DYNAPAC
CC102, CC122/122C
CC142/142C
MAINTENANCE
M102EN5
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.
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.

<table>
<thead>
<tr>
<th><strong>ENGINE OIL</strong></th>
<th>Shell Rimula Super 15W/40 or equivalent API CH-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>ambient temperature</td>
<td>-15°C to +50°C (14°F to 122°F)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>HYDRAULIC FLUID</strong></th>
<th>Shell Tellus Oil TX68 or equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>ambient temperature</td>
<td>-15°C to +40°C (14°F to 104°F)</td>
</tr>
<tr>
<td>higher than +40°C (104°F)</td>
<td>Shell Tellus Oil T100 or equivalent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>BIOLOGICAL HYDRAULIC FLUID</strong></th>
<th>BP BIOHYD SE-S 46</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>DRUM OIL</strong></th>
<th>Shell Spirax AX 80W/90, or equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>ambient temperature</td>
<td>-15°C to +40°C (5°F to 104°F)</td>
</tr>
<tr>
<td>higher than +40°C (104°F)</td>
<td>Shell Spirax AX 85W/140 or equivalent API GL-5</td>
</tr>
</tbody>
</table>

| **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.
TECHNICAL SPECIFICATIONS

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

<table>
<thead>
<tr>
<th>Weight and sizes</th>
<th>CC 122C</th>
<th>142C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight CECE, standard equipped roller kg, Deutz(lbs)</td>
<td>2425(5,347)</td>
<td>3750(8,268)</td>
</tr>
<tr>
<td>Length, standard equipped roller, mm (in)</td>
<td>2395(94)</td>
<td>2725(107)</td>
</tr>
<tr>
<td>Width, standard equipped roller, mm (in)</td>
<td>1280(50)</td>
<td>1400(55)</td>
</tr>
<tr>
<td>Height, standard equipped roller, mm (in)</td>
<td>1755(69)</td>
<td>1855(73)</td>
</tr>
<tr>
<td>Height, roller with ROPS, mm (in)</td>
<td>2640(103)</td>
<td>2740(108)</td>
</tr>
</tbody>
</table>
### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Fluid volumes</th>
<th>Litres (qts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydraulic reservoir</td>
<td>40 (42.2)</td>
</tr>
<tr>
<td>Fuel tank</td>
<td>50 (52.9)</td>
</tr>
<tr>
<td>Emulsion tank (Combo)</td>
<td>40 (42.2)</td>
</tr>
<tr>
<td>Water tank</td>
<td>160 (169.1) (CC 102, CC 122/122C)</td>
</tr>
<tr>
<td>Water tank</td>
<td>200 (211.4) (CC 142/142C)</td>
</tr>
<tr>
<td>Diesel engine (Deutz F2L, L02I)</td>
<td>6.5 (6.9) (CC 102, CC 122/122C)</td>
</tr>
<tr>
<td>Diesel engine (Deutz F3L, L03I)</td>
<td>6.0 (6.3) (CC 142/142C)</td>
</tr>
<tr>
<td>Drum</td>
<td>4.0 (4.2) (CC 102)</td>
</tr>
<tr>
<td>Drum</td>
<td>5.0 (5.3) (CC 122/122C)</td>
</tr>
<tr>
<td>Drum</td>
<td>6.0 (6.3) (CC 142/142C)</td>
</tr>
</tbody>
</table>

### Electrical system

- **Battery**: 12 V 75 Ah
- **Alternator**: 12 V 60 A
- **Fuses**: 5, 7.5, 10, 15 A (Flat pin fuse)

### Compaction data

<table>
<thead>
<tr>
<th>CC 102</th>
<th>CC 122/122C</th>
<th>CC 142/142C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static linear load kg/cm (psi)</td>
<td>10.6 (59.4)</td>
<td>10.5 (58.8)</td>
</tr>
<tr>
<td>Amplitude mm (in)</td>
<td>0.50 (0.019)</td>
<td>0.50 (0.019)</td>
</tr>
<tr>
<td>Frequency Hz (vpm)</td>
<td>57.0 (3,420)</td>
<td>58.0 (3,480)</td>
</tr>
<tr>
<td>Centrifugal force kN (lb)</td>
<td>23.0 (5,175)</td>
<td>27.0 (6,075)</td>
</tr>
</tbody>
</table>

### Propulsion

<table>
<thead>
<tr>
<th>CC 102/122</th>
<th>CC 122C</th>
<th>CC 142</th>
<th>CC 142C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed range km/h (mph)</td>
<td>0-8.6 (0-5.3)</td>
<td>0-6.6 (0-4.1)</td>
<td>0-9.8 (0-6.0)</td>
</tr>
<tr>
<td>Climbing capacity (theoretical) %</td>
<td>50/45</td>
<td>60</td>
<td>41</td>
</tr>
</tbody>
</table>

### Tires (Combo)

<table>
<thead>
<tr>
<th>CC 122C</th>
<th>CC 142C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire size</td>
<td>205/60-15</td>
</tr>
<tr>
<td>Air pressure</td>
<td>170-250 kPa (1.7 - 2.5 kp/cm²)</td>
</tr>
</tbody>
</table>
TECHNICAL SPECIFICATIONS

Tightening torque

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

<table>
<thead>
<tr>
<th>M</th>
<th>STRENGTH CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.8</td>
</tr>
<tr>
<td>M6</td>
<td>8,4</td>
</tr>
<tr>
<td>M8</td>
<td>21</td>
</tr>
<tr>
<td>M10</td>
<td>40</td>
</tr>
<tr>
<td>M12</td>
<td>70</td>
</tr>
<tr>
<td>M16</td>
<td>169</td>
</tr>
<tr>
<td>M20</td>
<td>330</td>
</tr>
<tr>
<td>M24</td>
<td>570</td>
</tr>
<tr>
<td>M30</td>
<td>1130</td>
</tr>
<tr>
<td>M36</td>
<td>1960</td>
</tr>
</tbody>
</table>

ROPS

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

Hydraulic system

<table>
<thead>
<tr>
<th>Opening pressure MPa</th>
<th>CC 102/122/C</th>
<th>CC 142C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive system</td>
<td>33,0</td>
<td>35,0</td>
</tr>
<tr>
<td>Supply system</td>
<td>2,0</td>
<td>2,0</td>
</tr>
<tr>
<td>Vibration system</td>
<td>20,0</td>
<td>20,0</td>
</tr>
<tr>
<td>Control systems</td>
<td>17,0</td>
<td>17,0</td>
</tr>
<tr>
<td>Brake release</td>
<td>1,4</td>
<td>1,4</td>
</tr>
</tbody>
</table>
THE TECHNICAL SPECIFICATIONS

Vibrations – Drivers seat (ISO 2631)

<table>
<thead>
<tr>
<th>Model</th>
<th>Guaranteed acoustic power level dB(A)</th>
<th>Acoustic pressure level, operator’s ear</th>
<th>Acoustic pressure level, operator’s ear (cab)dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC102</td>
<td>105</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>CC122/C</td>
<td>105</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>CC142/C</td>
<td>106</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

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/s² specified in EU directive 2002/44/EC. (The limit value is 1.15 m/s².)

Hand/arm vibration is measured at less than the action value of 2.5 m/s² specified in the same directive. (The limit value is 5 m/s².)

CAUTION: 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.

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

### Every 10 hours of operation (Daily)

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

### Every 50 hours of operation (Weekly)

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

**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)

<table>
<thead>
<tr>
<th>Items in fig. 1</th>
<th>Action</th>
<th>See page</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Clean the hydraulic fluid cooler</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Check electrolyte level in battery</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Clean the engine cooling flanges</td>
<td></td>
<td>See engine instruction manual</td>
</tr>
</tbody>
</table>

#### Every 500 hours of operation (Every three months)

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

#### Every 1000 hours of operation (Every six months)

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

#### Every 2000 hours of operation (Yearly)

<table>
<thead>
<tr>
<th>Items in fig. 1</th>
<th>Action</th>
<th>See page</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Change the hydraulic fluid</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Change oil in the drums</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Empty and clean the water tank</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Clean the emulsion tank</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Empty and clean the fuel tank</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Check the condition of the steering joints</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>
EVERY 10 HOURS OF OPERATION (Daily)

Hydraulic reservoir
– Level check – Filling

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.

Fig. 3 Engine compartment
1. Filling hydraulic fluid

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.

Fig. 2 Hydraulic reservoir
1. Oil sight glass
EVERY 10 HOURS OF OPERATION (Daily)

Air circulation – Check

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

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

Fuel tank – Refueling

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.

Fig. 5 Fuel tank
1. Tank cap

Water tank – Filling

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.

Fig. 6 Water tank
1. Tank cap
EVERY 10 HOURS OF OPERATION (Daily)

Sprinkler system/Drum
Checking – Cleaning

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.

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.

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.
Scrapers, fixed
Checking – Setting

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

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

Sprinkler system/Wheels
Checking—Cleaning

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](image)

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](image)

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](image)

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.
EVERY 50 HOURS OF OPERATION (Weekly)

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.
**EVERY 50 HOURS OF OPERATION (Weekly)**

**Steering cylinder and steering joint – Lubrication**

![Steering joint diagram](image1)

**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**

![Tires (Combo) diagram](image2)

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

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.

WARNING

- Take care when using a high-pressure water jet; do not hold the nozzle too near the cooler.
- Wear protective goggles when working with compressed air.
- 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.
- 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

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.

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

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.
Hydraulic reservoir cap
– Check

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.

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

Controls – Lubrication

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

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.
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.

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") halfway 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.
Hydraulic filter – Replacement

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).

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.

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).
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.

---

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).
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.

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.
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.

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

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

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

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.

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.

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.

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.

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.
**EVERY 2000 HOURS OF OPERATION (Yearly)**

**Water tank – Draining**

![Diagram](image1)

**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**

![Diagram](image2)

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

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

**Water tank – Cleaning**

![Diagram](image3)

**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).
**EVERY 2000 HOURS OF OPERATION (Yearly)**

**Emulsion tank – Draining**

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.

Recursive plastic (polyethylene).

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**Fuel tank – Cleaning**

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

- 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).

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**Steering joint – Check**

Inspect the steering joint to detect any damage or cracks.

Check and correct any loose bolts.

Check also for any stiffness and play.
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.

**Fig. 50 Roller protected against the weather**

**LONG-TERM PARKING**

**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/cm²) 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.
SPECIAL INSTRUCTIONS

Standard oils and other recommended fluids

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

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

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

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.

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.
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.

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**Fuses**

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**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