DODGE TRUCK

B-4 SERIES

SHOP MANUAL

MODELS: B-4-B, B-4-C, B-4-D, B-4-PW, B-4-DU, B-4-EU, B-4-F, B-4-G, B-4-GA, B-4-H, B-4-HA, B-4-HM, B-4-HMA, B-4-J, B-4-JA, B-4-JM, B-4-JMA, B-4-K, B-4-KA, B-4-KMA, B-4-R, B-4-RA, B-4-T, B-4-TA, B-4-V, B-4-VA, B-4-Y, B-4-YA, B-4-YX

SECTION 5

CLUTCH

DODGE DIVISION
CHRYSLER CORPORATION
DETROIT 31, MICHIGAN

LITHO IN U.S.A.
10M-CSD-3-53

D-14362

CONTENTS

SERVICE INFORMATION

SERVICE DIAGNOSIS

TIGHTENING REFERENCE

Part Name	*Size (inch) and number of threads per inch*	*Torque (foot-pounds)*
Housing to cylinder block cap screw	3/8 —16	30 to 35
Clutch to flywheel bolt	5/16 — 18	15 to 20
Clutch cover to flywheel cap screw	3/8 — 16	30 to 35

CLUTCH

REMOVAL, INSTALLATION AND MAINTENANCE

1. REMOVAL OF CLUTCH DISC (10 INCH CLUTCH (FIGS. 1 AND 2)

To remove the clutch disc, proceed as follows:

(1) Remove transmission (see Transmission section).

(2) Remove clutch housing pan.

(3) Remove clutch throw-out bearing.

(4) Mark clutch cover and flywheel (Fig. 3), and remove bolts which hold clutch cover to flywheel.

2. REMOVAL OF CLUTCH DISC (11 INCH, 12 INCH AND 13 INCH CLUTCHES) (FIGS. 1, 4 AND 5)

To remove clutch disc, proceed as follows:

(1) Remove floor boards.

(2) Remove transmission.

(3) Remove clutch housing pan.

(4) Remove the clutch release bearing.

(5) Disconnect the booster brake control valve linkage (if truck is so equipped), the mas-

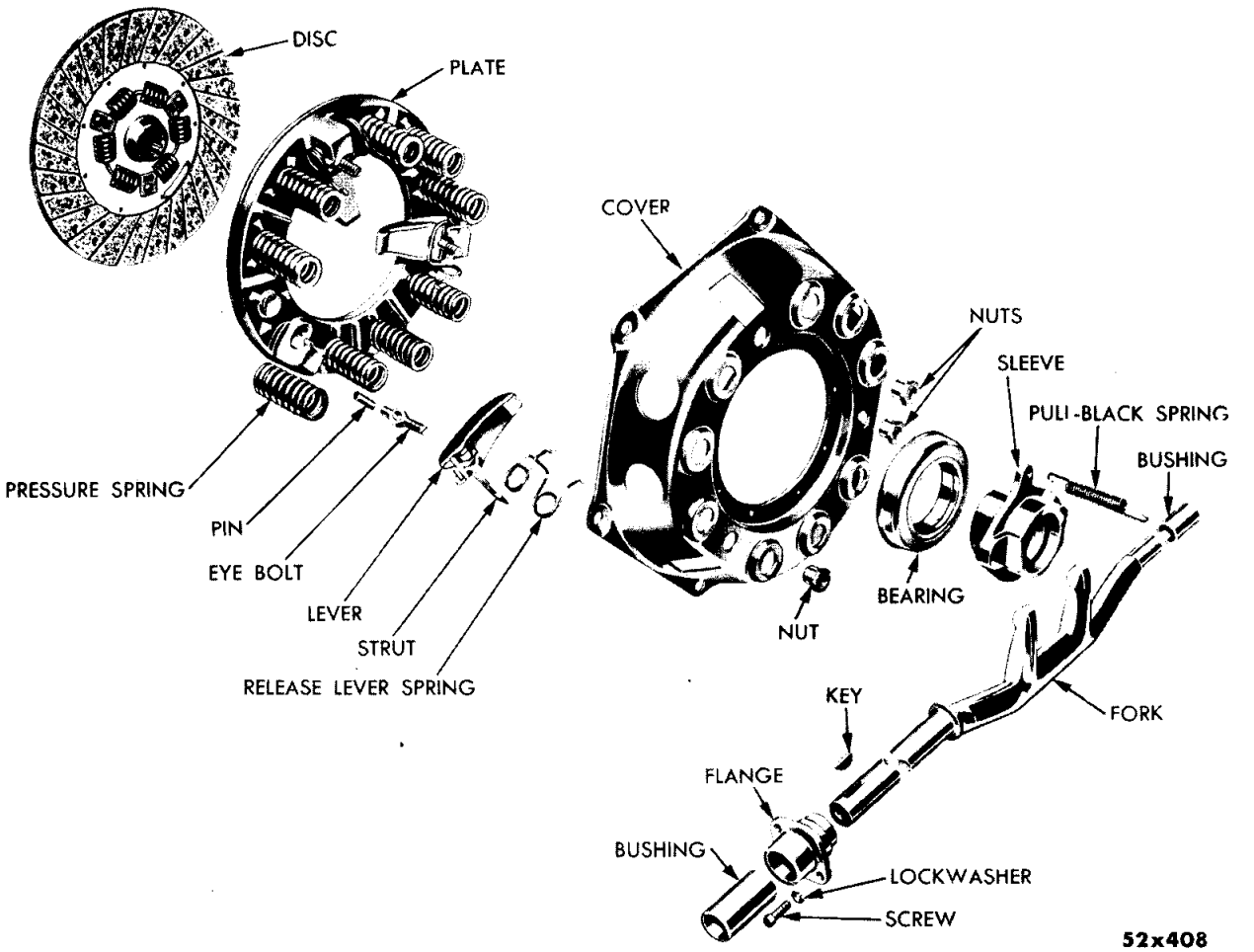

Fig. 1—10 Inch Clutch (Disassembled) (Typical of 11 Inch Clutch)

CLUTCH

SERVICE STANDARDS

MODEL DESIGNATION →	*B*	*C*	*D*	*PW*	*DU*	*EU*	*F, G, GA*	*H, HA, HM, HMA*	*J, JA, K, KA, JM, JMA, KMA*	*R, RA*	*T, TA, V, VA*	*Y, YA, YX*
Size	10"—(11" Extra Equip.)	10"—(11" Extra Equip.)	10"—(11" Extra Equip.)	10"	10"—(11" Extra Equip.)	11"	10"—(11" Extra Equip.)	11"	11"	12"	13"	13"
Clutch pedal free play	1 1/16"	1 1/16"	1 1/16"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Facings — Material	Moulded woven	Moulded woven	Moulded woven	Moulded woven	Moulded woven	Woven	Moulded—front; Woven—rear	Woven	Woven	Woven	Woven	Woven
Outer diameter	10"	10"	10"	10"	10"	11"	10"	11"	11"	11 7/8"	12 7/8"	12 7/8"
Inner diameter	6"	6"	6"	6"	6"	6 1/2"	6"	6 1/2"	6 1/2"	7 1/4"	7 1/4"	7"
Thickness	.125"	.125"	.125"	.125"	.125"	.140"	.125"—front; .133"—rear	.140"	.140"	.140"	.140"	.140"
Spring pressure — (springs compressed to 1 11/16"	170 to 180 lbs.	170 to 180 lbs.	170 to 180 lbs.	170 to 180 lbs.	170 to 180 lbs.	209 to 225 lbs.	170 to 180 lbs.	209 to 225 lbs.	209 to 225 lbs.	Green springs—105 to 115 lbs. Purple springs—130 to 140 lbs.	130 to 140 lbs.	150 to 160 lbs.
No. of torsional springs in disc	6	6	6	6	6	6	6	6	6	8	8	8
Release bearing — Type	Ball-pre-lubricated	Ball-pre-lubricated	Ball-pre-lubricated	Ball-pre-lubricated	Ball-pre-lubricated	Ball-pre-lubricated	Ball-pre-lubricated	Ball-pre-lubricated	Ball-pre-lubricated	Ball-pre-lubricated	Ball-pre lubricated	Ball-pre-lubricated
Pilot bearing in crankshaft — Type	Oilite bronze bushing	Oilite bronze bushing	Oilite bronze bushing	Oilite bronze bushing	Oilite bronze bushing	Oilite bronze bushing	Oilite bronze bushing	Oilite bronze bushing	Oilite bronze bushing	Ball	Ball	Ball
Outer diameter	.941"	.941"	.941"	.941"	.941"	.941"	.941"	.941"	.941"	.....	.....	.....
Inner diameter	.752"	.752"	.752"	.752"	.752"	.752"	.752"	.752"	.752"	.....	.....	.....
Length	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	.....	.....	.....

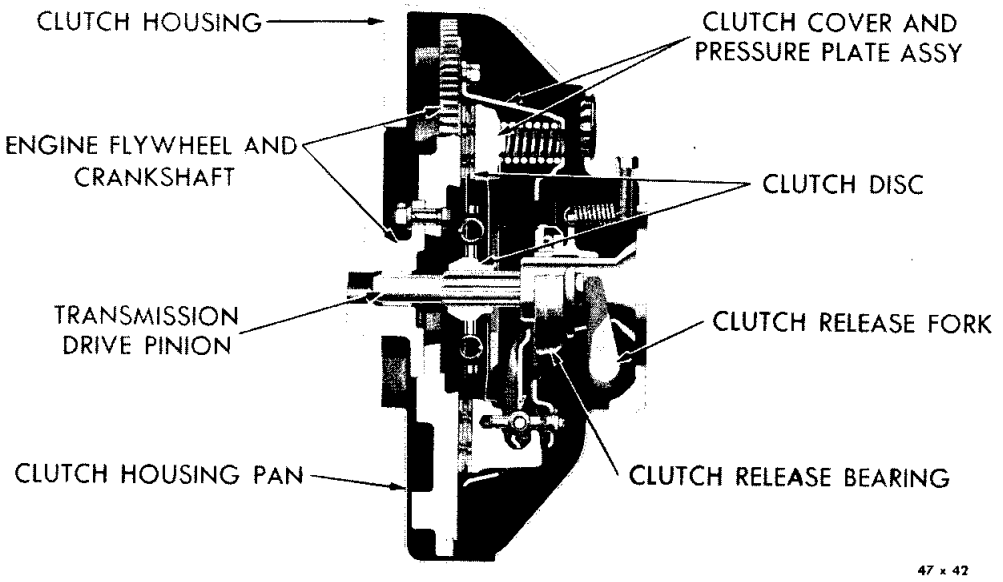

Fig. 2—Clutch (10 Inch) Sectional View

ter cylinder and the frame bracket. Remove the control valve.

(6) Disconnect the clutch release fork bracket at the clutch housing.

(7) Remove the clutch release fork flange cap screws and pull the release fork (with pedals and bushing) out of the clutch housing (Fig. 6) far enough to provide clearance for the clutch assembly to pass the cross shaft clutch release fork.

3. INSTALLATION OF CLUTCH DISC (ALL MODELS)

Install the clutch disc following the above procedure in reverse order, and observe the following precautions:

(1) Coat the main drive pinion pilot bushing (3, Fig. 7) in the end of the crankshaft and the end of the main drive bearing with short fiber wheel bearing grease, medium.

(2) Clean the surfaces of the flywheel and pressure plate thoroughly (Fig. 7). Make certain that no oil or grease remains on these parts.

(3) Hold the clutch cover plate and disc in place and insert the aligning tool (Fig. 8) through the hub of the driving disc and into the drive pinion pilot bushing in the crankshaft.

(4) Bolt the clutch cover plate loosely to the flywheel and make sure that the marks on the cover and flywheel are in alignment.

(5) The clutch cover bolts should then be tightened a few turns (in progression) until they are tight. If the aligning tool is not used, the transmission drive pinion (an extra part or one which has been removed from the transmission) may be used for this purpose.

Install the transmission, guiding it into place with pilot studs.

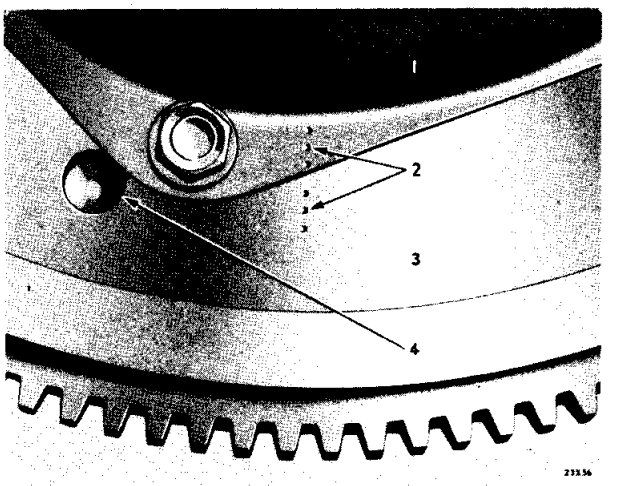

Fig. 3—Punch Marks on Clutch Cover and Flywheel

1 — Clutch cover
2 — Punch marks
3 — Engine flywheel
4 — Balance drilling in engine flywheel

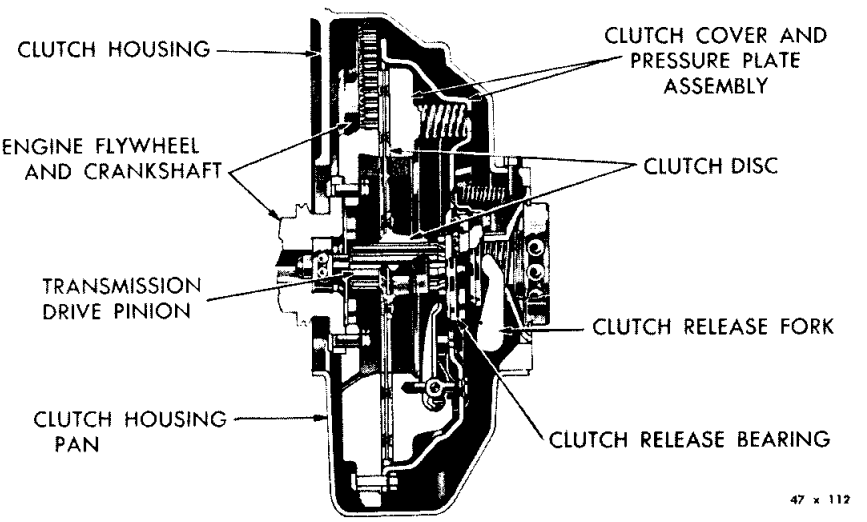

Fig. 4—Typical 4-Fingered Clutch (11, 12 and 13 Inch) (Sectional View)

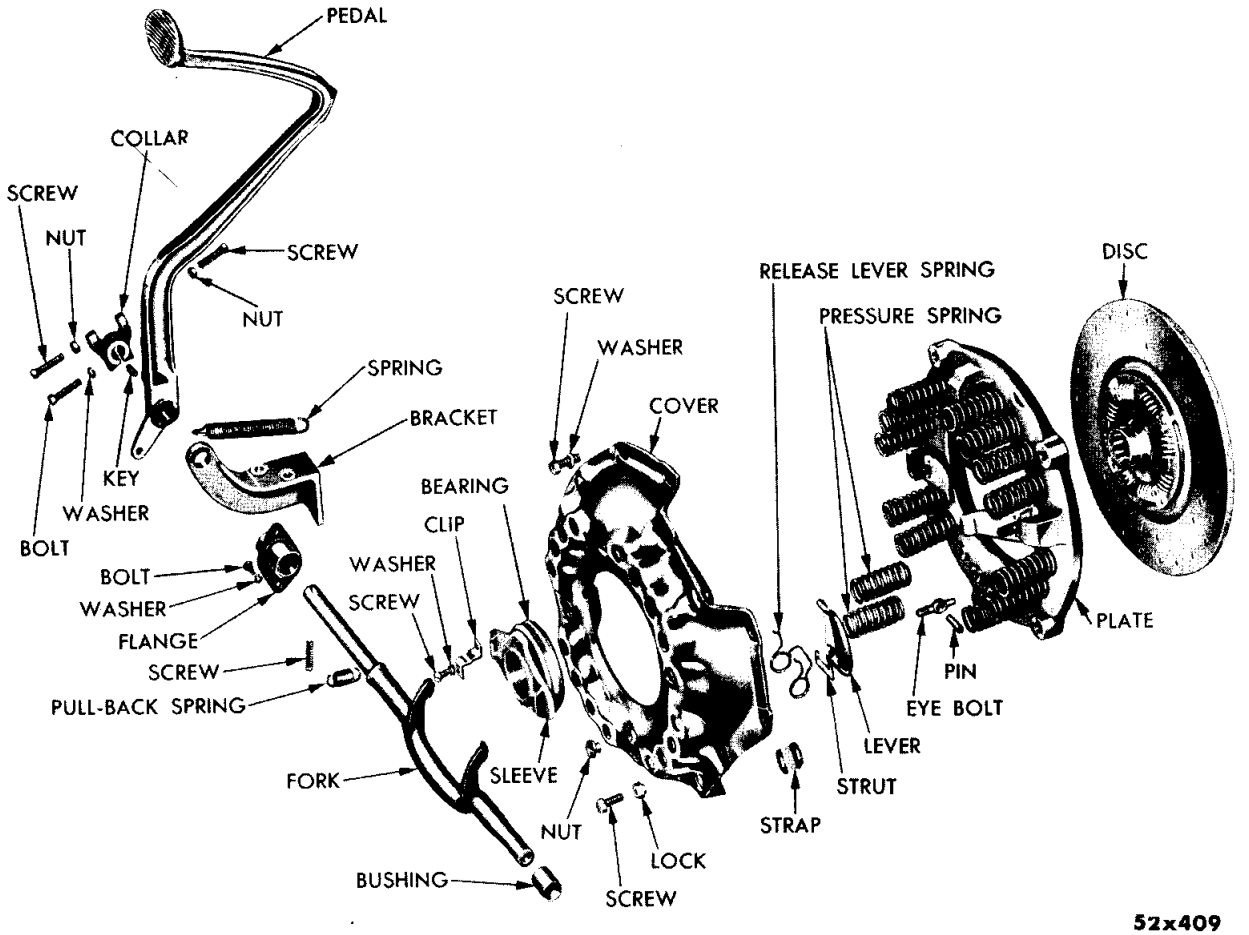

Fig. 5—13 Inch Clutch (Disassembled) (Typical of 12 Inch Clutch)

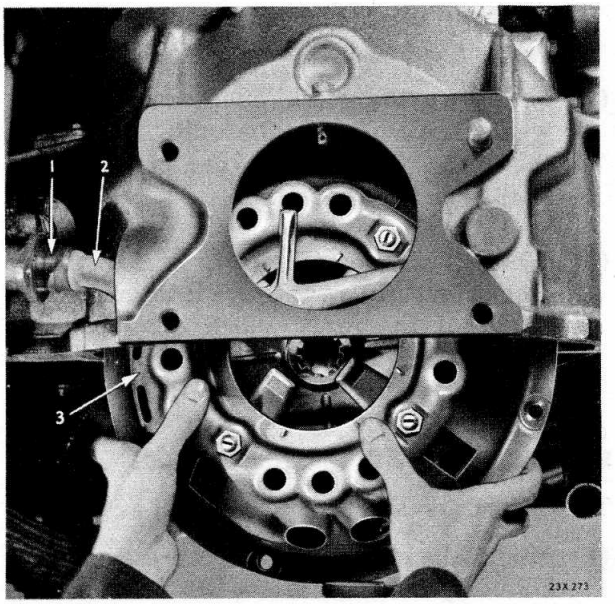

Fig. 6—Removing Clutch Assembly

1 — Clutch release fork flange
2 — Release fork
3 — Clutch assembly

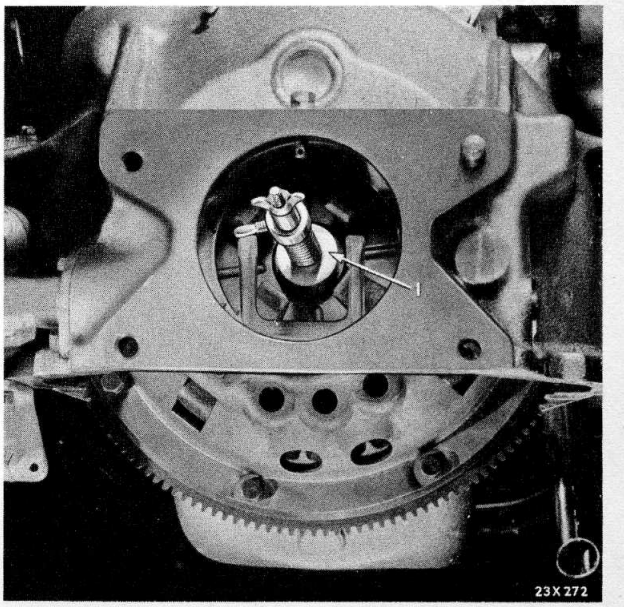

Fig. 8—Clutch Disc Aligning Arbor, Tool C-360

4. DISASSEMBLY AND ASSEMBLY OF CLUTCH COVER AND PRESSURE PLATE (FIG. 11, PAGE 10)

The clutch cover assembly should be removed as described in Paragraphs 1 and 2. Then, proceed as follows:

a. Disassembly

(1) Mark the cover and pressure plate with a prick punch so that these parts can be assembled in their original positions in order to maintain balance.

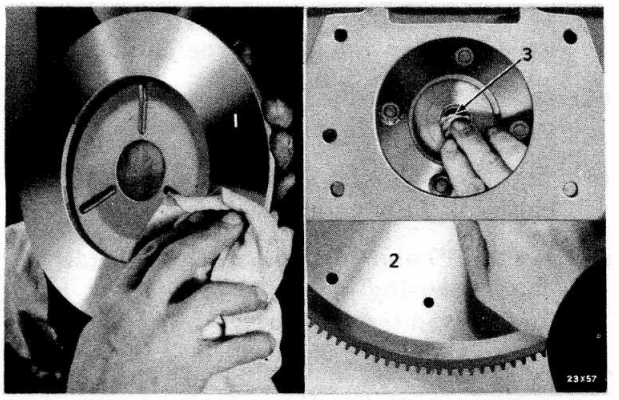

Fig. 7—Cleaning Clutch Friction Surfaces and Lubricating the Pilot Bushings

1 — Clutch pressure plate
2 — Engine flywheel
3 — Transmission main drive pinion pilot bushing

(2) Mount the clutch assembly in the clutch fixture.

(3) Install the three-legged spider over the center screw so that it rests directly against the top of the clutch cover.

(4) Install the plain thrust washer and the hexagonal compression nut, and compress the springs by turning down the compression nut (Fig. 9).

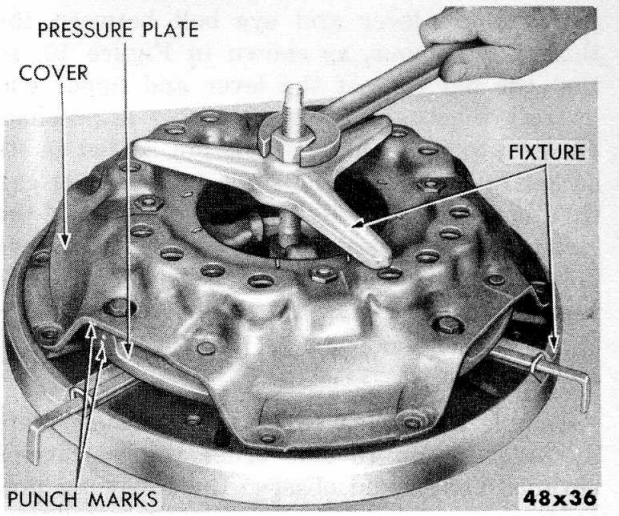

Fig. 9—Clutch Cover and Pressure Plate Assembly in Fixture C-585-B

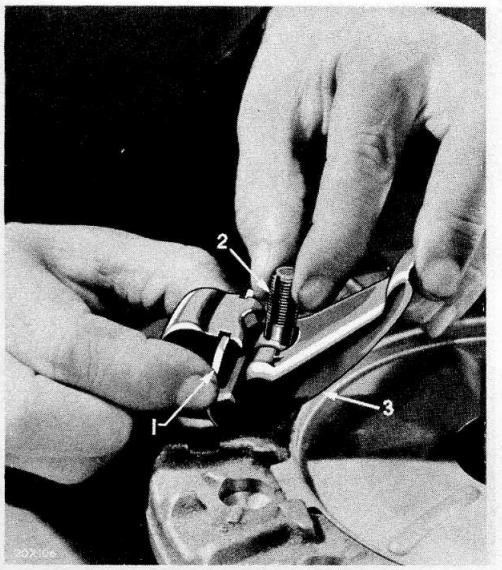

Fig. 10—Assembling Strut

1 — Release lever strut 2 — Eye bolt 3 — Release lever

(5) With the springs under compression, remove the clutch release lever eye bolt nuts. Remove cap screws which attach the four driving straps to the pressure plate. Slowly relieve the spring pressure by unscrewing the compression nut.

(6) The cover may then be lifted off. All parts will be available for inspection.

To remove the release levers, proceed as follows:

Grasp the lever and eye bolt between the thumb and finger, as shown in Figure 10, so that the flat side of the lever and upper end of the eye bolt are as close together as possible. Be sure to keep the eye bolt pin seated in its socket in the lever. The strut (1, Fig. 10) can then be lifted over the ridge on the end of the lever, making it possible to lift the lever and eye bolt off the pressure plate. It is advisable to replace worn parts.

b. Assembly

Assemble the clutch cover and pressure plate by following in reverse order the operations outlined above, and observe the following precautions:

(1) Place the pressure springs in position so that they rest on the small bosses of the pressure plate and engage the embossed seats on the cover.

(2) Match up the prick punch marks, made when disassembling the unit, so that the cover and pressure plate can be assembled in their original positions.

(3) When installing the cover and pressure plate assembly on the flywheel, make certain that the prick punch marks on the flywheel and clutch cover are matched in order to keep the assembly in balance.

5. ADJUSTING THE RELEASE LEVERS

To adjust the release levers, proceed as follows:

(1) Mount the clutch cover and pressure plate assembly on the fixture, with the release levers over the feeler gauges in the base of the fixture.

(2) Place the proper spacer on the center screw of the fixture, after selecting it according to the diameter of the clutch plate. Refer to the following table:

Clutch Size	*Spacer Number*
10 inch	17
11 inch	*20 and 21
12 inch	*17 and 21
13 inch	*18 and 21

*Place both spacers on center screw.

(3) Install the compression plate on the center screw. Make sure that it rests directly against the clutch release fingers. This plate can be reversed for proper clearance, depending on the size of the clutch.

(4) Install the self-aligning washer, plain thrust washer and the compression nut.

(5) Tighten the compression nut until the clutch is fully compressed.

(6) On the 10 and 11 inch clutches, install the clutch housing clamps over the bolt holes and tighten them securely.

(7) Adjust the 10 inch clutch release levers, until each of the three feeler gauges has the same slight *drag* or *feel* (while the gauge is pushed in and out). Tighten the nuts to decrease *drag* and loosen the nuts to increase *drag*.

(8) Recheck the release lever adjustment to make sure each one is adjusted properly.

On 11 inch clutches having four release levers, locate two of the levers over two of the three feeler gauges. Adjustment is made as outlined in the foregoing instructions. The clutch should then be rotated 180 degrees on the base of the fixture, so that the other two release levers can be placed over two of the feeler gauges. Adjust these levers so that they have the same slight drag as the first two release levers.

When removing the clutch cover assembly from the fixture, loosen the housing clamps first and then remove the compression nut to avoid throwing unequal strain on the release levers. This is important.

On 12 and 13 inch clutches, the feeler gauges are used, as described in Step 8. However, it is necessary to hold the clutch housing on the fixture with 8 cap screws. Tapped holes are provided in the fixture base for the screws.

6. REPLACING THE CLUTCH DISC

When installing facings on the clutch disc, use only new facings and rivets of the proper thickness, size and material. Slight variations in thickness of clutch facings will result in clutch difficulties.

Clutch facings on either side of the discs are individually riveted to the plate. That is, each of the two facings is fastened to the disc with a separate set of rivets to keep the facing from shifting on the disc, or from shearing off the rivet heads.

When removing the old facing, the rivets must be drilled out. If they are punched out, the clutch cushion springs may become damaged.

When installing a new facing, make certain that the clutch cushion springs are not bent away from their original position. Bending the cushion springs will result in clutch difficulties.

Do not allow grease or oil to come in contact with the friction surfaces of the clutch disc. Avoid touching the friction surfaces with greasy hands. Otherwise, enough grease may get on these surfaces to cause the clutch to chatter or to grab.

7. ADJUSTING CLUTCH PEDAL FREE MOVEMENT (ALL MODELS EXCEPT B-4-DU AND B-4-EU) (FIG. 12)

To adjust clutch pedal free movement, proceed as follows:

(1) Loosen pedal adjusting screw lock nuts.

(2) Turn clutch pedal adjusting screws until pedal has 1 inch or 1¼ inch free movement, depending upon the model. Refer to Service Standards.

On C.O.E. Models, the adjustment for pedal free movement is made by turning the swivel on the connecting rod between the pedal and operating lever.

Free movement of the clutch pedal (Fig. 15) is necessary to compensate for wear of the clutch facing and to avoid slippage. This free movement insures proper clearance between the clutch release bearing and the clutch release lever.

8. ADJUSTING CLUTCH PEDAL FREE TRAVEL (EXCEPT B-4-DU AND B-4-EU) (FIG. 15)

To adjust clutch pedal free travel, proceed as follows:

(1) Remove the clevis pin that holds the adjusting rod to the operating lever (Fig. 12).

(2) Loosen the nut and adjust the rod to provide proper pedal free travel.

9. REMOVAL AND INSTALLATION OF CLUTCH PEDAL (B-4-DU AND B-4-EU) (FIGS. 13 AND 14)

The removal and installation operations are as follows:

(1) Remove the lower toe board.

(2) Disconnect the clutch operating lever (3, Fig. 14).

(3) Remove the clutch pedal return spring.

(4) Remove the clutch pedal clamp bolt (4, Fig. 14).

(5) Slide the pedal off the shaft.

After the clutch pedal has been replaced, make certain that the clutch pedal is adjusted for correct free travel.

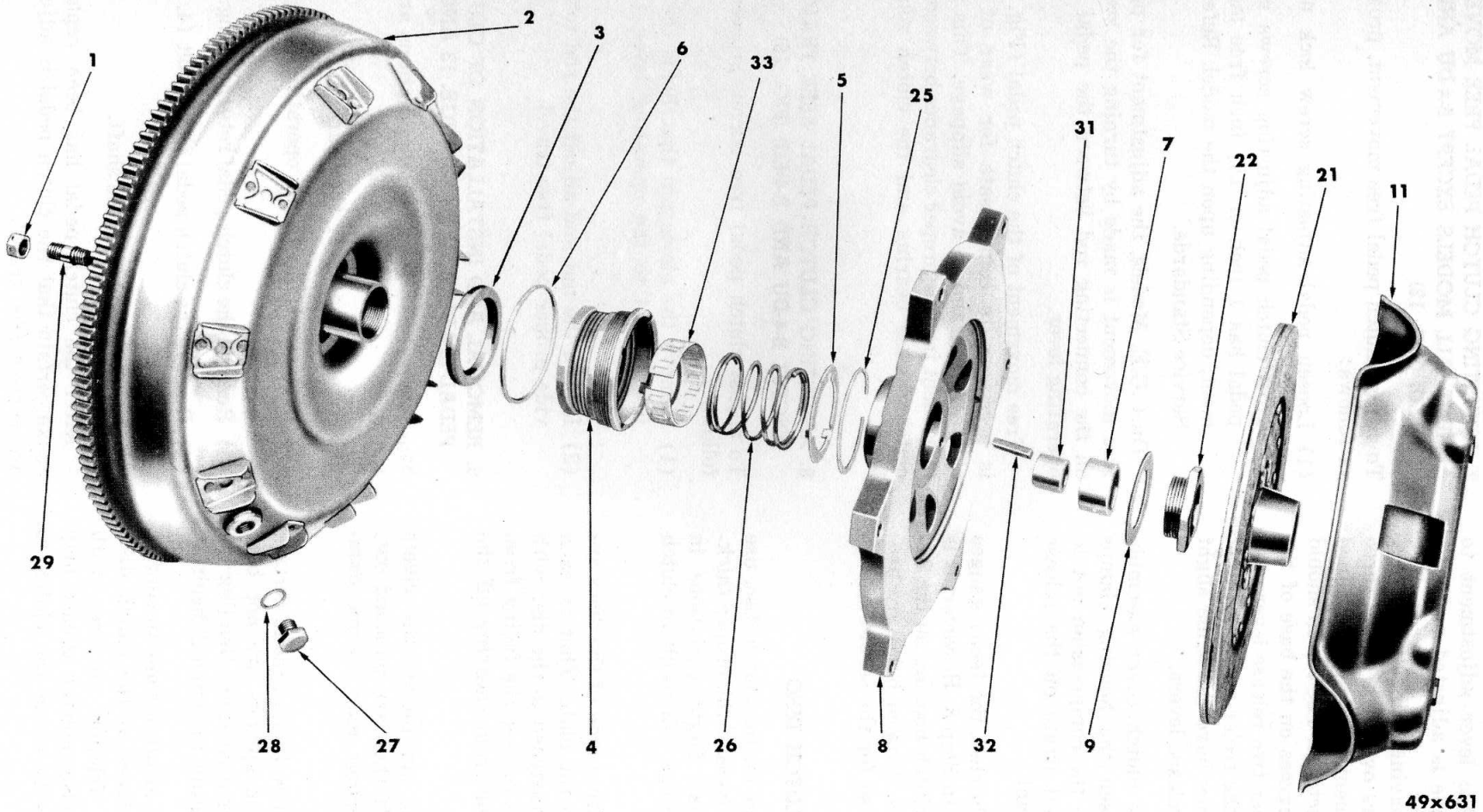

Fig. 11—Clutch and Fluid Drive (Disassembled View)

1 — Fluid drive flange stud nut
2 — Fluid drive assembly
3 — Fluid drive floating seal ring
4 — Fluid drive seal assembly
5 — Fluid drive seal spring retainer
6 — Fluid drive seal retainer gasket
7 — Fluid drive runner bushing—rear
8 — Fluid drive clutch driving plate
9 — Fluid drive driving plate lock washer
11 — Clutch cover
21 — Clutch disc assembly
22 — Fluid drive driving plate nut
25 — Fluid drive seal spring retainer snap ring
26 — Fluid drive seal spring
27 — Fluid drive filler plug
28 — Fluid drive filler plug gasket
29 — Fluid drive driving flange stud
31 — Fluid drive runner bushing—front
32 — Fluid drive seal damper
33 — Fluid drive driving plate key

10. REMOVAL AND INSTALLATION OF CLUTCH AND BRAKE PEDAL SHAFT (B-4-DU, B-4-EU) (FIG. 14)

To perform the operations, proceed as follows:

(1) Remove the clutch pedal.

(2) Disconnect the brake return spring.

(3) Disconnect the master cylinder push rod from brake pedal.

(4) Disconnect the clutch operating rod from clutch operating lever.

(5) Remove the clutch and the brake pedal bracket.

(6) Remove the Woodruff key from the shaft and slide shaft from the bracket.

When the pedal shaft has been installed and is properly positioned, check the operation of both clutch and brake pedals for correct action.

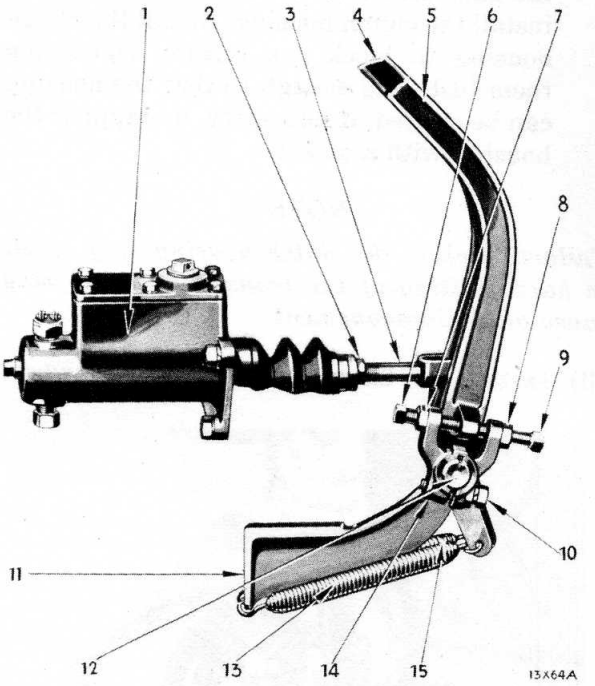

Fig. 12—Pedal Adjustments

1 — Master cylinder assembly—complete
2 — Master cylinder push rod end nut
3 — Master cylinder push rod end assembly
4 — Brake pedal assembly
5 — Clutch pedal assembly
6 — Clutch pedal adjusting collar set screw
7 — Clutch pedal adjusting collar set screw nut
8 — Clutch pedal adjusting collar set screw nut
9 — Clutch pedal adjusting collar set screw
10 — Clutch pedal adjusting collar clamp screw
11 — Clutch and brake pedal reinforcement bracket (except B-4-B, B-4-C)
12 — Clutch release fork
13 — Clutch pedal pull-back spring
14 — Clutch pedal adjusting collar
15 — Brake pedal pull-back spring

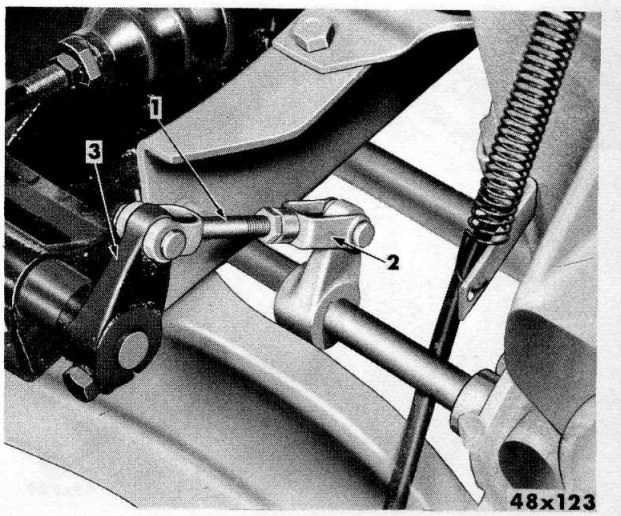

Fig. 13—Clutch Linkage (B-4-DU, B-4-EU)

1 — Adjusting rod (operating rod)
2 — Adjusting yoke
3 — Clutch operating lever

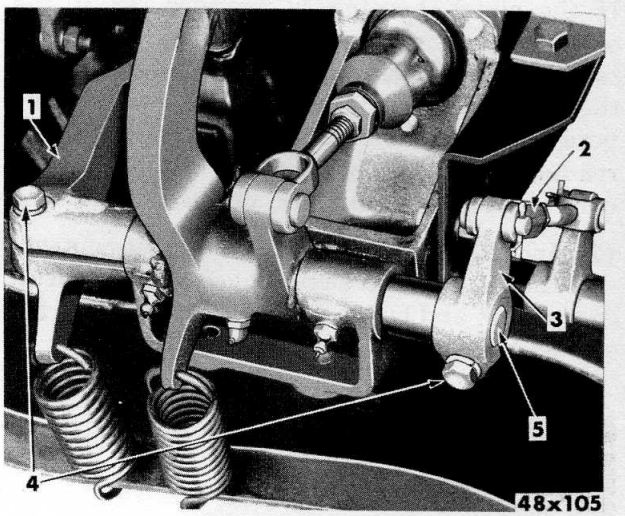

Fig. 14—Clutch Pedal Installed

1 — Clutch pedal
2 — Operating rod (adjusting rod)
3 — Operating lever
4 — Clamp bolt
5 — Clutch and brake pedal shaft

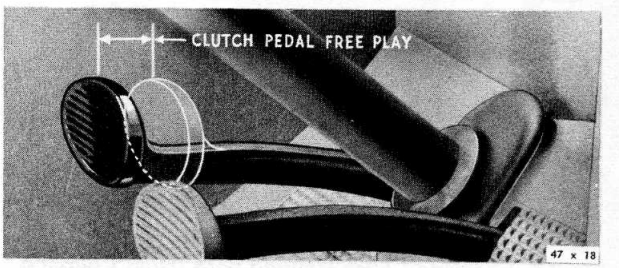

Fig. 15—Clutch Pedal Free Play

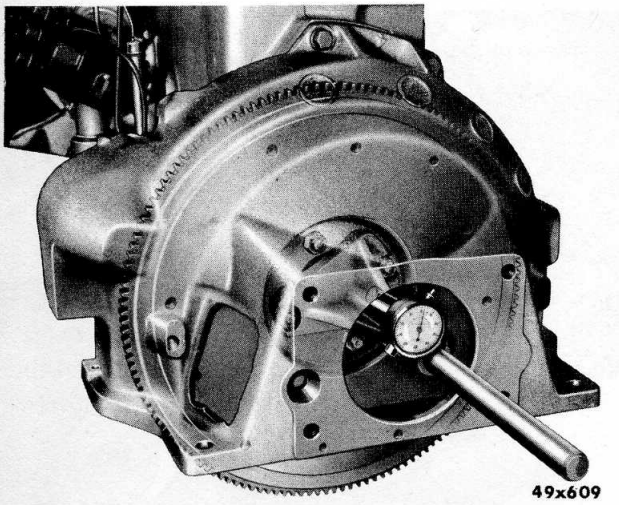

Fig. 16—Method of Attaching Fixture C-870 (Flywheel Type Housing)

11. ALIGNMENT OF CLUTCH HOUSING

If the clutch housing is replaced, or if the original housing is to be reinstalled, make certain that the housing is correctly aligned when the operation is performed. Out-of-round of the bore must not exceed .005 inch, total indicator reading. To correctly align the clutch housing, with or without fluid drive, proceed as follows:

(1) Inspect the housing face, where it contacts the rear of the engine block, for particles of dirt and burrs. Remove burrs with a file and clean both surfaces.

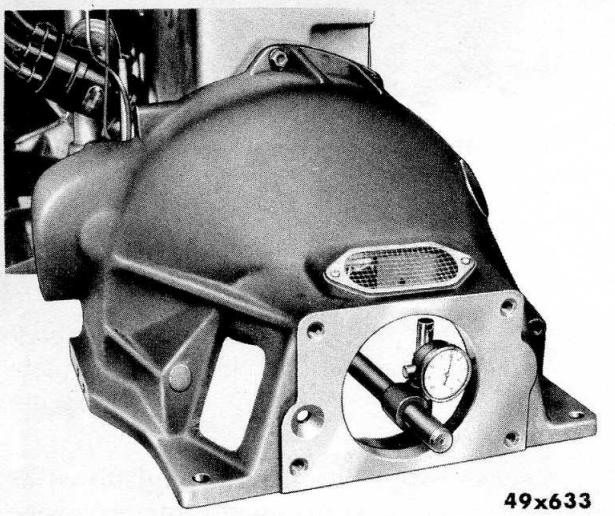

Fig. 17—Checking Clutch Housing Bore (Fluid Coupling Type Housing), Using Indicators C-435 or C-430

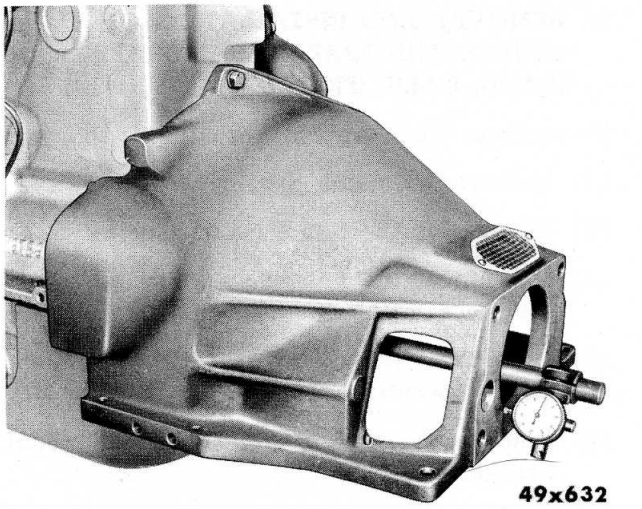

Fig. 18—Checking Rear Face of Housing

(2) Start the two dowel pins in the block from the front end so that they protrude beyond the machined face of the engine block and install the clutch housing. Install the clutch housing to block cap screws, tightening them just snug enough so that the housing can be shifted, if necessary, by tapping the housing with a mallet.

NOTE

Failure to align the clutch housing may result in hard shifting of the transmission and may cause gear disengagement.

(3) Install the fixture C-870 to the flywheel

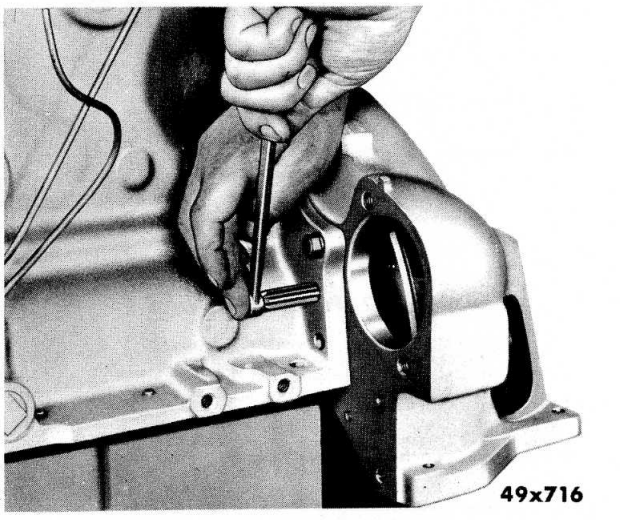

Fig. 19—Reaming Dowel Pin Holes, Using Tool C-860

attaching bolts (Fig. 16). Or, if the fluid drive unit is to be installed, attach the fixture to the crankshaft flange bolts and install the indicator (C-435 or C-430), as shown in Figure 17. Rotate the crankshaft and check the inside diameter of the housing bore. It should not vary more than .005 inch to one complete revolution of the crankshaft. If alignment is necessary, remove the dowel pins and tap the housing until it comes within the specified tolerance. After obtaining correct alignment, tighten the housing cap screws to 30 to 35 foot-pounds torque.

(4) Change the position of the dial indicator and check the rear face of the housing, as shown in Figure 18. This tolerance must be within .002 inch. Assuming that all burrs and dirt have been removed, as described in Step (1), this tolerance should be within the specified limits.

If alignment of the housing is necessary, as described in Step (3), ream the dowel pin holes with tool C-860, as shown in Figure 19. Install .512 inch oversize dowel pins. Then complete the assembly of the clutch unit.

SERVICE DIAGNOSIS

CONDITIONS — POSSIBLE CAUSES — REMEDIES

12. CHATTERING CLUTCH

Possible Causes

a. Improper level adjustment.

b. Oil or grease on facings.

c. Loose universal joint flange.

d. Worn splines on transmission shaft.

e. Binding pressure plate.

f. Binding release levers.

g. Binding disc hub.

h. Glazed facings.

i. Unequal contact of pressure plate.

j. Bent clutch disc.

k. Uneven spring pressures.

l. Improper alignment of transmission.

m. Loose facings.

n. Scored pressure plate.

Remedies

a. Readjust clutch.

b. Check for oil leaks at rear main bearing and at transmission pinion shaft bearing. Correct leaks, if necessary. Then, replace disc assembly and clean clutch parts thoroughly.

c. Check universal joint flange and tighten to recommended torque.

d. Replace worn transmission drive pinion (clutch shaft). Install new disc assembly and adjust clutch.

e. Check pressure plate for binding where lug protrudes through cover. Coat contact surfaces with a thin coat of MOPAR Lubriplate. Replace worn parts as required.

f. Free up binding release levers. Check for worn or damaged threads on eyebolts, adjusting nuts, or where binding (which retards free back and forth movement) seems to occur. Check struts for wear on contact edges and, if necessary, replace.

g. Replace disc assembly and adjust clutch.

h. Replace disc assembly after checking pressure plate, flywheel or driving plate for possible scoring. If parts are badly scored or worn, replace them.

i. Check clearances of release levers, check the disc for thickness and the pressure plate for parallel position against flywheel or driving plate.

j. Replace disc assembly if it is distorted or bent. Examine pressure plate for excessive wear or scoring. Replace if necessary.

k. Check springs for tension.

l. Check clutch housing alignment. Misalignment of transmission and clutch housing may be caused by chips, dirt, or burrs. Check to determine cause and correct the condition.

m. Replace disc assembly. Examine pressure plate and flywheel, or driving plate, for possible scoring and excessive wear. Replace as required.

n. If pressure plate shows signs of scoring, excessive wear, or heat checking, or if pressure plate is warped more than .005 inch, replace plate.

13. GRABBING CLUTCH

Possible Causes

a. Improper level adjustment.

b. Oil or grease on facings.

c. Worn pressure plate, flywheel or drive plate.

d. Clutch disc hub sticking on pinion (clutch) shaft.

e. Worn or binding release levers.

f. Worn or glazed facings.

g. Broken or weak pressure springs.

h. Sticking clutch pedal.

i. Dragging brakes.

j. Incorrect disc facings.

k. Improper alignment of transmission.

l. Engine loose in frame.

Remedies

a. Adjust clutch.

b. Replace disc assembly. Check for oil leak at rear main bearing. Replace the oil seal, if necessary.

c. A flywheel, pressure plate, and/or, fluid drive clutch driving plate that shows signs of excessive wear, heat checking or scoring, must be replaced.

d. Free up disc hub. Check pinion shaft for excessive wear or burrs. Check disc assembly for distortion and replace if necessary.

e. If the tips of release levers are badly worn, replace the levers. Such a condition is also an indication of a sticking release bearing. Replace eyebolts or adjusting nuts which have worn or damaged threads. If binding occurs (which retards free back and forth movement), correct the condition. Check contact edges of struts for wear and replace as necessary.

f. Replace disc assembly. Check pressure plate and/or, clutch driving plate (fluid drive) for excessive wear or scoring. Replace parts as required.

g. Replace broken or weak springs.

h. Free up sticking pedal. Check for worn or misaligned parts. Replace or align parts as necessary.

i. Refer to Brakes section in this manual and correct condition.

j. Replace disc assembly. Use factory engineered and inspected clutch disc assembly. Adjust clutch.

k. Check clutch housing alignment. Misalignment of transmission and clutch housing may be caused by chips, dirt, or burrs. Check to determine cause and correct.

l. Check engine mountings for loose bolts. Tighten as required.

14. SLIPPING CLUTCH

Possible Causes

a. Weak or broken pressure springs.

b. Worn facings.

c. Improper clutch adjustments.

d. Oil or grease on facings.

e. Warped disc assembly.

f. Warped or scored pressure plate.

g. Binding release levers.

h. Binding clutch pedal.

i. Insufficient free pedal travel.

Remedies

a. Replace weak or broken springs.

NOTE

It is advisable to replace pressure springs when clutch is dismantled after considerable service, or if there has been a great amount of slippage due to excessive heat which may have caused the springs to lose their initial tension.

b. Replace disc assembly. Check pressure plate, flywheel, or clutch driving plate for possible scoring, heat checking or excessive wear. Test pressure springs for tension. Replace parts as needed.

c. Examine disc assembly for excessive wear or glazed surface. Check pressure plate for possible scoring or distortion. Test springs for tension. Replace parts as required. Adjust clutch.

d. Replace disc assembly. Check for oil leak at rear main bearing. If it is necessary to replace the oil seal, refer to the Engine section in this manual.

e. Replace warped or distorted disc assembly, after examining pressure plate for possible damage. Test pressure springs for tension.

f. A pressure plate that is badly scored, heat checked or warped more than .005 inch, must be replaced. Test springs for tension and install new disc assembly.

g. Free up release levers where binding is present (which retards free back and forth movement). Examine contact surfaces of struts for excessive wear and replace as needed. Lubricate all moving parts with MOPAR Lubriplate. Check disc and pressure plate for scoring or heat checking. Test pressure springs for tension. Replace parts as required.

h. Examine pressure plate for possible scoring or heat checking. Test pressure springs for tension.

i. Examine disc assembly and pressure plate for excessive wear and possible scoring. Test pressure springs for tension and replace damaged parts as required. Adjust pedal travel.

15. DRAGGING CLUTCH

Possible Causes

a. Oil or grease on facings.

b. Incorrect lever adjustment.

c. Incorrect pedal adjustment.

d. Dust or dirt in clutch.

e. Worn or broken facings.

f. Bent clutch disc.

g. Disc hub binding on pinion shaft.

h. Binding pilot bushing.

i. Sticking release bearing sleeve.

j. Warped pressure plate.

k. Improper alignment of transmission.

l. Clutch facings too thick.

Remedies

a. Replace disc assembly. Check for oil leak at rear main bearing. If necessary to replace oil seal, refer to Engine section in this manual.

b. Readjust levers after checking for possible damage.

c. Readjust pedal.

d. Disassemble clutch and clean thoroughly. Examine all parts for excessive wear or scoring. Replace worn or scored parts as required. At reassembly, coat all moving parts with a thin coat of MOPAR Lubriplate.

e. Replace disc assembly. Inspect pressure plate for excessive wear or scoring. Test pressure springs for tension.

f. Replace bent disc assembly after checking to determine cause of distortion. Replace worn or scored parts.

g. Free up disc assembly. Check pinion shaft (clutch shaft) for burrs or gummed splines. Replace parts as required.

h. Replace pinion shaft (clutch shaft) pilot bushing.

i. Free up sticking sleeve and examine mating surfaces for scoring or rough spots. Replace parts as required.

j. A pressure plate that is warped more than .005 inch must be replaced. Install new disc assembly. Adjust clutch.

k. Check clutch housing misalignment. Misalignment of transmission and clutch may be caused by chips, dirt, or burrs. Determine cause of condition and correct.

l. Clutch facings of more than recommended thickness should be replaced. When replacing the disc assembly, always use factory engineered and inspected parts.

16. RATTLING CLUTCH

Possible Causes

a. Weak or broken release lever anti-rattle spring.

b. Damaged pressure plate.

c. Broken pull back spring.

d. Worn splines on pinion shaft (clutch shaft) or disc hub.

e. Worn release bearing.

f. Dry or worn pilot bushing.

g. Unequal contact of release levers.

h. Excessive backlash in transmission or propeller shaft.

i. Worn drive pinion bearing.

j. Pedal free play improperly adjusted.

k. Warped disc assembly.

l. Misaligned clutch housing.

Remedies

a. Replace weak or broken anti-rattle spring.

b. Examine damaged pressure plate to determine cause of fatigue. Replace plate and adjust clutch.

c. Replace broken pull back spring.

d. Replace pinion shaft (clutch shaft) and/or, disc assembly.

e. Replace worn release bearing. Examine the tips of release levers for excessive wear. Replace levers if necessary.

f. Replace pilot bushing.

g. Readjust release levers.

h. Correct excessive backlash in transmission or propeller shaft. Refer to Transmission section, or the Propeller Shaft and Universal Joint section in this manual.

i. Replace worn drive pinion bearing after checking bearing retainer for cracks or excessive wear. Examine pilot bushing and replace as necessary.

j. Adjust pedal free play.

k. Replace disc assembly. Check pressure plate for excessive wear and replace if required.

l. Check alignment of clutch housing. Correct as necessary.

17. SQUEAKING CLUTCH

Possible Causes

a. Lack of lubrication in release sleeve.

b. Worn release sleeve.

c. Dry pilot bushing.

d. Pilot bushing turning in crankshaft.

e. Worn drive pinion bearing.

f. Improper alignment of transmission.

Remedies

a. Lubricate release sleeve with MOPAR Lubriplate.

b. Check sleeve land for interference at oilite part of release bearing. Replace sleeve if necessary.

c. Replace pilot bushing.

d. Replace pilot bushing.

e. Replace worn drive pinion bearing after checking bearing retainer for cracks and excessive wear. Examine pilot bushing and replace if necessary.

f. Check clutch housing alignment. Misalignment of transmission and clutch housing may be caused by chips, dirt, buckled gasket or burrs. Check to determine cause and correct.

18. WHIRRING CLUTCH

Possible Causes

a. Insufficient free pedal travel.

b. Improper alignment of transmission.

Remedies

a. Adjust pedal travel.

b. Check clutch housing alignment. Misalign-

ment of transmission and clutch housing may be caused by chips, dirt, or burrs. Check to determine cause and correct.

19. GRINDING CLUTCH

Possible Causes

a. Dry release bearing.

b. Worn or dry pilot bushing.

c. Worn pinion shaft (clutch shaft) bearing.

Remedies

a. Replace dry release bearing. (Release bearings are pre-lubricated at the factory at assembly and should require no further lubrication.) Examine tips of release levers for excessive wear and replace if necessary.

b. Replace worn or dry pilot bushings.

c. Replace worn drive pinion (clutch shaft) bearing after checking bearing retainer for cracks or excessive wear. Examine pilot bushing and replace if necessary.

20. VIBRATING CLUTCH

Possible Causes

a. Improper balance of assembly.

b. Improper fitting of pressure plate.

c. Pressure spring off center.

d. Improper clutch alignment.

e. Worn transmission shaft rear bearing.

f. Worn universal joints.

g. Loose hand brake drum.

h. Loose flywheel.

Remedies

a. Replace disc assembly and pressure plate.

b. Check clutch cover for distortion which would interfere with correct operation of pressure plate. Check clutch cover assembly mounting bolts for looseness and tighten if necessary.

c. Check springs for alignment on bosses and test for tension.

d. Replace disc assembly and align. Readjust clutch.

e. Replace worn transmission main shaft rear bearing. Refer to Transmission section.

f. Replace worn universal joints.

g. Tighten loose hand brake drum bolts as required.

h. Tighten flywheel nuts to specified torque. Check for runout.

21. HEAVY CLUTCH PEDAL

Possible Causes

a. Improper adjustment of overcenter spring.

b. Dry or scored linkage parts.

c. Sticking release bearing sleeve.

d. Improper clutch pedal shaft.

e. Dry or scored pedal hub.

f. Pedal interference with floorboard or mat.

g. Bad eyebolts or driving lugs.

h. Rough or dry pivot ball, or fork pivots.

Remedies

a. Adjust overcenter spring.

b. Lubricate all clutch linkage parts and replace scored parts as required. Refer to Lubrication section in this manual.

c. Check release bearing sleeve for excessive wear, burrs or roughness on mating surfaces. Replace if necessary.

d. Refer to Parts Book for correct shaft. Check lever position before installing.

e. Replace bushing in pedal hub and lubricate as outlined in Lubrication section in this manual.

f. Check pedal for interference and correct as necessary.

g. Replace badly worn eyebolts and pressure plate. Check disc assembly and replace if required.

h. Lubricate all points of movement on pivot fork. Check pivot ball for roughness or excessive wear. Replace if necessary.

22. SPINNING CLUTCH

Clutch spinning is frequently confused with clutch dragging. A clutch disc which releases perfectly will naturally spin under its own weight and momentum immediately after being released, if the transmission gears are in the neutral position.

Gear clash, when shifting from neutral to first speed, or to reverse, is usually caused by the clutch spinning. This condition can only be corrected by releasing the clutch, allowing the disc to stop spinning, and then, shifting the gears.

Possible Causes

a. Dry or worn bushings.

b. Misaligned clutch housing.

c. Bent or distorted disc.

d. Warped pressure plate.

e. Excessive free pedal play.

Remedies

a. Replace bushings.

b. Check clutch housing alignment. Align as necessary.

c. Replace disc assembly. Check pressure plate for possible scoring.

d. Replace pressure plate if warped or distorted.

e. Readjust free pedal play.

NOTES