P33 Troubleshooting
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Appendix A: Check Wires and Cables detail -------------------------- Page 20
Main Controller
ALARM 4, 5 BATTERY DISCONNECT FAULT

- **WATCH DOG 8**
  - Check Cables from Battery to Controller B+ and B-³
    - Cables connection OK
    - Open or Short Circuit
      - Reconnect the Cables
        - Fault still Exists
        - OK
    - Replace the Controller
      - OK
ALARM 3, 4 BRAKE OFF FAULT

BRAKE OFF FAULT 3, 4

Check #6 and #7 Wires between Electrical Brake and Controller (CNJ3 #1 CNJ3 #2)

- Open or Short Circuit
  - Reconnect wire
    - OK
    - Fault still Exists
- Wires are OK
  - Replace the Electrical Brake
    - OK
    - Fault still Exists
      - Replace the Controller
ALARM 3, 2 BRAKE ON FAULT

BRAKE ON FAULT 3, 2

Check #6 and #7 Wires between Electrical Brake and Controller (CNJ3 #1 CNJ3 #2)

- Open or Short Circuit
  - Reconnect wire
    - OK
    - Fault still Exists
- Wires are OK
  - Replace the Electrical Brake
    - OK
    - Fault still Exists
      - Replace the Controller
ALARM 4, 1 CURRENT SENSE FAULT

- CURRENT SENSE FAULT 4, 1
- Check M1 and M2 Cables between MOTOR and Controller
- Open or Short Circuit
  - Reconnect Cable
  - OK
  - Fault still Exists
- Wires are OK
  - Replace the Traction Motor
  - OK
  - Fault still Exists
  - Replace the Controller
ALARM 4, 3 EEPROM CHECK FAULT

EEPROM CHECK FAULT
4, 3

Replace the Controller
ALARM 4, 2 HARDWARE FAILSAFE

EEPROM CHECK FAULT 4, 3

Check M1 and M2 Cables between MOTOR and Controller

- Open or Short Circuit
  - Reconnect Cable
    - OK
    - Fault still Exists
- Wires are OK
  - Replace the Traction Motor
    - OK
    - Fault still Exists
      - Replace the Controller
ALARM 3, 5 HPD FAULT

HPD FAULT
3, 5

Check #11, #10, #9 Wires between Throttle and Controller (CNJ1 #12, CNJ1 #1, CNJ1 #13), #1 Throttle Wires

Open or Short Circuit
Reconnect wire
OK
Fault still Exists

Wires are OK
Replace the Throttle
OK
Fault still Exists
Replace the Controller
ALARM 2, 3 MAIN FAULT

MAIN FAULT 2, 3

Check Cables from Battery to Controller B+ and B-3

Cables connection OK

Open or Short Circuit

Reconnect the Cables

Fault still Exists

OK

Replace the Stop SW

Fault still Exists

OK

Replace the Controller
ALARM 2, 3 MAIN OFF FAULT

MAIN FAULT 2, 3

Check Cables from Battery to Controller B+ and B-

Cables connection OK

Open or Short Circuit

Reconnect the Cables

Fault still Exists

OK

Replace the Stop SW

Fault still Exists

OK

Replace the Controller
ALARM 2, 1 OVERVOLTAGE FAULT

OVERVOLTAGE FAULT
2, 1

Unplug the Battery Charger
may Solve this Error

Check Cables from Battery to
Controller B+ and B-.

Cables connection OK

Open or Short Circuit
Reconnect the Cables

Fault still Exists
Replace the Controller

OK
ALARM 3, 3 PRECHARGE FAULT

PRECHARGE FAULT
3, 3

Check Cables from Battery to Controller B+ and B−

Open or Short Circuit
Reconnect wire

Wires are OK

Check #6 and #7 Wires between Electrical Brake and Controller (CNJ3 #1 CNJ3 #2)

Fault still Exists

Open or Short Circuit
Reconnect wire

OK
Fault still Exists

Wires are OK
Replace the Electrical Brake

OK
Fault still Exists

Replace the Controller

OK
ALARM 1, 3 SPEED POT FAULT

- SPEED POT FAULT 1, 3
- Replace the Controller
ALARM 1, 1 THERMAL FAULT

THERMAL FAULT
1, 1

Record temperature of ambient environment. Error occurs when motor or controller exceeds thermal limit. Allow truck to sit a few hours at room/ambient temperature and re-check.

OK

Duty cycle or operating environment too severe for standard unit.

Fault still Exists

Check #6 and #7 Wires between Electrical Brake and Controller (CNJ3 #1 CNJ3 #2)²

Open or Short Circuit

Reconnect wire

OK

Fault still Exists

Wires are OK

Replace the Electrical Brake

OK

Fault still Exists

DO NOT OVERLOAD

Replace the Controller
ALARM 1, 2 THROTTLE FAULT

THROTTLE FAULT 1, 2

Check #11, #10, #9 Wires between Throttle and Controller (CNJ1 #12, CNJ1 #1, CNJ1 #13), #1 Throttle Wires

Open or Short Circuit

- Reconnect wire
  - OK
  - Fault still Exists

Wires are OK

- Replace the Throttle
  - OK
  - Fault still Exists

Replace the Controller
ALARM 1,4 UNDERVOLTAGE FAULT

UNDERVOLTAGE FAULT 1,4

Recharge Battery

OK

Fault still Exists

Check Cables from Battery to Controller B+ and B-³

OK

Open or Short Circuit

Fault still Exists

Reconnect wire

OK

Fault still Exists

Check Battery Voltage ⁵

OK

Replace the Controller
ALARM 3, 1 WIRING FAULT

WIRING FAULT 3, 1

Check #11, #10, #9 Wires between Throttle and Controller (CNJ1 #12, CNJ1 #1, CNJ1 #13), #1 Throttle Wires²

Open or Short Circuit
- Reconnect wire
  - OK
  - Fault still Exists

Wires are OK
- Replace the Throttle
  - OK
  - Fault still Exists
  - Replace the Controller
1. Check if cables are opened or shorted. A shorted cable means the cable jacketing is damaged and it is shorting to another cable or it is in contact with a metal object like the frame. An open cable means one of the inside metal wires are cut/damaged. If you are not sure, please measure the resistance of the individual wire or cable. If the resistance is more than 1 ohm, it is open.
Check the connection points of the motor cables, and controller cables. Check the cable terminals for burn marks. Check if hardware is loose or burned. Ensure connections are tightened properly.
2. Check if cables are opened or shorted. A shorted cable means the cable jacketing is damaged and it is shorting to another cable or it is in contact with a metal object like the frame. An open cable means one of the inside metal wires are cut/damaged. If you are not sure, please measure the resistance of the individual wire or cable. If the resistance is more than 1 ohm, it is open.
Check the connectors and pins on the Controller. Ensure connector locks are not damaged and no pins are broken or pushed out of the connector. Ensure no wires at pin terminations are cut/damaged
Check the connections between Controller wires and switches/sensors. Ensure wires are not cut or damaged.
Check if connectors are loose or burned (such as the 2 pin connectors on the Main Contact). Ensure the parts are properly tightened.
3. Check if cables are opened or shorted. A shorted cable means the cable jacketing is damaged and it is shorting to another cable or it is in contact with a metal object like the frame. An open cable means one of the inside metal wires are cut/damaged. If you are not sure, please measure the resistance of the individual wire or cable. If the resistance is more than 1 ohm, it is open.
Check the Connectors between Battery and truck to see if they fit loose or are burned (Concentrate on the inside of the connector). If they do not fit correctly, replace cable lugs and/or connector housing to correct the issue.
Check if the fuses are blown out or not.
4. Check the voltage from the wire you want to check to the Controller negative (red circled).
5. Open the battery case.
Check the no load battery voltage for every battery.
• Check the load voltage when the truck is lifting empty.
• Then check the load voltage when the truck is lifting with a load (red circled load, load should be no more than 2000 pound). If the no load voltage less than 11V, or the voltage difference between the empty lifting and loaded lifting is more than 5V. Please replace battery.