



# INSTRUCTIONS

-J03366

REV. 09-07-2004

Kit Number 37990-04R and 37991-04R

## XR750 WET CLUTCH KIT

### General

The XR750 Wet Clutch Kit fits all 1989 and later Harley-Davidson® XR750 engines and is required when installing friction clutch plates (Part No. 37985-04).

This kit contains the following items:

QTY	DESCRIPTION	PART NO.
1	Clutch hub nut lockwasher	37533-52A
6	Clutch spring screw spacer	37761-04R
6	Clutch spring	38075-04R
6	Steel clutch plate	37992-52
7	Friction clutch plate	37985-04
1	Vent fitting	63588-04R

#### NOTE

A Service Manual is available from a Harley-Davidson dealer.

Replacement plates (friction and steel) are available in a separate kit (Part No. 37989-04R).

#### NOTE

The XR 750 friction clutch plates (Part No. 37985-52A) which you are about to remove contain asbestos. It has been determined that the described removal process does not release asbestos fibers in excess of OSHA established permissible exposure levels. Despite this fact, if you are a business subject to the requirements of OSHA, in doing this work, the employer must also observe the specific compliance methods for brake and clutch repair specified under 29 CFR 1910.1001 (f) (3).

### Removal

#### Remove Clutch

1. Remove and discard the clutch cover screws, washers, clutch cover and gasket.
2. Remove the clutch spring bolts and washers. Remove the releasing disk, the spring cups, springs and spacers.
3. Remove 6 friction and 5 steel plates one at a time.

#### NOTE

Dispose of the plates in accordance with local, state and Federal regulations.

4. Lock the clutch shell and lock the shell to the hub
5. Bend the ears back on the clutch hub nut lockwasher and remove the clutch hub nut, the lockwasher, the clutch hub and the thrust washer.
6. Remove and discard the oil seal from the clutch hub.

7. Remove nut securing sprocket to crankshaft.
8. If needed, use a puller to remove the sprocket from the crankshaft. As the sprocket becomes loose on the shaft, remove, as an assembly, the clutch shell, the primary chain and the front sprocket.
9. Inspect the shell keys, sprocket teeth, and the shell needle bearing. Replace as necessary.

### Clutch Shell Rework

#### Drill Fluid Circulating Holes

See Figure 1. In the face of the clutch shell, drill 4 equally spaced 0.500 in. holes (1) on a 4.500 in. diameter (4) to the bore center.

Starting at 45° (3) to a 0.500 in. hole, drill 4 equally spaced 0.188 in. holes (5) on a 2.380 in. diameter (2) to the bore center.

Deburr all holes.

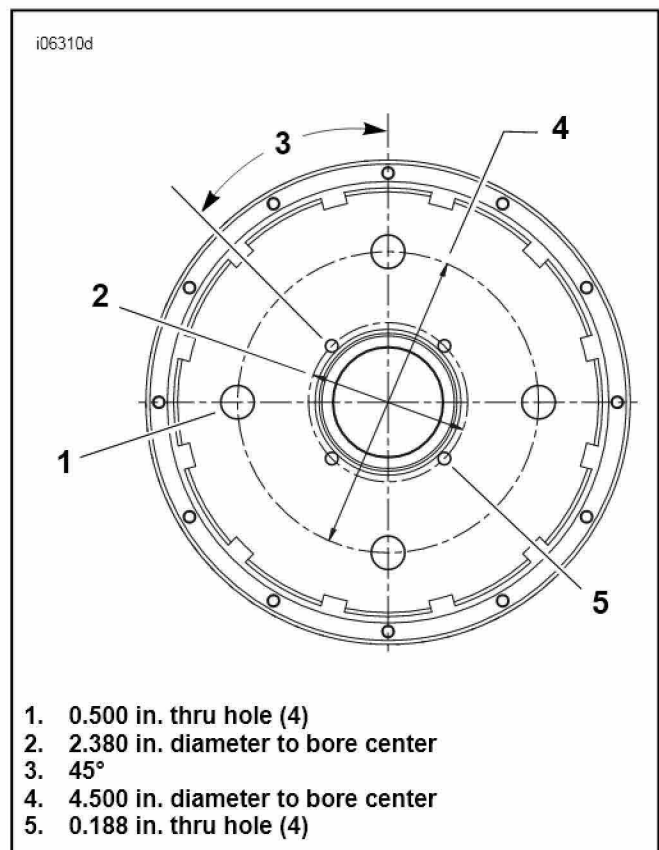


Figure 1. Drill Hole Locations

## Mill Fluid Circulating Slots

### NOTE

When milling the fluid circulating slots, the cutter must not break through the keys on the inner circumference of the shell. The slot start (1), center (2) and end points (3) should fall immediately before a chain tooth.

See Figure 2. Around the circumference of the shell in the groove between the front flange and the 1st row of sprocket teeth, locate and mill 4 equally spaced (90° apart) slots (0.790 in. long and 0.197 in. wide).

Between the 1st and 2nd rows of chain teeth, locate and mill 4 equally spaced (90° apart) slots (0.790 in. long and 0.197 in. wide) that are staggered 30° (10) from the slots behind the front flange.

Between the 2nd and 3rd rows of chain teeth locate and mill 4 equally spaced (90° apart) slots (0.790 in. long and 0.197 in. wide) staggered 30° (11) to the row of slots between the 1st and 2nd row of chain teeth.

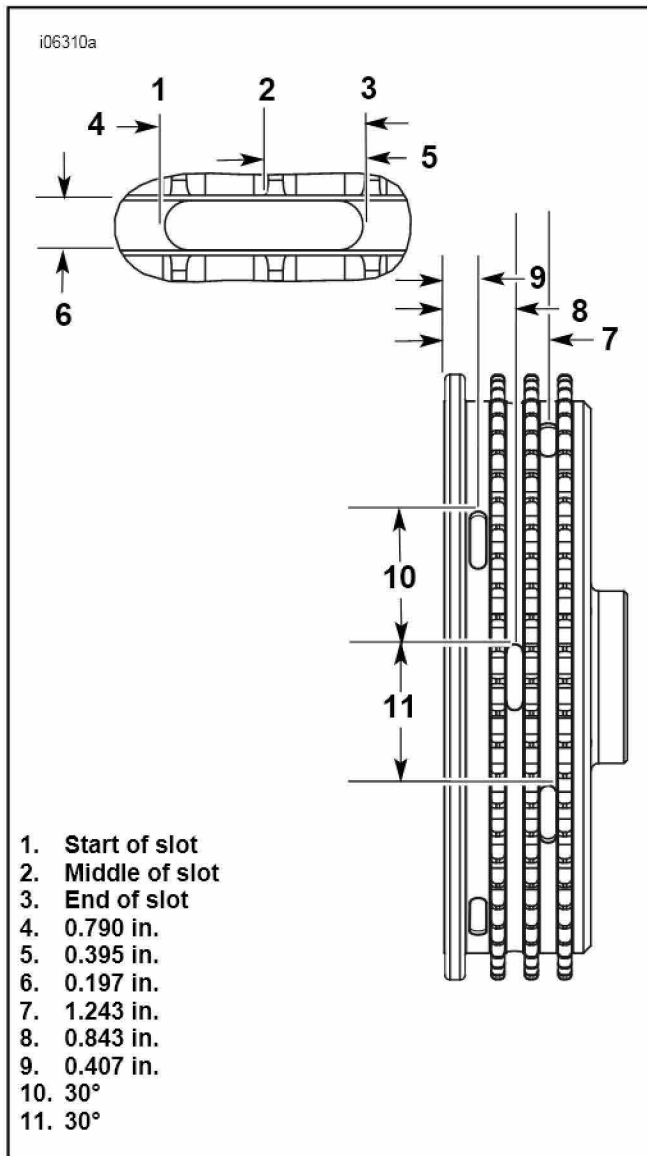


Figure 2. Milled Slot Locations

## Remove Trapdoor and Gearsets

Remove the trapdoor and gearsets from the transmission cavity and clean the existing lubricant from the gearsets and other components.

### NOTE

Because the wet clutch uses the same lubricant for both the clutch and the transmission, it is necessary to clean the existing lubricant from all components prior to filling the primary with the **new** lubricant, ATF type FA.

## Drill and Tap to Relocate Transmission Breather

See Figure 3. Drill a 0.328 in. diameter pilot hole in the left case half, 0.50 in. from the case mating surface and 2.25 in. forward of the rear the engine mount hole.

Tap the pilot hole with a 0.125-27 NPT tap with to a minimum depth of 0.38 in.

### NOTE

Metal shavings and any remaining gear lube should be wiped out of the transmission case before re-assembly.

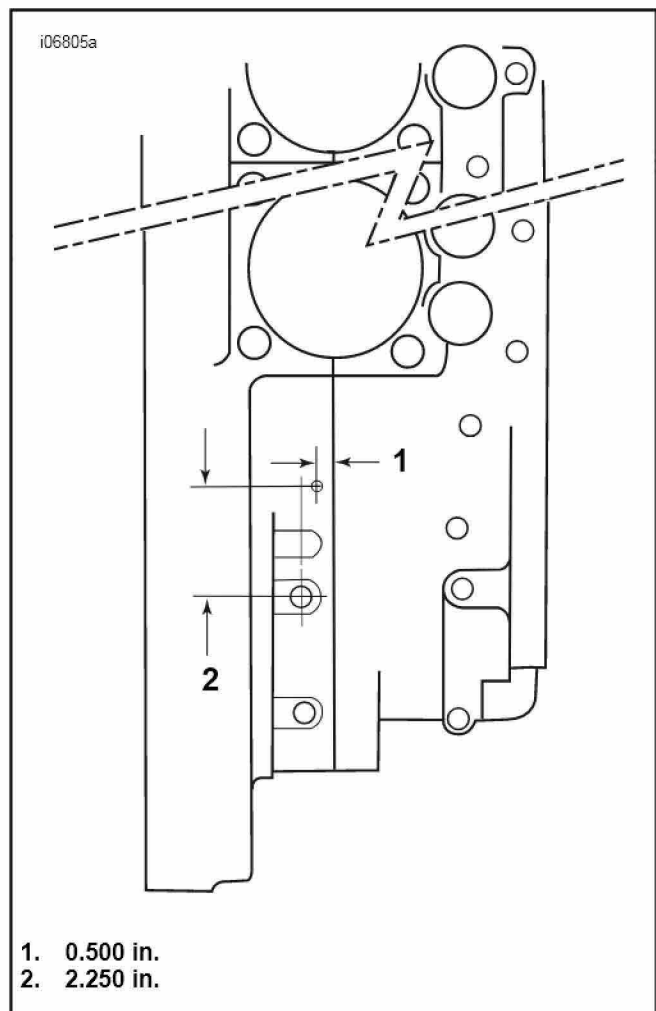


Figure 3. Breather Fitting Location

## Installation

### Install Clutch

1. Check to see that the spacer and the thrust washer are in place on the gear shaft.
2. Assemble crankshaft sprocket, clutch shell, and primary chain and slip onto splines of crankshaft and transmission gear shaft.
3. Install the crankshaft. Torque nut to spec for shaft:
  - a. Tapered shaft - 100 ft-lbs.
  - b. Splined shaft - 150 ft-lbs.

#### NOTE

Check to insure that the seal has been removed from the backside of the clutch hub.

4. Install the clutch hub and the thrust washer.
5. Install the clutch hub lockwasher from the kit.
6. Install hub nut and tighten nut to at least 150 ft-lbs.
7. Bend ears of lockwasher against flats of nut.
8. Install the backing plate and install the 7 friction and 6 steel plates starting with a friction plate and alternating steel plates.
9. Verify that release rod is in place and install releasing disc with spring cups, **new** springs, **new** spacers, clutch spring bolts and washers. Tighten to 10 ft-lbs (13.6 Nm).

### Install Breather

1. See Figure 4. In the right side case half, replace the previous vent screw (Part No. 34744-77) with a 0.375 in. X 16 UNC bolt (2).
2. Thread the breather fitting (1) into the newly drilled and tapped location and tighten to 80-100 **in-lbs** (9.0-11.3 Nm).
3. Install a length of tubing over the new breather fitting and route away from rear tire.

### Fill Primary

Fill the primary with 32 ounces of ATF type FA fluid.

### Install Clutch Cable and Adjust

Adjust clutch lever free play after replacing dry clutch plates with wet clutch plates and filling with ATF type FA lubricant.

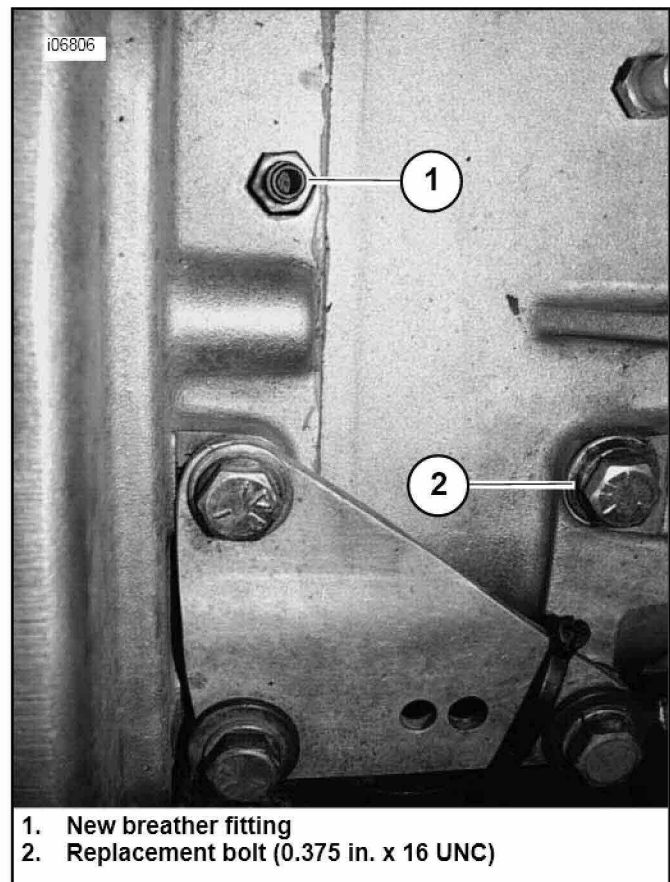


Figure 4. Breather Fitting Relocation