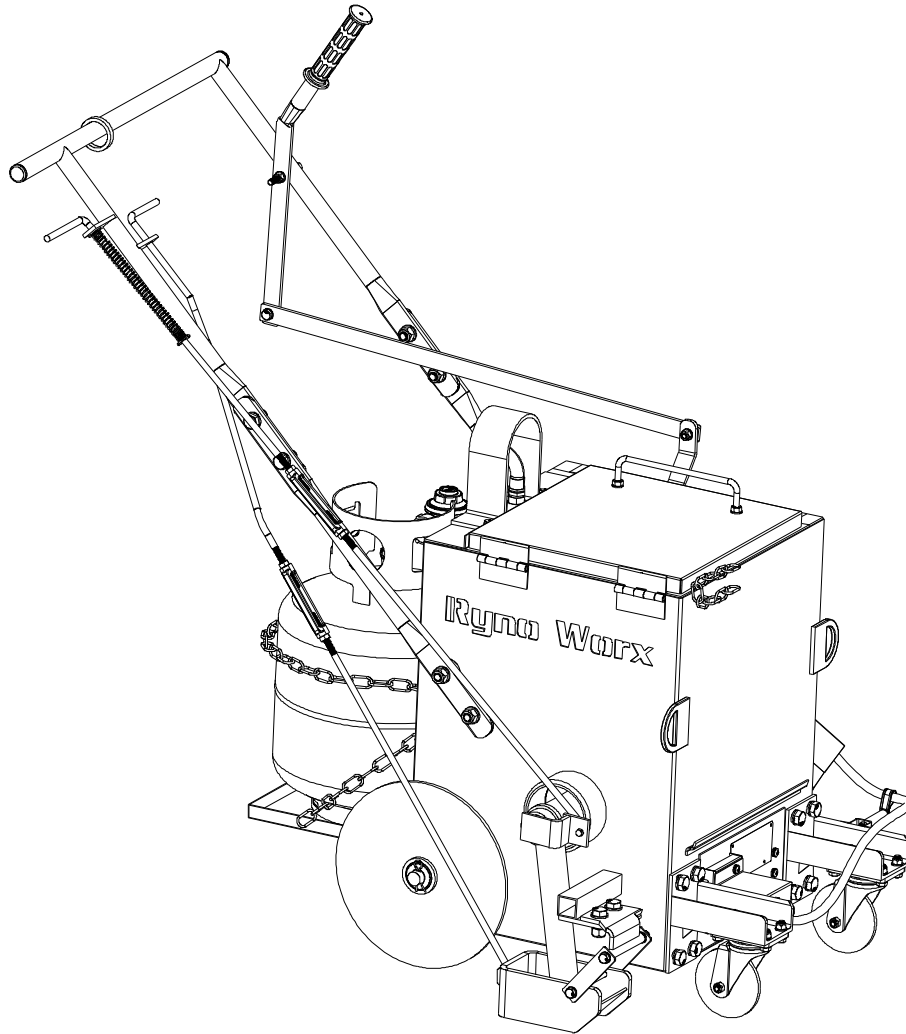


Ryno Worx

Operator's Manual



Model: RY10MA-Pro

MPN: RA-MLT-0005

10 Gallon Direct Fire Melter Applicator
Burner Model with Flame-Out Sensor

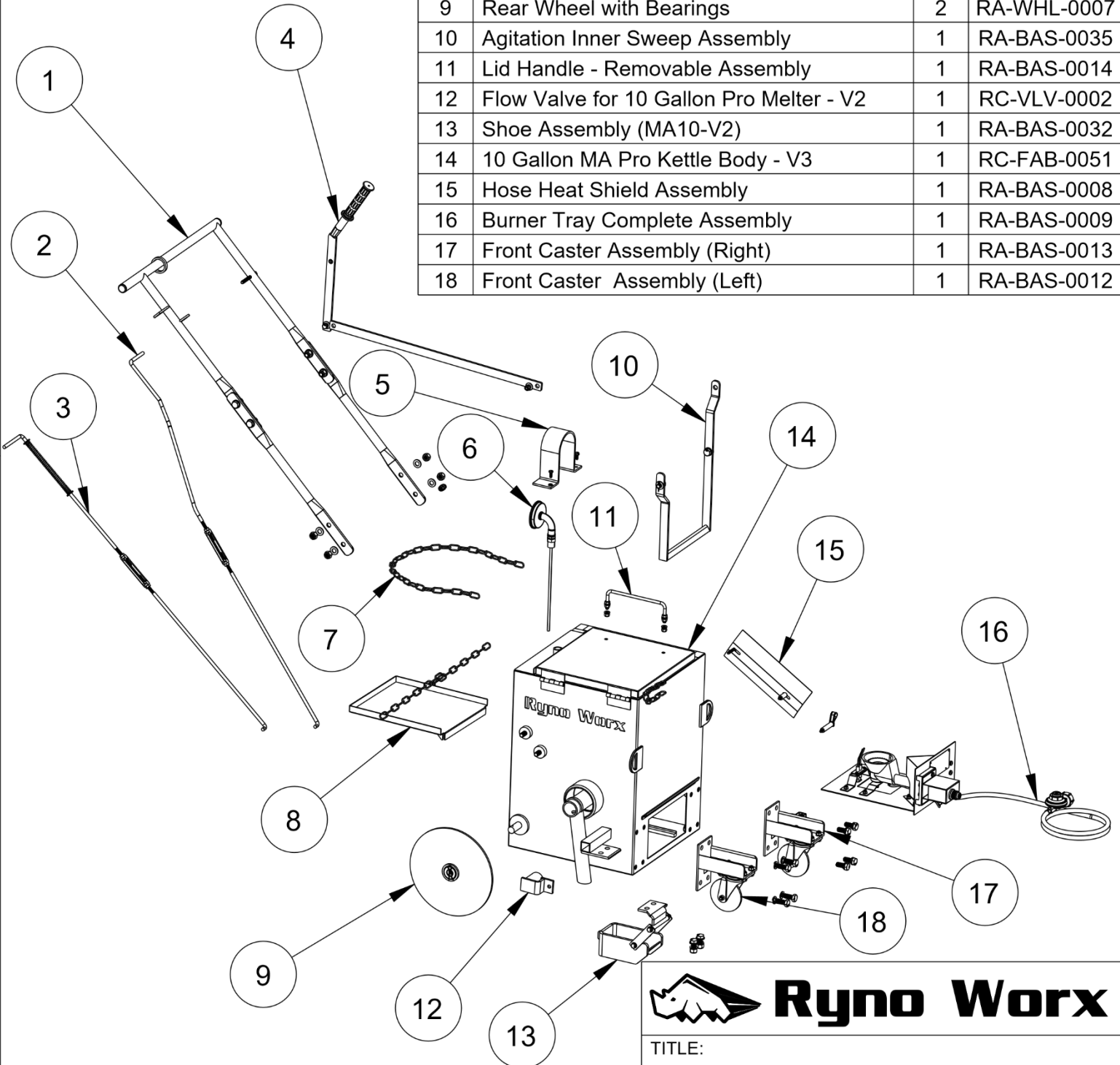
U.S. Patent No. 9,739,021

For Technical Support Please Visit www.RynoWorx.com or Call 1-855-382-9611

WARNING

- ⚠ Read all instructions and warnings in this manual before attempting to operate this equipment.
- ⚠ This equipment is designed for outdoor use only.
- ⚠ Be sure to always wear personal protective equipment when operating this equipment.
- ⚠ Improper assembly may be dangerous. Please follow the assembly instructions in this manual. Make sure all parts are assembled and hardware is fully tightened before using. Make sure that there are no leaks in the liquid propane cylinder connection or lines.
- ⚠ Do not operate the equipment if a gas leak is present. (check for leaks and connections with every use)
- ⚠ Do not attempt to disconnect the gas regulator from the tank or any gas fitting while the equipment is in use.
- ⚠ A dented or rusty liquid propane tank may be hazardous and should be checked by your liquid propane supplier. Do not use a liquid propane tank with a damaged valve.
- ⚠ Do not store spare liquid propane cylinders within 10 feet (3m) of this equipment.
- ⚠ Do not store or use gasoline or other flammable liquids or vapors within 25 feet (8m) of this equipment.
- ⚠ Before servicing, make sure the unit is fully cooled and the liquid propane cylinder is disconnected.
- ⚠ Only genuine Ryno Worx replacement parts should be used for any replacements or repairs. Do not attempt to modify or alter this product in any way.
- ⚠ Do not attempt to make any repairs to gas carrying, gas burning, igniter components or structural components. Your actions, if you fail to follow this warning, may cause a fire, an explosion, or structural failure resulting in serious personal injury or death as well as damage to property.
- ⚠ This equipment should only be used with "Direct Fire" hot melt crack sealant.
- ⚠ Failure to follow these instructions could result in fire or explosion which could cause property damage, personal injury or death.

No.	Description	Qty	P/N
1	MA Handle Bar Asy - Drip Guard Version	1	RA-BAS-0033
2	Shoe Control Arm Assembly (MA10-V2)	1	RA-BAS-0030
3	Valve Control Arm Assembly (MA10-V2)	1	RA-BAS-0031
4	On-the-Fly Agitation Asy - MA10-Pro-V3	1	RA-BAS-0034
5	Thermometer Guard Assembly	1	RA-BAS-0004
6	Thermometer - Shock Proof Glycerin Filled	1	RC-GCM-0010
7	Propane Tank Securing Chain	1	RC-FAB-0009
8	Tank Shelf - 10 Gallon Burner Style MA	1	RC-FAB-0008
9	Rear Wheel with Bearings	2	RA-WHL-0007
10	Agitation Inner Sweep Assembly	1	RA-BAS-0035
11	Lid Handle - Removable Assembly	1	RA-BAS-0014
12	Flow Valve for 10 Gallon Pro Melter - V2	1	RC-VLV-0002
13	Shoe Assembly (MA10-V2)	1	RA-BAS-0032
14	10 Gallon MA Pro Kettle Body - V3	1	RC-FAB-0051
15	Hose Heat Shield Assembly	1	RA-BAS-0008
16	Burner Tray Complete Assembly	1	RA-BAS-0009
17	Front Caster Assembly (Right)	1	RA-BAS-0013
18	Front Caster Assembly (Left)	1	RA-BAS-0012



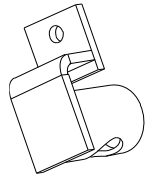
This parts diagram is for reference only, some parts may not be available. Commonly available replacement parts are shown on the following pages.



TITLE:
RY10MA-PRO Complete Assembly
- Version 3

SCALE: 1:12	SIZE	PART NUMBER:	REV
	A	RA-MLT-0005	1

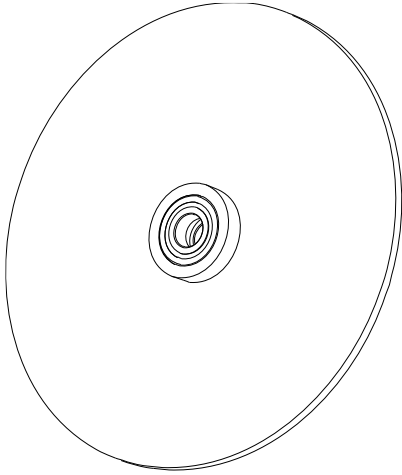
RC-VLV-0002 - Flow Valve



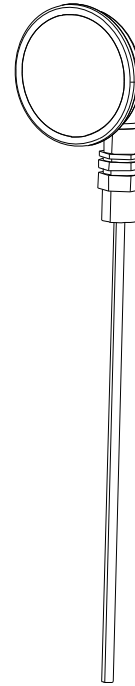
RC-BRG-0001 - Wheel Bearing for Melter Applicator Rear Wheel



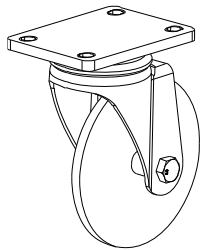
RA-WHL-0008 - Rear Wheel with Bearings



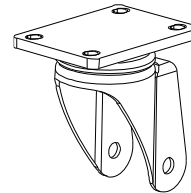
RC-GCM-0010 - Thermometer - Shock Proof Glycerin Filled



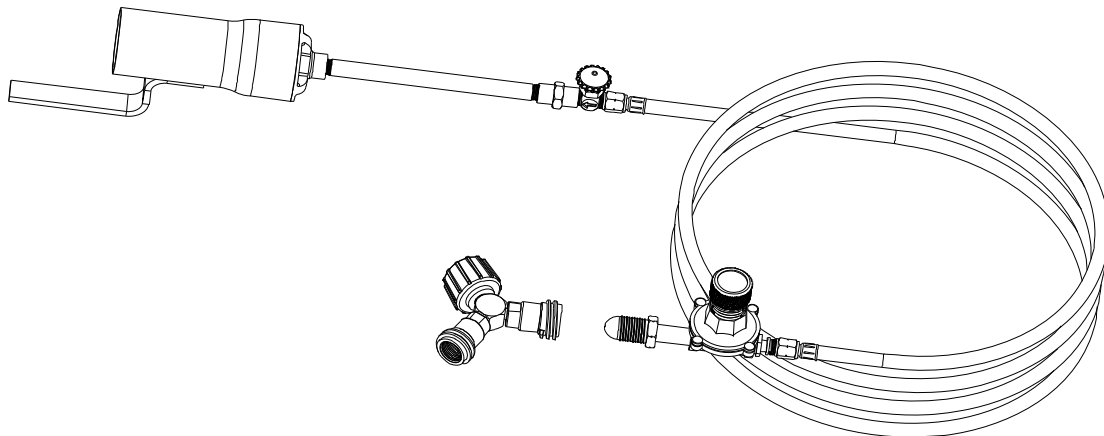
RA-WHL-0005 - Front Caster with Wheel



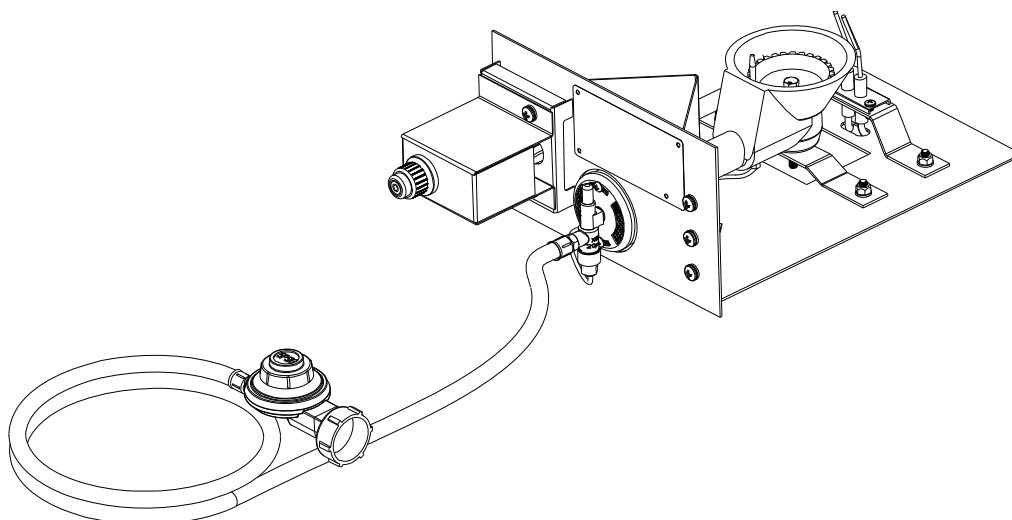
RC-WHL-0014 - 4 Bolt Caster Swivel



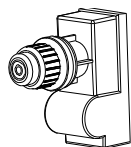
RK-GCM-0050 - Torch Upgrade Kit with Propane Splitter



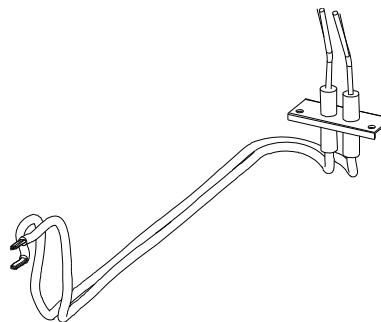
RA-BAS-0009 - Burner Tray Complete Assembly



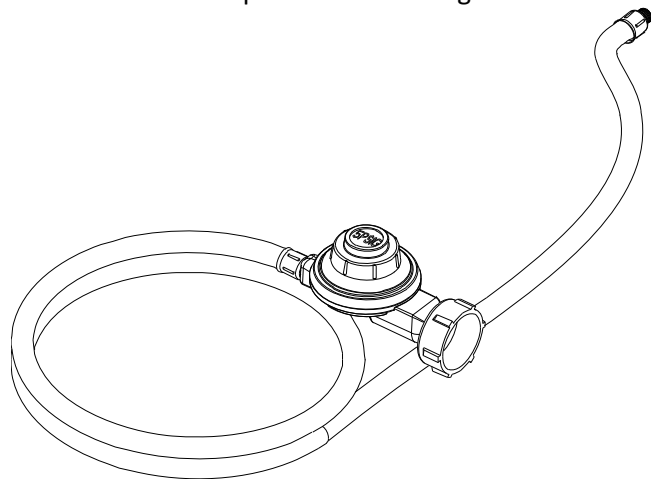
RA-GCM-0005 - Electronic Ignitor Switch Assembly



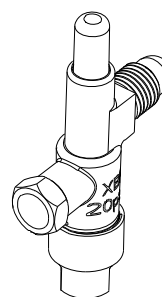
RC-GCM-0004 - Ignitor Electrode Probe Assembly



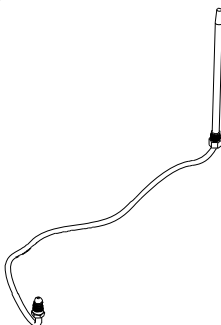
RC-GCM-0029 - Propane Hose and Regulator for Burner



RC-GCM-0030 - Flame-Out Valve Assembly



RC-GCM-0009 - Flame-Out Thermocouple with Connecting Wire



- **Introduction**

Forward

Thank you very much for purchasing Ryno crack maintenance equipment. We pride ourselves in being different from other equipment manufacturers with a relentless focus on innovation, simplicity, and quality.

RY Series Melter / Applicators are designed to effectively melt and apply direct-fire type crack sealant to joints and cracks found in hard aggregate surfaces. This melter is powered by a liquid propane gas burner, which effectively melts crack sealants within the kettle.

This melter was designed to be used with 'Direct Fire' crack sealants only. Please be sure to purchase the correct material to ensure safe and effective operation.

Within this document are complete instructions for how to assemble, use and care for your equipment. Please make sure you read and follow all instructions provided.

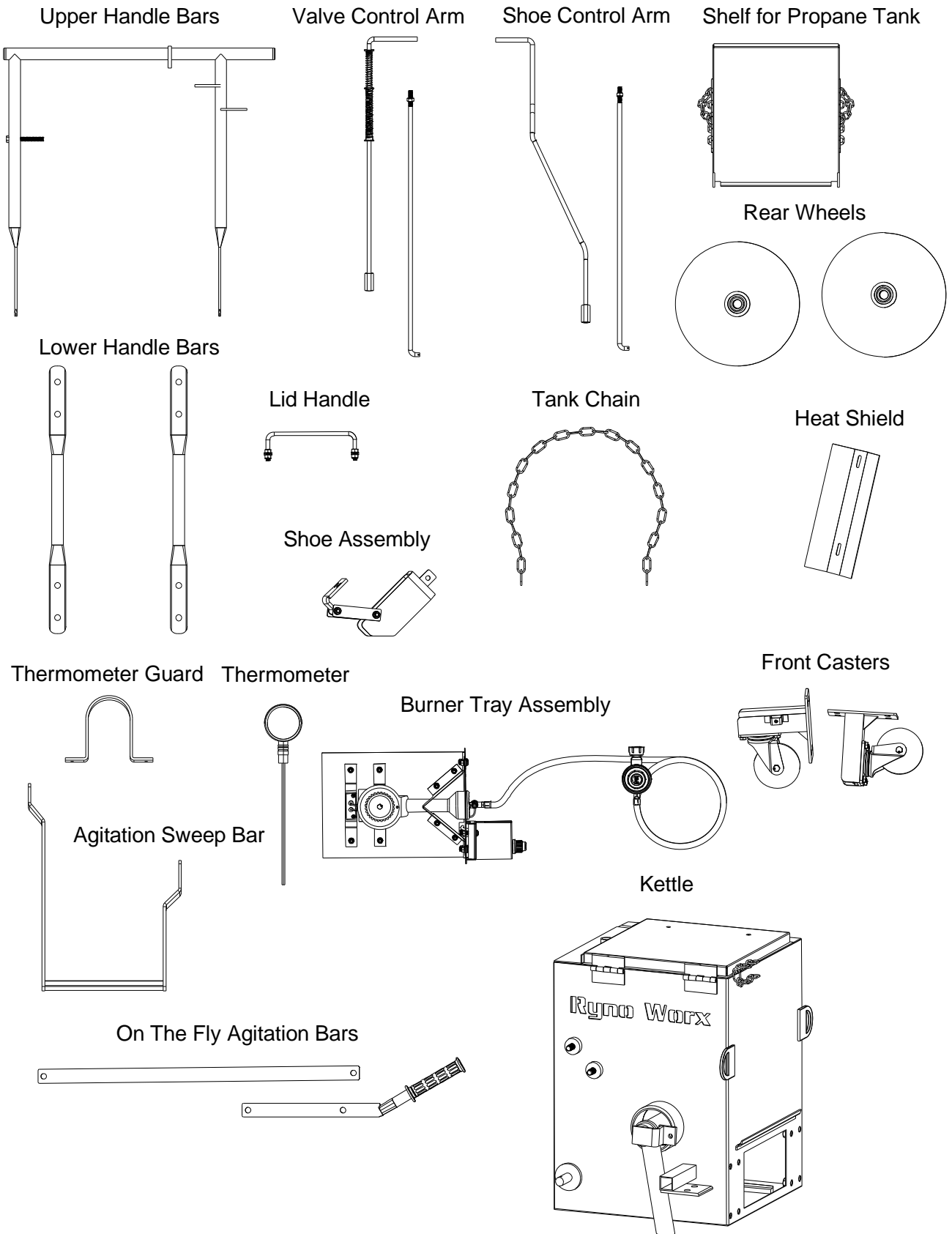
Within this document you will find the following resources:

- **Assembly Instructions** – These instructions will assist you in assembling and preparing your melter for first time use.
- **Operation Guide** – This guide will explain the controls and functions of the melter and how to use them.
- **Maintenance Guide** – This guide will provide you with suggested maintenance tips and techniques to ensure proper function and optimal performance.
- **Troubleshooting Guide** – This guide will provide you with the most commonly reported problems, possible causes, and known solutions.

• **Assembly Instructions**

Part 1 – Remove Parts and Packaging and Verify Contents

Carefully remove all parts from their packaging and layout on a flat working surface. You should have all the required parts as illustrated on the drawing below as well as the required hardware to complete assembly:

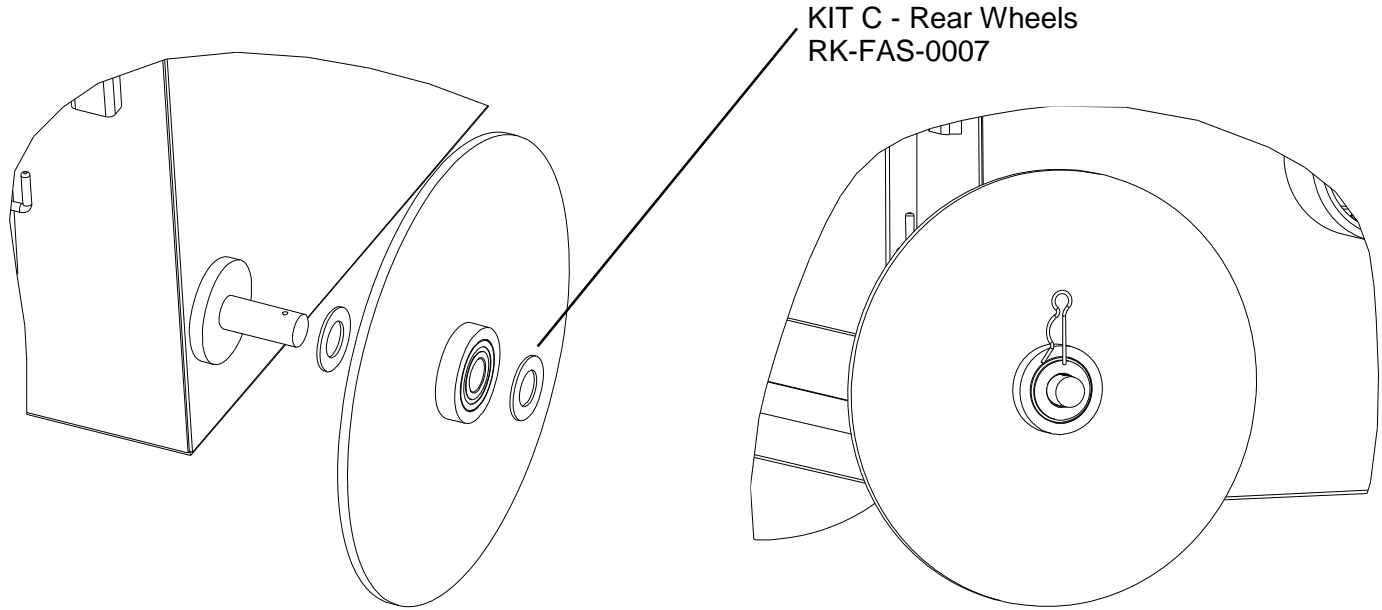


- **Assembly Instructions**

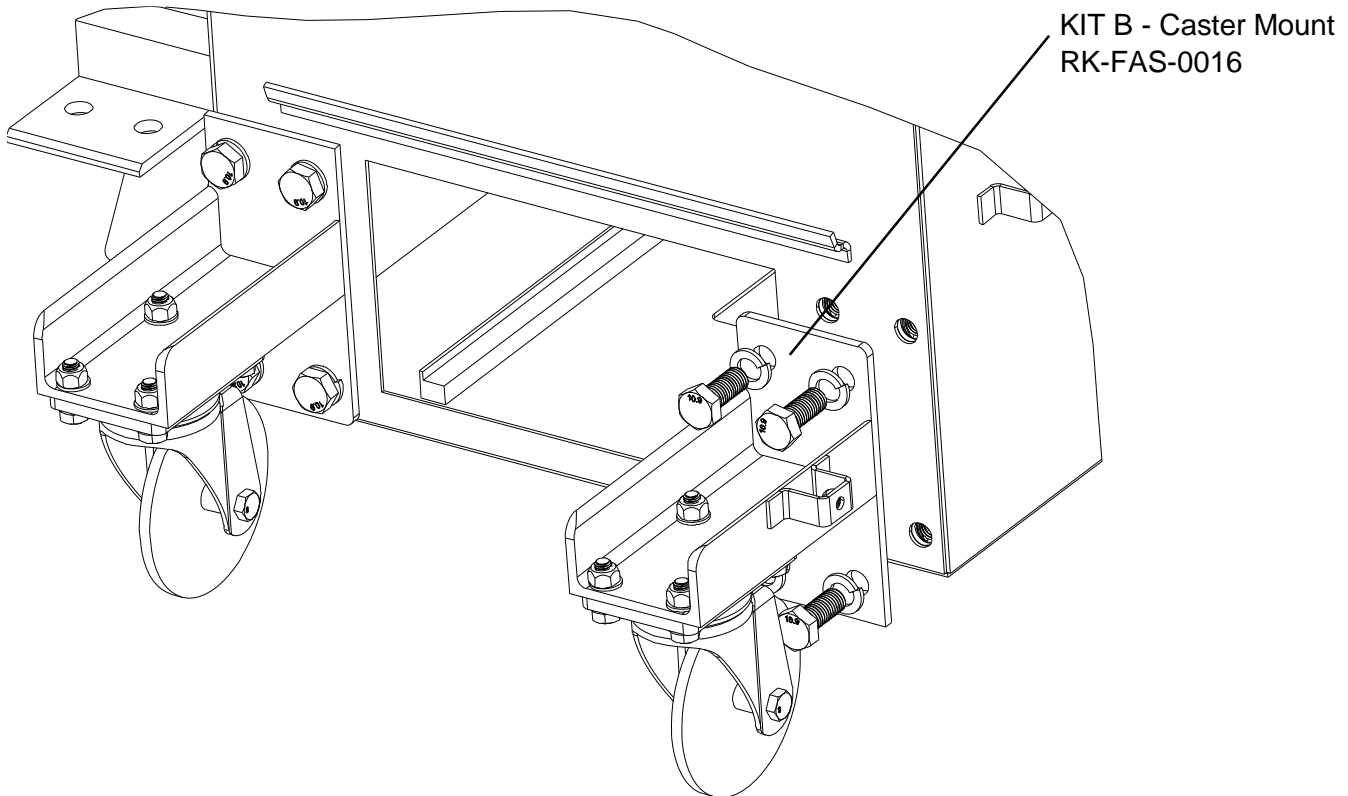
Part 2 – Assemble Melter According to the Illustrations and Instructions

With all the parts laid out on a flat working surface, follow the assembly illustrations below to complete the assembly of the melter. A socket set, rubber mallet, needle nose pliers and open-ended wrench set are required in order to complete the assembly.

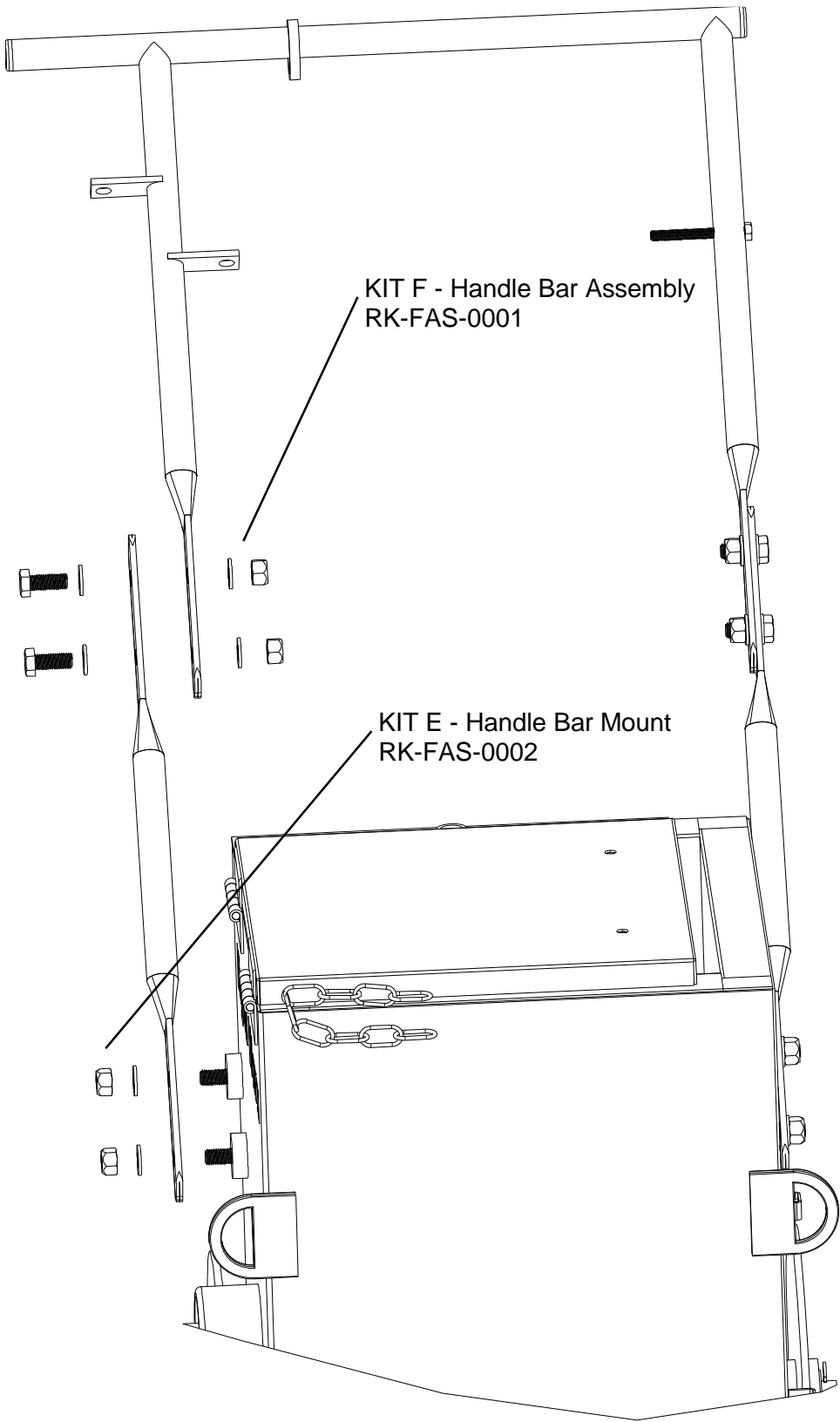
1. Rear Wheel Assembly



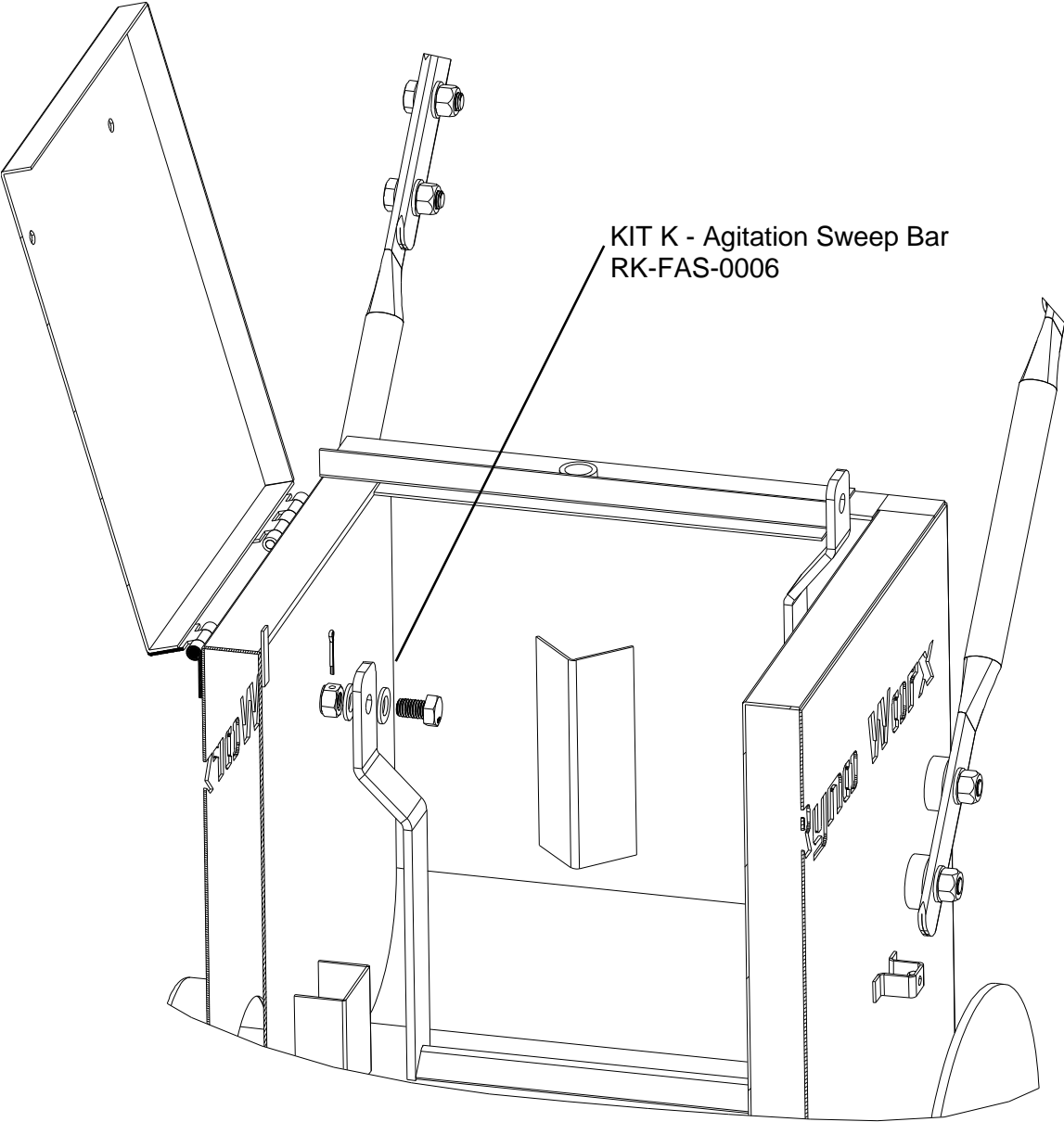
2. Front Caster Mount



3. Handle Bar Assembly

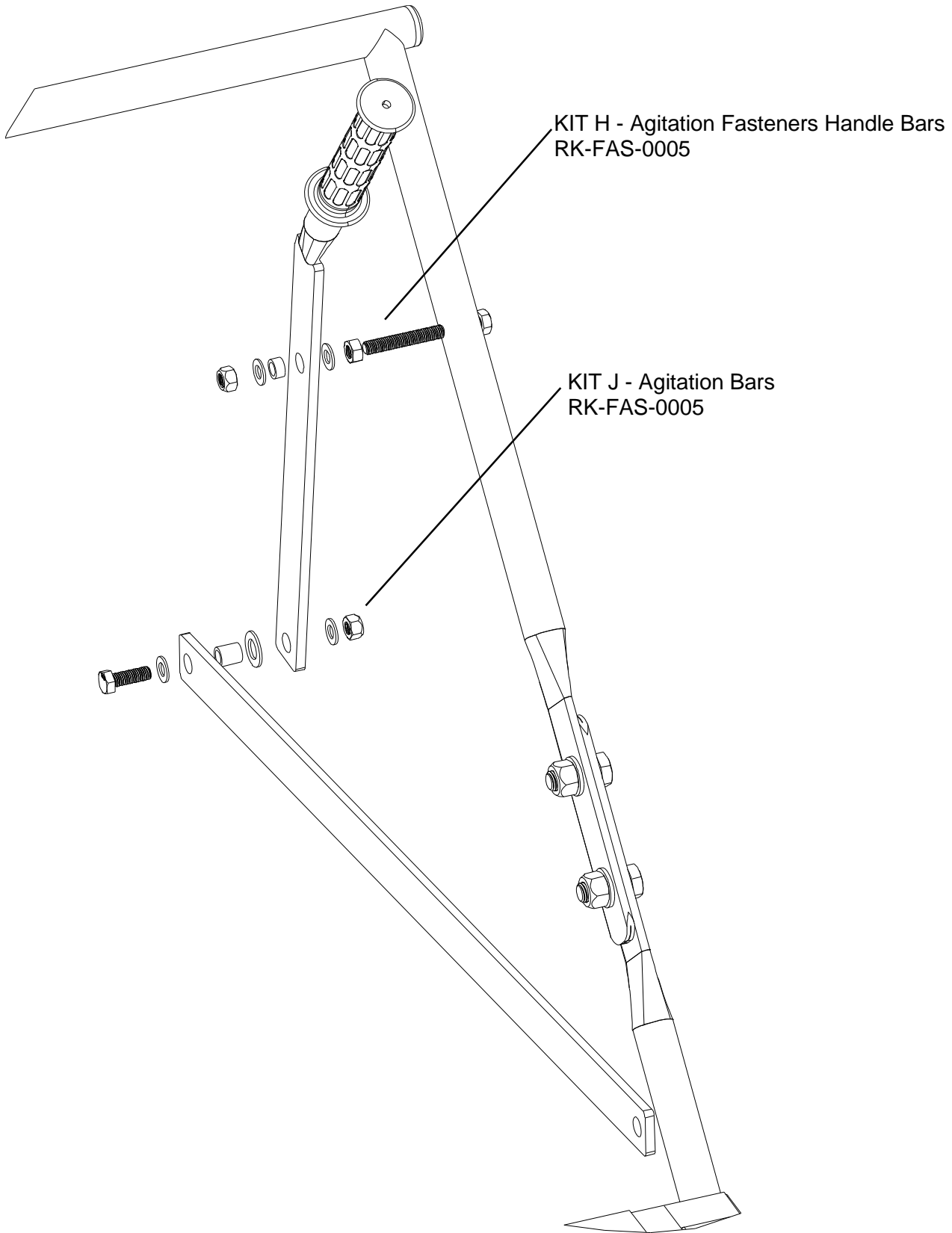


4. Agitation Sweep Bar Installation



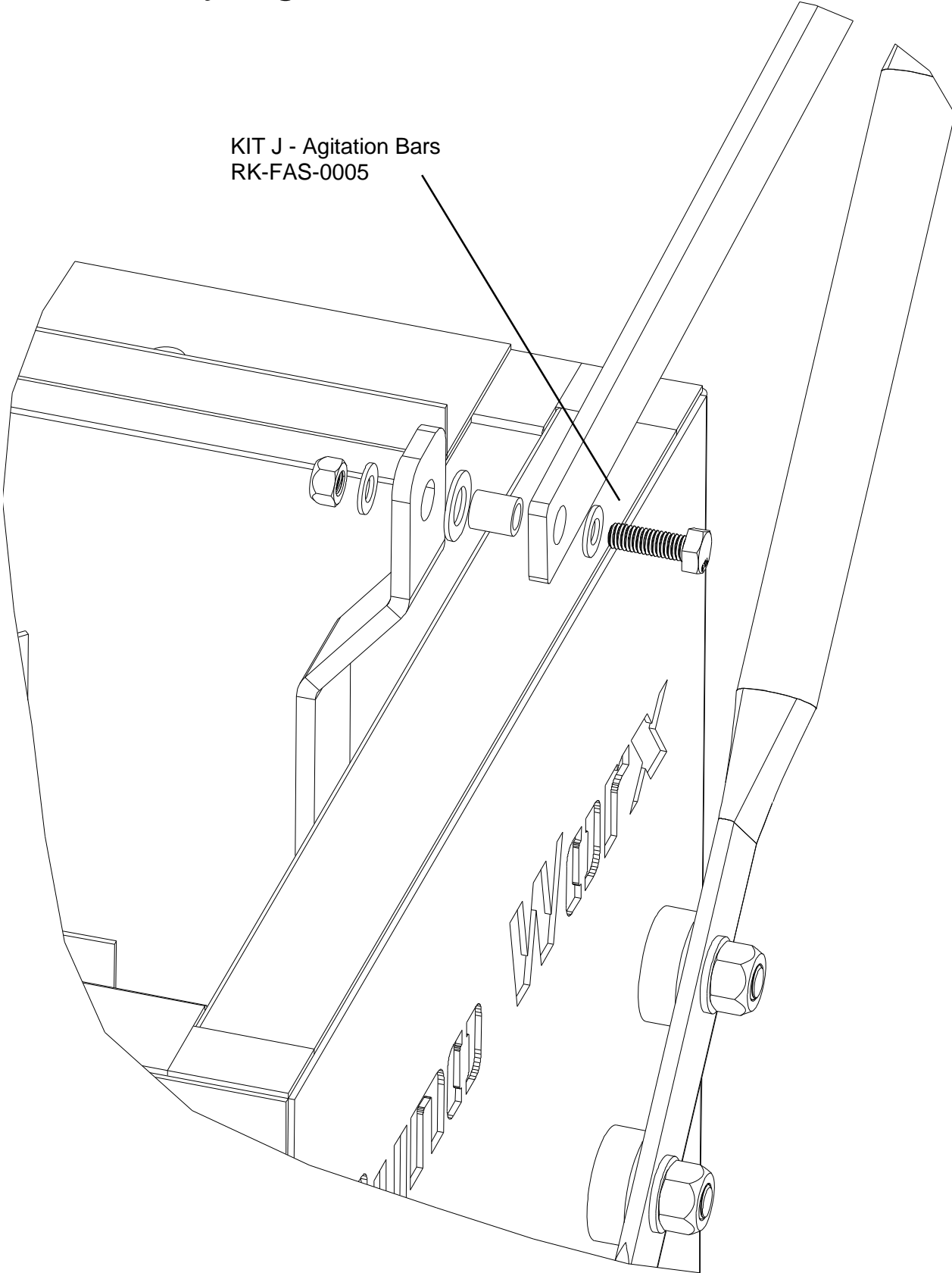
KIT K - Agitation Sweep Bar
RK-FAS-0006

5. On the Fly Agitation Installation

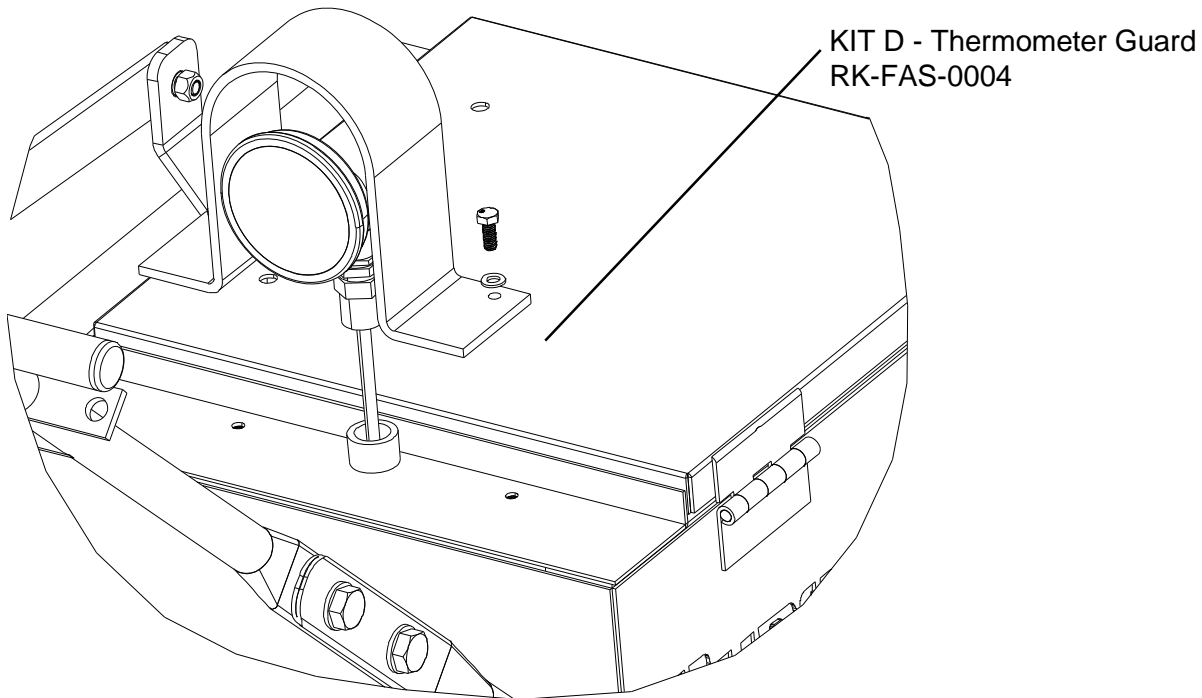


6. On the Fly Agitation Installation

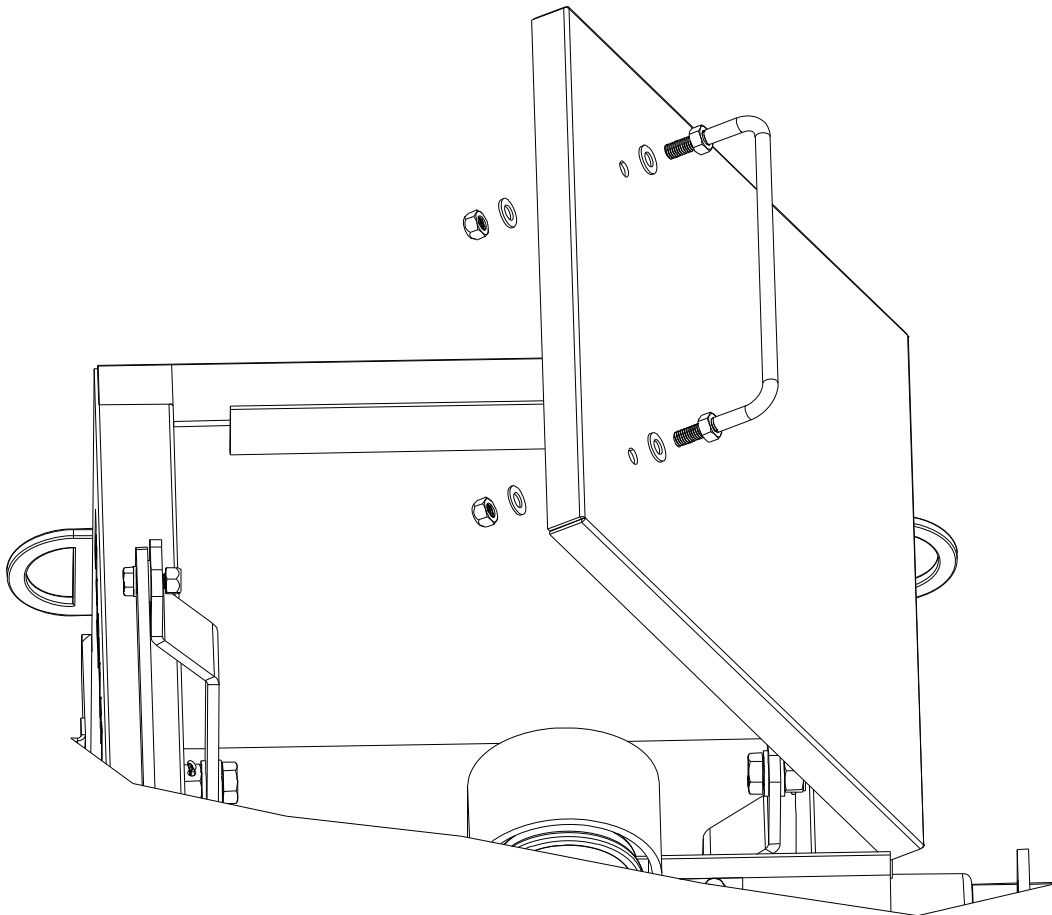
KIT J - Agitation Bars
RK-FAS-0005



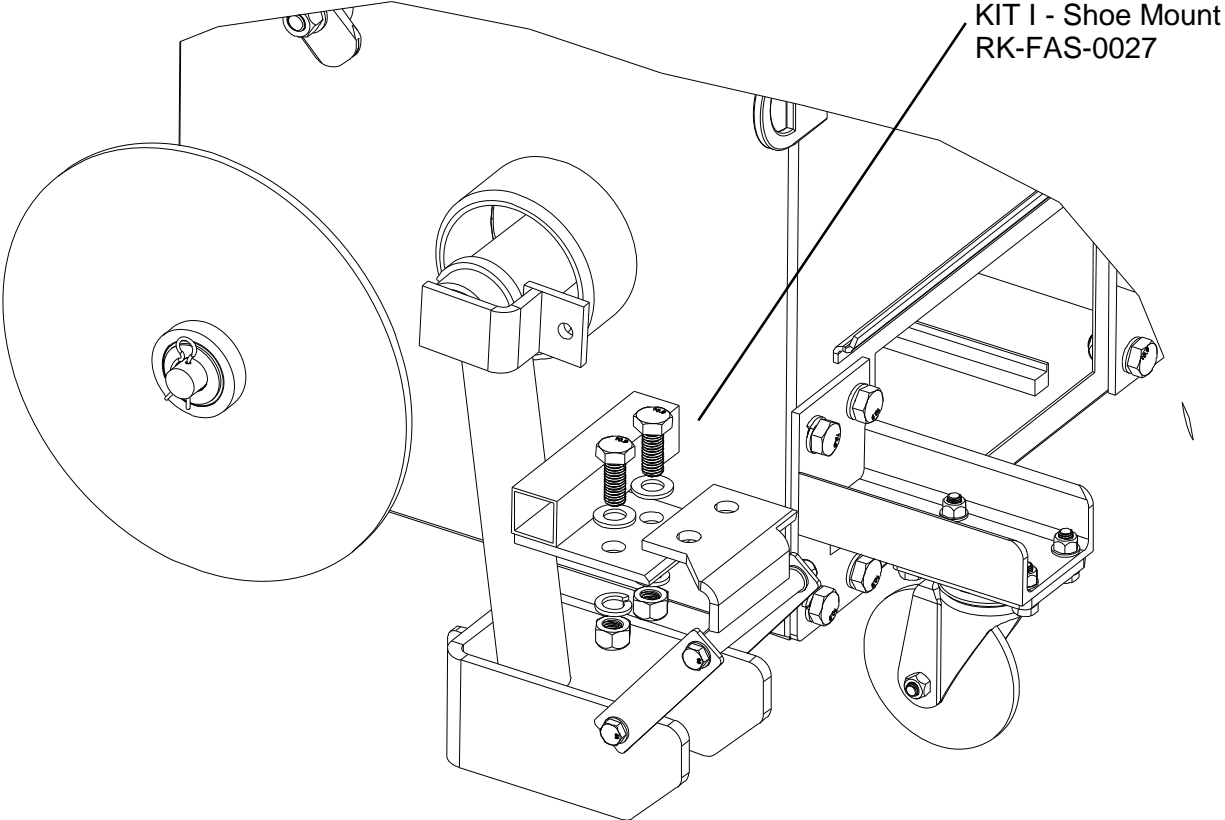
7. Thermometer and Thermometer Guard Installation



8. Lid Handle Installation



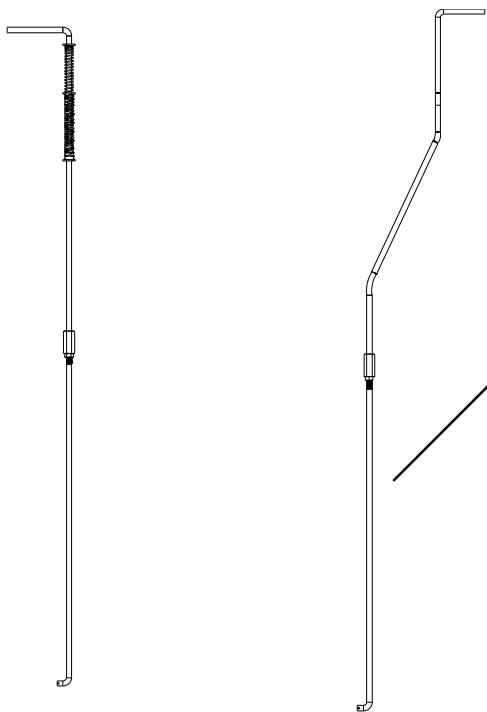
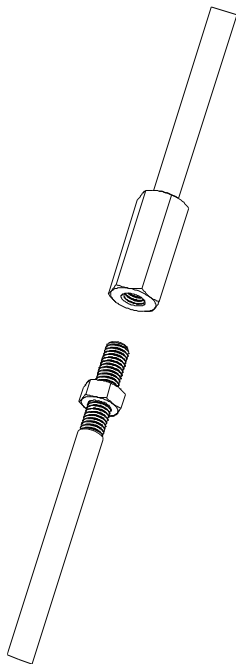
9. Shoe Installation



10. Control Arm Assembly

There are 2 types of control arm sets that could have been included with your machine. Please follow the instructions for the type that was shipped with your machine.

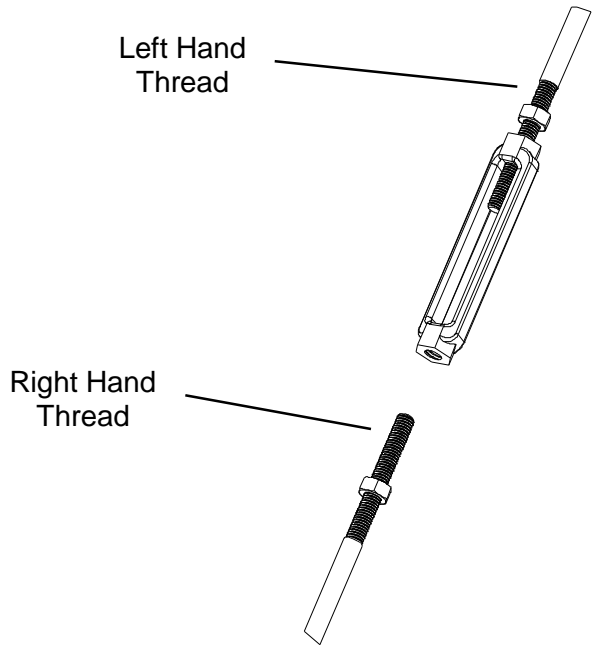
Type 1 - with one threaded end, goes together as shown:



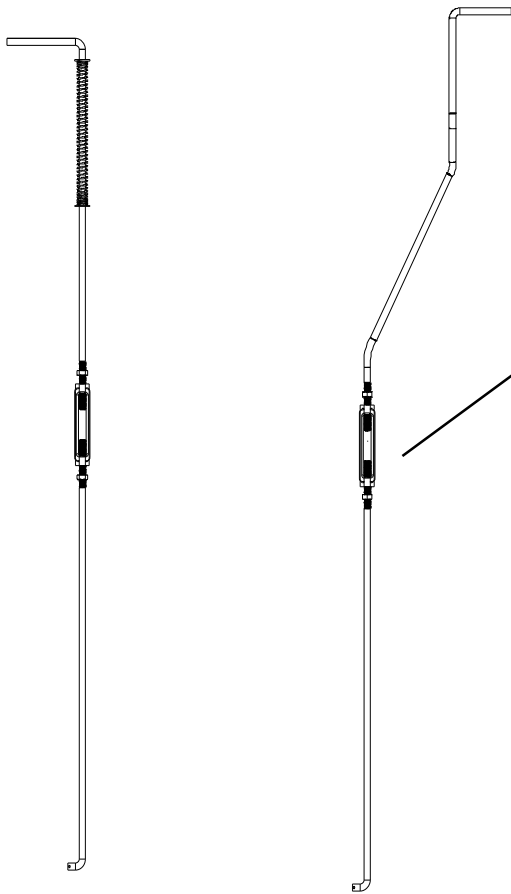
Each set of control arms is shipped as a pair of upper and lower halves. Be careful not to switch the valve and shoe lower half of the control arm.

If the lower halves of the control arms are mixed up, the shorter of the two is for the shoe control arm.

Type 2 - has 2 threaded ends with a turnbuckle connecting them and goes together as shown below:



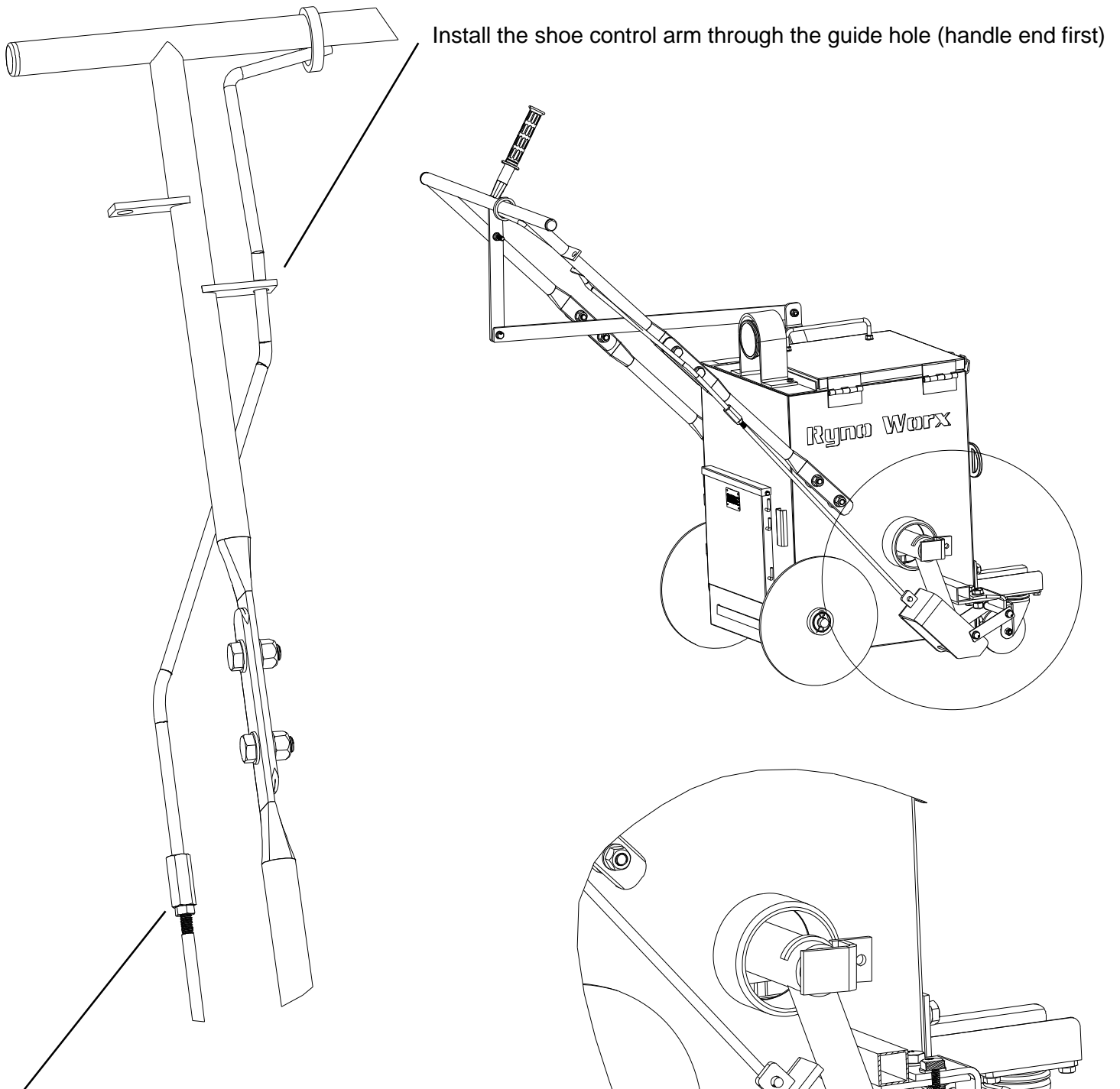
Thread each rod an equal amount into the turnbuckle with gaps between the nuts and turnbuckle to allow for adjustment.



Once the control arms are assembled proceed to the next step for installation and adjustment.

11. Shoe Control Arm Installation and Adjustment

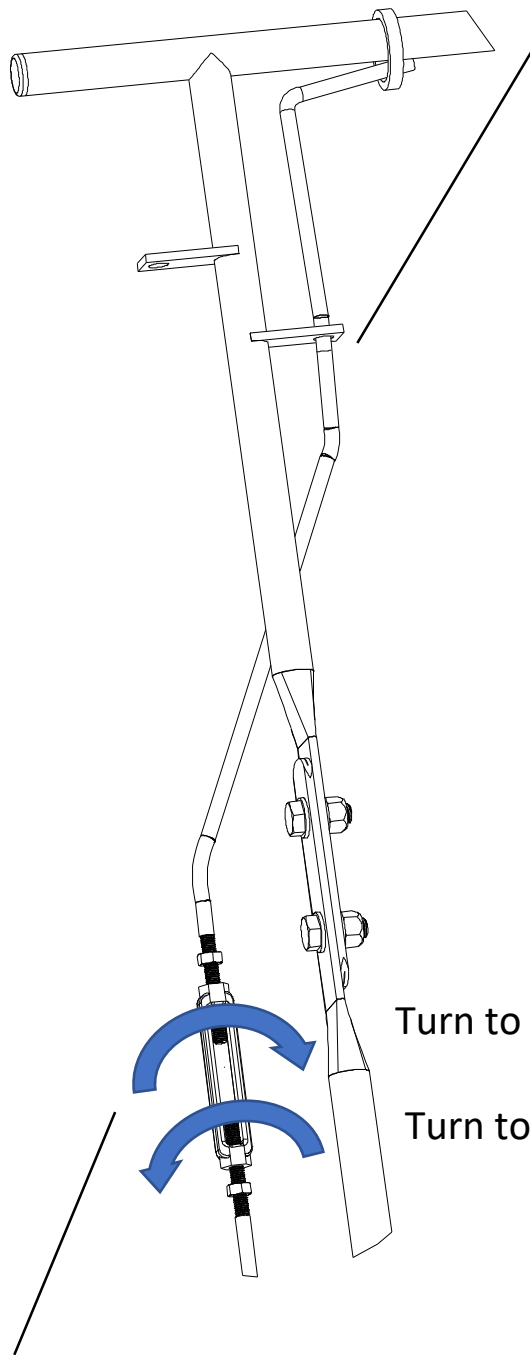
Type 1:



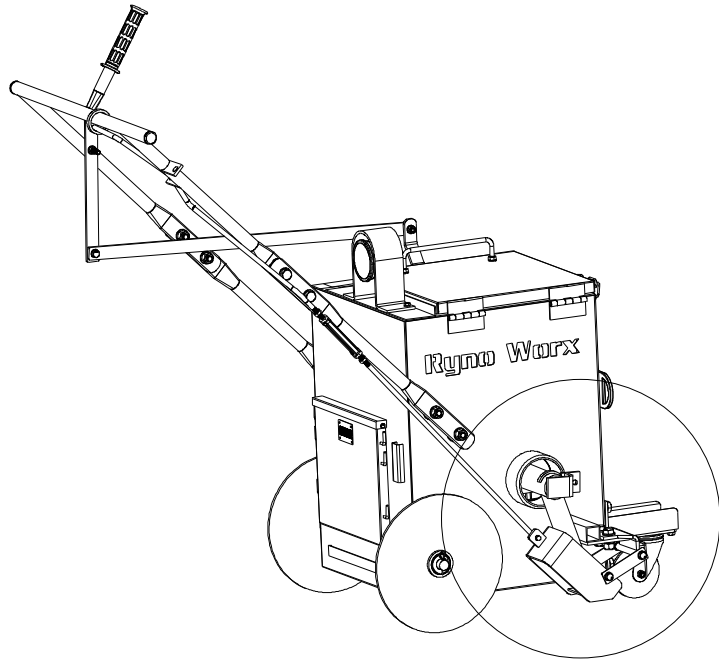
Install the shoe control arm through the guide hole (handle end first)

Adjust the length of the control arm by threading the lower half of the arm into the upper half. The final length of the arm should allow the drip guard to fully cover the bottom of the transfer tube when the shoe is in the raised position (shown to the right). Once the final length is set tighten the adjustment nut.

Type 2:

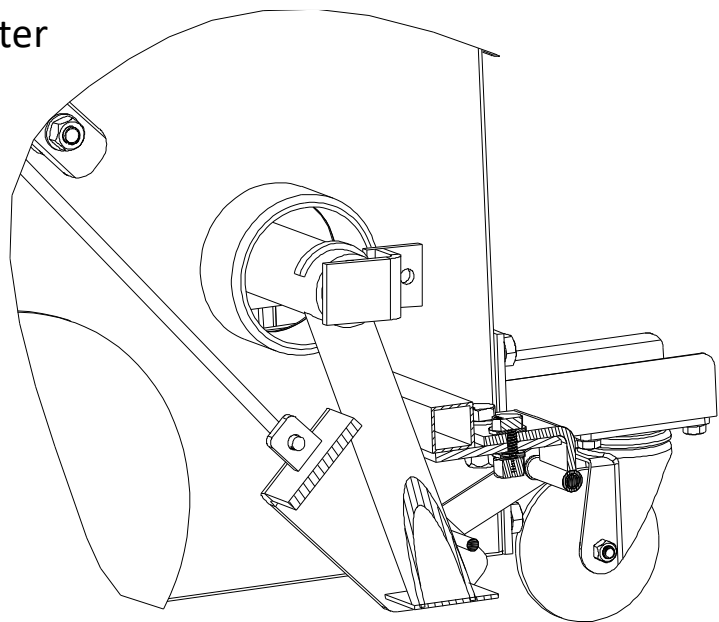


Install the shoe control arm through the guide hole (handle end first)



Turn to Make Arm Longer

Turn to Make Arm Shorter



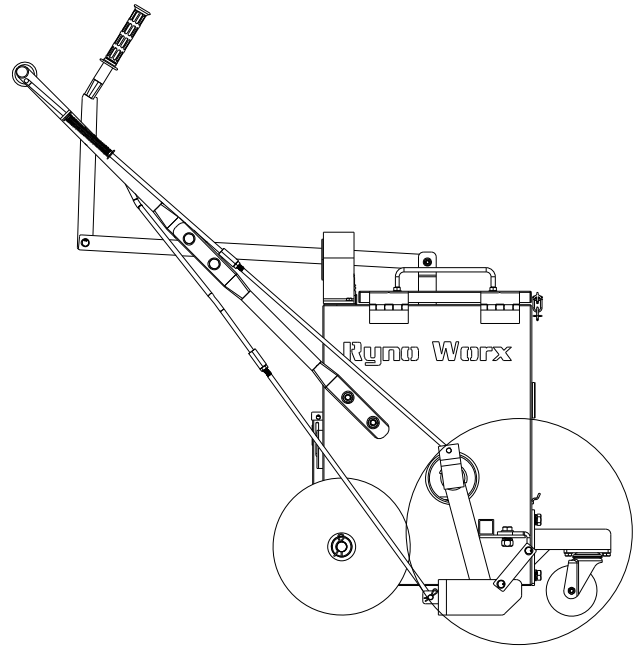
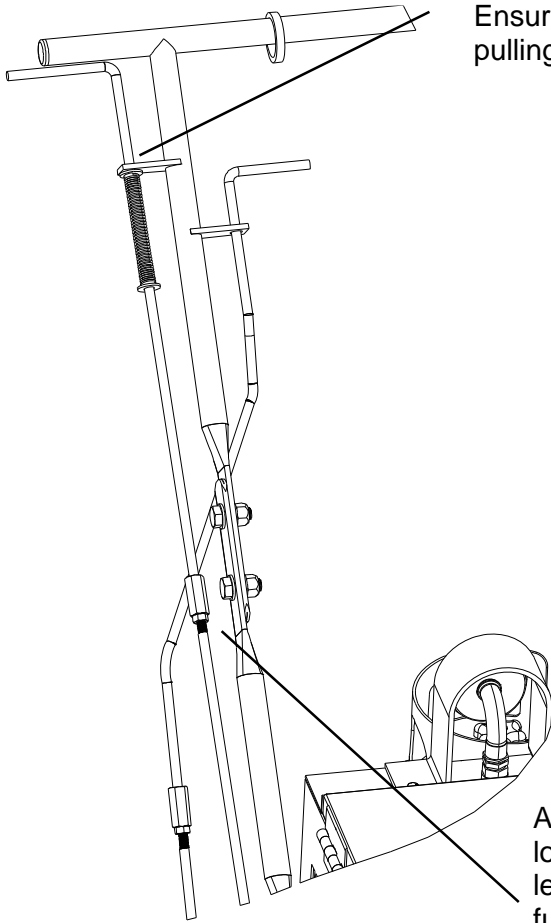
Adjust the length of the control arm by turning the turnbuckle in the appropriate direction (shown above).

The final length of the arm should allow the drip guard to fully cover the bottom of the transfer tube when the shoe is in the raised position (shown to the right). Once the final length is set, hold the turnbuckle in position with an adjustable wrench and tighten both nuts against the turnbuckle.

12. Valve Control Arm Installation and Adjustment

Type 1:

Install the valve control arm through the guide hole (handle end first). Ensure that the retainer washer is in place to prevent the spring from pulling through the guide hole.



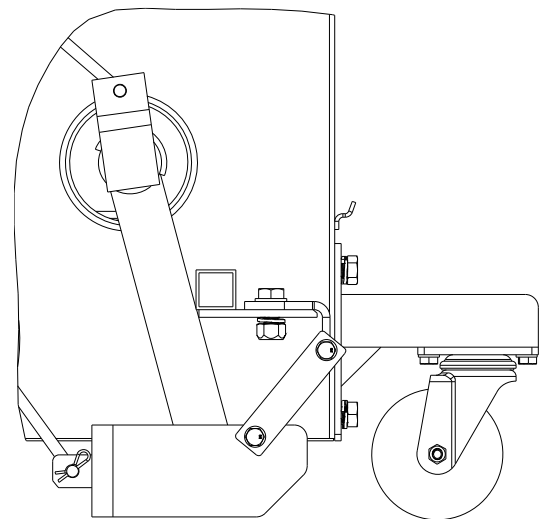
Adjust the length of the control arm by threading the lower half of the arm into the upper half. The final length of the arm should result in the valve being fully open (fully open valve position below) when the arm is fully retracted (shown above/left).

⚠ WARNING

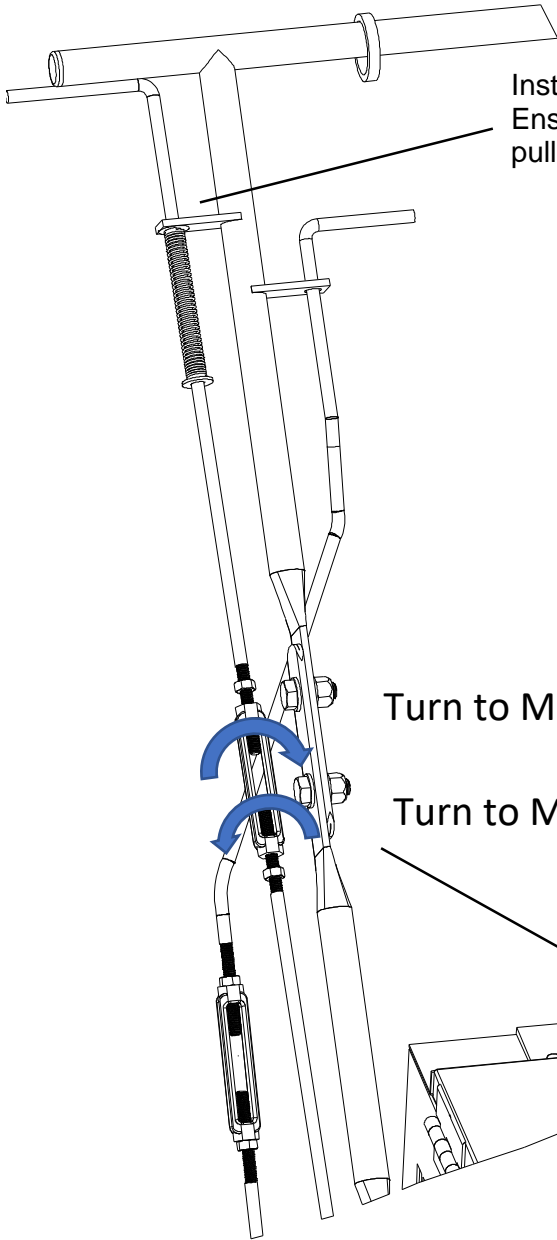
Setting the control arm to a length that is too short will cause over-rotation of the valve which could lead to the valve jamming or falling out.

The valve should NEVER be rotated more than a few degrees past the vertical position. The maximum valve rotation is shown on the right.

Make sure to test and verify that your setup is free from jams and over-rotations before using your machine.



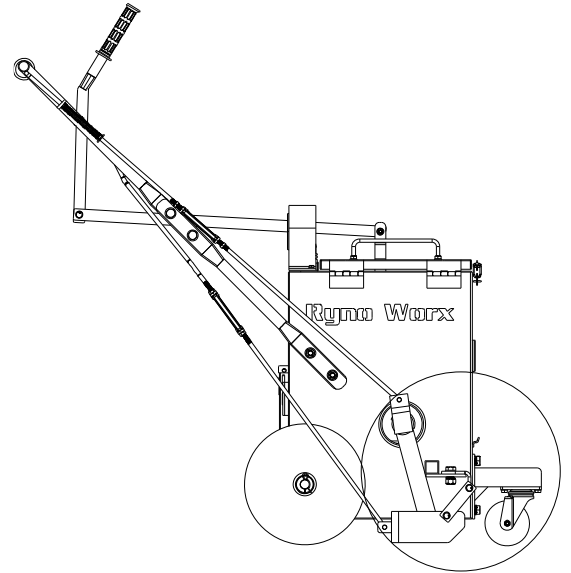
Type 2:



Install the valve control arm through the guide hole (handle end first). Ensure that the retainer washer is in place to prevent the spring from pulling through the guide hole.

Turn to Make Arm Longer

Turn to Make Arm Shorter



Adjust the length of the control arm by turning the turnbuckle in the appropriate direction (shown on the left) to make it longer or shorter.

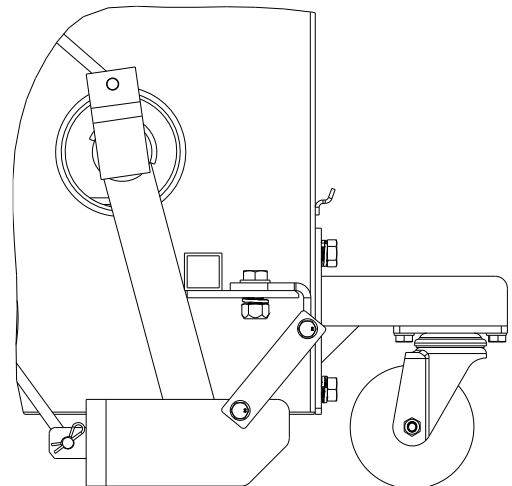
The final length of the arm should result in the valve being fully open (fully open valve position below) when the arm is fully retracted (shown above/left). Once the final length is set, hold the turnbuckle in position with an adjustable wrench and tighten both nuts.

WARNING

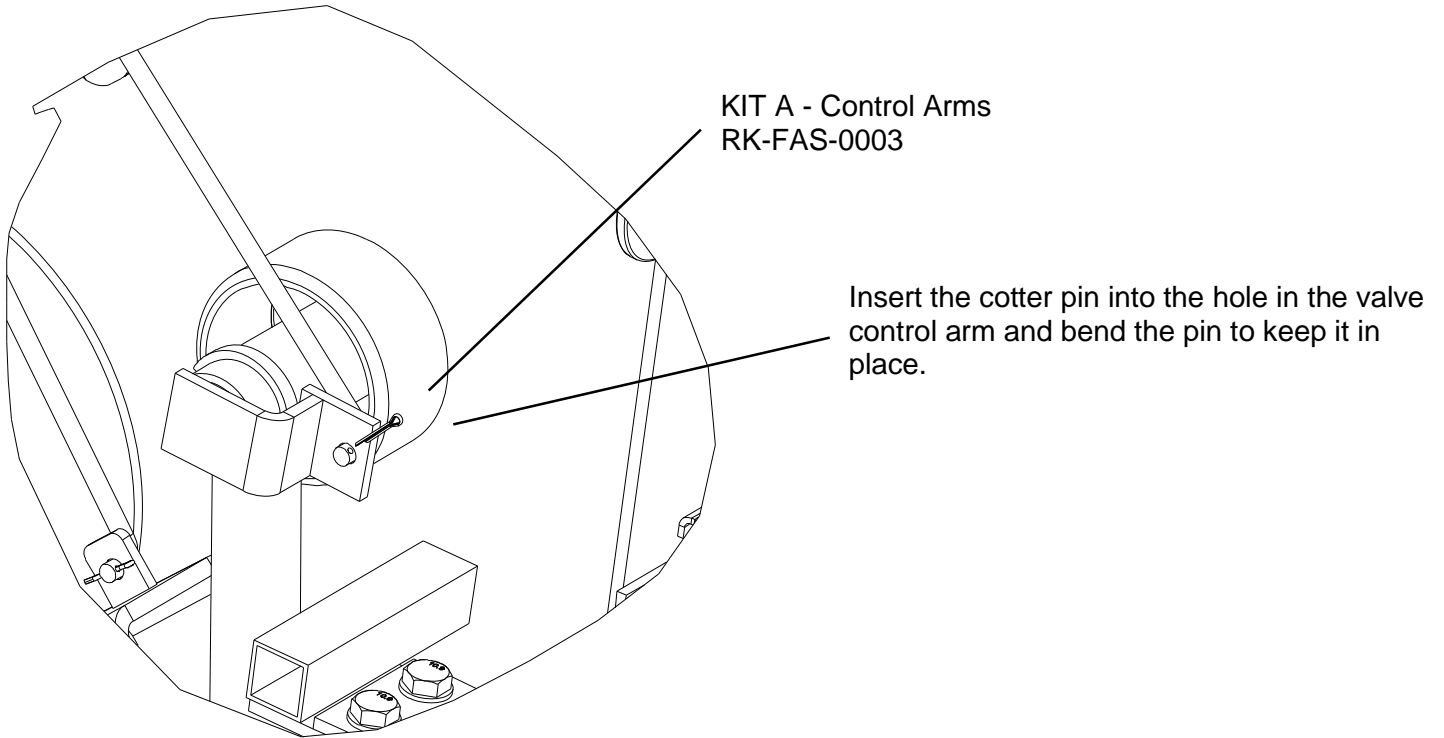
Setting the control arm to a length that is too short will cause over-rotation of the valve which could lead to the valve jamming or falling out.

The valve should NEVER be rotated more than a few degrees past the vertical position. The maximum valve rotation is shown on the right.

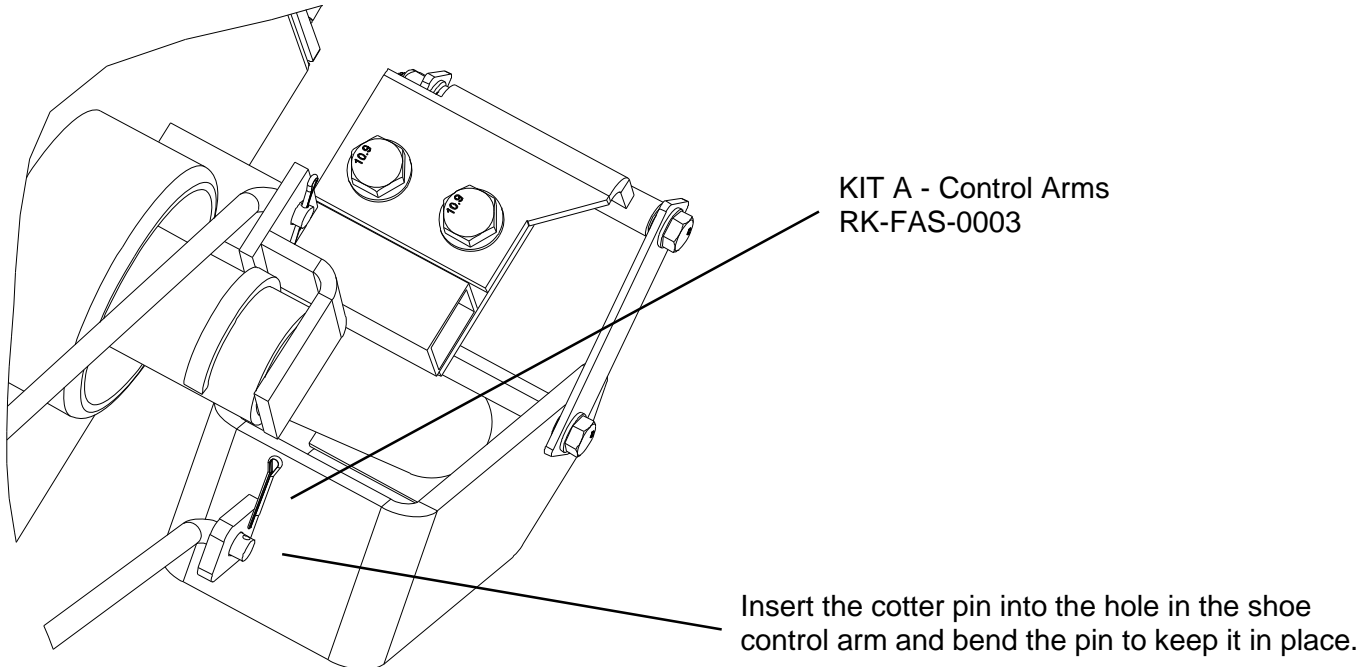
Make sure to test and verify that your setup is free from jams and over-rotations before using your machine.



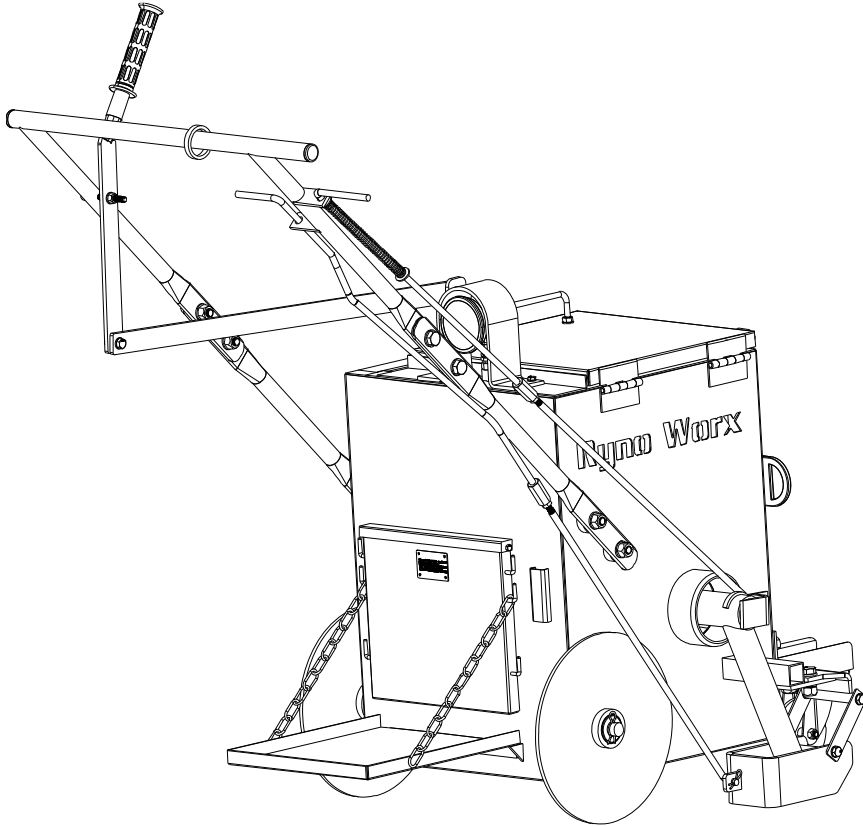
13. Valve Control Arm Cotter Pin Installation



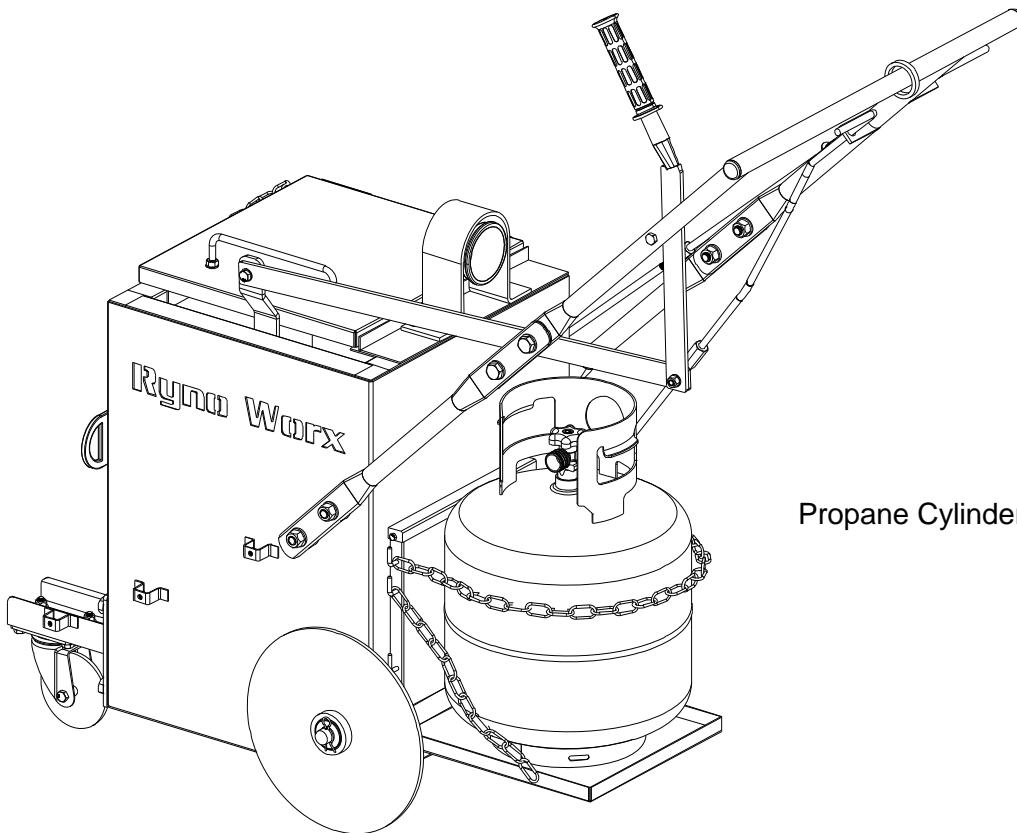
14. Shoe Control Arm Cotter Pin Installation



15. Tank Shelf Installation

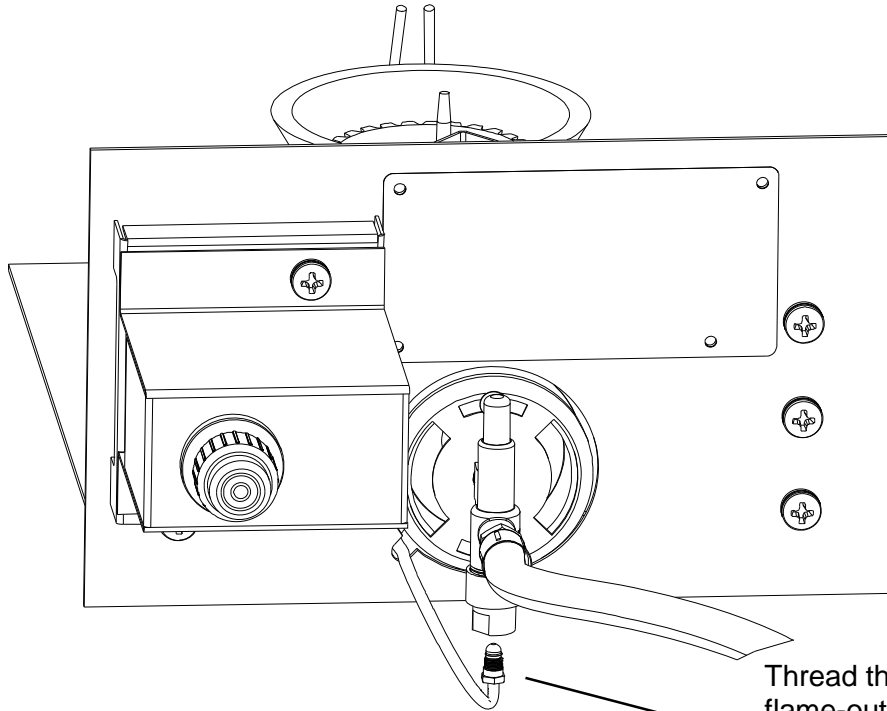


16. Propane Tank and Securing Chain Installation



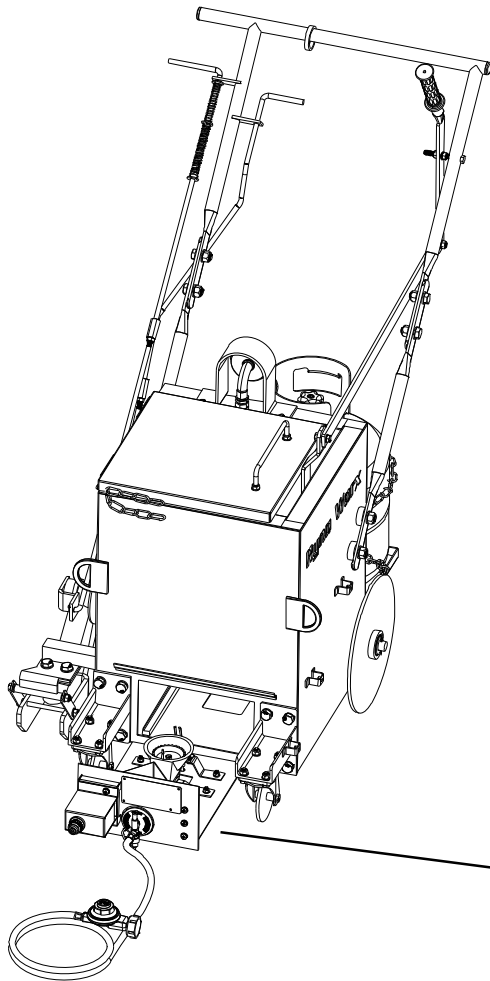
Propane Cylinder Not Included

17. Flame-out Thermocouple Installation



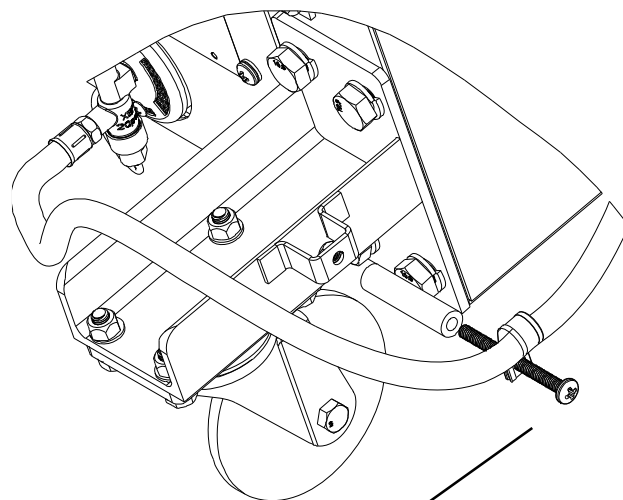
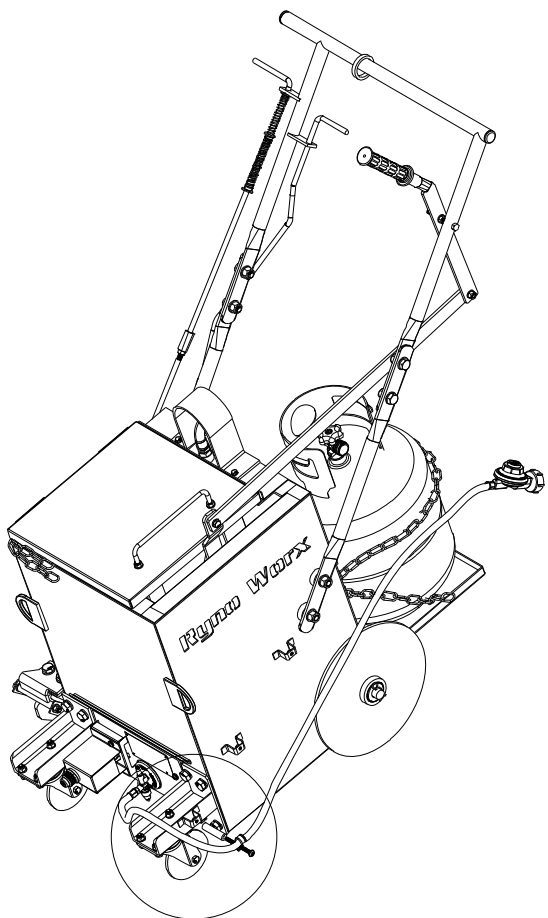
Thread the thermocouple wire into the flame-out valve and ensure the wire is threaded tightly as the burner will not function if this connection is loose.

18. Burner Installation

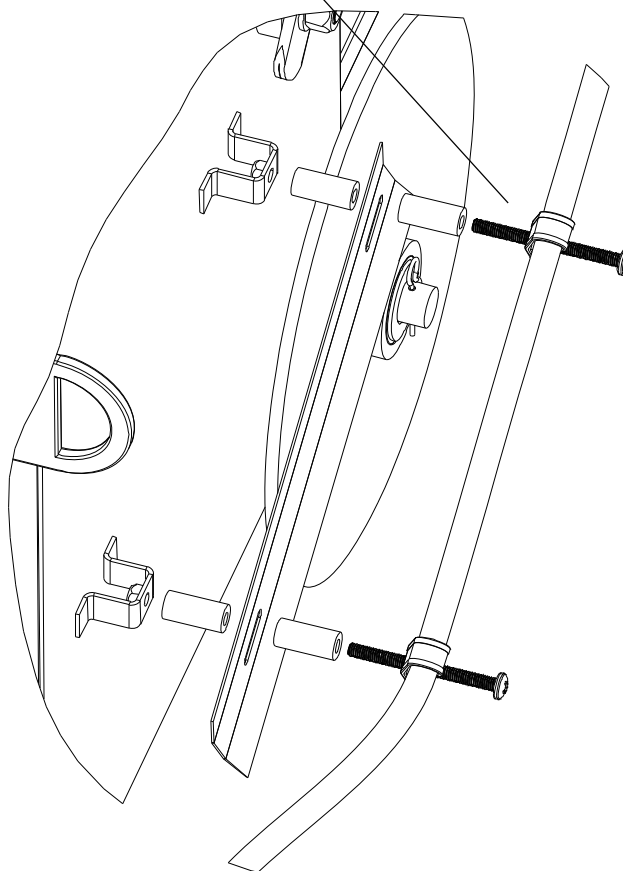
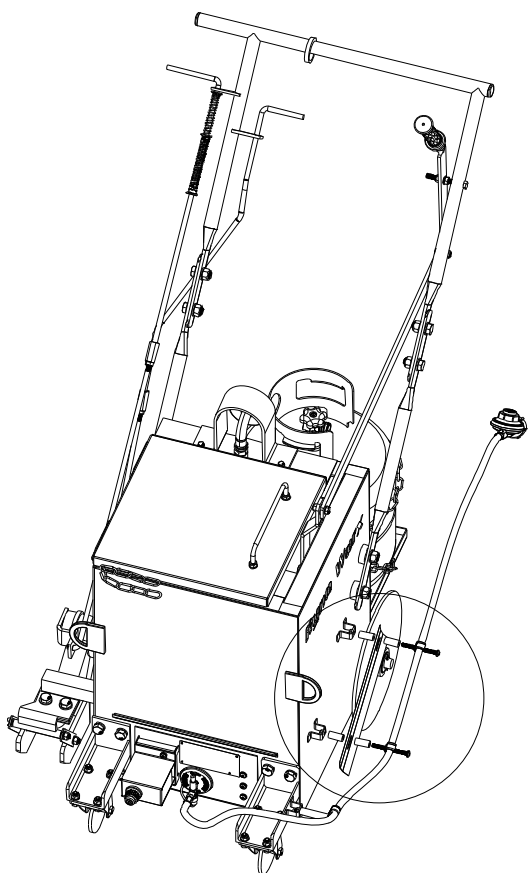


Fully insert the burner tray and then push it down to lock it in place.

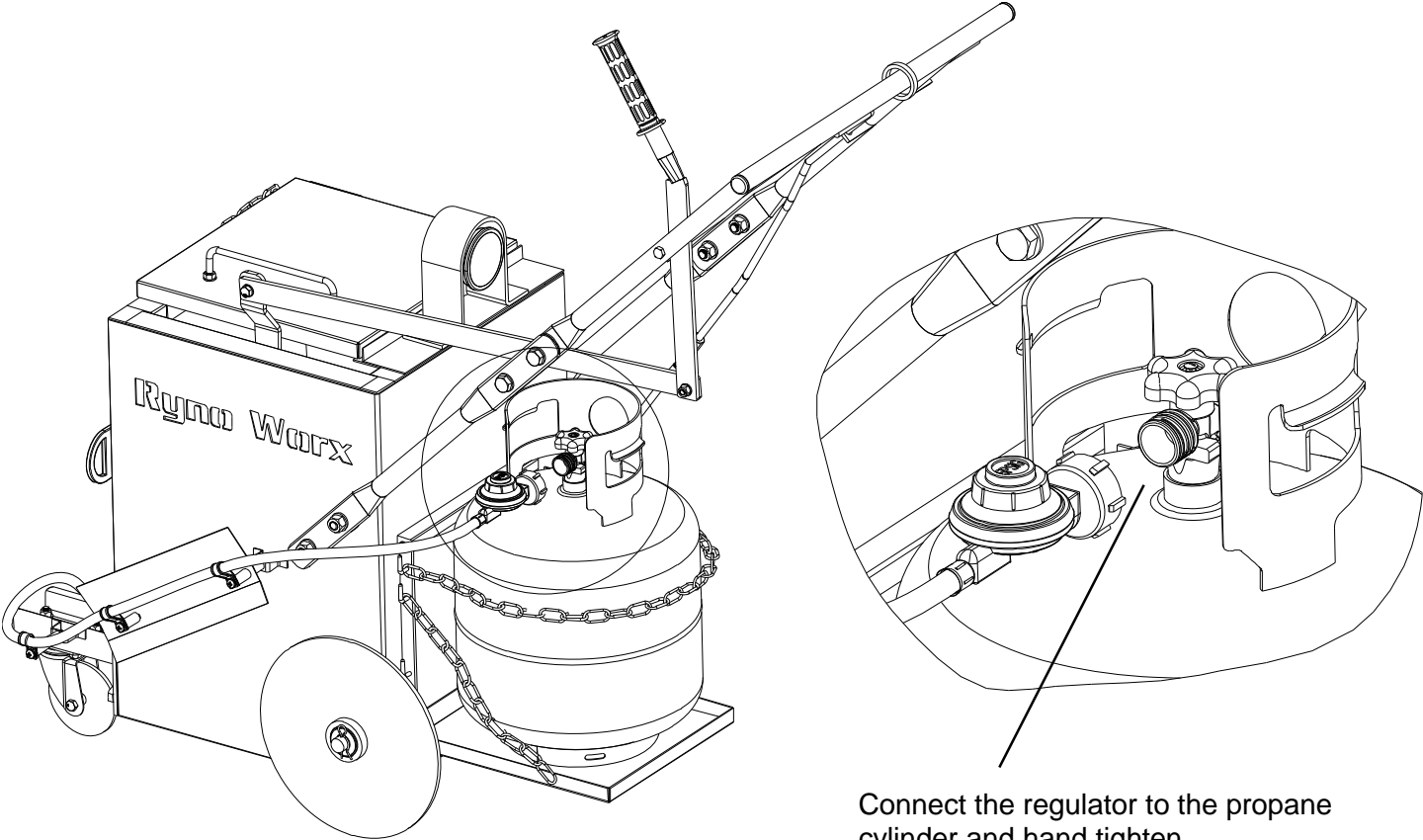
19. Heat Shield Installation



KIT G - Heat Shield
RK-FAS-0010



20. Propane Hose Connection



Connect the regulator to the propane cylinder and hand tighten.

- **Operations Guide**

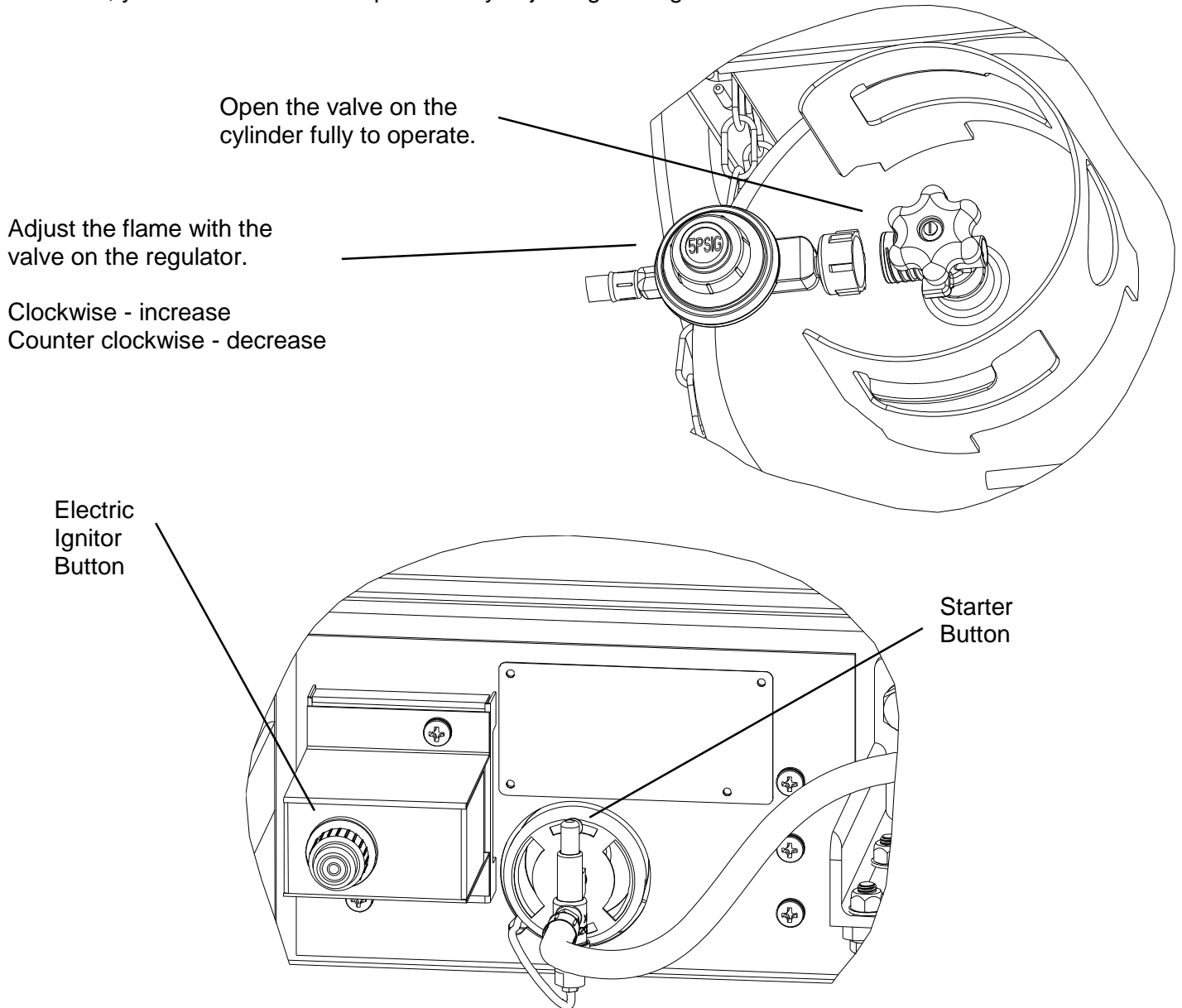
Before beginning please check the following:

1. You have read and understand all warnings on page 2.
2. You are using a new and full propane cylinder (use of a used cylinder can lead to reduced performance or equipment failure).
3. You have inspected your regulator, hose, and burner assembly and verified there are no leaks or physical damage.
4. You are outdoors in a well ventilated area that is free and clear of any flammable matter.
5. You have completed the assembly of the equipment correctly.
6. You have 'Direct Fire' type crack sealant such as GemSeal, SealMaster, Durafill, Craftco, or Maxwell.
7. There is absolutely NO water in or around the kettle.
8. You are wearing protective eyewear.
9. You are wearing heat and fire resistant protective gloves.
10. You are wearing heat and fire resistant protective clothing which covers all exposed skin.

• Operations Guide

Part 1 – How to Load and Light your Melter

1. Ensure your regulator is off by rotating regulator knob fully counter-clockwise (rotate left).
2. Slowly pressurize the regulator by rotating the valve located on the propane cylinder counter-clockwise all the way (rotate left).
3. Inspect and ensure there are no leaks between any of the connections before proceeding.
4. Load crack sealant into kettle, while ensuring sealant is resting on the bottom of the kettle.
5. Pressurize the propane hose by rotating the regulator knob between 1 ¼ and 1 ½ rotations clockwise (rotate right).
6. Press and hold the electric igniter button immediately followed by the starter button. Continue holding both buttons until the burner ignites.
7. Once the burner ignites, release the electric igniter button, however continue to hold the starter button for an additional 15-20 seconds. This will eventually deactivate the flame-out sensor which is responsible for ensuring the burner stays lit.
8. Once lit, you can control the temperature by adjusting the regulator.



⚠ Operating the burner on high in most conditions is not recommended, this can harm sensitive electronic components and dangerously overheat fuel carrying lines.

⚠ Never exceed the manufacturer's recommended material maximum temperature.

- **Operations Guide**

Part 2 – Agitating and Monitoring Temperature

1. Never leave melter unattended when the burner is lit. If flame goes out, promptly turn off the flow of gas; double check that the melter is free and clear of any gas odors before attempting to re-ignite the burner.
 2. While your melter is ignited you should continuously be monitoring the material temperature. Check with crack sealant manufacture for safe melting temperatures and ensure you continually adjust your regulator to maintain the recommended temperature range. If the material becomes too hot, you may need to turn off your burner periodically.
 3. As material begins to melt, it's important to consistently agitate. Agitation moves the solid crack sealant along the bottom and prevents 'hot spots' from forming which can alter the effectiveness of the sealant after applied. Agitation also prevents chunks of over-heated material from forming which will eventually plug or block your flow valve which can slow down the applications process.
-

Part 3 – Dispensing Crack Filler

Once you have effectively liquefied the crack sealant, you may begin applying it. For best results, the surface should be clean and free of dirt, debris and vegetation. Ensure shoe is lowered and resting on the pavement. Push melter into position, aligning the crack you wish to fill with the center of the shoe. Slowly squeeze the valve control arm until crack filler begins to come out of the valve and onto the crack. Slowly push the melter forward, keeping the crack aligned with the center of the shoe. Increase speed of the material flow by squeezing harder on the valve control arm. If material flow slows, check to ensure that you have enough melted material in the kettle and agitate to keep the flow tube clear.

Part 4 – Turning Off and Draining

Once you have finished using the melter, make sure it is fully drained and no crack filler remains inside the kettle or the flow valve. Leaving the flow valve empty after use will prevent the valve from being blocked the next time you use the melter.

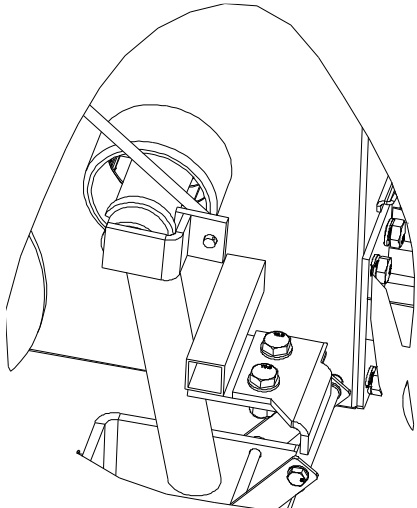
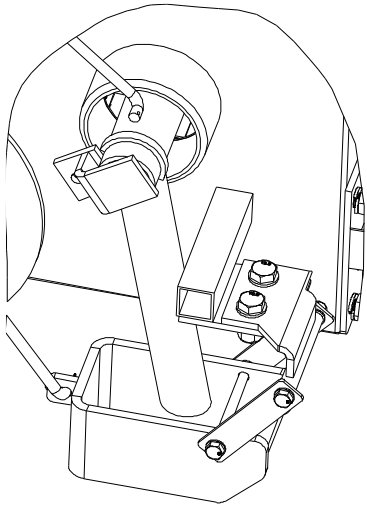
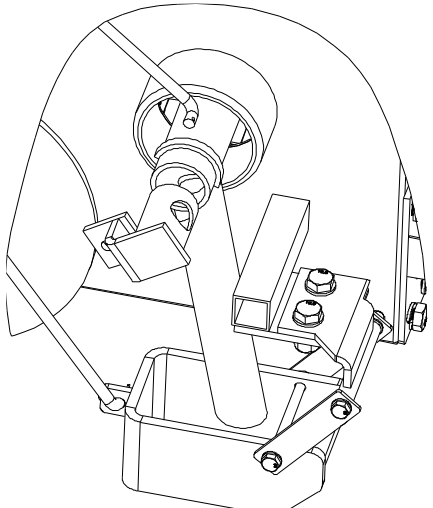
- **Maintenance Guide**

Periodic Maintenance

This melter / applicator requires periodic maintenance before each use and at set intervals in order to ensure it is performing safely and optimally. The table below describes checks and maintenance which are recommended.

Description	Before Each Use	Every 25 Hours	Every 75 Hours
Check Propane Tank fuel level, refill as needed	X		
Inspect regulator and hose for physical damage or leaks	X		
Inspect front caster wheel, apply grease and tighten fasteners as required	X		
Inspect thermometer for physical damage or malfunctions	X		
Remove and thoroughly clean control valve		X	
Remove and replace left and right side wheel bushings as required			X

Procedure for Removing the Flow Valve

1) Remove the cotter pin from the control arm.	2) Remove the control arm from the valve and fully rotate the valve counter-clockwise past the valve collar.	3) Pull the valve out of the tube.
		

• **Troubleshooting Guide**

Below we have provided a common problems and solutions table. Be sure to consult this table should you experience any technical problems.

Description of Problem	Possible Causes	Known Solutions
The burner will not ignite or the burner will not stay lit	1) The electric ignition may have dead or low power batteries 2) Starter button not being held long enough for ignition to take place 3) The fuel level could be too low 4) The propane cylinder valve could be partially or fully closed, which can restrict fuel flow 5) The pressure regulator valve may be in the off position or may not be providing sufficient fuel flow	1) Change the batteries located in the ignitor assembly, double check spark. 2) Ensure you hold your starter button until the burner ignites, continue to hold for an additional 15-20 seconds 3) Check and refill your fuel tank 4) Ensure your fuel valve is fully open, you can do this by turning the knob fully counter-clockwise 5) You may increase the pressure from the regulator by turning the knob clockwise
Crack filler is hot, but will not come out of the flow valve	1) Crack filler was left inside the melter from a previous job. This crack filler has solidified inside the flow valve and although the material in the kettle is melted, the material in the transfer tube and flow valve may not be. 2) There is a material blockage in the transfer tube or flow valve preventing crack filler from flowing which can be caused by dirt or debris inside the kettle or by old crack sealant which has lost its ability to melt from being reheated too many times	1) Allow the burner more time to heat up the flow valve until the crack filler inside begins to melt. Alternatively, you may heat up the valve using a propane torch assembly. 2) This is routine maintenance as described in the maintenance guide. Make sure your melter is cool enough to touch with gloves, carefully remove the valve control arm. Rotate the control valve forward (clockwise) about a ¼ turn and pull out of the transfer tube (this may require some force if the material is cold). Using a drill and a long 1" wire wheel, carefully clean all build up on the inside of the flow valve and transfer tube while being careful not to damage the original steel surface. Once clean you may put re-assemble the control valve and control arm.
Burner will not stay lit	1) The fuel level may be too low 2) Loose connection between the thermocouple and flame-out valve	1) Refill your fuel tank 2) Tighten the thermocouple connection to the flame-out valve
Crack filler is melting really slowly	1) Incorrect crack sealant being used 2) Burner is not providing enough heat to melt the crack sealant 3) The temperature outside is cooler than normal slowing down the melting process	1) Double check that your using an approved crack sealant for use in direct-fire melters 2) Increase the fuel to your burner 3) No solutions, melting takes longer on cooler days

<p>The Control valve is occasionally dripping at the transfer tube</p>	<p>The flow valve is designed with tight tolerances and designed to be removable for easy cleaning. It is not uncommon for your flow valve to have an occasional drip where it meets the transfer tube when the melter is warm.</p>	<p>No solutions necessary, the flow valve is designed with tolerances which prevent it from binding from the intense heat of the burner. An occasional drip is perfectly normal when the machine is fully heated.</p>
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