Quick Change Assembly Instructions

Tappered Roller Bearing Pinion Preload

1-When adjusting pinion bearing posi-lock with new bearings, torque the posi nut to obtain 15-20 in lbs, pinion bearing rotational preload. 8-10 in lbs for used bearings. Lubricate O'Ring in posi-lock retaining cap. Install retaining cap (use finger pressure only). If it resists engagement, remove cap from pinion and rotate to next spline on 10 spline shaft and re-install. 10 splines =10 combinations...Try each spline for the best "no resistance" fit.
Above preloads are set at 68°-72°F

Posi-lock assy.
P/N 6498R

Angular Contact Bearing Pinion Preload After pinion is installed and case has cooled down to room temperature **(68°-72°F)**, torque the pinion nut to 80-100 Ft Lbs (approximate) Pinion preload is set. Lubricate O'Ring in posi-lock retaining cap.Install retaining cap (use finger pressure only). If it resists engagement, remove cap from pinion and rotate to next spline on 10 spline shaft and re-install.

Carrier Assembly and Ring Gear

1- Adjusting Carrier preload is next. Remove seals and O'Rings from bells.
Do not install ring gear onto carrier or spool as of yet.
2- Stand left side bell and tube vertically with bell up. Install **checking bearing** on ring gear end of carrier or spool (refer to replacement parts chart for proper checking bearing).
3- Set carrier and bearing into left vertical bell.
4- Set center section assembly on bell, making sure center section is setting flat against bell flange without bell seals and O'Rings.
5- Install second checking bearing on carrier.

Whether using tapered roller bearings or angular contact bearings, side bell preload remains the same.

Note: **Winters** spools are manufactured to use approximately .080 shims for initial preload.

6- Right bell should now be put into position on top of center section. If bell flange has full contact with center section, shims should be added until right bell flange is held above center section approximately .015 for steel spool and steel Triple Track, .012 for Winters Track and Track Star, .010 for aluminum locker, and .007 for **Winters** aluminum spools and aluminum Triple Track.
See figure 1 for carrier bearing preload "crush."
7- Now that proper shim pack thickness has been determined, the shim pack should be removed and set aside for step number 9.
8- Ring gear should now be installed on carrier or spool making sure contact surfaces are perfectly clean. Install all 12 bolts and torque nuts alternating in a crisscross pattern in steps to 35 ft lbs (Use 60 ft lbs for threaded W/P type ring gear bolts using belleville washers). Loctite® adhesive should be used on these bolts.
9- Place one shim at a time under checking bearing on ring gear side of carrier. Placing carrier and ring gear assembly in left bell, set center section on left bell and check for ring gear/pinion backlash. Make sure adjustable ring gear pad in left bell is backed out far enough so that is does not make contact with the ring gear. (If you remove the wear pad completely DO NOT forget to replace it before tightening the thru bolts or complete rear will have to be disassembled to re-install the pad.) Carefully add shims until backlash has been removed.
The remaining shims from the original shim pack should be installed on the opposite side of carrier. Put the right bell in place and bolt together. Check backlash. It should be between .004 and .006. If backlash is too much, shims from the right side must be moved to the left side. Once proper backlash is reached, the checking bearings can be removed and regular bearings installed, with shims in place.
10-Install new side bell seals (**P/N 7205**) and O'Rings (4&6 rib bells **P/N 7403T**, 8 rib bells **P/N 7403**). Lubricate seals generously. Reassemble, install thrubolts, washers and nuts. Be sure to torque thrubolts in steps until a final torque of 35 ft lbs is reached using an alternating crisscross sequence. Spin the pinion over several times checking the backlash at several intervals. Backlash should be between .004 and .006. If backlash is not correct, the rear must be torn apart and the shims swapped from side to side until proper backlash is obtained. Tight spots are not acceptable.

P/N 7403

P/N 7205

11-Adjust ring gear wear pad by running wear pad in against the ring gear with force of 5 in lbs, then back off approximately 1/4 turn to obtain .008 to .010 clearance between ring gear and wear pad. Tighten jam nut on adjusting screw being careful not to turn adjusting screw any further.

Note: assembly temperature: 68˚- 72˚F

P/N 5378

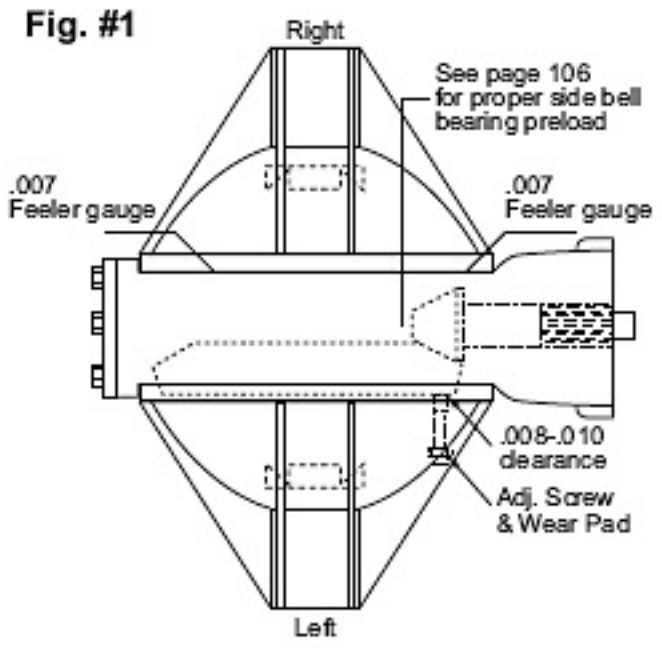
For side bells. Installs side bell seals **P/N 7205**

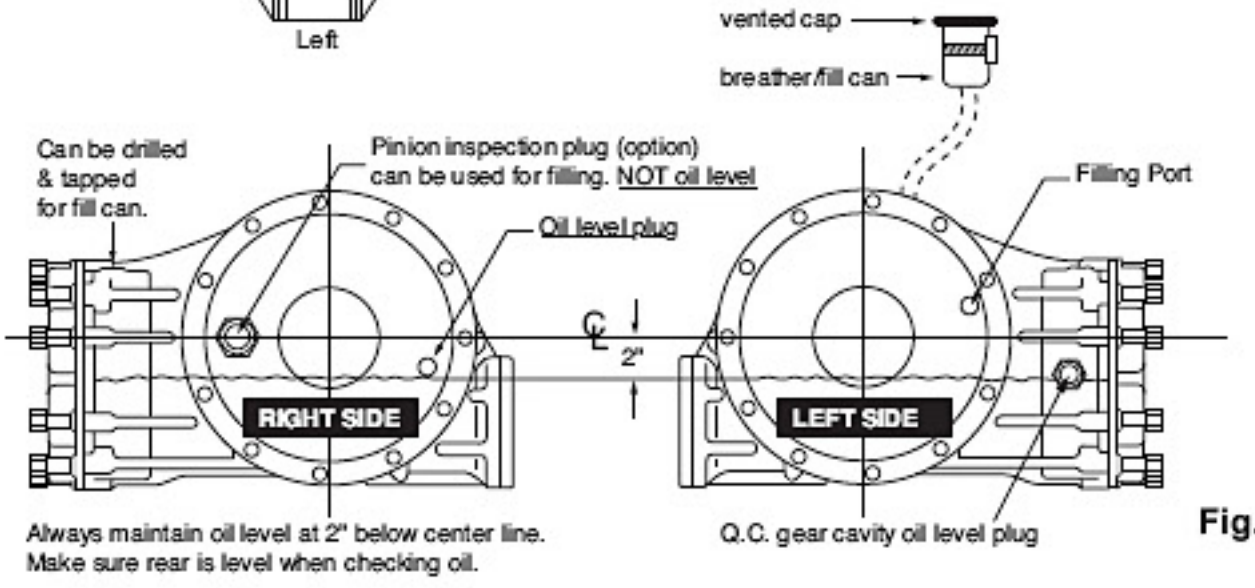
COMMONLY USED REPLACEMENT PARTS

Description	Size	P/N
Carrier Bearing (Steel Carrier)	2.000	7309
Carrier Bearing (Aluminum Carrier)	2.031	7340
Checking Bearing, Angular Contact (Steel Carrier)	2.000	7309ACB
Checking Bearing, Angular Contact (Alum. Carrier)	2.031	7340ACB
Checking Bearing (Steel Carrier)	2.000	5138
Checking Bearing (Aluminum Carrier)	2.031	5294
Carrier Shim Kit - Steel Journal Size	2.000	5097
Carrier Shim Kit - Alum. Journal Size	2.031	5295
Side Bell Seals		7205
Front Yoke Seal (.375)		7204
Front Yoke Seal (.750)		7204T
Front Yoke Seal (.750 Viton)		7204V
Gear Cover Gasket (10 Bolt)		6729
Heavy Duty Gear Cover Gasket (10 Bolt)		6729HD
Bell O'Ring (4 & 6 Rib Bell)		7403T
Bell O'Ring (8 Rib Bell)		7403
Winters Ring Gear Bolts (threaded)/Washers (12 each)		7868
Winters 80-90-140 Semi Synthetic w/Moly (Gal)		1730

Whether using tapered roller bearings or angular contact bearings, side bell preload remains the same.

Fig. #1





Important!
Over-filling can cause problems as well as under-filling.

Fig. #2