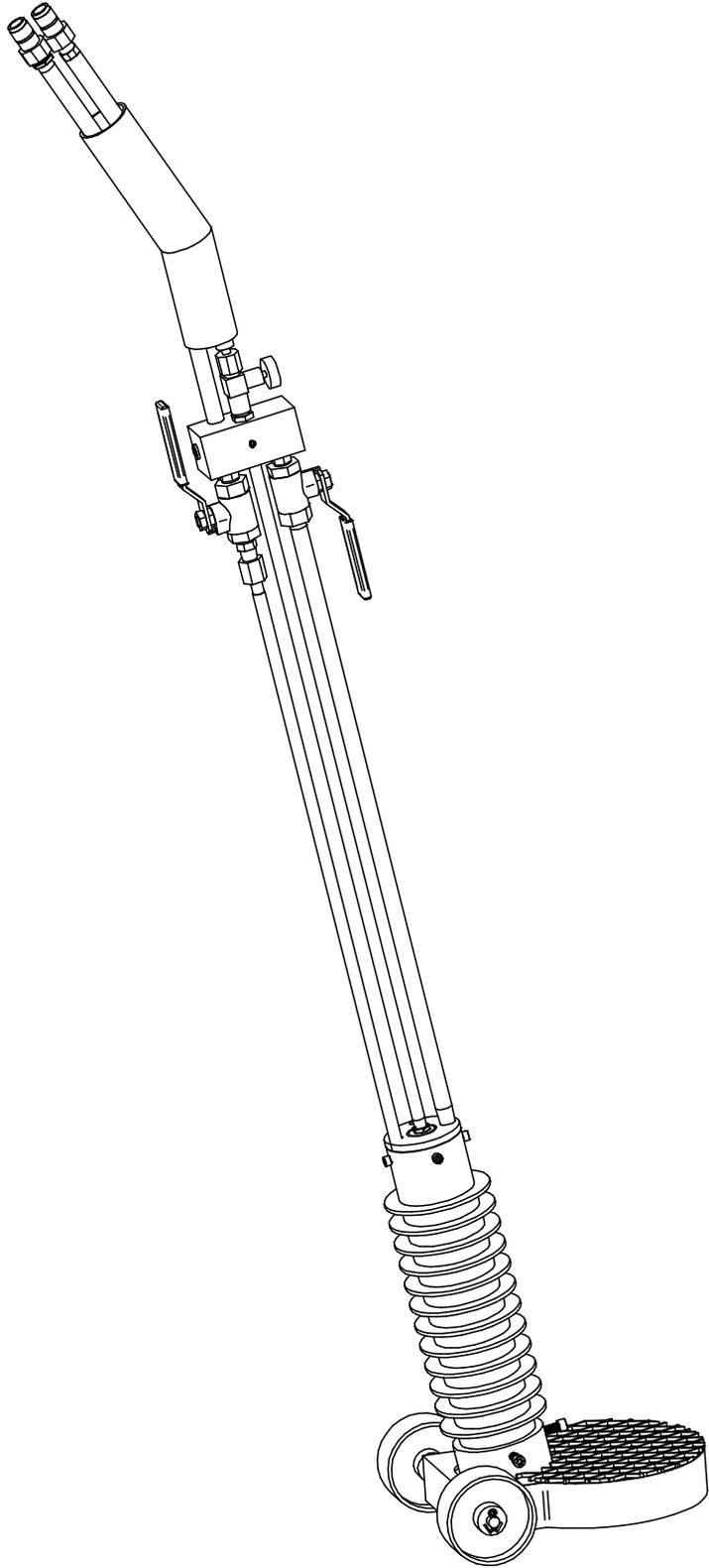




# **HIGH VELOCITY HEAT LANCE**

**Parts Manual - 26410  
Revision C**





**High Velocity Heat Lance**  
**PN 45650(with 40' hose, not shown)**  
**PN 45660(with 60' hose, not shown)**

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## Chapter 1 Introduction

### 1.0 About This Manual

This manual is supplied with each new CrafcO High Velocity Heat Lance. The manual assists your tool operators in the proper use of the heat lance and provides information about the tool's mechanical functions.

Your CrafcO High Velocity Heat Lance is specially made to give excellent service and save maintenance expense. However, as with all specially engineered equipment, you get best results at minimum cost if you:

Operate your tool as instructed in this manual.

Maintain your tool regularly as stated in this manual.

### 1.1 How to use this manual:

This manual is formatted to start each new chapter on the right page. There may be a blank page on the left page if the previous chapter ends on the right page.

If you are viewing this in a digital format (PDF) the following features are available:

1. The Table of Contents, List of Tables, and List of Figures are all hyperlinks, when left mouse clicked on section, table, or figure you will be sent to that page.
2. The blue highlighted text throughout the manual is a hyperlink, when left mouse clicked you will be sent to that page, table, or figure.
3. The panel to the left in the PDF is a bookmarks panel, if you left mouse click on any section/heading in the bookmarks panel you will be sent to that page.



## Chapter 2 Safety

### 2.0 Safety Precautions

For more in-depth safety information, please see Safety Manual (PN 26221) which comes with most Crafco, Inc. equipment. For an online version of the safety manual please visit <https://crafco.com/equipment-documentation/>. You can also contact your nearest authorized Crafco Distributor at [crafco.com/Distributors](https://crafco.com/Distributors).

### 2.1 General Safety

- Crafco, Inc. assumes no liability for an accident or injury incurred through improper use of the tool.
- Read this manual thoroughly before operating the tool.
- Obey all CAUTION and WARNING signs posted on the tool.
- Make sure an operator fully knows how to operate the tool before use.

### 2.2 Personal Safety

- The high operating temperatures of this tool require that protective clothing, gloves, and hard-soled shoes, and safety glasses or a face shield be worn at all times by operators of the tool.
- Always wear eye protection
- Due to the noise of the High Velocity Heat Lance, hearing protection is required.

#### WARNING



This tool can cause severe burns if used improperly. Keep hands, feet, and clothing away from hot parts.

### 2.3 Equipment or Operational Safety

- Do not operate the tool in buildings or work areas that do not have sufficient airflow.
- Always keep a correctly maintained fire extinguisher near the tool and know how to use it.
- Replace any hoses which show signs of wear, fraying or splitting.
- Make sure all fittings and joints are tight and do not leak each time the tool is used.
- Tighten all bolts and screws every 100 hours of tool operation.
- DO NOT point High Velocity Heat Lance at anyone.

#### CAUTION

The High Velocity Heat Lance produces very high temperatures and extreme caution should be exercised. The lance must not be used near edges of buildings or very dry grassy areas. Use extreme caution. The lance must not be left operating unattended. Do not set down or place on flammable materials until cooled.

## Chapter 2 Safety

### 2.4 California Proposition 65

The state of California currently maintains a list of chemicals that can cause cancer, birth defects or other reproductive harm. Your Crafcro, Inc. equipment comes with the following warnings:

#### 2.4.1 All Crafcro, Inc. Equipment

 **WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov) 26471N

### 2.5 Safety Symbols and Notices

Important safety symbols and notices are marked on the tool and in this manual. Failure to comply could result in equipment damage, operational malfunction, serious injury, or death. Please read and comply with all symbols and notices. The table below includes the most commonly used symbols and notices.

**Table 2-1 Safety Symbols and Notices**

Symbol	Item	Remarks
<b>WARNING</b>	Warning	Refers to possible bodily injury or death.
<b>CAUTION</b>	Caution	Refers to possible equipment damage or operational malfunction.
	Severe Burn Hazard	Hot tool surfaces can cause severe burns.
	Protective Shoes	Wear hard-soled work shoes.
	Protective Gloves	Wear heat resistant gloves.
	Protective Face or Eye Wear	Wear face shield or safety glasses.
	Body Crush Hazard	Do not stand between moving equipment.

## Chapter 2 Safety

**Table 2-2 Safety Symbols and Notices (continued)**

Symbol	Item	Remark
	Crush Hazard	Keep feet and legs clear.
	Pinch Hazard	Keep hands and feet clear.
	Exhaust Hazard	Avoid breathing engine exhaust.
	Read Manual	Read and understand operator and safety manuals before operating tool.



## Chapter 3 Warranty Information

### 3.0 Limited Warranty

Crafco, Inc. (Manufacturer), or one of its affiliated distributors, will replace for the original purchaser free of charge any parts found upon examination by the Manufacturer, to be defective in material or workmanship. This warranty is for a period of **one year** from the invoice date.

Crafco, Inc. shall not be liable for parts that have been damaged by accident, alteration, abuse, improper lubrication/maintenance, normal wear, or other cause beyond our control.

The warranty provided herein extends only to the repair and/or replacement of those components on the tool covered above and does not cover labor costs. The warranty does not extend to incidental or consequential damages incurred as a result of any defect covered by this warranty.

All transportation and labor costs incurred by the purchaser in submitting or repairing covered components must be borne by the purchaser. Crafco, Inc. specifically disavows any other representation, warranty, or liability related to the condition or use of the product.

#### CAUTION

Use of replacement parts other than genuine Crafco parts may impair the safety or reliability of your equipment and nullifies any warranty.

## Chapter 3 Warranty Information

### 3.1 Warranty Claim Instructions

Crafco, Inc. warrants parts and machinery purchased through Crafco or one of its affiliated distributors for one year from the invoice date. Wear items are not covered under the Crafco, Inc. limited warranty. A wear item is defined as but not limited to: material pumps, sealing tips, tires, etc.

If parts fail to function within one year of invoice date, a return authorization number (RA) must be obtained. If the part was purchased through Crafco, Inc., please contact Crafco returns department at [Returns@Crafco.com](mailto>Returns@Crafco.com) for an RA number or if purchased through a Crafco distributor please contact your distributor.

Note: if the part has a serial number associated with it, for example; a machine or electric hose or wand, this must be furnished when requesting the RA number. The customer will be emailed or faxed an RA form with all instructions to return the item to Crafco, Inc. See example. If the part is found to be within the one year warranty period and has not been abused or modified, a credit will be issued to the customer's account or credit card. The customer may request the part be replaced instead of a credit, if desired.

All parts returned are tested and evaluated. If the part has been modified in any way without prior consent from a Crafco, Inc. representative, warranty is void.

Please follow the instructions stated below when calling in a Warranty Claim. Failure to follow these procedures may be cause to void the warranty.

Call your local Crafco Distributor. If you do not know who your local distributor is, call a Crafco Customer Service Representative, (Toll Free 1-800-528-8242) for name, location and telephone number.

On contacting the distributor, be prepared to identify the serial number, model number, engine number, engine manufacturer, and the date of purchase if available.

Should the cause of the malfunction be a defective part, the Distributor will advise you of the procedure to follow for a replacement.

The warranty is valid only for parts, which have been supplied or recommended by Crafco, Inc.

If you have any additional questions regarding warranty repairs and parts, please do not hesitate to call toll free 1-800-528-8242.

For Warranty:  
Crafco, Inc.  
25527 South Arizona Avenue, Chandler, AZ  
85248  
Phone: (480) 655-8333 or (800) 528-8242  
Fax: (480) 655-1712

For all other inquires:  
Crafco, Inc.  
6165 W Detroit Street,  
Chandler, AZ 85226  
Phone: (602) 276-0406 or (800) 528-8242  
Fax: (480) 961-0513  
[CustomerService@crafco.com](mailto:CustomerService@crafco.com)

## Chapter 4 Tool Specifications

### 4.0 Tool Specifications

The High Velocity Heat Lance is also known by a variety of other terms such as hot air lance, hot-compressed air lance, air lance, and hot air blaster to name a few.

**Table 4-1 Tool Specifications**

Specification	PN 45650
Temperature Output Range	400°F (204°C) to 2600°F (1426°C).
Max Air Velocity	3,000 ft/s (914 m/s)
Dry Weight Approximately	36 Lbs. (16.33 kg) with 40 ft. (12.2 m) hose kit

## Chapter 4 Tool Specifications

### 4.1 Parts Check List

Your box should contain the following items. If any discrepancies are found, please contact Crafcoc Customer Service: (800-528-8242)

- A. High Velocity Heat Lance



- B. Propane Regulator W/ gauge



- C. Hose Kit Assembly



- D. Air Water Separator



- E. Wheel Kit Complete



- F. Operator Manual

## Chapter 5 Operating Instructions

### 5.0 Operating Instructions

The High Velocity Heat Lance requires a minimum of at least 3/8" I.D. air supply hose and no more than 60 ft. of length. Any additional distance requirements can be met by using a larger diameter air hose. The air/water separator supplied with the unit must remain in the upright position to function properly.

**Note:** DO NOT attempt to operate the tool without using these and all other instructions.

### 5.1 Preparing the Lance for Use

Table 5-1 Preparing the Lance for Use

Step	Action
1	Fill propane tank(s).
2	Make air and LPG connection at lance handle. Ensure all fittings and connections are tight.
2a	<p>One end of the hose kit has rubber sleeves; this is the end that connects to the lance handle. Connect the female threaded end of the larger quick connect to the end of the red hose. Then attach the quick connect end to the male connector from the lance handle. Connect the female threaded end of the brass quick connect to the end of the black hose. Then attach the quick connect end to the male brass connector from the lance handle. See <a href="#">Figure 5.1 Heat Lance Handle Connections</a>.</p> <p>Each quick connect end will only fit one way on one hose.</p>
2b	<p>On the other end of the hose kit, attach the Chicago connector to water separator at the hole labeled with an arrow on the top. Connect the red air hose to other opening in the water separator. The Chicago fitting can now be connected to its opposite fitting on your air compressor equipped Crafco, Inc. equipment. Connect the pressure regulator to the black LP hose, and its other end to your LPG tank. See <a href="#">Figure 5.2 Heat Lance Hoses Tank Side</a></p>
<b>CAUTION</b>	
DO NOT OPERATE UNIT if a leak is detected. Tighten fittings and connections and start again.	
3	Install wheel guard kit onto heat lance on the end of the burner tube by loosening the 3 screws on the wheel guard kit, sliding it over the end of the burner tube, and tightening the screws once it is in a good position.
<b>WARNING</b>	
	<p>The safe operation of this tool is the operator's responsibility. Be sure all operators have fully read this manual and are knowledgeable on its operation and safety precautions needed.</p> <p>Use extreme care when operating this tool; safety is the result of being careful and paying attention to details.</p> <p>Always put on protective clothing, gloves, hard-soled shoes, and safety glasses or a face shield. Be sure that all joints and fittings are tight and leak proof. Immediately replace any hose, which shows any signs of wear, fraying, or splitting. Tighten all bolts, nuts, and screws every 100 hours.</p>

## Chapter 5 Operating Instructions



**Figure 5.1 Heat Lance Handle Connections**



**Figure 5.2 Heat Lance Hoses Tank Side**

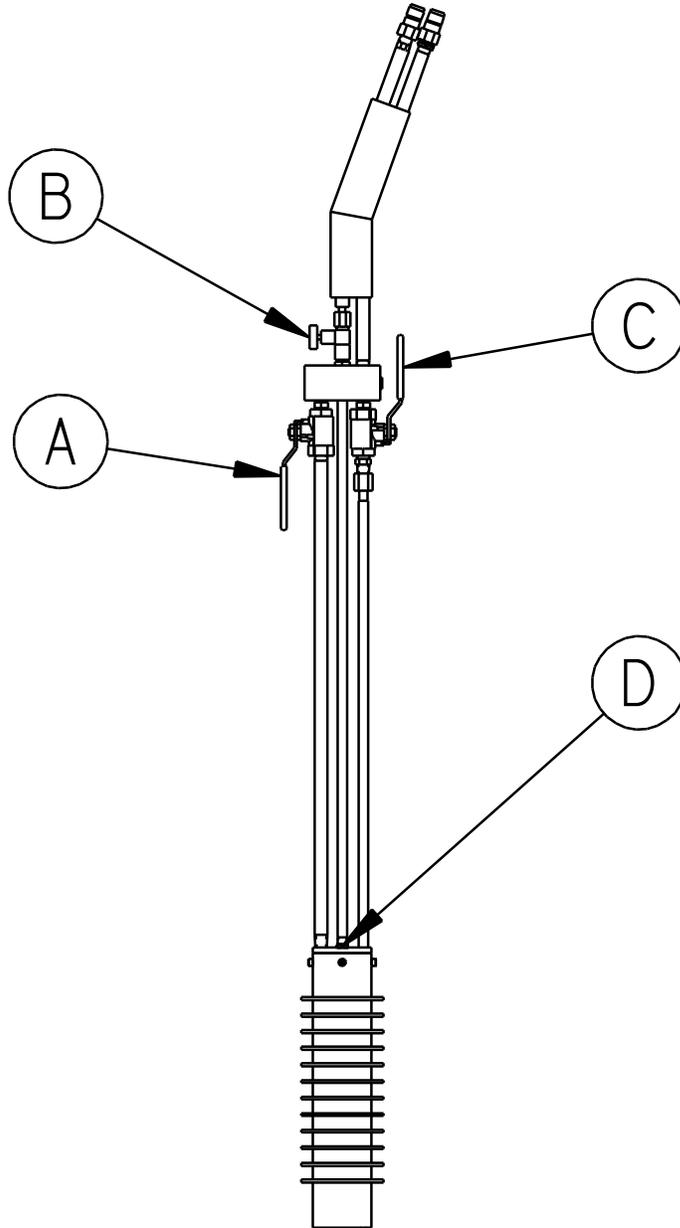
## Chapter 5 Operating Instructions

### 5.2 Lighting and Using the Lance

**Table 5-2 Starting the Burner**

Step	Action
1	Open LPG Tank valve(s).
2	Set Regulator at 15-20 psi.
3	Close both ball valves on High Velocity Heat Lance. Both valve handles should be facing 90 degrees from valve body.
4	Start air compressor. Open air line on compressor if equipped.
5	Open top ball valve (combustion valve) slightly to allow small amount of air flow through unit. (See Item A <a href="#">Figure 5.3</a> )
6	Close LPG needle valve on lance. (See item B <a href="#">Figure 5.3</a> )
7	Open LPG tank valve(s).
8	Open LPG needle valve 1/4 turn. (See item B <a href="#">Figure 5.3</a> )
9	Using a long neck lighter, light lance through ignition holes at top of burner tube. . (See item D <a href="#">Figure 5.3</a> ).
	<b>WARNING</b>
	<p>Make sure no flammable materials are present in the working area. When working with LP Gas always light the lance facing downwind.</p> <p>Never attempt to light lance at burner tube base as severe burns could result if LP gas valve is opened too far</p>
10	Slowly open needle valve and top ball valve together. (Be sure to open LP needle valve at a faster rate than air valve or unit will extinguish. If this occurs, close all valves and start over).
11	Once top ball valve is halfway open, open bottom ball valve fully. (See item C <a href="#">Figure 5.3</a> ).
12	Continue to open top ball valve and LP needle valve until top ball valve is fully open.
13	Slowly cut back the LP needle valve until heat lance produces a jet engine roaring sound and the flame is pulled back into the burner chamber. There should be no visible flame during operation. If there is visible flame, adjust LP settings.
14	To adjust the BTU downward, first slowly close down some air to the combustion system using the top ball valve. Then turn down the propane needle valve until the combustion is at its optimum mixture. No flame should be present at that time. Alternate between the air and propane settings in small steps until the desired setting is reached.

## Chapter 5 Operating Instructions



**Figure 5.3 High Velocity Heat Lance Valves**

## Chapter 5 Operating Instructions

### 5.3 Shutting Down the High Velocity Heat Lance

**Table 5-3 Shutting Down the High Velocity Heat Lance**

Step	Action
1	Turn off propane supply by needle valve (See item B <a href="#">Figure 5.3</a> ) and LPG tank valves(s).
2	Allow air to flow through burner chamber and the air lance tube until they have cooled down.
3	After unit has had sufficient time to cool, shut down air compressor.

### 5.4 Storing the High Velocity Heat Lance

The High Velocity Heat Lance has many steel parts; it is recommended that it be stored indoors away from rain and snow. Never leave the High Velocity Heat Lance unattended while connected to air and LP gas.



## Chapter 6 Illustrated Parts List

### 6.0 About the Illustrated Parts List

The Illustrated Parts List (IPL) is designed to help technical service or maintenance personnel correctly identify orderable replacement parts.

The figure and table titles reference the part number (PN) to which they apply.

Illustrations are designed to show general shape and size of a part and the relationship that part has to other parts. Actual size and shape of parts or components may differ or vary from the actual part or component.

### 6.1 Ordering Crafco Parts

Crafco distributors and Crafco Pavement Preservation Supply Centers are strategically located throughout the United States. Parts can be ordered from your local Crafco distributor or directly from Crafco, Inc. if a distributor is not available in your area.

When ordering parts, give the following information:

- Part Number
- Machine Model
- Serial Number

Write, call, or Fax Crafco, Inc. at the following:

Crafco, Inc. Headquarters

6165 W Detroit St.

Chandler, AZ 85226

Phone: (602) 276-0406

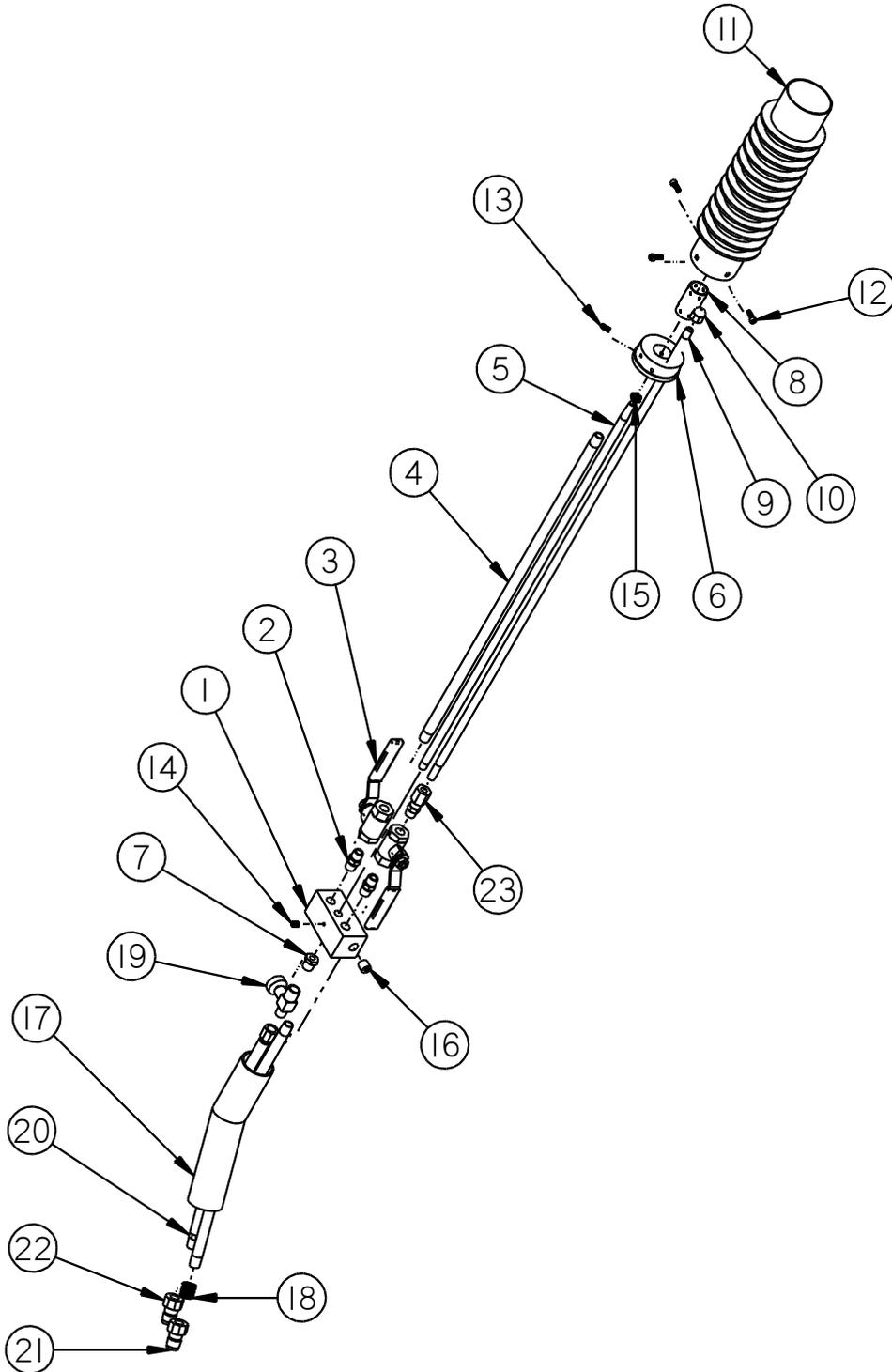
Toll Free: (800) 528-8242

Fax: (480) 961-0513

Visit our website at [www.crafco.com](http://www.crafco.com)

## Chapter 6 Illustrated Parts List

### 6.2 High Velocity Heat Lance



**Figure 6.1 High Velocity Heat Lance PN 31375**

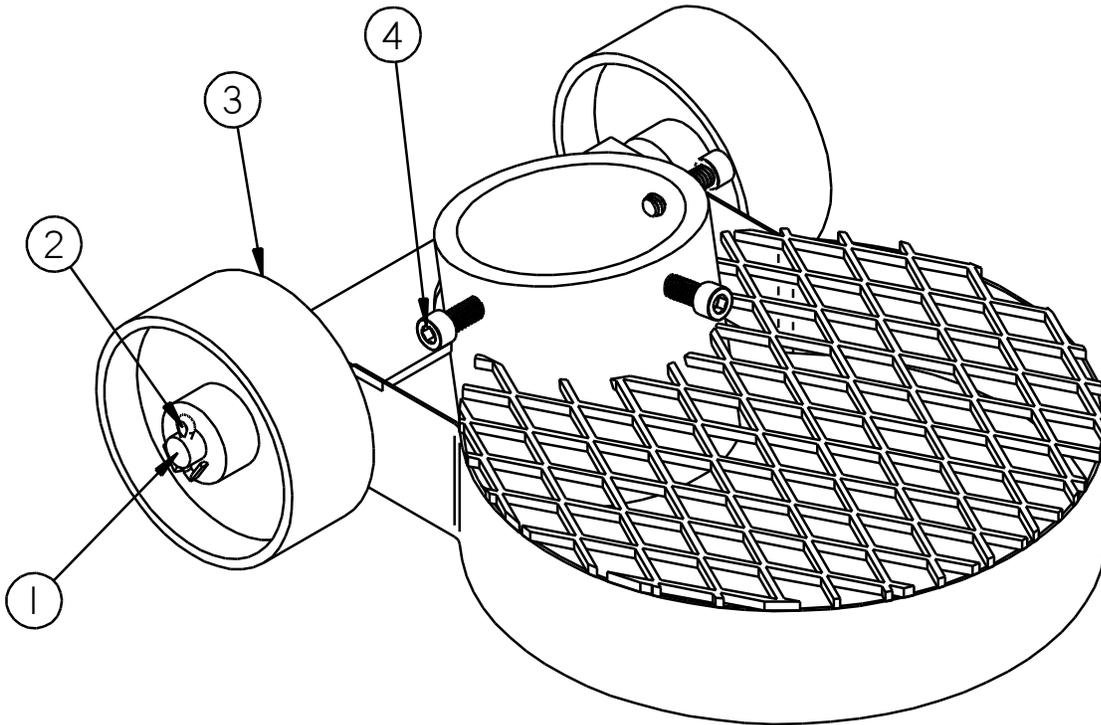
## Chapter 6 Illustrated Parts List

Table 6-1 High Velocity Heat Lance

FIG.	ITEM	PART NO.	DESCRIPTION	QTY.
Figure 6.1	1	45651	MIXING BLOCK	1
	2	51401	1/4 NPT HEX NIPPLE	2
	3	29195	1/4 BALL VALVE	2
	4	45656	AIR MIXER TUBE	1
	5	45658	PROPANE TUBE W/ ORFICE	1
	6	45652	BURNER BASE	1
	7	28340	1/4 X 1/8 BUSHING	1
	8	45654	PRIMARY AIR TUBE	1
	9	45657	AIR LANCE TUBE	1
	10	45668	AIR ORFICE "A" - .125"	1
	11	45653	MAIN BURNER TUBE	1
	12	45670	SCREW, #10-32 X 1/2 ALLEN HD	4
	13	45672	SCREW, #10-32 X 1/2 ALLEN SET	1
	14	45671	SCREW, 1/4-20 X 3/8 ALLEN SET	1
	15	45669	JAM NUT 1/8-27 NPT	1
	16	27990	1/4" COUNTERSUNK PLUG	1
	17	45655	HANDLE ASSEMBLY	1
	18	45663	REDUCER, 3/8 NPT TO 1/4 NPT	1
	19	45659	NEEDLE VALVE	1
	20	45675	HOSE, PROPANE	1
	21	45679	COUPLING, 1/4 FMNPT X M	1
	22	45681	COUPLING, 3/8 FMNPT X M	1
	23	45664	1/4 NPT X 3/8 TUBE FERULE LOCK FITTING	1
	NS	45694	40 FT HOSE KIT AIR/PROPANE/COVER	1
	NS	45697	50 FT HOSE KIT AIR/PROPANE/COVER	1
	NS	45695	60 FT HOSE KIT AIR/PROPANE/COVER	1
NS	31375	HEAT LANCE ASSY (see <a href="#">Parts Check List</a> item A)	1	
NS	45688	PROPANE REGULATOR W/ GAUGE (see <a href="#">Parts Check List</a> item B)	1	
NS	45690	WHEEL GUARD KIT COMPLETE (see Wheel Guard Kit PN 45690)	1	
NS	45689	WATER SEPARATOR (see <a href="#">Parts Check List</a> item D)	1	

**Chapter 6 Illustrated Parts List**

**6.3 Wheel Guard Kit PN 45690**



**Figure 6.2 Wheel Guard Kit PN 45690**

**Table 6-2 Wheel Guard Kit**

FIG.	ITEM	PART NO.	DESCRIPTION	QTY.
Figure 6.2	1	45693N	AXLE – WHEEL GUARD KIT	1
	2	29639	1/8" X 1 1/4" COTTER PIN	2
	3	45691	WHEEL – WHEEL GUARD KIT	2
	4	45692	1/4-20 X 7/8" ALLEN HEAD SCREW	3





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