

Figure 56 - Carrier Roller, Cross Section

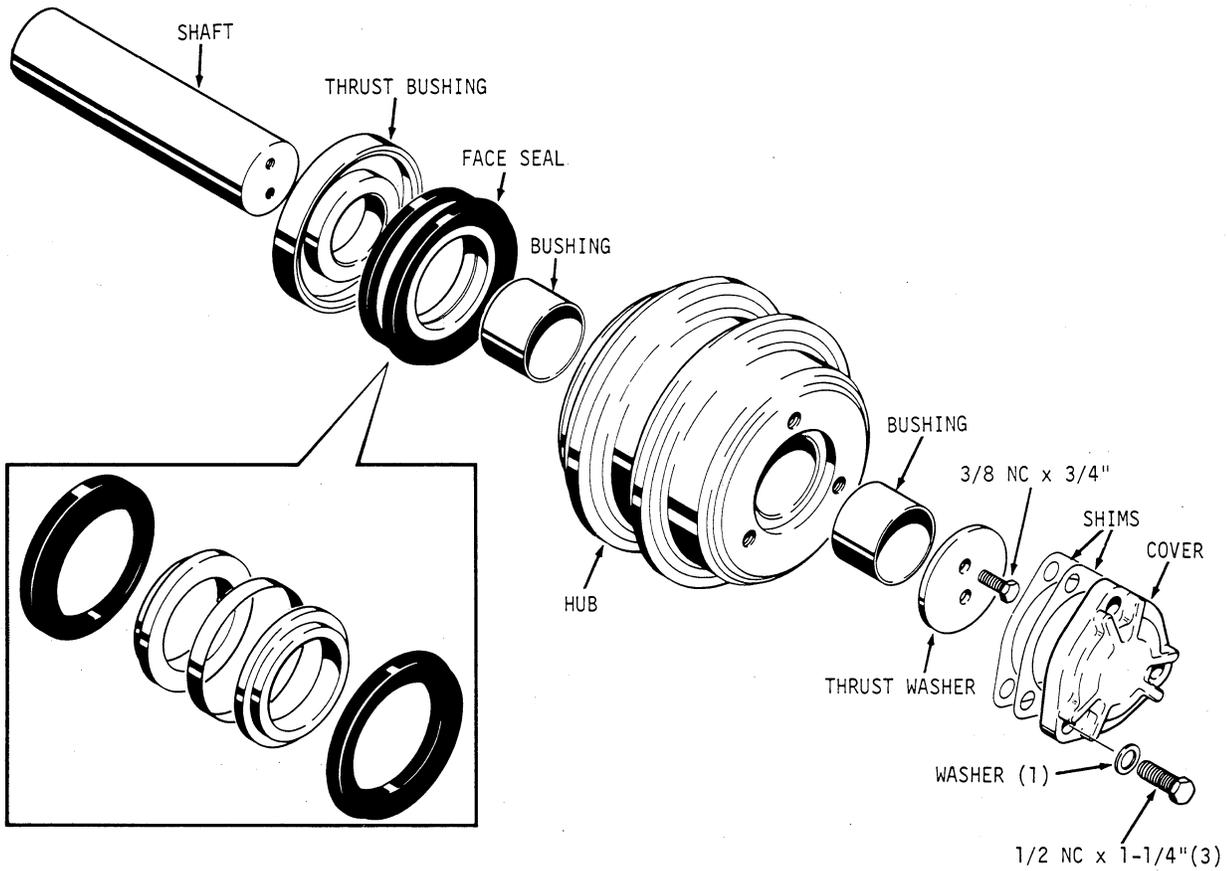


Figure 57 - Carrier Roller, Exploded View

720925

5. Remove the face seal from the roller hub and thrust bushing. Press the thrust bushing off the shaft.
6. Inspect the bushings in the bore of the hub. If they should be replaced, remove them with the special tool shown in Figure 8. Drive one of the bushings clear through the bore. This will also force out the other bushing.

Inspection

1. Thoroughly clean all parts.
2. Clean the roller. The internal cavities of the roller must be free of dirt, chips, etc. before parts are reassembled.
3. Disassemble the face seal assembly. Inspect the metal seal rings carefully. The area of contact between the two rings must not be in the inner half of the faces and the rings must be wearing evenly. If the sealing rings must be replaced, replace the entire face seal assembly. Discard the rubber rings even if they appear to be in good condition. A kit is available for this; refer to the Case Parts Catalog.
4. Inspect the shaft bushings for damage and wear. Be sure oil passages are clear.
5. Inspect the shaft for excessive wear. Remove minor imperfections with fine emery cloth. If badly damaged, replace the shaft.

Assembly

1. Press new shaft bushings into place flush with the shoulder of the hub.
2. Press the thrust bushing onto the shaft to the dimension shown in Figure 58.
3. Assemble the face seal. See Face Seal Assembly. Install the face seal in the hub so that the rubber ring with the lip is in the hub. Do not remove or break the plastic sealing band.

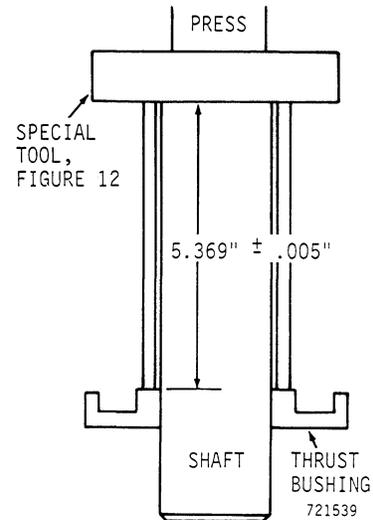


Figure 58 - Installing Thrust Bushing

CAUTION: The bore of the hub and thrust bushing must be free of oil, dirt, and rust in order for the face seal to function properly.

4. Install the shaft and thrust bushing assembly into the hub. Attach the thrust washer on the end of the shaft with two bolts. Torque bolts to 40-50 foot pounds.
5. Install the cover. Use shims to adjust the end play of the shaft to .001" to .010". This clearance is necessary so the roller can rotate freely without binding against the thrust washer.

NOTE: Two shims are available. The blue colored shim is .005" thick; the brown shim is .010" thick. Use at least one shim.

6. The spotfaced hole in the cover is used as oil filler hole. Degrease two of the three cover bolts and coat the threads with Loctite Pipe Sealant. Attach the cover with these two bolts (do not use the spotfaced hole).
7. Fill the hub with 1/3 pint of an SAE 30 engine oil, API classification SD (formerly MS), such as Standard Perma-lube 30.

8. Install the remaining cover bolt and copper washer. Torque all three cover bolts to 50-55 foot-pounds.

9. Apply anti-seize compound to the roller shaft. Install the carrier roller in the carrier roller bracket and secure with two 5/8" bolts, nuts, and lockwashers.

TRACK ADJUSTER

The track adjuster permits the track tension to be increased hydraulically with a grease gun or slackened with a hand wrench. It consists of three major components—cylinder tube, piston, and sealing assemblies.

The front end of the piston is connected to the idler by the idler yoke. The back end of the piston extends into the cylinder tube which is backed against the recoil spring.

A ball check and grease fitting assembly is located at the head of the piston. Grease pumped into this fitting travels the length of the piston through a drilled passage and fills the end of the cylinder tube. Adding grease forces the piston forward against the idler, tightening the track. When the assembly is loosened, an escape route is provided for the grease and the weight of the track can force the idler and piston back, thus decreasing track tension.

The assembly contains a ball check which prevents grease from running out under pressure. A slot is provided on the side of the larger fitting which allows grease to run out when the fitting is loosened.

Since the track adjuster is subjected to heavy shock loads, the seals must be in good condition. Any leakage of grease around the cylinder tube requires disassembly to correct.

Removal

1. Break the track and lay it out flat on the ground. Refer to Track Removal.
2. Remove ball check assembly from the track adjuster. Remove the idler wheel.
3. Remove the track adjuster assembly:
 - a. Loaders: Pull the track adjuster assembly forward.
 - b. Dozers: Remove bolts from the

equalizer mounting frame which straddles the track adjuster. Jack up the main frame as required to permit the track adjuster assembly to be pulled forward. Remove the track adjuster assembly.

NOTE: There are no mechanical connections between the track adjuster and recoil spring housing. Any difficulty in pulling the track adjuster forward is the result of binding by the seal on the O.D. of track adjuster.

4. Reinstall the ball check assembly.
5. Pump grease through the grease fitting at the head of the piston. This will force the piston from the cylinder tube and carry all the internal parts with it.
6. Remove the snap ring, U-cup packing, backup bearing and backup ring from the end of the piston.

Inspection

1. To inspect the cylinder tube, flush out the grease. Use a dentist-type mirror and light to inspect the cylinder walls for nicks and scratches. If the cylinder tube must be replaced, the recoil housing will have to be removed.
2. Clean all the disassembled parts thoroughly.
3. Inspect the wiper ring, rider ring, backup bearing and backup ring carefully for signs of scratches, nicks, and damage of any kind. Replace parts as necessary.
4. Replace the U-cup seal.
5. Inspect the piston for damage. The large and small diameters must be free from nicks, scratches, pits, or damage of any

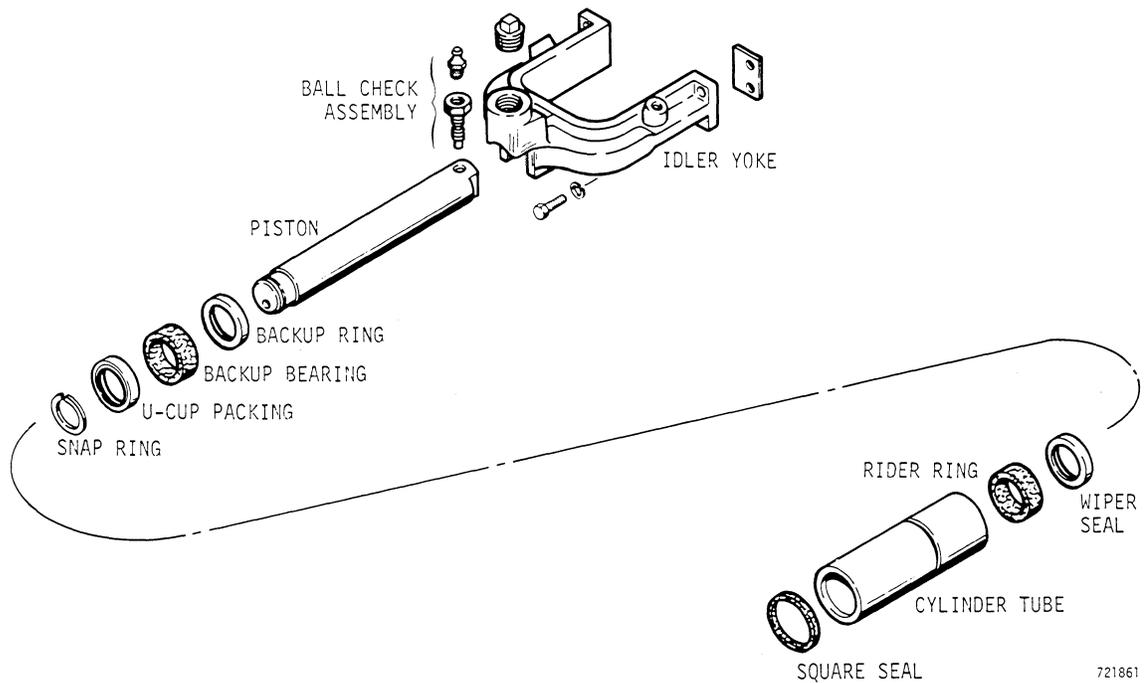


Figure 59 - Track Adjuster, Exploded View

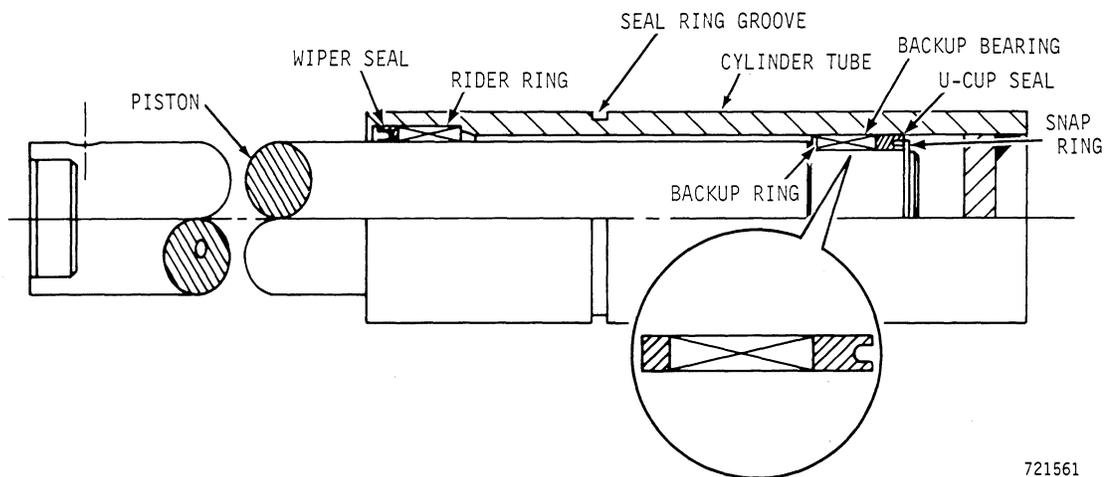


Figure 60 - Track Adjuster, Cross Section

kind. Remove minor imperfections using emery cloth in a rotary motion.

6. Remove the ball check assembly and clean and inspect the parts.
7. Inspect seal on O.D. of cylinder tube and replace if damaged.

Assembly

1. Install the backup ring, backup bearing, new U-cup seal, and snap ring on the

piston. Install the U-cup seal as shown in Figure 60.

2. Smear grease around the lip of the U-cup seal and around the lead-in chamfer in the cylinder.
3. Start the piston into the cylinder but do not push it all the way in.
4. Apply Loctite, Grade AA, (Case No. 345-59), to the outer surface of the wiper seal.

5. A special tool can be fabricated as shown in Figure 9 for installation of the wiper seal. This seal is a press fit. Install the rider ring, followed by the wiper seal into the cylinder tube. Drive the wiper seal into the tube with lip facing out, Figure 60.
6. Push the piston all the way into the cylinder tube. Pour clean oil into the cylinder through the opening for the ball check assembly until it starts to run out: As the oil fills the cylinder, air will be removed. Install the ball check assembly. Torque the assembly to 45-55 foot pounds. Extend the adjuster about 1/2" with lithium-soap base grease.

Installation

1. Coat seal on O.D. of track adjuster with grease. Lay the assembled track adjuster on the track frame and move to rear until butted against recoil spring housing.
2. On dozers, lower the main frame and reinstall equalizer mounting frame bolts.
3. Remove ball check assembly. Install idler wheel and yoke, then reinstall the ball check assembly.
4. Connect the track ends and adjust to proper tension.

RECOIL SPRING ASSEMBLY



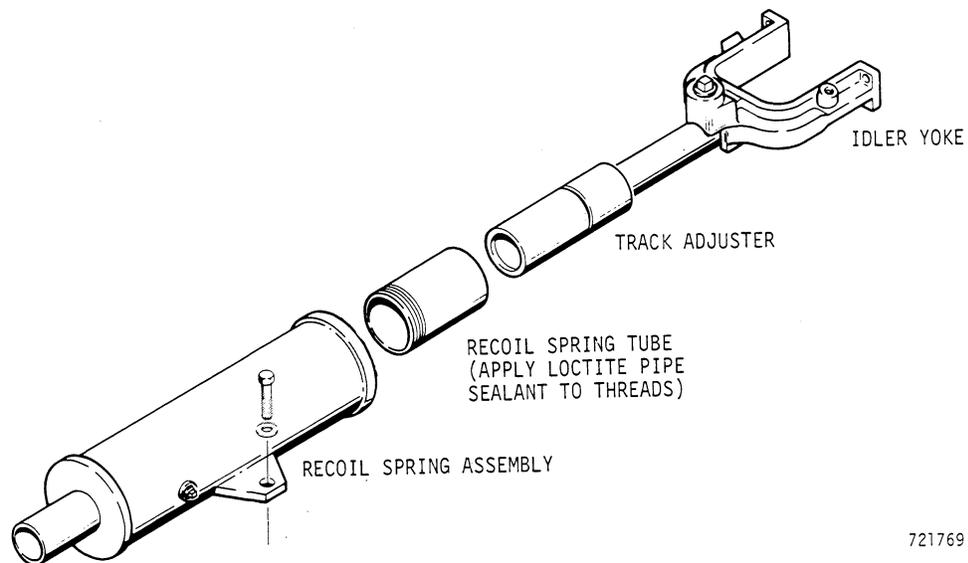
DANGER: Due to the extremely heavy preload of the recoil spring, several important safety rules must be strictly followed whenever the recoil spring assembly is removed:

1. The recoil assembly is serviced as an assembly only. DO NOT attempt to disassemble the housing containing the recoil spring. Dispose of the old housing as instructed on page 5010-34.
2. If the housing welds are cracked or split, remove and handle the housing with extreme care. A burst weld could cause one of the end plates to fly off at great speed due to compression of the spring.
3. Do not try to remove the recoil spring mounting bolts unless track tension is fully relieved. The safest way it to disconnect the track chain.

Description

The recoil spring assembly consists of a heavy, partially compressed spring and plate in a welded housing. The housing is bolted to the track frame. This assembly has two functions:

- a. Heavy shock loads on the track system, which are transmitted through the idler and track adjuster, are absorbed and dissipated by the recoil spring. This prevents shock damage to the crawler and affords smoother operation.
- b. The recoil spring serves as a "back-stop" for the track adjuster whose function is to keep the proper tension on the track.



721769

Figure 61 - Recoil Spring and Track Adjuster Assembly

The recoil spring is partially immersed in oil to protect against moisture damage and for lubrication. The plug in the rear of the recoil spring housing is the fill plug. This oil is installed for the life of the crawler--however, the housing should be checked yearly for oil. Factory fill is 3-1/2 quarts. If oil has leaked, determine cause and make necessary repairs or replacement before adding oil.

Removal

1. Break the track and lay out flat on the floor. See Track Removal.
2. Remove the idler wheel.
3. Remove the track adjuster assembly.
4. Remove the recoil spring housing:
 - a. Dozers: Remove recoil spring housing mounting bolts. Remove the housing from the machine.

- b. Loaders: Place one or more jacks under the engine/main frame. Remove engine/main frame mounting bolts at front and rear of track frame. Jack up the crawler, if required, until the recoil spring housing can be removed.
5. Clean all components which will be re-installed. Grease a new square seal and install on the track adjuster housing.
6. Reassemble the components in the reverse order of removal.
7. If installing a new recoil spring assembly, remove fill plug and install 3-1/2 quarts of 90EP transmission oil.

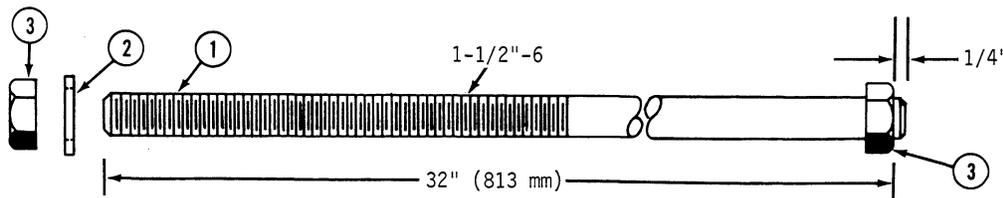
NOTE: If the recoil spring tube is replaced, apply Loctite Pipe Sealant to threads, Figure 61.

Disposal of Old Recoil Spring Housing

If a recoil spring housing has been replaced, the old housing is potentially dangerous until the spring has been decompressed. Use the following method to decompress the spring.

1. Fabricate a "tool" from 1-1/2" rod as shown in Figure 61a. This tool can be used on all Case crawlers with all-welded recoil spring housings.
2. Remove plug from housing and drain oil. Remove recoil spring tube, Figure 61.
3. Cut a hole in each end plate. The holes must be large enough to allow the 1-1/2" rod to pass through.
4. Pass the rod through the housing and secure with the hex nut. A washer should be used at both ends of the rod to provide a satisfactory nut seat, Figure 61b.
5. Tighten the nut to compress the spring enough to relieve all tension on the housing.
6. Cut the housing in two pieces with a torch.
7. Back off the nut to relieve spring force. Continue backing off the nut until the spring is at its free height of approximately 25" (635 mm).

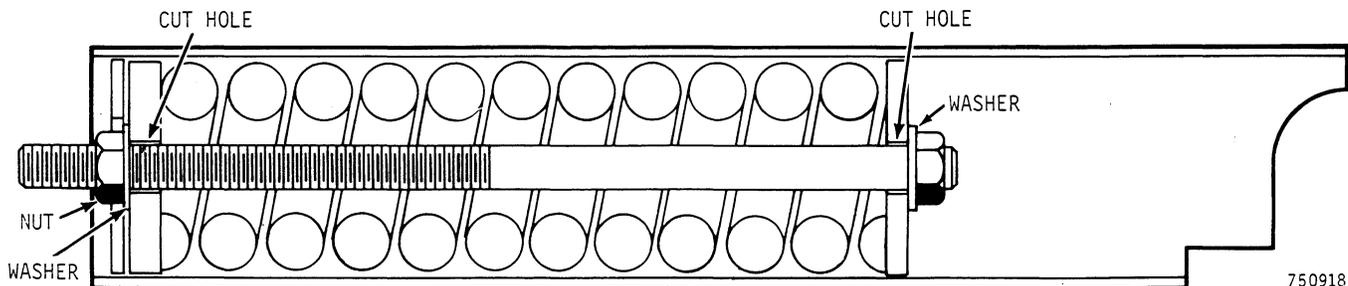
ASSEMBLY OF NUT TO ROD.
 1. THREAD ROD TO DEPTH OF 1-3/4" (1-1/2"-6 UNC THREAD)
 2. INSTALL NUT ON ROD
 3. WELD NUT TO ROD (OUTER END OF NUT ONLY) ALL AROUND WITH AWS E7018 ROD



1. 1-1/2" STEEL ROD, SAE GRADE 5
2. 195-2146 STEEL WASHER, 3" O.D. (2 REQUIRED)
3. 25-1624 HEX NUT, 1-1/2"-6 UNC (2 REQUIRED)

750917

Figure 61a



750918

Figure 61b - Installation of Spring Decompression Tool

SPROCKETS

The sprockets can be reconditioned or switched to opposite sides to present new wearing surfaces to the track. The time to do this can be determined by using the track wear gauge, Figure 17. If the wear is too severe or if the sprocket is damaged beyond repair, the sprocket should be replaced.

NOTE: Also refer to Turning Pins and Bushings.

Removal

1. Refer to Track Removal and perform steps 1 through 4.
2. Attach a hoist to the free end of the track and carry it forward only as far as required to free it from the sprocket.
3. Remove the sprocket by removing eight 3/4" bolts and locknuts. Note the number of shims removed with each sprocket.

NOTE: The drive sprocket weighs approximately 177 pounds.

Installation

1. The sprocket must be correctly aligned

with the track rollers by shimming between the sprocket and sprocket mounting flange, Figure 62.

- a. If old parts are reinstalled, or if repairs consist of replacing or switching sprockets, use the same number of shims as were removed.
- b. If major repairs were made (such as replacing the transmission) sprocket alignment should be checked and the sprocket reshimmed, if required.

2. Use the special tool (Figure 13) as shown below to check alignment. If the rear track roller is excessively worn, install a new roller for checking purposes.
3. Determine the thickness of the shim pack as instructed in Figure 62. Obtain the required number of shims.
4. Mount the sprocket to the sprocket mounting flange using shims and hardware shown in Figure 62. Torque bolts to 290-300 foot-pounds.
5. Connect the track ends and adjust tension. See Track Tension.

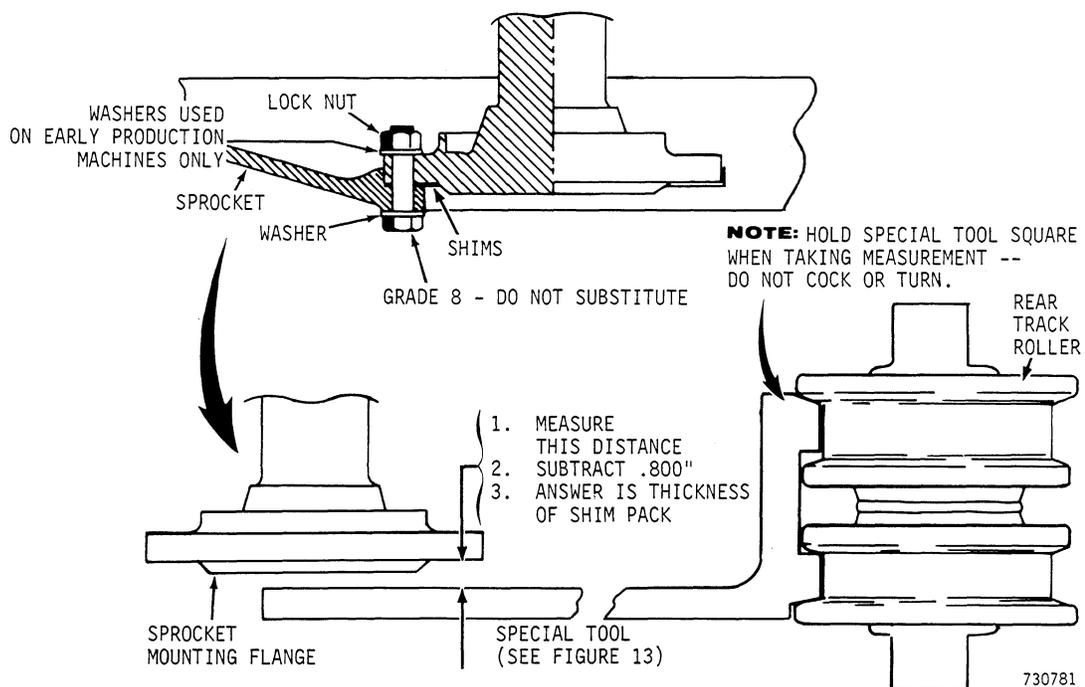


Figure 62 - Sprocket Installation

ROCK GUARDS

Heavy duty rock guards are optional equipment for protection of the lower track area and track rollers. Use the illustration

below as a guide for removal or installation of the various pieces.

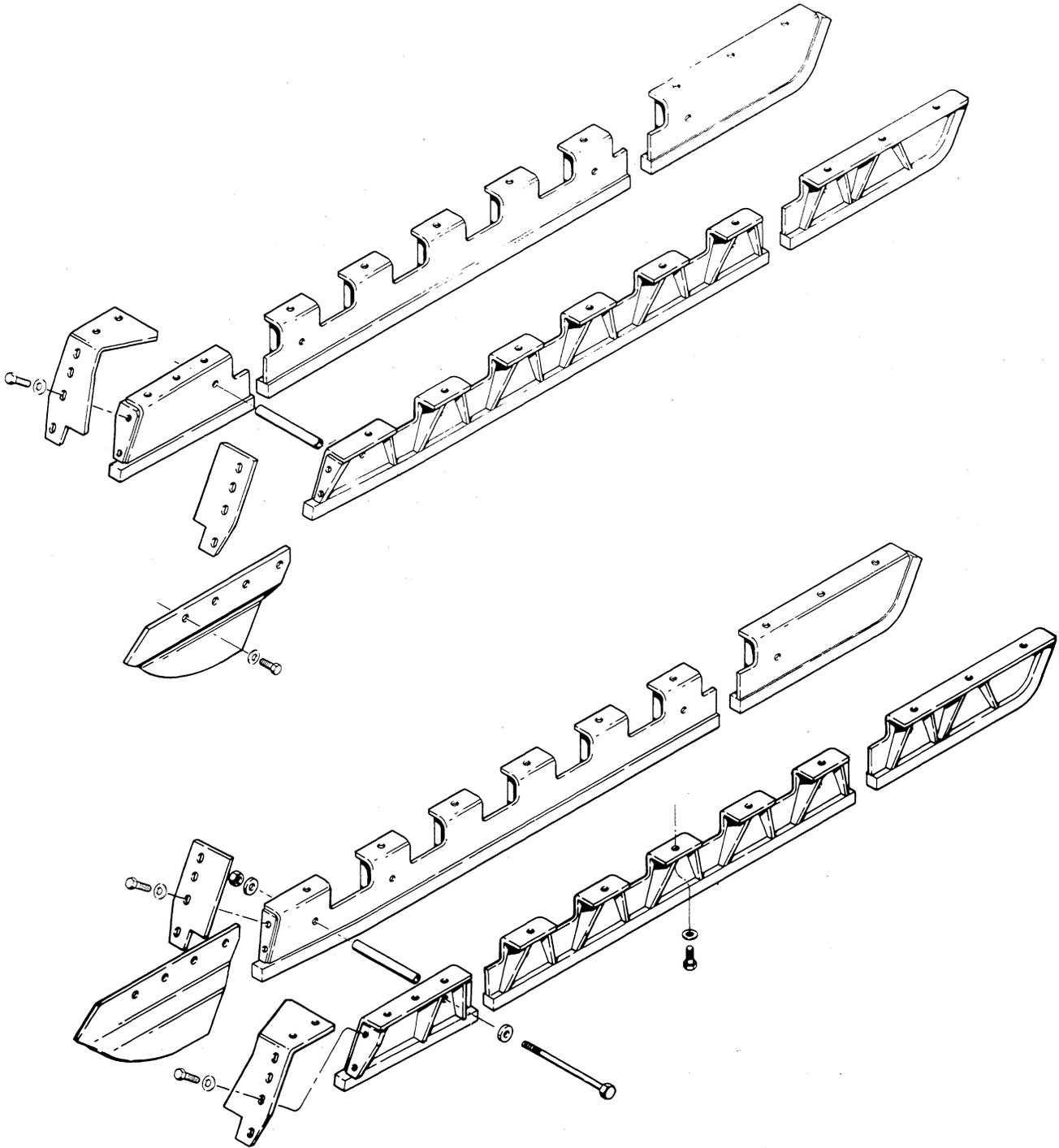


Figure 63 - Rock Guard Installation

FACE SEAL ASSEMBLY

Description

Face seal assemblies of the type shown in Figure 64 are used in the track rollers, carrier rollers, and idlers. These face seal assemblies eliminate the need for any regular lubrication or maintenance of the rollers or idlers.

The main sealing surface is formed by the contact of the highly polished surfaces of the metal rings against each other. The lower part of the facing surfaces taper away from each other slightly (exaggerated in the illustration) to permit entry of the lubricant.

The two rubber rings, in addition to driving the metal rings, also form sealing surfaces along their edges of contact with the thrust bushing and bore of the hub.

Servicing

Whenever a track roller or idler is disassembled, replace the rubber rings. Do not use the old rings, even though they appear to be in good condition.

If the highly polished metal rings are not wearing uniformly or are wearing within the tapered inner half of their faces, the complete seal should be replaced.

A kit is available for replacement of the rubber rings. Refer to Case Parts Catalog.

Assembly

To seal properly, all parts of the face seal assembly must be free of dirt, grease, scale, etc. **CLEANLINESS IS EXTREMELY IMPORTANT.**

1. Soak the band in lukewarm water at least two minutes.
2. Clean the polished faces of the metal rings with the lint free wiper.
3. Apply a thin film of clean SAE 30 oil

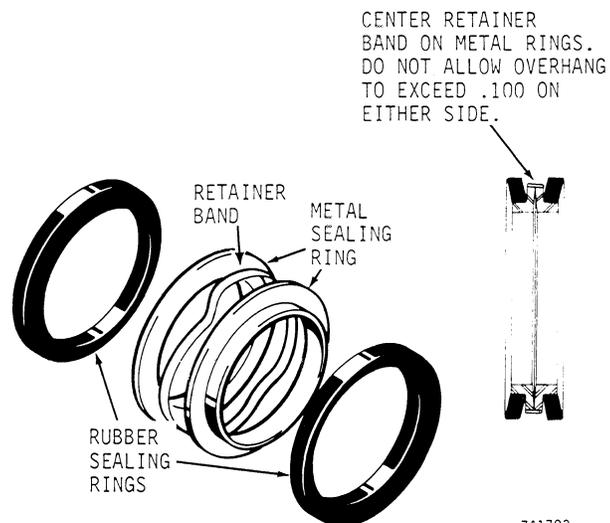


Figure 64 - Face Seal Assembly

- to one face. Oil must not wet any other surfaces.
4. Slide the metal rings together.
5. Stretch the plastic retainer band to fit the O.D. of the assembled metal rings as shown.
6. Dry for 20 minutes to allow the plastic retainer to shrink and make the metal rings a unit.
7. After the plastic retainer band dries, check to see if the metal rings are concentric with each other and there is no oil on outer surfaces. If necessary, rewet the plastic retainer band to center the rings with respect to each other.
8. Install the two rubber rings. Make sure that both metal and rubber rings are clean and dry. Make sure the rubber rings are properly seated. Note the lip on one of the rings—it is important that this lip be installed as specified in the assembly directions for the track rollers and idler wheels.