

U-01f: Troubleshoot Feedback Device (Sony Magnascale)

SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.

EQUIPMENT

- basic Electrician hand tools

RESOURCES

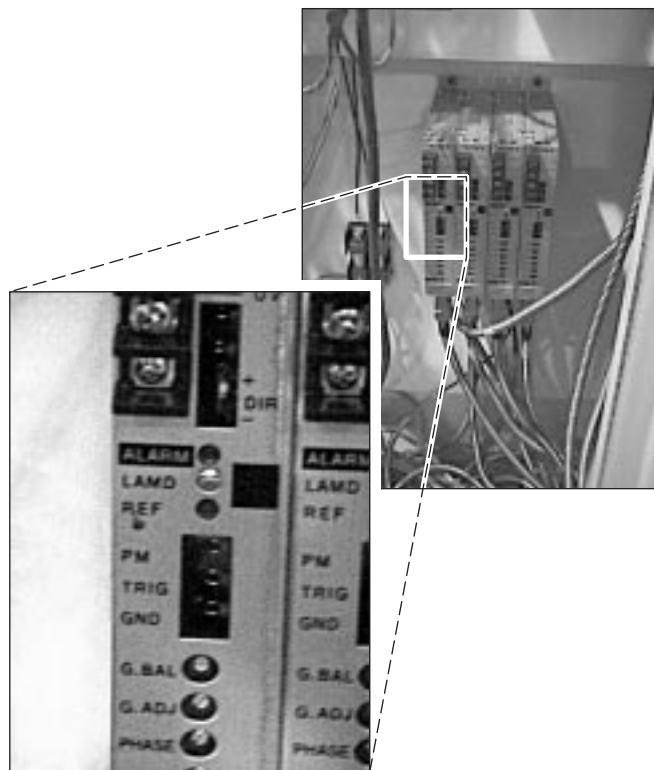
- Sony Magnascale Instruction Manual
- Fanuc 15 CNC Manual
- Saginaw Operator's Manual



Troubleshoot Feedback Device (Sony Magnascale)

Note: These steps are performed on a Saginaw Lathe Z Axis.

1. Check the control panel for errors.
2. When a Pulsecoder Disconnect error is displayed, check the amplifier for alarm lamps.
 - An alarm lamp indicates the problem is within the feedback system, either in the wiring or in the scale.

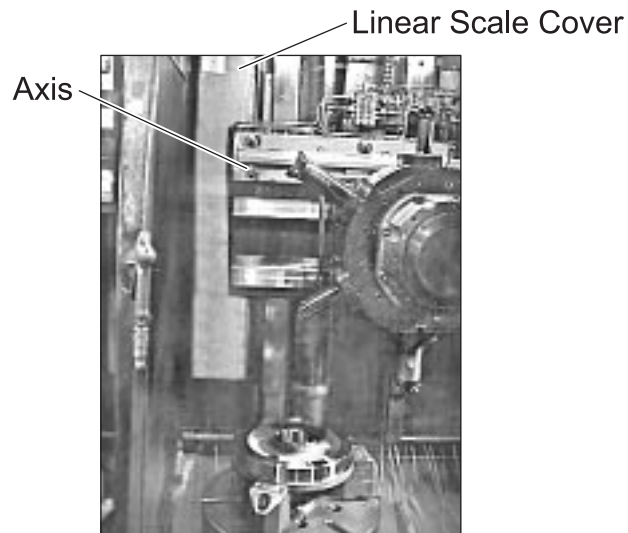


Alarm Lamp

3. Set the machine parameters to disable the scale and to run the axis from the motor encoder.
 - Follow the machine manufacturer's manual or ask an experienced Electrician to change the machine parameters to disable the scale and run the machine from the encoder.
4. Cycle the machine to verify the problem is with the scale and not with the motor feedback device.

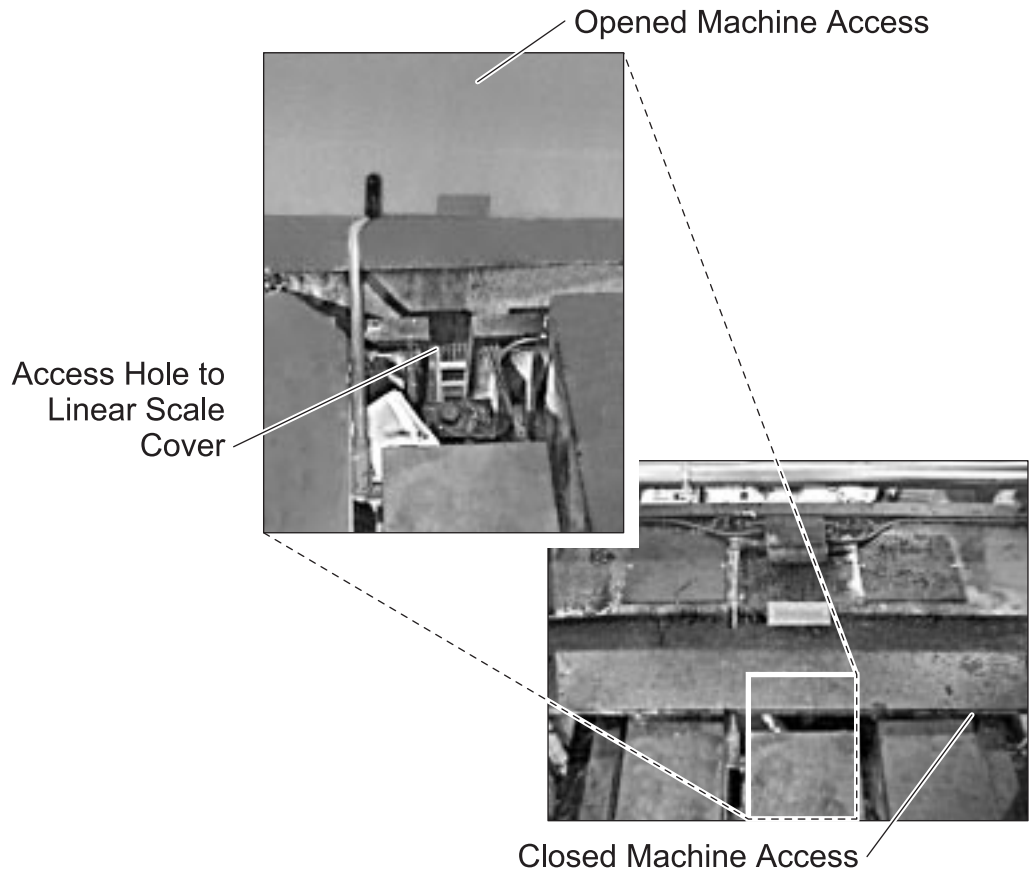
5. Remove the Magnascale covers.

- Position the axis to allow access to the scale cover mounting bolts.

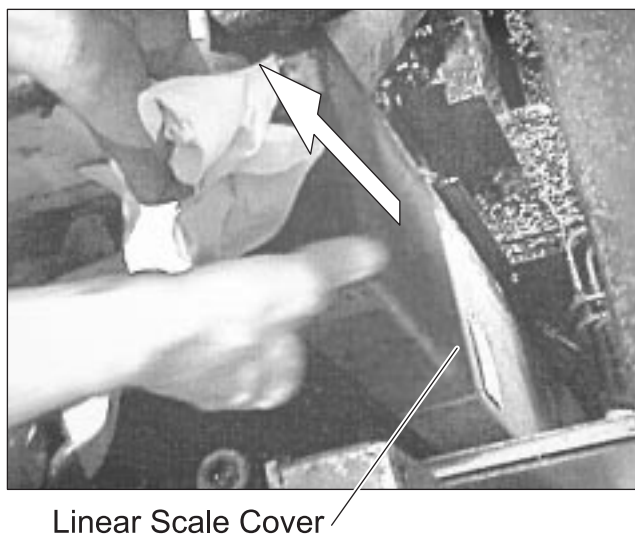


- Remove all cover bolts accessible from the floor level.
- Perform a lockout/tagout.

- Open any required machine access covers to provide access to the scale from the top of the machine.

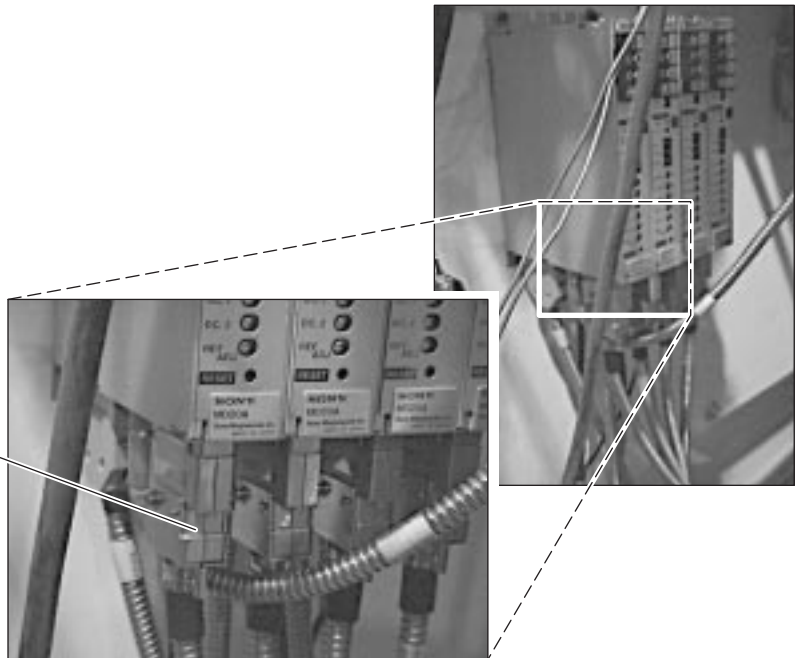


- Remove the top scale cover mounting bolts and pull the scale cover from the top of the machine.



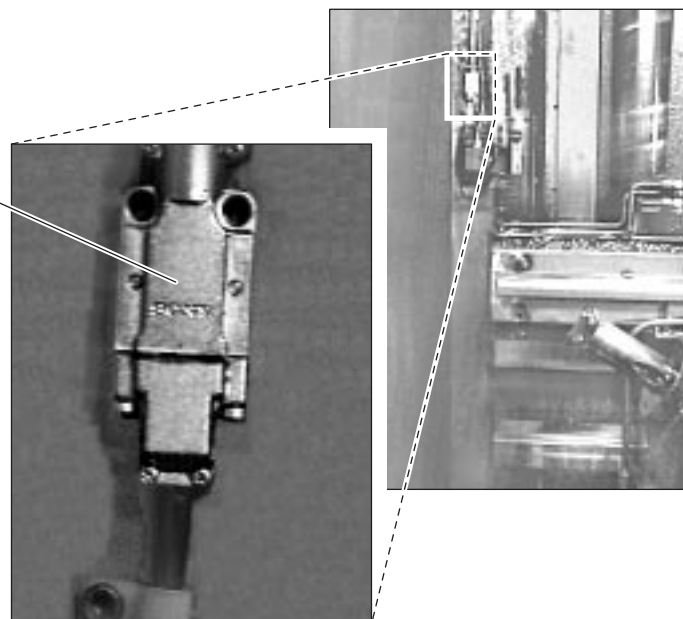
6. Remove the cable from the scale at the amplifier.

Scale Cable Connector

**Scale Cable****7. Remove the electrical connection to the scale.**

- Use care to avoid getting dirt into the cable connectors.
- Disconnect the read head amplifier electrical cable connector.

Electrical Connection





8. **Perform a continuity test on the scale cable.**
 - Check wiring continuity and shielding connections to ground.
9. **Replace the scale cable, if necessary.**
10. **Perform the procedure Replace Feedback Device (Magnascale), if necessary.**
11. **Replace the amplifier, if the Fanuc 15 control continues to display the Pulsecoder Disconnect alert after the scale has been replaced.**
12. **Perform the procedure to Setup/Adjust Feedback Device (Magnascale).**
13. **Cycle the machine to verify positioning information and axis zero position.**