Rev. 12/2014

STEPP MFG™

ASPHALT MAINTENANCE EQUIPMENT

SMM STEPP Master Mixer

OPERATIONS/MAINTENANCE/PARTS MANUAL

LP or Diesel Burner Systems

12325 River Road North Branch MN 55056 ~ Phone: 651-674-4491 ~ Fax: 651-674-4221
www.steppmfg.com

Warranty

Stepp Manufacturing Company Inc. hereby warrants to the original purchaser that products manufactured by Stepp Mfg. will be free from defects in material and workmanship for a period of one (1) year from the date of purchase.

Stepp Mfg., at its discretion, will provide for the repair or replacement of any part found upon examination by Stepp Mfg. to be defective, except as noted below. Such repair or replacement will be free of charge to the original purchaser for a period of one (1) year from the date of purchase, except as noted below.

No warranty is extended to cover:

•Product pump wear or damage caused by foreign objects.
•Routine maintenance, cleaning, and adjustments.
•Parts/components that have been altered, misused, or improperly adjusted or maintained.
•Transportation to and from the place of warranty repair.
•Removal of material from equipment.

The following items are covered solely by their manufactures warranty:

•Engines
•Hydraulic components
•Burners
•Pumps
•Tires
•Other component parts

The following items are covered by a pro-rata warranty:

•Hoses that carry heated materials.
•Heating elements for hoses and wands.

Disclaimer of further warranty:

Stepp Mfg. makes no warranty, expressed or implied, other than this warranty. The implied warranties of merchantability and fitness for particular purpose are hereby disclaimed. Repair or replacement of products or parts proving to be defective in material or workmanship shall be the exclusive remedy for breach of this warranty.
Stepp Mfg shall not be liable for incidental or consequential damages including but not limited to: damages for inconvenience, rental or purchase of replacement equipment, for loss of profits, loss of material, or other loss resulting from breach of this warranty.
Stepp Mfg reserves the right to incorporate any changes in design into its products without obligation to make such changes on products previously manufactured.
Please see Warranty section for more details.

Stepp Manufacturing Co., Inc.
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SMM Stepp Tailgate Mounted Master Mix

Introduction

Thank you for selecting *Stepp* highway maintenance equipment. We are confident you will be satisfied with the *Stepp Master Mix. Stepp Manufacturing* is backed by over 70 years of experience in the design and manufacture of highway maintenance equipment. This experience along with our innovative design and unique features make the *Stepp Master Mix* an indispensable piece of equipment for your road repairs.

To assure safe operation of this equipment, the operator must read and understand all operating procedures and safety notices contained in this manual. In addition, the operator must receive instruction from their supervisor, or the manufacturer, on how to safely operate the *Stepp Master Mix.* Contact the manufacture if any questions arise or if you desire training for additional staff members.

Operating instructions, adjustments and periodic maintenance procedures are given so you, the operator, can keep your unit working like new and expect many years of dependable service from it. Remember, any machine, regardless of design or type, will perform only in relation to the way it is operated and the maintenance it receives.

When ordering parts or making any inquiry about the *Stepp Master Mix,* be sure to include the model number and serial number found on the data plate attached to the frame.

Description

Heated patching material makes street and road repairs easier and longer lasting. With the *Stepp Master Mix* your patching can be done in any temperature. With its heated mixing chamber and reversing action pugmill, *Master Mix* will quickly heat your cold stockpile material to working temperature. Use your stockpiled hot-mix or blade-mixed material anytime of the year for longer lasting repairs to your asphalt roads. Material being mixed never comes in contact with the heating flame. Therefore, none of your adhering oils are burned off by the open flame, leaving little danger of exploding or burning gases from overheated material.

Master Mix is a compact unit which hooks to the tailgate of your truck. The unit has its own telescoping legs to stand on when not is use or when being transferred from one truck to another.

Master Mix may be installed in minutes by simply raising the box, backing the truck into place, and lowering the box. The hooks will catch the tailgate. The *Master Mix* heating chamber and pugmill are made of special heat and wear resistant steel for a longer lasting machine - no gear boxes, chains or slip clutches. The pugmill is driven by a hydraulic motor, powered by either the truck hydraulic system or an onboard engine and hydraulic pump system. This provides simplicity and safety for the operator. Mixing action is controlled by a single hydraulic valve with a built in bypass for either type of system.

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IMPORTANT NOTICE!
This manual contains cautions and warnings that alert you to potential safety issues.

WARNING is used to inform you of conditions or operations that could cause serious injury or death.

CAUTION is used to inform you of conditions or operations that could cause damage to the equipment

NOTE is used to provide you with additional information that may be helpful or useful for a particular situation.

Before Starting or Operating this Machine

Understand and observe all the following Warnings, Cautions, and Notes.

WARNINGS

- This equipment contains mechanical and heating components that may cause serious injury or death if not handled or maintained properly. All personnel must be properly trained in the operation and maintenance of this equipment.
- Before refueling, shut off the burners and allow all flames in the burner and pilot light to extinguish. Shut off the engine.
- Check fuel lines, fuel line connections, and all other components for leaks. If any leaks are found, they must be repaired before using the unit.
- Know the temperature required for the material being used, and do not exceed this temperature. Avoid over heating, as this may cause equipment damage, personal injury, and/or death.
- Never load a tank with heated oil when moisture is present in the tank. Depending on the temperature of the hot oil, the moisture may instantly boil causing hot oil to foam up and out of the tank causing severe burns.
- Do not operate the tack tank burner when the amount of material in the tank is less than 4" above the flues. Allow 10 minutes cool-down time after the burner has been shut off before exposing the flues. Exposed flues will over-heat and cause an explosion and/or fire.
- The tack tank cover must be unlatched when operating the tack tank burner. This is to provide for emergency venting, in the event of a flash, to prevent the tank from exploding.

CAUTIONS

- Know the materials being used and know the proper handling, heating, application, clean-up, and storage procedures. Not all materials are compatible with each other. Many materials have a very limited shelf life. Most materials require special handling procedures to prevent personal injury and/or equipment damage. Contact your material supplier and/or manufacturer for proper handling instructions. Equipment malfunction or damage due to improper handling or use of the materials is not covered by warranty.
- Do not exceed the maximum heating temperature or storage time as recommended by the material manufacturer. This may cause emulsion type materials to separate and become difficult or impossible to remove from the machine. Consult with the material manufacturer for recommendations.
- Over-agitation or circulation may cause emulsion type materials to separate and become difficult or impossible to remove from the machine. Consult with the material manufacturer for recommendations.
- Do not mix *Anionic* and *Cationic* materials together, as the materials attach to each other and will become difficult or impossible to remove from the machine. If you are not sure consult your material supplier.

NOTES

- Become familiar with the Material Safety Data Sheet (MSDS) for the material being used in the machine and take appropriate safety precautions. Wear the proper clothing and protective gear as recommended by the MSDS and your safety director.
- DO NOT use the equipment unless it is in good condition.
- In case of skin contact with hot materials, dip into **cool**, **clean water immediately**. Do not wipe the product, as this will spread the burn.
- Consult the MSDS and contact your safety director for proper extinguishing of petroleum based fires.
- Carry a fire extinguisher(s) as recommended by your safety director.
- Notify your supervisor or the manufacturer if any questions arise concerning the operation of this equipment.

OPERATIONS

Transporting

1. Attach unit to empty truck by raising box and backing up to leg hooks and lowering box. Raise telescopic legs after unit is securely attached to truck.
2. If unit is not equipped with its own engine driven hydraulics, then attach hydraulic lines to truck, pressure to pressure and return to return.
3. Load required amount of material into truck.
4. Check fuel level.
5. Start engine on unit (refer to engine operations), or truck engine (as appropriate) and move control valve to "Forward" position to start pugmill in operation.
6. Ignite burner. (Refer to burner operations)
7. Fill mixing chamber approximately half full.
8. When material reaches desired temperature, adjust heat according to desired output, reverse control valve to discharge desired amount of material and return the control valve to the “Forward” position.
9. Continue to add material to mixing chamber through drop doors as material is discharged.

Diesel Burner without Thermostat

This system incorporates a 12 volt burner and blower assembly and burns #2 diesel fuel. A 12 volt battery and charging circuit supply power for the blower motor and thermostats. The charging circuit may consist of an engine with alternator mounted on the unit, or a hook-up to the tow vehicles charging system.

This system is not equipped with automatic temperature controls. It is the operators responsibility to shut off the burners when the product reaches the recommended temperature. Allow for temperature creep when the burners are shut off.

Igniting Burner

1. Check fuel tank for proper fuel type & quantity.
2. Turn ON “Master” switch to send power to burner.
3. Turn ON “Call for Heat” to have burner fire.
4. Operate battery charging device.
5. Continuously monitor the product temperature and shut the burner OFF (call for heat switch) when the desired temperature is reached.

To Shut Off Burner

1. Turn OFF “Call for Heat” switch to shut off burner.
2. Turn OFF “Master” switch to shut power off to burner.

Lock Out

1. If lock out light is on it means that no spark was sensed. Shut OFF both “Master” and “Call for Heat” switches.
2. Wait 5 Seconds and proceed with igniting burner instructions.

CAUTION: *The burner requires a minimum of 12 volts for proper operation. Poor combustion with excessive smoke and lack of heat will result with lower voltage. Assure the battery is fully charged and the charging circuit is operating properly for maximum performance.*

MAINTENANCE

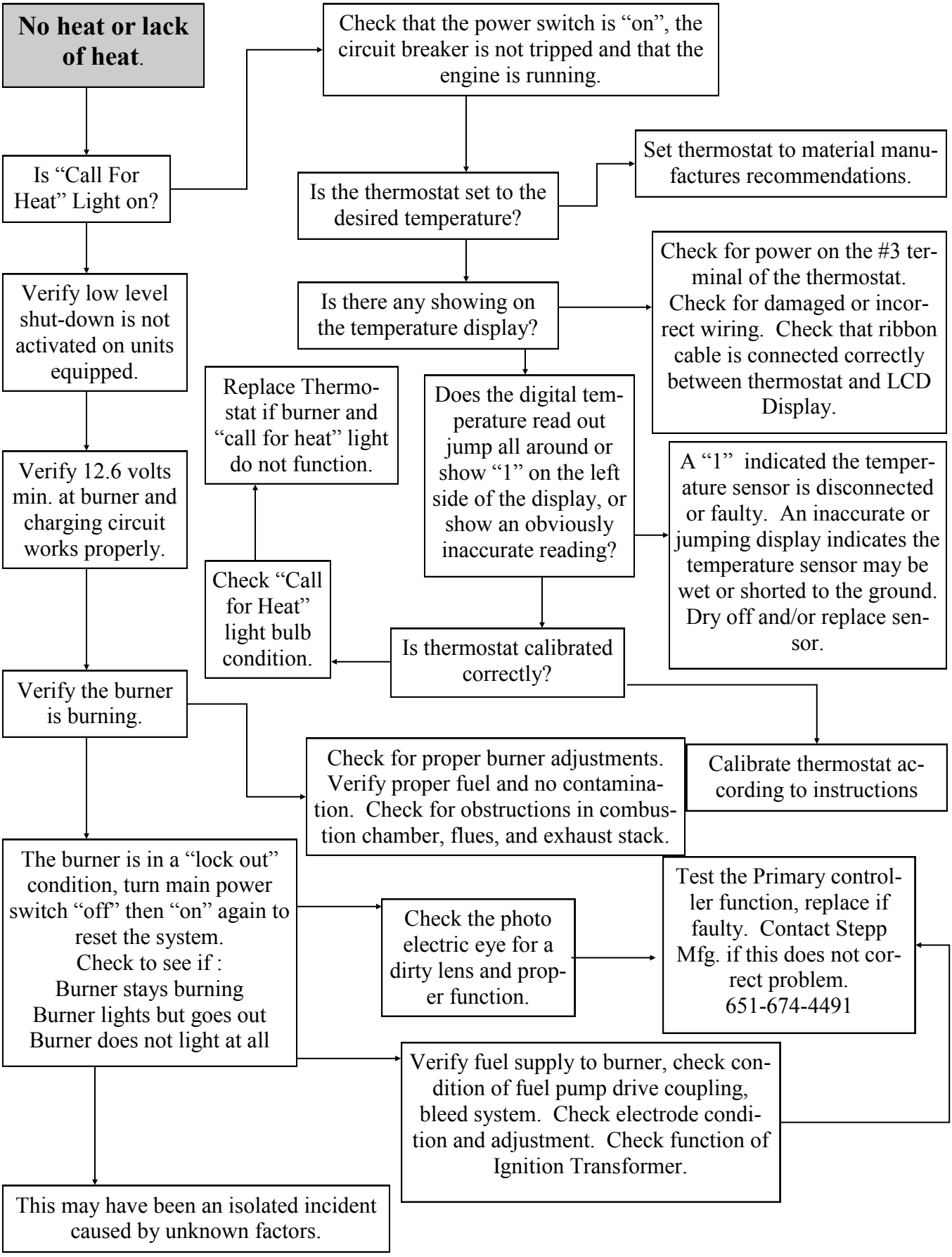
MAINTENANCE INSTRUCTIONS:

1. Grease pugmill bearing daily with high temperature grease.
2. For engine maintenance, refer to the engine manufacturers operating manual.

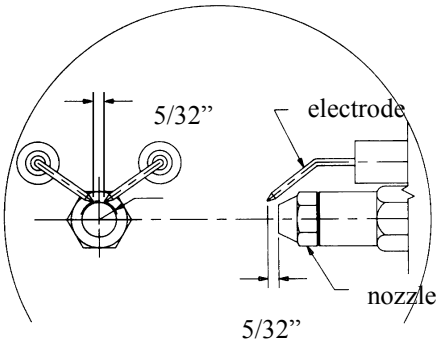
TROUBLE SHOOTING

TROUBLE SHOOTING

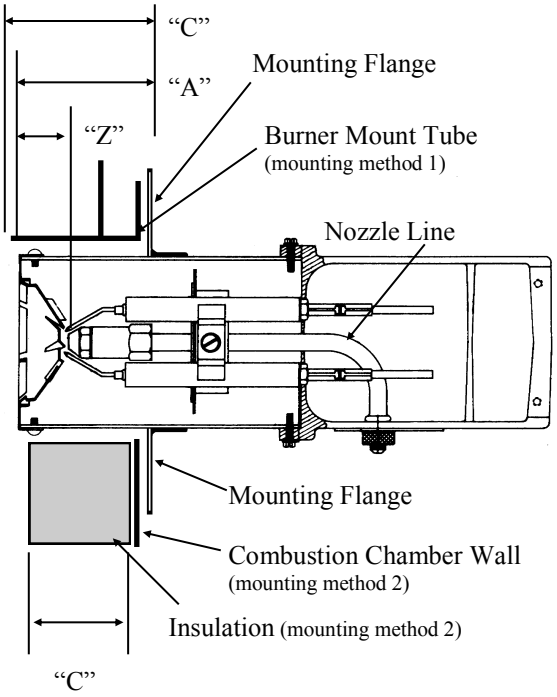
Diesel Burner



Diesel Burner Adjustments



Electrode Adjustment - Fig.1



Dimensional Adjustments - Fig. 2

1. Bleed all air from fuel system through bleeder screw. See Fig. 4 (burner motor must be running).
2. Check and adjust igniter electrodes as shown in Fig. 1.
3. Verify dimensional adjustments. The "Z" in dimension is set to 1 1/8' by repositioning the nozzle line. The "A" dimension is set 1/4" less than the "C" dimension by repositioning the mounting flange. Refer to the mounting methods shown in Fig. 2.
4. Check and adjust fuel pressure to 140 psi. 100 psi minimum may be used to compensate for high altitude operations (refer to Fig. 3).
5. Set initial adjustment of air band and air shutter to number six. Ignite the burner and adjust the air supply until there is a slight amount of smoke. See Fig. 4.
6. Allow temperature to rise to at least 150º F. then readjust air supply until there is just a trace of smoke.
7. Using combustion analyzer, measure the CO_2 or O_2 levels. Then increase the air supply to *reduce* the CO_2 by 1%, or *increase* the O_2 by 1%. If an analyzer is not available, increase the air supply until the smoke just disappears.
8. Tighten all screws after final adjustments are made.

NOZZLE FLOW CHART

100 PSI	.75	.85	.90	1.00	1.10	1.20	1.25	1.35	1.50	1.65	1.75	2.00	2.25	2.50	2.75	3.00
140 PSI	.89	1.00	1.07	1.18	1.30	1.41	1.48	1.60	1.78	1.95	2.07	2.37	2.66	2.96	3.25	3.55

Fig. 3

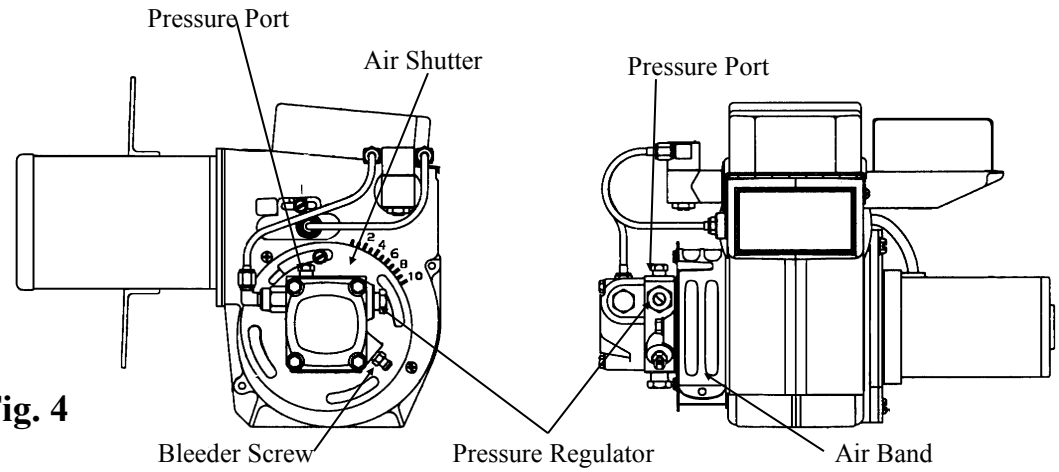
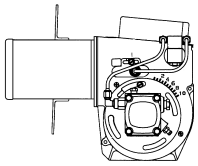


Fig. 4

Primary Controller Burner MTD/Hard Wired



NOTE: *The primary controller can be bench tested for proper operation using an automotive type, 12 volt battery as a power source. Refer to the wiring schematics for wire identification.*

1. Remove controller from burner. Mark all wires for proper reassembly.
2. Using two test lights, or volt meters, connect one to the blue wire, and one to the white/orange wire of the controller. Connect the black leads of your test instruments to the negative (-) terminal of the battery.
3. Connect the black wire from the controller to the negative (-) terminal of the battery.
4. Connect the red, white/red, and the white wires together, then connect these three wires to battery (+) terminal. Both test instruments should show voltage for approximately 15 seconds. After 15 seconds, the controller should "lock out" and no voltage will be present.
5. Repeat step #4, only this time connect the two yellow wires from the controller together three seconds after applying power to the three wires of the controller. (This simulates the controller receiving a "flame" signal from the photo electric eye). The white/orange wire should show voltage as long as the controller is hooked to the battery. The blue wire should only show voltage for about 15 seconds. Replace the controller if it fails any of these tests.

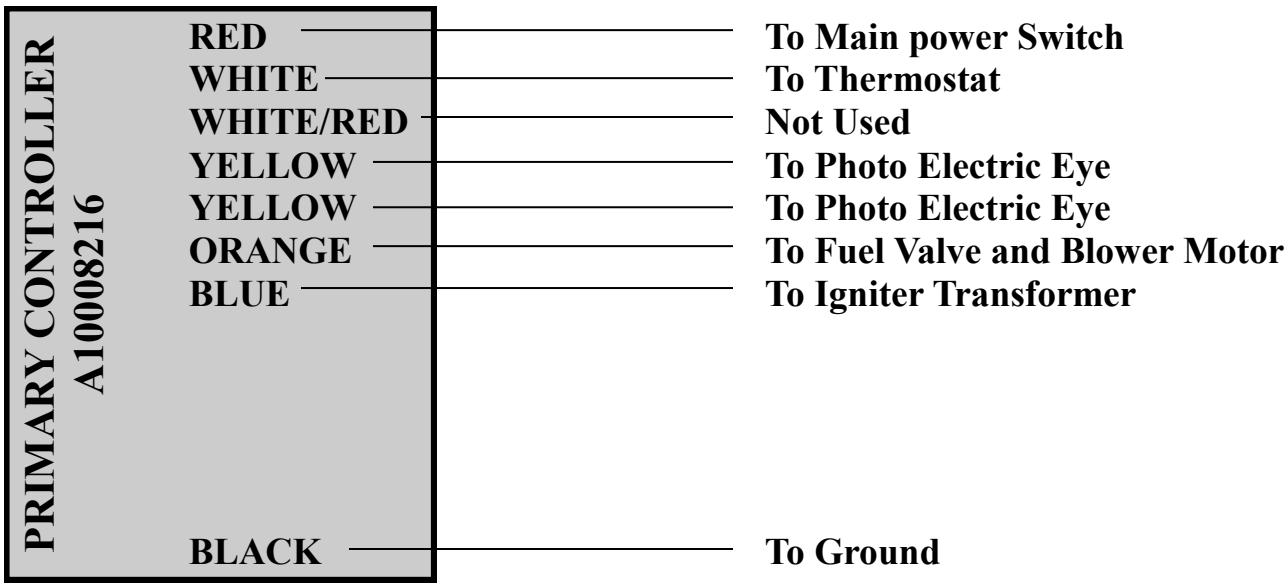
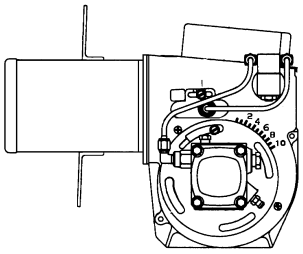


Photo Electric Eye



NOTE: *The Photo Electric Eye can be bench tested for proper operation using an ohm meter. Assure the lens of the Photo Electric Eye is clean prior to testing.*

1. Block off all light to the Photo Electric Eye. Test across the leads with your ohm meter; you should get an infinite resistance reading (a lot of resistance).
2. Point the Photo Electric Eye at a light source, the brighter the light, the less resistance your ohm meter will show.

CAUTION: *Replace the Photo Electric Eye if it does not respond in this way.*

Fuel Valve

NOTE: *The Fuel Valve can be bench tested for proper operation using an automotive type 12 volt battery as a power source.*

1. Disconnect the two leads and remove the fuel lines from the fuel valve.
2. The valve should be closed when no power is available.
3. Apply 12 volts to the two leads and the valve should open.

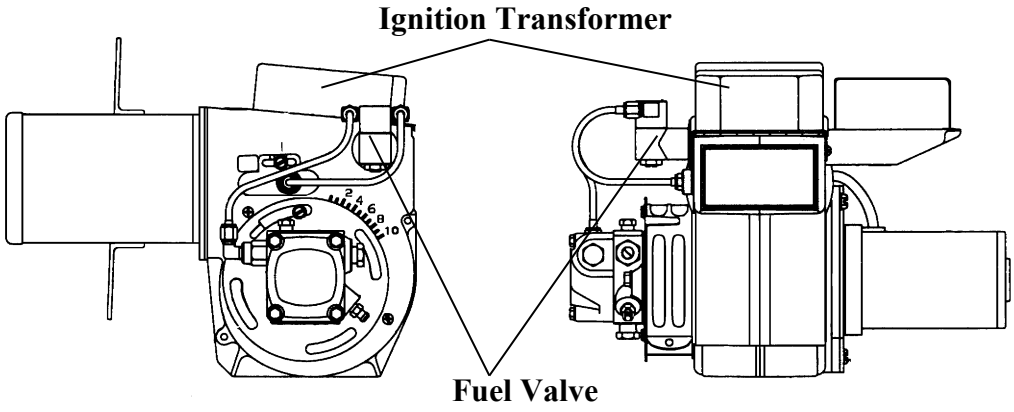
CAUTION: *Replace the fuel valve if it does not respond in this way.*

Ignition Transformer

WARNING: *Shock hazard, high voltage up to 20,000 volts.*

1. Assure that 12 volts is being supplied to the transformer during the ignition cycle. (Refer to the Primary Controller tests.)
2. Check electrode condition and adjustment. Replace or adjust as necessary.

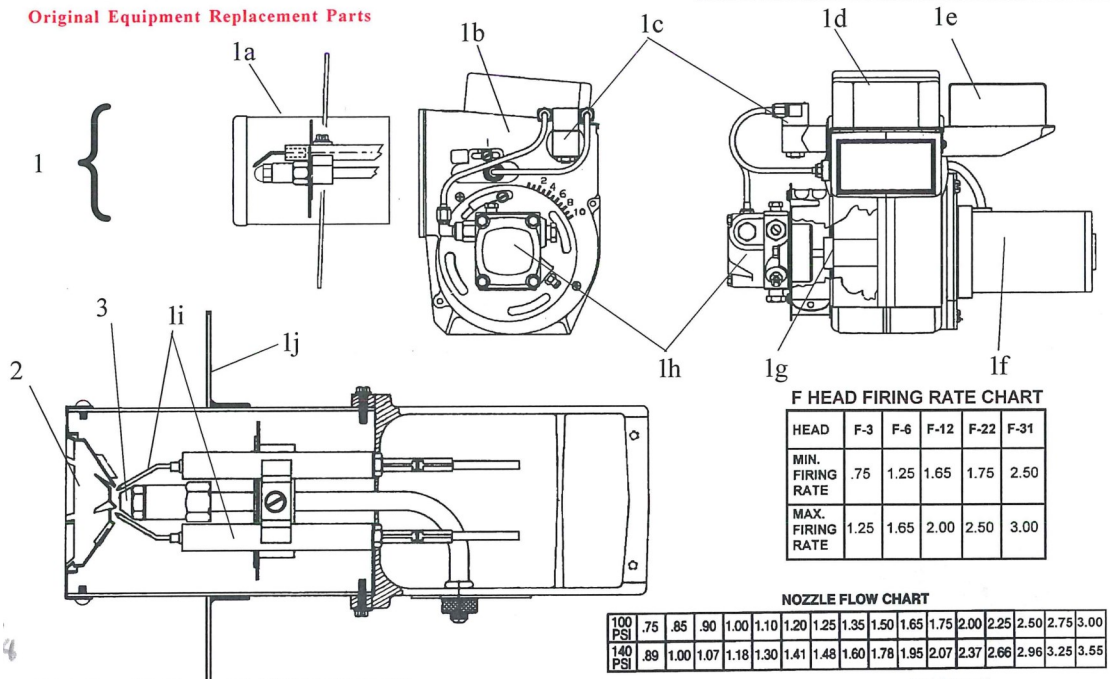
CAUTION: *Replace ignition transformer if unit won't produce sparks.*



REPLACEMENT PARTS

REPLACEMENT PARTS

12V Diesel Burner



F HEAD FIRING RATE CHART

HEAD	F-3	F-6	F-12	F-22	F-31
MIN. FIRING RATE	.75	1.25	1.65	1.75	2.50
MAX. FIRING RATE	1.25	1.65	2.00	2.50	3.00

NOZZLE FLOW CHART

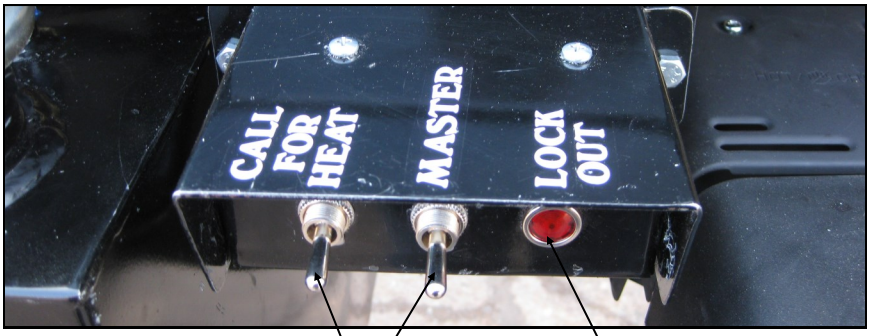
100 PSI	.75	.85	.90	1.00	1.10	1.20	1.25	1.35	1.50	1.65	1.75	2.00	2.25	2.50	2.75	3.00
140 PSI	.89	1.00	1.07	1.18	1.30	1.41	1.48	1.60	1.78	1.95	2.07	2.37	2.66	2.96	3.25	3.55

ITEM	QTY	DESCRIPTION	PART#
1	1	Burner assembly w/ Primary Control (less fuel retention head and nozzle)	A10008215
1	1	Burner assembly, complete w/ fuel retention head and nozzle	A10008105-015
1a	1	Air Tube	509070
1b	1	Photo electric eye (under ignition transformer)	
		-With Connectors	A10007678
		-Without Connectors	P10007720
1c	1	Valve, fuel control	509091
1d	1	Ignition Transformer	509087
1e	1	Primary Controller	P10001034
		-Weather Pack/Weather Pack	A10007216
		-Weather Pack/CPC New Style	A10008216
1f	1	Motor, blower	509092
1g	1	Coupling, pump to motor	509086
1h	1	Pump, burner fuel	509094
**	1	Pump, burner fuel– Internal Fuel Shut-off Valve	509109
1i	1	Electrode, igniter set	509089
1j	1	Mounting Flange	509071
**	1	Blower Fan Wheel	509069
2	1	Fuel retention head, F3 (for .75 to 1.25 gph)	P10005134
3	1	Nozzle, 1.0 gph. 80°	P10005123
**	1	Fuel Filter Element	509078

** Not Shown

Note: Indented item numbers with letter suffix are included with preceding item number.

Nozzle GPH rated at 100 psi. Match nozzle and fuel retention head with that installed.



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ITEM	QTY	DESCRIPTION	PART#
1	2	ON/OFF Toggle Switch SPST	P10000180
2	1	Lock Out Light	P10000181

QTY	DESCRIPTION	PART #
1	Hydraulic Motor-22.6 ci	510004
1	Chain Coupling Half, 5016x 1 1/2" bore	507009
1	Coupling Chain, 5016	P10006438
1	Chain Coupling Half, 5016 x 1” bore	P10004956-002
2	Key, 3/8" x 3/8"	P10002021
1	Hydraulic Pump .4 Cu In Eaton	P10002735
1	Chain Coupling Half, 4016x 5/8" bore	P10004555-001
1	Coupling Chain, 4016	P10004556
1	Chain Coupling Half, 4016 x 1” bore	P10004555-004

1 2

ITEM	QTY	PART#	DESCRIPTION
1	1	HONDA Engine	508009A
2	1	Hydraulic Filter	A10002644

STEPP MFG™

ASPHALT MAINTENANCE EQUIPMENT

Consumer Warranty Guide

12325 River Road, North Branch, MN 55056~ Phone: 651-674-4491~ Fax: 651-674-4221 www.steppmfg.com

Introduction

Congratulations on your purchase of equipment built by Stepp Manufacturing for your asphalt maintenance needs. Your equipment has been designed and constructed to give you the most in performance, ease of use, and reliability. It is our desire that you will find operating the equipment both productive and profitable.

Warranty Procedures Through A Dealer

If your equipment requires repair, or needs parts for repair, please contact your area dealer. For repairs, the unit must be brought to the dealer for warranty. The dealer will require purchase date information, where the machine was purchased, and the Vehicle Identification Number (VIN) of the equipment. This information is needed so the dealer can submit a warranty claim. The dealer will repair your equipment, once warranty is approved, at no charge to you under the provisions of the warranty policy.

Warranty Procedures Direct Through The Factory *(when no servicing dealer is available in your area)*

Contact Stepp Manufacturing's Customer Service Department at (651) 674-4491.

In this situation, it may be advantageous for you to repair the machine and be reimbursed direct from the factory for warranty repairs. If you do not have the facilities, or the technicians, to perform the repair, the unit can be brought to a local repair facility. In either case, Stepp Manufacturing ***MUST*** be contacted and authorize the warranty repair ***PRIOR*** to any work being performed. If work is done prior to authorization, the warranty will not be honored.

If parts are required for the warranty repair, contact Customer Service at Stepp Manufacturing for replacements. When warranty replacement parts are shipped to you, a Warranty Authorization Number will be issued. If asked to return the defective parts, "tag" the defective parts with the Warranty Authorization Number, then package them in the same box the new parts were shipped in. Ten (10) business days will be allowed for return of the defective parts. If the defective part is not received back at the factory within this allotted time, the warranty will not be honored.

You will be billed for all parts shipped that require returning of defective parts. However, when the defective parts are returned and evaluated, you will receive credit for the cost of the part only. Thus, it is important that all defective parts are turned to Stepp Manufacturing in the allotted ten (10) day period.

Engine Warranty Claims

When a warranty issue develops with the engine, bring the unit to the engine manufacturer nearest authorized service center for repair. Be prepared to supply them with proof of purchase information with purchase dates.

Stepp Manufacturing cannot process engine warranty claims. However, we will be happy to offer assistance in locating the nearest service center.

Equipment Owner Responsibilities

As the equipment owner, you are responsible for:

- Using the equipment in accordance with the correct operating procedures as shown in the operators manual.
- Assuring all maintenance items are completed in accordance with the operators/maintenance manuals.
- Transporting the equipment to the place where warranty repairs can be completed.
- Supplying purchase date and VIN information to establish warranty coverage.

General Warranty Statement
Stepp Manufacturing's One (1) Year Limited Warranty

Stepp Manufacturing Co., Inc. hereby warrants, to the original purchaser of new equipment, that products manufactured by Stepp Manufacturing will be free from defects in material and workmanship for a period of one (1) year from the date of purchase from Stepp Manufacturing.

Stepp Manufacturing, at is discretion, will provide for the repair or replacement of any part found, upon examination by Stepp Manufacturing, to be defective, except as noted below. Such repair or replacement shall be free of charge to the original purchaser of new equipment for a period of one (1) year from the date of purchase, except as noted below.

No warranty is extended to cover:

- Product pump wear or damage caused by foreign objects.
- Routine maintenance, cleaning, and adjustments.
- Parts or components that have been altered, misused, improperly adjusted, or improperly maintained.
- Transportation to and from the place of warranty repair.
- Removal of materials from equipment.

The following items are covered solely by their manufacturer's warranty:

- Engines
- Hydraulic components
- Burners
- Pumps
- Axles
- Tires
- Other component parts not solely manufactured by Stepp Manufacturing

The following items are covered by a pro-rata warranty:

- Hoses that carry heated materials
- Heating elements for material hoses and wands

Disclaimer of further warranty:

Stepp Manufacturing makes no warranty, expressed or implied, other than this warranty. The implied warranties of merchantability and fitness for a particular purpose are hereby disclaimed. Repair or replacement of products or parts proving to be defective in material or workmanship shall be the exclusive remedy for breach of this warranty.

Stepp Manufacturing shall not be liable for incidental or consequential damages. Including, but not limited to, damages for inconvenience, rental or purchase of replacement equipment, loss of profits, or other loss resulting from breach of this warranty.

Stepp Manufacturing reserves the right to incorporate any changes in design into its products without obligation to make such changes on products previously manufactured.

Twelve (12) Month Pro-Rata Limited Warranty
Heated Asphalt Hose and Heating Elements

Effective for Equipment Delivered After 5/1/2012

Stepp Manufacturing Co., Inc. hereby warrants to the original purchaser, on a pro-rated basis, that the heated asphalt hose and heating elements installed on NEW Stepp Manufacturing's equipment shall be free from defects in material and workmanship for period of twelve (12) months for the heated asphalt hose and six (6) months for the heating element.

In the event that a heated asphalt material hose or a heating element fails under normal use during the warranty period, Stepp Manufacturing will supply a replacement heated asphalt hose or heating element, along with one-half (0.5) hour for installation labor on a pro-rated adjustment basis.

- If the failure occurs under normal use within the first three (3) months from date of purchase, Stepp Manufacturing will supply a replacement, and provide for one-half (0.5) hour installation labor at no charge to the customer.
- If the failure occurs under normal use within the fourth (4th) through twelfth (12th) months, Stepp Manufacturing will supply a replacement, and provide for one-half (0.5) hour installation labor on a pro-rata basis.

The pro-rated adjustment is based on the total number of months elapsed since the purchase date of the new equipment from Stepp Manufacturing. This rate is then applied to the one-half (0.5) hour labor rate and the current suggested retail price of the proper replacement heated asphalt hose or heating element supplied by Stepp Manufacturing. This is the amount the customer will have to pay. Freight will not be included in the reimbursement. If a new heated asphalt hose or heating element is needed prior to warranty inspection, you will be billed for all parts shipped that require returning of defective parts. However, when the defective parts are returned and evaluated, you will receive credit for the cost of the part only. **Thus, it is important that all defective parts are turned in to Stepp Manufacturing in the allotted ten (10) day period, or warranty will be denied.**

In no case will the warranty coverage extend beyond the six (6) month period for the heating element or the twelve (12) month period for the heated asphalt hose, from the original purchase date of the new equipment from Stepp Manufacturing. *Physical damage is not covered by this warranty*. Physical damage may include, but is not limited to:

- Broken heating element (typically caused by repeated bending to less than a one (1) foot radius).
- Heated asphalt hoses burnt from the inside (typically caused by operating the heating element in an empty hose).
- External cuts or abrasions on the heated asphalt hose (typically caused by dragging on the ground).

The chart below shows the pro-rated amount, by percentage, that will be allowed by warranty, pending examination of the heated asphalt hose or heating element.

Heated Asphalt Hose		
Failure Date	**Warranty's Responsibility**	**Customer's Responsibility**
0-3 Months *0-90 Days*	100%	0%
3-6 Months *91-180 Days*	70%	30%
6-7 Months *181-211 Days*	60%	40%
7-8 Months *212-242 Days*	50%	50%
8-9 Months *243-273 Days*	40%	60%
9-10 Months *274-304 Days*	30%	70%
10-11 Months *305-335 Days*	20%	80%
11-12 Months *336-365 Days*	10%	90%
After 12 Months	0%	100%

Heating Element		
Failure Date	**Warranty's Responsibility**	**Customer's Responsibility**
0-3 Months *0-90 Days*	100%	0%
3-4 Months *91-121 Days*	60%	40%
4-5 Months *122-152 Days*	40%	60%
5-6 Months *153-180 Days*	20%	80%
After 6 Months	0%	100%

STEPP MFG™
ASPHALT MAINTENANCE EQUIPMENT

Warranty Claim Authorization Number: _____
Call Customer Service at 651-674-4491 to obtain prior approval or warranty will be denied.
Date of Authorization Request _____

Equipment Owner		Warranty to be Performed by	
Customer Name		Company Name	
Street Address		Address	
City/State/Zip		City/State/Zip	
Equipment Model #		Contact Name	
Equipment VIN		Contact Phone #	
Hour Meter Read			
Purchase Date		Date of Malfunction	
Dealer Purchased Form		Date of Repair	

Warranty Authorization		Signature for Authorization
Date of Malfunction		X
Date of Repair		

Symptoms / Diagnostics / Action

Symptoms	Diagnostics	Action
Describe the symptoms in detail, be as specific as possible. Ex: Burner ignites and runs for 35 seconds, then goes out.	*Describe issues found, be as specific as possible. Ex: Part failed due to loose connection, resulting in misalignment and premature wear.*	*Describe action taken, be as specific as possible. Ex: Removed damaged section of wire harness, soldered new leads in place, and insulated splices w/ heat shrink tubing.*

Parts and Labor

Labor Time to Correct Problem (reimbursed at $55/hour)		Parts Used to Correct Problem		
Labor Time (in hours)	Repair Made	Part Number	Description	Qty

Parts Return

All parts returned must be tagged with the warranty authorization number and a copy of this claim. Retain all parts until credit is received from the factory. When requested, return the parts, along with this claim, to:

Stepp Manufacturing Co., Inc.
Attn: Warranty Department
12325 River Road
North Branch MN 55056

*__Note__: If defective parts are not returned within 10 days, or this warranty claim does not accompany the returned parts, the claim will be denied.

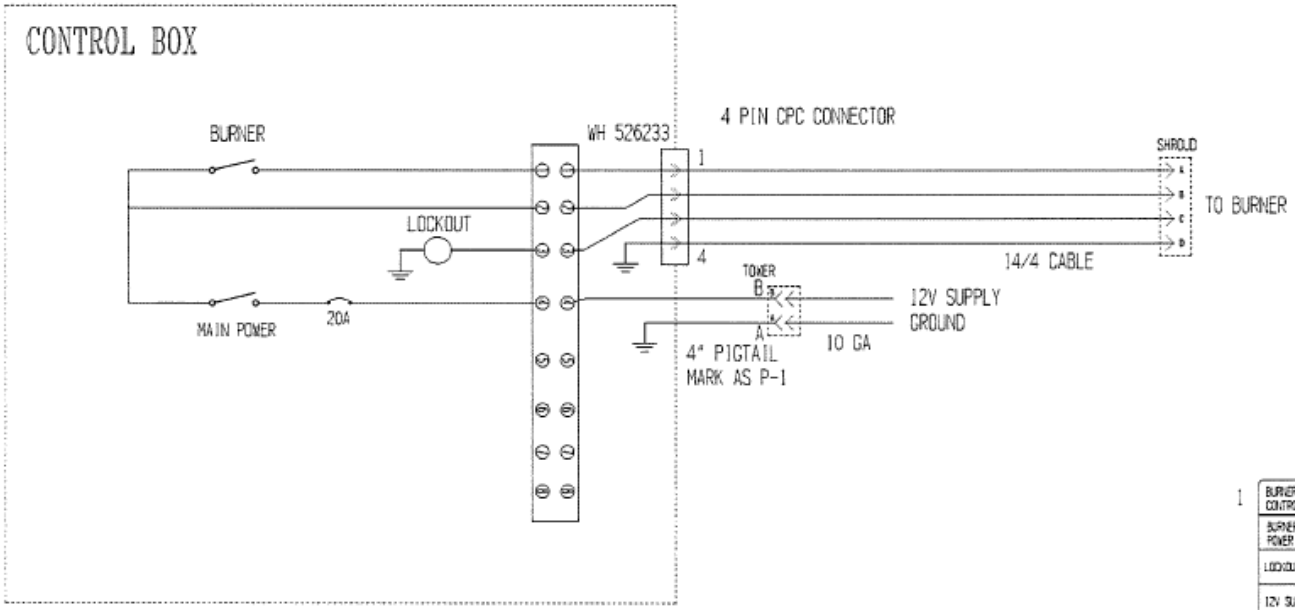
Office Use Only

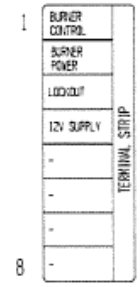
Date Claim/Parts Received?		Is this a warrantable claim?	Yes	No
Claim Reviewed By:		Original Invoice # for Parts		
Date of Review:				

Warranty Totals

SCHEMATICS

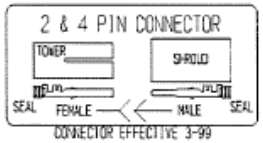
MANUAL BURNER CONTROL WIRING





TERMINAL STRIP LABEL

NOTE: CONNECT GROUND WIRES TO GROUNDING BAR IN CONTROL BOX



CONNECTOR EFFECTIVE 3-99

SHOP NOTES	MACHINE CODE
STANDARD SHOP TOLERANCE UNLESS OTHERWISE NOTED: ±1/16" & ±1°	LOCK FORMER: -
	WIEDEMANN: -
	LARGE BRAKE: -

STEPP MFG CO INC
NORTH BRANCH, MN. 55056

ROUTING: -		PROJECT:	
CAGE CODE: 06447		ASS'Y:	MANUAL BURNER CONTROLS
DWN: 2-10	DWN BY: JD	PART NAME:	WIRING DIAGRAM
REV: -		FILE NAME:	12V1BM
INV NO: -		INV AMT EA: -	QTY: 1
MAT'L: AS NOTED		JOB NO:	JOB QTY: