605 Conversion Box Rebuild Instructions

TO OBTAIN A HIGH QUALITY REPAIR, REPLACE ALL THE PARTS INCLUDED IN THE REPAIR KIT.

Thoroughly clean the outside of gear before making any repairs to the unit. Use a clean work area, as dirt will cause leaks and improper operation of the system. Handle all parts carefully to avoid nicks and burrs. Drain all fluid from gear box by inverting over a pan and turning the worm shaft from stop to stop, several times.

Adjuster Plug Assembly

1. Loosen adjust ball plug locknut and remove adjuster body plug assembly.
2. Remove thrust bearing.
3. Remove adjust plug "O" ring seal and discard.

Pitman Shaft

4. Rotate the stub shaft until the pitman shaft gear is in a control position and then remove the top cover clip. (NOTE: there is a small hole in the casting to insert an ice pick to dislodge snap ring.)
5. Remove top cover and pitman shaft assembly from housing.
6. Insert the new sector into box. If sector hits two pointed castings you will need to grind them down slightly so that sector will go all the way down into box. After this has been accomplished, remove new sector.
7. Remove the pitman shaft seal retaining ring and outter back-up washer.
8. Remove seals from housing.

Valve Body Assembly

9. Remove the valve assembly.
10. Remove cap to worm "O" ring seal and discard.
11. Remove the valve spool. CAUTION The clearance between the spool and the valve body is so close that the slightest cocking of the spool may make it jam in the valve body. If the spool becomes cocked, continue to disassemble as follows returning to the spool later.
12. Remove the stub shaft, torsion bar, and valve cap assembly.
13. If the valve spool has become cocked, it now can be freed.
14. Remove the valve spool seal from valve spool and discard.
15. Cut teflon valve rings to remove. Then remove back-up "O" ring seals and discard.

Assembly

THOROUGHLY CLEAN ALL PARTS WITH SOLVENT AND DRY WITH COMPRESSED AIR, BEING CAREFUL TO REMOVE ALL SOLVENT FROM GROOVES AND PARTS. PRE-LUBRICATE ALL PARTS BEFORE INSTALLING. DIP HARD PARTS IN POWER STEERING FLUID AND LUBRICATE SEALS WITH THE SAME. ALSO COAT BEARING AND SEAL SURFACES INSIDE THE HOUSING BEFORE ASSEMBLY.

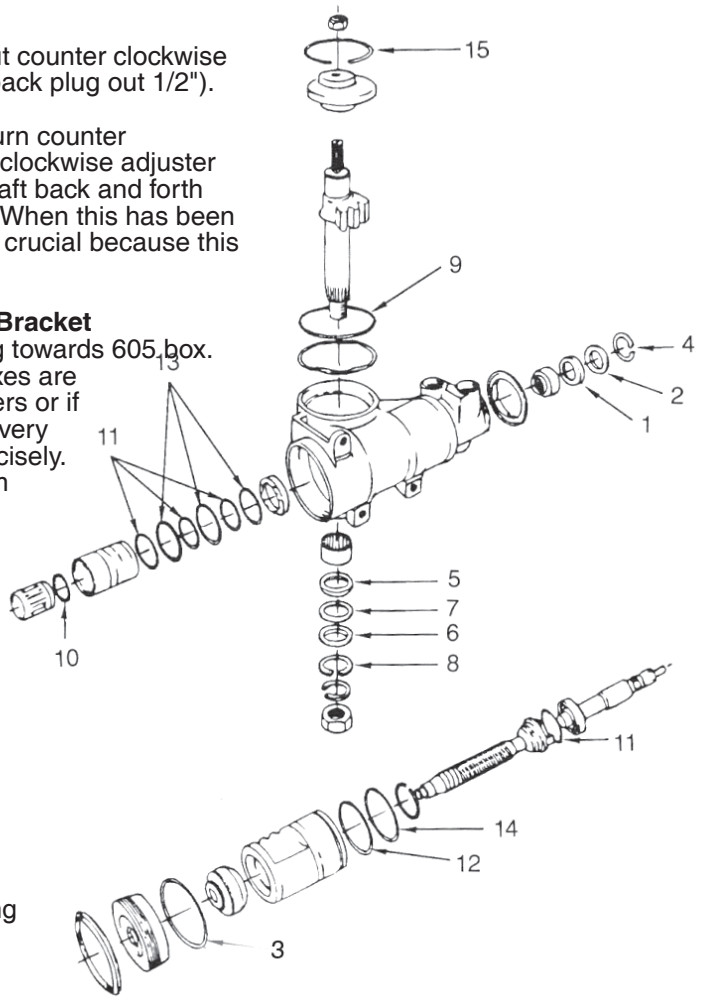
INSPECT ALL PARTS FOR WEAR, NICKS, OR SCORING.

16. Reassemble in reverse order of disassembly.
17. To adjust end plug, tighten to 30 lbs. torque, then, back end plug out counter clockwise rotationally 1/2 inch (scribe a line across case and adjuster plug then back plug out 1/2"). Then tighten lock ring.
18. To adjust sector shaft turn input shaft clockwise until it stops then turn counter clockwise 1 1/2 turns. Box is now in the straight ahead position. Screw clockwise adjuster stud until there is 10-12 lbs. drag on input shaft when you turn input shaft back and forth approximately 1/4 turn each direction from the straight ahead position. When this has been done properly, tighten jam nut on adjuster stud (this adjustment is very crucial because this sets the play in the steering box).

(NOTE: our new BILLET lid adjuster is RH thread)

Installing Lower Bracket

19. Slide lower bracket onto sector shaft with two mounting holes going towards 605 box.
20. Trial fit clearance of bracket to mounting location of 605 box. All boxes are machined slightly different so you will have to use supplied shim washers or if already too tight, grind slightly on your 605 box mounting pads. This is very important as you can't have any binding in the lower shaft. Do this precisely.
21. After lower fits precisely, remove and coat sector shaft with light film of grease.
22. Install lower using two bolts and lock washers supplied and tighten to 50 lbs torque.
23. Turn input shaft of 605 box and check for any binding, if binding occurs repeat #2 until it doesn't.
24. After approximately 50 miles retighten the two mounting bolts to 50 lbs torgue.



Illustrated Picture:

1. Stub shaft oil seal
2. Stub shaft dust seal
3. Adjuster plug "O" ring
4. Stub shaft snap ring
5. Pitman shaft oil seal
6. Pitman shaft washer
7. Pitman shaft dust seal
8. Pitman shaft snap ring
9. Top cover "O" ring
10. Spool valve "O" ring
11. Valve body & shaft to worm "O" ring
12. Rack piston "O" ring
13. Valve body ring / teflon
14. Rack piston teflon ring
15. Top cover retaining ring