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Megadoor Diagnostic Program.  
Overload Trip Going Open

Door Running Open Overload Trip Problems.

1. Verify that the door was in the "Open Cycle". This worksheet does not apply if the overload tripped while the door was opening after a "reverse" action.

2. The worksheet is only good if the steel is within tolerance  $\pm \frac{1}{4}$ " of the TW dimension.

*Steel that is too wide is just as bad as steel that is too narrow.*

1. General Checks.

- a. Using an Amprobe, check the current of the motor while running open.
- b. Once all legs have been verified, make sure there is no point where the motor is drawing more than 200% of motor name plate rating.
  - i. Note: Eurodrive states that the motor can withstand up to 400%, but we look for other problems if the draw is more than 200%.
- c. Verify that the overload is set at least 125% above the highest rating.
- d. Check the tightness of all connections inside the control panel.
- e. Check the stake-on crimps inside the motor junction box.
- f. Check the connections on the brake rectifier.

2. How long was the door at rest before the overload tripped.

- a. If the door sat for less than 1 hour, go to step 3.
- b. If the door was at rest for more than 1 hour, go to step 4.

3. Door has been sitting for less than 1 hour and overload trips.

- a. Door is fully closed and door does not move (3ls or 4ls never close) and overload trips.
  - i. *Check or guide rail damage.*
  - ii. *Check width of steel. Too wide is just as bad as too narrow.*
  - iii. Manually release the brake and try running the door open.
    1. If the door moves go to brake troubleshooting sheet.
  - iv. Check bolt clearance of the 4 motor bolts in respect to the back of the belt drum.
    1. Bolts may be rubbing the drum.
  - v. Make sure the brake is releasing
    1. Follow brake testing procedures
    2. Check rectifier connections.
    3. Check ohm reading on brake coils.
    4. Check air gap.
    5. Check for dirty brake disk.
- b. Door Moving Open and overload trips. (3ls and 4ls are closed)
  - i. *Incorrect steel dimension.*
    1. *Steel is either too wide or too narrow.*
    2. *Amprobe will spike at tight or wide spot.*
  - ii. Brake not releasing properly.
    1. Check rectifier connections.
    2. Check ohm reading on brake coils.
    3. Check air gap.
    4. Check for dirty brake disk.

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4. Door runs fine all day long. Door has not been used for more than a few hours and overload trips when the open command is given.
  - a. Door is fully closed and door does not move (3ls or 4ls never close) and overload trips.
    - i. Check all wire connections.
    - ii. Brake not releasing properly.
      1. Check rectifier connections.
      2. Check ohm reading on brake coils.
      3. Check air gap.
      4. Check for dirty brake disk.
        - a. Disassemble motor and check for grease on brake. See instruction sheet for brake service
  - b. Door Moving Open and overload trips. (3ls and 4ls are closed)
    - i. Check all wire connections.
    - ii. Brake not releasing properly.
      1. Check rectifier connections.
      2. Check ohm reading on brake coils.
      3. Check air gap.

History:

1. Most problems come from steel being too wide or narrow. Door hit etc.
  - a. Door runs up and then slows down and the overload trips near the top.
    - i. Check for worn guide blocks.
    - ii. Check for bent safety arrestors.
    - iii. Check for fabric stuck between guide blocks and guide rails.
    - iv. Guide rail attachment bolts too tight causing guide rail throat dimension to narrow and stop the guide blocks.
    - v. Steel narrow at the top.
    - vi. Top guide rail bolts not installed.
    - vii. Center of guide rail not aligned with header box.
    - viii. Worn pulley on end.
    - ix. Header box not welded on left side – hanging down.
    - x. Guide rail too close to wall.
    - xi. Curtain jamming between header and door itself.
  - b. When the door has been ruled out as the problem the next step is checking the motor.
    - i. Make the overload is sized properly and is set properly.
    - ii. Check all connections inside the control panel.
      1. Two Speed Motors - Check the shorting contacts on the OPEN motor contactor.
        - a. If they are not making good contact the windings will not short out and the motor will not run open.
        - b. The motor can be wired to single speed if you suspect the shorting contacts being a problem.
        - c. Another way of checking the contacts is to wire nut together T4 T5 T6 and then try running the door open.

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DANGER: not connecting T4 T5 T6 will cause the door to free fall when the close contactor is pressed.

2. Check the connections at the terminal blocks going to the motor.
- iii. Check the "stake on" connections for the wires going to the brake.
  1. Check the brake with the door fully closed.
    - a. Run the door fully closed.
    - b. **THE DOOR MUST BE FULLY CLOSED BEFORE THE NEXT STEP IS TAKEN.**
    - c. Disconnect T1 T2 T3 T4 T5 T6 from the left side of the terminal blocks.
    - d. Energize the Open contactor.
    - e. You now should be able to rotate the drum / motor shaft by hand.
    - f. If you can't the brake is not operating properly.
  2. Check the connections at the brake rectifier.
    - a. Sometimes the small brake wires are not making good contact with the larger wires run by the electricians.
  3. Two Speed Motors - Check the auxiliary contacts on the Open / Close contactors that connect B4 / B5 on the brake rectifier.
    - a. The brake will not release unless this connection is made. The door usually does not come off the close limits if this is the problem. Note that the motor may have enough power to over come the brake and partially raise the door before the overloads trip.
  4. Ohm out the brake coils.
    - a. Refer to the brake worksheet for ohm values.
    - b. Jiggle the wires around when you take the readings. In the early 90's there were a rash of brake wires that were accidentally shorted between the terminal box and the motor frame.
    - c. If the brake ohms out OK, double check the connections to the rectifier.
  5. Before replacing the brake rectifier.
    - a. Make sure you have voltage going to the brake.
    - b. Make sure all connections are good.
    - c. Ohm out and check the contacts connecting B4 and B5 inside the control panel.
    - d. Make sure the brake is not "dirty" and that the brake gap is set correctly.
  6. Suspect a "dirty" brake if:
    - a. The door runs fine all day and only does not start after sitting for a long time.
    - b. The door drifts down from the fully open position.
    - c. A two motor system has one motor continually out of sync with the other.
  7. If the brake is dirty follow the detailed instructions for cleaning the brake.
    - a. The Eurodrive brake spline shaft has a small amount of "never seize" applied to it insuring the brake will always slide. If too much lubricant was applied during the assembly process the excess will spin off the rotating shaft on to the

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brake pad and cause it to stick. Once the motor has broken free and the shaft rotates the motor will operate properly until it is allowed to cool down.

- b. We have a publication on how to clean and adjust the brake.
- c. Note that you need to disconnect the brake wires from the brake rectifier before removing the disk to clean it.

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