



## Section J

# Track & Running Gear

Service Manual - JS115,JS130,JS145 - Tier III Auto

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## Section J - Track and Running Gear

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# Section J - Track and Running Gear

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# Technical Data

## Torque Specifications

For torque specifications, refer to **Section 3, Routine Maintenance.**



# Section J - Track and Running Gear Technical Data

Torque Specifications

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## Idler Wheel and Recoil Unit

### Removal

P11-J003

- 1 Slacken the check valve to bleed out grease.

#### WARNING

When opening the check valve always stand to one side and loosen a little at a time until grease starts to come out. If you over-loosen too much grease could spurt out or the valve cover fly out and cause serious injury.

8-3-4-5

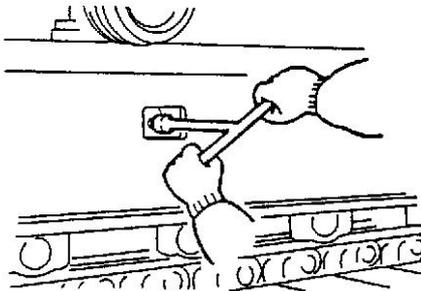


Fig 1.

C004260

- 2 Disconnect the track link, see **Section F, Track Motor/Reduction Gear**. Move the idler wheel and recoil assembly to the end of the undercarriage using a bar.

#### WARNING

Stand clear and to one side of the track while you remove the master pin. When the master pin is removed the track could fall forward and injure you.

TRACK-1-1

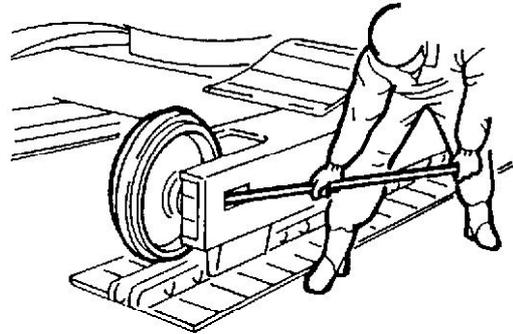


Fig 2.

C004520

- 3 Fasten a sling around the idler wheel and recoil assembly and remove it from the undercarriage.

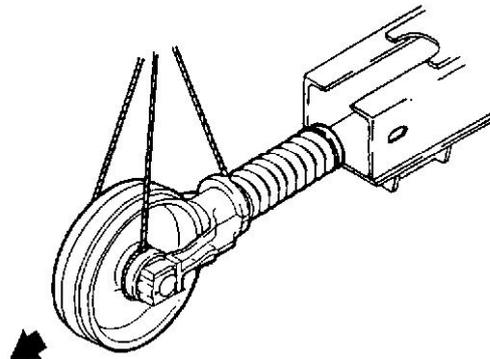


Fig 3.

C004530

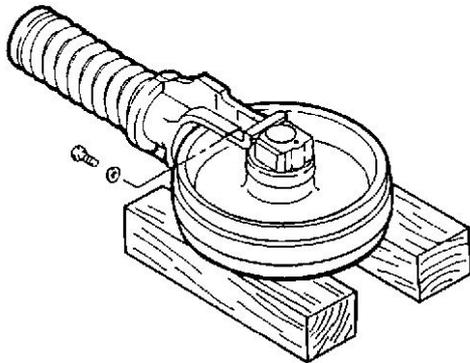
- 4 Remove the bolts and remove the idler wheel from the recoil unit.

**⚠ WARNING**

**RECOIL UNITS ARE DANGEROUS.** They must not be dismantled without using suitable tools to compress the spring safely. The spring pressure can cause serious injury if suddenly released. Scrap units must be made harmless by compressing the spring in a hydraulic press and cutting through the end of the shaft before slowly releasing the pressure.

TRACK-1-10

*Note:* See *Grease Cylinder, Removal for Recoil Spring dismantling details.*



**Fig 4.**

C004540

## Replacement

- 1 Before fitting the idler wheel, check the oil level at **A**. If required, top up with the specified oil (see **Section 3**). Assemble the idler wheel to the recoil unit and fit the mounting bolts.

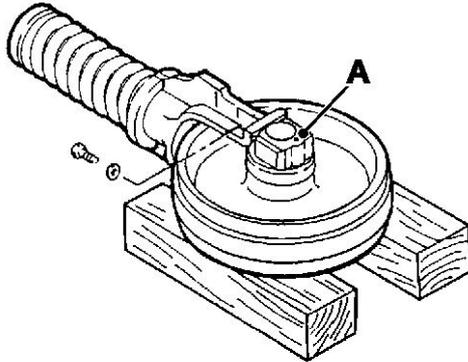


Fig 5.

C004560

- 2 Fasten a sling around the idler wheel and recoil assembly and enter it into the undercarriage.

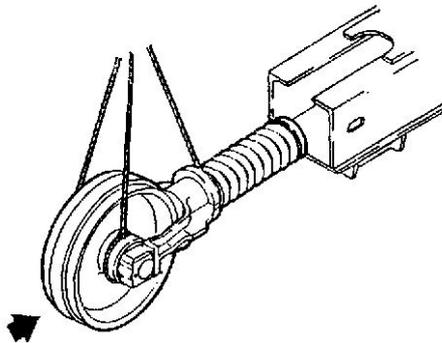


Fig 6.

C004570

- 3 Position the idler wheel in the undercarriage using a bar.

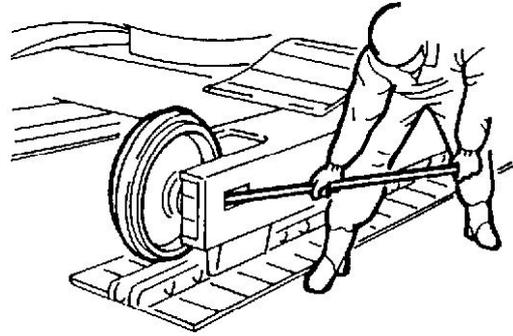


Fig 7.

C004520

- 4 Connect the track link, see **Section F, Track Motor/Reduction Gear**. Apply grease through the check valve to adjust the track tension, see **Section 3, Checking/Adjusting the Track Tension**.

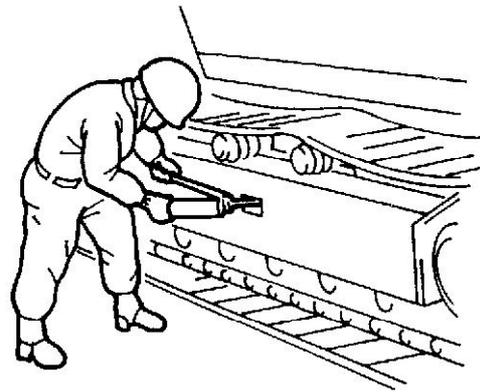


Fig 8.

C004330



## Section J - Track and Running Gear Idler Wheel and Recoil Unit

Replacement

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# Idler Wheel

## Dismantling

TJ-001

- 1 Clean the idler wheel with a suitable solvent. Remove the plug **A** from hub **B** and drain the oil.

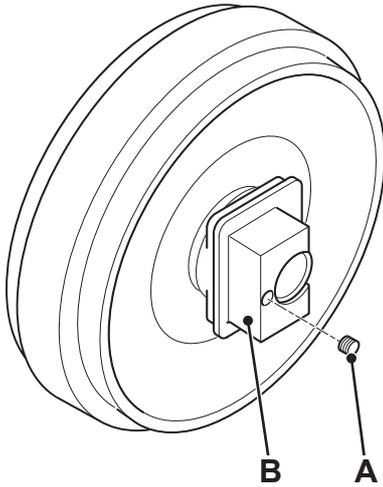


Fig 1.

T001050

- 2 On one side of the unit only, remove the wire clip **E** or roll pin (later machines) and separate the hub **C** from shaft **D**.

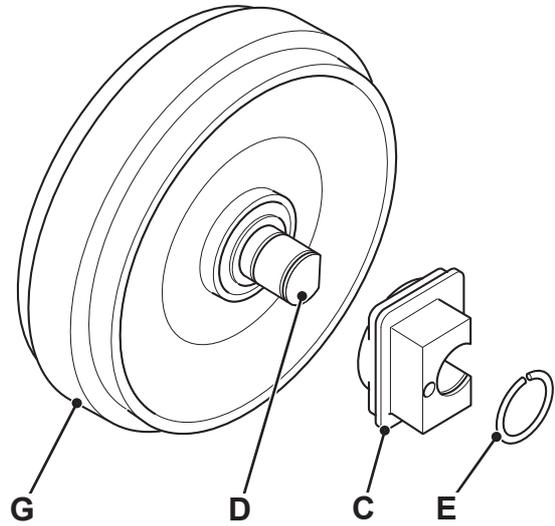


Fig 2.

T001060

- 3 Remove 'O'-ring **F** from shaft **D**. Pull out the shaft **D** from the idler wheel **G**.

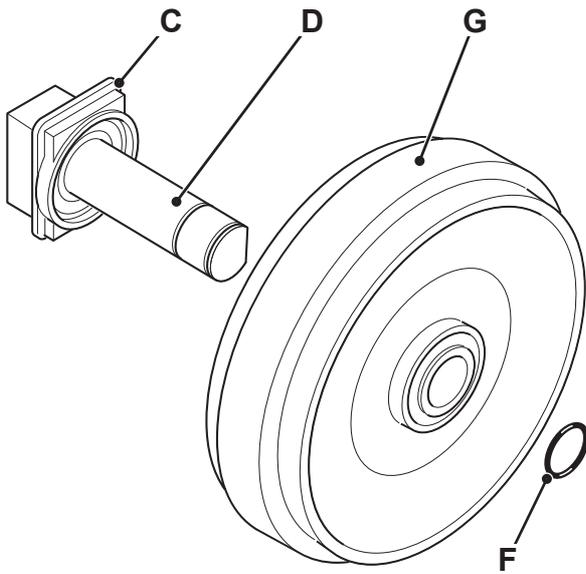


Fig 3.

T001070

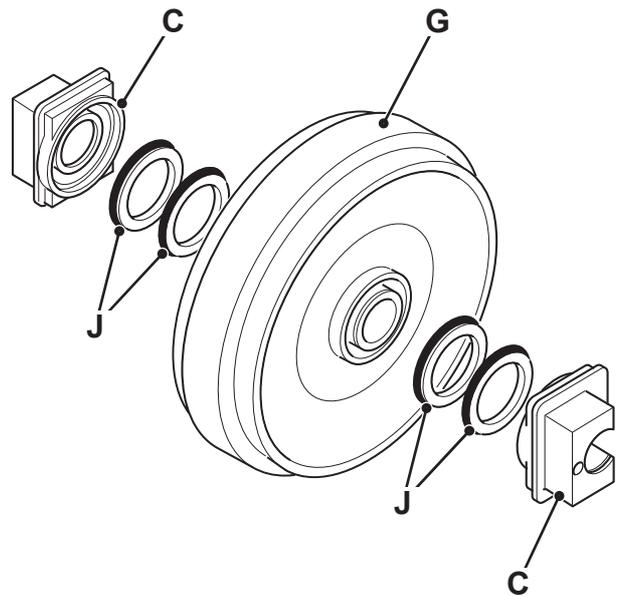


Fig 5.

T001090

- 4 Remove the wire clip **E** or roll pin (later machines) and separate hub **C** from shaft **D**. Remove 'O'-ring **F** from shaft **D**.

- 6 If badly worn or damaged, remove the bushes **K** from idler wheel **G** using a press or puller.

Protect parts from moisture and dust if left dismantled for some time.

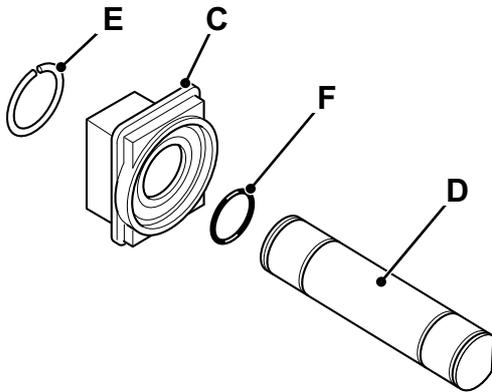


Fig 4.

T001080-C1

- 5 Remove floating seal **J** from each hub **C** using a pry bar.

Remove floating seal **J** from each side of idler wheel **G** using a pry bar.

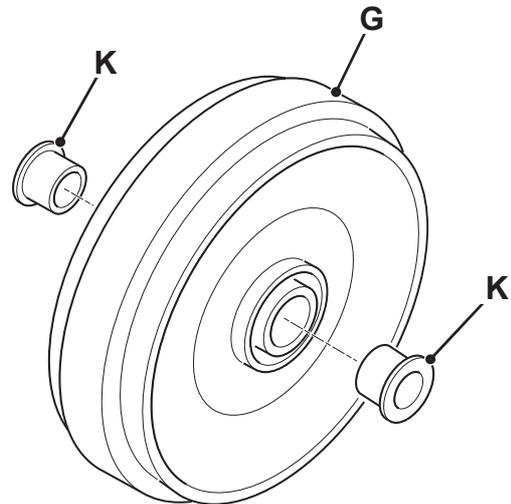


Fig 6.

T001100

## Assembly

- 1 Clean all parts thoroughly in a suitable solvent. Dry shaft and bore of idler wheel using compressed air in a place free of dust and moisture.

Check components for wear as detailed. Polish out scratches and roughness using an oil stone. Then apply a coat of engine oil to all parts.

Carefully drive the new bushes **K** into the idler wheel **G**, using a suitable dolly.

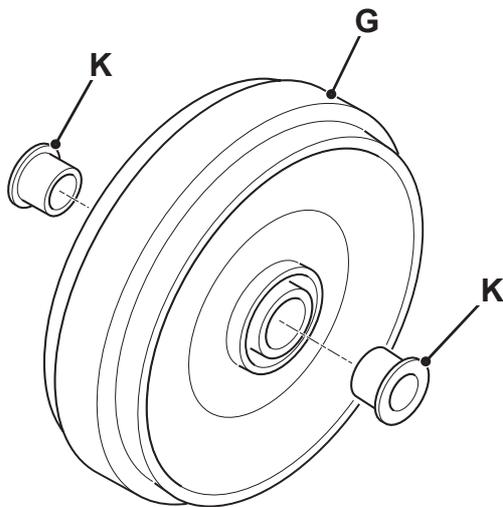


Fig 7.

T001100

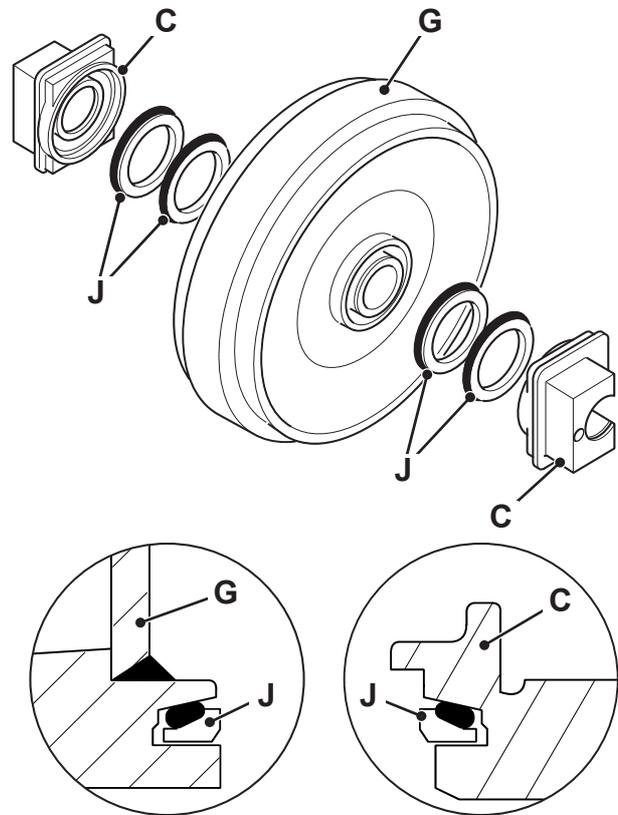


Fig 8.

T001091

- 2 Apply a coating of grease and install a new floating seal **J** into each side of the idler wheel **G** and hub.

**Note:** Ensure floating seals **J** are fitted correctly.  
 → Fig 8. (□ J-9)

- 3 Grease a new 'O'-ring **F** and install on one end only of shaft **D**. Install shaft **D** into hub **C**. Fit new wire clip **E** or roll pin (later machines).

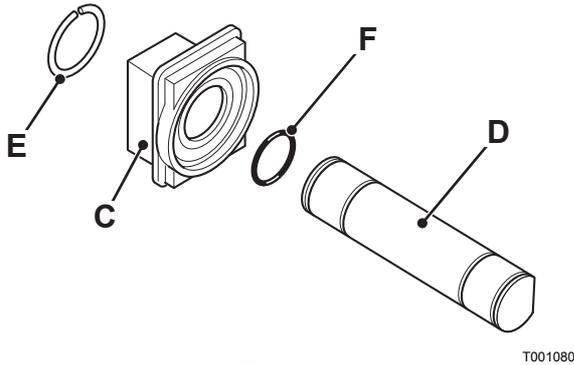


Fig 9.

- 4 Coat shaft **D** with grease. Clean the metallic face of the seal, coat the metallic face with engine oil and insert the shaft into the idler wheel **G**.

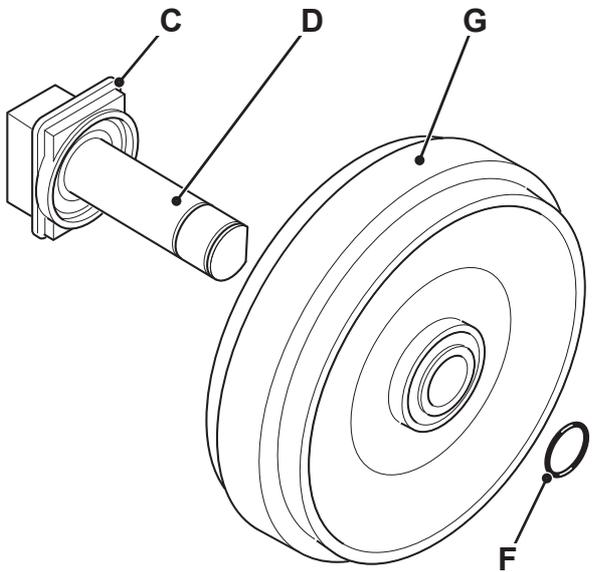


Fig 10.

- 5 Apply grease to a new 'O'-ring **F** and install it on the shaft **D**.

Clean the metallic face of the seal, coat the metallic face with engine oil and install the hub **C** onto the shaft **D**. Fit new wire clip **E** or roll pin (later machines).

Wrap sealing tape around the plug **A** with one thread remaining uncovered. Insert this plug but leave the other one out until after testing.

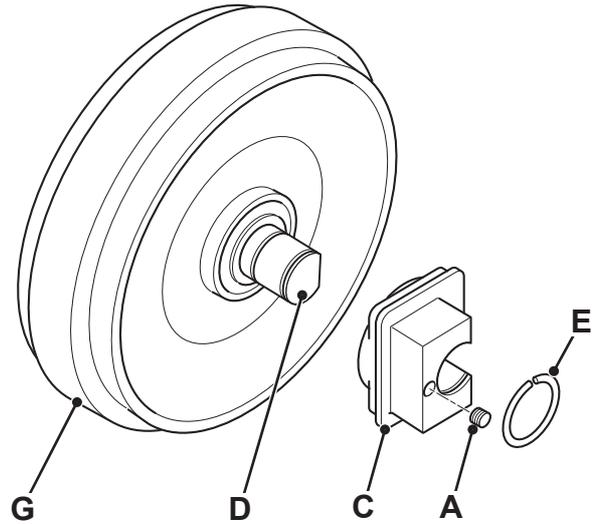


Fig 11.

- 6 Add the specified oil, refer to **Section 3, Lubricants and Capacities**. Install plug using an appropriate pipe sealant.

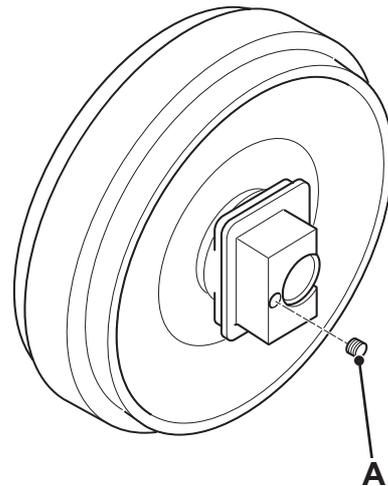


Fig 12.

Fig 13.

# Recoil Unit

## Dismantling and Assembly

### Dismantling

- 1 Carry out steps 1 to 4 of *Idler Wheel and Recoil Unit, Removal*.

#### WARNING

**RECOIL UNITS ARE DANGEROUS.** They must not be dismantled without using suitable tools to compress the spring safely. The spring pressure can cause serious injury if suddenly released. Scrap units must be made harmless by compressing the spring in a hydraulic press and cutting through the end of the shaft before slowly releasing the pressure.

TRACK-1-10

- 2 Place the recoil unit in the spring compression jig, yoke **E** uppermost, *See Service Tools, Section 1*. Raise hydraulic jack **A** to compress recoil spring **B**.

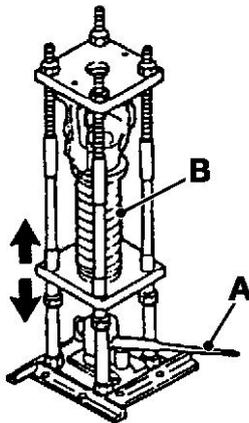


Fig 1.

- 3 Pull out roll pin **C** and remove castellated nut **D**. Lower jack **A** to release the pressure on recoil spring **B**.

Remove the recoil unit component parts from the jig: yoke **E** first, then spring **B** and, finally spring guide/retainer **F**.

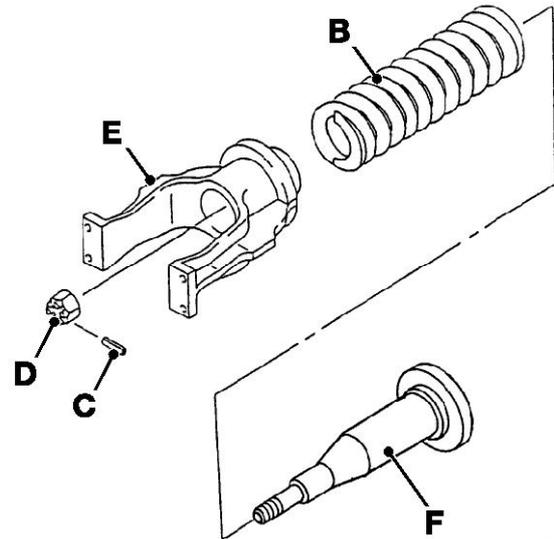


Fig 2.

### Assembly

- 1 Position the recoil unit component parts in the spring compression jig, starting with spring guide/retainer **F**, *see Service Tools, Section 1*. Then spring **B** and yoke **E**. Raise hydraulic jack **A** to compress recoil spring **B**.

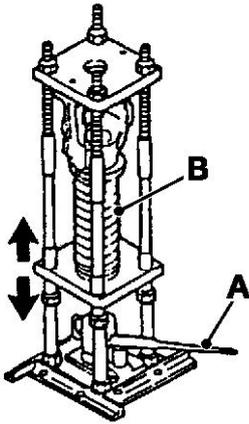


Fig 3.

- 2 Install castellated nut **D** on the threaded section of spring guide/retainer **F** which protrudes through yoke **E**, fully tighten and then install roll pin **C**.
- 3 Lower jack **A** to allow recoil spring **B** to expand and then remove the recoil unit from the jig.

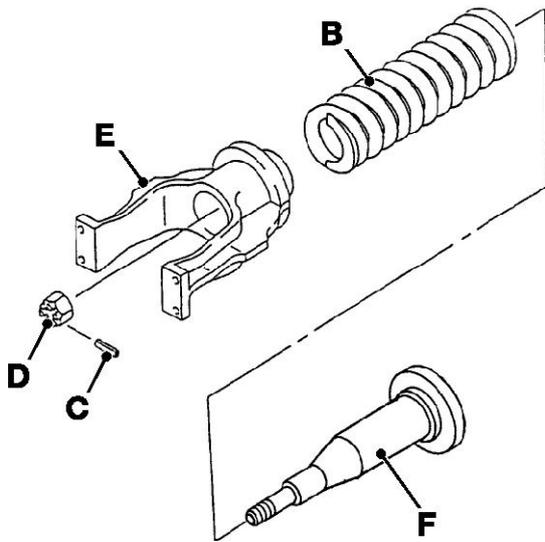


Fig 4.

- 4 Carry out steps 1 to 4 of *Idler Wheel and Recoil Unit, Replacement*.

# Grease Cylinder

## Removal and Replacement

### Removal

- 1 Slacken the check valve to bleed out grease.

**⚠ WARNING**

When opening the check valve always stand to one side and loosen a little at a time until grease starts to come out. If you over-loosen too much grease could spurt out or the valve cover fly out and cause serious injury.

8-3-4-5

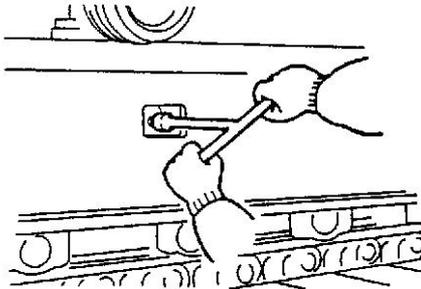


Fig 1.

- 2 Disconnect the track link, see *Track Motor/Reduction Gearbox, Removal and replacement, Section F*. Move the idler wheel and recoil assembly to the end of the undercarriage using a bar.

**⚠ WARNING**

Stand clear and to one side of the track while you remove the master pin. When the master pin is removed the track could fall forward and injure you.

TRACK-1-1

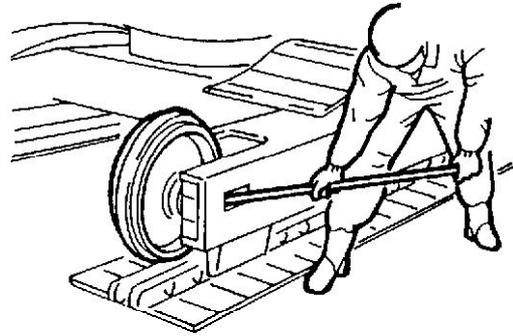


Fig 2.

- 3 Fasten a sling around the idler wheel and recoil assembly and remove it from the undercarriage.

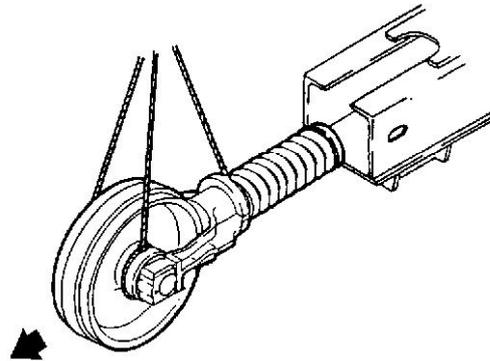


Fig 3.

- 4 Remove the bolts and remove the idler wheel from the recoil unit.

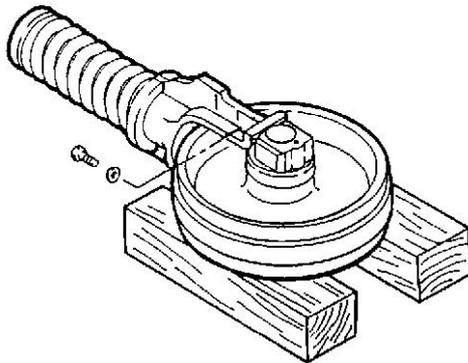


Fig 4.

### WARNING

**RECOIL UNITS ARE DANGEROUS.** They must not be dismantled without using suitable tools to compress the spring safely. The spring pressure can cause serious injury if suddenly released. Scrap units must be made harmless by compressing the spring in a hydraulic press and cutting through the end of the shaft before slowly releasing the pressure.

TRACK-1-10

*Note: If it becomes necessary to dismantle the recoil spring assembly, the following procedure should be used.*

- 5 Prepare the jig for Recoil Spring Disassembly. Place the re-coil spring unit as shown.

Jack up the hydraulic jack A and compress the Recoil Spring B.

- 6 Remove the Recoil Spring. Pull out the Spring Pin C and remove the castellated nut D. Let the jack A down to relieve the pressure on the recoil spring B.

Remove the components from the jig, firstly the yoke E, spring B and finally, the grease cylinder F.

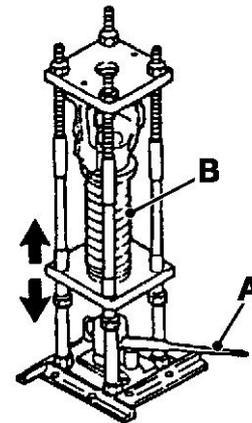


Fig 5.

### Replacement

- 1 Re-assembly of Components.
  - a Set the components in the jig, firstly the grease cylinder F, then place the spring B on top, and finally, the yoke E.
  - b Extend jack A and compress recoil spring B.
  - c Install the castellated nut D on the threaded section of the grease cylinder F which protrudes through the yoke E. Tighten nut D, aligning the castellations with the pin hole.
  - d Remove the recoil spring assembly from the jig. See *Recoil Spring Installation*.
  - e Renew and install spring pin C.
  - f Release jack A carefully and allow recoil spring B to expand. Remove assembly from the jig.

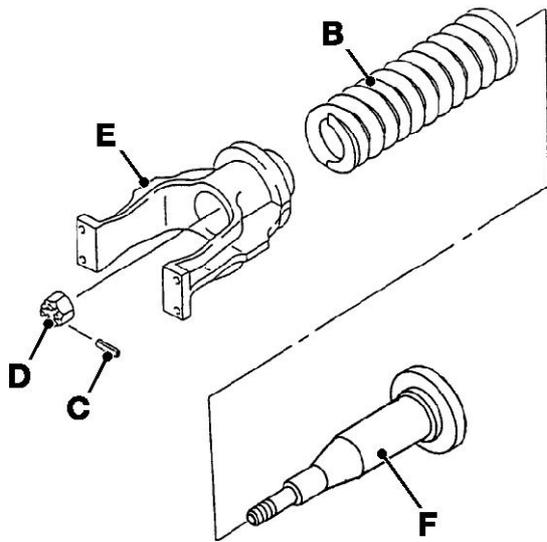


Fig 6.

## Dismantling and Assembly

### Dismantling

- 1 Carry out steps 1 to 3 of *Idler Wheel and Recoil Unit, Removal*.

Remove the lower roller immediately below the grease cylinder, *Bottom Roller, Removal*.

- 2 Remove bolts **A** and washers **B** and remove grease cylinder **C** through the bottom of side frame **D**.

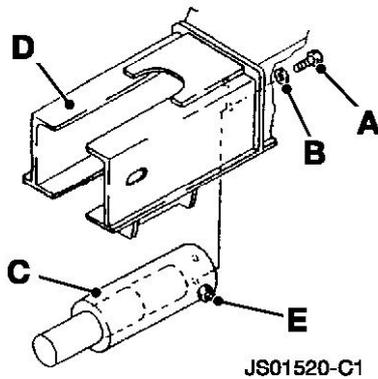
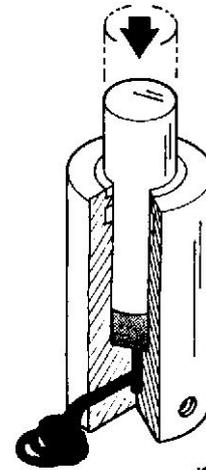


Fig 7.



JS01530-C1

Fig 8.

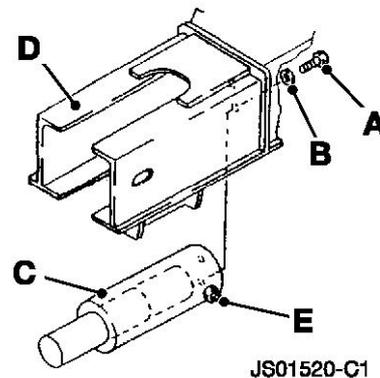
- 2 Apply Threadseal to the threads of mounting bolts **A**.
- 3 When installing the grease cylinder, make sure it is orientated so that check valve **E** is facing outwards to the side of the machine.

### Assembly

Assembly is the reverse of dismantling.

When Assembling

- 1 Before installing grease cylinder **C**, remove check valve **E** and use a press (as shown) to fully retract the cylinder and expel the grease. Refit the check valve.



JS01520-C1

Fig 9.

- 4 Tighten bolts **A** to a torque of 267 - 312 Nm (197 - 230 lbf ft, 27 - 31 kgf m).

# Drive Sprocket

## Removal and Replacement

### Removal

- 1 Slacken the check valve to bleed out grease.

**⚠ WARNING**

When opening the check valve always stand to one side and loosen a little at a time until grease starts to come out. If you over-loosen too much grease could spurt out or the valve cover fly out and cause serious injury.

8-3-4-5

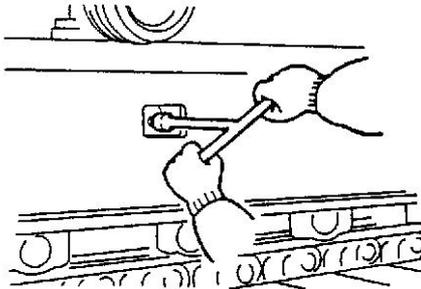


Fig 1.

- 2 Disconnect the track link, see *Track Motor/Track Gearbox, Removal and Replacement*.

**⚠ WARNING**

Stand clear and to one side of the track while you remove the master pin. When the master pin is removed the track could fall forward and injure you.

TRACK-1-1

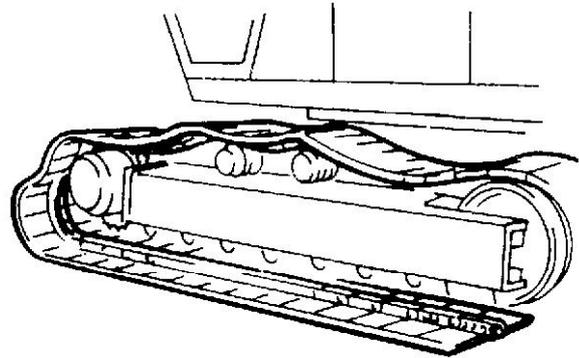


Fig 2.

- 3 Lift the side of the undercarriage high enough to permit drive sprocket removal. Support with wooden blocks.

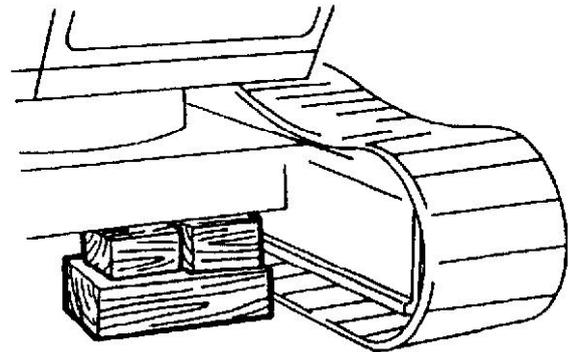


Fig 3.

- 4 Support the drive sprocket, remove the bolts and lever it away from the gearbox unit.

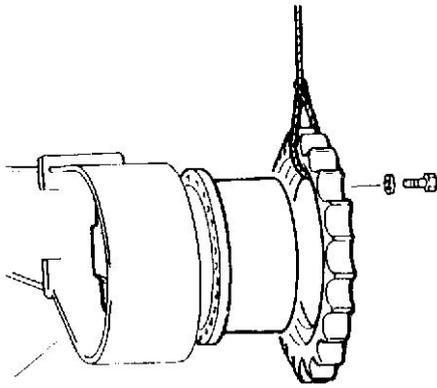


Fig 4.

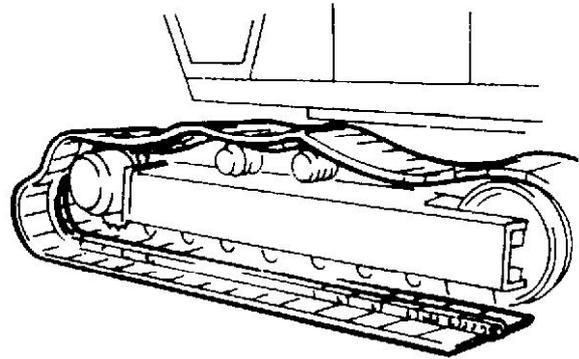


Fig 6.

### Replacement

- 1 Support the sprocket and position it on the gearbox.

Install the bolts and washers, using Threadseal on the bolt threads. Tighten the bolts in a diagonal sequence to a torque of 267 - 312 Nm (197 - 230 lbf ft, 27 - 31 kgf m).

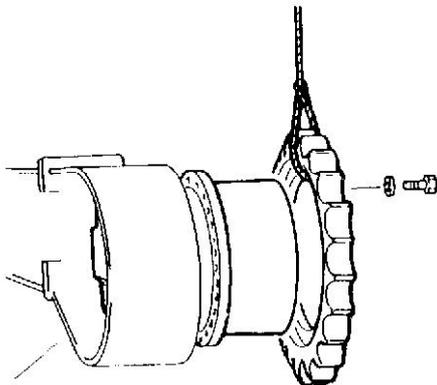


Fig 5.

- 2 Remove the wooden blocks. Connect the track link.

- 3 Apply grease through the check valve to adjust the track tension (see *Checking/Adjusting the Track Tension, Section 3*).

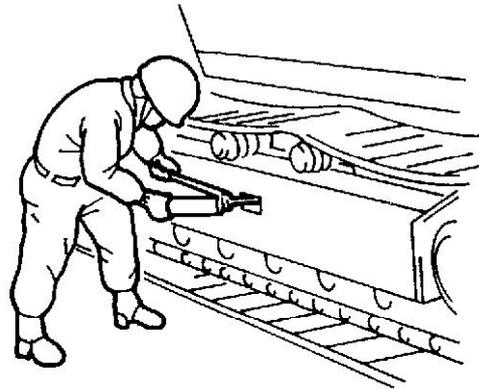


Fig 7.

## Top Roller

### Removal

P11-J004

- 1 Slacken the check valve to bleed out grease.

#### WARNING

When opening the check valve always stand to one side and loosen a little at a time until grease starts to come out. If you over-loosen too much grease could spurt out or the valve cover fly out and cause serious injury.

8-3-4-5

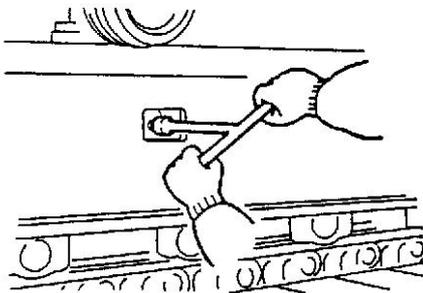


Fig 1.

C004260

- 2 Jack up the track high enough to permit roller removal. Put wooden blocks between track link and side frame.

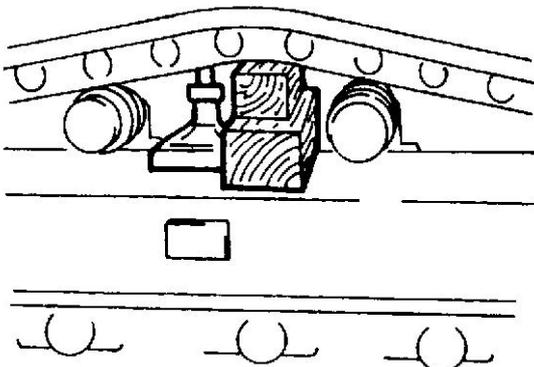


Fig 2.

C004750

- 3 Loosen but do not remove the mounting bolts. Tap the upper roller with a copper mallet to separate it from the side frame.

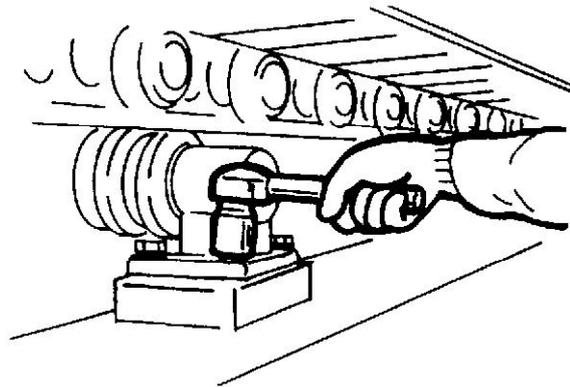


Fig 3.

C004760

- 4 Fasten a sling to the upper roller. Remove the mounting bolts and lift the upper roller clear.

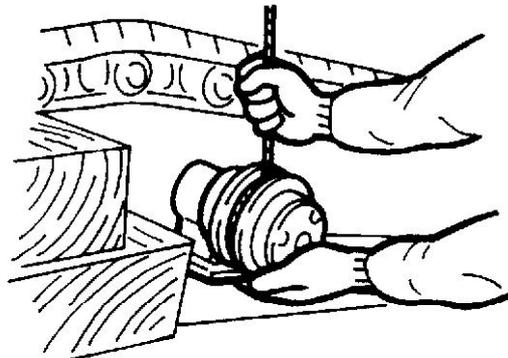


Fig 4.

C004770

## Replacement

- 1 Before fitting the roller, check the oil level and, if necessary, top up, see Section 3, **Fluids and Lubricants**, . Install the plug **A** using an appropriate pipe thread sealant.

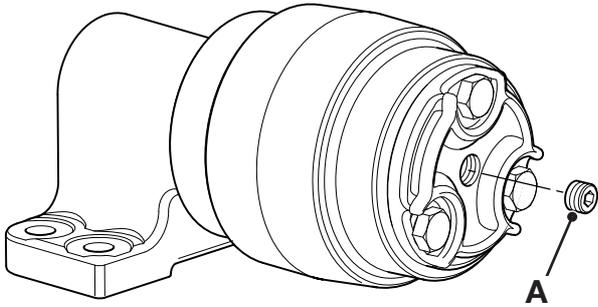


Fig 5.

802958

- 2 With the track supported as shown under Removal, step 2, install the roller.
- 3 Apply JCB Threadseal to the threads and install the mounting bolts. Tighten to a torque of 259 Nm (191 lbf ft).

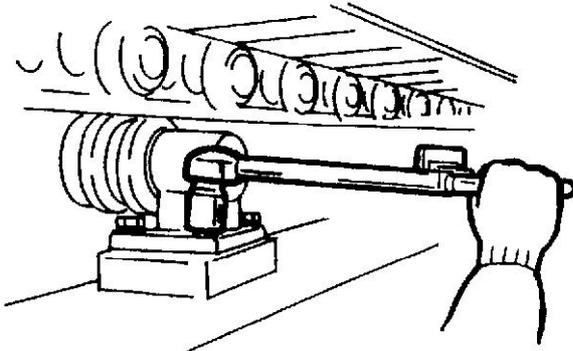


Fig 6.

C004790

- 4 Remove the wooden blocks and jack.

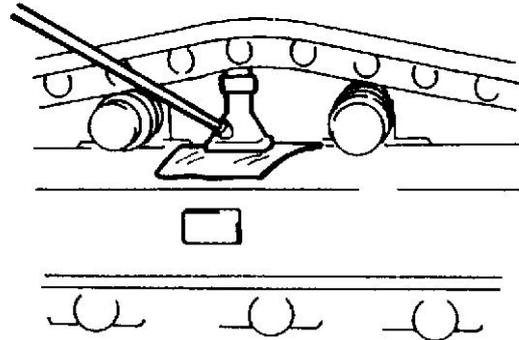


Fig 7.

C004800

- 5 Apply grease through the check valve to adjust the track tension, see Section 3, **Checking/Adjusting the Track Tension**.

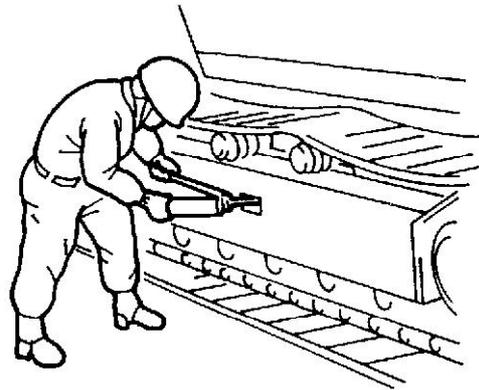


Fig 8.

C004330

### Dismantling

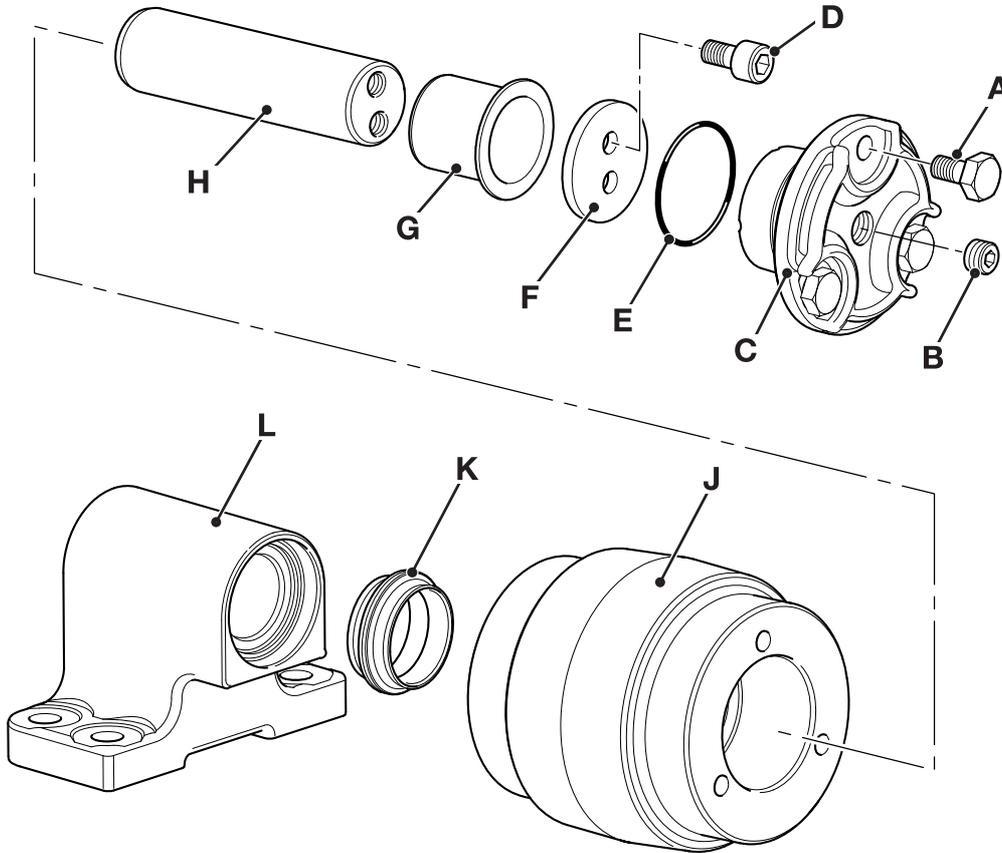


Fig 9.

802950

Item	Part Name
A	Bolt
B	Plug
C	Cover
D	Screw
E	'O'-ring
F	Thrust plate
G	Bush
H	Shaft
J	Roller
K	Floating seal assembly
L	Mounting bracket

- 1 Clean the upper roller **L** with an appropriate detergent. Remove the plug **B** from the cover and drain the oil.

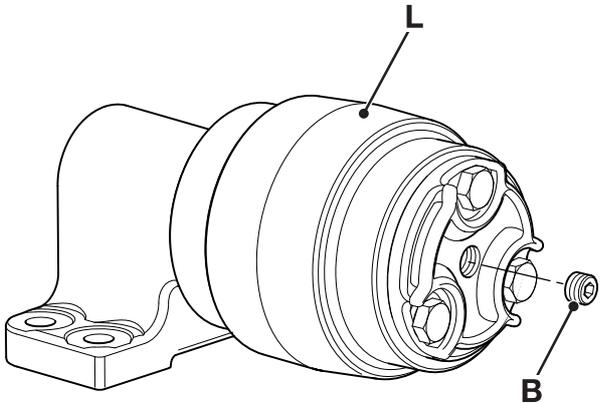


Fig 10.

802951

- 2 Remove the bolts **A**, and remove cover **C**. From cover **C**, remove 'O'-ring **E** and discard.

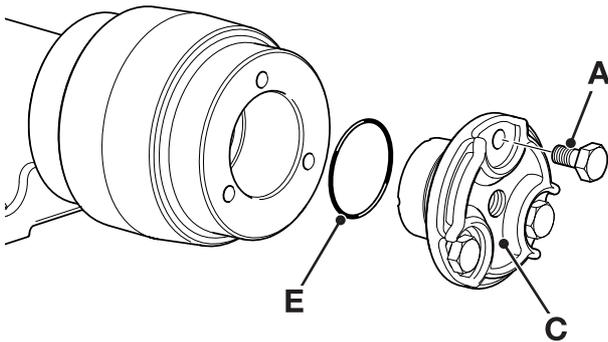


Fig 11.

802952

- 3 Remove bolt **D**, and the thrust plate **F** from the end of the shaft.

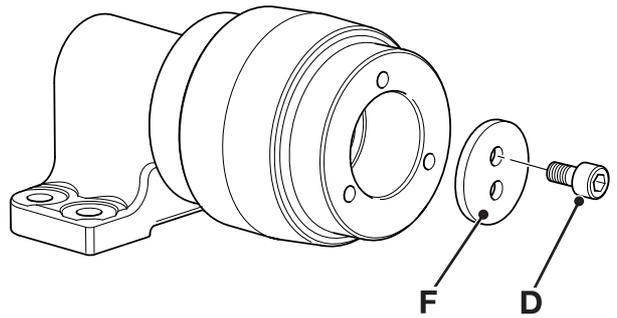


Fig 12.

802953

- 4 Pull the upper roller **J** from the shaft **H**.

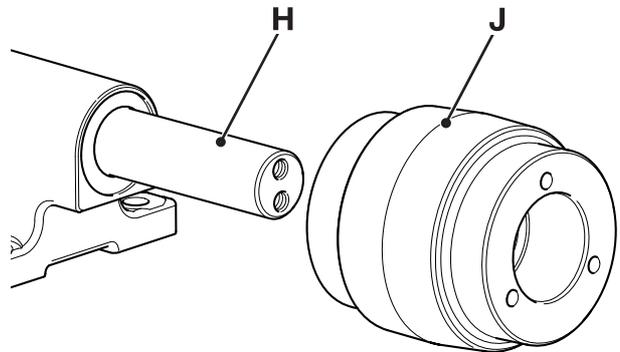
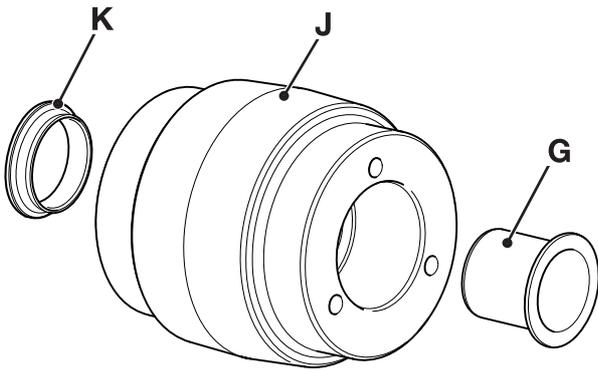


Fig 13.

802954

- 5 Remove the floating seal **K** from the upper roller **J**.



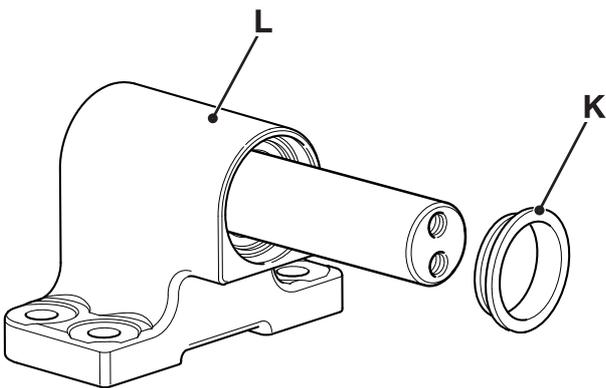
802955

**Fig 14.**

If badly worn or damaged, remove the bushes **G**, from the roller **J**.

- 6** Remove floating seal **K** from bracket **L** using a pry bar.

Protect parts from moisture and dust if left dismantled for some time.



802956

**Fig 15.**

## Assembly

- 1 Clean all parts thoroughly in a suitable solvent. Dry shaft and bore of roller using compressed air in a place free of dust and moisture.

Check components for wear as detailed under (Wear Limits). Polish out scratches and roughness using an oil stone. Then apply a coat of engine oil to all parts.

If a new shaft or bracket are required, press-fit shaft **H** into bracket **L**, taking care to protect the threads of the tapped holes in the end of the shaft.

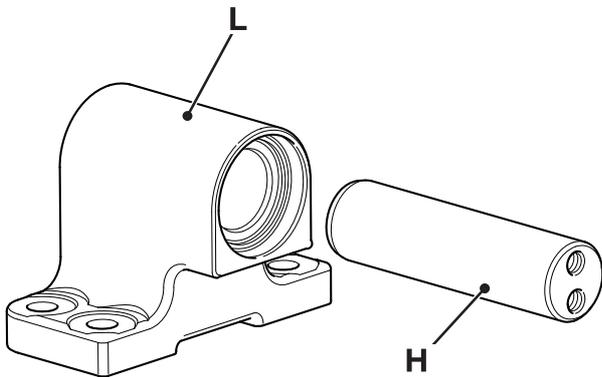


Fig 16.

802957

- 2 Using a jig and hammer, insert the bush **G** into the roller **J**.

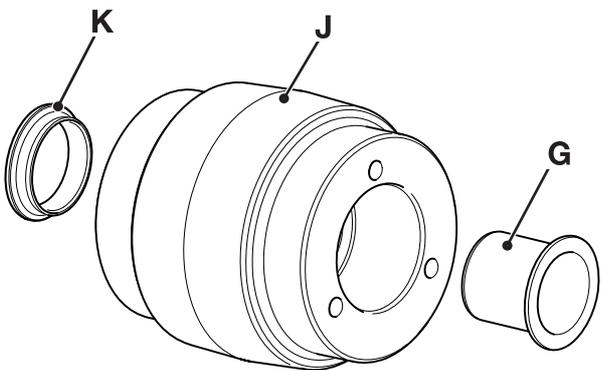


Fig 17.

802955

- 3 Install a new floating seal **K** into the roller **J**.

Coat the metallic face of the seal with engine oil.

- 4 Install a new seal **K** into the bracket **L**.

Coat the metallic face of the seal with engine oil.

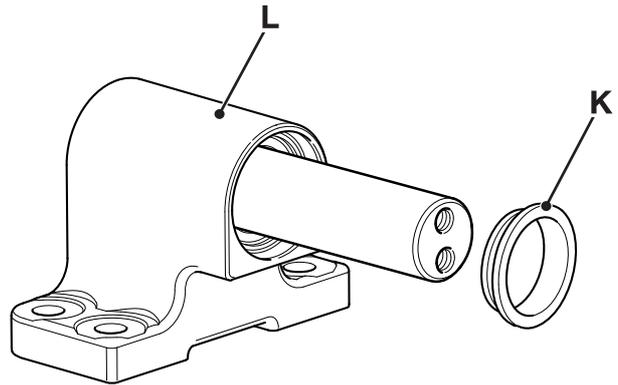


Fig 18.

802956

- 5 Coat the shaft **H** with grease. Install the roller **J** onto the shaft **H**.

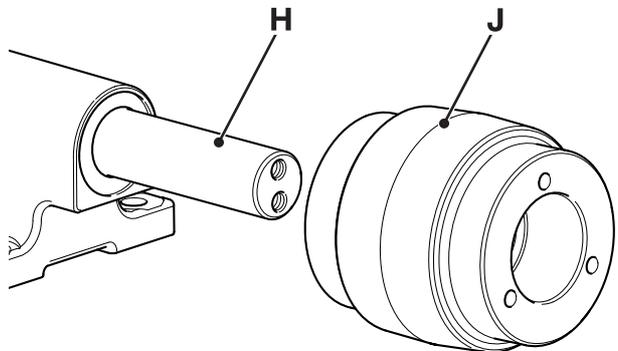


Fig 19.

802954

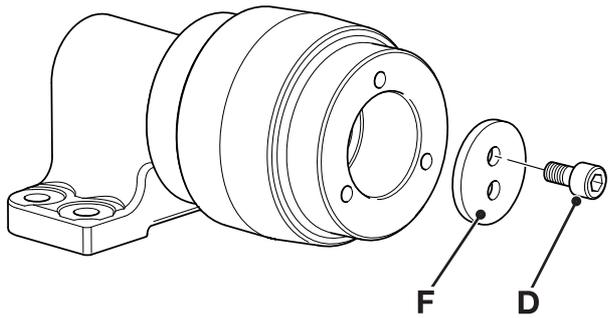


Fig 20.

802953

- 6 Apply grease to the inside face of thrust plate **F** and install it on the shaft using bolts **D**.

**Note:** Apply JCB Threadlocker and Sealant to threads and fit the bolts. Torque tighten to 34Nm, 25lbf ft.

- 7 Apply grease to a new 'O'-ring **E** and install it onto cover **C**. Install the cover **C** to the roller. Retain with bolts **A**.

**Note:** Apply JCB Threadlocker and Sealant to threads and fit the bolts. Torque tighten to 50Nm, 37lbf ft.

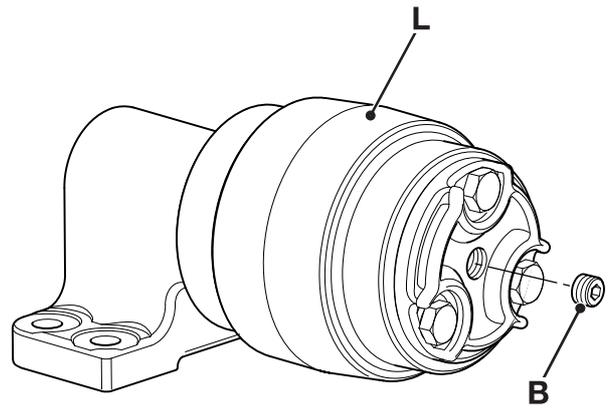


Fig 22.

802951

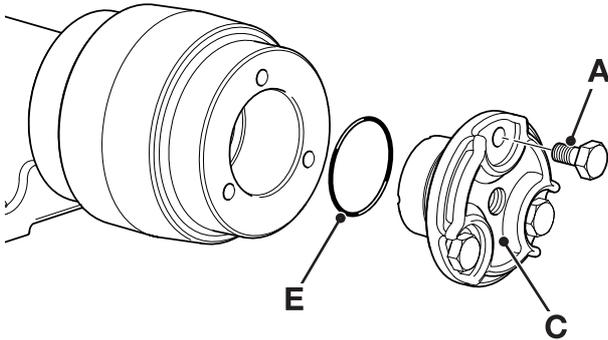


Fig 21.

802952

- 8 Fill with oil, see **Section 3, Fluids and Lubricants**. Install plug **B** using JCB Threadlocker and Sealant to threads.



# Section J - Track and Running Gear Top Roller

Assembly

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# Bottom Roller

## Removal

P11-J005

- 1 Slacken the check valve to bleed out grease.

### WARNING

When opening the check valve always stand to one side and loosen a little at a time until grease starts to come out. If you over-loosen too much grease could spurt out or the valve cover fly out and cause serious injury.

8-3-4-5

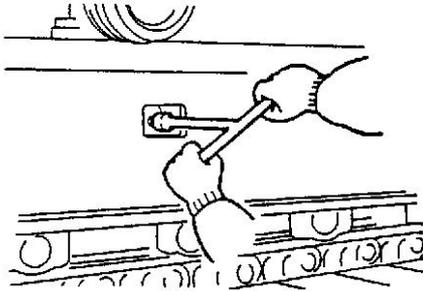


Fig 1.

C004260

- 2 Remove the bolts securing the mounting brackets to the side frame.

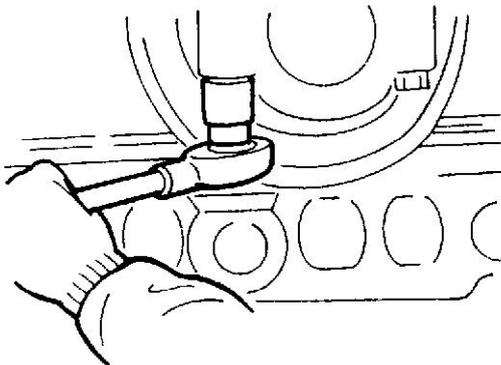


Fig 2.

C005110

- 3 Lift the side of the undercarriage high enough to permit bottom roller removal. Support with wooden blocks. Tap the bottom roller with a copper mallet to separate it from the side frame.

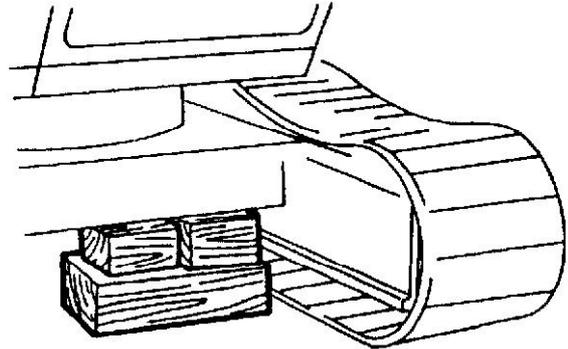


Fig 3.

C004280

- 4 Remove the roller.

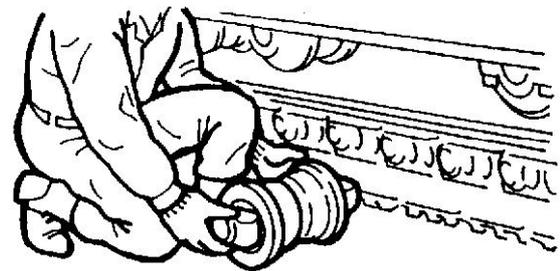


Fig 4.

C005120

## Replacement

- 1 Before fitting the roller, fill with oil, see Section 3, **Fluids and Lubricants**. Install the plug using an appropriate pipe thread sealant.

With the undercarriage lifted and supported with wooden blocks, position the roller on the track link as shown.

Align the holes in the mounting brackets with the tapped holes in the undercarriage.

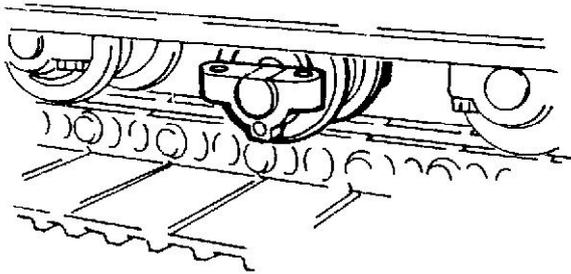


Fig 5.

C005130

- 2 Lower the undercarriage sufficient to allow the mounting bolts to be installed.

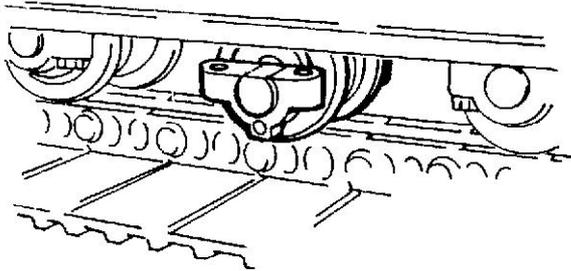


Fig 6.

C005130

- 3 Apply JCB Threadseal to the threads and install the mounting bolts. Tighten to a torque of 506 Nm (373 lbf ft).

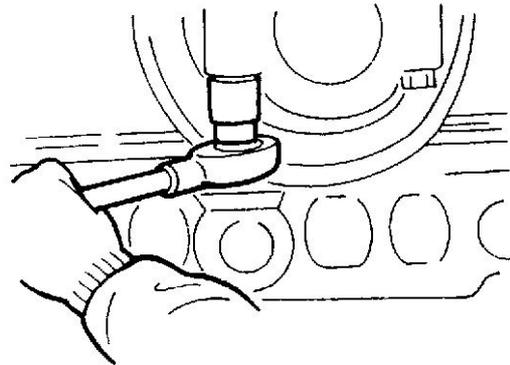


Fig 7.

C005110

- 4 Apply grease through the check valve to adjust the track tension, see Section 3, **Checking/Adjusting the Track Tension**.

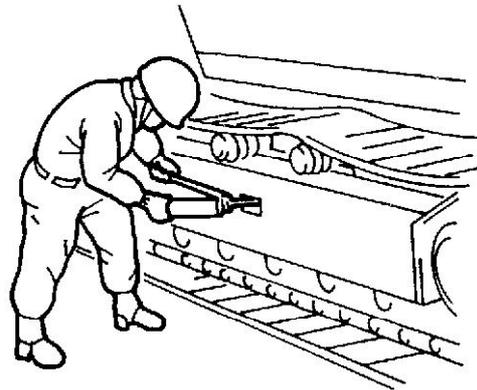


Fig 8.

C004330

## Dismantling

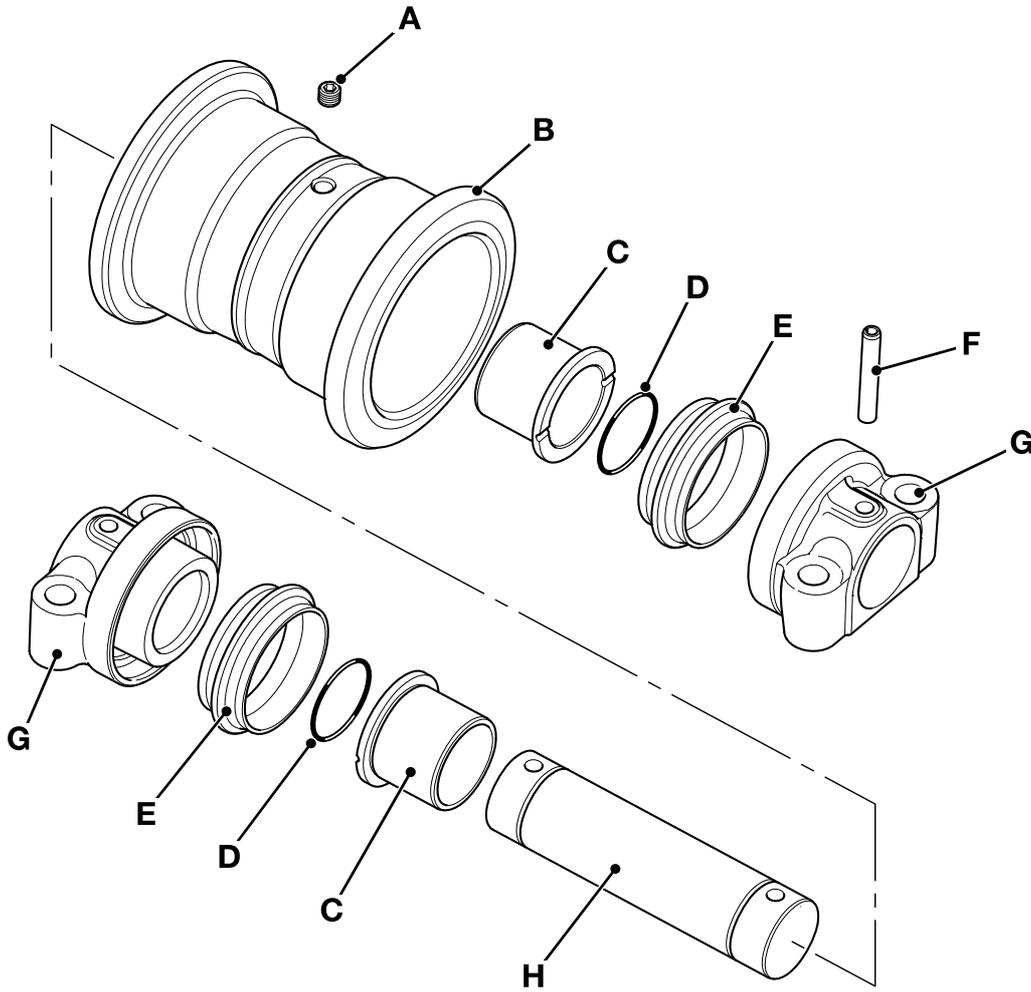


Fig 9.

802960-1

Item	Part Name
A	Plug
B	Roller
C	Bush
D	O-ring
E	Floating seal assembly
F	Locking pin
G	Mounting bracket
H	Shaft

- 1 Clean the roller with a suitable solvent. Remove the plug **A** and drain the oil.

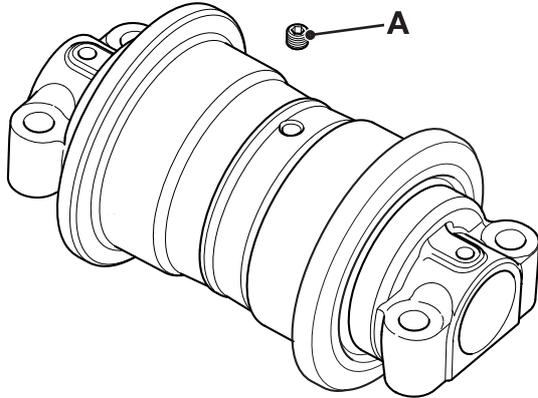


Fig 10.

802961

- 2 Remove locking pins **F** from each end of assembly.

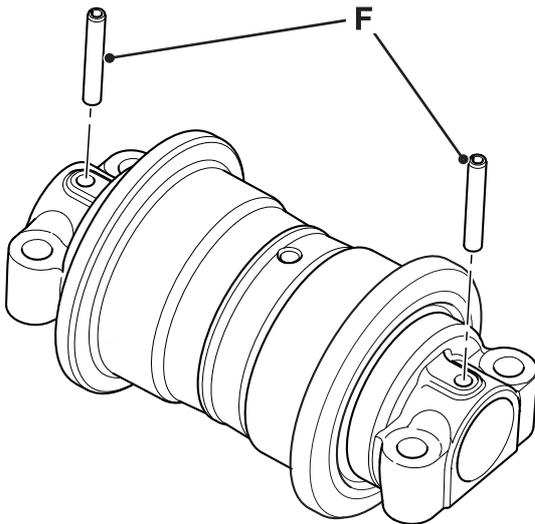


Fig 11.

802962

- 3 Remove mounting brackets **G** from shaft **H**.

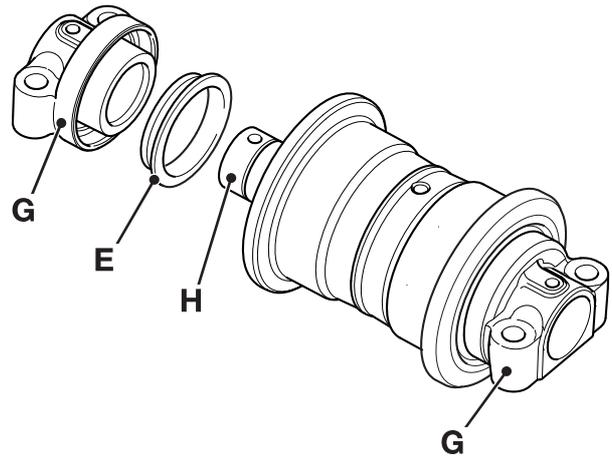


Fig 12.

802963

Using a pry bar, remove floating seals **E** from brackets **G** and discard.

- 4 Remove and discard 'O'-rings **D** from shaft **H**. Pull out shaft **H** from roller **B**.

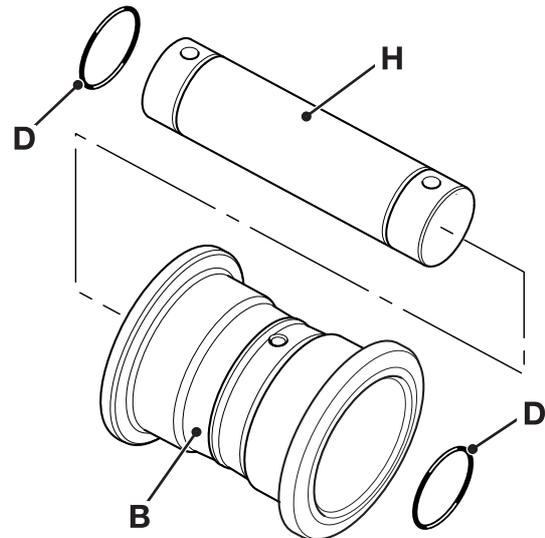
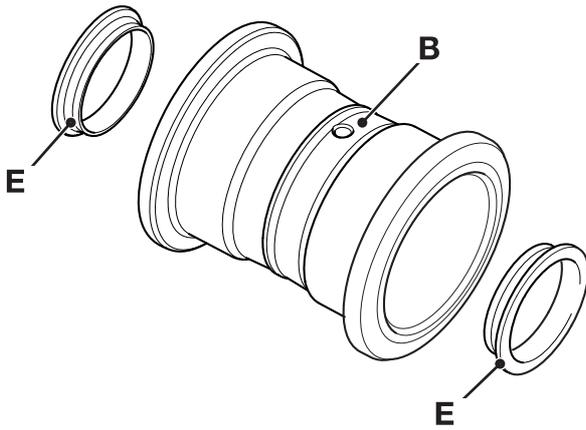


Fig 13.

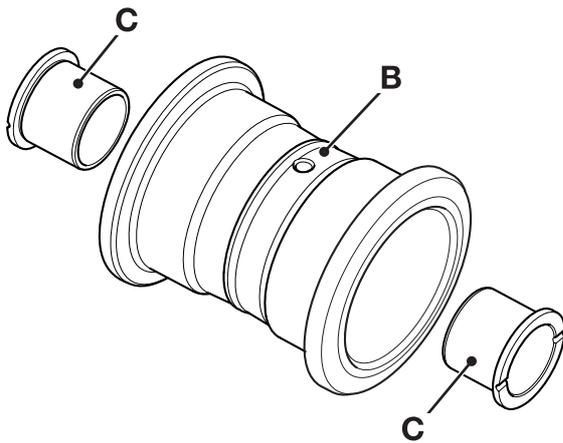
802964



**Fig 14.**

802965

- 5 Remove floating seals **E** from roller **B** using a pry bar.
- 6 If badly worn or damaged, remove and discard bushes **C** from roller **B**, using a press or puller. Otherwise do not disturb.



**Fig 15.**

802966

Protect parts from moisture and dust if left dismantled for some time.

### Assembly

- 1 Clean all parts thoroughly in a suitable solvent. Dry shaft and bore of roller using compressed air in a place free of dust and moisture.

Check components for wear. Polish out scratches and roughness using an oil stone. Then apply a coat of engine oil to all parts.

If being replaced, install bushes **C** into roller **B**, using a dolly and hammer.

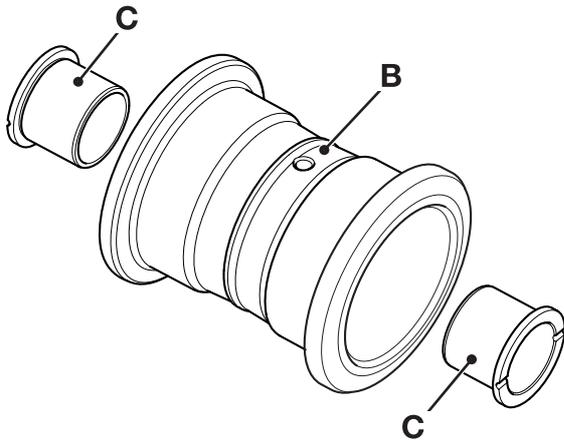


Fig 16.

802966

- 2 Install new floating seals **E** into roller **B**.

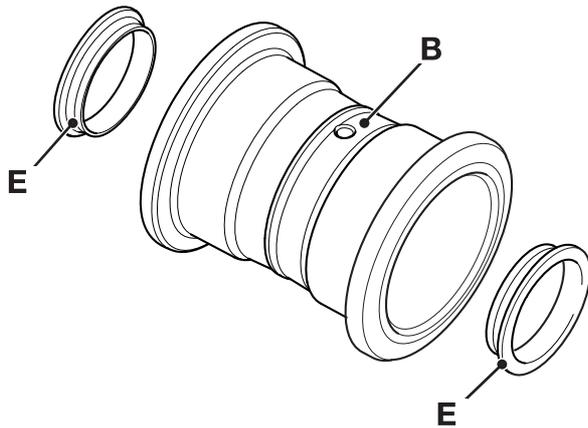


Fig 17.

802965

- 3 Coat shaft **H** with grease. Insert the shaft into roller **B**. Apply grease to new 'O'-rings **D** and install them on shaft **H**.

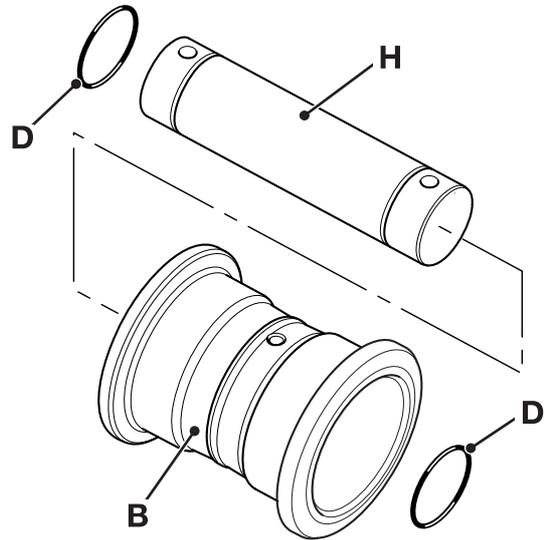


Fig 18.

802964

- 4 Install new floating seals **E** into brackets **G**. Coat the metallic face of each seal with engine oil.

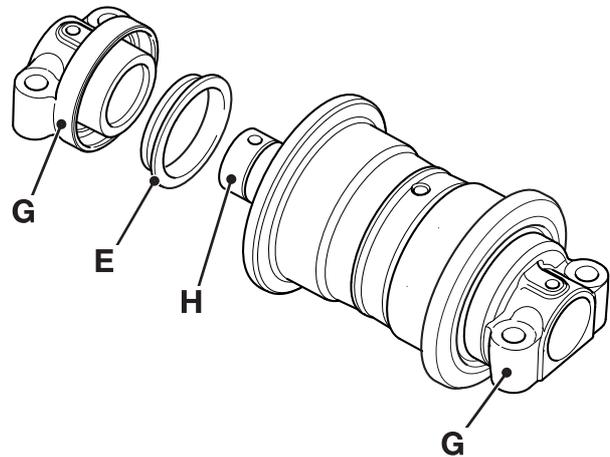
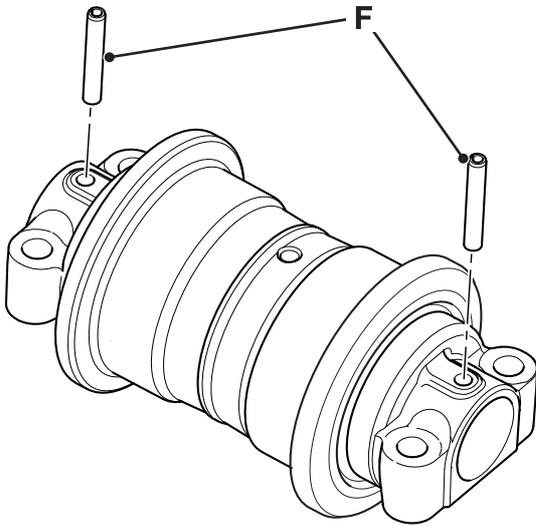


Fig 19.

802963

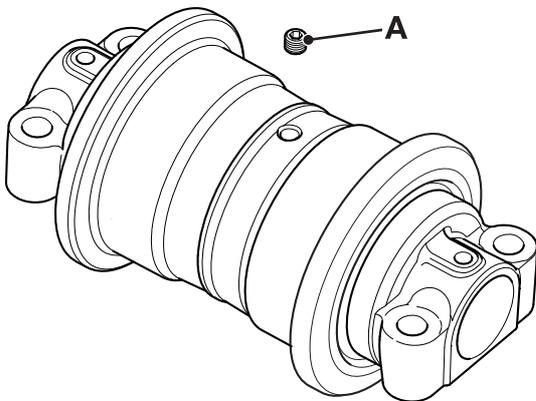
- 5 Press mounting brackets **G** onto shaft **H** and insert new locking pins **F**.



**Fig 20.**

802962

- 6 Fill the unit with oil, see **Section 3, Fluid and Lubricants**. Install plug **A** using an appropriate pipe thread sealant.



**Fig 21.**

802961



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