

## INSTRUCTIONS FOR LUBRICATED TRACK SYSTEM

### GENERAL

The Lubricated Track System pins have a hollow center which is used as an oil reservoir. A cross-drilled passage permits oil to enter the bushings for lubrication of the pins, bushings and oil seals. If the seals become dry, dirt can enter and cause the sealing surface of the bushing to wear. Track chains are factory lubricated; no oil level checks are necessary.

Leaking joints can be detected by any of the following methods.

Oil leakage noted at joint area. (Very difficult on units operating in field.)

Hand feel for warm or hot bushings after the tractor has been running.

Check for extending chain pitch.

Squeaking while going around front idler or sprocket. When it has been determined which joint is leaking, the joint should be identified for repair. One method of identification is to spray paint the squeaking joint.

Two methods for repairing a track are available. One method is to repair the track using a twin-head hydraulic track table press. Another method is to rebuild only the leaking joints using a portable 100-ton track press. (Except the TD-40 which requires a 150-ton press.)

### INSTRUCTIONS FOR TWIN-HEAD HYDRAULIC TRACK TABLE PRESS

#### Removal

1. If rebuilding only for leaking joints, remove the track shoe bolts from both sides of the joints being repaired. Remove the track shoe.
2. Move the tractor forward until the track master link (split link) is located on the front lower half of the front idler as shown in Figure 1 and block up under the track.



**CAUTION:** Before disconnecting the track chain, be sure to first relieve pressure on the hydraulic track adjuster. This must be done for safety reasons even if there is slack in the chain. To insure that there is no pressure against the idler, pry the front idler and fork back away from the front idler stops. Refer to Service manual for proper procedure.

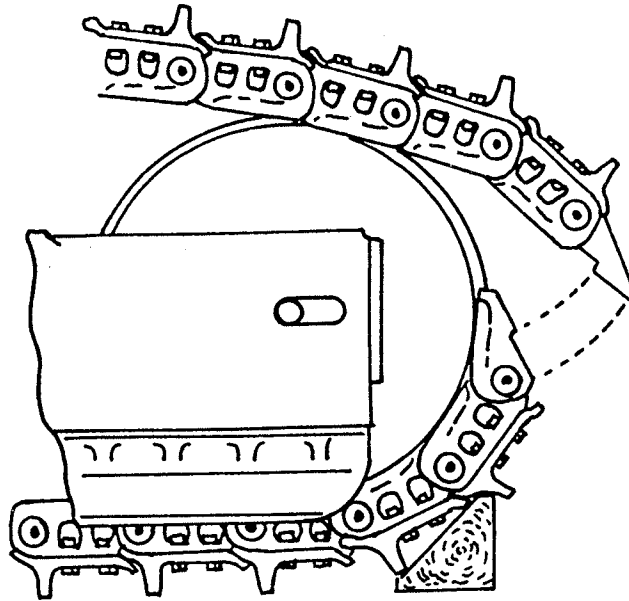


FIGURE 1

3. Raise the tractor with suitable lifting equipment to the point where both right-hand and left-hand tracks are off the ground. Properly place suitable capacity stands under the tractor main frames and remove lifting equipment.



**WARNING:** Everyone must be clear of the track chain and the rear of the tractor. When the master link bolts are removed, the track separates into two pieces and can roll rearward, falling to the ground, which can cause serious bodily injury or death.

4. Remove the master link bolts track shoe.



**WARNING:** Everyone must be clear and well away from the track chains and tractor before performing Step 5. When the sprocket rotates, the track chain will roll rearward, falling to the ground, which can cause serious bodily injury or death.

5. Start the tractor and slowly turn the sprocket counterclockwise. Continue to rotate the sprocket counterclockwise slowly until the upper section of the track chain is on the ground and free of the sprocket.
6. With suitable lifting equipment, prepare the chain for transport to the track repair location.

## REBUILDING USING TWIN-HEAD HYDRAULIC TRACK TABLE PRESS

### Disassembly

1. Using a slow-speed drill and a 1/2 inch drill bit, remove the rubber stoppers from the pins.
2. Position the track chain on the track press so that the bushing end (non-threaded end) of split link is toward the rams. Remove the track shoes.
3. Install the disassembly adapters on the ram heads.
4. Advance the track and lower the table so the split link drops into the saddle.
5. Press the pin out of the right link. Then press the pin out of the left link.
6. Remove the loose split links from the press.
7. Advance the track so the next link drops into the saddle.
8. Press the pin and bushing out of the right link, then press the pin and bushing out of the left link.
9. Remove the loose links, bushing and pin from the press.
10. Repeat Steps 7, 8 and 9 with the remaining sections of chain.
11. Remove the seals from the track links. Inspect the parts for wear/damage or improper assembly. Discard any parts which would adversely affect the rebuild.

### Reassembly

1. Dress up parts with emery cloth as required. Clean the parts.
2. On new or reused pins, mark an index mark on the lube hole end of the pins on the opposite side of the cross-drilled hole (3-Figure 2).

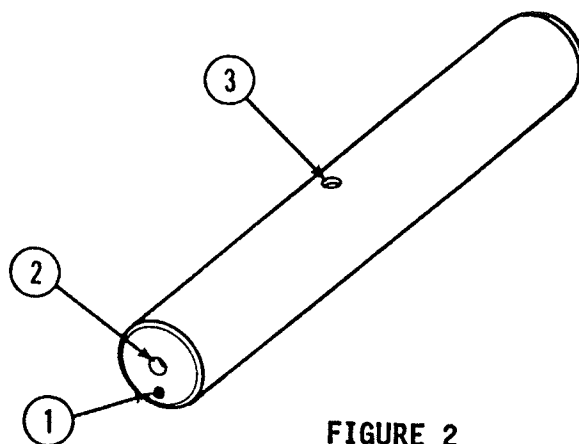


FIGURE 2

- Adjust the press for the proper assembly force as indicated by the chart.

MODEL	PRESS FORCE MAXIMUM	BUSHING PROJECTION	PIN PROJECTION
TD-12 TD-12 LGP	113,000 lb. (503 Kn)	.065 (1.65 MM)	.118 (3.0 MM)
TD-15C TD-15C LGP L-175C	130,000 lb. (578 Kn)	.065 (1.65 MM)	.118 (3.0 MM)
TD-15E TD-15E LGP	152,000 lb. (678 Kn)	.065 (1.65 MM)	.118 (3.0 MM)
TD-20E TD-20G TD-20G LGP	144,000 lb. (640 Kn)	.065 (1.65 MM)	.118 (3.0 MM)
TD-25C TD-25E TD-25G	185,000 lb. (823 Kn)	.065 (1.65 MM)	.118 (3.0 MM)
TD-40	263,000 lb. (1170 Kn)	.069 (1.75 MM)	.118 (3.0 MM)

LGP= Low Ground Pressure

- Install the assembly adapters on the ram heads.
- Bolt the halves of the split links together and position them on the press assembly adapters . Position a bushing in the press saddle.
- Press the links onto the bushing to the bushing projection height shown in chart. Remove the bolts securing the two halves together.
- Advance the track on the press and position a pin in the assembled bushing. Apply a coat of oil on the ends of the bushing with tissue (not your fingers) as shown in Figure 3, being careful not to get it on the pin surface.

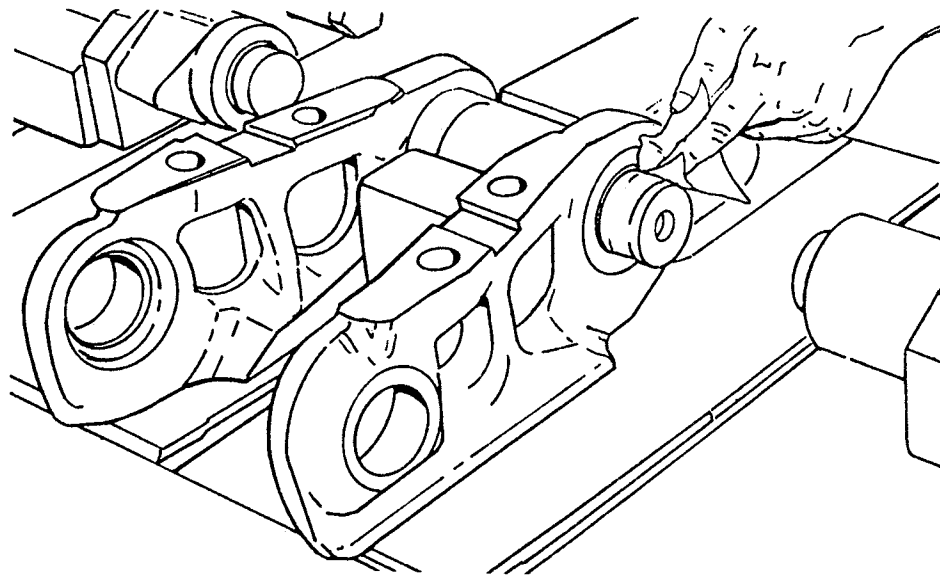


FIGURE 3

7. Position the next bushing in the press saddle.
8. Check that the seal halves are properly assembled as shown in Figure 4.

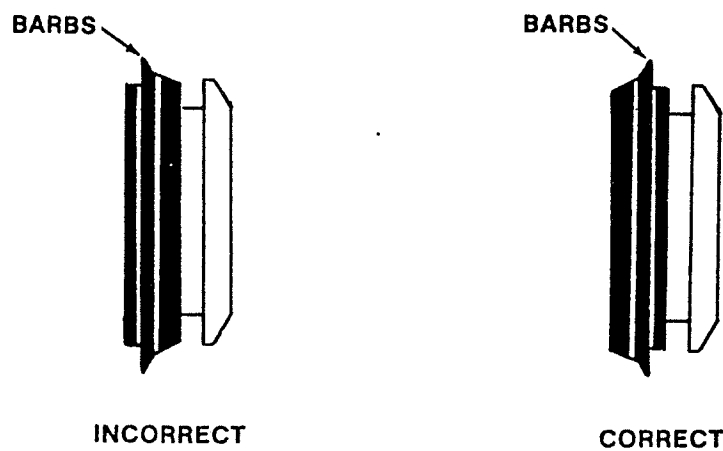


FIGURE 4

9. Install seals and spacers in the counterbore of the next track links and apply Loctite 640 #1140865C1 (250 ml. bottle) sparingly in the outer half of the pin bore of the links as shown in Figure 5. Position the links on the press assembly adapters.

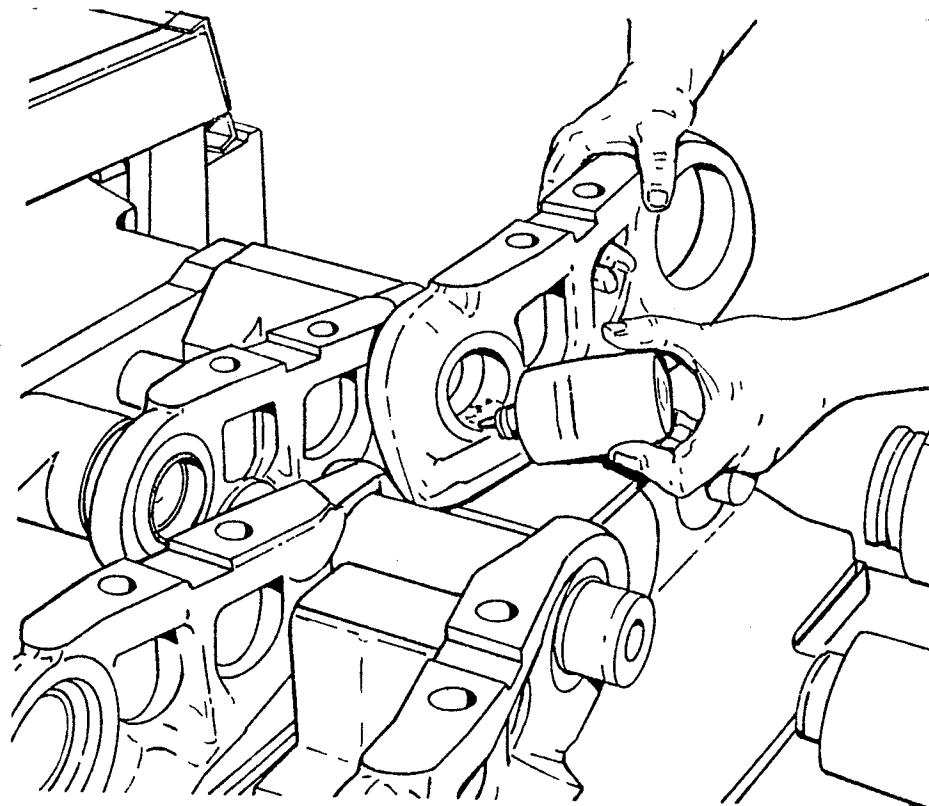


FIGURE 5

10. Check that index mark (1-Figure 2) is at the bottom. The lube holes (2) must all face the same direction.
11. Press the links onto the pins and bushings being sure that the link counterbore and bushing face are seated against the spacer. Do not exceed force indicated as this can damage the spacer. Do not adjust the links for bolt hole location.
12. After the chain is moved to the next position, place a rubber plug in the end of the pin of the completed joint. Tap it in until it is flush or slightly below the chamfer of the pin hole.
13. Check the seal by inserting the nozzle of the lubricator through the plug. Pull a vacuum of 68 kPa (20 in.) of mercury and hold for 10 seconds. In the event that the vacuum cannot be held, either the seal to bushing face or the track pin to link bore mating surfaces are leaking. In order to determine which side of the chain is leaking, pressurize the joint with 5 psi of air pressure and apply a soap solution to both seal areas and check for soap bubbles. After determining which side is leaking, the joint must be rebuilt.

**NOTE** - Once the joint is lubricated, there is no way of checking for leaks.

14. After the vacuum holds for 10 seconds, press the lubricant button on the nozzle and fill the evacuated pin under 103-171 kPa (15-25 psi). Use 85W140 or 80W-90 extreme pressure gear lubricant with 0.02% red dye.
15. Remove the lubricator.
16. Install the track shoes on the chain.
17. Prepare chains for transport back to machine.

**INSTALLING TRACK CHAIN  
WHEN REMOVED FROM UNDER TRACTOR**

1. With suitable lifting equipment, arrange the track chain under the sprocket, rollers and front idler. The split link half with the wearing surface and the next regular link should be positioned just past the front idler.
2. Block the track chain on the front idler as shown in Figure 1.
3. Align the track chain on the ground with the sprocket.
4. With suitable lifting equipment, start to engage the sprocket teeth with the split link half which has the track shoe surface.
5. Start the tractor and move the sprocket clockwise. Make sure the track chain is pulled up and onto the sprocket. Continue to guide the track chain over the top idlers and over the front idler.
6. Be sure the mating surfaces of the split link are clean. Interlock the split link halves in front of the front idler. Install the master link bolts checking visually and by hand tightening to insure alignment. Care should be exercised not to strip tapped holes.
7. Remove the master link bolts and install the track shoe. Coat the split link bolt threads with engine oil and torque the bolts.

**TORQUE CHART FOR SPLIT MASTER LINK BOLTS**

TRACTOR	BOLT NUMBER	LENGTH	THREAD	TORQUE FT LBS.	TORQUE N/M	NOTES
TD-12	739149C1	3.90	5/8-18 UNF	235	320	*
TD-12 LGP	739149C1	3.90	5/8-18 UNF	235	320	*
TD-12	742149C2	4.10	5/8-18 UNF	235	320	
TD-12 LGP	742479C2	4.10	5/8-18 UNF	235	320	
TD-12 LGP	743214C2	5.75	5/8-18 UNF	235	320	%
L-175C	739150C2	4.25	3/4-16 UNF	425	575	
TD-15C	739150C2	4.25	3/4-16 UNF	425	575	
TD-15C LGP	739150C2	4.25	3/4-16 UNF	425	575	
TD-15E	739150C2	4.25	3/4-16 UNF	425	575	
TD-15E LGP	739150C2	4.25	3/4-16 UNF	425	575	
TD-15C LGP	743215C2	6.156	3/4-16 UNF	425	575	%
TD-15E LGP	743215C2	6.156	3/4-16 UNF	425	575	%
TD-20E	739150C2	4.25	3/4-16 UNF	425	575	
TD-20G	739150C2	4.25	3/4-16 UNF	425	575	
TD-20G LGP	739150C2	4.25	3/4-16 UNF	425	575	
TD-20G LGP	743215C2	6.156	3/4-16 UNF	425	575	%
TD-25C	740568C2	5.078	7/8-14 UNF	690	940	
TD-25E	740568C2	5.078	7/8-14 UNF	690	940	
TD-25G	740568C2	5.078	7/8-14 UNF	690	940	
TD-40	729032C1	84 MM	M27X1.5	1150	1550	

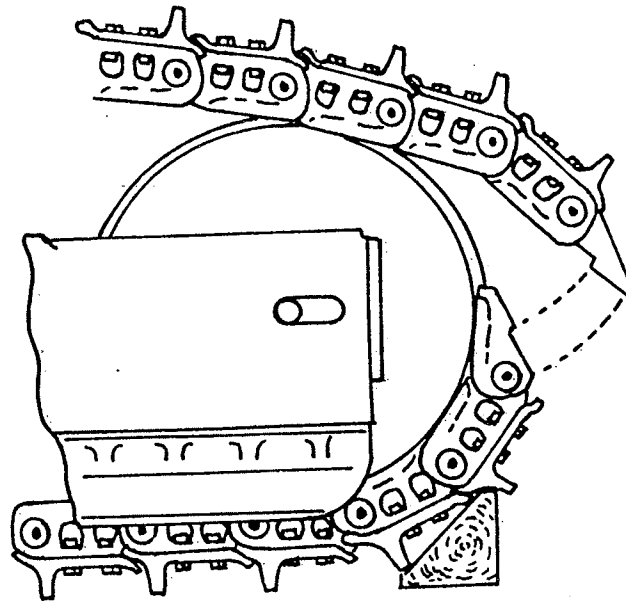
% = Front two (2) swamp shoe split link bolts  
 \* = Use with C1 link (see Service Bulletin B-15-50A)

8. Remove tractor from stands with suitable lifting equipment.
9. Adjust the track tension as described in Service Manual until sag measures 38 mm (1.5 in.) to 51 mm (2 in.).

**INSTRUCTIONS FOR USING  
PORTABLE 100-TON TRACK PRESS  
(EXCEPT THE TD-40)**

**Removal**

1. If rebuilding only for leaking joints, remove the track shoe bolts from both sides of the joints being repaired. Remove the track shoe.
2. Move the tractor forward until the track master link (split link) is located on the front lower half on the front idler as shown in Figure 6 and block up under the track.



**FIGURE 6**



**CAUTION:** Before disconnecting the track chain, be sure to first relieve pressure on the hydraulic track adjuster. This must be done for safety reasons even if there is slack in the chain. To insure that there is no pressure against the idler, pry the front idler and fork back away from the front idler stops. Refer to Service Manual for proper procedure.



**WARNING:** Everyone must be clear of the track chain and the rear of the tractor. When the master link bolts are removed, the track separates into two pieces and can roll rearward, falling to the ground, which can cause serious bodily injury or death.

3. Remove the master link bolts and track shoe.



**WARNING:** Everyone must be clear and well away from the track chains and tractor before performing Step 4. When the sprocket rotates, the track chain will roll rearward, falling to the ground, which can cause serious bodily injury or death.