

AXLES Drive/differential output Gearbox	Volvo Transmission Oil API GL-5 / LS	Super	°C	-30	-20	-10	0	+10	+20	+30	+40	+50		
			°F	-22	-4	+14	+32	+50	+68	+86	+104	+122		
			Volvo Super Transmission Oil											
			SAE 80W-90, SAE 85W-90/LS											

V1078469

NOTE!

The ambient temperature of the usage area is the most important factor to consider when selecting the right engine oil viscosity grade. Too high a viscosity could lead to starting difficulties, while too low a viscosity could lead to lubrication problems and increased oil consumption.

Grease

Volvo Super Grease Lithium EP2.

Or equivalent lithium-based grease with EP additive as per NLGI grade 2.

If the machine has an automatic lubrication system, other lubrication recommendations apply.

Fuel

Quality requirements: The fuel must at a minimum comply with the requirements of national and international standards for commercial diesel fuel, such as DIN EN 590; ASTM D 975 No.1-D and 2-D; JIS K 2204.

NOTE!

In accordance with legal regulations, the sulphur content of diesel fuel must not exceed 0.3% by weight. If diesel fuel with a sulphur content of > 0.5% by weight, the oil change interval must be halved.

Document Title: Maintenance general	Function Group: service, 170	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Maintenance service, general

Performing basic maintenance, taking good care of the machine and making sure faults are remedied is the best recipe for keeping the machine ready for operation while keeping costs and repair time to a minimum.

When ordering spare parts or making enquiries by phone or in writing, always indicate the model designation and product identification number.

NOTE!

When replacing parts, be sure to only use genuine Volvo spare parts.

Protecting the environment

Keep the environment in mind when performing maintenance and repair work. Oil and other operating fluids could harm the environment if not disposed of responsibly.

NOTE!

Store all waste material in a permissible and safe manner and/or turn it in to an approved waste management company.

Document Title: Work on the machine's electrical system	Function Group: 170	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Work on the machine's electrical system

- Only use test instruments with a light-emitting diode, never a test light with a light bulb, for example, during trouble-shooting of the electrical system!
The high firing voltage of the bulb can destroy expensive electronic components.
- When installing a two-way radio, mobile phone, etc., installation must be performed according to manufacturer's instructions in order to eliminate interference with electronic systems and components intended for the function of the machine.

Document Title: Electric welding	Function Group: 170	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Electric welding

Before starting any electric welding on the machine or attachments connected to the machine, the battery disconnect switch must be turned off or the battery ground lead must be disconnected.

Unplug or unscrew all control unit (ECUs) pin plug connections.

NOTE!

Connect the ground connection of the welder directly to the part to be welded.

Document Title: Cleanliness, braking and hydraulic system	Function Group: 170	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Cleanliness, braking and hydraulic system

The greatest possible cleanliness must be observed for all work. Wipe all pipes and hose connections clean before disconnecting them, remove all flakes of paint, etc. Plug all pipes, hoses, cylinders, etc. immediately after disconnecting them. Never attach an unplugged hydraulic hose without first cleaning it.

Document Title: Charging batteries	Function Group: 170	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Charging batteries

Explosion hazard

Charging produces hydrogen in the battery, which mixes with oxygen to produce an explosive mixture. A short circuit, naked flame or spark near a battery can cause a powerful explosion. Always switch off the charging current before removing the charger clamps. Ensure appropriate ventilation, especially if the battery is charged in a confined area.

Corrosive sulphuric acid

The battery electrolyte contains corrosive sulphuric acid. Electrolyte spilled on bare skin must be removed immediately. Wash with soap and plenty of water. If electrolyte gets into your eyes or onto any other sensitive part of the body, rinse immediately with plenty of water and seek immediate medical attention.

Document Title: Arrival and delivery inspection	Function Group: 171	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Arrival and delivery inspection

An inspection is performed and settings made before the machine leaves the factory. In order for the warranty to remain valid, the dealer must certify that an arrival and delivery inspection was performed by signing the arrival and delivery inspection form.

Delivery instruction

To prevent invalidation of the warranty, when the machine is delivered the dealer must provide the customer a delivery record using the relevant form, which must be signed by both the dealer and the customer.

Service programs

The service programme covers warranty inspections and service work performed by an authorised Volvo CE partner workshop.

The recommended inspection and oil change intervals apply provided that the machine is used in normal environmental and operating conditions.

Document Title: Warranty inspection	Function Group: 172	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Warranty inspection

Two warranty inspections must be carried out by an authorised Volvo CE partner workshop - the first within 100 operating hours and the second after no more than 1000 operating hours.

The warranty is not valid unless these warranty inspections are carried out.

In addition to other measures, these inspections include oil and operating fluid changes that are to be performed at regular intervals.

For other service intervals, see the service programme or lubrication and service table in the Operator's Manual.

Document Title: Warranty inspection 100 hours	Function Group: 172	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Warranty inspection 100 hours

Op nbr 172-002

1. [173 Test-run and check](#)
2. [173 The machine, check for external damages, cracks and wear damages](#)
3. [173 Bolted joints, check tightening torque](#)
4. [173 Lubrication](#)
5. [173 Engine, oil level, check](#)
6. [173 Water separator, drain](#)
7. [173 Belts and belt tension, check, replace when needed.](#)
8. [173 Low and high idle, checking](#)
9. [173 Battery, cables and connections, check](#)
10. [173 Pressure settings steering system](#)
11. [173 Tyres, wear and air pressure, checking](#)
12. [173 Wheel nuts, check torque](#)
13. [173 Cab filter, replace \(clean when necessary\)](#)
14. [173 Hydraulic oil level, check](#)
15. [173 Engine radiator and hydraulic oil cooler, check \(clean when necessary\)](#)
16. [173 Brake fluid level, check](#)

Document Title: Warranty inspection 1000 hours	Function Group: 172	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Warranty inspection 1000 hours

Op nbr 172-004

1. [173 Test-run and check](#)
2. [173 The machine, check for external damages, cracks and wear damages](#)
3. [173 Bolted joints, check tightening torque](#)
4. [173 Lubrication](#)
5. [173 Engine, oil and filter, change.](#)
6. [173 Engine, oil level, check](#)
7. [173 Water separator, drain](#)
8. [173 Fuel filters, primary and secondary filter, replace](#)
9. [173 Air cleaner primary filter, change](#)
10. [173 Air cleaner secondary filter, change](#)
11. [173 Belts and belt tension, check, replace when needed.](#)
12. [173 Low and high idle, checking](#)
13. [173 Valve clearance, checking and adjusting](#)
14. [173 Battery, cables and connections, check](#)
15. [173 Hydraulic pressure, check](#)
16. [173 Brake fluid level, check](#)
17. [173 Service brake, brake pads, check](#)
18. [173 Steering cylinders, locking of pivot pins, check](#)
19. [173 Pressure settings steering system](#)
20. [173 Tyres, wear and air pressure, checking](#)
21. [173 Wheel nuts, check torque](#)
22. [173 Cab filter, replace \(clean when necessary\)](#)
23. [173 Hydraulic oil level, check](#)

24. [173 Engine radiator and hydraulic oil cooler, check \(clean when necessary\)](#)

Document Title: Test-run and check	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Test-run and check

Op nbr

This is part of other procedure

1. For instructions on performing methods, see Operator's manual

Test-run and check

- Start and stop functions (including pre-heating function)
- Instruments, lights, reflectors, buzzer, horn, reversing alarm, and wiper/washer (optional)
- Steering
- Gear positions
- Differential locks
- Brake system (service brake)
- Brake system (parking brake)
- Decals/Plates and reflectors
- Air conditioning unit, check function
- Optional equipment

Document Title: The machine, check for external damages, cracks and wear damages	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

The machine, check for external damages, cracks and wear damages

Op nbr

This is part of other procedure

1. General check of front and rear frame for damage, cracks and wear.
2. Check pipes, couplings and hoses for leaks

Document Title: Bolted joints, check tightening torque	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Bolted joints, check tightening torque

Op nbr

This is part of other procedure

Axles and propeller shaft, tightening torque

1. Fixing nuts (axle - retaining bracket), front/rear axle to frame, see [030 Axles and propeller shaft, tightening torque](#).
2. Fixing nuts for propeller shaft on gearbox and front axle, see [030 Axles and propeller shaft, tightening torque](#).

Engine mounting, tightening torque

3. Engine mounts, frame rubber elements. Torque value **200 Nm (148 lbf ft)**.

Document Title: Tyres, wear and air pressure, checking	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Tyres, wear and air pressure, checking

Op nbr

This is part of other procedure

1. When checking tyre pressure, the tyres must be cold and the machine must be unladen. Use a long air pressure hose with self-locking nozzle so that you can stand outside the danger zone when filling tyres (see figure).

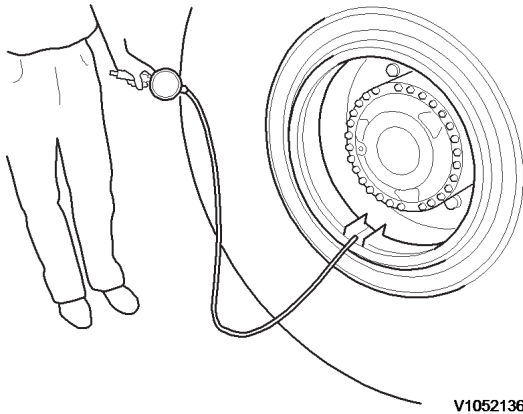


Figure 1

NOTE!

For recommended tyre pressures, see Operator's Manual.

Document Title: Wheel nuts, check torque	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Wheel nuts, check torque

Op nbr

This is part of other procedure

1. When tyres have been changed or a wheel has been removed, the wheel nuts must be re-tightened after 8 operating hours. For tightening torque, see [030 Axles and propeller shaft tightening torque](#).

Document Title: Battery, cables and connections, check	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Battery, cables and connections, check

Op nbr

This is part of other procedure

1. Check that the battery is properly connected and that the cable terminals and poles are clean, properly tightened and protected from corrosion with vaseline or the like.

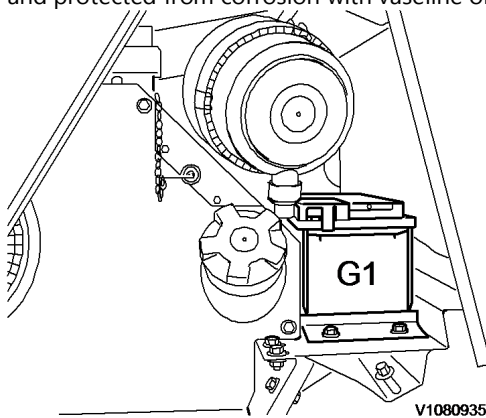


Figure 1
Battery box, right side

Document Title: Engine, oil level, check	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Engine, oil level, check

Op nbr

This is part of other procedure

1. Pull out the oil dipstick, wipe it clean with a lint-free cloth and re-insert it all the way. Pull it out again and read the oil level. The oil should reach the upper mark (MAX) of the dipstick.

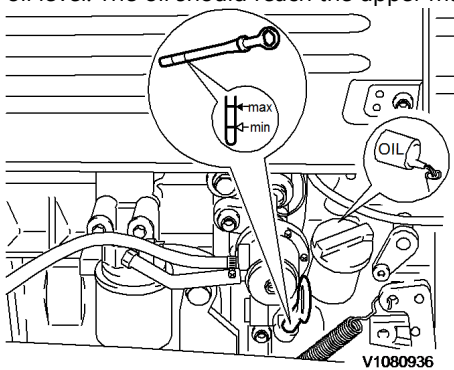


Figure 1
Engine oil dipstick

NOTE!

If the oil is at or below the lower mark (MIN), fill with oil immediately. For oil grade, see [160 Recommended lubricants](#).

Document Title: Engine, oil and filter, change.	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Engine, oil and filter, change.

Op nbr

This is part of other procedure

WARNING

Risk of burns! Use protective work gloves.

NOTE!

Drain the oil when the engine is warm.

Drain for engine oil

1. Unscrew the drain valve cap (1). Screw the drain hose onto the drain valve and collect the oil in a suitable container.

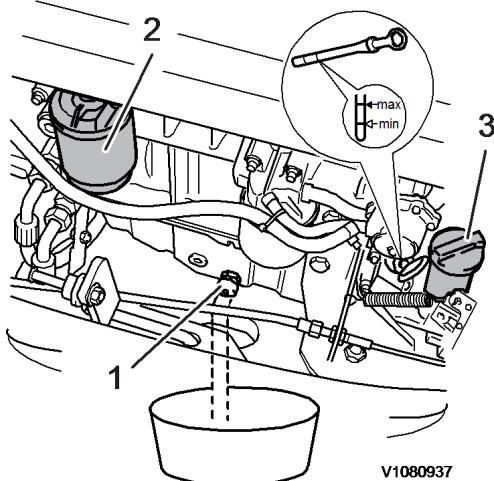


Figure 1
Replace engine oil and filter

1. Drain valve
2. Engine oil filter
3. Filler pipe

NOTE!

The screw of the drain hose is used to open the drain valve and make the oil flow out.

2. Once the used oil has drained out, screw closed the drain hose and screw the cap onto the drain valve.

CAUTION

Take care of filters, oils and liquids in an environmentally safe way.

CAUTION

Take care of filters, oils and liquids in an environmentally safe way.

Replace engine oil filter

3. Loosen and remove the engine oil filter (2) with a filter wrench.
4. Fill the new filter with oil and apply oil to the gasket.

NOTICE

It is important that the filter is filled with oil before installing it in order to guarantee the engine lubrication directly after start.

5. Screw on the filter by hand until the seal makes contact, then tighten another half turn.

Fill with engine oil.

6. Fill the engine with oil via the filler pipe (3). For capacity, see [030 Engine capacities](#). Oil grade, see [160 Recommended lubricants](#).
7. After a brief test run (approx. 2 minutes at lower idling speed), check the oil level and fill if necessary.

Document Title: Low and high idle, checking	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Low and high idle, checking

Op nbr

This is part of other procedure

1. Check and adjust lower and upper idling speed, see [236 Idle speed, inspection and adjustment](#)

Document Title: Valve clearance, checking and adjusting	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Valve clearance, checking and adjusting

Op nbr

This is part of other procedure

1. Adjust the valve clearance, see [214 Valves, adjusting](#).

Document Title: Belts and belt tension, check, replace when needed.	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Belts and belt tension, check, replace when needed.

Op nbr

This is part of other procedure

1. Check belt tension and exchange; see [263 Fan belt and/or alternator belt replacing](#).

Document Title: Water separator, drain	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Water separator, drain

Op nbr

This is part of other procedure

1. Open the drain valve (1) and collect the fuel in a suitable container.

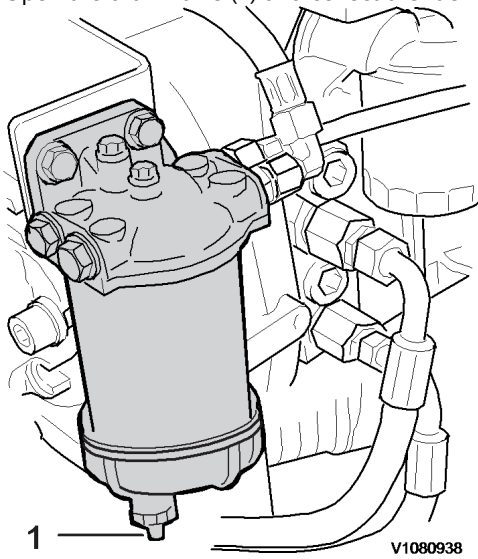


Figure 1
Primary fuel filter/water separator

NOTICE

Always handle oils and other environmentally hazardous fluids in an environmentally safe manner.

Document Title: Fuel filters, primary and secondary filter, replace	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Fuel filters, primary and secondary filter, replace

Op nbr

This is part of other procedure

Replace primary filter

1. Unscrew the central screw (1) on the filter head and remove the filter insert.

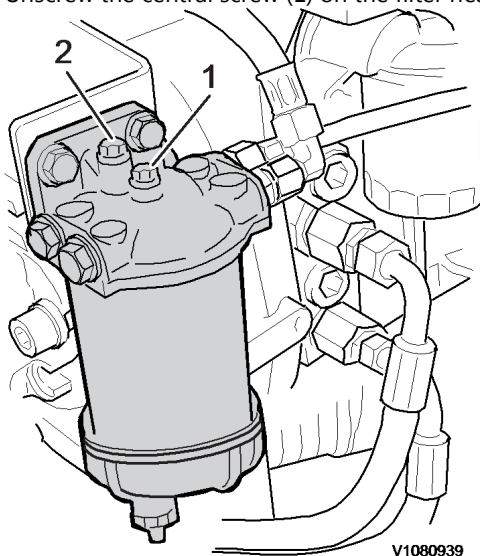


Figure 1
Primary fuel filter/water separator



Take care of filters, oils and liquids in an environmentally safe way.

2. Check the gaskets and replace when necessary.
3. Insert the new filter insert and tighten the central screw (1).
4. Open the bleed screw (2) on the filter head.
5. Pump on the fuel feed pump with a hand pump (1) until fuel emerges with no bubbles. Close bleed screw again.

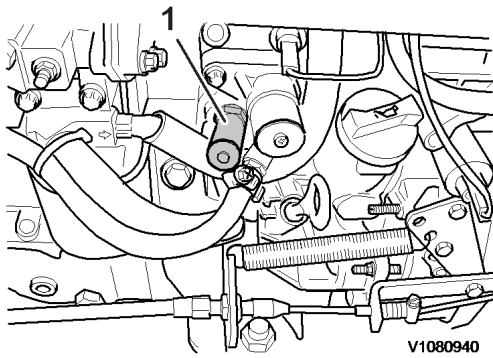


Figure 2
Hand pump

NOTE!

Avoid unnecessary fuel spills, collect any fuel in a container.

Replace secondary filter

6. Loosen and remove the secondary filter (1) with a filter wrench.

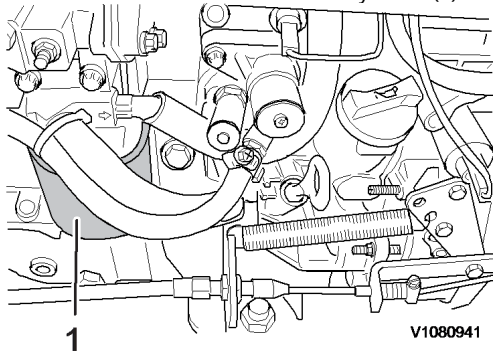


Figure 3
Secondary fuel filter



Take care of filters, oils and liquids in an environmentally safe way.

7. Fill the new filter with diesel fuel and apply oil or diesel fuel to the gasket.
8. Screw on the filter by hand until the seal makes contact, then tighten another half turn.
9. Perform a test run and check for leaks.

Document Title: Air cleaner primary filter, change	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Air cleaner primary filter, change

Op nbr

This is part of other procedure

NOTE!

During each servicing, check the air lines (filter and engine) for leaks. Replace defective parts and tighten any loose hose clamps.

1. Upon request, drain the dust valve (1) by pressing the discharge vent together.

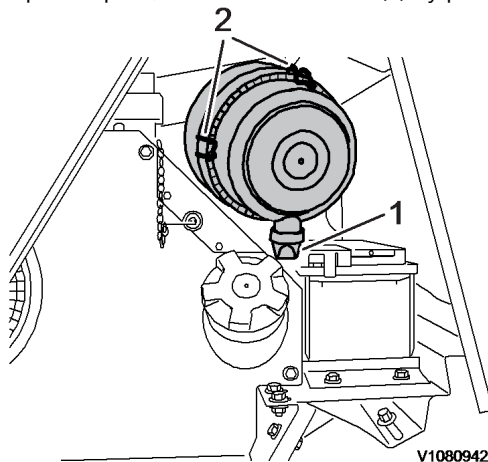


Figure 1
Air cleaner assembly

2. Release lock (2) and remove filter cover.
3. Remove the primary filter (3) from the filter housing.

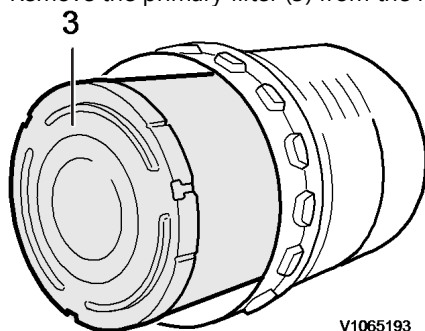


Figure 2
Primary filter

4. Insert the new primary filter.
5. Clean and close the filter cover.

NOTE!

If after servicing the primary filter, the air filter check lamp is still lit, the secondary filter must also be changed.

Document Title: Air cleaner secondary filter, change	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Air cleaner secondary filter, change

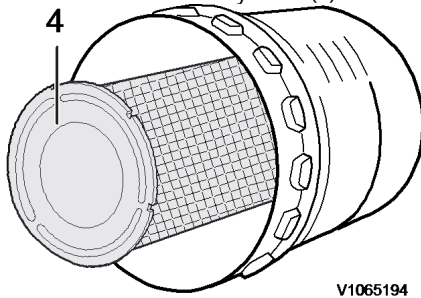
Op nbr

This is part of other procedure

NOTE!

The secondary filter should be replaced every third primary filter replacement and at least every other year.

1. First remove the primary filter, see [173 Air cleaner primary filter, change](#).
2. Remove the secondary filter (4) from the filter housing.



V1065194

Figure 1
Secondary filter

3. Insert the new secondary filter.
4. Insert the primary filter and close the filter cover; see [173 Air cleaner primary filter, change](#).

Document Title: Steering cylinders, locking of pivot pins, check	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Steering cylinders, locking of pivot pins, check

Op nbr

This is part of other procedure

1. When transporting or shipping the machine or during service or repair work, the articulation joint must be blocked with the articulation joint lock.

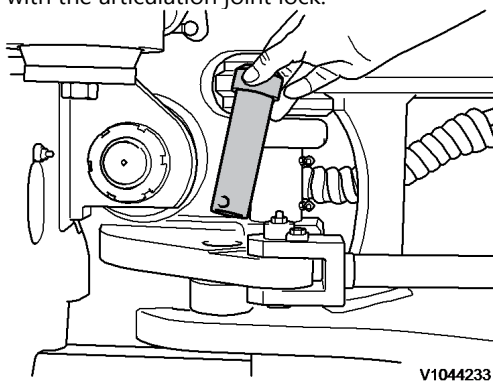


Figure 1
Steering joint lock

Document Title: Pressure settings steering system	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Pressure settings steering system

Op nbr

This is part of other procedure

1. Check and adjust operating pressure; see [645 Steering system, checking and adjusting working pressure](#).

Document Title: Cab filter, replace (clean when necessary)	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Cab filter, replace (clean when necessary)

Op nbr

This is part of other procedure

1. Remove front cab panel (1).



V1080971

Figure 1

NOTE!

When replacing or cleaning the filter, it is vital to wear protective equipment, such as mouth protection.

2. Remove filter (2) and clean or replace.



V1080972

Figure 2

3. Install front cab panel (1).

Document Title: Hydraulic oil level, check	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Hydraulic oil level, check

Op nbr

This is part of other procedure

1. With the load equipment lowered, the bottom oil level gauge must be full, and no oil may be visible at the top oil level gauge.

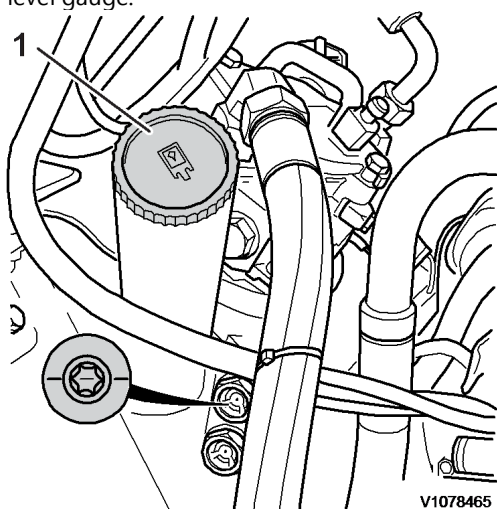


Figure 1

NOTE!

As the oil temperature rises (max. 80°C / 176°F), the oil level may rise to the centre of the top oil gauge.

Filling

2. If necessary, fill with hydraulic oil via the filler pipe (1). For hydraulic oil grade, see [160 Recommended lubricants](#).

NOTE!

If the hydraulic system is factory-filled with biodegradable hydraulic oil (see sticker on filler pipe), only the oil type specified on the sticker may be used when topping up or changing.

Document Title: Maintenance service, daily	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Maintenance service, daily

NOTE!

Every 10 hours = daily

Op nbr 173-002

1. [173 Test-run and check](#)
2. [173 Lubrication](#)
3. [173 Engine, oil level, check](#)
4. [173 Water separator, drain](#)
5. [173 Hydraulic oil level, check](#)

Document Title: Maintenance service, every 100 hours	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Maintenance service, every 100 hours

Op nbr 173-006

1. [173 Test-run and check](#)
2. [173 The machine, check for external damages, cracks and wear damages](#)
3. [173 Lubrication](#)
4. [173 Engine, oil level, check](#)
5. [173 Water separator, drain](#)
6. [173 Hydraulic oil level, check](#)
7. [173 Brake fluid level, check](#)
8. [173 Engine radiator and hydraulic oil cooler, check \(clean when necessary\)](#)
9. [173 Tyres, wear and air pressure, checking](#)
10. [173 Wheel nuts, check torque](#)

Document Title: Maintenance service, every 500 hours	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Maintenance service, every 500 hours

Op nbr 173-010

1. [173 Test-run and check](#)
2. [173 The machine, check for external damages, cracks and wear damages](#)
3. [173 Lubrication](#)
4. [173 Engine, oil level, check](#)
5. [173 Water separator, drain](#)
6. [173 Engine radiator and hydraulic oil cooler, check \(clean when necessary\)](#)
7. [173 Brake fluid level, check](#)
8. [173 Hydraulic oil level, check](#)
9. [173 Service brake, brake pads, check](#)
10. [173 Tyres, wear and air pressure, checking](#)
11. [173 Wheel nuts, check torque](#)

Document Title: Maintenance service, every 1000 hours	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Maintenance service, every 1000 hours

Op nbr 173-012

1. [173 Test-run and check](#)
2. [173 The machine, check for external damages, cracks and wear damages](#)
3. [173 Lubrication](#)
4. [173 Engine, oil and filter, change.](#)
5. [173 Engine, oil level, check](#)
6. [173 Water separator, drain](#)
7. [173 Fuel filters, primary and secondary filter, replace](#)
8. [173 Air cleaner primary filter, change](#)
9. [173 Air cleaner secondary filter, change](#)
10. [173 Belts and belt tension, check, replace when needed.](#)
11. [173 Low and high idle, checking](#)
12. [173 Valve clearance, checking and adjusting](#)
13. [173 Battery, cables and connections, check](#)
14. [173 Brake fluid level, check](#)
15. [173 Service brake, brake pads, check](#)
16. [173 Steering cylinders, locking of pivot pins, check](#)
17. [173 Pressure settings steering system](#)
18. [173 Tyres, wear and air pressure, checking](#)
19. [173 Wheel nuts, check torque](#)
20. [173 Cab filter, replace \(clean when necessary\)](#)
21. [173 Hydraulic oil level, check](#)
22. [173 Hydraulic pressure, check](#)
23. [173 Engine radiator and hydraulic oil cooler, check \(clean when necessary\)](#)

Document Title: Maintenance service, every 1500 hours	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Maintenance service, every 1500 hours

Op nbr 173-013

1. [173 Test-run and check](#)
2. [173 Lubrication](#)
3. [173 Engine, oil level, check](#)
4. [173 Water separator, drain](#)
5. [173 Engine radiator and hydraulic oil cooler, check \(clean when necessary\)](#)
6. [173 Axles, changing oil](#)
7. [173 Brake fluid level, check](#)
8. [173 Service brake, brake pads, check](#)
9. [173 Hydraulic system, changing oil.](#)
10. [173 Hydraulic oil filter, changing](#)
11. [173 Hydraulic oil level, check](#)
12. [173 Tyres, wear and air pressure, checking](#)
13. [173 Wheel nuts, check torque](#)

Document Title: Maintenance service, every 2000 hours	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Maintenance service, every 2000 hours

Op nbr 173-014

1. [173 Test-run and check](#)
2. [173 The machine, check for external damages, cracks and wear damages](#)
3. [173 Bolted joints, check tightening torque](#)
4. [173 Lubrication](#)
5. [173 Engine, oil and filter, change.](#)
6. [173 Engine, oil level, check](#)
7. [173 Water separator, drain](#)
8. [173 Fuel filters, primary and secondary filter, replace](#)
9. [173 Air cleaner primary filter, change](#)
10. [173 Air cleaner secondary filter, change](#)
11. [173 Belts and belt tension, check, replace when needed.](#)
12. [173 Low and high idle, checking](#)
13. [173 Valve clearance, checking and adjusting](#)
14. [173 Battery, cables and connections, check](#)
15. [173 Hydraulic pressure, check](#)
16. [173 Brake fluid level, check](#)
17. [173 Service brake, brake pads, check](#)
18. [173 Steering cylinders, locking of pivot pins, check](#)
19. [173 Pressure settings steering system](#)
20. [173 Tyres, wear and air pressure, checking](#)
21. [173 Wheel nuts, check torque](#)
22. [173 Cab filter, replace \(clean when necessary\)](#)
23. [173 Hydraulic oil level, check](#)

24. [173 Engine radiator and hydraulic oil cooler, check \(clean when necessary\)](#)

Document Title: Maintenance service, every 4000 hours	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Maintenance service, every 4000 hours

Op nbr 173-018

1. [173 Test-run and check](#)
2. [173 The machine, check for external damages, cracks and wear damages](#)
3. [173 Bolted joints, check tightening torque](#)
4. [173 Lubrication](#)
5. [173 Engine, oil and filter, change.](#)
6. [173 Engine, oil level, check](#)
7. [173 Water separator, drain](#)
8. [173 Fuel filters, primary and secondary filter, replace](#)
9. [173 Air cleaner primary filter, change](#)
10. [173 Air cleaner secondary filter, change](#)
11. [173 Belts and belt tension, check, replace when needed.](#)
12. [173 Low and high idle, checking](#)
13. [173 Valve clearance, checking and adjusting](#)
14. [173 Battery, cables and connections, check](#)
15. [173 Hydraulic pressure, check](#)
16. [173 Brake fluid level, check](#)
17. [173 Service brake, brake pads, check](#)
18. [173 Steering cylinders, locking of pivot pins, check](#)
19. [173 Pressure settings steering system](#)
20. [173 Tyres, wear and air pressure, checking](#)
21. [173 Wheel nuts, check torque](#)
22. [173 Cab filter, replace \(clean when necessary\)](#)
23. [173 Hydraulic oil level, check](#)

24. [173 Engine radiator and hydraulic oil cooler, check \(clean when necessary\)](#)

Document Title: Maintenance service, every 6000 hours	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Maintenance service, every 6000 hours

Op nbr 173-022

1. [173 Test-run and check](#)
2. [173 The machine, check for external damages, cracks and wear damages](#)
3. [173 Bolted joints, check tightening torque](#)
4. [173 Lubrication](#)
5. [173 Engine, oil and filter, change.](#)
6. [173 Engine, oil level, check](#)
7. [173 Water separator, drain](#)
8. [173 Fuel filters, primary and secondary filter, replace](#)
9. [173 Air cleaner primary filter, change](#)
10. [173 Air cleaner secondary filter, change](#)
11. [173 Belts and belt tension, check, replace when needed.](#)
12. [173 Low and high idle, checking](#)
13. [173 Valve clearance, checking and adjusting](#)
14. [173 Battery, cables and connections, check](#)
15. [173 Engine radiator and hydraulic oil cooler, check \(clean when necessary\)](#)
16. [173 Axles, changing oil](#)
17. [173 Brake fluid level, check](#)
18. [173 Service brake, brake pads, check](#)
19. [173 Steering cylinders, locking of pivot pins, check](#)
20. [173 Pressure settings steering system](#)
21. [173 Tyres, wear and air pressure, checking](#)
22. [173 Wheel nuts, check torque](#)
23. [173 Cab filter, replace \(clean when necessary\)](#)

24. [173 Hydraulic system, changing oil.](#)
25. [173 Hydraulic oil filter, changing](#)
26. [173 Hydraulic oil level, check](#)
27. [173 Hydraulic pressure, check](#)

Document Title: Lubrication	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Lubrication

Op nbr

This is part of other procedure

Lubricate articulation joint and steering cylinder.

1. Lubricate articulation joint and steering cylinder. For grease grade, see [160 Recommended lubricants](#).

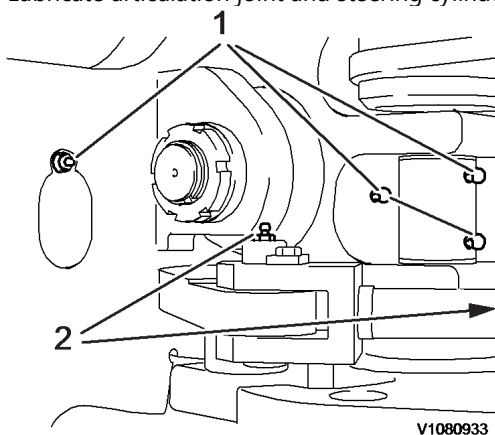


Figure 1
Lubricate articulation joint and steering cylinder

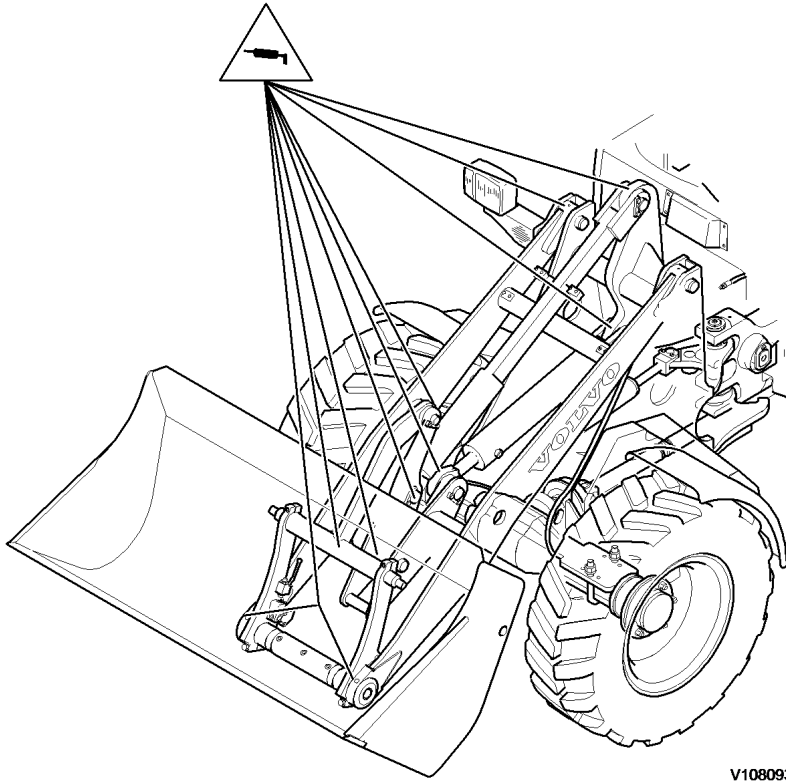
1. Grease nipple articulation joint (4 bearing points)
2. Grease nipple steering cylinder (2 bearing points)

Lubricate lifting bracket

2. Lubricate lifting bracket. For grease grade, see [160 Recommended lubricants](#).

NOTE!

Lubrication intervals depend on the operating conditions of the machine; see Operator's Manual.



V1080934

Figure 2
Lubricate lifting bracket

Document Title: Axles, changing oil	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Axles, changing oil

Op nbr

This is part of other procedure

Oil change front axle

Planetary carrier and differential share a common oil system.

! WARNING

Work carefully when changing oil as hot oil can cause severe burns to unprotected skin.

1. Drain oil from the front axle into a suitable container.

NOTICE

Always handle oils and other environmentally hazardous fluids in an environmentally safe manner.

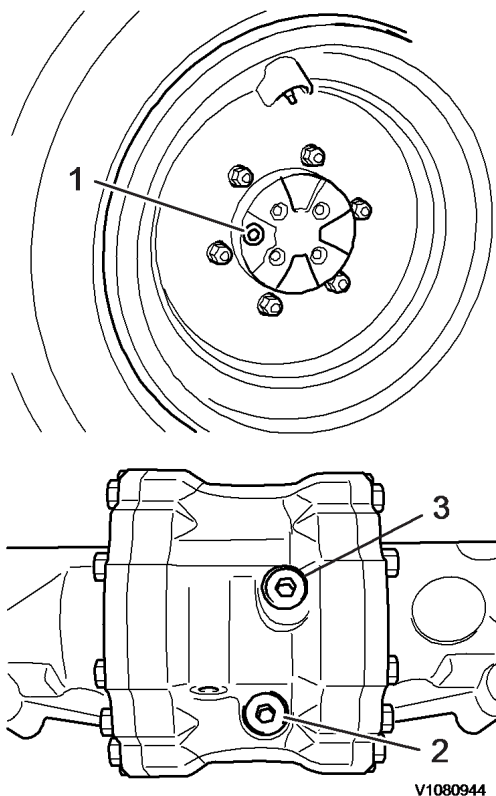


Figure 1
Oil change front axle

1. Drain, fill and check screw plug, planetary carrier
2. Axle drive housing drain plug
3. Filler/inspection screw plug, axle drive housing

NOTE!

To prevent injury from possible pressure build-up in the planetary carrier's oil system, move drain and inspection

screw plug (1) to the highest position, release it carefully and remove. Then set the drain opening to the lowest position and drain oil.

2. Fill both planetary carriers with oil to overflow. For oil grade, see [160 Recommended lubricants](#)
3. Screw in lock screws (1) and (2) and tighten to **70 Nm (52 lbf ft)**.
4. Fill with oil to overflow via the filler/check bore (3) of the axle drive housing. See [030 Front axle capacities](#) for volume.
5. Screw in lock screw (3) and tighten to **70 Nm (52 lbf ft)**.
6. Check oil level after a few minutes and top up if necessary.

NOTE!

Rear axle and gearbox share a common oil system.

Oil change, rear axle with transmission

7. Drain oil from the gearbox and rear axle into a suitable container.

NOTICE

Always handle oils and other environmentally hazardous fluids in an environmentally safe manner.

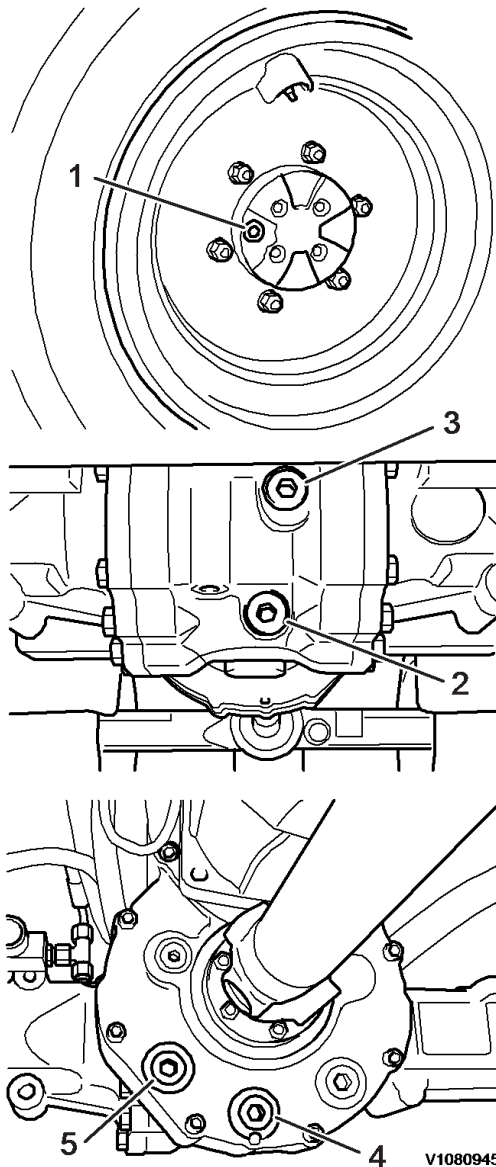


Figure 2

Oil change, rear axle with transmission,

1. Drain, fill and check screw plug, planetary carrier
 2. Axle drive housing drain plug
 3. Filler/inspection screw plug, axle drive housing
 4. Gearbox drain plug
 5. Gearbox fill/check screw plug
-
8. Fill both planetary carriers with oil to overflow. For oil grade, see [160 Recommended lubricants](#).
 9. Screw in lock screws (1) (2) and (4) and tighten to **70 Nm (52 lbf ft)**.
 10. Fill the gearbox with approx. 1 litre (0.3 US gal) via the filler/check bore (5). Then fill the axle drive housing with oil to overflow via the filler/check bore (3). See [030 Rear axle, capacity](#) for volume.
 11. Screw in lock screws (3) and (5) and tighten to **70 Nm (52 lbf ft)**.
 12. Check oil level after a few minutes and top up if necessary.

Document Title: Brake fluid level, check	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Brake fluid level, check

Op nbr

This is part of other procedure

1. The brake fluid must be up to the MAX mark on the expansion tank (1). If the fluid is at the MIN mark or below, brake fluid must be added. For grade see [160 Recommended lubricants](#).

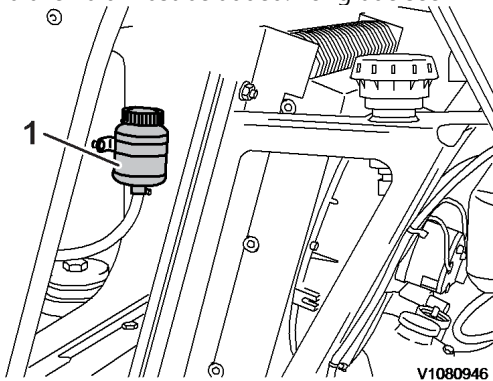


Figure 1
Brake fluid reservoir

Document Title: Service brake, brake pads, check	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Service brake, brake pads, check

Op nbr

This is part of other procedure

1. Check brake pads for wear and replace if necessary. For wear data see [030 Brake specifications](#).

Document Title: Hydraulic system, changing oil.	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Hydraulic system, changing oil.

Op nbr

This is part of other procedure

Draining

1. Unscrew the cap from the hydraulic oil tank drain valve (1). Connect a drain hose to the drain valve. Collect hydraulic oil in a suitable container.

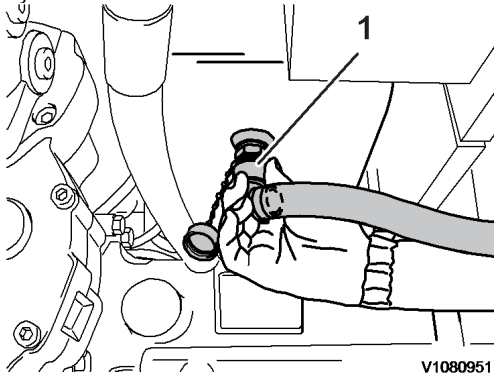


Figure 1
Hydraulic oil drain valve

NOTICE

Always handle oils and other environmentally hazardous fluids in an environmentally safe manner.

2. Unscrew the drain hose and screw the cap onto the drain valve.

NOTE!

The hydraulic oil filter and breather valve must be replaced each time hydraulic oil is changed.

Filling

3. Fill hydraulic oil via the filler pipe (1). For hydraulic oil grade, see [160 Recommended lubricants](#). Oil change volume is approx. 42 litres (11 US gal).

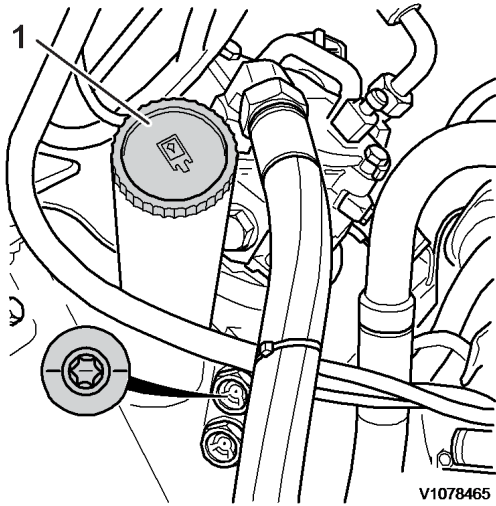


Figure 2

NOTE!

If the hydraulic system is factory-filled with biodegradable hydraulic oil (see sticker on filler pipe), only the oil type specified on the sticker may be used when topping up or changing.

4. Check oil level after trial run. With the load equipment lowered, the bottom oil level gauge must be full, and no oil may be visible at the top oil level gauge.

Document Title: Hydraulic oil filter, changing	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Hydraulic oil filter, changing

Op nbr

This is part of other procedure

NOTE!

Before opening the filter cover, unscrew the breather valve to release the pressure in the hydraulic tank.

1. Unscrew bleed valve (1).

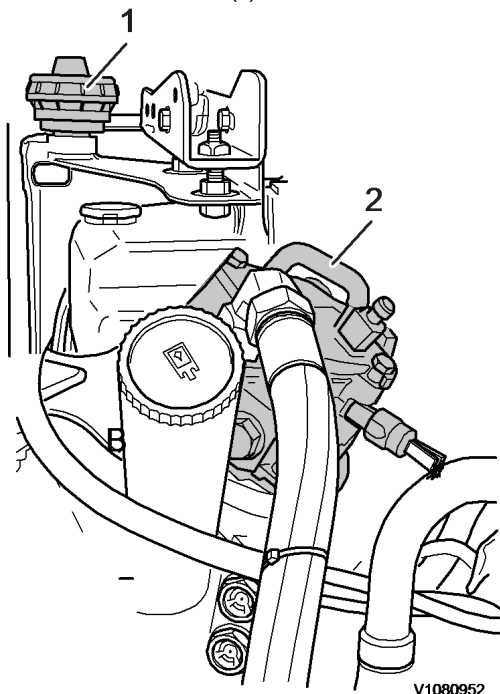


Figure 1

2. Release screw on filter cover (2). Unlock and remove the filter cover.



Take care of filters, oils and liquids in an environmentally safe way.

3. Remove the filter element from the yoke.
4. Clean the filter housing. Check for leaks and replace if necessary.
5. Insert a new filter element and close the filter cover.
6. screw on a new breather valve.

Document Title: Hydraulic pressure, check	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Hydraulic pressure, check

Op nbr

This is part of other procedure

1. Check and adjust hydraulic pressure; see [912 Primary pressure limiting valve, checking and adjusting](#) and [912 Secondary pressure limiting valve, checking and adjusting](#).

Document Title: Engine radiator and hydraulic oil cooler, check (clean when necessary)	Function Group: 173	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Engine radiator and hydraulic oil cooler, check (clean when necessary)

Op nbr

This is part of other procedure

1. Remove air duct cover.

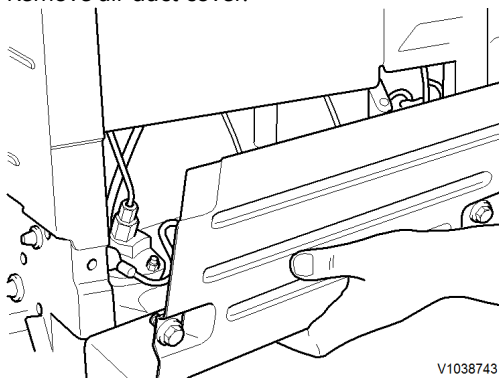


Figure 1

2. Blow out engine with compressed air. Always blow out radiator and cooling ribs from the outlet air side.

NOTE!

When using compressed air, always keep the nozzle at a distance from the fins to prevent damage. Damaged fins may cause leakage or overheating.

3. Install air duct cover.
4. Clean cooling system for travelling hydraulics.

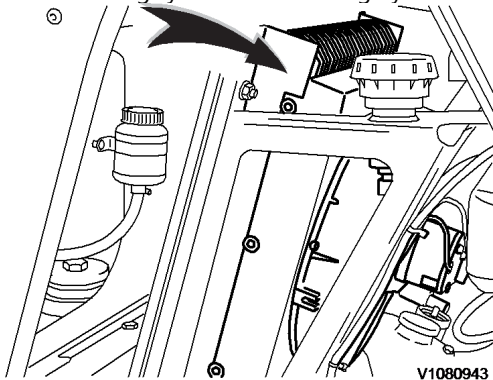


Figure 2
Cooling system travelling hydraulics

Document Title: Towing a disabled machine	Function Group: 176	Information Type: Service Information	Date: 2014/3/8 0
Profile: CWL, L25F [GB]			

Towing a disabled machine

Op nbr 176-004

NOTE!

The machine should not be towed. It may be towed in exceptional cases, but then only with a towbar.

The towing system may be loaded to **max. 35 kN (7868 lbf)** for towing work.

Perform towing preparations if the diesel engine cannot be started.

1. Press "Neutral position" button on multifunction lever.
2. On the two high pressure valves (1), release the flange nut (2) and screw in the adjusting screw (3) until flush with the flange nut. Tighten flange nut.

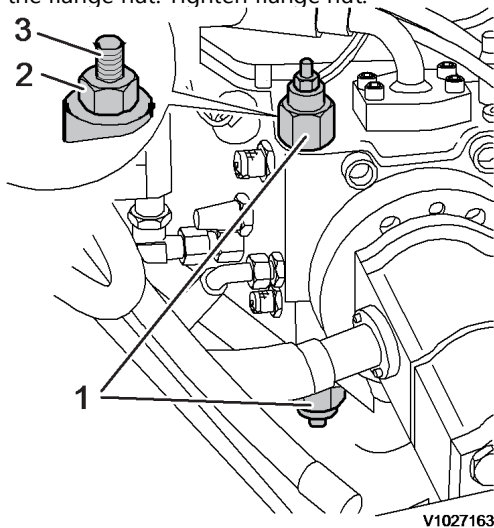


Figure 1
High-pressure valves of hydrostatic pump

3. After the end of the towing process, reset the high pressure valves. At the two high pressure valves (1), release the flange nuts (2) and unscrew the adjusting screw (3) to the stop. Tighten flange nut.

NOTE!

The original setting of the high pressure valves is now restored.

Many thanks for your purchase.
Happy every day.