

## I-04: Reset Motor Overload

### SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.
- There is the potential for dangerous projectile (explosion) when resetting overloads. Never reset an overload while standing directly in front of it.

### EQUIPMENT

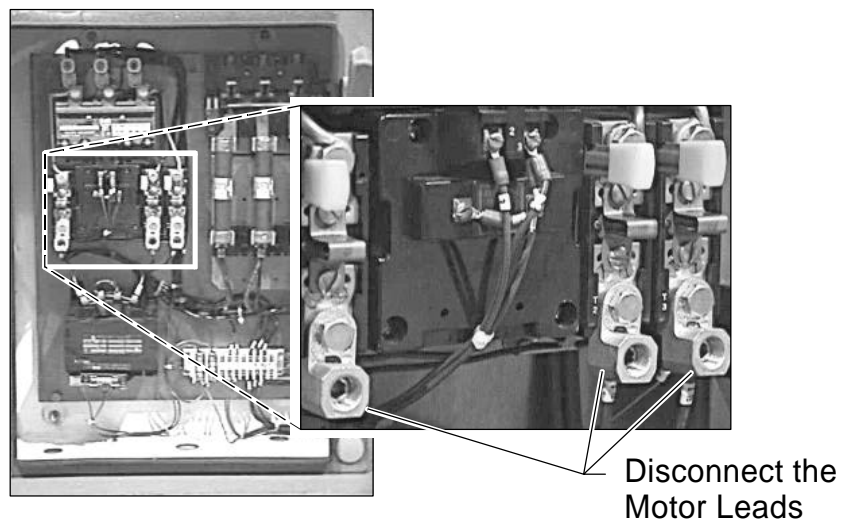
- basic Electrician hand tools
- amp meter
- digital volt-ohm meter (DVM)

### RESOURCES

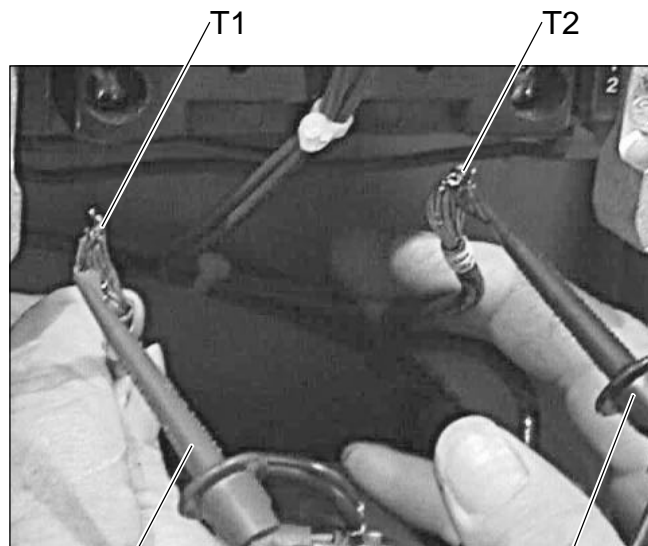
- Motor nameplate amperage data
- electrical print

### Reset Motor Overload

1. Lockout/tagout motor control cabinet power.
2. Remove the motor leads (T1, T2, and T3) from the overloads.



3. Take ohmmeter readings on the motor leads.



Ohmmeter (+) Lead

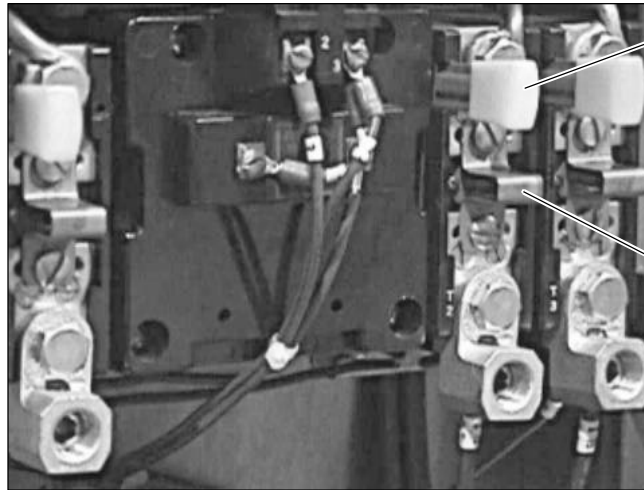
Ohmmeter (-) Lead

- Read between T1 and T2, T2 and T3, and T1 and T3 with the ohmmeter on the lowest ohms setting.
  - Readings must be equal. An open phase or unequal readings indicate a defective motor.
  - Follow the procedure to replace the motor if the readings are unequal or a phase is open.
4. Take ohmmeter readings between the motor leads and ground.
    - Set the ohmmeter to read ohms on the highest setting.
    - Replace the motor if each phase does not read infinity to ground.
  5. Verify that the rated load of the motor is not exceeded.
    - Look for jams in the motor load or anything restricting the shaft movement.

**Warning:** The following step involves resetting the overload. Be sure that the control cabinet is locked out and tagged. In the event that power cannot be removed, stand to the side when resetting the overloads because the elements can explode and potentially injure personnel.

6. Press the overload relay reset.

- Listen to the elements, and feel the overload reset, as you reset the overload relays.



Overload Reset

Element can Explode.  
Step to the Side.

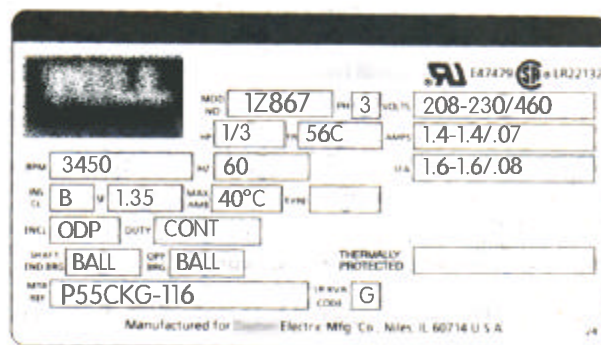
7. Restore power.

- Remove your lock and tag from the control cabinet.
- Follow all power restoration precautions according to plant procedures.

**Warning:** Remember to stand to the side of the cabinet to avoid injury from accidental element combustion.

8. Test the motor operation.

- Verify that the motor is operating according to nameplate data.



Example of Nameplate Data

- Take ammeter readings to verify the motor does not exceed expected current.



- Check each phase to eliminate the possibility of single phasing.
9. Follow the procedures to repair or replace a starter if single phasing is identified, or if the overload continues to trip but the motor is okay.
  10. Clean up the work area and document the work history.