SERVICE MANUAL

EXCAVATOR
65R-1

EN - 9813/4550 - ISSUE 2 - 04/2018

This manual contains original instructions, verified by the manufacturer (or their authorized representative).

Foreword

The Operator's Manual

⚠

You and others can be killed or seriously injured if you operate or maintain the machine without first studying the Operator's Manual. You must understand and follow the instructions in the Operator's Manual. If you do not understand anything, ask your employer or JCB dealer to explain it.

Do not operate the machine without an Operator's Manual, or if there is anything on the machine you do not understand.

Treat the Operator's Manual as part of the machine. Keep it clean and in good condition. Replace the Operator's Manual immediately if it is lost, damaged or becomes unreadable.

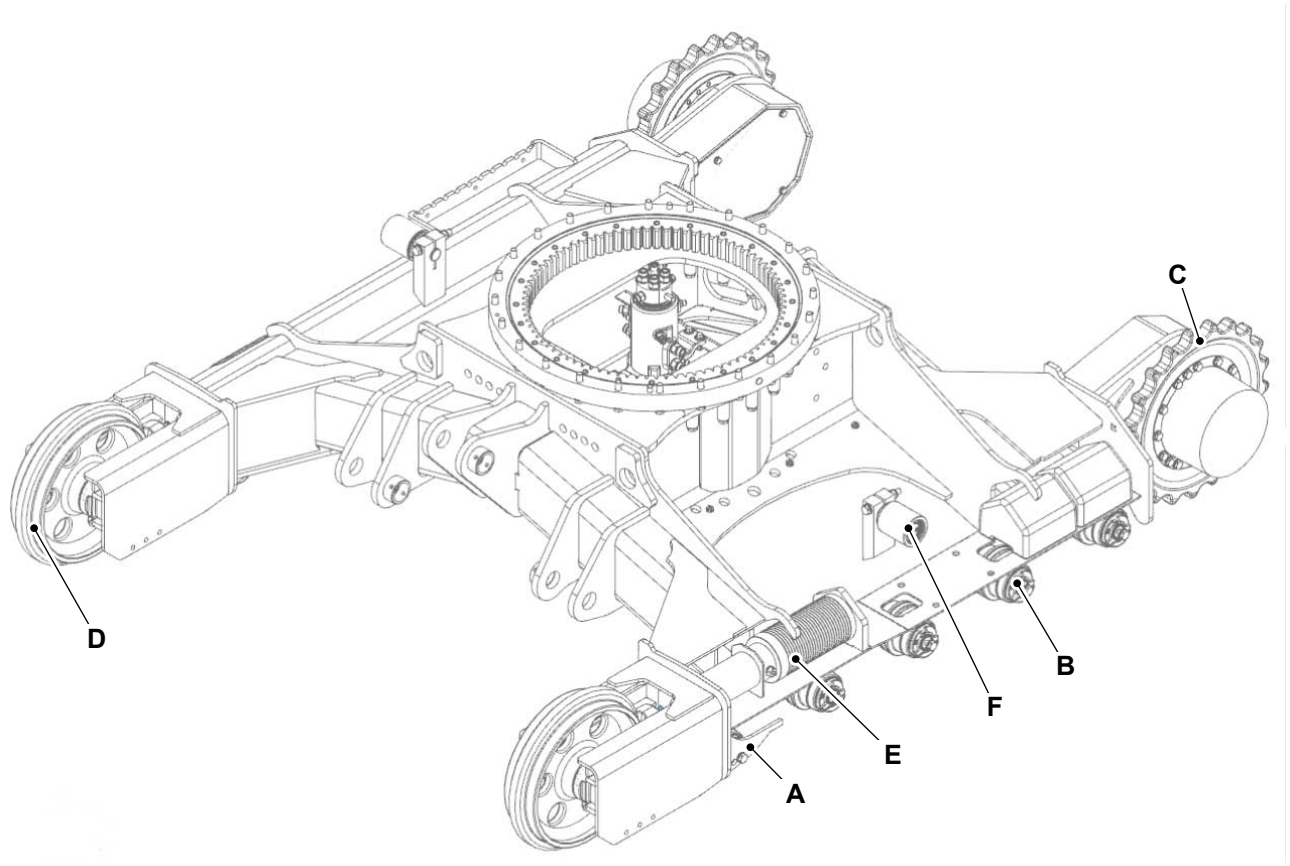
Contents

00 - General

Introduction

The excavator track and running gear is located on and within the machine undercarriage track boxes.

Figure 326.



A Track guide
B Track roller
C Sprocket
D Idler wheel
E Grease tensioner/recoil unit
F Top roller

Health and Safety

Raised Machine

Never position yourself or any part of your body under a raised machine which is not correctly supported. If the machine moves unexpectedly you could become trapped and suffer serious injury or be killed.

CAUTION! *The following operations must only be undertaken by persons familiar with track changing operations and who are qualified to perform the operations. All persons must keep clear of the machine driven sprocket.*

CAUTION! *Ensure that all persons are clear of the track and especially of the driven sprocket during the following operations.*

Notice: *When converting a machine from steel tracks to rubber tracks, the track guides must be removed. When converting from rubber tracks to steel tracks the track guides must be installed. Damage to the tracks may result if this is not carried out.*

WARNING! *Recoil unit servicing must only be carried out by JCB dealers. You could be killed or injured if you tamper with it.*

CAUTION! *The recoil unit spring can cause serious injury if suddenly released. Take great care when removing and replacing the spring retaining nut. Scrap recoil units must be dismantled before transfer from the workshop. Do not use flame cutting equipment unless precautions are taken to release the spring pressure slowly.*

Technical Data

Table 136. Undercarriage

Parameter	Specification
Construction	Fully welded H-frame type central belly guarding and sloping side members
Upper and lower rollers	Heat treated, sealed and lubricated
Track type	Sealed and greased steel or continuous rubber
Track adjustment	Grease cylinder type
Track idler	Sealed and lubricated, with spring cushioned recoil
Track shoes	400 mm steel triple grouser
	550 mm steel triple grouser
	400 mm Geo-Grip track
	400 mm rubber tracks
Rollers and shoes (each side)	Upper roller - 1
	Lower rollers - 4
	Track shoes - 39

Table 137. Standard Boom - Weights and Ground Bearing Pressures

Track Shoes	Operating Weight	Bearing Pressure
400 mm steel	6,675 kg	0.41 bar (5.9 psi)
550 mm steel	6,736 kg	0.31 bar (4.5 psi)
400 mm Geo-Grip	6,686 kg	0.41 bar (5.9 psi)
400 mm rubber	6,601 kg	0.41 bar (5.9 psi)

Machine equipped with boom 1.9 m, dipper arm and 600 mm excavating bucket. With the machine operator and full fuel tank.

Table 138. Track Tension

Track Shoes	Minimum Track Tension	Maximum Track Tension
400 mm steel	50 mm	60 mm
550 mm steel	50 mm	60 mm
400 mm Geo-Grip	40 mm	50 mm
400 mm rubber	15 mm	25 mm

Adjust

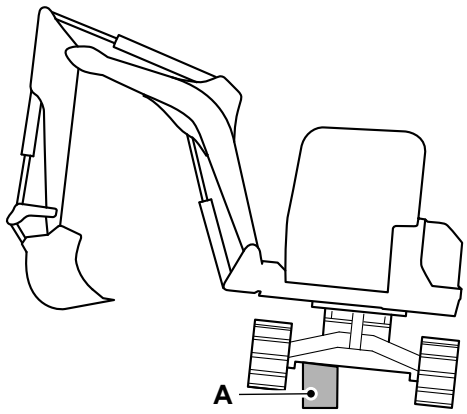
⚠ **WARNING** Recoil unit servicing must only be carried out by JCB dealers. You could be killed or injured if you tamper with it.

Notice: Always make sure that the track tension measurement is not less than specified or severe strain to the track will result.

Check The Tension

1. Park the machine on solid, level ground.
2. Operate the tracks backwards and forwards several times.
3. Stop the machine after operating the tracks forwards.
4. Set the machine in the posture shown with the track to be checked raised from the ground and supported. Add a support under the machine. It is the responsibility of the operator to support the machine correctly.

Figure 327.

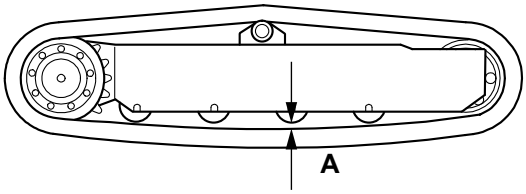


A Support

5. Check that the tension measurement is correct.

Refer to: PIL 27-36-00.

Figure 328.



A Tension measurement

5.1. If the measurement is incorrect then you must adjust the track tension.

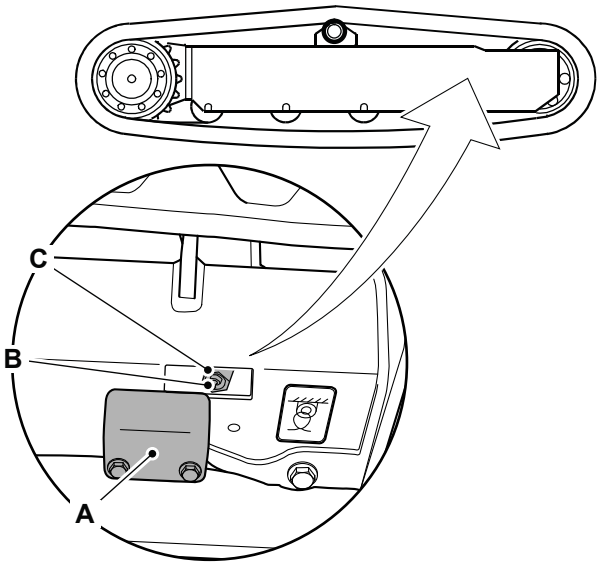
Tighten the Track

1. Remove the cover plate.
2. Add grease through the nipple in the adjusting screw until track tension is correct.
3. Rotate the track. Track tension will increase during rotation.
4. Check the track tension at its tightest point to avoid over tensioning.
5. Install the cover plate.

Loosen the Track

1. Remove the cover plate (if installed).
2. Loosen adjusting screw until track tension is correct.
3. Rotate the track. Track tension will increase during rotation.
4. Check the track tension at its tightest point to avoid over tensioning.
5. Install the cover plate.

Figure 329.



A Cover plate (if installed)
B Nipple
C Adjusting screw

Remove and Install

⚠ **CAUTION** The recoil unit spring can cause serious injury if suddenly released. Take great care when removing and replacing the spring retaining nut. Scrap recoil units must be dismantled before transfer from the workshop. Do not use flame cutting equipment unless precautions are taken to release the spring pressure slowly.

Changing Tracks from Steel to Rubber Tracks

1. Make the machine safe.
   Refer to: PIL 01-03.
2. Remove the steel tracks.
   Refer to: PIL 27-36-03.
3. Remove the recoil units.
   Refer to: PIL 27-36-27.
4. Attach the bottom rollers into the correct mounting holes for the rubber tracks.
   Refer to: PIL 27-36-24.
5. Install the recoil units.
   Refer to: PIL 27-36-27.
   5.1. The idler wheels are different for steel and rubber tracks. Make sure that the correct idler wheels are installed.
6. Install the rubber tracks.
   Refer to: PIL 27-36-06.
7. Adjust the track tension.
   Refer to: PIL 27-36-00.

Changing Tracks from Rubber to Steel Tracks

1. Make the machine safe.
   Refer to: PIL 01-03.
2. Remove the rubber tracks.
   Refer to: PIL 27-36-06.
3. Remove the recoil units.
   Refer to: PIL 27-36-27.
4. Attach the bottom rollers into the correct mounting holes for the steel tracks.
   Refer to: PIL 27-36-24.
5. Install the recoil units.
   Refer to: PIL 27-36-27.
   5.1. The idler wheels are different for steel and rubber tracks. Make sure that the correct idler wheels are installed.
6. Install the steel tracks.
   Refer to: PIL 27-36-03.
7. Adjust the track tension.
   Refer to: PIL 27-36-00.

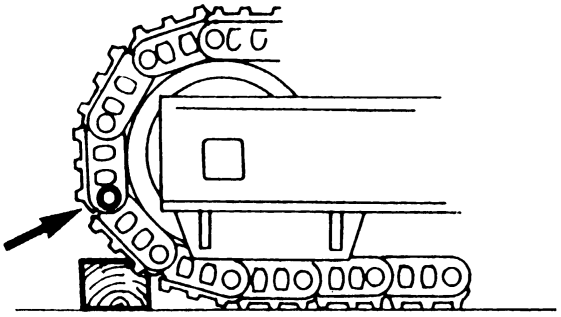
03 - Steel Track

Remove and Install

Remove

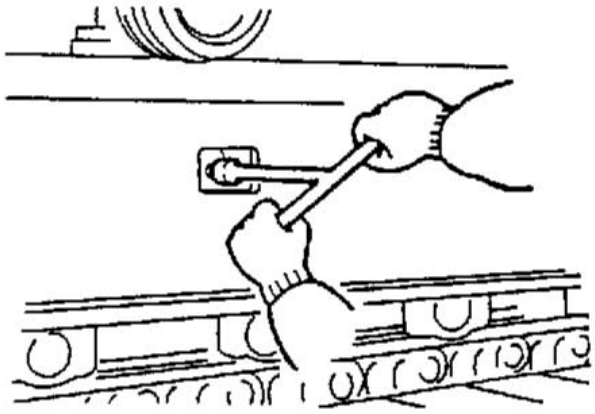
1. Move the track until the master pin takes the position over the idler wheel. Refer to Figure 330.
2. Put a wooden block below the track shoe. Refer to Figure 330.

Figure 330.



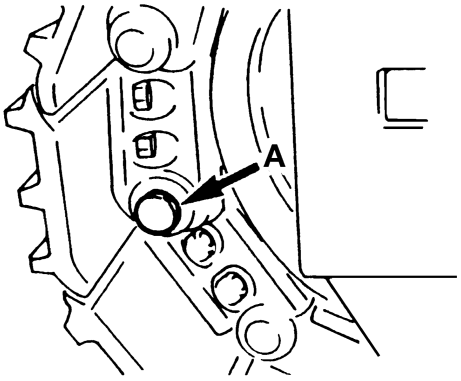
3. Loosen the check valve to bleed out the grease and release the track tension. Refer to Figure 331.

Figure 331.



4. Remove the master pin.
   4.1. Remove the bolts and remove the track shoes adjacent to the master pin. Refer to Figure 332.

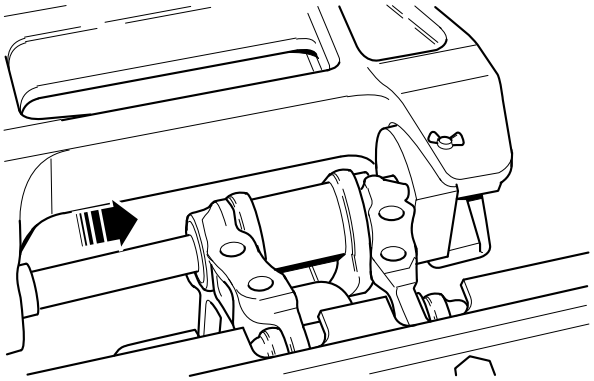
Figure 332.



A Master pin

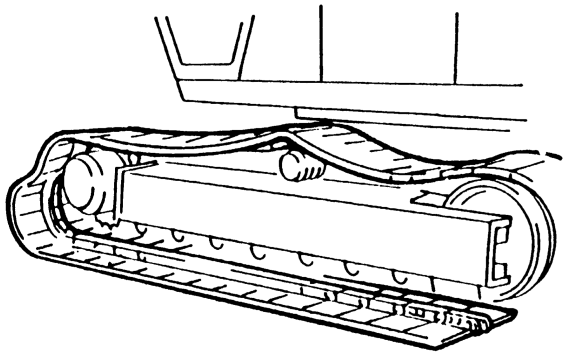
   4.2. Put a suitable hydraulic press and align the ram with the master pin.
   4.3. Insert the spacer bar between the master pin and the hydraulic ram.
   4.4. Slowly operate the hydraulic ram and press out the master pin. Refer to Figure 333.

Figure 333.



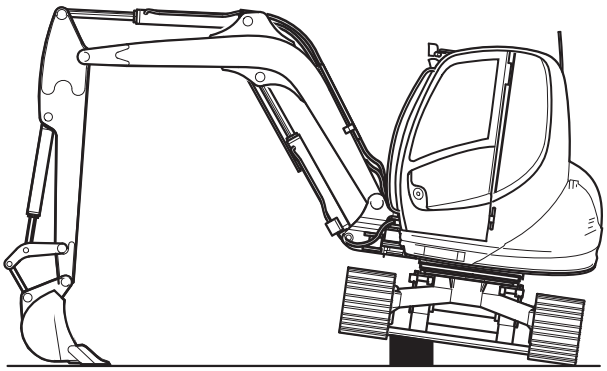
   4.5. Remove the seal rings from each side of the chain link.
5. Drive the machine forward to remove the track. Refer to Figure 334.

Figure 334.



6. Raise the side of the machine using the boom and dipper operations. Refer to Figure 335.
7. Put wooden blocks below the frame to support the machine. Refer to Figure 335.

Figure 335.

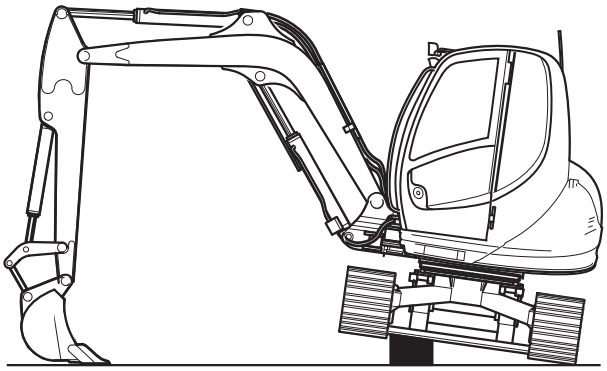


8. Remove the track.

Install

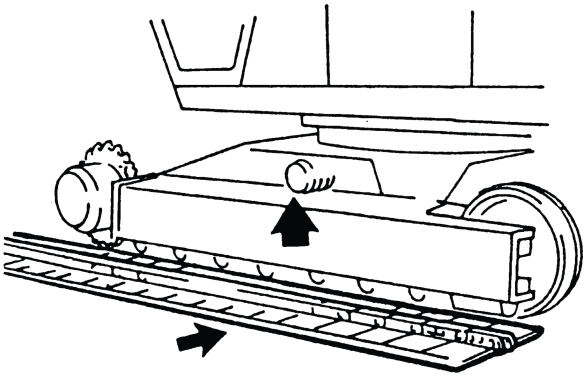
1. Raise the side of the machine using the boom and dipper operations. Refer to Figure 336.
2. Put wooden blocks below the frame to support the machine. Refer to Figure 336.

Figure 336.



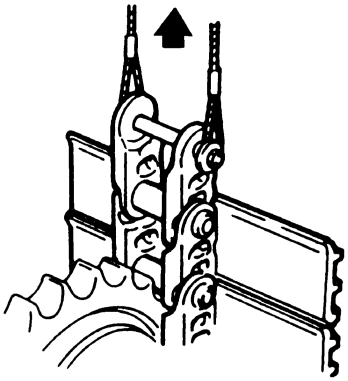
3. Put the track on the ground below the lower rollers with one end under the idler wheel.

Figure 337.



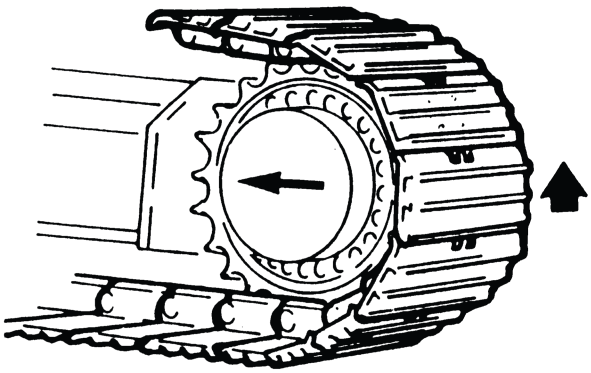
4. Attach the lifting equipment to lift the track end and engage the track in the drive sprocket.

Figure 338.



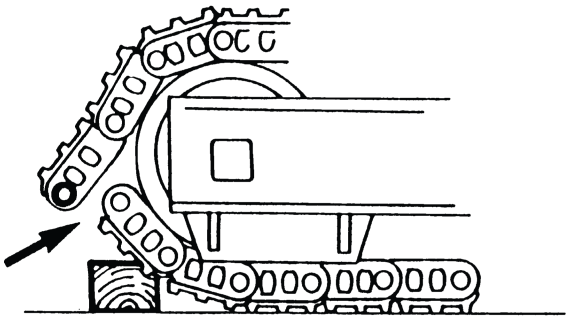
5. Slowly operate the drive sprocket in the forward direction.

Figure 339.



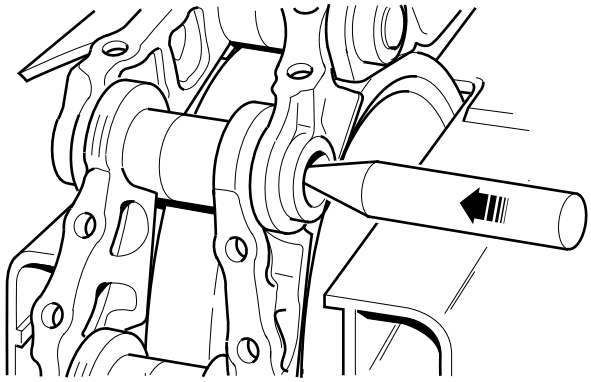
6. While still supporting the end of the track with the lifting equipment, continue to operate the sprocket in the forward direction until the track end reaches over the idler wheel.
7. Lower the machine, make sure that the track engages into the bottom rollers.
8. Put a wooden block below the track shoe.

Figure 340.



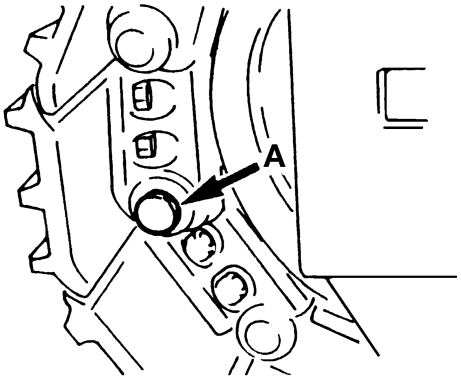
9. Insert the tapered guide pin from the inner face and tap through its full length.
10. Use a suitable hydraulic press and align the ram with the guide pin.

Figure 341.



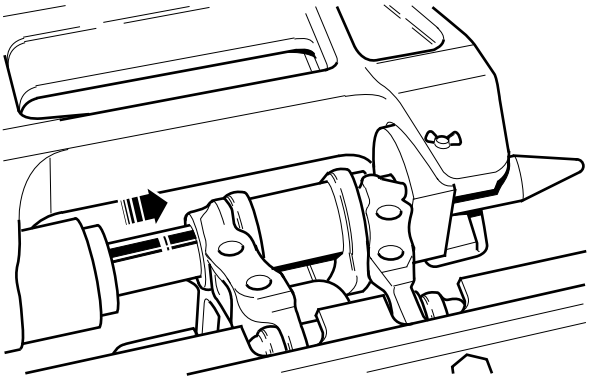
11. Insert the master pin into the hole.

Figure 342.



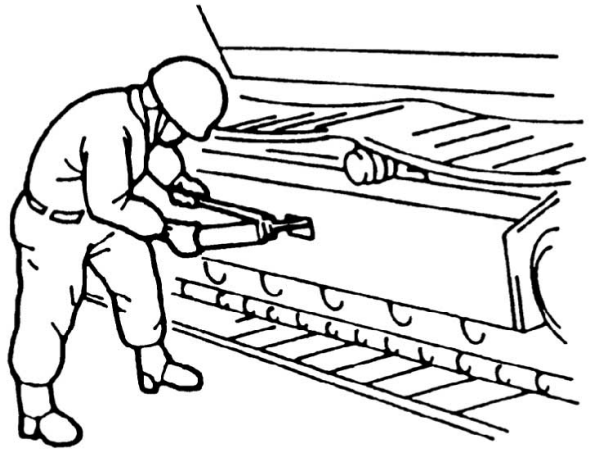
12. Slowly operate the hydraulic ram and press the master pin into position.

Figure 343.



13. Attach the track shoes and tighten the bolts.
    Refer to: PIL 27-36-04.
14. Adjust the track tension.
    Refer to: PIL 27-36-00.

Figure 344.



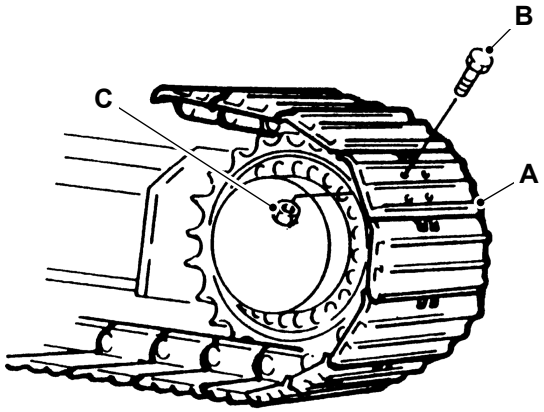
04 - Shoe Plate

Remove and Install

Remove

1. Make the machine safe.
   Refer to: PIL 01-03.
2. Put the damaged shoe plate over the drive sprocket. Refer to Figure 345.
3. Remove the bolts and nuts that attach the shoe plate to the track link. Refer to Figure 345.

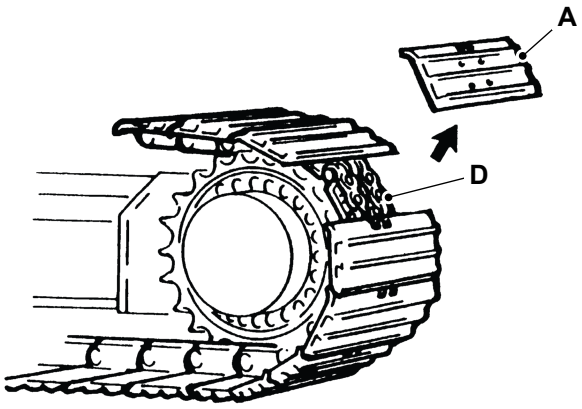
Figure 345.



A Track shoe
B Bolts
C Nuts

4. Remove the damaged shoe plate. Refer to Figure 346.

Figure 346.

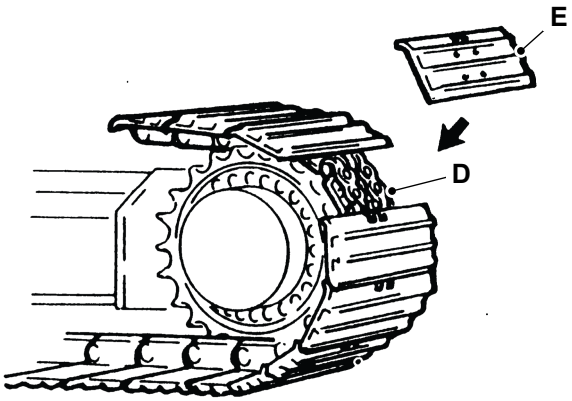


A Track shoe
D Track link

Install

1. Put the new shoe plate on the track link. Refer to Figure 347.

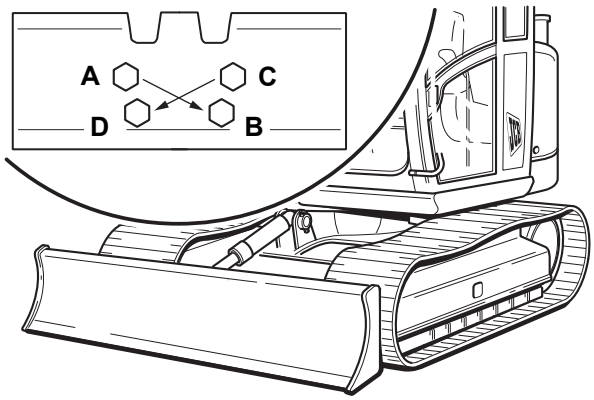
Figure 347.



D Track link
E New track shoe

2. Use the bolts and nuts to install the shoe plate to the track link.
3. Tighten the bolts in diagonal sequence. Refer to Figure 348.

Figure 348.



A Bolt number 1
B Bolt number 2
C Bolt number 3
D Bolt number 4

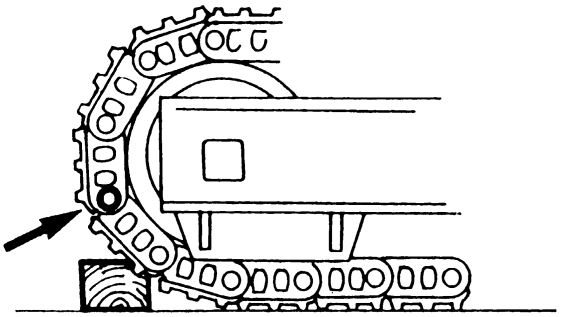
05 - Track Link

Remove and Install

Remove

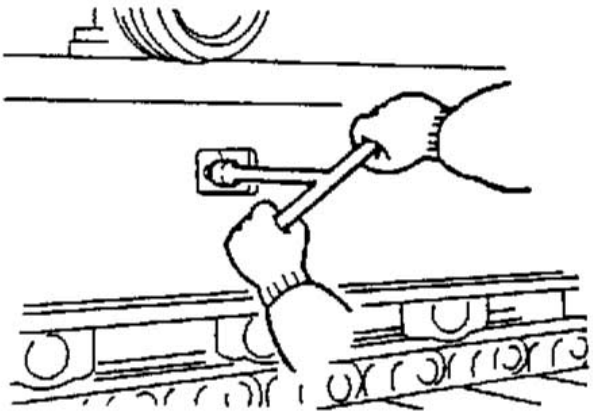
1. Make the machine safe.
   Refer to: PIL 01-03.
2. Put the track link over the idler wheel. Refer to Figure 349.
3. Put a wooden block below the track shoe to support the track link. Refer to Figure 349.

Figure 349.



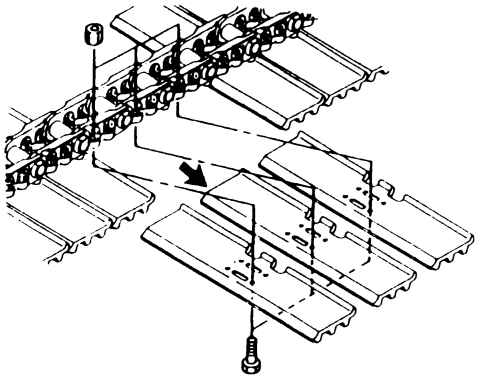
4. Loosen the check valve to bleed out the grease and release the track tension. Refer to Figure 350.

Figure 350.



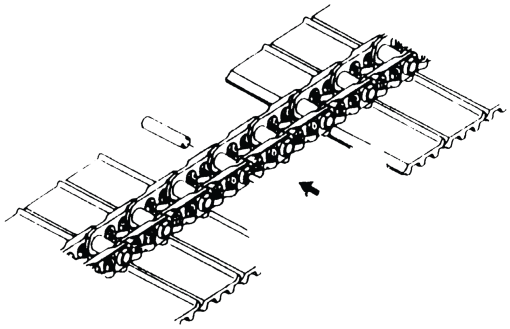
5. Remove the shoe plate that is attached to the damaged track link and a further shoe plate on either side.Refer to Figure 351.
   Refer to: PIL 27-36-04.

Figure 351.



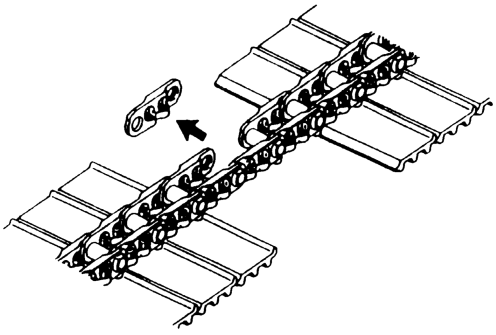
6. Use a portable hydraulic press to remove the track pins that attach the link. Refer to Figure 352.

Figure 352.



7. Remove the damaged link. Refer to Figure 353.

Figure 353.

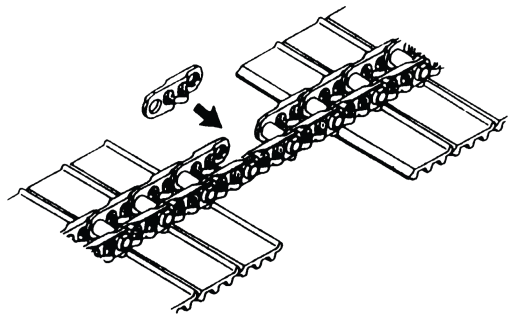


8. Replace the damaged link with a new one.

Install

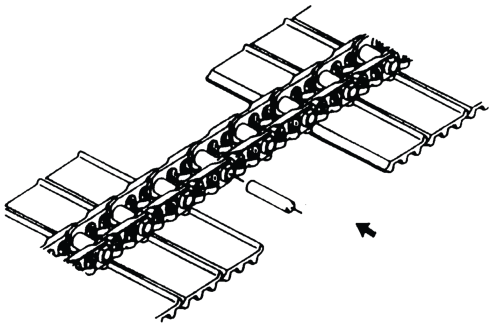
1. Align the new link with the existing side links. Refer to Figure 354.

Figure 354.



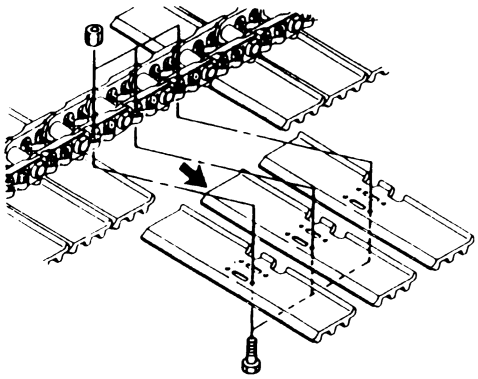
2. Use a portable hydraulic press to install the new track pins. Refer to Figure 355.

Figure 355.



3. Install the shoe plates.Refer to Figure 356.
   Refer to: PIL 27-36-04.

Figure 356.



4. Adjust the track tension.
   Refer to: PIL 27-36-00.
5. Remove the wooden block from below the track.

06 - Rubber Track

Remove and Install

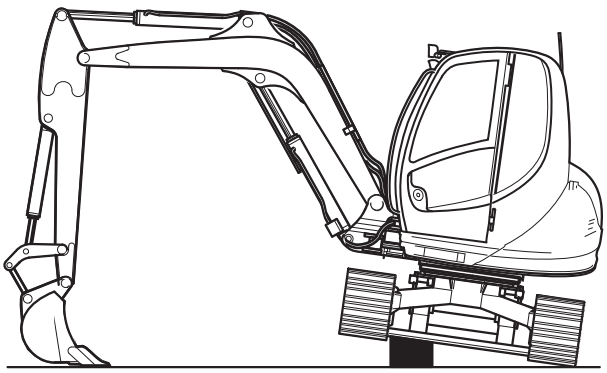
⚠ **WARNING** A raised and badly supported machine can fall on you. Position the machine on a firm, level surface before raising one end. Ensure the other end is securely chocked. Do not rely solely on the machine hydraulics or jacks to support the machine when working under it. Disconnect the battery, to prevent the machine being started while you are beneath it.

CAUTION The following operations must only be undertaken by persons familiar with track changing operations and who are qualified to perform the operations. All persons must keep clear of the machine driven sprocket.

Remove

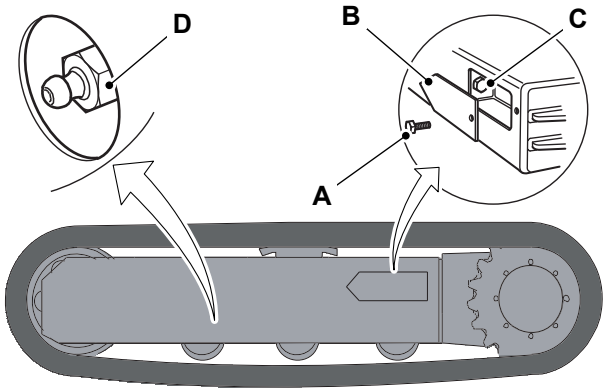
1. Make the machine safe.
   Refer to: PIL 01-03.
2. Set the machine in the position shown with the track to be removed, raised from the ground and supported.

Figure 357.



3. Slowly loosen the grease adaptor to release all the pressure from the track.
4. Remove the track from the machine.

Figure 358.



A Bolt
B Access plate
C Adjusting screw
D Grease adaptor

Install

1. Install the track on to the machine.
2. Make sure that the marked joint of the track is in the top centre position.
3. Tighten the grease adaptor.
4. Adjust the tension of the tracks.
   Refer to: PIL 27-36-00.
5. Operate the controls slowly to lower the track to the ground.

12 - Gearbox Sprocket

Remove and Install

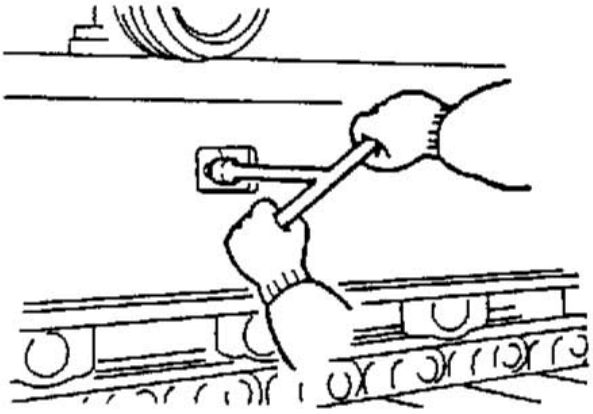
Consumables

Description	Part No.	Size
JCB Threadlocker and Sealer (High Strength)	4101/0550	0.01 L
	4101/0552	0.2 L

Remove

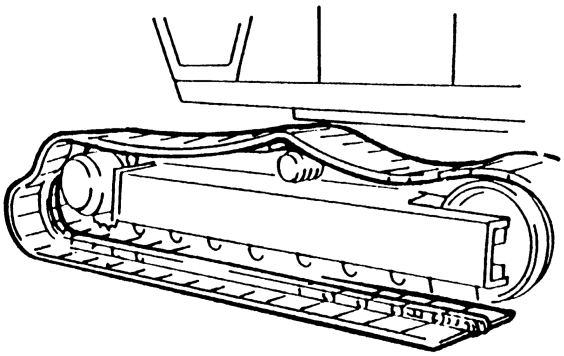
1. Make the machine safe.
   Refer to: PIL 01-03.
2. Loosen the check valve to bleed out the grease from the tensioner. Refer to Figure 359.

Figure 359.



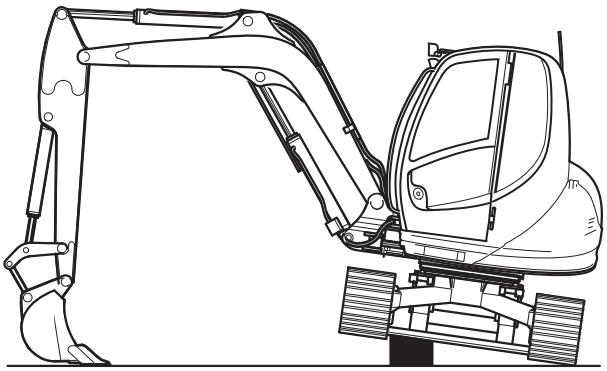
3. Remove the master pin to disconnect the track link.
   Refer to: PIL 27-36-05.
4. Drive the machine forward to remove the track. Refer to Figure 360.

Figure 360.



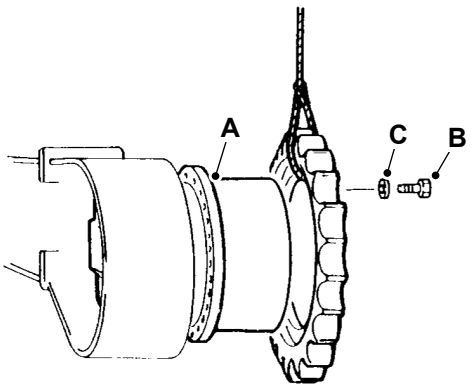
5. Remove the track from the sprocket.
6. Raise the side of the machine using the boom and dipper operations. Refer to Figure 361.
7. Put wooden blocks below the frame to support the machine. Refer to Figure 361.

Figure 361.



8. Support the drive sprocket and remove the bolts that attach the drive sprocket to the gearbox. Refer to Figure 362.
9. Move the drive sprocket away from the gearbox unit. Refer to Figure 362.

Figure 362.



A Drive sprocket
B Bolts
C Washers

9.1. Remove the drive sprocket.

Install

1. Support the drive sprocket and put the drive sprocket on the gearbox.
2. Apply the JCB Threadlocker and Sealer on the bolts.

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