VOLVO

Construction Equipment

Service Information

Document Title: **Frame and crawler unit**	Function Group: **700**	Information Type: **Service Information**	Date: **2014/6/22**
Profile:			

Frame and crawler unit

EC15B XR

Specification, frame and crawler unit

Item		**Unit**		**Specification**	
				Steel tracks	**Rubber tracks**
Length of lower frame		mm		1045	
Joint distance		mm		-	
Number of links		pcs.		34	
Number of track supporting idlers		pcs.		0	
Number of track rollers		pcs.		6	
Tension spring	Type	–		Hydraulic adjustment (grease)	
	SPring, adjustment length	mm		140	
	Adjustment force	kg		1300	
Track drive	Number of teeth	pcs.		14	
	Pitch diameter	mm		-	
Track pads	Number of track pads	pcs.		34	
	Width of track pad	mm		230	
Ground area pressure with standard working equipment (boom, arm and dipper	300 mm width (triple grouser)	Nm2	with cabin	3.2	3.1
			without cabin	2.9	2.8

VOLVO

Construction Equipment

Service Information

Document Title: **Frame and crawler unit**	Function Group: **700**	Information Type: **Service Information**	Date: **2014/6/22**
Profile:			

Frame and crawler unit

EC15B XT/XTV

Specification, frame and crawler unit

Item		**Unit**		**Specification**	
				Steel tracks	**Rubber tracks**
Length of lower frame		mm		1085	
Joint distance		mm		-	
Number of links		pcs.		34	
Number of track supporting idlers		pcs.		0	
Number of track rollers		pcs.		6	
Tension spring	Type	–		Hydraulic adjustment (grease)	
	SPring, adjustment length	mm		140	
	Adjustment force	kg		1300	
Track drive	Number of teeth	pcs.		21	
	Pitch diameter	mm		305,34	
Track pads	Number of track pads	pcs.		34	
	Width of track pad	mm		34	
Ground area pressure with standard working equipment (boom, arm and dipper	300 mm width (triple grouser)	Nm2	with cabin	EC15B XT: 3.3 EC15B XTV: 3.5	EC15B XT: 3.2 EC15B XTV: 3.4
			without cabin	EC15B XT: 3.1 EC15B XTV: 3.3	EC15B XT: 3.0 EC15B XTV: 3.2

VOLVO

Construction Equipment

Service Information

Document Title: **Assembling the cylinder for adjustable track width**	Function Group: **7181**	Information Type: **Service Information**	Date: **2014/6/22**
Profile:			

Assembling the cylinder for adjustable track width

Op nbr

1. Take out the cylinder ([Invalid linktarget] /3) for track width adjustment.
2. Knock the stub axle (2) ([Invalid linktarget] and [Invalid linktarget]) into piston and piston rod sides.
3. Turn in screws (1) ([Invalid linktarget] and [Invalid linktarget]) and tighten with 105 ± 20 Nm.

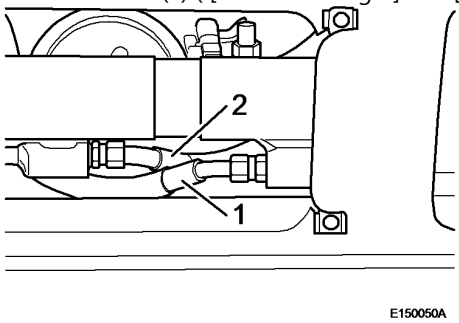


Figure 1

NOTE!
Remove all plugs before connecting the hydraulic lines.

4. Connect hydraulic lines (1 and 2), align it correctly and tighten with 18 ± 4 Nm.
5. Check hydraulic oil level, top up if necessary.
6. Start the engine, check the function of the machine and check for leaks.

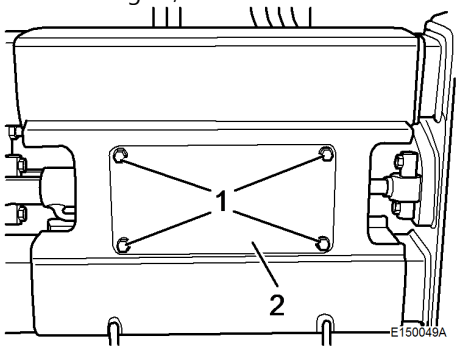


Figure 2

7. Attach cover (2), turn in screws (1) and tighten with 60 ± 10 Nm.

VOLVO

Construction Equipment

Service Information

Document Title: **Removing the cylinder for adjustable track width**	Function Group: **7181**	Information Type: **Service Information**	Date: **2014/6/22**
Profile:			

Removing the cylinder for adjustable track width

Op nbr

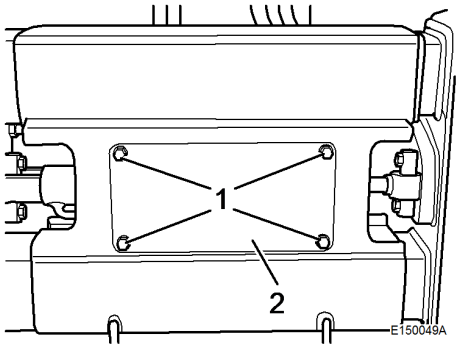


Figure 1

1. Lower the working attachment to the ground.
2. Shut down the engine and move the control lever to all directions to relieve the residual pressure.
3. Unscrew screws (1) and take off cover (2).

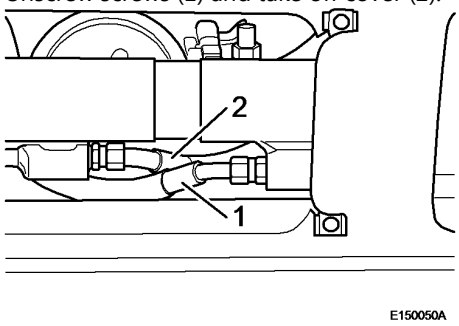


Figure 2

4. Mark hydraulic lines (1 and 2), unscrew the spigot nuts and lay the lines to the side.

NOTE!
Close all lines and openings withz clean caps and plugs.

WARNING

Catch hydraulic fluid and dispose of environmentally.

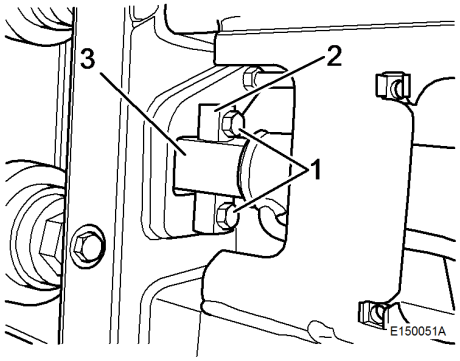


Figure 3
Piston side

5. Unscrew screws (1).

6. Knock the stub axle (2) out of piston and piston rod sides.

7. Take out the cylinder (3) for track width adjustment.

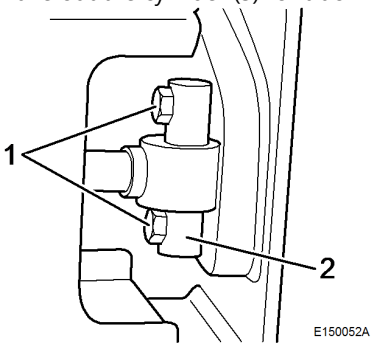


Figure 4
Piston rod side

VOLVO
Construction Equipment

Service Information

Document Title: **Removing the superstructure**	Function Group: **7185**	Information Type: **Service Information**	Date: **2014/6/22**
Profile:			

Removing the superstructure

Op nbr

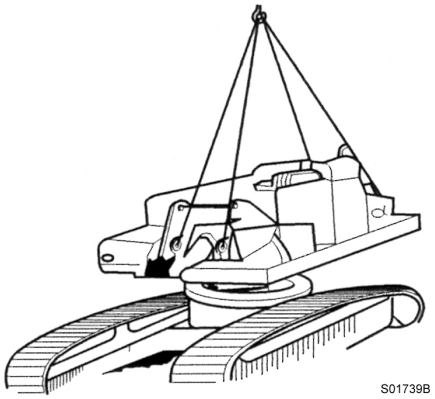


Figure 1
Lifting the superstructure

WARNING

The superstructure has a weight of approx. 225 kg (without counter weight and working attachment). Before starting to disassemble or assemble the superstructure make sure the excavator is safely parked and the area around is safe.

1. Remove the working attachment.

2. Remove cabin and engine hood.

3. Unscrew the screw for the rotary oil distributor, remove the cover, the hydraulic hoses and one servo hydraulics hose from the rotary oil distributor.
   NOTE!
   Mark the hoses and tie them together. Close all disconnected hoses and pipes with plugs.

4. Fasten a steel rope to the superstructure. Lift the crane until the steel rope is tight.

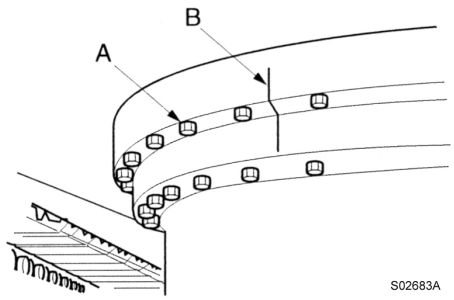


Figure 2
Assembled live ring

A. Screw
B. Check the alignment of the positioning marks

5. Unscrew the screws (A) connecting outer race and live ring.

6. Lift the superstructure slightly up and then lift it completely off while observing all safety precautions.

Assembling the superstructure

Op nbr

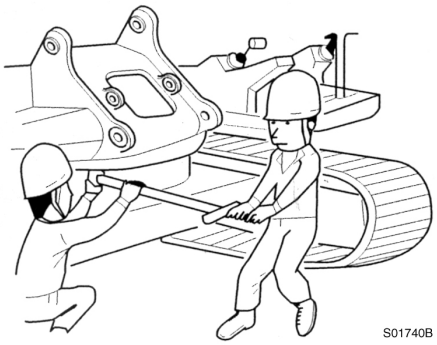


Figure 3
Assembling the superstructure

1. Tie the hoses connected to the rotary oil distributor together and fasten them upright.

2. Cover the screws and tapped bores of the live ring with "Three Bond 1215" (Loctite 515).

3. Lift up the superstructure and lower it onto the life ring.
   Lower the superstructure so that the pinio0n engages in the live ring.
   Tighten screws crosswise with 140 ± 25 Nm.

4. Connect the hoses. Reinstall the screw of the rotary oil distributor and the cover.

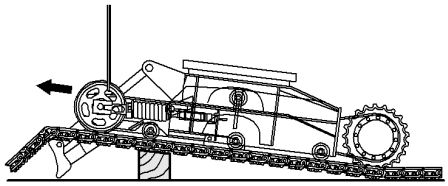
5. Assemble cabin and engine hood.

Document Title: **Removing the guide sprocket**	Function Group: **7751**	Information Type: **Service Information**	Date: **2014/6/22**
Profile:			

Removing the guide sprocket

Op nbr

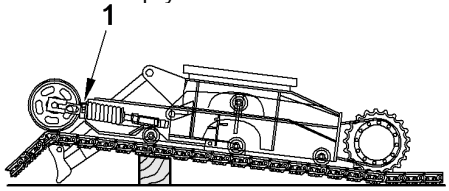
Wire rope 1.5 m



E150040A

Figure 1
Remove the guide sprocket unit

1. Raise the machine with the dozer blade and support it with wooden blocks [Invalid linktarget] .
2. Remove the track or rubber track respectively, see [Invalid linktarget] .
3. Sling a rope around the track spring holder, lift up the guide sprocket unit and push the holder out of the crawler frame with a prybar.



E150041A

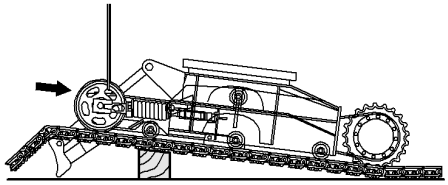
Figure 2
Unscrew connecting screws.

4. Unscrew connecting screws (1) from guide sprocket and spring pack.

Assembling the guide sprocket

Op nbr

Wire rope 1.5 m



E150042A

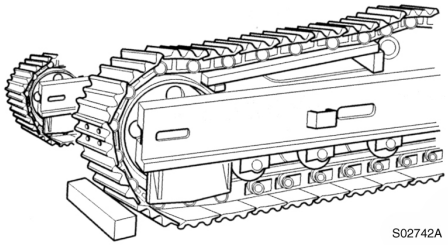
Figure 3
Installing the guide sprocket unit

1. Tighten connecting screws ([Invalid linktarget] /1) for guide sprocket and spring pack.

2. Sling a wire rope around the spring pack holder, lift up the guide sprocket unit, then attach the sliding shoe and slide it into the groove on the crawler frame.

   CAUTION

   Make sure that the cast recess on the piston end of the spring pack is located in the crawler frame bore.



S02742A

Figure 4
Installing the track or rubber track resp.

3. Installation of track or rubber track, see [Invalid linktarget] .

4. Adjusting the track sagging, see [Invalid linktarget] .

Document Title: **Removing the track drive**	Function Group: **7752**	Information Type: **Service Information**	Date: **2014/6/22**
Profile:			

Removing the track drive

Op nbr

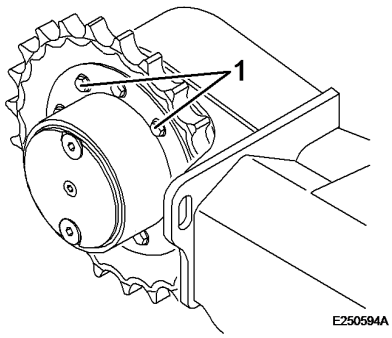


Figure 1

1. Remove the track or rubber track respectively, see [Invalid linktarget] .
2. Place a wooden block between track and lower frame. Position the lower frame on the block to be able to lift the track drive off the track.
3. Unscrew the track drive fastening screws (1) with a socket wrench.

Assembling the track drive

Op nbr

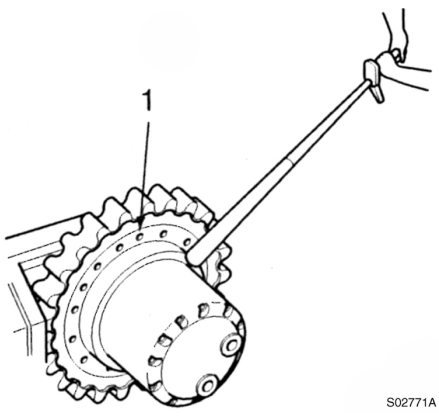


Figure 2
Screws

Assembly must be performed in reverse order.

1. Attach the track drive to the travel motor housing.
2. Slightly cover screws (1) with Loctite 277 and tighten with 95 Nm.
3. Installation of track or rubber track, see [Invalid linktarget] .
4. Adjusting the track sagging, see [Invalid linktarget] .

VOLVO

Construction Equipment

Service Information

Document Title: **Track drive, wear measurement**	Function Group: **7752**	Information Type: **Service Information**	Date: **2014/6/22**
Profile:			

Track drive, wear measurement

EC15B XR

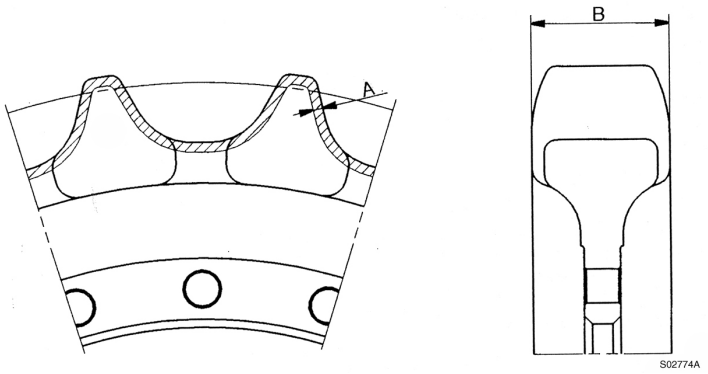


Figure 1
Track drive

Wear limit, unit: mm

Symbol	Item		Specification	Remedy
A	Wear limit on teeth of track drive hub		3	Replace
B	Width of track drive	Specified dimension	-	
		Permissible value	20	
C	Number of teeth		14 pcs.	-

VOLVO

Construction Equipment

Service Information

Document Title: **Adjusting the track sagging**	Function Group: **7753**	Information Type: **Service Information**	Date: **2014/6/22**
Profile:			

Adjusting the track sagging

Op nbr

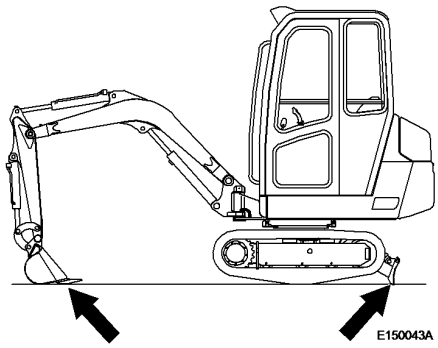


Figure 1
Lifting the excavator

1. Swivel the superstructure to the side and lift up the track by lowering the boom.

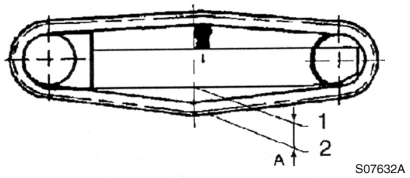


Figure 2
Measure the sagging of the track

1. Bottom side of frame
2. Top side of track link

2. Run the track several times forward and reverse. Stop the track during reverse movement.

3. Measure the sag (A) in the middle of the crawler frame between track pad and track roller mounting face.

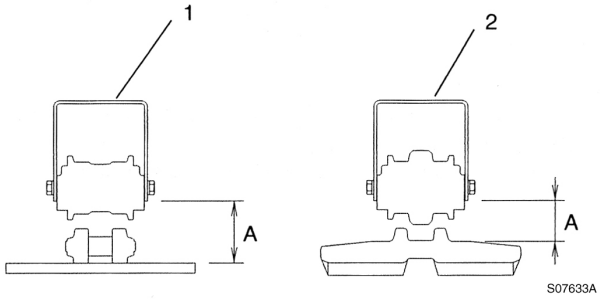


Figure 3

1. Steel track
2. Rubber track

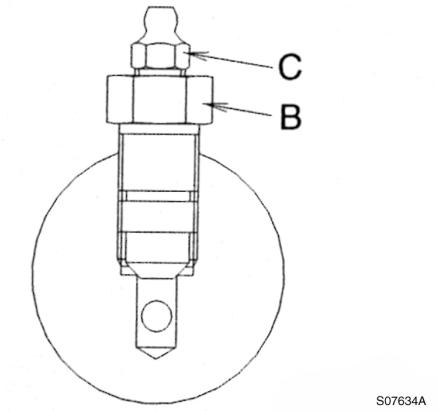


Figure 4

WARNING

The grease in the track adjustment cylinder is under high pressure. Do not remove the nipple or the valve unit to remove the grease.

Never loosen the valve for more than 2 revolutions as otherwise the grease will be thrown out.

Do not stand near the guiding sprocket, because the track tensioning device may drop down.

4. In order to reduce sagging of the track press multi-purpose grease through grease nipple (C) into the adjustment cylinder. In order to increase sagging of the track loosen the valve unit (B) by one revolution, so that the grease can be drained off. Tighten the valve unit when the sag is correct.

CAUTION

If the piston in the track tensioning cylinder does not move replace the valve unit, repair or replace the cylinder.

5. Adjust the track sagging. See following table.

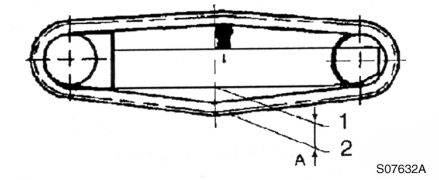


Figure 5
Measure the sagging of the track

1. Bottom side of frame
2. Top side of track link

Track sagging, steel track

Soil condition	**Distance (A)** **mm**
Normal soil	90...95

Track sagging, rubber track

Soil condition	Distance (A) mm
Any	60...65

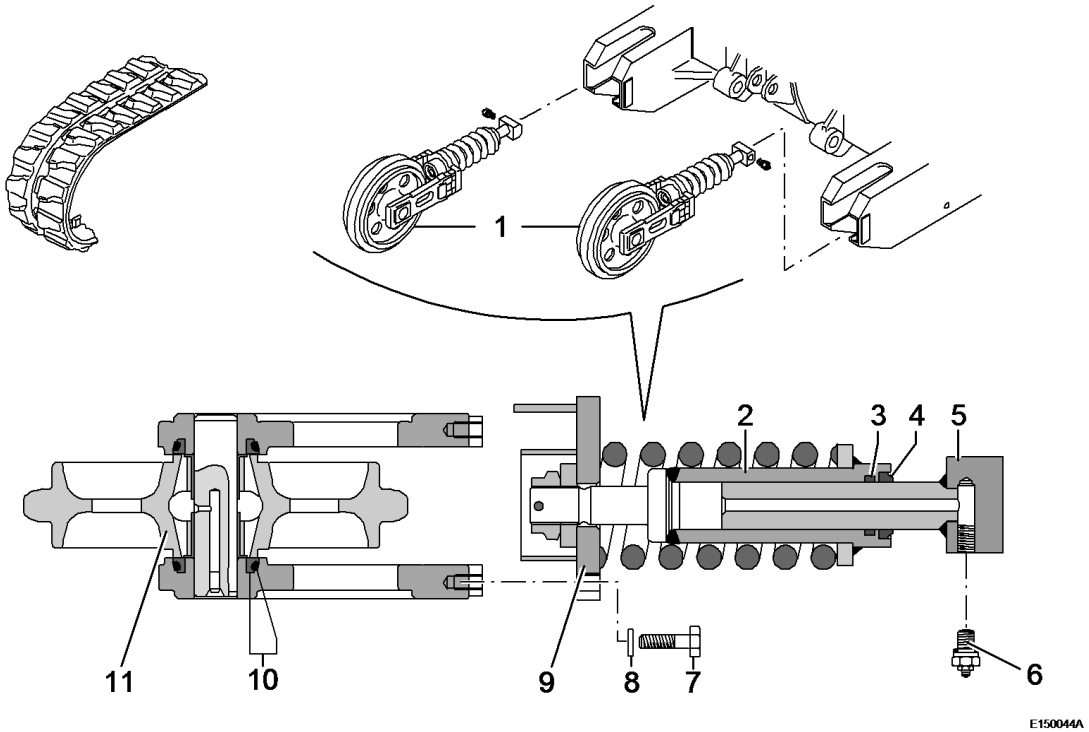


Figure 6

1 Track tensioning device
2 Cylinder
3 Seal
4 Seal
5 Piston
6 Valve
7 Screw
8 Washer
9 Spring block
10 Seal
11 Idler pulley

Track tensioning device

VOLVO

Construction Equipment

Service Information

Document Title: **Removing the crawler tracks**	Function Group: **7753**	Information Type: **Service Information**	Date: **2014/6/22**
Profile:			

Removing the crawler tracks

Op nbr

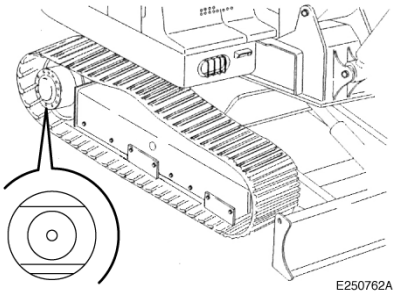


Figure 1
Position, main bolt

1. Each track link is fastened with a main bolt. Move the machine until the bolt has reached the position indicated by the arrow.

   WARNING

   The grease in the track adjustment cylinder is under high pressure. Do not remove the nipple or the valve unit to remove the grease.

   Never loosen the valve for more than 2 revolutions as otherwise the grease will be thrown out.

   Do not stand near the guiding sprocket, because the track tensioning device may drop down.

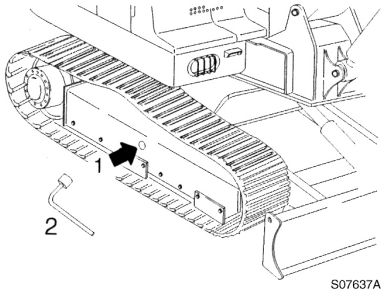


Figure 2
Slackening the track tensioning valve

2. Slacken the tensioning valve (1) by 1 revolution and drain off grease in order to reduce the tension.

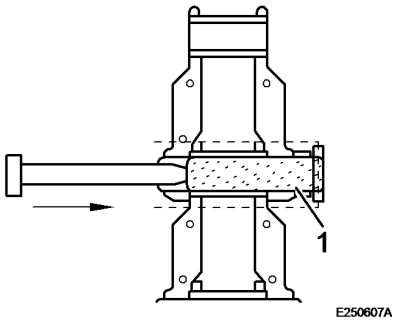


Figure 3
Removing the main bolt

1. Main bolt

3. Remove track pad fastening screws and track pad from the main track link. Remove the track pad before and after the main bolt.

4. Press the main bolt (1) out with a hydraulic press.

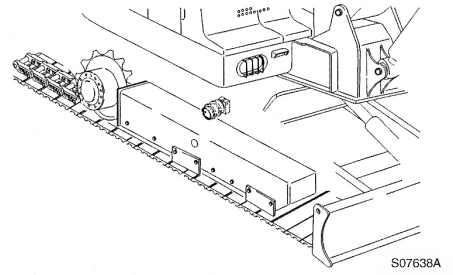


Figure 4
Slow backward movement of the machine

5. Perform the same work on the second track.

6. Drive the machine slowly backward off the track. Drive the machine onto another track or a thick steel base.

Assembling the crawler track

Op nbr

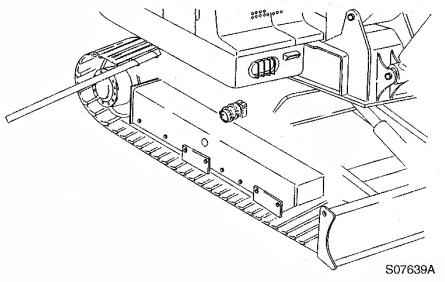


Figure 5
Inserting a rod into the bore for the main bolt.

1. Drive the machine slowly onto the track. Insert a rod into the bore for the main bolt at the end of the crawler track. Help the track drive to engage in the track.

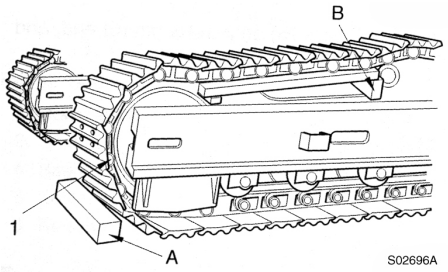


Figure 6
Supporting the track

1. Main bolt

2. When aligning the main bolt bores in the track links use wooden blocks A and B to support the track.

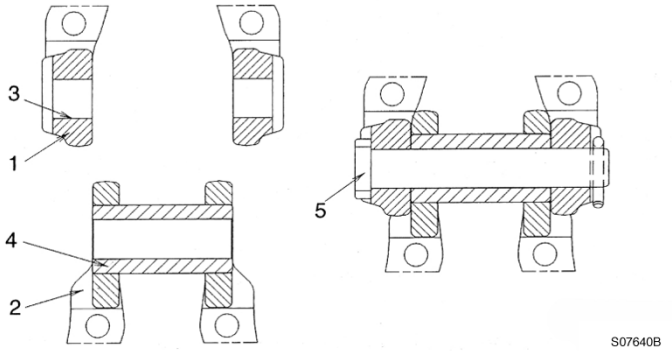


Figure 7
Assembling the main bolt

3. Connect main link (1) with link (2). Align bolt bore (3) of main link (1) and the bore of main bushing (4) pressed into link (2).

4. Press the main bolt (5) with a hydraulic press through the aligned bores (3) and (4).

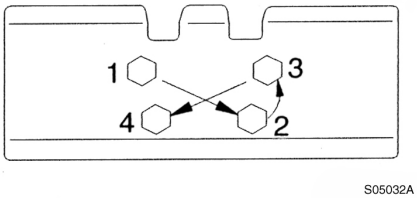


Figure 8

5. Reinstall the disassembled track pads.
   Insert the screws and tighten them crosswise [Invalid linktarget] .
   Tightening torque 150 Nm

6. Adjust the track sagging.

VOLVO
Construction Equipment

Service Information

Document Title:	Function Group:	Information Type:	Date:
Removing the rubber track	**7753**	**Service Information**	**2014/6/22**
Profile:			

Removing the rubber track

Op nbr

WARNING

The grease in the track adjustment cylinder is under high pressure. Do not remove the nipple or the valve unit to remove the grease.

Never loosen the valve for more than 2 turns as otherwise it will be thrown out together with the grease.

Do not stand near the guiding sprocket, because the track tensioning device may drop down.

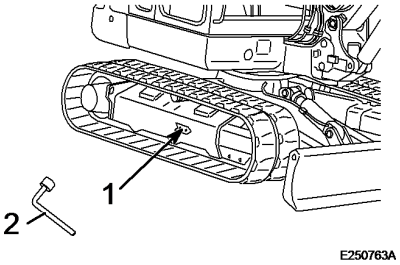


Figure 1
Slackening the track tensioning valve

1. Slacken the tensioning valve for 1 turn and drain off grease in order to reduce the tension.

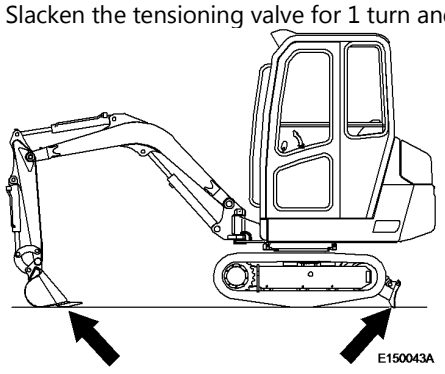


Figure 2
Lifting the excavator

2. Swivel the superstructure to the side and lift up the rubber track by lowering the boom.

3. Take the rubber track off track drive and guide sprocket.

Assembling the rubber track

Op nbr

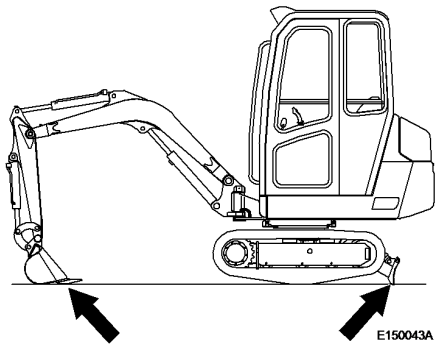


Figure 3
Lowering the excavator

1. Lay the rubber track onto track drive and guide sprocket.
2. Run the rubber track several times forward and backward and stop the track in backward movement.
3. Adjust the sag of the rubber track.
4. Lower the superstructure by lifting the boom.

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