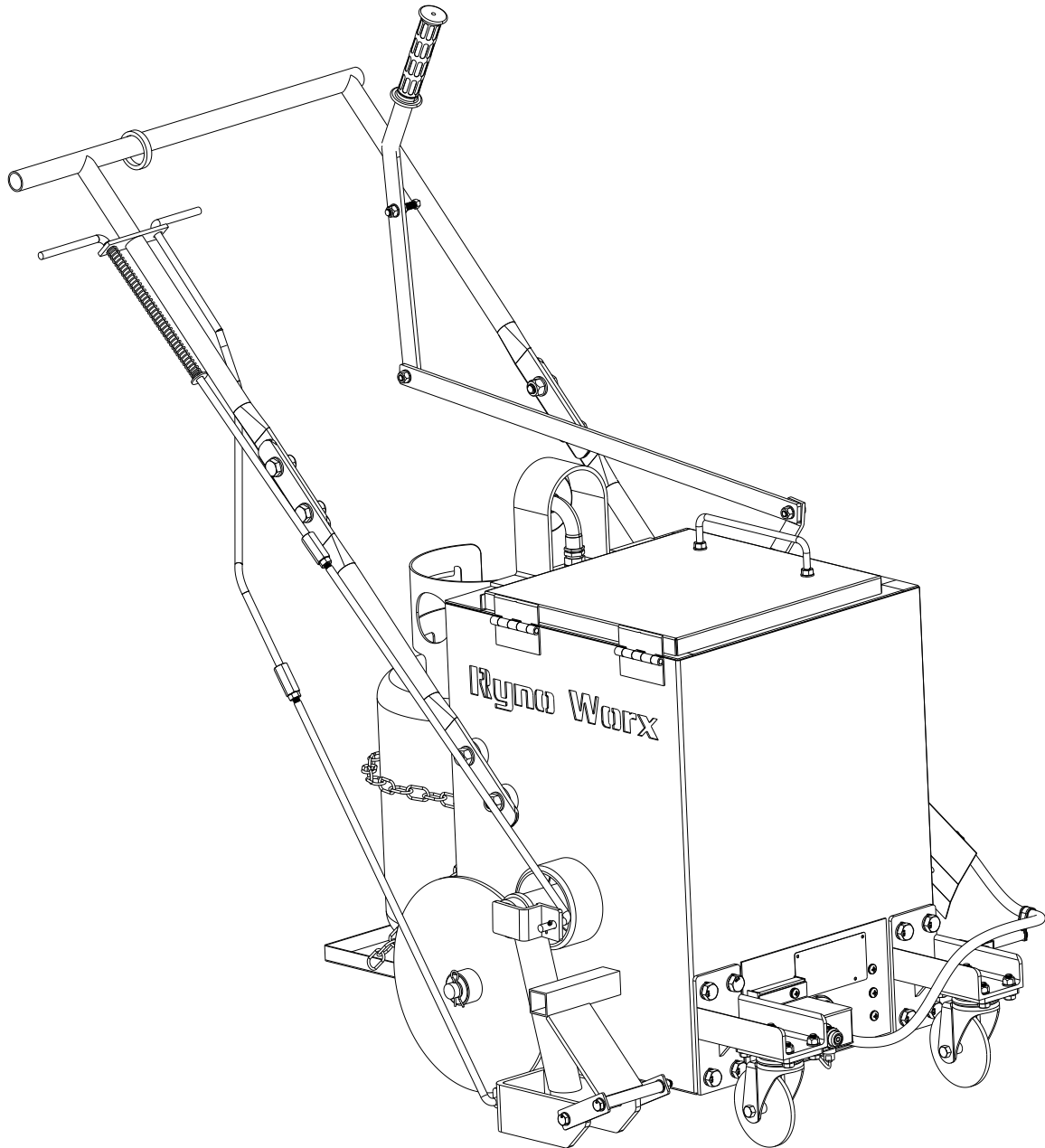


Ryno Worx



RY10MA-Pro - Owner's Manual

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

US Patent Pending



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.
- ⚠ 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.

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- **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.

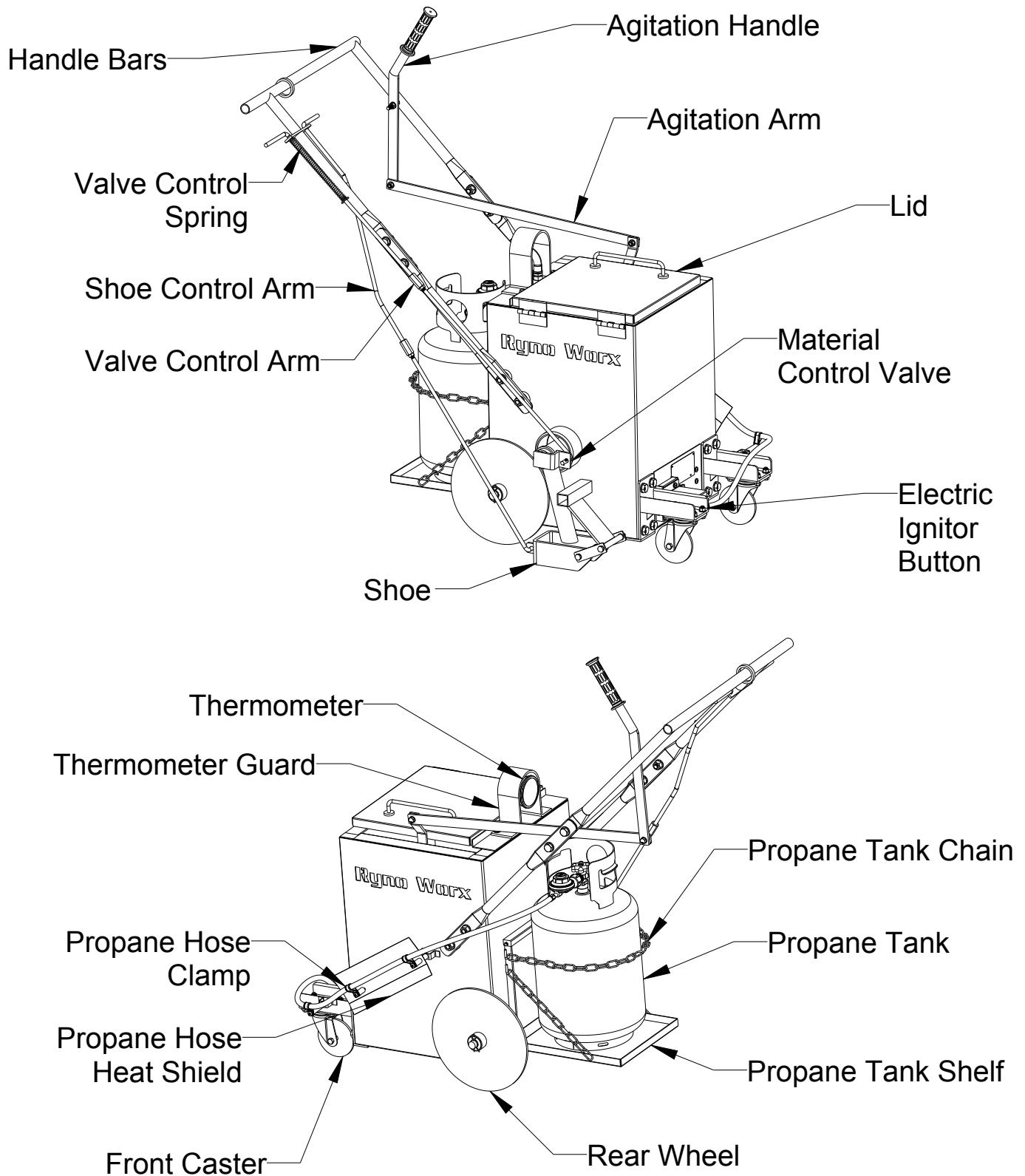
Within this document you will find the following resources:

- **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.

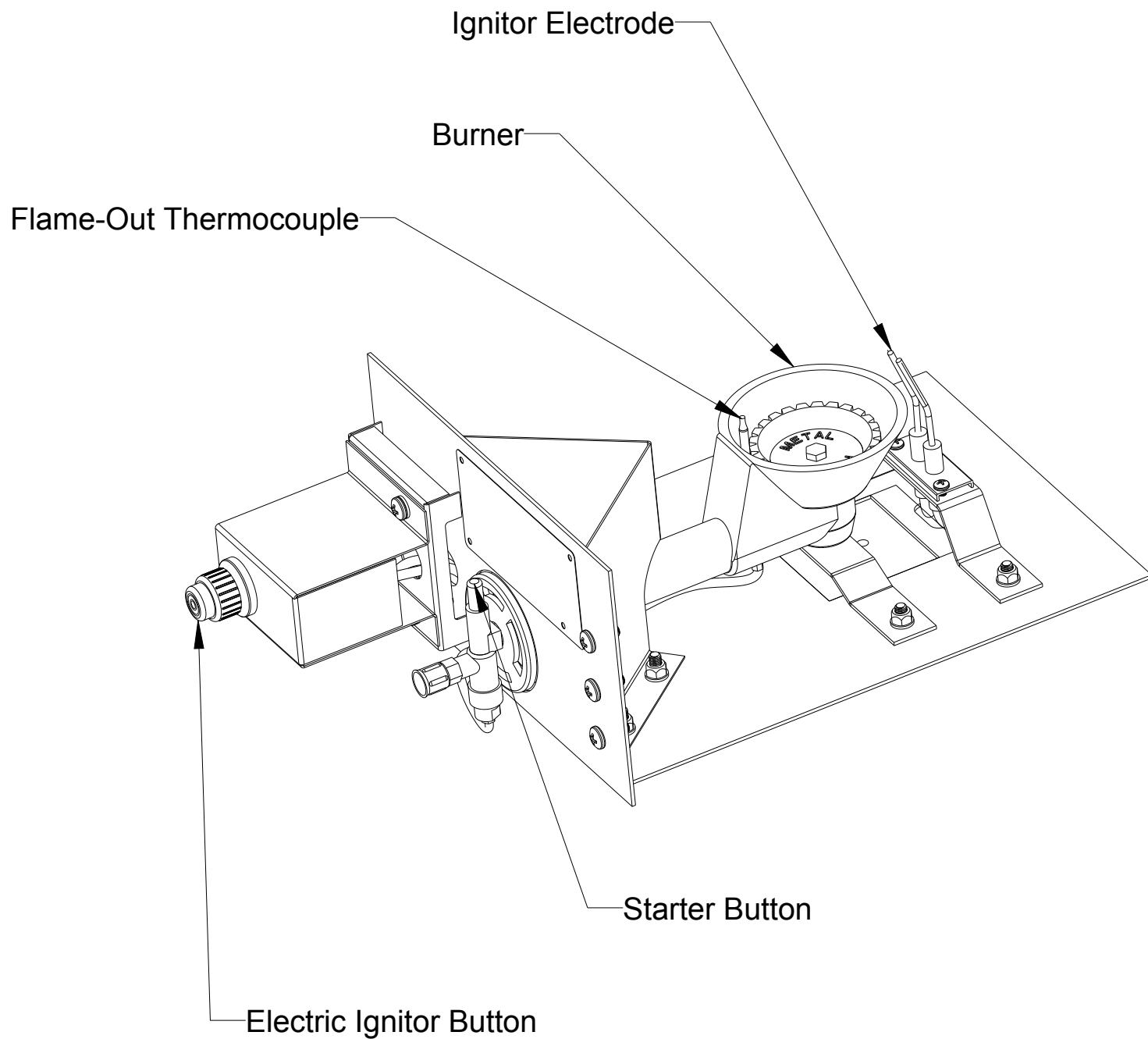
- **Assembly Instructions**

Part 1 – Assembly and Parts

Familiarize yourself with the assembly and parts drawings below which name all the controls of the melter. Pay close attention to how the parts are assembled. You may use this drawing as a reference during the assembly process.

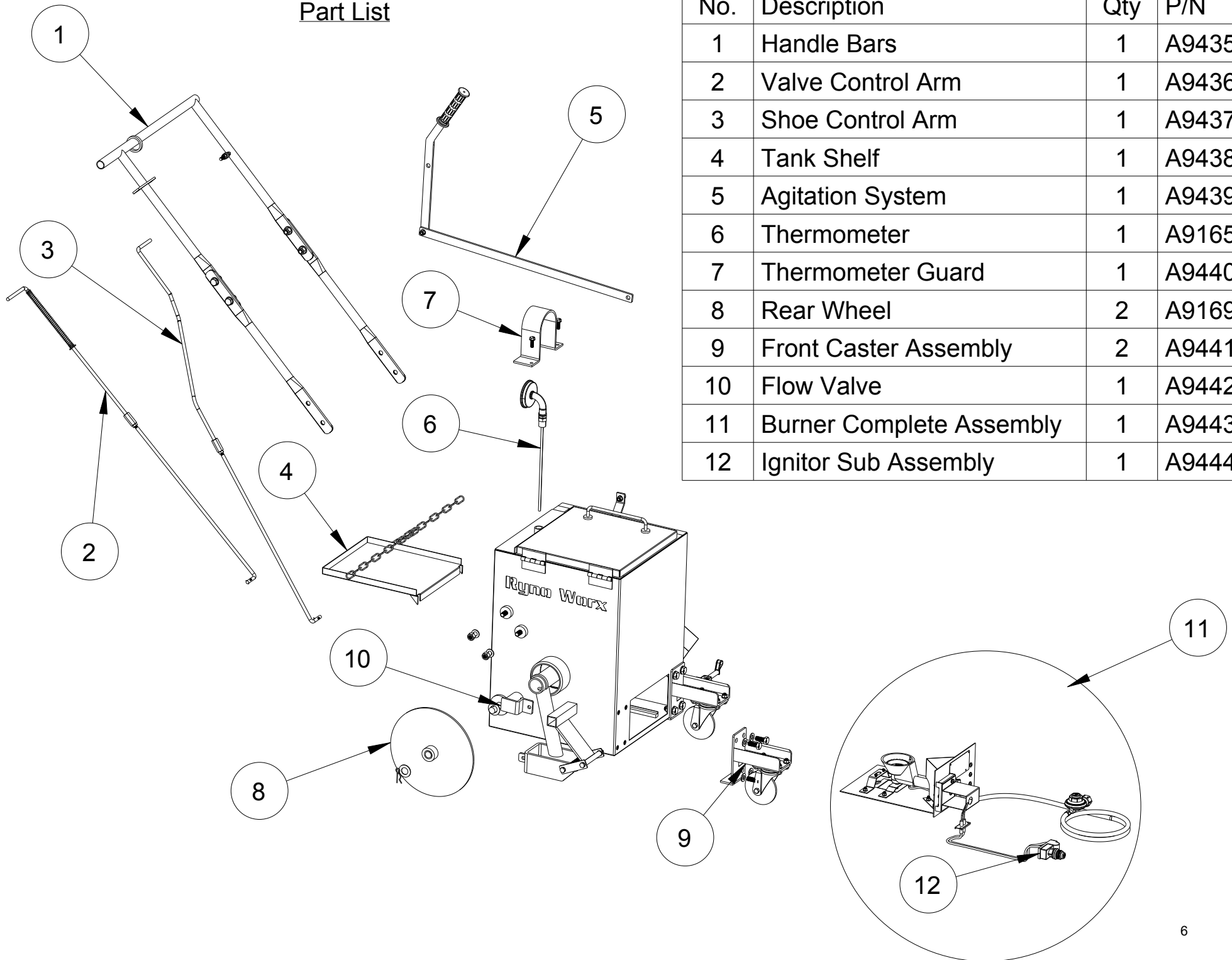


Burner Assembly



Part List

No.	Description	Qty	P/N
1	Handle Bars	1	A9435
2	Valve Control Arm	1	A9436
3	Shoe Control Arm	1	A9437
4	Tank Shelf	1	A9438
5	Agitation System	1	A9439
6	Thermometer	1	A9165
7	Thermometer Guard	1	A9440
8	Rear Wheel	2	A9169
9	Front Caster Assembly	2	A9441
10	Flow Valve	1	A9442
11	Burner Complete Assembly	1	A9443
12	Ignitor Sub Assembly	1	A9444

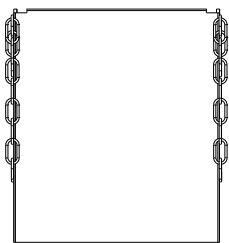


- **Assembly Instructions**

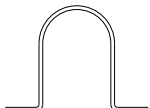
Part 2 – Remove Parts and Packaging and Verify Contents

Carefully remove all parts from their packaging and layout on a flat working surface. At this time be sure to remove all loose parts from the inside of the kettle. You should have all the required parts as illustrated on the drawing below as well as the required hardware to complete assembly:

Propane
Tank Shelf



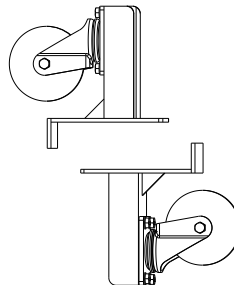
Thermometer
Guard



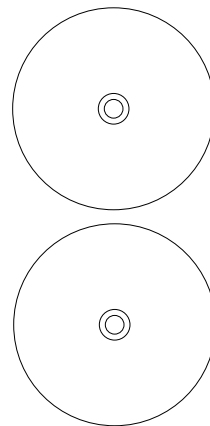
Thermometer



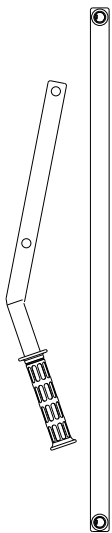
Front
Casters



Rear
Wheels



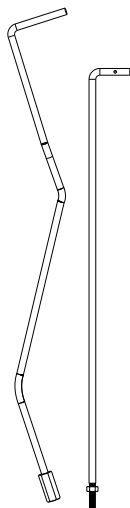
Agitation
Assembly



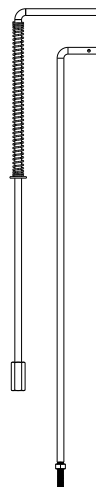
Lid
Handle



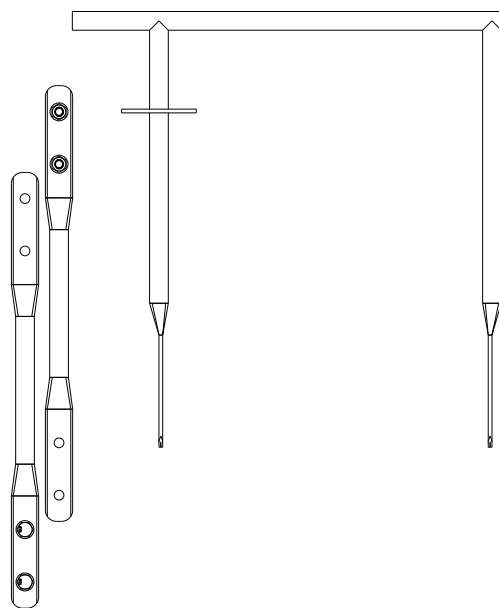
Shoe
Controls



Valve
Controls



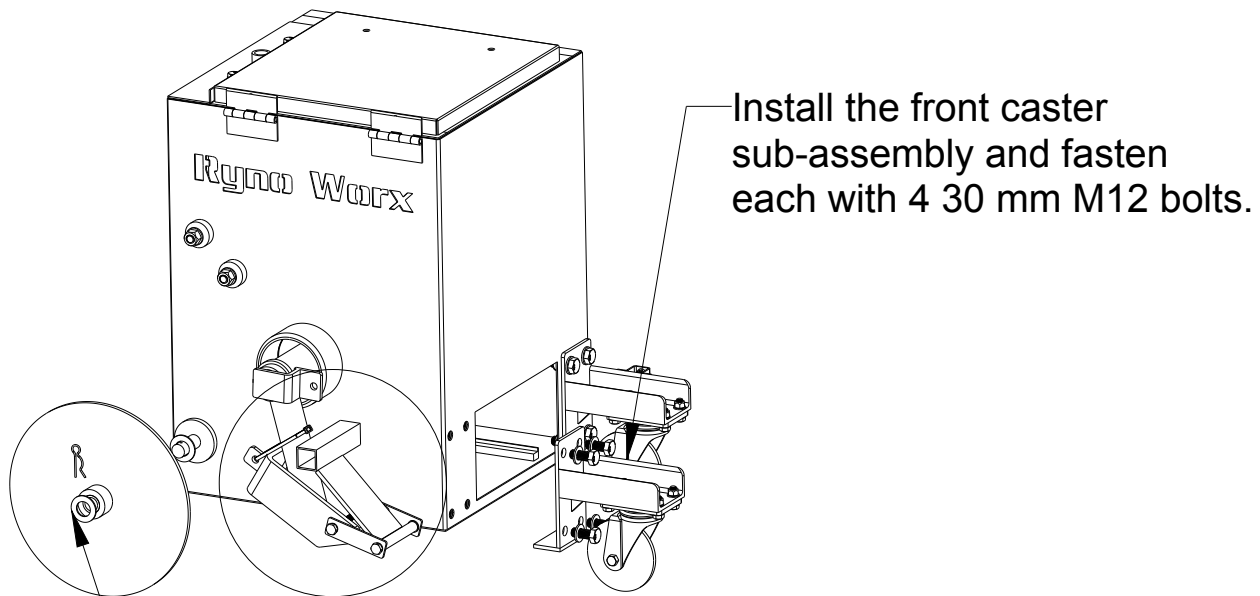
Handle Bars
Lower/ Upper Assembly



- **Assembly Instructions**

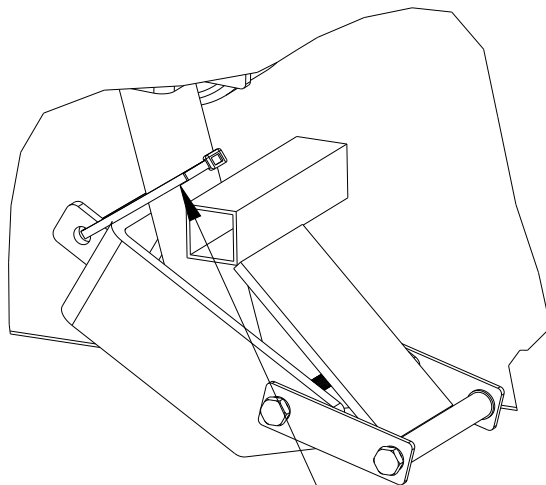
Part 3 – Assemble Melter According to the Illustrations and Instructions

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.

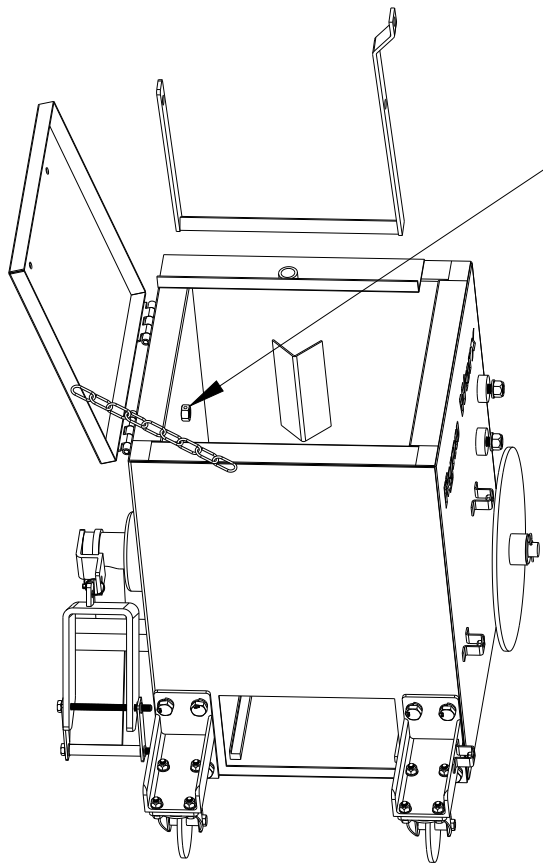


Install the front caster sub-assembly and fasten each with 4 30 mm M12 bolts.

Assemble the rear wheels and secure them with two washers (one on each side of the wheel) and a cotter pin on each wheel.

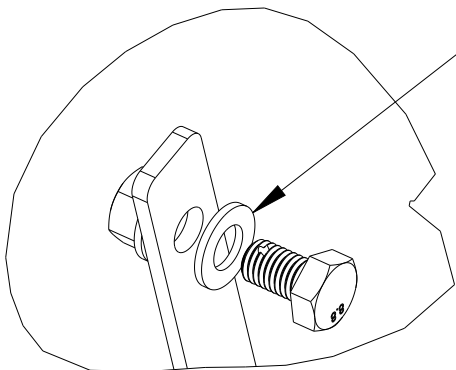
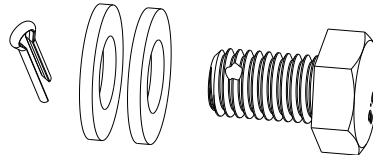


Cut the zip tie and lower the shoe to the ground.

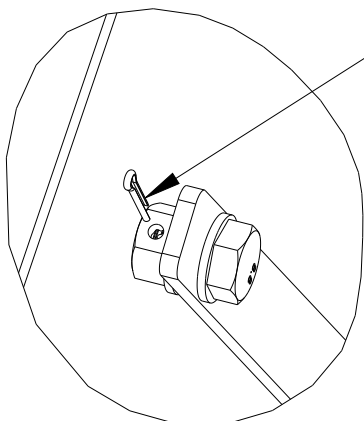


Remove the agitation fasteners from inside the kettle and insert the agitation sweep bar in the orientation shown.

Agitation Fasteners

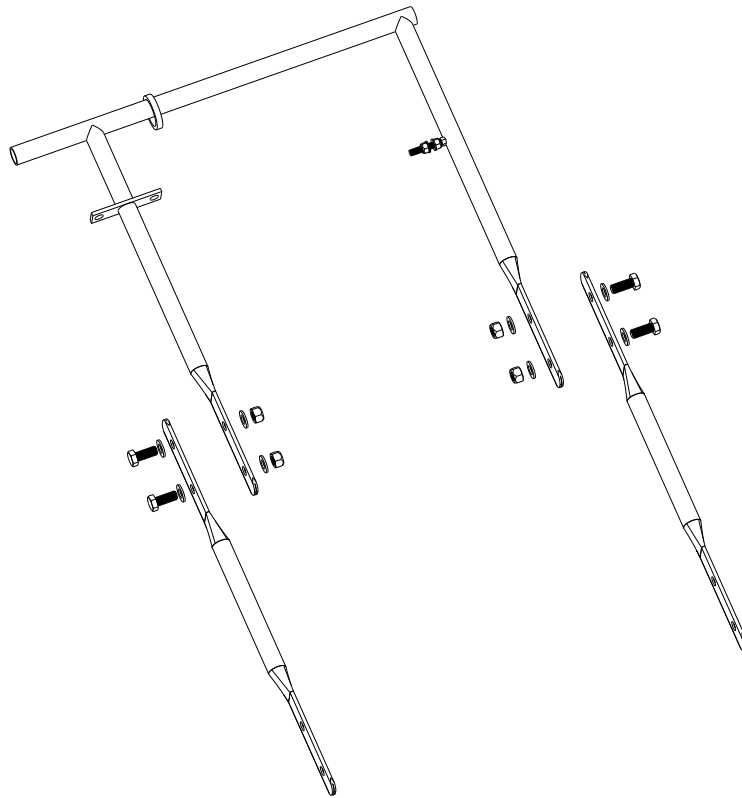


Place a washer on each side of the agitation bar and thread the bolt (with a drilled shank) into the nut on the kettle wall. Repeat for the opposite side of the agitation sweep bar.

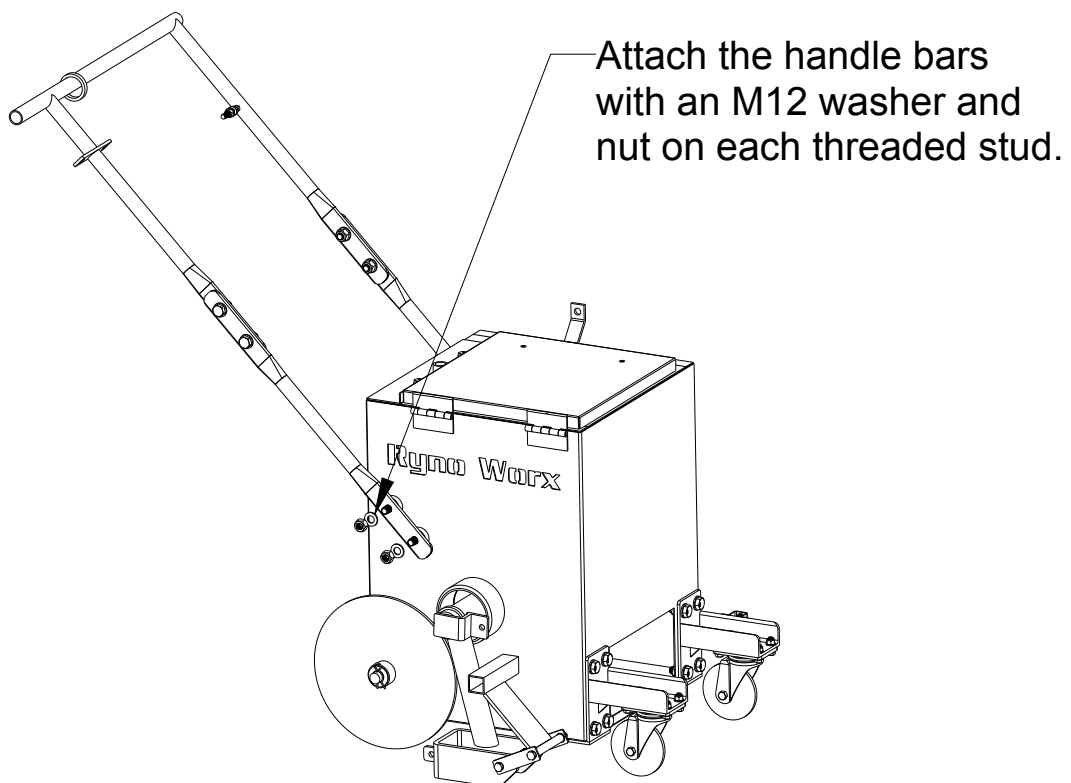


Continue threading the bolt into the nut on the melter wall until the hole in the drilled shank lines up with the hole in the nut. Once the holes are aligned, insert the cotter pin through the holes as shown.

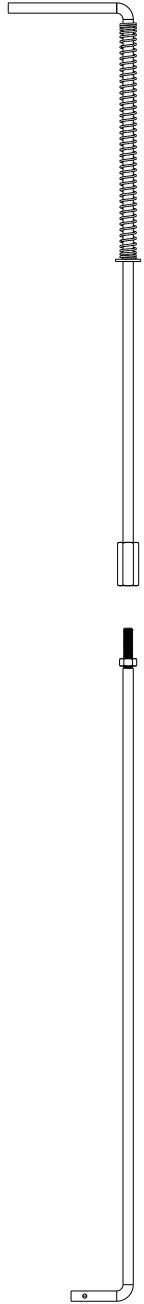
Handle Bar Assembly



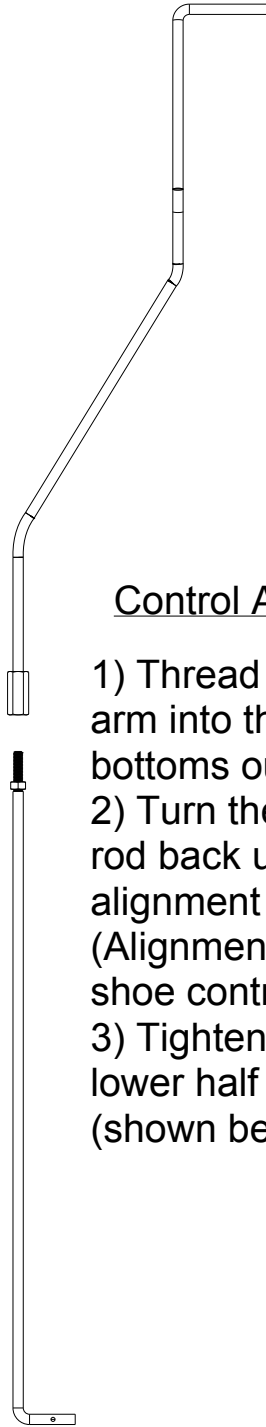
Assembled Handle Bars



Valve Control Arm



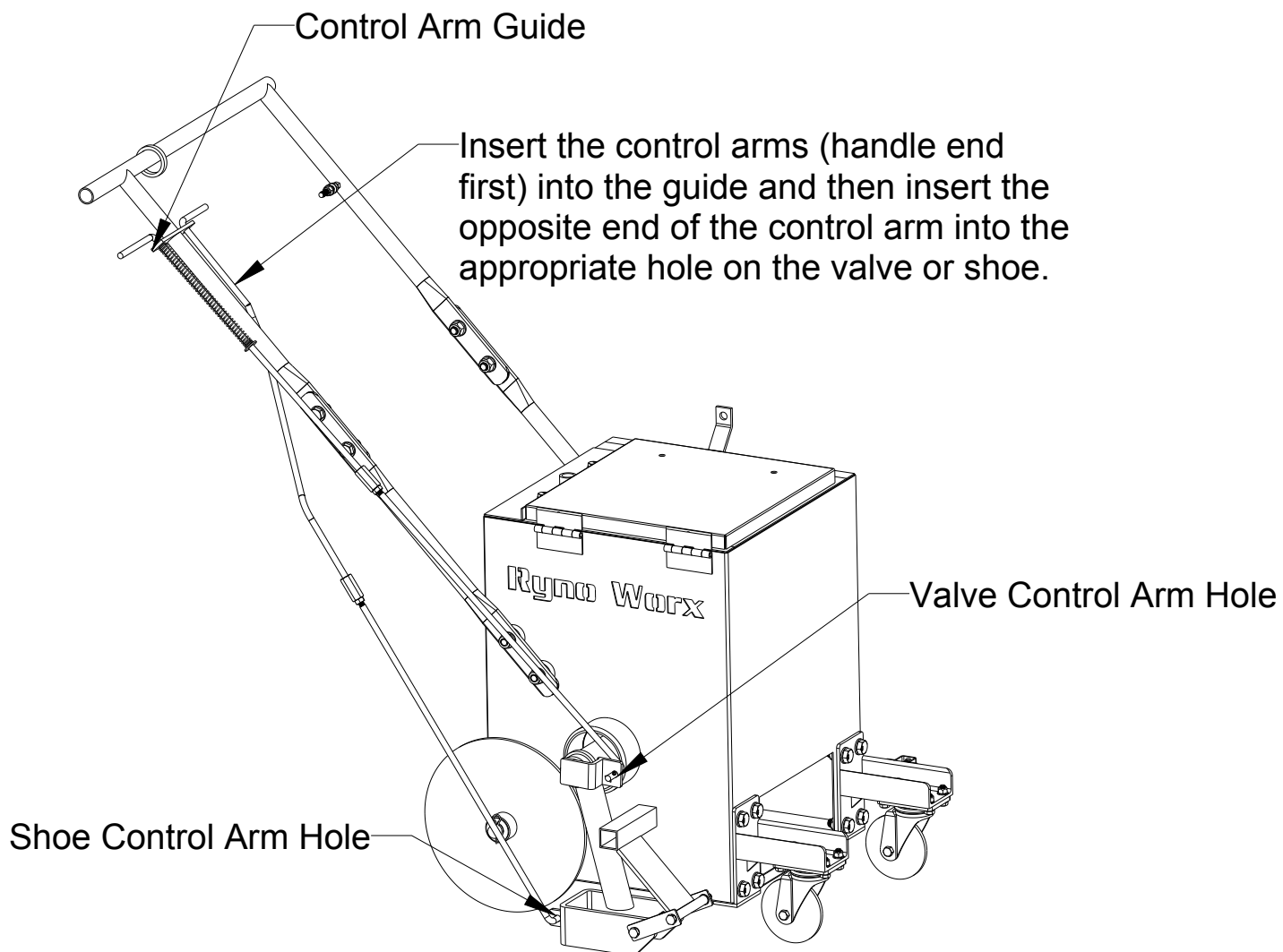
Shoe Control Arm



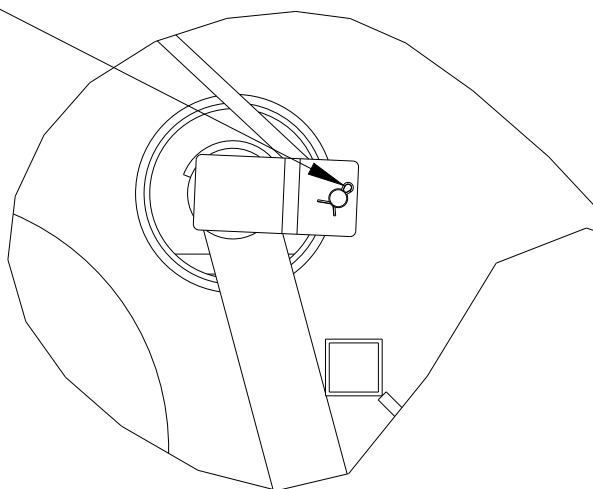
Control Arm Assembly Instructions

- 1) Thread the lower half of the arm into the sleeve until it bottoms out.
- 2) Turn the threaded rod back until it is in the correct alignment with the handle.
(Alignment for the valve and shoe control arms shown on the left).
- 3) Tighten the nut to lock the lower half of the arm into position (shown below).

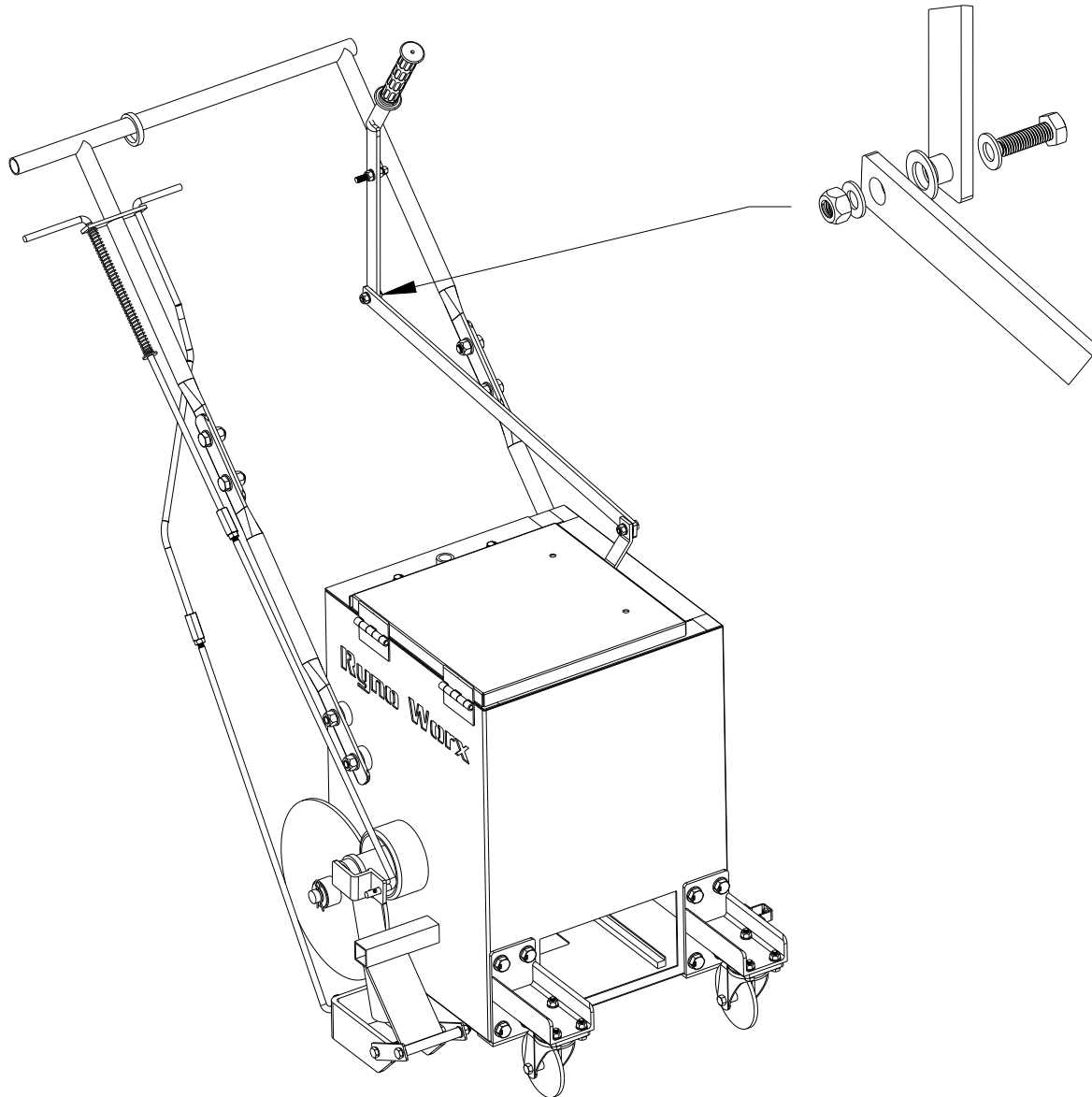




Insert and bend a cotter pin into the hole on each control arm end to secure each arm.

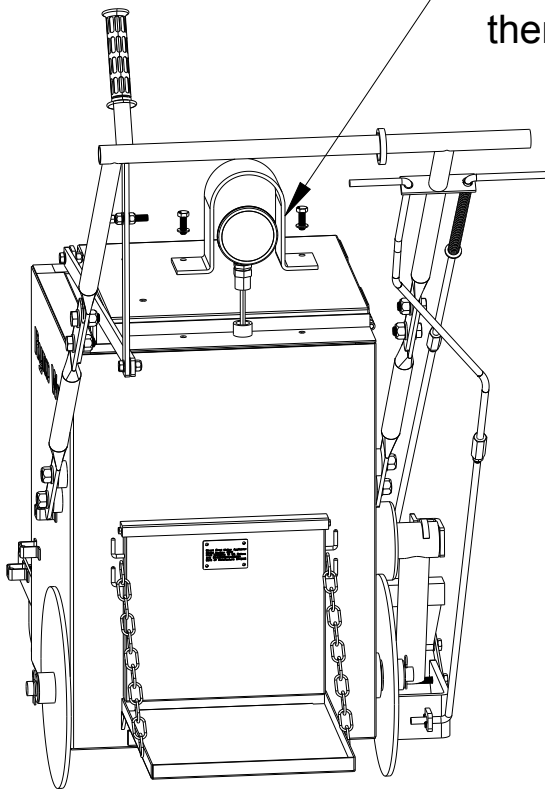


Agitation Arm and Handle Assembly

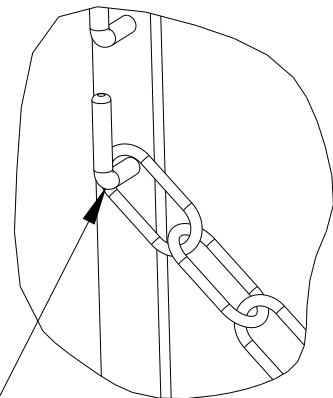
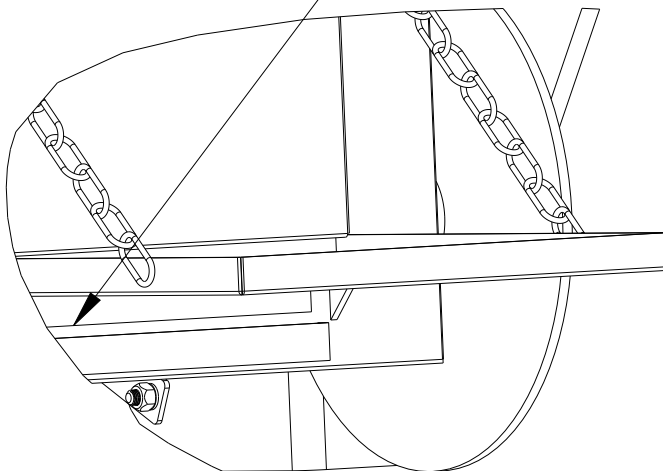


Assemble the agitation arm and handle with 25 mm M8 bolts, washers, and locknuts as shown above.

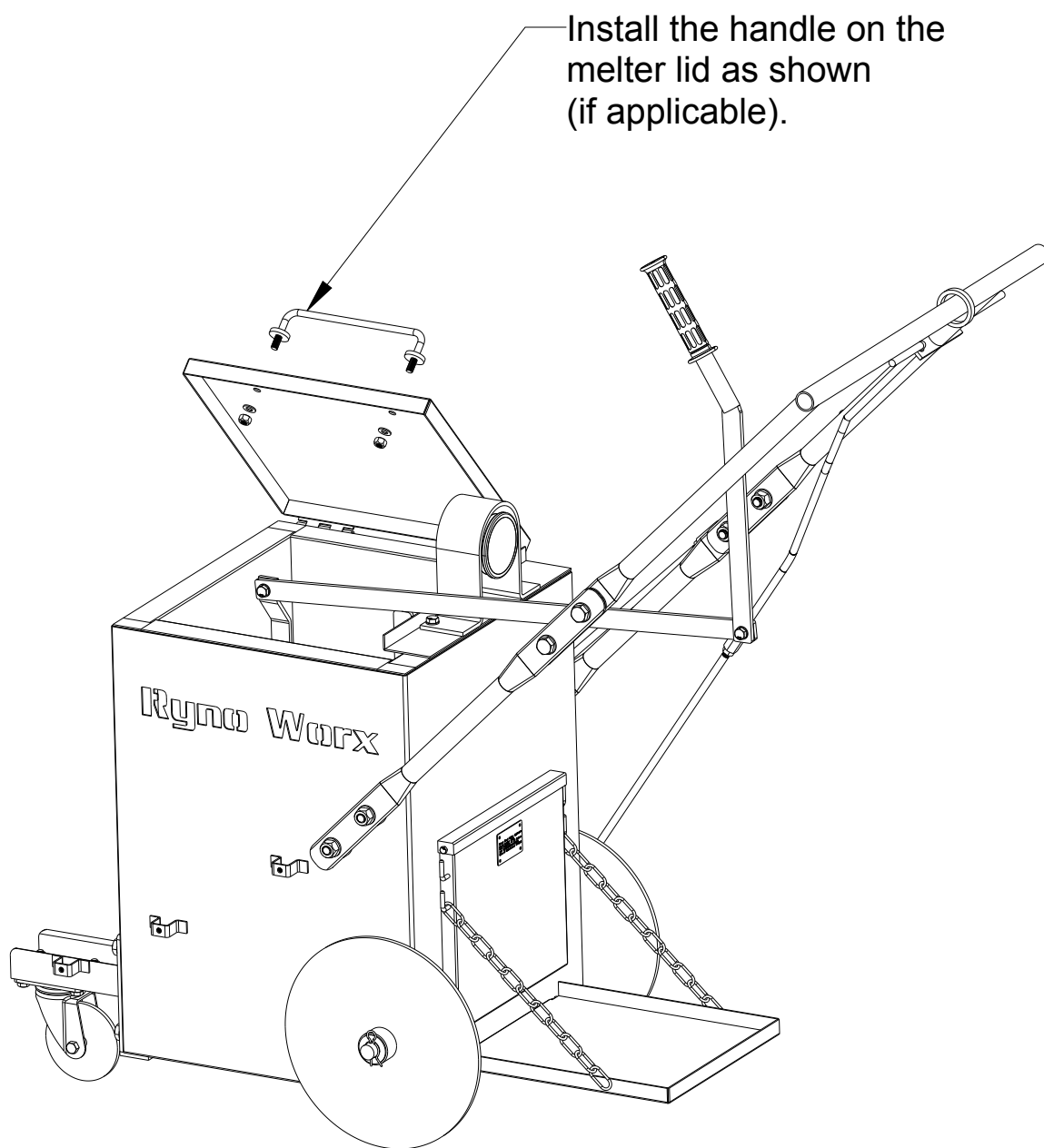
Assemble the thermometer and thermometer guard as shown below.



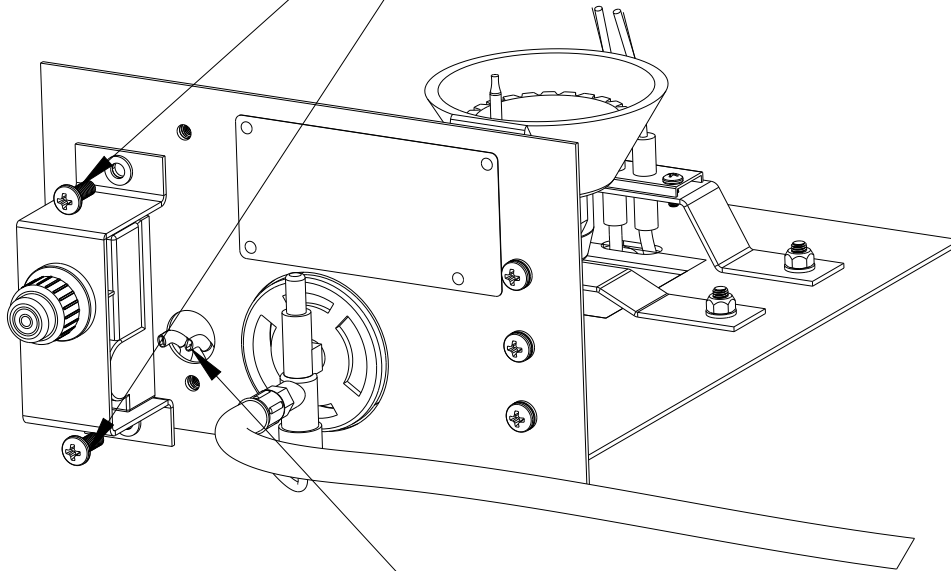
Insert the propane tank shelf tab into the slot as indicated.



Hook the chains welded on each side of the shelf over the hooks.

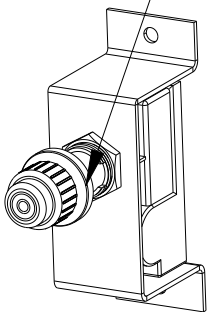


Remove the two screws from the ignitor bracket assembly.

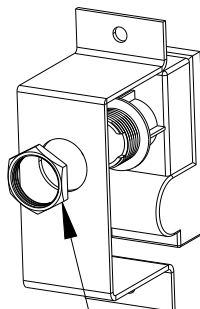


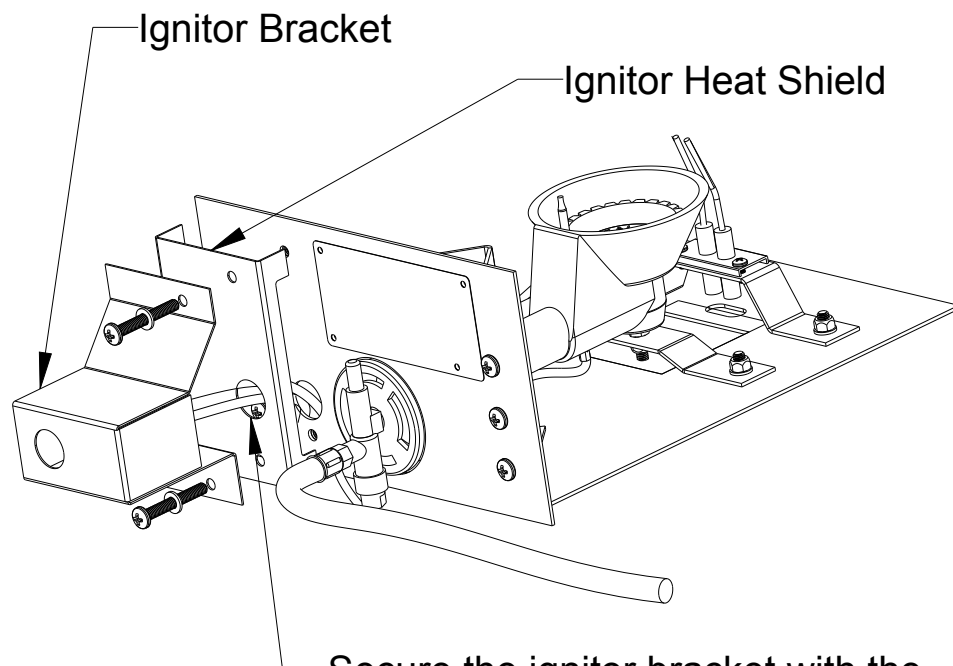
Disconnect the two wires from the terminals at the back of the ignitor and remove the ignitor bracket assembly.

Unscrew and remove the ignitor push button.

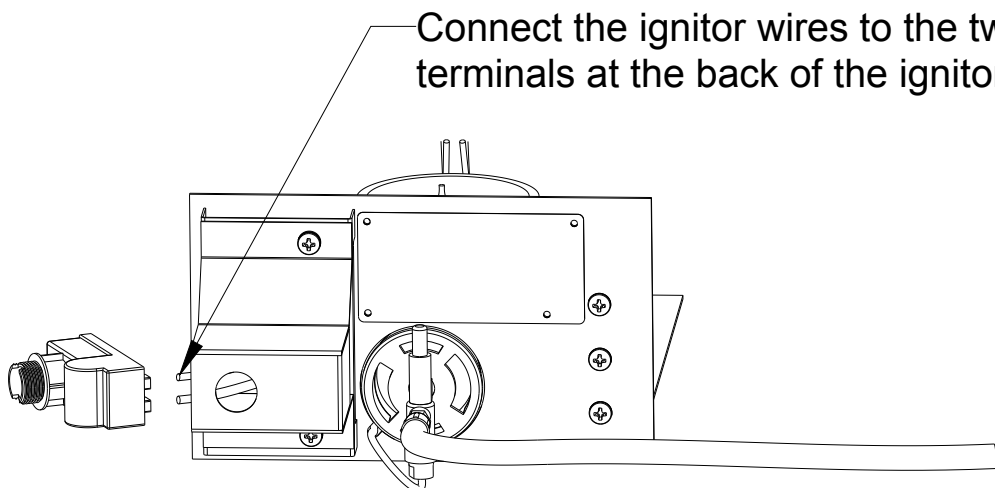


Unscrew the ignitor collar and remove the ignitor body.

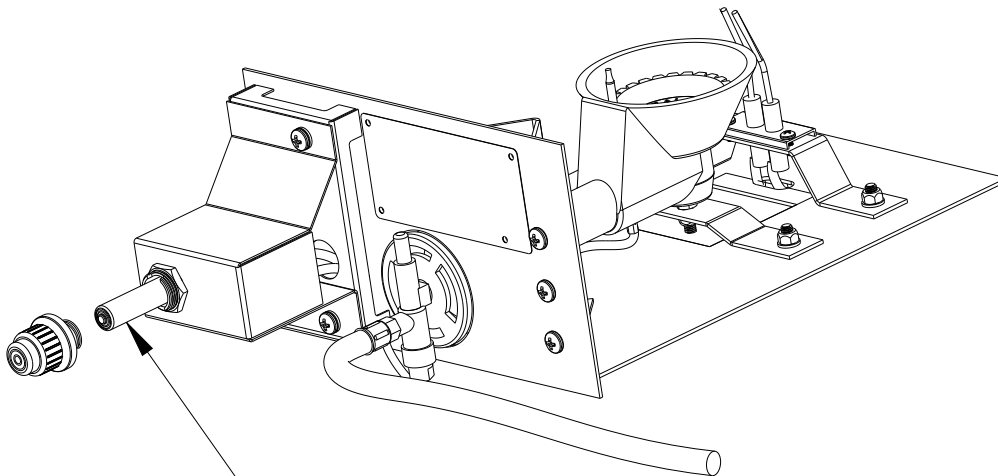
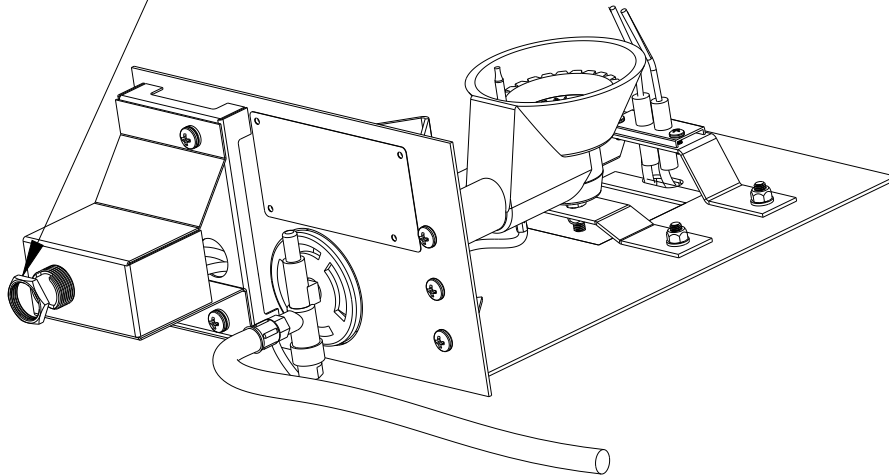




Secure the ignitor bracket with the heat shield behind it using the provided M6 35 mm fasteners. Make sure to thread the ignitor wires through the hole in the heat shield.

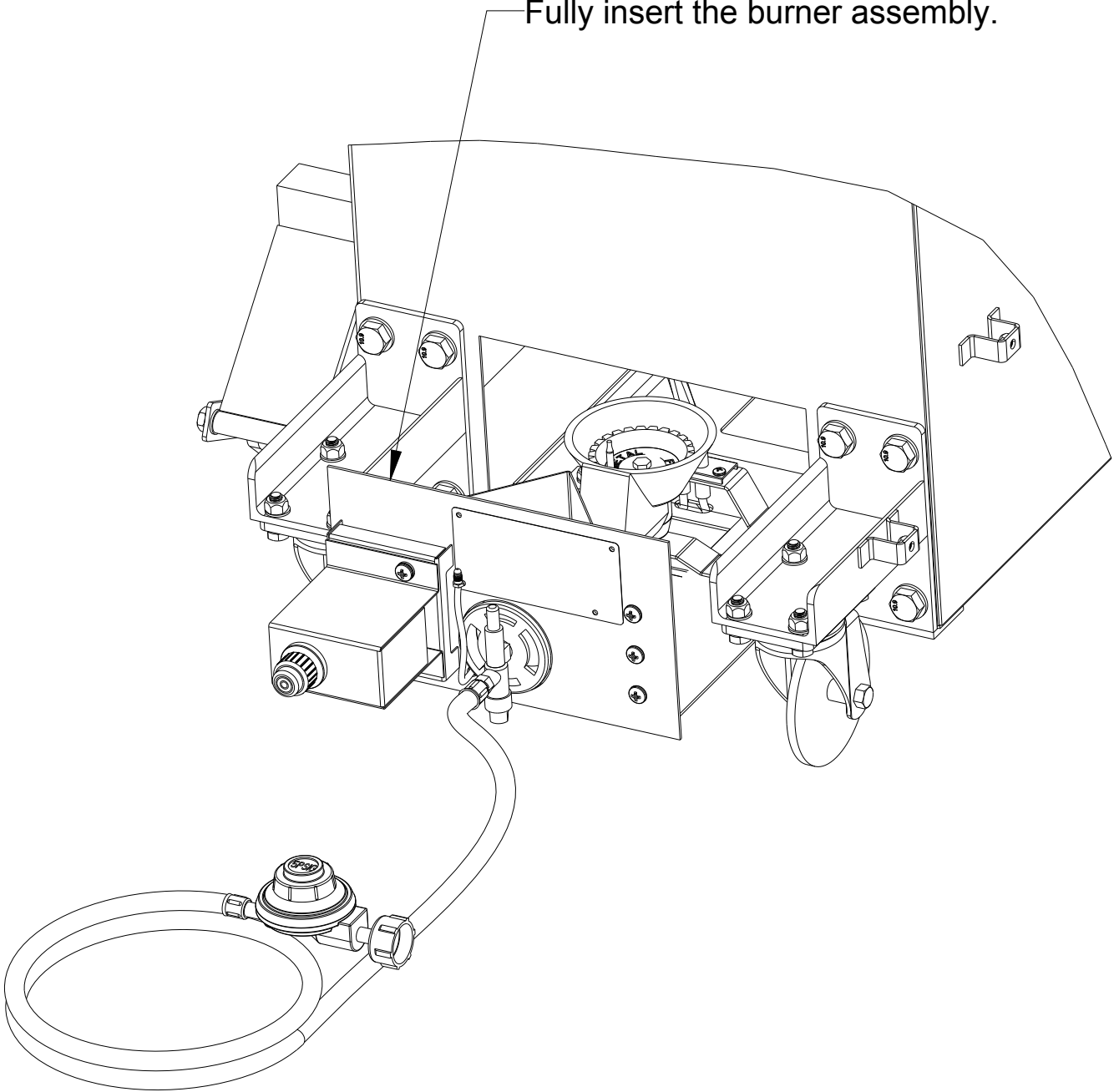


Insert the ignitor switch through the hole in the bracket and thread the ignitor collar on the front side of the bracket.

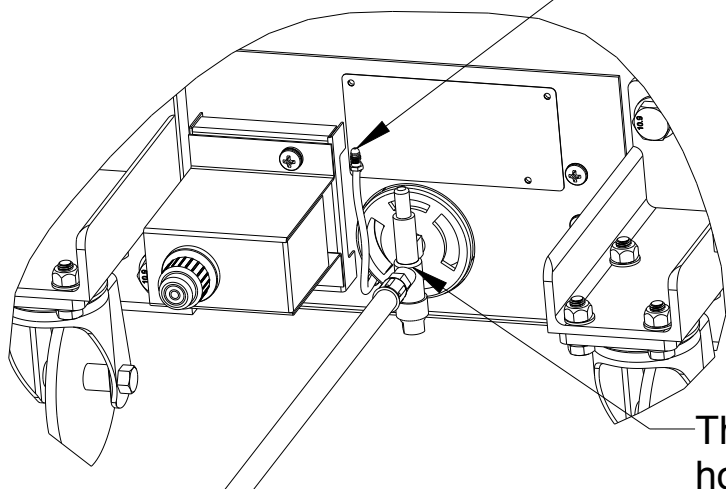


Insert a AA battery into the ignitor (positive (+) side facing out) and screw the ignitor push button on.

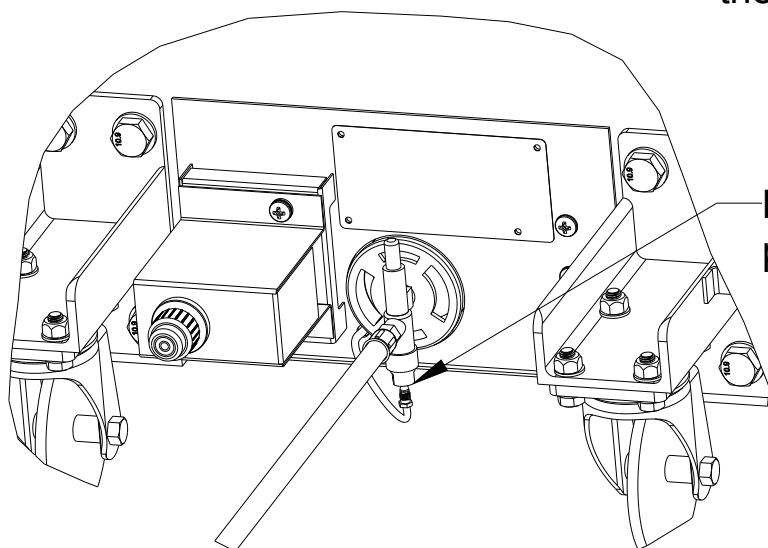
Fully insert the burner assembly.



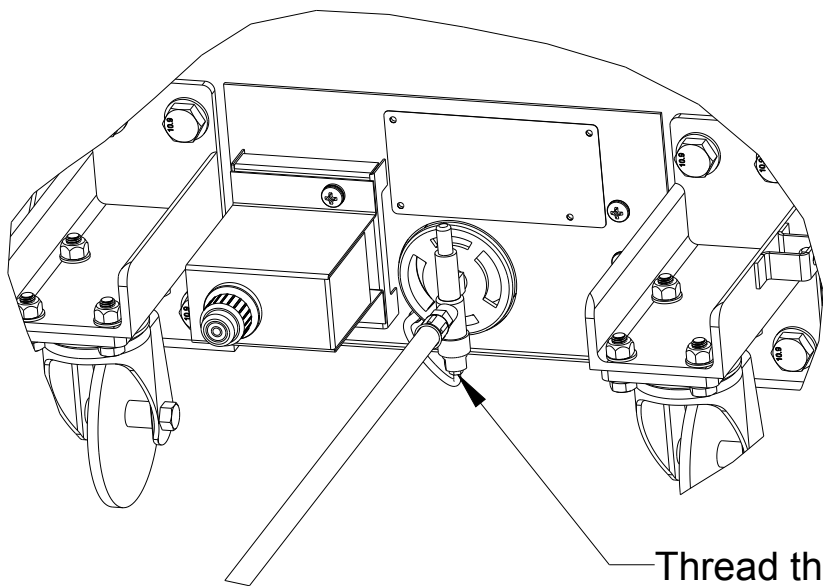
Thermocouple Threaded Connector



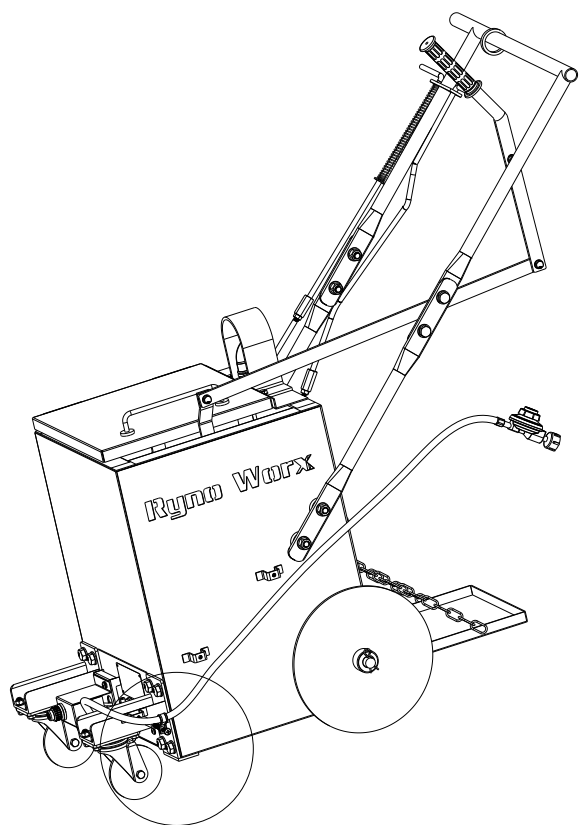
Thread the flame-out valve and hose assembly into the burner until the valve is tight and in the vertical position shown.



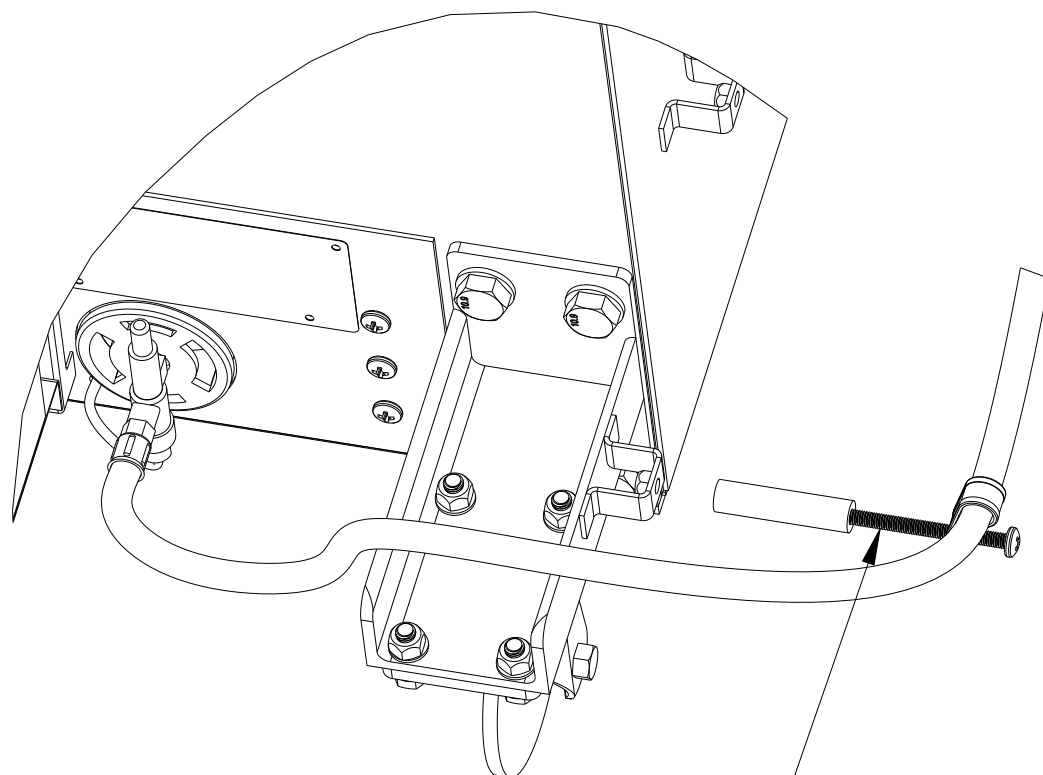
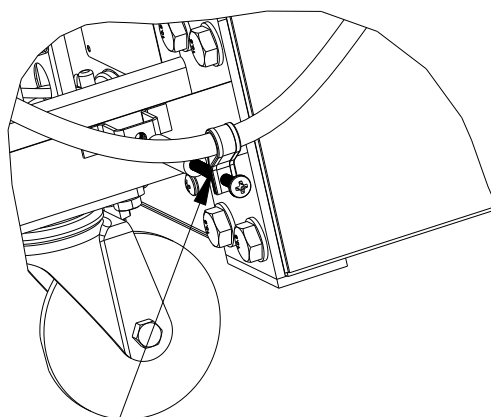
Bend the thermocouple wire into position below the flame-out valve.



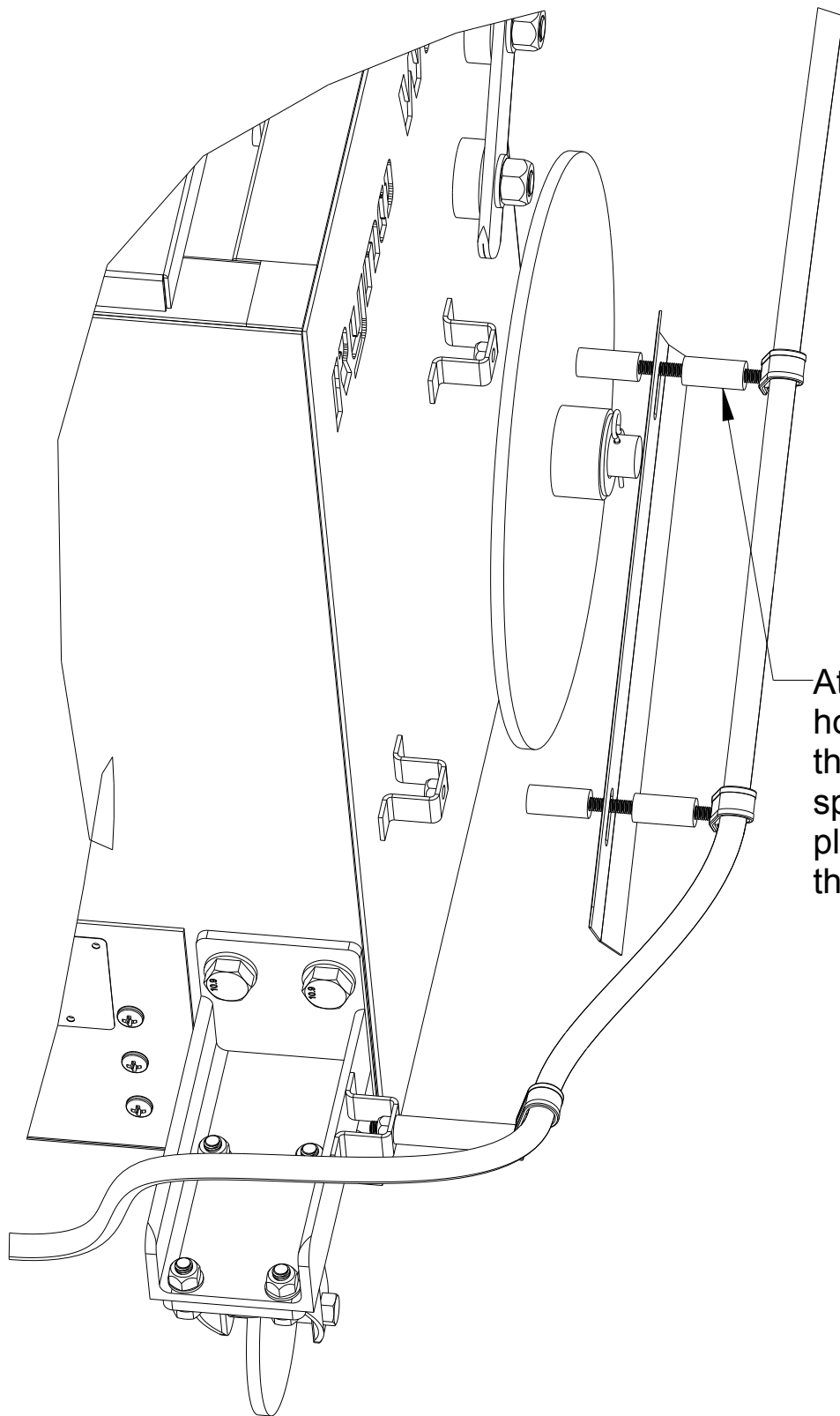
Thread the thermocouple into the flame-out valve and tighten.



Put the provided cushioned hose clamp over the propane hose.

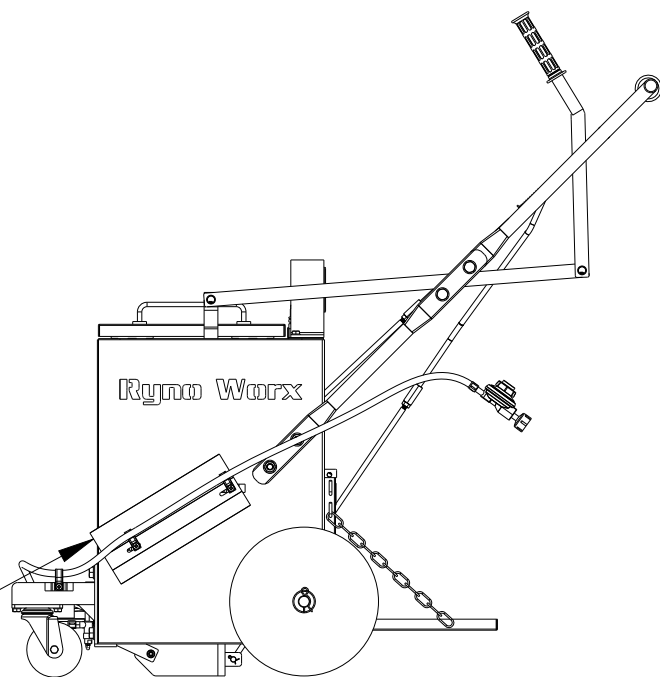


Insert a 80 mm M6 screw through the hose clamp. Insert the screw into the long sleeve and thread into the bracket above the caster.

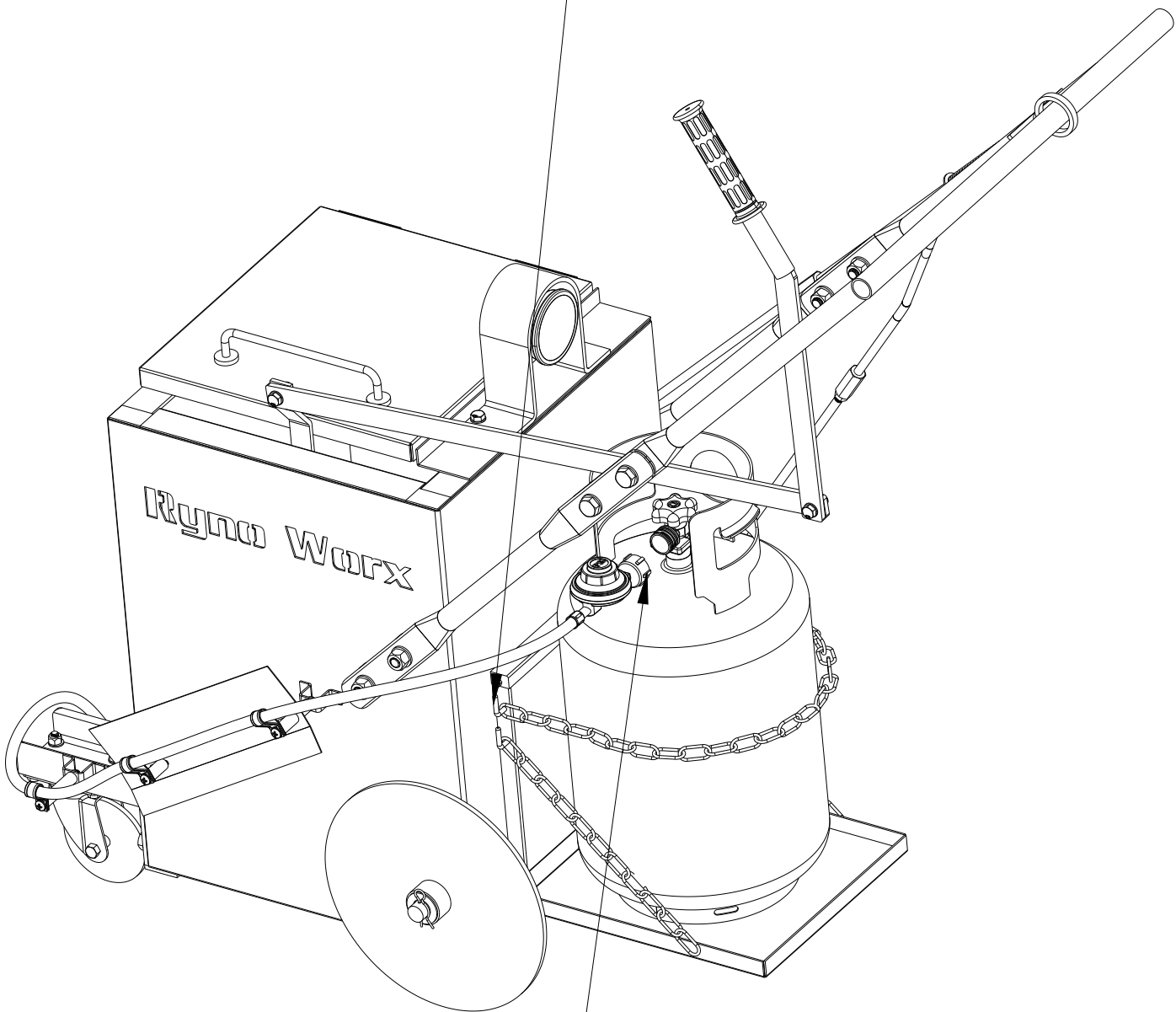


Attach the other two cushioned hose clamps on the hose like the first clamp. Use the shorter spacers on these clamps and place the heat shield in between the spacers.

Position the heat shield as shown towards the front of the machine with the longer side on top.



Place a propane cylinder on the shelf and secure it with the provided chain over the top hooks on the melter wall.



Attach the regulator to the propane cylinder. Tighten by hand, not with a wrench.

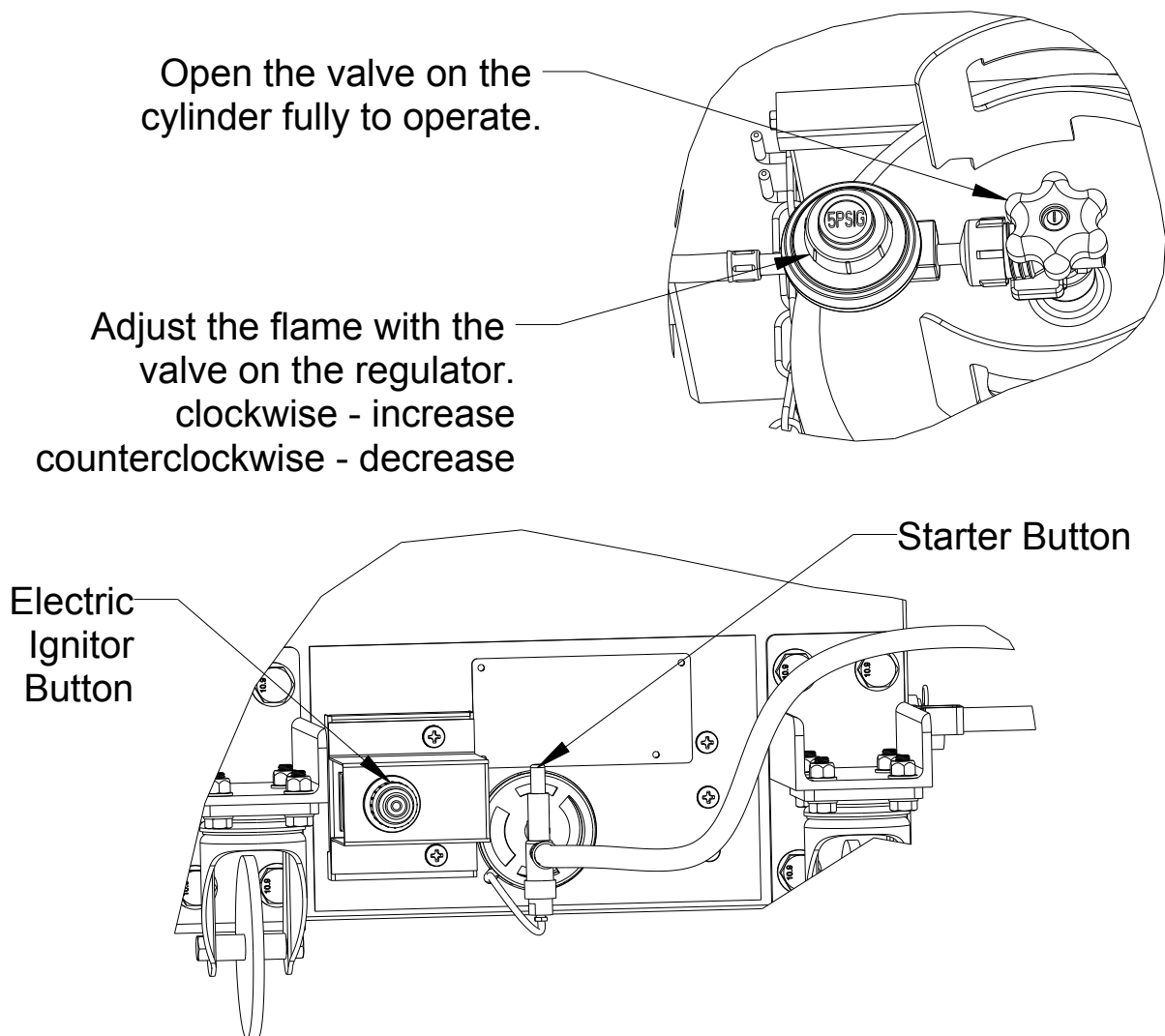
- **Operations Guide**

Before beginning please check the following:

1. You have read and understand all warnings on page 2.
2. You are using 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.

Part 1 – How to Load and Light your Melter

1. Ensure your regulator is off by rotating regulator nob 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 nob 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.

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 – Applying Crack Filler to Pavement

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

• 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) The fuel tank valve or torch valve may not be fully open and restricting fuel flow or your regulator may not be providing enough pressure 3) The wind may be blowing out the flame.	1) Refill your fuel tank 2) Ensure your fuel tank valve and torch valves are fully open and use your regulator to increase or decrease flame strength 3) Move equipment to a less windy area or try turning equipment so that the torch is not facing the wind

Crack filler is melting really slowly	<p>1) Incorrect crack sealant being used</p> <p>2) Burner is not providing enough heat to melt the crack sealant</p> <p>3) The temperature outside is cooler than normal slowing down the melting process</p> <p>4) The wind is continuously blowing out your flame, not allowing your machine, build heat quickly</p>	<p>1) Double check that your using an approved crack sealant for use in direct-fire melters</p> <p>2) Increase the fuel to your burner</p> <p>3) No solutions, melting takes longer on cooler days</p> <p>4) Move equipment to a less windy area or try turning equipment so that the burner is not exposed to the wind</p>
The Control valve is occasionally dripping at the transfer tube	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.	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.