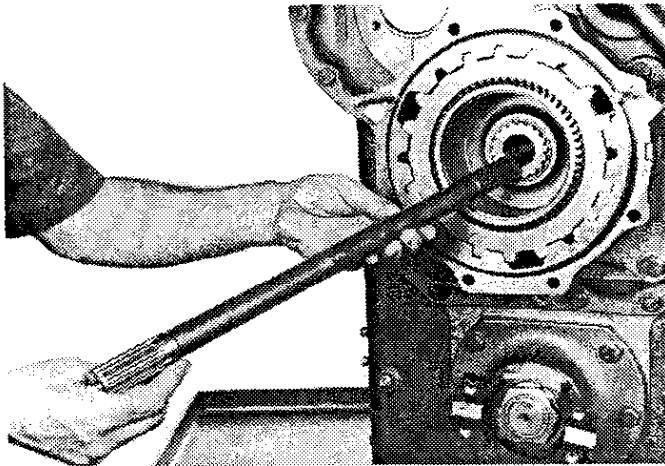


Figure 422

Install P.T.O. shaft.

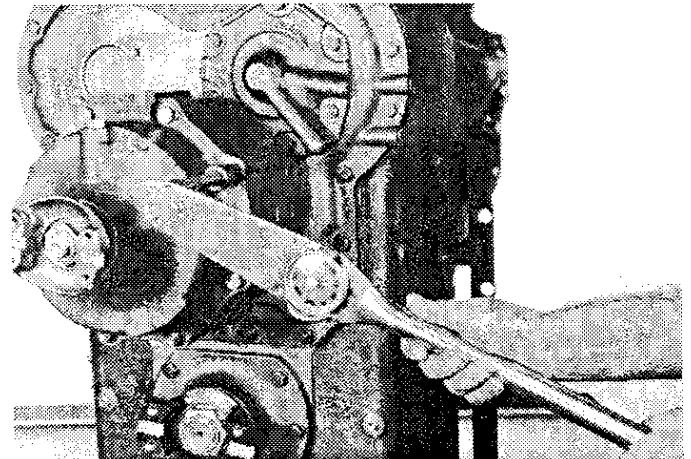


Figure 425

Install remaining screws and washers and tighten to specified torque.

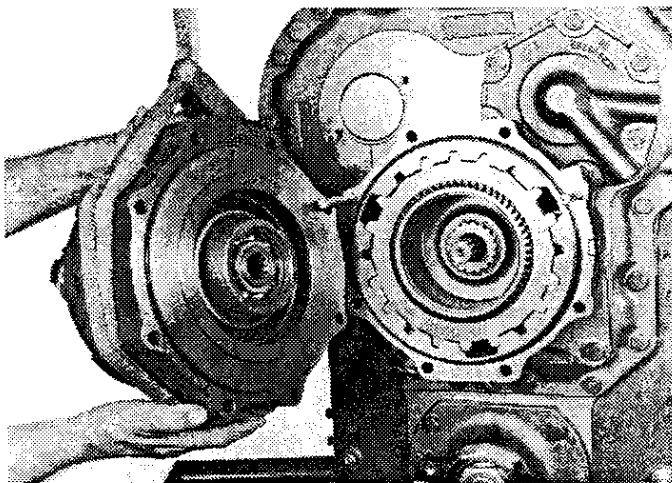


Figure 423

Position hydraulic brake extension housing. Turn P.T.O. flange to align P.T.O. shaft extension with P.T.O. shaft.

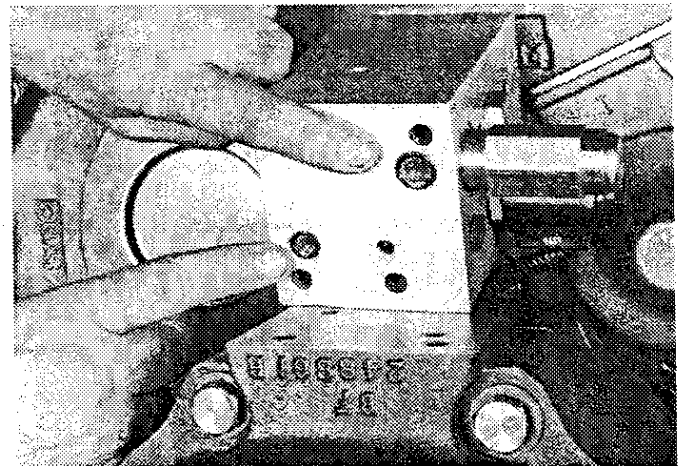


Figure 426

Position new manifold to brake extension housing "O" rings on manifold. Install manifold assembly on brake extension with screws and washers.

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