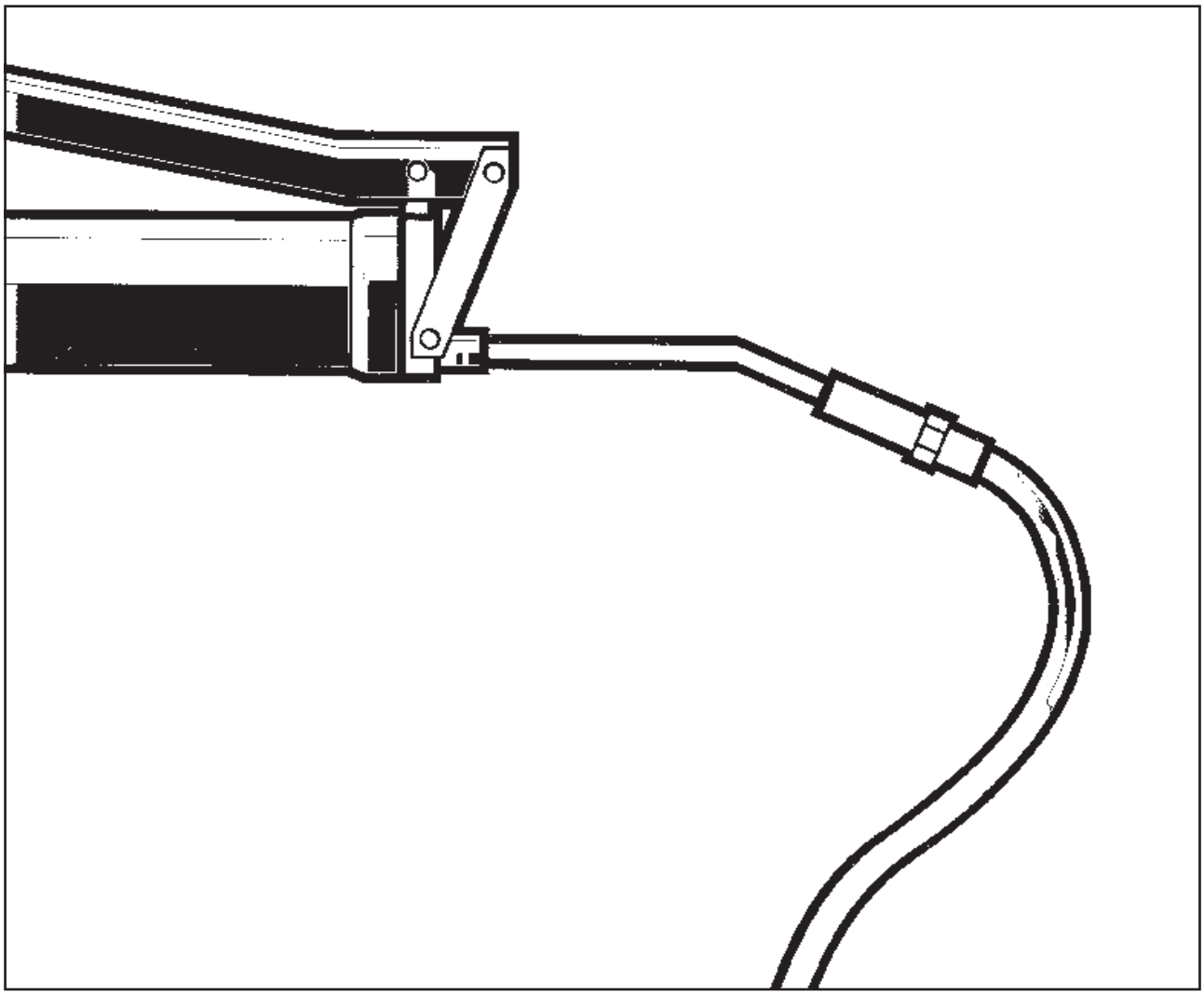
DYNAPAC
CC102, CC122/122C
CC142/142C
MAINTENANCE

M102EN5



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DYNAPAC

Vibratory roller
CC102, CC122/122C
CC142/142C

Maintenance
M102EN5, January 2007

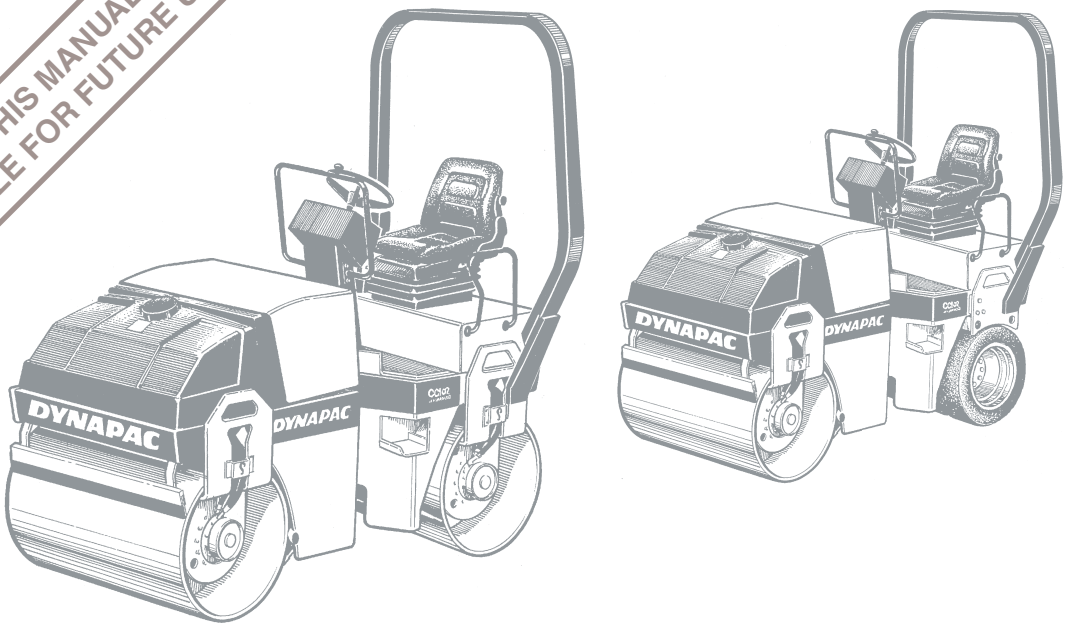
Diesel engine:

CC102/122/C	**Deutz F2L 2011, D2011 L02I**
CC142/C	**Deutz F3L 2011, D2011 L03I**

These instructions apply from:

CC102/122/C	**PIN (S/N) *60119200***
CC142/C	**PIN (S/N) *60213400***

KEEP THIS MANUAL AVAILABLE FOR FUTURE USE



The CC102/122 are specially designed for repair work on asphalt compounds, but can also be used for paving small streets, sidewalks and bicycle trails. They are often used as a complement to bigger rollers for compacting cross-joints and restricted spaces.

The CC122C is a light combo roller that are used for compacting thin layers and soft asphalt compounds.

The CC142 is a typical "town roller" for compacting asphalt compounds on streets, parking lots and industrial sites. The capacity for this type of work is adequate for following a smaller-size surface finisher.

The CC142C is also intended for minor paving jobs on low-traffic asphalt areas where a level and attractive surface structure is desired. Typical workplaces—in addition to sidewalks and bicycle trails—are therefore parks, golf courses and sports fields.

Reservation for changes.
Printed in Sweden.

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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.

Make sure 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.

Make a habit each day, before starting up, of checking the roller to detect any leakage or damage. Also check the ground underneath the roller, where it is most often easier to detect any leakage.

PROTECT THE ENVIRONMENT!
Do not leave behind any oil, fuel or other substances that are harmful to the environment.

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

The manufacturer's instructions in the engine manual also apply. This is placed under a separate flap in the product folder for the roller.

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

CAUTION

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 -15°C to +50°C (14°F to 122°F)	Shell Rimula Super 15W/40 or equivalent API CH-4
HYDRAULIC FLUID, ambient temperature -15°C to +40°C (14°F to 104°F) ambient temperature higher than +40°C (104°F)	 Shell Tellus Oil TX68 or equivalent Shell Tellus Oil T100 or equivalent
Bio-Hydr. **BIOLOGICAL HYDRAULIC FLUID**	BP BIOHYD SE-S 46 The machine may be filled with biologically degradable fluid from the factory. The same type of fluid must be used when changing or topping off.
DRUM OIL, ambient temperature - 15 to +40°C (5°F to 104°F) ambient temperature higher than +40°C (104°F)	 Shell Spirax AX 80W/90, or equivalent Shell Spirax AX 85W/140 or equivalent API GL-5
GREASE	Shell Retinax LX2 or equivalent
FUEL	See engine manual

CAUTION

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

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

TECHNICAL SPECIFICATIONS

Weight and sizes	CC 102	122	142
Weight CECE, standard equipped roller kg, Deutz(lbs)	2350(5,181)	2600(5,733)	3900(8,599)
Length, standard equipped roller, mm (in)	2395(94)	2395(94)	2725(107)
Width, standard equipped roller, mm (in)	1150(45)	1280(50)	1400(55)
Height, standard equipped roller, mm (in)	1755(69)	1755(69)	1855(73)
Height, roller with ROPS, mm (in)	2640(103)	2640(103)	2740(108)

Weight and sizes	CC 122C	142C
Weight CECE, standard equipped roller kg, Deutz(lbs)	2425(5,347)	3750(8,268)
Length, standard equipped roller, mm (in)	2395(94)	2725(107)
Width, standard equipped roller, mm (in)	1280(50)	1400(55)
Height, standard equipped roller, mm (in)	1755(69)	1855(73)
Height, roller with ROPS, mm (in)	2640(103)	2740(108)

TECHNICAL SPECIFICATIONS

Fluid volumes	Litres (qts)	
Hydraulic reservoir	40 (42.2)	
Fuel tank	50 (52.9)	
Emulsion tank (Combo)	40 (42.2)	
Water tank	160 (169.1)	(CC 102, CC 122/122C)
Water tank	200 (211.4)	(CC 142/142C)
Diesel engine (Deutz F2L, L02I)	6,5 (6.9)	(CC 102, CC 122/122C)
Diesel engine (Deutz F3L, L03I)	6,0 (6.3)	(CC 142/142C)
Drum	4,0 (4.2)	(CC 102)
Drum	5,0 (5.3)	(CC 122/122C)
Drum	6,0 (6.3)	(CC 142/142C)

Electrical system	
Battery	12 V 75 Ah
Alternator	12 V 60 A
Fuses	5, 7,5, 10, 15 A (Flat pin fuse)

Compaction data		CC 102	CC 122/122C	CC 142/142C
Static linear load	kg/cm (psi)	10,6 (59.4)	10,5 (58.8)	14,5 (81.2)
Amplitude	mm (in)	0,50 (0,019)	0,50 (0,019)	0,50 (0,019)
Frequency	Hz (vpm)	57,0 (3,420)	58,0 (3,480)	52,0 (3,120)
Centrifugal force	kN (lb)	23,0 (5,175)	27,0 (6,075)	33,0 (7,425)

Propulsion	CC 102/122	CC 122C	CC 142	CC 142C
Speed range km/h (mph)	0-8,6 (0-5,3)	0-6,6 (0-4,1)	0-9,8 (0-6,0)	0-10,2 (0-6,3)
Climbing capacity (theoretical) %	50/45	60	41	43

Tires (Combo)	CC 122C	CC 142C
Tire size	205/60-15	7,50-16
Air pressure	170-250 kPa (1,7 - 2,5 kp/cm^2)	240-300 kPa (2,4 - 3,0 kp/cm^2)

TECHNICAL SPECIFICATIONS

Tightening torque

Tightening torque in Nm for oiled, bright galvanized bolts tightened with a torque wrench.

M	STRENGTH CLASS		
thread	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

Bolt size:	M16 (PN 902889)
Strength class:	10.9
Tightening torque:	240 Nm (Dacromet treated)

Hydraulic system

Opening pressure MPa	CC 102/122/C	CC 142C
Drive system	33,0	35,0
Supply system	2,0	2,0
Vibration system	20,0	20,0
Control systems	17,0	17,0
Brake release	1,4	1,4

Vibrations – Drivers seat (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.

Whole-body vibration is measured at less than the action value of 0.5 m/s^2 specified in EU directive 2002/44/EC. (The limit value is 1.15 m/s^2.)

Hand/arm vibration is measured at less than the action value of 2.5 m/s^2 specified in the same directive. (The limit value is 5 m/s^2.)

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

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	Acoustic pressure level, operator's ear (cab)dB(A)
CC102	105	–	–
CC122/C	105	–	–
CC142/C	106	–	–

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

MAINTENANCE SCHEDULE

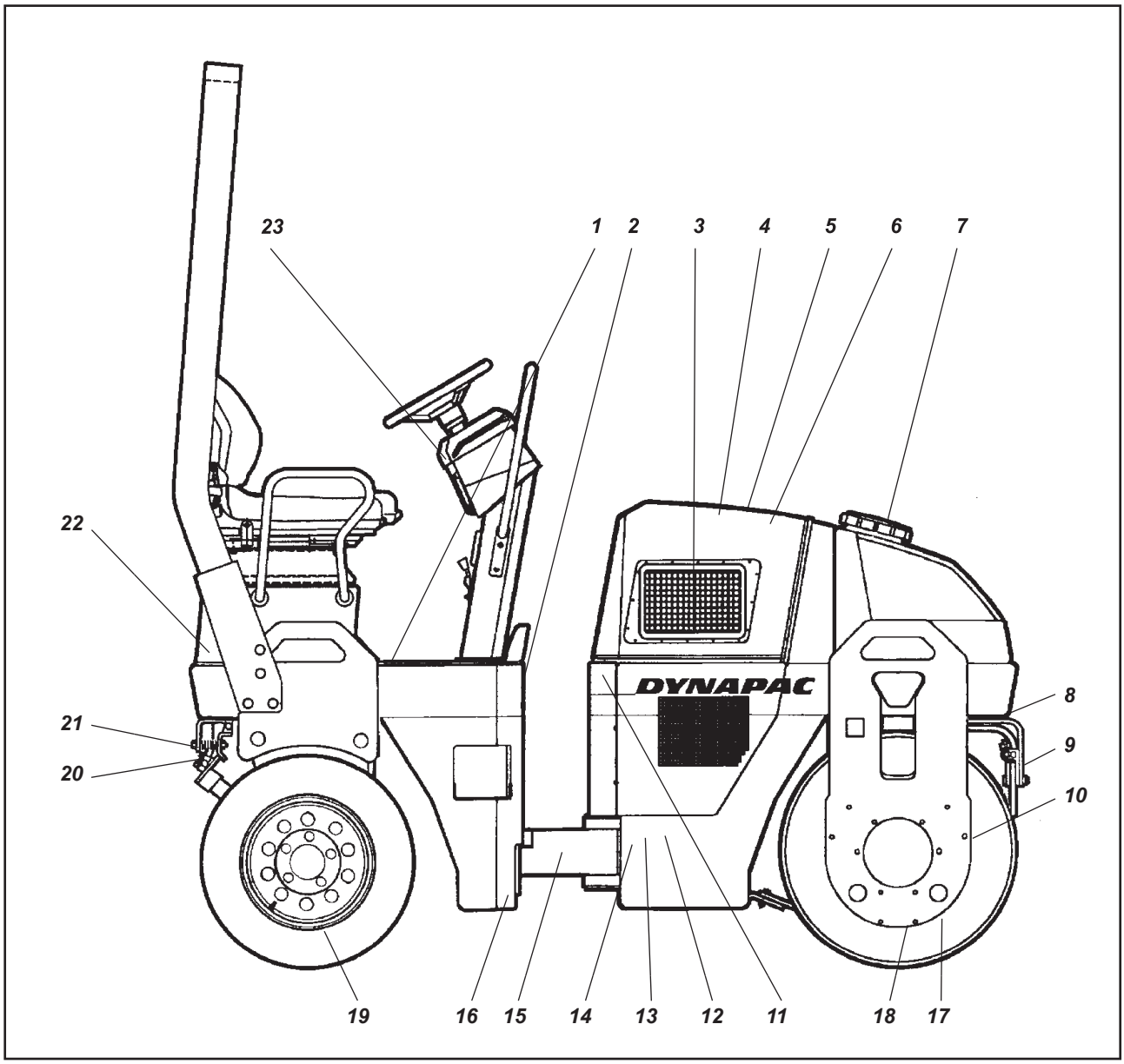

Fig. 1 Service and maintenance points

1. *Fuel tank*
2. *Refueling*
3. *Radiator*
4. *Air cleaner*
5. *Battery*
6. *Diesel engine*
7. *Water tank*
8. *Sprinkler system/Drum*
9. *Scrapers/Drum*
10. *Rubber elements and fastening screws*
11. *Filling hydraulic fluid*
12. *Hydraulic reservoir*
13. *Hydraulic filter*
14. *Hydraulic fluid sight glass*
15. *Steering joint*
16. *Steering cylinder mounts*
17. *Filler plugs/Drum*
18. *Oil level in drum*
19. *Tires/Tire pressure*
20. *Sprinkler system/Wheels*
21. *Scrapers/Wheel*
22. *Emulsion tank*
23. *Reserve/parking brake control*

MAINTENANCE MEASURES

The periodic measures are intended to be performed primarily with the specified hours of operation, secondarily for the periods: daily, weekly, etc.

CAUTION

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

CAUTION

The manufacturer's instructions noted in the engine manual also apply.

Every 10 hours of operation (Daily)

Items in fig. 1	Action	See page	Comments
	Before starting up		
6	Check oil level in the engine		See engine instruction manual.
14	Check the hydraulic reservoir level	11	
3	Check for free circulation of cooling air	12	
1	Refuel	12	
7	Fill the water tank	12	
8	Inspect the sprinkler system/Drum	13	
9	Inspect the scraper setting/Drum	14	
21	Inspect spring-action scrapers	14	Optional
20	Inspect the sprinkler system/Tires	14	
21	Inspect the scraper setting/Tires	15	
23	Test the brakes	15	

Every 50 hours of operation (Weekly)

Items in fig. 1	Action	See page	Comments
4	Check indicator on air cleaner	16	
	Check that pneumatic hoses are intact and connections are tight	16	
15	Grease the steering joints	17	
16	Grease the steering cylinder brackets	17	
19	Check the tire pressure (combo)	17	

CAUTION

After the **first** 50 hours of operation, change all the oil filters and oil, except the hydraulic fluid.

MAINTENANCE MEASURES

Every 250 hours of operation (Monthly)

Items in fig. 1	Action	See page	Comments
3	Clean the hydraulic fluid cooler	18	
5	Check electrolyte level in battery	18	
6	Clean the engine cooling flanges		See engine instruction manual

Every 500 hours of operation (Every three months)

Items in fig. 1	Action	See page	Comments
18	Check the oil level in the drums	19	
10	Check rubber elements and bolted joints	19	
11	Check the hydraulic reservoir cover/breather	20	
6	Lubricate controls and pivoted joints	20	
6	Change the engine oil	21	See engine instruction manual
6	Change the engine oil filter	21	See engine instruction manual
6	Inspect engine V belts	21	See engine instruction manual

Every 1000 hours of operation (Every six months)

Items in fig. 1	Action	See page	Comments
13	Change the hydraulic filter	22	
12	Drain condensation from the hydraulic reservoir	23	
4	Replace main filter in the air cleaner	23	
6	Change the engine fuel filter	23	
6	Change the engine pre-filter	24	
6	Inspect engine toothed belt.		See engine instruction manual
6	Check engine valve clearance		See engine instruction manual

Every 2000 hours of operation (Yearly)

Items in fig. 1	Action	See page	Comments
12	Change the hydraulic fluid	25	
18	Change oil in the drums	25	
7	Empty and clean the water tank	26	
22	Clean the emulsion tank	27	
1	Empty and clean the fuel tank	27	
	Check the condition of the steering joints	27	

Hydraulic reservoir – Level check – Filling

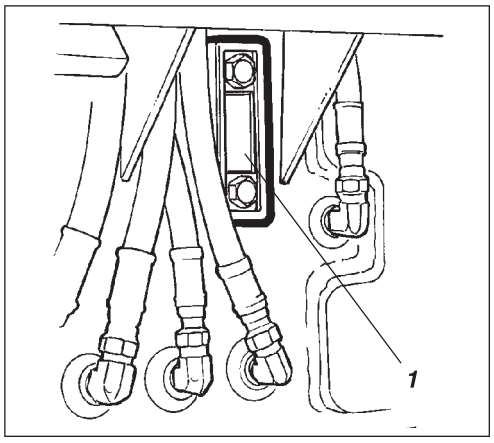

Fig. 2 Hydraulic reservoir
1. Oil sight glass

WARNING

Place the roller on a level base. The engine must be switched off and the reserve/parking brake knob pushed in for all checking and adjustments on the roller unless otherwise specified.

Make sure that the oil level is between the max/min marks. Top off with hydraulic fluid according to the lubricant specification if the level is too low.

Hydraulic reservoir – Level check – Filling

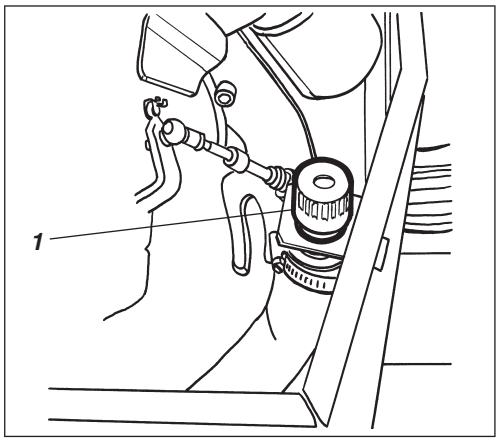

Fig. 3 Engine compartment
1. Filling hydraulic fluid

Fully open the engine hood, unscrew the filler cap (1) and top off with fresh oil if necessary. See page 3 for the correct grade of hydraulic fluid.

EVERY 10 HOURS OF OPERATION (Daily)

Air circulation – Check

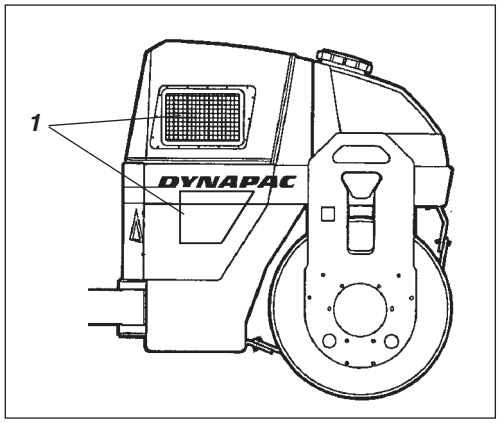

Fig. 4 Right roller side
1. Cooling-air grille

Make sure that the engine has unimpeded circulation of cooling air through the protective grille in the engine compartment.

Fuel tank – Refueling

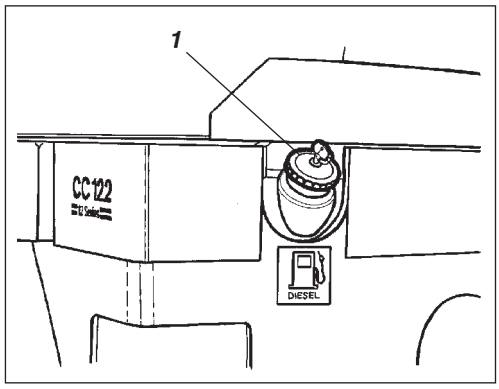

Fig. 5 Fuel tank
1. Tank cap

Refuel every day before starting operation. Screw off the lockable tank cap (1) and fill diesel fuel to the lower edge of the filler pipe.

WARNING

Never refuel while the engine is running, do not smoke, and avoid spilling fuel.

See the engine handbook for the grade of diesel fuel.

The tank holds 50 quarts of fuel.

Water tank – Filling

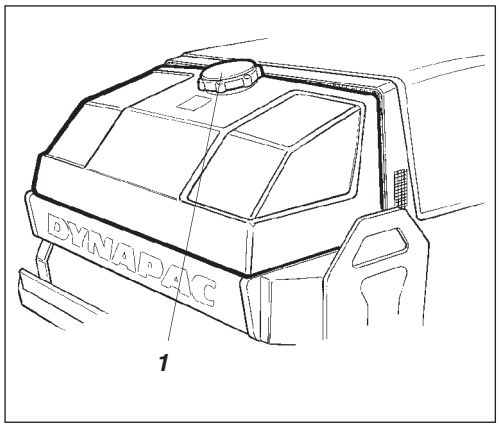

Fig. 6 Water tank
1. Tank cap

CAUTION

Screw off the tank cap (1) and fill with pure water, do not remove the strainer. See technical specifications regarding volume of the tank.

Sole additive: Small amount of environment-friendly antifreeze liquid, and for combo models possibly cutting fluid.

Sprinkler system/Drum Checking – Cleaning

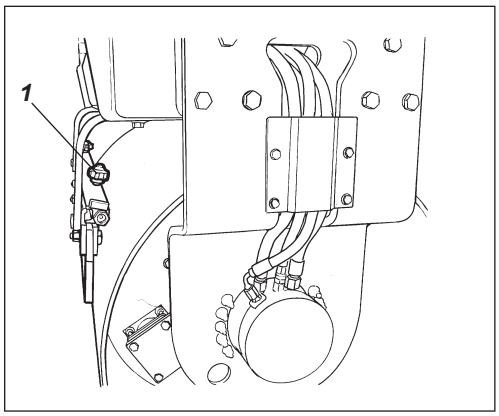

Fig. 7 Drum
1. Nozzle

Start the sprinkler system and make sure that no nozzle (1) is clogged. If necessary, clean clogged nozzles and the coarse filter located adjacent to the water pump, see figures below.

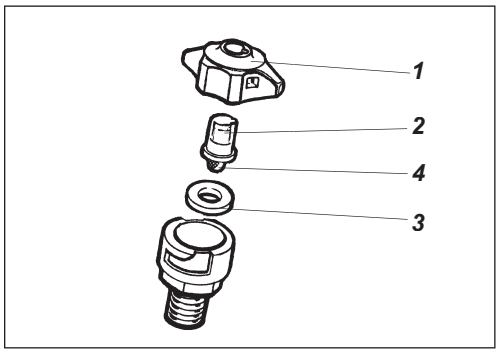

Fig. 8 Nozzle
1. Sleeve
2. Nozzle
3. Compaction
4. Strainer

Dismantle the clogged nozzle by hand. Blow the nozzle (2) and fine filter (4) clean with compressed air, or install replacement parts, and clean the clogged parts at a later opportunity.

WARNING

Wear protective goggles when working with compressed air.

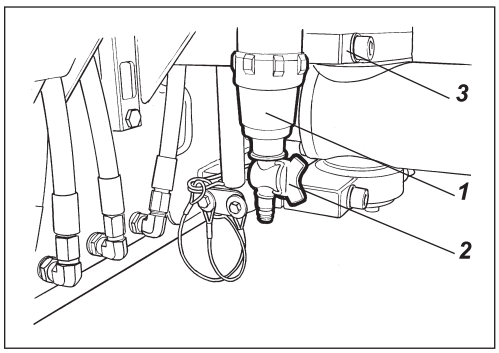

Fig. 9 Pump system
1. Water filter
2. Stopcock
3. Water pump

When cleaning the coarse filter (1), close the stopcock (2) and loosen the filter housing.

Clean the filter and filter housing, ensure that the rubber gasket in the filter housing is intact.

After inspection and any cleaning, start the system and check that it works.

A drain cock is located in the left part of the pump system area. This facilitates draining of both tank and pump system.

EVERY 10 HOURS OF OPERATION (Daily)

Scrapers, fixed
Checking – Setting

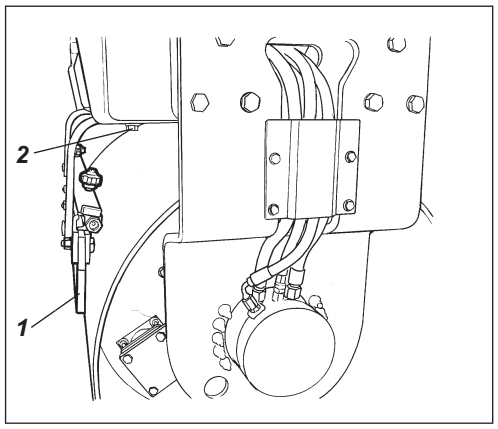

Fig. 10 Drum
1. Scraper blade
2. Adjusting screws

Make sure that the scrapers are undamaged. Adjust the scrapers so that they lie 1–2 mm from the drum. For special asphalt compounds it may be better if the scraper blades (1) lie lightly against the drums.

The remains of asphalt can accumulate on the scraper and thus influence the contact force. Clean as necessary.

Loosen the screws (2) to adjust contact pressure of the scraper blade against the drum.

Remember to tighten all the screws after any adjustment.

Scrapers, spring-action (Optional) Checking – Setting

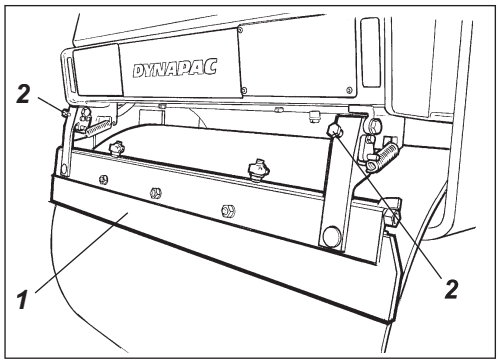

Fig. 11 Spring-action scrapers
1. Scraper blade
2. Adjusting screws

CAUTION

Make sure the spring-action scrapers are retracted from the drum during transport driving.

Sprinkler system/Wheels
Checking—Cleaning

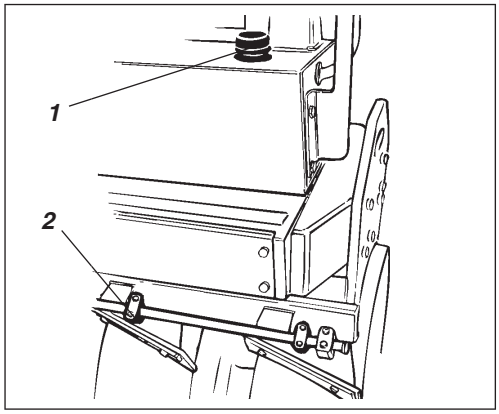

Fig. 12 Wheel rack
1. Filler cap
2. Nozzle (one for each tire)

Fill the rear tank with emulsion fluid, for example water mixed with 2% cutting fluid. Make sure that the sprinkler nozzles (2) are not clogged. Clean them and the filter if necessary. See under Sprinkler system/Drum; Check—Cleaning, for detailed instructions.

WARNING

Fluids that are flammable or harmful to the environment may not be used in the emulsion tank.

CAUTION

Inspect the tire tread now and then to detect asphalt compound that has fastened; this is likely until the tires are warm enough.

EVERY 10 HOURS OF OPERATION (Daily)

Pump system/Tires Checking – Cleaning

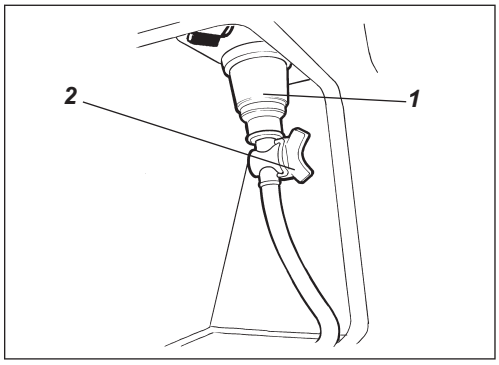

Fig. 13 Left step
1. Filter housing
2. Loader

When cleaning, close the stopcock (2). Release the filter housing (1). Clean the insert and the filter housing. Listen to or put your hand on the water pump to check that it is working.

Scrapers – Checking – Setting

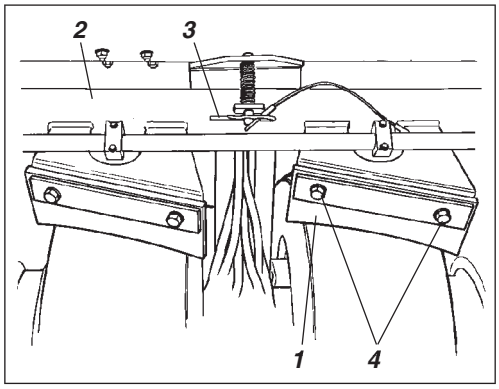

Fig. 14 Wheel scrapers
1. Scraper
2. Scraper beam
3. Cotter pin
4. Adjusting screws

Make sure that the scraper (1) lies against the tire when compacting asphalt compounds.

The scrapers must hang freely from the tires during transport driving. Lift up the scraper beam (2) by moving up the cotter (3) to the uppermost hole.

To adjust the scraper's angle of contact to the tire, loosen the screws (4), set the scraper and then tighten the screws.

Brakes – Check

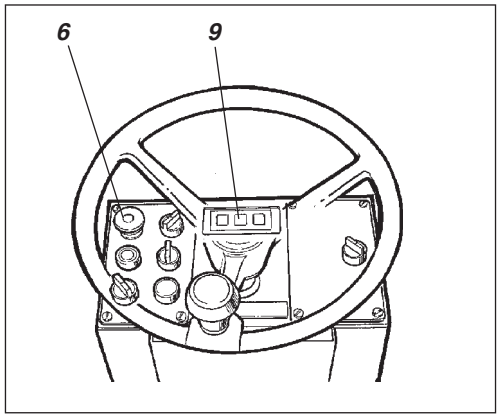

Fig. 15 Instrument panel
6. Reserve/parking brake knob
9. Brake warning lamp

WARNING

Check operation of the brakes as follows:

Drive the roller **slowly** forward.

Push in the reserve/parking brake knob (6).
The brake warning lamp (9) on the instrument panel should light and the roller should stop.

After testing the brakes, set the forward/reverse lever in neutral.

Pull up the reserve/parking brake knob.

The roller is now ready for operation.

Air cleaner
Checking – Indicator

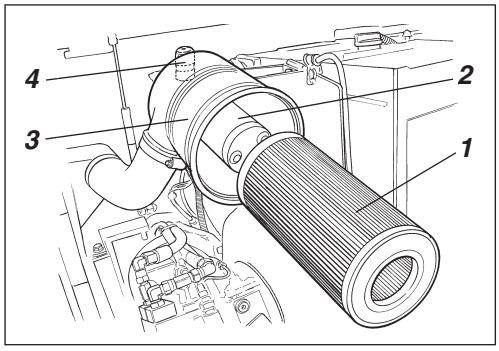

Fig. 16 Air cleaner
1. Main filter
2. Backup filter
3. Filter housing
4. Indicator

WARNING

Place the roller on a level base. The engine must be switched off and the reserve/parking brake knob pushed in for all checking and adjustments on the roller unless otherwise specified.

CAUTION

Change or clean the main filter of the air cleaner (1) when the indicator (4) shows a red sector at full engine revs.

Release the two locking catches, pull off the cover and take out the main filter (1).

Do not remove the backup filter (2).

Main filter
– Cleaning with compressed air

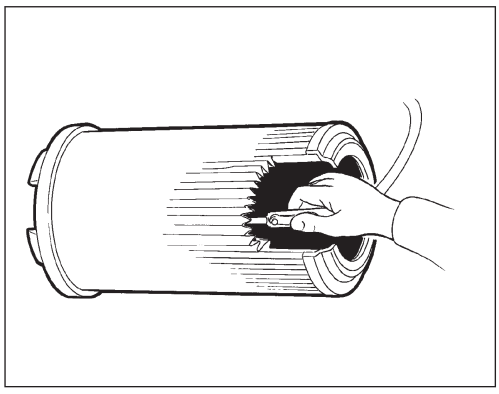

Fig. 17 Main filter

To clean the main filter, blow up and down along the paper pleats with compressed air at maximum 5 bar pressure.

Hold the nozzle at least 2–3 cm (1/8") from the paper pleats to avoid tearing the paper.

WARNING

Wear protective goggles when working with compressed air.

Wipe the inside of the cover and filter housing (3).

CAUTION

Check that the hose clamps between filter housing and suction hose are tight and that hoses are intact. Inspect all hoses all the way to the engine.

CAUTION

Change the main filter at the latest after 5 cleanings.

Backup filter—Replacement

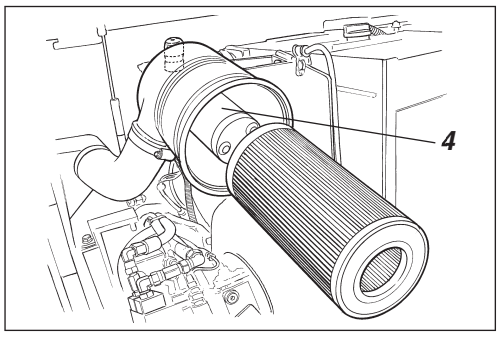

Fig. 18 Air filter
4. Backup filter

Replace the backup filter with a new one after every fifth replacement or cleaning of the main filter. The backup filter cannot be cleaned.

To change the backup filter (4), pull the old filter out of its holder, insert a new one and reassemble the air cleaner in the reverse order.

Steering cylinder and steering joint – Lubrication

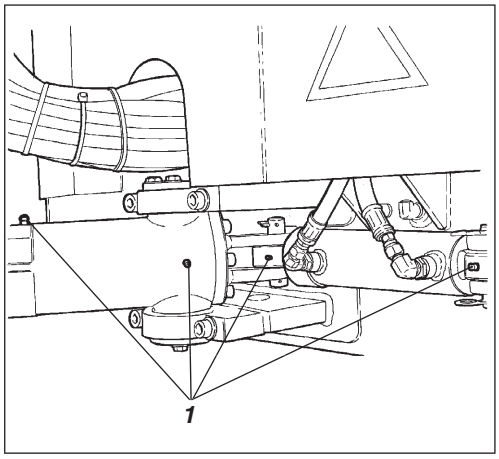

Fig. 19 Steering joint
1. Grease nipples

WARNING

Do not allow anyone near the steering joint when the engine is running. Danger of being crushed when steering is operated. Push the reserve/parking brake knob before lubricating.

Turn the steering wheel fully to the left to gain access to all four grease nipples (1) from the right side of the machine.

Wipe the grease nipples (1). Grease each nipple with five strokes of the hand-operated grease gun. Make sure that grease penetrates the bearings. If grease does not penetrate the bearings, you may need to relieve the articulation joint with a jack while repeating the greasing process.

Tires – Tire pressure

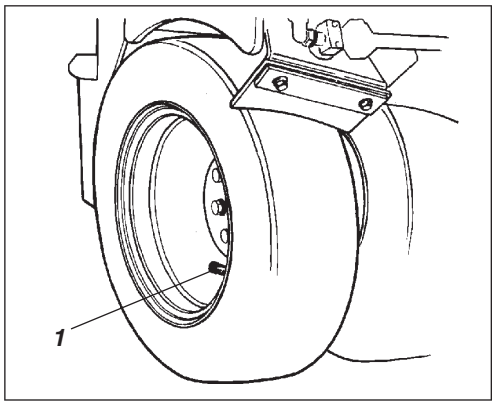

Fig. 20 Tires (Combo)
1. Air valve

Check the tire pressure with a pressure gauge.

Make sure that the tires have equal pressure.

Recommended pressure: See Technical Specifications.

Hydraulic fluid cooler
Checking – Cleaning

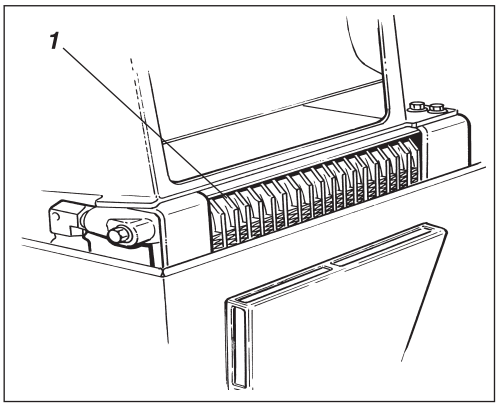

Fig. 21 Engine compartment
1. Hydraulic fluid cooler

Battery
Checking the electrolyte level

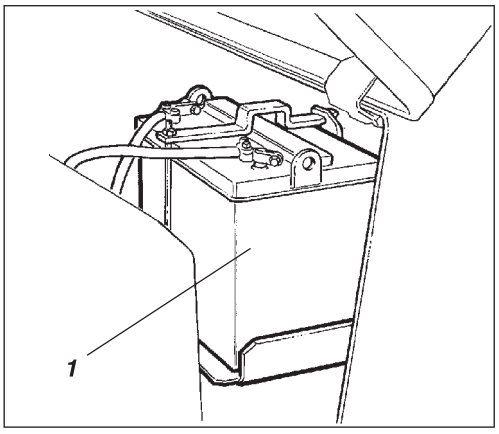

Fig. 22 Battery shelf
1. Battery

Battery cell

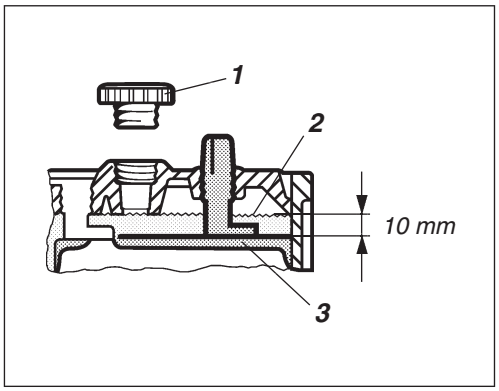

Fig. 23 Electrolyte level in battery
1. Cell cap
2. Electrolyte level
3. Plate

WARNING

Place the roller on a level base. The engine must be switched off and the reserve/parking brake knob pushed in for all checking and adjustments on the roller unless otherwise specified.

Make sure that the flow of air through the cooler is unobstructed.
Clean a dirty cooler with compressed air or high-pressure water cleaning.
Blow or wash the cooler in the opposite direction to that of the cooling air.

CAUTION

Take care when using a high-pressure water jet; do not hold the nozzle too near the cooler.

WARNING

Wear protective goggles when working with compressed air.

WARNING

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

Fully open the engine hood.

Wipe the top of the battery dry.

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 (3/8") above the plates. Check the level of all cells. Top off with distilled water to the right level if the level is low. Let the engine run for a while before topping off with distilled water if the ambient temperature is below freezing. Otherwise electrolyte might freeze.

Make sure that 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.

Dispose of used batteries properly. Batteries contain lead, which is harmful to the environment.

CAUTION

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

Drum – Oil level – Check – Filling

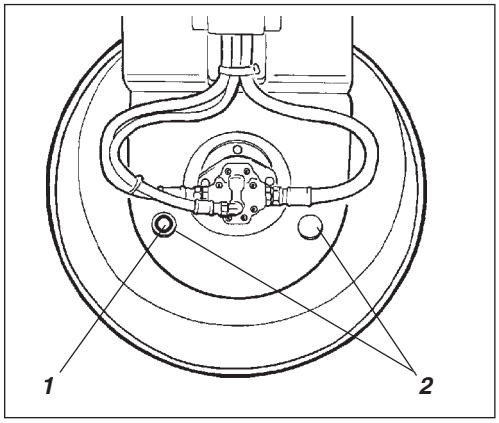

Fig. 24 Drum, vibration side
1. Oil plug
2. Check hole

WARNING

Place the roller on a level base. The engine must be switched off and the reserve/parking brake knob pushed in for all checking and adjustments on the roller unless otherwise specified.

CAUTION

This inspection applies to the CC102/122.

Drive the roller slowly until the oil plug (1) is aligned with one of the check holes (2).

Remove the plug and check that the oil level reaches the lower edge of the plug hole. Top off with fresh, clean oil if necessary. Use oil according to the lubricant specification.

Clean the magnetic oil plug (1) from any metal particles before refitting it.

Drum – Checking the oil level

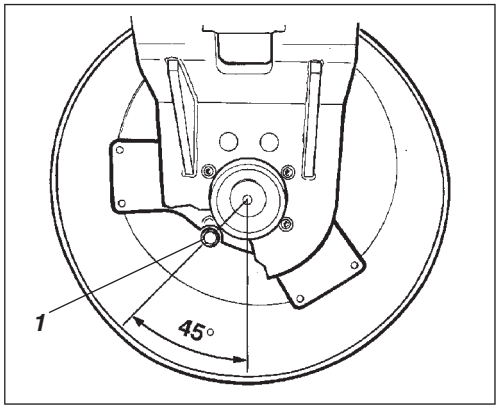

Fig. 25 Drum, drive side
1. Oil plug

CAUTION

This inspection applies to the CC142.

Drive the roller slowly until the oil plug (1) is aligned with the semicircular recess in the drum suspension.

Remove the plug and check that oil level reaches the lower edge of the plug hole. Top off with fresh, clean oil if necessary. Use oil according to the lubricant specification.

Clean the magnetic oil plug (1) from any metal particles before refitting it.

Rubber elements and fastening screws – Check

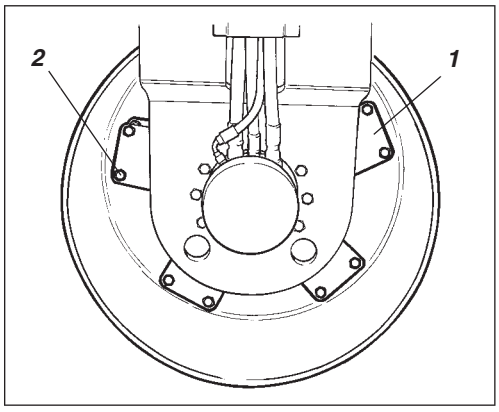

Fig. 26 Drum suspension
1. Rubber element
2. Fastening screws

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 (3/8–5/16").

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

Make sure that the fastening screws (2) are tightened.

EVERY 500 HOURS OF OPERATION (Every three months)

Hydraulic reservoir cap – Check

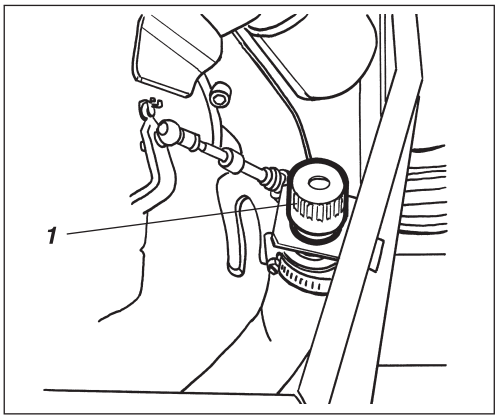

Fig. 27 Engine compartment
1. Tank cap

Unscrew and ensure that the reservoir cap is not clogged; air must have unobstructed passage through the cap in both directions.
If clogged in either direction, clean with a little diesel oil and blow with compressed air until free passage is assured, or replace the cap with a new one.

WARNING

Wear protective goggles when working with compressed air.

Controls – Lubrication

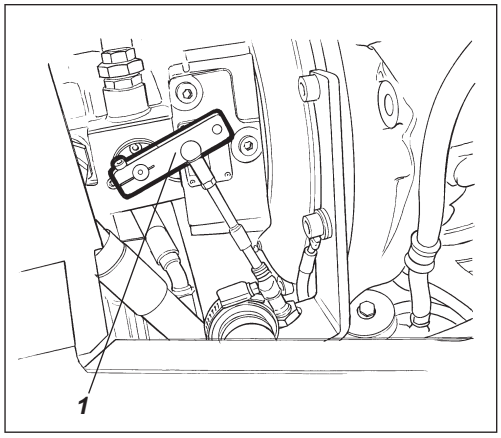

Fig. 28 Engine compartment
1. Forward/reverse lever

Lubricate the forward/reverse mechanism.
Unscrew the screws (2) in the top of the protective cover (1), remove the cover and lubricate the mechanism under the cover with oil.

Controls – Lubrication

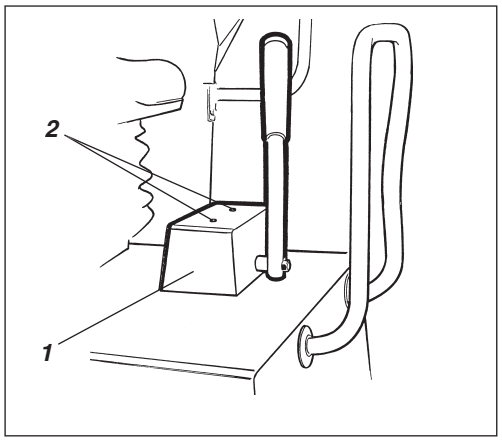

Fig. 29 Operator's station
1. Forward/reverse lever
2. Fastening screws

Lubricate the forward/reverse controls in the engine compartment with a few drops of oil.
If the controls become sluggish after a long period of use, remove the cover and the forward/reverse lever in the operator's station and lubricate the mechanism.

Engine – Oil change

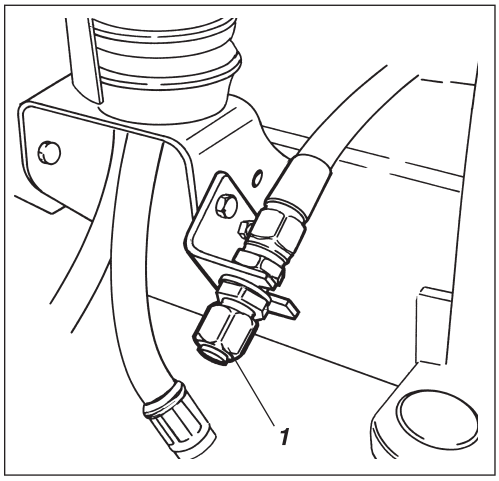

Fig. 30 Engine compartment, right side
1. Oil drain

Run the engine warm before draining the oil.

WARNING

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

WARNING

Switch off the engine and apply the parking brake.

Place a receptacle that holds at least 8 quarts under the drain plug. Collect the oil and dispose of it properly.

WARNING

Risk for burns when draining hot oil. Protect your hands.

Unscrew the oil drain plug (1).
Allow all of the oil to drain off and refit the plug.

Fill with fresh engine oil; see the Lubricant specification or the engine manual for the correct grade of oil. Check the dipstick to ensure that the engine oil level is correct; see the engine manual for details.

Oil filter – Replacement

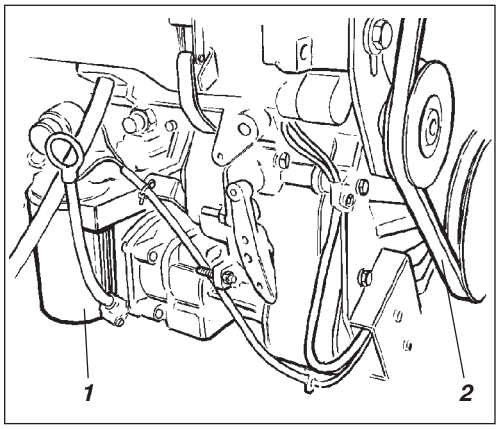

Fig. 31 Diesel engine
1. Oil filter
2. V belt

Remove and discard the oil filter (1) and fit a new one.

Make sure that the belt (2) is free from cracks or other damage. Replace as necessary.

Check the belt tension; if you can press it down with your thumb more than 10 mm (3/8") half way between the belt pulleys, it needs tightening.

CAUTION

See engine manual for detailed instructions on changing oil and filters, and for belt tightening.

Start the engine and check tightness of oil filter and drain plug.

WARNING

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

Refit the engine protective plate.

EVERY 1000 HOURS OF OPERATION (Every six months)

Hydraulic filter – Replacement

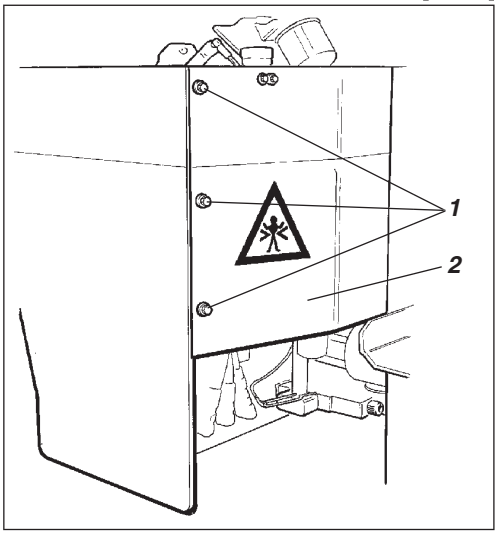

Fig. 32 Engine compartment
1. Fastening screws
2. Safety plate

WARNING

Place the roller on a level base. The engine must be switched off and the reserve/parking brake knob pushed in for all checking and adjustments on the roller unless otherwise specified.

Unscrew the six fastening screws (1).

Remove the safety plate (2).

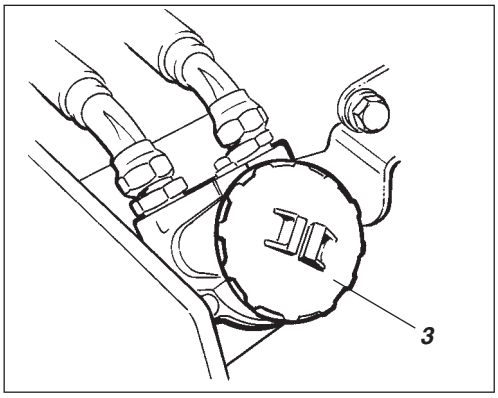

Fig. 33 Hydraulic filter
3. Cover

Release the red cover (3) and pull up the filter insert (4).

Refit the red cover temporarily, to prevent dust and dirt from entering the tank.

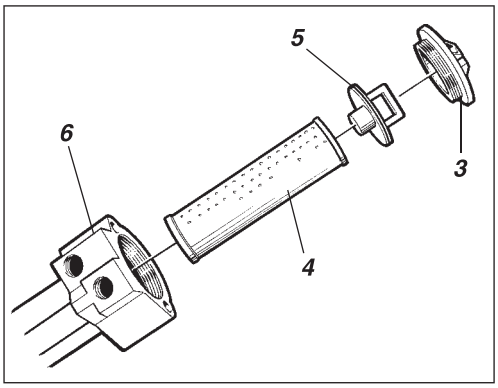

Fig. 34 Hydraulic filter
3. Cover
4. Filter insert
5. Handle
6. Filter holder

Release the filter insert (4) from the handle (5).

Discard the filter in a safe manner, it is not reusable and cannot be cleaned.

Mount the new insert on the handle, refit the unit into the filter holder (6), and refit the red cover.

Start the engine and let it run at full revs for half a minute, checking that the filter cover (3) remains tight.

WARNING

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

Hydraulic reservoir – Draining

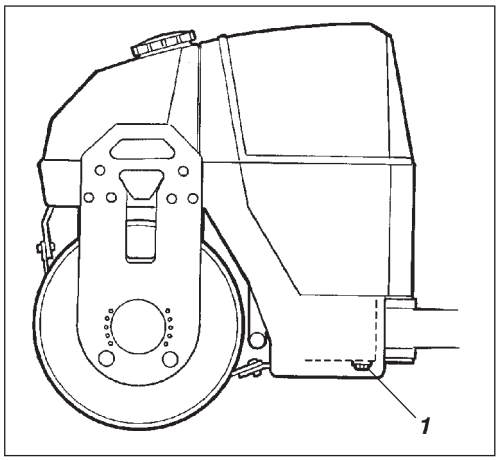

Fig. 35 Left side of frame
1. Drain plug

Condensation water in the hydraulic reservoir is drained via the plug (1). Draining must be done after the roller has stood still during a long period—for example, after standing still overnight.

CAUTION

Take great care when draining. Do not drop the plug so that all the oil runs out.

Drain as follows:

Place a receptacle under the plug.

Unscrew and allow any condensation to drain off.

Tighten the plug.

Changing the fuel filter

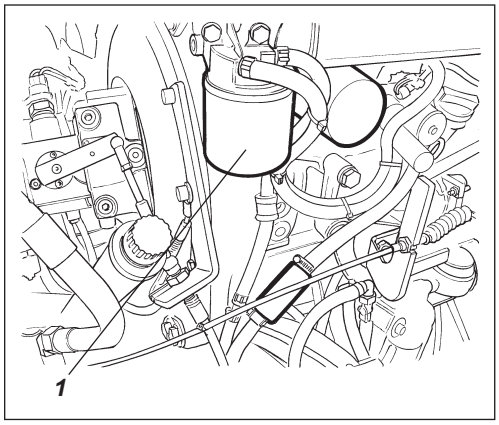

Fig. 36 Engine compartment CC102/122/C
1. Fuel filter

Place a receptacle underneath to collect fuel that runs out when removing the filter.

Loosen and screw off the fuel filter (1). Discard the filter in a safe manner, it is not reusable and cannot be cleaned.

CAUTION

See the engine manual for detailed instructions on changing the fuel filter.

Start the engine and check that the fuel filter does not leak.

WARNING

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

Changing the fuel filter

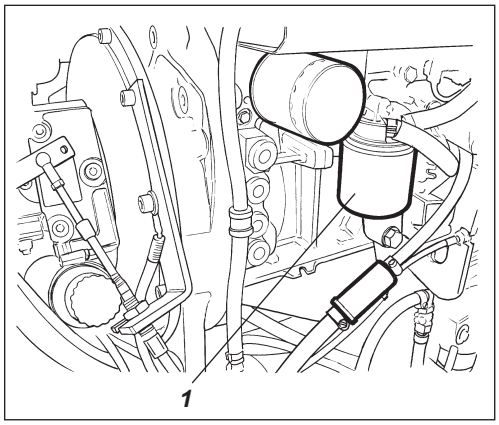

Fig. 37 Engine compartment CC142/C
1. Fuel filter

Changing the engine pre-filter

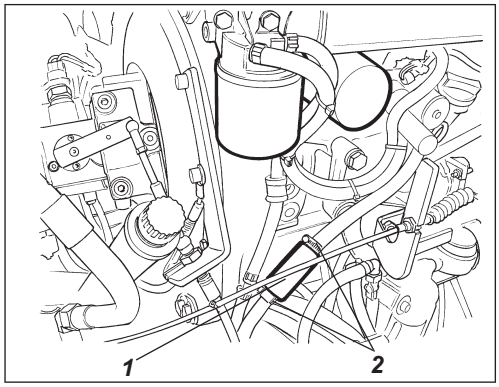

Fig. 38 Engine compartment CC102/122/C
1. Pre-filter
2. Hose clamps

Push the parking brake knob.

Switch off the engine and open the left door of the engine compartment.

Release the hose clamps (2) with a screwdriver.

Discard the pre-filter (1) in a safe manner, it is not reusable and cannot be cleaned.

Fit a new pre-filter and tighten the hose clamps again.

Start the engine and check that the pre-filter does not leak.

WARNING

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

Changing the engine pre-filter

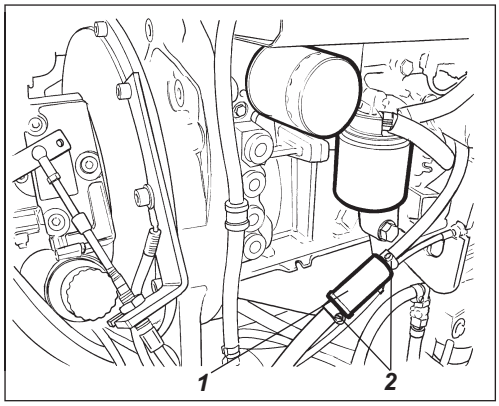

Fig. 39 Engine compartment CC142/C
1. Pre-filter
2. Hose clamps

Changing the air cleaner

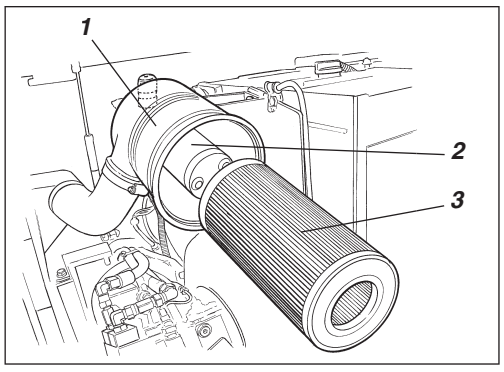

Fig. 40 Air cleaner
1. Filter housing
2. Backup filter
3. Main filter

Replace the main filter (3) of the air cleaner even if it has not yet been cleaned five times; see under the heading ”Every 50 hours of operation” for changing the filter.

CAUTION

If the filter is not replaced when clogged, the engine will emit smoke and lose power and there will be serious risk of damage to the engine.

Hydraulic reservoir – Changing the fluid

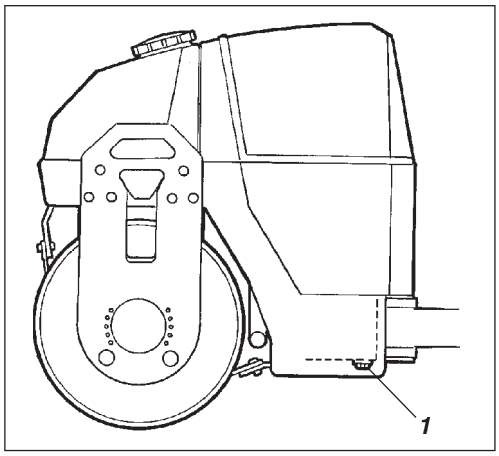

Fig. 41 Left side of roller
1. Drain plug

Drum – Changing the oil

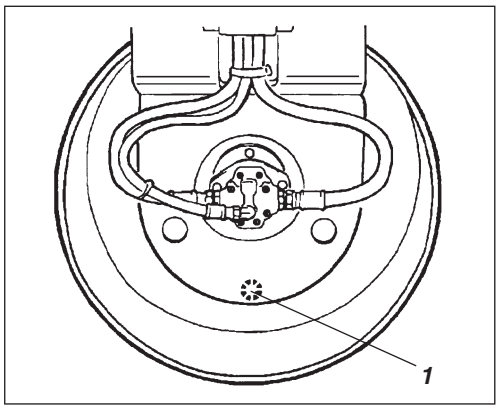

Fig. 42 Drum, vibration side
1. Oil plug

Drum – Changing the oil

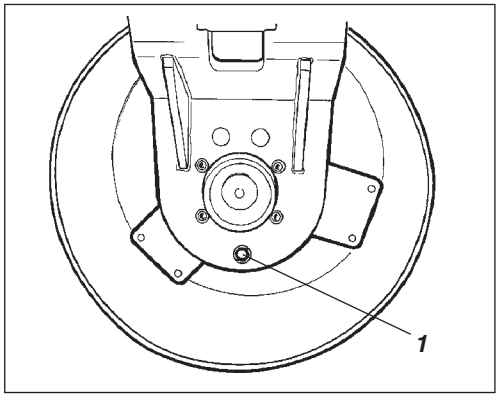

Fig. 43 Drum, drive side
1. Oil plug

WARNING

Place the roller on a level base. The engine must be switched off and the reserve/parking brake knob pushed in for all checking and adjustments on the roller unless otherwise specified.

WARNING

Risk for burns when draining hot oil. Protect your hands.

Place a receptacle that will hold at least 40 quarts under the plug. Collect the oil and dispose of it properly.

Remove the drain plug (1) and let all the oil run out, wipe and refit the drain plug.

CAUTION

Fill with fresh hydraulic fluid of the grade indicated in the Lubricant specification.

Replace the hydraulic filter as described under the heading ”Every 1000 hours of operation”.

Start the engine and operate the various hydraulic functions. Check the level in the reservoir and top off as necessary.

WARNING

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

These instructions apply to the CC 102/122.

Position the roller on a level surface and drive it until the drain plug (1) is straight down.

WARNING

Switch off the engine and press the parking brake knob.

Place a receptacle that will hold at least 6 quarts under the plug. Collect the oil and dispose of it properly.

Remove the plug and let all the oil run out. See under the heading ”Every 500 hours of operation” for filling oil.

CAUTION

These instructions apply to the CC 142.

Position the roller on a level surface and drive it slowly until the oil plug (1) is straight down.

WARNING

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

Place a receptacle that will hold at least 7 quarts under the plug. Collect the oil and dispose of it properly.

Remove the plug and let all the oil run out. See under the heading ”Every 500 hours of operation” for filling oil.

Water tank – Draining

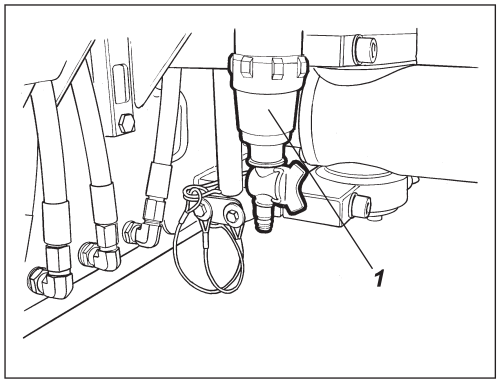

Fig. 44 Pump system
1. Water filter

CAUTION

Remember the risk of freezing during the winter period and drain the tank, pump and leads.

The easiest way to empty the water tank is to open the drain cock on the water filter (1).
(There is also a drain plug underneath the water tank).

Water pump – Draining

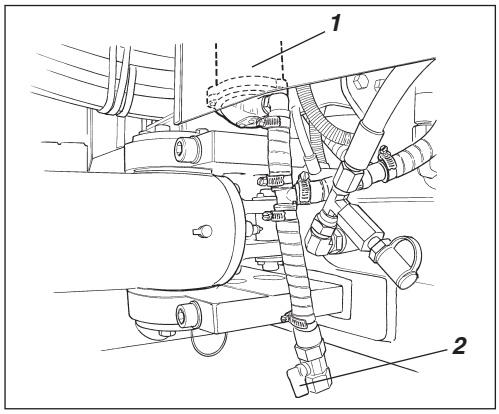

Fig. 45 Pump system
1. Water pump
2. Drain cock

Open the drain cock (2) to empty the water pump (1).

Water tank – Cleaning

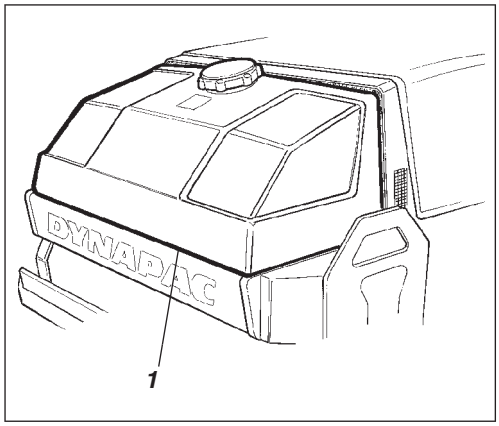

Fig. 46 Water tank
1. Drain plug

Clean the tanks with water and a suitable detergent for plastic surfaces.

Refit the filter housing or the drain plug (1), fill with water and check for tightness.

The water tanks are made of recyclable plastic (polyethylene).

Emulsion tank – Draining

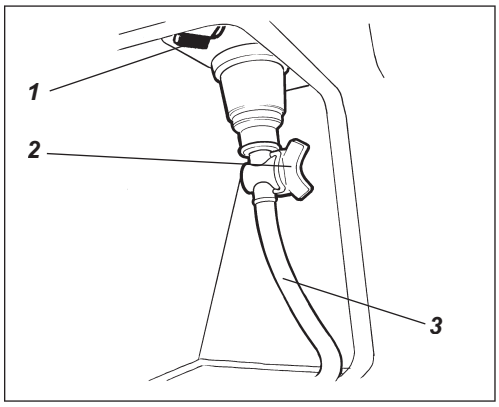

Fig. 47 Pump system
1. Stopcock
2. Drain cock
3. Drain hose

Open the cock (1) and the drain cock (2), which is located in the left step. The hose (3) facilitates draining the emulsion fluid into a suitable receptacle.

For cleaning the tank, see Water tank – Cleaning.

The emulsion tank is made of recyclable plastic (polyethylene).

Fuel tank – Cleaning

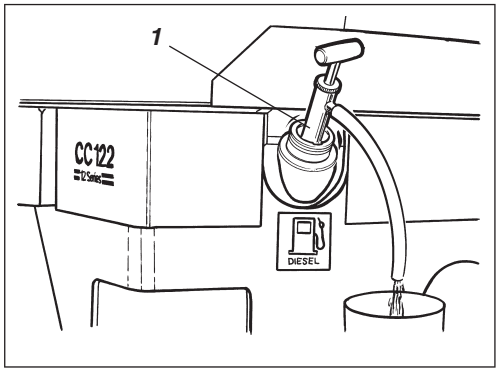

Fig. 48 Fuel tank
1. Oil emptying pump

It is easiest to clean the tank when it is almost empty.

CAUTION

Pump out any bottom sediment with a suitable pump, such as an oil emptying pump. Save the oil in a can and deposit it in an approved manner.

WARNING

Remember the danger of fire when handling fuel.

The fuel tank is made of recyclable plastic (polyethylene).

Steering joint – Check

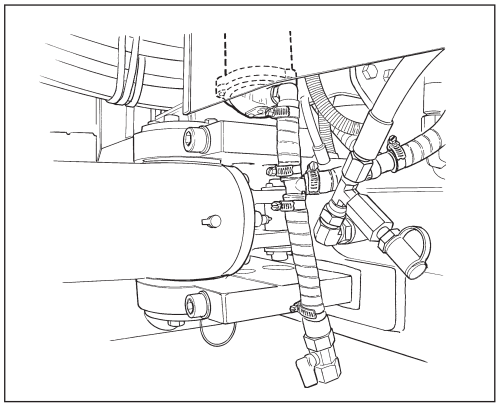

Fig. 49 Steering joint

Inspect the steering joint to detect any damage or cracks.

Check and correct any loose bolts.

Check also for any stiffness and play.

LONG-TERM PARKING

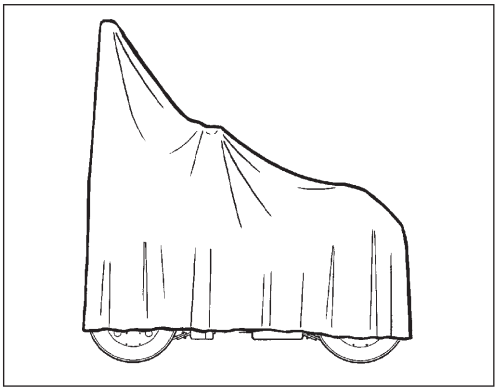

Fig. 50 Roller protected against the weather

CAUTION

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 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 trickle charge the battery once a month.

Air cleaner, exhaust pipe

* Cover the air cleaner (see under the headings "Every 50 hours of operation" and "Every 1000 hours of operation") or its intake opening with plastic or tape. Cover the exhaust pipe 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"), and also hoses, filter housing and the water pump. Remove all the sprinkler nozzles (see under the heading "Every 10 hours of operation"). Also drain the emulsion tank (see under the heading "Every 2000 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").

Tires (combo)

Make sure that tire pressure is at least 200 kPa (2.0 kp/cm^2) psi.

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.

Standard oils and other recommended fluids

On leaving the factory, the various 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.

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

Higher ambient temperature max. +50°C (122°F)

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 using mineral fluid Shell Tellus T100 or equivalent. Other components using transmission oil: Shell Spirax AX 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

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 an elastic band. This will prevent water from entering the venting hole in the filler cap. This could otherwise cause operational disturbance, such as 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)

If the roller is equipped with a protective structure (ROPS, Roll Over Protective Structure), or protective cab, the structure or cab must on no account be subjected to welding or the drilling of holes. Never attempt to repair a damaged structure or cab; they must be replaced with new ones.

Starting aid

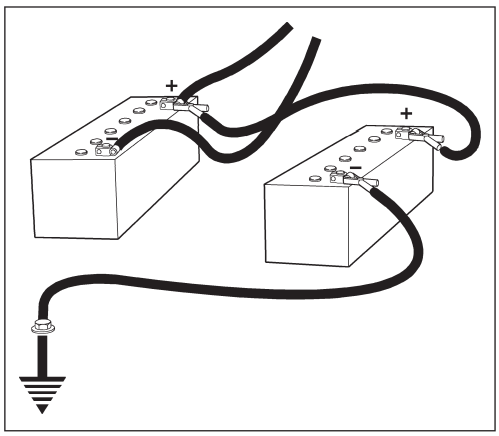

Fig. 51 Starting aid

WARNING

Do not connect the negative cable to the negative pole of the discharged battery, because in the event of a spark, the oxyhydrogen gas that is emitted around the battery could explode.

CAUTION

Always ensure that voltage of the jump-start battery is the same as that of the discharged battery.

Switch off the ignition and all power consuming items. Switch off the engine in the assisting machine. First connect the positive pole of the jump-start battery to the positive pole of the discharged battery and then connect the negative pole of the jump-start battery to a bolt or the engine lifting lug in the machine to the discharged battery. Start the engine of the assisting machine and let it run for a while. Attempt to start the other machine. Disconnect the cables in the reverse order.

Fuses

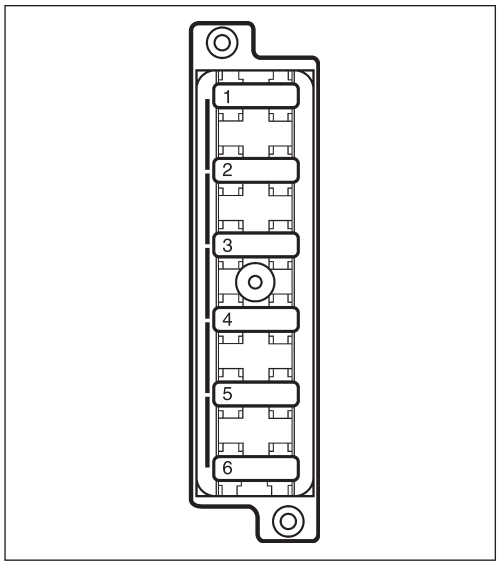

Fig. 52 Left fuse box (standard)

10 A	*1. Brake valve, warning panel, hourmeter*
7.5 A	*2. Vibration relay*
10 A	*3. Water pump, neutral relay*
7.5 A	*4. Horn, fuel gauge*
7.5 A	*5. Water pump (combo)*
7.5 A	*6. Reversing signal, flow manifold*

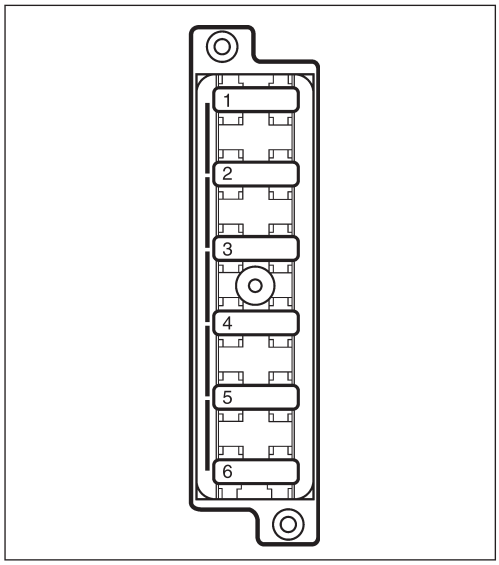

Fig. 53 Right fuse box (accessories)

15 A	*1. Front headlight, L position lights, R taillight*
15 A	*2. Rear headlight, R position lights, L taillight, license plate lighting*
5 A	*3. Direction indicator, right*
5 A	*4. Direction indicator, left*
10 A	*5. Hazard beacon*
10 A	*6. Flasher relay*

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

CAUTION

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

CAUTION

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

Flat pin fuses located in the fuse boxes protect the electrical regulating and control system. The fuse boxes indicated by the figures are located in the steering column.

The figure shows the ampere rating and function of the different fuses.
The left fuse box is found in all machines.
The right fuse box is provided only in machines equipped with electric accessories.