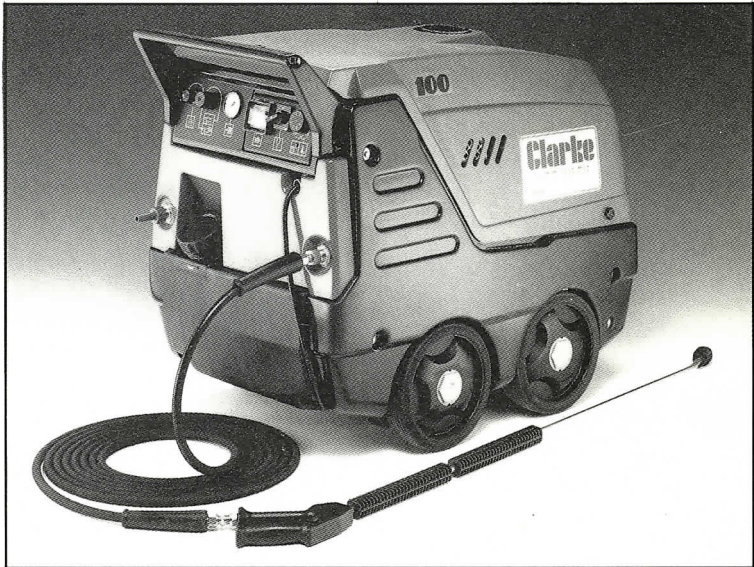


ClarkeTM

HOT WASH

OPERATING INSTRUCTIONS HLS 100F AND HLS 150F HOT WASHER



GUARANTEE

This CLARKE product is guaranteed against faults in manufacture for 12 months from purchase date. Keep your receipt as proof of purchase.

This guarantee is invalid if the product is found to have been abused in any way, or not used for the purpose for which it was intended.

Where possible return faulty goods to the place of purchase. No products can be returned to us without our prior permission. The reason for return must be clearly stated.

This guarantee does not affect your statutory rights.

Contents

	Page
Instructions	
Safety Precautions	3
Electrical Connection	4
Extension Cables	4
Assembly & Preparation for use	5
Operation	6
Cold Wash Operation	6
Hot Wash Operation	7
Shutting Down the Machine	8
Notes on Operation & Storage	8
Maintenance	8
Servicing & Spares	9
Technical Specifications	9
Trouble Shooting	10
Clarke Power Washers	11

Diagrams

Diagram 1 - Lance & Hose	5
Diagram 2 - Machine with cover removed	6
Diagram 3 - Control Panel	7

HLS 100F OPERATING & MAINTENANCE INSTRUCTIONS

Congratulations on the purchase of your new Clarke Hot Washer.

Before attempting to operate the machine please read this instruction manual thoroughly and follow all directions carefully. By doing so you will ensure safe operations of the unit, and look forward to long and troublefree service from your Clarke Hot Washer.

Before proceeding with assembly of your new Clarke Hot Washer, check that all the parts listed below are included.

- 1 HLS 100F or HLS 150F Hot Washer
(with fitted electric cable)
- 1 Lance handle
- 1 Lance stem
- 1 Rubber lance nozzle shroud
- 1 Lance nozzle adaptor nut
- 1 Lance nozzle
- 1 High pressure hose
- 1 Water inlet connection

SAFETY PRECAUTIONS - IMPORTANT

Before using your Hot Washer it is your own interest to read and pay attention to the following safety rules.

- 1) Never direct the spray jet at any person or animal.
- 2) Never hold a finger over the high pressure nozzle.
- 3) Never direct the spray jet at the machine itself or any other electrical equipment.
- 4) Avoid contact with non-insulated areas of the washer and lance as they can become extremely hot during use and can cause severe burns.
- 5) Wear eye protection and gloves at all times when operating equipment.
- 6) After use release the pressure in the high pressure hose by operating the Lance trigger.
- 7) Make sure all switches are in the OFF position before plugging-in and unplugging machine.
- 8) Always unplug the machine when not in use and disconnect from water supply.
- 9) Never operate the machine with any of the electrical covers removed.
- 10) Do not attempt any electrical or mechanical repair. If you have a problem with your machine contact your local dealer or Clarke Customer Service Division, Tel. 071 - 254 6421.
- 11) Do not allow machine to be run unattended.
- 12) Do not run machine indoors, or in enclosed areas, without adequate ventilation, or in areas where flammable vapours (gasoline, solvents etc.) may be present.
- 13) Do not store flammable liquids (gasoline, diesel fuel etc.) near pressure washer or in non-ventilated areas.
- 14) Never supply any liquid other than water to the water inlet.
- 15) Use only chemical cleaning agents (detergents) approved for power washing when using the chemical injection facility.
- 16) Never use the chemical injection facility to introduce solvents eg. paint thinners, petrol, oil etc.

- 17) Do not attempt to disconnect any hose or coupling with pressure still in the hose.
- 18) Do not operate the machine whilst standing on Ladders: use a platform tower or scaffolding.

ELECTRICAL CONNECTION - HLS 100F

Connect the mains lead to a suitably fused 240 volt electrical supply through a good quality fused 3-pin plug, or a suitably fused isolator switch.

Important

The wires in the mains lead of this machine are coloured in accordance with the following code:

Green and Yellow	- Earth
Blue	- Neutral
Brown	- Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The earth wire which is coloured green and yellow must be connect to the terminal in the plug which is marked with the letter E or by the earth symbol (\perp) or coloured green or green-and-yellow.

The neutral wire which is coloured blue must be connected to the terminal in the plug which is marked with the letter N or coloured black.

The live wire which is coloured brown must be connected to the terminal in the plug which is marked with the letter L or coloured red.

WARNING. This appliance must be earthed.

We recommend that this machine is connected to the mains supply via a Residual Current Circuit Breaker (Earth Leakage Protection Device).

IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN. DO NOT ATTEMPT ANY ELECTRICAL REPAIRS YOURSELF.

ELECTRICAL CONNECTION - HLS 150F

Connect the mains lead to a suitably fused 415 volt, 3 phase electrical supply. Contact a competent qualified electrician to complete the electrical installation.

We recommend that this machine is connected to the mains supply via a Residual Current Circuit Breaker (Earth Leakage Protection Device).

IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN. DO NOT ATTEMPT ANY ELECTRICAL REPAIRS YOURSELF.

EXTENSION CABLES

If an extension cable is used always ensure it is fully unwound.

Ensure that the extension cable is rated for the voltage and amperage rating of the machine.

ASSEMBLY AND PREPARATION FOR USE

(Refer to Diagrams 1,2 and 3)

- 1) Assemble Lance. Screw Lance Handle (a) to Lance Stem (b). Push Rubber Nozzle Shroud (c) over threaded end of Lance Stem (b) and then screw

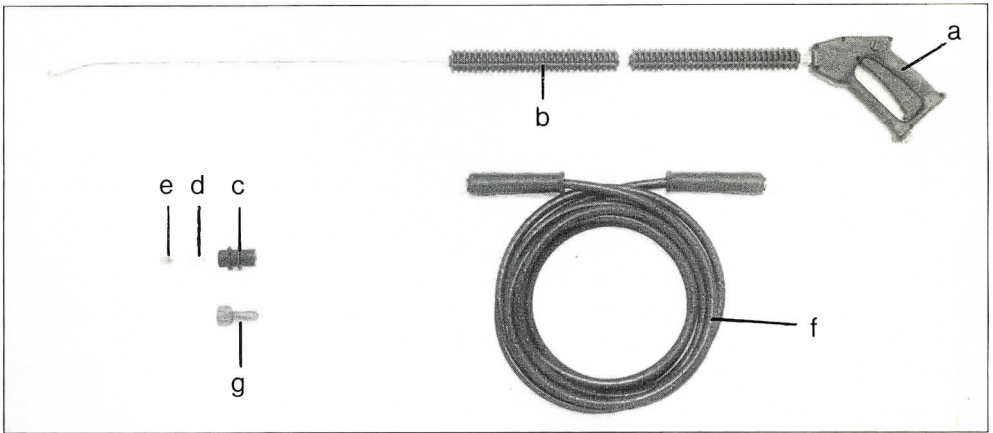
on Nozzle Adaptor Nut (d). Finally screw nozzle (e) into Nozzle Adaptor Nut (d).

NOTE: We recommend the use of a proprietary thread sealer to ensure all joints are water tight.

- 2) Screw one end of High Pressure Hose (f) to the threaded end of Lance Handle (a). Screw the other end of High Pressure Hose (f) to the machine outlet (v).
- 3) Connect your water supply hose (not supplied) to the Water Inlet Connection (g) using a suitable worm drive clip (not supplied). Connect Water Inlet Connection (g) to machine Inlet (s).

NOTE: Ensure water supply is of adequate volume and hose is of sufficient bore.

DIAGRAM 1



- 4) Fill Diesel Fuel Tank. Unscrew Diesel Filler Cap (t) and fill tank with diesel fuel (or paraffin).
NOTE: DO NOT USE PETROL.
- 5) If you intend to use the detergent injection facility fill the Detergent Tank. Unscrew Detergent Filler Cap (h) located at the front of the machine and fill tank with detergent.

NOTE: If filler Cap (h) is not visible at front of machine, remove the blue machine cover by unscrewing the 3 retaining screws. The Detergent Filler Cap (h) will be located immediately behind the blue casing at the front of the machine.

WARNING: Use only chemicals (detergents) designed for use with power washers. We recommend the use of Clarke Traffic Film Remover, which is a powerful low-foaming surfactant, for vehicle cleaning as well as other general cleaning tasks.

- 6) Before use check the oil level in the pump crankcase. This should be filled to the centre of the sight glass located at the rear of the pump. Top up if necessary using SAE 20W 50 oil.

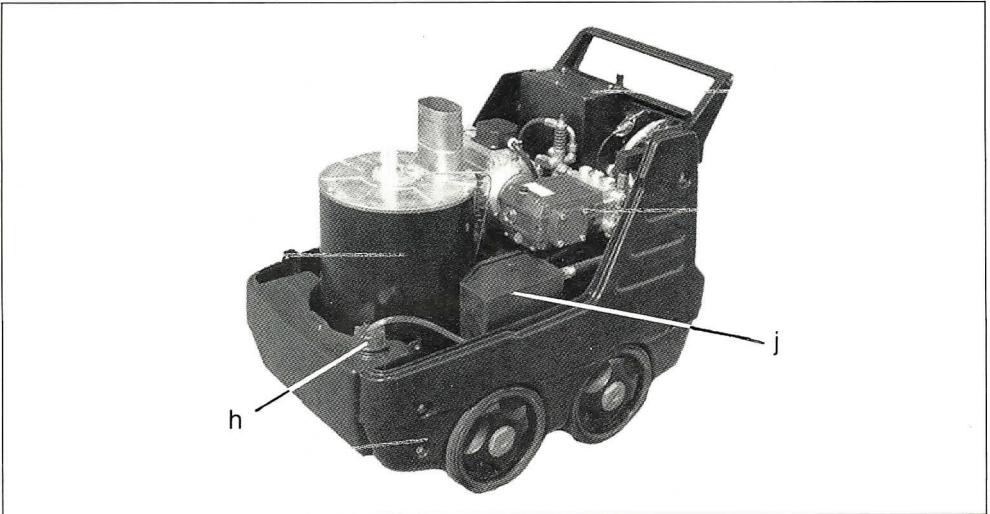
After the first 50 hours of operation change the oil. Always use a good quality SAE 20W 50 oil.

Thereafter replace the oil every 3 months or 300 hours use, whichever comes first.

NOTE: Do not mix different grades of oil as this may affect the machine's performance.

- 7) Check water supply to machine. Remove the blue machine cover by unscrewing the 3 retaining screws. Turn on water supply. Remove Lid (j) from the machine water tank and check that the tank has filled. Replace Lid (j) and replace blue machine cover using the 3 retaining screws to secure.

DIAGRAM 2



OPERATION

Your hot washer is now ready for operation. Before proceeding refer to diagram 3 and familiarise yourself with the machine controls as follows:-

- k) Detergent Control
 - l) Steam Control
 - m) Water Pressure Gauge
 - n) Starter
 - p) Ignition Switch (hot/cold control)
 - r) Temperature Control
- 1) Check that all switches on the machine are in the OFF position.
 - 2) Turn On the water supply
 - 3) Connect the mains lead (u) to the mains supply and switch on the power supply.

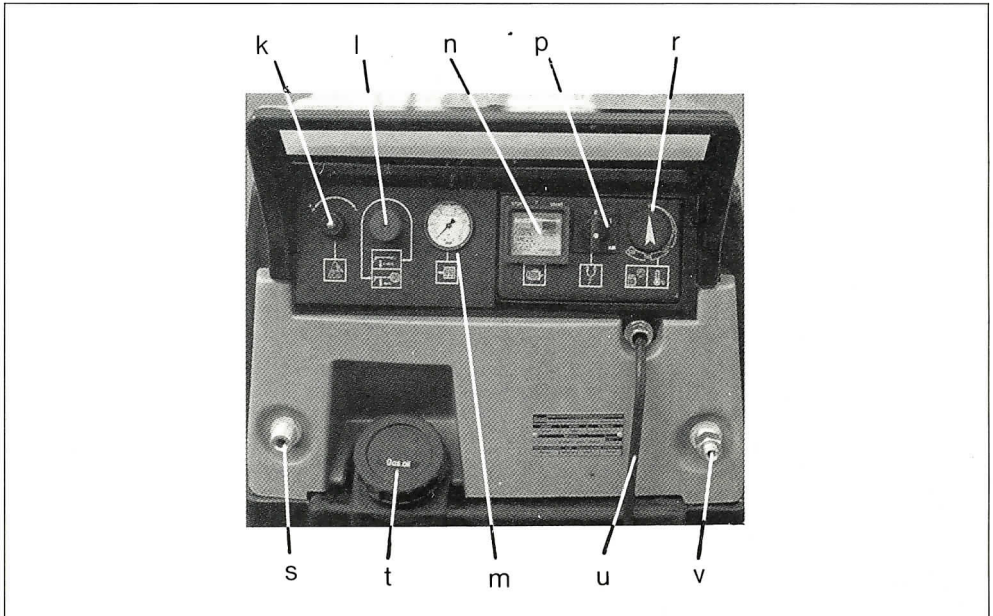
COLD WASH OPERATION

- 1) Turn Detergent Control (k) fully clockwise.

- 2) Turn Steam Control (l) fully clockwise.
- 3) Ensure Ignition Switch (p) is in the OFF (o) position. Ensure Temperature Control (r) is turned fully anti-clockwise.
- 4) Press Starter Button (n).
- 5) Operate trigger on Lance for high pressure jet.
- 6) If detergent is required turn the Detergent Control (k) anti-clockwise for desired amount of detergent.

NOTE: As the detergent is introduced before the pump allow a short period in operation to allow the detergent to work its way through the system.

DIAGRAM 3



HOT WASH-OPERATION

- 1) Turn Detergent Control (k) fully clockwise.
- 2) Turn Steam Control (l) fully clockwise.
- 3) Ensure Ignition Switch (p) is in the OFF (o) position.
- 4) Select Temperature required on the Temperature Control (r). Ensure low fuel warning light on Temperature Control (r) is off.
- 5) Press Starter Button (n).
- 6) Switch Ignition Switch (p) to the ON (i) position.
- 7) Operate trigger on lance for high pressure hot water jet.
- 8) To increase or decrease temperature adjust the Temperature Control (r).
- 9) If detergent is required turn the Detergent Control (k) anti-clockwise for desired amount of detergent.
- 10) If steam is required turn Temperature Control (r) fully clockwise and turn Steam Control (l) fully anti-clockwise.

Shutting Down the Machine

- 1) Turn Steam Control (l) fully clockwise.
- 2) Turn Ignition Switch (p) to the OFF (o) position.
- 3) Operate trigger on lance until machine runs cold and all detergent is expelled.
- 4) Press red Stop Button (next to Starter Button) (n).
- 5) Disconnect Electrical supply.
- 6) Turn off and disconnect water supply
- 7) Operate trigger on lance to remove pressure from the high pressure hose.

NOTES ON OPERATION AND STORAGE

- 1) The machine should always be located on a firm level surface where it is not exposed to extreme conditions such as strong wind, freezing or rain.
- 2) It is recommended that where possible a partition be erected between the wash area and the machine to prevent accidental spraying of the machine. Moisture entering the washer may cause serious damage.
- 3) Do not operate the machine indoors, or in enclosed areas, without adequate ventilation, or in areas where flammable vapours (gasoline, solvents etc.) may be present.
If the equipment is to be used in an enclosed area the burner exhaust **MUST BE** vented to the outside atmosphere. The use of a draft regulator is recommended. All venting must be in accordance with applicable laws and local ordinances for such installations.
- 4) In cold weather or when the machine is to be put into storage you must take precautions against freezing and rusting as follows:-
 - I) Switch machine on briefly to expel any water.
CAUTION - DO NOT RUN DRY.
 - II) Remove the blue cover and remove Lid (j) from the water tank.
 - III) Fill tank with anti-freeze.
 - IV) Turn Steam Control (l) fully anti-clockwise.
 - V) Press Starter Button (n).
 - VI) Operate trigger on lance until anti-freeze reaches nozzle.
 - VII) Press red Stop Button.
 - VIII) Operate trigger to release pressure from high pressure hose.
 - IX) Replace Lid (j), fit blue cover and store machine.

MAINTENANCE

- 1) Before use check the oil level in the pump crankcase. This should be filled to the centre of the sight glass located at the rear of the pump. Top up if necessary using SAE 20W 50 oil.
After the first 50 hours of operation change the oil. Always use a good quality SAE 20W 50 oil.
Thereafter replace the oil every 3 months or 300 hours use, whichever comes first.
NOTE: Do not mix different grades of oil as this may affect the machine's performance.
- 2) It is recommended that the oil burner be serviced yearly or as needed. Contact your local dealer or telephone the Clarke International Service Division on 071 - 254 6421

- 3) Periodically check the heating coil for build-up of scale (this will depend upon the hardness / softness of local water supply). When de-scaling is required use a large water tank as your water supply and add 2 Kg of de-scaler.
Set the machine up to operate at 40°C, remove the nozzle (e) from the lance and place the lance end in the water tank.
Operate for approximately 40 minutes.
Remove the lance and flush the machine with clean water for a few minutes.
Clean your water tank after de-scaling.
- 4) Poor grades of fuel oil or inadequate combustion air will cause heavy build-up of soot on the outside surface of the heating coil. This deposit will insulate the coil and reduce efficiency. It will also restrict air flow through the coil, further aggravating the soot build-up. Contact your local dealer or the Clarke International Service Division (Tel: 071 - 254 6421) when de-sooting is required.
- 5) When using chemical detergents with the machine always flush the system with clean water after use.
- 6) Periodically check and clean the filter on the chemical input hose.

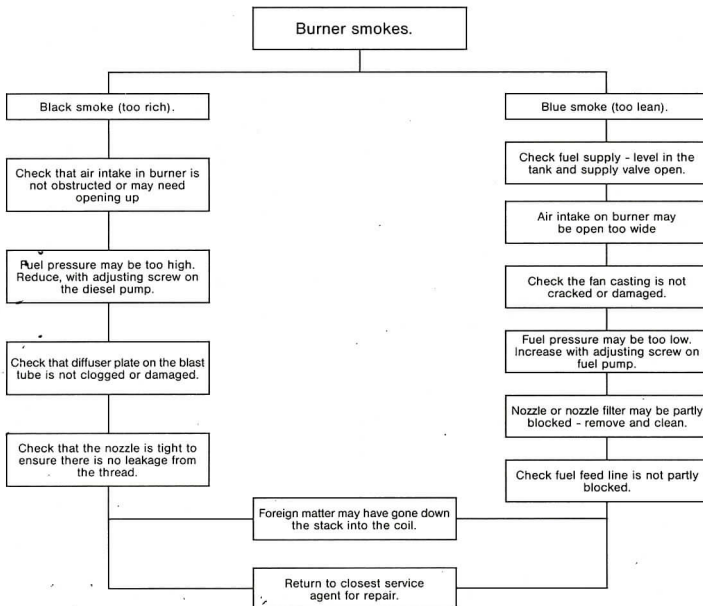
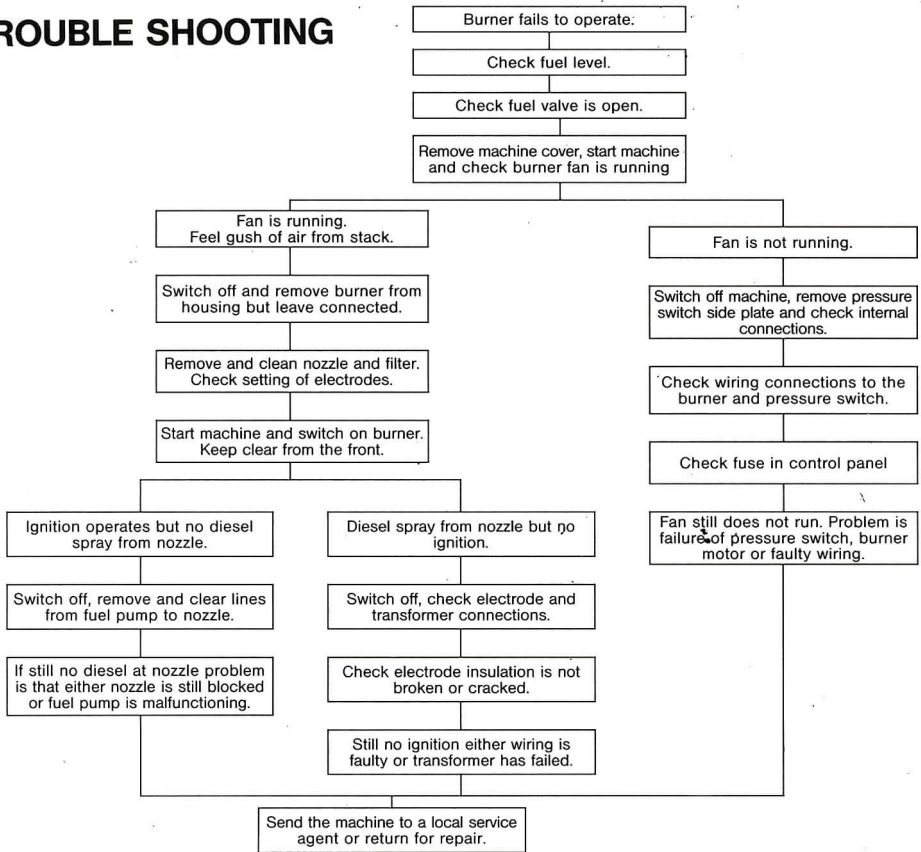
SERVICING & SPARES

Your Clarke Hot Washer has been designed to give you long and troublefree service. If however, having followed the instruction in this booklet carefully, you have a problem which cannot be resolved by referring to the trouble shooting chart on page 10 or if you require spare parts or servicing, contact your local dealer, Clarke Customer Service Division, Tel. 071 - 254 6421 or Clarke Spares Division, Tel. 071 - 254 3860.

TECHNICAL SPECIFICATIONS

Model	Maximum Pressure psi	HP	Volts/Phase	Litres/min	Fuel	Part No.
HLS100F	1500	3.0	240/1	11	Diesel/paraffin	7320156
HLS150F	2200	5.5	415/3	15	Diesel/paraffin	7320157

TROUBLE SHOOTING



CLARKE POWER WASHERS

Other Power Washers in the Clarke range include the following:-

- 1) Lightweight, portable, electrically driven machines up to 2HP, 1500 psi. max. pressure
- 2) Electrically driven heavy duty machines up to 5.5HP, 2,200 psi max. pressure.
- 3) Petrol driven machines up to 8HP, 2,200 psi max. pressure.
- 4) Diesel driven 6HP, 2,200 max. pressure machines.

All the above machines are supplied with high pressure hose, lance, detergent injection facility and suction filter.



Clarke[™]

POWER PRODUCTS

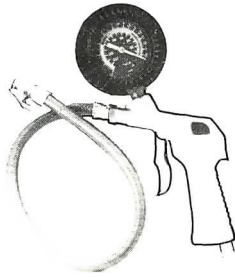
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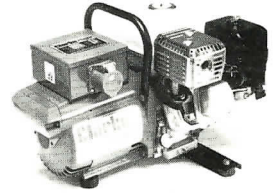
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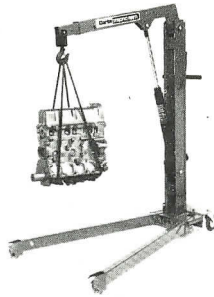
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Tyre gauges, paraffin guns
Blow guns, and much more



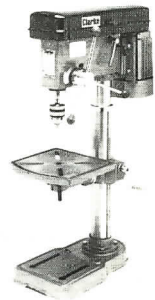
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Battery booster engine
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