CC211/COMBI is a member of the CC21 family of vibration rollers and is a 7 ton tandem roller, with drum and all-wheel drive and with vibration action on the front drum.

CC211/COMBI is designed especially for use together with modern road-material spreading machines, i.e., for the compaction of sub-base, base courses and bituminous layers. The roller is well suited for the compaction of various bituminous compounds.

CC211/COMBI is the basic version described in these instructions. Separate information is available on request concerning accessories or additional equipment.

MAINTENANCE

CC211C
COMBINATION ROLLER
M-242-2EN, 9412

Diesel Engine:
Deutz F4L 912

These instructions apply from
PIN (S/N) "61520211"

KEEP THIS MANUAL AVAILABLE FOR FUTURE USE
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WARNING SYMBOLS

⚠️ ! Safety instructions - Personal safety
⚠️ ! Special caution - Machine or component damage

GENERAL

⚠️ ! Read all the instructions thoroughly before carrying out any servicing operations.
⚠️ ! Ensure that ventilation (evacuation) is adequate if the engine is run indoors.

Proper care of the roller is essential to ensure satisfactory operation. Keep the machine clean so that any leakage, loose bolts or loose connections can be easily detected.

TAKE CARE OF THE ENVIRONMENT. Do not spill oil or fuel, or leave anything behind that could be detrimental to the environment.

This manual includes instructions for periodic maintenance which should normally be carried out by the operator of the roller.

⚠️ ! Instructions in the engine manufacturer's manual also apply. The manual is included in the product folder supplied with the roller.
LUBRICANTS, SYMBOLS

Always use high quality lubricants in the quantities stipulated. Too much oil or grease may result in overheating and subsequent excessive wear.

<table>
<thead>
<tr>
<th>Lubricant</th>
<th>Specifications</th>
<th>Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGINE OIL</td>
<td>Ambient temperature -10°C to +50°C (+14°F to +122°F)</td>
<td>Shell Rimula SAE 15W/40 or equivalent API Service CD/SE, CD/SF</td>
</tr>
<tr>
<td>HYDRAULIC FLUID</td>
<td>Ambient temperature -10°C to +40°C (+14°F to +104°F) Shell Tellus Oil T68 or equivalent</td>
<td>Shell Tellus Oil T100 or equivalent</td>
</tr>
<tr>
<td>DRUM OIL</td>
<td>Ambient temperature -15°C to +40°C (+5°F to +104°F) Shell Spirax SAE 80W/90, HD API, GL-5</td>
<td>Shell Spirax HD85W/140 or equivalent</td>
</tr>
</tbody>
</table>

Other lubricants are required when operating at extremely high or low temperatures. See chapter, "Special instructions", or get in touch with Dynapac.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Engine, oil level" /></td>
<td>Engine, oil level</td>
</tr>
<tr>
<td><img src="image" alt="Air cleaner" /></td>
<td>Air cleaner</td>
</tr>
<tr>
<td><img src="image" alt="Engine, oil filter" /></td>
<td>Engine, oil filter</td>
</tr>
<tr>
<td><img src="image" alt="Battery" /></td>
<td>Battery</td>
</tr>
<tr>
<td><img src="image" alt="Hydraulic reservoir, level" /></td>
<td>Hydraulic reservoir, level</td>
</tr>
<tr>
<td><img src="image" alt="Sprinkler" /></td>
<td>Sprinkler</td>
</tr>
<tr>
<td><img src="image" alt="Hydraulic filter" /></td>
<td>Hydraulic filter</td>
</tr>
<tr>
<td><img src="image" alt="Sprinkler water" /></td>
<td>Sprinkler water</td>
</tr>
<tr>
<td><img src="image" alt="Transmission, oil level" /></td>
<td>Transmission, oil level</td>
</tr>
<tr>
<td><img src="image" alt="Recycle" /></td>
<td>Recycle</td>
</tr>
<tr>
<td><img src="image" alt="Lubricating oil" /></td>
<td>Lubricating oil</td>
</tr>
<tr>
<td><img src="image" alt="Fuel filter" /></td>
<td>Fuel filter</td>
</tr>
<tr>
<td><img src="image" alt="Tyre pressure" /></td>
<td>Tyre pressure</td>
</tr>
</tbody>
</table>
## SPECIFICATIONS

### Weight, Dimensions

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight CECE, standard</td>
<td>6450</td>
</tr>
<tr>
<td>equipped roller (kg)</td>
<td></td>
</tr>
<tr>
<td>Length, standard</td>
<td>4300</td>
</tr>
<tr>
<td>equipped roller (mm)</td>
<td></td>
</tr>
<tr>
<td>Width, standard</td>
<td>1570</td>
</tr>
<tr>
<td>equipped roller (mm)</td>
<td></td>
</tr>
<tr>
<td>Height, st. eq. roller</td>
<td>2200</td>
</tr>
<tr>
<td>without ROPS (mm)</td>
<td>Shipping high</td>
</tr>
<tr>
<td>Height, st. eq. roller</td>
<td>2980</td>
</tr>
<tr>
<td>with ROPS (mm)</td>
<td></td>
</tr>
</tbody>
</table>

### Fluid volumes (litres)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Drum</td>
<td>20</td>
</tr>
<tr>
<td>Hydraulic reservoir</td>
<td>140</td>
</tr>
<tr>
<td>Fuel tank</td>
<td>140</td>
</tr>
<tr>
<td>Water tanks</td>
<td>320 x 2</td>
</tr>
<tr>
<td>Engine (Deutz)</td>
<td>11</td>
</tr>
</tbody>
</table>

### Electrical system

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery</td>
<td>12 V 170 Ah</td>
</tr>
<tr>
<td>Alternator</td>
<td>12 V (Deutz) 65A</td>
</tr>
<tr>
<td>Fuses</td>
<td>5, 7, 5, 10 Ampère</td>
</tr>
</tbody>
</table>

### Vibration data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Static linear load (kg/cm)</td>
<td>24.3</td>
</tr>
<tr>
<td>Amplitude (mm)</td>
<td></td>
</tr>
<tr>
<td>High:</td>
<td>0.7</td>
</tr>
<tr>
<td>Low:</td>
<td>0.35</td>
</tr>
<tr>
<td>Frequency (Hz)</td>
<td></td>
</tr>
<tr>
<td>At high amplitude:</td>
<td>47</td>
</tr>
<tr>
<td>At low amplitude:</td>
<td>49</td>
</tr>
<tr>
<td>Centrifugal force (kN)</td>
<td></td>
</tr>
<tr>
<td>At high amplitude:</td>
<td>67</td>
</tr>
<tr>
<td>At low amplitude:</td>
<td>36</td>
</tr>
</tbody>
</table>

### Propulsion

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed range (km/h)</td>
<td>0-10</td>
</tr>
<tr>
<td>Climbing capacity</td>
<td>45</td>
</tr>
<tr>
<td>(theoretical) %</td>
<td></td>
</tr>
</tbody>
</table>

### Tyres

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tyre size</td>
<td>10.00 X R20</td>
</tr>
<tr>
<td>Tyre pressure</td>
<td>0.15 - 0.25 Mpa (1.5 - 2.5 kp/cm²)</td>
</tr>
</tbody>
</table>
Tightening torque

Tightening torque in Nm, for oiled bolts when using 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>Thread</td>
<td></td>
</tr>
<tr>
<td>M6</td>
<td>10</td>
</tr>
<tr>
<td>M8</td>
<td>24</td>
</tr>
<tr>
<td>M10</td>
<td>47</td>
</tr>
<tr>
<td>M12</td>
<td>81</td>
</tr>
<tr>
<td>M14</td>
<td>128</td>
</tr>
<tr>
<td>M16</td>
<td>197</td>
</tr>
<tr>
<td>M18</td>
<td>275</td>
</tr>
<tr>
<td>M20</td>
<td>385</td>
</tr>
<tr>
<td>M22</td>
<td>518</td>
</tr>
<tr>
<td>M24</td>
<td>665</td>
</tr>
<tr>
<td>M27</td>
<td>961</td>
</tr>
<tr>
<td>M30</td>
<td>1310</td>
</tr>
</tbody>
</table>

Hydraulic system

<table>
<thead>
<tr>
<th>HYDRAULIC SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening pressure MPa</td>
</tr>
<tr>
<td>Drive system</td>
</tr>
<tr>
<td>Supply system</td>
</tr>
<tr>
<td>Vibration system</td>
</tr>
<tr>
<td>Steering system</td>
</tr>
<tr>
<td>Brake release</td>
</tr>
</tbody>
</table>

Noise levels (ISO 6394)

<table>
<thead>
<tr>
<th>NOISE LEVEL WITHOUT VIBRATION (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Measured on hard supporting surface)</td>
</tr>
<tr>
<td>Standard roller</td>
</tr>
<tr>
<td>Operator’s position, LwA</td>
</tr>
</tbody>
</table>

Operator’s position - Vibrations (ISO 2631)

(Measured with vibration switched on and on a foam rubber mat)
Vibration on the operator's seat is 0,36 m/s²
Vibration on the floor of the operator's position is 0,33 m/s²
Read all the instructions thoroughly before carrying out any servicing operations.

Proper care of the roller is essential to ensure satisfactory operation. Keep the machine clean so that any leakage, loose bolts or loose connections can be easily detected. Make a habit of inspecting the roller every day before starting up by checking all round and underneath the machine to detect any sign of leakage or other faults.

Fig. 1 Service points

1. Water tanks
2. Sprinkler system
3. Filler plugs, drum
4. Rubber elements and fastening bolts
5. —
6. Diesel engine
7. Control panel, lubricating nipple
8. Scrapers
9. Oil level, drum
10. Hydraulic filler
11. Hydraulic fluid sight glass
12. Steering cylinder brackets
13. Steering joints
14. Radiator
15. Hinge
16. Battery
17. Fuel filler cap
18. Fuel tank Diesel
19. Fuse boxes
20. Hydraulic reservoir
21. Hydraulic fluid filler cap
22. Air cleaner
23. Tyre pressure
Periodical servicing shall be carried out at the beginning of each respective period, ie, each day, each week, etc., or on completion of the number of operating hours stated.

Always clean off the surrounding dirt before filling or checking oil and fuel, and before lubricating with oil or grease.

### Every 10 hours of operation (Daily)

<table>
<thead>
<tr>
<th>Item in Fig. 1</th>
<th>Measure</th>
<th>See page</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Check level of engine oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Check that circulation of cooling air is free</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Check the brakes</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Check level of hydraulic reservoir</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Refuel</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Check the sprinkler system</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

*Before first start of the day*  
See engine manual

### Every 50 hours of operation (Weekly)

<table>
<thead>
<tr>
<th>Item in Fig. 1</th>
<th>Measure</th>
<th>See page</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Clean air cleaner insert</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Ensure that hoses and connections are tight.</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Check tyre pressure</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Lubricate the steering joints</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Lubricate the steering cylinder brackets</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Check the battery</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

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

Read all the instructions thoroughly before carrying out any servicing operations.

Proper care of the roller is essential to ensure satisfactory operation. Keep the machine clean so that any leakage, loose bolts or loose connections can be easily detected. Make a habit of inspecting the roller every day before starting up by checking all round and underneath the machine to detect any sign of leakage or other faults.

Fig. 2 Service points

1. Water tanks
2. Sprinkler system
3. Filler plugs, drum
4. Rubber elements and fastening bolts
5. —
6. Diesel engine
7. Control panel, lubricating nipple
8. Scrapers
9. Oil level, drum
10. Hydraulic filter
11. Hydraulic fluid sight glass
12. Steering cylinder brackets
13. Steering joints
14. Radiator
15. Hinge
16. Battery
17. Fuel filler cap
18. Fuel tank Diesel
19. Fuse boxes
20. Hydraulic reservoir
21. Hydraulic fluid filler cap
22. Air cleaner
23. Tyre pressure
### Every 250 hours of operation (Monthly)

<table>
<thead>
<tr>
<th>Item in Fig. 1</th>
<th>Measure</th>
<th>See page</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Check the belt-tension monitor (Deutz)</td>
<td></td>
<td>See engine manual</td>
</tr>
<tr>
<td>6</td>
<td>Check belt tension on fan and alternator</td>
<td></td>
<td>&quot;</td>
</tr>
<tr>
<td>6</td>
<td>Clean the engine cooling fins (Deutz)</td>
<td></td>
<td>&quot;</td>
</tr>
<tr>
<td>6</td>
<td>Check tightening torque of all pump mountings</td>
<td>15</td>
<td>On new or renovated component</td>
</tr>
<tr>
<td>4</td>
<td>Check the rubber elements and bolted joints</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Clean outside of hydraulic fluid cooler</td>
<td>15, 16</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Check oil level in drum</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Lubricate controls and moving joints</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Check the cap/breather of the hydraulic reservoir</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

### Every 500 hours of operation (Every 3 months)

<table>
<thead>
<tr>
<th>Item in Fig. 1</th>
<th>Measure</th>
<th>See page</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Change the hydraulic fluid filter</td>
<td>18</td>
<td>See engine manual</td>
</tr>
<tr>
<td>6</td>
<td>Change the engine lubricating oil and oil filter</td>
<td></td>
<td>See engine manual</td>
</tr>
<tr>
<td>6</td>
<td>Check engine valve clearance</td>
<td></td>
<td>See engine manual</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Item in Fig. 1</th>
<th>Measure</th>
<th>See page</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Drain condensed water from the hydraulic reservoir</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Drain condensed water from the fuel tank</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Change main filter in air cleaner</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Change the fuel filter</td>
<td></td>
<td>See engine manual</td>
</tr>
<tr>
<td>6</td>
<td>Clean the supply pump strainer</td>
<td></td>
<td>&quot;</td>
</tr>
</tbody>
</table>

### Every 2000 hours of operation (Yearly)

<table>
<thead>
<tr>
<th>Item in Fig. 1</th>
<th>Measure</th>
<th>See page</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Change oil in hydraulic reservoir</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Change oil in the drum</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Empty and clean the water tanks</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>
EVERY 10 HOURS OF OPERATION (Daily)

Air circulation - Checking

⚠️ Switch off the engine and apply the parking brake/emergency brake.

DEUTZ
Make sure that air can flow freely through the radiator grill into the engine compartment.

Fig. 3 Radiator grill

Brakes - Test

⚠️ Check operation of the brakes as follows:

1. Drive the roller slowly forward.

2. Press the emergency stop knob (11). The brake warning lamp (10) shall light and the roller shall STOP.

3. On completion of the test, put the forward/reverse control (24) in neutral before resetting the emergency stop.

4. Reset the emergency stop knob.

Fig. 4 Instrument panel
10. Brake warning light
11. Emergency stop
24. Forward/reverse lever
Scrapers Checking - Adjustment

Ensure that the scrapers are undamaged and adjust as follows:

1. Loosen all the fastening bolts
2. Adjust the scraper against the drum.
3. Tighten the fastening bolts.

Hydraulic reservoir Checking - Filling

1. Position the roller on a level surface and check the fluid level in the sight glass (1).
2. Fill with hydraulic fluid (in accordance with the recommendations on page 3) if the level is 2 mm or more below the upper edge of the sight glass or if no fluid is visible.

Fuel tank - Filling

Refuel the roller every day before starting work. Fill fuel up to the lower edge of the filler pipe. Use diesel fuel.

⚠️ Stop the engine. Press the filler nozzle against the filler pipe (1) to earth it while refuelling.

(See the engine manufacturer's recommendations with regard to quality of the fuel.)
Sprinkler system
Checking - Cleaning

Make sure that the strainer nozzles (1) are not clogged. If necessary, clean the nozzles and strainer.

Nozzle
Dismantling - Cleaning

Dismantle a clogged nozzle. Blow clean the nozzle and mesh using compressed air, or fit replacement parts and clean the dirty ones at a later date.

⚠ Wear safety goggles when working with compressed air.

Pump System
Checking - Cleaning

To clean, close the cock (3) and loosen the filter bowl (2). Clean the bowl and strainer with water. Check that the pump is working by listening or by putting a hand on the pump.

NOTE. A drain cock is also provided on the end-piece of the water pump.
Air Cleaner
Dismantling - Assembling

![Diagram of Air Cleaner Components]

1. Filter housing
2. Backup filter
3. Outer cover/Dust trap
4. Clip
5. Inner cover
6. Main filter

![Fig. 11 Air cleaner]

Clean or change main filter in air cleaner when the warning lamp on the instrument panel lights at maximum engine revs, or change every 50 hours of operation.

1. Loosen the clamp (4) and take off the outer cover (3).
2. Screw off the wing nut at the centre of the filter and take off the inner cover (5). Clean the outer cover (3) with a clean rag.
3. Screw off the wing nut and pull out the main filter (6). Do not remove the backup filter.
4. Make sure that dust has not penetrated the main filter during operation. Check if there is any accumulation of dust in the engine intake pipes, if so, the connections, hoses or filter elements are untight and must therefore be replaced.
5. Wipe the inside of the filter housing (1) and intake pipes with a clean rag.
6. Check that hoses and connections between the filter housing and engine are intact and tight.

Replace the backup filter with a new one every third time the main filter is changed or cleaned. The backup filter cannot be cleaned and reused.

Use compressed air at a maximum pressure of 0.7 MPa (7 kp/cm²) (100 psi)

Blow up and down along the paper folds on the inside of the filter element. Hold the nozzle at least 2.5 cm (1 in) from the folds to avoid tearing the paper.

Change the main filter not later than after cleaning it five times.

Wear safety goggles when working with compressed air.

Main Filter - Cleaning with compressed air

![Fig. 12 Main filter]

Tyre pressure

![Diagram of Tyre Pressure]

1. Air valve

1. Check the tyre pressure with a pressure gauge.
2. Make sure that all tyres have the same pressure.

Recommended pressure is 0.15 to 0.25 MPa (1.5 to 2.5 kg/cm²) (21-35 PSI).
Articulated steering
- Lubrication

Risk of injury. Keep everyone clear of the articulated steering mechanism while the engine is running.

1. Turn the steering wheel fully to the left to gain access to all four lubricating nipples on the right-hand side of the machine. Switch off the engine and electric power.

2. Wipe all the nipples clean and lubricate each nipple with five strokes of the grease gun. Make sure that grease penetrates the bearings. Use grease recommended on page 3. Leave a little grease on the nipples after greasing. This will prevent dirt from entering the nipples.

Battery Checking
the electrolyte level

Never use an open flame when checking the battery. The electrolyte emits explosive gas while the alternator is charging.

1. Open the left engine cover, turn the latch knob (1) and pull out the battery shelf.

2. Wipe the top of the battery.

Wear safety goggles. The battery contains aggressive acid. Rinse with water if acid comes into contact with your skin.

3. Take off the cell caps and check that electrolyte level is about 10 mm (1/2 in) above the plates. Check the level of all cells. Top up with distilled water as required to the correct level. If ambient temperature is below freezing, the engine should be run for a while after topping up with distilled water, i.e., there is otherwise a risk that the battery fluid will freeze.

4. Make sure the venting holes in the cell caps are not clogged. Refit the caps.

5. Battery terminals must be clean and well tightened. Clean the terminals if corroded and grease them with acid-free Vaseline.

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

   When changing the battery, dispose of the old one in a safe way. Batteries contain lead which is detrimental to the environment.
Rubber elements and fastening bolts - Checking

1. Make sure that the rubber elements are undamaged and free from cracks.
2. Check that the mounting bolts are tight.
3. Change all the elements if more than 25% on one side of the drum have cracks that are deeper than 10 to 15 mm. (1/2 in).
4. Check the rubber elements on both sides of the drum.

Hydraulic pumps
Checking - Tightening

Retighten all of the pump and motor mountings, see figure 18, and page 5 for the correct tightening torque. (The above applies only for new or renovated components.)

Hydraulic fluid cooler
- Deutz Checking - Cleaning

Ensure that air can flow freely through the cooler without obstruction. A dirty cooler should be cleaned with compressed air. Blow the cooler clean in the opposite direction to the normal flow of air. Ensure after cleaning that seals and noise absorbers are undamaged.

⚠ Wear safety goggles when working with compressed air.
Hydraulic fluid cooler - John Deere Checking - Cleaning

Ensure that air can flow freely through the cooler without obstruction. A dirty cooler should be cleaned with water or compressed air.

Flush or blow the cooler clean in the opposite direction to the normal flow of air. When using water to clean, cover any electrical components.

⚠️ Wear safety goggles when working with compressed air or high-pressure washing jet.

Ensure after cleaning that seals and noise absorbers are undamaged.

Oil level - Drum Checking - Filling

1. Position the roller on a level surface with the filler plug (1) (large plug) at the top.

⚠️ Switch off the engine and apply the parking brake/emergency brake.

2. Wipe clean around the level plug (2) (small plug) and take it off.

3. Ensure that the oil level reaches the lower edge of the hole. Top up as required with lubricant, specification on page 3.

4. Check both drums.

Controls and moving joints, Lubrication

Lubricate the engine hood hinges and the steering column bearings with grease. Lubricate other moving joints and controls with oil. See lubricant specification on page 3.
Hydraulic reservoir
Checking - Venting

Open the left engine cover, take off the filler cap (1) and inspect the venting holes and gasket, figure 24.

Hydraulic reservoir cap
- Checking the venting holes

Make sure the venting holes are not clogged. Wash the cap in diesel fuel and blow clean as required.

⚠️ Wear safety goggles when working with compressed air.
Hydraulic filters
- Changing

1. Remove the two floor-plates from the operator's position.

2. Screw off the two filters (1) and discard them.

   ! Ensure that the sealing rings are removed from the filter holders. Leakage will otherwise occur between the old and new sealing rings.

3. Thoroughly clean the sealing surfaces of the filter holders.

4. Apply a thin coat of hydraulic fluid to the sealing rings of the new filters.

5. Screw on the filters firmly by hand, i.e., screw on until the seal makes contact with the seating and then screw half a turn further.

   ! Do not tighten too hard, the seal may otherwise be damaged.

6. Start the engine and check for any leakage from the filters.

   ! Ensure that ventilation (evacuation) is adequate if the engine is run indoors. (Risk of carbon monoxide poisoning.)
EVERY 1000 HOURS OF OPERATION (Every six months)

Hydraulic reservoir
Draining

Drain off condensed water from the hydraulic reservoir via the drain plug (1).

⚠️ Be careful when draining off the water. Do not drop the plug so that hydraulic fluid runs out.

Drain as follows:
1. Put a can underneath the plug
2. Loosen the plug and allow any water to run out.
3. Tighten the plug.

Fuel tank, Draining

Drain off condensed water from the fuel tank via the drain plug (1).

Drain after the roller has stood still for a longer period, e.g., overnight.

⚠️ Be careful when draining off the water. Do not drop the plug so that fuel runs out.

Drain as follows:
1. Put a can underneath the plug.
2. Loosen the plug and allow any water to run out.
3. Tighten the plug.

Changing the main filter

Change the main filter of the air cleaner even if it has not yet been cleaned five times, see page 13, filter change.

CC 211C M-242-2EN DYNAPAC
EVERY 2000 HOURS OF OPERATION (Yearly)

Hydraulic reservoir

Changing the oil

Risk of scalding when draining hot oil. Protect your hands.

1. Find a suitable receptacle for at least 150 litres (40 US gallon).

2. Screw out the drain plug (1) and allow all the fluid to drain into the receptacle. Refit the plug.

3. Fill with fresh hydraulic fluid of a grade in accordance with the instructions on page 3. Change the hydraulic filters, see page 18.

4. Start the engine and run the various hydraulic functions. Check the fluid level and top up as required, see page 11.

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

1. Position the roller with the drain plug (1) at the bottom. Place a receptacle for about 20 litres (5,3 US gallon) underneath the plug.

2. Remove the plug and drain off the oil.

3. Run the roller so that the plug (1) is at the top.

4. Remove the level plug (2).

5. Fill with oil through up to the level plug. Use transmission oil, see page 3.

6. Make sure the filler plug (1) is clean.

7. Refit the plugs, making sure they are tight.

Drum

Changing the oil

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

1. Position the roller with the drain plug (1) at the bottom. Place a receptacle for about 20 litres (5,3 US gallon) underneath the plug.

2. Remove the plug and drain off the oil.

3. Run the roller so that the plug (1) is at the top.

4. Remove the level plug (2).

5. Fill with oil through up to the level plug. Use transmission oil, see page 3.

6. Make sure the filler plug (1) is clean.

7. Refit the plugs, making sure they are tight.

Water tank

Cleaning

1. Remove the drain plug (1) and drain off all the water.

2. Clean the inside of the tank with water mixed with a cleaning agent suitable for plastic material.

3. Refit the plug making sure it is tight.

4. Clean both the water tanks.

Fig. 29 Right side of roller
1. Drain plug

Fig. 30 Drum, right side
1. Filler plug / drain plug
2. Level plug

Fig. 31 Water tank
1. Drain plug
LONG-TERM PARKING

The following directions must be followed when parking the machine for longer periods than one month.

The measures described apply for a standstill of up to six months.

Before reusing the roller again the items marked * must be attended to.

**Fig. 32 Weather-protected roller**

**Diesel engine**

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

**Battery**

* Remove the battery from the roller, clean the outside, ensure that the electrolyte level is correct (see page 14) and trickle-charge the battery once every month.

**Air cleaner, exhaust pipe**

* Cover the air cleaner (see page 13 and 19), or its intake opening, with plastic foil or tape. Cover the opening of the exhaust pipe. This must be done to prevent the penetration of moisture into the engine.

**Fuel tank**

Fill the fuel tank fully, ie, to prevent condensation and rust.

**Hydraulic reservoir**

Drain off any condense water from the hydraulic reservoir (see page 19).

**Sprinkler system**

* Empty all water from the water tank (see page 20), and from hoses, filter housing, and the water pump. Remove all the sprinkler nozzles (see page 12).

**Steering cylinder, hinges, etc.**

Lubricate the steering joint bearings, and both bearings of the steering cylinder with grease (see page 14).
Coat the piston rod of the steering cylinder with rust preventive grease.
Grease the engine hood hinges and both ends (bright parts) of the forward/reverse controls (see page 16).

**Covers, tarpaulin**

* Lower the instrument shield on the steering column. Cover the whole machine with a tarpaulin.
NOTE: The tarpaulin must hang free from the ground (see figure 32). Store the roller indoors if possible, preferably at 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 on page 3 and are thus suitable for operation in ambient temperatures between -10°C (+15°F) and +40°C (+104°F).

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

Higher ambient temperature, maximum +50°C (+122°F)

The engine can be used at this temperature using normal oil but for other components the following oils must be used:

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

Temperature

Temperature limits apply to standard versions of the roller.

Rollers equipped with additional fittings such as noise absorbents, etc., may require extra observation in the higher temperature ranges.

High-pressure wash

Do not direct the water jet at the filler cap (applies to both fuel tank and the hydraulic reservoir). This is especially important when using a high-pressure jet.

Put a plastic bag over the filler cap and secure with an elastic band. This will prevent water under pressure from being forced through the breather hole, which would otherwise cause malfunctioning, eg, clogging of the filter. Do not direct the jet against electric components or the instrument panel.

Fire fighting

In the event of fire on the machine the ABE powder type extinguisher should preferably be used. The BE carbon dioxide type extinguisher is also suitable.

Protection frame (ROPS), safety cab

If the roller is equipped with a protection frame (ROPS, Roll Over Protecting Structure), or a safety cab, then no welding or drilling of holes whatsoever is permitted on the protection frame or the cab. Never attempt to repair a damaged frame or cab, it must be replaced with a new one.

Starting assistance

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

The machine is equipped with a 12 V power supply and alternator.

⚠️ Connect the battery with the correct polarity (negative to earth). The cable between the battery and alternator must not be removed while the engine is running.

⚠️ Before starting any electric welding on the machine. Disconnect the battery earthing cable and then other connections to the alternator.

The electrical regulating and control system is fitted with fuses located in the fuse box.

Fig. 33 indicates the size and function of each fuse.

Fuse boxes are located on the front of the steering column.

⚠️ The system of fuses shown here applies for machines from S/N *61510197*.

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**Fuses in cab**

The electrical system in the cab is provided with a separate fuse box, located on the left side of the cab roof.

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**Fig. 34 Fuse box, cab roof**

3A 1 Cab lighting/Screen wash
15A 2 Fan
10A 3 Rear lights
10A 4 Front lights
15A 5 Front and rear wiper
25A 6 Heater