

Ace Manufacturing and Parts Co.

Clutch Installation Procedure

Inspection

Figure 1

1. Clean the flywheel surfaces before gauging.
2. Move the dial indicator to the flywheel housing with the indicator finger on the flywheel near the outer edge surface.
3. Rotate the flywheel.
4. The measured difference of the high and low points must not exceed .007" for a 14" clutch or .008" for a 15-1/2" clutch.

Figure 2,3

1. Direct the indicator finger to contact the surface of the engine flywheel housing. Rotate the crankshaft and measure the high and low points. The difference should not exceed .008".

Figure 4

1. Direct the dial indicator finger to contact the pilot bearing bore surface. Rotate the flywheel. The maximum runout allowed is .005". This must not be exceeded or misalignment will cause premature wear to the drivetrain components.

14" Clutch Installation

1. Remove and replace the 6 drive pins from the flywheel. Install six new drive pins in the unused drive pin holes. Make sure the pin shanks are a pressed fit in the flywheel rim.
2. Position the intermediate plate on the drive pins. Turn the intermediate plate to the right. Measure the clearance on the left side of the six pins.

Figure 5

1. Check the clearance between the drive pin and the drive slot using a .006" feeler gauge. Check the same side of each pin.
2. If proper clearance is not achieved (.008"), the clutch will not release. If the clearance and alignment is correct, lock the six drive pins in place. Use two 3/8" x 3/8" set screws.

Figure 6,7,8

1. When installing the clutch discs, make sure the disc stamped flywheel side faces the engine and flywheel surfaces. The side marked pressure plate side will face the transmission.
2. Standard clutches use an approx. thickness .580" to .630". Super duty clutches thickness .750" to .810".
3. When installing a clutch with a thicker intermediate plate, install 3 anti rattle springs. They must be spaced equally between the drive pins with the rounded edge facing the flywheel face.
4. Insert the alignment tool through the rear disc hub with the pressure plate side facing the transmission. Install after the intermediate plate.

Figure 9

1. Install two 3/8" (2-1/2") guide studs
2. Position the cover over the guide studs that were installed in the flywheel.
3. The adjustment mechanism must be aligned with the opening in the bell housing

Figure 10

1. Starting with the lower left hand bolt. Use a criss cross sequence to tighten the mounting bolts until snug.
2. For the final torque stage, criss cross tighten all mounting bolts to 25 to 35 lbs. Remove the plastic or wood spacers.
3. The release bearing position should be approx. 3/8" to 5/8" from the clutch cover.

15-1/2" Clutch Installation

Figure 11

1. Insert two guide studs 7/16", 5" length (14 UNC) into the upper flywheel holes.
 2. Reconfirm the flywheel cavity.
- 8 spring requires 7-1/4" bore
6, 7 and 9 spring requires 9-3/4" bore
10 Spring requires 8-9/16" bore

Figure 12

Install the clutch alignment tool through the release bearing sleeve in the new clutch assembly.

Figure 13

Install the rear clutch disc on the alignment tool. The intermediate plate side must face the intermediate plate.

Figure 14

1. Install the intermediate plate in the cover. Align the drive lugs of the plate with the slots.
2. Roll pins (positive separator) must be flush on the clutch side, while protruding out on the flywheel side.

Figure 15

1. Insert the front disc on the clutch alignment tool. The intermediate plate side must face the intermediate plate.

Figure 16

1. The adjustment mechanism must be aligned with the opening in the bell housing.

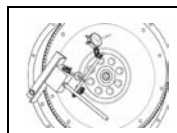


Figure 1

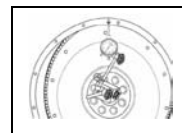


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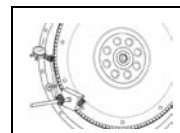


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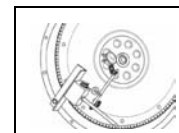


Figure 4



Figure 5



Figure 6



Figure 7

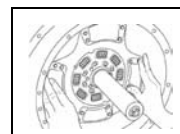


Figure 8

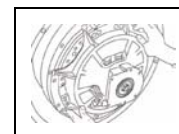


Figure 9

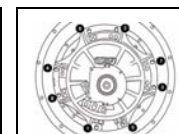


Figure 10



Figure 11

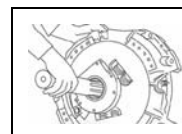


Figure 12

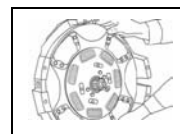


Figure 13

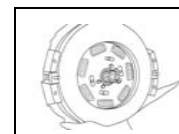


Figure 14

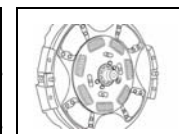


Figure 15

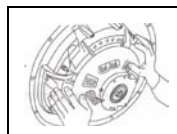


Figure 16

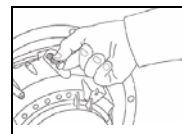


Figure 17

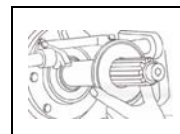


Figure 18

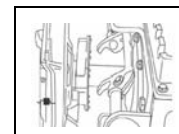


Figure 19



Figure 20

2. Using a hoist, position the cover over the guide studs. Move it forward until contact is made with the flywheel surface.

Figure 17

1. Using (6) 7/16" x 2-1/4" grade 5 or better mounting bolts with lockwashers, install into the mounting holes and screw down until snug. Use the criss cross method to completing the final torque. (40 to 50lbs.)
2. The wood spacers should be removed as the bolts are tightened.
3. The release bearing position should be 3/8" - 5/8" from the clutch cover.

Figure 18

1. Install the clutch brakes on the transmission input shaft at this time.

Figure 19

The following parts affect clutch life. Replace worn parts as needed.

1. Transmission bearing cap.
2. Release yoke.
3. Crossshafts and bushings
4. Input shaft.
5. Clutch brake
6. Pilot bearing

Figure 20

1. Don't let the transmission drop. This will distort the clutch discs. The clutch will not release properly. With additional miles the disc and damper will fail.