

O-04: Time Clutch

SAFETY FIRST

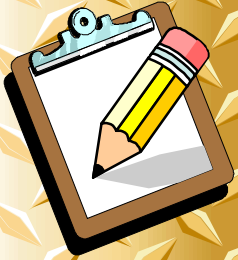
- Follow all Caterpillar facility safety standards when performing this task.
- Working around a forge press is extremely hazardous. Presses include many rotating and moving components energized by line voltage and air pressure. Forged parts are hot. The press environment is noisy. Problems in the control system can cause the press to trip unexpectedly. Use extreme caution.

EQUIPMENT

- Allen Bradley PLC-5 program panel or PC with Allen Bradley 6200 software
- electrical test equipment
- ladder or manlift and harness to access the resolver at the top of the press

RESOURCES

- Mechanical Technician
- controls wiring schematics
- PLC program listing
- clutch and brake timing specifications
- manufacturer's documentation for the resolvers and resolver input modules



Time Clutch

1. If a new program is loaded into the PLC, enter the clutch engage and release degrees as follows.
 - Look up the address of the clutch with ladder logic in the printed PLC program listing.
 - With a program panel or PC connected (refer to the procedures for connecting and operating a programmer), press F1 to access the Online Program function and F8 for Monitor File.
 - Go to the clutch logic address and note the clutch engage and clutch disengage register addresses (the high and low limits).
 - If you need to change the limits, press F8 to access the Data Monitor screen.
2. Fine tune the engage and disengage degrees as necessary.
 - If the Press Operator reports that the ram is tripping early or late with respect to the transfer bar position, adjust the clutch engage degree. Ask the Maintenance Mechanic or Operator to what degree and adjust the degree.
 - If the Press Operator reports that the ram is over the top, the brake is not stopping soon enough. The clutch needs to disengage sooner (minus degrees five or less at a time). Ask the Maintenance Mechanic or Operator to what degree and adjust the degree.
 - If the Press Operator reports problems with the forging, or a press ram that rises sluggishly and stops before top, the brake is engaging too soon. The clutch needs to disengage later (add degrees five or less at a time). Ask the Maintenance Mechanic or Operator to what degree and adjust the degree.
3. Check the brake window degrees to make sure that the clutch adjustment does not overlap the brake degree window.

