PDS w.out Proportional Valve Troubleshooting (AC0 Inverter)

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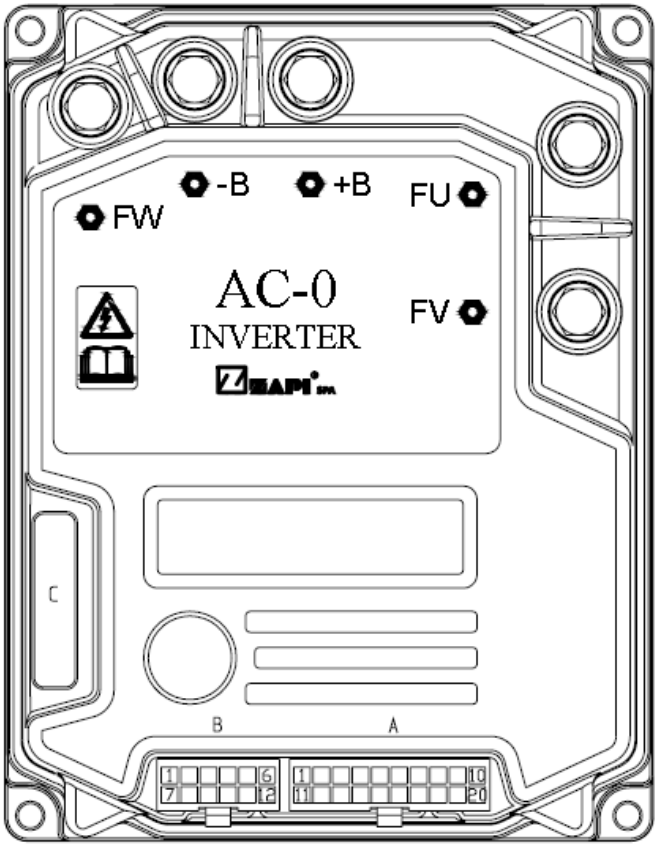
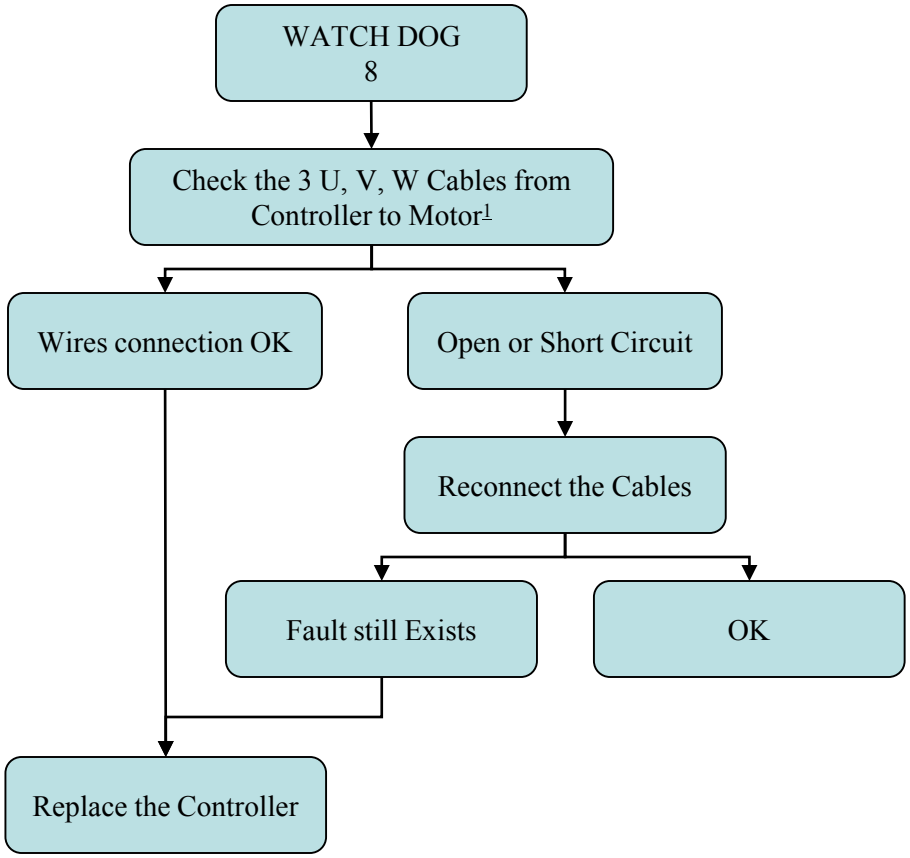
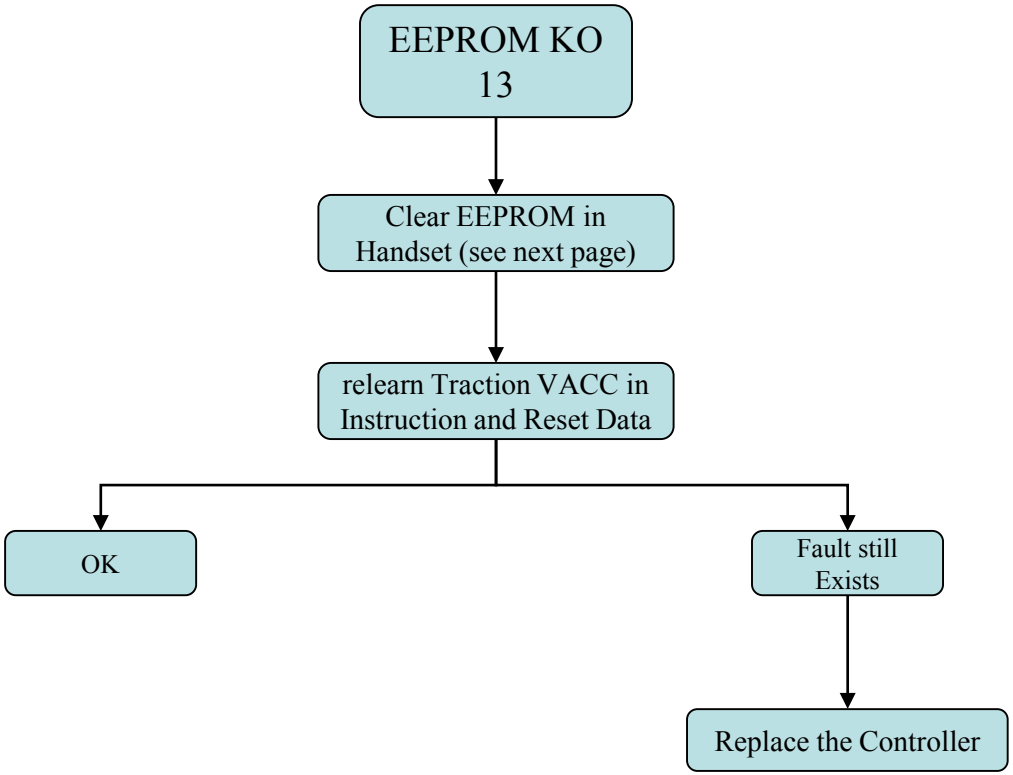
Main Controller



ALARM #8 on NODE #2 WATCH DOG



ALARM #13 on NODE #2 EEPROM KO



Clear EEPROM in Handset

Key on the truck, connect the flash connecting line. The Display will show:

Press ^ or v button until RS232 CONSOLE shows on the display

The Display will show :

Press OK to go into the Traction controller

The Display will show:

Cons AFG ZP021*

Cons AFG ZP021*
RS232 CONSOLE

AC0T2SE4B EP250
24V 150A 0H

Press OK to go into the
Main Menu

The Display will show:

Main Menu

Press ^ or v button until CLEAR EEPROM on the display

The Display will show:

MAIN MENU
CLEAR EEPROM

Press OK to go into the
CLEAR EEPROM function

The Display will ask:
ARE YOU SURE?

ARE YOU SURE?
YES= OK NO=ESC

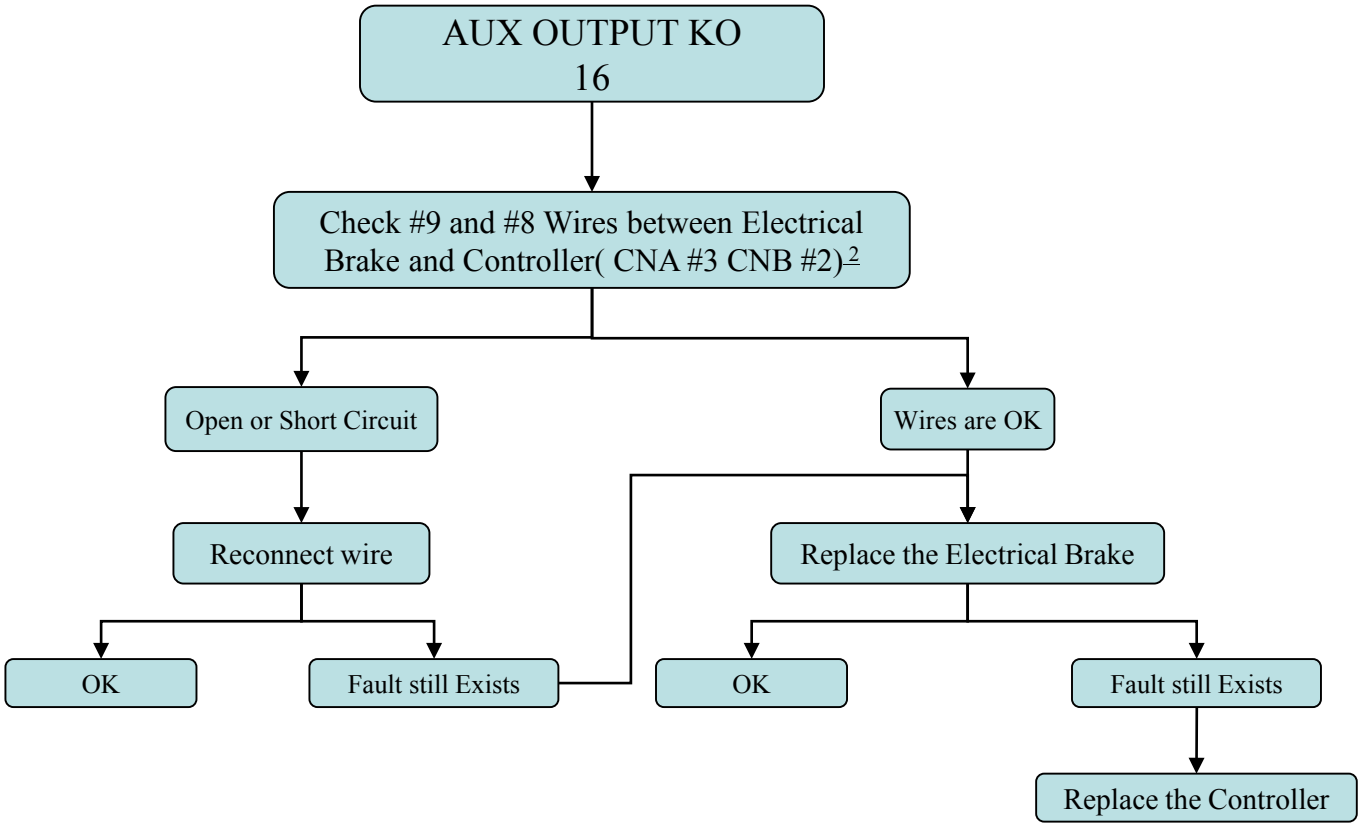
Press OK to CLEAR EEPROM

The display will show:

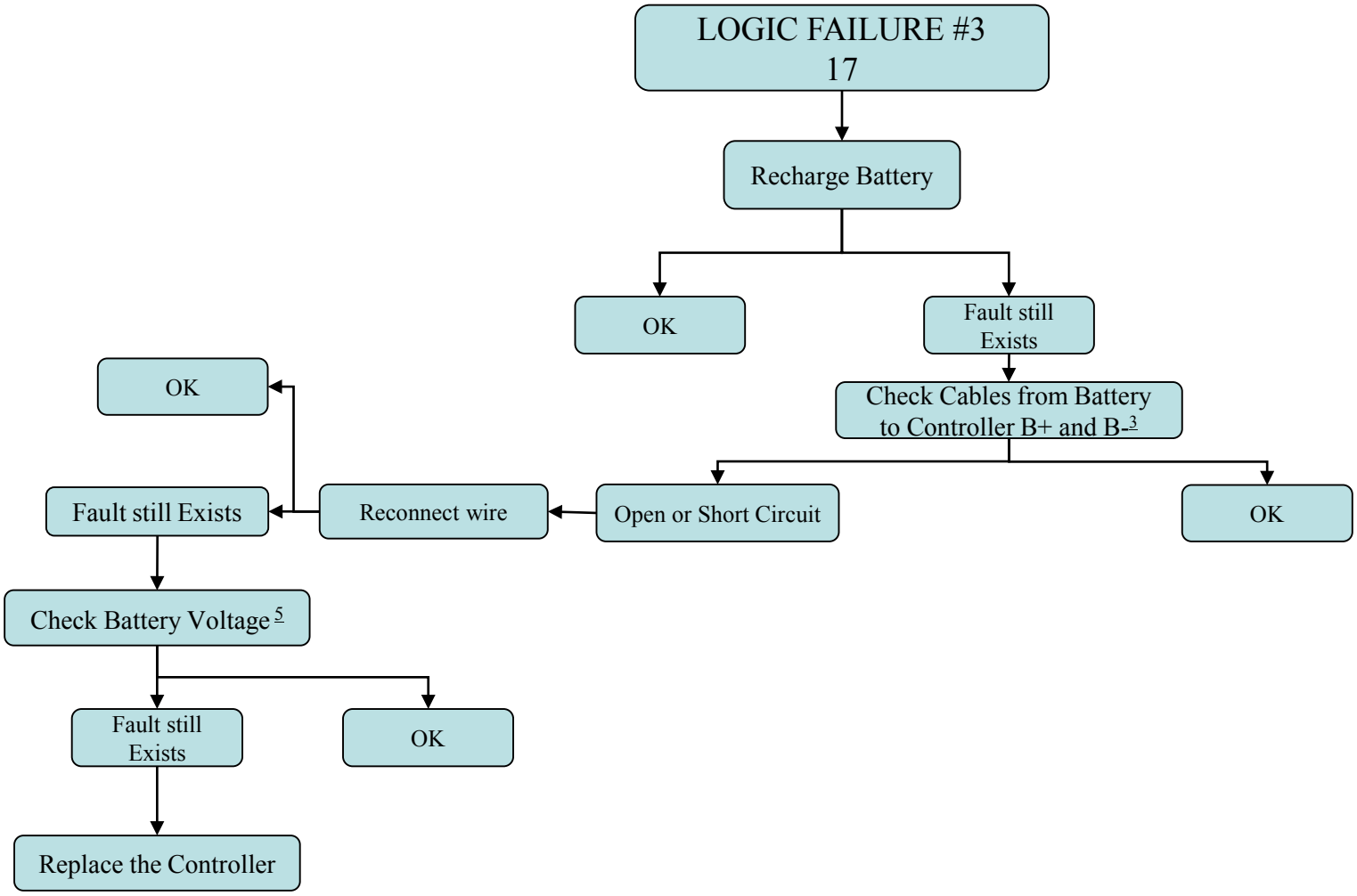
EEPROM CLEARED!
KEY OFF, PLEASE

Rekey truck, and restart handset

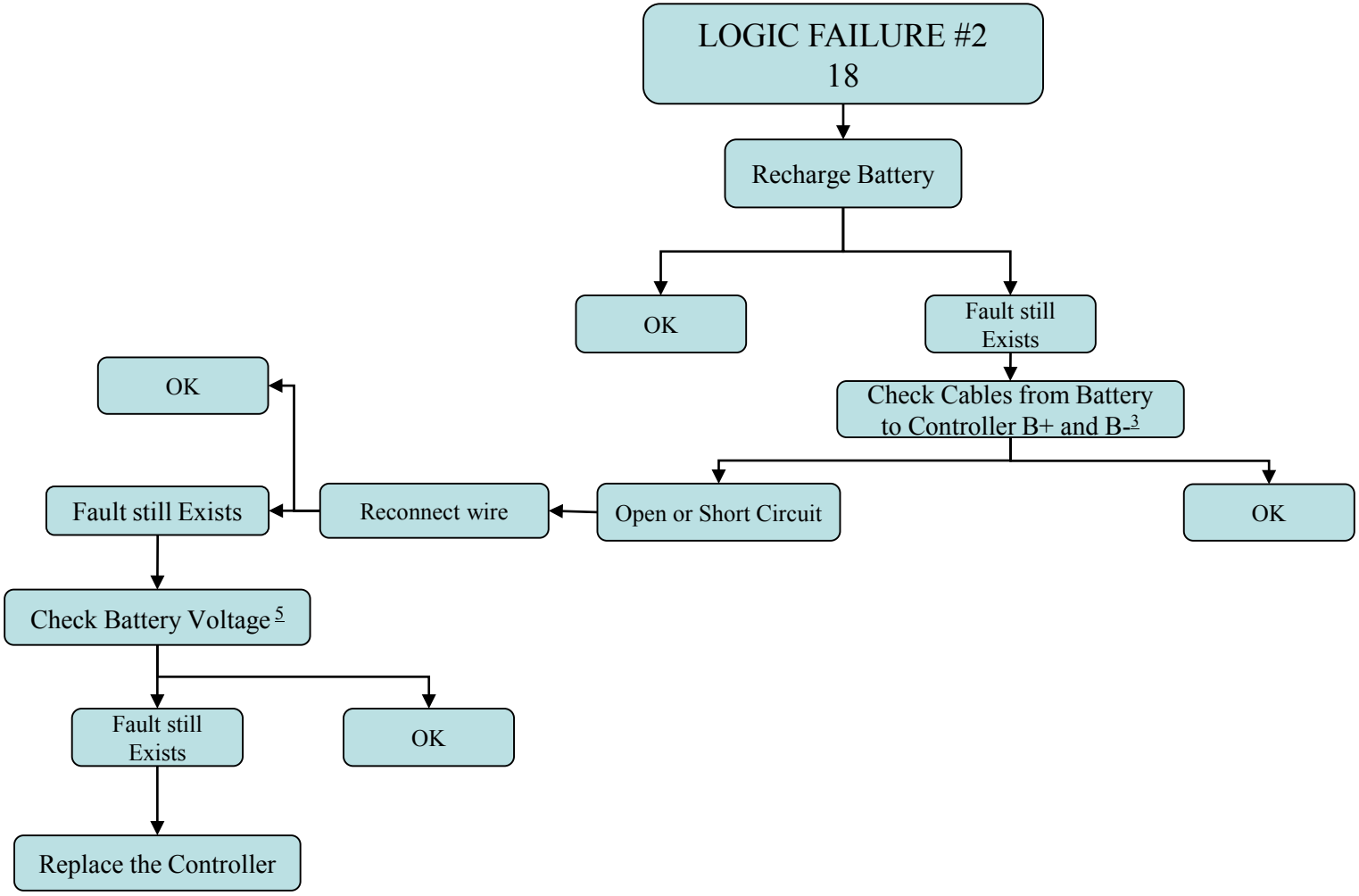
ALARM #16 on NODE #2 AUX OUTPUT KO



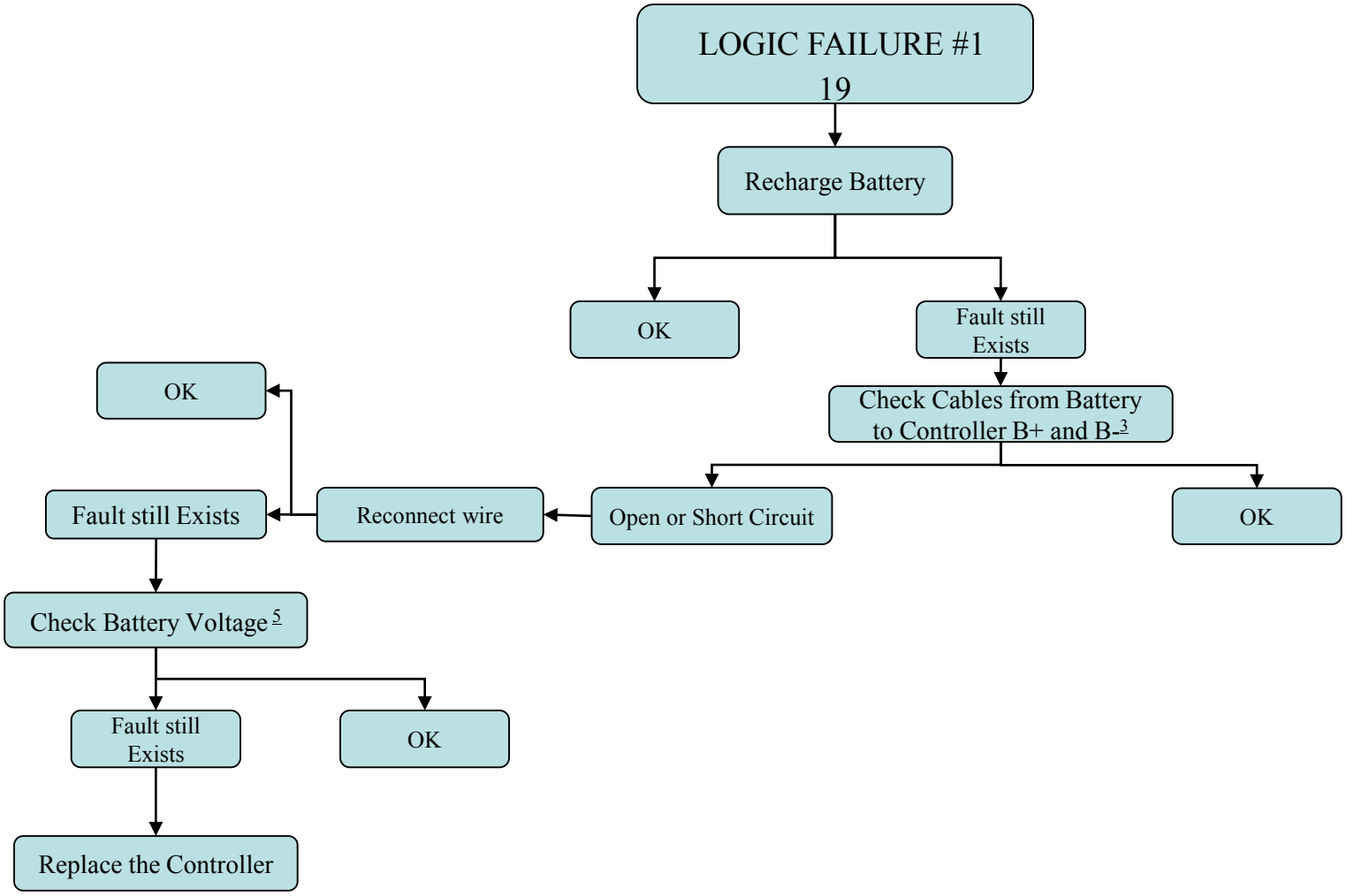
ALARM #17 on NODE #2 LOGIC FAILURE #3



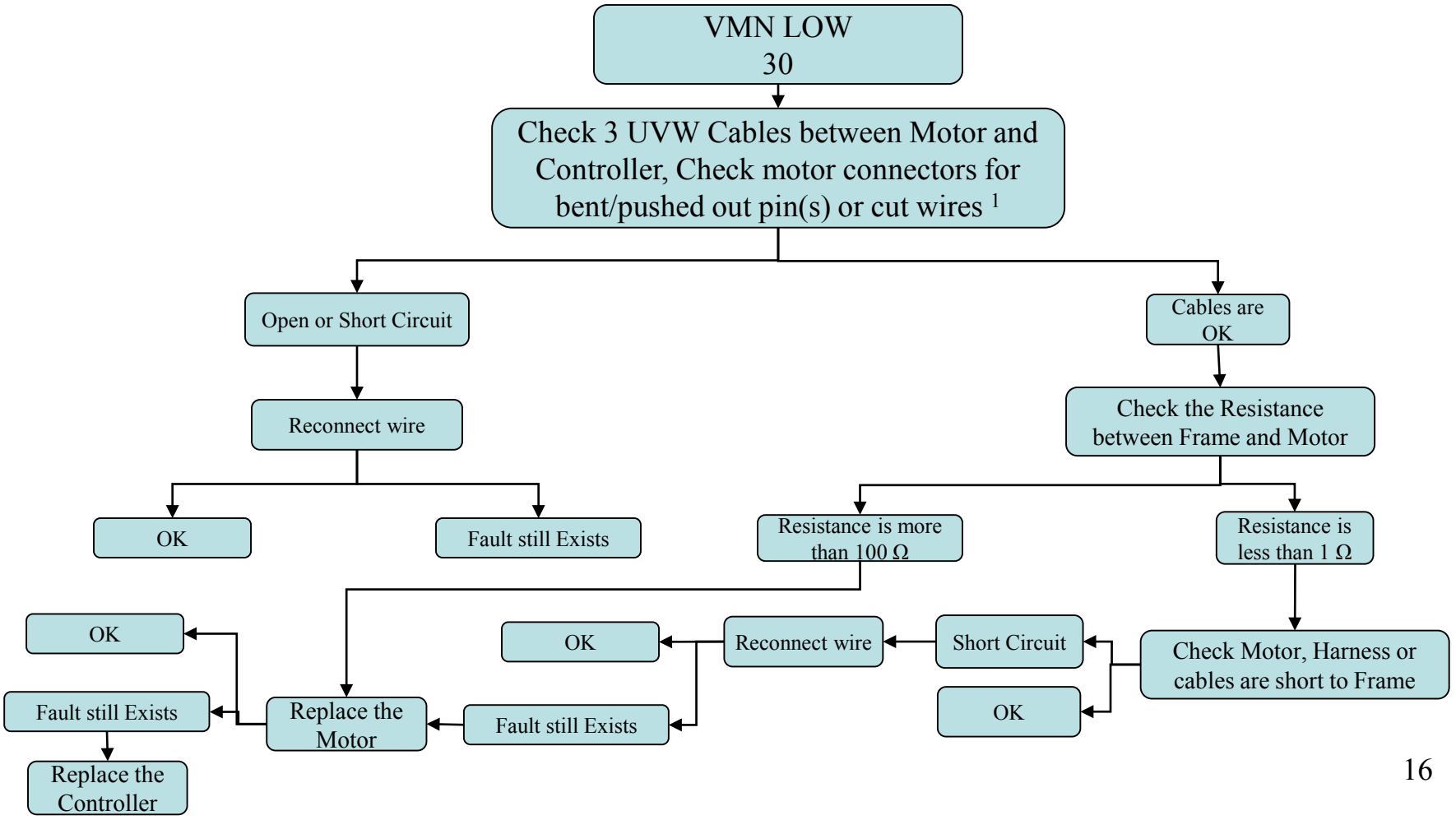
ALARM #18 on NODE #2 LOGIC FAILURE #2



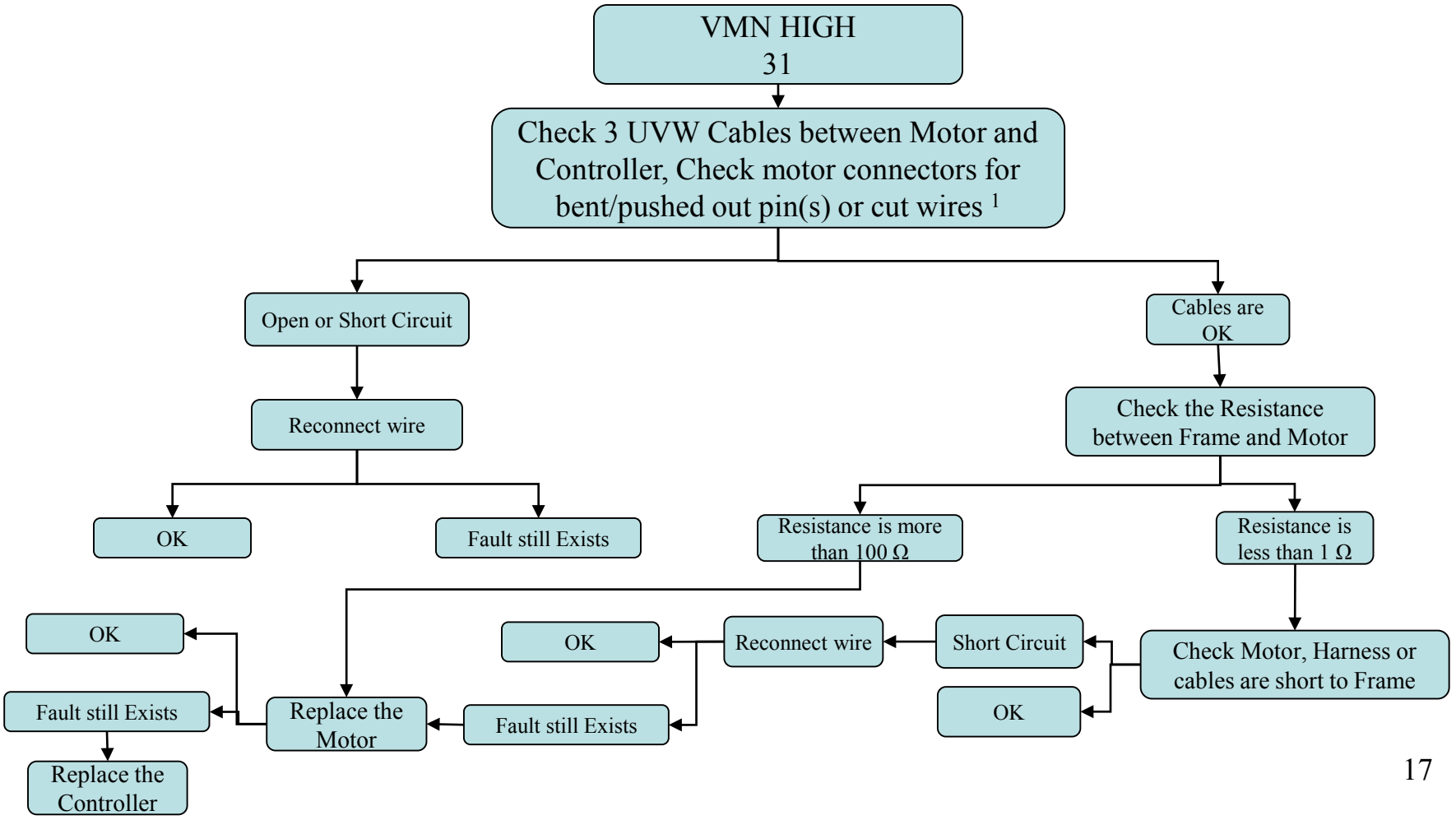
ALARM #19 on NODE #2 LOGIC FAILURE #1



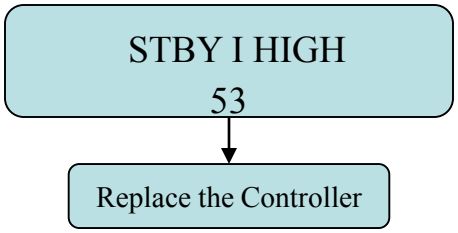
ALARM #30 on NODE #2 VMN LOW



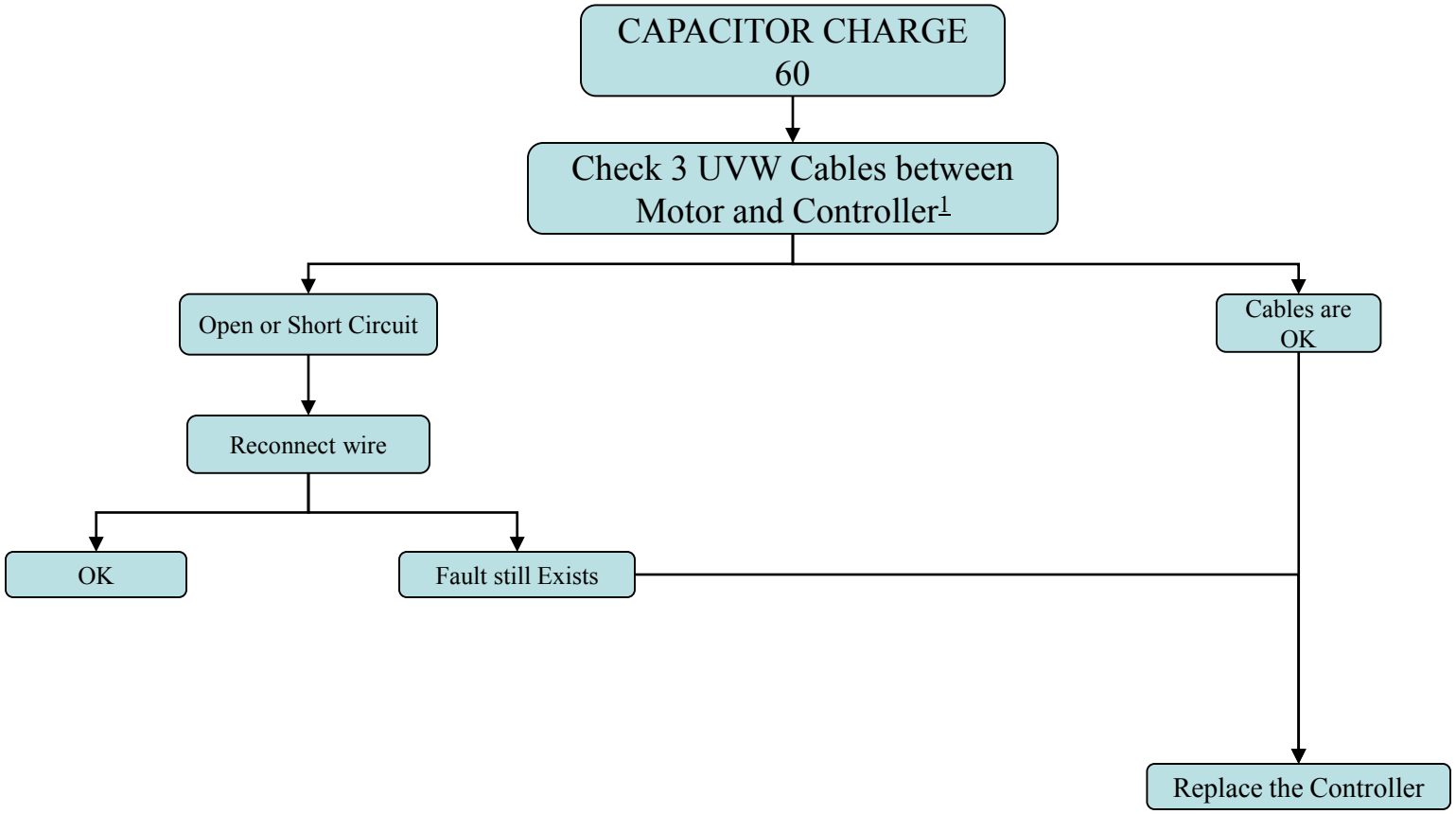
ALARM #31 on NODE #2 VMN HIGH



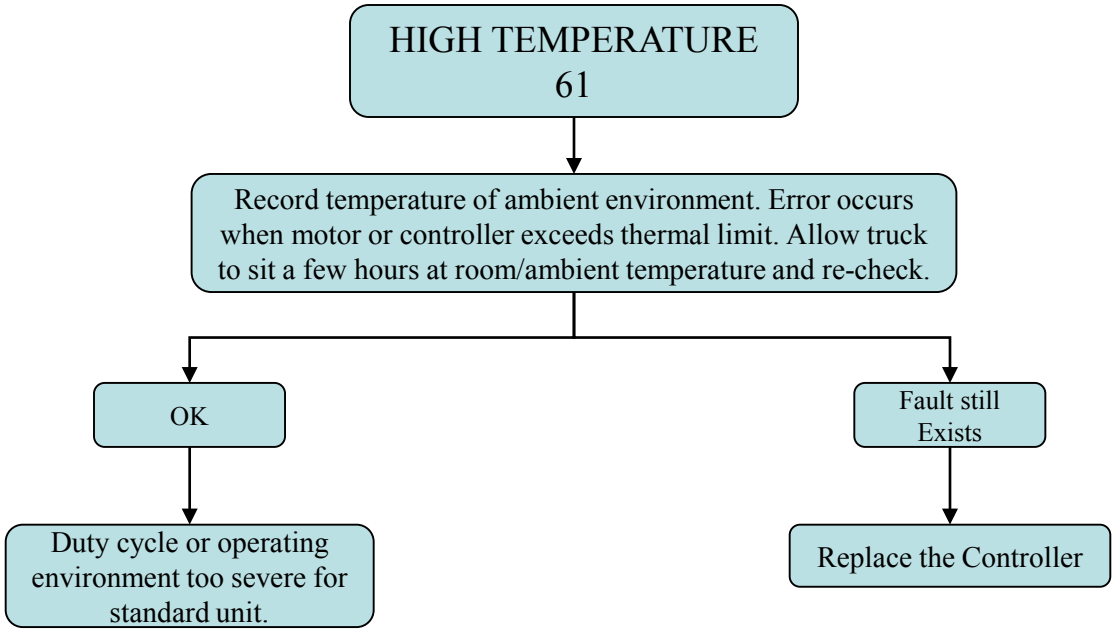
ALARM #53 on NODE #2 STBY I HIGH



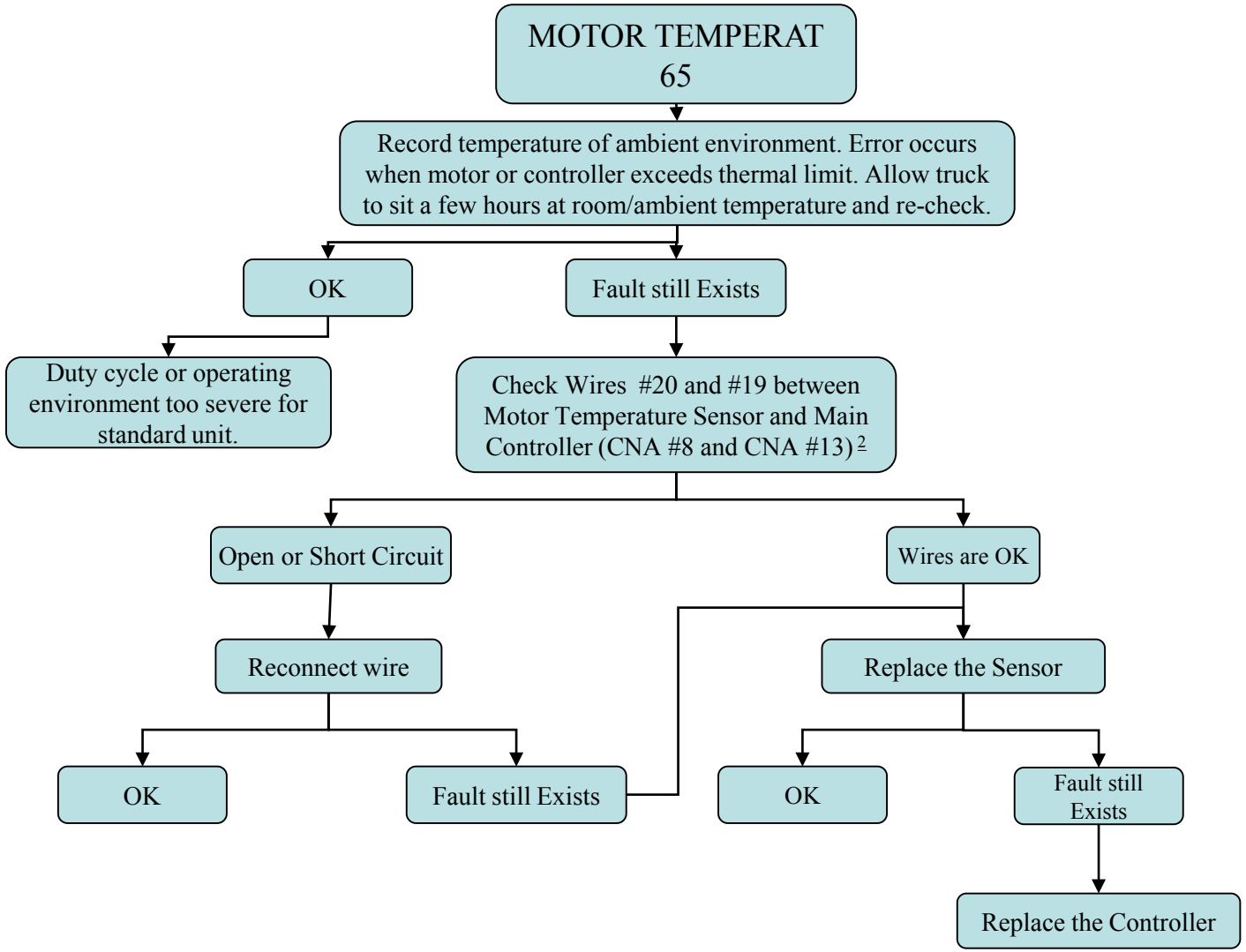
ALARM #60 on NODE #2 CAPACITOR CHARGE



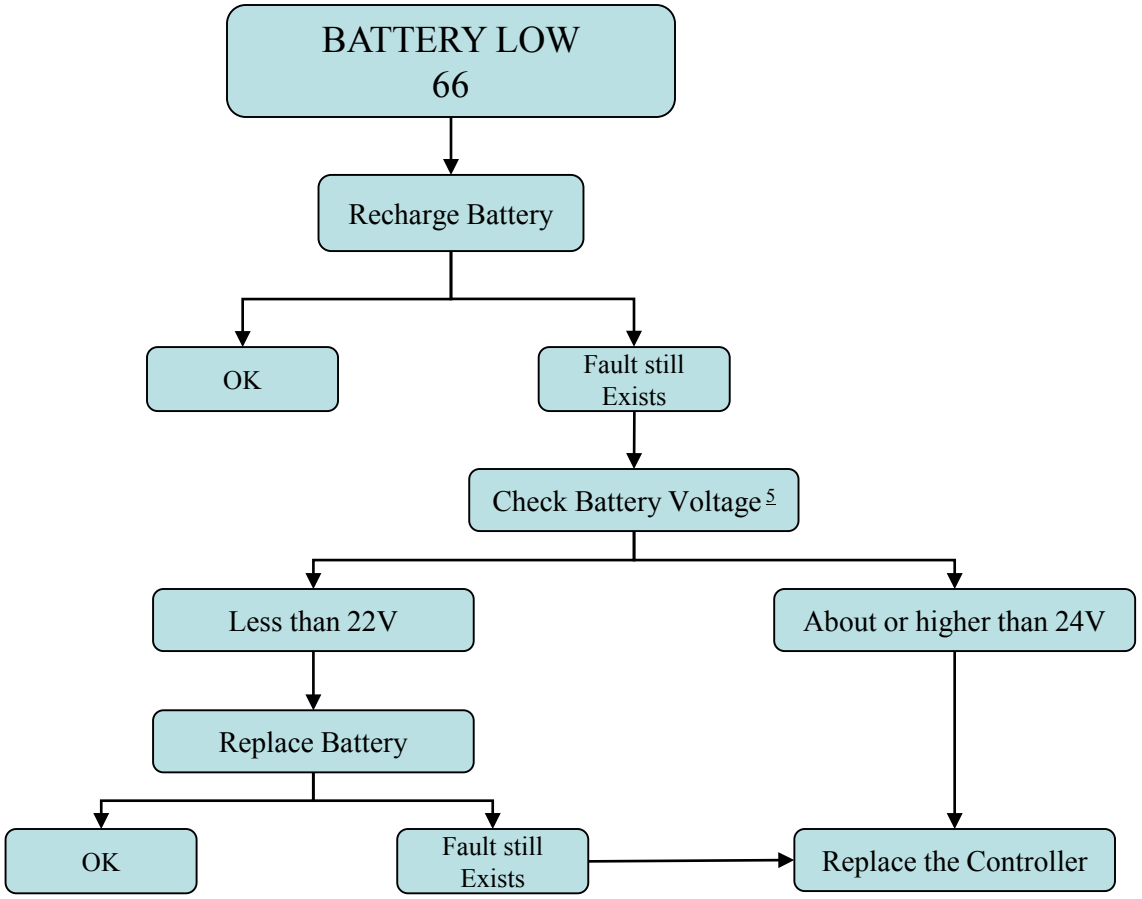
ALARM #61 on NODE #2 HIGH TEMPERATURE



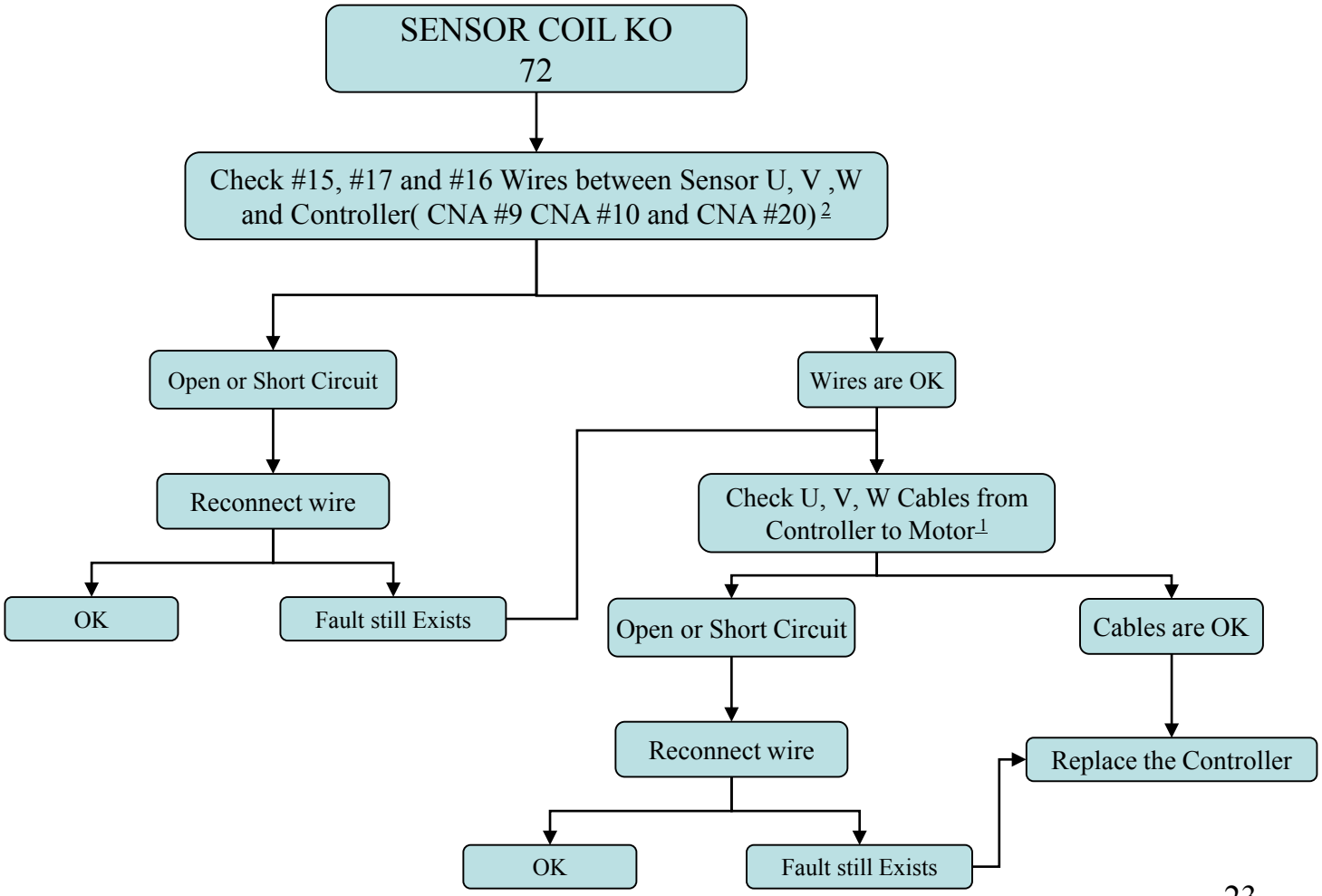
ALARM #65 on NODE #2 MOTOR TEMPERAT



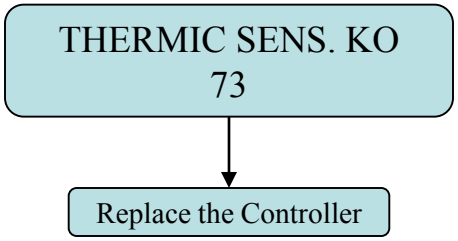
ALARM #66 on NODE #2 BATTERY LOW



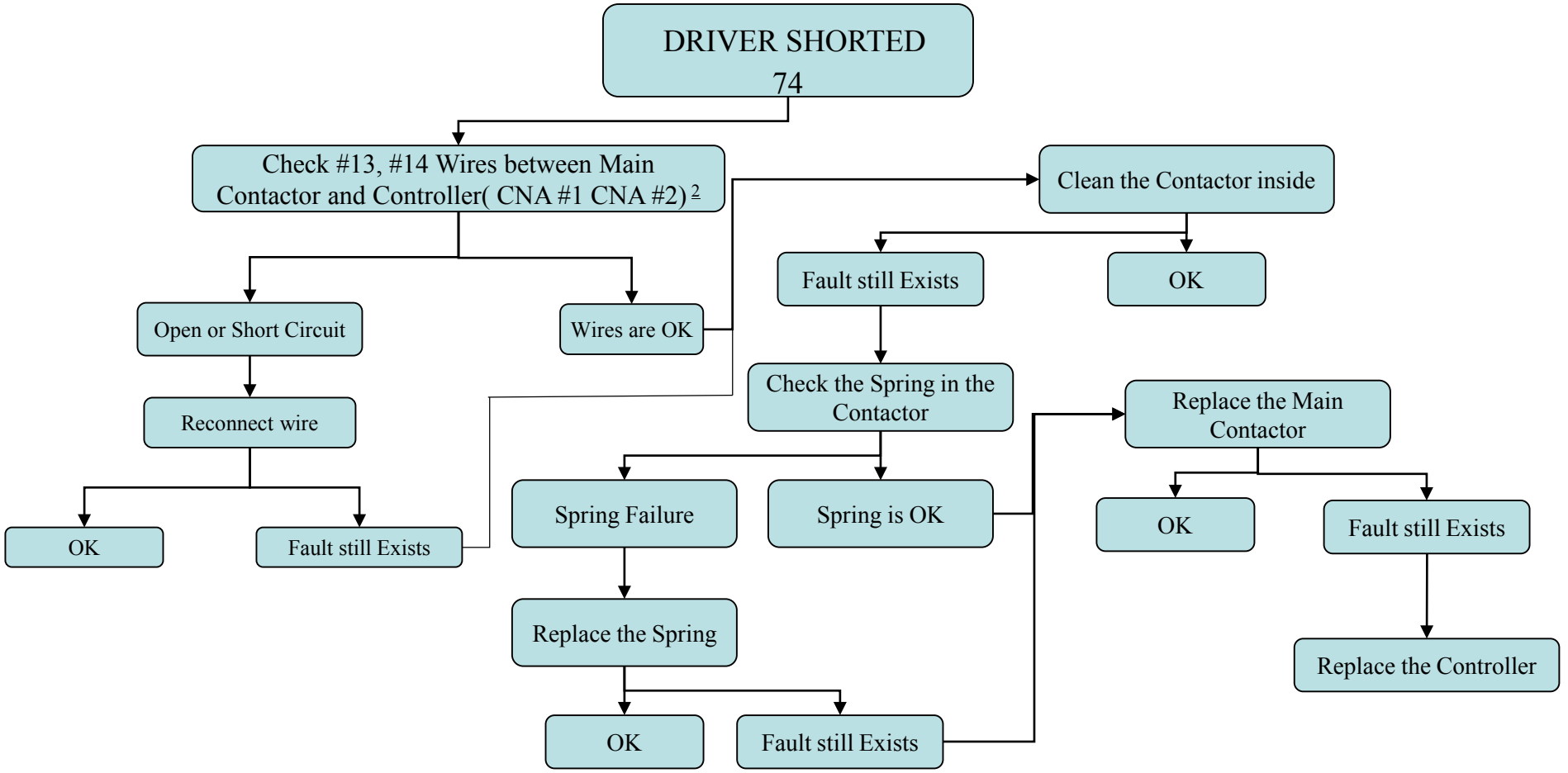
ALARM #72 on NODE #2 SENSOR COIL KO



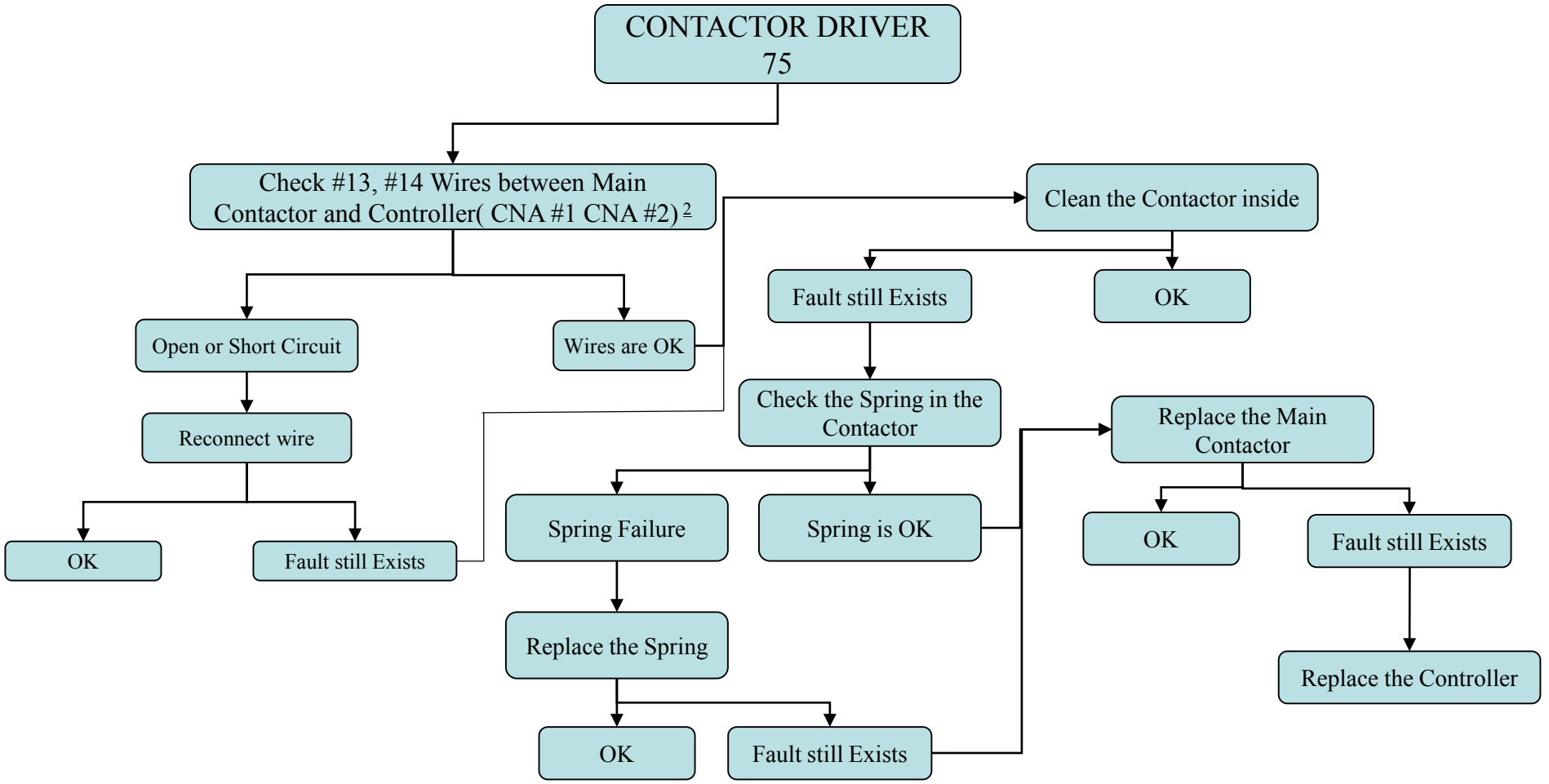
ALARM #73 on NODE #2 THERMIC SENS. KO



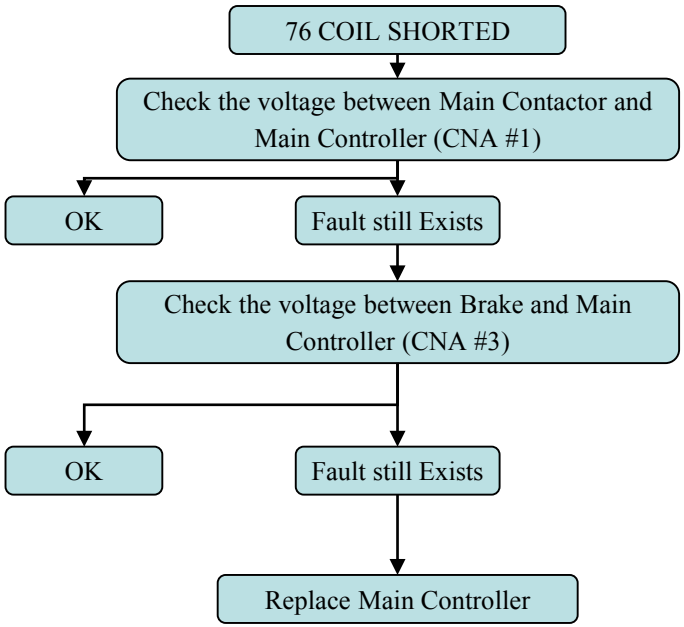
ALARM #74 on NODE #2 DRIVER SHORTED

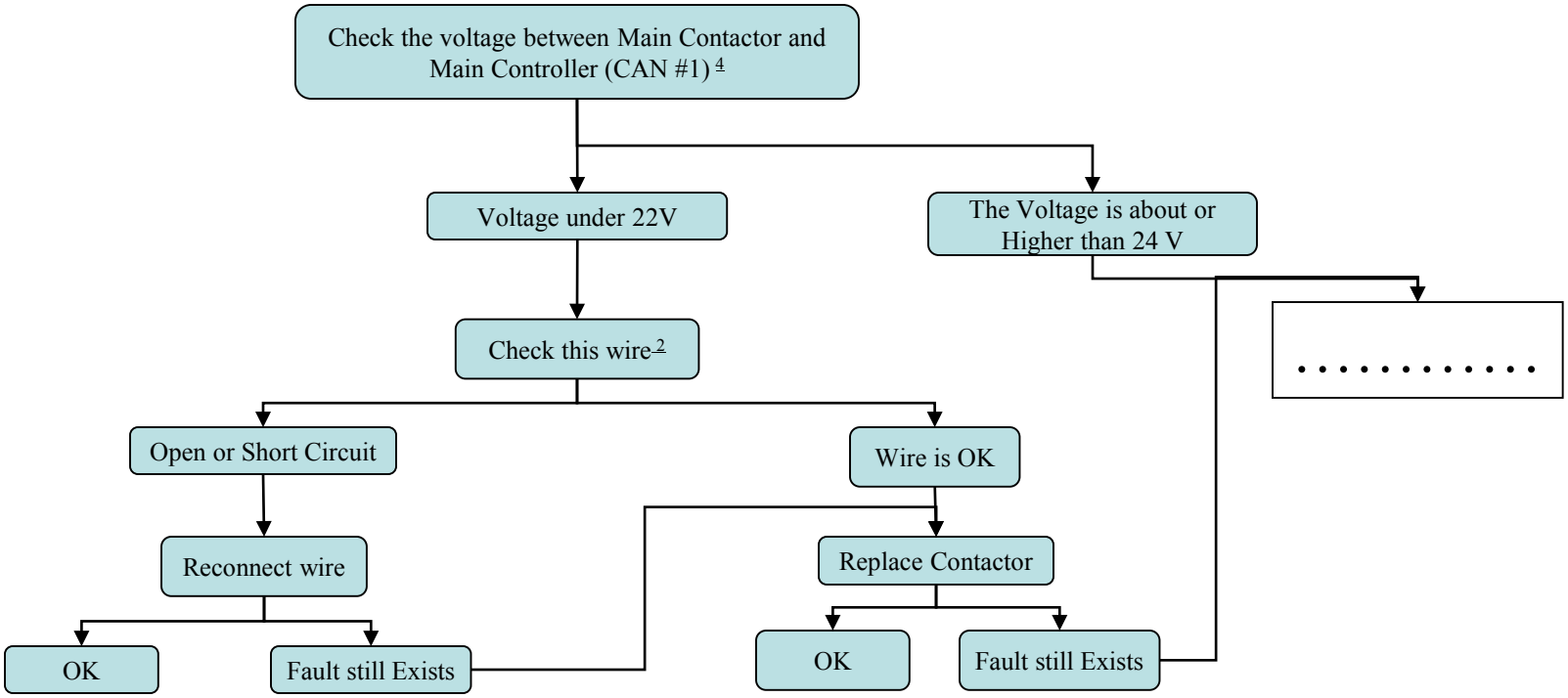


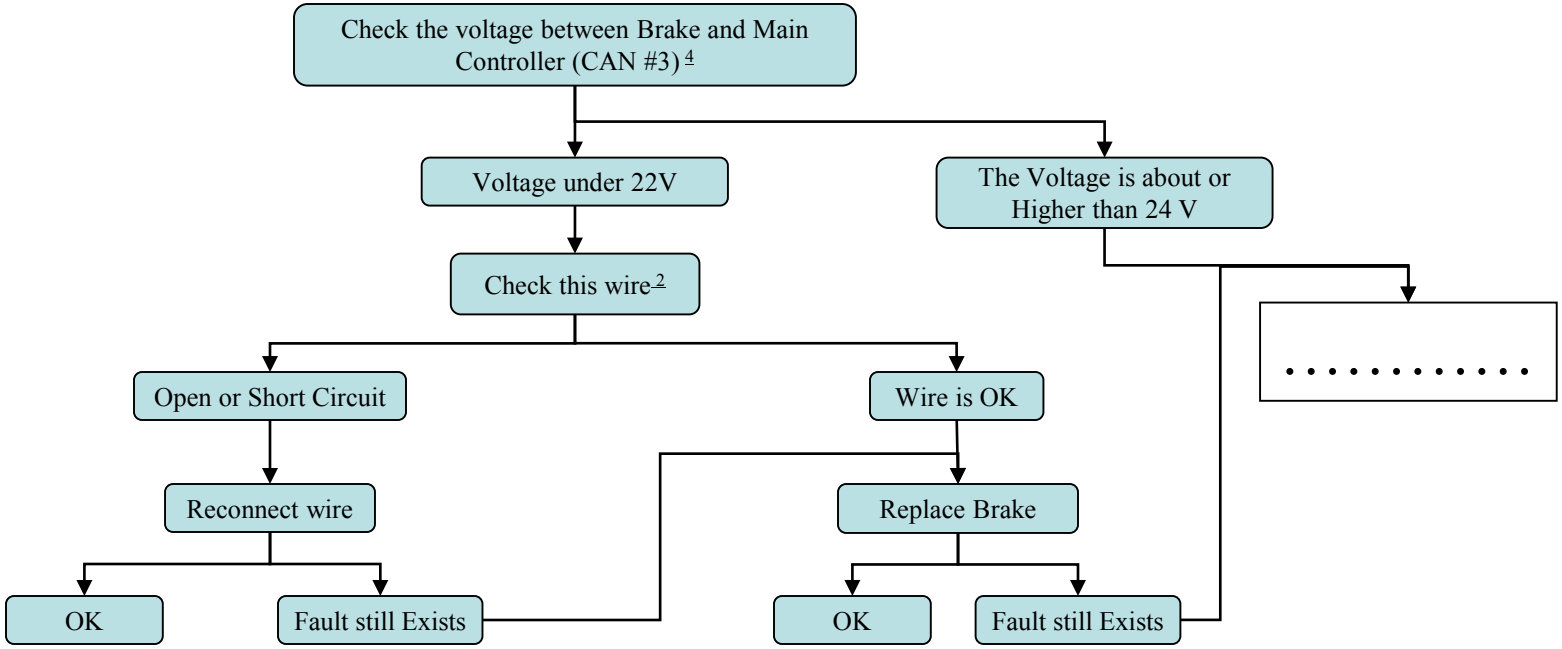
ALARM #75 on NODE #2 CONTACTOR DRIVER



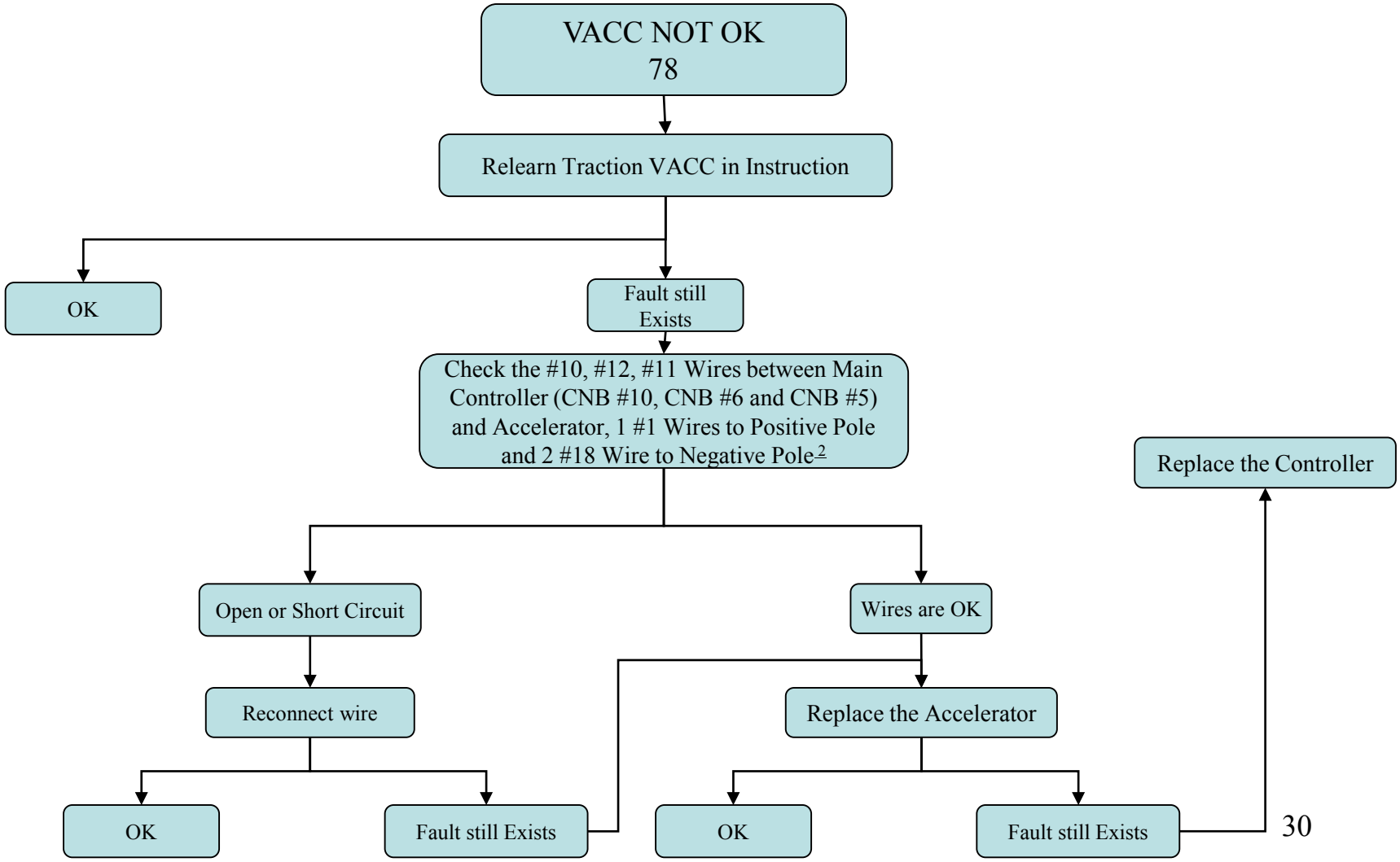
ALARM #76 on NODE #2 COIL SHORTED



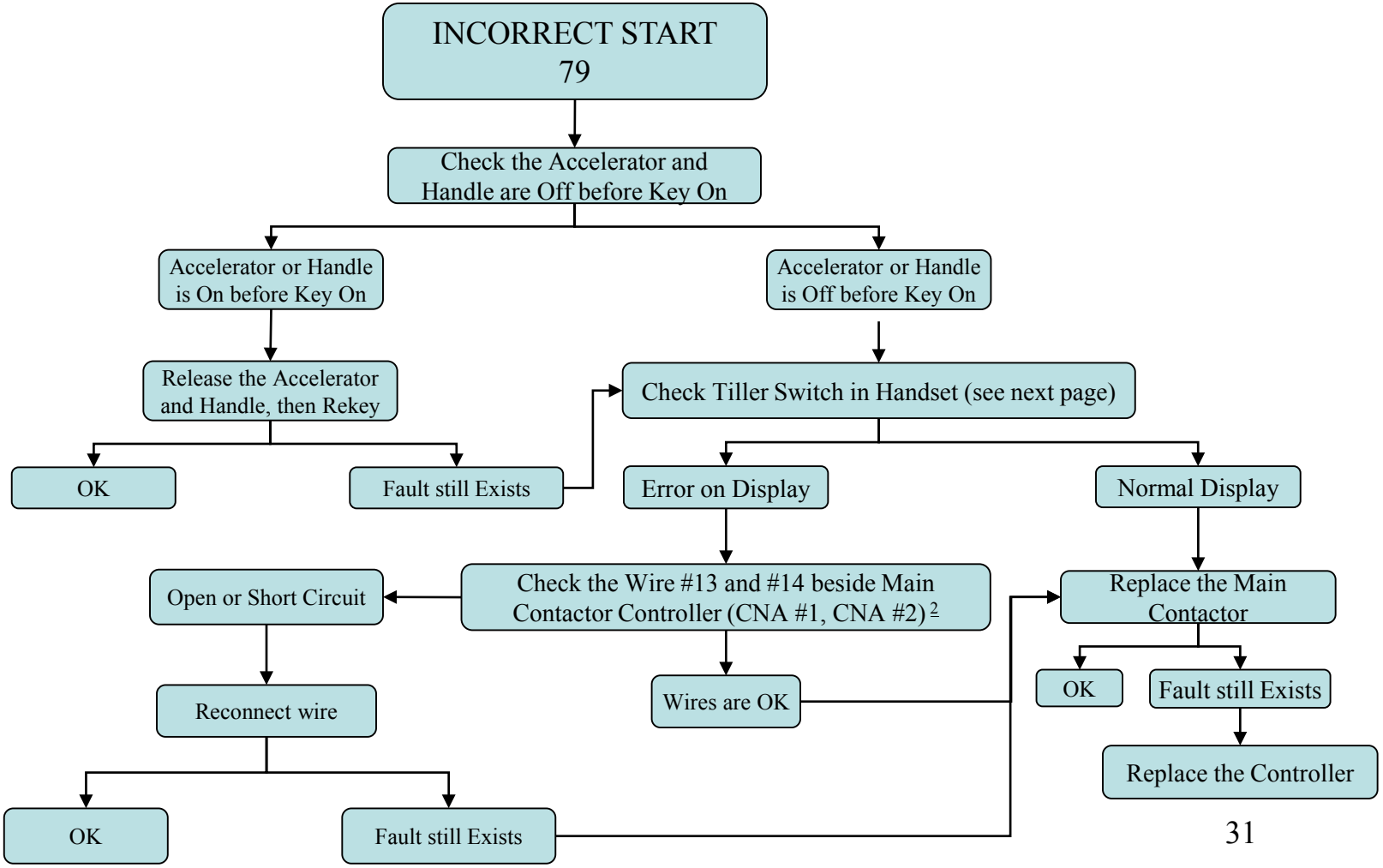

Check the voltage between Main Contactor and Main Controller (CAN #1) 4
Voltage under 22V
The Voltage is about or Higher than 24 V
Check this wire 2
. . . . . .
Open or Short Circuit
Wire is OK
Reconnect wire
Replace Contactor
OK
Fault still Exists
OK
Fault still Exists


Check the voltage between Brake and Main Controller (CAN #3) 4
Voltage under 22V
The Voltage is about or Higher than 24 V
Check this wire 2
. . . . . .
Open or Short Circuit
Wire is OK
Reconnect wire
Replace Brake
OK
Fault still Exists
OK
Fault still Exists

ALARM #78 on NODE #2 VACC NOT OK



ALARM #79 on NODE #2 INCORRECT START



Check Tiller Switch in Handset

Key on the truck, connect the flash connecting line. The Display will show:

Press ^ or v button until RS232 CONSOLE shows on the display

The Display will show :

Press OK to go into the Traction controller

The Display will show:

Cons AFG ZP021*

Cons AFG ZP021*
RS232 CONSOLE

AC0T2SE4B EP250
24V 150A 0H

Press OK to go into the Main Menu

The Display will show:

Main Menu

Press ^ or v button until TEST shows on the display

The Display will show:

MAIN MENU
TEST

Press OK to go into the TEST function

The Display will show:

TEST

Press ^ or v button until HANDLE/ SEAT SW shows on the display

The display will show:

HANDLE/ SEAT SW OFF

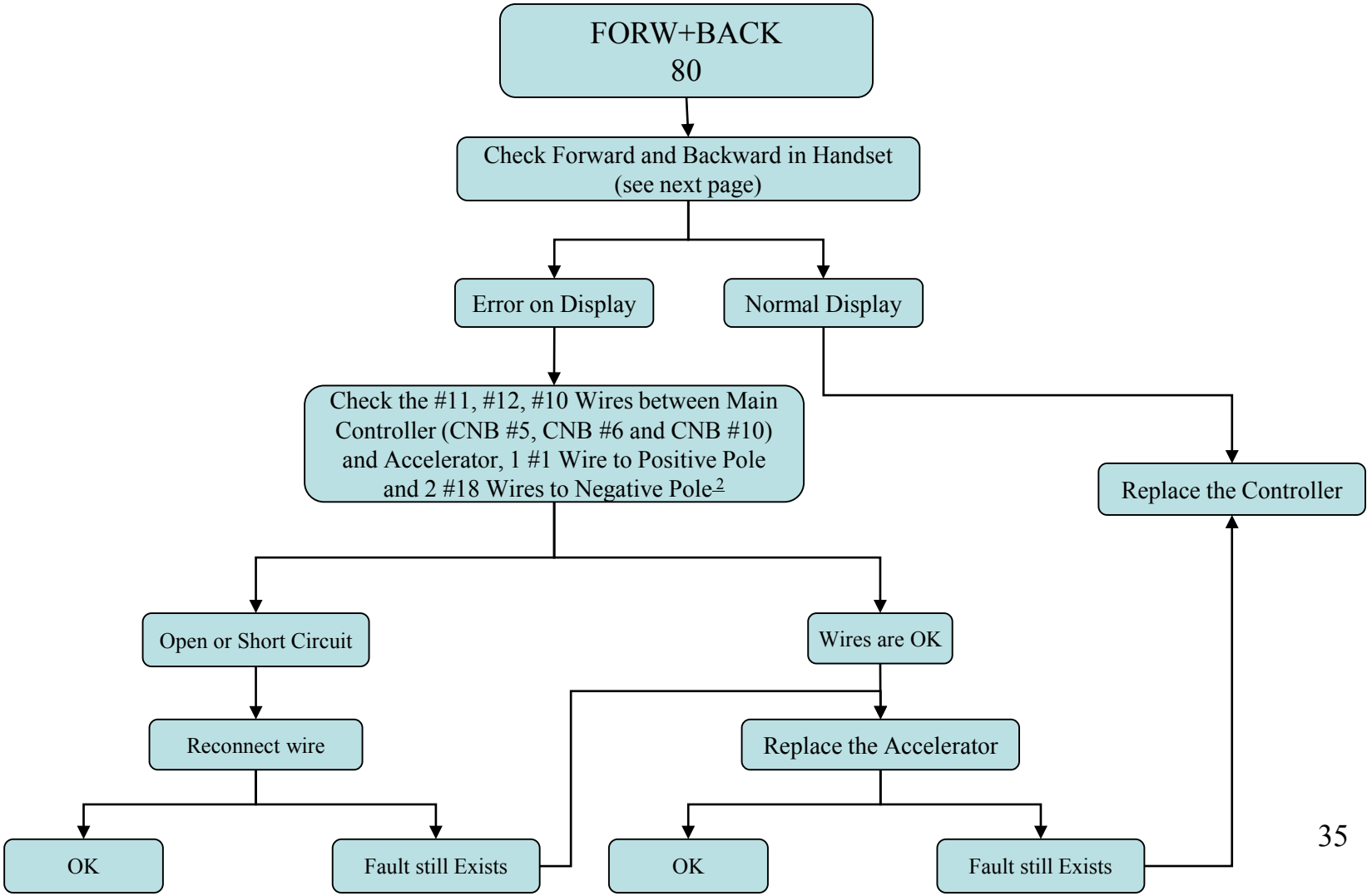
Pull Handle and Push the accelerator and hold on

The display will show:

HANDLE/ SEAT SW ON

When finished , press and hold power button for 3s to turn off the Console

ALARM #80 on NODE #2 FORW+BACK



Check Forward and Backward in Handset

Key on the truck, connect the flash connecting line. The Display will show:

Press ^ or v button until RS232 CONSOLE shows on the display

The Display will show :

Press OK to go into the Traction controller

The Display will show:

Cons AFG ZP021*

Cons AFG ZP021*
RS232 CONSOLE

AC0T2SE4B EP250
24V 150A 0H

Press OK to go into the Main Menu

The Display will show:

Main Menu

Press ^ or v button until TEST shows on the display

The Display will show:

MAIN MENU
TEST

Press OK to go into the TEST function

The Display will show:

TEST

Press ^ or v button until FORWARD shows on the display

The display will show:

FORWARD OFF

Push the accelerator forward and hold on

The display will show:

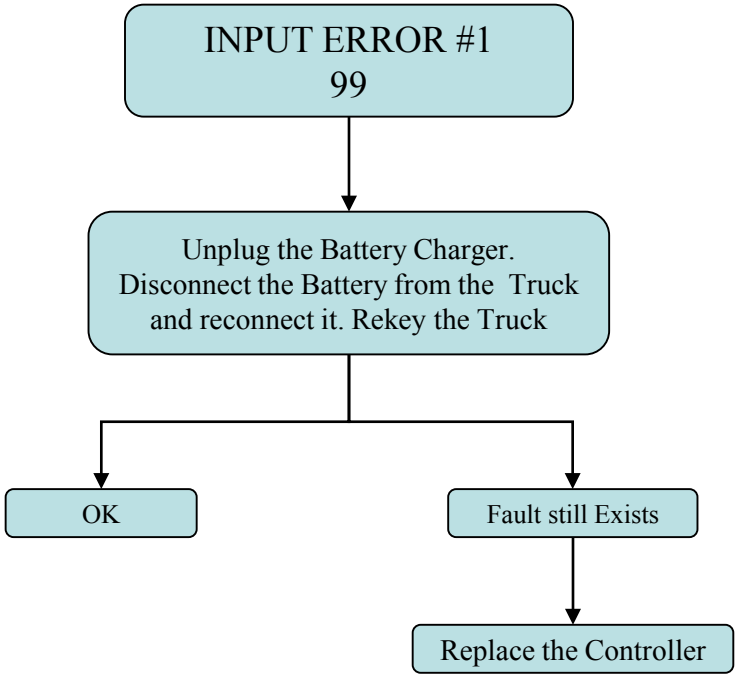
FORWARD ON

Repeat step for reverse direction

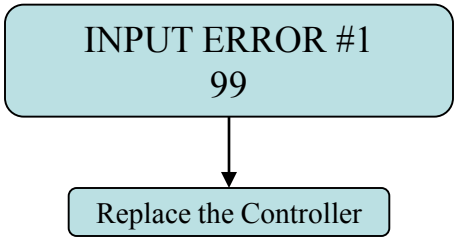
BACKWARD OFF
BACKWARD ON

When finished , press and hold power button for 3s to turn off the Console

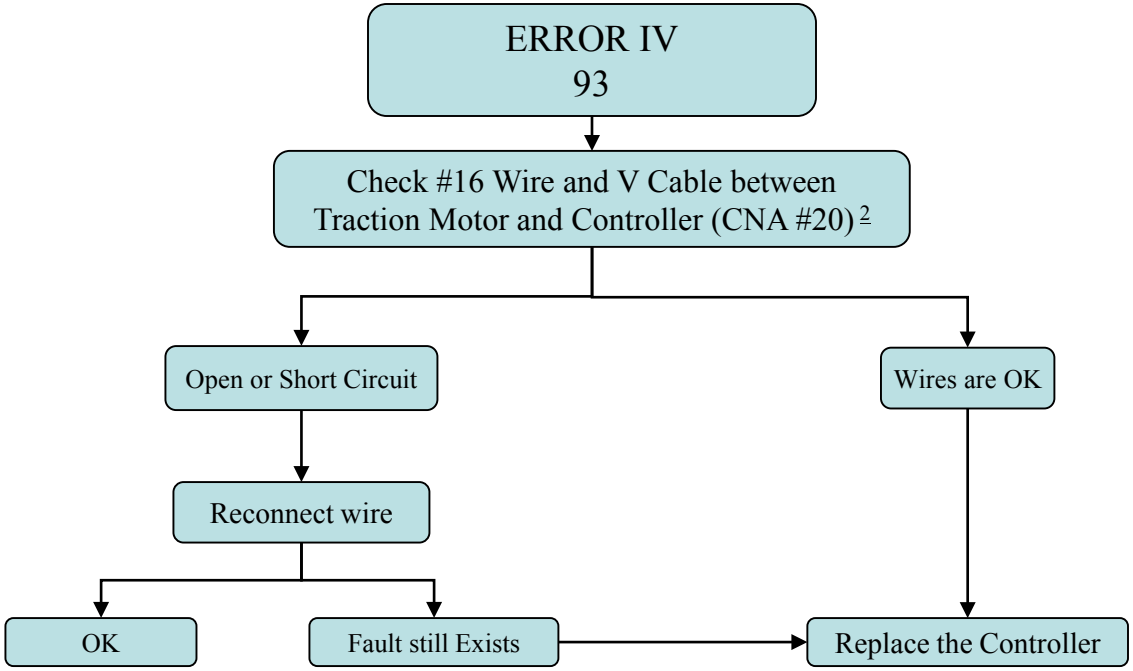
ALARM #91 on NODE #2 INPUT ERROR #2



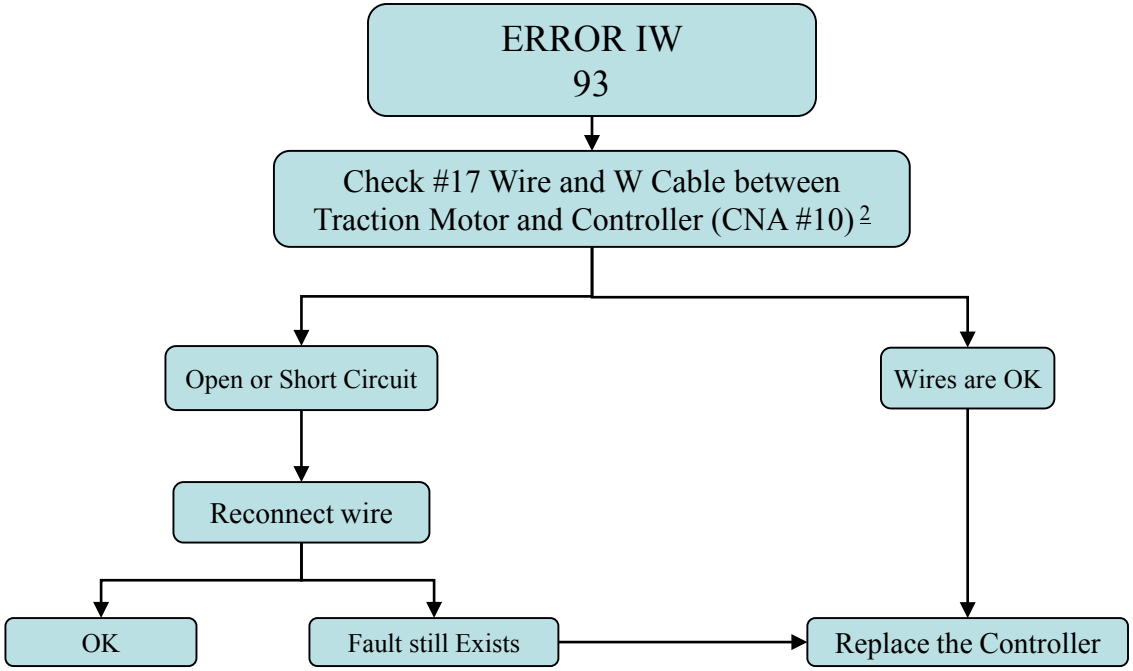
ALARM #92 on NODE #2 INPUT ERROR #1



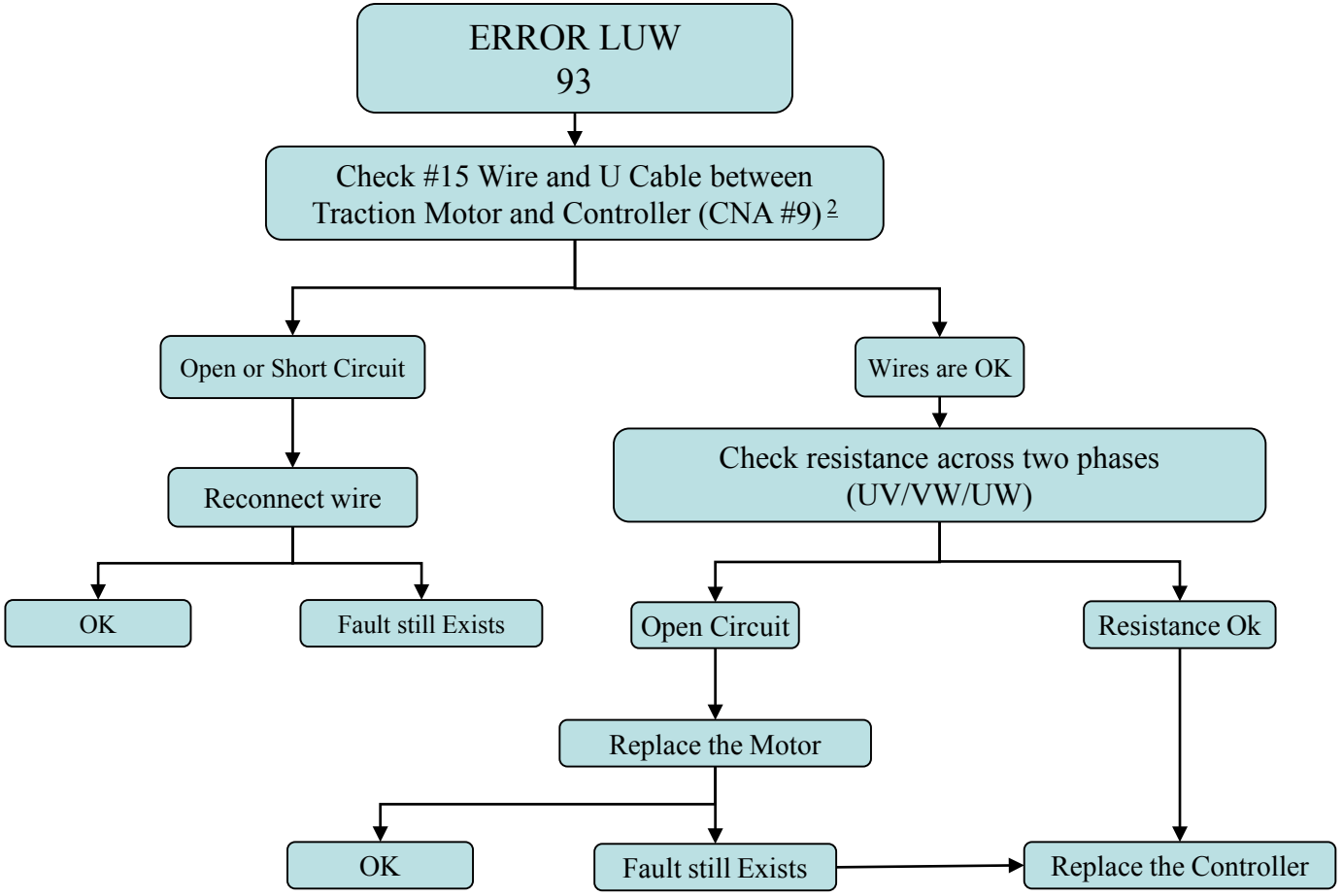
ALARM #93 on NODE #2 ERROR IV



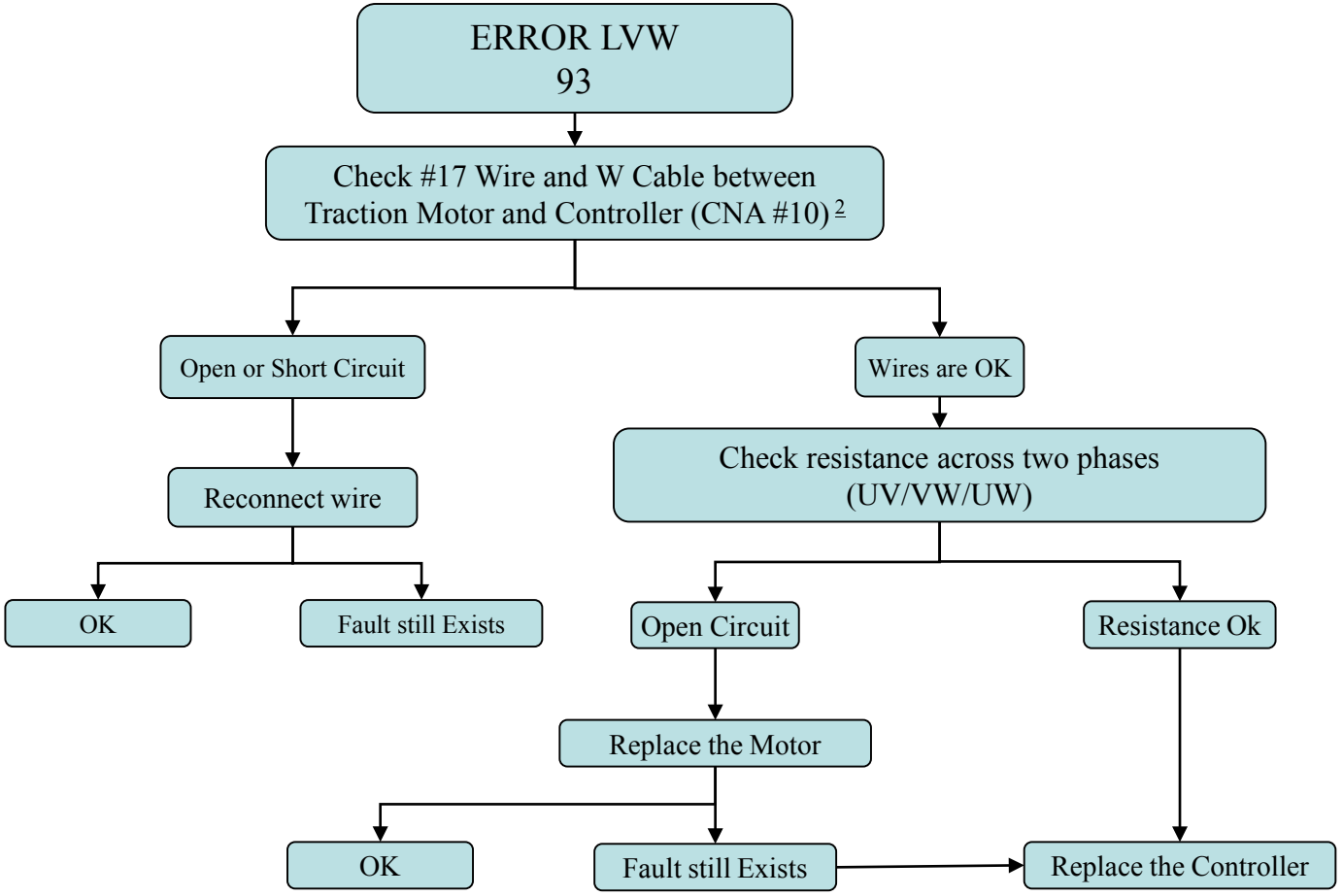
ALARM #93 on NODE #2 ERROR IW



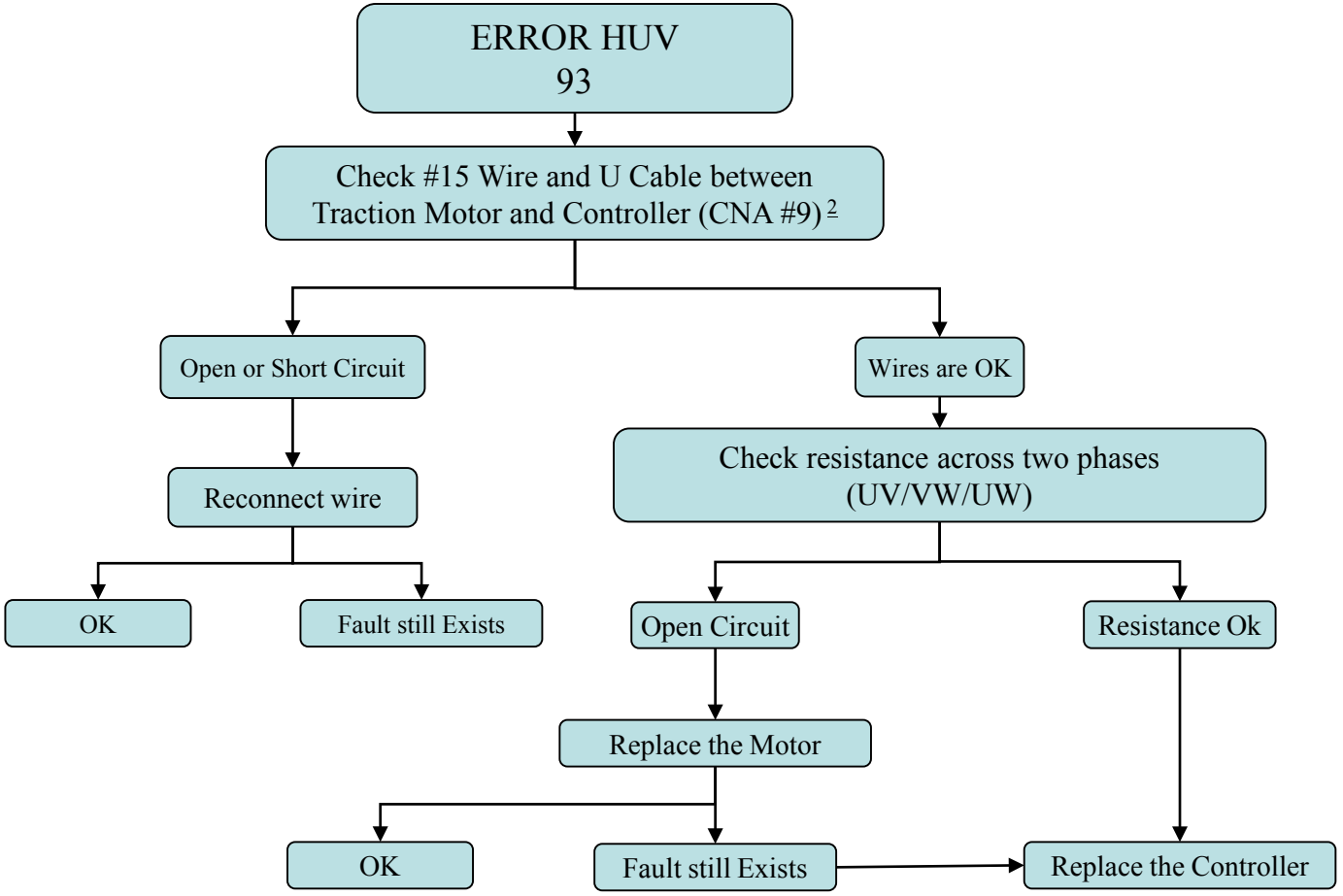
ALARM #93 on NODE #2 ERROR LUW



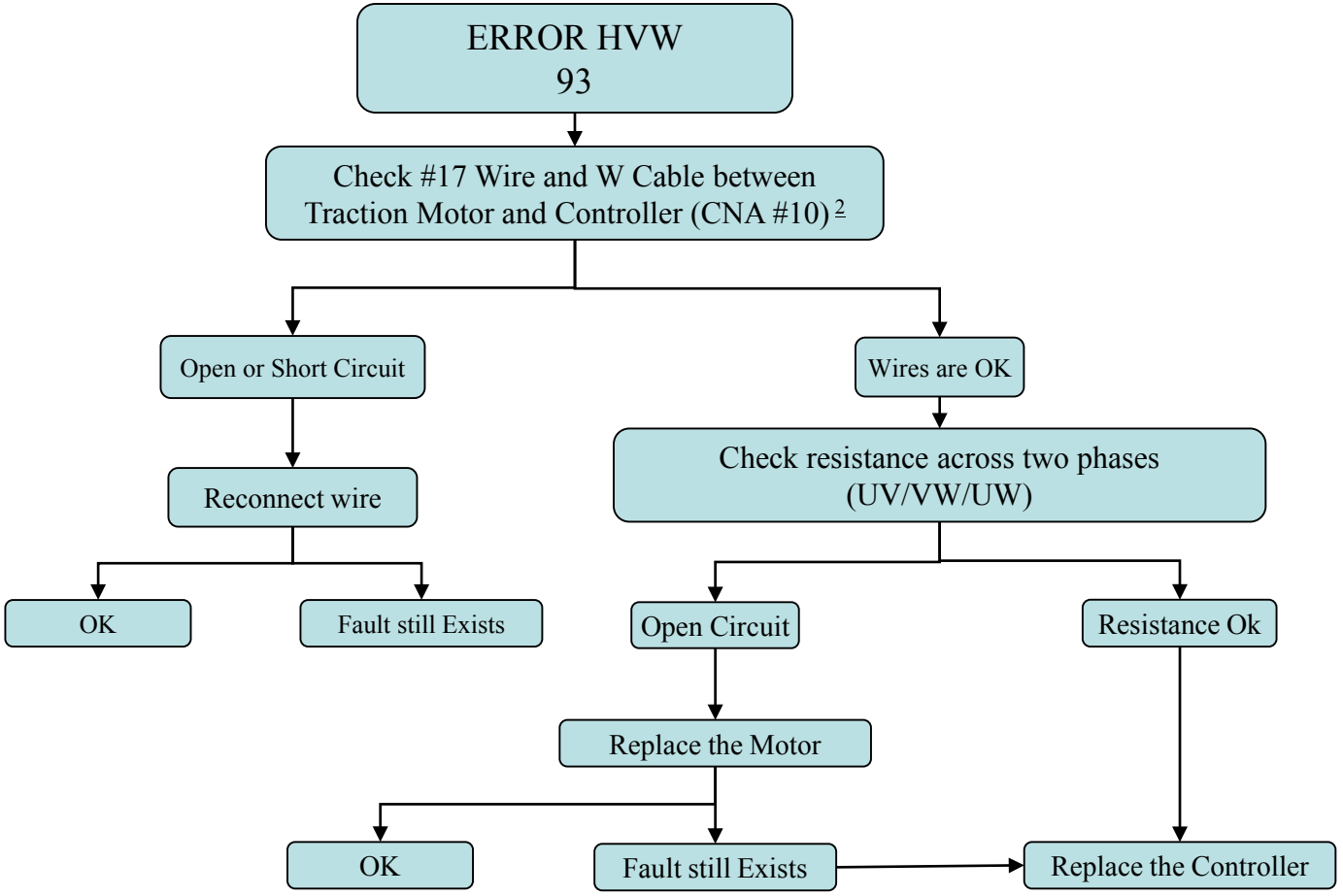
ALARM #93 on NODE #2 ERROR LVW



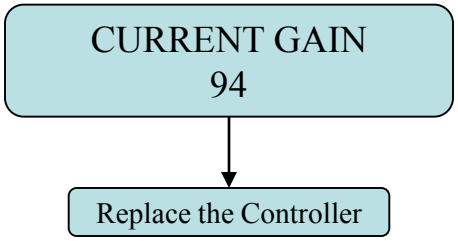
ALARM #93 on NODE #2 ERROR HUV



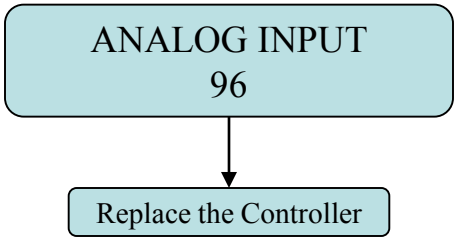
ALARM #93 on NODE #2 ERROR HVW



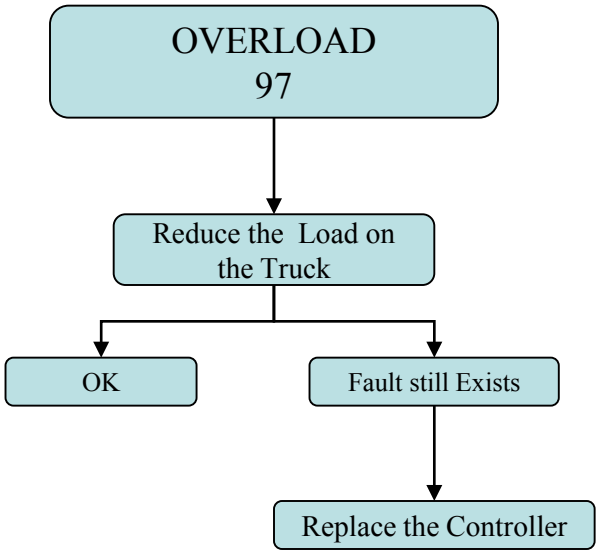
ALARM #94 on NODE #2 CURRENT GAIN



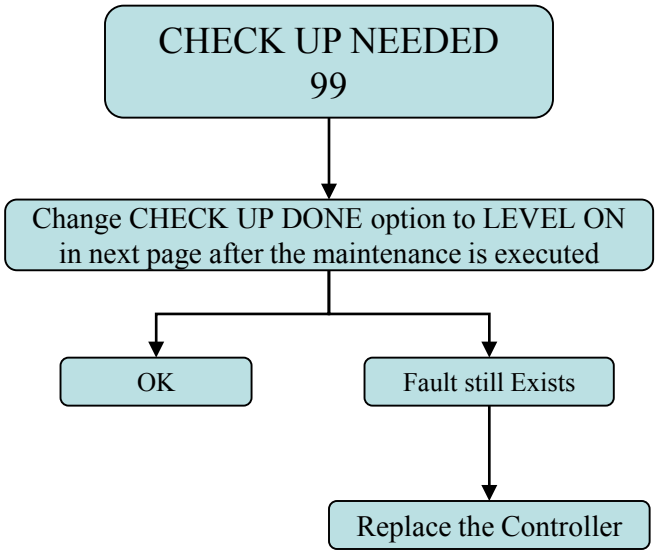
ALARM #96 on NODE #2 ANALOG INPUT



ALARM #97 on NODE #2 OVERLOAD



ALARM #99 on NODE #2 CHECK UP NEEDED



Check UP in Handset

Key on the truck, connect the flash connecting line. The Display will show:

Press ^ or v button until RS232 CONSOLE shows on the display

The Display will show :

Press OK to go into the Traction controller

The Display will show:

Cons AFG ZP021*

Cons AFG ZP021*
RS232 CONSOLE

AC0T2SE4B EP250
24V 150A 0H

Press OK to go into the Main Menu

The Display will show:

Main Menu

Press ^ or v button until ADJUSTMENT shows on the display

The Display will show:

MAIN MENU
ADJUSTMENT

Press OK to go into the ADJUSTMENT function

The Display will show:

ADJUSTMENT

Press ^ or v button until CHECK UP DONE shows on the display

The display will show:

CHECK UP DONE OFF

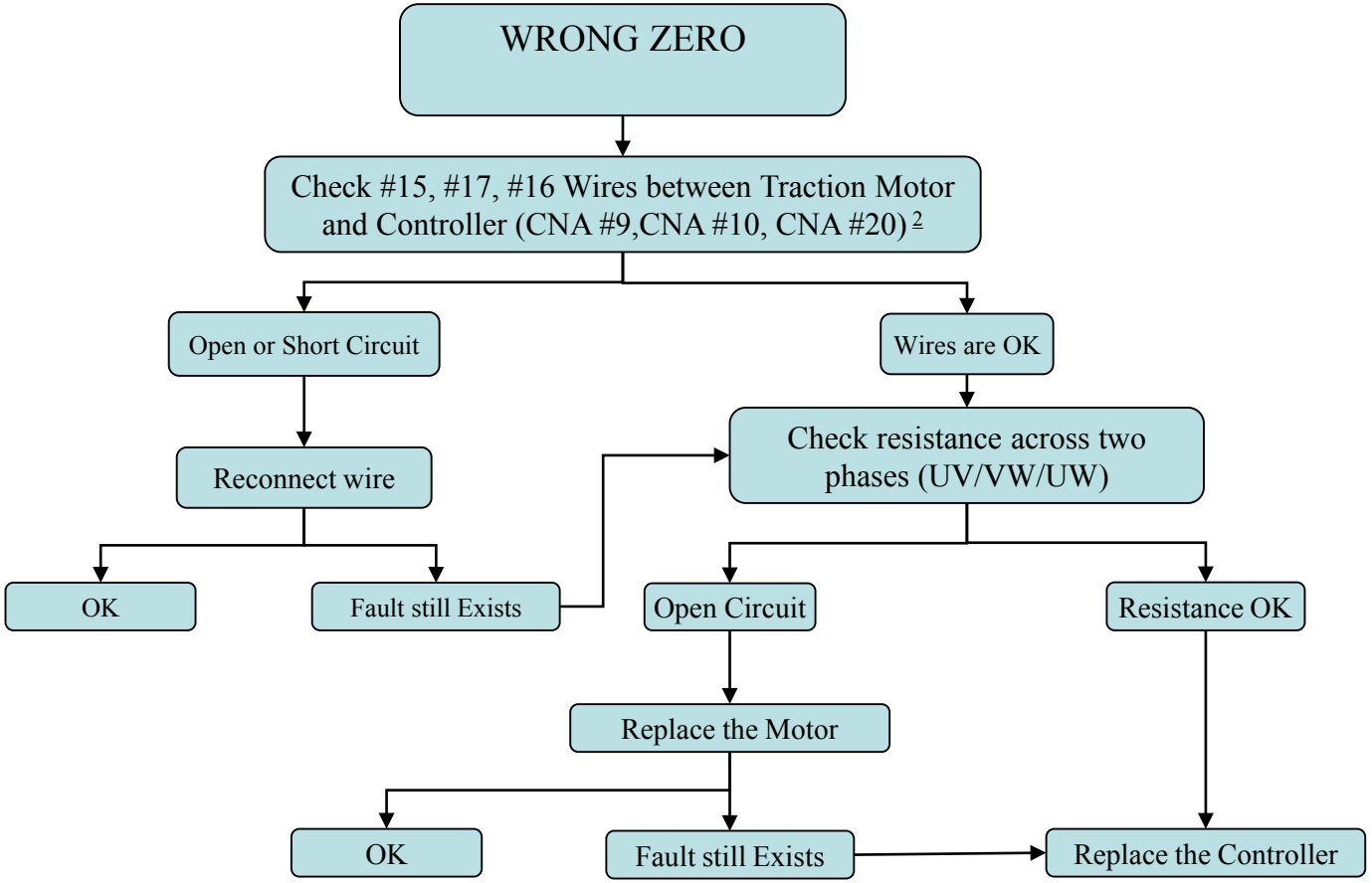
Push 》, or 《 To select ON

The display will show:

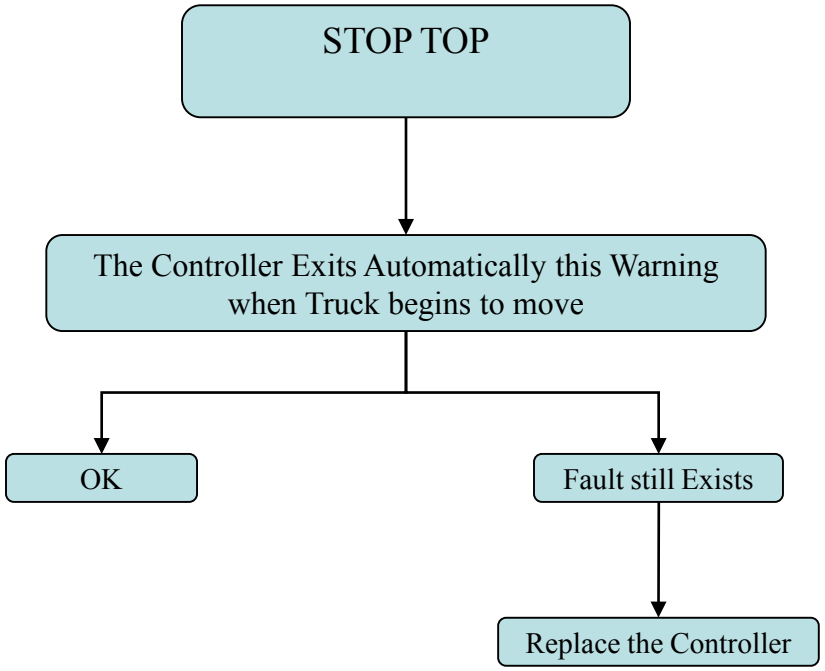
CHECK UP DONE ON

When finished , press and hold power button for 3s to turn off the Console, and rekey the truck

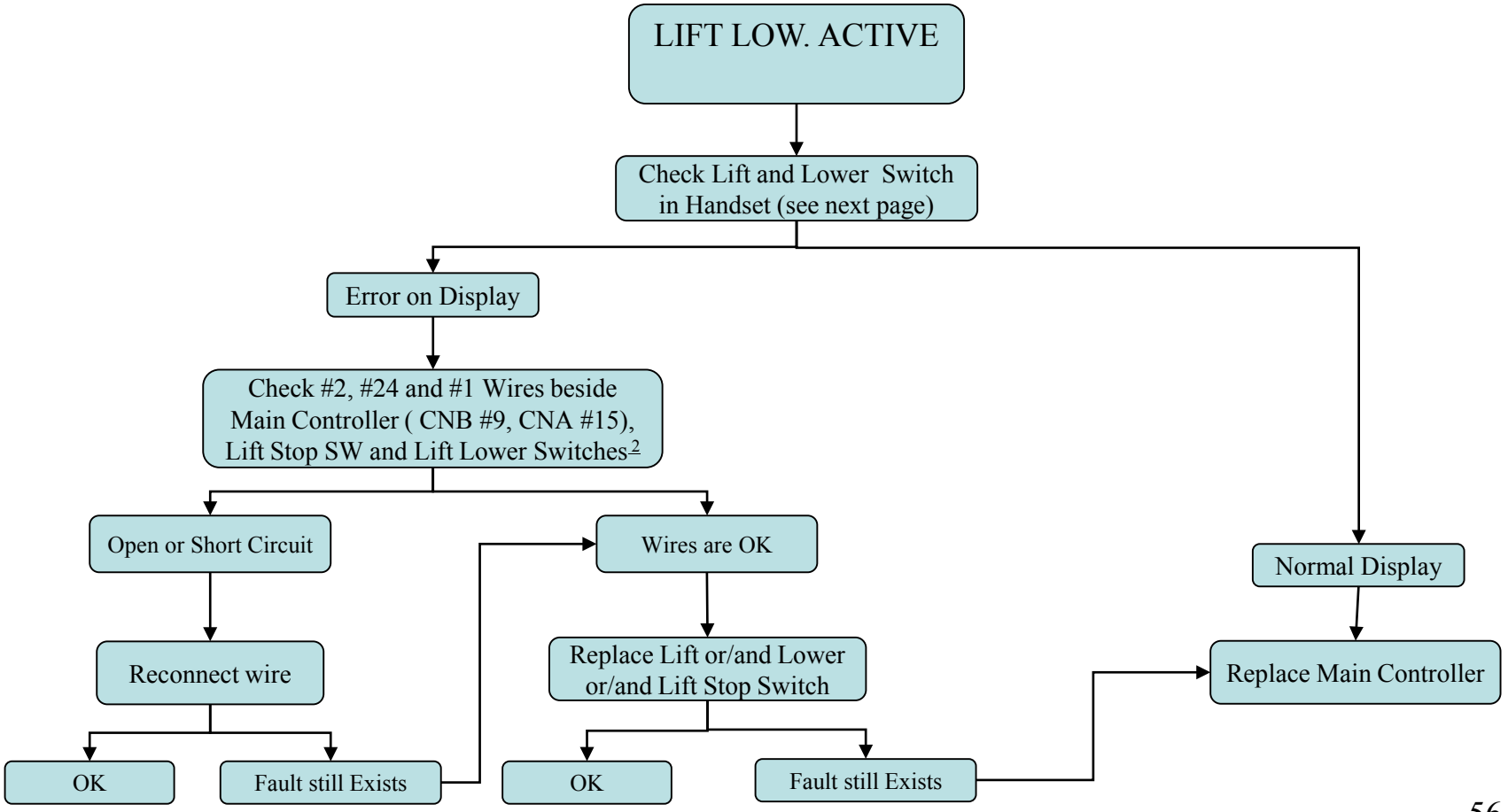
ALARM on NODE #2 WRONG ZERO



ALARM on NODE #2 STOP TOP



ALARM on NODE #2 LIFT LOW. ACTIVE



Check Lift and Lower Switch in Handset

Key on the truck, connect the flash connecting line. The Display will show:

Press ^ or v button until RS232 CONSOLE shows on the display

The Display will show :

Press OK to go into the Traction controller

The Display will show:

Cons AFG ZP021*

Cons AFG ZP021*
RS232 CONSOLE

AC0T2SE4B EP250
24V 150A 0H

Press OK to go into the Main Menu

Main Menu

The Display will show:

Press ^ or v button until TEST shows on the display

MAIN MENU
TEST

The Display will show:

Press OK to go into the TEST function

TEST

The Display will show:

Press ^ or v button until LIFT SW shows on the display

The display will show:

LIFT SW OFF

Pull Handle and Press the Lift Switch and hold on

The display will show:

LIFT SW ON

Repeat Step for Lower Switch:

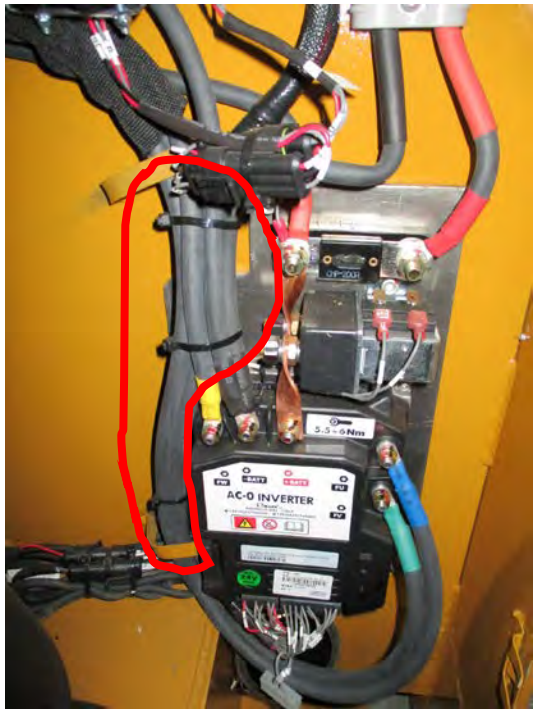
LOWER SW OFF

LOWER SW ON

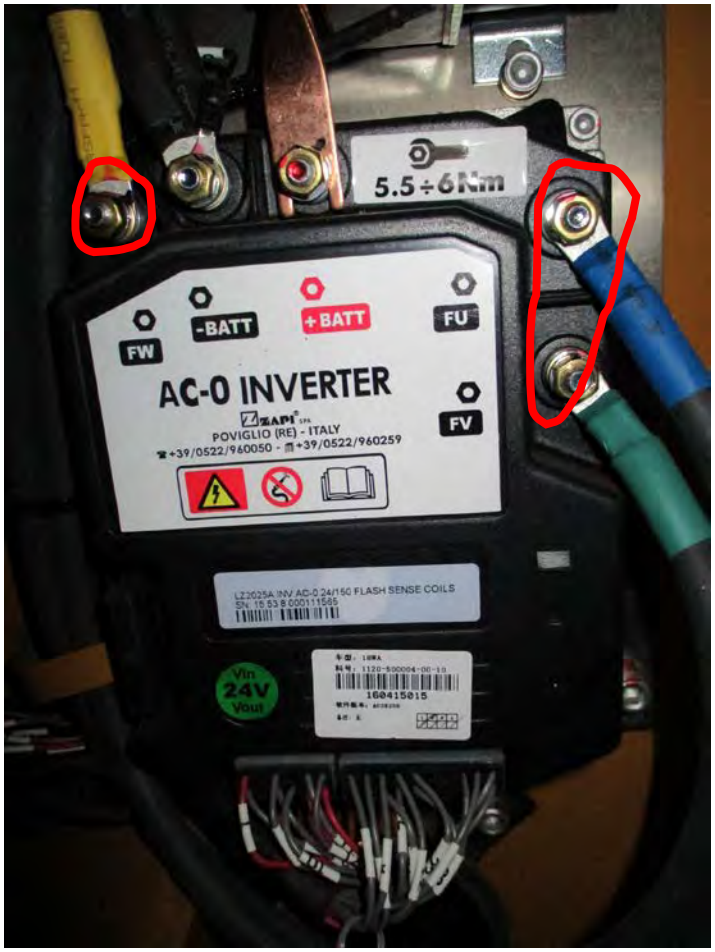
When finished , press and hold power button for 3s to turn off the Console

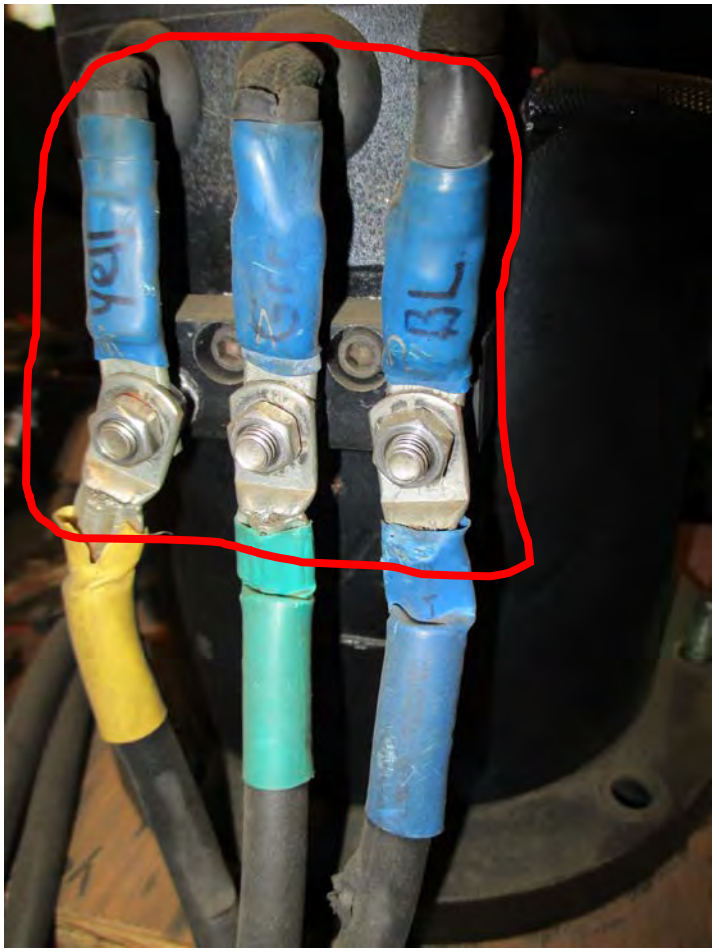
Appendix A

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, pleasure 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 re tightened properly.





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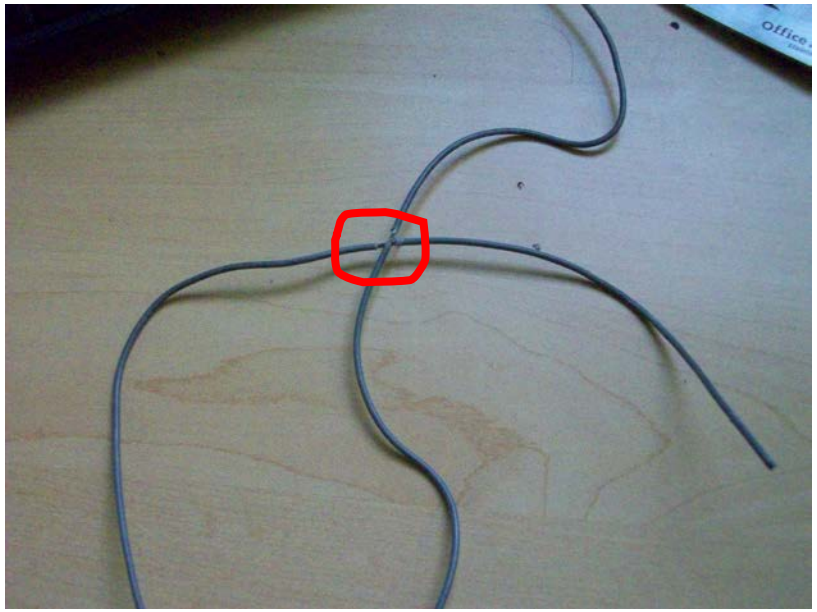
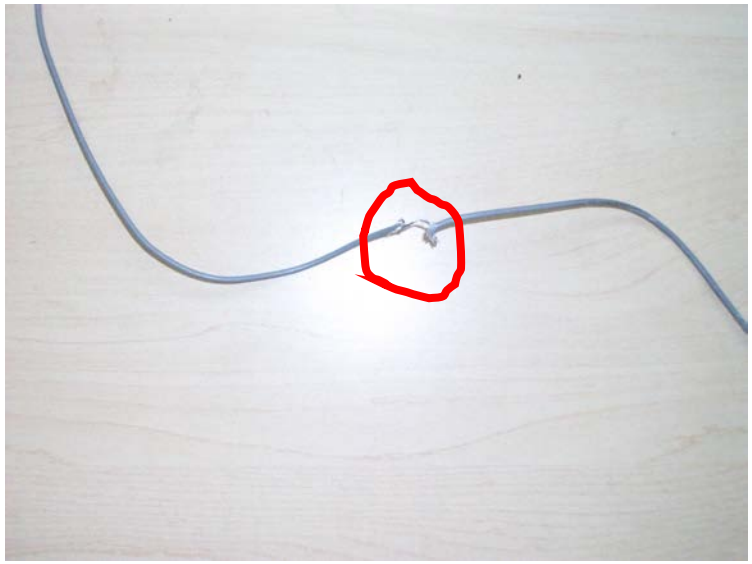
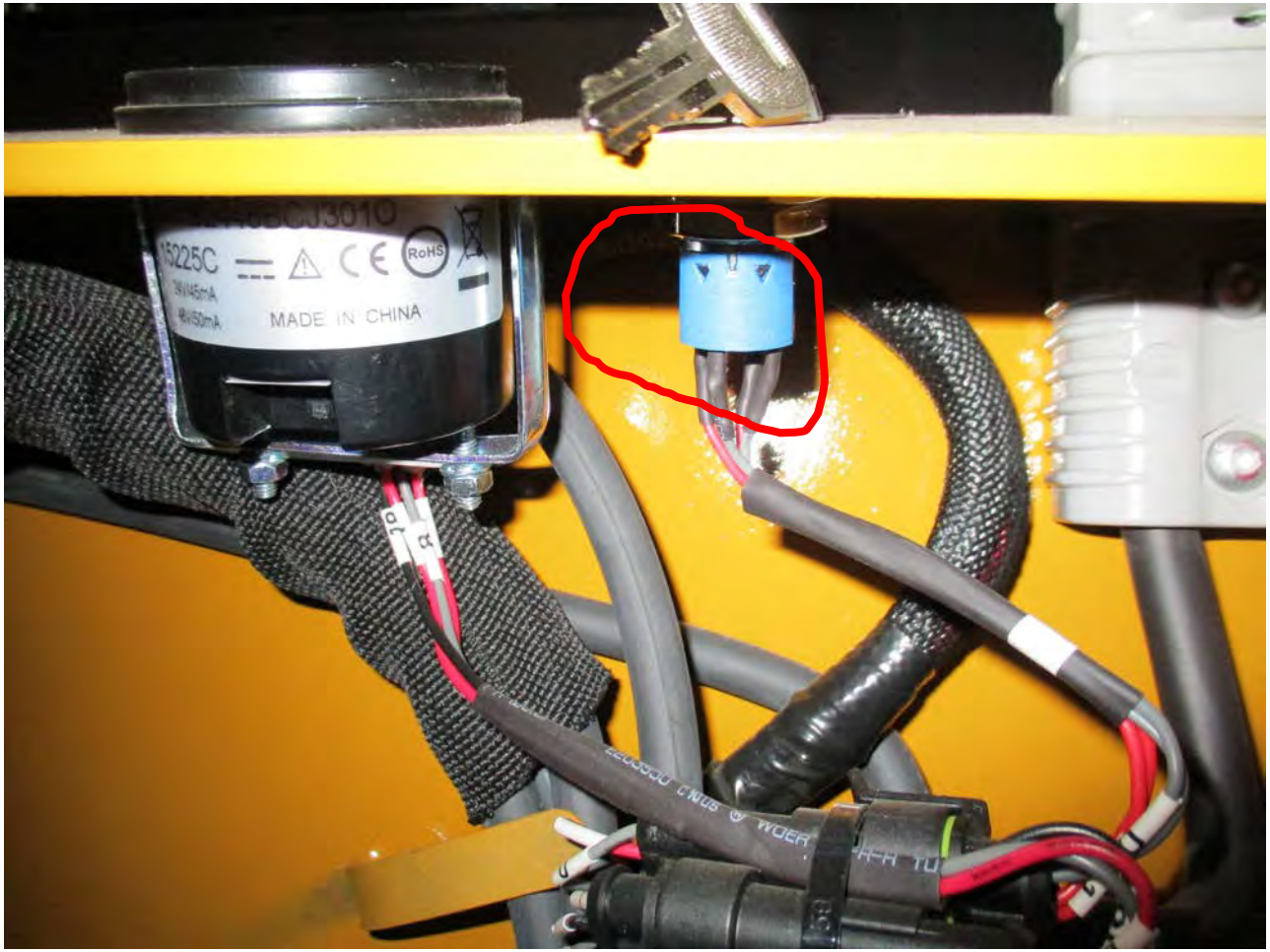


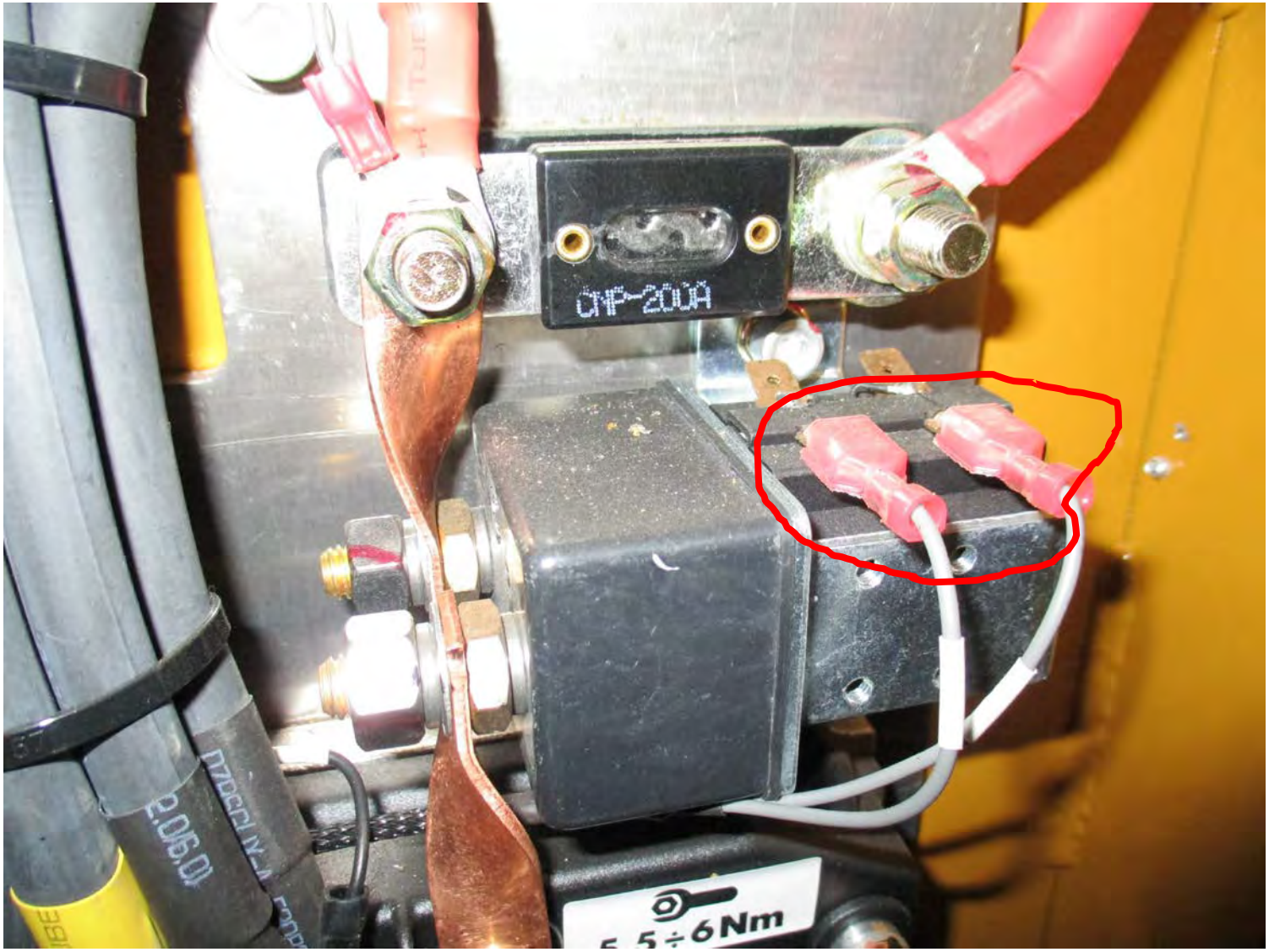


Check the connectors and pins on the Controller. Ensure connector locks are not damaged and no pins are broken or pushed out of the connector. Ensure no wires at pin terminations are cut/damaged

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.



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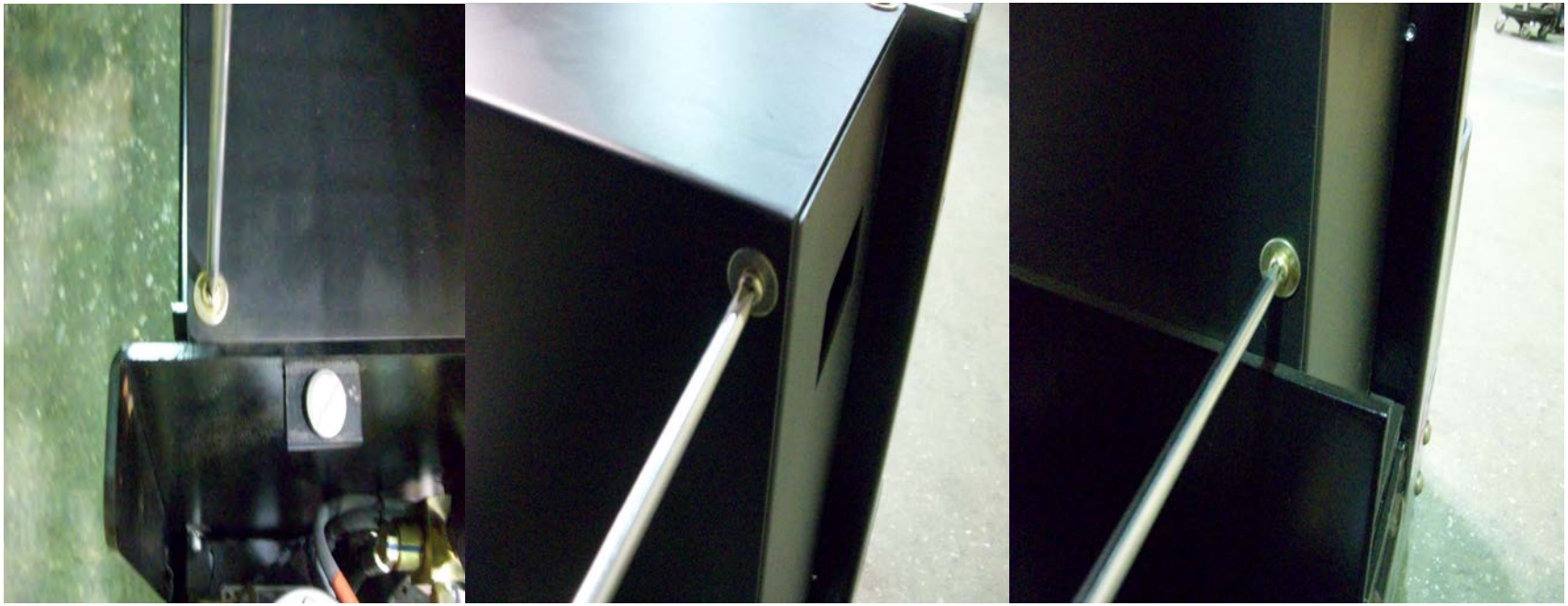
Check the Connectors between Battery and truck to see if they fit loose or are burned (Concentrate on the inside of the connector). If they do not fit correctly, replace cable lugs and/or connector housing to correct the issue.

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 voltage difference between the empty lifting and loaded lifting is more than 5V. Please replace battery.