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.

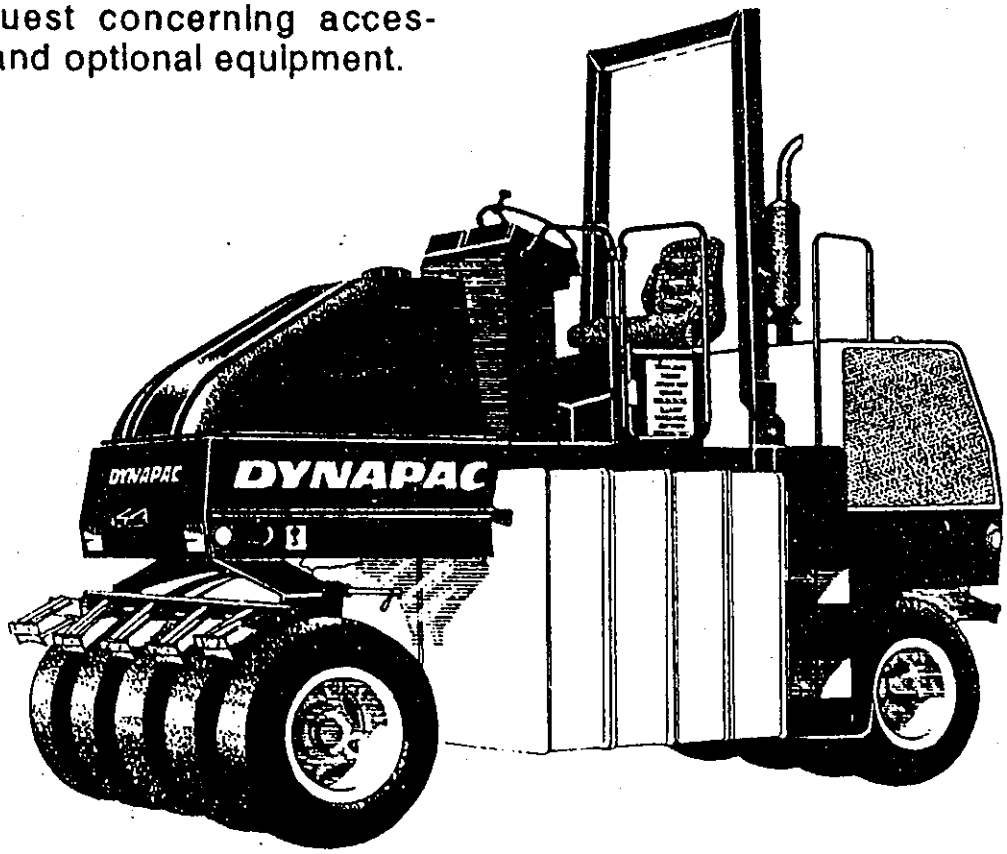
Separate information is available on request concerning accessories and optional equipment.

OPERATION
CP 132
Pneumatic Tire Roller
December 1995

Diesel Engine:
Cummins 4BT3.9

Pub. No. O-CP132-1

Valid From Serial Number 726B000



DYNAPAC

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Printed in Brazil
We reserve the right to change specifications without notice.

Contents

Warning Symbols

WARNING - Personal safety may be involved

CAUTION - Machine or component damage

Safety Manual

WARNING

The safety manual that accompanies the machine should be studied by every operator of the roller. Always follow the safety instructions and do not take the manual away from the roller.

General

This manual contains instructions concerning operation and use of the machine. For information regarding care and maintenance, see the manual "Maintenance CP 132".

WARNING

When starting up the roller and driving a cold machine, which implies cold hydraulic fluid, the braking distances will be longer than normal until the machine attains working temperature.

CALIFORNIA

Proposition 65 Warning

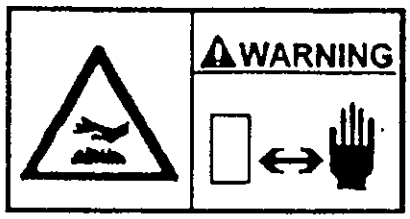
Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

Safety Instructions (Read the safety manual too)

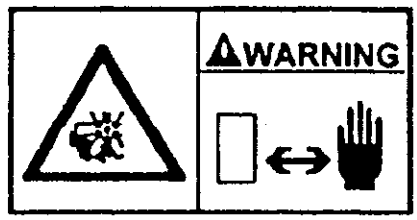
Warning

- *Read and clearly understand OPERATING MANUAL before starting and operating the machine.*
- *Observe and follow all maintenance and service instructions.*
- *Do not operate machine unless qualified by training or experience. Do not allow passengers on the roller.*
- *Do not operate machine if in need of repair or adjustment.*
- *Do not get on or off moving machine. Always use proper steps and hand rails.*
- *Roll Over Protective Structures (ROPS) is recommended when stability conditions are questionable. Always use seat belt with ROPS.*
- *Drive slowly when turning corners.*
- *Avoid sidehill travel. Operate at lower gear and check service brake pressure.*
- *Ensure that at least two thirds of the width rests on already compacted ground when driving close to edges or holes.*
- *Be alert of overhead obstacles. Look up as well as down.*
- *Use special caution when operating on rough or uneven ground. Always maintain a speed consistent with working conditions.*
- *Obey all safety rules and use safety equipment provided for the jobs.*
- *Keep machine clean. Avoid dirt and grease on operator platform. Keep all instructions signs and decals clean and fully legible.*
- *Exercise caution when refueling machine:*
  - *Shut down engine*
  - *No smoking allowed*
  - *Use no open flames*
  - *Ground filler nozzle against tank neck to avoid a spark.*
- *Block tires and apply parking brake before servicing or repairing machine.*
- *If noise levels on machine without cabs are over 85 db(A):*
  - *Ear protection is recommended.*
- *Do not modify the machine in any way which will affect safety. Any modification on this machine requires prior written approval from Dynapac.*
- *Do not operate machine until hydraulic oil has reached operating temperature. Braking distance can be extended when oil is cold. See starting instruction in OPERATION MANUAL.*

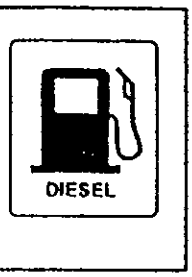
Safety Decals, Location and Description

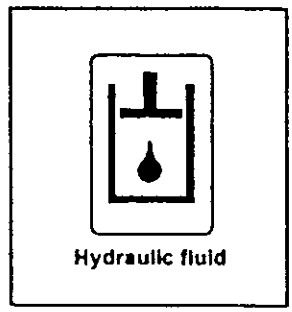


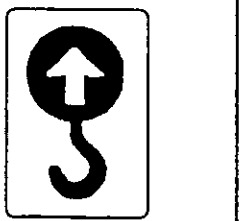
Warning for hot surface. The surface must not be touched.



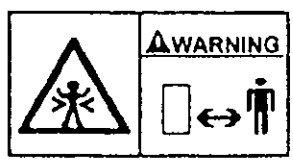
Warning for rotating engine components. Keep your hands at a safe distance from the danger zone.



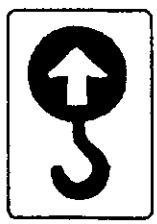




Lifting point

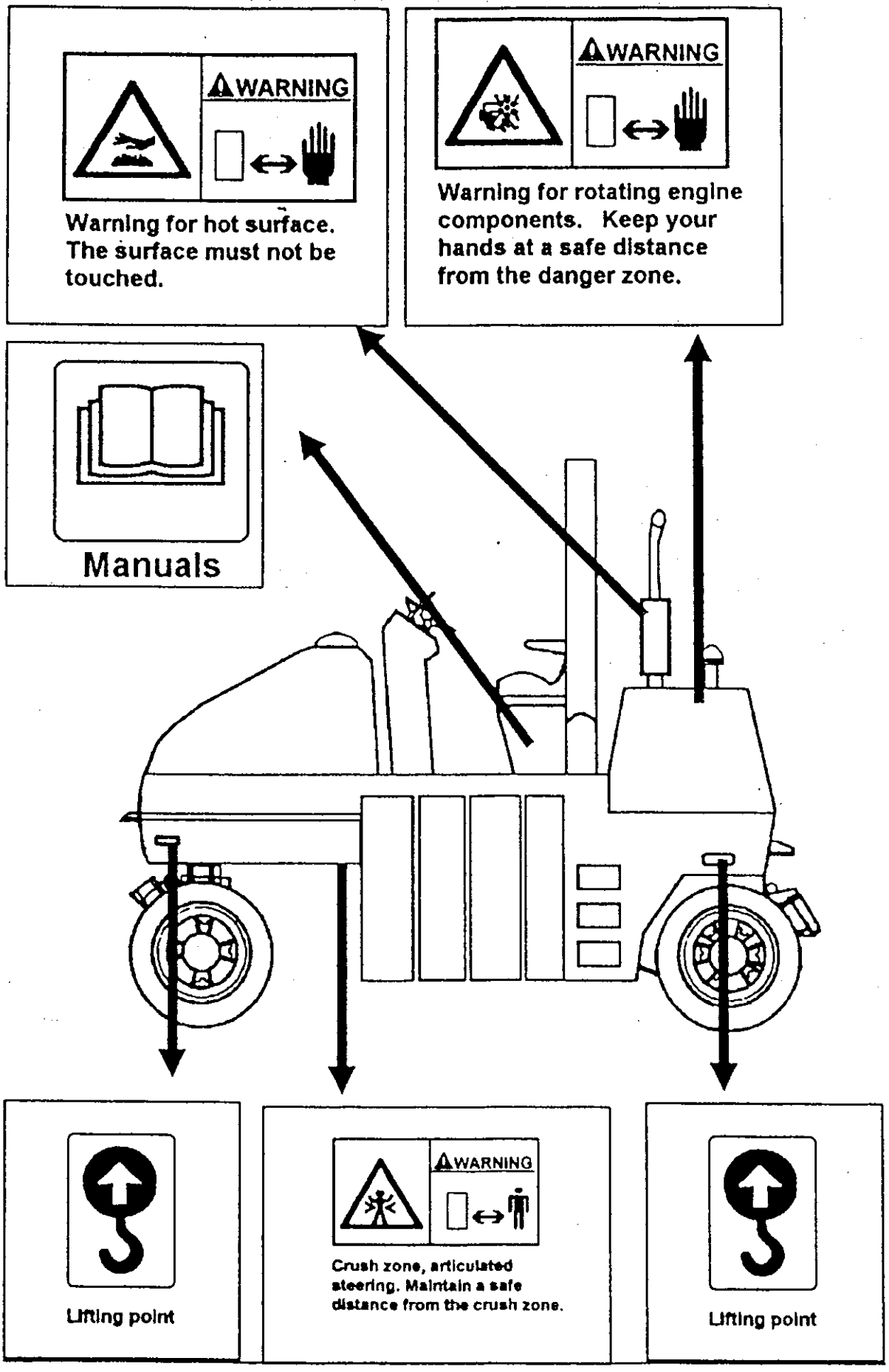


Crush zone, articulated steering. Maintain a safe distance from the crush zone.



Lifting point

Safety Decals, Location and Description



Machine and Engine Plate

Machine plate

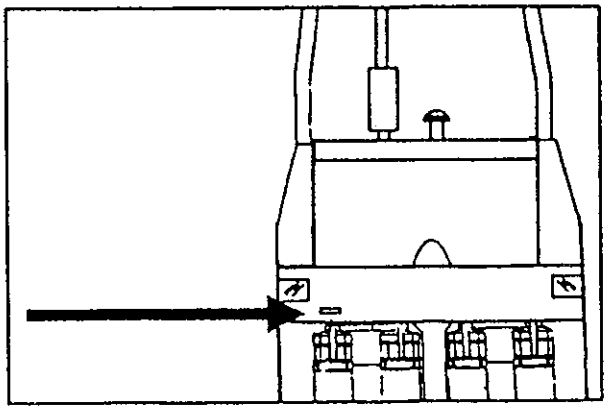


Fig. 1 - rear left hand side

The machine plate (1) is affixed on the rear left edge of the frame. The plate shows the manufacturer's name and address, type of machine and serial number.

Please state the PIN (serial number) of the roller when ordering spare parts.

Serial number

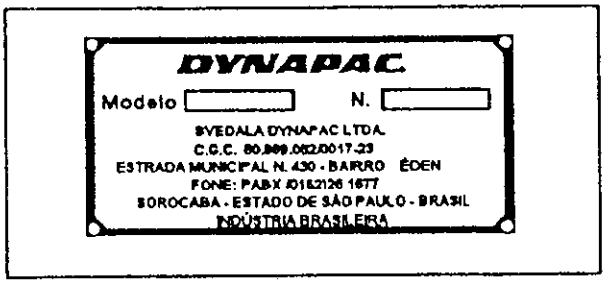


Fig. 2 - Name plate /serial number plate

The serial number of the machine is punched on the name plate.

Engine plate

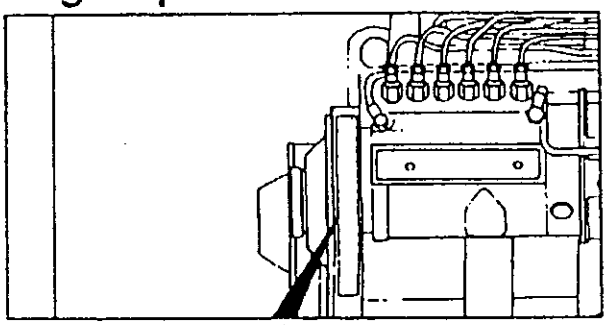


Fig. 03 - Engine plate

The engine type plate on Cummins engines is located on the right side of the toothed-belt cover. The plate shows the type of engine, serial number and engine data. Please state the serial number of the engine when ordering spares. See also the engine manual.

Identifying your engine

The model name provides the following engine data:

4 B T A 3.9
- Displacement in litres
- Indicates aftercooled
- Indicates the engine is turbocharged
- Series (Family of engines)
- Number of cylinders

2 1

Manufactured in USA for Cummins Engine Company, Inc. Box 3005 Columbus, Indiana 47202-3005	Cert I.D. 228	C.I.D. 3.9	L.	Series B	CPL 0591	Engine Serial No 44005065
	Timing - TDC Letter G					Injector P/N 3903383
Warning: Injury may result and warranty is voided if fuel rate RPM or altitudes exceed published maximum values for the model and application.	Valve lash cold .010 In Int		.020 In Exh			Cust Spec
	Firing Order 1342					Rated HP 76 at 2500 RPM
	Low Idle RPM 750					Fuel rate at rated HP 52 lb/hr/hr
Date of Mfg 4/27/83	E.C.S.					Model Name 4B - 3.9

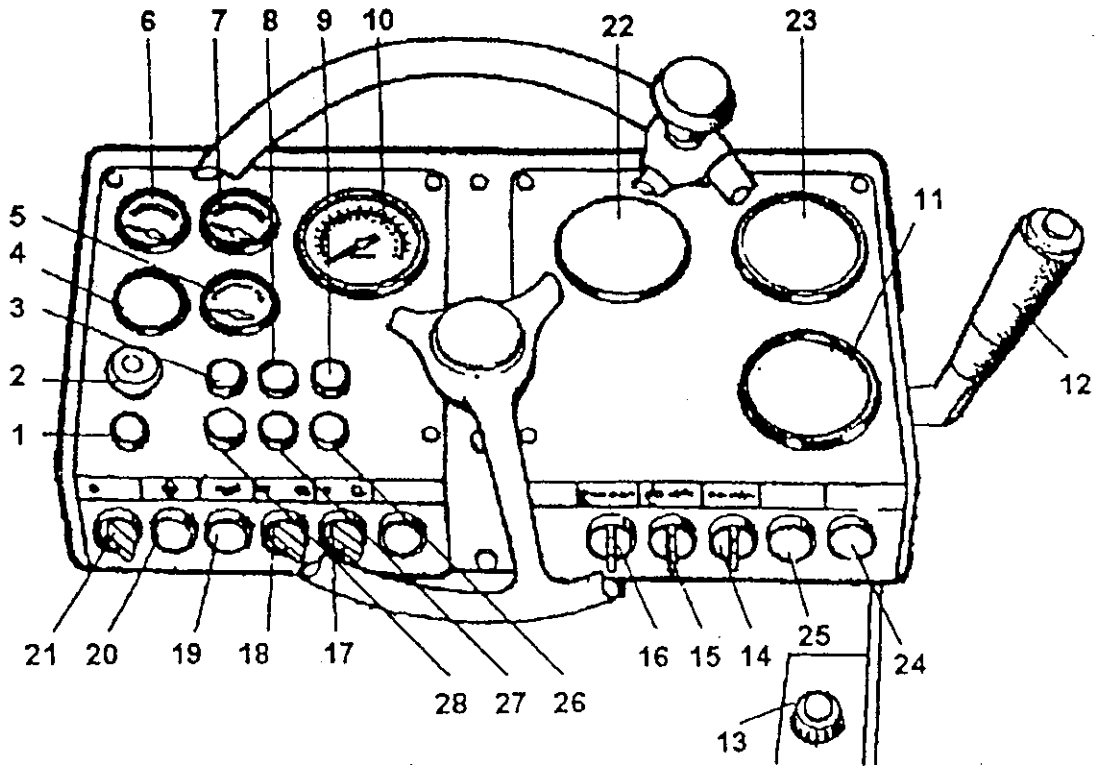


fig. 03 - instrument panel

01. brake light
02. brake switch knob
03. engine oil pres. light
04.
05. fuel level gauge
06. transmission temp.
07. engine coolant temp.
08. alternator chg lamp
09.
10. tachometer/hourmeter
11. buzzer (sprinkler)
12. forward/reverse lever
13. throttle cable control knob
14. water pump selector
15. water sprinkler timer switch
16. water pump switch
17. working light switch
18. speed selector switch
19. horn button
20. starter button
21. power switch
22. optional
23. optional
24. optional
25. optional
26. optional
27. optional
28. optional

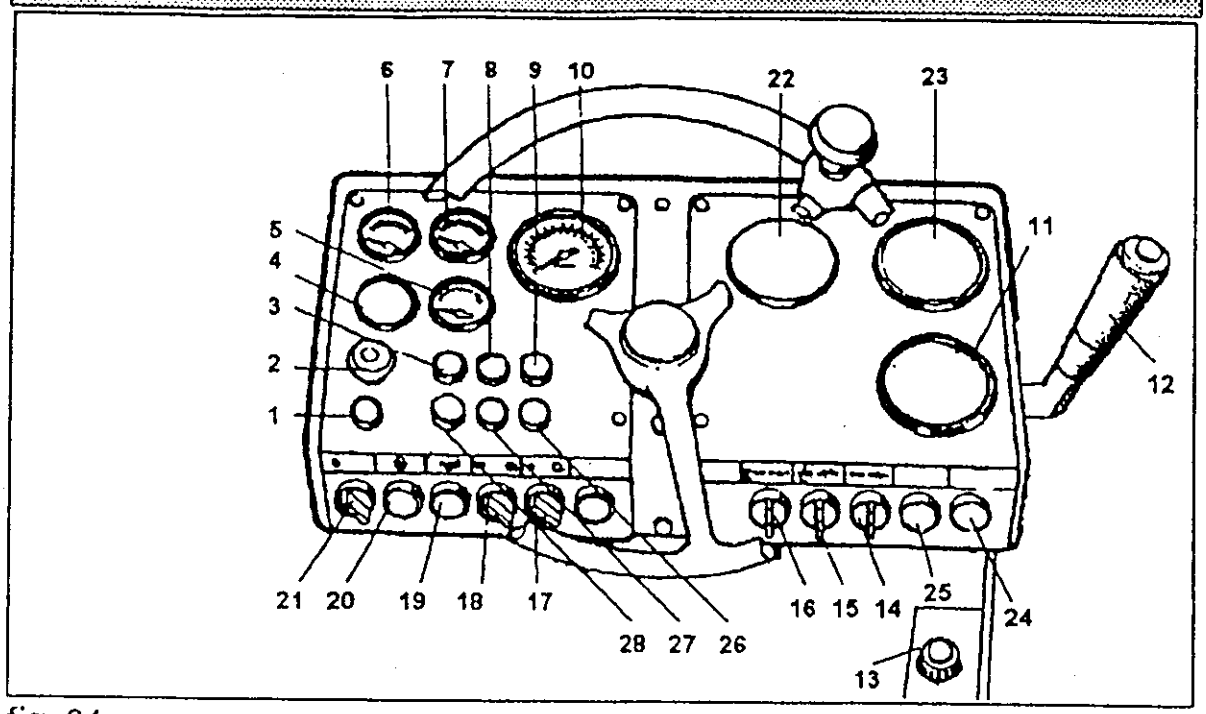


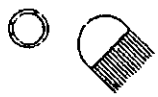
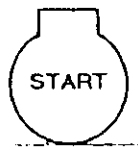
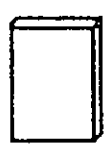
fig. 04

symbol	no. fig	designation	function
	01	Brake warning light	EMERGENCY BRAKE is applied when lamp lights. Controlled via knob 2.
STOP	02	EMERGENCY STOP	OFF (Pulled out) is normal setting when driving. ON (Pushed in) applies the brakes and stops the machine. After use, reset the forward/ reverse control to neutral.
	03	Oil pressure warning lamp	Stop the engine immediately if warning lamp LIGHTS and locate the cause. See, Engine Manual.
	05	Fuel gauge	Indicates content of fuel tank.
	06	Temperature gauge hydraulic fluid	Indicates temperature of hydraulic fluid. Normally 65°C to 80°C (150°F to 178°F). Stop the engine if gauge shows temperature above 95°C and locate the cause.

Instruments and Controls, Functional Description

symbol	no. fig	designation	function
	07	Temperature gauge	Indicates working temperature of engine, normally 82°C to 93°C (180°F to 200°F). See Engine Manual
	08	alternator lamp	Lights up when the alternator is not charging the battery. Goes out when the alternator is charging the battery
	09	optional	
	10	Tachometer/ Hourmeter	Indicates speed of engine in r/min. Multiply gauge reading by 100. Operating time shown in hours.
	11	Buzzer (sprinkler)	Buzzes when the lowest water level is reached in the reservoir approx. 3 minutes of water supply.
	12	Forward/reverse	Move lever in desired direction of travel. Driving speed is proportional to movement displacement of the lever. The machine is braked with the lever in neutral. Observe also that the engine can only be started with the lever in neutral
	13	Engine Throttle	Release/lock with center button pressed down. Pull out to increase engine revs. Push in to decrease. Turn/screw knob for fine adjustment. Counter Clockwise = Increase Clockwise = Decrease
MAN O AUTO 	14	Water sprinkler selector	Selects operating mode. MAN mode provides continuous watering. Watering is switched off in O mode. AUT mode provides automatic switching ON/OFF via the forward/ reverse control.

Instruments and Controls, Functional Description

symbol	no. fig	designation	function
	15	Water sprinkler timer	Controls flow of water to the tires.
	16	Water pump	If optionally equipped the second pump can be selected
	17	Working light on/off switch	
	18	Speed selector	Transportation speed (high) - 12,4 mph Operating speed (low) - 6,2 mph
	19	Horn (push button)	Press to sound the horn.
	20	Starter button	Energizes starter motor while pressed.
	21	Power switch	Position "0" Electric power cut off to all electrical circuits. Position "1"Electrical power to all circuits.
		Hazard beacon switch (optional)	
		Driving lights, On/Off	
		Hazard flasher switch (optional)	
		Fuse box (under the instrument panel)	Contains the fuses of the electrical system. See under "Electrical system" for description of function for each fuse.
		Tools and manual box	Safety, operation and maintenace manuals, which must not be removed from the machine. Box located under the seat.

Engine compartment access door

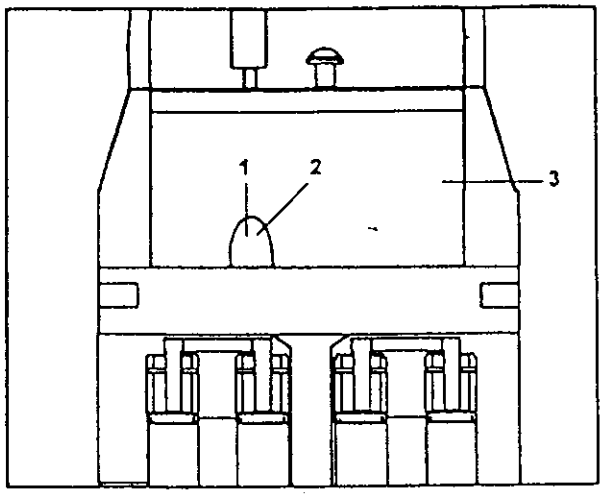


Fig. 05 - Access door
01. engine oil dipstick
02. battery main switch
03. engine compartment

Ensure that the daily service has been carried out, see MAINTENANCE Instructions.

There are 3 access door on the engine compartment cover

1 Engine oil dipstick.
2 Battery main switch.
3 Engine compartment cover

Battery disconnecter - Switching on

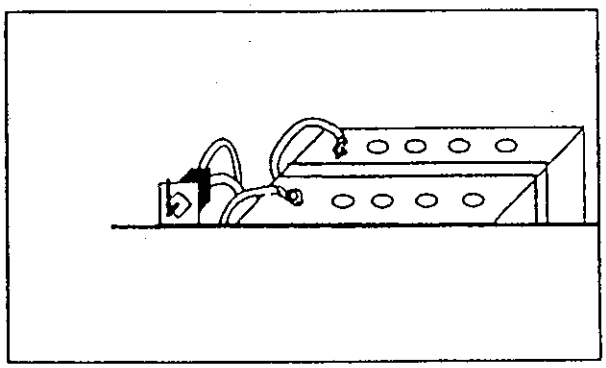


Fig. 6 - Battery

Connect the battery switch through the rear cover access opening. (fig.5)

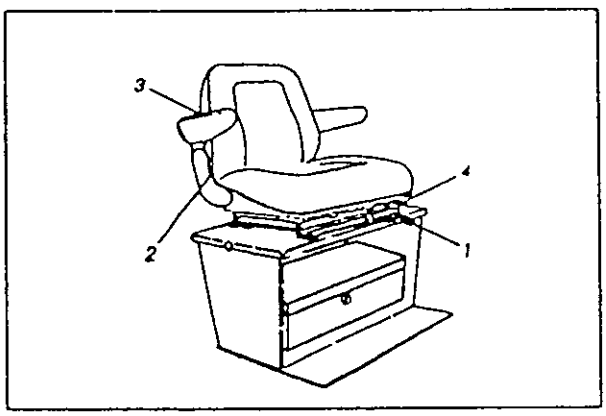
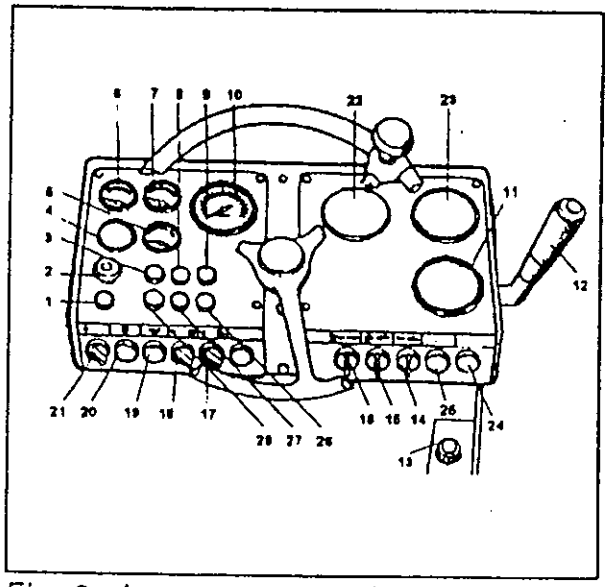


Fig. 06 - Operator's seat
01. Lever - length adjustment
02. Knob - back slope
03. Lever - cushioning
04. Lever - transverse travel

Adjust the operator's seat so that all controls can be easily reached.

The seat can be adjusted as follows:
- Longitudinally (1)
- Seat back slope (2)
- Cushioning to suit weight of operator (3)
- Transversely (4).

Instruments and lamps - Control



1 Make sure the EMERGENCY STOP knob (2) is pulled out.

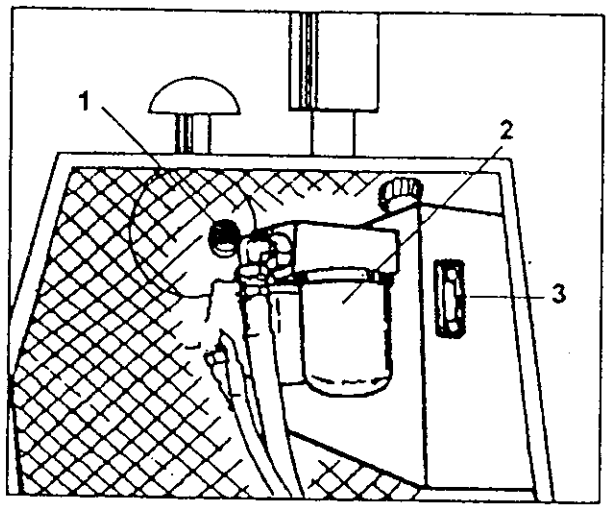
2 Turn the power switch (21) to position I.

3 Check that the charging light (8) lights up.

4 Check that the fuel gauge (5) shows a reading.

5 Check that the oil pressure lamp (3) lights.

Fig. 8 - Instrument panel
02. emergency brake / 03. oil pressure warning lamp
05. fuel gauge / 21. power switch



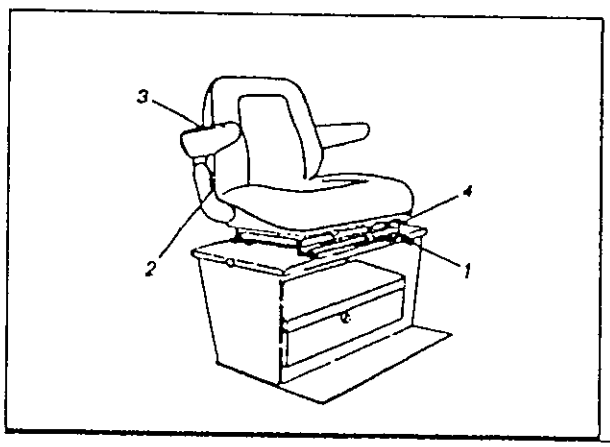
Check the following items through the right-hand side engine compartment grille

1 Check the oil level through the sight glass.

2 While engine is running, check the vacuum meter indicator. If it is in red zone at operating temperature replace cartridge.

Fig. 9 - Hydraulic tank sight glass and vacuum gauge
01. vacumm gauge / 02. hydraulic filter / 03. sight glass

Seat belt



If ROPS or a cab is fitted on the roller, use your seat belt (1)

Always replace the seat belt with a new one if it is worn or has been subjected to excessive force.

Fig. 10 - Operator's seat
01. seat belt

Bolt-on ballast

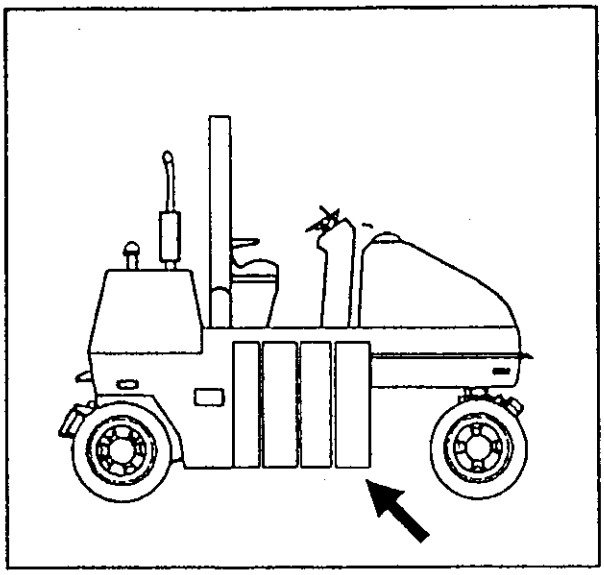


Fig.11 - Ballast
Max. ballast

The ballast boxes can be added or removed as necessary.
To add bolt-on ballast boxes:

1 Start adding ballast first to the right front, and then to the left front section.

2 Securely fasten the screw.

! Note: the Ballast Box weight is approx. 1,240 lbs. each. Use a lift truck or crane to position!

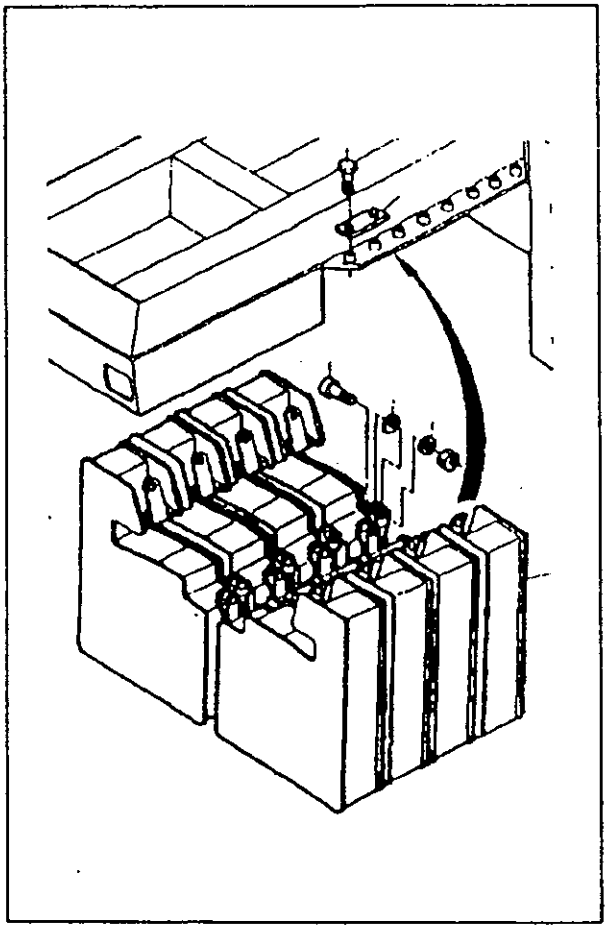


Fig. 12 - Ballast boxes

To remove the bolt-on ballast box:

1 Start by removing the left rear side ballast box first, then the right rear box.

Starting the engine

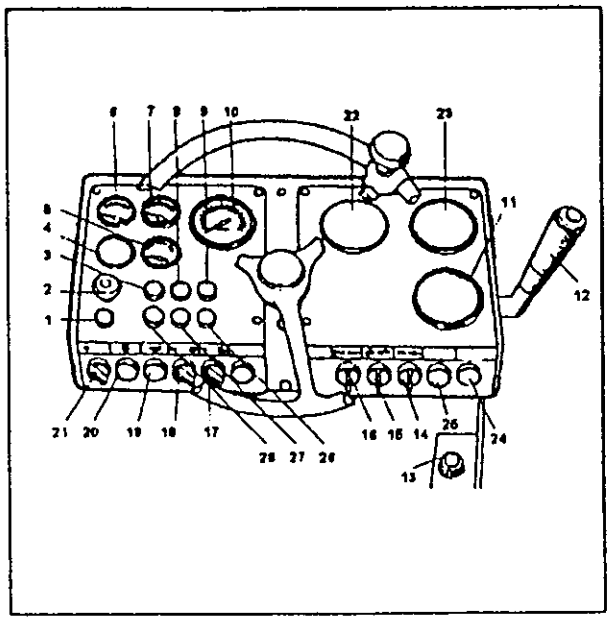


Fig. 13 - Instrument panel
03. warning lamp, oil pressure
06. temperature gauge, hydraulics
07. temperature gauge, engine coolant
10. tachometer/hourmeter
13. throttle control
20. starter button
21. power switch

1 Set the throttle lever (13) in neutral. The engine can only be started with the lever in neutral.

2 Press the throttle control button (13) and pull up the lever to 1/4 throttle. Make sure the power switch (21) is in position I.

3 Press the starter button (20) and release it immediately after the engine starts.

If the engine does not start immediately, wait a few seconds before making another attempt.

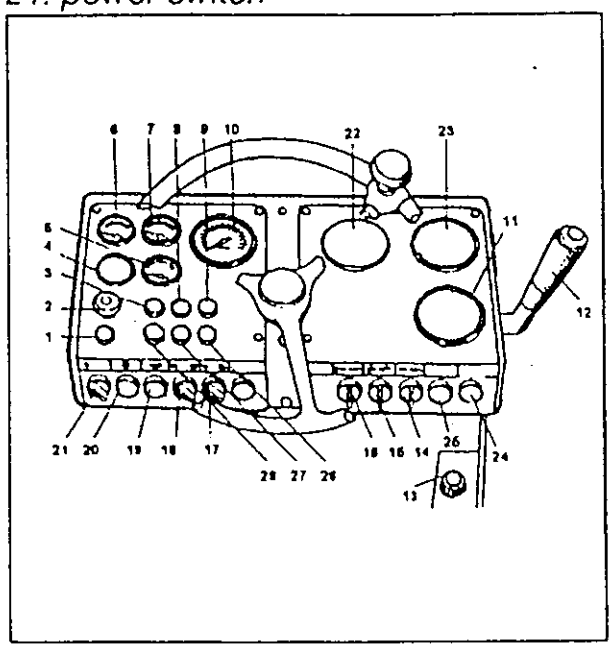


Fig. 14 - Instrument panel

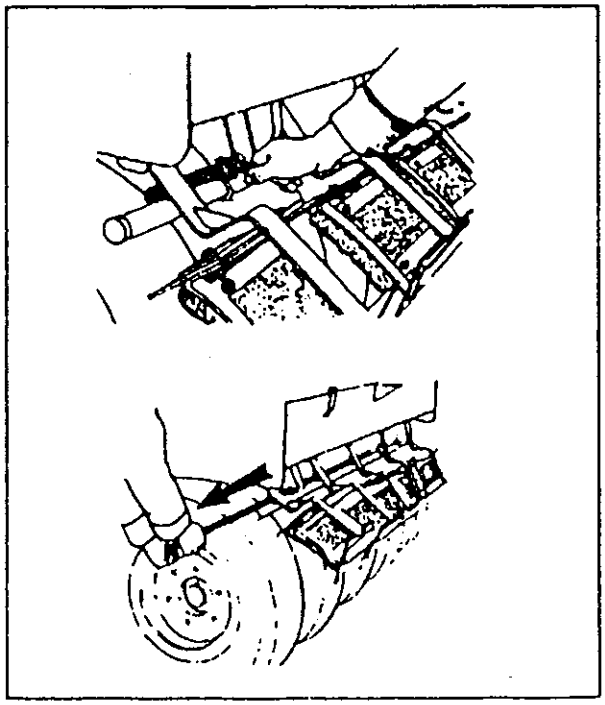
4 Warm up the engine by running it at about 1,000 r/min for 5 to 10 minutes depending on ambient temperature. Check that the tachometer/ hourmeter (10) shows a reading.

5 Check while warming up that the charge lamp (8) goes out, and that the oil pressure warning lamp (3) is out. Check that the engine temperature gauge (7) indicates a reading toward the end of the warming up period.

When starting up and driving a cold machine, which implies cold hydraulic fluid, the braking distances will be longer than normal until the machine attains working temperatures.Ensure that ventilation (evacuation) is adequate if the engine is run indoors. (Risk of carbon monoxide poisoning).

Scraper Positions

Operation



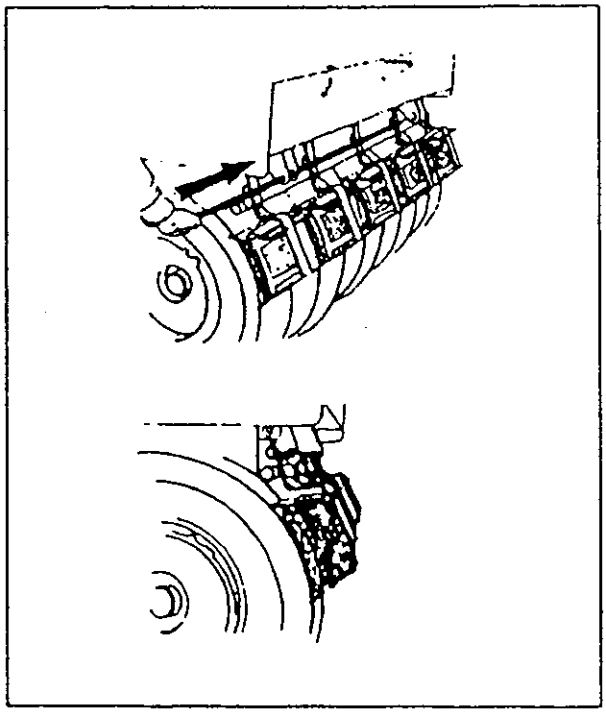
1 Remove the locking pins at both ends of the bar.

2 Pull out the bar and let the scrapers rest on the tires in the operating position.

3 Install the bar through the existing holes above the scrapers. Install the locking pins.

Fig.15 - Operation position - coco mat

Out of operation

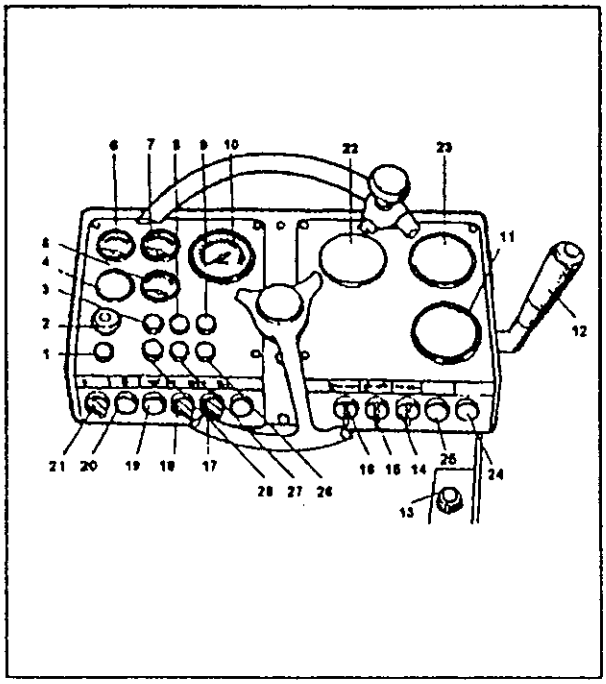


1 Remove the locking pins and pull the bar out.

2 Lift up the scrapers and install the bar in the same place through the existing holes under the scrapers

3 Install locking pins.

Fig. 16 - Out of operation position - coco mat



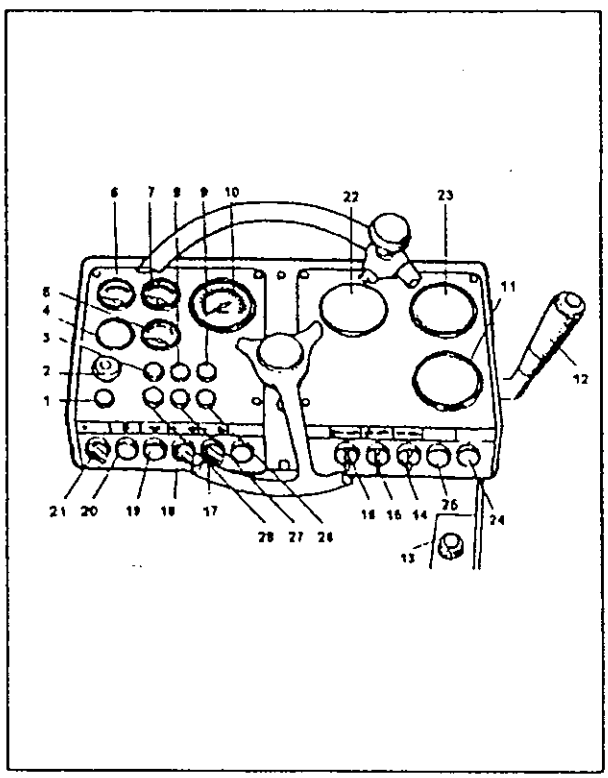
1 Pull up throttle control (13) to give a reading of 2,400 r/min on the tachometer (10). Adjust finely by turning the knob (13). Anticlockwise = increase. Clockwise = reduce.

2 Ensure that the steering is working properly by turning the steering wheel once to the right and once to the left while the roller is stationary.

⚠ *Make sure that the area in front and behind the roller is clear.*

3 Turn the speed selector (18) to the desired setting see decal on the instrument panel.

Fig. 17 - Instrument panel
10. Tachometer/Hourmeter / 13. Revs. control



Low Mode (Operating Speed)- 6.2 mph
High Mode (Transportation Speed) - 12.4 mph

⚠ *The high mode may only be used for transport driving on a smooth surface.*

4 Carefully move the forward/revese lever (12) to the desired direction of travel. Speed increases as the lever is moved from the neutral position.

⚠ *Speed must always be regulated with the forward / reverse lever, and not by changing speed of engine.*

Fig. 18 - Right instrument panel
12. forward/reversse control
18. Speed selector

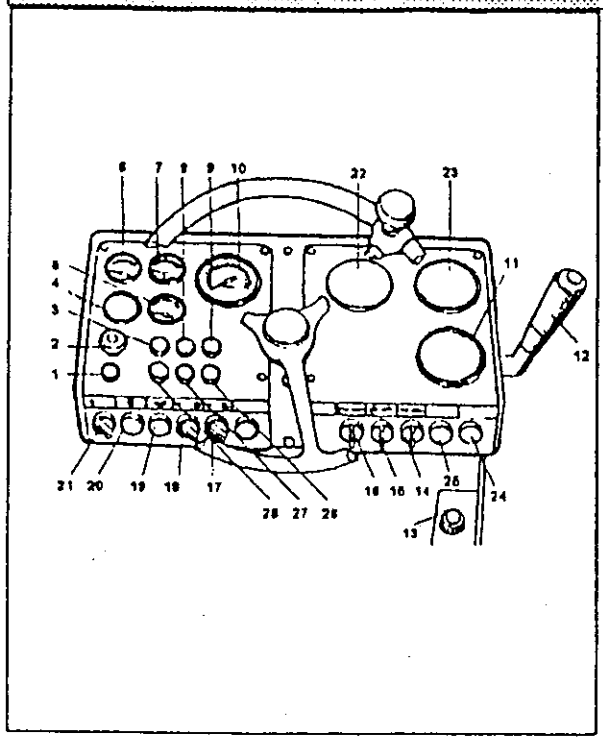


Fig. 19 - Instrument panel
02. emergency stop
06. hydraulic fluid temperature
07. engine temperature

5 Check operation of the EMERGENCY STOP by pressing the EMERGENCY STOP control (2) while the roller is running slowly forward or reverse. The roller should then slow down and stop at the same time as the warning lamp (1) lights.

6 Check while driving that gauges show normal readings and that warning lamps do not light.

Maximum hydraulic fluid temperature (6) 85°C. (185°F)

Maximum engine coolant temperature (7): When the pointer reaches the red zone.

Sprinkler control

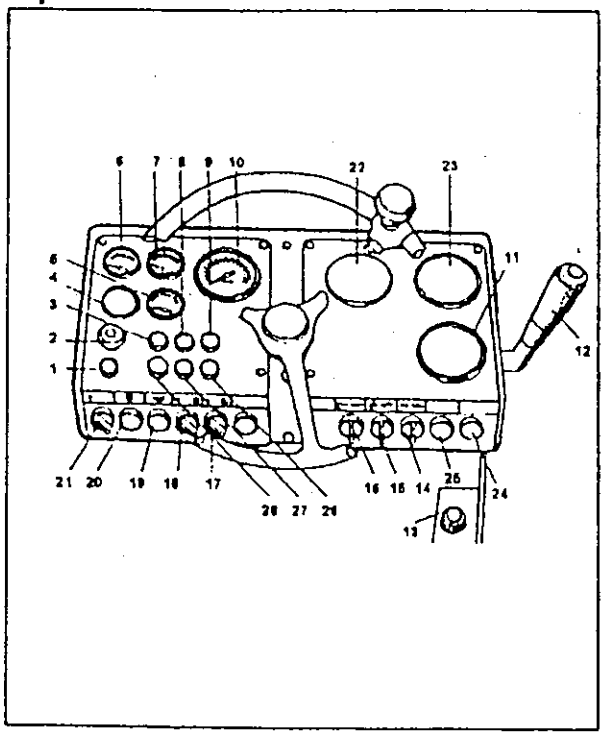


Fig. 20 - Right instrument panel
16. sprinkler switch

1 Drive toward the compaction area. Start spraying water on the tire 3 or 4 yard before going on hot asphalt.

2 Turn on the sprinkler pump by the button (16). If your roller is equipped by second pump (14) you can select the working pump.

3 As the sprinkler is spraying water on the tire, you can select the correct timing by moving the timer switch (15)

Remember If the buzzer comes on you have 3 minutes of water left in the tank.

Tire pressure

Inflate the tires following the chart below.

Certified Maximum Ground Contact Pressures issued by

BITUMINOUS EQUIPMENT MANUFACTURERS BUREAU

under the sponsorship of

CONSTRUCTION INDUSTRY MANUFACTURER'S ASSOCIATION

CIMA

for 7,50 x 15 smooth tread Compactor Tires

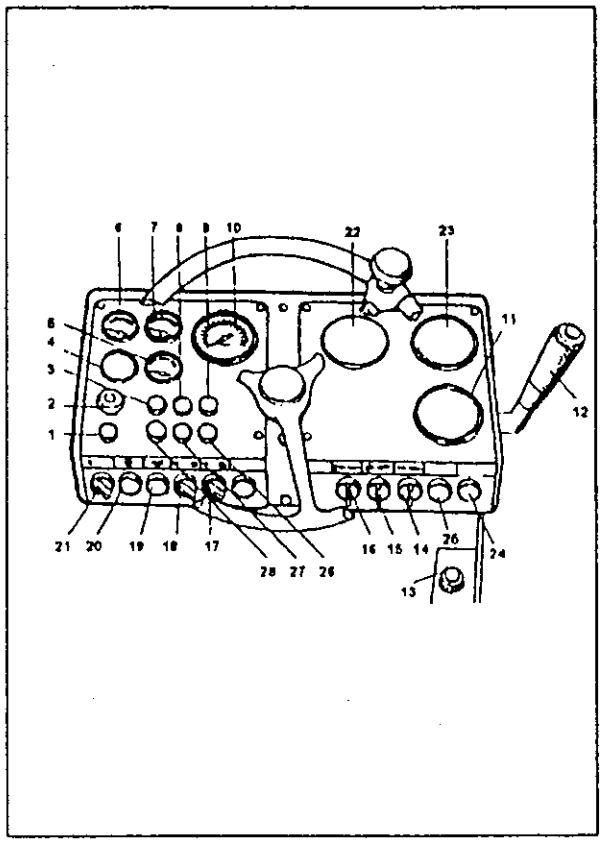
TIRE PLY		4 PLY	6 PLY			10 PLY					12 PLY						14 PLY						
TIRE PRESSURE		35	35	50	60	35	50	60	70	90	35	50	60	70	80	110	35	50	60	70	90	110	120	130
WHEEL LOAD		GROUND CONTACT PRESSURES AND CONTACT AREAS																					
1000	GCP	37	37	44	49	38	44	47	51	57	38	44	47	51	60	65	46	50	54	56	61	68	71	74
	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	36	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	67	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	89			75	79	86	94	98	101
	CA				62			59	55	49			57	53	48	45			53	51	47	43	41	40

MAXIMUM ALLOWABLE WHEEL LOAD THIS ROLLER **2670** lbs.
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.

Braking

Service braking and EMERGENCY STOP



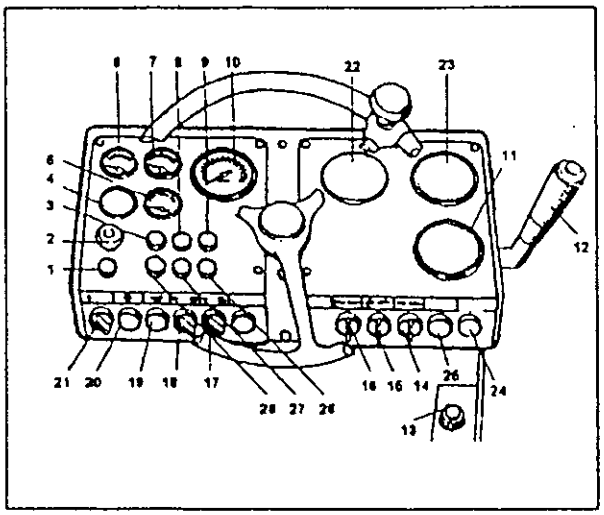
Braking is normally made with the forward/ reverse direction control lever. The roller is braked to standstill by the hydrostatic transmission when the lever is moved to the neutral position. In addition, the multi-disc brakes on the wheel drive and motors, which operate as a parking brake, are applied when the EMERGENCY STOP (2) is pressed in.

In an emergency, press the EMERGENCY STOP (2). Hold the steering wheel firmly as the roller brakes to a standstill. After emergency braking: Reset the forward/ reverse lever to neutral. Pull out the EMERGENCY STOP knob (2) and start the engine again if required.

Fig. 21 - Left instrument panel / 02. EMERGENCY STOP control

Stopping

Switching off the engine



1 Stop the roller by moving the forward/reverse lever (12) to neutral.

2 Push in the throttle control (13) until the engine runs at idling speed (800 to 1,000 r/min). Allow the engine to run for a few minutes.

3 Push in the EMERGENCY STOP knob (2)

4 Turn the power switch (21) to position 0.

Fig. 22 - Instrument panel
02. EMERGENCY STOP control

When starting up and driving a cold machine, which implies cold hydraulic fluid, the braking distances will be longer than normal until the machine attains working temperature

Parking

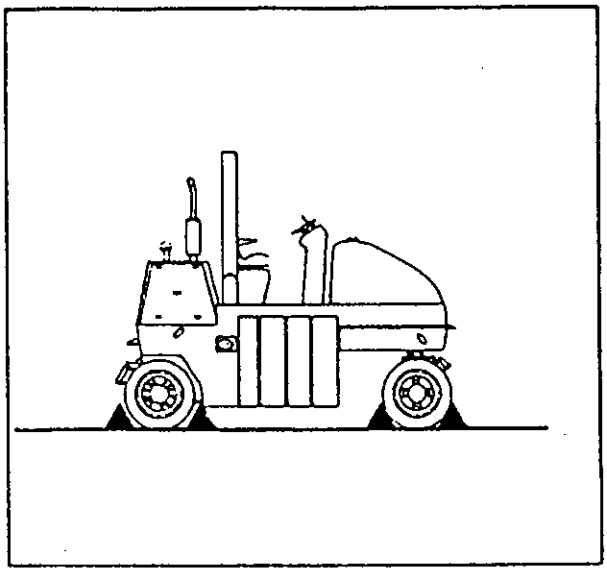


Fig. 23 - Blocking the tires and wheels

Never leave the machine with the engine running. Press the emergency stop first.

The roller is equipped with a parking brake which is applied automatically when the engine stops or when hydraulic pressure disappears from the transmission system.

Fit chocks against the tires when parking on an incline with the engine switched off.

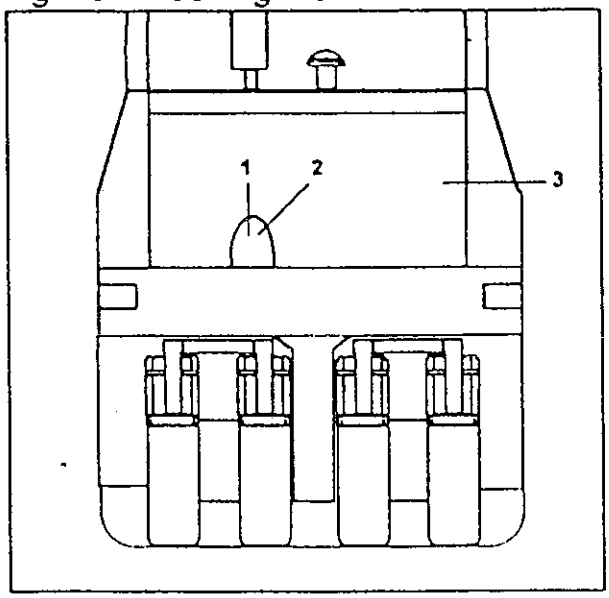


Fig. 24 - Access door (1)

Make sure the roller is parked safely and is not a traffic hazard.

Remember the risk of frost during the winter. Fill the engine radiator and the roller water tanks with an anti-freeze mixture. See also maintenance instructions..

Switch off the battery switch by opening the access door and turning it to off position.

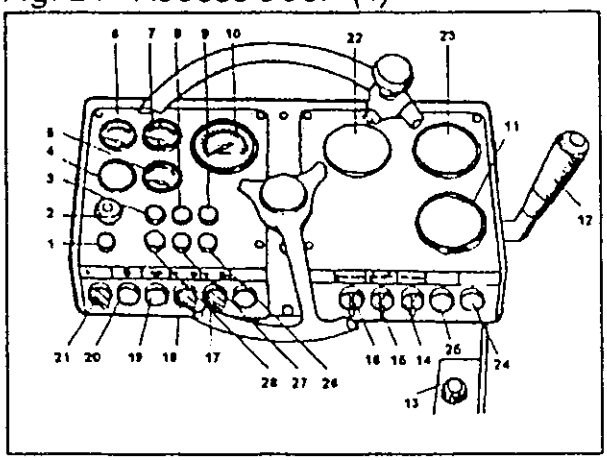


Fig. 25 - Left instrument panel
01. brake warning lamp
02. EMERGENCY STOP knob

The EMERGENCY STOP knob (2) must first be pressed in if the operator, for any reason, finds it necessary to get off the machine while the engine is running. The brake warning lamp (1) should then light.

Hoisting

Weight:

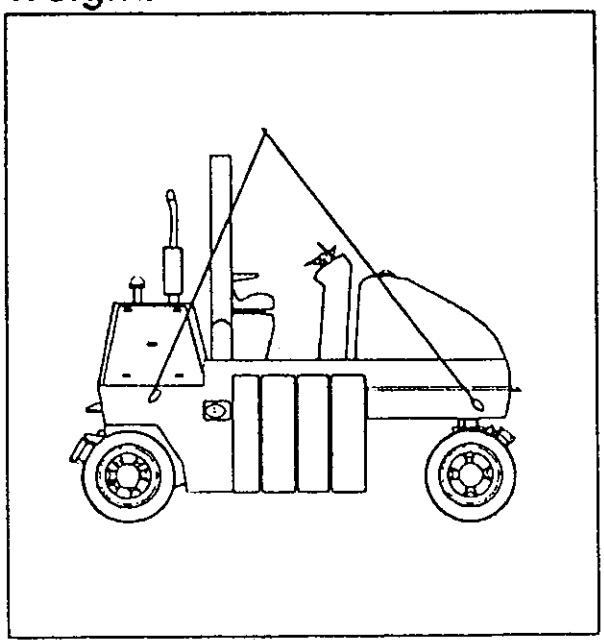


Fig. 26 - Hoisting the roller

Operating weight	12.5 ton
Without ballast	4.3 ton
Each ballast	approx 1.02 ton

Check the weight of the machine.
Make sure that hoisting hooks are securely anchored.
Keep well clear of the hoisted machine

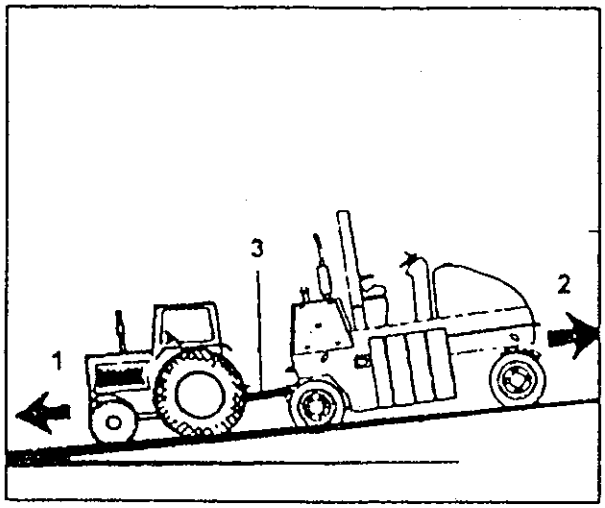


Fig. 27 - Counter braking
01. direction of travel
02. counter braking
03. tow bar

The roller can be moved up to 50 metres as follows:

Chock the tire. The machine can start to roll when the brakes are released.

Obs.: While starting to tow the roller, rear drive motor may emmit un-blocking sound, this is normal for the type of traction motor in the roller

Since the engine is not working the brakes must first be disengaged. as follows:

1 Insert a steel bar in the pumping lever (2) and pump by moving up and down until brakes are released or until hydraulic resistance can be felt.

2 The brakes are now released and the roller can be towed.

After towing

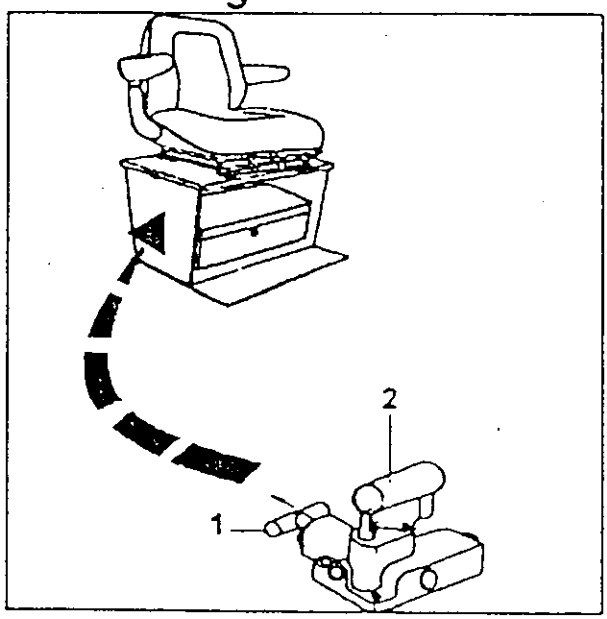


Fig. 28 - Brake release pump
01. brake reapply
02. pumping lever

Pull the handle (1) and the brake will apply.

Transport

Roller prepared for transport

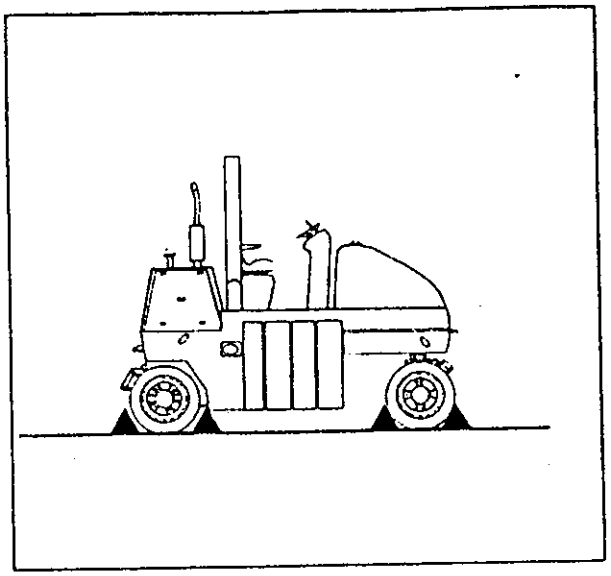


fig. 29 - Transport
01. brake chocks
02. chains

1 Chock the tires

2 Clamp down the roller at all four corners with chains.

Fuses

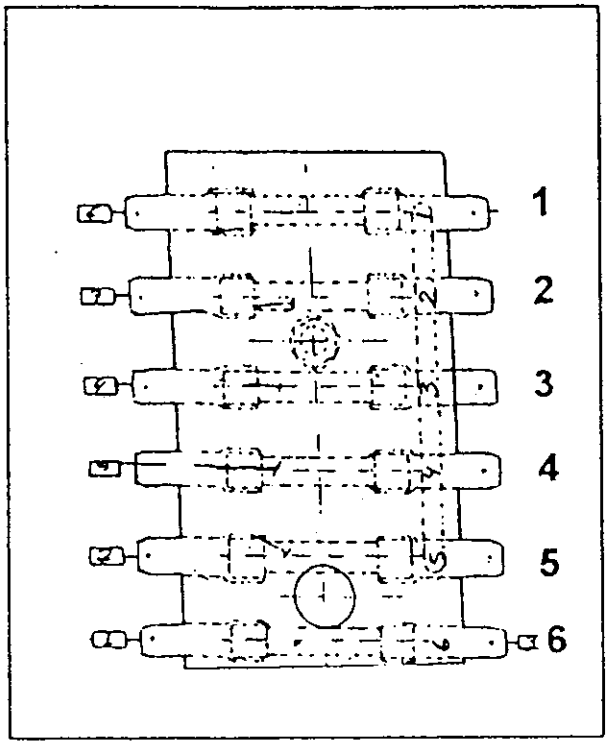


Fig. 31 - fuse boxe

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 boxes. The fuse boxes of figure 31 is located under the instrument panel at right hand wall.

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

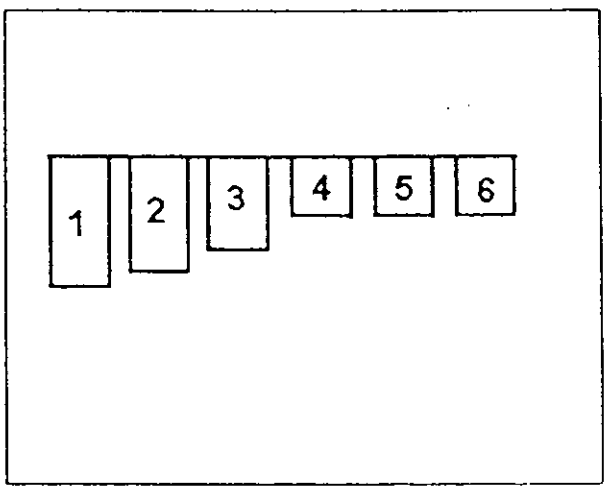


Fig. 32 - Electrical system relays

The electrical 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

Operating Instructions - Summary

- *Follow all SAFETY INSTRUCTIONS that apply for the machine, see the Safety Manual.*
- *Make sure that all instructions in the MAINTENANCE MANUAL are followed.*
- *Turn the power switch to ON.*
- *Check that the EMERGENCY STOP is OFF (PULLED OUT).*
- *Set the Forward/Reverse control to NEUTRAL*
- *Start the engine and run warm.*
- *Set the gear selector to WORKING SPEED.*
- *Check the brakes. Braking distance can be longer when the roller is cold.*
- *Run the roller. Use the Foward/Reverse control with care.*
- *Check for proper watering on the tires where applicable.*
- *IN THE EVENT OF DANGER:*
  - *Press the EMERGENCY button.*
  - *Hold onto the steering wheel.*
  - *Prepare yourself for a quick stop.*
- *When parking: - Stop the engine and chock the tires and wheels.*
- *When towing: - See the towing instructions in this OPERATION MANUAL.*
- *When hoisting: - See the hoisting instructions in this OPERATION MANUAL*