

READ THEM ALL BEFORE YOU START!

The purpose of the Outrigger Bearing Plate is to support the transmission mainshaft between the clutch and gearbox sprocket and to use the crankcase to bear the loads placed on the mainshaft by the engine and rear wheel. This will ensure longer mainshaft life and reduce the risk of a broken or bent mainshaft due to the excesses of racing, missed shifts or just plain abuse.

This part can only be installed on mainshafts with less than .003" run-out.

1. Remove clutch cover, clutch, alternator, primary chain and engine sprocket.
2. Remove transmission gearcluster from machine, leaving the high gear (mainshaft 4th) in the crankcase with sprocket and locknut attached.
3. Remove original dust cover and seal.
4. Using an air die grinder or Dremel tool, cut off the portion of the high gear bushing protruding from the high gear . This must be trimmed flush with the face of the high gear.
5. Using a set of V-blocks and dial gauges or a lathe check the run-out on your mainshaft . If it is more than .003" straighten or replace. A shaft straightened to .002" run-out is acceptable.
6. Using an expandable reamer or brake cylinder hone in a power drill, remove any burrs from the high gear bushing your cut-off tool may have left.
7. Using a 13/64" drill bit, drill out the six threaded holes in the crankcase into which the original screws threaded. Tap the holes to 1/4x20, preferably in a drill press. Six new retaining screws are supplied.
8. Gently push the bearing plate into the hole in the crankcase. Do not tap in with a hammer. If it won't go in, check the hole in the crankcase for high spots. Remove with a file or sandpaper until the plate falls into the hole. **Do not ever remove material from the bearing plate.** It is precision machined; your crankcase is not.
9. Check the clearance between the bearing and the face of the high gear. 0.010" is sufficient. The bearing is offset to provide clearance, and can be moved in the plate by warming assembly to 100°C and using a press. In 95% of installations moving the bearing should not be necessary.
10. Re-install transmission with straight mainshaft in neutral position. Check that mainshaft revolves freely in high gear bushing.
11. Push bearing plate onto mainshaft gently. If mainshaft binds when plate is inserted into crankcase, more material must be removed from crankcase, **not the bearing plate!** You are now using the mainshaft as a guide to centre the plate in the hole. This is tedious, be patient. Mark where the plate binds and sand or file the crankcase the appropriate amount. You only want about .002" clearance between plate and crankcase hole.
12. Now that the bearing plate is a nice push fit with your hand and your mainshaft and sprocket move freely of each other, install gasket and six retaining screws. Use Locktite on the screws and punch aluminum at screw heads after tightening with an impact.
13. Now push the clutch hub onto the shaft and check clearance between clutch hub face and bearing. A clearance of .005" is acceptable. If clearance is not there (i.e. if clutch hub butts against bearing face) then face .020" off rear of clutch hub until minimum clearance is obtained.

This is not a simple installation. If you are not equipped, have a professional do it!

Bearing can be replaced. We recommend every 50,000 miles.

