
SECTION E: SYSTEM SETUP

Now that the equipment is positioned and all connections have been made, the IMA system is ready to be made operational. This section of the manual will take a step-by-step approach to making the system operational and checking the initial setup variables.

Turning the main breaker on

- Check electrical connections to ensure the power is connected properly.
- Close the electrical cabinet.



Always close the electrical cabinet door before turning on the main breaker.

- Turn the main breaker on.
- Turn the Master Control Relay (MCR) on by pressing the MCR On illuminated push button. The Quick Dump/Soft Start air supply valve will activate. All cylinders on the machine and Horizontal Cable operating head will be slowly pressurized to their “home” positions.

Checking the pneumatic system

Now that the air supply to the system is on and the soft start valve is activated, the pneumatic system is charged with air.

- Check the pneumatic gauges inside the pneumatic cabinet.
- Check that the pressure settings coincide with the pressure settings on the Suggested Timer and Pressure Setting Chart located in the drawing holder mounted on the inside of the door. Adjust the pneumatic regulators as required.
- Advance and retract all pneumatic cylinders by pressing the appropriate push buttons on the control panel with the Setup/Manual/Auto key selector switch in the setup position.

Installing the tooling

If the tooling was packed separately for shipment, or alternate tooling needs to be installed, the following procedure is recommended:

Fixed tool installation

1. Clean the operating head fixed tool locating surface to ensure that it is clean and free of debris. Any burrs or nicks should be removed with a fine India stone.
2. Install the fixed tool in the locating ring. When properly seated, the fixed tool should rotate freely within the locating ring without any excessive play.
3. Install the fixed tool/locating ring combination in the operating head, ensuring that they are properly oriented. When properly seated, the fixed tool/locating ring combination should rotate freely within the operating head fixed tool locating diameter without any excessive play. Install the socket head screws to secure the fixed tool/locating ring to the operating head.
4. Install the coolant manifold and coolant lines to the fixed tool, securing the manifold with socket head screws.



CAUTION

Do not allow any coolant to fall into the melt pot. Install the coolant lines when the tool is clear of the molten alloy. An explosion could occur if coolant is spilled into the melt pot.

Movable tool installation

1. Clean the split carrier movable tool locating surfaces to ensure that they are clean and free of debris. Any burrs or nicks should be removed with a fine India stone.
2. Loosen the clamp screws on the lower split insert and install it in the lower split carrier. Ensure that the split insert is seated properly in the split carrier.
3. Ensure that the safety pin and spring (if used) is in place on the upper split insert. Loosen the clamp screws and install the upper split insert in the upper split carrier. Hand tighten the clamp screws to hold the insert in place.
4. Carefully close and lock the split carrier. Install the coolant lines to the movable tool. Ensure that the parting line flash guard is in place.



CAUTION!

Do not allow any coolant to fall into the melt pot. Install the coolant lines when the tool is clear of the molten alloy. An explosion could occur if coolant is spilled into the melt pot.

5. Secure the split inserts by tightening the clamp screws. Tighten the coolant line clamp screws. Ensure that the safety pin is moving freely without obstructions.
6. Open and close the split carrier to ensure that the locking force is properly set. Adjust the split carrier locking force if necessary (see Section G2: Horizontal Cable Operating Head Maintenance).

Checking the coolant system

- Ensure that the cooling lines are connected between the machine and the fixed and movable tools.
- Turn off the coolant supply and drain valves which regulate the coolant flow to and from the operating head/tooling.
- Turn on the coolant supply and drain to the machine.
- Check for coolant leaks and repair as required.
- Slowly open the coolant supply and drain valves to the operating head/tooling. Again, check for leaks.



CAUTION!

There must be no coolant leaks in the melting pot area. If coolant comes in contact with molten alloy, an explosion of molten alloy may result.

Repair any coolant leaks before proceeding with the initial start up of the system.

Turning the melt pot on

- Turn the melt pot on by turning the Melt Pot selector switch to the on position. It will take approximately 2 hours for the alloy to reach operating temperature.

Checking the nozzle heater

Turn on the gas supply to the machine. Check for gas leaks in the piping up to the gas solenoid valve located under the parts tray. Repair any leaks immediately.

Turn on the nozzle heater. Check for gas leaks in the piping from the gas solenoid valve to the twin torch tip. Repair any leaks immediately.

Ignite the gas/air mix with a suitable device. Adjust the air regulator, and air and gas needle valves so a soft, blue flame envelopes the base of the nozzle. Reposition the twin torch tip if necessary.

Checking the nozzle alignment

When the alloy has reached operating temperature, the nozzle alignment must be checked in case it was knocked out of alignment during shipping.

To check the nozzle alignment, see Section G1: Machine Maintenance. Read the section titled Nozzle seat/nozzle tip alignment.

Checking timer settings

Check that the timer settings coincide with those on the Suggested Timer and Pressure Setting Chart located in the drawing holder mounted on the inside of the pneumatic cabinet door.

To view the preset value for a timer using the Allen-Bradley Data Table Access Module (DTAM™), press [F()] and the number of the timer. The preset value will automatically be displayed. To change the preset value, enter the new value using the numeric keys and press the [Enter] key.