

surface condition. If the I.D. is less than 9.740 or if the surface of the I.D. is badly grooved or smeared with flowed metal; inspect clutch drum to determine if clutch drum may be reground. Accomplish inspection as follows:

(1) Measure O.D. at open end. If dimension is less than 10.420 diameter, scrap clutch drum.

(2) Measure O.D. at closed end. If dimension 10.420 is less than 10.120 diameter, scrap clutch drum, or if dimension 10-312 diameter, is less than 10.292 diameter, scrap clutch drum.

(3) Measure 0.780 to 0.775 dimension from hub surface to edge of open end. If dimension is greater than 0.800 or it varies more than 0.002, scrap clutch drum.

(4) Lay clutch drum on a surface plate and check flatness with a feeler gage. If waviness is greater than 0.008 is found on either side, scrap clutch drum.

(5) If the above checks show clutch drum to be useable, regrind I.D. to 9.749 to 9.753 diameter, or up to 9.769 diameter, maximum (overside) and clutch drum must be concentric to bearing diameter within 0.004 T.I.R. Surface finish to be 63 to 100 RMS. To break in new lining on assembly, check lining for proper contact.

4-35. REPLACING CLUTCH SHOE PIVOT PINS AND BUSHINGS. Worn clutch shoe pivot pins and wear of pin holes in spider or shoes can be repaired by installing hardened shoe bushings and oversize pins.

a. Remove and disassemble clutch.

Note

Clutch assembly can be removed without complete disassembly of transmission. Remove transmission (paragraph 4-4). Cut lockwire and remove screws from clutch drum lock-nut. Install T100879 clutch drum holding strap, fitting strap tightly around outside of drum and securing tool to lower case with bolts and wing nuts. Use T100230 wrench to remove clutch drum lock-nut. Remove holding strap. Pull clutch assembly off sun gear splines.

b. If bushings are not installed, ream pivot pin holes in clutch shoes 0.4668 to 0.4673 inch and press in bushings.

c. Line ream pin holes in spider to clean up any worn condition and to obtain a press fit of pin selected from chart. (Figure 4-14.)

d. Ream shoe bushings to dimension listed in chart opposite pin size.

4-36. ASSEMBLY - CENTRIFUGAL CLUTCH.

a. Position clutch shoes (7, figure 4-13) on spider (8) with free ends of shoes pointing counterclockwise (when viewed from bearing side of spider). Align pivot pin holes, insert and press pins (6) into place with heads on bearing side of spider. Install snap-rings (5) on lower end of pins.

Note

Check contact of shoe lining with clutch drum on assembly using prussian blue or equivalent, then soak clutch shoes in engine oil, for approximately 30 minutes prior to assembly. Sand high spots as necessary to obtain a minimum of 80 percent, preferably 100 percent, contact over length and width of lining. Clean with brush after obtaining proper contact to remove any grit imbedded in lining.

b. Press bearing (4) (without shields) into spider, using 47-620-200-12T210 plug. Position retainer (3) over bearing and install, tighten and lockwire bolts (2). Position spider assembly in clutch drum.

4-36A. INSPECTION TO DETERMINE IF 47-620-333-1 OR 47-620-336-1 IS REGRINDABLE.

Note

Applicable to 47-620-609 and 47-620-669 clutch assemblies.

a. It is essential when installing a new clutch assembly or when installing new clutch shoes in a used clutch drum to obtain a minimum of 85 percent contact between the face of each clutch shoe and the drum. Apply a light coat of Prussian blue to the shoe contact surface of the drum. Install the shoe assembly, apply hand pressure to each shoe and move to and fro against the drum several times to determine the surface contact to the drum. If contact is less than 85 percent, sand the face of the lining on each shoe as necessary until specified fit is acquired. Upon completion, clean Prussian blue from clutch drum and shoes with light engine oil. Before installing new shoes in a used drum inspect the shoe contact surface on the drum for a smooth finish and the diameter of the drum for any out-of-round condition or toe-in at the open face of the drum.

b. Lay clutch drum flat on a surface plate. Use a dial indicator and check the top of the drum for warpage. If warpage of surface from center boss to outer ring or rim is over 0.025 inch clutch drum must be replaced. If warpage is within limits check for toe-in at the open face of the drum. If toe-in is in excess of 0.006 inch on the diameter, regrind the drum (32 micro inch finish). To check, clamp the drum to a right angle block on a

surface plate, with boss on back of drum flat against face of angle block. Use a dial indicator. Find the lowest spot on the drum and move the dial indicator the total width of the drum and check the difference between the open face and closed face of the drum. Check the drum at four locations 90 degrees apart. If the difference is over 0.003 inch, grind the drum. Check the depth of any pock marks that appear on the shoe contact surface of the drum. If pock marks are over 0.001 inch in depth, grind the drum. To grind the drum remove only sufficient material to obtain a smooth finish. The diameter securing the clutch bearing and the shoe contact surface must be held concentric within 0.006 inch.

c. Clutch drum must be replaced when diameter exceeds 10.020 inches, or if wall thickness of the 47-620-636-1 drum is less than 0.160 inch measured from the top of the cooling fin or for the 47-620-333-1 drum the minimum wall thickness is 0.110 inch.

d. At the normal 600 hour inspection of the clutch, if clutch shows evidence of overheating check dimensionally as specified and if necessary grind before installing new shoes.

e. After a drum is reground, check for cracks by magnetic particle inspection before returning to service.