Document Title: **Volvo standard tightening torques**	Function Group: **030**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

Volvo standard tightening torques

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

The tightening torques in the following tables apply to bolts and nuts with tensile strength. The tables should be used as a general instruction for tightening bolts and nuts without specified values. The charts contains values for course thread bolts and nuts.
Torque values should be increased with ≈10%, for flange bolts.
All standard torques for bolts are without surface treatment.
The standard torque for bolts lubricated with oil should be reduced with 20% of the given value.

Standard tightening torque charts

Bolt size Metric Coarse Threads	**Tensile strength 8.8**		**Tensile strength 10.9**	
	(Nm)	**(lbf ft)**	**(Nm)**	**(lbf ft)**
M5	6	4	8	6
M6	10	7	14	11
M8	25	18	35	26
M10	50	37	70	52
M12	87	64	122	90
M14	139	103	195	144
M16	213	157	299	220
M18	293	216	413	305
M20	416	307	585	432
M24	719	530	1010	745
M27	1060	782	1490	1100
M30	1140	840	2025	1493
M36	2500	1844	3600	2653

Bolt size Inch SAE Coarse Threads	**Tensile strength 5**		**Tensile strength 8**	
	(lbf ft)	**(Nm)**	**(lbf ft)**	**(Nm)**
1/4	10	13,6	14	19
5/16	21	28,5	29	39,3
3/8	37	50,2	52	70
7/16	59	80	84	114
1/2	90	122	128	174
9/16	130	176	184	250
5/8	180	244	254	345

3/4	320	434	451	612
7/8	515	700	728	988
1	775	1052	1091	1480
1 1/8	953	1290	1545	2100
1 1/4	1344	1823	2180	2960
1 3/8	1600	2170	2650	3600
1 1/2	2000	2714	3200	4340

Document Title: **Conversion tables**	Function Group: **030**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

Conversion tables

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

Length

Unit	**cm**	**m**	**km**	**in**	**ft**	**yd**	**mile**
cm	1	0.01	0.00001	0.3937	0.03281	0.01094	0.000006
m	100	1	0.001	39.37	3.2808	1.0936	0.00062
km	100000	1000	1	39370.7	3280.8	1093.6	0.62137
in	2.54	0.0254	0.000025	1	0.08333	0.02777	0.000015
ft	30.48	0.3048	0.000304	12	1	0.3333	0.000189
yd	91.44	0.9144	0.000914	36	3	1	0.000568
mile	160930	1609.3	1.6093	63360	5280	1760	1
1 mm = 0.1 cm - 1 mm = 0.001 mm							

Area

Unit	**cm^2**	**m^2**	**km^2**	**a**	**ft^2**	**yd^2**	**in^2**
cm^2	1	0.0001	-	0.000001	0.001076	0.000012	0.155000
m^2	10000	1	0.000001	0.01	10.764	1.1958	1550.000
km^2	-	1000000	1	10000	1076400	1195800	-
a	0.01	100	0.0001	1	1076.4	119.58	-
ft^2	-	0.092903	-	0.000929	1	0.1111	144.000
yd^2	-	0.83613	-	0.008361	9	1	1296.00
in^2	6.4516	0.000645	-	-	0.006943	0.000771	1
1 ha = 100 a - 1 $mile^2$ = 259 ha = 2.59 km^2							

Volume

Unit	**cm^3 = cc**	**m^3**	**l**	**in^3**	**ft^3**	**yd^3**
cm^3 = ml	1	0.000001	0.001	0.061024	0.000035	0.000001
m^3	1000000	1	1000	61024	35.315	1.30796
dm^3(l)	1000	0.001	1	61.024	0.035315	0.001308
in^3	16.387	0.000016	0.01638	1	0.000578	0.000021
ft^3	28316.8	0.028317	28.317	1728	1	0.03704
yd^3	764529.8	0.76453	764.53	46656	27	1
1 gal (US) = 3785.41 cm^3 = 231 in^3 = 0.83267 gal (UK)						

Weight

Unit	g	kg	t	oz	lb
g	1	0.001	0.000001	0.03527	0.0022
kg	1000	1	0.001	35.273	2.20459
t	1000000	1000	1	35273	2204.59
oz	28.3495	0.02835	0.000028	1	0.0625
lb	453.592	0.45359	0.000454	16	1
1 ton (metric) = 1.1023 ton (US) = 0.9842 ton (UK)					

Pressure

Unit	kp/cm^2	bar	$Pa=N/m^2$	kPa	lbf/in^2	lbf/ft^2
kp/cm^2	1	0.98067	98066.5	98.0665	14.2233	2048.16
bar	1.01972	1	100000	100	14.5037	2088.6
$Pa=N/m^2$	0.00001	0.001	1	0.001	0.00015	0.02086
kPa	0.01020	0.01	1000	1	0.14504	20.886
lbf/in^2	0.07032	0.0689	6894.76	6.89476	1	144
lbf/ft^2	0.00047	0.00047	47.88028	0.04788	0.00694	1
kg/cm^2 = 735.56 Dry (mmHg) = 0.96784 atm						

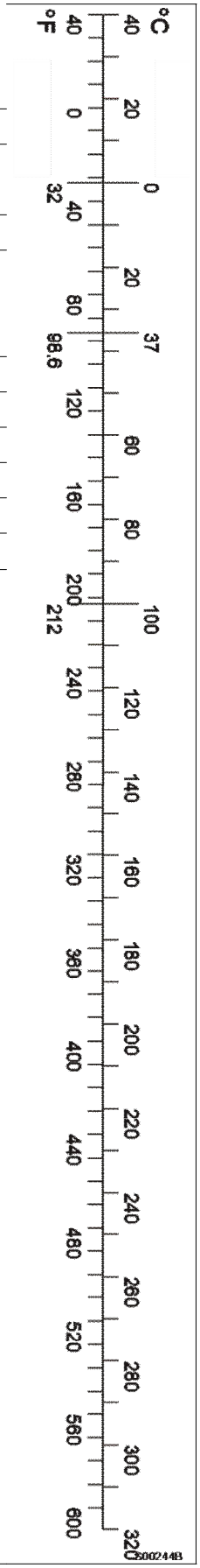
Unit explanations

Unit	abbreviation
Newton meter	Nm
Kilopoundmeter	kpm
Kilopascal	kPa
Megapascal	MPa
Kilowatt	kW
kilojoule	kJ
British thermal unit	Btu
Calorie	cal

Approx. conversion

SI unit	Conversion factor	Non SI	Conversion factor	SI
Torque				
Nm	x10.2	=kg/cm	x0.8664	=lb in
Nm	x0.74	=lbf·ft	x1.36	=Nm
Nm	x0.102	=kg/m	x7.22	=lbft
Pressure ($Pa = N/m^2$)				
kPa	x4.0	$=in.H_2O$	x0.249	=kPa
kPa	x0.30	=in.Hg	x3.38	=kPa
kPa	x0.145	=psi	x6.89	=kPa
bar	x14.5	=psi	x0.069	=bar
kp/cm^2	x14.22	=psi	x0.070	$=kp/cm^2$
N/mm^2	x145.04	=psi	x0.069	=bar
MPa	x145	=psi	x0.00689	=MPa
Power (W = J/s)				
kW	x1.36	=hp(cv)	x0.736	=kW

kW	x1.34	=bhp	x0.746	=kW
kW	x0.948	=Btu/s	x1.055	=kW
W	x0.74	=ft·lb/s	x1.36	=W
Energy (J = Nm)				
kJ	x0.948	=Btu	x1.055	=kJ
J	x0.239	=calorie	x4.19	=J
Speed and acceleration				
m/s^2	x3.28	$=ft/s^2$	x0.305	$=m/s^2$
m/s	x3.28	=ft/s	x0.305	=m/s
km/h	x0.62	=mph	x1.61	=km/h
Horsepower/torque				
Bhp x5252 rpm= TQ (lb·ft)			TQ x rpm 5252=bhp	
Temperature				
ºC =(ºF-32)/1.8			ºF =(ºC x1.8) +32	
Flow factor				
l/min (dm^3/min)	x0.264	= US gal/min x3.785		=liter/min



Document Title:	Function Group:	Information Type:	Date:
Torque wrench extension	**030**	**Service Information**	**5/19/2026**
Profile: **L150H Volvo**			

Torque wrench extension

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

When an extension is used together with a torque wrench (e.g.88830381 Wrench), the torque applied to the screw increases since the lever arm is extended.

The following formula is used to calculate the correct torque wrench settings:
M1 = M2 x (L1/L2)

M1 is the torque to be set on the torque wrench.
L1 is the normal length of the torque wrench.
M2 is the tightening torque according to specification.
L2 is the total length of the torque wrench and extension.

NOTE!
The extension and the torque wrench must be in a straight line for the calculation to be correct.

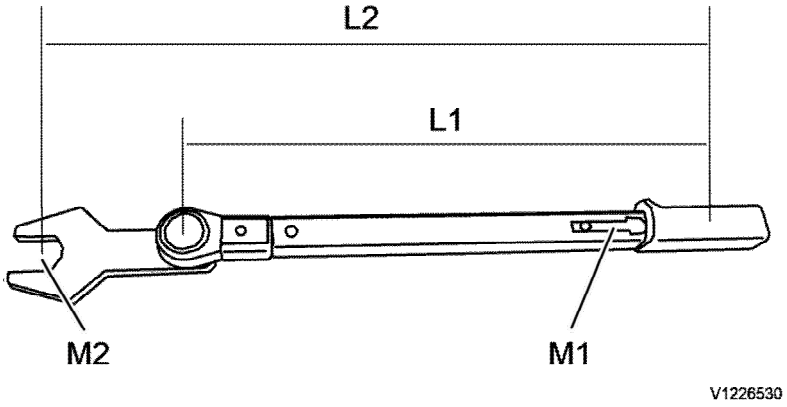


Figure 1

Calculation example
M1 is the torque to be set on the torque wrench.
M2 is the tightening torque according to specification, e.g. 100 Nm.
L1 is the measured length of the torque wrench, e.g. 45 cm.
L2 is the measured length of the extension and the torque wrench, e.g. 60 cm.

L1 = 45 cm
L2 = 60 cm
M2 = 100 Nm

M1 = 100 Nm × (45 cm/60 cm) = 75 Nm

Document Title: **Operation numbers for additional work**	Function Group: **070**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **Wheel Loaders (WLO)**			

Operation numbers for additional work

Showing Selected Profile

These operations can be used to identify work that is not included in the time guide or described in the methods in the Service Manual. When these operations are used, a description of the work that has been performed must be provided.

Other work related to engine
Op. no. 070-210
This operation can be used when work has been done related to the engine and function group 2 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to electrical system
Op. no. 070-310
This operation can be used when work has been done related to the electrical system and function group 3 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to transmission, gearbox, travel motor, swing motor
Op. no. 070-410
This operation can be used when work has been done related to the transmission, gearbox, travel motor or swing motor and function group 4 when no applicable method description was available. Hhen this operation is used, additional information is required:

- Description of work that has been done

Other work related to drive axle
Op. no. 070-470
This operation can be used when work has been done related to the drive axle and function group 46 when no applicable method description was available. When this operation is used, additional information is required:

- Description of required work that have been done

Other work related to brake system
Op. no. 070-510
This operation can be used when work has been done related to the brake system and function group 5 when no applicable

method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to steering system
Op. no. 070-610
This operation can be used when work has been done related to the steering system and function group 6 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to frame link, axle suspension
Op. no. 070-710
This operation can be used when work has been done related to the frame link, axle suspension and other parts related to function group 7 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to cab, air conditioning
Op. no. 070-810
This operation can be used when work has been done related to the cab, air conditioning and other parts related to function group 8 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to hydraulic system
Op. no. 070-910
This operation can be used when work has been done related to the hydraulic system and other parts related to function group 9 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Document Title: **E1680, Holder**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

E1680, Holder

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

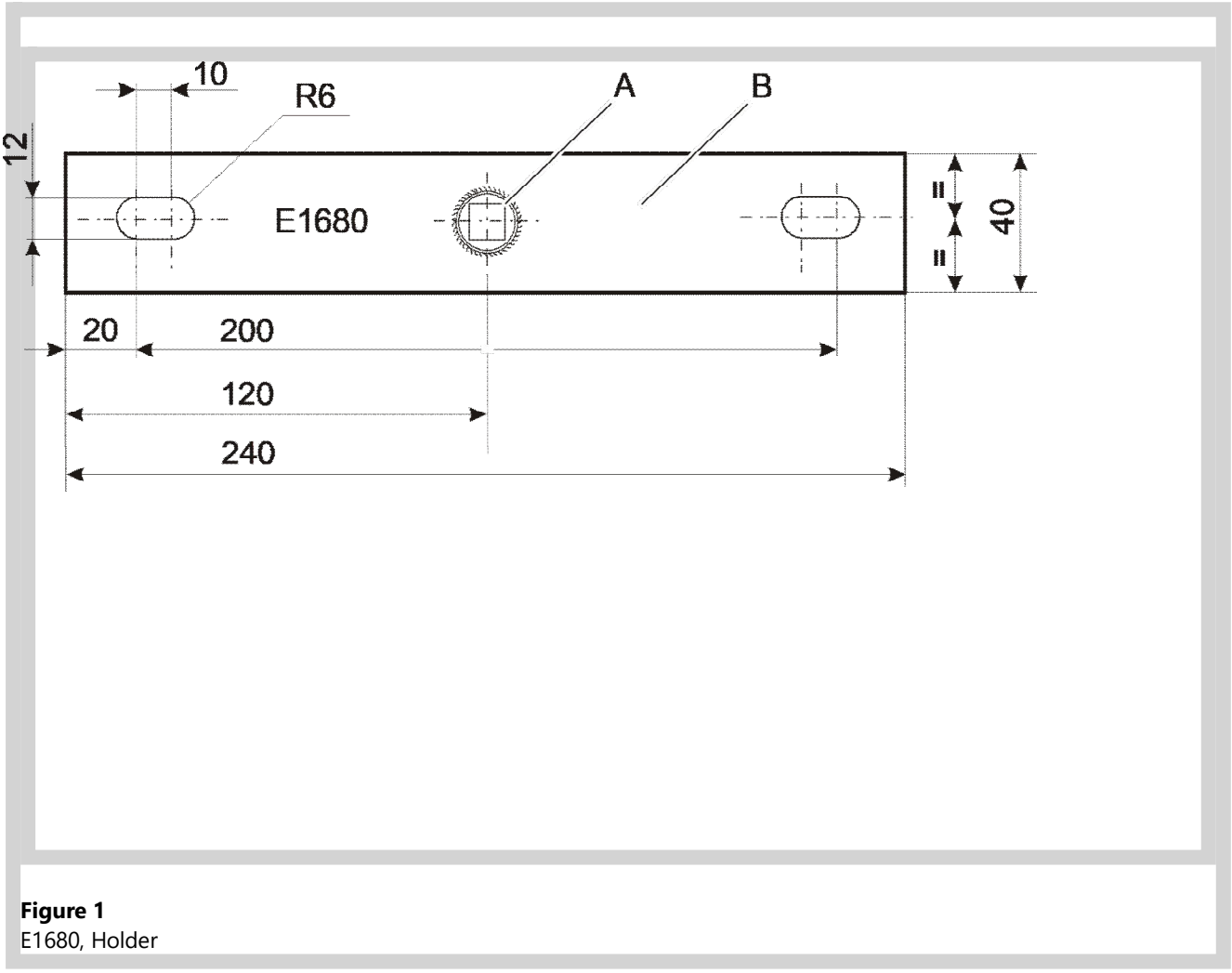


Figure 1
E1680, Holder

A	1/2" Socket
B	Flat iron bar 5 mm

Document Title: **E 1708, Checking point**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

E 1708, Checking point

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

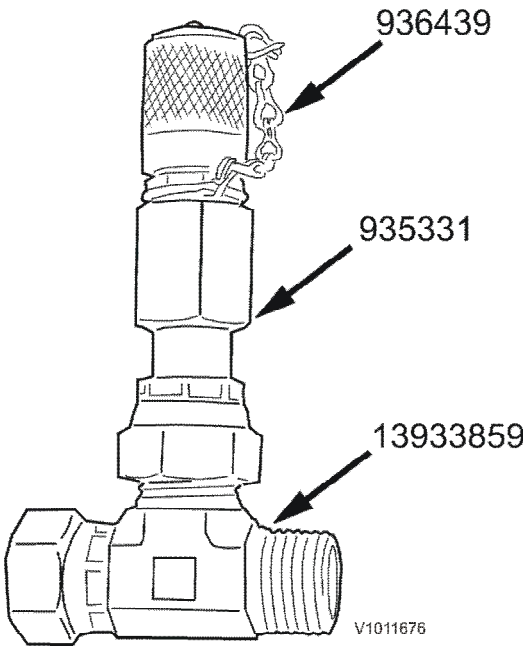


Figure 1

Document Title: **E1711**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

E1711

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

E1711

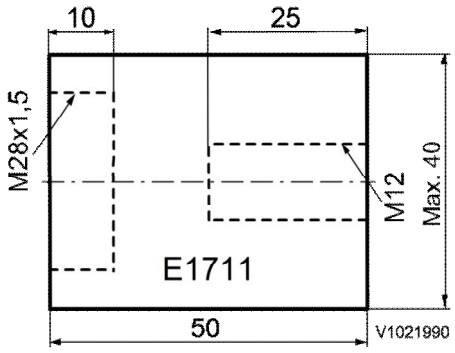


Figure 1
E1711

VOLVO

Service Information

Document Title:	Function Group:	Information Type:	Date:
E-2001	**080**	**Service Information**	**5/19/2026**
Profile: **L150H Volvo**			

E-2001

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

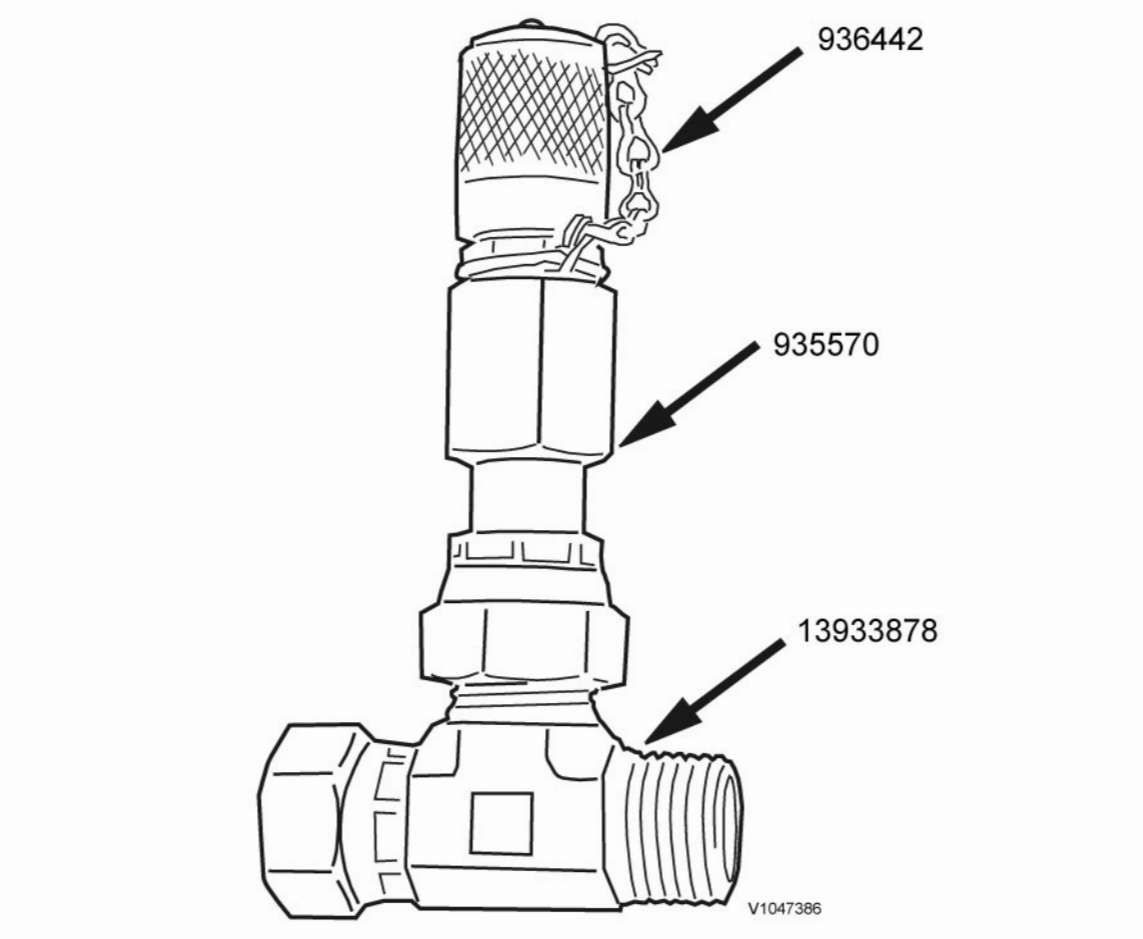


Figure 1

Document Title: **E-2005**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

E-2005

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

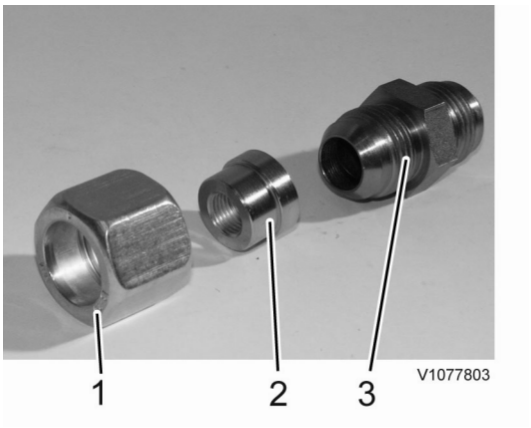


Figure 1
E-tool 2005

1. Coupling nut 931206
2. Test nipple 11054368 Thread R1/4"
3. Nipple 929315

Document Title: **E-2007**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

E-2007

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

Figure 1

VOLVO

Service Information

Document Title:	Function Group:	Information Type:	Date:
E-2014	**080**	**Service Information**	**5/19/2026**
Profile: **L150H Volvo**			

E-2014

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

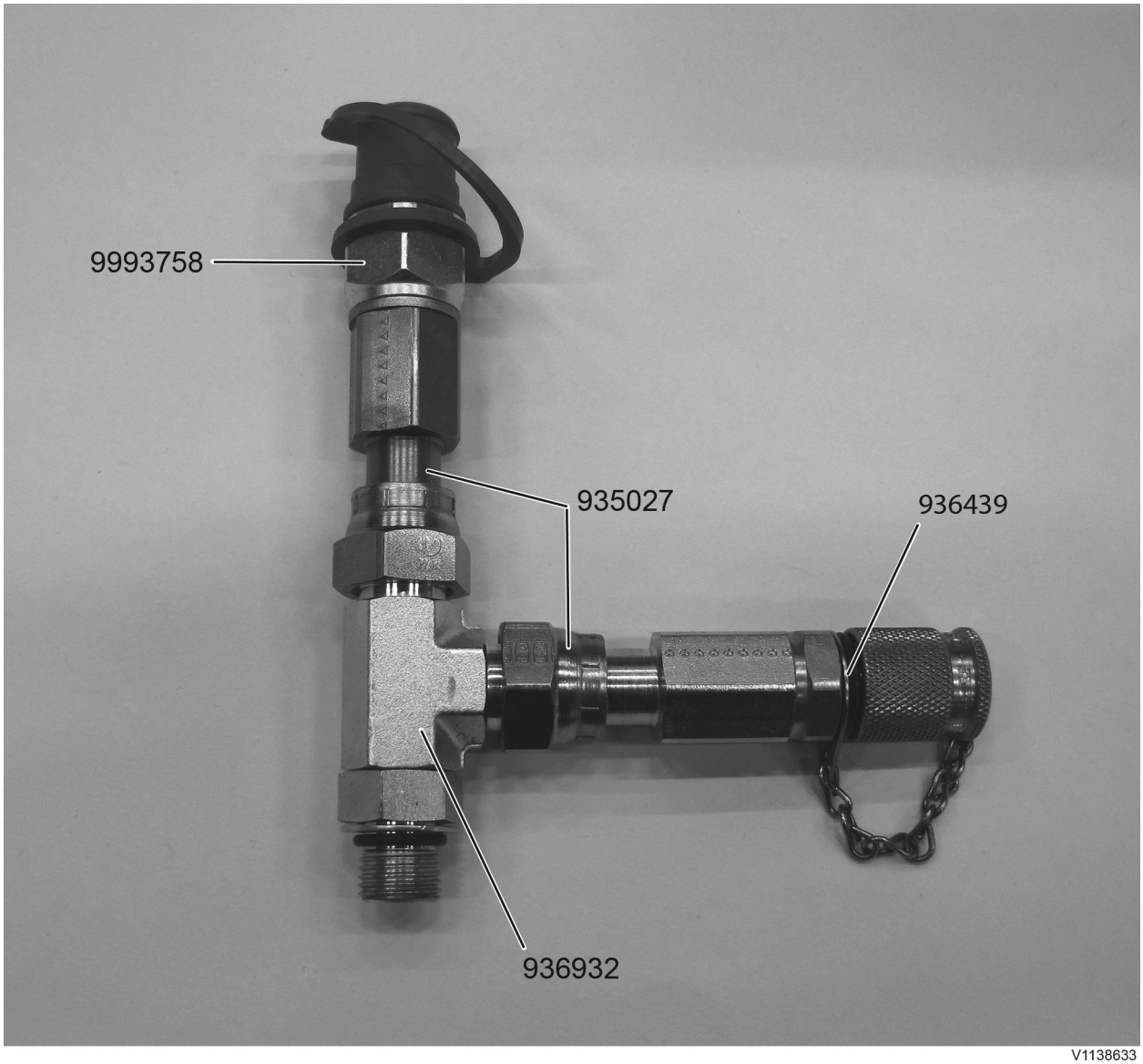


Figure 1

Document Title: **E-2015**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

E-2015

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

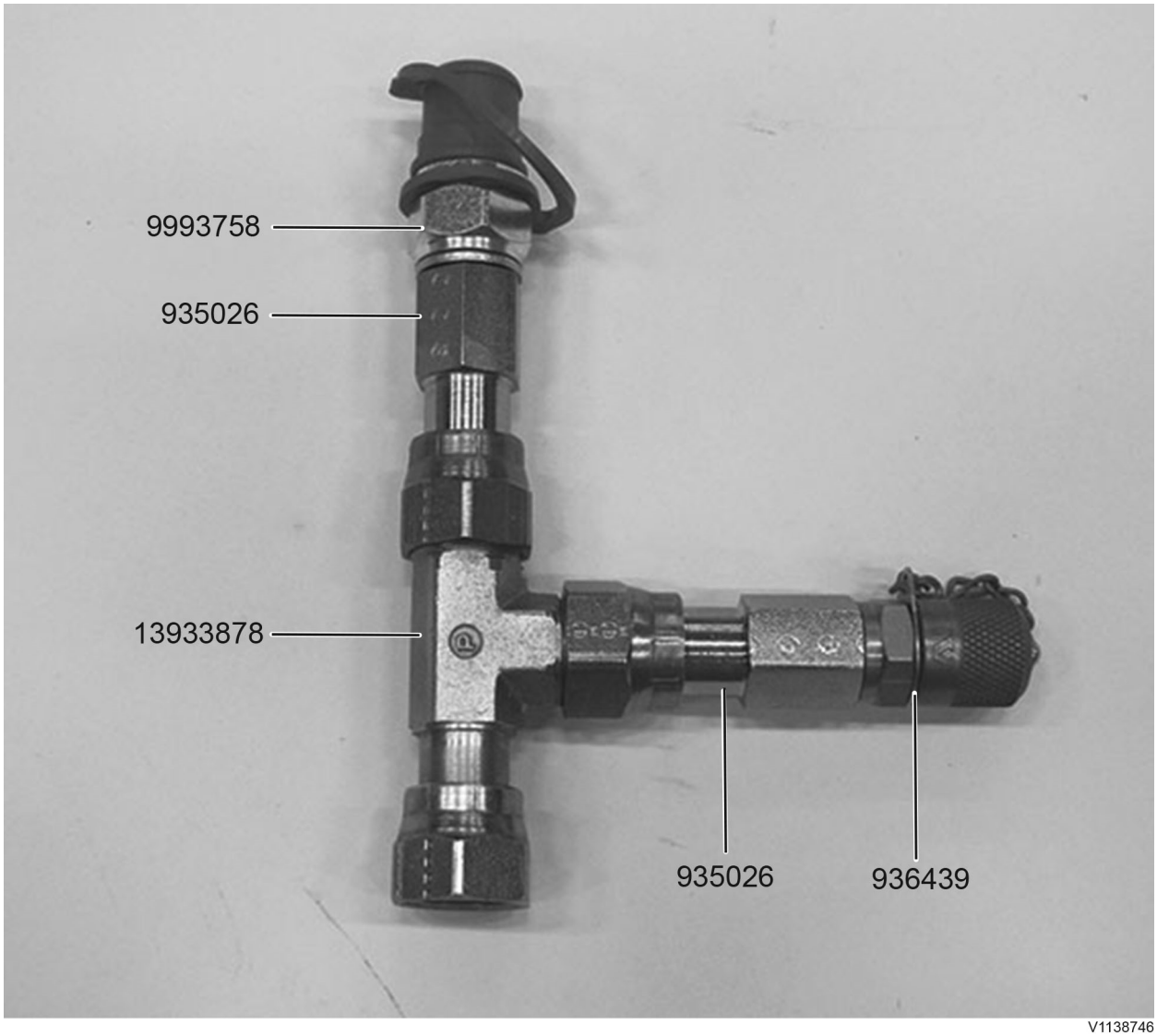


Figure 1

Document Title: **E-2016**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

E-2016

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

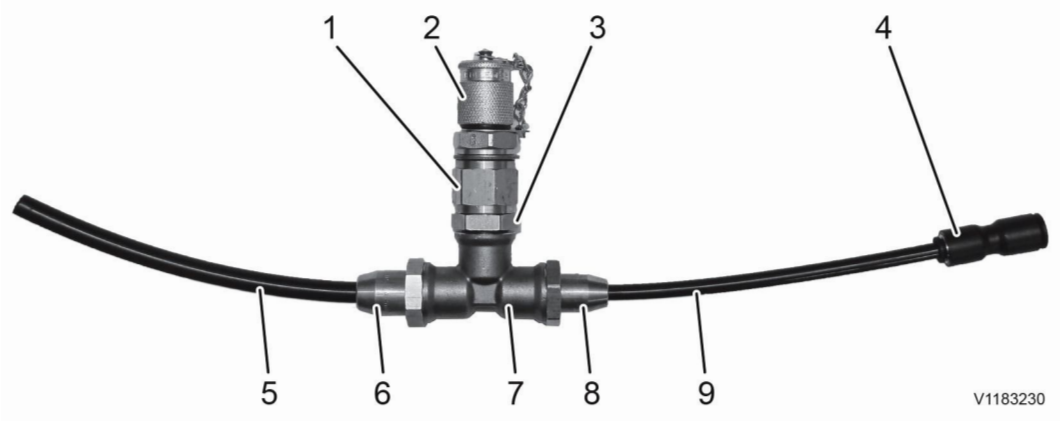


Figure 1

1. 88830130 Nipple
2. 15018967 Testing nipple
3. 11196161 Nipple
4. 17413665 Connector Ø 6/8 mm
5. 980832 Tube Ø 8 mm
6. 977789 Fitting Ø 8 mm
7. 15023142 T-coupling
8. 979282 Fitting Ø 6 mm
9. 980831 Tube Ø 6mm

Document Title:	Function Group:	Information Type:	Date:
E-2017	**080**	**Service Information**	**5/19/2026**
Profile: **L150H Volvo**			

E-2017

Showing Selected Profile

Valid for option/configuration			
Model	**Option no.**	**Option**	**Configuration**
L150H Volvo	53217072	Engine	D13J China IV
L150H Volvo	85625	Engine	D13J EU Stage IV
L150H Volvo	85626	Engine	D13J US Tier 4 final
L150H Volvo	87231	Engine	D13J US Tier 4 final
L150H Volvo	87233	Engine	D13J EU Stage IV
L150H Volvo	87258	Engine	D13J US Tier 4 final
L150H Volvo	87726	Engine	D13J US Tier 4 final
L150H Volvo	87738	Engine	D13J EU Stage V

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo	Arvika	4001	6790
L150H Volvo	Arvika	6791	9000
L150H Volvo	Arvika	18001	26000

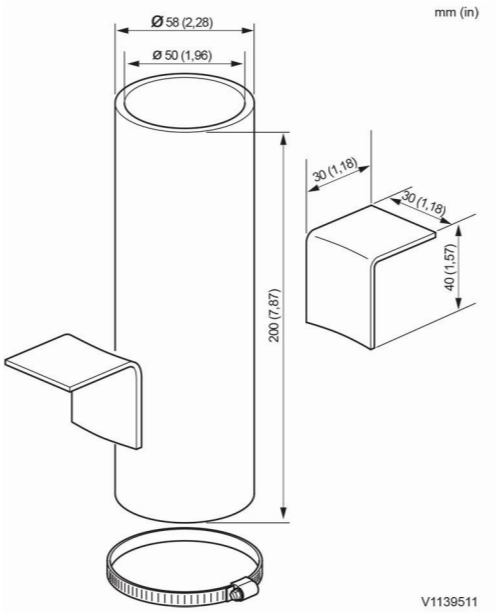


Figure 1

Document Title: **E-2018**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

E-2018

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

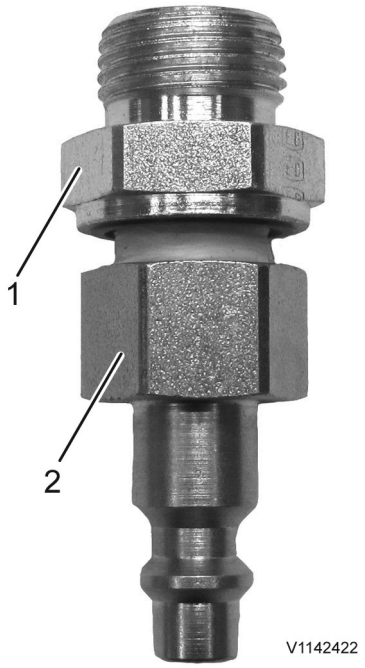


Figure 1

1. 963948
2. 17420996

Document Title: **E-2037**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

E-2037

Showing Selected Profile

Valid for option/configuration			
Model	**Option no.**	**Option**	**Configuration**
L150H Volvo	53217072	Engine	D13J China IV
L150H Volvo	85625	Engine	D13J EU Stage IV
L150H Volvo	85626	Engine	D13J US Tier 4 final
L150H Volvo	87231	Engine	D13J US Tier 4 final
L150H Volvo	87233	Engine	D13J EU Stage IV
L150H Volvo	87258	Engine	D13J US Tier 4 final
L150H Volvo	87726	Engine	D13J US Tier 4 final
L150H Volvo	87738	Engine	D13J EU Stage V

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo	Arvika	4001	6790
L150H Volvo	Arvika	6791	9000
L150H Volvo	Arvika	18001	26000

Plate

Dimensions on the drawing are given in mm.

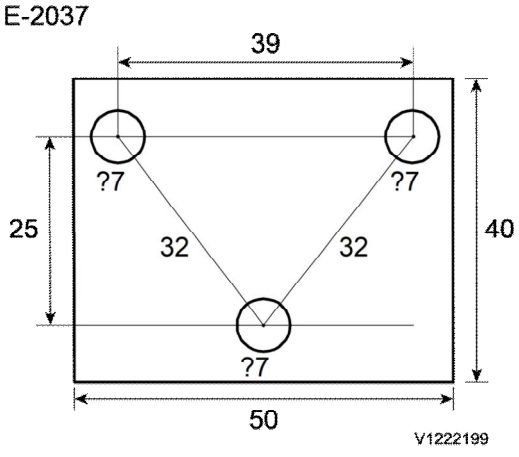


Figure 1
E-2037

Flat iron bar, thickness 6 mm

Document Title: **E-2045**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

E-2045

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

Installation tool

Dimensions on the drawing are given in mm.

E-2045

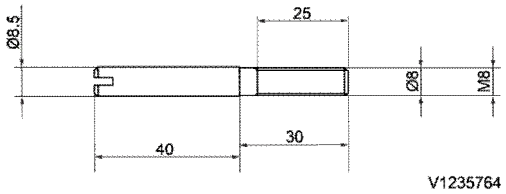


Figure 1

Material: S235JR

Document Title: **9993807 Lifting tool user instructions**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

9993807 Lifting tool user instructions

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

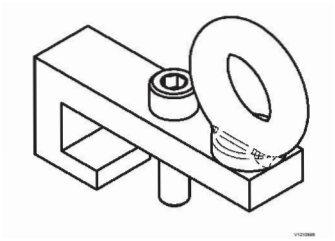


Figure 1
9993807 Lifting tool

Instructions

This instruction is a guide on how to use and maintain the lifting tool correctly. The instructions must be studied carefully by the personnel concerned before the lifting tool can be put into use.

The instructions must always be available to the personnel maintaining and using the lifting tool daily.

It is also important to:

- Keep the instructions and other applicable documents during the entire lifetime of the lifting tool.
- Pass the instructions to other owners or users of the lifting tool.
- Update the instructions with additions or changes made by the manufacturer.

Pay careful attention to information about warnings mentioned in the instructions and found on the warning signs on the lifting tools. If this information is not observed, severe personal injuries and equipment damage can arise.

Responsibility

The instructions describe the authorized method to use the lifting tool.

The lifting tool may only be used by personnel with adequate technical training or corresponding professional experience and in consultation with the manufacturer.

If the instructions have not been followed, the manufacturer is not responsible for personal injuries or damage to equipment.

Marking

Do not remove or make machine labels or other labels unreadable.
The lifting tool is marked with a CE mark, which means that it is designed, manufactured and described in accordance with EC Machinery Directive 2006/42/EC.
Warning decals and CE mark on lifting tool must be clearly visible. If a part provided with warning decals or CE mark is changed, a new warning decal and CE mark must be mounted in the same place. Defective decals and CE marks must be replaced immediately.

Figure 2
CE-marking

Manufacturer

Company: Volvo Construction Equipment AB
Address: CE-46840, RLA 0301
Postal address: 631 85 Eskilstuna, Sweden

Rebuilding

If the lifting tool is rebuilt or supplemented with other parts without permission by the manufacturer, the CE marking does not include this part. If such rebuilding or added parts changes the function of the lifting tool, the CE marking in its entirety is no longer valid. After rebuilding, it is important that the instructions are supplemented with the necessary illustrations, photos and texts.

NOTE!
If not explicitly stated otherwise, always assume this instruction reference the use of two 9993807 Lifting tools.

Intended usage

The lifting toll specified in this document is only intended for lifting torque converters with a maximum weight of 100 kg.
Intended users are appointed and trained personnel, the lifting gear is not intended to be used by unauthorised or underage personnel.
To fulfil the requirements for intended use, the user must follow all instructions and maintenance directions written by the manufacturer.

Technical data

Type designation: lifting tool for torque converter
Maximum load, lifting tool x 2: 100 kg (220 lb)
Mass, lifting tool x 2 with shackles and chain slings: 5 kg (11 lb)
Test factor for static testing (for lifting tools): 1.5

Safety information

Limits of use

The lifting tools may only be used for the intended purpose. All other use is forbidden.
Lifting hooks must be equipped with a self-locking hook.
Shackles should be used for connecting the tools.
Lifting sling and straps should be marked with lifting capacity.
All accessories for the lift must have sufficient lifting capacity.

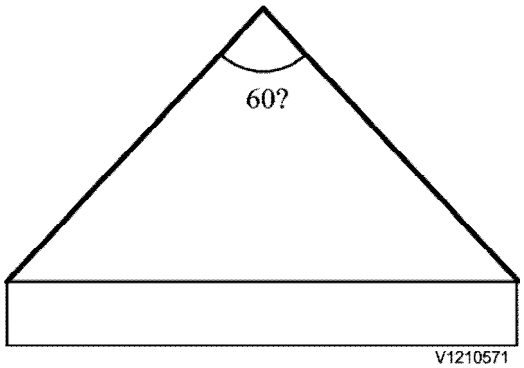


Figure 3
Max lift-angle
Maximum lift angles must not exceed 60°.

Handling
To meet the requirements for intended use, the user must observe all user and maintenance instructions prescribed by the manufacturer.

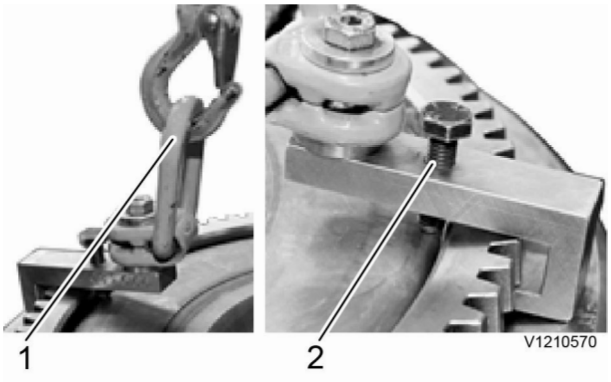


Figure 4

1. **Lifting equipment**
   Use lifting sling with sufficient lifting capacity, 100 kg (220 lb).
   Always use lifting hooks equipped with a self-locking hook.
   Use shackles with sufficient lifting capacity, 100 kg (220 lb).
2. **Bolts**
   Position the lifting tool under gear ring and tighten the bolts.
   Tighten until the lifting tool is unable to move independently of the gear ring.

Intended user

The lifting device is intended to be used by trained personnel, it is not intended to be used by unauthorized or underage personnel.

Conditions and preparatory measures

Lifting tool with damaged parts must not be used.
Before lifting, check that the lifting tool does not have indications of cracks or deformations.

Maintenance

Maintenance must be performed by person with appropriate technical training or equivalent professional experience and in consultation with the manufacturer.

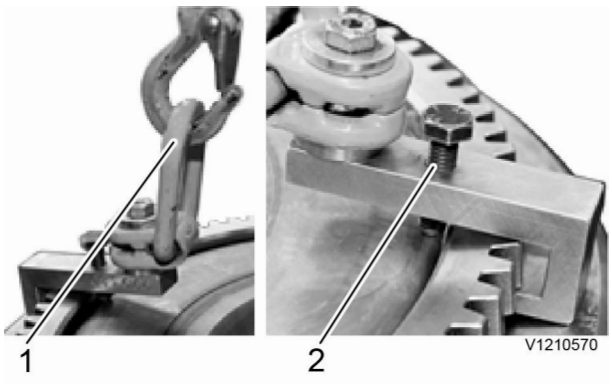


Figure 5

Detail/interval	Control/oversight
1 Shackles. Annual check.	Check that shackles does no have visible defects, cracks or deformations.
2 9993807 Lifting tool. Annual check.	Check that the lifting tool with threads and bolt does no have visible defects, cracks or deformations.

General

A defective lifting tool must be replaced.

Workplace

Protective shoes must be used.
The workplace should be kept free from equipment that can cause slipping or tripping risks.
The lifting tool is intended to be used in a workshop environment, outdoor usage is forbidden.

Continuous supervision

The lifting tool must be subjected to continuous supervision before use.

- Check for cracks.
- Check if the lifting tool is bent or deformed.
- Check that threaded screws and bolts are intact and do not have indications of breakage or deformation.

Document Title: **11668007 Lifting tool user instructions**	Function Group: **080**	Information Type: **Service Information**	Date: **5/19/2026**
Profile: **L150H Volvo**			

11668007 Lifting tool user instructions

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
L150H Volvo			

Figure 1
11668007 lifting tool

Instructions

This instruction is a guide on how to use and maintain the lifting tool correctly. The instructions must be studied carefully by the personnel concerned before the lifting tool can be put into use.

The instructions must always be available to the personnel maintaining and using the lifting tool daily.

It is also important to:

- Keep the instructions and other applicable documents during the entire lifetime of the lifting tool.
- Pass the instructions to other owners or users of the lifting tool.
- Update the instructions with additions or changes made by the manufacturer.

Pay careful attention to information about warnings mentioned in the instructions and found on the warning signs on the lifting tools. If this information is not observed, severe personal injuries and equipment damage can arise.

Responsibility

The instructions describe the authorized method to use the lifting tool.

The lifting tool may only be used by personnel with adequate technical training or corresponding professional experience and in consultation with the manufacturer.

If the instructions have not been followed, the manufacturer is not responsible for personal injuries or damage to

equipment.

Marking

Do not remove or make machine labels or other labels unreadable.
The lifting tool is marked with a CE mark, which means that it is designed, manufactured and described in accordance with EC Machinery Directive 2006/42/EC.
Warning decals and CE mark on lifting tool must be clearly visible. If a part provided with warning decals or CE mark is changed, a new warning decal and CE mark must be mounted in the same place. Defective decals and CE marks must be replaced immediately.

Manufacturer

Company: BM Lindahl AB
Address: Älmedal 6
Postal address: 364 33 Åseda, Sweden

Rebuilding

If the lifting tool is rebuilt or supplemented with other parts without permission by the manufacturer, the CE marking does not include this part. If such rebuilding or added parts changes the function of the lifting tool, the CE marking in its entirety is no longer valid. After rebuilding, it is important that the instructions are supplemented with the necessary illustrations, photos and texts.

Intended usage

11668007 Lifting tool consists of stand, lifting jack, extensions and locking pins.
Intended users are appointed and trained personnel, the lifting tool is not intended to be used by unauthorized or underage personnel.
To fulfil the requirements for intended use, the user must follow all instructions and maintenance directions written by the manufacturer.
The lifting tool is only intended for lifting Volvo Wheel Loaders and Volvo Articulated Haulers. Maximum load: 15 000 kg (33 070 lb).

Technical data

Type designation: lifting tool
Maximum load: 15 000 kg (33 070 lb), with two 11668007 lifting tools: 30 000 kg (66 140 lbs)
Mass: 78 kg (172 lb)
Test factor for static testing: For lifting tools and manually operated machines: 1.5. For other machines: 1.25
Height: 500–800 mm (19.7–31.5 in), with extensions: 600–900 mm (23.6–35.4 in)

Safety information

Limits of use

The lifting tools may only be used for the intended purpose. All other use is forbidden.
For Volvo Wheel Loaders, the lifting tool is only intended to lift the rear axle.

Always secured loads with safety pins. To stay under raised load without locking pins, is associated with life danger.

To prevent breakage and sliding, the lifting tool must always be used with a vertical load.
To prevent oblique loads, always use two 11668007 lifting tools.

Handling

To meet the requirements for intended use, the user must observe all user and maintenance instructions prescribed by the manufacturer.

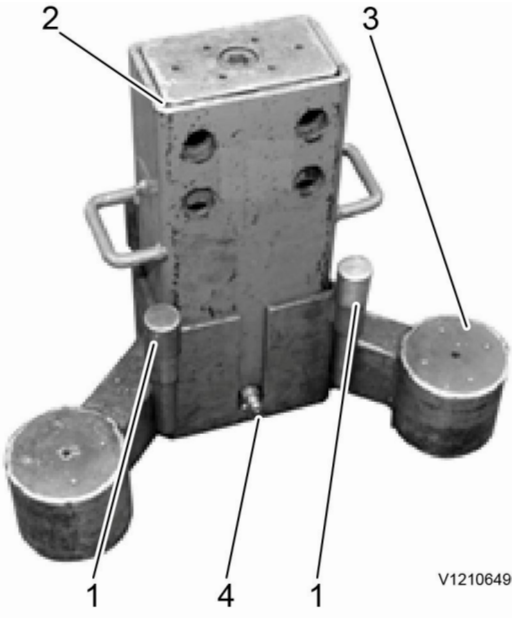


Figure 2
Pre use check

1. **Safety pins**
   Make sure that safety pins are supplied along with the lifting tool.
   Check that the safety pins are intact and do not have indications of breakage or deformation.
2. **Inner and outer lifting beam**
   Check that the beam with pin holes is intact and do not have indications of breakage or deformation.
3. **Support legs**
   The lifting tool has three support legs.
   Check that the stand is intact and does not have indications of breakage or deformation.
4. **Connection nipple**
   Connection nipple for pneumatic pump.

Pneumatic pump
Check that pneumatic pump with hose kit and couplings does not have indications of breakage or deformation. Always replace defective units.

Intended user

The lifting device is intended to be use by trained personnel, it is not intended to be used by unauthorized or underage personnel.

Conditions and preparatory measures

Lifting tool with damaged parts must not be used.

Make sure that there are no people in the vicinity who may be at risk when operating this lifting tool.

Lifting

Never stay under raised load with the safety pins disconnected.

1. **Steering linkage lock**
   Lock steering linkage with steering linkage lock.
   If an articulated hauler is being lifted, place body support.
   Connect stops.
2. **Assemble**
   Place the lifting jack into the stand.
   Make sure the nipple fits in the groove.
3. **Place the lifting tool**

Place the lifting tool under wheel axle lifting point.
If needed, connect extensions.
Connect pneumatic pump to the respective nipple on the lifting tools.
To ensure a parallel lift, lower the lifting tools to their lower end point.
Start the pneumatic pump (pumps) and lift to the desired level.

4. **Safety pins**
   Connect all safety pins. Make sure that all safety pins are fully inserted.
   Lower until the load rests on the safety pins.

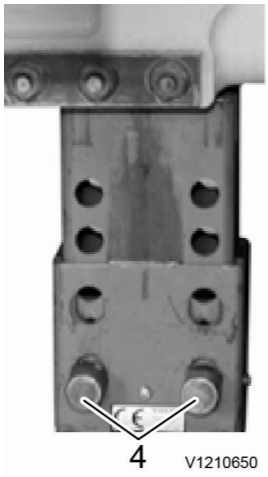


Figure 3

Lowering

1. **Steering linkage lock**
   Remove steering linkage lock.
   Remove stops.
2. **Remove safety pins**
   Lift the load with the lifting tools to release the safety pins.
   Remove all safety pins and place the safety pins at their designed holders on the lifting tools.
3. **Lower the load**
   Lower the load.
   Lower the lifting tools to their lower end point.
   Make sure that the lifting tools are lowered parallel to avoid uneven weight distribution.
4. **Remove pump and lifting tool**
   Disconnect the pneumatic pump (pumps) from the nipples on the lifting tools.
   Remove the lifting tool and place it at the designated location.

Maintenance

Maintenance must be performed by person with appropriate technical training or equivalent professional experience and in consultation with the manufacturer.

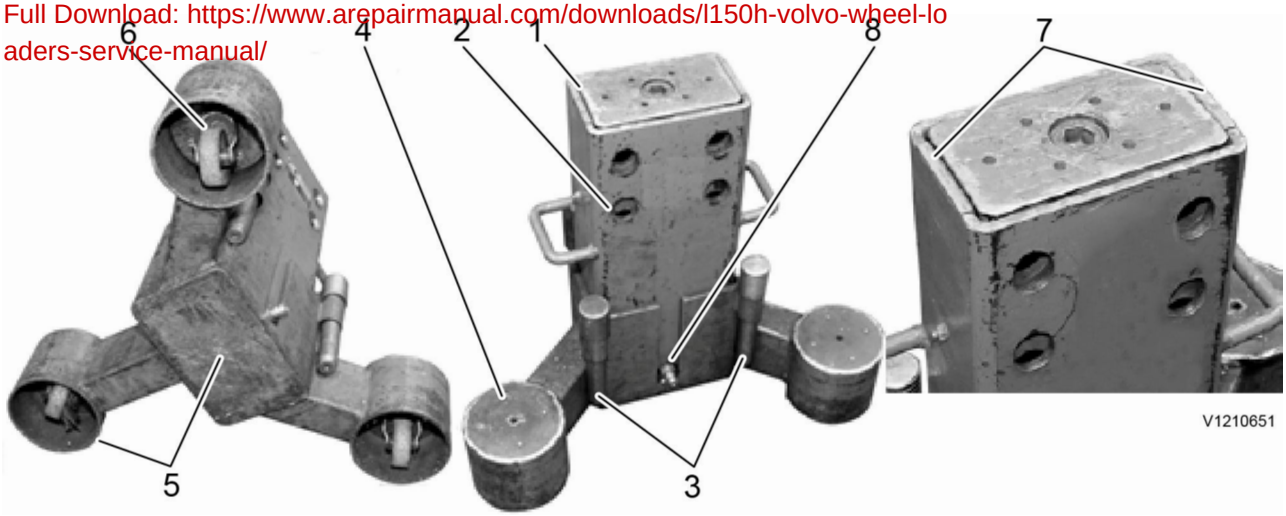


Figure 4

Detail/interval	Control/oversight
1. Inner and outer beam Before use.	Check that beams are intact and does not have indications of breakage or deformation.
2. Pin holes, inner and outer beam Before use.	Check that all holes in beams are intact and does not have indications of breakage or deformation.
3. Pins Before use.	Check that all pins are intact and does not have indications of breakage or deformation. Before lifting, make sure that no pins are missing.
4. Support legs Before use.	Check that the support legs are intact and does not have indications of breakage or deformation.
5. Supporting surfaces Monthly check.	Check that all supporting areas are intact and does not have indications of breakage or deformation.
6. Castor As needed.	Replaced as needed.
7. Friction plate Annual check or as needed.	Lift the inner beam to its upper end point. Grease the friction plates and lower the beam to its lower end point to disperse the grease.
8. Quick coupling Before use.	Check that the quick coupling is clean. Clean dirty quick coupling with cloth. Protect quick coupling with plastic cover.

General

A defective lifting tool must be replaced.

Workplace

Protective shoes must be used.
The workplace should be kept free from equipment that can cause slipping or tripping risks.
The lifting tool is intended to be used in a workshop environment, outdoor usage is forbidden.
The lifting tool is intended to be used on a level and stable surface.
Leaked or spilled hydraulic oil should be taken care of immediately with an absorbent to prevent slipping. The supplier/ manufacturers product sheet regarding safe handling of hydraulic oil must be followed.

Continuous supervision

The lifting tool must be subjected to continuous supervision before use.

- Check for cracks.
- Check if the lifting tool is bent or deformed.
- Make sure that quick couplings are clean.