

W J Horrod Ltd

Operating Instructions

Safe Use of Thermoplastic Road Lining Pre-Heaters

December 2020

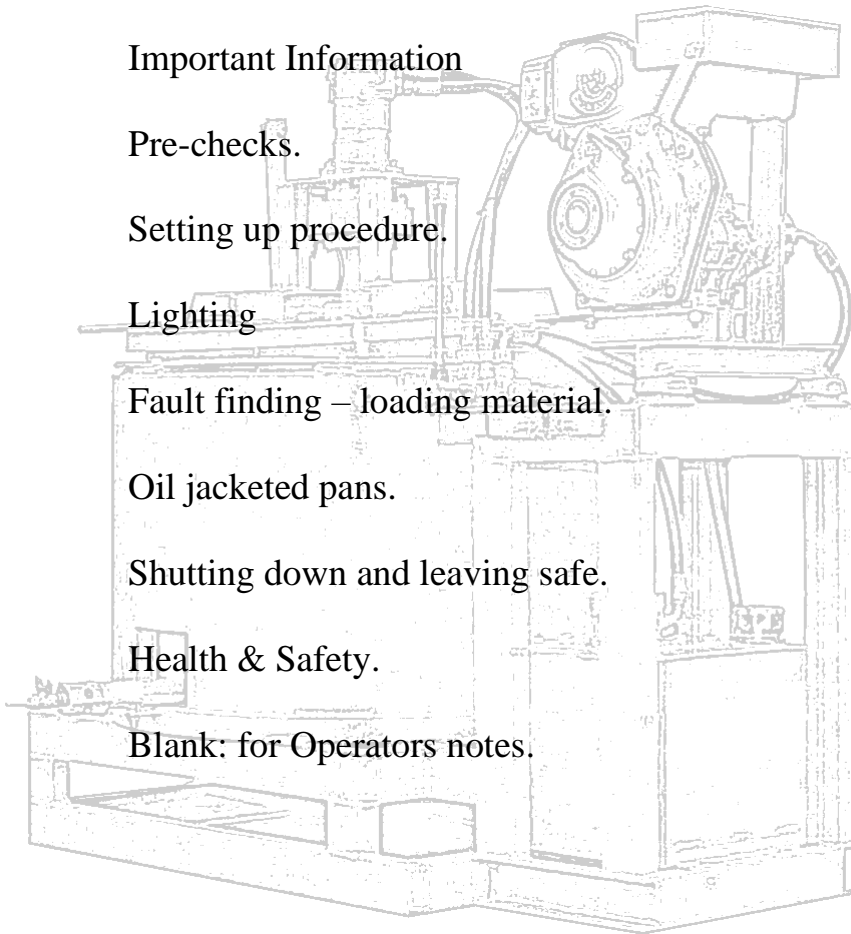
**Telephone (Office)
020 8 539 8746**

**Terry
0794 7876203**

1 Leaway Leyton London E10 7QW

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Introduction

Thank you for choosing to purchase a new W.J. Horrod Ltd Thermoplastic preheater. All our products are made to a very high and recognised engineering standard and if used correctly by a trained certificated operative to our operational and maintenance instructions, will give a good and long-lasting service.

Operatives must always read manufacturers user instructions before attempting to operate the machine.

No attempt must be made to carry out any repairs/maintenance whilst equipment is in operation. Safe working practise is a legal requirement and must always be adhered to.

Protective clothing should always be worn when operating equipment.

Faulty equipment should be immediately shut down and reported directly to the person in charge and not used again till the fault has been rectified.

PLEASE NOTE

This unit was manufactured for use with thermoplastic products only. Use with any other materials goes against the intended use.

If you intend to use this unit for any other kind of material you do outside our recommended and intended use of the unit, and do so at your own risk.

Important Information

- 1] Important – **never** attempt to operate equipment before carefully reading the following instructions, and having been shown to do so by a qualified person.
- 2] **IMPORTANT** never leave lids open when the paddles are engaged.
- 3] **Never** carry out any repairs or servicing before equipment is shut down with the engine stopped, gas turned off at the cylinders, and equipment allowed to go cold.
- 4] When faults are discovered the machine should be shut down as above (paragraph 3), the problem should then be reported to the person directly responsible. The machine should, on no account, be used again till all faults have been corrected.
- 5] **Never** operate machine with any safety guards or covers removed.
- 6] Always check oil levels on engine when machine is cold before starting work. **Never** attempt to fill oil level while engine is running.
- 7] Carry out all lubrications and servicing checks **before** equipment is started using the correct lubrications.
- 8] Equipment should never under any circumstances be left unattended when in use.
- 9] Key & toggle switch must be in the off position to avoid flattening the battery.
- 10] Material outlet tap is in the closed position.

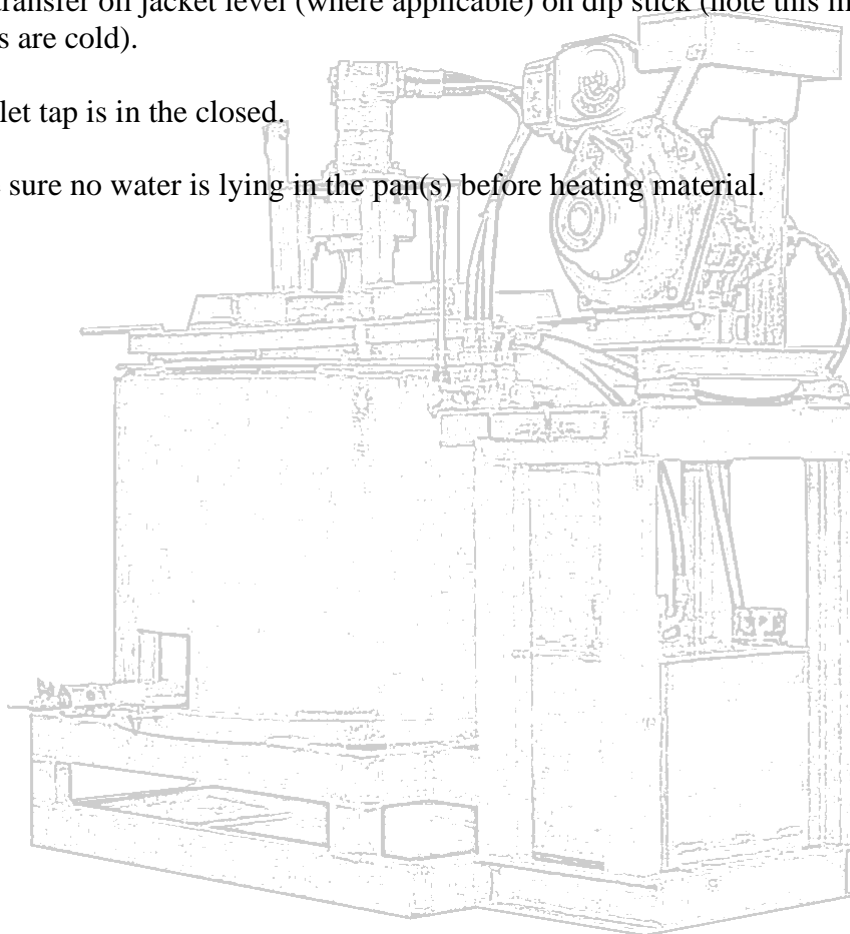
11] **Thermostat Control:**

We are often asked that if a machine is fitted with thermostat control either into the oil or the material is it safe to leave it unattended – the answer is NO, thermostats are fitted to control material or oil temperature like any other thermostat they can go wrong from time to time and must therefore NEVER be totally relied upon. It also breaches Health & Safety at work guidelines and can lead to an accident.

Pre-Checks:

Before using the equipment, please check the following;

- 1] Material pans are clean and stirrer paddles are free from obstruction.
- 2] Engine fuel and oil levels are checked and engine will start.
- 3] Check heat transfer oil jacket level (where applicable) on dip stick (note this must only be carried out when heaters are cold).
- 4] Material outlet tap is in the closed.
- 5] Please make sure no water is lying in the pan(s) before heating material.



Setting Up Procedure :

The pre-heaters should be fitted to the vehicle/trailer in the most suitable position bearing in mind the gross weight of pre-heater must never exceed the vehicle/trailer manufacturers gross axle weight. Units must be fitted securely making sure that if vehicle/trailer floor is not flat the suitable packing is used to support base frame of units to avoid distortion.

Always remember propane is a liquid and if the cylinders are laid down (horizontal) to be moved, they should always be placed upright for at least 30 minutes to allow liquid to settle before connection or cylinder is opened.

Propane cylinders should be sited as far from units as possible within a purpose made cylinder carrier, propane hose from cylinders to pre-heaters should always be run in a trucking or where suitable beneath the floor to avoid damage to pipes or operatives trip hazard.

Connecting the propane regulators and manifold to the gas cylinders checking the POL nut and stem are clean using the correct size bottle spanner or an adjustable spanner, never use pipe grips. Always read the manufacturer's instructions to make sure the regulator is suitable for the appliance as the wrong one may seriously damage the thermostat control unit.



IMPORTANT

Check all gas carrying joints for leaks using a leak detector spray – NEVER CHECK FOR LEAKS WITH A NAKED FLAME.

Make sure material is above thermostat sensor tube to avoid material being overheated.

Lighting :

- 1] Make sure all taps on burner unit are in the off position (horizontally across the tap is off – in line with the tap vertically is on).
- 2] Connect Auto Torch – if fitted.
- 3] Before opening gas cylinders make sure regulator pressure knob is completely slackened off by turning anti-clockwise. Turn on the gas cylinders and check for leaks. Adjust regulator by turning knob clockwise till you feel resistance

IMPORTANT – Never check for leaks with a naked flame – use a leak detector spray

1] ELECTRIC THERMOSTAT CONTROL:

Turn on and light the auto-torch (if fitted), depress flame failure button and light the pilot burner using the auto-torch. Keep button depressed for approximately 15 seconds. After the pilot flame has been established turn off the auto-torch, switch on the main burner(s) via the toggle switch and slowly open the ball valve(s). After the main burner(s) has been established leak test all remaining gas joints using leak detector solution. The regulator can now be adjusted to the required pressure. **NOTE: burner(s) should not be operated above 1 bar (15 PSI).**

Set thermostat to required temperature.



Fault Finding:

Should the pilot fail to stay lit when the flame failure button is released check the following;

- 1] **There is a strong flame on the pilot burner (a weak flame will indicate dirt in the pilot jet) this will prevent the pilot from sufficiently heating the thermocouple.**
- 2] **Make sure the hot junction of the thermocouple electrode is correctly situated in the hottest part of the pilot flame (i.e., 6 mm from the end should be immersed in the flame).**
- 3] **Having checked 1 & 2 you may find it necessary to replace the thermocouple or clean the pilot jet.**

If in any doubt please contact the manufacturers – contact number can be found on the front of these instructions

Loading Materials:

Always wear suitable protective clothing when working with hot materials. Paddles should always be stopped when loading material to avoid accidents. Never over fill units as material will expand when heated and may overflow. Load material carefully to avoid splashing. NEVER – drain material below sensor tube while main burner is a light – this will result in material being over heated and may cause material to flash and catch fire.

Working Temperature:

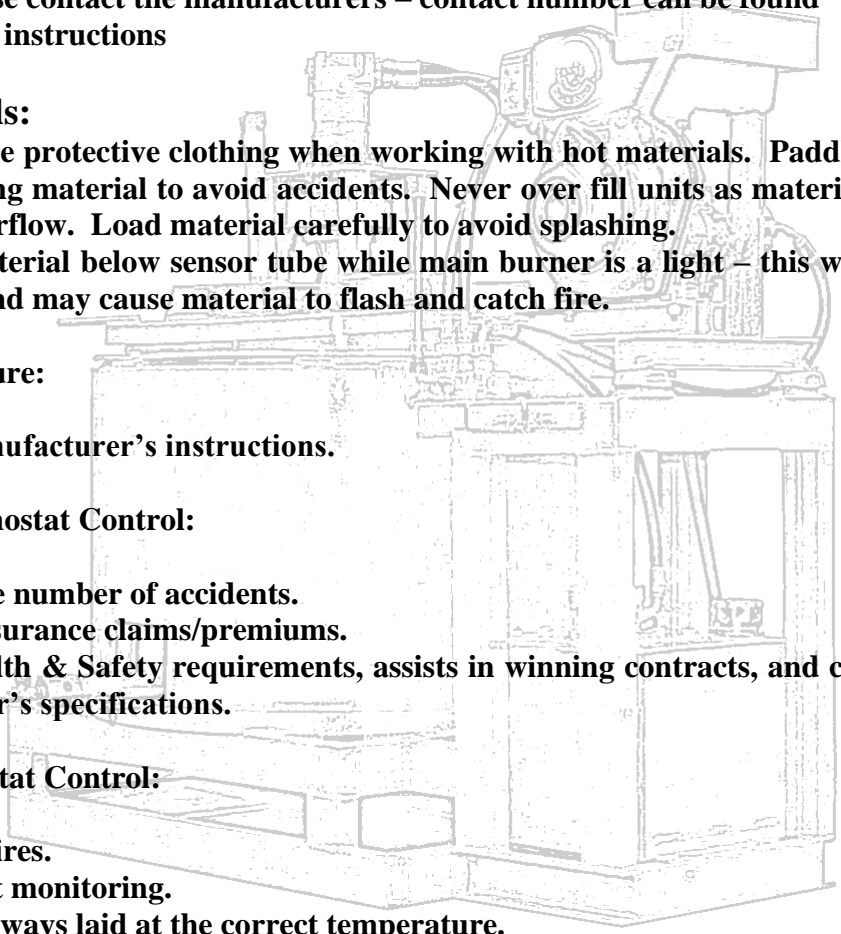
As per material manufacturer's instructions.

The Need for Thermostat Control:

- 1] **It reduces the number of accidents.**
- 2] **It reduces insurance claims/premiums.**
- 3] **It meets Health & Safety requirements, assists in winning contracts, and conforms to material manufacturer's specifications.**

Benefits of Thermostat Control:

- 1] **Less risk of fires.**
- 2] **Less constant monitoring.**
- 3] **Material is always laid at the correct temperature.**
- 4] **Material isn't degraded.**



Heating Process: - Where Applicable.

Oil Jacketed Pans:

Heat transfer oil, you will notice, will get to temperature long before the material, machines fitted with thermostat control with probe sited into oil/material jacket chamber will automatically shut down the burner which will only re-light when a drop in temperature occurs, this will always ensure that the oil/material is protected and has a longer life, this in turn will improve the efficiency in getting the material ready.

However, machines not fitted with thermostat control will have to be monitored and burners turned down when oil is up to its safe working temperature, failure to do this will result in oil being spoilt and greatly reducing efficiency in getting material ready.

Safe operating range of the oil is up to 280°C with a flash point of 315°C or greater, however, we believe it should not be taken above 260°C.

Expansion – material 9 approx. 25% - heat transfer oil – 9 approx. 30%

Agitation of Material:

We are always asked this question.

The answer is when material is becoming liquid and ready to be agitated, carefully at first in case there is any un-melted material, never force the machine if paddles are stuck, this will only result in damage to the paddles etc.

Oil Jacket Leaks: - Where Applicable:

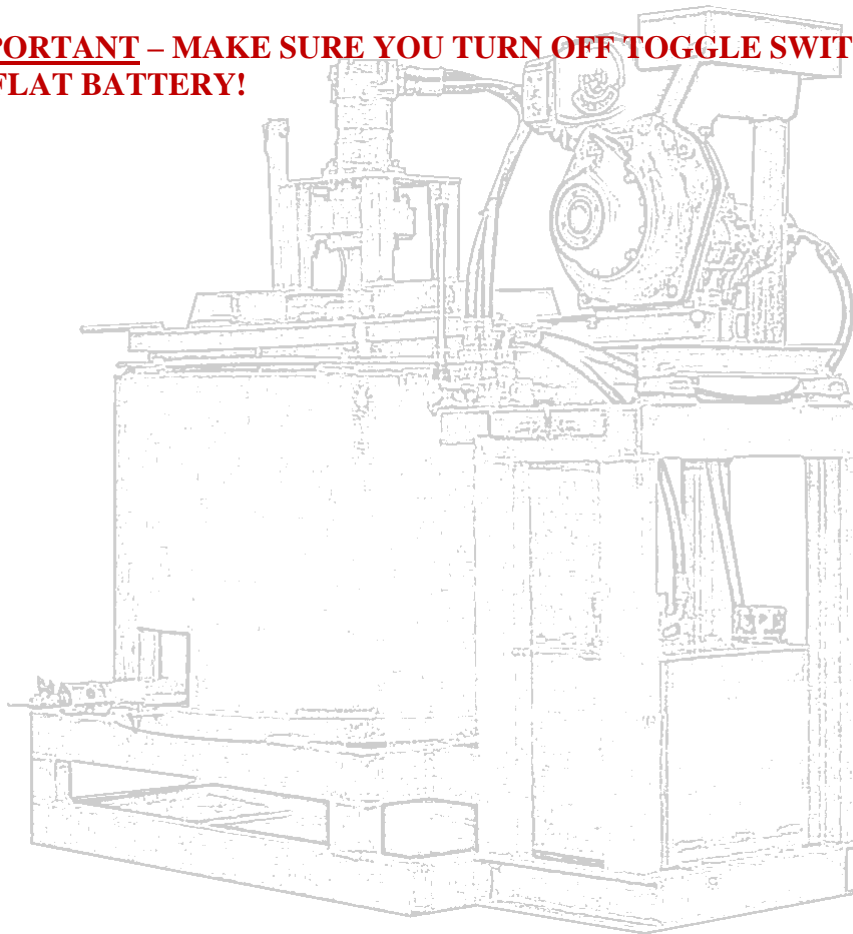
Procedure:

- A] Turn off gas supply at the cylinders.
- B] Shut off engine.
- C] Place tray beneath leak, make sure tray is dry and no water is present.
- D] Report problems ASAP to person directly responsible within the company.

Please note the above procedure applies to any fault seen to be a possible danger or breach of HSE policy.

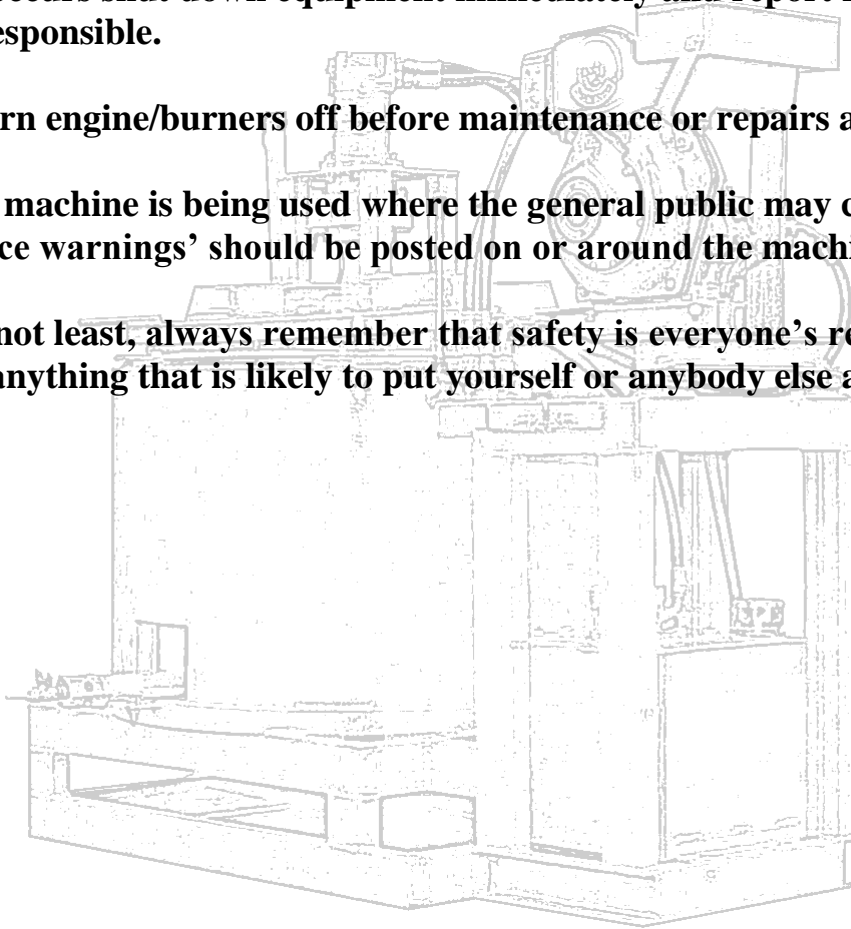
Shutting Down and Leaving Pre-Heaters Safe:

- 1] Turn off gas at the cylinders so that the burner can use up any gas left in the hose, when pilot and main burner flame have gone out close burner tap(s), slacken off pressure on propane regulator.
- 2] Close lid/lids.
- 3] Close material outlet and lock if hot material is left in.
- 4] **VERY IMPORTANT – MAKE SURE YOU TURN OFF TOGGLE SWITCH AND KEY TO AVOID A FLAT BATTERY!**



Health & Safety

- 1] **Equipment should only ever be used by a trained certificated operative.**
- 2] **Protective clothing and full-face mask should always be worn when operating or loading material.**
- 3] **Never leave equipment unattended when alight or running.**
- 4] **If a fault occurs shut down equipment immediately and report fault to the person directly responsible.**
- 5] **Always turn engine/burners off before maintenance or repairs are carried out.**
- 6] **When the machine is being used where the general public may come into contact 'hot surface warnings' should be posted on or around the machine.**
- 6] **Last, but not least, always remember that safety is everyone's responsibility, never do anything that is likely to put yourself or anybody else at risk.**



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