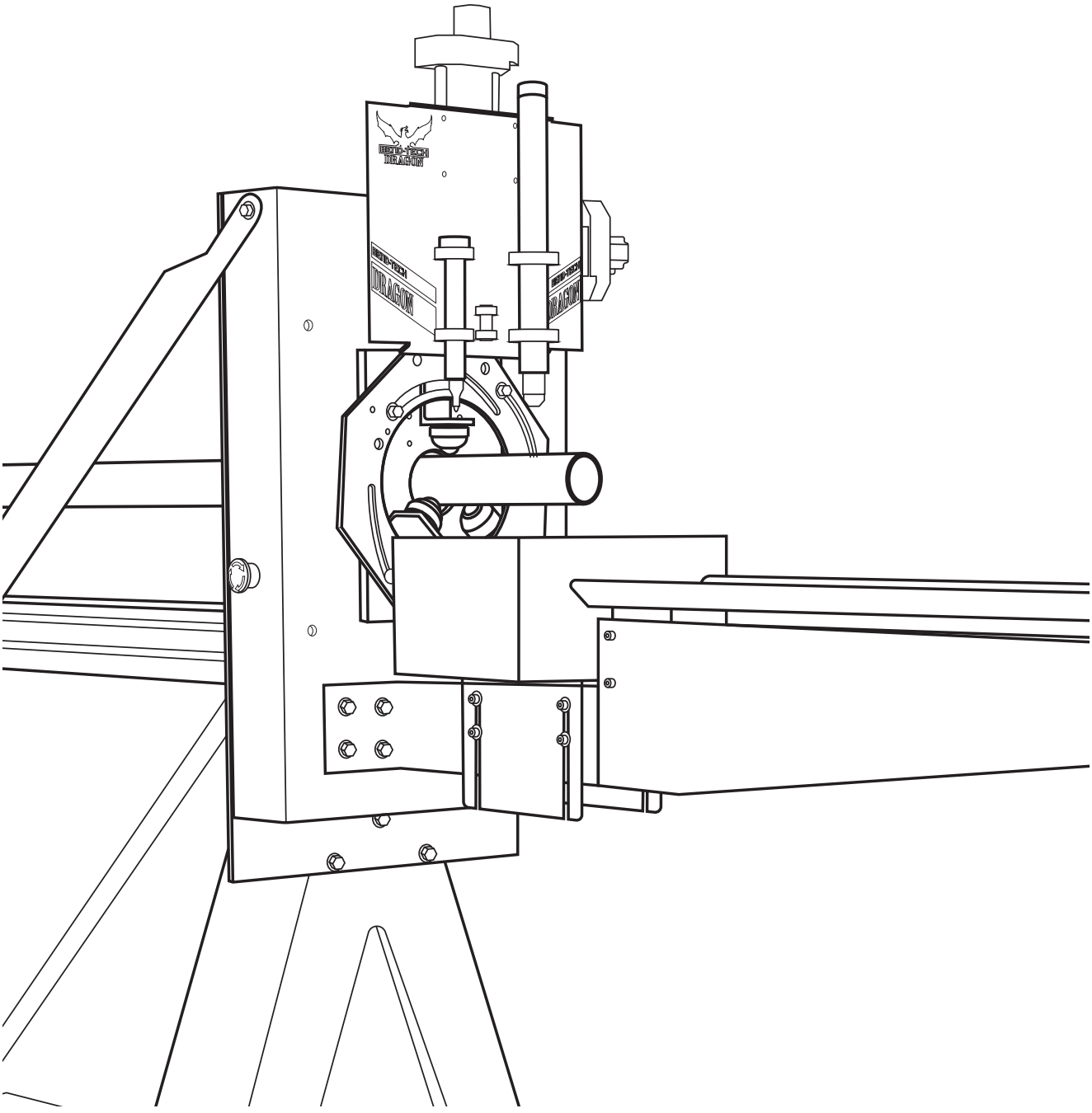
Part 2 of 3

BEND-TECH

DRAGON A250

Startup and Training Manual

Part 2: Machine Overview, Inspection, and Startup



Revision 1 | English

Dragon A250

Startup and Training Manual
Revision 1

English
Original Instructions

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01 Machine Overview

1.1 Introduction

This chapter overviews general information on the Bend-Tech Dragon A250. This general information is a starting point to learn about the Dragon A250.

1.2 Gate Overview

The gate is located at the front of the Dragon A250. The gate works in conjunction with the chuck to support and move the material through the cutting process. The Dragon A250 uses a round only gate.

1.2.1 Gate Rollers

When loading material, the gate should be adjusted so that the rollers are snug against the material. The material needs to move freely within the gate rollers with no play and minimal effort.

When no material is loaded into the gate, the gate rollers should spin freely without binding or sticking.

Important

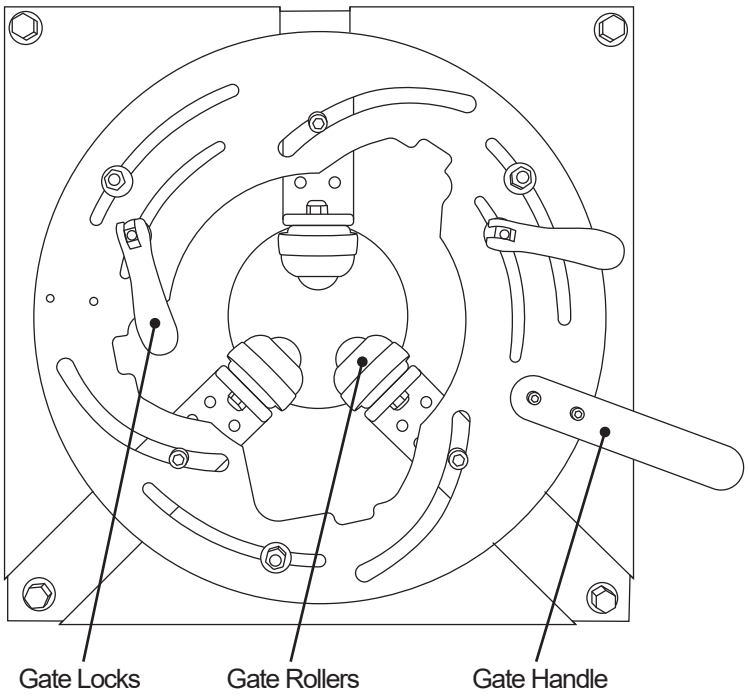
Keeping the gate clean is key to maintaining optimum performance of the Dragon. Refer to maintenance guidelines for the gate for cleaning procedures and intervals.

1.2.2 Gate Adjustment

To adjust the gate, loosen the two locks first. Then use the handle to adjust the gate open or closed. Tighten the locks to keep the gate adjustment.

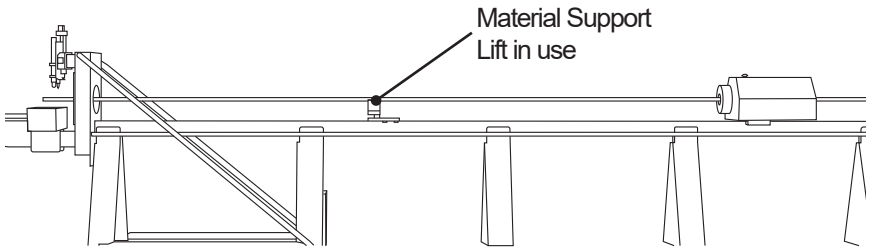
Important

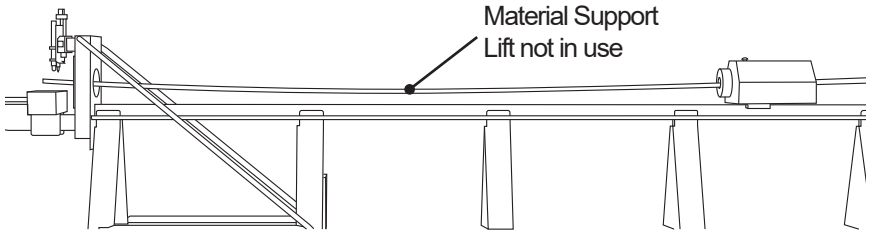
The gate will only need to be adjusted when changing material types or sizes, or for removing remnant material.



1.3 Material Support Lift Overview

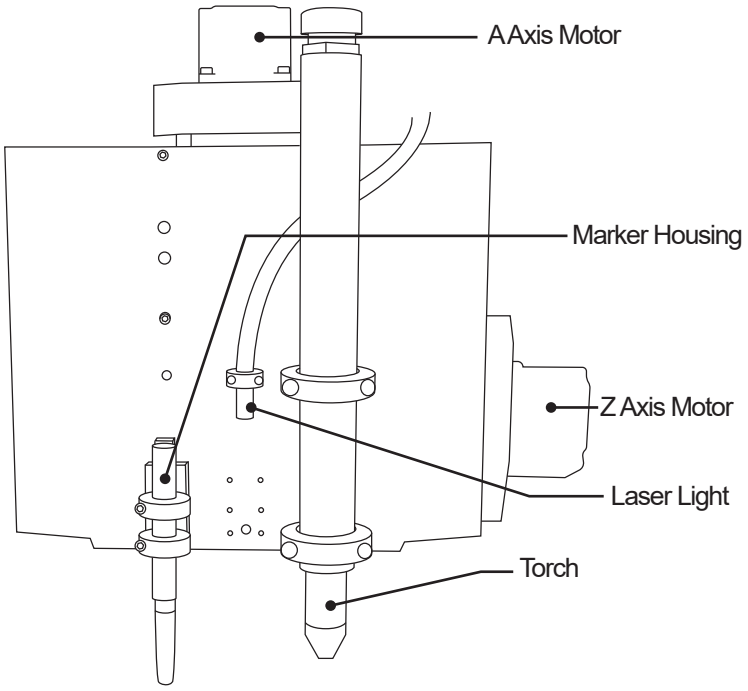
The material support lift is used to support extremely long or thin material. Long material can sag under its own weight which can affect machine operation and accuracy. The material support lift can accommodate up to 4-inch OD round stock.





1.4 Toolhead

The toolhead on the Dragon A250 moves the tools vertically and horizontally during the machine's operation. It is located at the front of the Dragon A250. The marker holder, torch, and laser light are mounted to the toolhead.



1.4.1 Toolhead Actuators

The toolhead is controlled by the A-Axis and Z-Axis motors. The motors use actuators to perform vertical and horizontal movement of the toolhead. The actuators should be kept clean and free of dust and debris. The actuators are key to smooth and consistent operation of the toolhead.

1.4.2 Marker Holder

The marker holder is mounted on the left side of the toolhead. The marker holder sits loose in its mount on the toolhead so it is able to ride over material easily and without damaging the marker. Depending on the type of marker being used it may be necessary to modify the marker body or use a piece of tape to keep the marker secure in the holder.

Cleanliness of the material will affect marker life. If a project requires heavy use of the marker, clean the material before loading it into the machine. Always keep the marker capped when not in use.

1.4.5 Plasma Torch

The torch is the cutting tool and it is mounted on the right side of the toolhead. Bend-Tech recommends Hypertherm plasma units and torches for the Dragon machines. Refer to the Startup and Training Manual part 3 for the torch mounting procedure. Other plasma machines will work with the Dragon A250. Contact Bend-Tech Support for more information.

If the Customer purchases the Hypertherm unit as part of the Dragon A250 package, Bend-Tech will support the unit and contact Hypertherm regarding issues if necessary.

1.4.6 Laser Light

The laser light is used to align the Dragon A250 tools in relation to the material. The laser light is mounted and calibrated at the Bend-Tech manufacturing facility. No adjustment of the laser light is necessary.

! Warning !

The laser light can damage human retinas. Never look directly into the laser light.

1.5 Electrical Components Overview

The Dragon A250 uses sensors, switches, and cables to connect each axis of the machine to the computer, and to allow the machine to be shut down in case of an emergency. Inspecting these electrical components on initial startup as well as on a regular basis will ensure the Dragon operates on a long-term basis.

1.5.1 Emergency Stops (E-Stops)

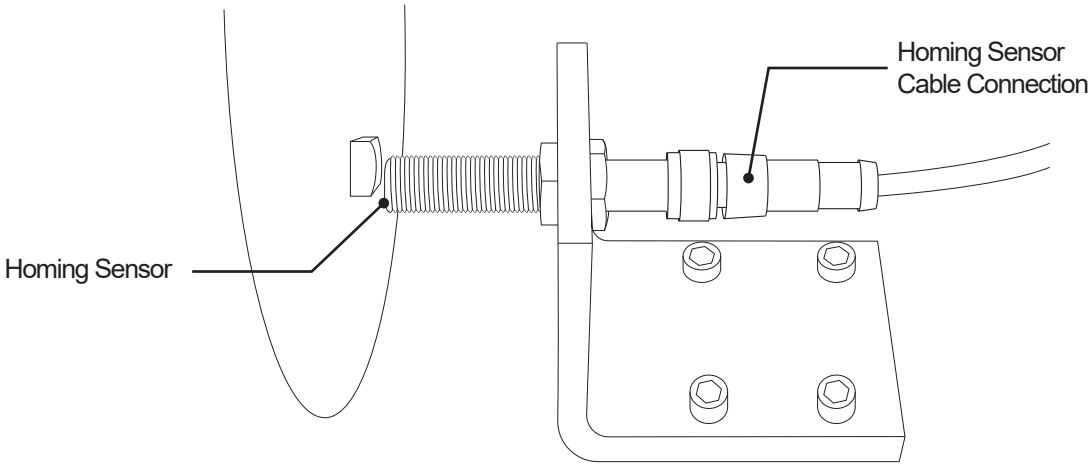
There are four Emergency Stop (E-Stop) buttons on the Dragon A250. There is one on either side of the toolhead, one on the trolley, and one at the tail.

1.5.2 E-Stop Wiring

It is recommended the operator check the wiring connections on the E-Stop switches to ensure secure connections. While these are secured at the Bend-Tech manufacturing facility, it is possible for these connections to become loose and result in a false E-Stop.

1.5.3 Homing Sensors

The Dragon A250 uses four homing sensors. These should be checked for function on initial startup using a metal tool such as the blade of a screwdriver. When touched with a metal tool the sensor will either light up or the sensor light will go out, depending on the location and type of the sensor.



1.5.4 Homing Sensor Designations and Locations

Homing Sensor	Location
X Axis	The X-Axis Homing Sensor is located at the end of the beam of the machine. This sensor homes the Trolley on the beam.
Y Axis	The Y-Axis Homing Sensor is located at the Left rear of the Trolley, just in front of the Chuck Drive Gear. This sensor homes the Chuck.
Z Axis	The Z-Axis Homing Sensor is located on the right-hand side of the Toolhead mount. This sensor homes the Toolhead on its horizontal axis.
A Axis	The A-Axis Homing Sensor is located at the top of the Toolhead mount on the front of the machine. The machine uses to the A-Axis homing sensor to home the Toolhead on its vertical axis.

1.6 Motor Cable Connections Overview

The majority of motor cable connections and axis sensor cable connections are performed at the Bend-Tech manufacturing facility. The motor cables, axis sensor cables, and E-Stop cables will need to be connected to the control box.

1.7 Hypertherm Unit

The Dragon A250 uses a Hypertherm plasma unit to cut the material.

1.7.1 Hypertherm Overview

Bend-Tech recommends the Hypertherm Powermax45 XP, Powermax65 or Powermax85 for use with the Dragon A250. The customer can purchase the Dragon A250 supplied with a Hypertherm unit or it can be purchased separately.

1.7.2 Hypertherm Cable

The Dragon A250 is supplied with a cable that connects the Hypertherm to the machine's control box. This allows the Hyperthem to connect directly to the machine with no customization or modification.

1.7.3 Ground Connection

Bend-Tech recommends using a bolt to connect the ground cable on the Dragon A250 machine to the ground cable of the Hypertherm unit. This requires removing the cable from the alligator clamp on the Hypertherm cable and connecting it to the Dragon A250 cable.

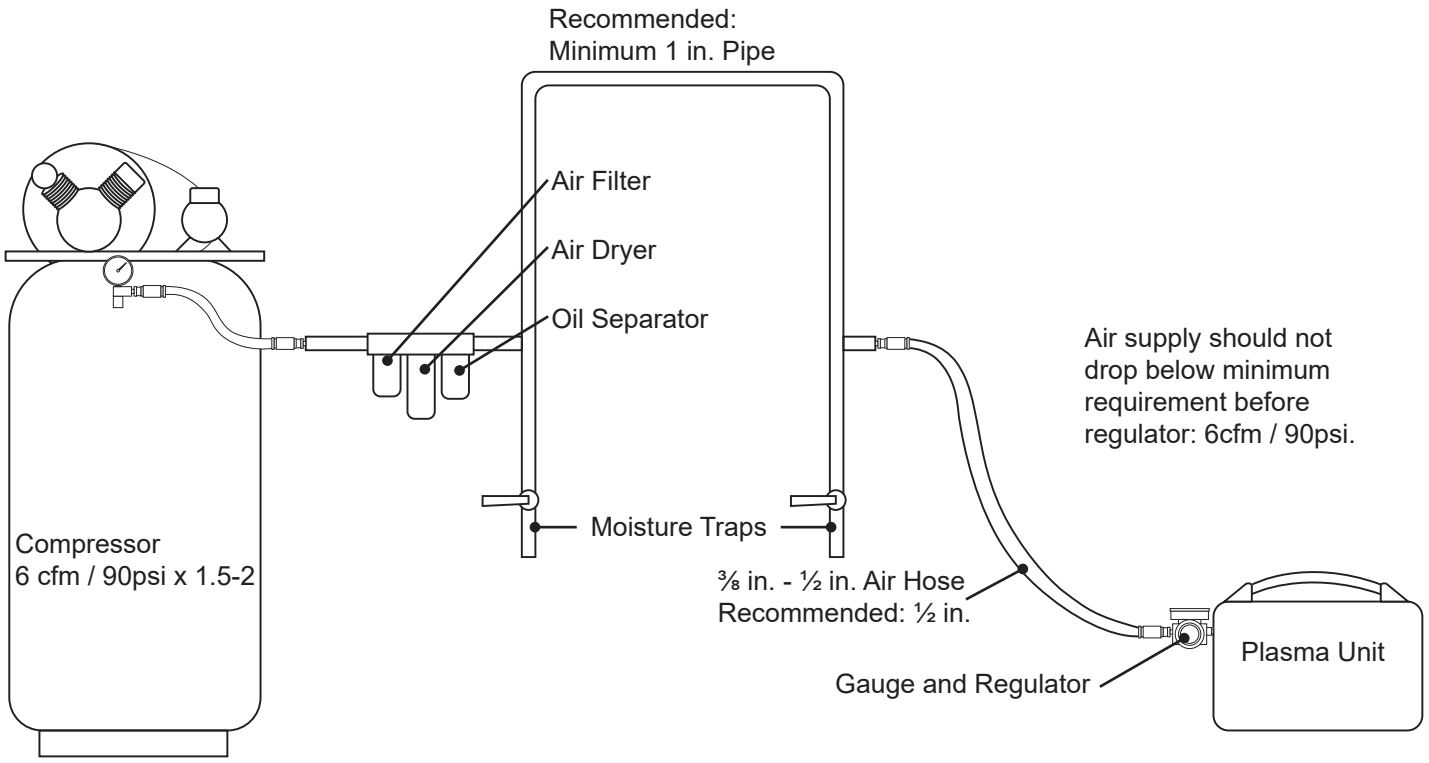
1.7.4 Amperage

Hypertherm units are available for use with the Dragon A250 in 45, 65 and 85 amp versions. The amperage the customer chooses will depend on the thickness of material being cut as well as the amount of usage the Dragon A250 will see.

1.7.5 Air Supply

The Hypertherm Powermax 45 minimum air supply requirement is 6 cubic feet per minute (cfm) at 90 psi. When cutting thicker material it is possible that the Hypertherm unit will require higher air flow from the air supply. The customer should ensure the air supply for the Dragon A250 is appropriate to operate the Hypertherm.

Air Line and Supply Requirements	
Pressure	90-135 psi
Air Line	⅜ in. minimum
Air Dryer	Yes
Air Filter	Yes
Oil/Oil Vapor Separator	Yes



An air filter and air dryer on the Hypertherm air source can increase torch consumable service life.

1.7.6 Gas

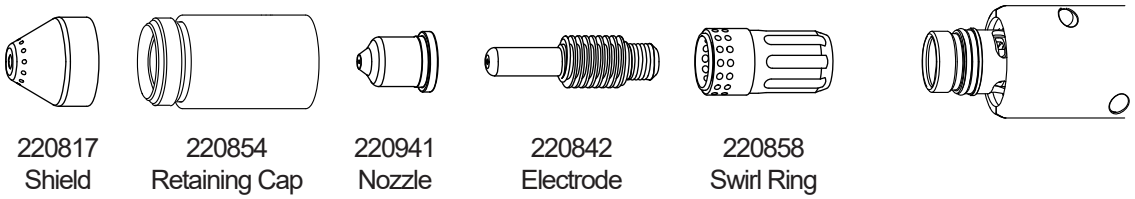
The customer may choose different types of gas for use with their particular Hypertherm unit. Bend-Tech recommends non-flammable gas or shielded gas.

! Danger !

When using the Dragon A250, do not use flammable gas in the plasma cutting process.

1.7.7 Consumables

It is recommended that the customer have additional consumables on hand when operating the Dragon A250. Worn consumables can result in wider and less accurate cuts. consumables are available through Hypertherm website or via a Hypertherm distributor.



220817 Shield | 220854 Retaining Cap | 220941 Nozzle | 220842 Electrode | 220858 Swirl Ring

Typically the operator will only need to replace the nozzle and electrode on the plasma torch.

1.7.8 Consumables Part List

45 Amp Consumables			65 Amp Consumables			85 Amp Consumables		
Components	*Standard*	*Fine Cut*	*Components*	*Standard*	*Fine Cut*	*Components*	*Standard*	*Fine Cut*
Nozzle	220941	220930	Nozzle	220819	220930	Nozzle	220816	220930
Electrode	220842	220842	Electrode	220842	220842	Electrode	220842	220842
Shield	220817	220948	Shield	220817	220948	Shield	220817	220948
Swirl Ring	220857	220857	Swirl Ring	220857	220857	Swirl Ring	220857	220857
Retaining Cap	220854	220854	Retaining Cap	220854	220854	Retaining Cap	220854	220854

02 Machine Inspection

2.1 Machine Inspection

After assembling the Dragon A250 it is important to conduct an initial inspection of components to ensure proper setup before powering on the machine for the first time. Please, follow the procedures outlined in this chapter to ensure all components are inspected thoroughly.

! Caution !

Handling electrical fittings can cause injury to the operator. Always inspect electrical connections while the machine is powered down and disconnected from power sources.

It is often the case that a flaw in the operation of the machine is the result of improper setup. Inspecting the machine is critical to eliminating variables in the troubleshooting process.

2.2 Rail Inspection

The rail forms the ‘backbone’ of the machine. It is assembled from rail guides that the trolley rides upon, and aluminum beams. Ensuring that the rail is assembled correctly, and is straight and level is critical to the overall operation of the machine.

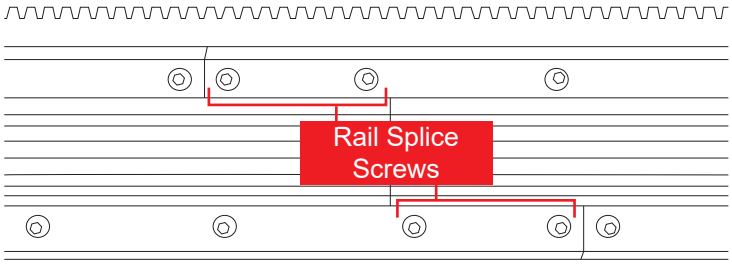
2.2.1 Check Rail Assembly

The rail is assembled in sections. The number of sections will depend on the length of the machine. There can be up to five rail sections on the Dragon A250.

1. Ensure that all the screws attaching the support legs to the beams are tight and that no screws are missing.

There are two screws, one at the head and one at the tail of the machine, that are partially unscrewed on the side opposite of the machine from the cable track. These are used in checking the straightness of the machine and should not be adjusted.

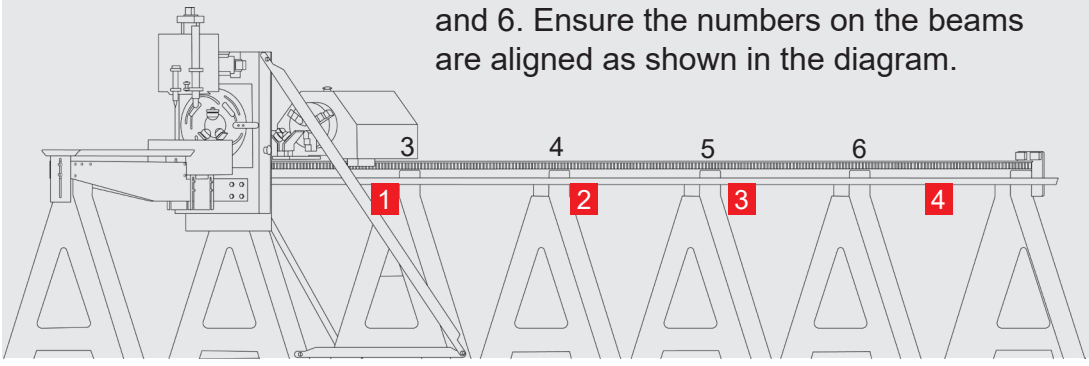
2. Ensure that each rail splice connects the rail sections as seamlessly as possible. Check that the four screws securing the rail splices to the beams at each joint are fastened properly.



3. Ensure that the swivel levelers are installed. These will need to be adjusted if the machine is not level.
4. Bend-Tech recommends anchoring the machine to the floor, if this has already been done, the anchors will need to be loosened if the machine is not level or straight.

Rail Sections vs Rack Sections

There are four rail joints, labeled 3, 4, 5, and 6. Ensure the numbers on the beams are aligned as shown in the diagram.

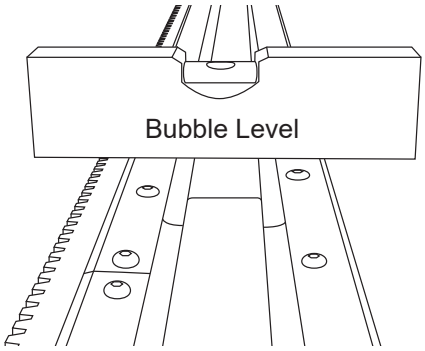


The four rack joints are labeled 1 - 4. Ensure the numbers on the racks are aligned as shown.

2.2.2 Check Rail Level

It is critical that the rail is level to ensure proper operation of the trolley, and proper feed of the material to the toolhead. If the rail is not level it can affect the operation of the machine and damage machine components.

1. Check each rail section for side-to-side level using a bubble level. If the rail needs to be adjusted, use the swivel levelers to level the machine.



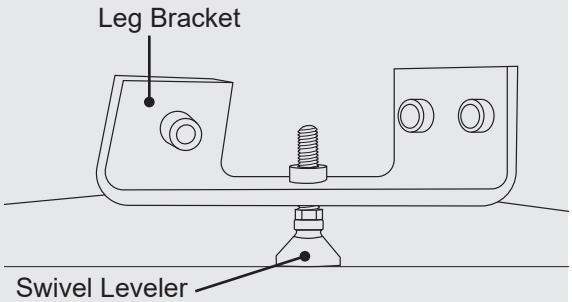
If the machine is equipped with the material cooling system it is recommended that the back of the rail be set slightly higher then the front.

Reminder

If the machine is bolted to the floor, the bolts securing the floor brackets should be loosened enough so the swivel levelers can be adjusted properly to level the rail, and then re-tightened.

Adjusting Swivel Levelers

1. To adjust the swivel levelers, ensure the jam nut is loose and backed off to the base of the swivel leveler.
2. Place an 11⁄16 in. wrench on the hex adjustment at the base of the swivel leveler.
3. When viewing from above, turn clockwise to raise the leg, turn counter clockwise to lower the leg.

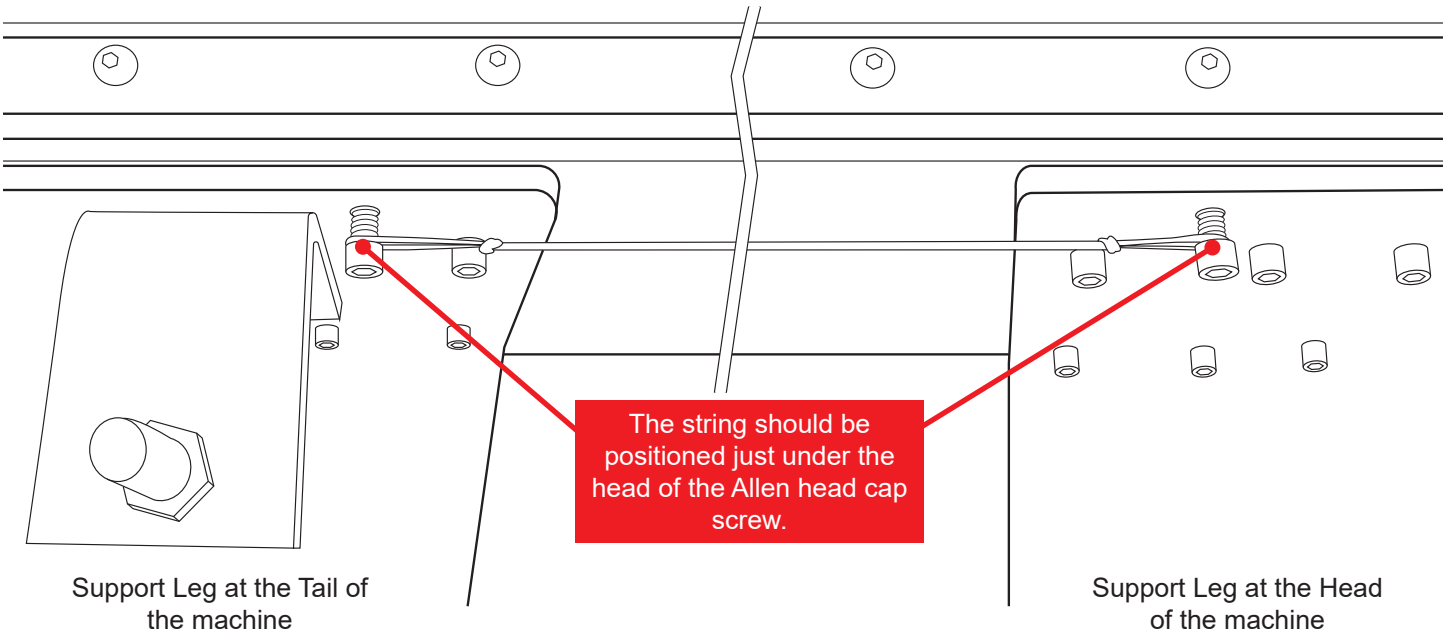


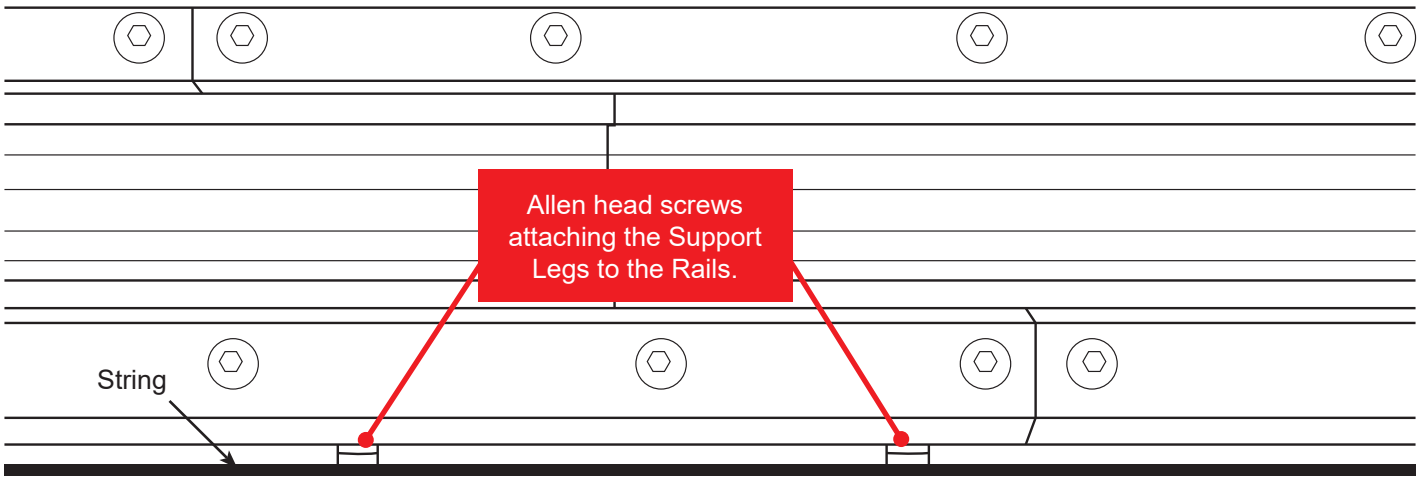
The swivel levelers should be installed during machine assembly.

2.2.3 Check Rail Straightness

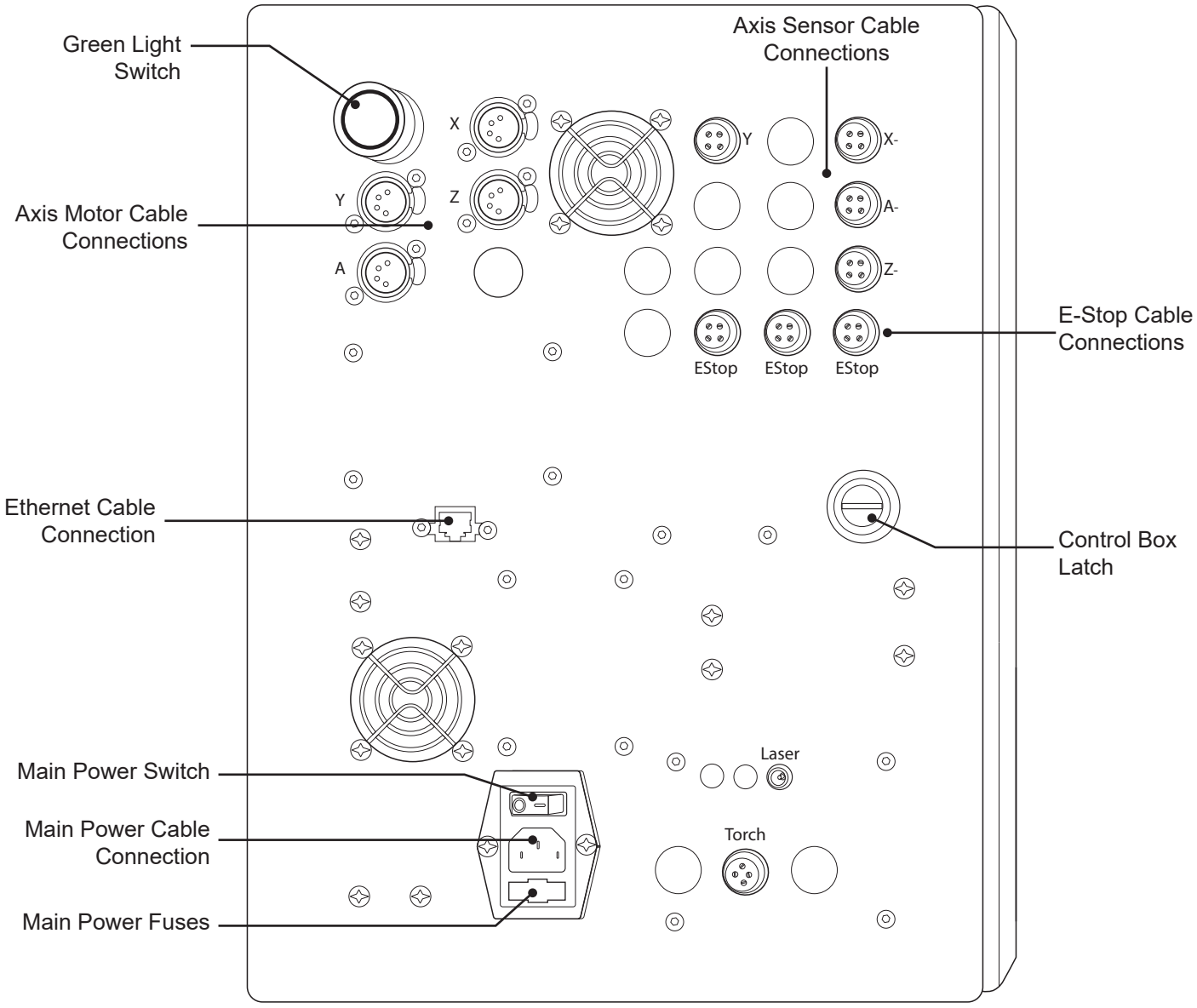
Ensuring the Dragon A250 is straight and level is one of the most important steps in preparing the machine for operation. Each machine comes with a length of string specific to that specific machine. The string is located in the Miscellaneous box.

1. Locate the two screws, one at the head and one at the tail of the machine, that are partially unscrewed.
2. Hook one end of the string around the screw at the head of the machine, and the other end of the string around the screw at the tail of the machine.
3. Verify that the string is flush with the top of each screw along the length of the machine, as pictured.





2.3 Electrical Inspection



Ensuring the cables are connected correctly is important to maintaining electrical connection to all the motors and sensors required for the Dragon A250 to operate. Only one end of the motor cables, homing sensor cables, and emergency stop cables are connected at the Bend-Tech factory. During machine assembly, the other end of the cables should be connected to the control box.

The control box is mounted on the rear side of the second support leg from the front of the machine. Ensure all cables are properly inserted and secured in their respected connectors.

! Warning !

Before checking the electrical connections, ensure that the machine is off and disconnected from power.

2.3.1 Motor Cables

The motor cable connections are grouped in the top left corner of the control box. There are four motor cables.

1. Ensure all motor cables are securely inserted into their control box connections and that their retaining clips are in place. There will be an audible click when the cables are connected correctly.
2. At the toolhead, there are two motor cables with GX connectors. Ensure these are tight. Do not overtighten.

Important

If it is necessary to remove a motor cable or axis sensor cable, it is critical to the operation of the machine that they are re-connected to the correct socket. Failure to do this will result in improper function of the machine and could possibly damage the machine.

! Caution !

It is possible for improperly fitted GX connectors to overheat and melt. This can damage the connector and affect the operational status of the machine. In extreme cases it could cause a risk of fire.

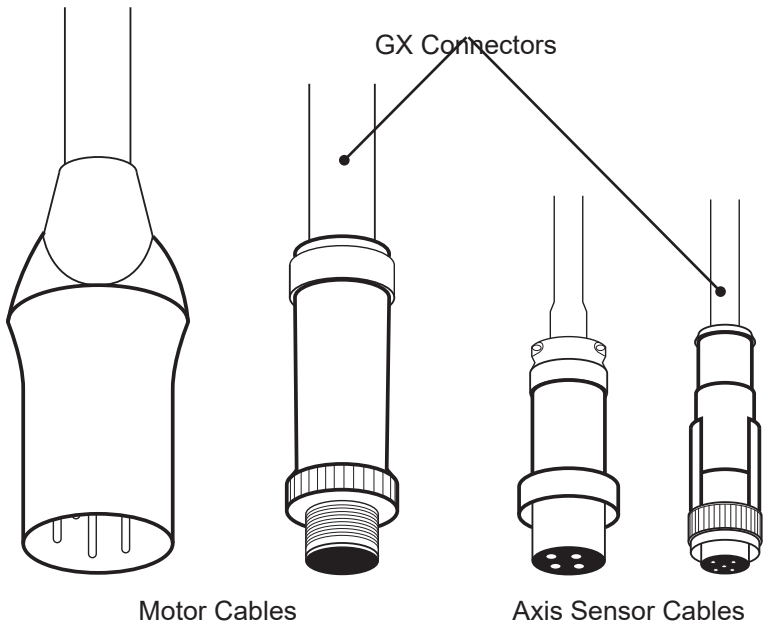
1.3.2 Motor Cable Locations

Axis	Location	Operation
X	Trolley	Moves Trolley forward/backward
Y	Chuck	Rotates chuck clockwise/counter clockwise
Z	Tool Head	Moves Tool Head left/right
A	Tool Head	Moves Tool Head up/down

2.3.3 Axis Sensor Cables

The axis sensor cable connections are grouped in the top right of the control box.

1. Ensure all axis sensor cables are securely seated at their control box connections and that they are tight. Do not overtighten the sensor cables. Doing so could damage the connections.
2. At the toolhead, there are two axis sensor cables with GX connectors. Ensure these are tight. Do not overtighten.



While using tools is not recommended when tightening GX connectors, sometimes GX connectors may require tools to get them loose. Should this issue arise, care should be taken not to damage the connectors.

2.3.4 Emergency Stop Cables

There are three emergency stop (E-Stop) cables located at the top right of the control box, just below the axis sensor cables.

1. Ensure the E-Stop cables are securely seated and tightened.

While there are four E-Stop buttons, only three cables connect to the control box. It does not matter in what order the E-Stop cables are connected to the box.

2.3.5 Ethernet Port

The ethernet connection is how the Dragon A250 computer communicates with the machine. The ethernet cable should be connected directly from the ethernet connection on the Control Box to the ethernet connection on the computer. Connect the computer to the internet via wifi.

1. Ensure that the ethernet cable that connects the Dragon A250 computer to the control box is connected and securely clipped into place.
2. Ensure the ethernet cable is connected directly to the Dragon A250 computer. Do not use adapters. A link light at the ethernet port indicates proper connection.

Important

Do not connect the Dragon computer to the machine via a router. Do not connect the ethernet cable to the Dragon computer via a USB adapter. Always connect the ethernet cable directly from the machine's ethernet port to the computer's ethernet port.

Important

It is always best to route the ethernet cable away from other electrical cables. Any interference with, or interruption of, the ethernet signal can affect the operation of the Dragon machine. This includes the torch and motor cables, which can create significant electrical interference with the ethernet cable, which disrupts the signal between the computer and the machine.

2.3.6 Laser Light Cord

The laser light cord plugs into the control box just above the torch connection at the bottom right of the control box. The laser light cord has a red plastic identification fitting on the wire connection to identify it.

1. Ensure the laser light cord is plugged in all the way.

2.3.7 Torch Connection

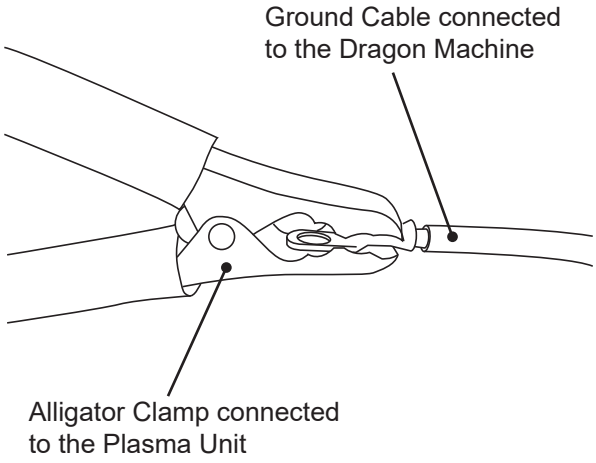
The torch connection for the Dragon A250 is located at the bottom right of the control box. The torch uses the center connection.

2. Ensure the torch cable is connected securely. The other end of the torch cable connects to the plasma unit. The torch cable is located in the Miscellaneous box.

2.3.8 Ground Cable

Grounding the torch is key to proper operation of the torch. One end of the ground cable is pre-attached on the trolley at the Bend-Tech factory. This connection should not be altered.

1. Connect the other end of the ground cable to the ground cable leading from the plasma unit. Hypertherm plasma units come with an Alligator clamp. Ensure the connection between the Dragon ground cable and the Hypertherm clamp is secure.

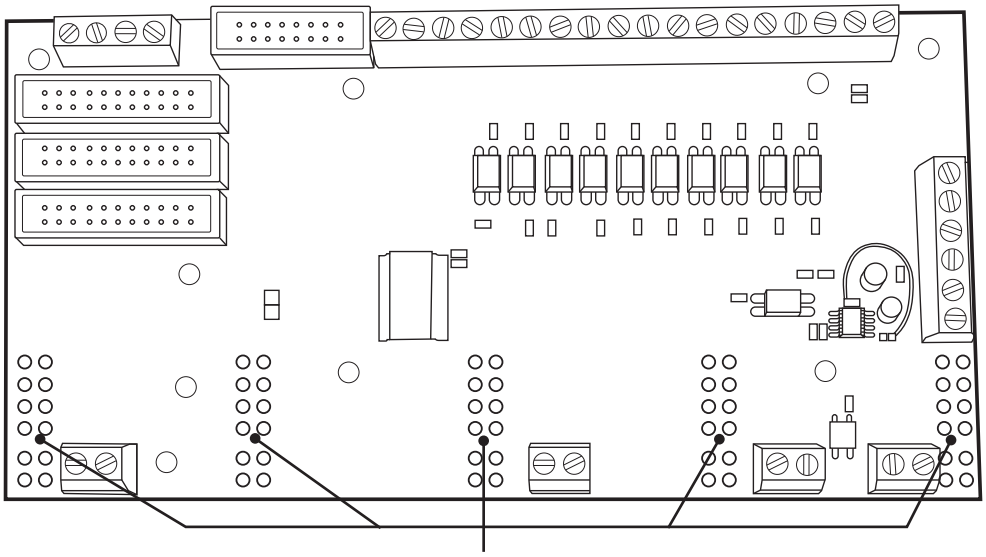


Bend-Tech recommends attaching the ground cables together with a bolt.

2.3.9 Check the Breakout Board

Before connecting power to the Dragon machine, open the control box cover with a flat head screwdriver. The Breakout Board is the red circuit board near the top of the control box. It is seated on the motor control drivers.

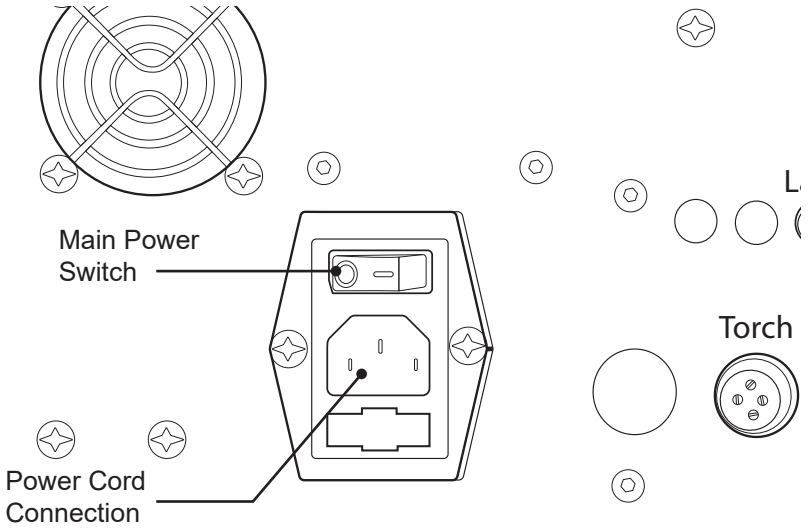
1. Ensure that it is seated properly onto the drivers by pressing down on it at each of the driver connectors as shown in the image.



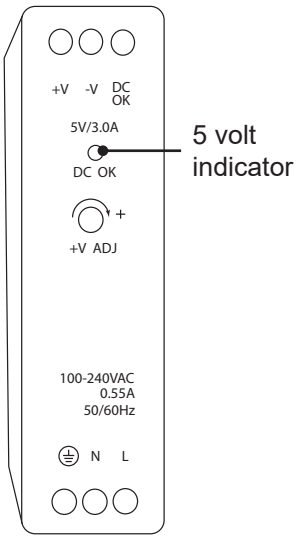
2.3.10 Connect Power

The main power switch is located near the bottom center of the control box. The main power cord connects to the control box just below the switch.

1. Ensure that the main power cord is connected securely.



2.3.11 Check for 5 Volts

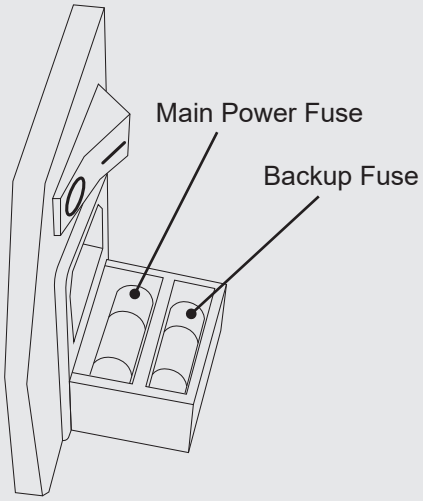


Checking the 5 volt indicator inside the control box is a quick check to make sure that the machine is powered correctly. The 5 volt indicator light it located in the upper right of the control box.

1. Connect power to the control box.
2. Open the control box with a flat head screwdriver. Open the control box just enough to see the 5 volt indicator light.
3. Click the Main Power switch on and ensure that the indicator light does light up. If the indicator light does not light up, check the fuses, which are located in a small tray underneath the power cord and switch. Popped fuses or a tripped circuit breaker are the most common causes for not getting 5 volts.

Main Power Fuse

The main power fuse is located in a slot just below the main power cord. To access the main power fuse, remove the main power cord from its socket and slide out the fuse drawer. The main fuse is the fuse closest to the control box, the outer second fuse is a back up. The main power fuse is a 10A, 120VAC fuse.



2.3.12 Check E-Stops

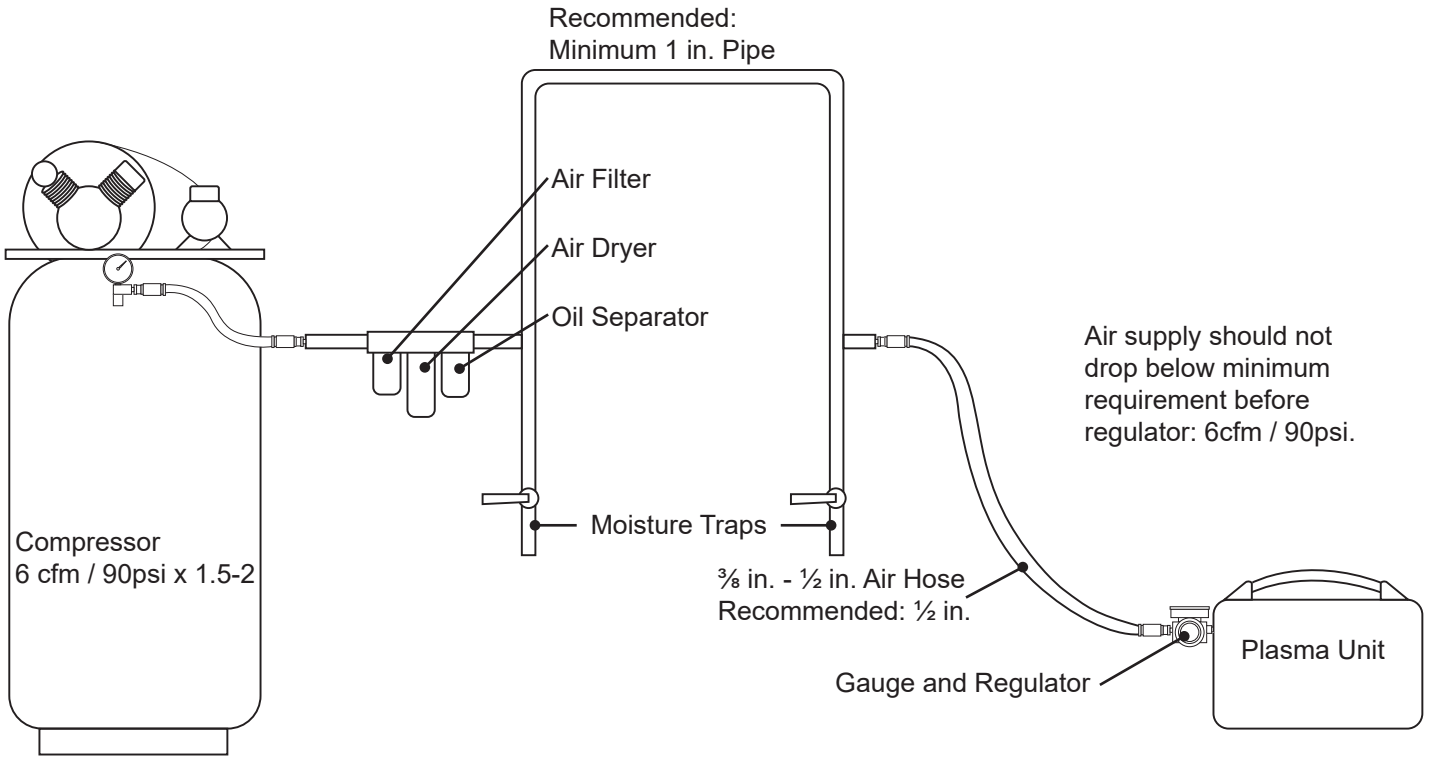
There are 4 E-Stops on the Dragon that need to be checked before engaging the Dragon motors. If the E-Stops are pushed in, that indicates that the E-Stop is triggered and there won't be power to any of the motors.

1. Ensure all of the E-Stops are dis-engaged.
2. Press the green power button on the control box. Only press the button once, and do not hold down the button. The green power button turns the power on to the Dragon motors.
3. Press one of the E-Stops. This should turn off the green power button.
4. Dis-engage the E-Stop that was pressed. Press the green power button again, and repeat this test for all of the E-Stops.

2.4 Air Line Connection

The Dragon A250 requires one air line connected to the Hypertherm plasma unit.

1. Ensure the air system is adequate for the plasma unit being used and that the air line is connected correctly.



03 Machine Control Startup

3.1 Machine Control Startup

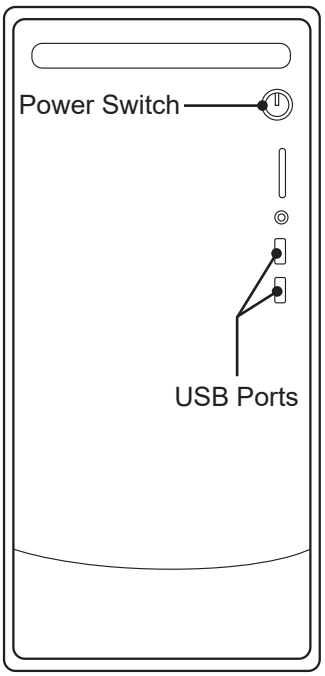
Booting up the Dragon A250 requires following a specific procedure. Following this procedure in the proper order will ensure the Dragon A250 is up and running as quickly as possible. Failure to follow the procedure in the proper order can affect machine operation and lead to unnecessary down time.

3.2 Booting Up The Dragon A250

3.2.1 Power On Computer

The Dragon A250 is shipped with a new Dell Inspiron computer preloaded with Bend-Tech Dragon software, as well as Newfangled Solutions Mach3 six-axis CNC controller software package. The Bend-Tech Dragon software uses Mach3 to communicate with the control box on the machine. With the Bend-Tech Dragon software the operator can create single parts, import projects, and control the machine.

Power on the computer by pressing the power button located on the front of the unit. Make sure the power cord is plugged in to a reliable power source. It is highly recommended that electronics such as the computer be protected from power surges by a surge protector.



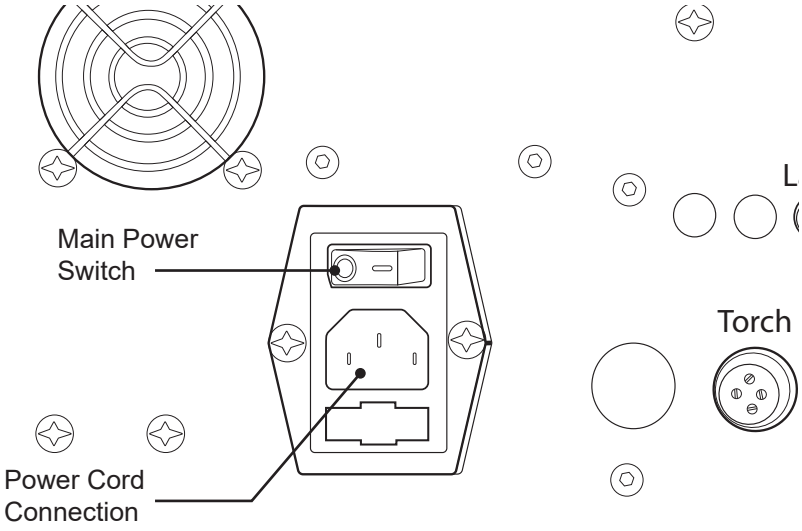
3.3 Power On Control Box

3.3.1 Main Power Switch

On the Dragon A250 control box, flip the Main Power Switch to ON (when ON the side of the rocker switch with the “-” symbol will be depressed).

3.3.2 Green Power Button

With the Main Power Switch ON, press the Green Power Button. It will light up.



If the Green Power Button does not stay lit it is likely due to an E-Stop that has been triggered. In this case check all E-Stop buttons.

3.3.3 Launch Bend-Tech 7x

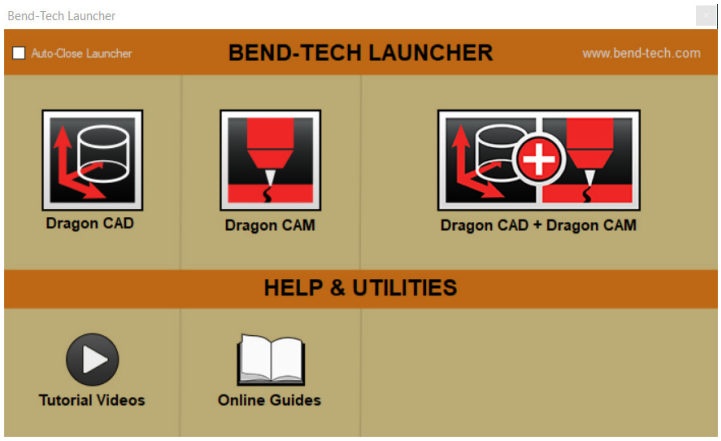
On the computer desktop, locate and click the Bend-Tech 7x icon to launch the software. The Bend-Tech Launcher will open showing options to launch Dragon CAD, Dragon CAM and Dragon CAD + Dragon CAM. The Dragon A250 is operated fully with the Dragon CAM software. Dragon CAD software is used to design assemblies for production.

3.3.4 Dragon Software Color Designations

Software	Color	Function
Dragon CAD	Blue	Assembly Design
Dragon CAM	Orange	Dragon A400 Operation
Dragon CAD + CAM	Both Screens Open	Assembly Design and Dragon A400 Integration

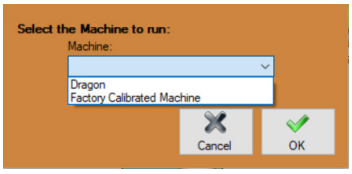
3.3.5 Bend-Tech Launcher

Click on Dragon CAM from the Bend-Tech Launcher to start the Dragon operational software.



3.3.6 Machine Control

At the top of the screen, click Machine Control.



Click the down arrow next to the Machine Selection window. Select the Dragon machine.

Click OK. Mach3 software will open at this time.

In some cases, if there is only one machine entered in the Machine Library, the program may go straight to Mach3 and not present a Machine Selection window after clicking Machine Control.

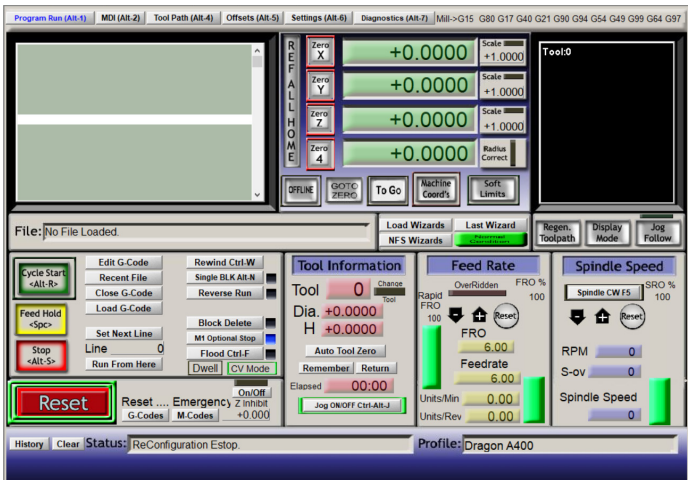
If Mach3 does not connect properly repeat Power On Dragon A250 Control Box procedure beginning at Section 3.3.

3.3.7 Mach3 Machine Control

Mach3 CNC software control interface will appear. Minimize Mach3; the operator will primarily work in the Bend-Tech Machine Control interface when operating the Dragon A250.

Machine Control interface

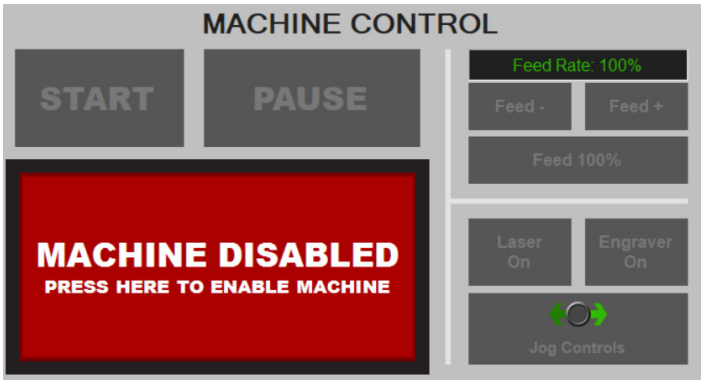
Mach3 CNC Machine Control interface



3.3.8 Enable Machine

Upon initial startup, the Machine Control screen will be mostly grayed-out and a red “Machine Disabled - Press Here To Enable Machine” window will be flashing.

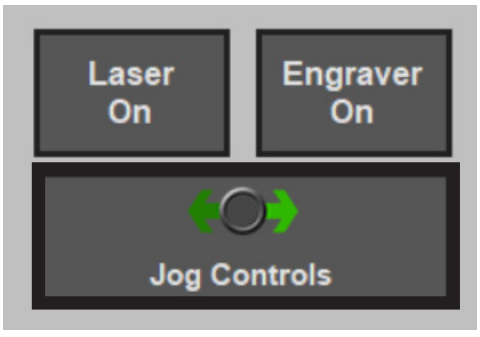
Click on “Machine Disabled - Press Here To Enable Machine.” The Dragon A250 is now enabled.



3.4 Jog Controls System Check

Upon initial startup it is important to verify all motors are working as intended. The operator can use the Jog Controls feature to determine proper machine operation.

3.4.1 Open Jog Controls



At the bottom center of the Machine Control screen, click Jog Controls to open the Jog Controls interface screen. Jog controls are referenced to their respective motor (see Motor Location and Operation Index table 3.4.2).

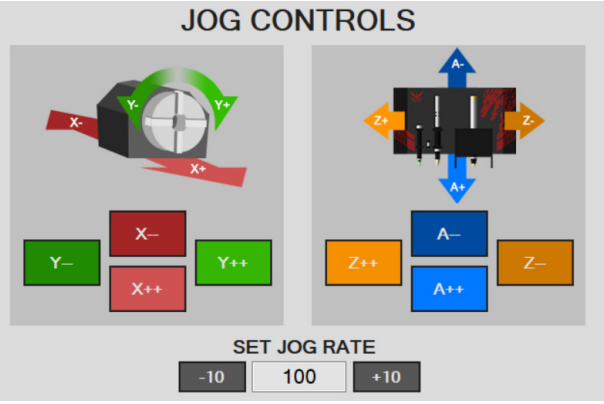
! Caution !

Avoid jogging the machine to the limits of its operation.

3.4.2 Motor Location and Operation Index

Jog Control	Operation
X++	Trolley Forward
X-	Trolley Backward
Y++	Chuck Clockwise
Y-	Chuck Counter-Clockwise
A++	Tool Changer Down
A-	Tool Changer Up
Z++	Tool Changer Left
Z-	Tool Changer Right

3.4.3 Jogging the Machine



With the Jog Controls screen open the operator can jog the Dragon A250 to observe that all controls are in working order.

3.5 Homing The Machine

Before beginning operations with the Dragon A250, the machine must determine Home for all of its operating Axes. This allows the machine to operate efficiently and within its operational parameters.

3.5.1 Homing An AXIS

The AXIS feature on the Machine Controls screen allows the operator to Home each Axis of the Dragon A250. Each Axis is labeled according to its corresponding moving feature as defined in the Axis Definition Table 3.5.2.

To home an individual Axis the Operator can click the House icon corresponding to the Axis on the right hand side of the AXIS feature.

Do not Home any Axes at this time.

3.5.2 Axis Definition Table

Axis	Definition
X	Trolley
Y	Chuck
Z	Toolhead Left/Right
A	Toolhead Up/Down
B	Not Used for the Dragon A250
C	Not Used for the Dragon A250

3.5.3 Jog The Trolley

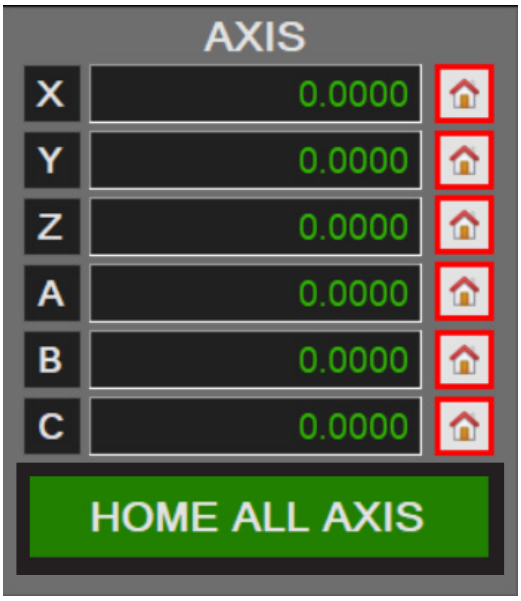
To speed up the Homing procedure the operator can jog the Trolley near the end of the Rail, so it has less distance to travel to contact the X-Axis homing switch.

All the Axes move in a negative direction to Home.

! Caution !

When jogging the Trolley to the end of the Rail allow it time to decelerate. If the Trolley contacts the end of the Rail the Operator will see a Machine Disabled signal. This is a safety feature designed to protect the Dragon A250 from being damaged. The Operator will need to click Enable Machine to resume machine operation.

3.5.4 Home All Axis



The Operator has the ability to home each feature individually or choose HOME ALL AXIS. Upon initial machine startup the operator should choose HOME ALL AXIS and allow the machine to complete this action.

Click HOME ALL AXIS. This procedure will take a few minutes. The Operator should observe the procedure to ensure all Axes are safely homed by the program with no interference.

House icons will turn green when the Axes are homed.

3.6 Hypertherm

Powering on the Hypertherm plasma cutting machine is the last step in preparing the Dragon A250 to run. The operator should have set up and connect the Hypertherm according to the procedures outlined in Chapter 2.

Ensure the Hypertherm unit is set to cut the type of material or to perform the cutting procedure as intended. The Hypertherm will go to default PSI settings. However, the operator will need to adjust amperage as necessary.

The controls for the Hypertherm Powermax45 and Powermax65/Powermax85 are different. The operator should familiarize themselves with the controls of the Hypertherm unit using the Hypertherm Operator's Manual found in the box.

3.6.1 Hypertherm Power Switch

The power switch for the Hypertherm Powermax45 is located on the front of the unit. It is a rocker switch. Press "|" to power on the unit. The power switch for the Hypertherm Powermax65 and Powermax85 is located on the back of the machine. Turn it clockwise to power on the unit.

! Caution !

Ensure the Hypertherm ground clamp is connected to the Dragon AA250 ground wire.

Ensure the air supply is connected to the Hypertherm.

3.6.2 Hypertherm Cut Type

The Standard Cutting mode is the most common setting that will be used with the Dragon A250. On the Hypertherm this is typically the second mode down (clockwise) on the cutting mode switch.

Always refer to the Bend-Tech Plasma Cutting Guide for the most accurate setting information.

3.6.3 Hypertherm Air Supply

The Hypertherm Powermax45 minimum air supply requirement is 6 cubic feet per minute (cfm) at 90 psi. When cutting thicker material it is possible that the Hypertherm unit will require higher air flow from the air supply. The Customer should ensure the air supply for the Dragon A250 is appropriate to operate the Hypertherm. See section 2.7 for Hypertherm air supply requirements.

3.6.4 Hypertherm PSI Settings

The Hypertherm unit will be pre-set to a default PSI. This is the recommended starting point for cutting operations on the Dragon A250.

3.6.5 Hypertherm Cut Settings

As a rule, speed and amperage settings should be on the low end of what Hypertherm recommends for a given material. For any given cut, Bend-Tech recommends dividing the recommended Hypertherm feed rate in half as a starting point of operation.

Attention

After completing Startup and Training Manual Part 2, please proceed to Startup and Training Manual Part 3.

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