

Hurco S7 Upgrade Instructions for CNC150 Single Axis

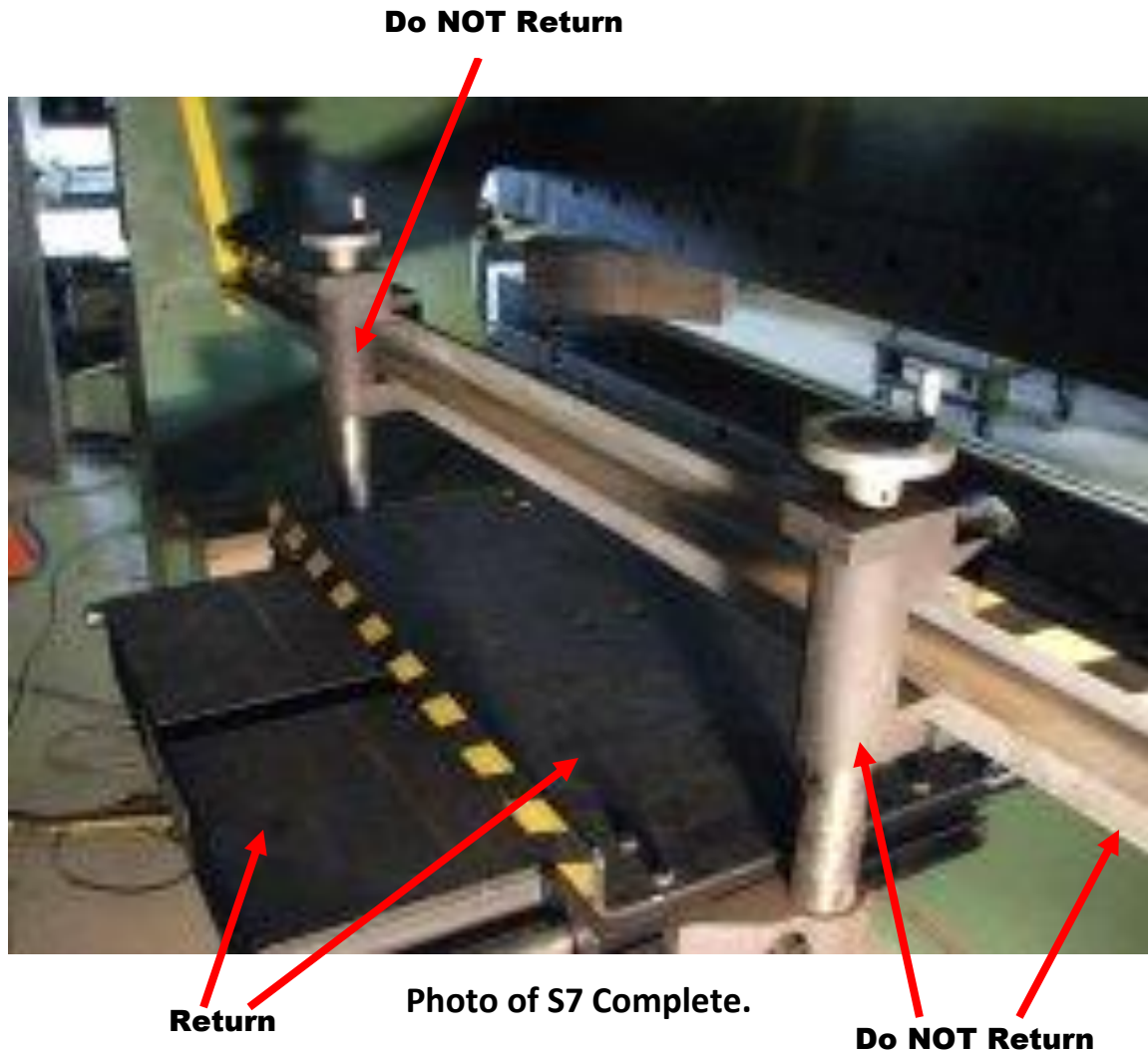
It is a good idea to read these instructions completely before purchasing the CNC150/Hurco upgrade so you can see what is involved. It is pretty simple.

Using the name plate at the rear of the backgauge, identify the system as having the "S7" suffix at the end of the model number.



Hurco upgrades are done by either sending the Hurco main casting and moving carriage back to Automec or by sending just the motor to Automec. In the first case, we take care of everything and you get a complete running system back. That is simpler than doing the retrofit yourself but you have higher freight costs

both ways and the backgauges are quite bulky to handle. Sending just the motor back requires paying attention to a few details because there are slight variations between different vintages of the S7 Hurco.



Procedure When Sending Main Casting and Carriage Back

- Unbolt the vertical uprights, gauge bar, fingers and external cables from the main body and moving carriage assembly.

- Unscrew and remove the two sheet metal covers on top of the main casting leaving the motor and amplifier exposed.
- Remove ball screw cover.
- Check that the ball screw, Thompson shafts and other mechanical hardware is in good working order as these will not be refurbished by Automec.
- Take photos of the inside of the Hurco main casting and email to sales@automec.com. Reattach the covers. Place your order and return the main body with moving carriage attached to Automec prepaid.



Photo of S-7 Showing Uprights and Gauge Bar Removed but with Carriage Attached.

Automec will return a working mechanical system with all of the new components installed. Simply bolt it back on the pressbrake. Adapt the Automec control to your Hurco pendant arm and discard the old Hurco electronics.



**Autobend IV Electronics Box.
Parts Obsolete, Throw in Dumpster.**

In the second case, **procedure when sending just the motor to Automec where you will do the upgrade in the field**, you have to check a few things because Hurco's are not all identical.

- Remove covers and take photos of the motor area, connectors and reference limit switch.
- Email low resolution photos to Automec at sales@automec.com. We will confirm that your system is a candidate for an upgrade.



Remove Covers and Take Photos

- Check the roller type limit switch and confirm that it is a normally open switch.



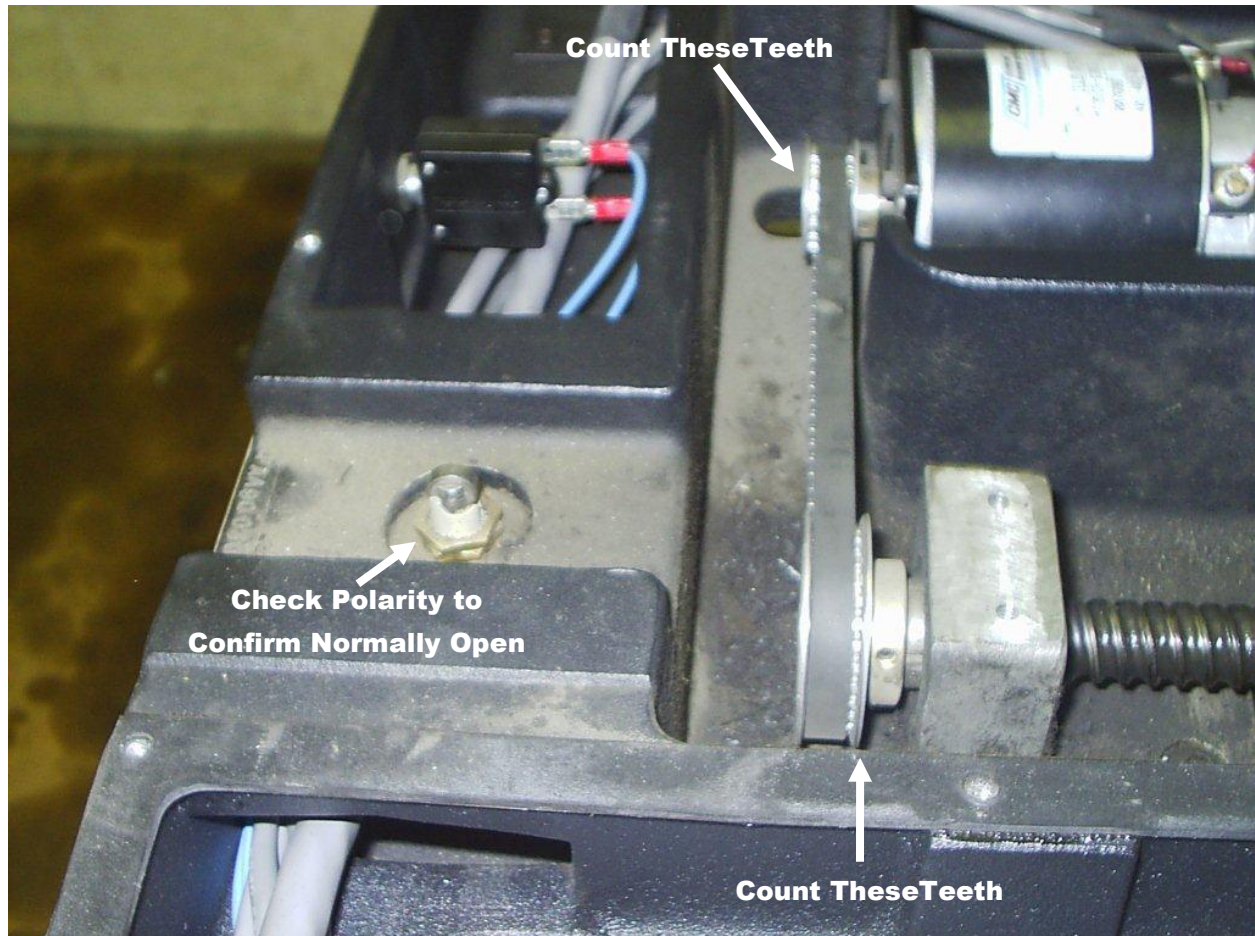
Check Polarity of Switch to Confirm Normally Open.

If you have an Omron proximity switch it must be replaced by the roller switch.
Consult Automec for replacement switch.



Proximity Switch – Cannot be Used.

- Count the teeth on both the drive pulley and the driven pulley.
- Rotate the ball screw five times and notice how far the carriage moves. Report that distance to Automec so we can determine the pitch of your ball screw.



- Make sure the rubber belt is ok.
- Check that the mechanical structure is sound by rotating the ball screw through the complete machine travel.

Disassembly – When Returning Just the Motor to Automec

- Remove two top covers and ball screw cover.
- Remove all electrical harnesses except limit switch wires.
- Disconnect wires to the motor and carefully remove the motor which will be re-used. Return the motor to Automec, 82 Calvary St., Waltham, MA 02454 and reference your customer name and order number. The motor will be tested and outfitted with an Automec optical encoder. It is helpful to take before and after photos. In rare instances, if we determine the motor is bad, you will be notified so a new motor can be obtained.



Picture of Hurco Motor Outfitted with An Automec Encoder

Reassembly

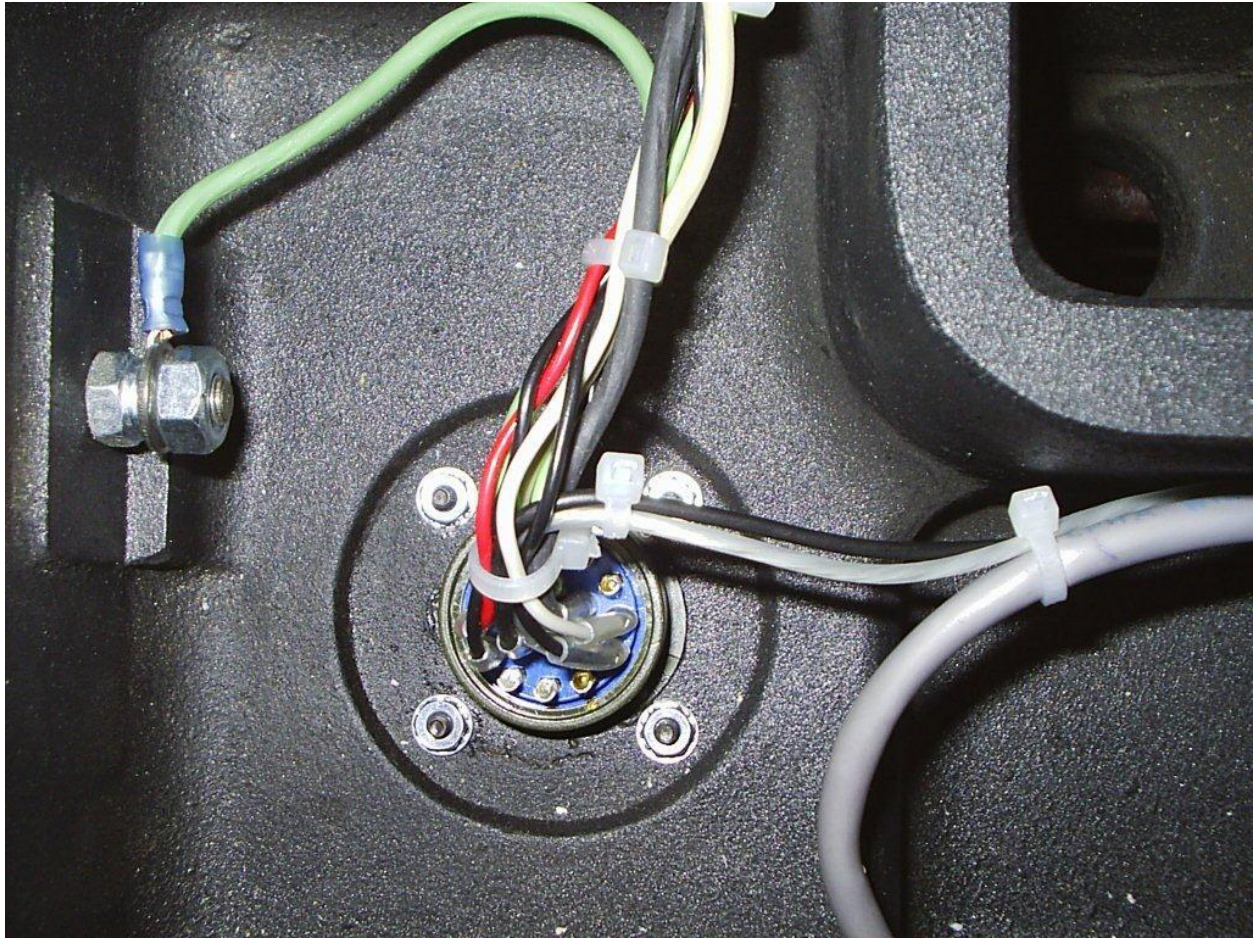
- Install Automec amphenol connector to the Hurco casting. There are a few different attachment methods shown below.



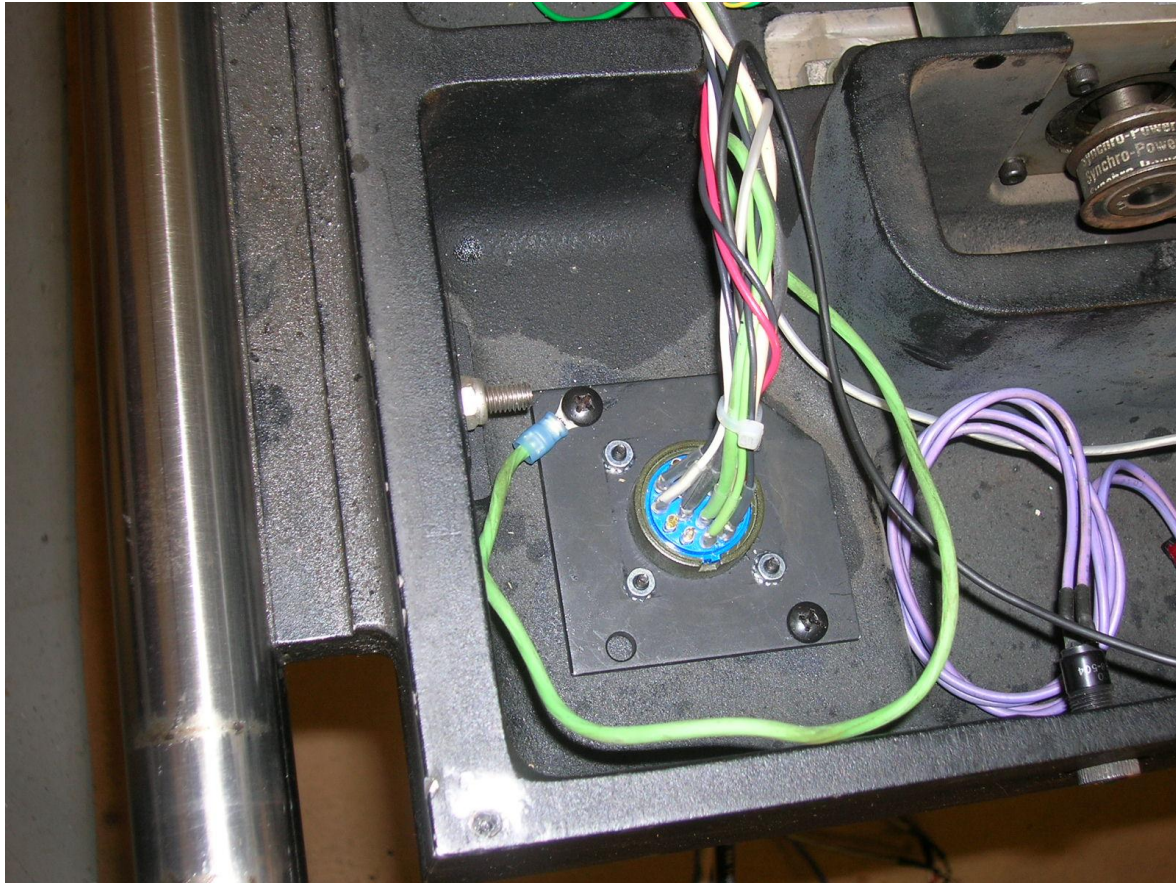
This version has a large rectangular hole to pass wires through. Automec will provide an adapter plate to house our connector.



Automec Adapter Plate



On this version the Automec connector bolts directly into the Hurco casting.



Another Example of Connector Mounting Using Hurco Plate.

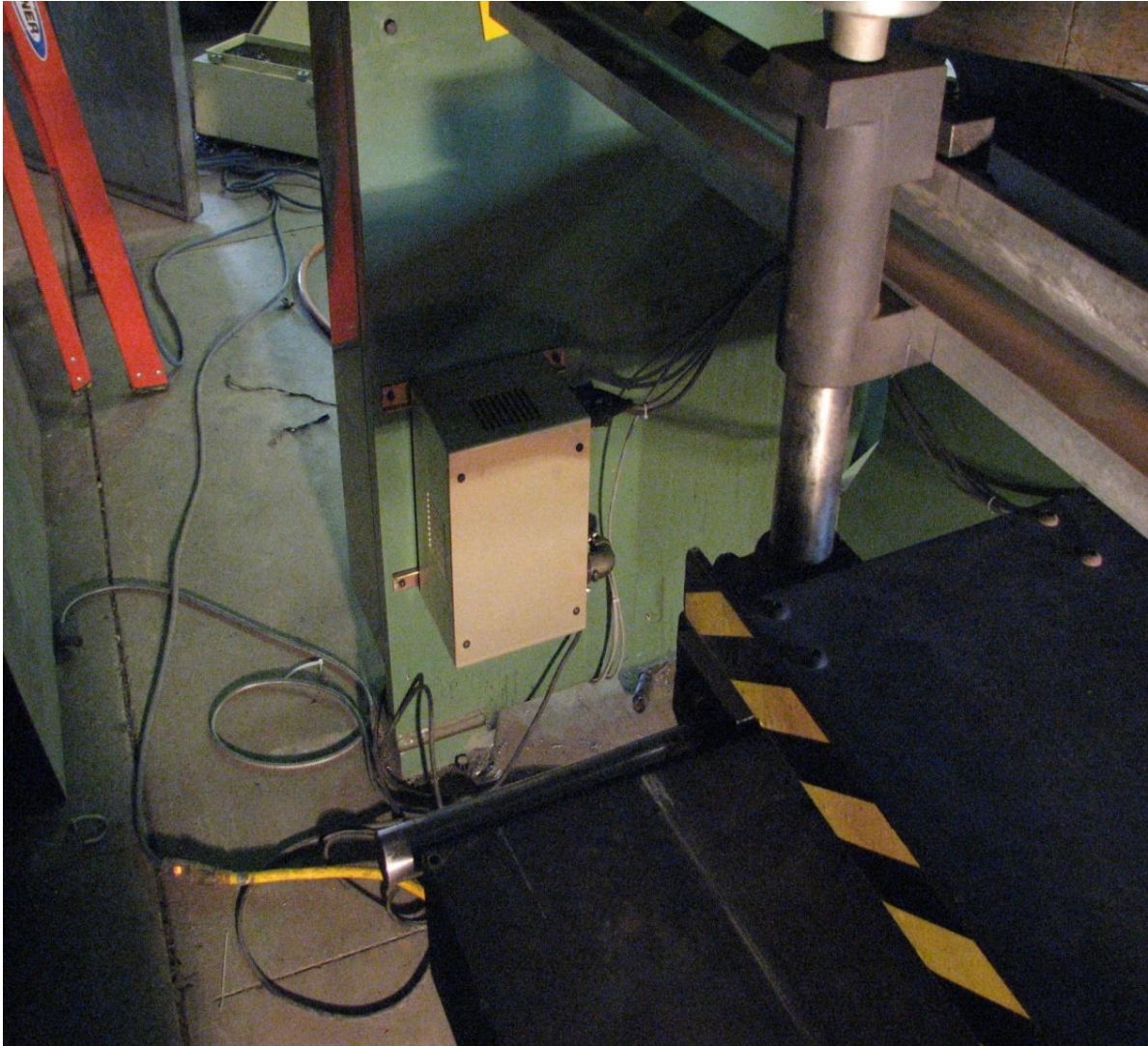
- Install motor. Make sure encoder wires are not damaged. Turn motor 90 degrees if necessary. Adjust belt tension.
- Strip reference switch wires and connect with Automec Switch wires with wire nuts provided.

IMPORTANT: Switch must be the Roller/Plunger type and must be Normally Open. THE OMROM PROXIMITY SWITCH CANNOT BE USED AND MUST BE REPLACED WITH ROLLER TYPE.



Upgraded Motor and Belt Installed.

- The Hurco amplifier mounted in the casting is not used so it can be removed if desired.
- Mount the Automec gold amplifier box to the pressbrake side frame by drilling and tapping (4) ¼ inch holes, ¾ inch deep and provide 110V electrical power from a clean source.



- Remove the Hurco control from the pendant arm and make an adapter to attach the Automec CNC 150 control using the (2) 3/8" – 16 threaded holes on the rear of the Automec control.



Automec Control Mounted to Hurco Pendant

- Read the CNC 150 manual to familiarize yourself with the programming of the control.
- Power up the system using the toggle switch on the gold box and program a dimension of 23.000". Check to see the gauge moved about 1 inch from its reference point.

If the gauge moves more or less than the distance called for, a "scale factor" change will be necessary. Also make sure the Gauge can reach zero inches and still be within its mechanical limit.

- Done.