



Parts & Instructions For HBT-4 Bitumen Applicator

FOR:

PURCHASE DATE:

MODEL #

SERIAL #

REMEMBER SAFETY AT ALL TIMES

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INTRODUCTION

ALL OF US AT S.T.E. LLC. WOULD LIKE TO THANK YOU FOR PURCHASING ONE OF OUR BITUMEN APPLICATORS. WE HOPE YOU WILL APPRECIATE OUR EFFORT IN MAKING THIS UNIT AS USER-FRIENDLY AS POSSIBLE. WE HAVE SPENT A GREAT DEAL OF TIME ENGINEERING THE SYSTEM TO PROVIDE THE END USER WITH A HIGHLY PRODUCTIVE TOOL THAT WILL GIVE YEARS OF SAFE RELIABLE OPERATION. PLEASE READ THIS MANUAL CAREFULLY AND GIVE YOUR UNIT THE CARE AS OUTLINED IN THE FOLLOWING PAGES AND THE SYSTEM WILL RESPOND ACCORDINGLY.

THIS MANUAL WILL PROVIDE YOU WITH THE NECESSARY INFORMATION TO OPERATE AND MAINTAIN YOUR S.T.E. LLC. HBT-4 T or M HAND APPLICATOR.

THE HBT-4 APPLICATOR IS DESIGNED PRIMARILY TO INSTALL HOT BITUMEN MATERIAL TO PLACE REFLECTORS OR FILL CRACKS. BY DESIGN IT CAN BE USED EITHER LEFT OR RIGHT-HANDED. THE UNIT BY ITSELF HAS THE CAPABILITY OF MELTING ENOUGH BITUMEN TO MAKE IT A PRODUCTIVE TOOL.

THE HBT-4 HAS BEEN ENGINEERED TO MEET THE RIDGED DEMANDS OF THE CONTRACTING INDUSTRY, AND WITH A SMALL AMOUNT OF CARE AND MAINTENANCE IT WILL PROVIDE YEARS OF SERVICE WITH MINIMAL REPAIRS.

THE CONSTRUCTION OF THIS APPLICATOR IS PRIMARILY LIGHTWEIGHT ALUMINUM AND IS BALANCED TO ENABLE THE OPERATOR TO MANEUVER THE UNIT WITH MINIMAL EFFORT. THIS MANEUVERABILITY ENABLES THE OPERATOR TO MAKE VERY SHARP TURNS AND ULTIMATELY PROVIDES A GREAT DEAL OF FLEXIBILITY TO INSTALL REFLECTORS OR FILL CRACKS. A REMOVABLE ALL-ALUMINUM BASKET IS PROVIDED TO HOLD REFLECTORS.

THIS EQUIPMENT CONTAINS A HEATING SYSTEM TO HEAT AND KEEP THE BITUMEN IN THE HOLDING TANK AT OPERATING TEMPERATURE. A THERMOMETER IS INSTALLED ON THE TOP, IN VIEW OF THE OPERATOR, FOR EASIER MATERIAL TEMPERATURE CONTROL.

WE ALL THANK YOU FOR YOUR PURCHASE.

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BASIC PRINCIPLE OF OPERATION

HOT BITUMEN (400-425 DEG. F) IS HELD IN THE HOLDING TANK (CAPACITY 250 LBS.) THE OPERATOR THEN OPENS A VALVE BY REMOTE LEVER TO TRANSFER THE HOT BITUMEN, BY GRAVITY, TO THE ROAD SURFACE OR THE CRACK TO BE FILLED. THE OPERATOR THEN CLOSES THE VALVE AND GOES TO THE NEXT CRACK OR PUSHES THE APPLICATOR AHEAD AND SETS THE REFLECTOR IN PLACE. **CAUTION: DO NOT HEAT ABOVE 435 DEG.**

GETTING STARTED

GET COMFORTABLE & BECOME FAMILIAR WITH THE ENTIRE UNIT.

LIGHTING THE APPLICATOR

THERMOSTATICALLY CONTROLLED APPLICATOR

MAIN BURNER NEVER NEVER USE A TORCH TO LIGHT BURNERS

1. CONNECT A 20 LB. FUEL TANK TO THE POL FITTING ON THE GAS HOSE REGULATOR.
(THE POL FITTING HAS LEFT HAND THREADS)
2. CHECK TO SEE THAT ALL VALVES ARE IN THE OFF POSITION. **DO NOT ADJUST THE REGULATOR; IT IS PRESET AT THE FACTORY.**
3. TURN ON TANK FUEL VALVE BY ROTATING COUNTER CLOCKWISE.
4. IMMEDIATELY CHECK FOR AUDIBLE LEAKS. CHECK FURTHER FOR OTHER LEAKS BY WETTING FITTINGS WITH A SOAP AND WATER SOLUTION, LOOKING FOR BUBBLES.
5. CHECK THERMOSTAT AND SET TO THE LOWEST SETTING(COUNTER-CLOCKWISE).
6. FOLLOW THE INSTRUCTIONS ON THE MOUNTING PLATE WHERE THERMOSTATIC CONTROLS ARE MOUNTED. OPEN THE FRONT DOOR ON THE HBM-4. **NEVER NEVER USE A TORCH**
7. A) SET THERMOSTAT CONTROLS TO OFF
B) PUSH PILOT RED BUTTON IN & HOLD FOR 50 SECONDS
C) PUSH RED IGNITOR BUTTON & CONTINUE TO HOLD BUTTON FOR AN ADDITIONAL 10 SECONDS.
D) TURN THERMOSTAT KNOB TO ON POSITION & CHECK TO SEE THAT THE BURNER IS LIT.
8. IF PILOT FAILED TO LIGHT REPEAT THE ABOVE STEPS.
9. CONSTANTLY MONITOR THE MATERIAL TEMPERATURE AND DOUBLE CHECK WITH AN INFRA-RED THERMOMETER.
10. **NEVER LEAVE THE LIGHTED APPLICATOR UNATTENDED.**
11. **DO NOT ALLOW THE BURNER TOOPERATE WITH AN EMPTY MATERIAL TANK.**

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HELPFUL HINTS:

MONITOR THE BURNER FLAME TO SEE IF IT SHUTS DOWN PRIOR TO THE MATERIAL REACHING PROPER OPERATING TEMPERATURE. THIS PHENOMENON IS NOT UNCOMMON AND OCCURS DUE TO THE FACT THAT THE SENSING PROBE IS INSTALLED ON THE TANK WALL WHERE THE TEMPERATURE IS HIGHER THAN THE MATERIAL TEMPERATURE ESPECIALLY DURING START-UP. ADJUST THE THERMOSTAT TO COMPENSATE FOR THIS DEVIATION. BUT KEEP IN MIND THAT UNDER THIS CIRCUMSTANCE THE BURNER MAY NOT CYCLE DOWN AT THE PROPER TEMPERATURE. WHEN THE DESIRED MATERIAL TEMPERATURE IS ACHIEVED, RE-ADJUST THE THERMOSTAT UNTIL THE BURNER FLAME GOES OUT. NO FURTHER ADJUSTMENT ON THE THERMOSTAT SHOULD BE REQUIRED.

MANUALLY CONTROLLED APPLICATOR

MAIN BURNER NEVER NEVER USE A TORCH

1. CONNECT A 20 LB. FUEL TANK TO THE POL FITTING ON THE GAS HOSE REGULATOR. (THE POL FITTING HAS LEFT HAND THREADS)
2. CHECK TO SEE THAT ALL VALVES ARE IN THE OFF POSITION. **DO NOT ADJUST THE REGULATOR IT IS PRESET AT THE FACTORY.**
3. TURN ON TANK FUEL VALVE BY ROTATING COUNTER-CLOCKWISE.
4. IMMEDIATELY CHECK FOR AUDIBLE LEAKS. CHECK FURTHER FOR OTHER LEAKS BY WETTING FITTINGS WITH A SOAP AND WATER SOLUTION, LOOKING FOR BUBBLES.
5. ACCESS THE MAIN BURNER THROUGH THE FRONT FIREBOX DOOR. USE A LONG BAR-B-QUE FLAME TYPE LIGHTER. FIRST LIGHT THE LIGHTER THEN PLACE IT IN POSITION TO LIGHT THE MAIN BURNER. NEXT TURN THE MAIN BURNER FUEL VALVE ON SLIGHTLY UNTIL THE BURNER IGNITES. NOW SET THE FLAME TO THE DESIRED HEIGHT. NEXT CLOSE AND LATCH THE BURNER ACCESS DOOR.

WARNING

HEAT RESISTANT GLOVES AND A SUITABLE FACE SHIELD MUST BE WORN FOR THIS OPERATION SINCE BACK-FLASHES ARE COMMONLY ASSOCIATED WITH LIGHTING BURNERS.

AFTER SUCCESSFULLY LIGHTING THE HBT-4 FOLLOW THESE STEPS:

1. CHECK TO SEE THAT THE HBT-4 MATERIAL VALVE IS COMPLETELY CLOSED.
2. INTRODUCE ONLY THE AMOUNT OF BITUMINOUS INTO THE HBT-4 YOU INTEND TO USE.
3. WHEN USING THE HBT-4 TO MELT BITUMEN BE PATIENT. WAIT FOR THE PRODUCT TO REACH 400 - 425 DEGREES F. BEFORE ATTEMPTING TO CONTINUE.
4. NEVER OVER FILL THE APPLICATOR AND KEEP THE TOP OF THE HBT-4 SCRAPED CLEAN OF SPILLED MATERIAL.
5. AFTER FILLING ALWAYS CLOSE AND LATCH THE MATERIAL TANK DOORS.
6. AGITATE YOUR MATERIAL OFTEN. BITUMEN DOES NOT NEED TO BE AGITATED UNDER (300 DEGREES F) HOWEVER, AGITATION REQUIREMENTS BEGIN AT 325 DEGREES F. AND INCREASE IN FREQUENCY TO ABOUT EVERY 5 MINUTES AT 420 DEGREES F

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7. ALWAYS USE THE HOT BITUMEN IN THIS EQUIPMENT WITHIN 30 MINUTES OR DRAIN AND RECYCLE IT.
8. NEVER ALLOW THIS UNIT TO COOL WITH A FULL TANK OF MATERIAL. TRY TO DRAIN AS MUCH BITUMEN FROM THE TANK AS POSSIBLE PRIOR TO SHUTTING DOWN. IT IS ALSO A GOOD IDEA TO CLEAN OUT THE MATERIAL PIPE WITH A PIECE OF HYDRAULIC HOSE OR OTHER SUITABLE MATERIAL.
9. NEVER LEAVE THE FLAME ON WITH AN EMPTY MATERIAL TANK. IT IS UNDER THIS CIRCUMSTANCE THAT OVERHEATING AND MATERIAL FLASH IS MOST POSSIBLE.

SHUT DOWN, CLEANING, AND MAINTENANCE

1. WITH THE DAYS WORK COMPLETED, TURN OFF THE TANK VALVE THEN TURN OFF ALL OTHER VALVES. DO NOT ADJUST THE REGULATORS.
2. CHECK YOUR GAS SUPPLY FOR THE FOLLOWING DAYS WORK. ALWAYS KEEP A SPARE TANK OF GAS AVAILABLE.
3. COMPLETELY DRAIN THE HBT-3 AND SCRAPE TOP SIDES CLEAN OF ANY SPILLAGE.
4. LUBRICATE THE AXLE BEARINGS EVERY 40 HOURS OF OPERATION WITH HIGH TEMPERATURE GREASE. THIS EQUIPMENT PRODUCES VERY LITTLE LOAD OR SPEED DEMANDS ON THE BEARINGS, SO IT IS IMPORTANT TO UNDERSTAND THE THEORY OF LUBRICATION. THE GREASE SIMPLY ACTS AS A FILTER WITHIN THE BEARING HOUSING TO KEEP FOREIGN MATTER FROM CONTACTING THE BEARING SURFACES. EXCESS AMOUNTS OF GREASE SIMPLY ATTRACTS AND COLLECTS FOREIGN MATTER. THEREFORE, A SMALL SHOT OF GREASE DAILY TO PUSH OUT ANY POSSIBLE CONTAMINATION IS BETTER THAN HEAVY LUBRICATION WEEKLY.
5. FREQUENTLY SCRAPE THE INSIDE OF THE MATERIAL TANK WHILE IT IS HOT TO PREVENT ANY BUILD UP OF RESINS IN AREAS WHERE THE AGITATOR DOES NOT CONTACT THE TANK WALL.
6. CLEANLINESS IS THE #1 MAINTENANCE ITEM ON THE HBT-4 M/T APPLICATOR.

ALWAYS REMEMBER_

WHENEVER YOU ARE PERFORMING TASKS THAT INVOLVE HOT EQUIPMENT, WEAR YOUR GLOVES AND PROTECTIVE CLOTHING.

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STIFF AGITATION	*MATERIAL TOO COLD	*WAIT UNTIL MATERIAL IS MELTED
	*FOREIGN OBJECT IN BOTTOM OF TANK	*DRAIN BITUMINOUS & INSPECT AGITATOR
APPLICATOR DOES NOT ROLL EASILY	*BEARINGS BOUND UP	*INSPECT & REPLACE AS NEEDED
	*WORN OR BROKEN WHEELS	*CLEAN OR REPLACE AS NEEDED
MATERIAL VALVE FAILURE	*LINKAGE PIN LOOSE OR MISSING	*TIGHTEN OR REPLACE AS NEEDED
	*FAILED VALVE SPRING	*REPLACE VALVE
PILOT WILL NOT LIGHT OR STAY LIGHTED	*FUEL SUPPLY LOW	*REFILL
	*AIR IN LINES	*HOLD BUTTON UNTIL LINE CLEARS
	*BLOCKED FUEL LINE NECESSARY	*INSPECT ORIFICE & CLEAN AS NECESSARY
	*CAPILLARY BULB NOT GETTING HOT ENOUGH	*REALIGN BULB INTO PILOT FLAME
	*DAMAGED CAPILLARY TUBE	*REPLACE ENTIRE SAFETY VALVE
BURNER WILL NOT LIGHT OR WILL NOT STAY LIGHTED	*LOW FUEL SUPPLY	*REFILL
	*BLOCKED FUEL LINE	*INSPECT & CLEAN AS NEEDED
	*PILOT CAPILLARY BULB NOT GETTING HOT ENOUGH	*REALIGN BULB INTO PILOT FLAME
	*DEFECTIVE THERMOSTAT	*REPLACE AS NEEDED
	*REGULATOR OUT OF ADJUSTMENT	*CONTACT FACTORY FOR PROPER ADJUSTMENT
MATERIAL DOES NOT FLOW FROM DISCHARGE VALVE	*MATERIAL IS TOO COLD	*WAIT FOR MATERIAL TO REACH PROPER TEMPERATURE
HAND BRAKE INOPERATIVE	*HANDLE WAS ROTATED PAST PIVOT BOLT ON PUSH HANDLE	*ROTATE TO LEFT SIDE OF PIVOT BOLT
	*WORN WHEEL CAUSING INEFFECTIVE BRAKING ACTION	*ADJUST NUT ON LOWER END OF BRAKE LINKAGE FOR MORE TENSION

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Bitumen			
#	Part #	Parts And Price List	Qty
1	HBT-001	Push Handle Assembly	1
2	HBT-002	Main Burner Shroud	1
3	HBT-003	Material Valve Mounting Shaft	2
4	HBT-004	Material Valve Linkage	2
5	HBT-005	Material Valve Actuator Lever	2
6	HBM-006A	Material Pot Lid & Door Assembly	1
	HBM-006	2" Stainless Steel Lid Hinge	4
7	HBM-007A	Pointer Assembly Complete With Spring	1
	HBM-007	Pointer (Aluminum Shaft With Point)	1
8	HBM-008	Pointer Mount (Bolts On Machine)	1
9	HBM-009	Pointer Shaft (Threaded Steel With Washer & Nuts)	1
10	HBM-010	Pointer Spring	1
11	HBM-012	Paddle Shaft Handle	1
12	HBM-015	Paddle Shaft Assembly	1
13	HBM-022	Rear Axle Mounting Bracket	1
14	HBM-023A	Brake Assembly	1
15	HBM-024	Brake Handle	1
16	HBM-025	Brake Cable	1
17	HBM-026	Brake Pivot	1
18	HBM-027	Brake Arm	1
19	HBM-028	Aluminum Material Tank W/O Elbow (Hole Drilled, Pivot In)	1
20	HBM-029	2" Aluminum 90 Degree Elbow (One End Cut)	1
21	HBT-023	2" Material Pipe	1
22	HBM-030C	2" Material Pipe Coupling	1
23	HBM-031S	2" Short Handle Material Valve	1
24	HBM-032	Main Burner Door Assembly	1
25	HBM-33A	Complete Front Axle Assembly (Includes 1 Axle, 2 Bearings, 2 Wheels & 2 Spacers)	1
26	HBM-033	Front Main Axle	1
27	HMB-034	Two Bolt Axle Bearing	4
28	HBM-35	Front Black Balloon Tire And Wheel Assembly	2
29	HBM-036A	Rear Axle Assembly (Consists Of 2 Wheels & Axle)	1
30	HBM-036	Rear Axle	1
31	HBM-037	8" Rear Bitumen Applicator Wheel	2

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Bitumen	
Part #	LP Gas Parts And Price List
NEC-001M	High Pressure LP Gas Hose For Manual Machine
NEC-001T	High Pressure LP Gas Hose For Thermostatic Machine
NEC-002	Main Burner Copper Tube Supply To Valve
NEC-003	Main Burner Copper Tube Valve To Burner
NEC-005A	Manual Pot Burner Complete With LPG Orifice And Inspirator
NEC-006	Main Pot Burner For Thermostatically Controlled Machine
NEC-006J	#638-72 LPG Gas Burner Jets For Thermostatic Controlled Burner
NEC-019L	3" Bi-Met 50/500 F&C 18" Stem Swivel Head 1/2 " NPT Glass Lens
NEC-020	H/L Insulation Replacement Kit
NEC-023	1/4" Brass Needle Valve
NEC-024	1/4" MPT x 3/8" OD Flare Adapter
NEC-025	3/8" MPT x 3/8" Flare Adapter
NEC-026	1/2" MPT x 3/8" OD Flare Adapter
NEC-027	1/4" MPT x 3/8" OD Flare Adapter 90 Degree
NEC-028	3/8" MPT x 3/8" OD Flare Adapter 90 Degree
NEC-029	3/8" OD Flare Nut
NEC-030	1/4" Breakaway Fitting
NEC-031A	Brass 1/4" x Pol Tailpiece And Nut
NEC-031	Brass 1/4" Pol Tailpiece
NEC-032	Brass Pol Nut
NEC-033	HP LPG Regulator W/O Handwheel Preset To Factory Spec
NEC-034	1/4" Aluminum Tubing (Per Foot)
NEC-035	Pilot Burner (Kit)
NEC-036	Pilot Safety Valve
NEC-037	Y-200 Regulator (On Thermostatic Controlled Unit Only)
NEC-038	Thermostatic Control With Knob

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