

Procedure for Converting The General Semi-Automatic Taper to The Crittenden Taper Control System

The Crittenden Conversion Taper Control System is a PLC based taper control with a digital operator interface, this system utilizes a single photo-eye for box edge detection and a rotary pulse generator to control box registration. This system can control up to four outputs, typical uses for these would be:

1. Tape start/stop
2. Hot Glue start/stop
3. Cold Glue start/stop
4. Box Folder close/open

Your installation may not utilize all of this systems features. There are drawings and photos included with this kit that will help with this conversion.

1. Turn off power at disconnect
2. Remove the original feed/cutoff solenoid or air cylinder bracket along with the knife return spring.
3. The original DC control panel can be completely removed from the top rail and replaced with a 2 x 4 j-box for wire connections. Any unused wires for old limit switches receptacles should also be removed, as only the 120VAC power will be needed for our controller.
4. Remove second and fifth (main drive) shafts.
5. Open slots in the rail so that the fifth shaft can be installed with the rubber roll and rotary pulse generator in place on the shaft. This will simplify any future maintenance on the rotary pulse generator.
6. Drill and tap a 1/8 NPT hole from top of rail, this hole should be located just forward of the pulse generator position (see pictures). This will allow the encoder wire to be routed to the control within protective tubing.

7. Torch out a slot 1"x 5½" on center across upper rail, with the 1" center, 13" from the front edge of the rail. Be careful not to damage rubber rolls underneath. The bottom of this slot must be clean of any slag or burrs. Check clearance with photo eye after rail has cooled.
8. Position photo eye mounting plate over slot, transfer mounting bolt holes, then drill and tap for 10-32 screws.
9. Mount the new knife arm air cylinder by placing the 1 ½ x 5/8 air cylinder and clevis on top rail, positioned so that when the cylinder rod is extended and retracted the knife arm weldment moves the same distance as when operated by the original solenoid or air cylinder, this movement should be about 9/16" at the point of the original plunger contact.
10. With the clevis clamped in position, drill and tap three 3/8-16 mounting holes in the rail, then secure with 3/8-16 x 1 ¼ cap screws. Then drill a 5/16" diameter clearance hole through the knife arm weldment and attach the rod clevis with pin supplied.
11. Mount the 4-way solenoid valve on the top rail near the cylinder and original electrical junction box.
12. Mount the Filter-Regulator-Lubricator unit on frame near air supply line and connect airlines to FRL, valve and cylinder. Air pressure should be adjusted to 40-50 psi.
13. Mount control panel on front end of upper rail.
14. Mount 2 x 4 j-box on upper rail between head and frame, if a suitable j-box is already mounted in this location it can be used. Connect conduit from control panel to this j-box, conduit should also extend from this j-box to the one located near the knife arm air cylinder.
15. Assemble shaft number five (main drive shaft) and mount in rail, pulse generator should be located on the shaft so that it is opposite of the head chain drive (see pictures).

16. Position the anti-rotation pin mount (see pictures), mark mount hole placement, then drill and tap the holes $\frac{1}{4}$ -20, engage pulse generator anti-rotation arm with pin and secure pin mount with screws. Connect poly tube from control panel to taped hole in rail with supplied fittings and run pulse generator wires through it.
17. Mount photocell so that it is just outside the guide shoe, if one is used, run wire to control panel.
18. Install shaft number two with $\frac{1}{4}$ rubber roll positioned to clear photocell.
19. Unroll and examine wiring harness ends to determine proper connections, then pull thru conduit and make all connections. Please note that if your system utilizes a glue solenoid it must be 120VAC.
20. Turn on main power disconnect and adjust the knife blade arm air cylinder length to attain proper tape feed and cutoff action.
21. Proceed to Taper/Gluer Setup and Calibration