



HUGH CRANE

Cleaning Equipment



FS09628

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OPERATOR INSTRUCTION MANUAL **COMMANDO 5050**

For Sales, Service and Spare Parts contact:

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TEL: 01493 750072 FAX: 01493 751854 Email: sales@hughcrane.co.uk

DECLARATION OF CONFORMITY

We: Hugh Crane (Cleaning Equipment) Ltd,
South Walsham Road,
Acle,
Norwich,
NR13 3ES.

Certify that the:

COMMANDO 5100 RANGE DIESEL POWERED PRESSURE WASHERS

Have been designed and manufactured in accordance with the essential requirements of the following European Directives and any subsequent amendments to them:

<i>Directive</i>	<i>Standards Applied</i>
Machinery Directive 93/37/EC	EN292 - 1 EN292 - 2

Date: 17/4/2003

Signed by:

P. Crane

Philip Crane
Managing Director
On behalf of Hugh Crane (Cleaning Equipment) Ltd

IMPORTANT

THIS HANDBOOK SHOULD BE READ AND UNDERSTOOD BY THE OPERATOR BEFORE USING THE COMMANDO 5050 PRESSURE WASHER AND SHOULD BE KEPT WITH THE EQUIPMENT AND MADE AVAILABLE TO ANYBODY WHO IS INTENDING TO USE OR MAINTAIN IT.

GUARANTEE

COMMANDO products are guaranteed for one year for parts and labour from the date of purchase (guarantees are not transferable) subject to good use, protection from frost and adherence to recommended service procedures. Major components are subject to individual manufacturer's warranty conditions. Wearing parts, including tyres, pump seals, valves, hoses, filters, jets and tooling are excluded from warranty cover unless subject to faulty materials or manufacture.

WHEN ORDERING SPARES - Please quote:-

- a) Your Company Name and Address
- b) Model Type and Serial No. of unit
- c) Full description of parts required
- d) Your contact name and telephone number
- e) Your order number

Unique Machine Numbers

Model Number: **COMMANDO 5050**

Serial Number: **3507009**

Tow Hitch Key No:

Engine Number:

Gearbox Number:

Pump Number:

Pump Pressure: **345 bar (5000 psi)**

Pump Flow: **34 litres/minute (7.5 gal/min)**

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INTRODUCTION

The Hugh Crane (Cleaning Equipment) Ltd range of **COMMANDO®** high pressure washing equipment is manufactured to rigorous quality standards. The basic concept is to use quality materials and components together with proven designs to attain the highest standards of reliability and safe operation. This instruction manual is provided to assist the operator to use the equipment safely whilst obtaining the best performance from it.

The **COMMANDO®** 5000 series pressure washers are a range of air cooled diesel engine driven units designed for offering a choice of pumps to suit individual requirements. The units are supplied with a manual rewind hose reel as standard complete with high- pressure hose, gun and lance. The **COMMANDO®** 5050 is mounted on a twin axle road going trailer with integral water tanks. The **COMMANDO®** 5050 is typically used for heavy duty drain jetting, surface preparation, de-scaling and paint stripping.

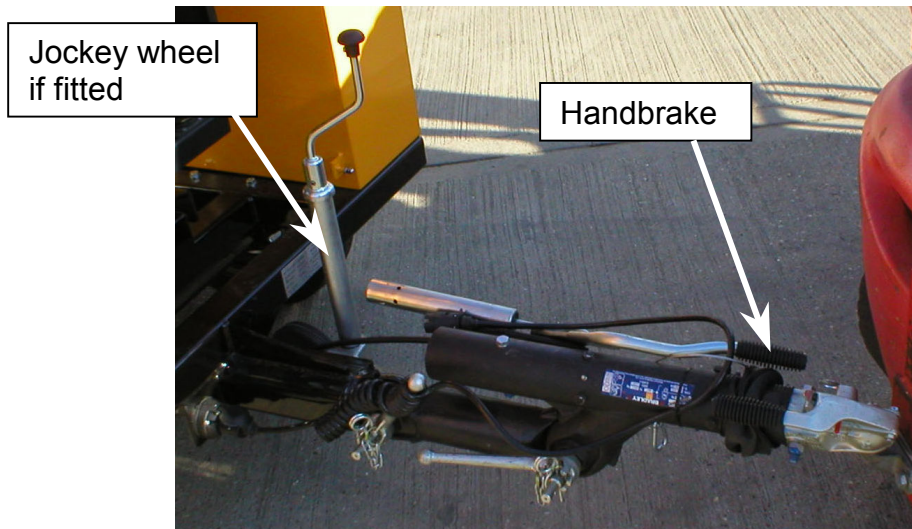
SPECIFICATION – COMMANDO® 5050

Engine:	Lister TX3 air cooled diesel
Engine control:	Manual starter.
Maximum engine speed:	2300 rpm
Electrics:	12V DC
Battery:	072
Gearbox:	RM45D Reverse rotation
Gearbox ratio:	2.88:1
Pump:	Cat 3507
Maximum pump speed:	800 rpm
Maximum pump pressure:	345 bar (5000 psi)
Unloader:	UL300/3
Water flow at maximum speed:	34 litres/min (7.5 gal/min)
Cleaning power:	9.6 kW (12.9 hp)
Overall dimensions LxWxH:	3550 mm x 1600mm x 1460 mm (1570 with lifting frame)
Weight – tanks empty:	1220 kg
Weight – tanks full:	1565 kg

GENERAL HEALTH & SAFETY DATA

1. BEFORE MOVING ONTO THE PUBLIC HIGHWAY.

- a) Ensure that towing vehicle is of suitable capacity to tow the **COMMANDO® 5050**.
- b) Check tyres for condition and correct inflation pressure.
- c) Ensure that ball hitch is fully engaged on towing vehicle and that breakaway cable is securely attached to an anchor point on the vehicle.



- d) The handbrake should be released and jockey wheel fully retracted and locked.
- e) Check all trailer lights for correct operation.
- f) Whenever possible, the unit should be towed with the water tanks empty.
- g) Ensure that all ancillary equipment is securely attached and stowed on the towing vehicle.
- h) Fit a registration plate to the **COMMANDO® 5050** to suit the towing vehicle.

2. BEFORE USING THE **COMMANDO® 5050.**

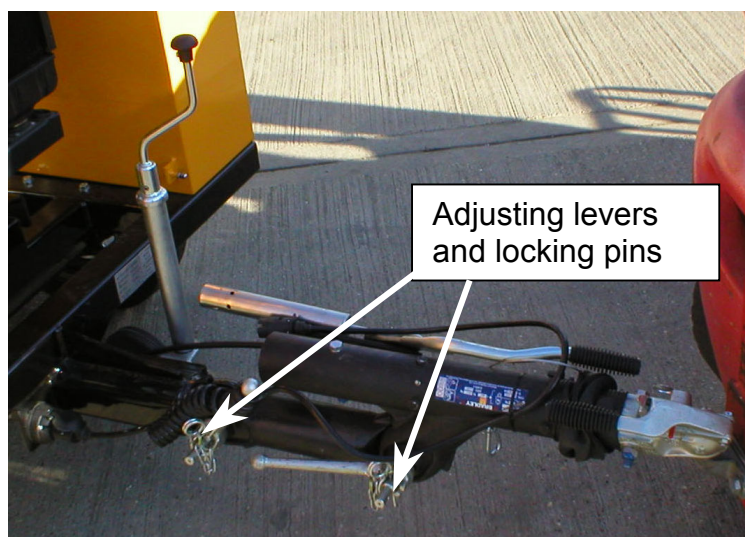
- a) Before using the **COMMANDO® 5050** operators should have undergone basic training in the safe use of high pressure jetting equipment. Training courses are available from Hugh Crane (Cleaning Equipment) Ltd. if required.
- b) Suitable protective clothing should be provided and worn by all operators.
High-pressure jets are dangerous if subjected to misuse.
Care should be taken to ensure that animals and children are kept well out of the working area. **The jet must not be** directed at people, animals, the machine itself, non-waterproof, fragile items or electrical equipment.

- c) The user's attention is drawn to health and safety guidance note P.M.29, which deals with the use of high-pressure cleaners and steam cleaners. Eye protection to BS2092/2 must be worn when this equipment is used.
- d) All repairs to this equipment must be carried out by suitably qualified personnel only. No modifications or changes to the specification of this machine should be made without prior consultation with and approval of the manufacturer.
- e) The machine is supplied with guarding in compliance with current legislation. The machine must not be operated with any of the guards, covers or any other safety equipment removed or damaged.
- f) Components that are supplied by others e.g. gearbox and pump, are covered by individual manufacturer's information, which is included for your use.
- g) Chemicals may be used in conjunction with this equipment. Only chemicals supplied or recommended by the manufacturer should be used, as other products may effect the safe use of the equipment. Consideration should also be given to environmental and COSHH regulations.
- h) **Never attempt to adjust or clean any part of the machine with the tractor engine running.** Always stop the tractor engine and pull the trigger to relieve residual pressure before carrying out any adjustments, especially to the high-pressure pipework or drive shaft etc.
- i) The high-pressure spray gun is provided with safety lock, which enables the trigger to be locked off to prevent inadvertent use.

PREPARING THE MACHINE FOR USE:

BEFORE TOWING - DAILY

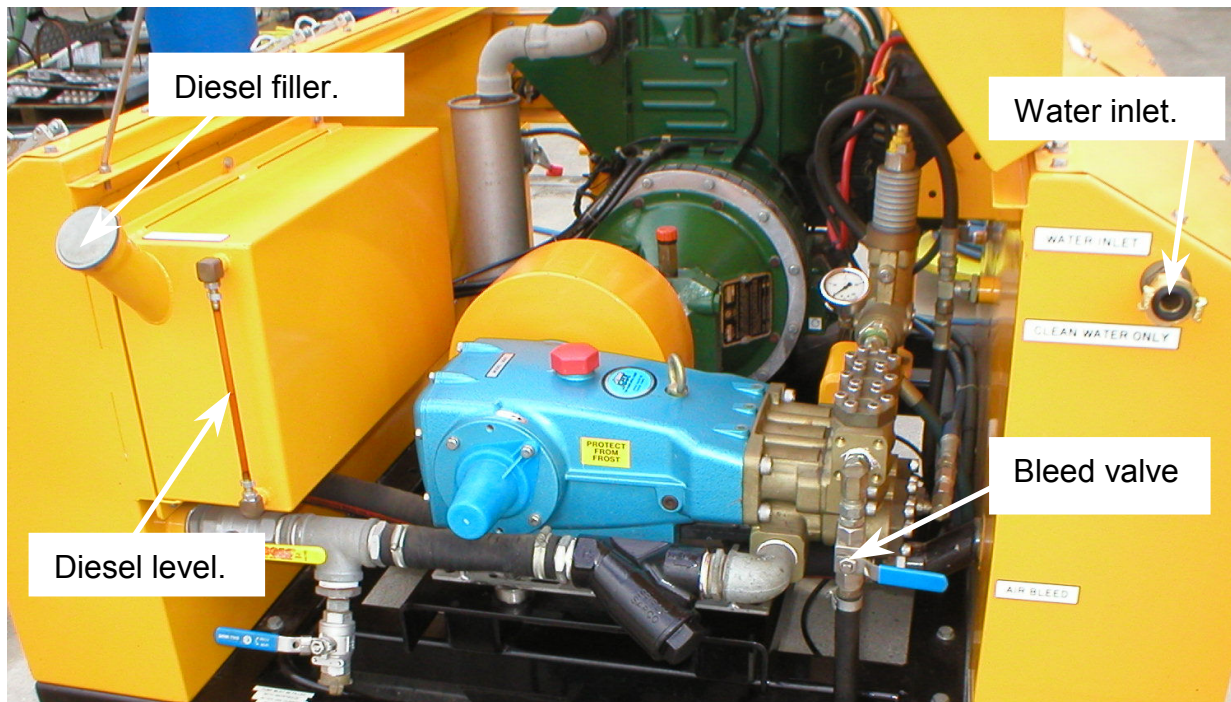
- a) Check condition of tyres for sufficient tread depth, cuts, bulges and check inflation pressure which should be 36 Psi (2.5 bar).
- b) Check wheel nuts for tightness. 50 lbf feet (68Nm).
- c) Check tow coupling for security and ensure that coupling is lightly greased and that it is adjusted to suit the height of the towing vehicle. Ensure that the adjusting levers are tight and secured by their locking pins.



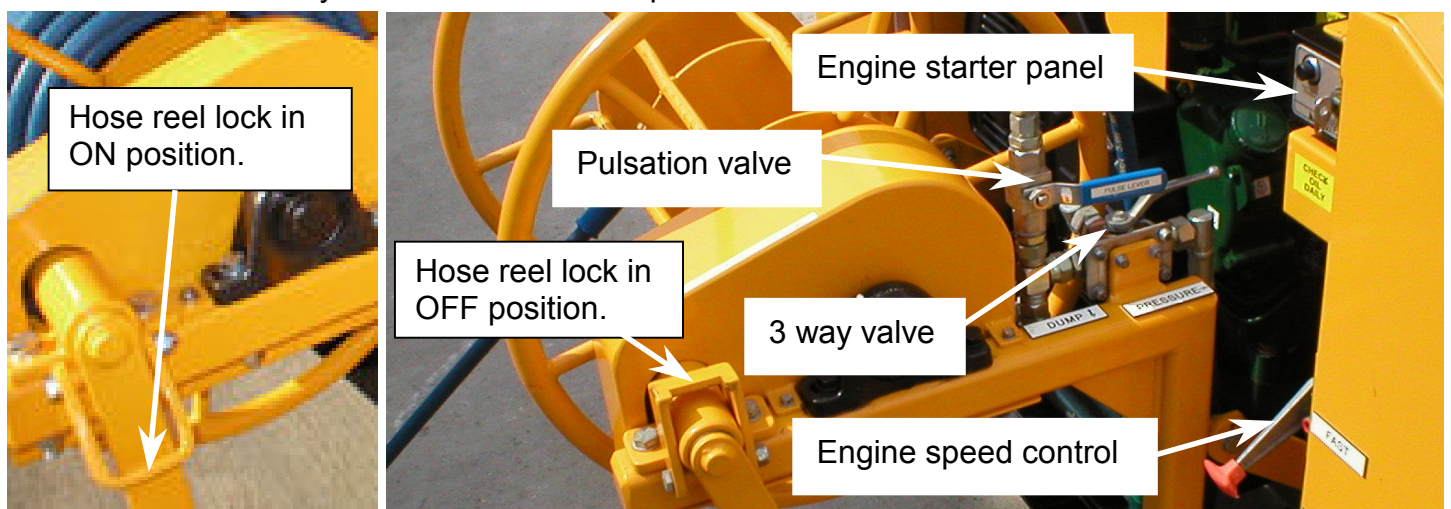
- d) Check condition of the safety cable.
- e) Ensure that all lights are functioning correctly and that reflectors are clean. Attach a number plate compatible with towing vehicle.

BEFORE STARTING WORK

- a) Check engine, gearbox and pump oil level and top up if required.
- b) Fill fuel tank with clean diesel fuel.



- c) Ensure unit is standing on level ground.
- d) Connect a mains water supply hose to the inlet valve. Fill with clean water only and ensure that there is sufficient water in the tanks before starting the engine. Confirm that the water supply has sufficient capacity to keep the COMMANDO 5050 supplied continuously (35 litres/min).
- e) Ensure that high-pressure hose is fitted with either a spray gun or a foot control pedal and that these are in the **OFF** position. Where a drain jet only is fitted ensure that the 3-way valve is in the **DUMP** position.



- e) Open the high-pressure bleed valve and adjust the throttle lever to the minimum speed position.

Protection override
pushbutton



Engine starter
key switch

- f) Depress the protection override button and turn the starter key fully clockwise to start the engine. In cold weather pause the key at the pre-heat position before cranking the engine.
- g) Once the engine has fired release the key switch and the override button when it is running smoothly. Adjust the throttle to approximately $\frac{1}{3}$ rd of full speed. Close the bleed valve once air free water is issuing. Then turn the 3-way valve to the **PRESSURE** position and open the spray gun or foot pedal to expel any remaining air from the hose and lance.
NOTE: before turning the valve to the PRESSURE position ensure that the hose reel lock is ON to prevent it rotating when pressure is applied.
- g) When air free water is issuing from the hose, the unit is ready to use.
- h) Increase the engine speed to the desired working level using the throttle. Use of the throttle will directly affect output water volume and consequently the pressure.

DURING WORK:

- a) **Do not leave the COMMANDO® 5050 idling for periods in excess of 15 minutes, as re-circulating water heats up rapidly and will eventually boil causing severe damage to the pump.**
- b) Should any vibration, fluctuation of pressure or any other abnormal symptoms occur during operation it should be investigated immediately.

Likely causes include:

- i) A lack of water entering the unit causing air to be drawn into the pump.
- ii) A blockage of the main inlet filter causing water starvation at the pump.
- iii) The inlet water valve between tanks and pump not fully open.
- iv) Leaking seals or damaged valves etc.

AFTER WORK

- a) **To stop the COMMANDO® 5050** decrease engine revs to idle speed and turn the starter key to the OFF position.

REGULAR MAINTENANCE**CHECK LIST**

		Daily	Weekly	250 hrs.	500 hrs.	1000 hrs.
ENGINE:						
	Oil level	*				
	Air Cleaner		*			
	Fan belt	*				
	Fan Belt change					*
	Oil Change			*		
	Oil filter change			*		
	Battery level		*			
	Clean Air Duct			*		
	Check Battery Terminals			*		
	Clean & Check mountings					*

GEARBOX						
	Check Level		*			
	Change oil				*	

PUMP						
	Inlet filter	*				
	Oil level	*				
	Change oil				*	
	Hose Reel security			*		
	Hoses for security/chafing				*	

UNLOADER VALVE						
	Check break off pressure			*		

UNDER CARRIAGE SERVICE CHECK LIST

SERVICE ITEM	FIRST 100 MILES	EVERY 1000 MILES (MONTHLY)	EVERY 3000 MILES (3 MONTHLY)
Tyres		*	*
Wheel nuts		*	*
Coupling Bolts	*		*
Coupling Lubrication		*	*
Jockey Wheel Bolts			*
Jockey Wheel Lubrication		*	*
Lights - function	*	*	*
Lights - damage		*	*
Wheel bearings - adjust	*		*
Wheel bearings grease			*
Body condition		*	*
Brakes - adjustment	*		*

ENGINE: Refer to Engine Manufacturer's Handbook.

PUMP: Refer to Pump Manufacturer's Handbook

GEARBOX: Check oil level monthly

UNLOADER: No user serviceable parts.

Under no circumstances should any adjustments be made to unloader as serious damage to engine, gearbox or pump could result.

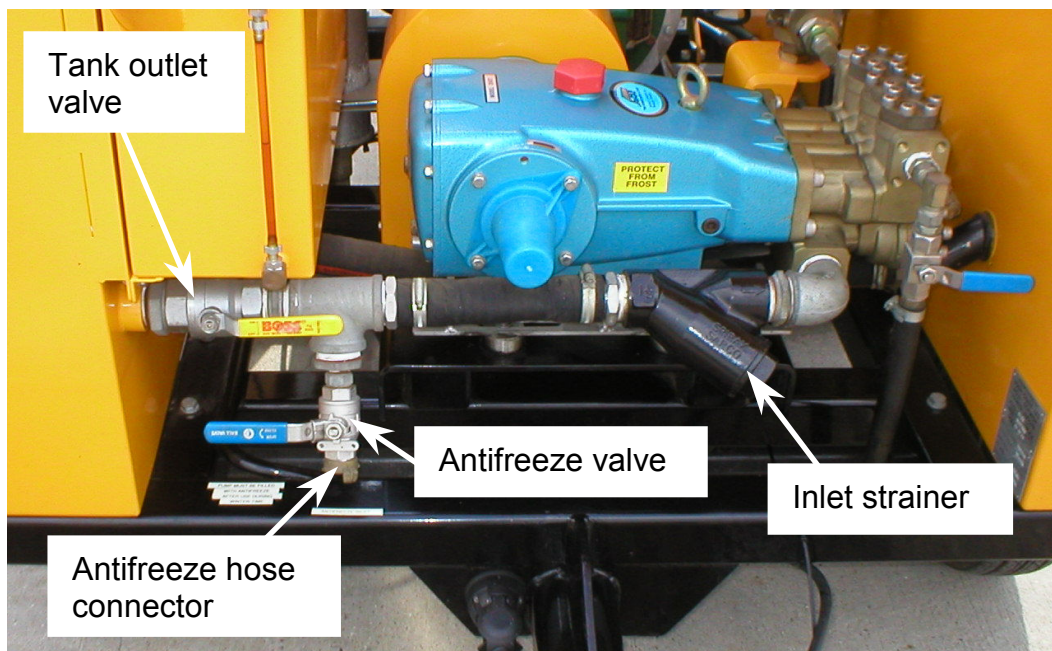
UNLOADER AND SAFETY VALVE

The unloader and safety valves have no user serviceable parts. Under no circumstances should any adjustments be made to the unloader OR the safety valve, as serious personal injury or damage to the pump could result.

FROST PROTECTION

It is essential to protect the unit from damage by frost. The following instructions will be adequate to protect the unit to temperatures down to - 5°C. During winter months it is strongly recommended to store the unit inside whenever possible.

- 1) Drain main tanks using drain valve.
- 2) Run engine for **one minute** with open ended hoses or gun open to expel all water. Stop engine.
- 3) Remove cap from inlet strainer and store safely together with its filter screen.



- 4) During severe weather, the unit should be stored inside, if possible. Where this is not possible a 25% anti-freeze/water mixture should be introduced into the pump, reel, hoses and gun as described below. The antifreeze mixture can be reclaimed after use for recycling when next required.
- 5) Close the tank outlet valve, attach the anti-freeze pickup hose and open the antifreeze valve. Place the hose into the container of anti-freeze and start the pump, direct the lance into the container and open the gun. As soon as antifreeze issues from the lance, indicating that the hose is filled, close the gun and stop the engine.
- 6) The system is now charged with the anti-freeze solution.
- 7) Before starting work again the antifreeze must be emptied out of the system by running the pump and directing the using the solution back into the container.
- 8) Always ensure that all anti-freeze solutions are flushed out of the system before using the machine for cleaning tasks, as anti-freeze solution can be highly detrimental to certain surfaces and materials.

REPLACEABLE ITEMS LIST

See the following illustrations for component reference numbers.

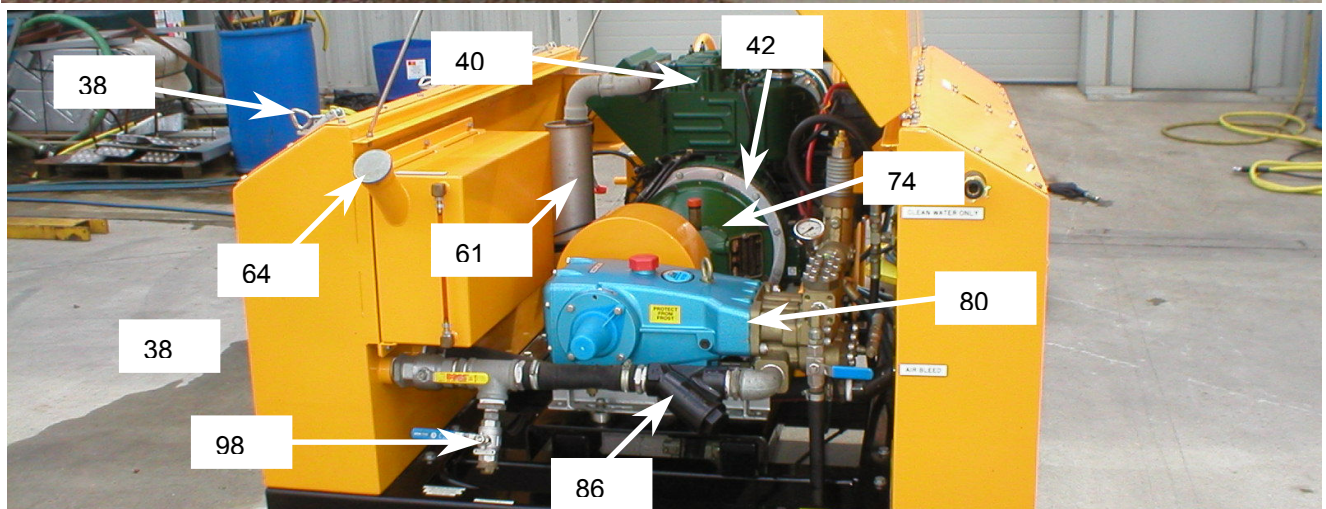
Ref.	Description	Qty.	Part Number
22	BEAM AXLE 750kg	2	HCOB/171
23	JOCKEY WHEEL	1	HCOB/109
24	JOCKEY WHEEL CLAMP	1	HCOB/103
25	TOW COUPLING – HU8H	1	HCOB/198
26	COUPLING LOCK	1	HCOB/199
27	BRAKE CABLE 1300mm	1	HCOB/136
28	BRAKE COMPENSATOR BR3	1	HCOB/136
29	WHEEL & TYRE 155R12	5	HCOB/182
30	BRAKE CABLE FRONT AXLE	2	HCOB/122
31	BRAKE CABLE REAR AXLE	2	HCOB/124
33	SOCKET – 7 PIN	1	HCOB/211
34	PLUG – 7 PIN	1	HCOB/210
35	CABLE – 7 CORE	8m	HCOB/220
36	REAR LIGHT CLUSTER	2	HCOB/151
37	NUMBER PLATE LIGHT	1	HCOB/150
38	TOGGLE FASTENER	8	HCOB/020
40	ENGINE TX3	1	LPTX3-05
41	FLYWHEEL ADAPTOR	1	LP202-349980 M/C TO SUIT
42	BEARING	1	6205-2RS
43	SAE4 TO SAE5 ADAPTOR	1	LP
44	AIR FILTER ASSEMBLY	1	LP 366-08108
45	AIR FILTER ELEMENT	1	LP 366-08109
46	AIR FILTER SAFETY ELEMENT	1	LP 366-08110
47	AIR FILTER CONNECT TUBE	1	LP 366-081104
49	AVM RAB '0'	6	HCOB/023
50	HOURS RUN METER	1	HCOB/010
51	BATTERY	1	HCOB/061
61	EXHAUST SILENCER DDA38	1	HCOB/183
62	EXHAUST CLAMP 127mm	1	HC81102
64	FUEL FILLER CAP	1	HCOB/028
65	FUEL TAP	1	HCOB/021
74	GEARBOX RM45D 2.88:1	1	HC06051
75	COUPLING FLANGE F110F	2	HC22011
76	COUPLING TYRE	1	HC22010
77	TAPER BUSH 3020/40	1	HC22007
78	TAPER BUSH 3020/35	1	HC22006
80	PUMP 3507	1	CP3507PUMP
86	Y STRAINER 1 ½"	1	02XX1.5"Y
90	UNLOADER UL300/3	1	SP00807
91	PRESSURE GAUGE 0-400 BAR	1	GS54840
95	HOSE TAIL 3/8" BRASS	2	HC95003
97	BALL FLOAT VALVE ¾"	1	HC02205

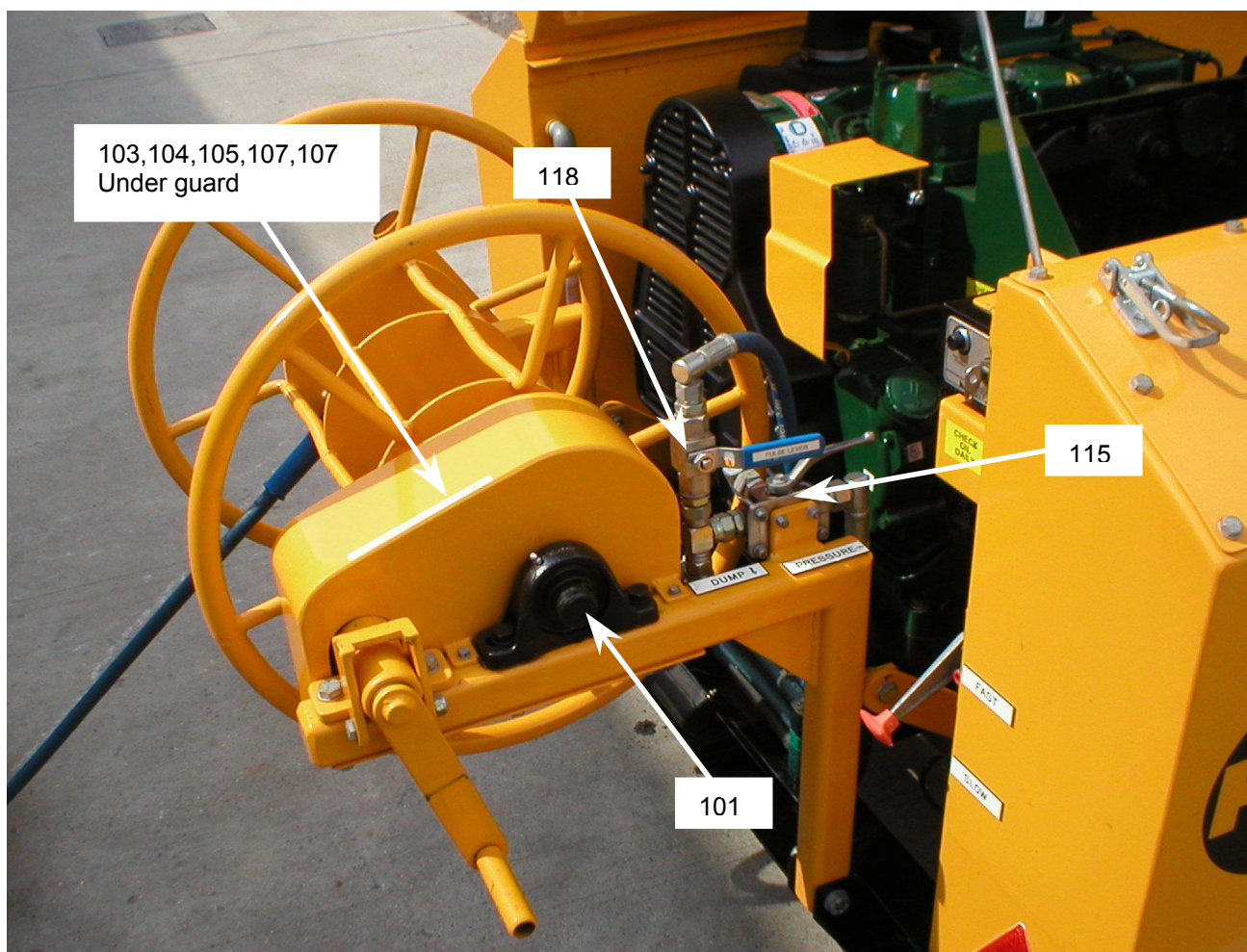
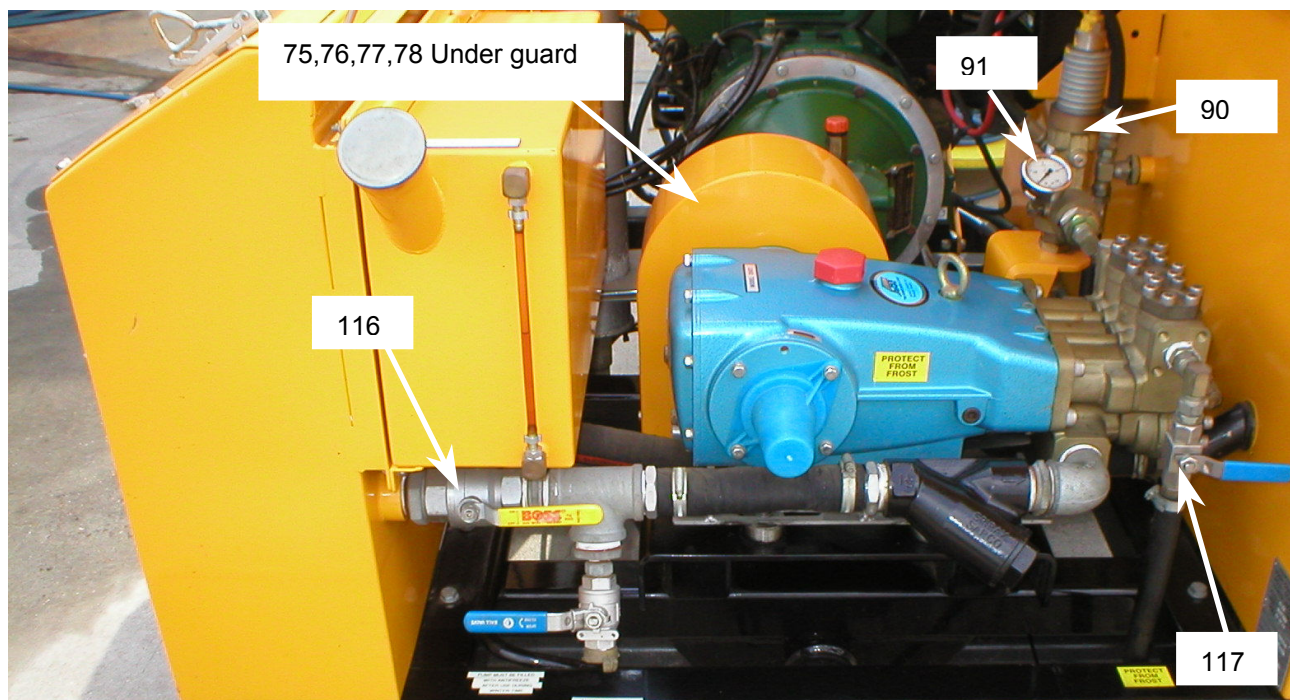
REPLACEABLE ITEMS LIST

See the following illustrations for component reference numbers.

98	BALL VALVE LP 1"	1	HC02027
101	BEARING SL35	2	HC22111

102	BEARING BUSH AL2530x20	2	HC220117
103	SPROCKET 5/8"P – 15T	1	HC22012
104	SPROCKET 5/8"P – 38T	1	HC22013
105	TAPER BUSH 1210/25	1	HC22009
106	TAPER BUSH 2012/35	1	HC220087
107	CHAIN 5/8"P SIMPLE	1m	HC22014
108	CONNECTING LINK	1	HC22015
115	VALVE 3 WAY 1½" 350 BAR	1	HC02002
116	BALL VALVE 1½"	1	HC02105
117	BALL VALVE 1" 6000 PSI	2	HC02054
118	BALL VALVE ½" 6000PSI	1	HC02051





TROUBLE SHOOTING

FAULT	CAUSE	ACTION
1. Knocking noise from pump.	Water starvation. Pump sucking in air.	Ensure that there is sufficient water in the tanks. Check that the strainer is not blocked and that the pump inlet valve is open. Check the suction hose for leaks, which might allow air to be drawn in.
2. Loss of pressure.	Water starvation. Pump sucking in air.	Ensure that there is sufficient water in the tanks. Check that the strainer is not blocked and that the pump inlet valve is open. Check the suction hose for leaks, which might allow air to be drawn in.
	Lance nozzle too large or missing.	Check that the correct nozzle is fitted and is in good condition.
	High pressure water leak.	Examine the high pressure hose and fittings for leakage.
	Unloader not correctly set up.	Have unloader checked by a suitably equipped and trained engineer.
	Pump speed too low.	Check that engine speed is correct.
3. Pressure too high.	Pump speed too high.	Stop engine immediately. Restart at idle and reset engine speed.
4. Safety valve passing water.	Lance nozzle too small or blocked.	Check that the correct nozzle is fitted and is in good condition.
	Unloader not correctly set up.	Have unloader checked by a suitably equipped and trained engineer.

MANUFACTURERS LITERATURE

- 1. CAT PUMPS: 3507 PUMP**
- 2. SPECK: UL300 UNLOADER**
- 3. LISTER PETTER TX3 ENGINE**

MANUFACTURERS LITERATURE

CAT PUMPS: 3507 PUMP

[data](#)
[service](#)

MANUFACTURERS LITERATURE

SPECK: UL300 UNLOADER

[data](#)

MANUFACTURERS LITERATURE

LISTER PETTER TX3 ENGINE

[*manual*](#)