



MINI INFRARED ASPHALT RECYCLERS

HDE MR 75 & HDE MR 150



Version August, 2015

Heat Design Equipment Inc.

Owners Manual



Heat Design Equipment Inc.

1197 Union St

Kitchener, Ontario, Canada

N2H 6N6

Telephone: 1-519-581-0676

1-888-897-7987

Fax: 519-578-0079

www.asphalttheater.com



TABLE OF CONTENTS



SAFETY	3
MODEL: HDE MR 75T MINI RECLAIMER	4
• TECHNICAL DATA.....	4
• DIAGRAM	5
MODEL: HDE MR 150-T MINI RECLAIMER	7
• TECHNICAL DATA.....	7
• DIAGRAM	8
ELECTRICAL ASSEMBLY	10
PROPANE ASSEMBLY	12
HEATER BOX ASSEMBLY 3' IR.....	13
OPERATION.....	14
MR 75 - OPERATING TIPS.....	15
RECLAIMER HEATER ASSEMBLY	16
HEATER REPLACEMENT SAFETY	18
MR75 HEATER ASSEMBLY	19
VENTURI MAINTENANCE	21
TIPS	22
• REHEATING ASPHALT.....	22
• USE OF REJUVENATOR	22
TROUBLESHOOTING	23
SUPPORT- PROCEDURE	24
WARRANTY	25
• WARRANTY & REGISTRATION	26
NOTES.....	27



**ALWAYS READ AND UNDERSTAND THIS
OPERATORS MANUAL BEFORE OPERATING
THE HEATER OR SERVICING YOUR HEATER**

SAFETY

WARNING: DO NOT

DO NOT run hot box in an enclosed area. Exhaust gases contain carbon monoxide, an odourless and deadly poison.

DO NOT operate the heater while performing any maintenance.

DO NOT leave machine unattended while operating, unless it is in a secured area.

DO NOT park machine on a steep grade or slope.

DO NOT smoke while operating the heater.

DO NOT operate the heater near combustible material.

DO NOT place hand over heater while operating for any length of time.

DO NOT stand next to hotbox while loading asphalt.

DO NOT place any other product other than asphalt in hotbox.

DO NOT drive with unit in operation.

MODEL: HDE MR 75T MINI RECLAIMER

TECHNICAL DATA

STORAGE BIN

CAPACITY: 1/2 ton
INSULATION: 2" of insulation
INNER WALL – 1/8"
OUTER WALL – 1/8"
Shovelling platform.
Two insulated manually operated unloading doors.
Insulated loading door.
PAINT: Sand Blasted, 2 part epoxy primed and urethane paint (Safety Orange)

TRAILER SPECIFICATIONS

SUSPENSION: Single 3500lb low pro Rubber Torsion
WHEELS & TIRES: ST205/75 R15 LRC 6 ply tires
LIGHTING: Transport Canada & DOT Approved Lighting, Rubber Mounted Sealed Lights.
CHASSIS FRAME: Four-inch by two-inch by 3/16 tube frame construction & sealed weld joints.
JACK: 1000lb Marine Jack
HITCH: Adjustable hitch with 3 " Pintle eye with Gr. 70 Safety Chains with Snap Hook.
PAINT: Sandblasted, 2 part epoxy primed and urethane paint (Gloss Black)

DIMENSIONS / WEIGHT

LENGTH – 9.5'
WIDTH – 5.8"
HEIGHT – 6'
EMPTY WEIGHT – 1000lbs
GROSS WEIGHT – 1500lbs.

GAS SYSTEM

BTU OUTPUT: 75,00 BTU
REGULATORS: Marsh Bellofram
1-0-60 PSI Regulators for adjustment of heat
HEATER: 1-75,000 BTU High Intensity Infrared Heater
GAS MIXING: Venturi Type (No Blowers) with stainless steel hood to protect from wind
HEATER SURFACE: Ceramic Fibre
HEATER DIMENSIONS: LxWxH - 3' (.92m) long x 18" (450mm) wide x 7" (177mm) high

STANDARD FEATURES

Bi-Metal Thermometer tells the operator the temperature of the asphalt
Heater is easily removed for easy cleaning

CONTROL SYSTEM

Baso Safety Valve with Thermocouple for automatic shut off when no heat is present
12 Volt push button glow plug ignition

PROPANE SUPPLY

FUEL: Vapour Propane
FUEL CONSUMPTION (VAPOUR PROPANE): 1 Pound of Propane per square foot of heater
Secure propane storage for one- 30lb horizontal vapour LPG cylinder with nylon strap locking system to ensure tank security when in transport
Provides enough fuel to operate recycler for 10 hours

DIAGRAM

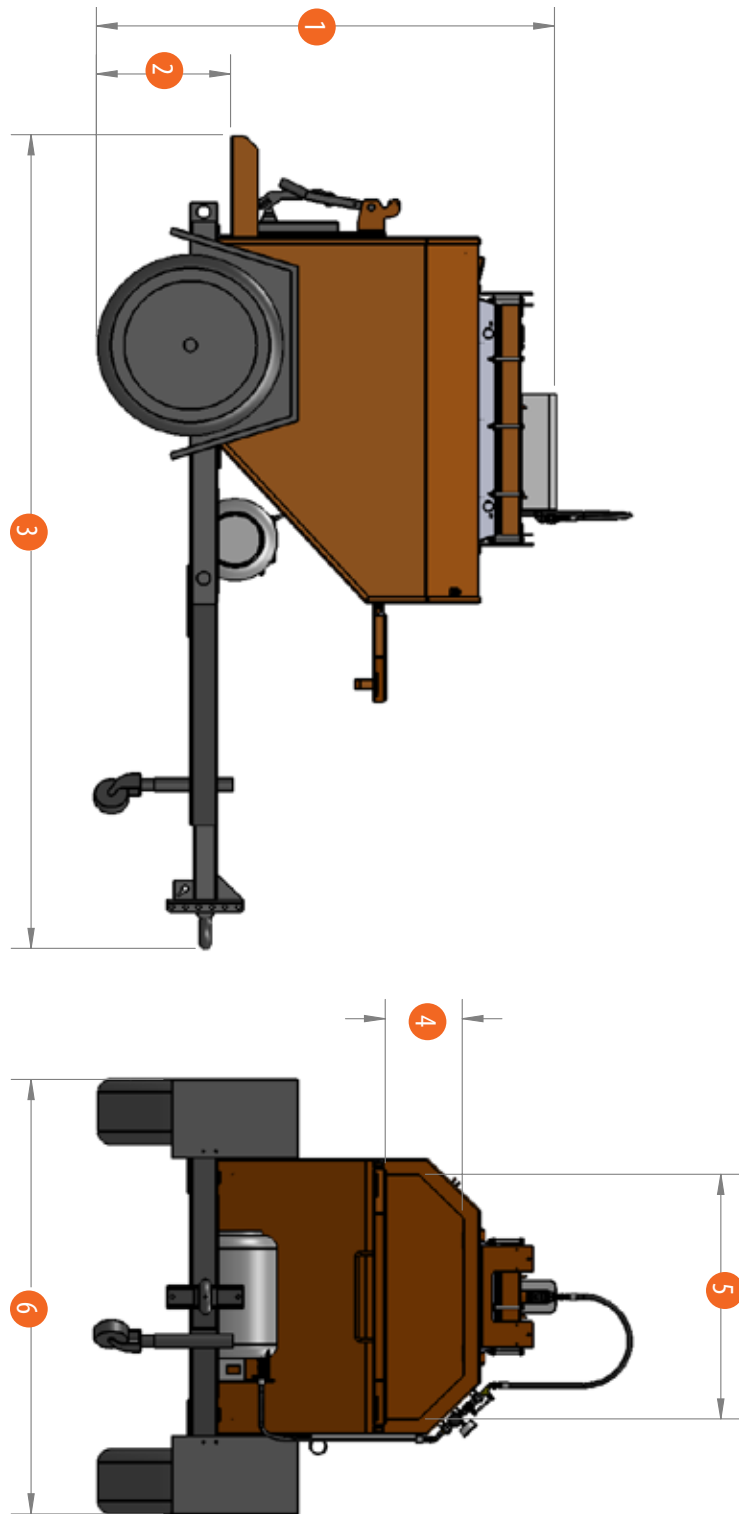


DIAGRAM INFORMATION

<i>ITEM</i>	<i>PART NUMBER</i>	<i>DESCRIPTION</i>
<i>1</i>	70"	OVERALL HEIGHT
<i>2</i>	20"	SHOVELLING PLATFORM HEIGHT
<i>3</i>	127"	OVERALL LENGTH
<i>4</i>	11.5"	LOADING DOOR HEIGHT
<i>5</i>	38"	LOADING DOOR WIDTH
<i>6</i>	67.5"	OVERALL WIDTH

MODEL: HDE MR 150-T MINI RECLAIMER

TECHNICAL DATA

STORAGE BIN

CAPACITY: 2 tons
INSULATION: 2" of insulation
INNER WALL – 1/8"
OUTER WALL – 1/8"
Shovelling platform.
Two insulated manually operated unloading doors.
Insulated loading door.
Sand Blasted, 2 part epoxy primed and urethane paint (Safety Orange)

TRAILER SPECIFICATIONS

SUSPENSION: Single 3500lb low pro Rubber Torsion
BRAKES: Electric brakes on all wheels, electric breakaway kit (Optional Surge Brakes).
WHEELS & TIRES: 530-12 C6 HWY Tire BIAS 1045 80 12
LIGHTING: Transport Canada & DOT Approved Lighting, Rubber Mounted Sealed Lights.
CHASSIS FRAME: Six-inch by two-inch by 3/16 tube frame construction & sealed weld joints.
JACK: 1500lb Marine Jack
HITCH: Adjustable hitch with 3 " Pintle eye with Gr. 70 Safety Chains with Snap Hook.
PAINT: Sandblasted, 2 part epoxy primed and urethane paint (Gloss Black)

DIMENSIONS / WEIGHT

LENGTH – 12'
WIDTH – 7.6"
HEIGHT – 6'
EMPTY WEIGHT – 1000lbs
GROSS WEIGHT – 1500lbs.

GAS SYSTEM

BTU OUTPUT: 1500,00 BTU
REGULATORS: Marsh Bellofram
1-0-60 PSI Regulators for adjustment of heat
HEATERS: 2-75,000 BTU High Intensity Infrared Heater
GAS MIXING: Venturi Type (No Blowers) with stainless steel hood to protect from wind
HEATER SURFACE: Ceramic Fibre
HEATER DIMENSIONS: LxWxH - 3' (.92m) long x 18" (450mm) wide x 7" (431mm) high

STANDARD FEATURES

Bi-Metal Thermometer tells the operator the temperature of the asphalt
Heater is easily removed for easy cleaning

CONTROL SYSTEM

Baso Safety Valve with Thermocouple for automatic shut off when no heat is present
12 Volt push button glow plug ignition

PROPANE SUPPLY

FUEL: Vapour Propane
FUEL CONSUMPTION (VAPOUR PROPANE): 1 Pound of Propane per square foot of heater
Secure propane storage for one- 30lb horizontal vapour LPG cylinder with nylon strap locking system to ensure tank security when in transport
Provides enough fuel to operate recycler for 10 hours

DIAGRAM

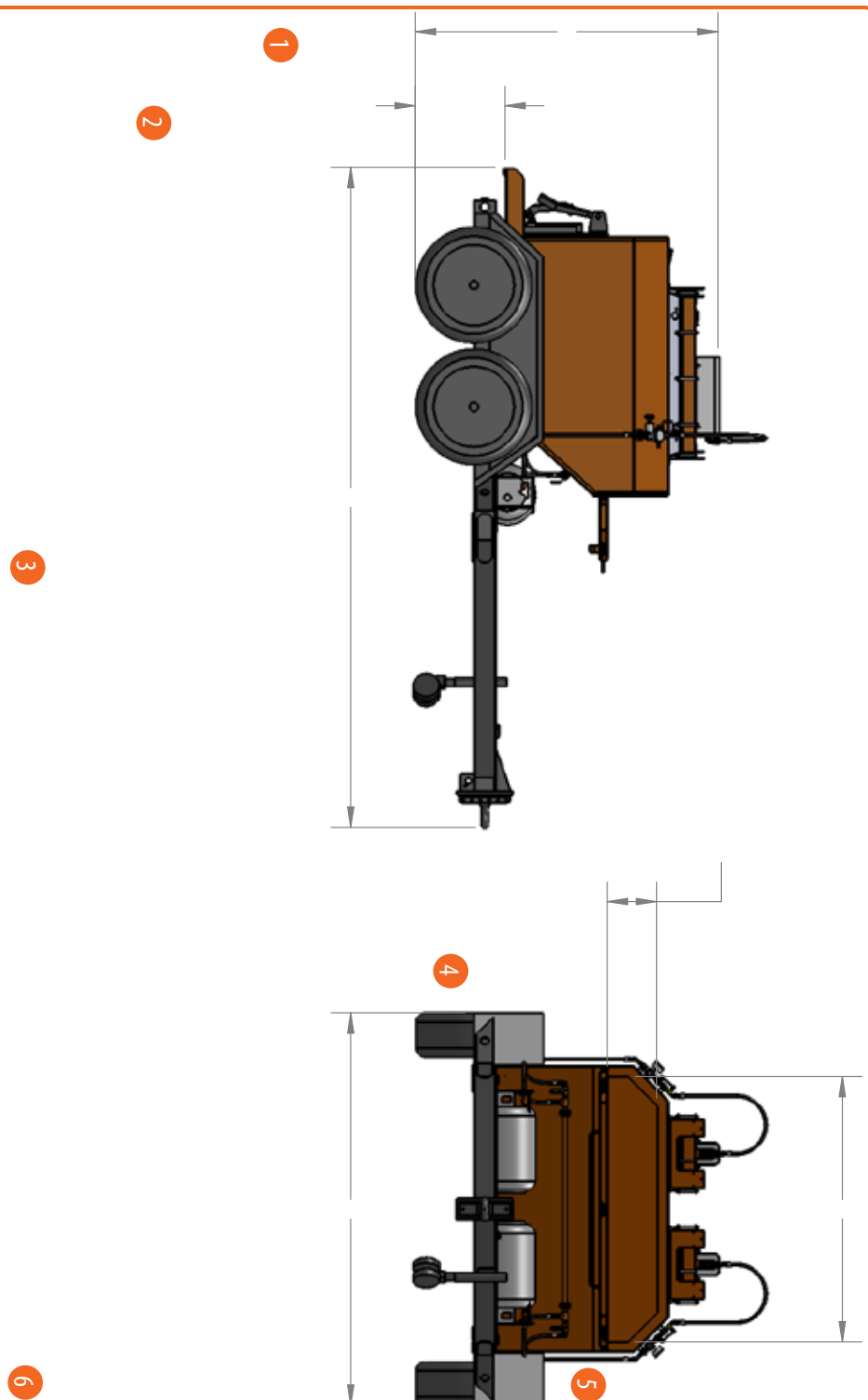
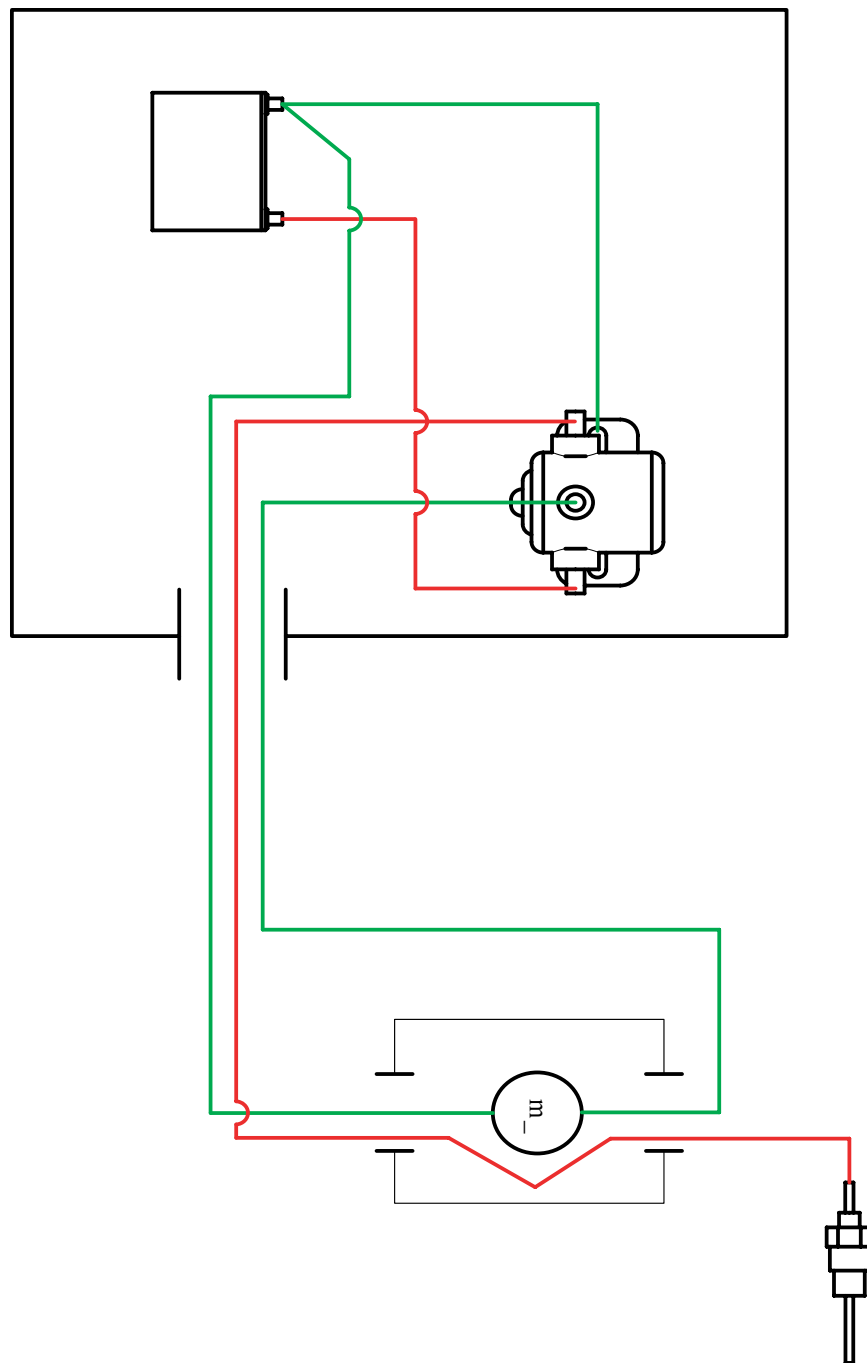


DIAGRAM INFORMATION

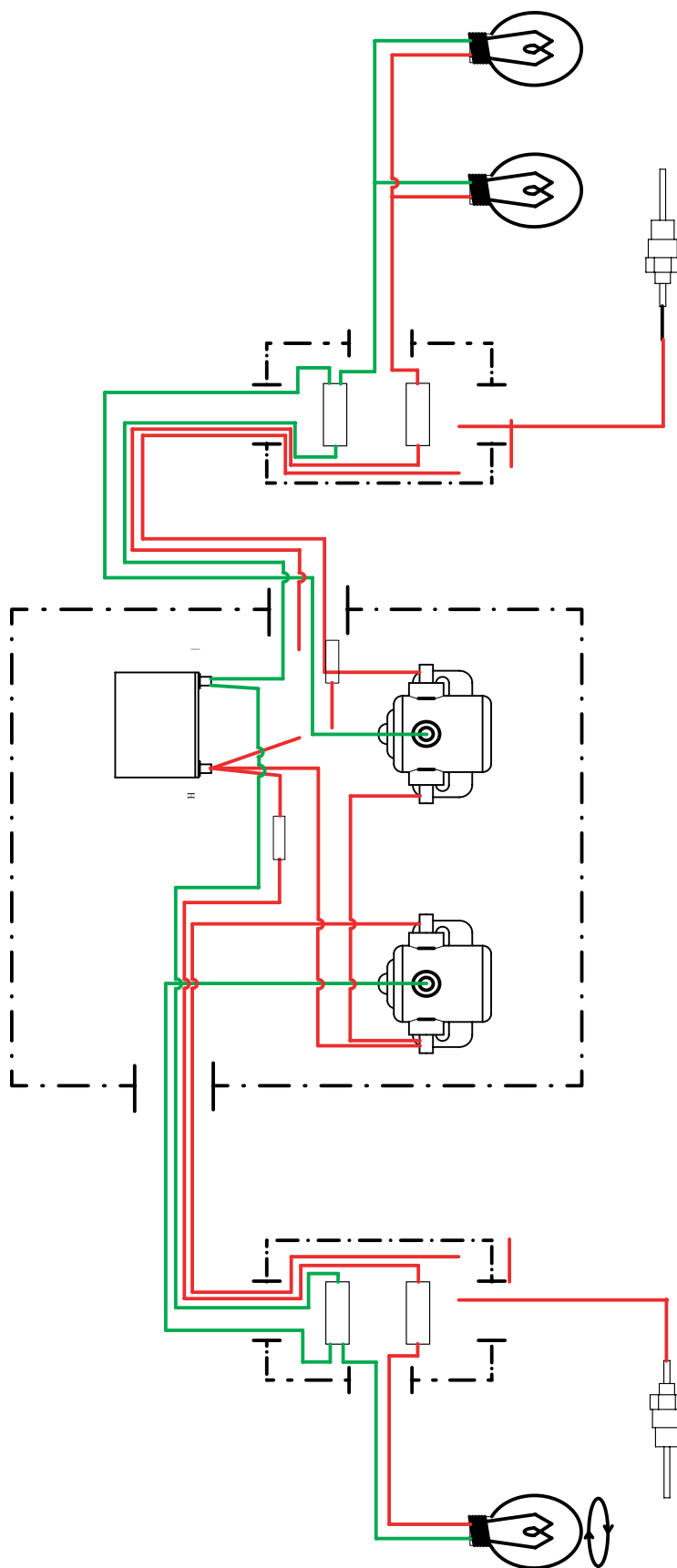
<i>ITEM</i>	<i>PART NUMBER</i>	<i>DESCRIPTION</i>
<i>1</i>	70"	OVERALL HEIGHT
<i>2</i>	20"	SHOVELLING PLATFORM HEIGHT
<i>3</i>	152"	OVERALL LENGTH
<i>4</i>	11.5"	LOADING DOOR HEIGHT
<i>5</i>	68:	LOADING DOOR WIDTH
<i>6</i>	90.25"	OVERALL WIDTH

ELECTRICAL ASSEMBLY

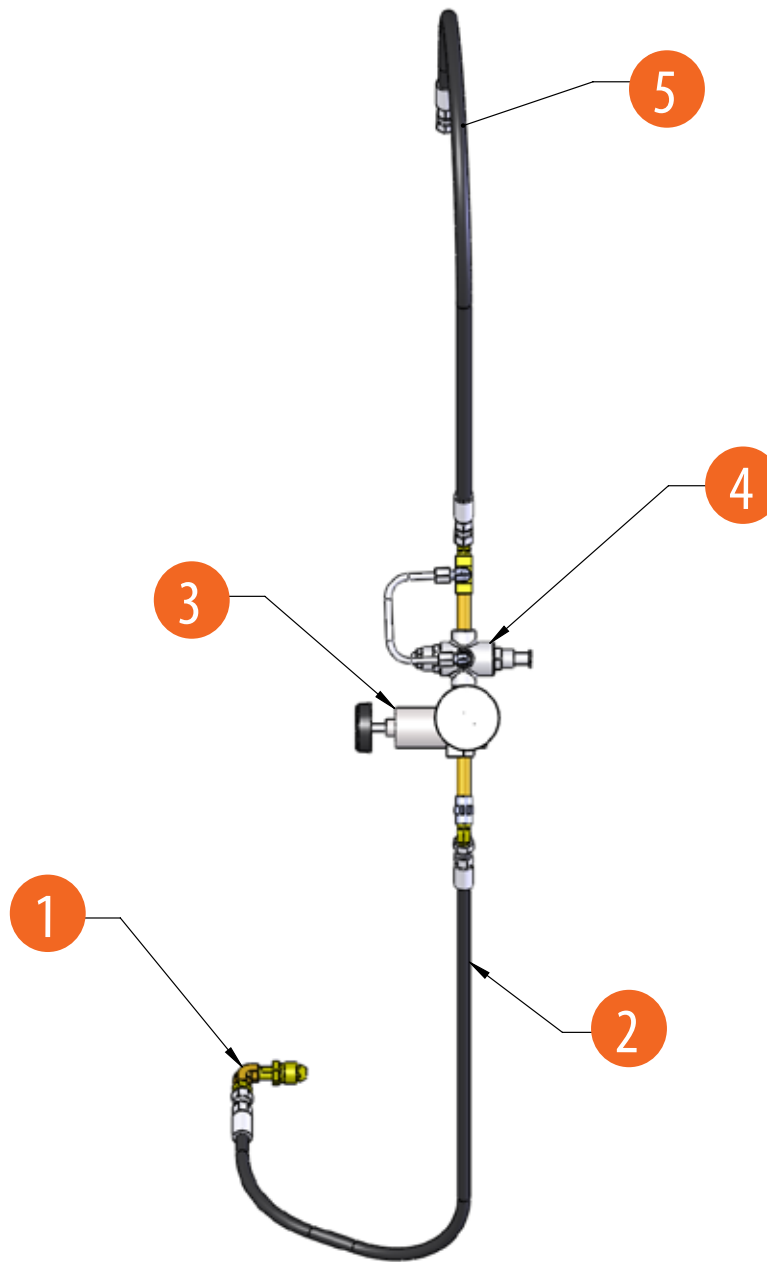


<i>ITEM</i>	<i>PART NUMBER</i>	<i>DESCRIPTION</i>
<i>1</i>	MT-26	12V BATTERY
<i>2</i>	COH24115	SOLONOID
<i>3</i>	M22-DL-X	PB GLOW PLUG IGNITION
<i>4</i>	167	12V GLOW PLUG

ELECTRICAL ASSEMBLY

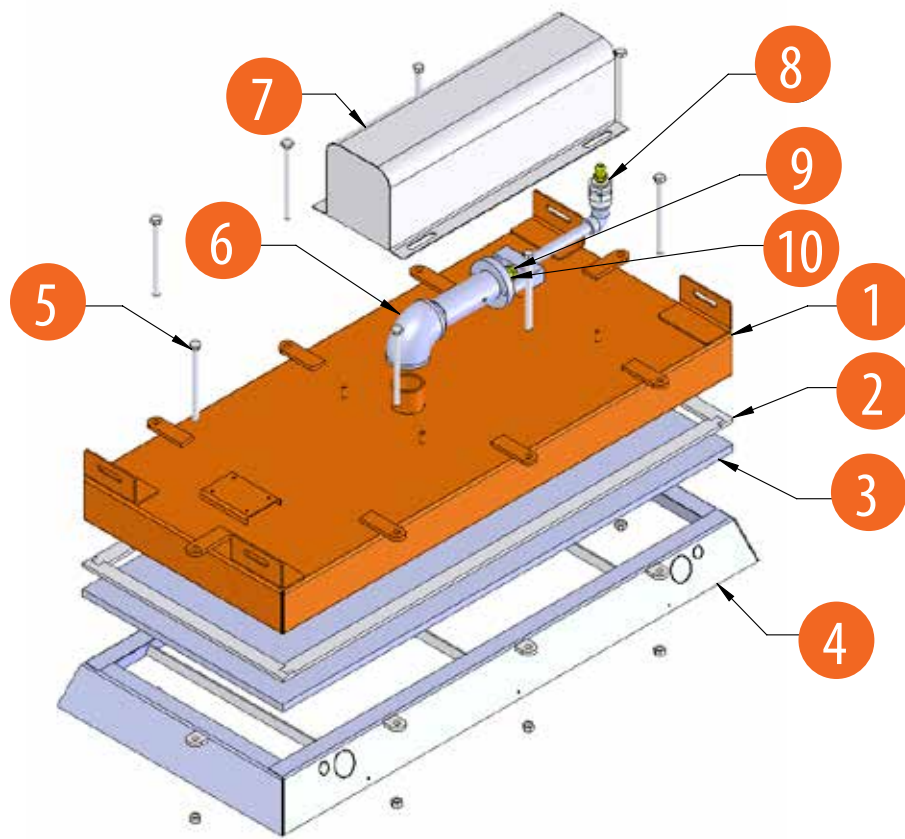


PROPANE ASSEMBLY



<i>ITEM</i>	<i>PART NUMBER</i>	<i>DESCRIPTION</i>
1	970	HARD NOSE POL
2	III6C36FS6FS6	PROPANE TYPE III 3/8" FLARE 36" LONG
3	P03202060020000	REGULATOR 0-60 PSI
4	H19NA-4C	BASO VALVE
5	III6C24FS6FS6	PROPANE HOSE TYPE III 3/8" FLARE 24" LONG

HEATER BOX ASSEMBLY 3' IR



<i>ITEM</i>	<i>PART NUMBER</i>	<i>DESCRIPTION</i>
1	3H-100	3' HEATER TOP ASSEMBLY
2	420079	HEATER GASKET 3' SET
3	HDE 3' CARTRIDGE	3' HEATER CARTRIDGE
4	3'H-101	3' HEATER SKIRT ASSEMBLY
5	HH-380-500-G52	HEX NUT 3/8-16X5 GR.5
6	V-N125C	VENTURI N125
7	4'H-102	COMMON HEATER HOOD
8	A155	PROPANE FILTER
9	OH65	ORIFICE HOLDER FOR 3' & 4' HEATERS
10	G031-72	GAS ORIFICE FOR 3' & 4' HEATERS

OPERATION

INTENDED USE :

This machine is designed for heating the asphalt without burning the oils. The asphalt can be repaired or altered depending on the particular application.



DO NOT OPERATE THE MACHINE IF A HOSE IS DAMAGED OR IF THERE IS A HOLE IN THE HEATER CARTRIDGE. WHEN CONNECTING YOUR PROPANE TANKS OBSERVE THE FOLLOWING PRECAUTIONS.

TANK CONNECTION

1. All connections must be made by a trained worker *(check your regulations)*.
2. Inspect the torch, regulator and hoses for defects. Repair or replace any damaged parts.
 - Make sure all hoses and valve connections are clean.
3. Use proper fitting wrenches to make connections.
4. Secure the propane cylinder with the supplied strap.

LIGHTING PROCEDURE *(See pages following pages for images to seps)*

1. Close all ball valves to the individual heaters.
2. Slowly open the cylinder valve and check for gas leaks when the hose line is full. When the infrared heater is in use the cylinder must be fully opened. Check for leaks with soapy water or leak detector..
3. Adjust regulator pressure to suit temperature required.
4. Press and hold the Baso Valve while holding the ignition button.
5. Allow heater to ignite and continue holding Baso Valve for 30-60 seconds. Use a torch if the heater is damp from rain or moisture.

NOTE: IF UNIT HAS BEEN SITTING FOR A WHILE THE INITIAL STARTUP MAY REQUIRE MULTIPLE ATTEMPTS OR THE AID OF A TORCH

REHEATING PROCEDURE

1. Open the loading door.
2. Load required amount of asphalt bricks in front loading door. (DO NOT LOAD TOO HIGH - as it will slow down heating process and may damage ceramic heater)
3. Close front loading door in order to keep heat in and maximize heating process.
4. Once required amount of asphalt is heated and fell through grate, it can now be used.
5. To use heated/recycled asphalt open rear unloading door and remove asphalt using a rake and/or shovel.
6. Close rear unlading door when finished unloading asphalt to keep heat in.
7. Repeat steps 1-3 whenever more asphalt is required.
8. At end of use before turning off the heater, allow any excess asphalt to fall through metal grate. Once completed, clean out all remaining asphalt out the rear unloading door in order to keep unit clean and maximize heating efficiency.

SHUT DOWN PROCEDURE

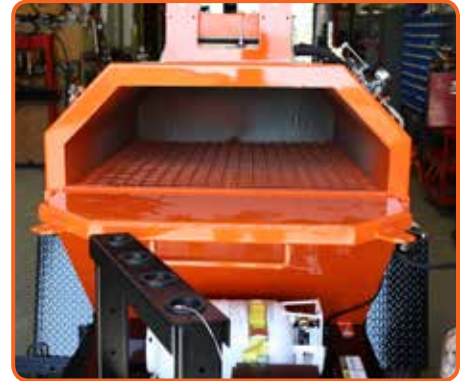
1. Close propane tank valve while the recycler is running in order to clear the lines of propane.

MR 75 - Operating Tips

STEP 1

Preheat the recycler for 10-15 minutes at 20 PSI. This will get the steel within the hopper hot so that when the asphalt begins to melt it will fall on hot steel.

NOTE: THERE IS NO NEED TO SPRAY RELEASE AGENT INSIDE THE BOX. AT NO TIME SHOULD DIESEL BE USED TO CLEAN THE HOPPER.



STEP 2

Place chunks of ripped asphalt or pre-made bricks of leftover virgin asphalt onto the screen. Within minutes the asphalt should start to heat. The heating process can be sped up by scraping the hot material off the rake.

STEP 3

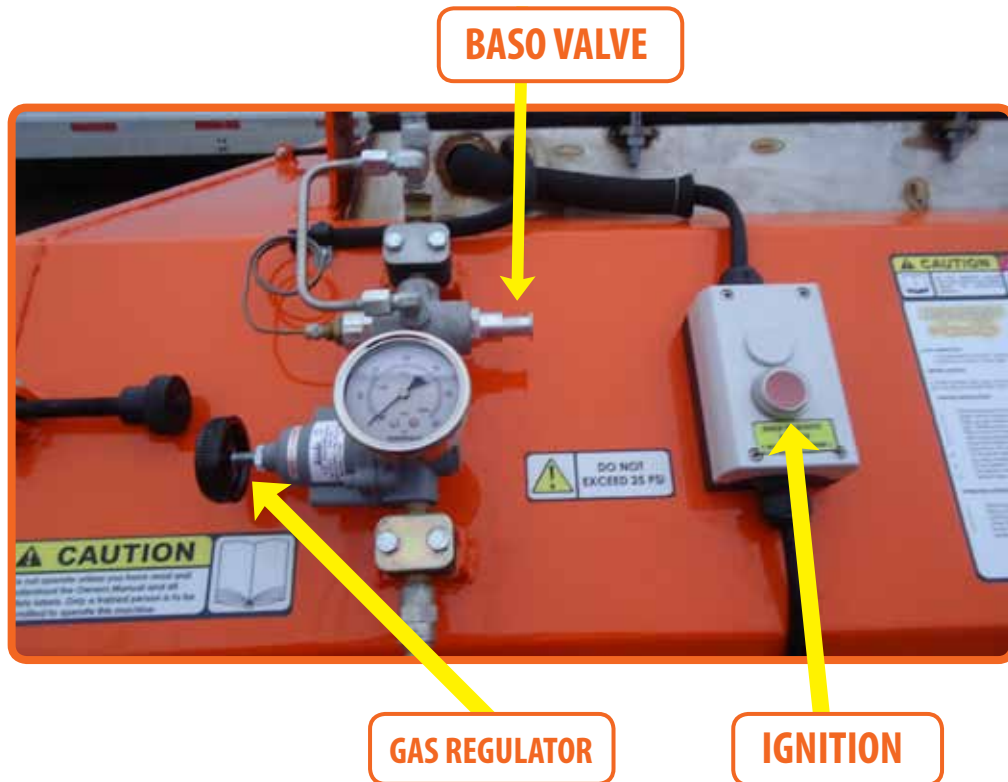
Once the material has started to build up in the bottom of the hopper the operator can turn the pressure down depending on the usage of the material. Production can be regulated by turning the pressure up or down.



NOTE: DO NOT EXCEED 25 PSI.

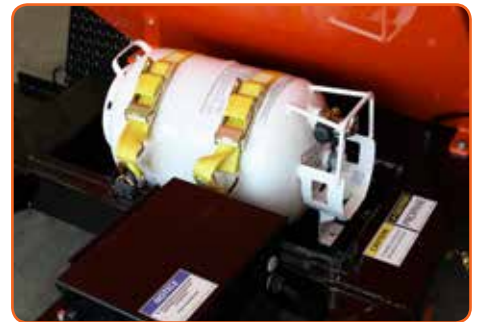
RECLAIMER HEATER ASSEMBLY

LIGHTING DIAGRAM



STEP 1

Place the propane tank(s) and secure them in place with the straps.



STEP 2

Hand tighten the POL fitting into the propane tank.



MR75 LIGHTING INSTRUCTIONS

STEP 3

Tighten with a hand wrench.



STEP 4

Slowly turn on the gas valve, until it's fully open. Light heaters one at a time by setting pressure to 25PSI on regulators.



STEP 5

ENSURE LOADING DOORS ARE OPEN!
Press and HOLD the ignition to energize the GLOW PLUG.



STEP 6

After 5 seconds start the flow of propane by pressing and holding the Baso safety valve. Once the heater is lit release the ignition button and hold the Baso valve for 30 seconds.



HEATER REPLACEMENT SAFETY

Product Safety Information Refractory Ceramic Fibre Product



WARNING: This product contains a substance which has been identified by the International Agency for Research of Cancer (IARC) as possible carcinogenic to humans.



RISKS:

- Possible cancer hazard by inhalation.
- May cause temporary irritation to eyes, skin and respiratory tract.
- Potential for Fire, Smoke, and Asphyxiation Hazards. *To the Equipment Owner:*

Please read and carefully follow all instructions provided in the manual regarding your responsibilities in caring for your heating equipment. Contact a professional, qualified service agency for installation, start-up or service work.

PRECAUTIONARY MEASURES:

- Minimize air born fibres with engineering controls.
- Wear NIOSH/MSHA approved respirator.
- Wear long sleeved, loose fitting clothing, eye protection and gloves.
- Wash work clothing separately and rinse washing machine after use.

FIRST AID MEASURES:

- Eyes: Flush with water.
- Skin: Wash with soap.
- Ingestion: Do not induce vomiting. Get medical attention if gastrointestinal symptoms develop.
- Inhalation: Move to fresh clean air.

If any of the above irritations persist, seek medical attention immediately.

FOR ADDITIONAL PRODUCT INFORMATION AND WORK PRACTICES REFER TO THE MATERIAL SAFETY DATA SHEET.

Burner Box should be inspected yearly and replaced if it shows signs of cracking and or breaking.

The above cautions should be taken when removing and installing the burner box.

READ THESE INSTRUCTIONS AND SAVE FOR REFERENCE.

MR75 HEATER ASSEMBLY

**TURN PROPANE VALVE OFF BEFORE
SERVICING HEATER.**



WARNING: To avoid personal injury,
turn the heater off and allow to cool.

STEP 1

Remove all damaged heaters from the machine.

STEP 2

Turn the heater upside down and run water over top of the ceramic. This will eliminate the fibres from travelling through the air.



STEP 3

Remove the eight bolts that hold the heater together.

STEP 4

Remove the top portion of the heater (plenum).

STEP 5

Remove the heater cartridge and place in a garbage bag.

INFRARED HEATER ASSEMBLY

STEP 7

Place the heater skirt on a flat surface.



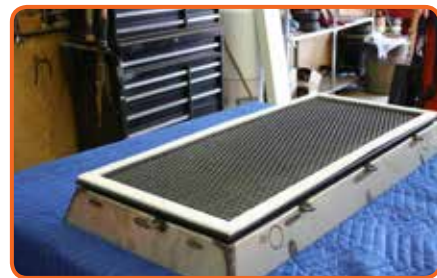
STEP 8

Place the heater cartridge with the ceramic facing down on top of the heater skirt.



STEP 9

Place the ceramic gasket in place.



STEP 10

Carefully place the heater plenum on top of the gaskets. Make sure the gaskets do not shift.



STEP 11

Install bolts and hand tighten in a figure eight type pattern. The bolts should be tightened with a torque wrench to 60 inch pounds.



STEP 11

While tightening the bolts make sure that the gaskets do not shift out of place.



VENTURI MAINTENANCE

STEP 1

Remove the stainless steel protective cover from the air mixer.



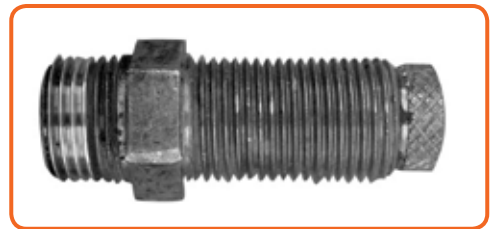
STEP 2

Remove Brass Orifice holder by turning it counter clockwise using a 3/4" wrench.



STEP 3

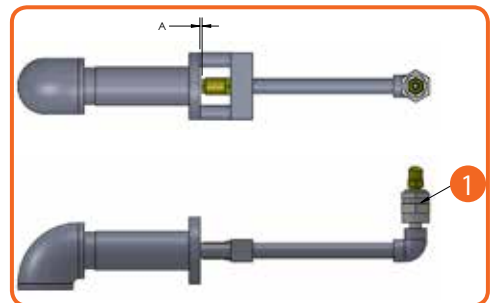
Inspect orifice for any debris. Remove the debris. If the orifice is severely plugged you may need to use compressed air. Check distance to inspirator.



CAUTION: DO NOT USE TORCH TIP CLEANERS. THIS MAY INCREASE THE SIZE OR ANGLE OF THE ORIFICE. THIS WILL CAUSE THE HEATER TO PERFORM POORLY.

STEP 4

Re-tighten the orifice holder ensuring there is a small amount of pipe sealant on the threads.
Dim A - Approx. Flush
Suggested : Clean filter once a year (item 1)



STEP 5

Re-install the protective hood.

TIPS

CHUNKS



YES

BRICKS



YES

RAP



NO

REHEATING ASPHALT

Small Chunks 12" x 12" x 3" work the best. Anything larger will take longer and risk over heating. Material removed from the road can be used but will take longer to heat. This is because there is less bitumen in the oil and material will possibly be of coarse aggregate.

USE OF REJUVENATOR

An oil based rejuvenator can be applied once it is removed from the reclaimer.



NEVER: SPRAY REJUVENATOR INSIDE THE RECLAIMER.

TROUBLESHOOTING

<i>PROBLEM</i>	<i>POSSIBLE CAUSE</i>	<i>SOLUTION</i>
HEATER WILL NOT LIGHT	VENTURI ORIFICE IS PLUGGED	CLEAN ORIFICE
HEATER WILL NOT LIGHT	GAS PRESSURE IS TOO LOW.	ADJUST PRESSURE TO 20 PS
HEATER WILL NOT LIGHT	TANK SAFETY VALVE IS ON	SHUT OFF AND TURN ON SLOWLY
HEATER HAS LARGE ORANGE AND YELLOW FLAMES COMING UNDERNEATH	ORIFICE IS MISSING	CHECK AND REPLACE IF NEEDED
FLAMES ARE COMING OUT BETWEEN THE UPPER PLENUM AND HEATER SKIRT	GASKET IS DAMAGED	REPLACE GASKET
ASPHALT IS BURNING IN ONE SPOT	CERAMIC CARTRIDGE HAS A HOLE IN IT	PLUG HOLE IF POSSIBLE OR REPLACE CERAMIC HEATER CARTRIDGE
REGULATOR SHOWS PRESSURE BUT THERE IS NO PROPANE AT THE HEATER	PROPANE HOSE MAY BE PLUGGED	REPLACE HOSES
HEATER MAKING POPPING NOISE	CERAMIC CARTRIDGE IS DAMAGED	REPLACE HEATER CARTRIDGE

**FOR PARTS GO TO www.ASPHALTHEATER.com
OR CALL 1-888-897-7987**



SUPPORT- PROCEDURE

Notify your dealer immediately of any malfunction or failure of Heat Design Equipment.

Always give model, serial number, and approximate date of your equipment purchase. This information should be recorded and placed on file by the owner at the time of purchase.

Return damaged parts to dealer for inspection and warranty consideration if in warranty time frame. Order genuine HDE replacement or repair parts from your authorized HDE dealer. Use of another manufacturer's parts may void warranty consideration.

Resources Publications

Contact your HDE dealer for publications and videos covering safety, operation, service, and repair of your equipment.

Heat Design Equipment Training

For information about on-site, individualized training, contact your HDE dealer.

WARRANTY

Heat Design Equipment and Replacement Parts Limited Warranty Policy

Subject to the limitation and exclusions herein, free replacement parts will be provided at any Authorized HDE dealership for any HDE equipment or parts manufactured by Heat Design Equipment that fail due to a defect in material or workmanship within one (1) year of first commercial use. Free labour will be provided at any authorized HDE dealership for installation of parts under this warranty during the first year following “initial commercial” use of the serial-numbered HDE equipment on which it is installed. The customer is responsible for transporting their equipment to an authorized HDE dealership for all warranty work.

HDE warrants its equipment against defects or workmanship on normal use or service for a period of one year. The warranty includes but is not limited to the following: Frame, Steel parts, Electrical Components, Heaters and Hoses.

Warranty does not apply to defects caused by improper use or abuse. Any damage that has been caused by accidents, freight or improper maintenance or repair will not be covered under HDE's warranty. The warranty period will begin on the date the unit was first placed into service. The warranty should be mailed into within 10 days of the day it was put into service.

HDE excludes from its warranty items such as batteries and tires. These claims should be directed to their local authorized distributor/dealer.

HDE is responsible for the replacement and or repair of the defective parts. All replaced parts should be returned to HDE for inspection.

HDE will not be liable for downtime, overhead and performance penalties.

All Claims should be sent with the warranty card to the following:

Fax : 519 578 0079 Or Mail

Heat Design Equipment Inc.

1197 Union St., Unit 3

Kitchener, Ontario

N2H 6N6

WARRANTY & REGISTRATION

Record your Serial plate information from your machine and record the date and location of purchase.

Model

Serial No.

Purchase Date

Purchased From

Product Registration Card

Please complete and return this card. Returning this card validates the product warranty as stated below

Heat Design Equipment Inc.

1197 Union St., Unit 3
Kitchener, Ontario Canada
N2H 6N6

Product Serial Number

Model

Heater Serial Number 1

HSN 2

First Name

Last Name

Title

Company Name

Street Address

City

Prov/State.

Postal Code

Country

Phone Number

Name of Wholesaler Where You Purchased This Product

Location

Remove this portion of card, apply postage and mail to the above address.

Notes
