



Service Repair Manual

Models

931B TRACK LOADER

Previous Screen

Product: TRACK LOADER

Model: 931B TRACK LOADER 29Y

Configuration: 931B TRACK LOADER / POWER SHIFT / 29Y00001-UP (MACHINE) POWERED BY 3204 ENGINE

**Disassembly and Assembly
D3B TRACTOR & 931B TRACTOR TYPE LOADER POWER TRAIN**

Media Number -SEN7918-02

Publication Date -01/11/2004

Date Updated -15/02/2017

SEN79180005

Track Rollers

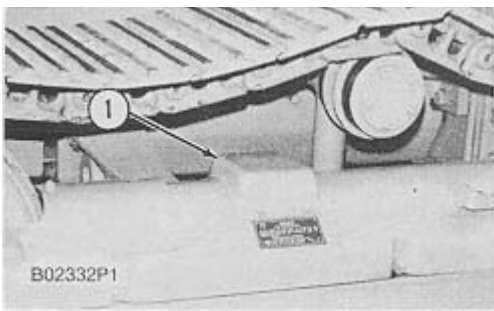
SMCS - 4108-010; 4108-015; 4180-016

Remove And Install Track Rollers

| Tools Needed | | A |
|--------------|------------|---|
| 5P6215 | Jack Stand | 4 |

Start By:

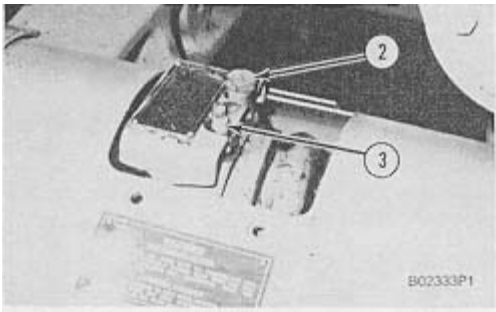
- a. remove track roller guards



- 1. Remove cover (1).



The adjuster cylinder for the track is under high hydraulic pressure. Do not visually inspect the relief valve to see if grease is released when it is open. Look to see that the track has loosened. Use this warning any time the tracks are loosened or tightened.

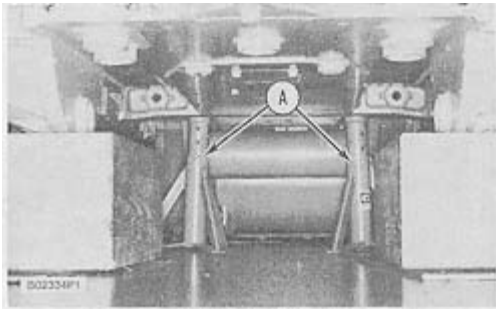


2. Loosen the track as follows:

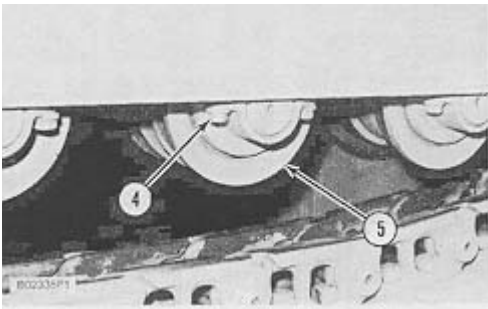
a. Turn the relief valve (2) one turn counterclockwise to permit grease to be released from the vent hole below the relief valve. If the track does not loosen, go to Step b.

b. Turn fill valve (3) one turn counterclockwise to permit grease to be released from the vent hole below the fill valve. If the track still does not loosen, start the machine and move it forward and backward. If grease is still not released, go to Step c.

c. Install a slug that is 76.2 mm (3 in) in diameter and 63.5 mm (2.5 in) long between the track and sprocket segment. Move the machine to the rear so the track will be pushed up by the bar. This will put tension on the track and move the front idler and track adjuster to the rear against the force of the recoil spring. This will push grease out of the vent holes.



3. Lift the machine until the track rollers are off the track. Put tooling (A) or wood blocks in position under the machine.



4. Remove four bolts and lockwashers (4). Remove track roller (5). Weight is 22 kg (48 lbs).

NOTE: The following steps are for installation of track rollers.

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The full manual is available for immediate download.

<https://www.ebooklibonline.com>

NOTICE

Remove all paint from the surfaces of the track roller and track roller frame that make contact. If there is paint between the track roller and track roller frame, the bolts that hold the track roller in place can loosen.

5. Put track roller (5) in position. Install the four lockwashers and bolts that hold the roller in place. Tighten the bolts to a torque of $135 \pm 20 \text{ N}\cdot\text{m}$ ($101 \pm 15 \text{ lb ft}$).
6. Remove tooling (A) or wood blocks from under the machine.
- 7 Make an adjustment to the track. See the Topic, Track Adjustment.
8. Put cover (1) in position and install the bolts that hold it in position.

End By:

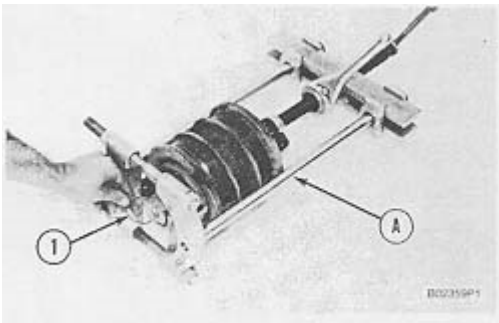
- a. install track roller guards

Disassemble Track Rollers

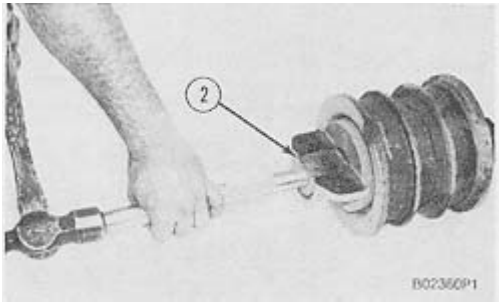
| Tools Needed | | A | B | C |
|--------------|--------------------------------|---|---|---|
| 8B7548 | Puller Assembly | 1 | | |
| 8B7551 | Bearing Puller Attachment | 1 | | |
| 8H684 | Ratchet Box Wrench | 1 | | |
| FT1216 | Roller Bushing Removal Adapter | | 1 | |
| 1P510 | Driver Group | 1 | | 1 |

Start By:

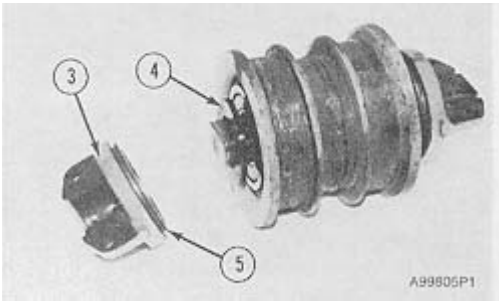
- a. remove track rollers



1. Remove the drain plug and drain oil from the track roller.
2. Use tooling (A) to put the track roller under compression so ring (1) can be removed. Remove the ring. Remove tooling (A).

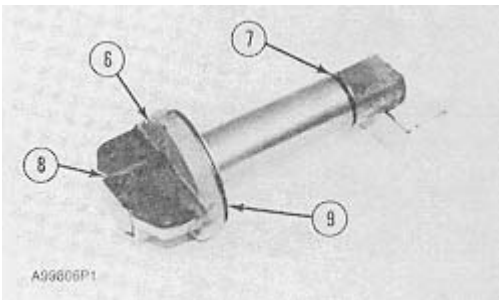


3. Use a brass bar and hammer to push shaft (2) through the roller.



4. Remove collar (3) and washer (4) from the shaft.

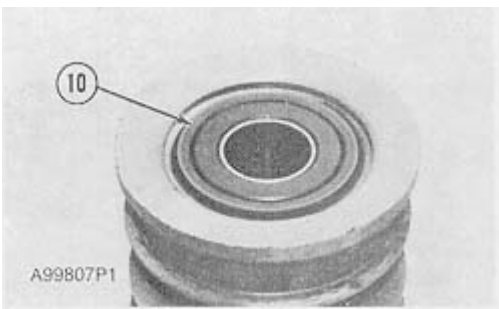
5. Remove Duo-Cone seal (5) from the collar.



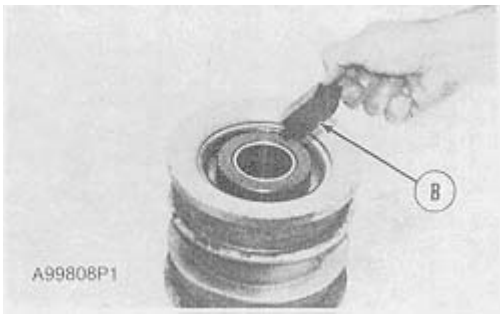
6. Remove the shaft and other collar from the roller. Remove the washer from the shaft.

7. Remove ring (8). Remove collar (6) from the shaft. Remove O-ring seals (7) from the shaft.

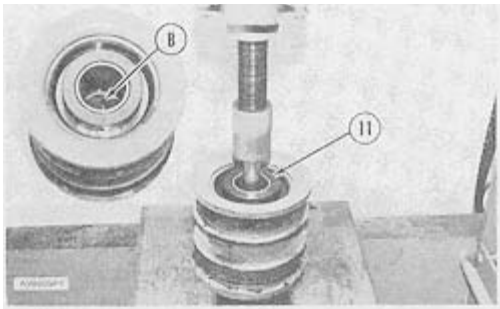
8. Remove Duo-Cone seal (9) from the collar.



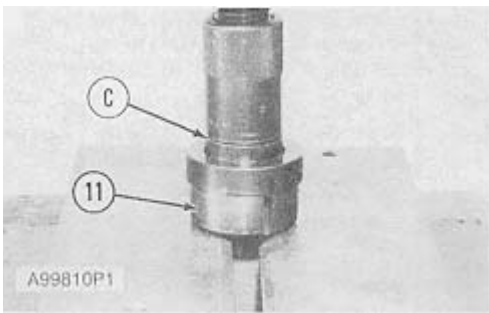
9. Remove Duo-Cone seals (10) from the collar.



10. Install tooling (B) in the roller to remove the bearing assemblies.



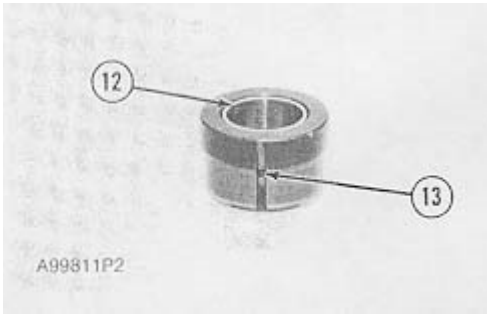
11. Use tooling (B) and a press to remove bearing assemblies (11) from the roller.



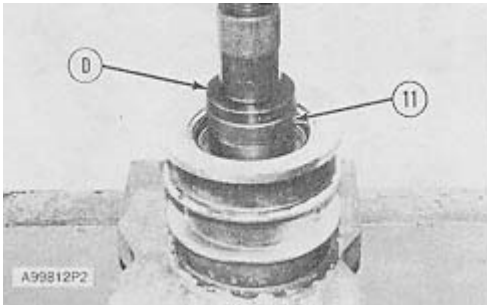
12. Use tooling (C) and a press to remove the bearing from bearing assemblies (11).

Assemble Track Rollers

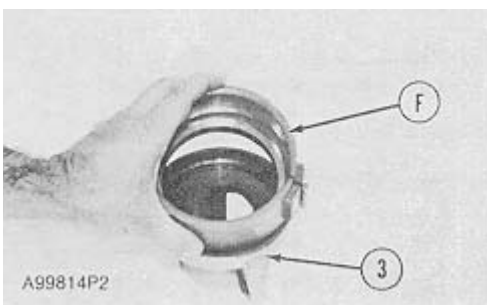
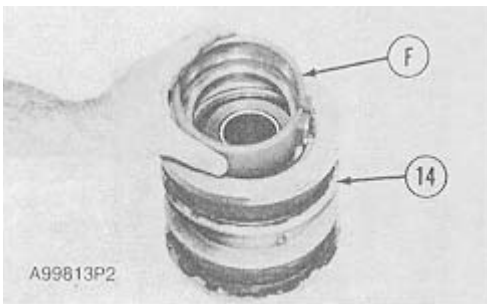
| Tools Needed | | C | D | E | F |
|--------------|---------------------------|---|---|---|---|
| 1P510 | Driver Group | 1 | | | |
| 1P520 | Driver Group | | 1 | | |
| 8B7548 | Puller Assembly | | | 1 | |
| 8H684 | Ratchet Box Wrench | | | 1 | |
| 8B7551 | Bearing Puller Attachment | | | 1 | |
| 8B7560 | Step Plate | | | 1 | |
| 5P297 | Seal Installer | | | | 1 |



1. Use tooling (C) and a press to install bearings (12) in the bearing assemblies with the holes in the bearings in alignment with holes (13) in the bearing assemblies.



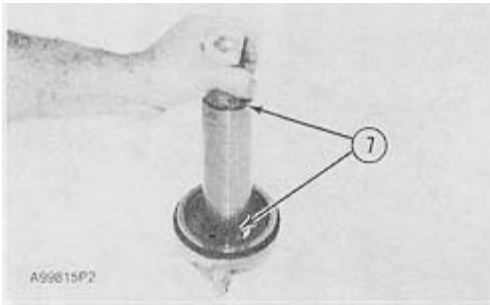
2. Use tooling (D) and a press to install bearing assemblies (11) in the roller.



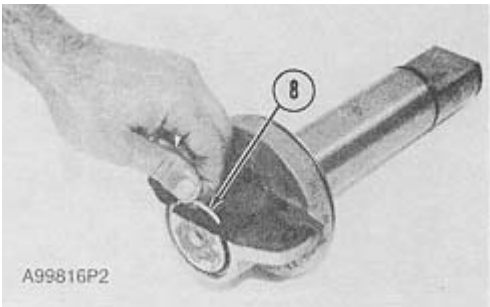
NOTE: See the topic, Installation Of Conventional Duo-Cone Seals, before installing any of the Duo-Cone seals.

NOTE: The rubber seals and all surfaces that make contact with the seals must be clean and dry with no damage to the surface. After installation of the seals, put oil on the contact surfaces of the Duo-Cone seals. Put lubrication on all other seals at assembly

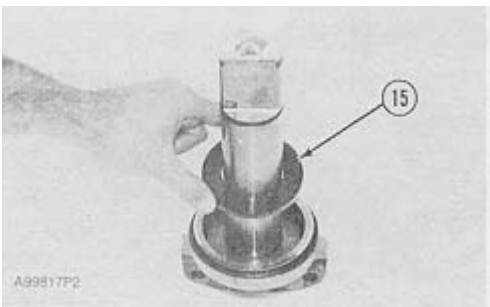
3. Use tooling (F) to install Duo-Cone seals in roller (14) and collars (3) and (6).



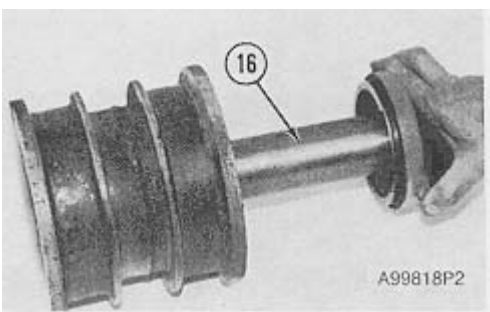
4. Install O-ring seals (7) on the roller shaft. Install roller shaft in the collar.



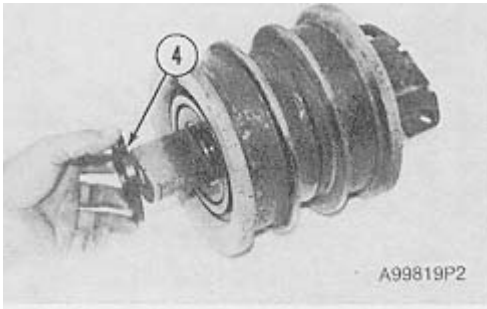
5. Install ring (8) to hold the collar on the shaft.



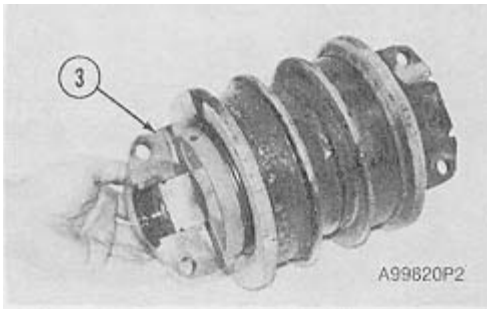
6. Install washer (15) on the roller shaft with the oil grooves away from the collar.



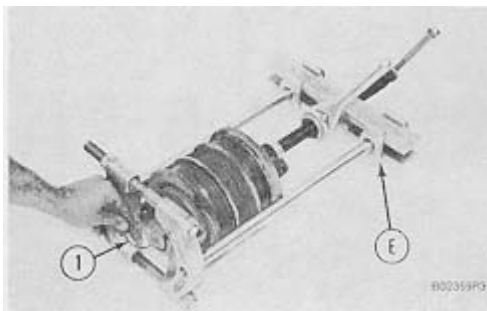
7. Install roller shaft (16) with the washer and collar in the roller.



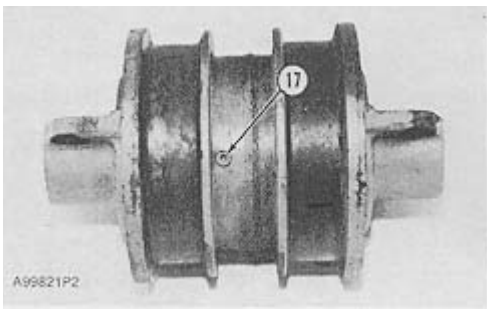
8. Install washer (4) on the shaft with the oil grooves toward the roller.



9. Install the other collar (3) in the roller shaft.



10. Install tooling (E) on the track roller as shown. Put the roller under compression and install ring (1). Remove tooling (E).



11. Remove plug (17). Put 280 cc (.6 pint) of clean SAE 30 oil in the roller. Install plug (17).

End By:

a. install track roller

Previous Screen

Product: TRACK LOADER

Model: 931B TRACK LOADER 29Y

Configuration: 931B TRACK LOADER / POWER SHIFT / 29Y00001-UP (MACHINE) POWERED BY 3204 ENGINE

**Disassembly and Assembly
D3B TRACTOR & 931B TRACTOR TYPE LOADER POWER TRAIN**

Media Number -SEN7918-02

Publication Date -01/11/2004

Date Updated -15/02/2017

SEN79180006

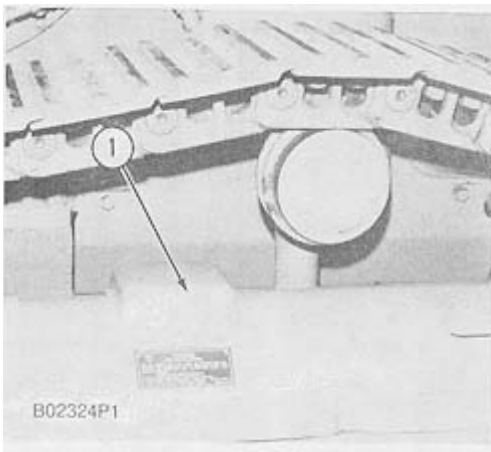
Tracks

SMCS - 4170-016; 4170-077

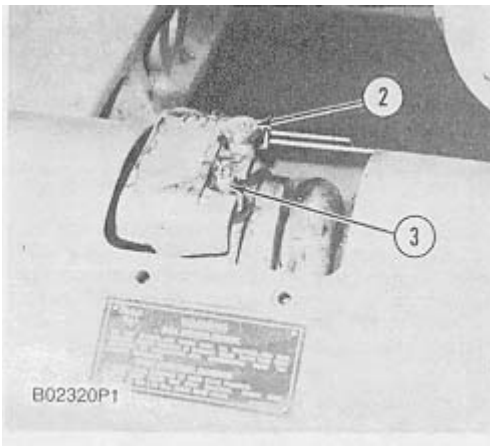
Separation of Tracks

| Tools Needed | | A |
|--------------|----------------------|---|
| 1P3532 | Track Block Assembly | 1 |

NOTE: This operation was done on the 931B.



1. Remove cover (1).

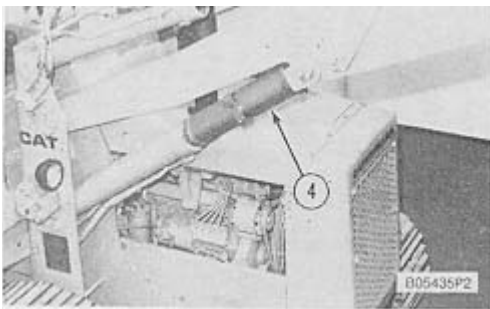


WARNING

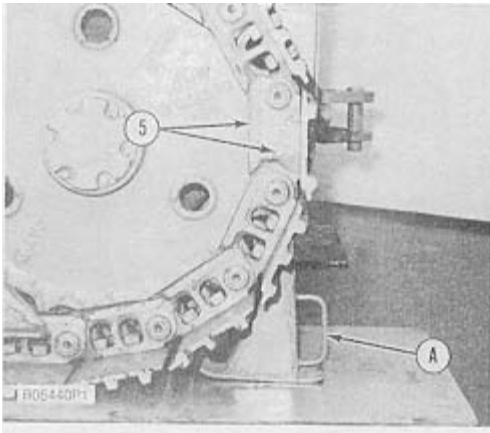
The adjuster cylinder for the track is under high hydraulic pressure. Do not visually inspect the relief valve to see if grease is released when it is open. Look to see that the track has loosened. Use this warning any time the tracks are loosened or tightened.

2. Loosen the track as follows:

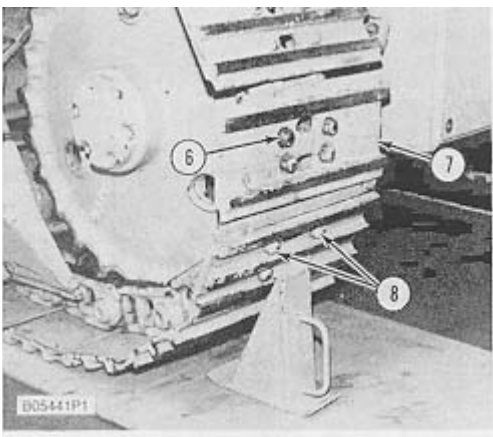
- a. Turn relief valve (2) one turn counterclockwise to permit grease to be released from the vent hole below the relief valve. If the track does not loosen, go to Step b.
- b. Turn fill valve one turn counterclockwise to permit grease to be released from the vent hole below the fill valve. If the track still does not loosen, start the machine and move it forward and backward. If grease is still not released, go to Step c.
- c. Install slug (4) that is 76.2 mm (3 in) in diameter and 63.5 mm (2.5 in) long between the track and sprocket segment. Move the machine to the rear so the track will be pushed up by the bar. This will put tension on the track and move the front idler and track adjuster to the rear against the force of the recoil spring. This will push grease out of the vent holes.



3. Install support bracket (4). See the topic, Install And Remove Support Bracket (931B).

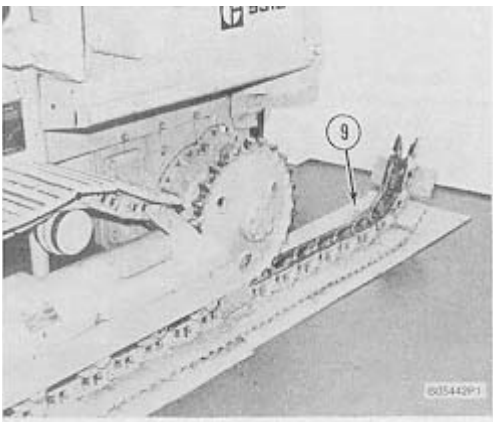


4. Start the machine and move split master link (5) to the rear of the machine. Install tool (A) under the grouser of the shoe just under the master shoe. Move the machine slowly backward until the track is tight against tool (A).



5. Remove two bolts (8) that hold the shoe below the master shoe. The bolts must be removed to install the tooling for connection of the tracks.

6. Remove four bolts (6) and remove master shoe (7).



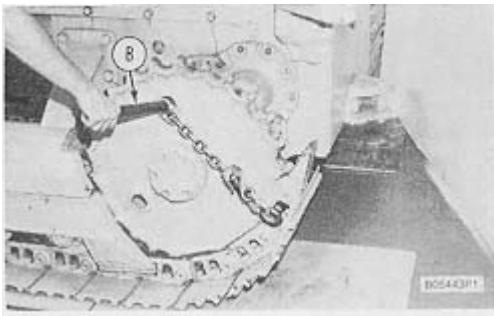
WARNING

Keep away from the front and rear of the machine when the track is pushed off of the track carrier roller and idler.

7. Start the machine and drive slowly forward to remove track (9).

Connection Of Tracks

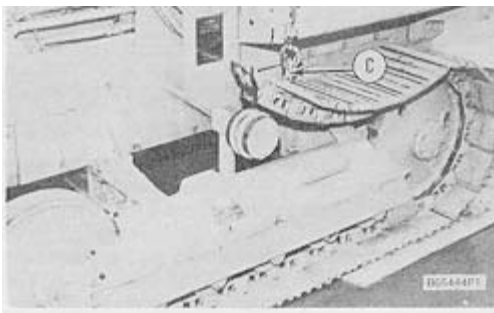
| Tools Needed | | A | B | C |
|--------------|---------------------------|---|---|---|
| 1P3532 | Track Block Assembly | 1 | | |
| 1P3545 | Chain Coupling Tool Group | | 1 | |
| 5P9736 | Link Bracket | | | 1 |



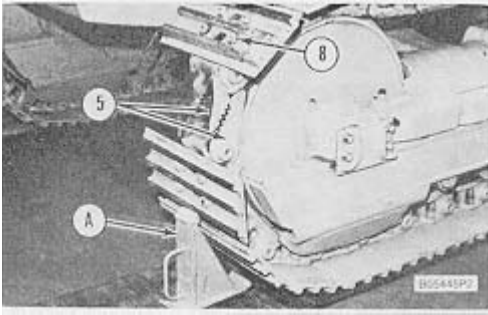
WARNING

Keep away from the area behind the sprocket when the track is pulled on the sprocket with tooling (B).

1. Put the machine in position on the track with the sprocket near the end of the track. Install tooling (B) on the track and sprocket as shown. Drive the machine forward and pull the track on to the sprocket with tooling (B) until the track is forward of a vertical center line through the sprocket.

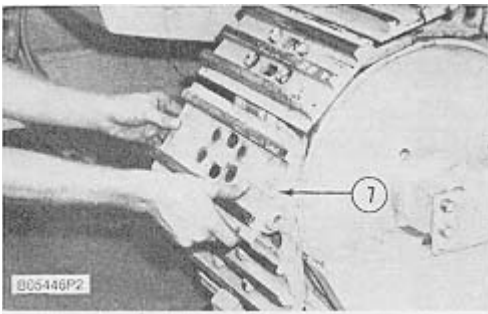


2. Remove tooling (B) and install tool (C) on the track as shown. Fasten a hoist. Move the machine and track forward. Use the hoist and tool (C) as a guide for the track over the carrier roller and idler.



3. Remove tool (C) and install tool (A) under the grouser shoe split master link (5). Drive the machine forward to tighten the track against tool (A). Make a connection of the split master link (5).

4. Put 30W oil on the threads and install bolts (8). Tighten the bolts to a torque of 90 ± 20 N·m (65 ± 15 lb ft). Then tighten the bolts an additional 120° .



5. Install master shoe (7). Put 5P3931 Anti-Seize Compound on the threads of the bolts that hold master shoe in place. Install the bolts and tighten to a torque of 90 ± 20 N·m (65 ± 15 lb ft), then tighten an additional 180° .

6. Make an adjustment to the track. See the topic, Track Adjustment in the Specifications Service Manual. For the D3B, see Form No. SMHS7915. For 931B, see Form No. SMHS7929.

7. Install the cover over the hydraulic track adjuster.

8. Remove the support bracket. See the topic, Install And Remove Support Bracket (931B).

[Previous Screen](#)

Product: TRACK LOADER

Model: 931B TRACK LOADER 29Y

Configuration: 931B TRACK LOADER / POWER SHIFT / 29Y00001-UP (MACHINE) POWERED BY 3204 ENGINE

Disassembly and Assembly

D3B TRACTOR & 931B TRACTOR TYPE LOADER POWER TRAIN

Media Number -SEN7918-02

Publication Date -01/11/2004

Date Updated -15/02/2017

SEN79180007

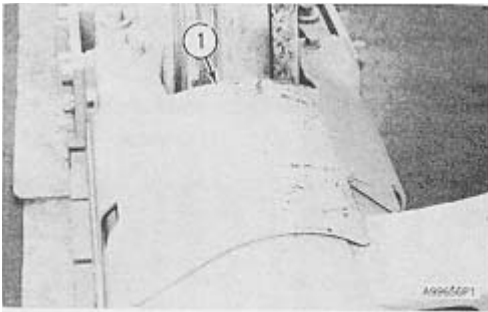
Front Idlers

SMCS - 4159-010; 4159-015; 4159-016

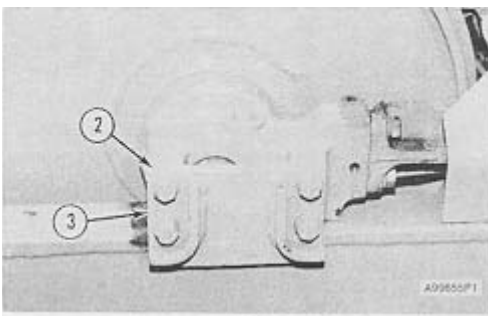
Remove And Install Front Idlers

Start By:

- a. separation of tracks

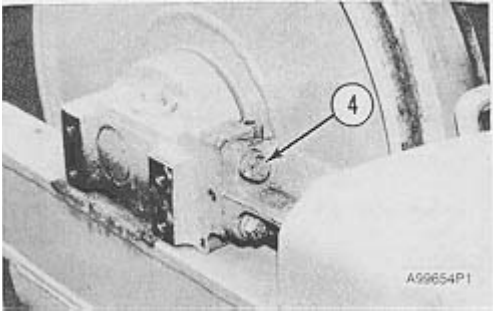


1. Remove cover (1) from the track roller frame.

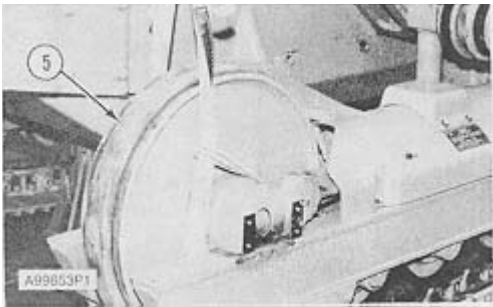


NOTE: Put identification on shims for correct installation.

2. Remove plates (3) and shims (2) from each side of the idler.



3. Remove four bolts (4) that hold the idler to the yoke assembly.



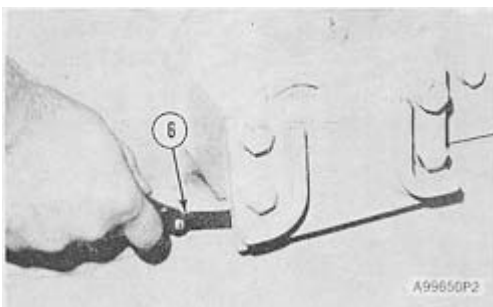
4. Fasten two nylon straps as shown to the idler. Fasten a hoist and slide idler (5) forward and remove idler (5) from the track roller frame. The weight is 81 kg (180 lb).

NOTE: The following steps are for the installation of the front idlers.

5. Fasten two nylon straps and a hoist to idler (5). Put the idler in position on the track roller frame.

6. Install four bolts (4) that hold the idler to the yoke assembly.

7. Install original shims (2) and plates (3) on each side of the idler.



8. Use feeler gauge (6) to check the clearance between plate (3) and the track roller frame. Remove or add shims (2) as needed to get a clearance of 1.5 mm (.06 in) between the plates and track roller frame.

9. Install cover (1).

End By:

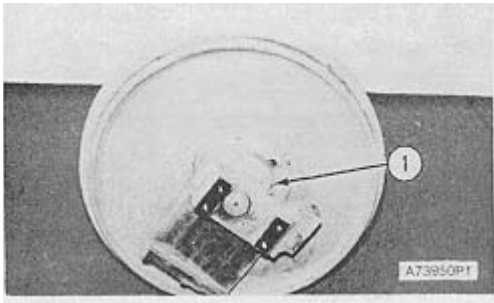
a. connection of tracks

Disassemble Front Idlers

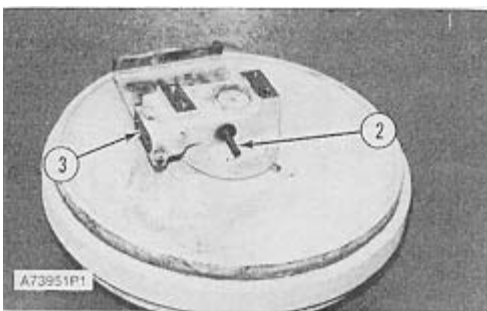
| Tools Needed | | A |
|--------------|------------------|---|
| FT1316 | Adapter Assembly | 1 |

Start By:

a. remove front idler



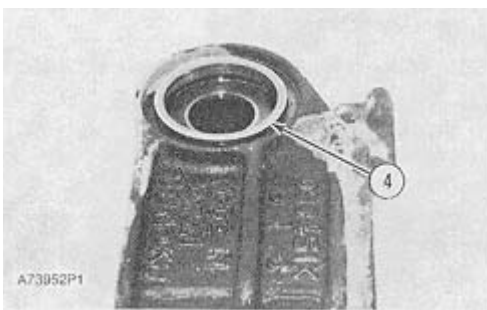
1. Remove plug and drain oil from idler. Install plug. Remove bolt and washer (1).



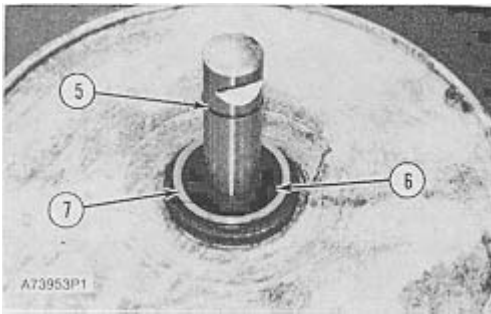
2. Install a 3/8" - 16 NC forcing screw (2) in the pin. Push the pin from the bearing with a hammer.

3. Remove bearing (3) from the front idler.

NOTE: Keep Duo-Cone seal group together for correct assembly.

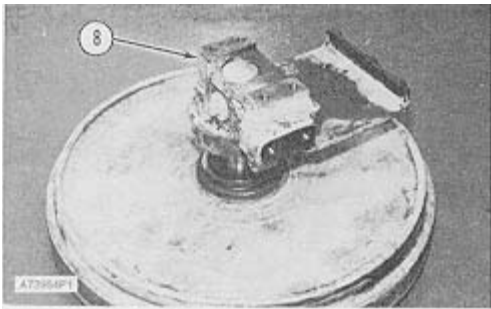


4. Remove outer half of Duo-Cone seal (4) from the bearing.

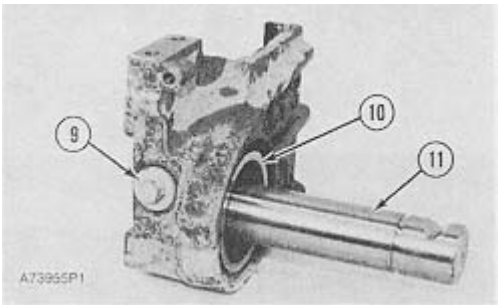


5. Remove O-ring seal (5) from the shaft.

6. Remove washer (6). Remove inner half of Duo-Cone seal (7) from the idler.



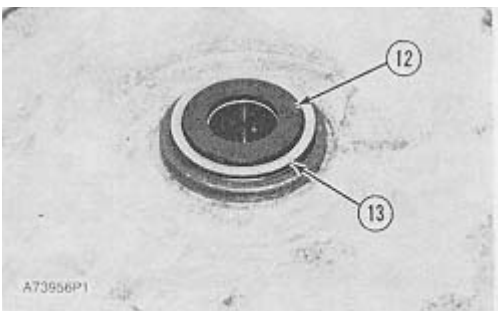
7. Turn the idler as shown and remove bearing (8) and the shaft.



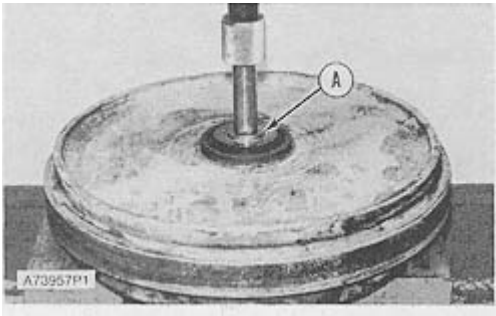
8. Remove bolt and washer (9). Do Step 2 to remove the pin.

9. Remove shaft (11) from the bearing. Remove the O-ring seal from the shaft.

10. Remove outer half of Duo-Cone seal (10) from the bearing.



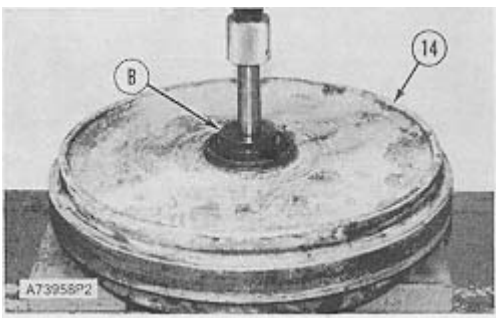
11. Remove washer (12). Remove inner half of Duo-Cone seal (13).



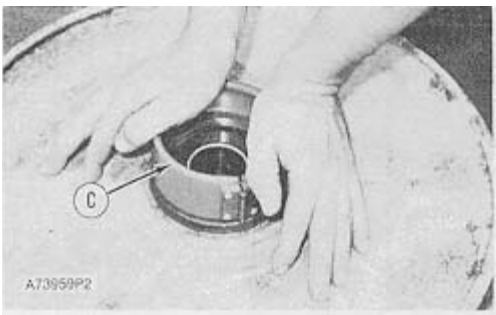
12. Remove the bushings from the idler with tooling (A) and a press.

Assemble Front Idlers

| Tools Needed | | B | C |
|--------------|-------------------------|---|---|
| 1P510 | Driver Group | 1 | |
| 5M2160 | Duo-Cone Seal Installer | | 1 |



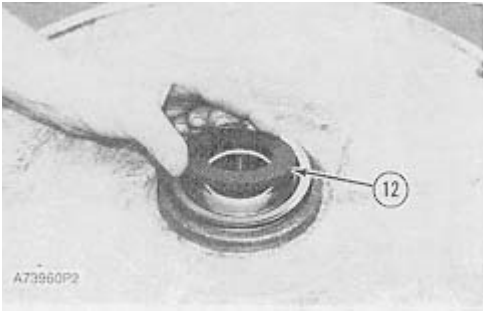
1. Check all parts for damage. If damaged, use new parts for replacement.
2. Make sure all parts are clean and free of dirt and foreign material.
3. Install the bushings in idler (14) with tooling (B) and a press.



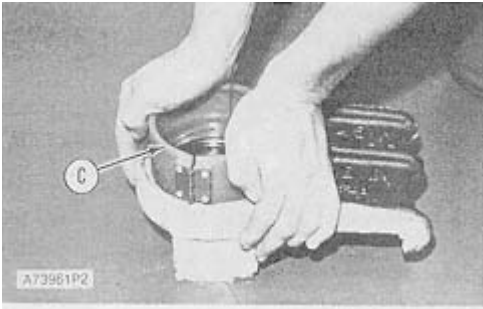
NOTE: See the topic, Installation Of Conventional Duo-Cone Seals, before installing any of the Duo-Cone seals.

NOTE: The rubber seals and all surfaces that make contact with the seals must be clean and dry with no damage to the surface. After installation of the seals, put oil on the contact surfaces of the Duo-Cone seals.

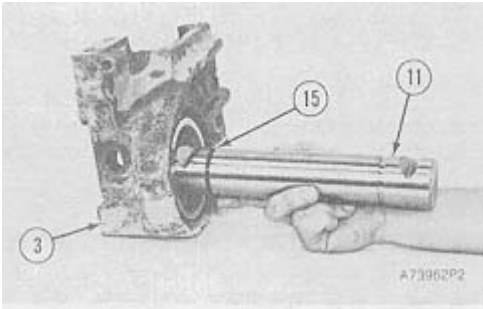
4. Install the inner half of Duo-Cone seal with tool (C) in the idler.



5. Install washer (12) with groove toward the idler.



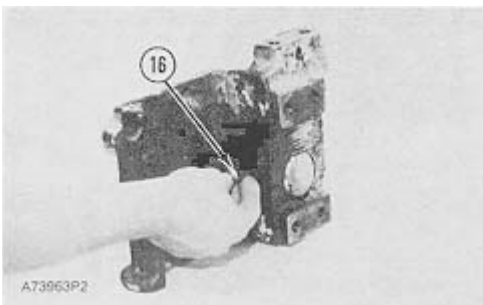
6. Install the outer half of Duo-Cone seal with tool (C) in the bearing.



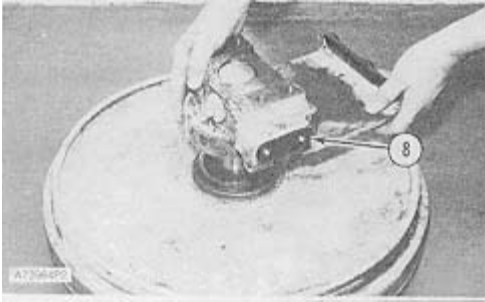
7. Install O-ring seal (15) on shaft (11).

NOTE: Install shaft as shown to prevent damage to O-ring seal. Make an alignment of pin hole in bearing and the notch in the shaft.

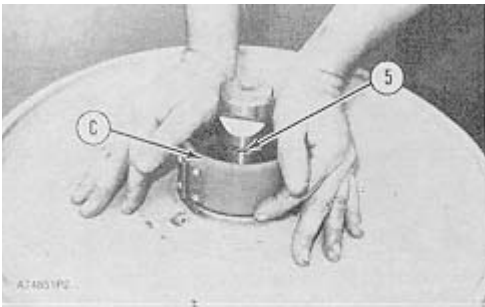
8. Install the shaft in bearing (3).



9. Install pin (16) in the bearing. Install the bolt and washer that hold the pin in position.

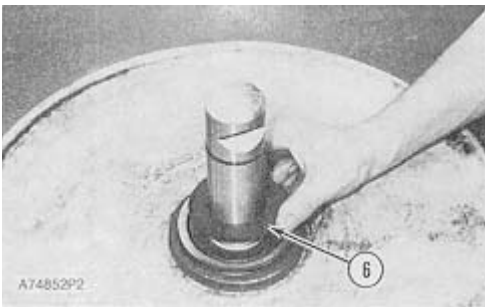


10. Install bearing assembly (8) in the idler.

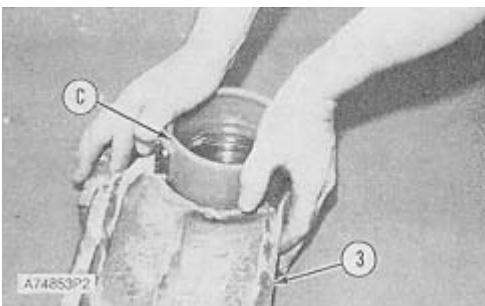


11. Turn the idler as shown and install O-ring seal (5) on the shaft.

12. Install the inner half of the Duo-Cone seal with tool (C) in the idler.



13. Install washer (6) with the groove toward the idler.



14. Install the outer half of the Duo-Cone seal in other bearing (3) with tool (C).



Suggest:

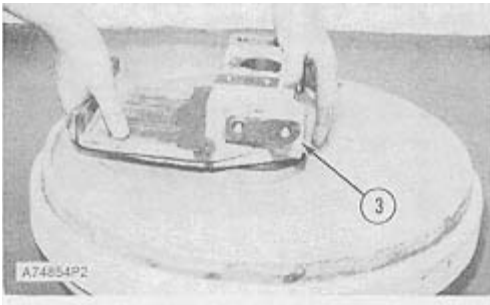
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first, and then click the above link

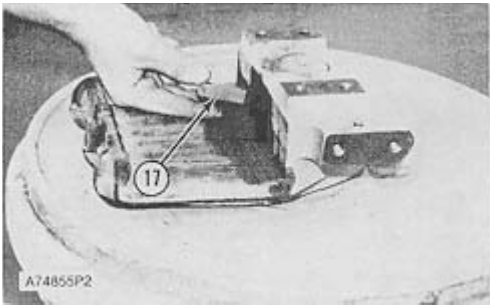
to download the complete manual.

Thank you so much for reading

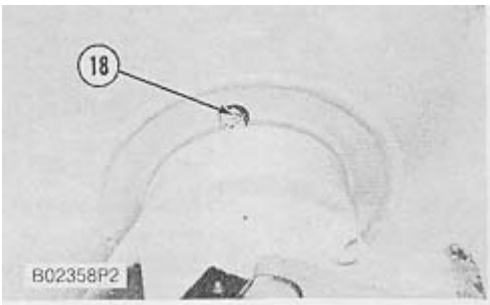


15. Put bearing (3) in position over the shaft.

NOTE: The pin hole in the bearing must be in alignment with the notch in the shaft.



16. Install pin (17) in the bearing. Install the washer and bolt that hold the pin in position in the bearing. Tighten the bolt to a torque of 54 N·m (40 lb ft). Hit pin (17) with a hammer and tighten the bolt again to a torque of 70 ± 14 N·m (50 ± 10 lb ft).



8. Remove plug (18) and put 570 cc (1.2 pint) of clean SAE oil in the idler. Install plug (12).

End By:

a. install front idlers

Previous Screen

Product: TRACK LOADER

Model: 931B TRACK LOADER 29Y

Configuration: 931B TRACK LOADER / POWER SHIFT / 29Y00001-UP (MACHINE) POWERED BY 3204 ENGINE

**Disassembly and Assembly
D3B TRACTOR & 931B TRACTOR TYPE LOADER POWER TRAIN**

Media Number -SEN7918-02

Publication Date -01/11/2004

Date Updated -15/02/2017

SEN79180008

Hydraulic Track Adjuster Seals

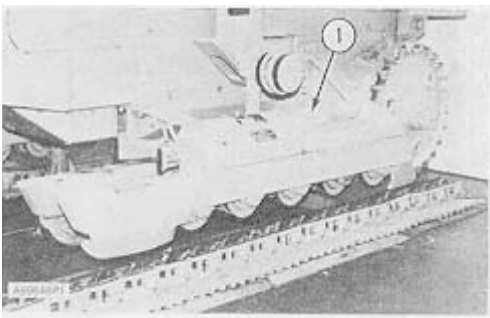
SMCS - 4157-010

Remove And Install Hydraulic Track Adjuster Seals

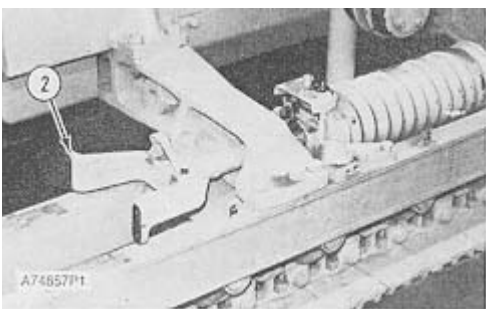
| Tools Needed | | A |
|--------------|--------------|---|
| 1P510 | Driver Group | 1 |

Start By:

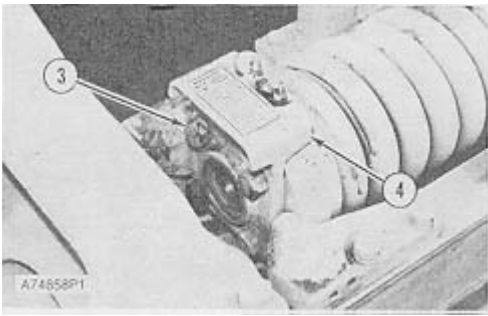
- a. remove front idlers



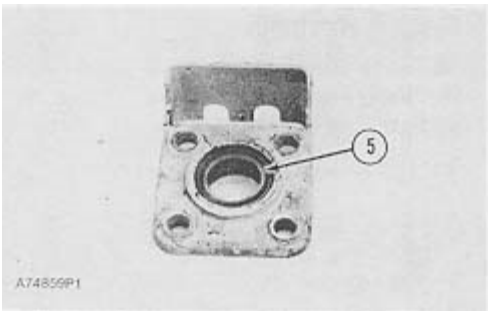
1. Remove track roller frame guards (1).



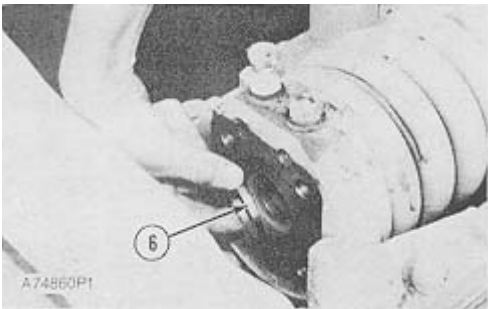
2. Remove yoke assembly (2).



3. Remove four bolts and lockwashers (3). Remove head assembly (4).



4. Remove seal (5) from the head.



5. Remove ring (6) and the seal from the cylinder assembly.

NOTE: The following steps are for installation of the hydraulic track adjuster seals.

6. Install the seal with the lip toward the inside of the spring.

7. Install ring (6).

8. Install seal (5) in the head with tooling (A). The lip of the seal must be toward the front idler.

NOTE: Put a small amount of lubricant to be sealed on the lips of the seals before and after installation.

9. Put head (4) in position and install the four lockwashers and bolts that hold it in position.

10. Install yoke assembly (2).

11. Install the track roller frame guards.

End By:

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