Document Title: **Description, complete machine**	Function Group: **000**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Description, complete machine

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

The machine is a wheeled excavator with a 360 degree swing movement.

The machine is equipped with a computerized monitoring and control system. The different control units are communicating via bus systems.

The machine is equipped with a Volvo D6H, tier 4i compliant, low-emission diesel engine with a respective after treatment system for the exhaust gases. The whole system is adapted for this excavator model. The engine and the after treatment system is controlled by two control units.

The diesel engine drives the machine's working pump, which gives hydraulic oil flow to the working hydraulics and the travel motor. The double gear pump is mounted behind the working pump and supplies the servo, brake and steering hydraulics. The standard cooling fan for the radiator, hydraulic oil cooler, charge air cooler and air conditioner condenser is direct driven. The hydraulic system is monitored and controlled by the vehicle control unit (V-ECU).

The machine has a load-sensing hydraulic system which always ensures that each movement receives oil according to the demand and no function stops.

Propulsion of the machine is obtained with a hydraulic travel motor with variable displacement.

The travel gearbox has two hydraulically controlled gears. It is a so-called Powershift gearbox, which means that shifting is possible on the move. The brakes for gear shifting are applied automatically with spring force and released with servo pressure. The parking brake is integrated in the gearbox and uses the gearbox brake discs, which are applied by spring force.

To swing the superstructure the machine is equipped with an axial piston swing motor. The swing brake is applied automatically by spring force and released with the servo pressure.

The swing pinion drives against a swing ring with internal ring gear. The swing ring connects the superstructure with the undercarriage.

A centre passage connects the superstructure and undercarriage hydraulically and electrically.

The cab is equipped with an ergonomic operator's seat, ventilation and filtration system. The cab is also prepared for air conditioning (option).

Different combinations of boom, dipper arm and attachments can be offered. This manual describes the most common standard alternatives.

When ordering spare parts and when making enquiries on the telephone or by correspondence, the model designation and serial number should be given. When applicable, the information marked on individual parts should also be given.

Document Title: **Component locations**	Function Group: **000**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Component locations

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

Component locations are shown on EW160D as example. Locations for EW140D, EW180D and EW210D are nearly the same.

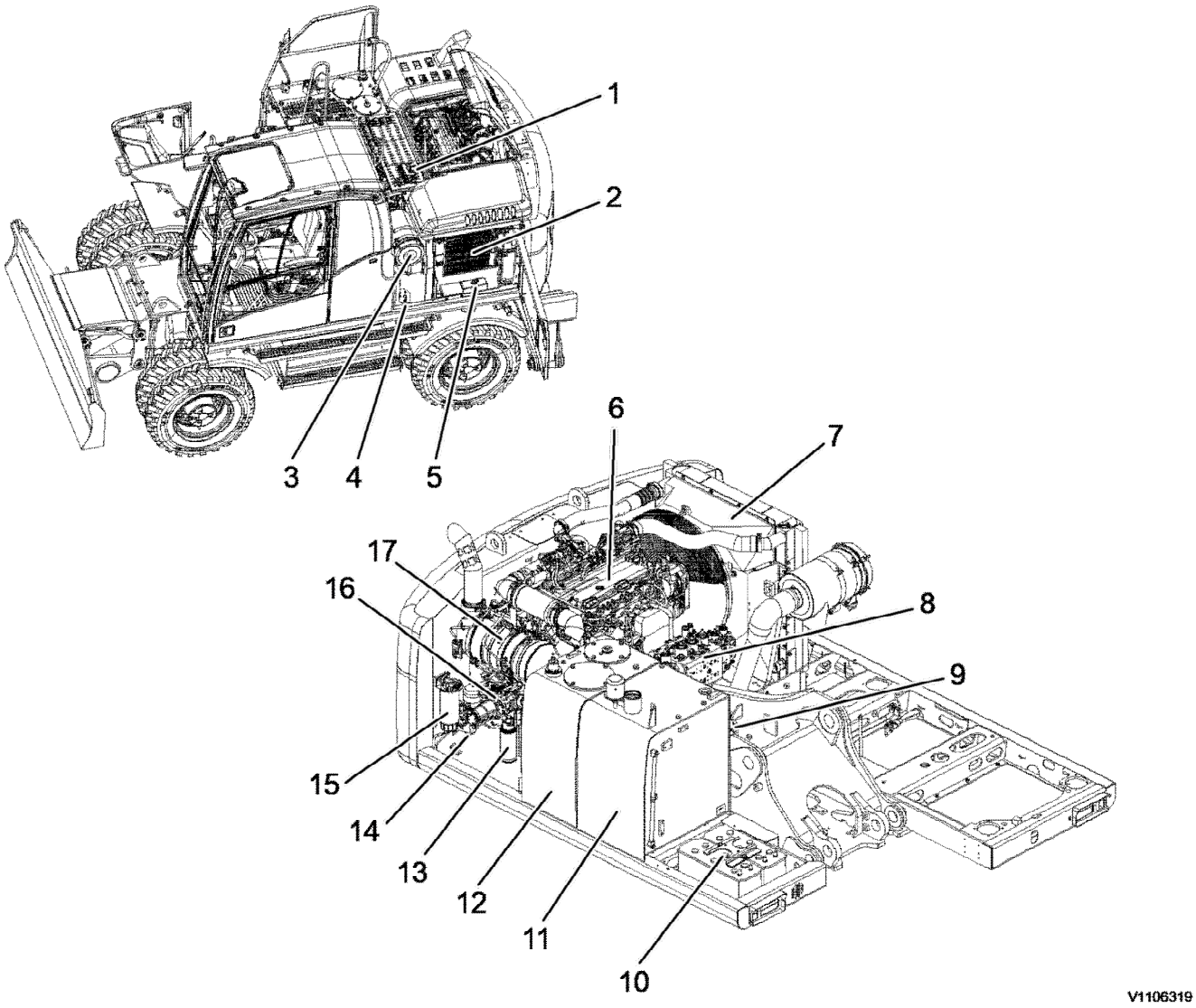


Figure 1
Component locations, super structure

1	Expansion tank	10	Batteries

2	Condenser	11	Fuel tank
3	Air filter (EW140D next to the radiator)	12	Hydraulic oil tank
4	Battery disconnect switch	13	Secondary fuel filter Engine oil filter (not visible in figure)
5	Wiper washer reservoir	14	Servo filter
6	Engine	15	Water separator with primary fuel filter
7	Radiator	16	Main pump
8	Main control valve	17	Diesel particulate filter unit
9	Swing unit		

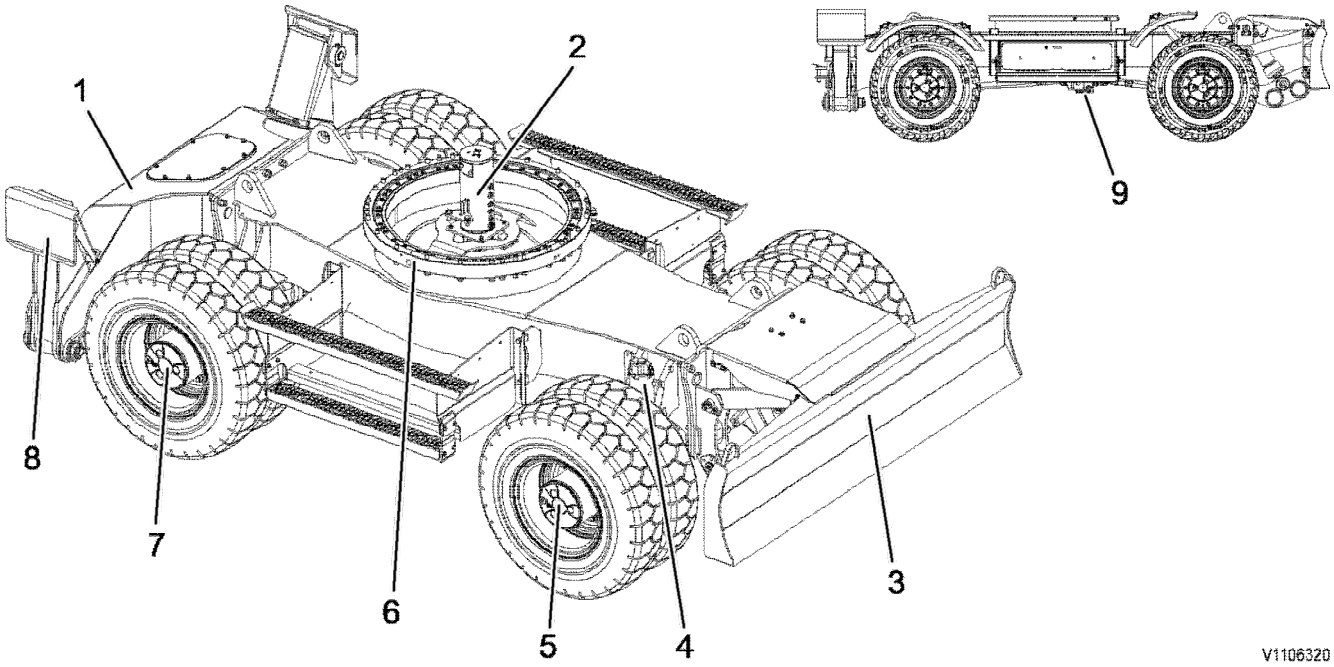


Figure 2
Component locations, under carriage

1	Outrigger	6	Swing ring gear
2	Center passage	7	Rear axle
3	Dozer blade	8	Stabilizer
4	Pivot axle lock cylinder	9	Travel gearbox
5	Front axle		

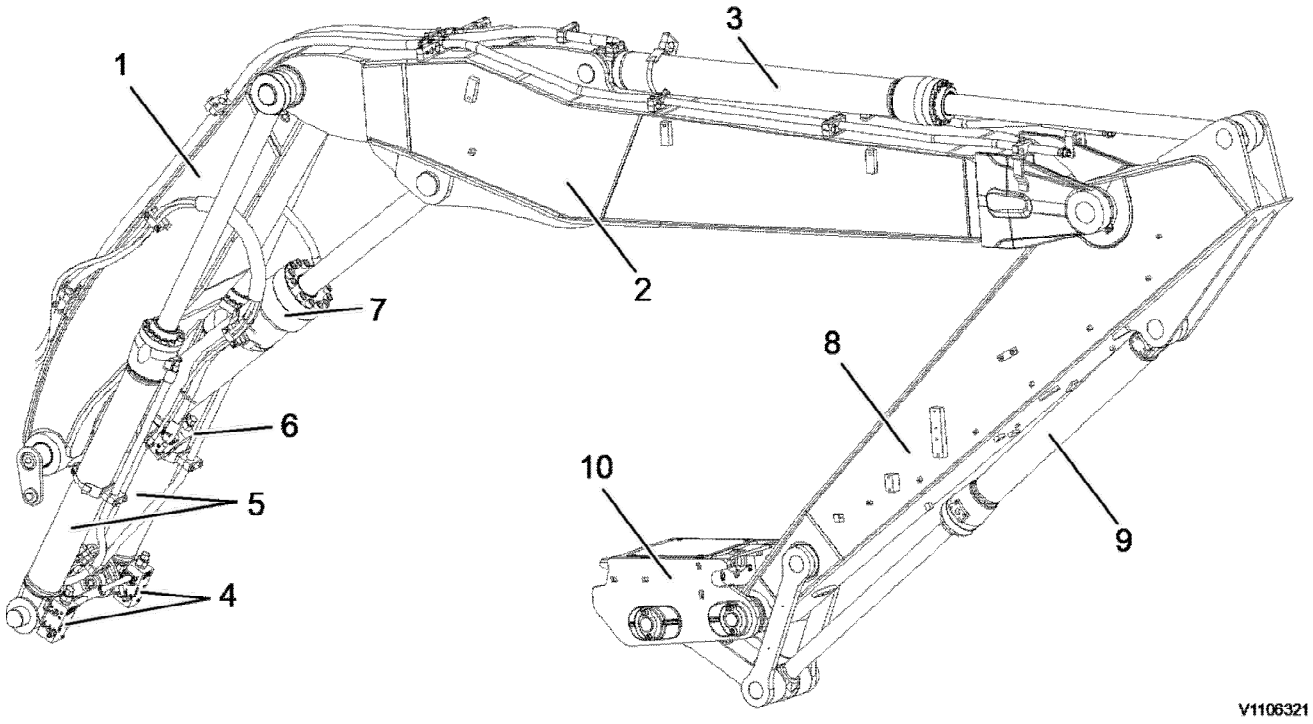


Figure 3
Components locations, boom

1	First boom	6	Line rupture valve 2–piece boom cylinder
2	Second boom	7	2–piece boom cylinder
3	Dipper arm cylinder	8	Dipper arm
4	Line rupture valves boom cylinder	9	Bucket cylinder
5	Boom cylinder	10	Quickfit

Document Title: **Product plates**	Function Group: **000**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Product plates

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

When ordering spare parts, and in all telephone enquiries or correspondence the model designation and the Product Identification Number (PIN) must always be quoted.

Product plate

The product plate on the machine shows the manufacturer's name and address, model designation, Product Identification Number (PIN), machine weight, engine output and the manufacturing year.

Engine product plate

The engine product plate contains type designation and part and serial numbers and is positioned on the engine.

Travel gearbox product plate

The gearbox product plate contains type designation and part and serial numbers and is positioned on the travel gearbox.

Axle product plate

The axle product plate contains type designation and part and serial numbers and is positioned on each axle.

Document Title: **Tightening torques**	Function Group: **030**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Tightening torques

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

Wheel nuts

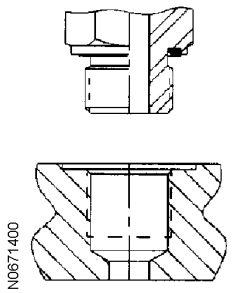
Wheel nuts		
		
Thread M	**Wrench size (width across flats)**	**Tightening torque (Nm)**
M22 x 1.5	30	560 – 600

Hydraulic connections, general

Before fitting pipe couplings, plugs and hoses:

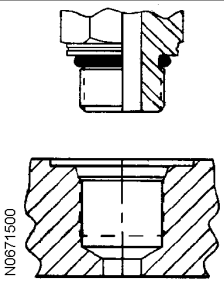
- Make sure that the sealing surfaces are clean and free from pores or scratches.
- Check elastic seal rings for defects.
- Oil in threads, sealing surfaces and contact surfaces except for ORFS-connections (ORFS = O-Ring Face Seal).

Valve connections

Valve connections, ORFS-connections with ED seals (DIN 3852 form E)		
		
Connection thread (mm)	**Wrench size, width across flats (mm)**	**Tightening torque (Nm)**
M10 x 1.0		19
M12 x 1.5	17	37
M14 x 1.5	22	58
M16 x 1.5	22	74
M18 x 1.5	24	94
M20 x 1.5		130
M22 x 1.5	27	140
M27 x 2.0	32	190
M33 x 2.0	41	330

M42 x 2.0	50	470
M48 x 2.0	55	570
Connection thread (inches)	**Wrench size, width across flats (mm)**	**Tightening torque (Nm)**
G 1/8	17 alt. 19	19
G 1/4	19 alt. 22	58
G 3/8	22 alt. 27	84
G 1/2	27 alt. 32	120
G 3/4	32 alt. 41	190
G 1	41 alt. 46	330
G 1 1/4	50	470
G 1 1/2	55	570

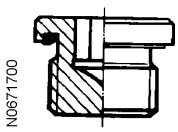
Valve connections, ORFS-connections with O-ring seals (ISO 6149)



Connection thread (mm)	**Wrench size, width across flats (mm)**	**Tightening torque (Nm)**
M8 x 1.0		11
M10 x 1.0		21
M12 x 1.5	17 alt. 19	37
M14 x 1.5	19 alt. 22	47
M16 x 1.5	22	58
M18 x 1.5	24 alt. 27	74
M22 x 1.5	27 alt. 32	110
M27 x 2.0	32	180
M33 x 2.0	32, 41 alt. 46	330
M42 x 2.0	50	350
M48 x 2.0	55	440
Connection thread (inches)	**Wrench size, width across flats (mm)**	**Tightening torque (Nm)**
7/16 – 20 UNF	16	21
1/2 – 20 UNF		26
9/16 – 18 UNF	19	37
3/4 – 16 UNF	22	74
7/8 – 14 UNF	27	110
1 1/16 – 12 UNF	41	180
1 5/16 – 12 UNF	41	284
1 5/8 – 12 UNF	50	300
1 7/8 – 12 UNF	55	390

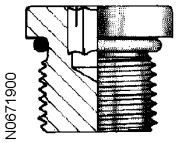
Blanking plugs

Blanking plugs with ED seal



Connection thread (mm)	Allen key dim. (mm)	Tightening torque (Nm)
M10 x 1.0	5	12
M12 x 1.5	6	25
M14 x 1.5	6	35
M16 x 1.5	8	55
M18 x 1.5	8	65
M20 x 1.5	10	80
M22 x 1.5	10	90
M26 x 1.5	12	100
M27 x 2.0	12	140
M33 x 2.0	17	230
M42 x 2.0	22	360
M48 x 2.0	24	360
Connection thread (inches)	**Allen key dim. (mm)**	**Tightening torque (Nm)**
G 1/8	5	13
G 1/4	6	30
G 3/8	8	60
G 1/2	10	80
G 3/4	12	140
G 1	17	200
G 1 1/4	22	400
G 1 1/2	24	450

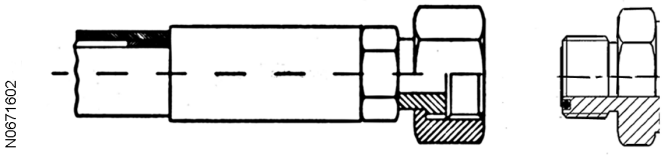
Blanking plugs with O-ring seal (ISO 6149)



Connection thread (mm)	Allen key dim. (mm)	Tightening torque (Nm)
M10 x 1.0	5	20
M12 x 1.5	6	35
M14 x 1.5	6	45
M16 x 1.5	8	55
M18 x 1.5	8	70
M20 x 1.5	10	80
M22 x 1.5	10	100
M26 x 1.5	12	130
M27 x 2.0	12	170
M33 x 2.0	14	310
M42 x 2;0	22	330

ORFS-connections

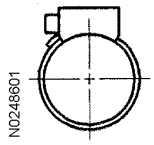
ORFS-connections (ISO 8434-3)



Thread (inches)	Wrench size, width across flats (mm)	Tightening torque (Nm) *

9/16 – 18 UNF	17 alt. 19	25
11/16 – 16 UN	22	35
13/16 – 16 UN	24	55
1 – 14 UNS	30	85
1 3/16 – 12 UN	36	120
1 7/16 – 12 UN	41 alt. 46	160
1 11/16 – 12 UN	50	200
2 – 12 UN	60	260
* Threads and sealing surface must not be oiled in before tightening.		

Hose clamps

Hose clamps with worms		
		
Intended for hose outside diameter (mm)	**Wrench size, width across flats (mm)**	**Tightening torque (Nm)**
10 – 19	7	2.5
20 – 30	7	3.5
31 – 49	7	4.5
50 – 231	7	5.5

Bolts and nuts

The pretensioning force achieved at a given tightening torque depends on the coefficient of friction of the bolted joint.
The coefficient of friction in turn depends on the surface texture, surface treatment and lubricated condition. The values are calculated assuming a coefficient of friction of 0.2 for a dry chromated flange bolt and 0.15 for a lubricated chromated flange bolt. The lower torque for Allen bolts and traditional hex bolts, in relation to flange bolts, is due to the shorter torque arm for the frictional force under the bolt head (smaller diameter of bolt head).

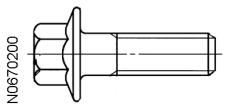
The following abbreviations for surface treatment are used in the tables:

- Fe/Zn-Fe = Black chromated zinc - iron
- FZB = Blank chromated

NOTE!
In some body parts, there are weld bolts with much lower strength than normal bolts of the same dimension.

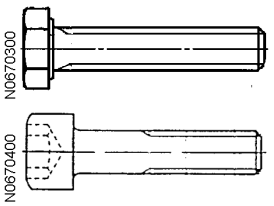
NOTE!
When Nordloc washer is used, increase the torque by 20%.

NOTE!
Bolts provided with liquid alt. micro-capsuled thread locker or thread sealant shall be tightened with the same torque as a lubricated bolt of the same type.

Flange bolts						
						**Blind rivet nut**
Thread (mm)	**Wrench size, width across flats (mm)**	**Torque (Nm)**				**Torque (Nm)**
		8.8 Fe/Zn-Fe Dry	**8.8 Fe/Zn-Fe Lubricated**	**10.9 Phosphated**	**10.9 Phosphated Lubricated**	**Dry**

M5	8	7	6			6
M6	10	12	10			10
M8	12	28	24			24
M10	14	56	48	70	60	48
M12	17	100	85	125	105	82
M14	18	160	140	200	175	
M16	21	250	220	320	275	

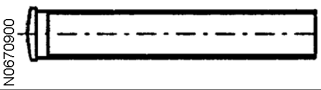
Hex bolts and Allen head bolts



Blind rivet nut

	Wrench size (width across flats)		**Torque (Nm)**				**Torque (Nm)**
Thread (mm/inch)	**Hex bolt (mm/inch)**	**Allen head bolt (mm/inch)**	**8.8 FZB & Fe/Zn-Fe Dry**	**8.8 FZB & Fe/Zn-Fe Lubricated**	**10.9 Phosphated Lubricated**	**12.9 Untreated Lubricated**	**Dry**
M5	8	4	6	5			6
M6	10	5	10	9		20	10
M8	13	6	25	22		40	24
M10	16	8	50	44	60	80	48
M12	18	10	90	75	105	140	82
M14	21	12	140	125	175	220	
M16	24	14	220	190	275	340	
M20	30	17	450	380	540	650	
M24	36	19	770	660	900	1 120	
M27	41	–	1 100	940	1 350	1 620	
M30	46	22	1 500	1 280	1 840	2 210	
M36	55		2 500	2 300	3 210	3 850	
1/4 UNC	7/16	3/16	12	10	15	20	
5/16 UNC	1/2	1/4	25	21	30	40	
3/8 UNC	9/16	5/16	45	38	55	70	
7/16 UNC	5/8		65	55	90		
1/2 UNC	3/4	3/8	100	85	130	170	
9/16 UNC	13/16		145	123	190		

Nuts on weld bolts (material S235JRG2-EN 10025)



Thread	**Torque (Nm)**
M6	5
M8	12

Tolerances

Modern high-quality torque wrenches normally give a variation of ± 5 % of the indicated value. This, together with variations in friction coefficient, gives a range in the pretensioning force of approximately ± 16 % for lubricated bolted joints and ± 29

% for dry bolted joints.

Document Title: **Conversion tables**	Function Group: **030**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Conversion tables

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D 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 m							

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	ca

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

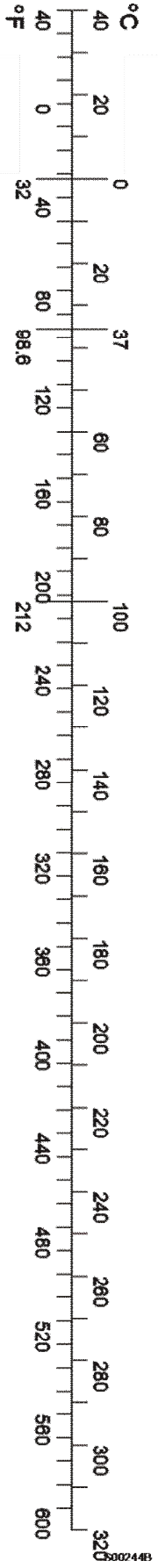


Figure 1

Document Title: **Machine weights**	Function Group: **030**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Machine weights

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

Machine with 2,45 m (8 ft 0.5 in) dipper arm,
attachment bracket (quickfit) S1 and
870 l (230 US gal), 590 kg (1300 lb) bucket,
tanks full and driver with 75 kg.

Machine weights EW180D standard

Machine with:	Blade only	Blade and outrigger	Outrigger front and rear
Mono boom 5.2 m (17 ft 0.8 in) Counterweight 3600 kg (7937 lb)	18185 kg 40091 lb	19385 kg 42737 lb	19705 kg 43442 lb
Two-piece boom 5.3 m (17 ft 4.7 in) Counterweight 3600 kg (7937 lb)	18785 kg 41414 lb	19985 kg 44059 lb	20305 kg 44765 lb

VOLVO

Service Information

Document Title: **Capacities**	Function Group: **030**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Capacities

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

Changing volumes	
Engine	Engine, volume
Fuel tank	Fuel tank, specifications
Hydraulic system	Hydraulic tank, specifications
Travel gearbox	Travel gearbox, specifications
Front axle	Front axle, specification
Rear axle	Rear axle, specification
Swing gearbox	Swing motor, specifications

Document Title: **Specifications, weight**	Function Group: **030**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Specifications, weight

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

Machine	Machine weights
Engine	Engine, weights
Main pump	Hydraulic pump, specifications
Fuel tank	Fuel tank, specifications
Hydraulic oil tank	Hydraulic tank, specifications
Transmission, gearbox	Travel gearbox, specifications
Swing motor	Swing motor, specifications
Front axle, complete	Front axle, specifications
Rear axle, complete	Rear axle, specifications
Counterweight	Counterweight, specifications
Swing ring gear	Swing ring gear, specifications
Cab	Cab, weight
Operator seat	Cab, weight

Document Title: **Lifting instructions**	Function Group: **050**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Lifting instructions

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

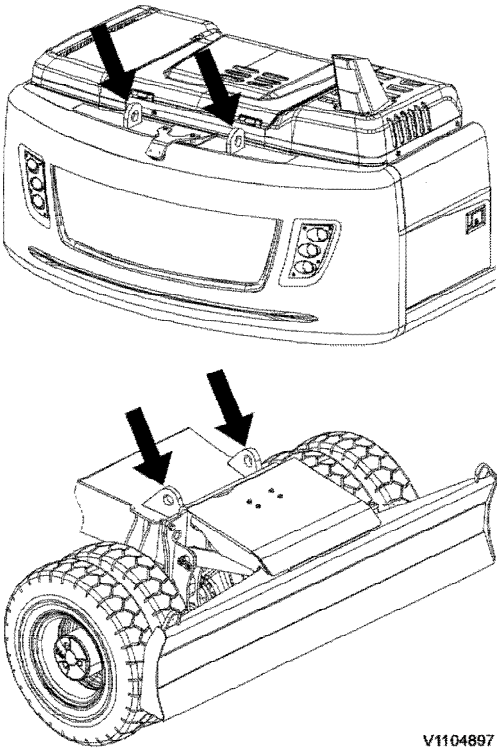

Figure 1
Lifting points

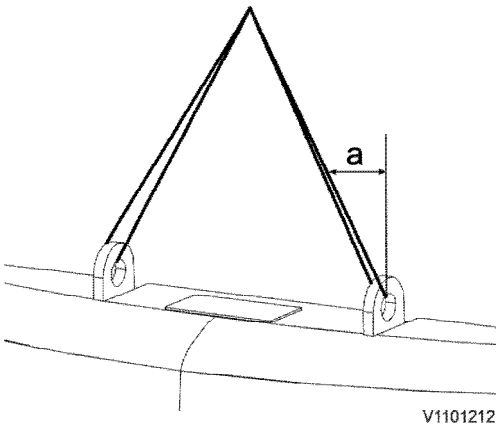

Figure 2

WARNING

Use certified cables, slings, shackles and hooks with adequate load rating. Only use lifting devices with adequate capacity. Failure to do so could result in severe equipment damage and/or personal injury. Never lift the machine with a person in the cab.

NOTE!
Lift the machine on flat, even and level ground.

NOTE!
Only use the lifting points intended for lifting.

1. Start the engine, and arrange the bucket, arm and boom as illustrated below.
2. Move the control lockout lever down to lock the system securely.
3. Stop the engine, check the safety around the machine.
4. Close and lock windows, doors and hoods securely.
5. Attach the lifting slings according to the decal on the right side of the cab, see figure below.
   The maximum angle (a) between the lifting sling and the vertical line straight upwards from the lifting point should not exceed 15°.
   NOTE!
   Do not use the lifting eyes to lift more than the total machine weight, see Machine weights
6. At the beginning of the lift, check that the machine is level before continuing the lift.
7. Maintain good visibility of the machine at all times during the lift. And continuously check that the machine is level.

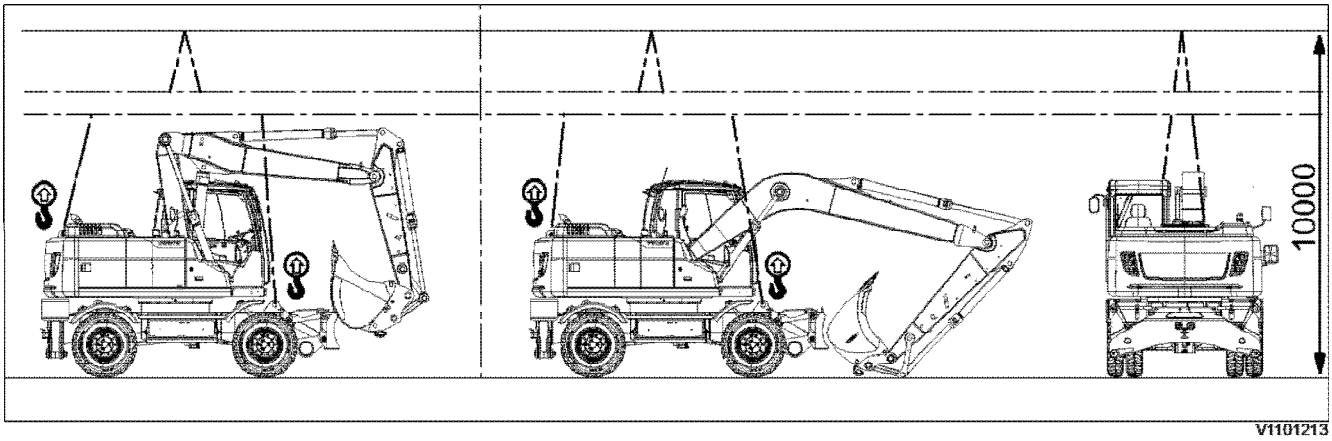

Figure 3

Document Title: **Operation numbers for additional work**	Function Group: **070**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **Excavators (EXC)**			

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

VOLVO

Service Information

Document Title: **Infrared Thermometer**	Function Group: **080**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Infrared Thermometer

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

Gun Style Infrared Thermometer Laser Sight Model: SIG1

9998519Infrared thermometer (user instruction in FGI 080) Application

This tool can be used to measure fast and easy temperature differences. For instance in case of troubleshooting it is sometimes necessary to measure temperature differences on two equal parts with the same surface.

⚠ WARNING

Never point the device towards the eyes permanent eye damage may occur. Use extreme caution when using the laser. Keep out of the reach of children. Be careful around mirror surfaces since mirrors can reflect the laser. Looking into the reflected laser is just as damaging as looking directly at the laser.

General information

1. Field of view: The SIG1 takes it's measurement from a circle of a size determined by a simple ratio of 10:1. The diameter of this circle is 1/10 the distance between the target and the tip of the SIG1. For example, if you're standing 20 feet (610 cm) from your target, the size of the circle you're taking the average temperature of will be 2 feet (61 cm) wide.
2. If you want to get the temperature of something small, such as a pipe, you must get close enough for the pipe to take up the whole viewing area circle. Otherwise the pipe and the background temperatures will be averaged into the reading.
3. You need to be aware that if the target surface is reflective enough, it may reflect infrared from other objects. For example, if you take a reading of a shiny metal surface, the infrared energy of your face may reflect enough energy off the surface to affect the reading. For this reason, it's a good idea to put non-reflective tape or paint on reflective surfaces when taking infrared temperature readings.

NOTE!

The measured temperature will be lower than actual.

Operation

1. Point the laser towards the target to be measured.
2. Pull trigger to light the target with the laser and measure its surface temperature.
3. As long as the trigger is held down, the SIG1 will constantly update the measurement and the blue backlight will illuminate the display.
4. When the trigger is pulled the red laser dot will shine about 1/4" above the centre of the circular area being measured by the thermometer.
5. Once the trigger is released, the last measurement will be shown and held until the trigger is pressed again or until the SIG1 turns off.

VOLVO

Service Information

Document Title: **E-tool, 3500 Support plate for travel gearbox and motor**	Function Group: **080**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

E-tool, 3500 Support plate for travel gearbox and motor

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

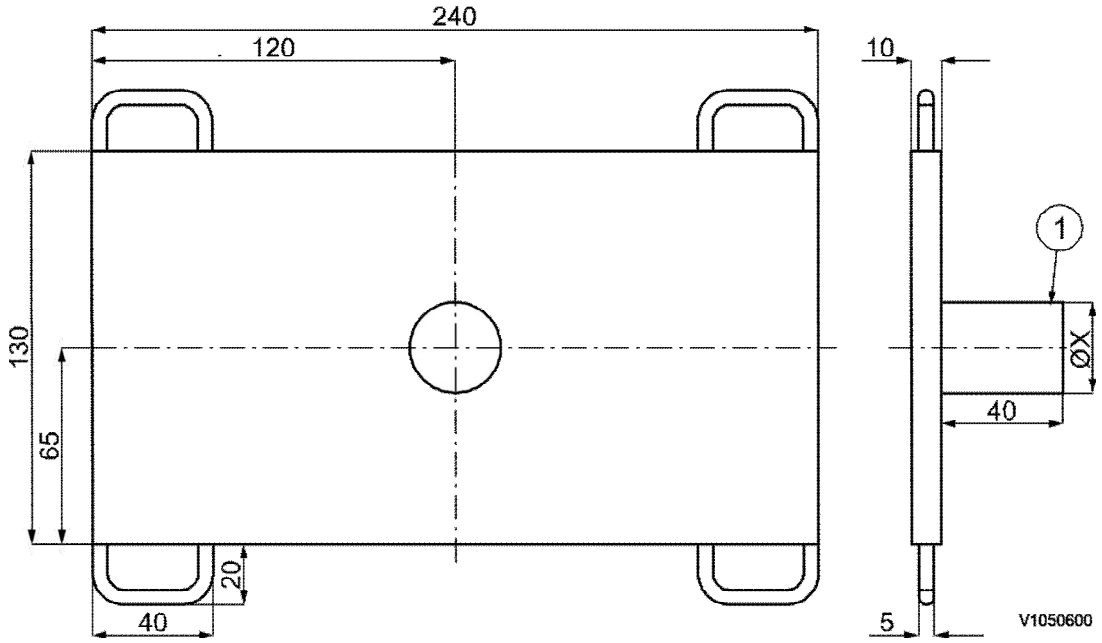

Figure 1
Support plate

1. Axle, the dimension ØX adapted to the jack

Document Title: **E-tool, 3502 Plate for turning crankshaft**	Function Group: **080**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

E-tool, 3502 Plate for turning crankshaft

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

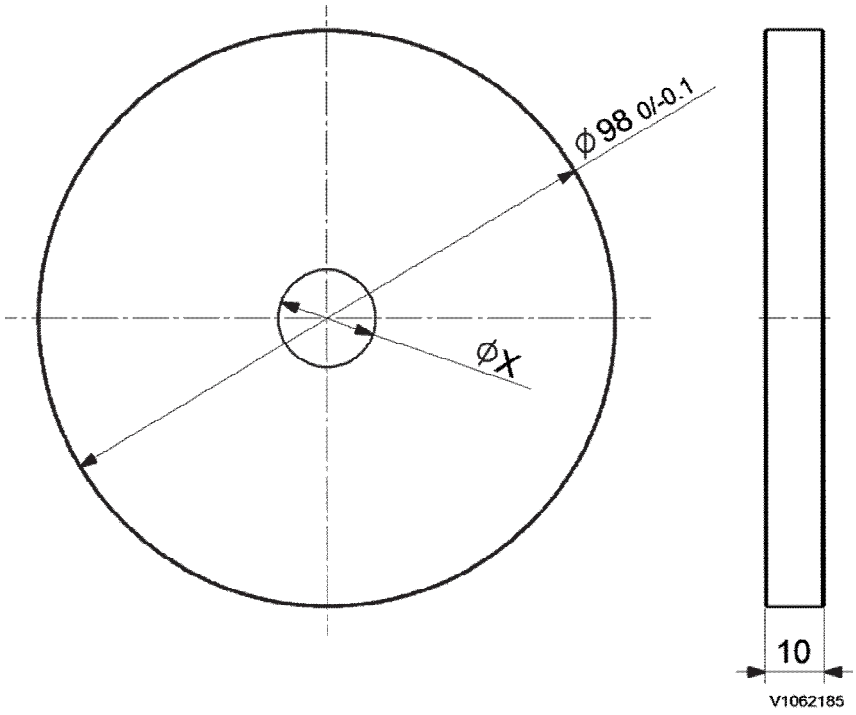

Figure 1
Support plate for engine valve clearance adjusting (unit: mm)

X: Shaft diameter of a ratchet extension

Material: Steel or plastic

Document Title: **E-3508**	Function Group: **080**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

E-3508

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

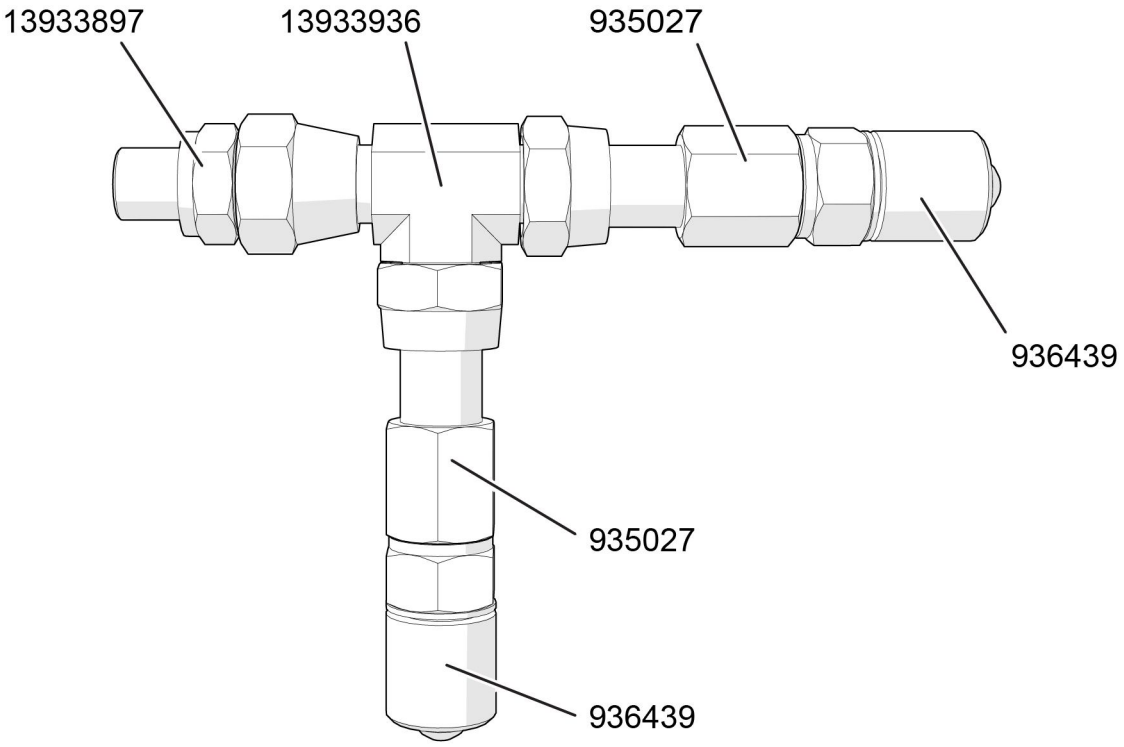

Figure 1
Hydraulic components

Document Title: **E-3509**	Function Group: **080**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

E-3509

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

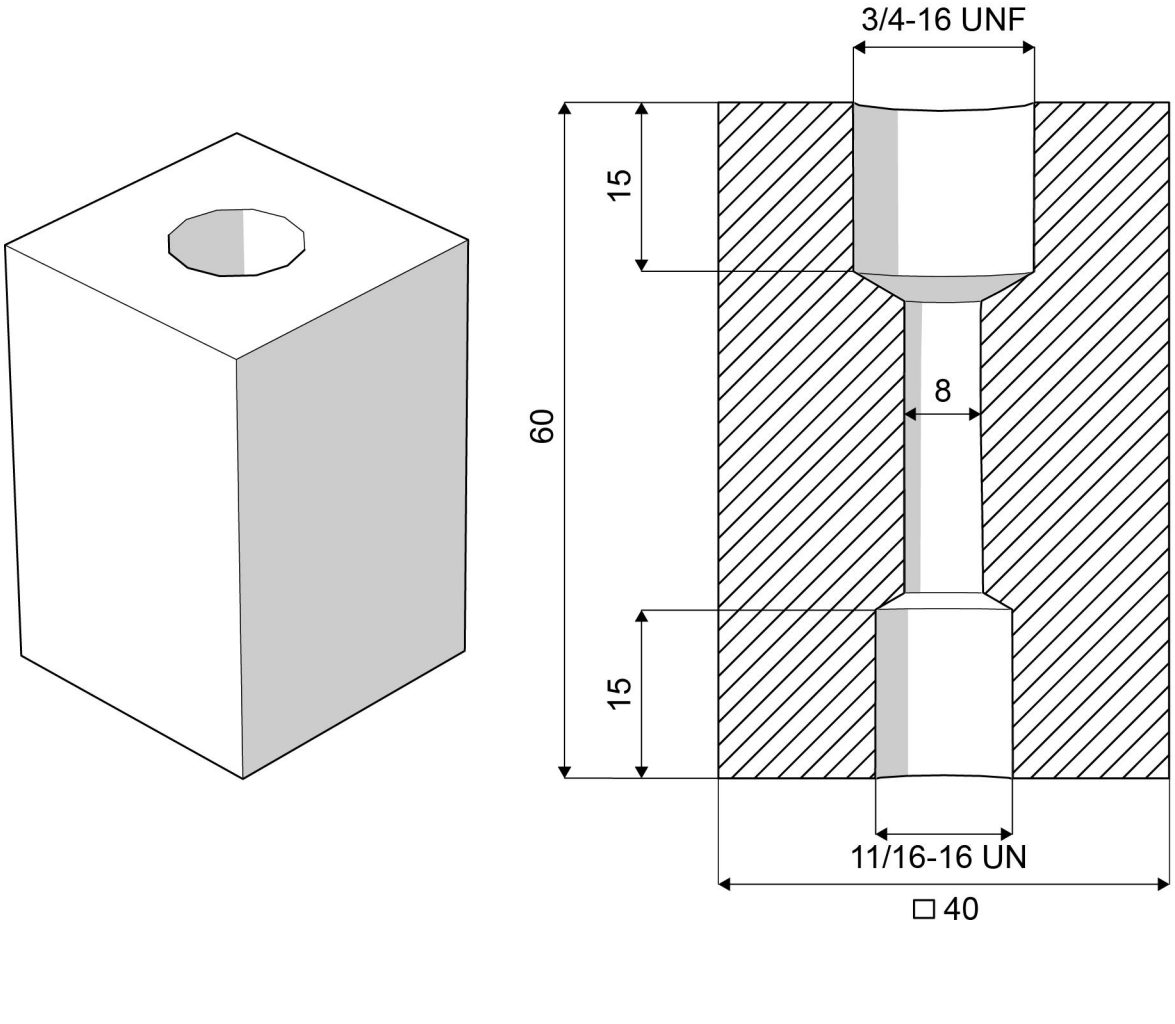

Figure 1
Testing block out of metal

Document Title: **Service positions**	Function Group: **091**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Service positions

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

Park the machine on a horizontal and firm surface. The suitable position is indicated in the description for the various service jobs.

Before beginning any work on the machine.

- Apply parking brake.
- Turn off the engine and remove the ignition key.
- Depressurize all pressurized lines and pressure vessels carefully so that high pressure is released without risk.
- Block wheels with wedges or similar.
- Allow the machine to cool down.

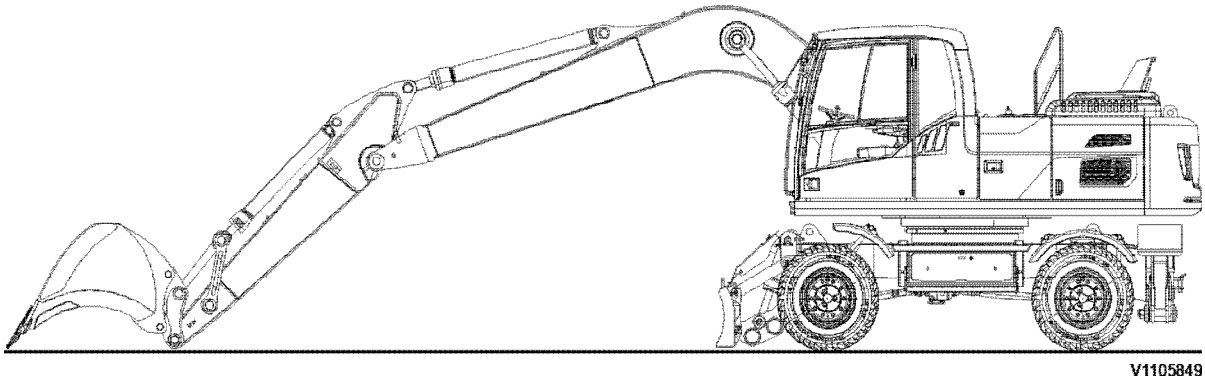

Figure 1
Service position A

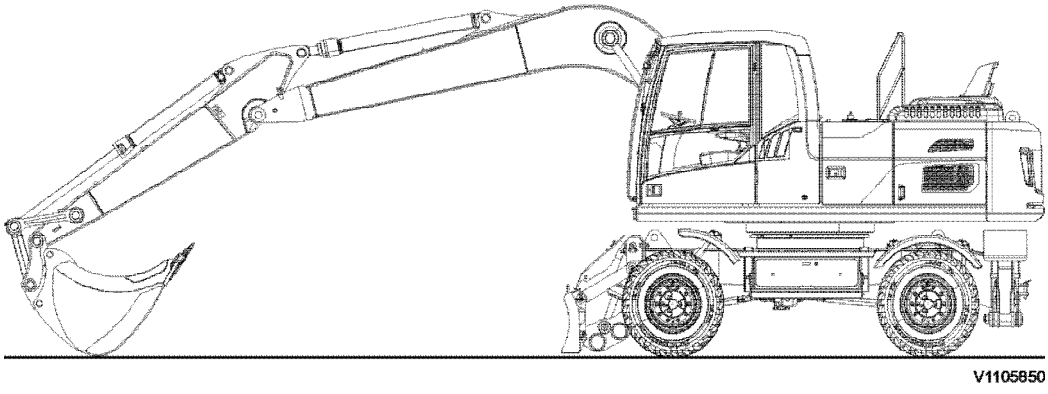

Figure 2
Service position B

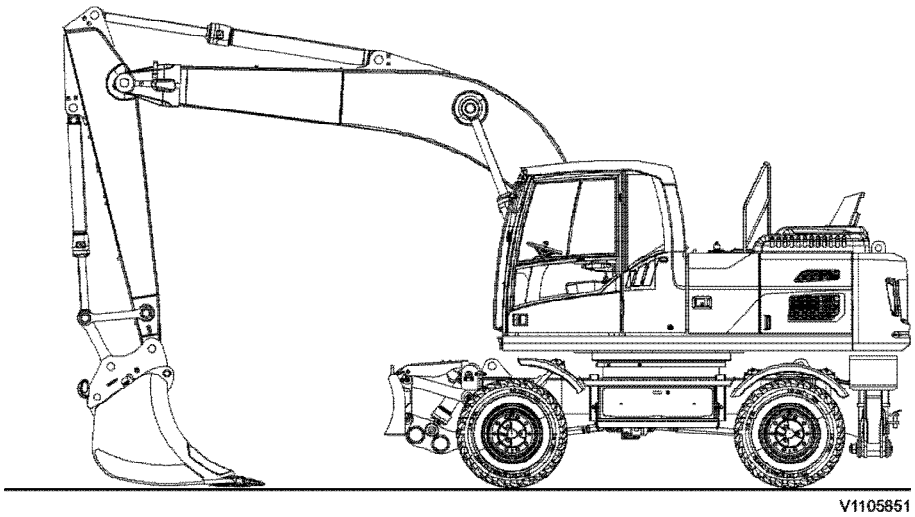

Figure 3
Service position C

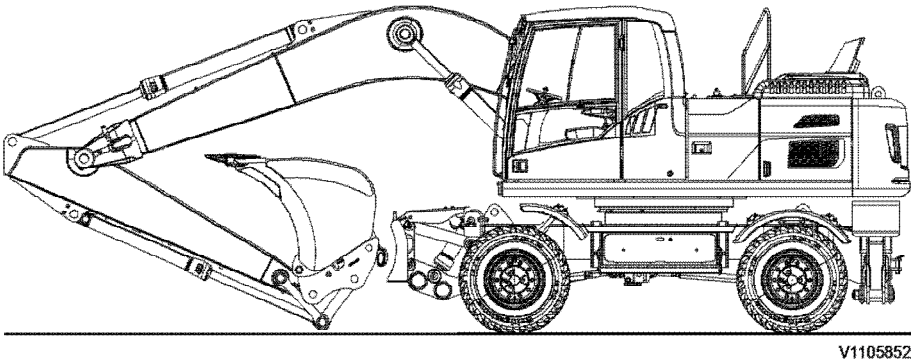

Figure 4
Service position D

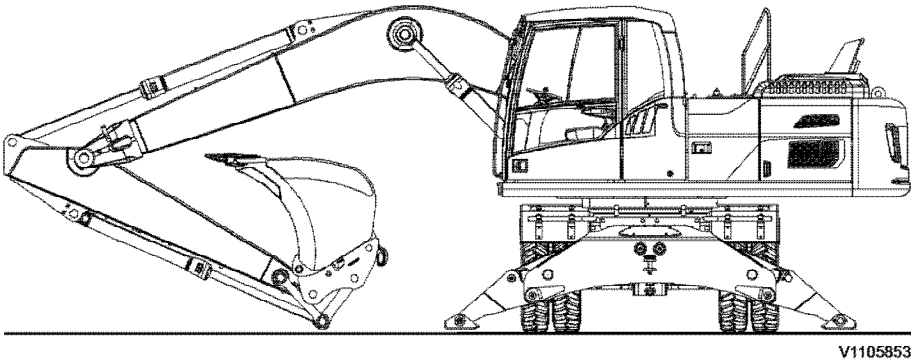

Figure 5
Service position E

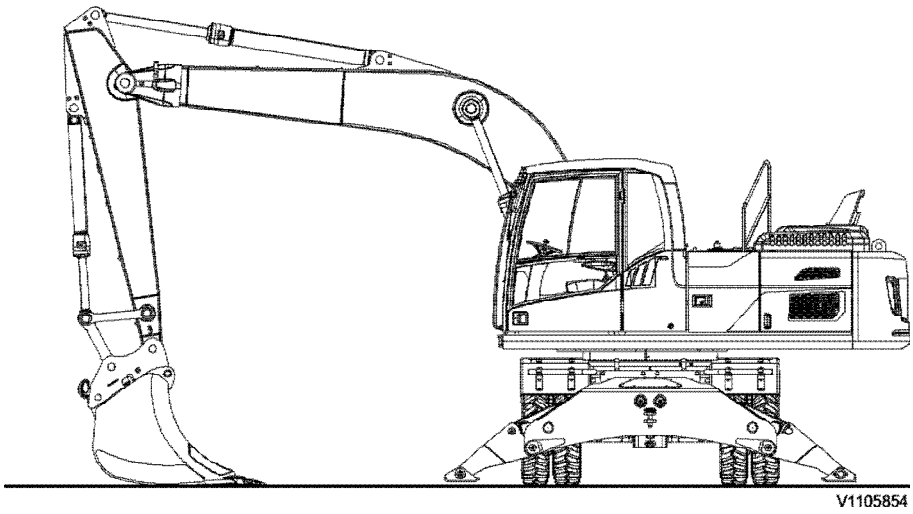

Figure 6
Service position F

Document Title: **Welding on the machine**	Function Group: **091**	Information Type: **Service Information**	Date: **3/25/2026**
Profile: **EW180D Volvo**			

Welding on the machine

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EW180D Volvo			

NOTICE

During electric welding on the machine or attachments connected to the machine, components such as bearings and electric units may be damaged if the ground cable is connected incorrectly.

The following actions should be taken before starting electric welding to eliminate these risks:

1. Turn off the electric power using the battery disconnector.
2. Disconnect the batteries.
   NOTE!
   Both the plus and minus terminal.
3. **Disconnect the all electronic units.**
4. Connect the welding unit's ground connection as close as possible to the welding point, and make sure that the current does not pass across a bearing.

If welding is necessary on the boom or dipper arm, the following basic rules should be followed:

1. Welding beads should be laid down in the longitudinal direction.
2. If possible, weld in the middle of the metal section and never closer than **80 mm** to an edge.
3. Do not weld near the welded connections of the cylinder mounting eyes. Minimum distance from eye's weld to weld for weld lug = **100 mm**.
4. Do not weld close to where a metal plate has been bent.