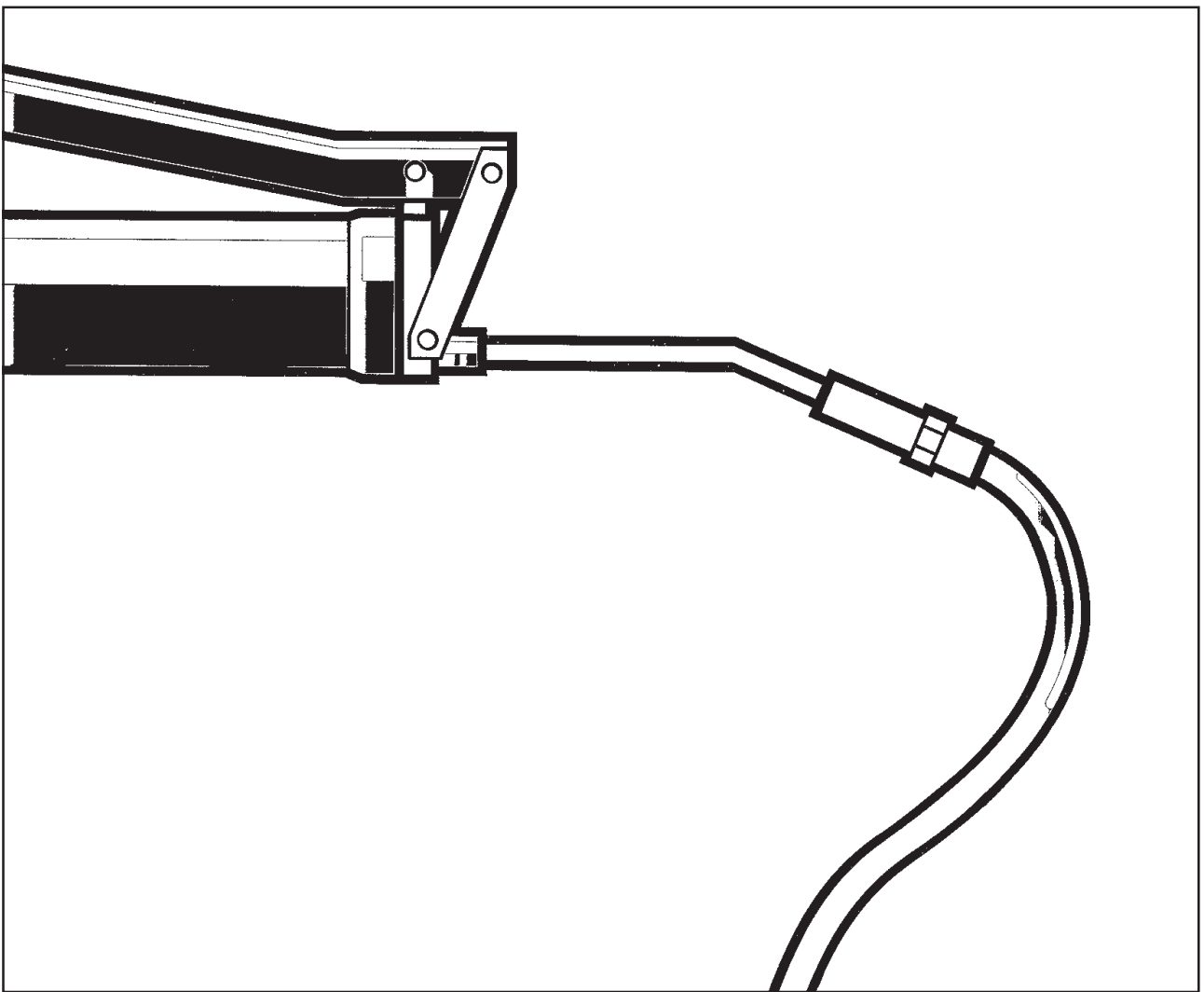


DYNAPAC CC 501/501C MAINTENANCE

M501EN3



SVEDALA

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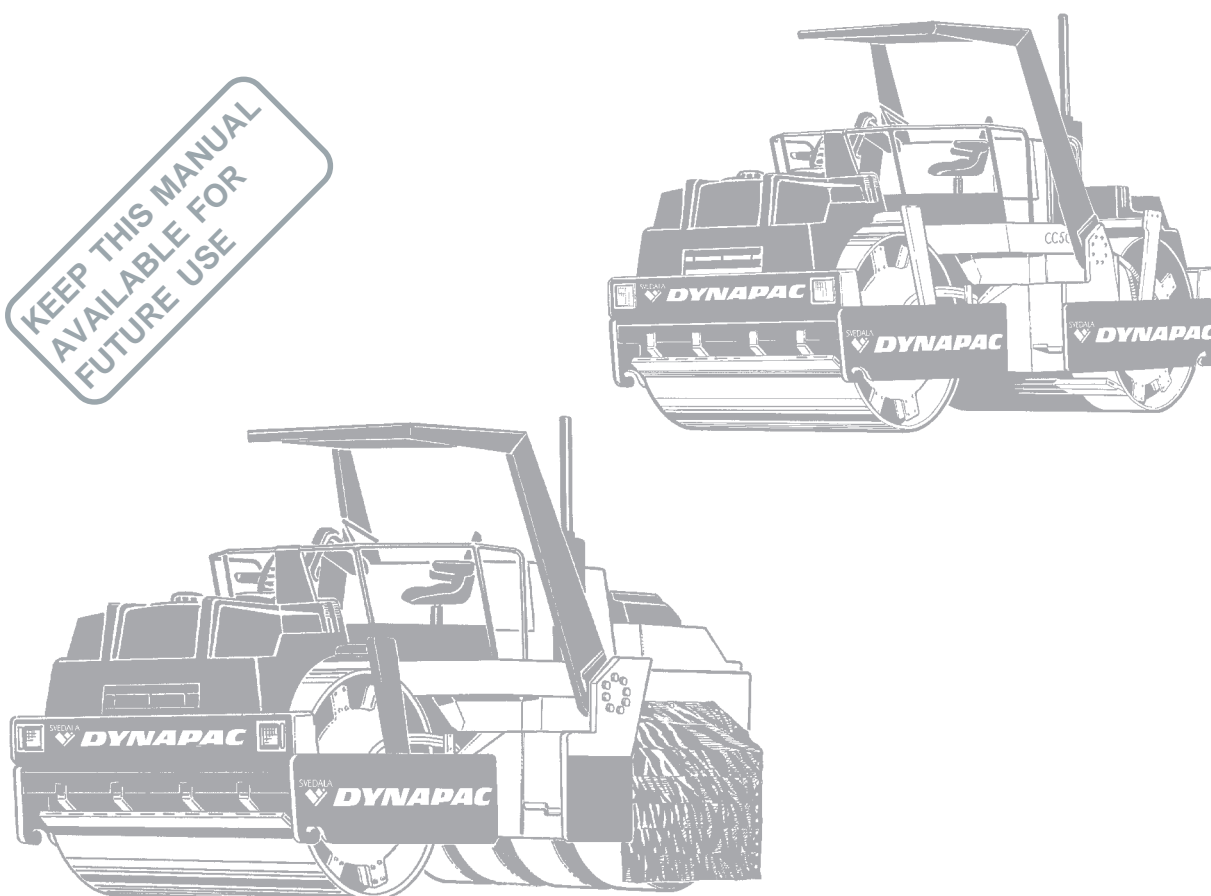
Vibration and Combination roller CC 501/501C

Maintenance M501EN3, June 1999

Diesel engine:
Cummins 6CT 8.3

These instructions apply from
CC 501: PIN (S/N) *60910502*
CC 501C: PIN (S/N) *60010501*

KEEP THIS MANUAL
AVAILABLE FOR
FUTURE USE



CC 501 and CC 501C are two rollers in the CC 50 family in the heavier category.

The CC 501 features articulated steering and propulsion on both drums compared to the CC 501C, which has propulsion on one drum and all of its rubber wheels.

The CC 501 and CC 501C feature high power, high capacity and high quality in major demanding applications, such as highway and airfield construction involving compaction of various drybound macadam compounds.

Separate information about accessories is available on request.

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WARNING SYMBOLS



Safety instructions—Personal safety.



Special caution—Machine or component damage.

GENERAL



Read the entire manual before starting any service work.



Ensure that ventilation (extraction) is adequate if the engine is run indoors.

It is essential that the machine is properly cared for to ensure satisfactory operation. Keep the machine clean to facilitate quick and timely detection of any leakage, loose bolts and loose connections.

TAKE CARE OF THE ENVIRONMENT

Do not leave behind any oil, fuel or other substances that are detrimental to the environment.

This manual contains instructions for periodic activities that should normally be performed by the operator.



For the diesel engine, the engine manufacturer's instructions—found in the engine manual—also apply. This manual is included in the product binder.

CALIFORNIA







Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

LUBRICANTS AND SYMBOLS

















Always use high-quality lubricants in the recommended amounts. Too much grease or oil can cause overheating and subsequent increased wear.

	ENGINE OIL, ambient temperature -10 to +50°C (14 to 122°F)	Grade: API Service CD/SE SAE 15W/40
	HYDRAULIC FLUID, ambient temperature -10 to +40°C (14 to 104°F) ambient temperature higher than +40°C (104°F)	Grade: Shell Tellus Oil TX68 or equivalent Shell Tellus Oil T100 or equivalent
	DRUM OIL/TRANSMISSION OIL, ambient temperature -15 to +40°C (5 to 104°F) ambient temperature higher than +40°C (104°F)	Grade: API, GL-5 SAE 80W/90 HD Shell Spirax HD85W/140 or equivalent
	GREASE GREASE FOR ARTICULATION JOINT	Shell EP Grease 2 or equivalent SKF LGEM2 or equivalent
	FUEL	See engine manual
	COOLANT, 50/50 mixture with water	Shell Anti Freeze 402 or equivalent. Antifreeze down to about -35°C (-31°).



Other lubricants are required for driving in extremely high or low ambient temperatures. See "Special instructions," or consult Dynapac.

	Engine, oil level		Hydraulic fluid, filter
	Engine, oil filter		Sprinkler water
	Air filter		Sprinkler
	Coolant, level		Lubricating oil
	Transmission/Drum, oil level		Battery
	Recycling		Tire pressure
	Hydraulic reservoir, level		Fuel filter

SPECIFICATIONS

Weight Sizes	CC 501	CC 501C
Weight EN500-1, standard equipped roller, kg (lbs)	16 500 (36,376)	20 900 (46,076)
Length, standard equipped roller, mm (in)	5 653 (12,463)	5 653 (12,463)
Width, standard equipped roller, mm (in)	2 430 (5357)	2 430 (5357)
Height, standard equipped roller, mm (in) (Shipping height)	2 630 (5798)	2 630 (5798)
Height, standard equipped roller with ROPS	3 330 (7341)	3 330 (7341)

Fluid volumes	Liters (gal or qts)	
Drums	26.5 l/drum	(7 gal/drum)
Hydraulic reservoir	340 l	(90 gal)
Fuel tank	340 l	(90 gal)
Water tanks front/rear	670/670 l (177/177 gal) CC 501 , 670/318 l (177/84 gal) CC 501C	
Coolant	38 l	(10 gal)
Diesel engine	19 l	(6 gal)
Pump drive	4 l	(4.3 qts)
Drum drive	3 l/drum	(3.2 qts/drum)

Electrical system

Battery	12 V, 160 Ah
Alternator	12 V, 95 A
Fuses	8 A

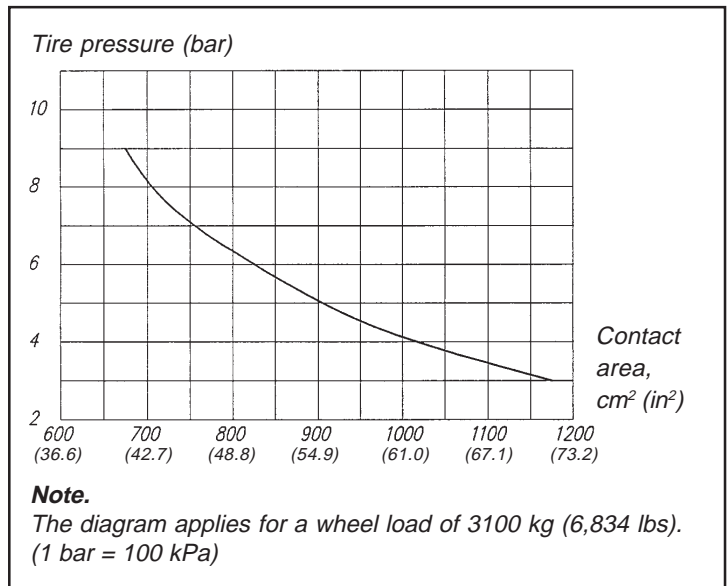
Compaction data	CC 501	CC 501C
Static linear load, kg/cm (pli)		
Front	35 (196)	36 (202)
Rear	39 (218)	
Tire load, kg/tire (lbs/tire)	3100 (6,834)	
Amplitude, mm (in)		
High:	0,73 (0.029)	0,73 (0.029)
Low:	0,37 (0.015)	0,37 (0.015)
Frequency, Hz (vpm)	45 (2700)	45 (2700)
Centrifugal force, kN (lb)		
At high amplitude:	187 (42,075)	187 (42,075)
At low amplitude:	94 (21,150)	94 (21,150)

Propulsion	CC 501	CC 501C
Speed range, km/h (mil/h)	0-13 (0-8.1)	0-10,5 (0-6.5)
Climbing capacity (theoretical) %	30	31

Tires (CC 501C)

Dimension	15.0 R24 Pilote
Qty.	4
Air pressure	See diagram on next page

SPECIFICATIONS (cont'd)



Hydraulic system

HYDRAULIC SYSTEM	CC 501	CC 501C
Opening pressure, MPa (lbs/in²)		
Drive system	35 (5,076)	35 (5,076)
Supply system	2,0 (290)	2,0 (290)
Vibration system	14 (2,030)	14 (2,030)
Steering system	14 (2,030)	14 (2,030)
Brake release	1,5 (217)	1,5 (217)

Noise level - Operator's station (ISO 6394)

Measured acoustic power level, LpA, on hard base and vibration switched OFF:
LpA: 87 dB(A) Machine with cab: LpA: 85 dB(A)

Acoustic power level - Surroundings (SS 4591010)

Measured acoustic power level, LwA, on hard base and vibration switched OFF according to SS4591010:
LwA: 109 dB(A) Machine with cab: LwA: 106 dB(A)

Operator's station - Vibration (ISO 2631)

(Hand/arm - steering wheel and F/R lever vibration is less than the limit value, 2.5 m/s² (8.2 ft/s².)

(Measured with vibration switched ON and on a foam-rubber mat)
Vibration in the operator's seat is 0.89 m/s ² (2.92 ft/s ²) (CC501) and 0.19 m/s ² (0.62 ft/s ²) (CC501C). Vibration in the floor at the operator's station is 0.58 m/s ² (1.90 ft/s ²) (CC501) and 0.20 m/s ² (0.66 ft/s ²) (CC501C).

MAINTENANCE SCHEDULE

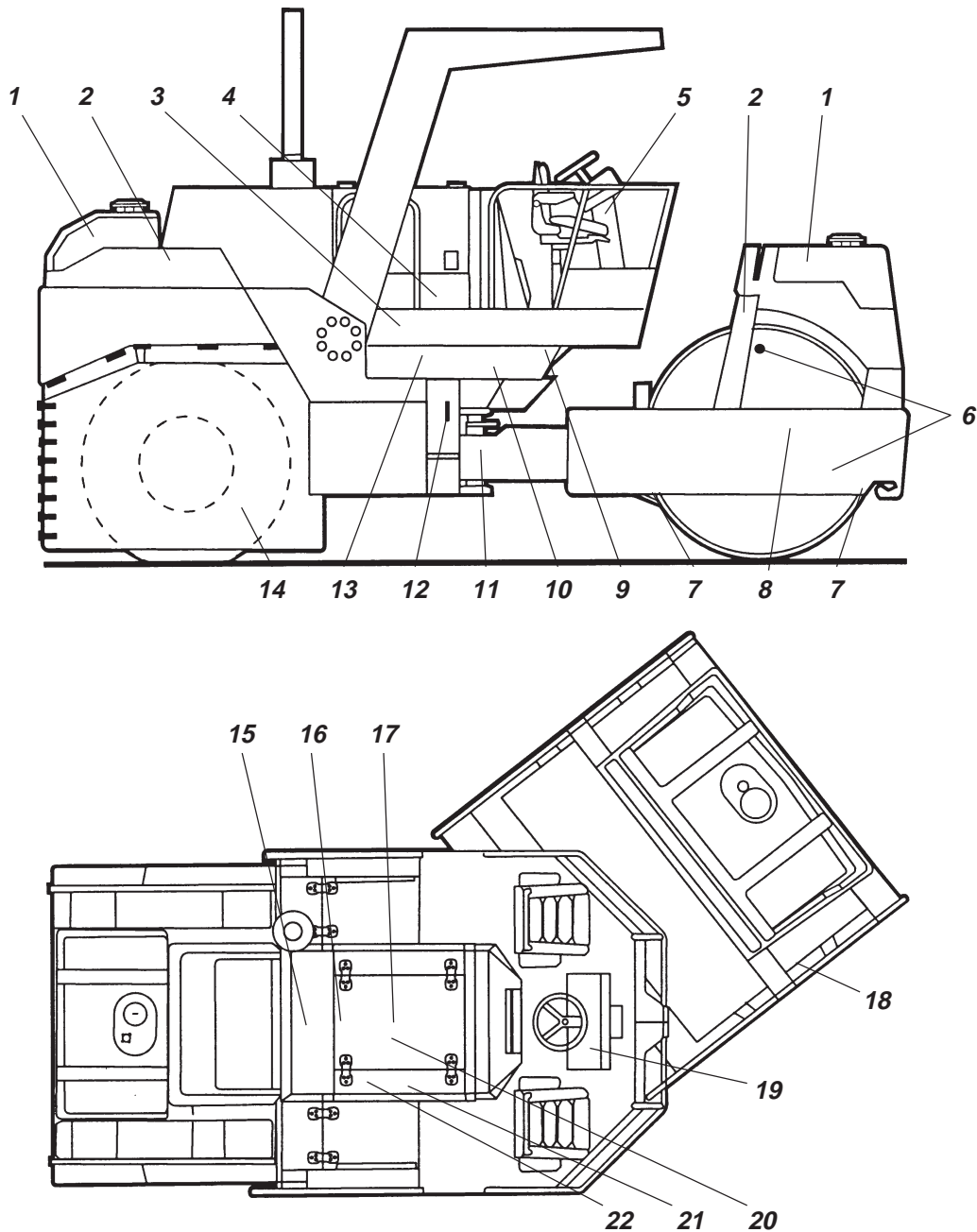


Fig. 1 Maintenance points

- | | | |
|--|--|----------------------|
| 1. Water tanks | 9. Flywheel casing,
pump drive | 16. Drive belts |
| 2. Sprinklers | 10. Hydraulic filter | 17. Coolant filter |
| 3. Fuel tank | 11. Articulation joint,
steering cylinder | 18. Drum drive |
| 4. Engine suspension | 12. Hydraulic reservoir | 19. Control table |
| 5. Fuses | 13. Battery | 20. Air filter |
| 6. Drum oil filling/level | 14. Tires (CC 501C) | 21. Engine oil level |
| 7. Scrapers | 15. Radiator | 22. Fuel filter |
| 8. Rubber element,
fastening screws | | |

MAINTENANCE MEASURES

The periodic measures must be carried out at the stated hours of operation.




Remove all dirt before filling or draining, when checking oils and fuel, and when lubricating with oil or grease.

Every 10 hours of operation (daily)

Items in fig. 1	Measure	See page	Comments
	Before starting up		
21	Check oil level in the engine		See engine manual
15	Check coolant level	10	See engine manual
15	Check for free circulation of cooling air	10	See engine manual
22	Drain the water trap on the fuel filters	10	See engine manual
	Test the brakes	10	
2	Inspect and clean the sprinkler system	11	
7	Check the scraper setting	12	
12	Check level of the hydraulic reservoir and top off with hydraulic fluid as required	13	
3	Refuel	13	

Every 50 hours of operation (weekly)

Items in fig. 1	Measure	See page	Comments
21	Change the engine oil and oil filter		See engine manual
20	Clean the filter element in the air cleaner	14	
	Check that hoses and connections are tight		
14	Check tire pressure (CC 501C)	14	
8	Check rubber elements and bolted joints	15	
11	Grease the articulation joint and the steering cylinder mounts	15	
12	Check the hydraulic reservoir cover/breather	15	
22	Drain the engine fuel pre-filter	16	
13	Check the battery	16	

 After the **first** 50 hours of operation, change all the lubricating oils, but not the hydraulic fluid.

MAINTENANCE SCHEDULE

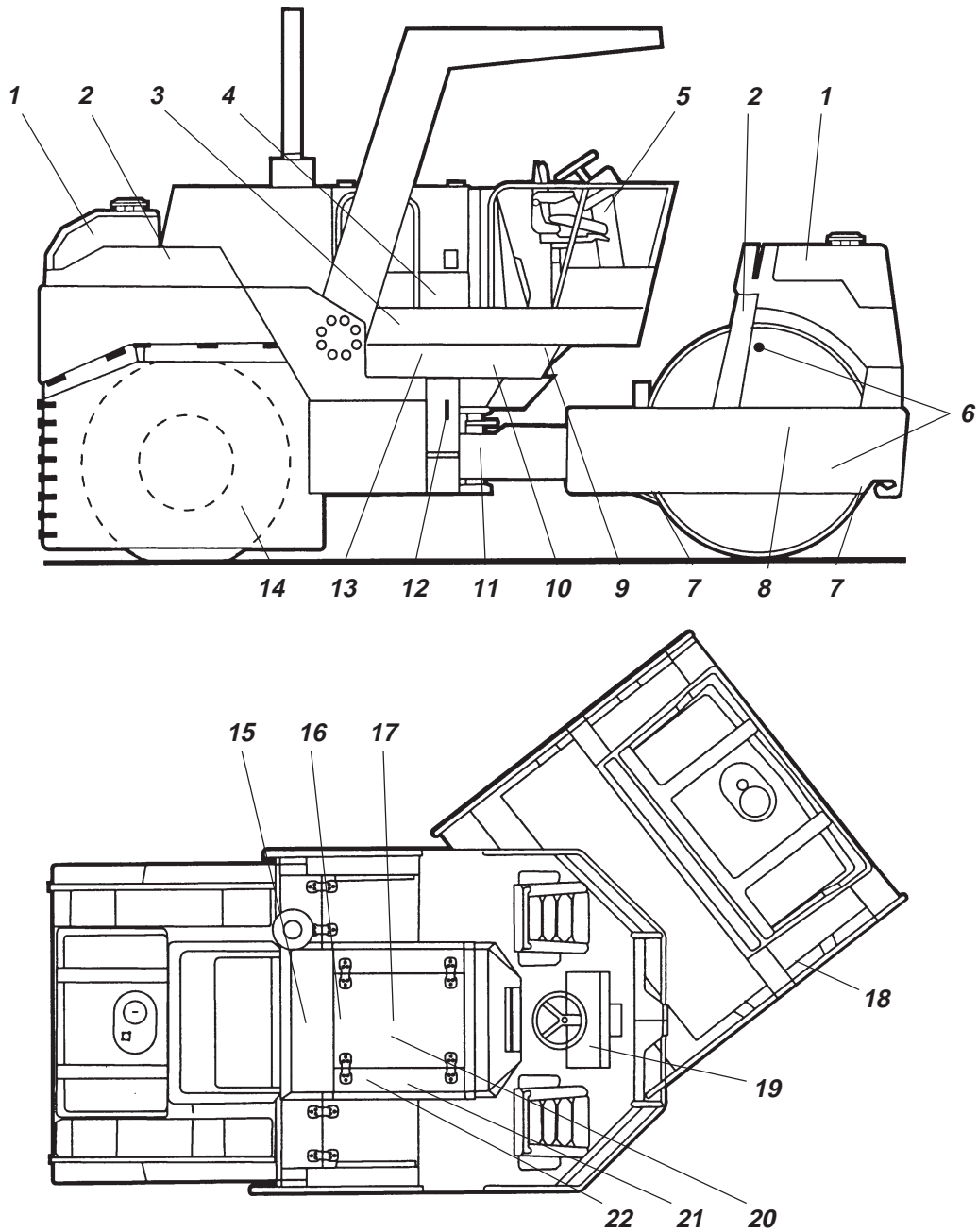


Fig. 1 Maintenance points

- | | | |
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| 7. Scrapers | 15. Radiator | 22. Fuel filter |
| 8. Rubber element,
fastening screws | | |

MAINTENANCE MEASURES, cont'd

Every 250 hours of operation (monthly)

Items in fig. 1	Measure	See page	Comments
16	Check belt tension of the radiator fan and alternator		See engine manual
21	Change the engine oil and oil filter		See engine manual
10	Replace the hydraulic filter and clean the outside of the hydraulic fluid cooler	17	
9	Check the oil level in the pump drive	18	
18	Check oil level in the drum drives (2 on CC 501)	18	

Every 500 hours of operation (every three months)

Items in fig. 1	Measure	See page	Comments
6	Check oil level in the drums (2x2 on CC 501)	19	
19	Lubricate controls, pivoted joints and the control table bearings	19	
4	Control tighten engine suspension and bolted joints	20	
3	Drain condensation from the fuel tank	20	
12	Drain condensation from the hydraulic reservoir	20	
22	Replace the engine fuel filters (2 off)		See engine manual
17	Change the engine coolant filter		See engine manual

Every 1000 hours of operation (every six months)

Items in fig. 1	Measure	See page	Comments
16	Check/adjust engine valve clearance Check the belt stretcher, engine		See engine manual See engine manual

Every 2000 hours of operation (yearly)

Items in fig. 1	Measure	See page	Comments
12	Change the hydraulic fluid	21	
6	Check oil in the drums (2x2 on CC 501)	21	
18	Change oil in the drum drives (2 on CC 501)	22	
9	Change oil in the pump drive	22	
1	Empty and clean the water tanks		

EVERY 10 HOURS OF OPERATION (Daily)

Coolant level - Checking, filling (Circulation of cooling air)

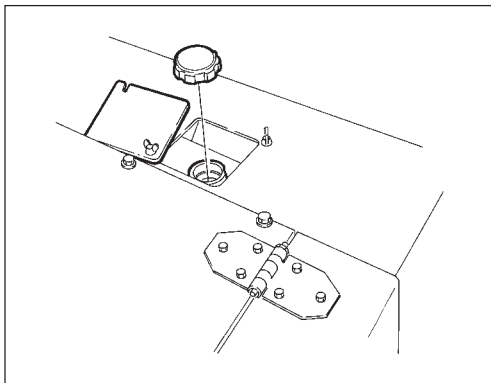


Fig. 2 Radiator cap



Take great care if the radiator cap must be opened while the engine is hot. Danger of being burned. Wear gloves and safety goggles.

Fill with coolant comprised of 50% water and 50% antifreeze. See page 3 in these instructions and the engine manual.



Change the coolant and flush the system every other year. Ensure that air has free passage through the radiator.

Water trap - Draining

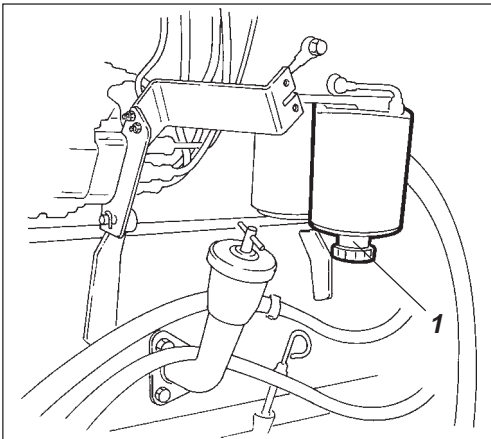


Fig. 3 Water trap on the fuel filter
1. Drain cock

Open the drain tap at the bottom of the outer fuel filter and drain off water and sediment until pure fuel flows out. See also engine manual.

Brakes - Check

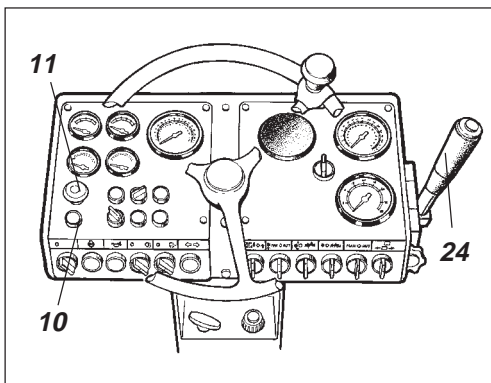


Fig. 4 Instrument panel
10. Brake warning lamp
11. Parking brake knob
24. Forward/Reverse lever



Check brake function:

Drive the roller **slowly** forward.

Press down the parking brake (11). The roller should slow down and come to a standstill as the brake warning lamp (10) lights.

After checking the brakes, put the forward/reverse lever (24) in neutral before resetting the parking brake.

Pull out the parking brake knob.

EVERY 10 HOURS OF OPERATION (Daily)

Sprinkler system - Checking, cleaning

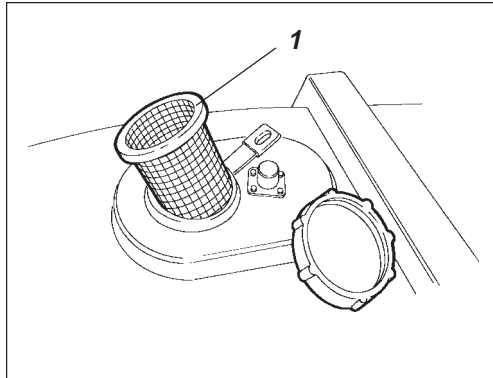
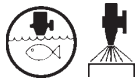


Fig. 5 Water tank
1. Strainer

Use only clean water in the water tanks. Ensure that the strainer (1) in the filler is fitted. Take out the strainer and clean it as required.

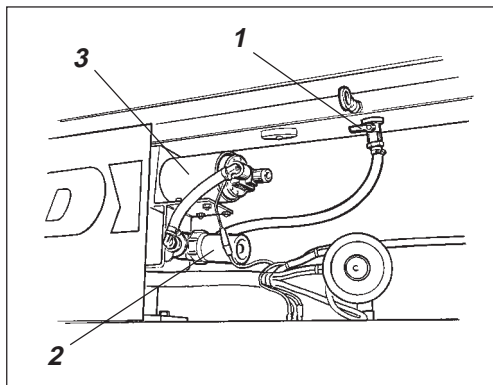


Fig. 6 Sprinkler system
1. Stop cock
2. Pressure filter housing
3. Water pump

Close the tap (1) and remove the housing of the pressure filter (2), to clean the strainer and housing.

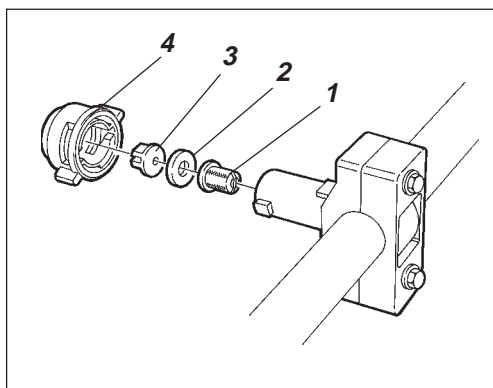


Fig. 7 Nozzle
1. Strainer
2. Rubber seal
3. Nozzle
4. Holder

Check that water is sprayed evenly over the entire surface of the drum. If any nozzle is not spraying evenly, release the holder and take out the strainer, rubber seal and nozzle; see figure 7 showing how the parts are fitted.

Clean using compressed air or water.



Wear protective goggles when working with compressed air.

EVERY 10 HOURS OF OPERATION (Daily), cont'd

Scrapers - Inspection and setting

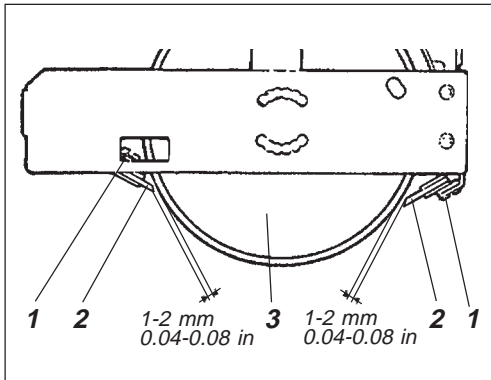


Fig. 8 Scraper setting

1. Fastening screw
2. Scraper
3. Drum

Adjust the scrapers to give a clearance of 1–2 mm (0.04-0.08 in) along the entire width of the drum.

Unscrew the fastening screws (1).

Push the scraper (2) to the correct position, 1–2 mm (0.04-0.08 in) from the drum (3).

Tighten the screws.

When the rubber/plastic has become so worn that the scraper cannot be adjusted any more, lower the scraper, unscrew the screws holding the blade, and replace with a new one. Put the scraper back in position.

Tire scrapers Checking - setting

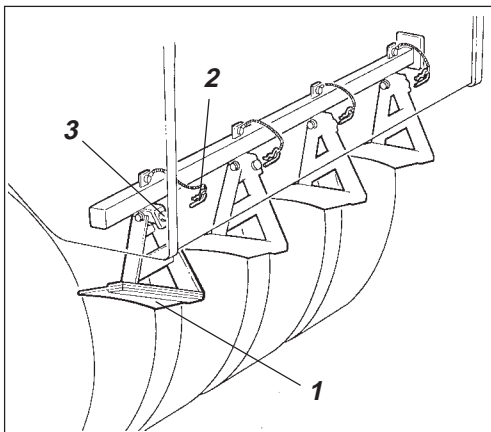


Fig. 9 Scraper setting

1. Scraper blade
2. Locking pin
3. Limit stop

Make sure that the scrapers (1) are against the tires when compacting asphalt compounds. Pull out the cotter (2) and lower the scraper blades (1) against the tires. The screw (3) is an adjustable limit stop for the scraper blades.

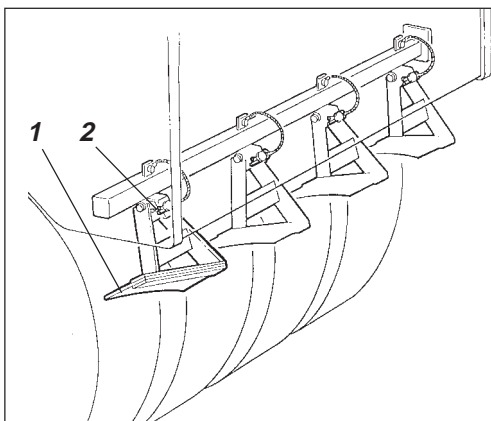


Fig. 10 Scraper setting

1. Scraper blade
2. Locking pin

The scrapers must hang freely from the tires during transport driving. Lift up the scraper blades (1) and latch them in the raised position with the cotter (2).

EVERY 10 HOURS OF OPERATION (Daily), cont'd

Hydraulic reservoir - checking the fluid level

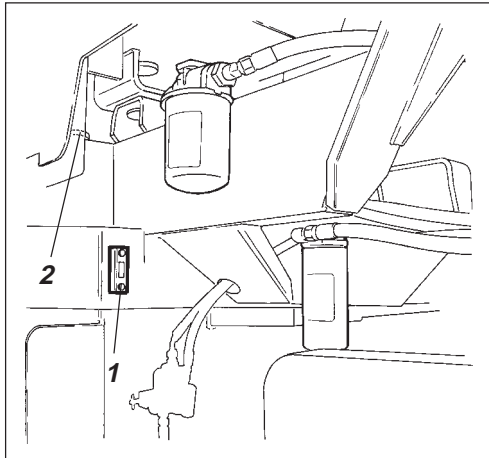


Fig. 11 Hydraulic reservoir

1. Sight glass
2. Filling

Place the roller on a level surface and check the fluid level in the sight glass (1).

Top off with hydraulic fluid through the filler hole (2) if the level is 20 mm (0.8 in) or more below the upper edge of the sight glass.

Check that the strainer in the filler hole is intact.

Securing the side covers

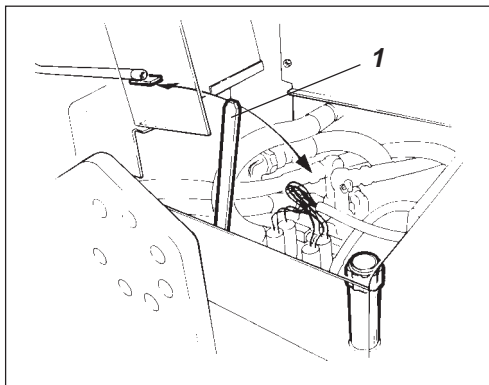


Fig. 12 Side covers

1. Support



Always secure the side covers WITH THE SUPPORT (1) when they are opened.

Fuel tank - refueling

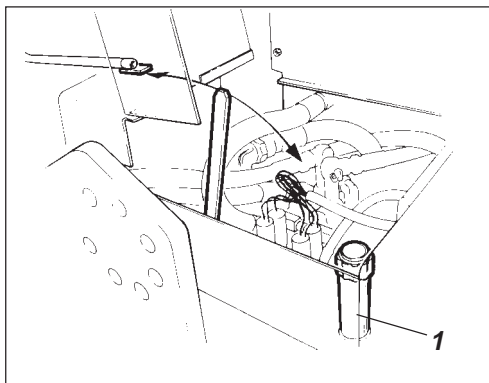


Fig. 13 Refueling

1. Filler pipe



Stop the diesel engine while refueling. Short (press) the filler gun against a non-insulated part of the roller before refueling, and against the filler pipe (1) while refueling is in progress.

Refuel at the end of each working day up to the lower edge of the filler pipe on the fuel tank.



Use diesel fuel recommended by the engine manufacturer.

EVERY 50 HOURS OF OPERATION (Weekly)

Air cleaner - cleaning the filter element

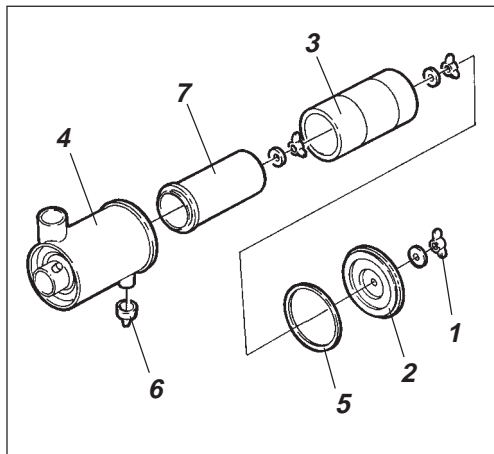


Fig. 14 Air cleaner

1. Wing nut
2. Cover
3. Main filter
4. Filter housing
5. Seal
6. Dust trap
7. Backup filter

Cleaning with compressed air

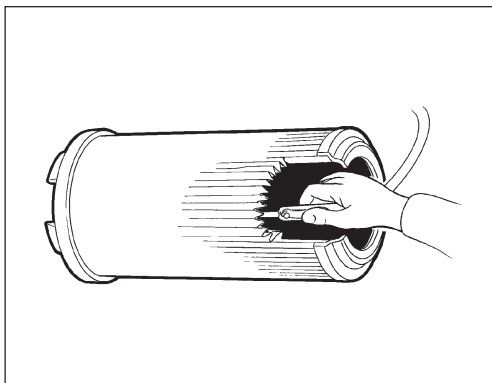


Fig. 15 Main filter

Tires - tire pressure (CC501C)

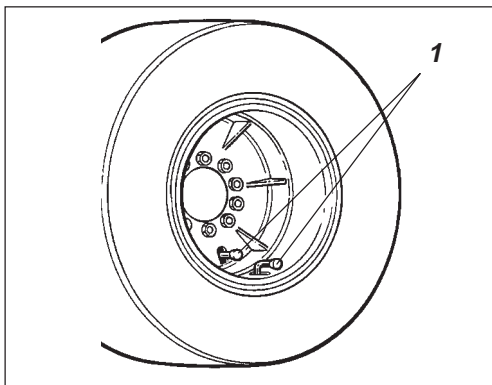


Fig. 16 Wheel, right side

1. Air valves

Loosen the wing nut (1) at the center of the filter and take off the cover (2).

Loosen the wing nut and pull out the main filter (3). Remove the backup filter (7).

Ensure that dust has not penetrated the main filter and wipe the filter housing (4) clean with a clean rag.

Ensure that the main filter and its rubber seals are intact.

Ensure that connections and hoses between the filter housing and engine are intact and tight.

Clean the emptying slit of the dust trap (6).



Replace the backup filter (7) with a new one after it has been cleaned three times and when changing the main filter. The backup filter may not be cleaned. The main filter may be cleaned a maximum of 5 times before being replaced with a new one.

Use compressed air at a maximum pressure of 0.7 MPa (7 bar). Blow up and down the paper pleats on the inside of the filter element. Hold the nozzle at least 20 mm (0.8 in) from the paper pleats so as to avoid tearing the paper.



Wear protective goggles when working with compressed air.

Check the tire pressure with a pressure gauge.

Ensure that the tires have equal pressure. Two valves can be reached from the right side and two from the left side.

Recommended pressure is 300–900 kPa (3–9 bar). See also the diagram on page 5.

Rubber elements and fastening screws - check

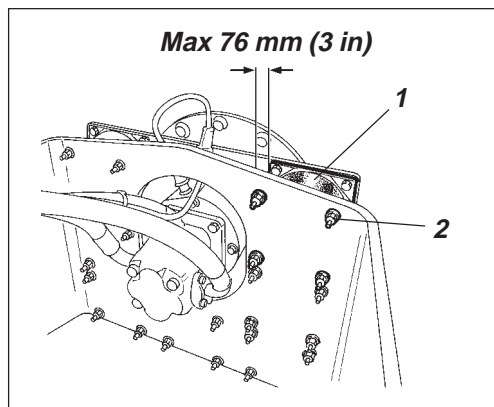


Fig. 17 Drum
 1. Rubber element
 2. Fastening screw

Check all rubber elements (1), replace all of the elements if more than 25% of them on one side of the drum are cracked deeper than 10–15 mm (0.4-0.6 in).

Use the blade of a knife or pointed object to assist when checking.

Ensure that the fastening screws (2) are tightened.

! With a caliper gauge, measure the length of the rubber element including the mounting plates. See separate workshop instructions if the size is more than 76 mm (3 in).

Steering cylinder and steering joint - lubrication

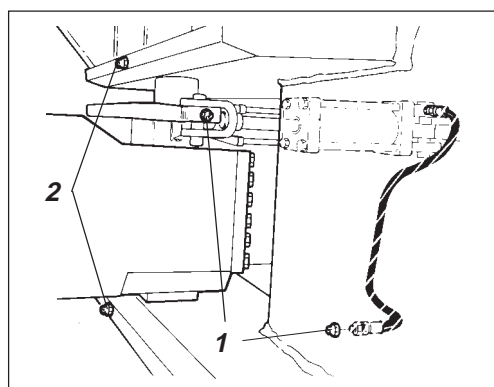


Fig. 18 Lubricant nipples
 1. Steering cylinder mounts
 2. Steering joint bearings

! Do not allow anyone near the steering joints when the engine is running. Danger of being crushed.

Wipe the nipples clean from grease and dirt.

Lubricate the steering cylinder mounts (1) with two strokes of the grease gun and the horizontal and vertical bearings of the steering joint (2) with five strokes each. If grease does not penetrate the bearings, relieve load on the articulation with a jack and repeat the greasing.

Ensure that grease penetrates the bearings and leave a little grease on the nipples to prevent dirt from entering.

Hydraulic reservoir cover - inspecting the breather holes

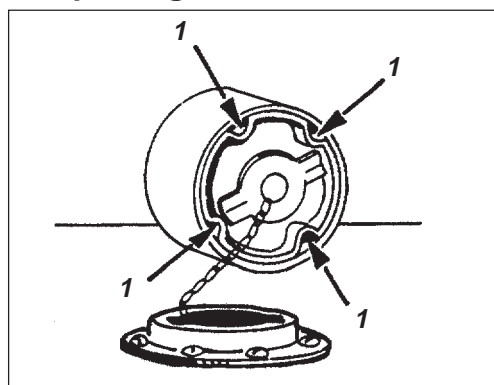


Fig. 19 Reservoir cover
 1. Breather hole

Ensure that the breather holes (1) in the hydraulic reservoir cover are not clogged. Clean the cover with diesel oil and blow dry with compressed air as required.

! Wear protective goggles when working with compressed air.

EVERY 50 HOURS OF OPERATION (Weekly), cont'd

Diesel engine pre-filter - draining

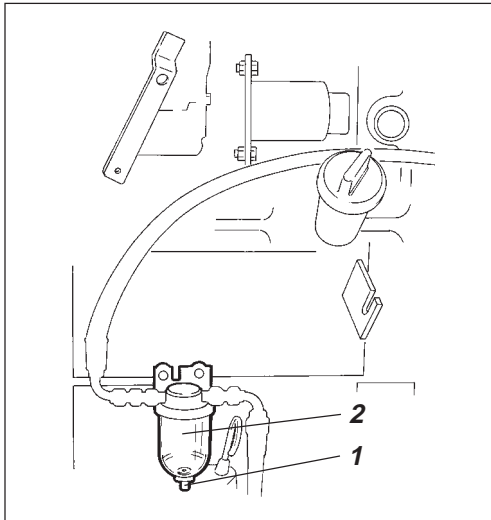


Fig. 20 Pre-filter
1. Nut
2. Glass bowl

If water and other contamination is visible in the bowl, remove and clean it.

Unscrew the nut (1) and take the bowl (2) down.

Take out the gasket and strainer from the filter head.

Inspect and clean the parts in diesel oil. Reassemble.

Pump fuel with the hand pump and check for tightness.

Battery - check

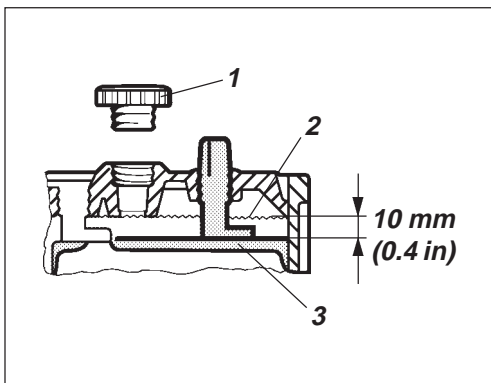


Fig. 21 Electrolyte level in battery
1. Cell cap
2. Electrolyte level
3. Plate



Never use an open flame when checking the electrolyte level. Explosive gas is generated when the alternator is charging.

Wipe the top of the battery.



Wear safety goggles. The battery contains acid. Rinse with water if electrolyte comes into contact with the body.

Take off the cell caps and ensure that electrolyte is about 10 mm (0.4 in) above the plates. Check the level of all cells. Top off with distilled water to the right level if the level is low. If the air temperature is below freezing, the engine should be run for a while before topping up with distilled water, there is otherwise a risk that the battery fluid will freeze.

Ensure that the ventilation holes in the cell cover are not clogged. Then put the cover back on.

The cable shoes should be clean and well tightened. Clean corroded cable shoes and grease them with acid-free Vaseline.



When disconnecting the battery, always disconnect the negative cable first. When connecting the battery, always connect the positive cable first.



Discarded used batteries properly. Batteries contain lead, which is detrimental to the environment.



Before doing any electric welding on the machine, disconnect the battery ground cable and then all electrical connections to the alternator.

EVERY 250 HOURS OF OPERATION (Monthly)

Hydraulic system - changing the filters

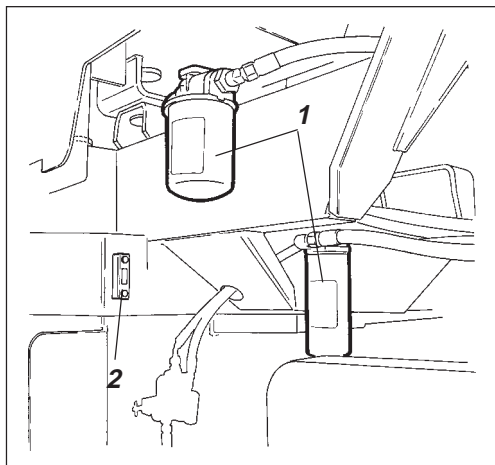


Fig. 22 Hydraulic fluid system

1. Filter
2. Sight glass

Remove the filters and empty the fluid into the spill-oil container. Discard the filters; they are disposable and cannot be cleaned.



Ensure that the old gaskets do not remain on the filter holders. Leakage may otherwise occur between the new and the old sealing rings.

Thoroughly clean the sealing surfaces of the filter holders.

Apply a thin coat of fresh hydraulic fluid to the new filter gaskets.

Tighten the filters by hand. First, screw on until the filter seal lies against the filter holder. Then screw a further half-turn.



Do not tighten the filter too hard; this could damage the seal.

Start the engine and ensure that no hydraulic fluid leaks from the filters.



**Ensure that ventilation (extraction) is adequate if the engine is run indoors.
(Risk of carbon monoxide poisoning.)**

Check the fluid level in the sight glass (2) and top off as required.

When you read the filter indicator, the hydraulic fluid should be warm and the engine running at full revs.

Ensure that the air flow through the radiator is unobstructed. Clean a dirty radiator with water or compressed air. Blow the radiator in the opposite direction to that of the cooling air. Ensure that seals and noise absorbers are not damaged by the cleaning operation.



Wear protective goggles when working with compressed air.

EVERY 250 HOURS OF OPERATION (Monthly)

Pump drive - checking the oil level

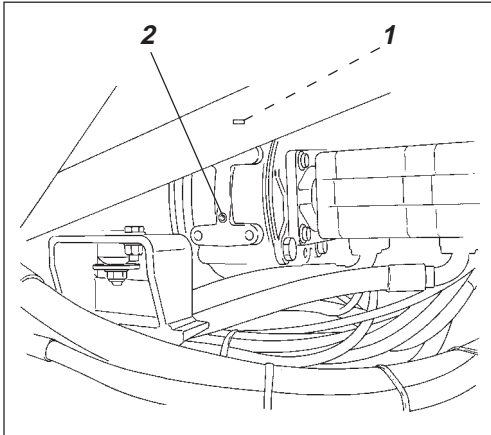


Fig. 23 Pump drive
1. Filler plug
2. Level plug

Ensure that the roller is level.



Switch off the engine and apply the parking brake/reserve brake.

Unscrew the level plug (2) on the right side of the pump drive. The oil level should reach the lower edge of the hole.

Top off with oil through the filler plug (1) until it starts to run out from the level plug hole. See page 3 for the grade of oil.

Clean and screw in the plugs tightly.

Drum drive - checking the oil level

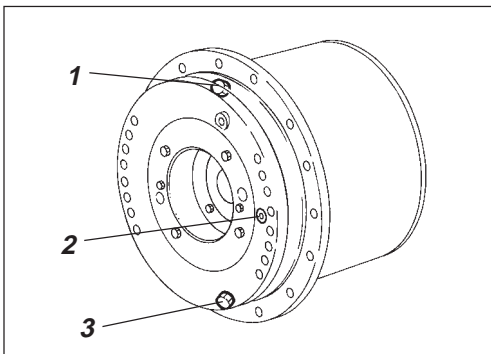


Fig. 24 Drum drive
1. Filler plug
2. Level plug
3. Drain plug

Place the roller on a level surface with the filler plug (1) at its highest point.

Wipe clean around the plugs.

Remove the plugs and ensure that the oil level reaches the level plug (2).

Top off with transmission oil as required, see the lubricant specifications on page 3.

EVERY 500 HOURS OF OPERATION (Every three months)

Drum - checking the oil level

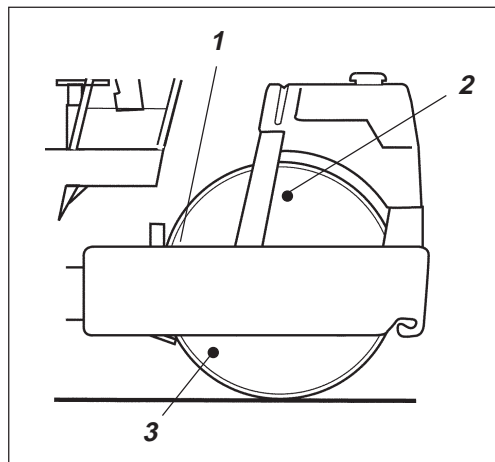


Fig. 25 Drum

1. Dipstick
2. Filler plug, M30
3. Level plug, M12

Applies to both sides of the drum:

Place the roller on a level surface so that the dipstick (1) is at the top of the frame beam.

The oil level should reach up to the level plug (3).

Top off with oil as required, but not more than up to the level plug. Fill through the filler hole (2).

Controls and pivoted joints - lubrication

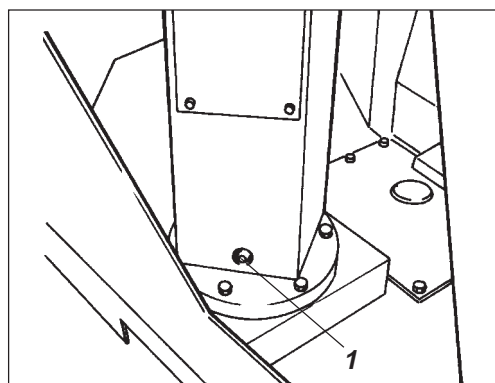


Fig. 26 Steering column

1. Lubrication nipple

Grease the hinges on the engine hood and side covers, and grease the bearings of the control table.

Lubricate other pivoted joints with oil.

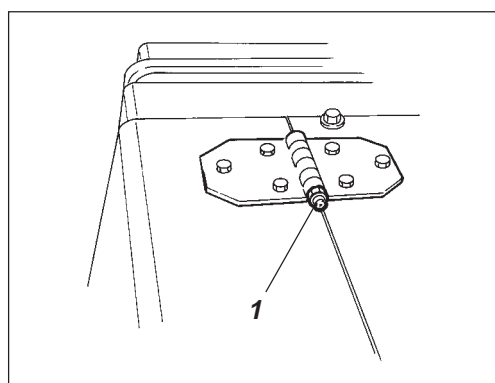


Fig. 27 Hinges on engine hood

1. Lubrication nipple

EVERY 500 HOURS OF OPERATION (Every three months)

Bolted joints - tightening control

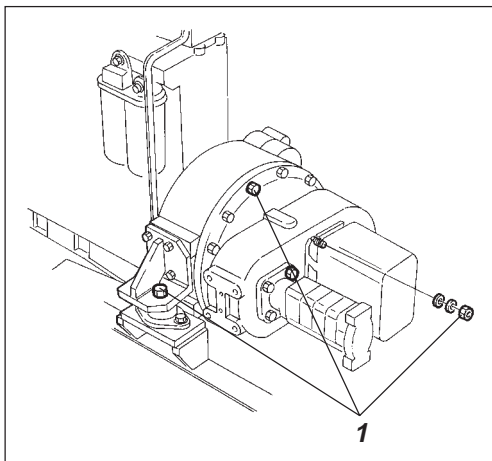


Fig. 28 Motor and drive assembly
1. Bolted joints

Ensure that all bolts on the motor and drive assembly suspension are tight, see under “Specifications—Tightening torque”.

Check that bolted joints between motor and pump drive of hydraulic pumps are tightened to the stipulated tightening torque.

Fuel tank - draining off condensation

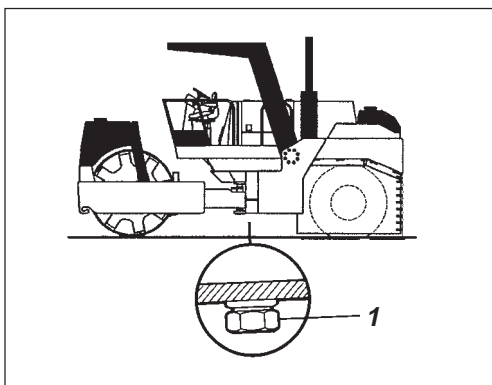


Fig. 29 Fuel tank
1. Drain plug

Draining is to be done after the roller has stood still during a long period, for example, overnight.

Hold a suitable receptacle under the plug (1).

Carefully unscrew the plug and allow water and sediment to drain off.

Tighten the plug again.



Work carefully. Do not drop the plug.

Hydraulic reservoir - draining off condensation

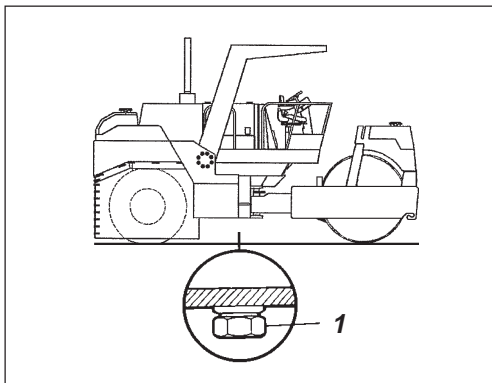


Fig. 30 Hydraulic reservoir
1. Drain plug

Drain off condensation in the hydraulic reservoir via the drain plug.

Draining must be done after the roller has stood still during a long period, for example, overnight.

Drain as follows:

Hold a suitable receptacle under the plug (1).

Unscrew and allow any condensation to drain off.

Tighten the plug again.



Work carefully. Do not drop the plug.

EVERY 2000 HOURS OF OPERATION (Yearly)

Hydraulic reservoir - changing the fluid

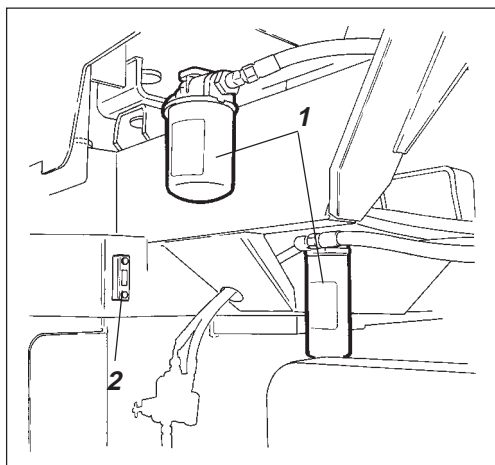


Fig. 31 Changing the hydraulic fluid

1. Hydraulic filter
2. Sight glass

When you change the fluid, it is essential that the roller has been in operation sufficiently long to heat the fluid, so that it flows easily when draining. Any contamination will flow out with the fluid.



Danger of being burned when draining hot oil. Protect your hands.

Observe cleanliness and make sure the roller is level.

Run the roller up a ramp onto a level platform, or something similar, to make it easier to drain about 340 liters (90 gal) of fluid.



Switch off the engine and apply the parking brake/reserve brake.

Change the hydraulic filters and ensure that the reservoir cover can breathe unrestrictedly. If not, clean in diesel oil.

Fill with the stipulated amount of hydraulic fluid. Check the amount in the sight glass.

Start the engine and run the roller and operate the vibration.



Ensure that ventilation (extraction) is adequate if the engine is run indoors. (Risk of carbon monoxide poisoning).

Stop the engine and check fluid level and tightness.

Drum - changing the oil

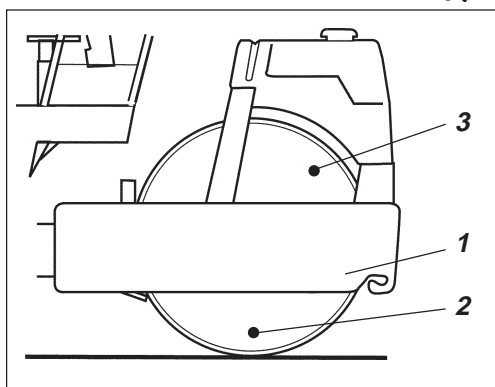


Fig. 32 Changing the drum oil

1. Dipstick
2. Drain/Filler plug, M30
3. Level plug, M12

Applies to both sides of the drum:

Run the roller to position the plugs (2) at the bottom. Unscrew the plug on one side and drain off the oil. Note: the volume of oil is 27 liter (7 gal).

Drain off oil on the other side.

Run the roller to position the plugs (2) at the top, level plug (1) at the same height as the drum frame, see figure 25.

Fill with the stipulated grade and amount of oil, see page 3 and 4. Ensure that oil reaches up to the level plug (3).

EVERY 2000 HOURS OF OPERATION (Yearly)

Drum drive - changing the oil

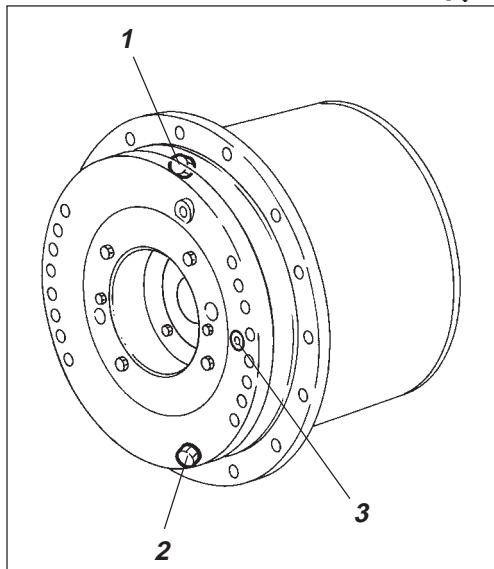


Fig. 33 Drum drive, filling/draining

1. Filler plug
2. Drain plug
3. Level plug

Applies to both drums:



When you change the oil, it is essential that the roller has been in operation sufficiently long to heat the oil, so that it flows easily when draining. Any contamination will flow out with the fluid. Observe cleanliness and make sure the roller is level.



Danger of being burned when draining hot oil. Protect your hands.

Place the roller on a level surface so that the drain plug (2) is straight down.

Wipe clean around the plugs.

Place a receptacle under the drain plug and drain off the oil. The receptacle must hold at least 4 liters. Also remove the filler plug (1).

Fill with oil until the level reaches the level plug hole. Use transmission oil, see page 3.

Wipe any metal particles off the plugs before refitting them.

Pump drive - changing the oil

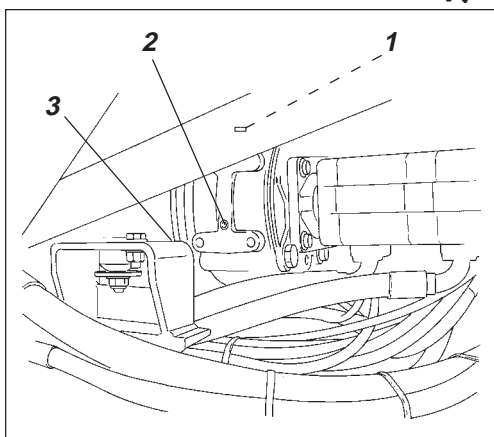


Fig. 34 Pump drive

1. Filler plug
2. Level plug
3. Drain plug

Change oil when the pump drive is at working temperature. The roller must be on a level surface.



Switch off the engine and apply the parking brake/reserve brake.

Unscrew the filler plug (1) and the drain plug (3) and drain off the oil. The volume is about 4 liters.

Clean the drain plug and screw back in.

Remove the level plug (2) and fill with fresh gearbox oil through the filler plug. Fill slowly so that the oil level has time to even out.

Refit the plugs when the oil level is correct.

LONG-TERM PARKING

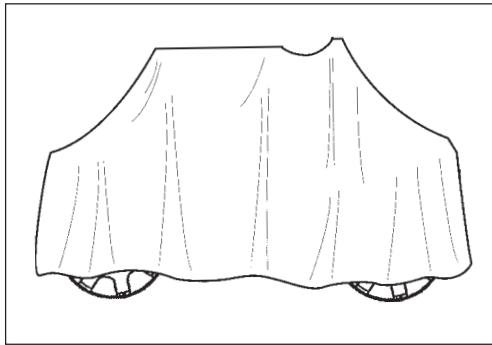


Fig. 35 Roller protected against the weather



The following instructions should be followed for parking longer than one month:

The measures apply for a period of up to 6 months.

The items below that are marked * must be restored before using the roller.

Diesel engine

- * See manufacturer's instructions in the engine manual that accompanies the roller.

Battery

- * Remove the battery from the roller, clean it, check that the electrolyte level is correct and trickle charge the battery once a month.

Air cleaner, exhaust pipe

- * Cover the air cleaner or its opening with plastic or tape. Cover the exhaust opening. This is necessary to prevent moisture from entering the engine.

Fuel tank

Fill the fuel tank to prevent condensation and consequent corrosion.

Hydraulic reservoir

Drain off any condensation from the hydraulic reservoir.

Sprinkler system

- * Empty the water tanks completely, also hoses, filter housing and the water pump. Also remove all sprinkler nozzles for the drum and wheels.

Steering cylinder, hinges, etc.

Grease the steering-joint bearings and both bearings of the steering cylinder.

Grease the piston rod of the steering cylinder with inhibitor grease.

Also grease the engine hood hinges, rev control and the forward/reverse mechanism.

Tires (CC 501C)

Ensure that tire pressure is at least 150 kPa (1.5 kp/cm²).

Hoods, tarpaulin

- * Lower the instrument shield on the steering column. Cover the entire roller with a tarpaulin.

Note. The tarpaulin must be free from the ground. Store the roller indoors if possible, preferable on premises with an even temperature.

SPECIAL INSTRUCTIONS

Standard oils and other recommended fluids

On leaving the factory, the various systems and components are filled with oil or fluid as indicated on page 3 and are ready for operation in ambient temperatures between -10°C (14°F) and $+40^{\circ}\text{C}$ (104°F). The following recommendations apply for operation in higher temperatures, however max. $+50^{\circ}\text{C}$ (122°F).

Higher ambient temperature max. $+50^{\circ}\text{C}$ (122°F)

The diesel engine can be run at this temperature using the normal oil, but for other components, use the following oils and fluids:

Hydraulic system: Shell Tellus Oil T100, or equivalent.
Other components using transmission oil: Shell Spirax HD 85W/140, or equivalent.

Temperature

The temperature limits apply to standard versions of the roller.

Rollers that are fitted with additional equipment, such as noise suppression, etc., may require extra observation in the higher temperature ranges.

High-pressure washing



Do not aim a water jet directly at the cap of the fuel tank or hydraulic reservoir. This is especially important when using a high-pressure jet.

Put a plastic bag over the filler cap of the fuel tank and secure with a rubber band. This will prevent water from entering the venting hole in the filler cap, which could cause operational disturbances - for example, a clogged filter. Do not spray water directly on electric components or the instrument panel.

Fire fighting

In the event of fire in the machine, use an ABE powder fire extinguisher if possible. A BE-type carbon dioxide fire extinguisher may also be used.

Protective structure (ROPS)

If the roller is equipped with a protective structure - Roll Over Protective Structure, (ROPS) - it must on no account be subjected to welding and holes must never be drilled in the structure. Never attempt to repair a damaged structure, it must be replaced with a new one.

Starting aid

When using an auxiliary battery to assist starting, always connect the positive terminal of the auxiliary battery to the positive terminal of the roller battery, and negative to negative.

ELECTRICAL SYSTEM, FUSES

Fuses

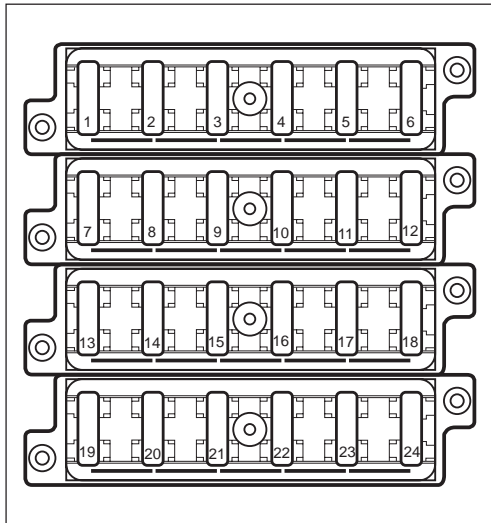


Fig. 36 Fuse boxes in the steering column

- | | | |
|----------------------|-------------------------------|--------------------------------|
| 1. Vibration relay | 9. Stop solenoid | 17. Dipped headlight, left |
| 2. Brake valve | 10. Instruments | 18. Dipped headlight, right |
| 3. - | 11. Horn | 19. Direction indicator, right |
| 4. Vibration pump | 12. Split drum | 20. Main beam, left |
| 5. - | 13. Working lights, rear | 21. Main beam, right |
| 6. - | 14. Parking lights, left | 22. Brake light, right |
| 7. Water pump, rear | 15. Parking lights, right | 23. Brake light, left |
| 8. Water pump, front | 16. Direction indicator, left | 24. - |

The machine is equipped with a 12 V electrical system and an alternator.



Connect the battery to the correct polarity (- to ground). The cable between battery and alternator must not be disconnected while the engine is running.



Before doing any electric welding on the machine, disconnect the battery ground cable and then all electrical connections to the alternator.

Fuses located in the fuse boxes protect the electrical regulating and control system.

The figure illustrates the function of the various fuses.

The fuse boxes are located in the steering column.

Fuses in the cab

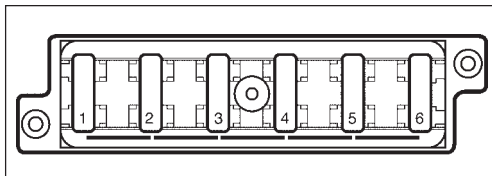


Fig. 37 Fuse box in cab (accessory)

1. Cab lighting/washer
2. Ventilation fan
3. Lights, rear
4. Lights, front
5. Wiper, windshield and side
6. Cab heating

The electrical system in the cab has an individual fuse box located in the left side of the cab roof.

Instrument column

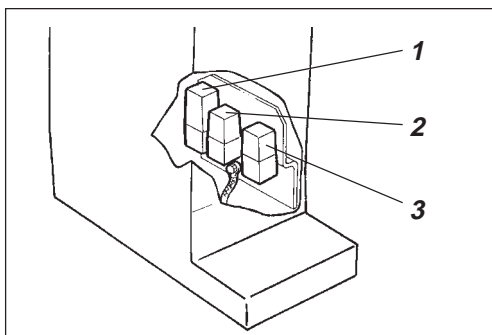


Fig. 38 Relays

1. Flasher relay
2. Sprinkler relay
3. VBS relay