



HUGH CRANE

Cleaning Equipment Limited



SOUTH WALSHAM ROAD, ACLE, NORWICH, NORFOLK, NR13 3ES
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OPERATOR INSTRUCTION MANUAL

COMMANDO® C1030

For Sales, Service and Spare Parts contact:

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INTRODUCTION

COMMANDO high pressure equipment is manufactured to rigorous quality standards.

The basic design concept is to use quality materials and proven designs to attain reliability and safe functional operation. This instruction manual is provided to assist the operator to obtain the best from the equipment, together with basic safety points.

Should you require information or technical assistance regarding the unit or any aspect of jetting or pressure cleaning, do not hesitate to contact **Hugh Crane (Cleaning Equipment) Ltd** or their approved distributor.

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 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 Number of unit
- c) Full description of parts required
- d) Your contact name and telephone number
- e) Your order number

SPECIFICATION**MODEL No: COMMANDO® 1030****SERIAL No:****ENGINE:**

Model:	Hatz 2G40
Power	13.1 kW @ 2600 rev/min
Fuel:	Diesel

GEARBOX:

Ratio:	2.5:1
Rotation:	Reverse

PUMP:

Type	CAT 650 TRIPLEX CERAMIC PLUNGER
Pump pressure	205 bar/3000psi
Pump flow	28.2 l/min / 6.20 gal/min

UNLOADER VALVE:

Type	Speck UL262
Pressure setting	205 bar/3000psi

OPERATING INSTRUCTIONS

IMPORTANT

This handbook should be read and understood by the operator before using this equipment. It should be kept with the equipment and made available to anybody who is intending to use the equipment.

GENERAL HEALTH AND SAFETY DATA

BEFORE USING THE EQUIPMENT

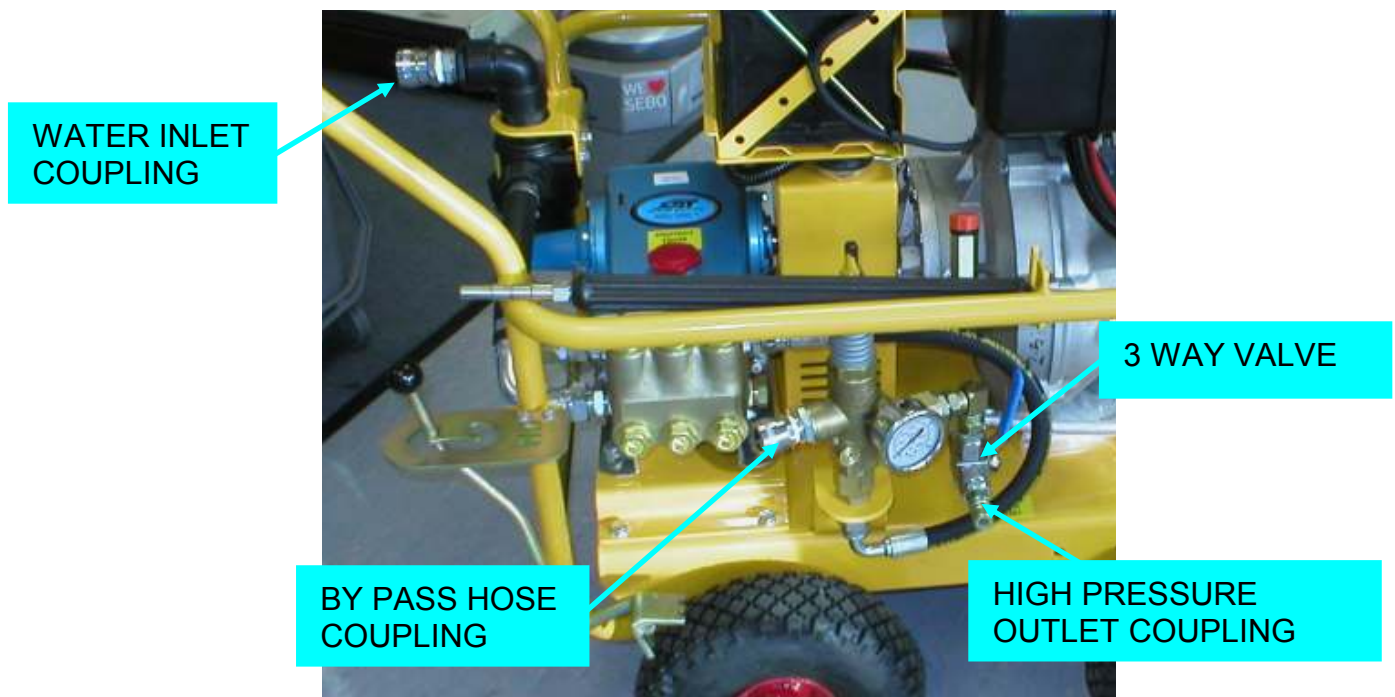
- a) Before using this equipment, operators should have undergone basic training in the safe use of high pressure washing equipment. Training courses are available from Hugh Crane (Cleaning Equipment) Ltd. if required.
- b) Suitable protective clothing should be provided and worn.
High pressure jets are dangerous if subjected to misuse.
Care should be taken to ensure that animals and children are well out of the working area.
The jet must not be directed at people, animals, the machine itself, non- waterproof, fragile or electrical equipment.
- c) 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) 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 consultation and approval of the manufacturer.
- e) The machine is supplied with guarding in compliance with current legislation. The machine should not be operated with any of the guards, covers or any other safety equipment removed or damaged.
- f) Components as supplied by others i.e. motors and pumps are covered by these manufacturer's handbooks, which are 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 affect 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 motor running.**
Always stop the motor before carrying out adjustments, especially to the high pressure pipework etc.
- i) High pressure spray guns are provided with safety lock which enables the trigger to be locked off to prevent inadvertent use.

OPERATION

PREPARING THE MACHINE FOR USE:

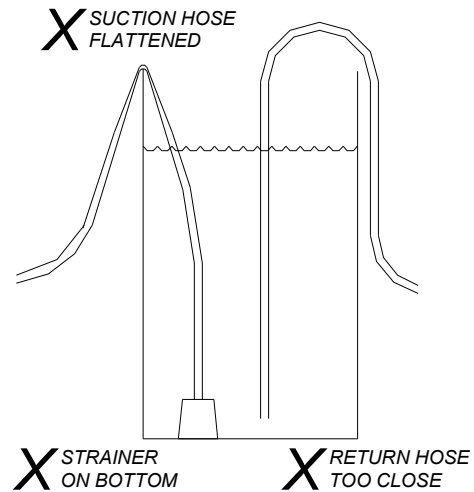
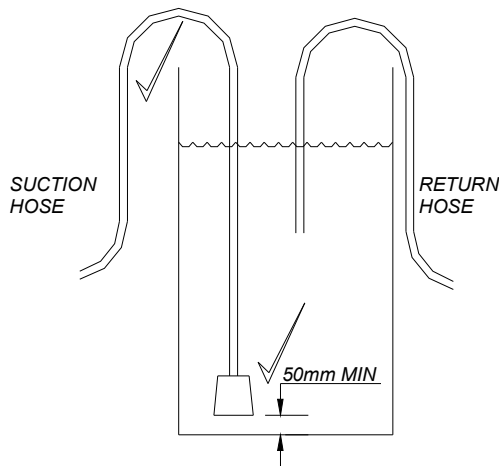
BEFORE STARTING WORK

- a) Check engine, gearbox and pump oil level and top up if required. Check fan belt tension and condition.
- b) Fill fuel tank with clean diesel fuel.
- c) Ensure unit is standing on level ground.
- d) Connect the mains supply hose to the water inlet coupling. Confirm that the water supply has sufficient capacity to keep the COMMANDO 1030 supplied continuously with 40 litres/min at a positive pressure.
- e) Connect the by-pass return hose to its connection point and place the end of it in a suitable receiving vessel.

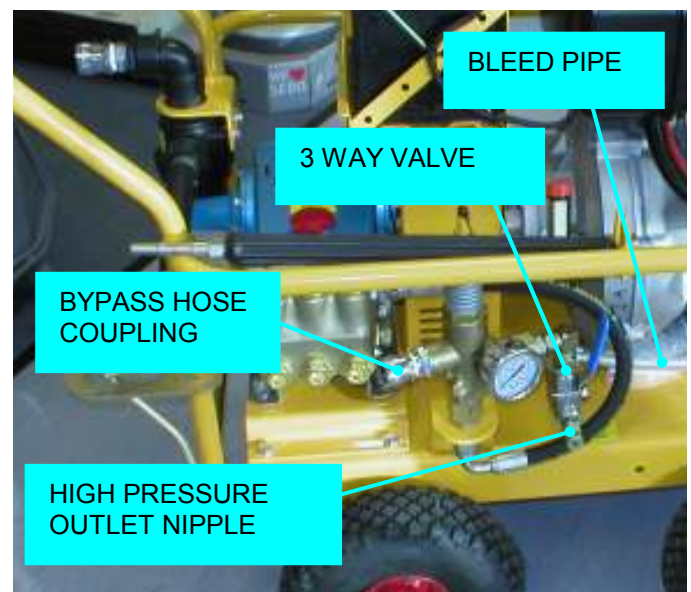
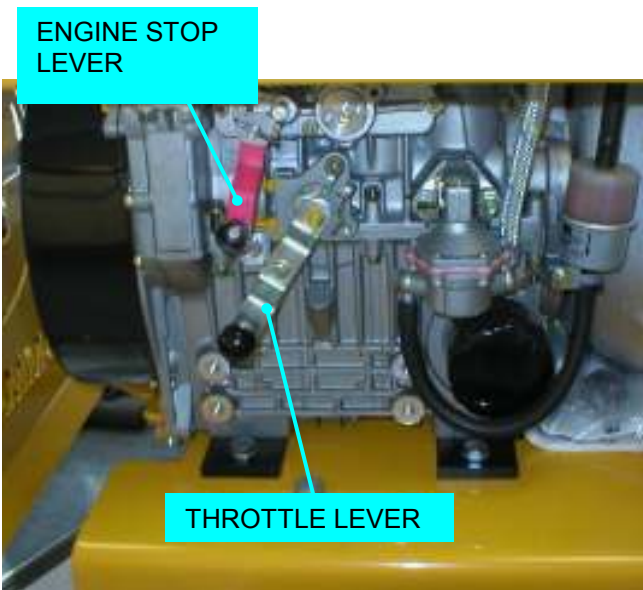


- e) Connect the high pressure hose to the outlet coupling and ensure that it is fitted with a spray gun and lance before turning on the mains water and starting the machine.
- f) When the machine is to be operated on suction connect the inlet suction hose and foot strainer to the inlet quick coupling and line strainer on the machine and connect

the return hose to the female quick release coupling provided on the unloader valve. Place both hoses in a clean tank of water and secure in place. Ensure that the suction hose is not flattened or crimped and that the foot strainer is at least 50mm from the bottom of the tank and not placed too close to the return hose as illustrated below.



- e) Turn the three position valve to the 'bleed' position before starting the engine.



- f) With stop control in the start position, turn the ignition key to start the unit. In cold weather conditions hold the ignition key in the heater position marked, for 15 to 20 seconds prior to turning to start the machine. (Refer to the Hatz Engine instruction manual). Run the engine at approximately $\frac{1}{3}$ rd of full speed up to bleed air out of the system.



- g) When air free water is issuing from the bleed hose turn the three-way valve to the high-pressure position.
- h) Now operate the wash gun to bleed air out of the hose until air free water is issuing from the lance.
- i) Increase the engine speed to the desired working level, using the hand throttle lever at the side of unit. Use of the throttle will directly affect output water volume and pressure.

DURING WORK:

- a) **Do not leave the COMMANDO 1030 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, this 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 1000 decrease engine revs to idle speed, turn the starter key to the OFF position. Move the engine stop lever to the STOP position and hold it there till the engine ceases to run.

REGULAR MAINTENANCE**CHECK LIST**

		Daily	Weekly	250 hrs.	500 hrs.	1000 hrs.
ENGINE:						
	Oil level	*				
	Air Cleaner oil bath	*		*		
	Fan belt	*				
	Oil Change			*		
	Oil filter change			*		
	Check & adjust valve clearances			*		
	Battery level		*			
	Clean Air Duct			*		
	Check Battery Terminals			*		
	Check tightness of all screws			*		
	Renew fuel filter				*	
	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			*		

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

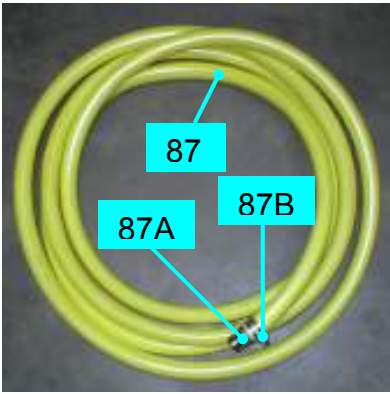
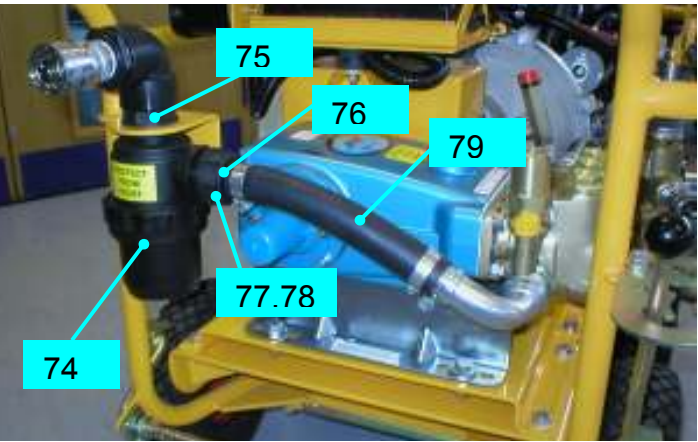
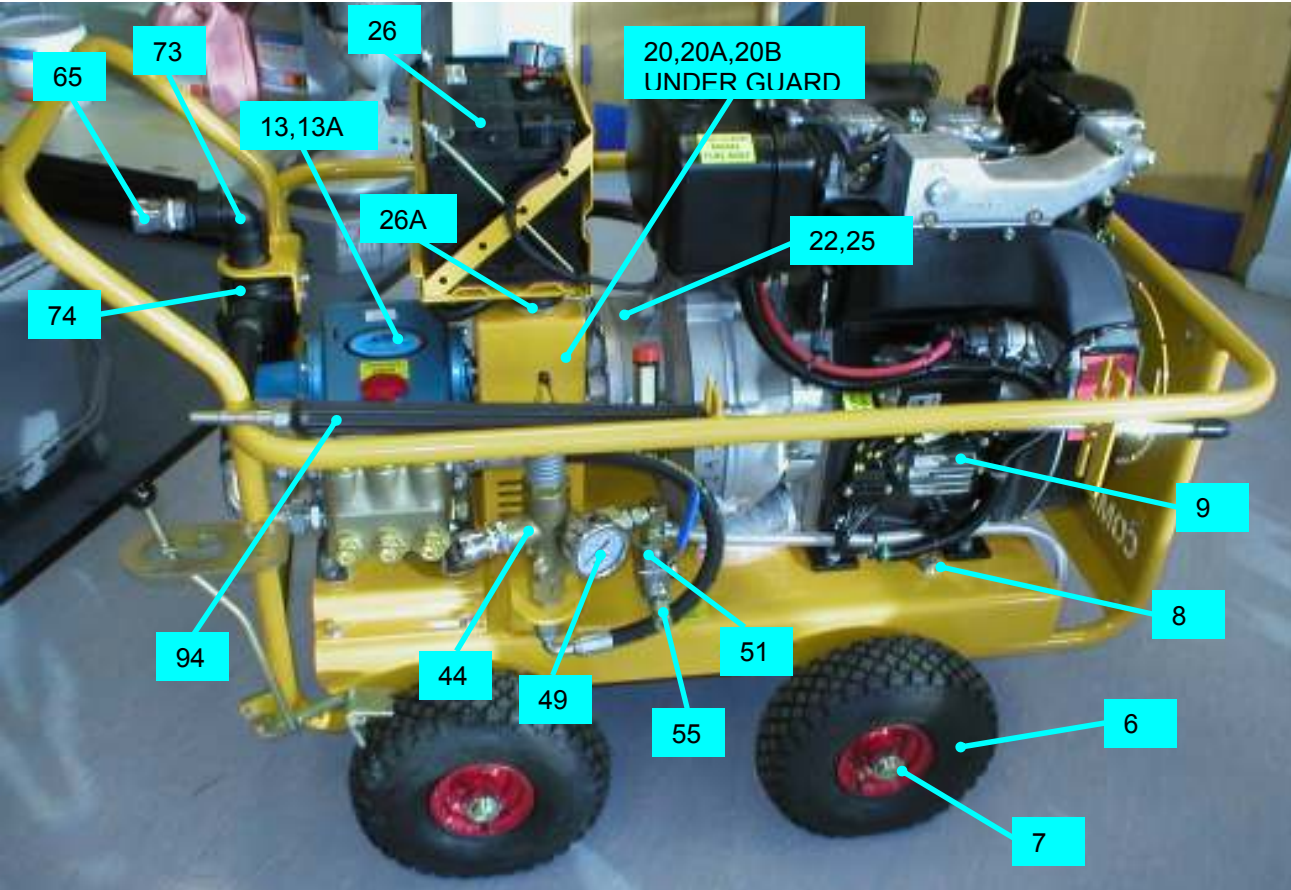
It is essential to protect the unit from damage by frost. The following instructions will be adequate to protect the unit to temperatures down to - 5°C. During winter months it is strongly recommended to store the unit inside whenever possible.

- 1) Run engine for **one minute** with open ended hoses or gun open to expel all water and stop the engine.
- 2) Remove cap from inlet strainer and store safely together with its filter screen.
- 3) 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, hose and gun. The antifreeze mixture can be reclaimed after use for recycling when next required.
- 4) 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. Always ensure that all anti-freeze solutions are flushed out of the system before using the unit 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
6	PNEUMATIC TYRED WHEEL	4	HCOB/154
7	LOCKING COLLAR	4	HCD070139
8	ANTI VIBRATION MOUNTS	6	HCOB/023
9	ENGINE HATZ 2G40	1	HC01400
13	PUMP CAT 650	1	CP650PUMP
13A	PUMP MOUNTING RAILS	1	CP030613
20	FLANGE F70H	2	HC22002
20A	TAPERLOCK BUSH 1610/30 - GEARBOX	1	HC22003
20B	TAPERLOCK BUSH 1610/30 – PUMP	1	HC22003
22	GEARBOX 2.5:1	1	HC06055
25	ENGINE FLYWHEEL ADAPTOR PLATE	1	HC01420
26	BATTERY	1	HCOB/060
26A	FLEXIBLE MOUNT	1	LP32920890
37	ST230 - SAFETY RELIEF VALVE	1	GS53040
44	UNLOADER - SPECK UL262	1	SP00817
49	PRESSURE GAUGE 0-400 BAR	1	GS54840
51	BALL VALVE 1/2" BSP 3 WAY 06000PSI	1	HC02303
55	COUPLING MALE H.P.	1	KW1600493
65	3/4" FEMALE COUPLING - INLET	1	KW1602945
73	1 1/4" BSP ELBOW	1	DP9901EL12590
74	SUCTION FILTER 1 1/4"	1	DP8074005
75	1 1/4" BACK NUT	1	DP8042301
76	25mm BARB – 1 1/4" FLY NUT, HOSE TAIL	1	DP8002301
77	1 1/4" FLY NUT	1	DP8040301
78	1 1/4" FLY NUT GASKET	1	DPG00001022
79	1" HOSE – NOVOLINE	0.3M	2302009
87	RETURN HOSE 3/4" TRICOFLEX	3M	2302002
87A	3/4" HOSE NIPPLE WITH HOSE TAIL	1	KW1600659
87B	22mm CLIP	1	HC81204
87C	INLET COUPLING	1	HCQC050
87D	NIPPLE HOSETAIL	1	HCQC053
90	1" NOVOLINE	4.5M	2302009
90A	1" HOSE NIPPLE WITH HOSE TAIL	1	02ST/NT7360
90B	3/4" – 1" ST35 FOOT FILTER	1	GSST35A
90C	35mm HOSE CLIP	2	HC81207
94	LANCE DOUBLE	1	GSST54
95	SPRAY GUN Q/R SWIVEL ST1500	1	GSST1500SQR
96	JET 1506 1/4MEG	1	02XX1506/MEG
103	AUDIBLE BUZZER	1	HC21738
104	HOUR METER 12v	1	HCOB/010



MANUFACTURE'S LITERATURE

CAT 650 PUMP

[Catalogue info](#)
[Service manual](#)

MANUFACTURE'S LITERATURE

SPECK UL262 UNLOADER

[Data sheet](#)

MANUFACTURE'S LITERATURE

HATZ 2G40 ENGINE

[Operator manual](#)