The CP132 Pneumatic Tire Roller uses a modular ballast system which consists of bolt on ballast boxes that provide an accurate and uniform tire load.

The roller is designed for compaction of roads, airfields, dams and similar constructions.

The CP132 compacts asphalt, concrete, base courses and subbase courses efficiently and at a high rate.

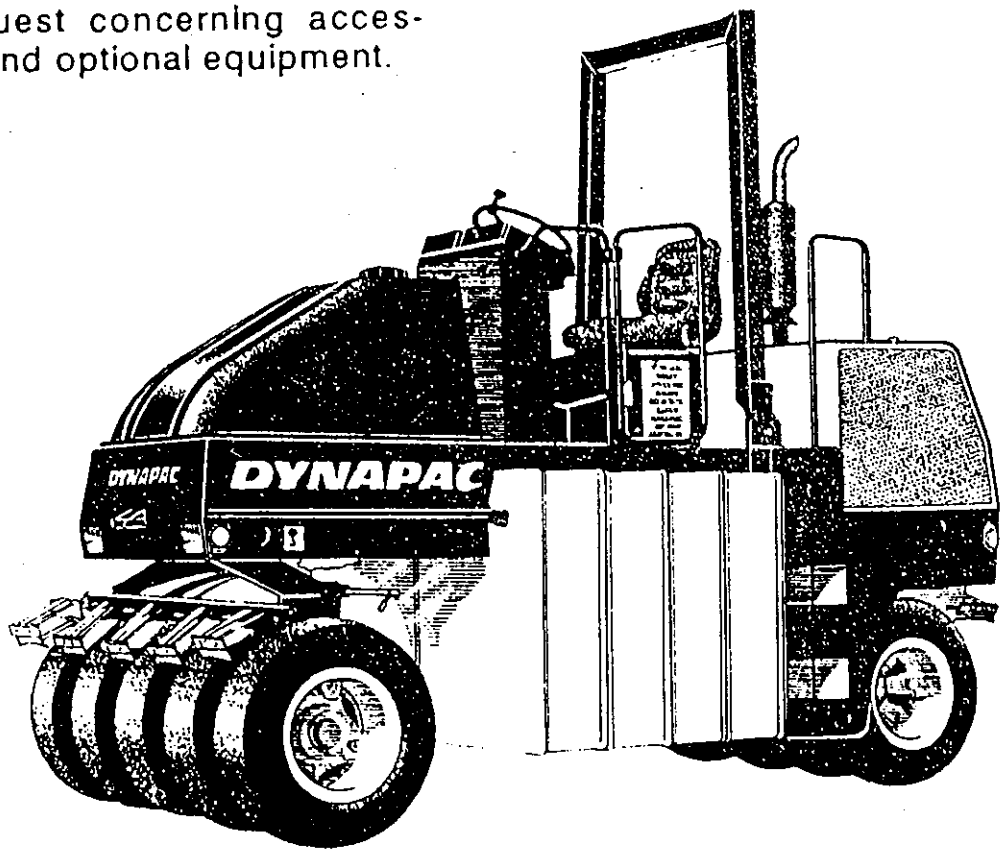
Separate information is available on request concerning accessories and optional equipment.

MAINTENANCE
CP 132
Pneumatic Tire Roller
December 1995

Diesel engine:
Cummins 4BT3.9

Pub. No. M-CP132-1

Valid From Serial Number 726B000



DYNAPAC

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Fax.: +55 152 25.2714

Printed in Brazil

Contents

WARNING SYMBOLS

Warning

Warning - Personal safety may be involved.

Caution

Caution - Machine or component damage

GENERAL

Warning

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

Warning

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 leaks, loose bolts or loose connections can be easily detected.
TAKE CARE OF THE ENVIRONMENT. Do not spill oil or fuel, or leave anything else that could be detrimental to the environment.
This manual includes instructions for periodic maintenance which should normally be carried out by the operator.

Instructions in the engine manufacturer's manual also apply. The manual is included in the product folder supplied with the roller.

Specifications

Weight and sizes	CP132
Weight CECE, standard equipped roller (lbs)	26,660 lbs
Length, standard equipped roller (inches)	139
Width, standard equipped roller (inches)	1,760
Height, standard equipped roller (inches)	2,275
Height, " with ROPS (inches)	3,150

Fluid Volumes	
Hydraulic reservoir	19,8 gal
Hydraulic system	26,5 gal
Crankcase engine	3,07 gal
Coolant	5,5 gal
Fuel tank	37 gal
Water tank (A)	132 gal

Electrical system	
Battery - prestolite B13 H12-P 12V	12 V - 90 (AH)
Alternator - Delco	12 V - 105 A
Fuses - tubular D 1/4" x 1 1/4"	5 of 10 A and 1 of 20 A

Data	
Speed range m/h	6.2/12.4 mph
Climbing capaclty (theoretical)%	31%

Tires	
Tires size std	12Ply 7.50 x 15
Tire pressure see information CIMA	from 35 to 110 psi

Specifications

Tightening torque

Tightening torque in Nm (ft.lb) for oiled bolts tightened with a torque wrench.

M thread	Property		
	8.8	10.9	12.9
M6	10 (7.4)	14 (10.3)	17 (12.6)
M8	24 (17.7)	33 (24.3)	40 (29.5)
M10	47 (34.7)	65 (47.9)	79 (58.3)
M12	81 (59.7)	114 (84.1)	136 (100.3)
M14	128 (94.4)	181 (133.5)	217 (160.0)
M16	197 (145.3(	277 (204.3)	333 (245.6)
M18	275 (202.8)	386 (248.7)	463 (341.5)
M20	385 (293.9)	541 (399.0)	649 (478.7)
M22	518 (382.0)	728 (536.9)	874 (644.6)
M24	665 (490.5)	935 (689.6)	1120 (836.1)
M27	961 (708.8)	1350 (995.8)	1620 (1149.9)
M30	1310 (966.2)	1840 (1357.2)	2210 (1630.1)

Hydraulic system	
Traction system relief pressure high pressure	5,500 p.s.i.
Charge relief	300 p.s.i.
Steering system	2,000 p.s.i. Main relief; 2,175 p.s.i. Surge Protection
Brake release pressure	minimum 220 p.s.i.

Noise level - Operator's position (ISO 6394)

Measured sound effect level, LwA, on hard supporting surface and with vibration switched off in compliance with SS 459 10 10: Cummins: Operator's position, LwA: 112 dB (A)

Sound pressure level, LpA, for Cummins and cab: Operator's position, LpA: 83,9 dB (A)

Maintenance Schedule

Read through the manual before carrying out any maintenance operations. Proper care of the roller is essential to ensure satisfactory operation.

Keep the machine clean so that any leaks, loose bolts or loose connections can be easily detected. Make a habit of checking around the roller and also on the ground. This is usually the easiest way to detect any leaks at an early stage.

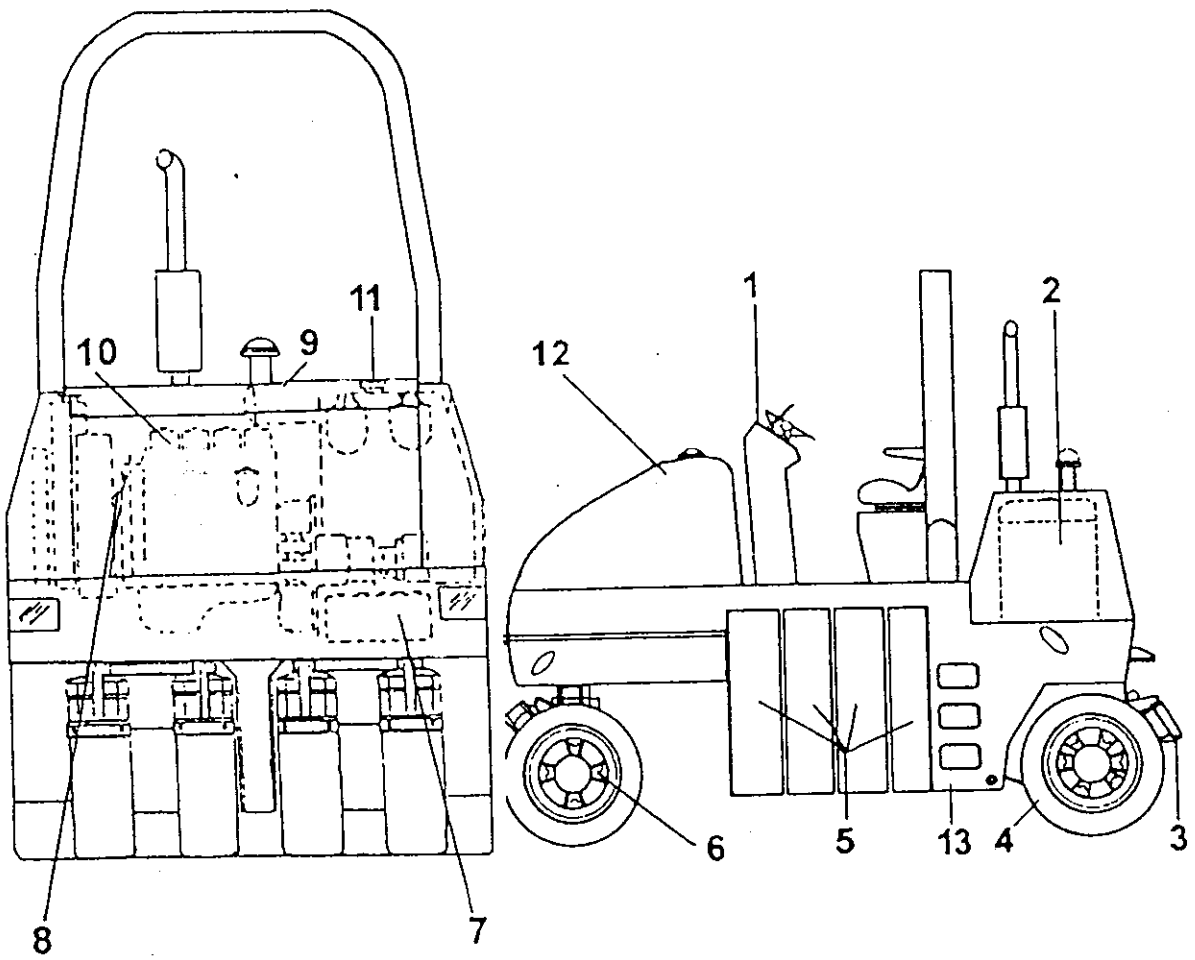


Fig.01 - Maintenance points

01. Instrument panel and fuse box
02. radiator
03. scraper
04. tire
05. ballast box
06. wheel nut
07. battery
08. fan belt
09. Air cleaner
10. Engine
11. Hydraulic oil tank breather
12. Water tank
13. Fuel tank

Maintenance Procedures

The periodic procedures shall be performed in the first case at the number of operating hours stated, in the second case for the period stated, ie, daily, weekly, etc.

Caution

Always clean away dirt before filling or checking any oil, hydraulic fluid or fuel, and before lubricating with grease or oil

Caution

Instructions in the engine manufacturer's manual also apply.

item fig.01	Operation	page
	Every 10 hours of operation (DAILY)	
	Before starting each day	
	Visual checks for leaks etc...	08
02	Air circulation - check	08
04	Check the brakes	08
03	Check scrapers	09
	Check sprinkler system	09
	Every 50 hours of operation (WEEKLY)	
09	Clean air cleaner element	12
04	Check the tire pressure	13
05	Check ballasts screw torque	15
06	Check wheel nut torque	15
07	Check the battery	14

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

Maintenance Procedures

Every 10 hours of operation (DAILY)

Visual check

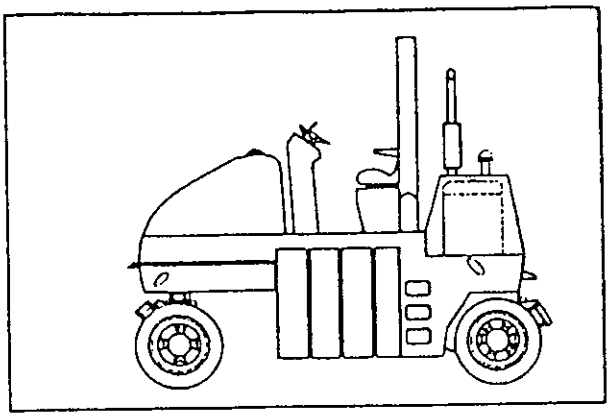


fig. 02 - side view, CP132

Roller must be kept clean. This can help to detect leaks, loose screws and connections.

Walk around the roller before starting. Check under the machine.

Look for oil leaks, and loose or lost parts.

Air circulation - Checking

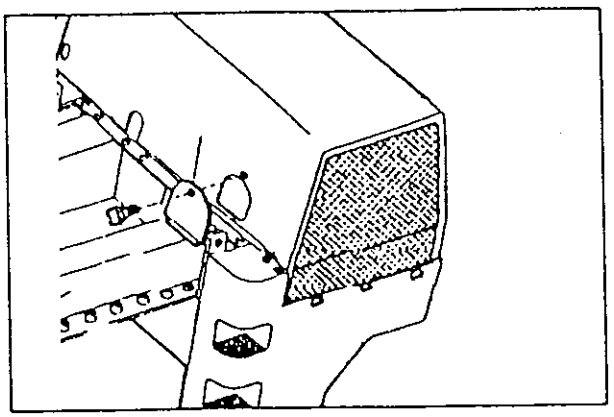


Fig. 03 - Cooling grille

Ensure that air circulation to the engine through the grille is not obstructed,

Brakes - Test

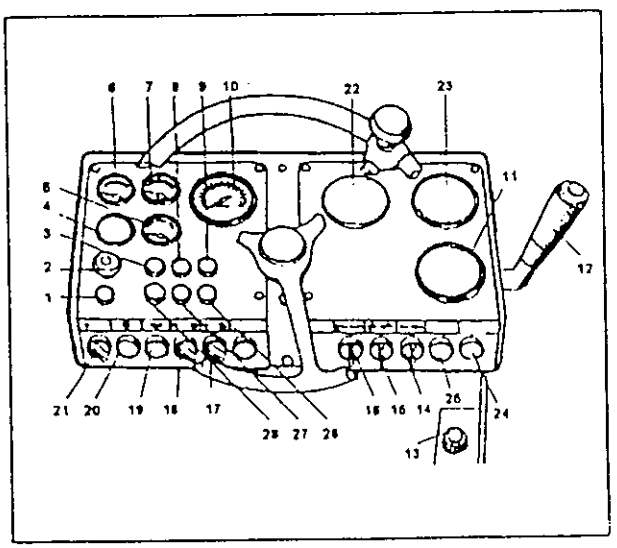


Fig. 04 - Instrument panel
01. brake lamp
02. emergency stop
12. forward/reverse lever

Check operation of the brakes as follows:

1 Drive the roller slowly forward.
2 Press the emergency stop knob (2). The brake warning lamp (1) should light and the roller should stop.
3 On completion of the test, put the forward/reverse control (12) in neutral before resetting the emergency stop.
4 Pull the emergency knob out.

Every 10 hours of operation (DAILY)

Scrapers - Checking, adjustment

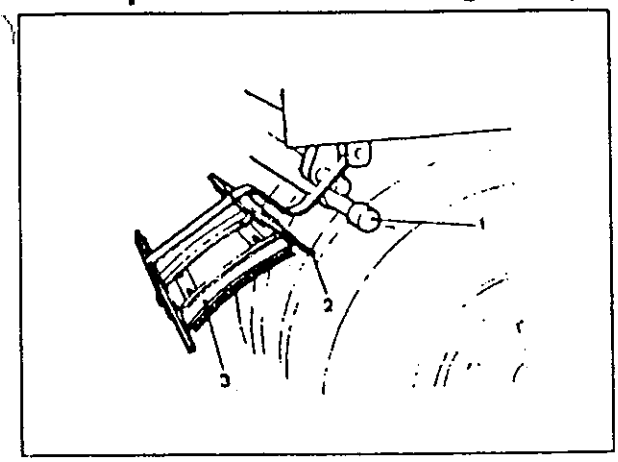


Fig. 05 - Scrapers
01. spray bar
02. scraper blade
03. cocoa mat

1 Check that the nylon blades touch the tire surface evenly. Blades can be adjusted for full and even tire contact.

Sprinkler system check

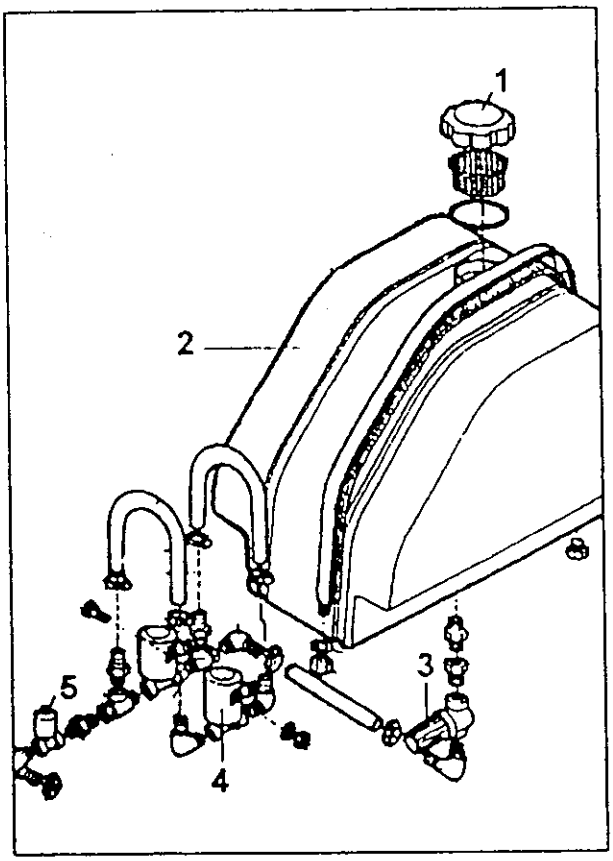


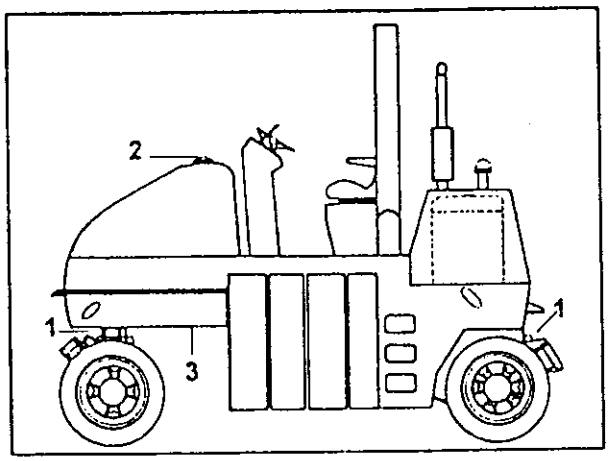
Fig. 10 - Sprinkler system
01. filler cap/strainer
02. tank
03. filter
04. water pump
05. solenoid valve

1 Check sprinkler system if it is working properly. The solenoid (4) valve must emit sound to indicate that it is working.

2 The spray nozzle must spray water and not drip or pour water on the tire.

Every 10 hours of operation (DAILY)

Sprinkler system

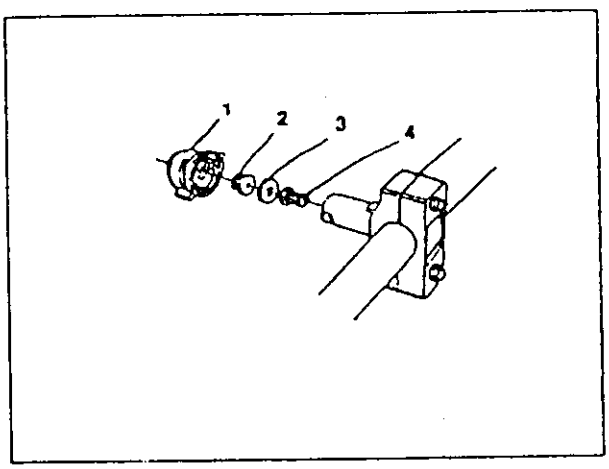


Fill the tank with clean water.

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

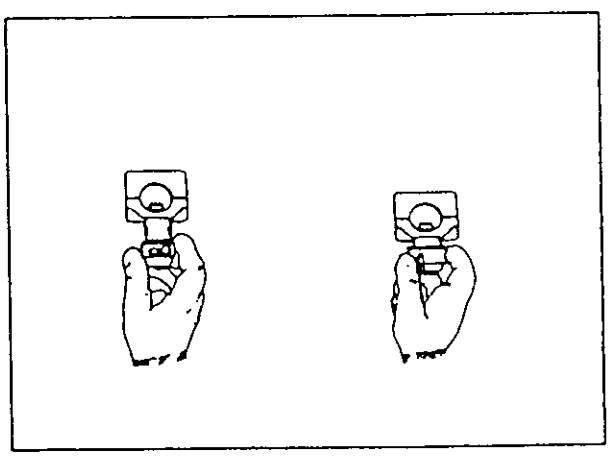
Fig. 07 - Water tank
01. nozzle / 02. filler cap / 03. water pump and filter

Nozzle - Disassembling - Clean



Dismantle a clogged nozzle. Blow the nozzle and strainer, clean with compressed air, or fit replacements, and clean the clogged items at a later opportunity

Fig. 08 - Nozzle
01. cap
02. spray tip
03. seal
04. strainer



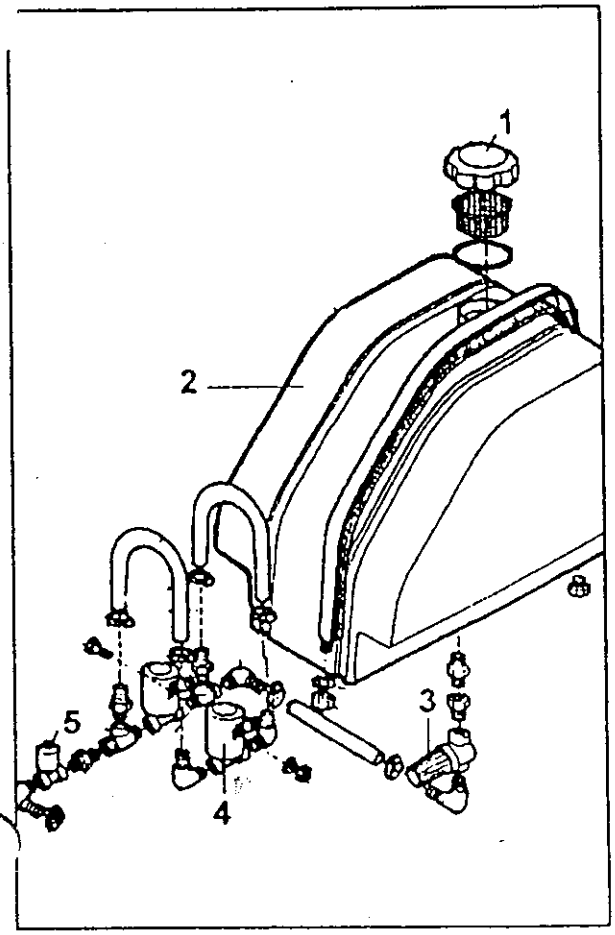
Wear protective goggles when working with compressed air.

Check and change or clean plugged or worn spray tips and strainers. Cap is removed with one quarter turn without tools.

Fig. 09 - nozzle

Every 10 hours of operation (DAILY)

Pump System-Checking-Cleaning



To clean, drain out the tank and loosen the filter bowl. Clean the bowl and wash with water. Check that the pump is working by listening or by putting the hand on the pump.

Fig. 10 - Sprinkler system
01. filler cap/strainer
02. tank
03. filter
04. water pump
05. solenoid valve

Every 50 hours of operation (WEEKLY)

Air Cleaner - Cleaning the main filter

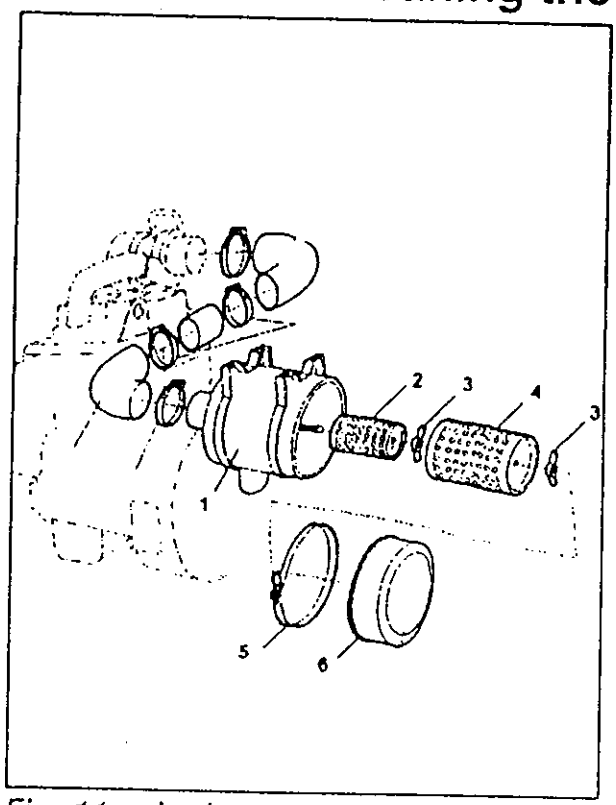


Fig. 11 - air cleaner
01. filter housing
02. safety element
03. wing nut
04. main filter
05. clamp
06. cover

1 Release clamp (5) and remove dust cup. Use a clean cloth to clean inside the dust cup.

2 Unscrew wing nut and remove the primary element (4). DO NOT REMOVE THE SAFETY ELEMENT.

3 Inspect the inside of the primary element for dust. If dust if present, the element is damaged and must be discarded.

4 Inspect the primary element gasket. If it is not smooth and flat that it might, allow dust to get by, do not reuse this element

5 Check all connections between the air cleaner and engine to be certain they are tight and do not leak.

6 Use a clean cloth to clean inside the cleaner housing (1).

7 Clean the primary element (4) using compressed air or by washing. DO NOT CLEAN THE SAFETY ELEMENT.

Cleaning with compressed air

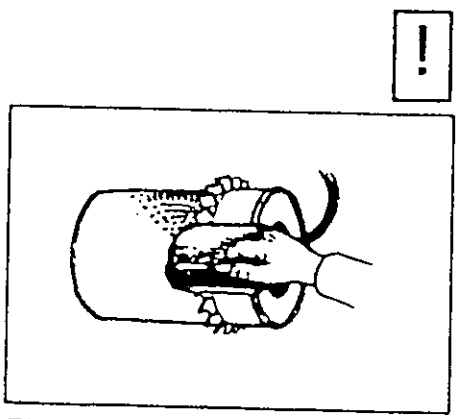


Fig. 12 - Main filter

Replace the safety element (2) with a new one every third time the primary element filter is changed or cleaned. The safety element cannot be cleaned and reused. Change the primary element after cleaning it five times

Use compressed air at a maximum pressure of 0.7 MPa (7kp/cm2) (100 psi). Blow up and down along the paper pleats on the inside of the filer element. Hold the nozzle at least 10mm (0,4") from the pleats to avoid tearing the paper.

Every 50 hours of operation (WEEKLY)

Tire pressure -Wheel nuts - tightening

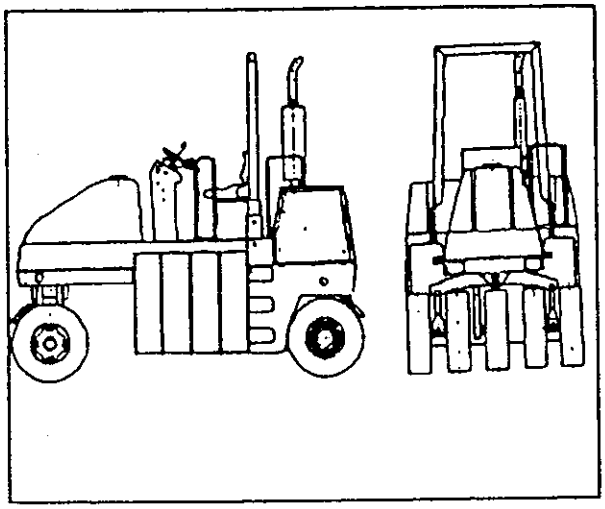


Fig. 13 - Wheel

Wear protective goggles when working with compressed air.

Check the tires with a pressure gauge.

Check tire and No. of Ply then, use the table to find correct pressure as the actual ballast and roller weight is confirmed. When changing tires it is essential that all tires have the same rolling radius.

Certified Maximum Ground Contact Pressures issued by BITUMINOUS EQUIPMENT MANUFACTURERS BUREAU under the sponsorship of CONSTRUCTION INDUSTRY MANUFACTURER'S ASSOCIATION - CIMA

TIRE PLY		4 PLY	6 PLY			10 PLY					12 PLY						14 PLY							
TIRE PRESSURE		35	35	50	60	35	50	60	70	90	35	50	60	70	90	110	35	50	60	70	90	110	120	130
WHEEL LOAD		GROUND CONTACT PRESSURES AND CONTACT AREAS																						
1000	GCP	37	37	44	49	38	44	47	51	57	38	44	47	51	60	65	46	50	54	56	61	68	71	74
	CA	27	27	23	20	26	23	21	20	18	26	23	21	20	17	15	22	20	19	18	16	15	14	14
2000	GCP	43	43	50	55	46	52	56	60	67	46	53	56	60	69	75	54	59	62	65	72	78	82	86
	CA	47	47	40	36	43	38	36	33	30	43	38	36	33	29	27	37	34	32	31	28	26	24	23
2500	GCP	45	45	52	58	49	56	59	64	71	50	57	60	65	74	78	57	63	66	70	76	83	87	90
	CA	56	56	48	43	51	45	42	39	35	50	44	42	38	34	32	44	40	38	36	33	30	29	26
3000	GCP	47	47	55	61	53	60	65	67	75	53	60	64	59	77	83	60	66	70	73	80	87	91	94
	CA	64	64	55	49	57	50	46	45	40	57	50	47	43	39	36	50	45	45	41	38	34	33	32
3500	GCP			57	63		62	67	71	80		64	67	71	81	86		68	73	76	83	90	94	98
	CA			61	56		56	52	49	44		55	52	49	43	41		51	48	46	42	39	37	35
4000	GCP				65			68	73	82			70	75	84	88			75	79	86	94	98	101
	CA				62			59	55	49			57	53	48	45			53	51	47	43	41	40

for 7,50 x 15 smoooth tread Compactor Tires

MAXIMUM ALLOWABLE WHEEL LOAD THIS ROLLER **2670**
PERFORMANCE FIGURES HAVE BEEN APPROVED, SUBJECT TO TIRE MANUFACTURES NORMAL TOLERANCE BY:

Goodyear Tire & Rubber Co. Goodrich Tires & Rubber Co. Firestone Tire & Rubber Co. U.S. Rubber Tire Co. General Tire Co.

Every 50 hours of operation (WEEKLY)

Battery - Checking the electrolyte level

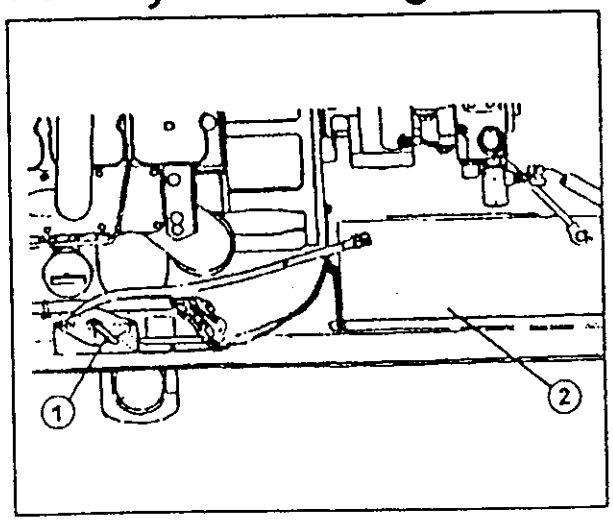


Fig. 14 - Battery (2)
01. disconnecter switch

Never use a naked flame when checking the battery. The electrolyte releases explosive gas while the alternator is charging.

1 Open the rear engine compartment main cover.

2 Wipe the top of the battery.

Wear protective goggles. The battery contains corrosive acid. Flush with water in the event of contact with the skin.

Battery cell

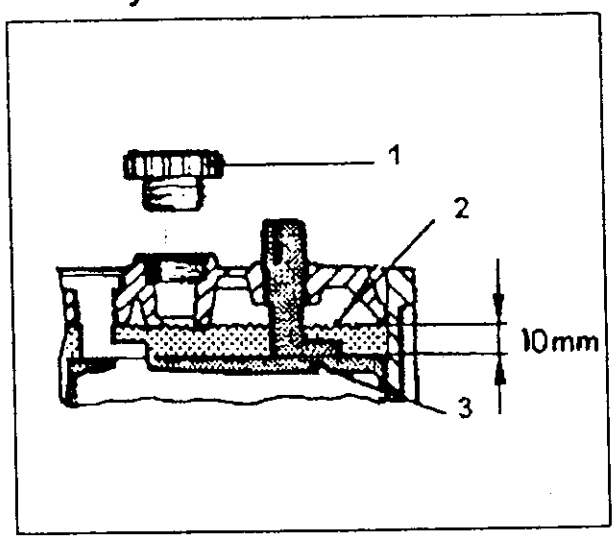


Fig.15 - Electrolyte level in battery
01. cell cap
02. electrolyte level
03. plate

3 Take off the cell caps and check that electrolyte level is about 10 mm (0,4") above the plates.Check the level of all cells, and top up with distilled water as required to the correct level. If ambient temperature is below zero, the engine should be run for a while after topping up with distilled water, ie, 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 removing the battery, always disconnect the negative cable first. When installing the battery, always connect the positive cable first. Take care of the battery after changing. The battery contains lead which contaminates the environment unless it is treated properly. Before doing any electric welding on the machine, disconnect the ground cable of the battery and then disconnect all electric connections to the alternator.

Check tightening torque of wheel nut

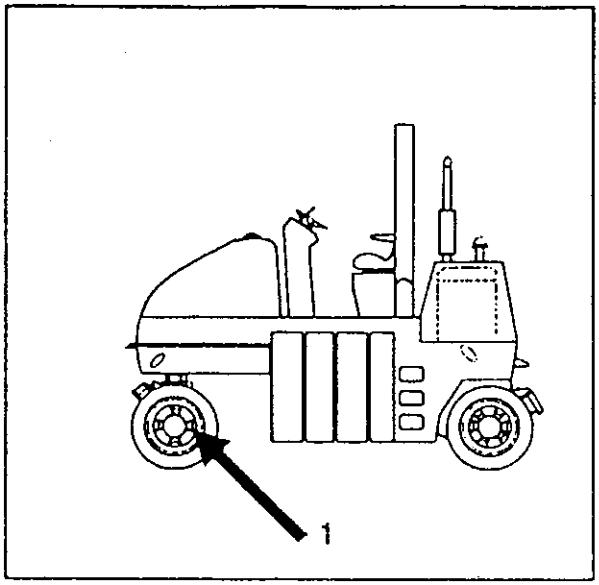


Fig. 16 - Wheel nut torque
01. wheel nut

Wheel nut (1). Check that all the nuts are tight, ~~550~~ Nm tightening torque (~~405~~ ft.lb).

180 Ft.lb

Ballast screw - Check

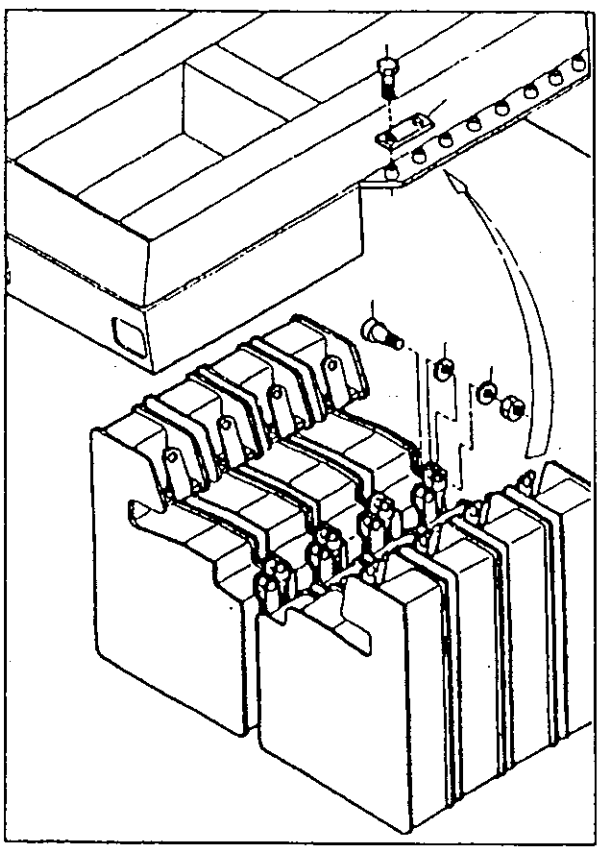


Fig. 17 - Ballast screw

Check ballast screw tightening (see tightening torque page 4)

Every 250 hours of operation (MONTHLY)

Engine checking
the drive belt, tensioner bearing and fan hub

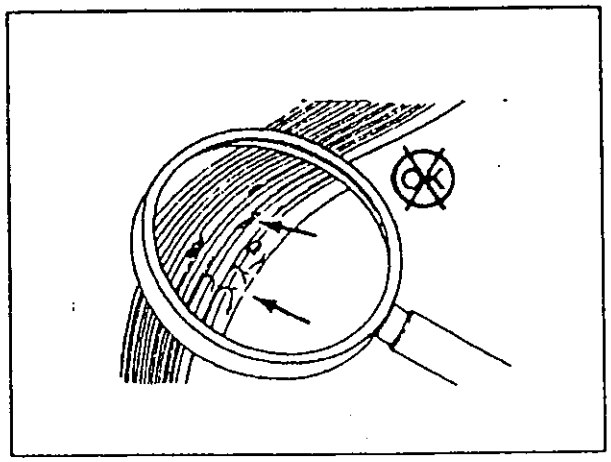


Fig. 18 - Drive belt checking

Remove the drive belt and complete the following steps:

1 Inspect the belt for damage.

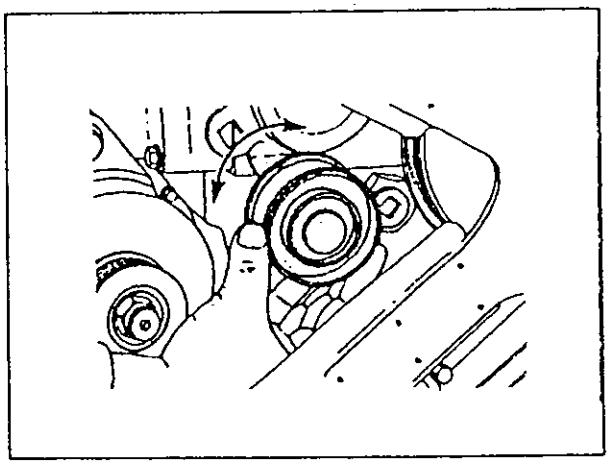


Fig. 19 - Tensioner bearing checking

2 Check the tensioner bearing.

⚠ *Note: The tensioner pulley should spin freely with no rough spots detected under hand pressure.*

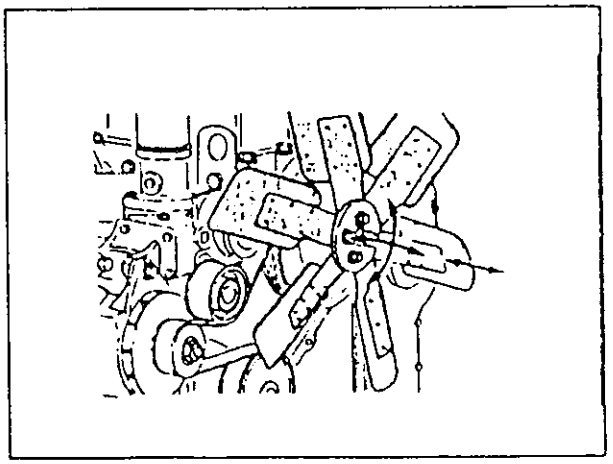


Fig. 20 - Fan hub checking

3 Check the fan hub bearing.

⚠ *Note: The fan hub should spin freely without any wobble or excessive end play.*

Hydraulic fluid cooler
Checking - Cleaning

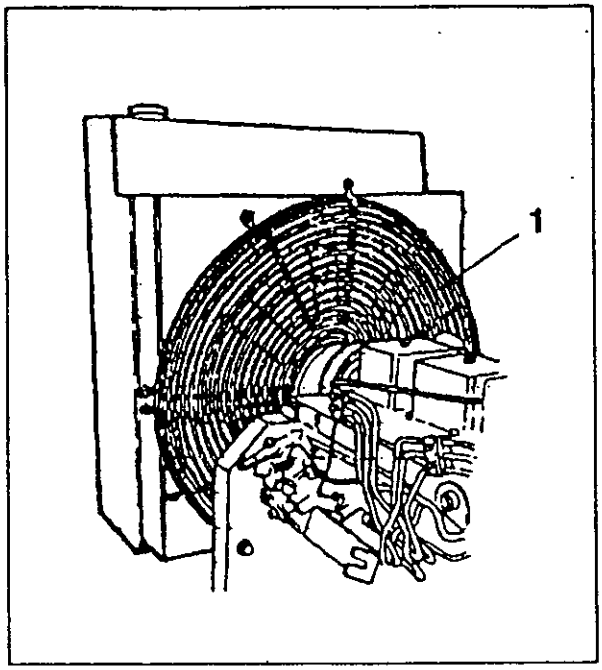


Fig. 21 - Engine compartment
01. hydraulic fluid cooler

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

Wear protective goggles when working with compressed air or with high pressure washing.

If possible, flush or blow the cooler clean in the opposite direction to the normal flow of air. Cover any electrical components.

Ensure after cleaning that seals are undamaged.

Note: For further information see engine manual

Every 500 hours of operation (3 MONTHS)

Check engine valve clearance (see engine manual)

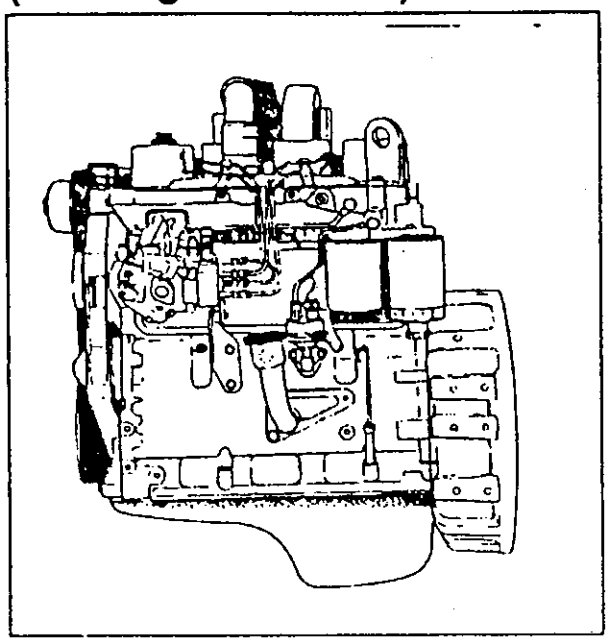
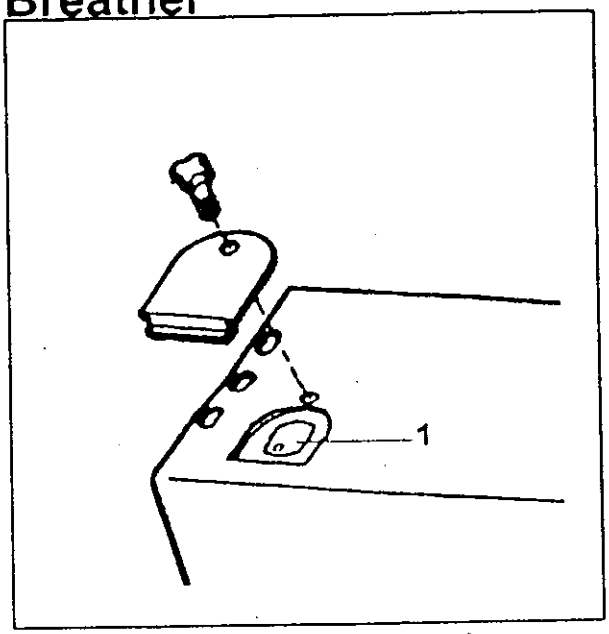


Fig. 22 - Engine

Check engine valve clearance, follow engine operation and maintenance manual

Every 1,000 hours of operation (6 MONTHS)

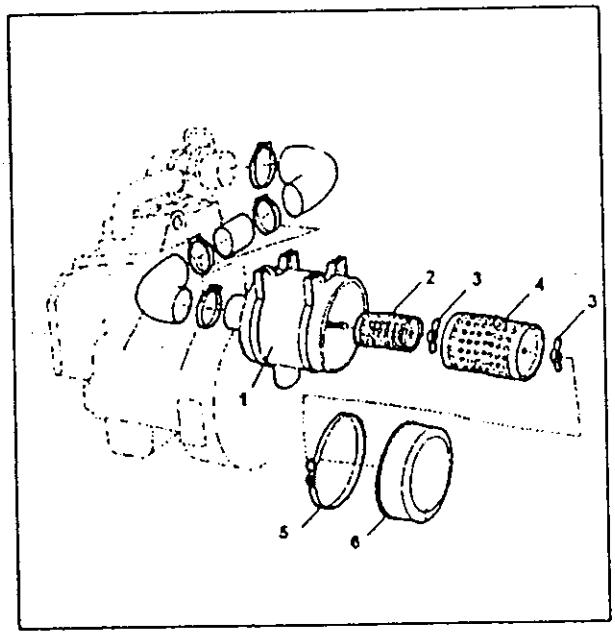
Hydraulic reservoir Breather



Unscrew off the breather filter, discard it and install new one.

Fig. 23 - Hydraulic oil reservoir
01. breather

Air cleaner - Changing the primary element



Change the primary filter element regardless if it has not been cleaned the permissable 5 times (See Every 250 Hours of Operation)

Fig. 24 - Air cleaner
01. filter housing
02. safety element
03. wing nut
04. primary element
05. clamp
06. dust cup

Water tank - cleaning

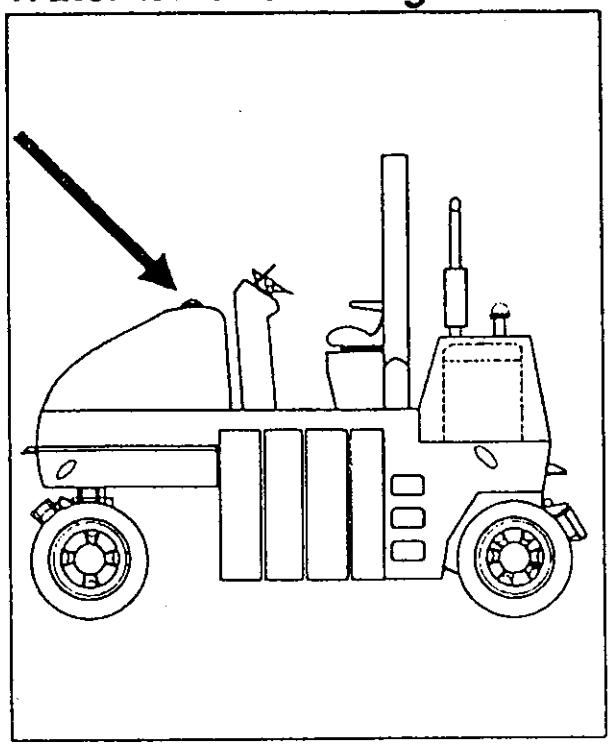


Fig. 25 - Water tank
01. drain plug

Beware of the risk of freezing in the winter. Drain the tank, pump and piping.

1 Remove the drain plug and drain off the water.

2 Clean the inside of the tank with water and a suitable detergent for plastic material

3 Refit the plug and check tightness.

The water tank is made of plastic (polythene) and is recyclable.

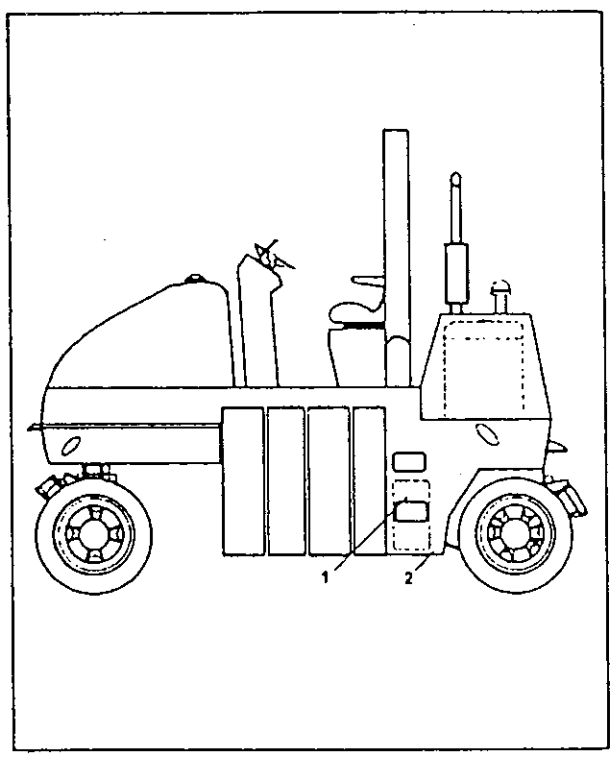


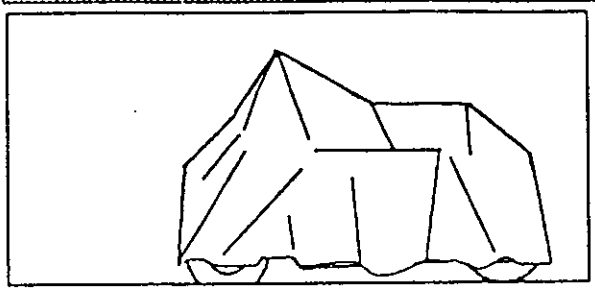
Fig.26 - Fuel tank
01. fuel tank
02. drain plug

Drain out the fuel by removing the drain plug (2) under the fuel tank.

Clean the tank and refit the plug.

Do not leave empty tank. Maintain always full.

Long-Term Parking



*The following instructions must be followed when parking or storing the roller longer than one month. The stipulated measures apply for a storage up to 6 months. Measures marked * must be taken before using the roller again.*

fig.27 - weather protection

Diesel engine	*	See the 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 and charge the battery once every month.
Air cleaner, exhaust pipe	*	Cover the air cleaner or its intake opening with plastic foil or tape. The opening of the exhaust pipe must also be covered. This is necessary to prevent moisture from getting into the engine.
Fuel tank		Fill the fuel tank completely, i.e., to prevent condensation and corrosion.
Hydraulic reservoir		Drain off any condensed water from the hydraulic reservoir.
Sprinkler system	*	Drain the water tank and hoses completely. The filter housing and the water pump must be emptied. Remove all the sprinkler nozzles.
Steering cylinder, hinges, etc.	*	Lubricate the steering articulation bearings and both bearings of the steering cylinder with grease. Grease the piston rod of the steering cylinder with inhibiting grease. Grease the forward/reverse control
Tires		Ensure that tire pressure is at least 95% specified by manufacturer's table.
Covers, tarpaulin	*	Close the instrument protection cover on the steering column. Cover the entire roller with tarpaulin. The tarpaulin must be kept clear of the ground (see figure 27). If possible, park the roller indoors, preferably in a building with stable 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 Lubricant Specification, and are thus suitable for operation in ambient temperatures between -10°C (14°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 temperatures, max +50°C (122°F)	The engine can be used at this temperature using normal oil. The temperature limit applies to the standard version 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!** *A water jet should not be aimed directly at the cap of the fuel tank or hydraulic reservoir. This is especiallly important when using a high-pressure jet.* Place a plastic bag over the cap and secure it with a rubber band. This will avoid water entering the venting hole in the filler cap, which would otherwise cause operational disturbance and a clogged filter. Do not spray electric components or the instrument panel
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.
Roll over protecting structure (ROPS)	Absolutely no welding or drilling of holes is permitted on the roll over protecting structure (ROPS). Never repair a damaged structure, replace it with a new ROPS.
Starting aid	When using an auxiliary battery, ie, in addition to the one installed on the roller, to assist starting, always connect the positive terminal of the auxiliary battery to the positive terminal of the roller battery, and negative to negative.

Fuses

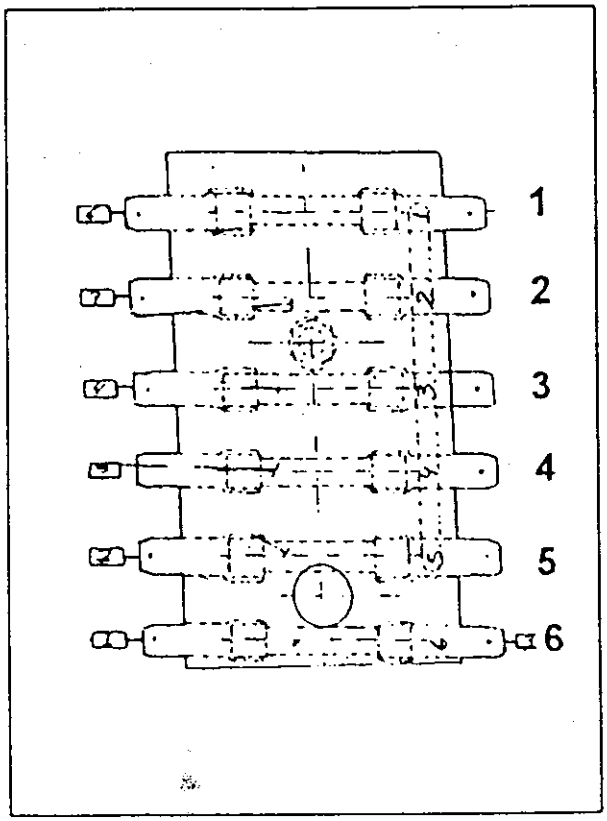


Fig. 28 - fuse box

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

Connect the battery to the correct polarity. Negative to ground. The cable between the alternator and battery must not be disconnected when the engine is running.

Before carrying out any electric welding on the machine, disconnect the battery grounding cable and then all terminals to the alternator.

The electrical regulating and control system is protected by 10 ampere fuses, fitted in the fuse box The fuse box of figure 28 is located under the instrument panel at right hand wall.

Fuse	System	Capacity
1	Sprinkler	10 amps
2	Instrument panel	10 Amps
3	Starting	10 Amps
4	Lights	25 Amps
5	Second speed	10 Amps
6	Brake	10 Amps

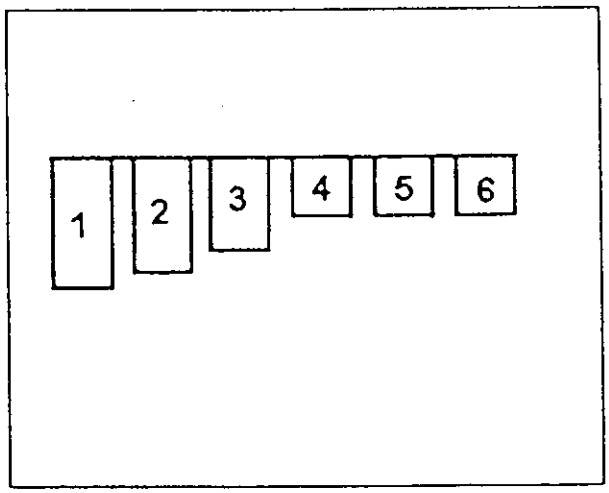


Fig. 29 - Electrical system relay

The electric system relays are also located under the instrument panel beside the fuse box.

1. brake and starter
2. second speed
3. flash light / back up alarm
4. start auxiliary/brake
5. lights
6. sprinkler