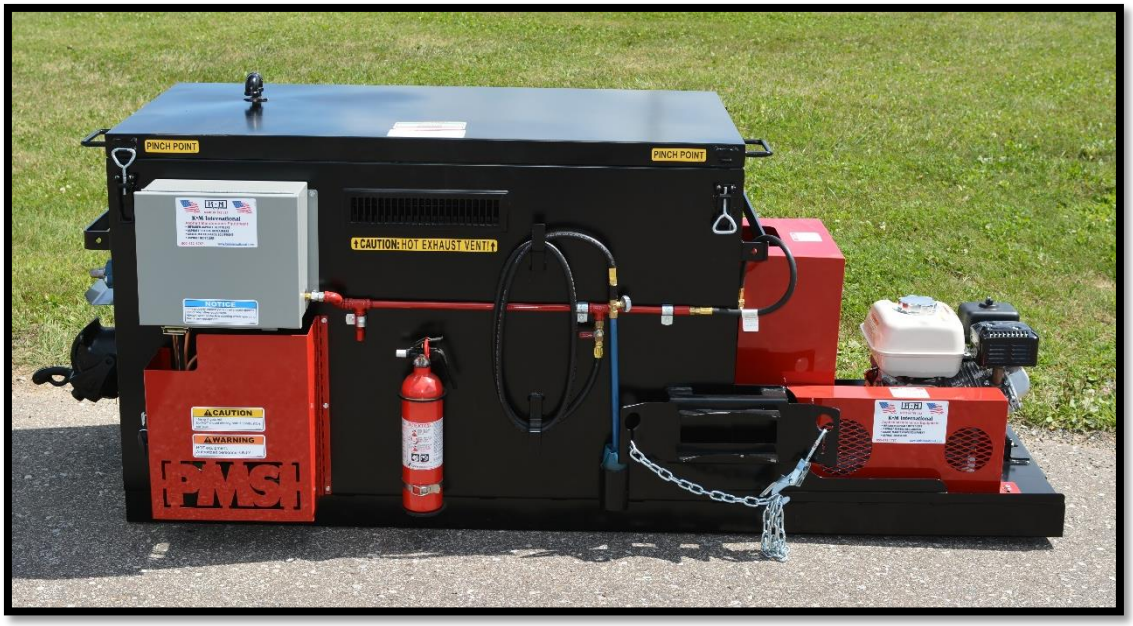
MODEL KM 55 4” MASTIC MELTER
ORIGINAL INSTRUCTIONS
PROPANE FIRED



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THE CHOICE OF ASPHALT PROFESSIONALS WORLWIDE

KM INTERNATI0NAL
6561 Bernie Kohler Drive, North Branch, Michigan
Tel 1-810-688-1234 Toll Free 1-800-492-1757 Fax 1-810-688-8765
www.KMINTERNATIONAL.com

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INTRODUCTION

The KM International Team would like to take this opportunity to **THANK YOU** for your purchase of the **KM 55 Melting Kettle**. We at KM International are confident that our melting kettles will offer years of safe, reliable and cost effective "rubber melting".

The **KM 55 Melting Kettles** are designed to melt and maintain application temperatures of a range of rubber products. Our Melting Kettles are designed and manufactured at our North Branch Michigan facility.

The simple, straight forward design has little to go wrong and makes maintenance easy and cost effective. Safety is a main concern when working with any fuel combustion system and the **KM 55 Melting Kettle's** propane fired system should be no exception.

KM International, Inc. has acquired and developed a number of strengths that has fostered KMI's worldwide reputation in the "ASPHALT REPAIR" industry as the "Gold" and "Green" standards. We are the preeminent authority on the "infrared process" of in-place "surface heating" and "recycle and repair." We have fostered an ongoing industry standard of quality and excellence that continually exceeds our customers' expectations in all of our other product offerings including our "Hot Box/Reclaimer" line of equipment.

Our commitment to the design and manufacture of the highest quality surface maintenance and repair equipment in the market is not just a "quote on the wall" but rather the driving force for the entire KMI team. Our 26 years in the "Asphalt Maintenance" industry has provided KM INTERNATIONAL the necessary experience to provide our customers the "peace of mind" that only knowledge through experience can accomplish; know how that our customers have come to rely on. The Management Team at KM INTERNATIONAL is confident that YOUR purchase of the **KM 55 Melting Kettle** will be the basis for a long standing and profitable relationship.

The Goal at KM INTERNATIONAL has, and will always be, the manufacture of equipment that provides our customers with cost savings, purchase justification, and profitability.

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SAFETY AND WARNING INFORMATION

NOTICE: ***READ and UNDERSTAND*** all instructions carefully before starting the **KM 55 Melting Kettle**. ***FAILURE TO FOLLOW*** these instructions may result in a possible **fire hazard** and will void the warranty.

WARNING: Any safety screen or guard removed for servicing must be replaced before operating the **KM 55 Melting Kettle**. ***DO NOT USE*** the **KM 55 Melting Kettle** if any part has been damaged or placed under water. Immediately ***CALL*** a qualified service technician to inspect the appliance and to replace any part of the control system which has been damaged.

NOTICE: Maintenance or repair should be performed by a qualified service person. The **KM 55 Melting Kettle** system should be ***INSPECTED*** before initial use and at least annually by a professional **KMI** service person. It is ***IMPERATIVE*** that the unit's control compartment, burners, and circulating air passageways ***ARE KEPT CLEAN*** to provide for adequate combustion and ventilation air. Always keep the **KM 55 Melting Kettle** clear and free from combustible materials, gasoline, and other flammable vapors and liquids. The Combustion chamber should be inspected annually or when evidence of excessive heat exists. This can be evidenced by paint discoloration near or around your KEM101 Beckett burner.

NEVER OBSTRUCT the flow of combustion and ventilation air. Keep the front of the **KM 55 Melting Kettle** ***CLEAR*** of all obstacles and materials for servicing and proper operation.

NOTICE: Children and adults should be alerted to the hazards of high surface temperature and should ***STAY AWAY*** to avoid burns or clothing ignition.

WARNING: Always wear protective clothing, including eye and ear protection, leather protective gloves, long sleeved protective shirt, long pants, and leather protective boots when operating this or any other equipment.

NOTICE: The **KM 55 Melting Kettle** is designed to heat rubber products to a working temperature that is specified by the material manufacture. The unit will become DANGEROUSLY hot quickly; care and caution must be observed at all times. Be aware of your surroundings. Use caution around buildings, utility wires, combustibles, landscaping, etc. to prevent damage or injury.

IT IS HIGHLY RECOMMENDED THAT YOU HAVE A FIRE EXTINGUISHER ON YOUR JOB SITE AT ALL TIMES.

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KM 55 MELTING KETTLE

The **KM 55 Melting Kettle** is designed to melt and maintain rubber products at working temperature. The solid welded construction and straight forward design is simple to use and requires little maintenance.

NOTICE: Safety is always a concern when working with any fuel combustion system and the **KM 55 Melting Kettle** propane fuel burner system is no exception. **WARNING: PROPANE FUEL LEAKS PRESENT A DANGER** and must be corrected prior to operating the burner. Fuel leaks should be properly sealed prior to system operation.

The burner is designed to burn **Liquid Propane Gas (LPG) ONLY.**

DANGER: NEVER USE ANY OTHER COMBUSTIBLE FUELS in the burner as an explosion could result.

HOW THE MELTING KETTLE HEATS

The **KM 55 Melting Kettle** propane heated unit uses a 60,000 BTU burner to produce heat inside of the combustion chamber. The heat energy circulates throughout the combustion chamber area heating the funnel. Energy is then transferred by conduction through the funnel walls into the rubber material.

The burner is thermostatically controlled and will automatically cycle on and off to maintain the selected temperature. A full fuel tank should provide 20+ hours of continuous burner operation. Actual operating time between refueling could be longer depending on ambient temperature, temperature setting, and volume of material in the funnel.

Heat energy circulation and transfer is key to maintaining proper material temperature. Air flow intake and exhaust should never be obstructed. The interior of the funnel should be kept clean daily to allow optimal conduction from the interior combustion chamber into the load.

WARNING: Never clean the funnel with a combustible solvent. Doing so will result in fire or explosion.

Daily cleaning with a flat spade is the best maintenance for the interior of the **KM 55 Melting Kettle**.

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SET UP - SECURING THE MELTING KETTLE TO YOUR VEHICLE

Length: 87" (221 cm)
Width: 33" (84 cm) Box Bottom Section: 48" (122 cm)
Height: 34" (86 cm)
Weight Empty: 585 lbs. (265 kg)
Weight Full: 1435 lbs. (651 kg)

WARNING: The **KM 55 Melting Kettle** must be safely secured to the vehicle before transport. All securing hardware and all additional tools should be inspected and properly stowed daily.

WARNING: Do not mount directly onto a combustible surface. The underside of the **KM 55 Melting Kettle** is hot during operation. It may be necessary to mount the **KM 55 Melting Kettle** onto a heat resistant (metal) surface.

The **KM 55 Melting Kettle** can be mounted by bolting the unit down at the bottom four corners. Use suitable hardware and mounting structure on the vehicle.

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LIGHTING INSTRUCTIONS

	1. Slowly open the propane cylinders. Be sure not to activate the safety excess flow valves in the bottle fittings. Note: Opening a cylinder too quickly will activate a safety excess flow valve caused by a surge in fuel flow. This will limit the amount of fuel allowed to leave the hose fitting.
	**2**. Set the thermostat to lowest setting. **3**. Push in the gas control knob slightly and turn clockwise to "OFF." Note: Knob cannot be turned from "PILOT" to "OFF" unless knob is pushed in slightly. DO NOT FORCE. **4**. Turn the knob on gas control counterclockwise to PILOT.
	**5**. Push the control knob all the way in and hold. Immediately push the electric igniter button. Continue to hold the control knob while visually checking to see that the pilot light has lit inside the heating chamber along the burner. Once the pilot has lit, hold the control knob in for one (1) minute. Release the knob and it will pop back up. The pilot should remain lit. If it goes out, wait two minutes to allow gas to clear, repeat steps three through five (3-5).
	**6**. Turn the gas control knob counterclockwise to "ON." **7**. Set the thermostat to desired temperature setting. ⚠ **WARNING:** Operating the burner during travel may cause failure resulting in personal injury or equipment damage not covered under warranty.

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	Shown is a view of the burner during operation. Notice clean blue flames (3/4" - 1" tall) from end to end on the burner. The pilot flame will be yellow and aim toward the burner and straight up, heating the 750 mV generator.

LOADING, MELTING, AND AGITATING

WARNING: Always wear protective clothing, including eye and ear protection, leather protective gloves, long sleeved protective shirt, long pants, and leather protective boots when operating this or any other equipment. Be aware of local safety notices including hard hat and eye protection zones.

WARNING: Hot! Material temperatures exceed 450° Fahrenheit (232 Celsius).

	1. Ignite burner system and set thermostat temperature to material specification.
	2. Place 3 blocks (75 lbs.) of material in funnel so that the material has the most surface contact with the funnel wall.
	3. Allow 45 minutes for material to melt before starting agitation. **NOTICE: Melting times will vary depending on ambient conditions, material type, and amount of load.** **NOTICE: Do not allow agitation to run with material cooling. Stop immediately if the burner is shut down or runs out of propane.**

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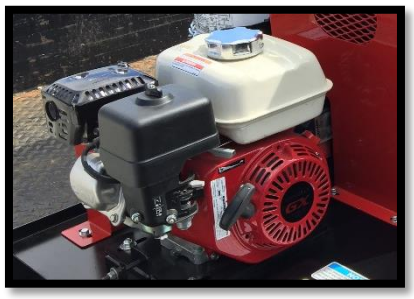	4. Start the engine and allow to warm up before increasing the throttle to its maximum position. ⚠ **WARNING: Starting agitation before material has been allow to melt may result in damage or failure to agitation drive system.**
	5. Allow agitation to mix material for 10 minutes or until material is thoroughly mixed (no signs of dry aggregate). ⚠ **CAUTION: Melted material is HOT and CAUTION must be taken when inspecting material for mixing.**
	6. Stop the agitation by turning off the engine. Then place another 1-3 blocks of material (25-75 Lbs.). WARNING: MELTED MATERIAL IS HOT! ⚠ **WARNING: Melted material is HOT, splashing is possible. Wear proper safety equipment while adding more material.**
	7. Allow 10 minutes for added material to melt before resuming agitation. ⚠ **NOTICE: Melting times will vary depending on ambient conditions, material type, and amount of load** ⚠ **WARNING: Starting agitation before material has been allow to melt may result in damage or failure to agitation drive system.**
	8. Repeat steps 6 and 7 to a maximum of 9 blocks (225 Lbs.) of material has been added.

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	9. Allow the material to reach specification temperature while continuously agitating.
	10. Once material has reached specified temperature, begin application. Heat may be required to allow material to flow from the valve during the first dispense using the supplied torch. Do not apply heat to the bearing, may cause premature failure. Add more material as required using the same method as steps 6 and 7.
	11. Do not add more material than required to complete a job, attempt to empty the machine at the end of every job.

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MAINTENANCE SCHEDULE

The following maintenance schedule is a recommendation from KM International and when maintenance is being performed a qualified technician needs to consult the specific manufactures manuals for each component. Performing routine maintenance will extend equipment and component life along with reducing unwanted down time.

NOTICE: Maintenance or repair should be performed by a qualified service technician.

Burner System					
Daily	- Inspect fuel lines for leaks using a soapy water solution -Inspect burner for proper operation - Inspect the pilot for proper operation - Inspect igniter for proper operation				
Annual	- Remove and clean trap on main fuel line - Remove and clean burner - Remove and clean pilot orifice - Remove and clean venturi orifice - Check thermostat for operation accuracy				
Funnel/Agitation					
Daily	- Scrape clean at the end of each job - Inspect for leaks at shaft seal and weld joints - Grease Bearings - Inspect drive chain and belt for wear and/or damage				
Annual	- Inspect overall condition funnel and agitation - Inspect drive chain and belt for adjustment - Change fluids to gearbox and engine manufactures specifications				
Body/Overall					
Daily	- Clean thoroughly after each job				
Annual	- Inspect entire machine for wear or fatigue				

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TROUBLESHOOTING

PROBLEM	INSPECT FOR SOLUTION
(A) Pilot will not light.	Ensure propane bottles have fuel and valves are open.
	Propane cylinders have not been purged of air. Consult propane supplier.
	Ensure change over regulator lever is entirely switched to one side or another.
	Propane bottle excess flow valve – Be sure gas is flowing to the regulators. If the bottle(s) is turned on too quickly it can trigger the excess flow of safety valve in the bottle and shut off the flow of gas. Close propane bottle valve; safely relieve line pressure, then slowly reopen valve.
	Allow enough time to evacuate air from pilot line and let propane flow to pilot.
NOTICE: Maintenance or repair should be performed by a qualified service person.	No spark at pilot light assembly. **NOTICE:** Close gas cylinder and turn gas valve to off position. Inspect the electronic igniter, check all wire connections include the ground wire. An audible "clicking" should be heard when button is depressed. If not, igniter unit may need to be replaced. If equipped with an electric Piezo igniter, check all electrical connections. Ensure that the Piezo is grounded. "Snap" the push button igniter; it is capable of producing a three – sixteenth (3/16") inch blue spark. If no spark, then check the spark gap at pilot assembly. If you are unable to produce a spark, then it will be necessary to replace the electric Piezo igniter.
	No Spark at pilot light assembly. **NOTICE:** Close gas cylinder and turn gas valve to off position. Inspect spark igniter electrode. Remove burner access safety panel and locate igniter electrode. Inspect spark wire connection. Inspect the ceramic spark electrode for a crack or broken ceramic insulation. Replace burner access safety panel after servicing.
NOTICE: Maintenance or repair should be performed by a qualified service person.	Pilot orifice is plugged. **NOTICE:** Close gas cylinder and turn gas valve to off position. Remove burner access safety panel and locate the pilot light orifice connection at the end of the 1/4" (small) propane fuel line. Remove the fuel line, then remove the pilot orifice. Clean the orifice of debris. Note: It may be necessary to entirely remove and clean or replace the 1/4" pilot fuel line. Reinstall the pilot orifice and pilot fuel line. Inspect for leaks before returning the unit to service. **WARNING:** **PROPANE FUEL LEAKS PRESENT A DANGER** and must be corrected prior to operating the burner. Replace burner access safety panel after servicing.

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PROBLEM	INSPECT FOR SOLUTION
(B) Pilot goes out when gas control knob is released.	Ensure gas control knob is held at least one minute to allow the generator time to heat.
	Inspect the 750 Millivolt Generator. A consistent flame must surround the generator cartridge. If it seems abnormally small then the pilot orifice needs cleaning. See above.
⚠ **NOTICE:** Maintenance or repair should be performed by a qualified service person.	Inspect Millivolt Generator output. The most effective test of the pilot generator requires a Multi-meter with 0-1000 Millivolt (mV) scale. Connect the meter leads to the valve of relay terminals to which the pilot generator wires are attached while maintaining the pilot flame by continually depressing the gas control knob. If the meter needle moves to the left of zero or no reading is indicated, reverse meter probes. The meter must read 400 mV or more to effectively operate the gas control valve. If the reading is low replace mV generator cartridge.
(C) Burner will not ignite when signaled by thermostat.	Ensure the gas control knob is turned to the ON position.
	Inspect thermostat. Remove thermostat cover to access the wire connections. Use a multi-meter to check for continuity across the wire terminals when the thermostat signals on. Voltage input and output can also be checked. If a multi-meter is unavailable, a short jumper wire can be used to make contact across the thermostat terminals. If the burner immediately operates, then replace the thermostat.
⚠ **NOTICE:** Maintenance or repair should be performed by a qualified service person.	Inspect the Millivolt Generator output. Potential across the valve with the pilot light on should be 400 mV or more. If it is, yet valve does not open, replace valve. If the potential is less than the minimum, check thermostat wire connections. Replace thermostat if necessary.
	Inspect Venturi Air Mixer - Ensure the Venturi air shutter is open and adjusted for proper flame size. If the packing nut has come loose and the air shutter has closed not allowing air to enter the Venturi, the burner may not have enough pressure to ignite along the burner. Adjust the air shutter and re-set the packing nut. Replace burner access safety panel after servicing.
	Inspect the Burner Orifice. ⚠ **NOTICE:** Close gas cylinder and turn gas valve to off position. Locate the burner orifice in the Venturi Air Mixer. Remove the spud and orifice. Inspect, clean of debris and re-install. It may be necessary to inspect, clean and replace the 3/8" burner fuel line. ⚠ **WARNING: PROPANE FUEL LEAKS PRESENT A DANGER** and must be corrected prior to operating the burner. Replace burner access safety panel after servicing.
(D) Burner ignites but flame is lazy, incomplete, or erratic across the burner tube.	Inspect Venturi Air Mixer - Ensure the Venturi air shutter is open and adjusted for proper flame size. If the packing nut has come loose and the air shutter has closed not allowing air to enter the Venturi, the burner may not have enough pressure to ignite along the burner. Adjust the air shutter and re-set the packing nut. Replace burner access safety panel after servicing.

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LIMITED WARRANTY

KEIZER-MORRIS INTERNATIONAL, INC. (hereinafter called KMII) warrants the equipment manufactured by KMII to be free from defects in material and workmanship on the invoice date to the original purchaser. KMII will, for a period of twelve (12) months from the invoice date, repair or replace any serviceable or consumable parts determined by KMII to be defective. These parts include, but are not limited to, insulation, fuel lines, bearings, filters, ignition components, power supplies, axle components, oil, fuels and lubricants. All components, with the exception of the previously listed twelve (12) month warrantied parts, will be covered under this warranty for a period of twelve (12) months. The trailer frame components, hotbox body and workmanship is warrantied for a period of twelve (12) months from the invoice date. This warranty applies only when the claim is approved and repaired by a KMII representative.

KMII will not be liable for general wear and tear, or any malfunction, damage or wear caused by misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-KMII component parts. This warranty applies only when the equipment is used for its intended purpose and properly maintained.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized KMII distributor or the factory direct, for verification of the claimed defect. If the claimed defect is verified, KMII will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser standard ground prepaid, expedited shipping will not be covered. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which may include the cost of parts, labor, and transportation. This warranty does not cover labor for component replacement or freight charges for structure and workmanship claims.

KMII will in no event be liable for indirect, incidental, special or consequential damages resulting from KMII supplying equipment hereunder, or the furnishing performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of KMII or otherwise.

KMII's sole obligation and buyer's sole remedy for any breach of warranty shall be set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential lost) shall be available. Any action for breach of warranty must be brought within two (2) Year(s) of date of invoice. THIS WARRANTY IS EXCLUSIVE, NON TRANSFERABLE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED.

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TRAINING POLICY

The optimal and efficient operation of your KM equipment requires instruction on the operation and maintenance of the equipment. We at KMI are very much aware that time is a precious commodity and will take all the steps necessary to ensure that equipment training is done in a professional and expedient manner. We are in the process of developing a library of instructional videos that will be available shortly. We encourage our customers to take advantage of our extremely knowledgeable staff as needed for trouble shooting or to answer equipment operation questions. We are available during normal business hours, 8:30 a.m. to 4:30 p.m. EST, Monday through Friday by phone – (810) 688-1234 or by e-mail at kmi@kminternational.com. We encourage you to contact our sales staff to schedule a convenient training session for your staff prior to operation.

If you are using the KMI infrared equipment for applying thermo-plastic, similar product or any use other than asphalt reheating and repairing, our technicians are unable to answer specific questions on those application processes. We would encourage the user to contact the applications manufacturer.

Additionally, we encourage our customers to take advantage of our hands on training classes made available to all purchasers and their staff as requested and/or necessary. We have incorporated a small fee associated with on sight training in an effort to encourage education without making the process cost prohibitive or too time consuming for our staff. This small charge will help to keep KMI equipment price competitive and user friendly. KM International will train FREE OF CHARGE any customer or customer employees that travel to the KMI manufacturing facility within the first 90 days of purchase. We would be happy to schedule an appointment for a free ½ day of training on every aspect of equipment maintenance and operation. The customer would be responsible for travel and expenses to the KMI location. Our technical staff is available to schedule an instructional full day of training at the customers site if that is preferred but would require the following:

1. All travel and expense to and from the customer requested location as required, including Hotel and Airfare as necessary. KMI reserves the sole right to determine appropriate and reasonable accommodations and travel.
2. A per-diem food allowance of Fifty U.S. Dollars ($50.00) per technician, or as agreed.
3. Off-site man charge per technician, to be paid in advance.

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EQUIPMENT INFORMATION & NOTES

MODEL	
SERIAL NUMBER	
PURCHASER	
DATE OF PURCHASE	
NOTES:	

Thank you again for your purchase of KM asphalt maintenance equipment. We are happy to have you as a customer and are confident that you will have years of efficient operation by following the above parameters and guidelines. We encourage an open dialogue with our customers and prize any feedback. Our commitment to our customers is second to none and our desire to improve our equipment is an integral part of our ongoing growth strategy.

Sincerely,
The KM International Management Team.

KM International, Inc.
6561 Bernie Kohler Drive
North Branch, Michigan 48461
(810) 688-1234 * www.kminternational.com

Please call the Team at KM International anytime for questions, comments or to just talk "Infrared."

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