

# Instruction manual

**Operating & Maintenance**  
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**Static Three-drum Roller**  
**CS1400**

**Engine**  
**Deutz TD 3.6 L04 (IIIB/T4f)**

**Serial number**  
**10000514xxA016632 -**



Translation of original instruction

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## Introduction

### The machine

Dynapac CS1400 is a static 3-drums roller in 11 metric tonnes class with a compaction width of 2100 mm (83 in.) and with same static linear load on all drums. The machine has articulated steering and is equipped with drive and braking on all drums.

### Intended use

CS1400 is mainly used for compaction of asphalt layers up to 50 mm (2 in.). It is suitable for surfaces, where the ground should not be vibrated, for example near old buildings and on bridges.

### Warning symbols



**WARNING !** Marks a danger or a hazardous procedure that can result in life threatening or serious injury if the warning is ignored.



**CAUTION !** Marks a danger or hazardous procedure that can result in damage to the machine or property if the warning is ignored.

### Safety information



**It is recommended to at least train operators in handling and daily maintenance of the machine in accordance with the instruction manual. Passengers are not allowed on the machine, and you must sit in the seat when operating the machine.**



**The safety manual supplied with the machine must be read by all roller operators. Always follow the safety instructions. Do not remove the manual from the machine.**




**We recommend that the operator reads the safety instructions in this manual carefully. Always follow the safety instructions. Ensure that this manual is always easily accessible.**

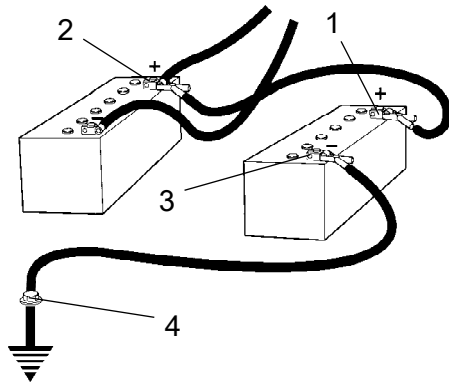


**Read the entire manual before starting the machine and before carrying out any maintenance.**

### Jump starting

 **Do not connect the negative cable to the negative terminal on the dead battery. A spark can ignite the oxy-hydrogen gas formed around the battery.**

 **Check that the battery used for jump starting has the same voltage as the dead battery.**



**Fig. Jump starting**

Turn the ignition and all power consuming equipment off. Switch off the engine on the machine which is providing jump start power.

First connect the jump start battery's positive terminal (1) to the flat battery's positive terminal (2). Then connect the jump start battery's negative terminal (3) to, for example, a bolt (4) or the lifting eye on the machine with the flat battery.

Start the engine on the power providing machine. Let it run for a while. Now try to start the other machine. Disconnect the cables in the reverse order.

## **Machine description**

### **Diesel engine**

The machine is equipped with a water-cooled, straight three cylinder, four-stroke, turbocharged diesel engine.

### **Propulsion system/Transmission**

The propulsion system is a hydrostatic system with a hydraulic pump supplying oil to three driver motors connected in parallel. Each motor drives one drum.

The speed of the machine is proportional to the deflection/angle of the control lever from neutral.

### **Brake system**

The brake system consists of a service brake, secondary brake and parking brake. The service brake is hydrostatic and is activated by moving the control lever to neutral.

### **Secondary/Parking brake**

The secondary and parking brake system consists of sprung multiple disc brakes in the motors. The brakes are released with hydraulic pressure and are operated with a switch on the instrument panel.

### **Steering system**
















The steering system is a hydrostatic system. The control valve on the steering column distributes the flow to the control cylinder, which actuates the articulation. The steering angle is proportional to the deflection of the steering wheel.

### **FOPS and ROPS**

FOPS is the abbreviation for "Falling Object Protective Structure" (roof protection) and ROPS is the abbreviation for "Roll Over Protective Structure".

If any part of the cab's or the FOPS/ROPS structure's protective construction displays plastic deformation or cracks, the cab or the FOPS/ROPS structure must be replaced immediately.

Never perform any modifications on the cab or FOPS/ROPS structure without first having discussed the modification with Dynapac's production unit. Dynapac determines whether the modification could result in the approval according to the FOPS/ROPS standards becoming invalid.

No	Designation	Symbol	Function
			Starter motor activation.
16	Watering, switch	  	<p>In the left position, the drums are continually watered.            In the middle position, watering is off.            In the right position, watering is automatically switched on/off via the forward/reverse lever when the direction of travel is changed.</p>
17	Sprinkler timer, switch		<p>The switch has six different timer positions which controls the amount of water supplied to the drums.</p> <p><b>Switch with relay 4700374240</b>            The left mode supplies most water and the right mode least.</p> <p><b>Switch with relay 4700374213</b>            The left mode supplies least water and the right mode most.</p> <p>The leftmost position gives maximum pausing time.            The far right position activates the ACV function. As soon as the Forward / Reverse lever is out of neutral position, the pump will start and switch off as soon as the Forward / Reverse lever is in neutral position again.</p>
18	Gear selector, low/high	 	<p>Tortoise = Working speed, low.</p> <p>Hare = Transportation speed, high</p>
19	Warning lamp, battery charging		<p>If the lamp comes on while the engine is running the alternator is not charging.            Stop the engine and locate the fault.</p>
20	Warning lamp, hydraulic fluid temperature		<p>If the lamp comes on, the hydraulic fluid is too hot.            Do not drive the roller. Cool the fluid by allowing the engine to idle and locate the fault.</p>
21	Fuel gauge		Shows level in the fuel tank.
22	Warning lamp, low fuel level		<p>When the lamp comes on, there is only a small amount of fuel left.            Refuel as soon as possible.</p>
23	Hourmeter / Error code		<p>- Engine running time is shown in hours.            - Error codes are also shown in the display.</p>
24	Warning lamp, air filter		<p>If the lamp comes on while the engine is running at full speed, the air filter must be cleaned or replaced.</p>
25	Warning lamp, hydraulic filter		<p>If the lamp comes on while the engine is running at full speed, the hydraulic filter must be changed.</p>
26	Warning lamp, engine oil pressure		<p>The lamp comes on if the engine oil pressure is too low.            Stop the engine immediately and locate the fault.</p>
27	Warning lamp, brakes		<p>The lamp lights when the parking brake is activated and the brakes are applied.</p>

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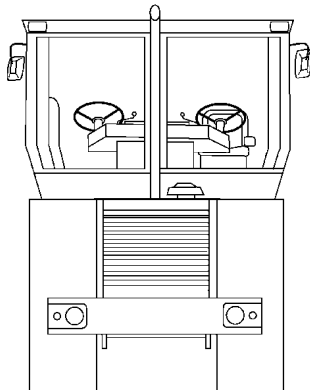


Fig. View

## View

Before starting, make sure that the view forwards and backwards is unobstructed.

All cab windows should be clean and the rear view mirrors should be correctly adjusted.

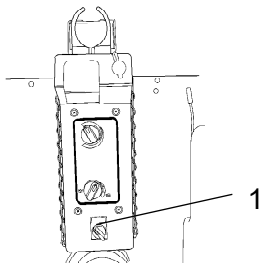


Fig. Panel in cab  
1. Switch, interlock

## Interlock

The roller is equipped with Interlock.

The engine switches off 4 seconds after the operator rises from the seat.

The engine stops whether the forward/reverse lever is in the neutral or the drive position.

The engine does not stop if the parking brake is activated.



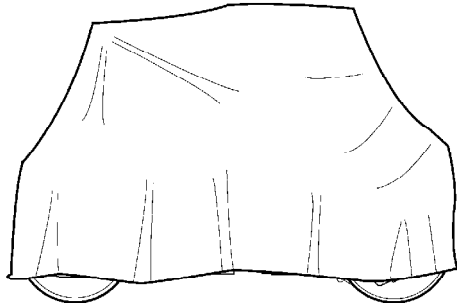
**Sit down for all operations!**



When changing operator seat the interlock must be changed to suit the current seat using the switch (1)

### Long-term parking

 The following instructions should be followed when long term parking (more than one month).



**Fig. Roller weather protection**

These measures apply when parking for a period of up to 6 months.

Before re-commissioning the roller, the points marked with an asterisk \* must be returned to the pre-storage state.

Wash the machine and touch up the paint finish to avoid rusting.

Treat exposed parts with anti-rust agent, lubricate the machine thoroughly and apply grease to unpainted surfaces.

#### Engine

\* Refer to the manufacturer's instructions in the engine manual that is supplied with the roller.

#### Battery

\* Remove the battery from the machine, clean the outside, check that the electrolyte level is correct (see under the heading "Every 250 hours of operation") and trickle charge the battery once a month.

#### Air cleaner, exhaust pipe

\* Cover the air cleaner (see under the heading 'Every 50 hours of operation' or 'Every 1000 hours of operation') or its opening with plastic or tape. Also cover the exhaust pipe opening. This is to avoid moisture entering the engine.

#### Sprinkler system

\* Drain the water tank completely (see under the heading 'Every 2000 hours of operation'). Drain all hoses, filter housings and the water pump. Remove all sprinkler nozzles (see under the heading 'Every 10 hours of operation').

#### Fuel tank

Fill the fuel tank completely full to prevent condensation.

### Preventive maintenance

Complete maintenance is necessary for the machine to function satisfactorily and at the lowest possible cost.

The Maintenance section includes the periodic maintenance that must be carried out on the machine.

The recommended maintenance intervals assume that the machine is used in a normal environment and working conditions.

### Acceptance and delivery inspection

The machine is tested and adjusted before it leaves the factory.

On arrival, before delivery to the customer, delivery inspection must be conducted as per the check list in the warranty document.

Any transport damage must be reported immediately to the transport company, as this is not covered by the product warranty.

### Warranty

The warranty is only valid if the stipulated delivery inspection and the separate service inspection have been completed as per the warranty document, and when the machine has been registered for starting under the warranty.

The warranty is not valid if damage has been caused by inadequate service, incorrect use of the machine, the use of lubricants and hydraulic fluids other than those specified in the manual, or if any other adjustments have been made without the requisite authorisation.

## Maintenance, 10h

Every 10 hours of operation (Daily)



**Park the roller on a level surface. The engine must be switched off and the parking brake activated when checking or adjusting the roller, unless otherwise specified.**

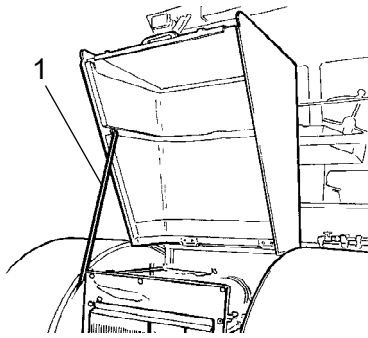


**Ensure that there is good ventilation (air extraction) if the engine is run indoors. Risk of carbon monoxide poisoning.**

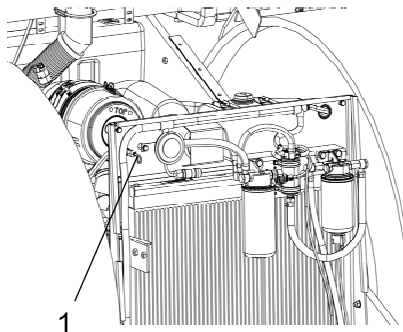
### Engine hood support



**Ensure that the engine hood support is securely in position for all work in the engine compartment.**



**Fig. Engine compartment**  
**1. Engine hood support**



**Fig. Engine**  
**1. Dipstick**

### Diesel engine Check oil level




**Take care not to touch any hot parts of the engine or the radiator when removing the dipstick. Risk for burns.**

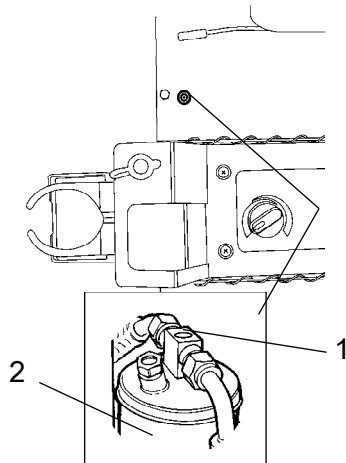
The dipstick is located on the engine's right side.

Pull up the dipstick (1) and check that the oil level is between the upper and lower marks. For further details, refer to the engine's instruction manual.



### Air conditioning (Optional) - Inspection

 **Never work under the roller when the engine is running. Park the roller on a level surface, chock the wheels and depress the parking brake control.**



**Fig. Drying filter**  
1. Sight glass  
2. Filter holder

With the unit in operation, check using the sight glass (1) that bubbles are not visible on the drying filter.

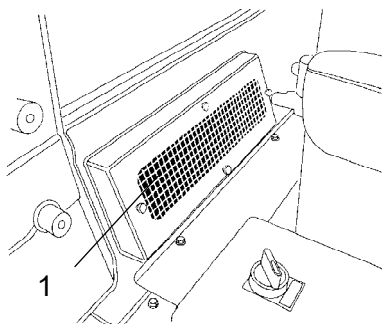
The filter is located inside the box placed under the seats, close to the left of the right seat. The hole in the box is covered with a rubber cover. See the illustration.

If bubbles are visible through the sight glass, this indicates that the refrigerant level is too low. Shut off the unit, as it can be damaged if it is run with insufficient refrigerant. Fill with refrigerant.



### Air conditioning (Optional) - Cleaning

If there is a significant loss of cooling capacity, clean the condensor element (1) on the rear edge of the cab. Also clean the cooling unit in the cab.





**Fig. Cab**  
1. Condensor element





### Diesel engine - Oil change

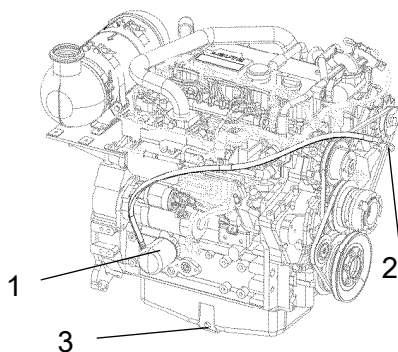
Run the engine warm before draining the oil.

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

 Switch off the engine and activate the parking brake.

 Place a receptacle that is capable of holding at least 19 liters (5 gallons) under the drain plug. Hand in the drained oil and filter to an environment-friendly waste disposal station.

 Observe care when draining hot engine oil. Wear protective gloves and goggles.



**Fig. Oil filter**  
**1. Oil filter**  
**2. Dipstick**  
**3. Drain plug**

Remove the drain plug (3). Allow all of the oil to drain off and refit the plug.

Change the engine oil filter (1). See engine instruction manual.

Fill with fresh engine oil; see Lubricant specification for the correct grade of oil.

Check the dipstick (2) to ensure that the engine oil level is correct; for details see the engine manual.

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