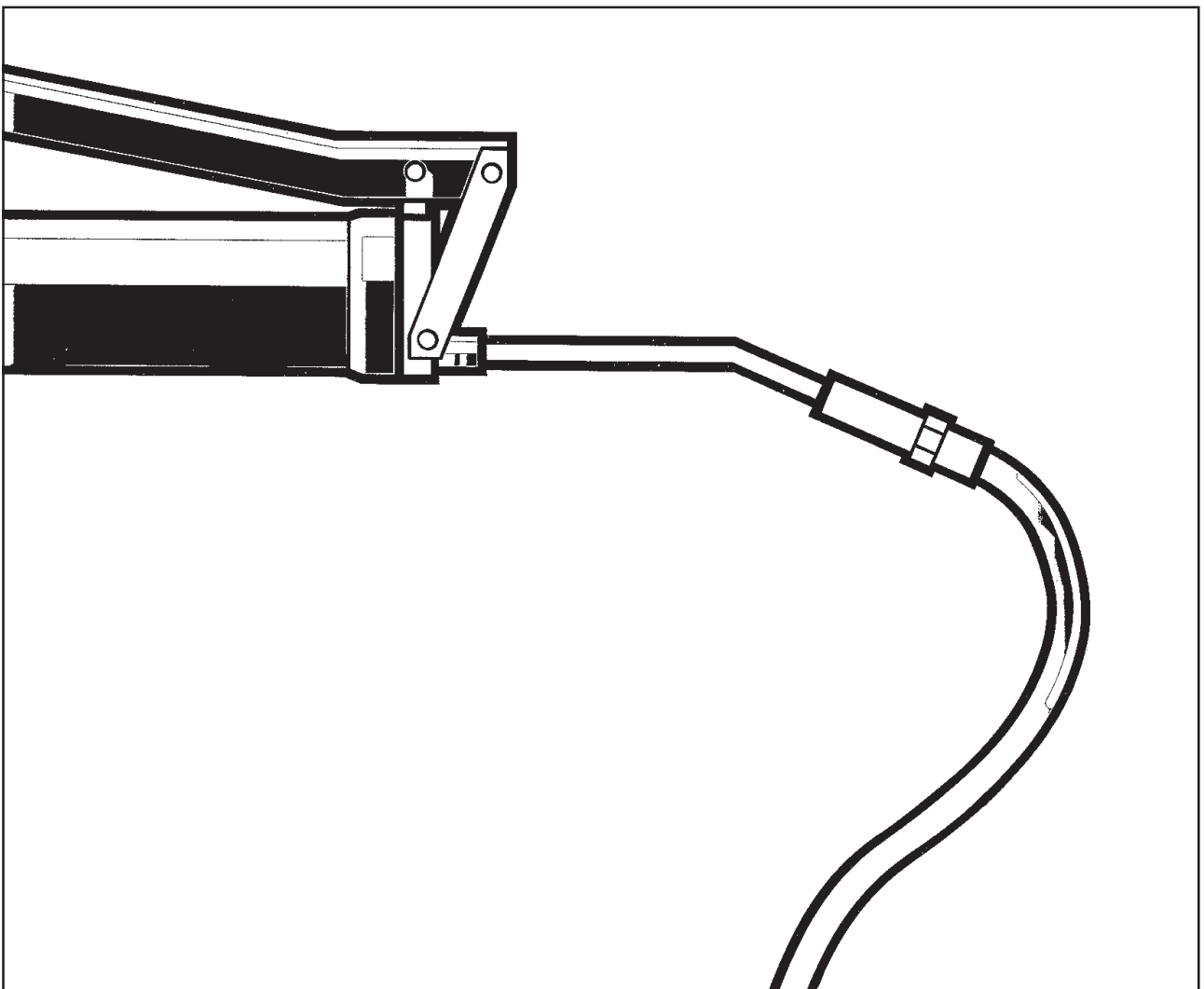


# DYNAPAC CC 722/722C MAINTENANCE

M722EN2



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# **DYNAPAC**

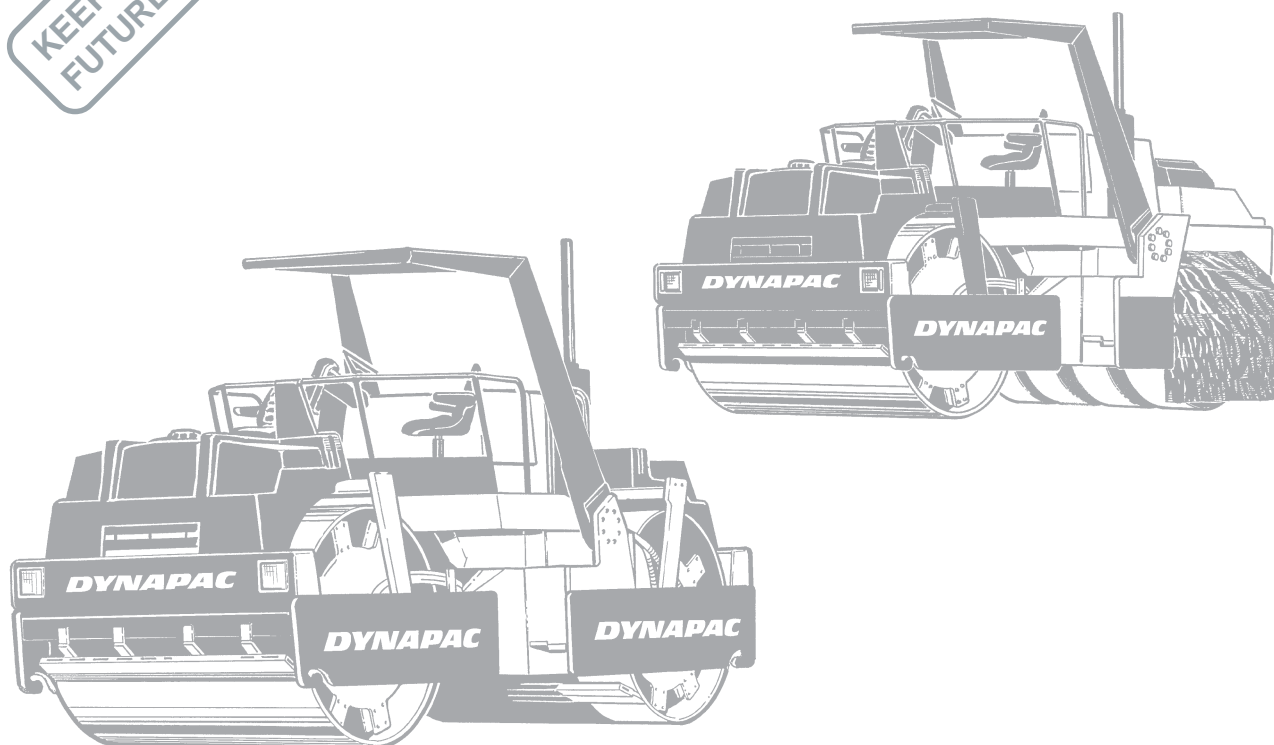
## **Vibratory roller CC722/722C**

### **Maintenance M722EN2, May 2002**

**Diesel engine:  
Cummins QSB 5.9-C**

**These instructions apply from:  
CC 722: PIN (S/N) \*63920722\*  
CC 722C: PIN (S/N) \*64020722\***

**KEEP THIS MANUAL FOR  
FUTURE REFERENCE**



*The CC 722 is a roller of the heavier category in the CC family.*

*The CC 722 has articulated steering and drive on both drums.*

*The CC 722 features high power, high capacity and high quality in extremely demanding applications, such as building highways and airfields, with strict requirements for results and sealed surfaces in compacting various asphalt compounds.*

*Separate information about accessories is available on request.*

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## WARNING SYMBOLS

WARNING



**Safety instructions—Personal safety.**

CAUTION



**Special caution—Machine or component damage.**

## GENERAL

WARNING



**Read the entire manual before starting any service work.**

WARNING



**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.

CAUTION



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, SYMBOLS

CAUTION



















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

|   |  |
|---|--|
|    | <b>ENGINE OIL</b><br>ambient temperature<br>-10°C to +50°C (14°F-122°F) Shell Rimula SAE 15W/40 or equivalent.   |
|    | <b>HYDRAULIC FLUID</b><br>ambient temperature<br>-10°C to +40°C (14°F-104°F) Shell Tellus TX68 or equivalent<br>above +40°C (above 104°F) Shell Tellus TX100 or equivalent   |
|    | <b>BIOLOGICAL HYDRAULIC FLUID</b><br>Shell Naturelle HF-E46<br>When it leaves the factory, the machine may be filled with biologically degradable fluid. The same type of fluid must be used when changing or topping off. |
|    | <b>DRUM OIL</b><br>ambient temperature<br>-15°C to +40°C (5°F-104°F) API, GL-5 SAE 80W/90 HD<br>above +40°C (above 104°F) Shell Spirax HD85W/140 eller motsvarande   |
|    | <b>TRANSMISSION OIL</b><br>ambient air temperature<br>-15°C to +40°C (5°F - 104°F) API, GL-5 SAE 80W/90 HD<br>above +40°C (above 104°F) Shell Spirax HD85W/140 eller motsvarande   |
|   | <b>GREASE</b><br>SKF LGHB2 (NLGI Class 2) or equivalent for the articulated joint. Shell Retinax LX2 or equivalent for other grease points.  |
|  | <b>FUEL</b><br>See engine manual.  |
|  | <b>COOLANT</b><br>mixed 50/50 with water<br>Shell Anti-Freeze 402 or corresponding.<br>Anti-freeze protection down to about -35°C (-31°F).   |

CAUTION



Other fuel and lubricants are required for operation in extremely high or extremely low ambient temperature. See the "Special instructions" chapter, or consult Dynapac.

|   |                            |   |                         |
|---|----------------------------|---|-------------------------|
|  | Engine, oil level          |  | Air filter              |
|  | Engine, oil filter         |  | Battery                 |
|  | Hydraulic reservoir, level |  | Sprinkler               |
|  | Hydraulic fluid filter     |  | Sprinkler water         |
|  | Drum, oil level            |  | Recycling               |
|  | Lubricating oil            |  | Fuel filter             |
|  | Air pressure               |  | Sprinkler, tyres        |
|  | Coolant, level             |  | Transmission, oil level |

## SPECIFICATIONS

| Weight Sizes   | CC 722          | CC 722C         |
|--|-----------------|-----------------|
| Weight CECE,<br>standard equipped roller, kg (lbs) .....             | 16 500 (36,382) | 20 600 (45,423) |
| 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)<br>(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) | 26.5 l/drum (7 gal/drum) |
| Hydraulic reservoir    | 120 l (32 gal)           | 120 l (32 gal)           |
| Fuel tank              | 335 l (88 gal)           | 335 l (88 gal)           |
| Water tanks front/rear | 670/670 l (177/177 gal)  | 670/318 l (177/84 gal)   |
| Coolant                | 38 l (10 gal)            | 28 l (7 gal)             |
| Diesel engine          | 19 l (6 gal)             | 15,7 l (4 gal)           |
| Pump drive             | 4 l (4.3 qts)            | 3,1 l (3.3 qts)          |
| Drum drive             | 3 l/drum (3.2 qts/drum)  | 3 l/drum (3.2 qts/drum)  |

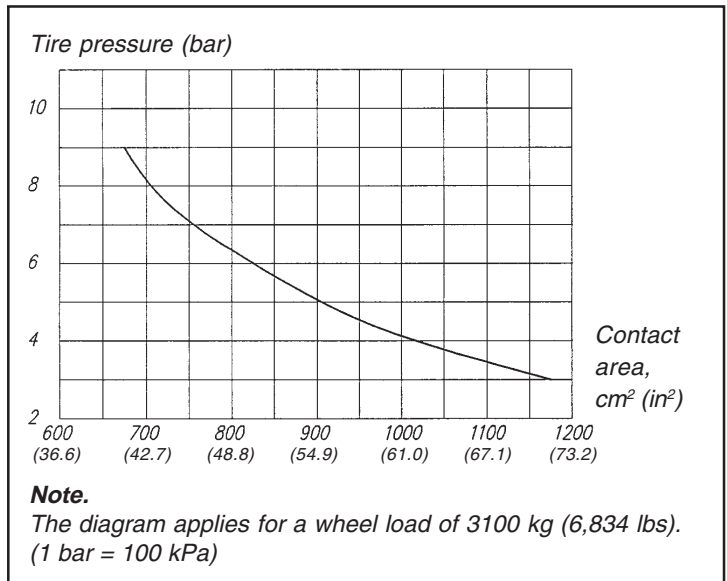
| Electrical system | CC 722       | CC 722CC |
|-------------------|--------------|----------|
| Battery           | 12 V, 160 Ah |          |
| Alternator        | 12 V, 95 A   |          |
| Fuses             | 5,0-10 A     | 5,0-10 A |

| Compaction data                 | CC 722       | CC 722C       |
|---------------------------------|--------------|---------------|
| Static linear load, kg/cm (pli) |              |               |
| Front                           | 35 (196)     | 35 (196)      |
| Rear                            | 39 (218)     | 39 (218)      |
| Tire load kg/tire (lbs/tire)    | -            | 3 100 (6,835) |
| Amplitude, mm (in)              |              |               |
| High:                           | 0,8 (0.031)  | 0,8 (0.031)   |
| Low:                            | 0,4 (0.016)  | 0,4 (0.016)   |
| Frequency, Hz (vpm)             | 45 (2700)    | 45 (2700)     |
| Centrifugal force, kN (lb)      |              |               |
| At high amplitude:              | 189 (42,489) | 189 (42,489)  |
| At low amplitude:               | 90 (20,233)  | 90 (20,233)   |

| Propulsion                        | CC 722       | CC 722C        |
|-----------------------------------|--------------|----------------|
| Speed range, km/h (mil/h)         | 0-13 (0-8.1) | 0-10,5 (0-6.5) |
| Climbing capacity (theoretical) % | 30           | 31             |

| Tires              | CC 722C                  |
|--------------------|--------------------------|
| Dimension .....    | 15.0 R24 Pilote          |
| Qty .....          | 4                        |
| Air pressure ..... | See diagram on next page |

# SPECIFICATIONS



## Tightening torque

Tightening torque in Nm (lbf.ft) for oiled, bright galvanized bolts tightened with a torque wrench.

| M<br>thread | STRENGTH CLASS |      |      |
|-------------|----------------|------|------|
|             | 8.8            | 10.9 | 12.9 |
| M6          | 8,4            | 12   | 14,6 |
| M8          | 21             | 28   | 34   |
| M10         | 40             | 56   | 68   |
| M12         | 70             | 98   | 117  |
| M16         | 169            | 240  | 290  |
| M20         | 330            | 470  | 560  |
| M24         | 570            | 800  | 960  |
| M30         | 1130           | 1580 | 1900 |
| M36         | 1960           | 2800 | —    |

## ROPS

CAUTION



ROPS bolts must **always** be tightened dry.

|                    |  |
|--------------------|--|
| Bolt size:         | M24 (P/N 903792)                             |
| Strength class:    | 10,9   |
| Tightening torque: | 800 Nm (590lbf.ft)<br>(for Dacromet treated) |

## Hydraulic system

| Opening pressure, MPa (psi) | CC 722     | CC 722C    |
|-----------------------------|------------|------------|
| Drive system                | 35 (5,100) | 35 (5,100) |
| Charge system               | 2,0 (290)  | 2,0 (290)  |
| Vibration system            | 35 (3,626) | 35 (3,626) |
| Steering system             | 14 (2,000) | 14 (2,000) |
| Brake release               | 1,5 (220)  | 1,5 (220)  |

## SPECIFICATIONS

### Vibrationer - Förarplats (ISO 2631)

**The vibration values are measured in conformance with the driving mode described in EU directive 2000/14/EC on EU equipped machines, on soft polymer material with vibration switched ON and the operator's seat in transport mode.**

Operator's station, vibration, hand/arm (steering wheel/lever):  
Below limit value.  
Limit value: <2.5 m/s<sup>2</sup>.  
Operator's station, vibration, entire body (operator's seat):  
Below limit value.  
Limit value: <0.5 m/s<sup>2</sup>.

CAUTION



Vibration levels may vary when driving on different courses and with different seat positions.

### Noise level - Operator's station (ISO 6394)

**Noise levels with vibration switched OFF (dB(A)).  
Measured on hard surface, standard roller.**

|                                   |             |
|-----------------------------------|-------------|
| Operator's station, (with cab)    | LpA: 76 dBA |
| Operator's station, (without cab) | LpA: 84 dBA |
| Seven metres from machine         | LpA: 80 dBA |

### Acoustic values

**The acoustic values are measured in conformance with EU directive 2000/14/EC on EU-equipped machines, on soft polymer material with vibration switched ON and the operator's seat in transport mode.**

| Model   | Guaranteed acoustic power level dB(A) | Acoustic pressure level, operator's ear (platform) dB(A) | Acoustic pressure level, operator's ear (cab) dB(A) |
|---------|---------------------------------------|--|---|
| CC 722  | 113                                   | -  | 88  |
| CC 722C | 113                                   | -  | 87  |

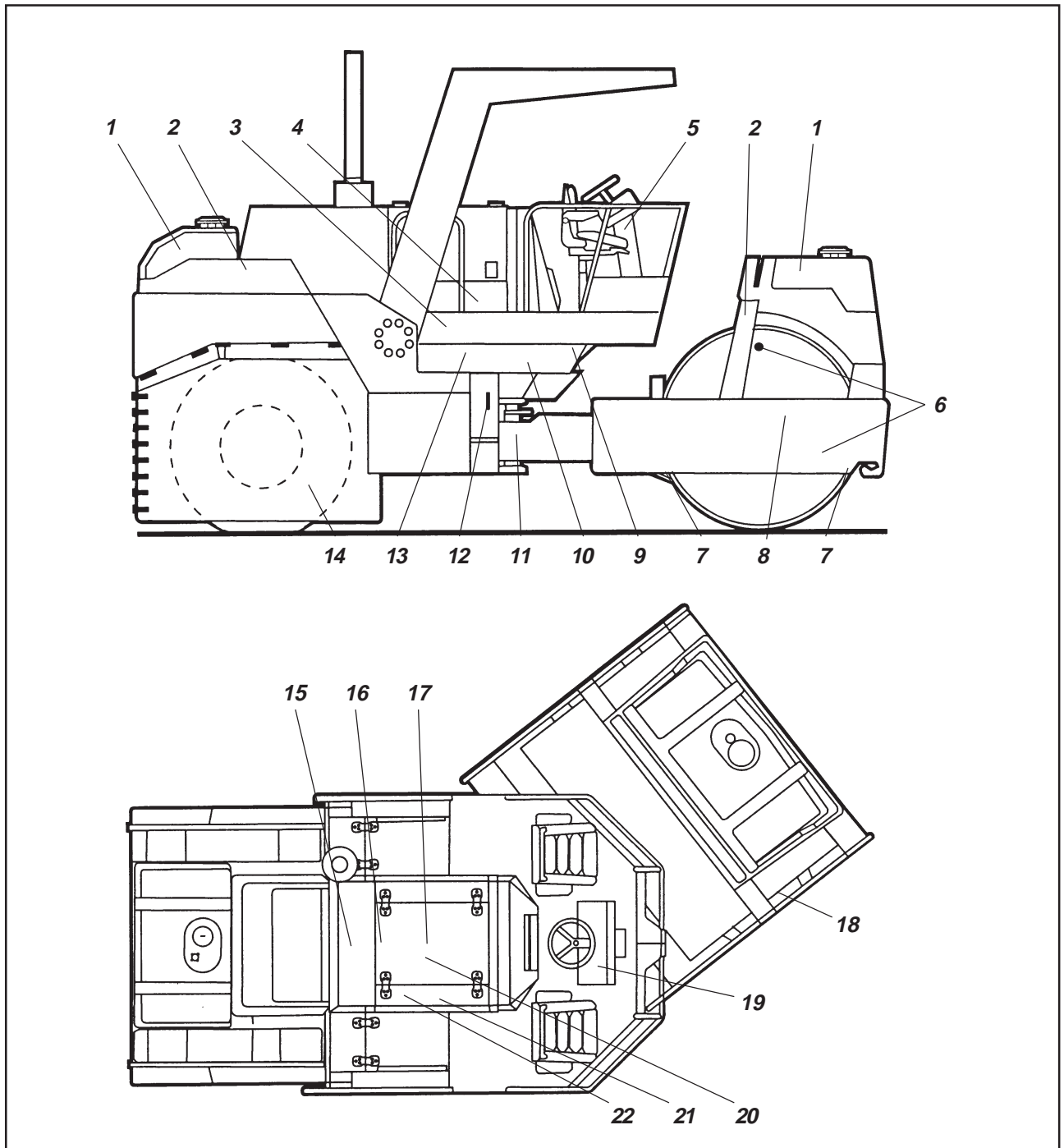
CAUTION



Noise level can vary when driving on different courses and with different seat positions.



## MAINTENANCE SCHEDULE



**Fig. 1** Maintenance points

- |  |  |                      |
|--|--|----------------------|
| 1. Water tanks                         | 9. Flywheel casing,<br>pump drive            | 16. Drive belts      |
| 2. Sprinklers                          | 10. Hydraulic filter                         | 17. Coolant filter   |
| 3. Fuel tank                           | 11. Articulation joint,<br>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 722C)                          | 21. Engine oil level |
| 7. Scrapers                            | 15. Radiator                                 | 22. Fuel filter      |
| 8. Rubber element,<br>fastening screws |  |                      |

## MAINTENANCE MEASURES

The periodic measures should be performed primarily after the specified hours of operation. Use the daily, weekly, etc. time periods only where this is not possible.

CAUTION



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

CAUTION




The engine manual specifies additional service/maintenance instructions which relate to the diesel engine.

### Every 10 hours of operation (daily)

| Items in fig. 1 | Measure   | See page | Comments          |
|-----------------|---|----------|-------------------|
|                 | <b>Before starting up</b>   |          |                   |
| 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 |
|-----------------|---|----------|----------|
| 14              | Check tire pressure   | 14       |          |
| 20              | Clean the filter element in the air cleaner   | 14       |          |
|                 | Check that hoses and connections are tight  |          |          |
| 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       |          |
| 13              | Check the battery   | 16       |          |
| 22              | Drain the engine fuel pre-filter  | 16       |          |
|                 |  After the <b>first</b> 50 hours of operation, change all the lubricating oils, but not the hydraulic fluid. |          |          |

## MAINTENANCE MEASURES

### 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 |
| 9               | Check the oil level in the pump drive                 | 18       |                   |
| 18              | Check oil level in the drum drives (2 on CC 722)      | 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 722)                      | 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 |
| 21              | Change the engine oil and oil 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<br>Check the belt stretcher, engine |          | See engine manual<br>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 722)   | 21       |          |
| 18              | Change oil in the drum drives (2 on CC 722)                                      | 22       |          |
| 1               | Empty and clean the water tanks  |          |          |
| 9               | Change oil in the pump drive   | 22       |          |
| 10              | Replace the hydraulic filter and clean the outside of the hydraulic fluid cooler | 17       |          |

## EVERY 10 HOURS OF OPERATION (DAILY)

### Coolant level – Checking, filling (Circulation of cooling air)

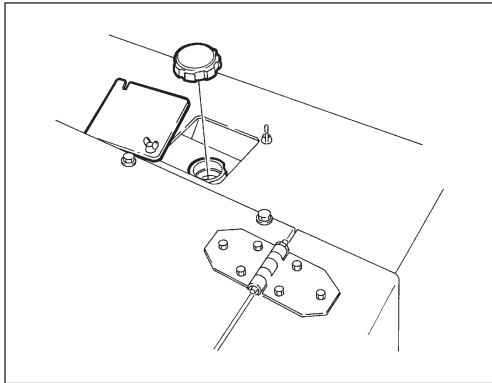


Fig. 2 Radiator cap

WARNING



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.

CAUTION



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

### Water trap – Draining

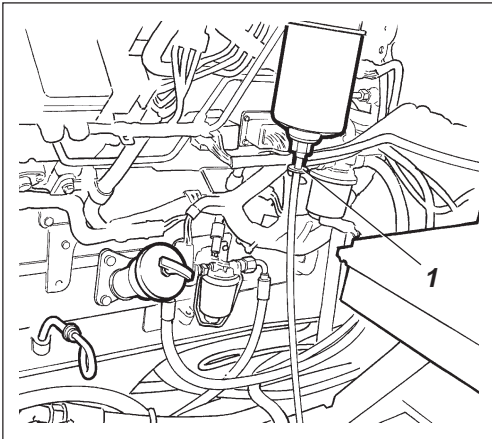


Fig. 3 Water trap on the fuel filter  
1. Drain cock

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

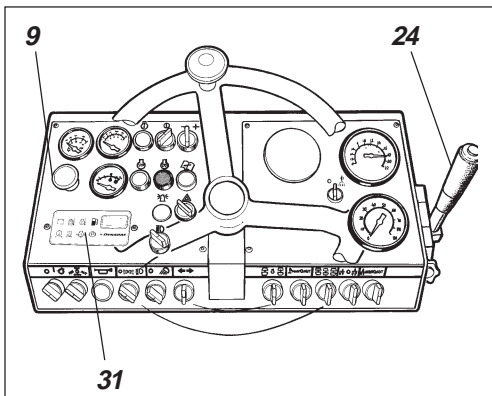


Fig. 4 Instrument panel  
9. Reserve/parking brake knob  
24. Forward/Reverse lever  
31. Brake warning lamp

WARNING



Check brake function:

Drive the roller **slowly** forward.

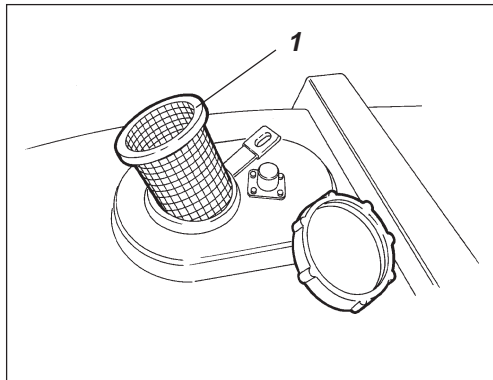
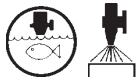
Push in the reserve/parking brake knob (9). The roller should slow down and come to a standstill as the brake warning lamp (31) lights.

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

Pull up the reserve/parking brake knob.

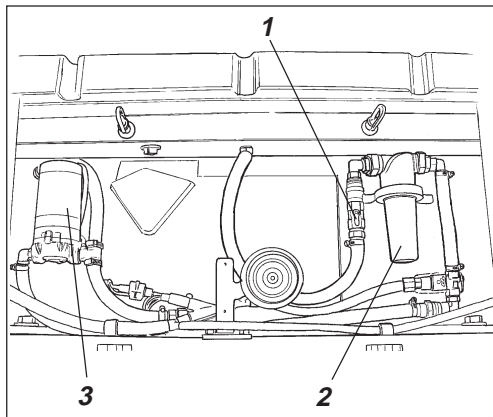
## EVERY 10 HOURS OF OPERATION (DAILY)

### Sprinkler system – Checking, cleaning



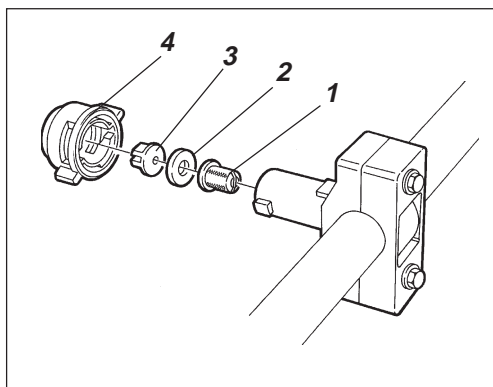
**Fig. 5 Water tank**  
1. Strainer

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.

WARNING

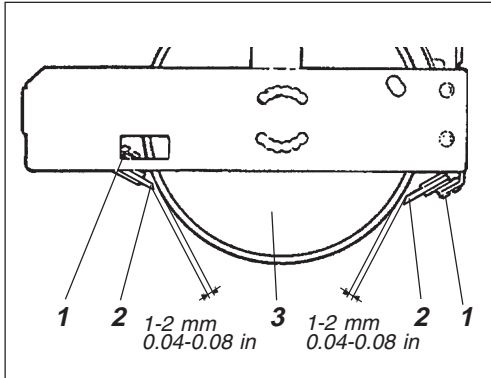


**Wear protective goggles when working with compressed air.**

## EVERY 10 HOURS OF OPERATION (DAILY)

### 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).

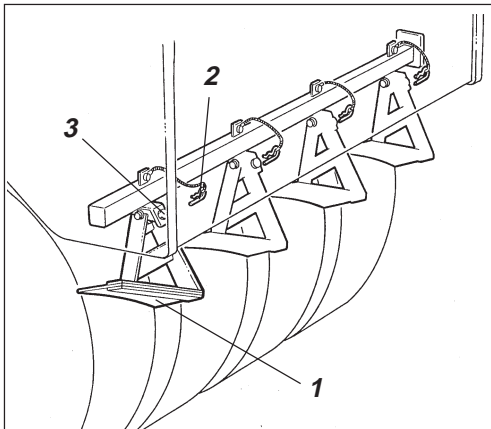
Push the scraper (2) to the correct position, 1–2 mm (0.04-0.08 in) from the drum (3).

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

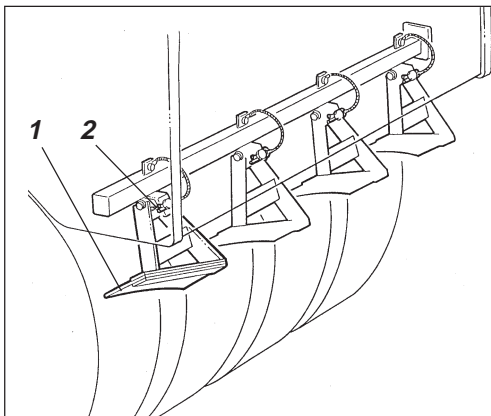
#### Checking – setting



**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.



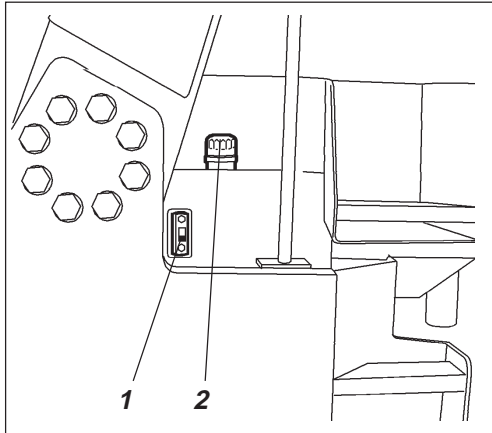
**Fig. 10 Scraper setting**

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)

### Hydraulic reservoir – checking the fluid level



**Fig. 11 Hydraulic reservoir**

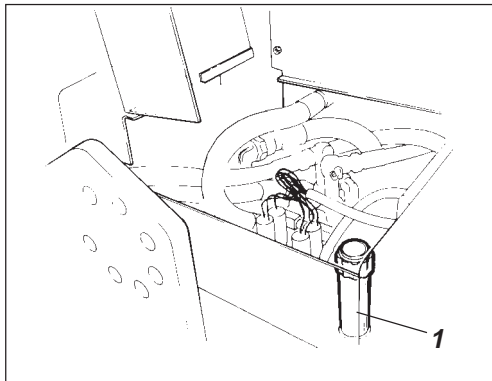
1. Sight glass
2. Filling

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.

### Fuel tank – refueling



**Fig. 12 Refueling**

1. Filler pipe

WARNING



**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.

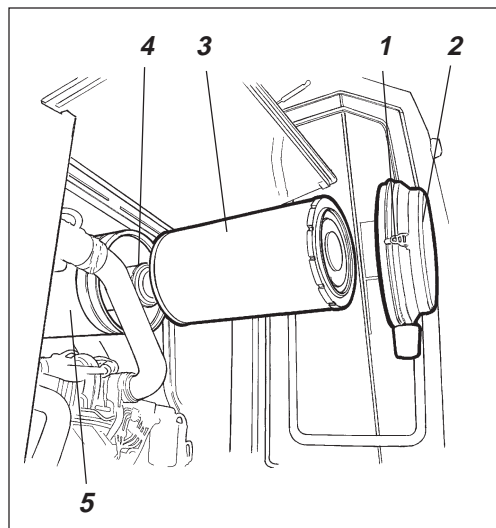
CAUTION



**Use diesel fuel recommended by the engine manufacturer.**

## EVERY 50 HOURS OF OPERATION (WEEKLY)

### Air cleaner – Check/Cleaning



**Fig. 13 Air cleaner**

1. Locking braces
2. Cover
3. Main filter
4. Backup filter
5. Filter housing

**CAUTION**

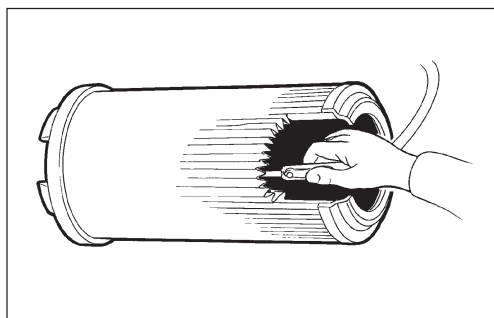


Replace or clean the main filter of the air cleaner when the warning lamp on the instrument panel lights at full engine revs.

Release the three locking braces (1) and pull off the cover (2), pull out the main filter (3).

Do not remove the backup filter (4).

### Cleaning with compressed air



**Fig. 14 Main filter**

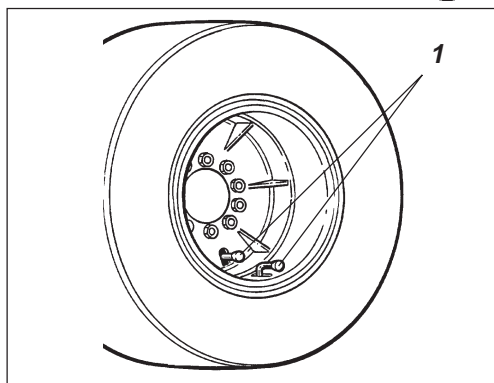
Use compressed air at a maximum pressure of 0.7 MPa (7 bar). Blow up and down the paper pleats on the inside of the filter element. Hold the nozzle at least 20 mm (0.8 in) from the paper pleats so as to avoid tearing the paper.

**WARNING**



**Wear protective goggles when working with compressed air.**

### Tires - tire pressure (CC 722C)



**Fig. 15 Wheel, right side**

1. Air valves

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.



## EVERY 50 HOURS OF OPERATION (WEEKLY)

### Rubber elements and fastening screws – check

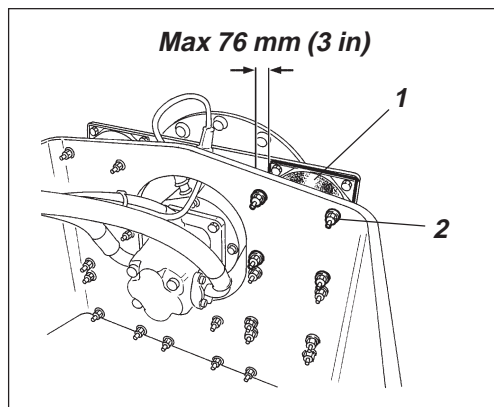


Fig. 16 Drum

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.

#### CAUTION



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

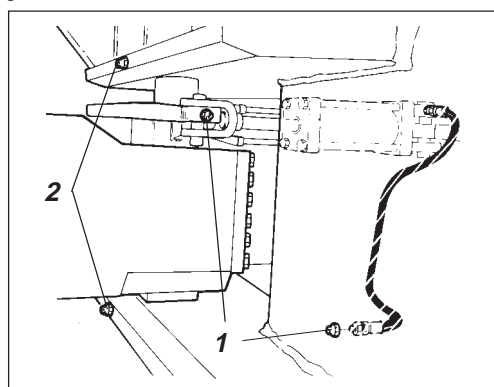


Fig. 17 Lubricant nipples

1. Steering cylinder mounts
2. Steering joint bearings

#### WARNING



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

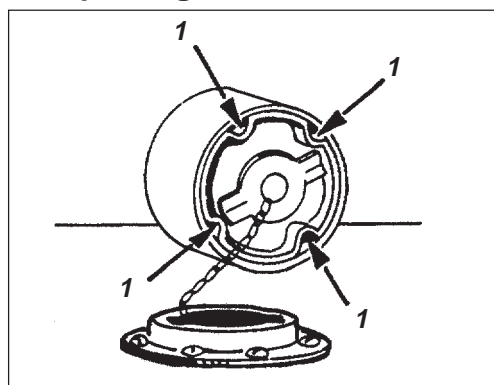


Fig. 18 Reservoir cover

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.

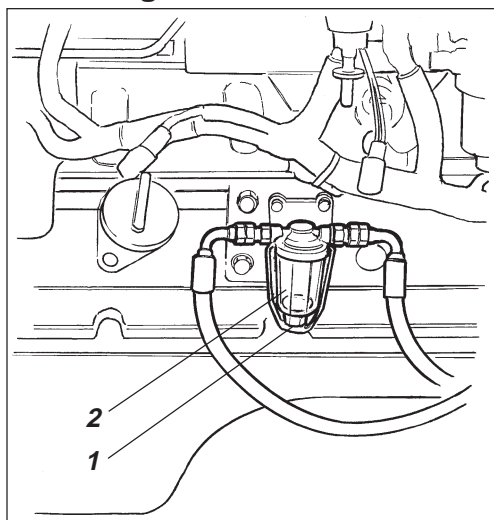
#### WARNING



Wear protective goggles when working with compressed air.

## EVERY 50 HOURS OF OPERATION (WEEKLY)

### Diesel engine pre-filter – draining



**Fig. 19 Pre-filter**  
1. Nut  
2. Glass bowl

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

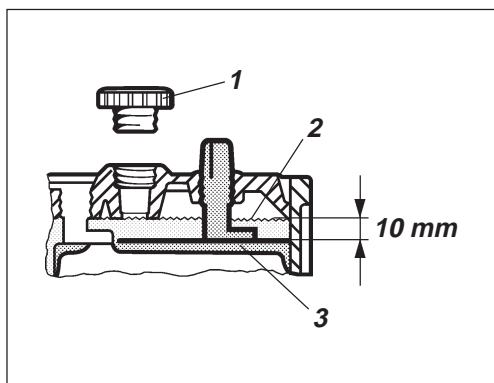
Unscrew the nut (1) and take the bowl (2) down.

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. 20 Electrolyte level in battery**  
1. Cell cap  
2. Electrolyte level  
3. Plate

WARNING



**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.

WARNING



**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.

CAUTION



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.

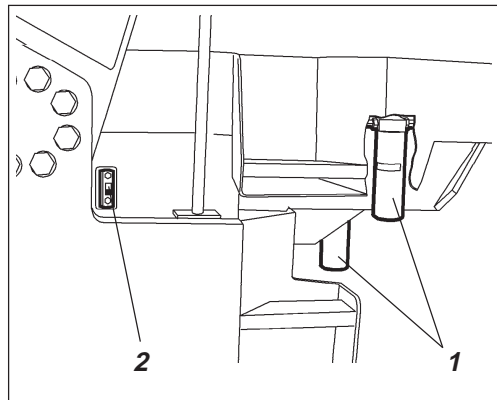
WARNING



**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. 21 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.

CAUTION



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.

CAUTION



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.

WARNING



**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.

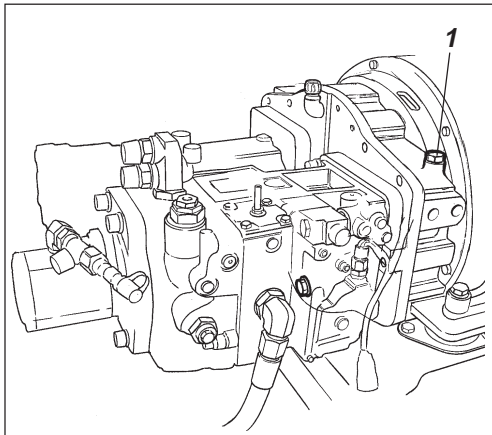
WARNING



**Wear protective goggles when working with compressed air.**

## EVERY 250 HOURS OF OPERATION (MONTHLY)

### Pump drive – checking the oil level



**Fig. 22 Pump drive**  
1. Filler plug and dipstick

Make sure that the roller is level.

WARNING

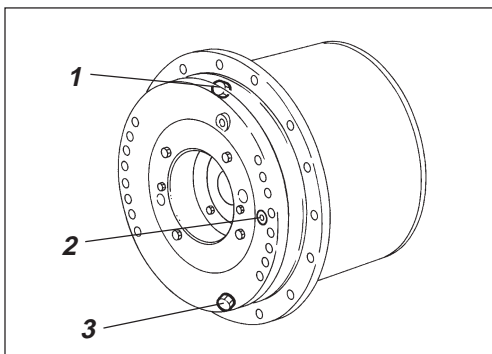


**Switch off the engine and apply the parking brake/reserve brake.**

Unscrew the filler plug/dipstick (1) on the right side of the pump drive. The oil level must be within the marked area on the dipstick.

Top off with oil through the filler plug (1) until the oil level is within the marked area. See page 3 for the grade of oil.

### Drum drive – checking the oil level



**Fig. 23 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.

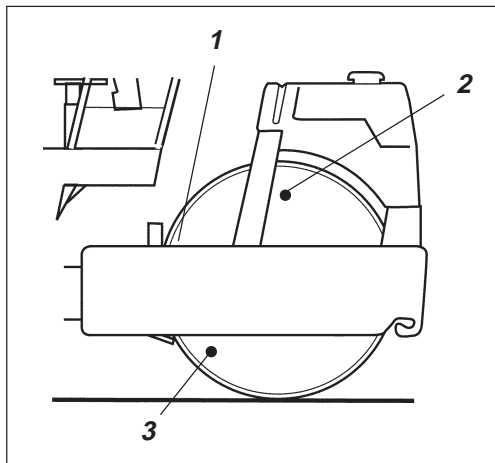
Wipe clean around the plugs.

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. 24 Drum**

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

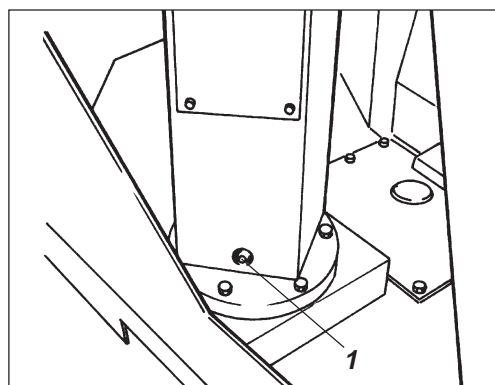
Applies to both sides of the drum:

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

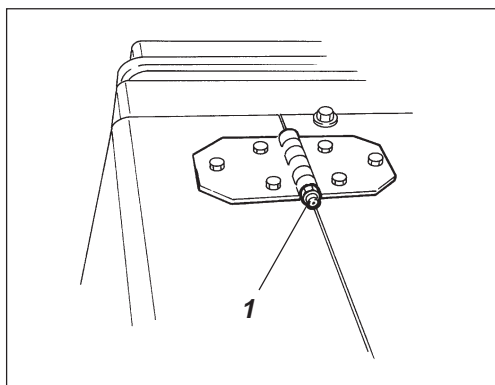


**Fig. 25 Steering column**

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.

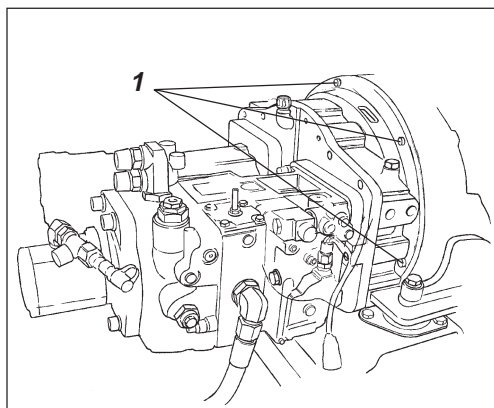


**Fig. 26 Hinges on engine hood**

1. Lubrication nipple

## EVERY 500 HOURS OF OPERATION (EVERY THREE MONTHS)

### Bolted joints – tightening control

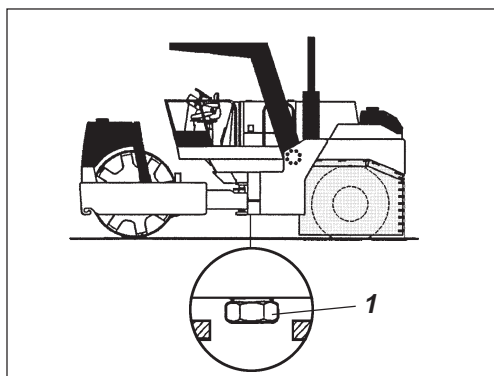


**Fig. 27 Motor and drive assembly**  
1. Bolted joints

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. 28 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.

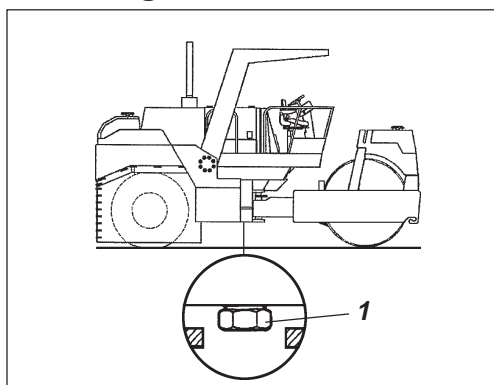
Tighten the plug again.

CAUTION



Work carefully. Do not drop the plug.

### Hydraulic reservoir – draining off condensation



**Fig. 29 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.

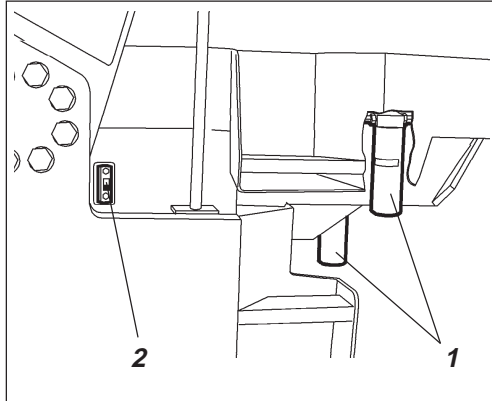
CAUTION



Work carefully. Do not drop the plug.

## EVERY 2000 HOURS OF OPERATION (YEARLY)

### Hydraulic reservoir – changing the fluid



**Fig. 30 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.

WARNING



**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 120 liters (32 gal) of fluid.

WARNING



**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.

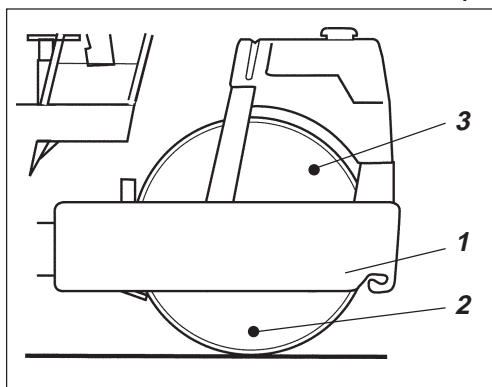
WARNING



**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. 31 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).

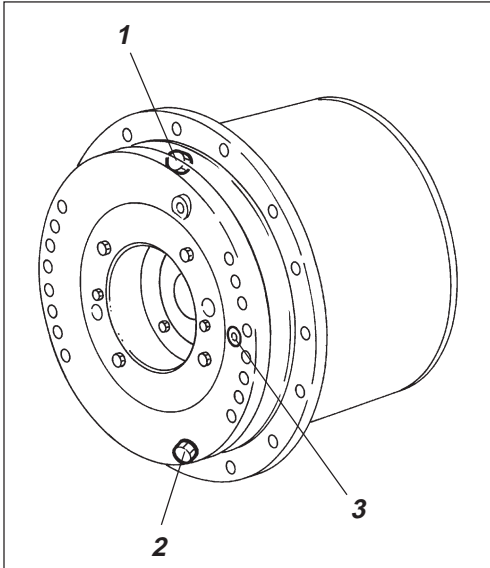
Drain off oil on the other side.

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

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. 32 Drum drive, filling/draining**

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

Applies to both drums:

CAUTION



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.

WARNING



**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.

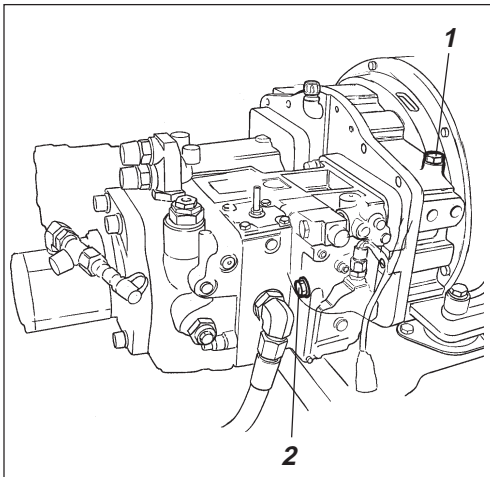
Wipe clean around the plugs.

Place a receptacle under the drain plug and drain off the oil. The receptacle must hold at least 4 liters (4.3 qts). 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. 33 Pump drive**

1. Filler plug
2. Drain plug

Oil must only be changed when the pump drive is at working temperature. The roller must be on a level surface.

WARNING



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

Unscrew the filler plug/dipstick (1) and the drain plug (2) and drain off the oil. The volume is about 4 liters (4.3 qts).

Refit the drain plug (2).

Fill with fresh gearbox oil through the fuel filler plug (1). Fill slowly so that the oil level has time to even out.

Make sure the level is correct on the dipstick (1).

Screw in the filler plug/dipstick (1).



## LONG-TERM PARKING

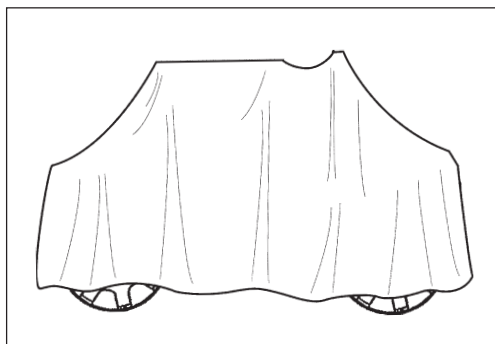


Fig. 34 Roller protected against the weather

### CAUTION



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

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

The items 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 (see under the heading "Every 50 hours of operation") and tricklecharge the battery once a month.

### Air cleaner, exhaust pipe

- \* Cover the air cleaner (see under the heading "Every 50 hours of operation") 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 completely to prevent condensation.

### Hydraulic reservoir

Fill the hydraulic reservoir to the uppermost level mark, see under the heading "Every 10 hours of operation."

### Sprinkler system

- \* Empty the water tank completely (see under the heading "Every 10 hours of operation"), also hoses, filter housing and water pump. Remove all the sprinkler nozzles (see under the heading "Every 10 hours of operation").

### Steering cylinder, hinges, etc.

Lubricate bearings of the steering joint and both bearings of the steering cylinder with grease (see under the heading "Every 50 hours of operation"). Grease the piston rod of the steering cylinder with inhibitor grease. Grease the hinges on doors to the engine compartment and the cab, and also grease both ends of the forward/reverse control (bright parts) (see under the heading "Every 500 hours of operation").

### Hoods, tarpaulin

- \* Lower the instrument shield plate on the steering column. Cover the entire roller with a tarpaulin. The tarpaulin must be free from the ground. Store the roller indoors if possible, preferably on premises with an even temperature.

## SPECIAL INSTRUCTIONS

### Standard oils and other recommended fluids

When they leave the factory, the systems and components are filled with oil or fluid as indicated in the Lubrication specification and are thus suitable for operation in ambient temperatures between -10°C and +40°C (14°F - 104°F).

CAUTION



A maximum temperature of +35°C (95°F) applies for biological hydraulic fluid.

### Higher ambient temperature above +50°C (122°F)

The following recommendations apply for operation in higher ambient temperatures up to a maximum of +50°C (122°F):

#### Temperature

The diesel engine can be run at this temperature using the normal oil, but for other components, the following fluids must be used: Hydraulic system: mineral fluid Shell Tellus TX100 or equivalent.

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

CAUTION



Never 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.

Do not spray water directly on electric components or the instrument panel. 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. This could otherwise cause operational disturbance, for example, a clogged filter.

### 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), protective cab

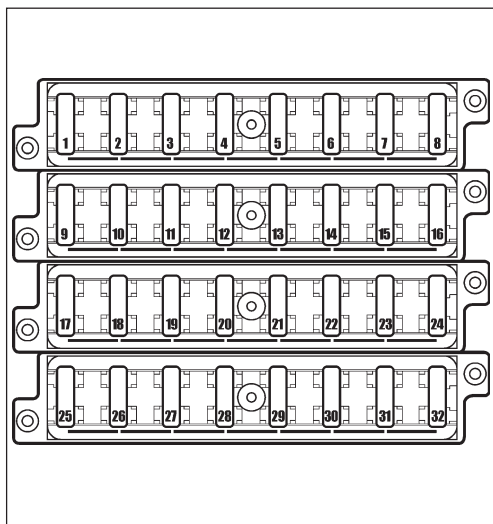
If the roller is equipped with a protective structure (ROPS, Roll Over Protective Structure), or protective cab, never subject the structure or cab to welding or drilling. Never attempt to repair a damaged structure or cab; they must be replaced with new ones.

### 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. 35 Säkringsdosor i styrpelaren**

1. Sprinkler
2. Brake valve
3. Vacant
4. AVC Vibration pump
5. Drum offset
6. Hazard beacon
7. Rear water pump
8. Front water pump
9. VBS, RPM relay
10. Warning panel, instruments
11. Reversing alarm, horn
12. Start

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.**



**When you weld on the machine, the positive and negative terminals of the battery must be disconnected. Never connect the welder ground to the diesel engine.**

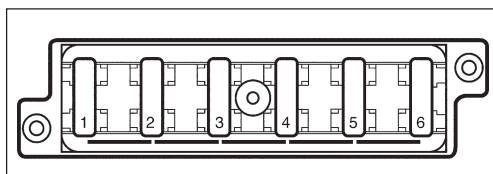
Fuses located in the fuse boxes protect the electrical regulating and control system.

The figure illustrates the function of the various fuses.

The fuse boxes are located in the steering column.

- |                            |                               |
|----------------------------|-------------------------------|
| 13. Working lights         | 23. QsB motor                 |
| 14. Left parking lights    | 24. Vacant                    |
| 15. Left dipped headlight  | 25. Right parking lights      |
| 16. Right dipped headlight | 26. Left direction indicator  |
| 17. QsB motor              | 27. Right direction indicator |
| 18. Diagnostic lamps       | 28. Left main beam            |
| 19. QsB motor              | 29. Right main beam           |
| 20. QsB motor              | 30. Right brake light         |
| 21. QsB motor              | 31. Left brake light          |
| 22. QsB motor              | 32. Vacant                    |

### Fuses in the cab



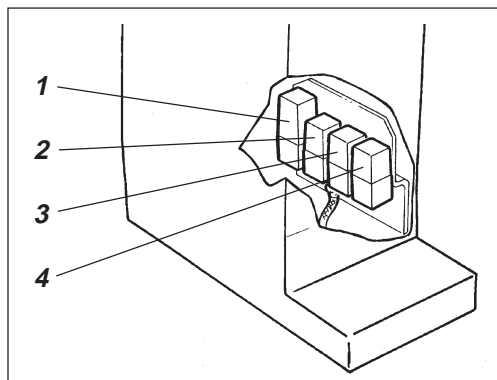
**Fig. 36 Fuse box in cab (accessory)**

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.

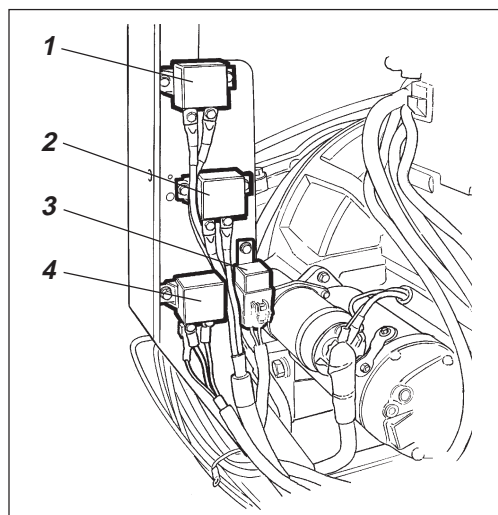
## ELECTRICAL SYSTEM, FUSES

### Instrument column



**Fig. 37 Relays**

1. Flasher relay
2. Sprinkler relay
3. VBS relay
4. Over-rev relay



**Fig. 38 Engine compartment**

1. Preheating, diesel engine
2. Preheating, diesel engine
3. Fuel solenoid relay
4. Start