PDS w. Proportional Valve Troubleshooting (Combi Controller)

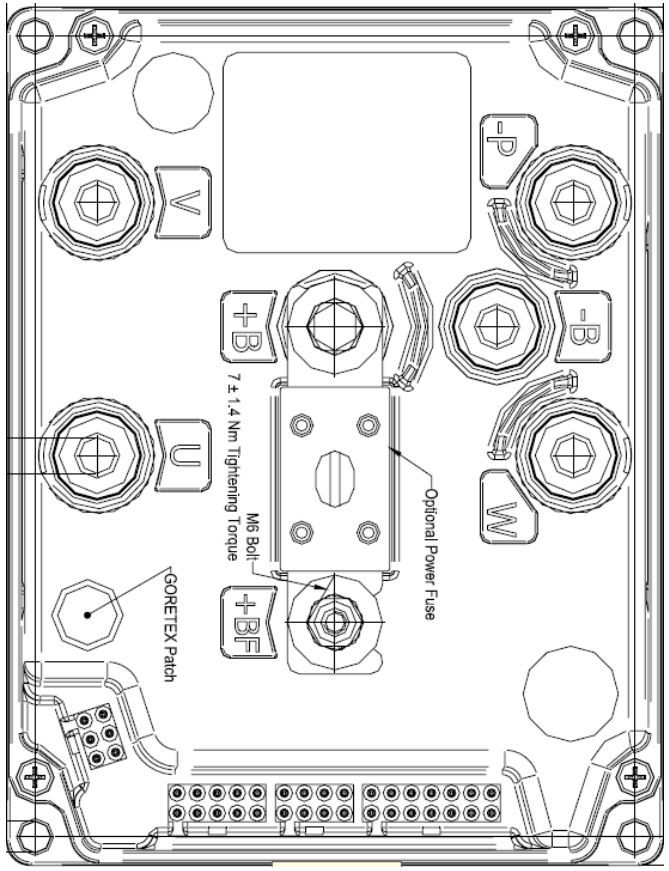
Index

Code	Name (Main Controller)	Page
11	STALL ROTOR	5
13	PARAM RESTORE	6
48	EVP DRIVER OPEN	11
49	MANY PUMP REQS	12
51	TILLER OPEN	13
52	PUMP I=0 EVER	14
56	PUMP I NO ZERO	15
61	THERMIC SENSOR KO	16
62	TH. PROTECTION	17
65	MOTOR TEMPERATURE	18
66	BATTERY LOW	19
67	SENS. MOT. TEMP. KO	20
68	WAITING FOR NODE	21

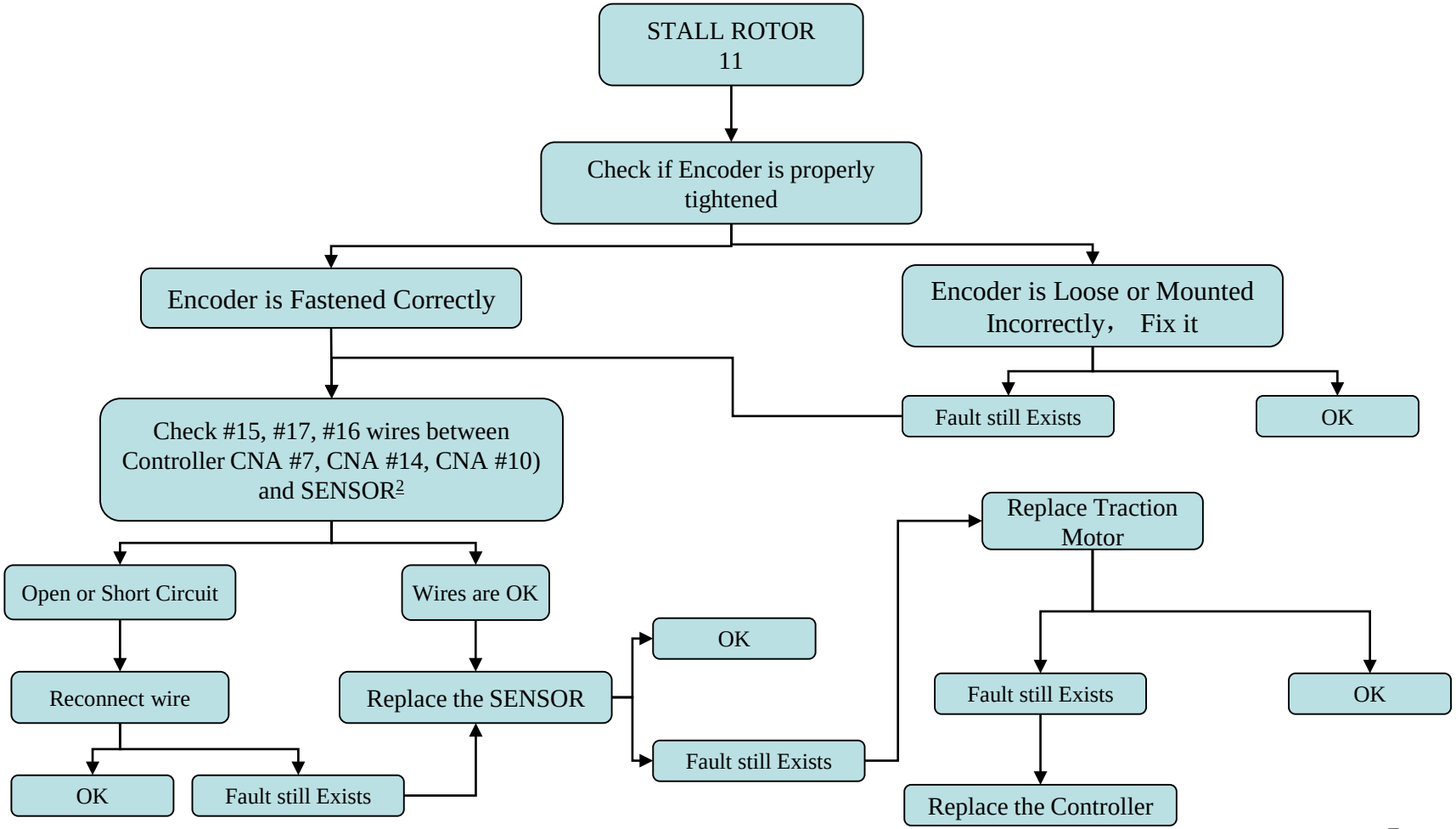
Code	Name (Main Controller)	Page
71	EEPROM KO	22
74	EV1 DRIVER SHORTED EV2 DRIVER SHORTED EV3 DRIVER SHORTED	23 24 25
75	CONTACT. DRV. EV1 CONTACT. DRV. EV2 CONTACT. DRV. EV3	26 27 28
76	VALVE COIL SHORTED	29
78	VACC NOT OK	30
79	PUMP INC START INCORRECT START	31 36
80	FORW + BACK	41
85	VACC OUT RANGE	46
89	PUMP VACC NOT OK	47
90	PUMP VACC RANGE	48
92	CURRENT GAIN	49
99	SLIP PROFILE	50

Appendix A: Check Wires and Cables detail---------- Page 51-63

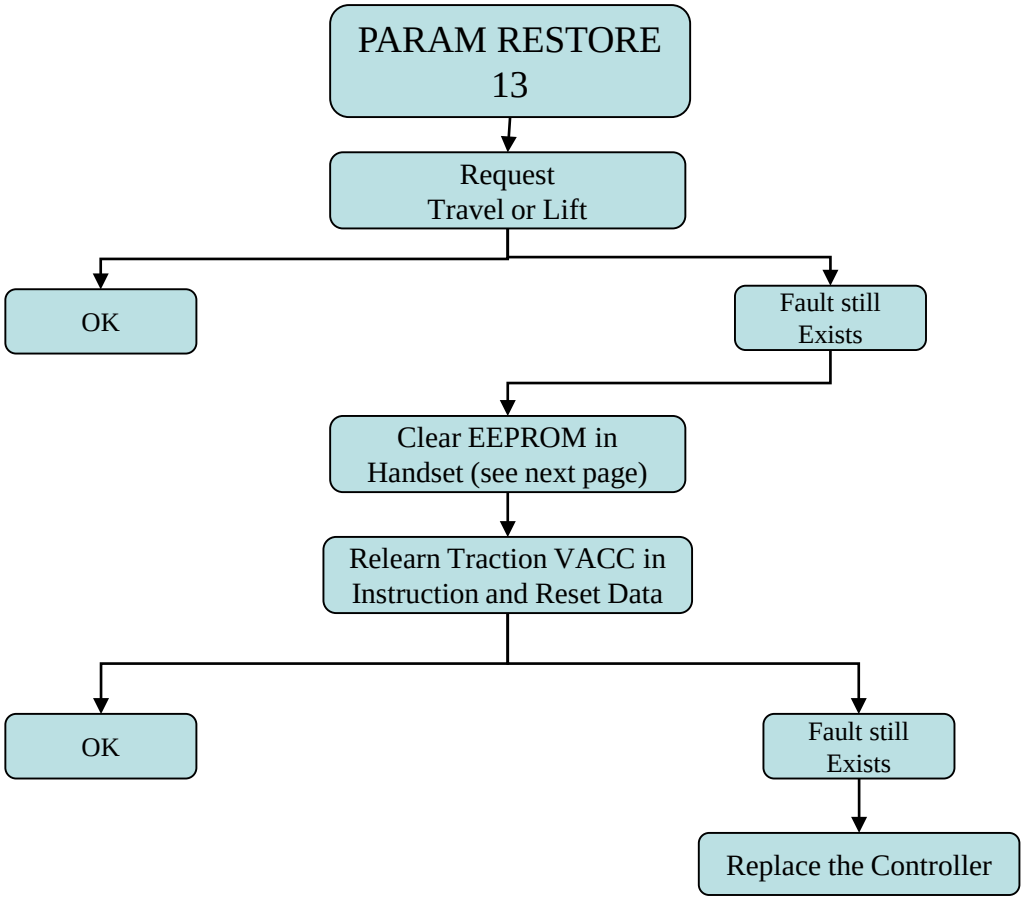
Main Controller



ALARM #11 on NODE #2 STALL ROTOR



ALARM #13 on NODE #2 PARAM RESTORE



Clear Eeprom in Handset

Turn on ZAPI Handset

Push and hold the power button for 3s

Cons AFG ZP021*

The Display will show:

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

Cons AFG ZP021*
CAN CONSOLE

The Display will show :

Press OK to go into the CANCONSOLE Menu

The Display will show:

CANCONSOLE
SELECT NODE

Push 》 , or 《
To select Node 2

The Display will show:

SELECT NODE
NODE 2

Press OK to go into the
Traction controller

The Display will show:

ADXT2S C22EP006
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

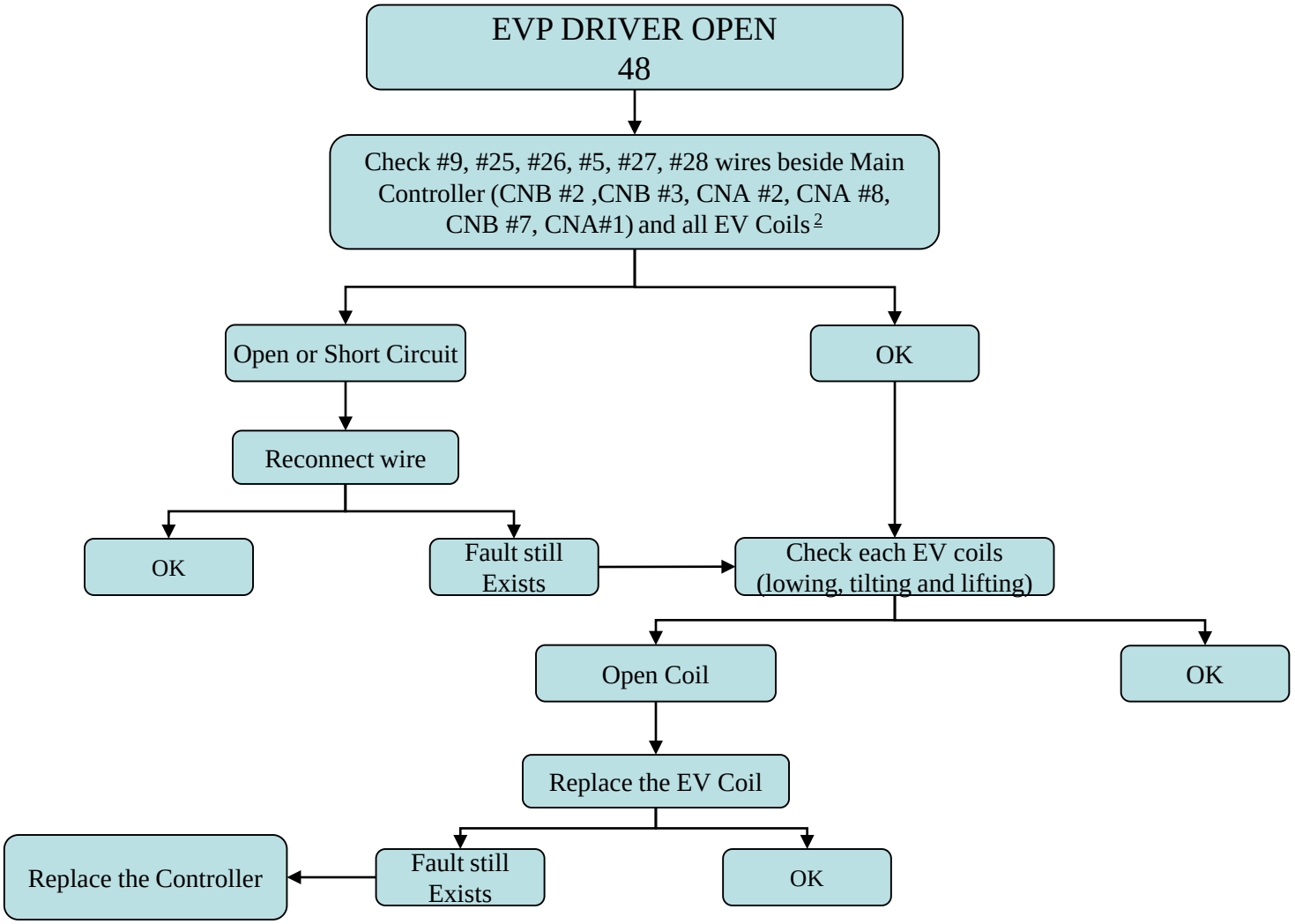
Press OK to CLEAR EEPROM

The display will show:

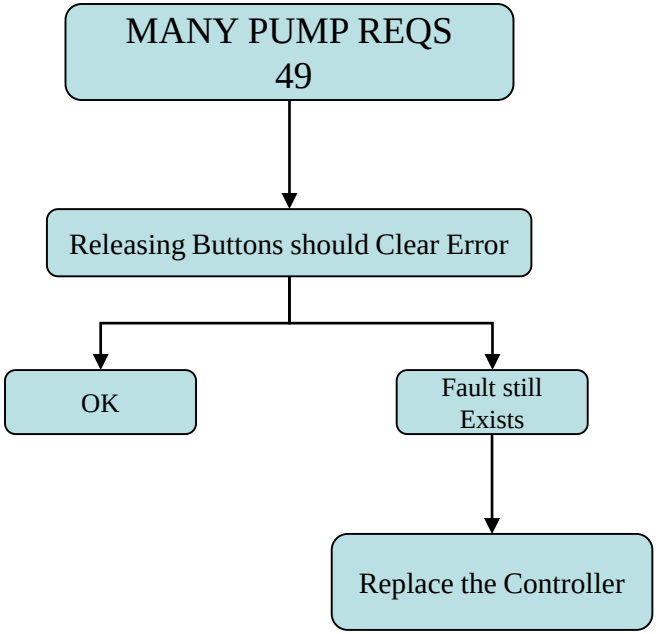
EEPROM CLEARED!
KEY OFF, PLEASE

Rekey truck, and restart handset

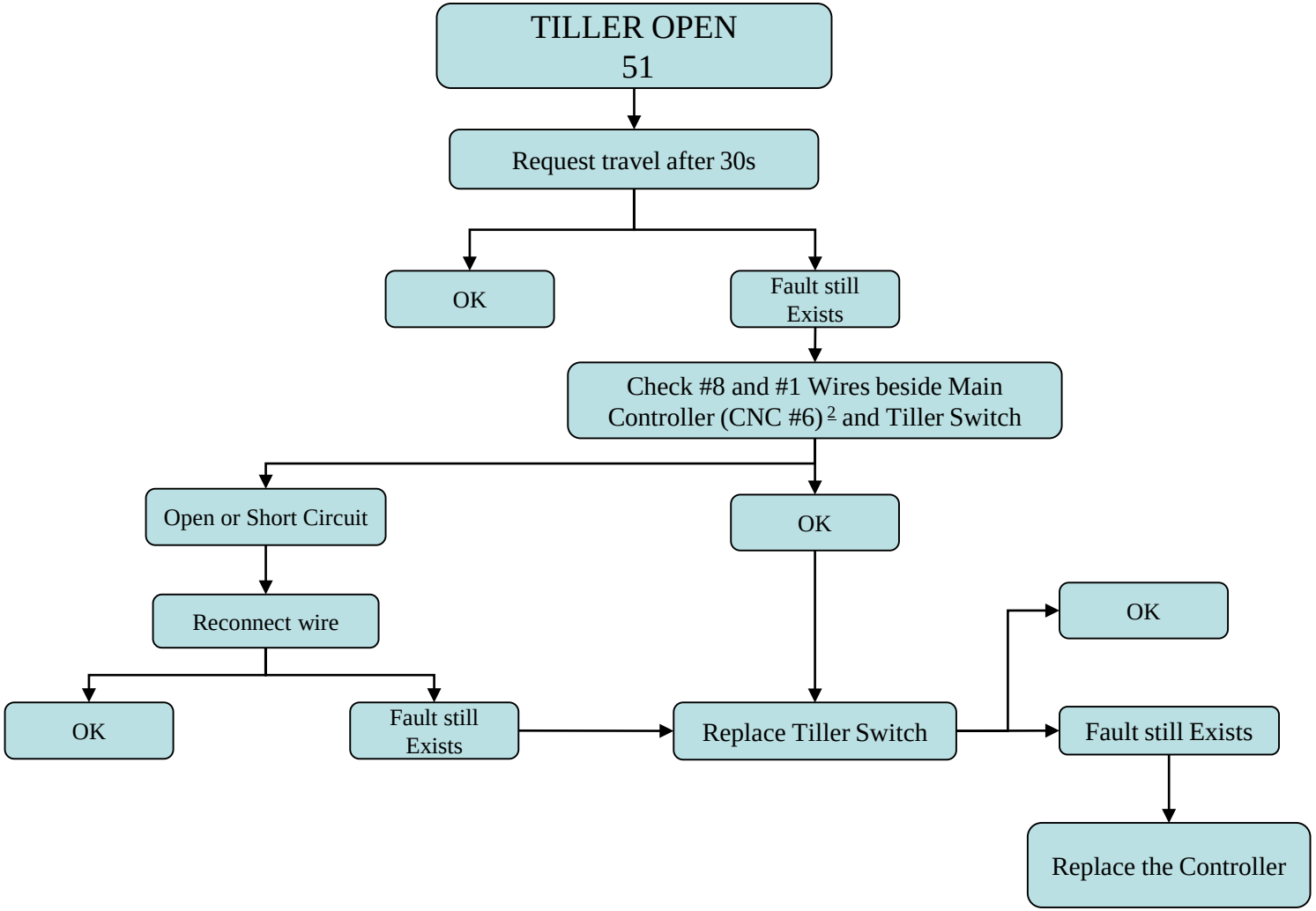
ALARM #48 on NODE #2 EVP DRIVER OPEN



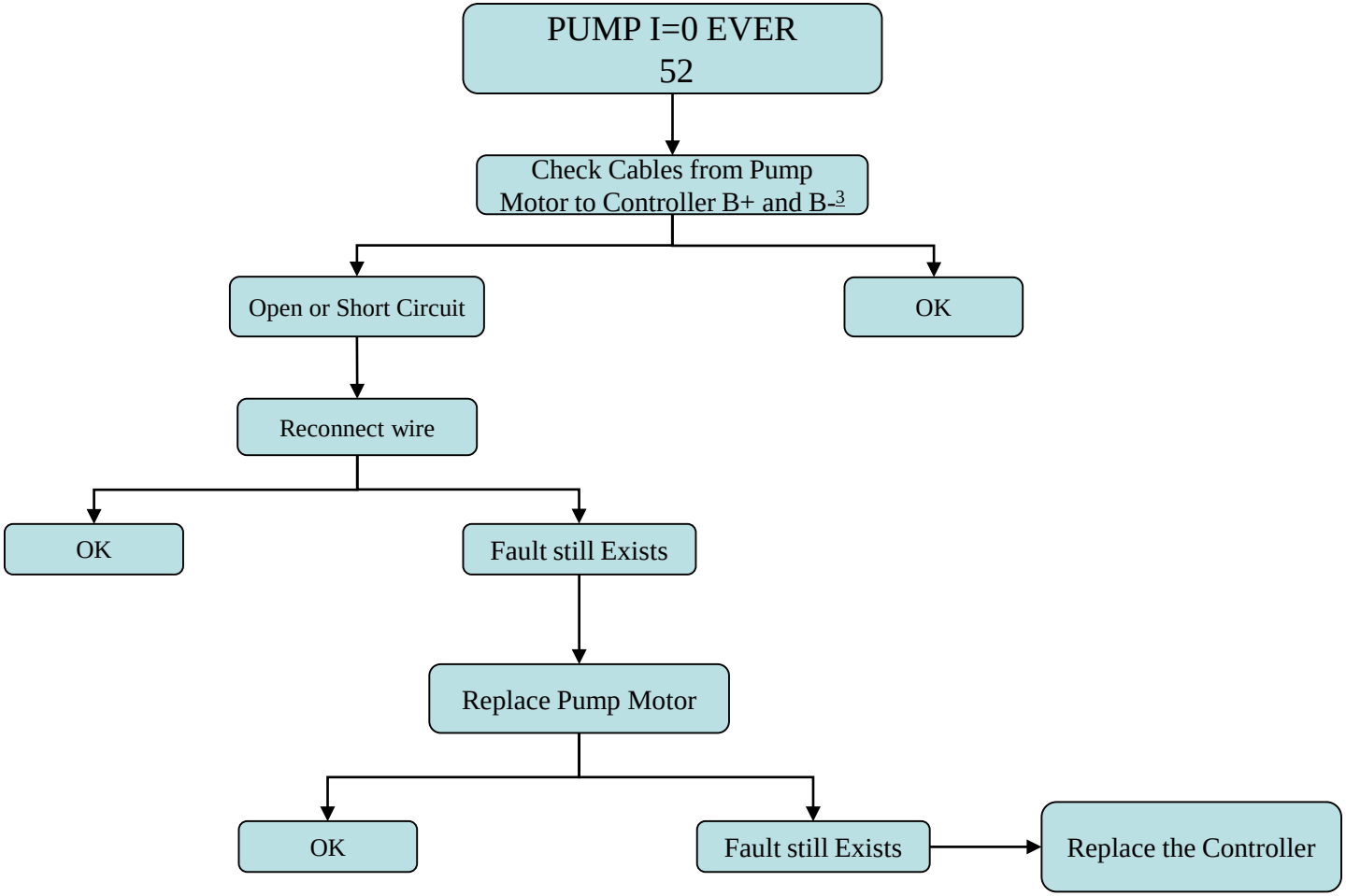
ALARM #49 on NODE #2 MANY PUMP REQS



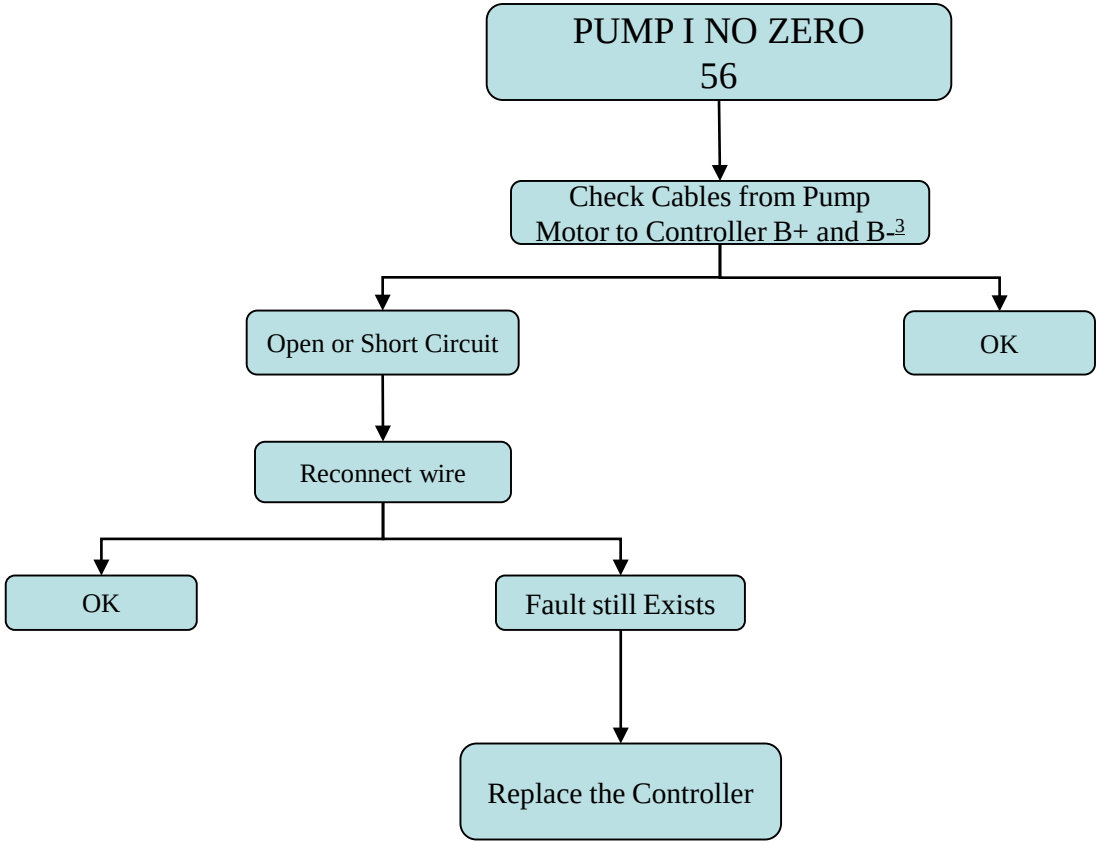
ALARM #51 on NODE #2 TILLER OPEN



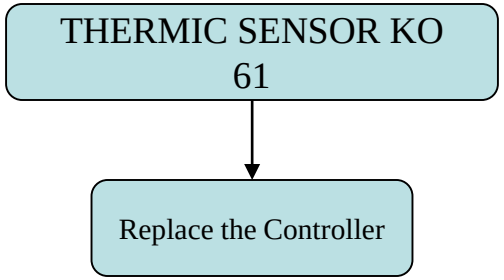
ALARM #52 on NODE #2 PUMP I=0 EVER



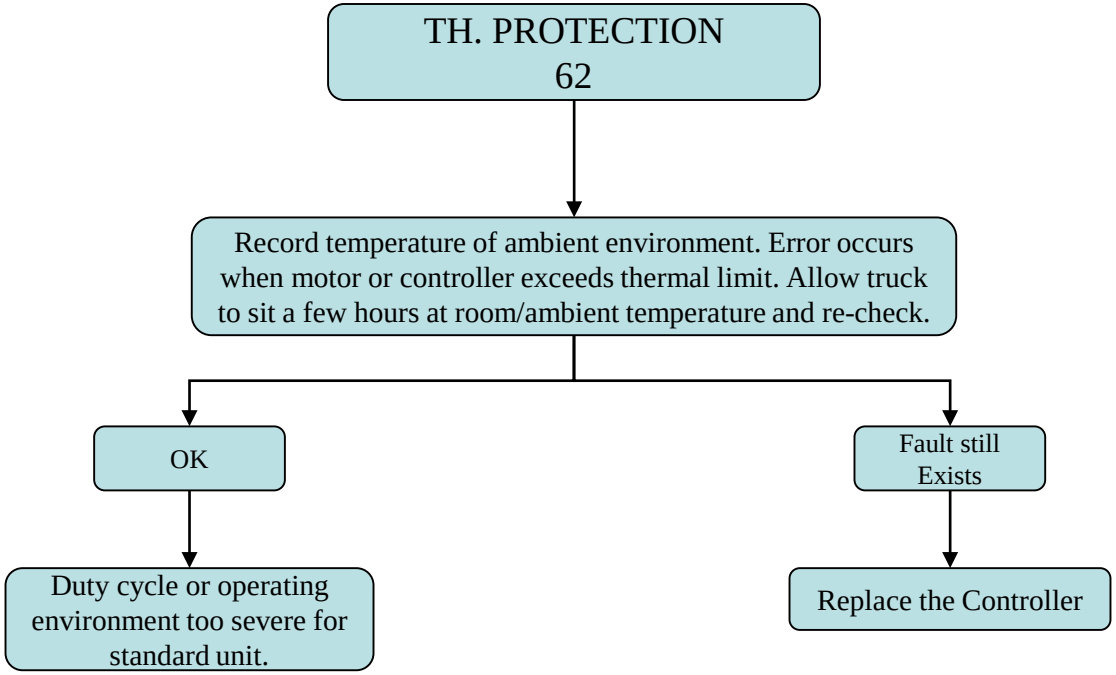
ALARM #56 on NODE #2 PUMP I NO ZERO



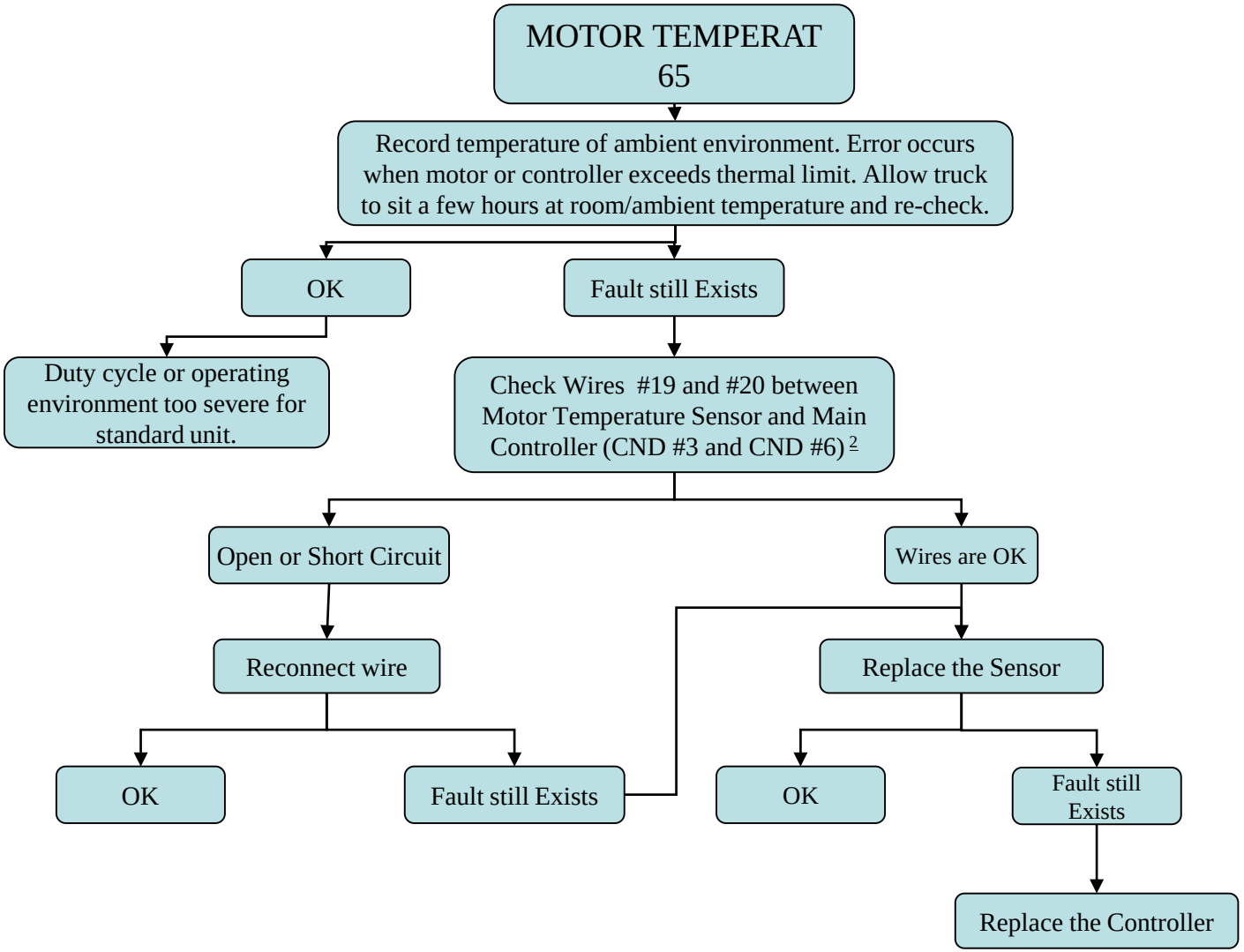
ALARM #61 on NODE #2 THERMIC SENSOR KO



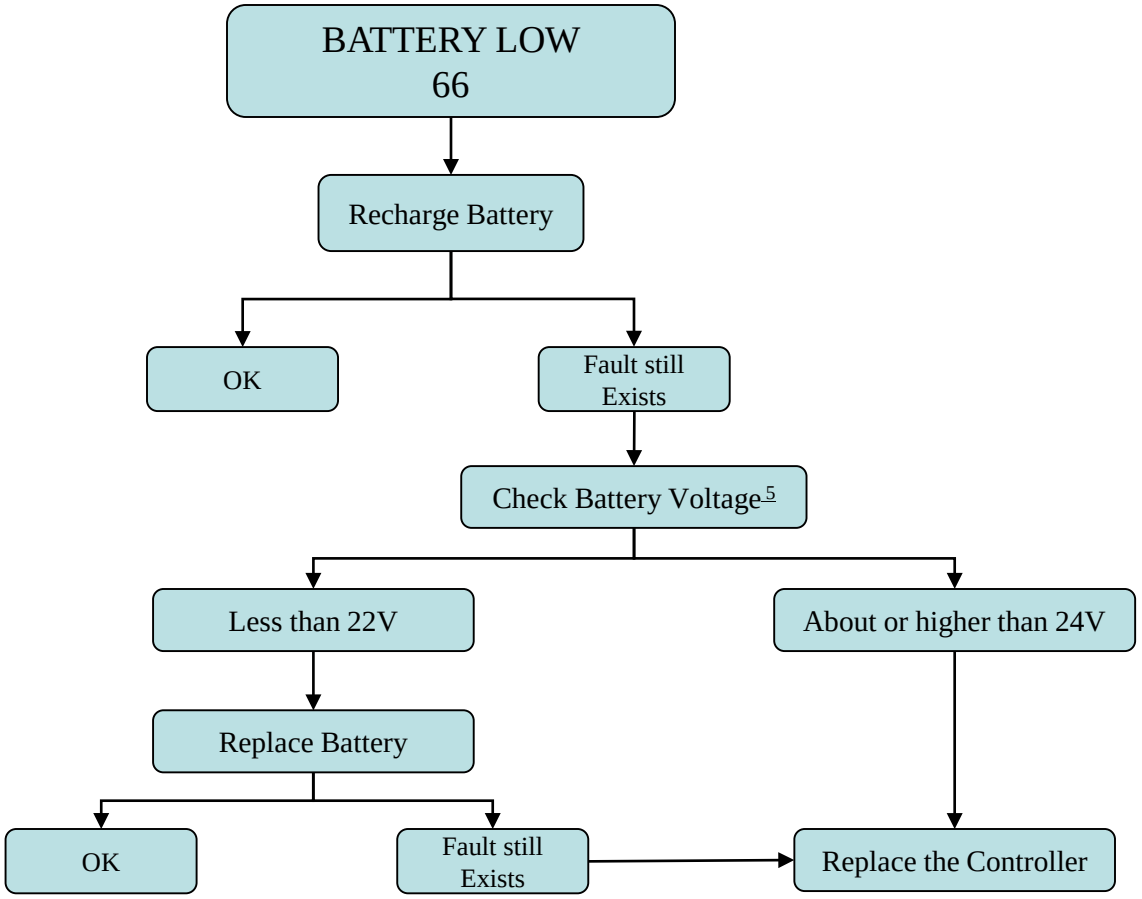
ALARM #62 on NODE #2 TH. PROTECTION



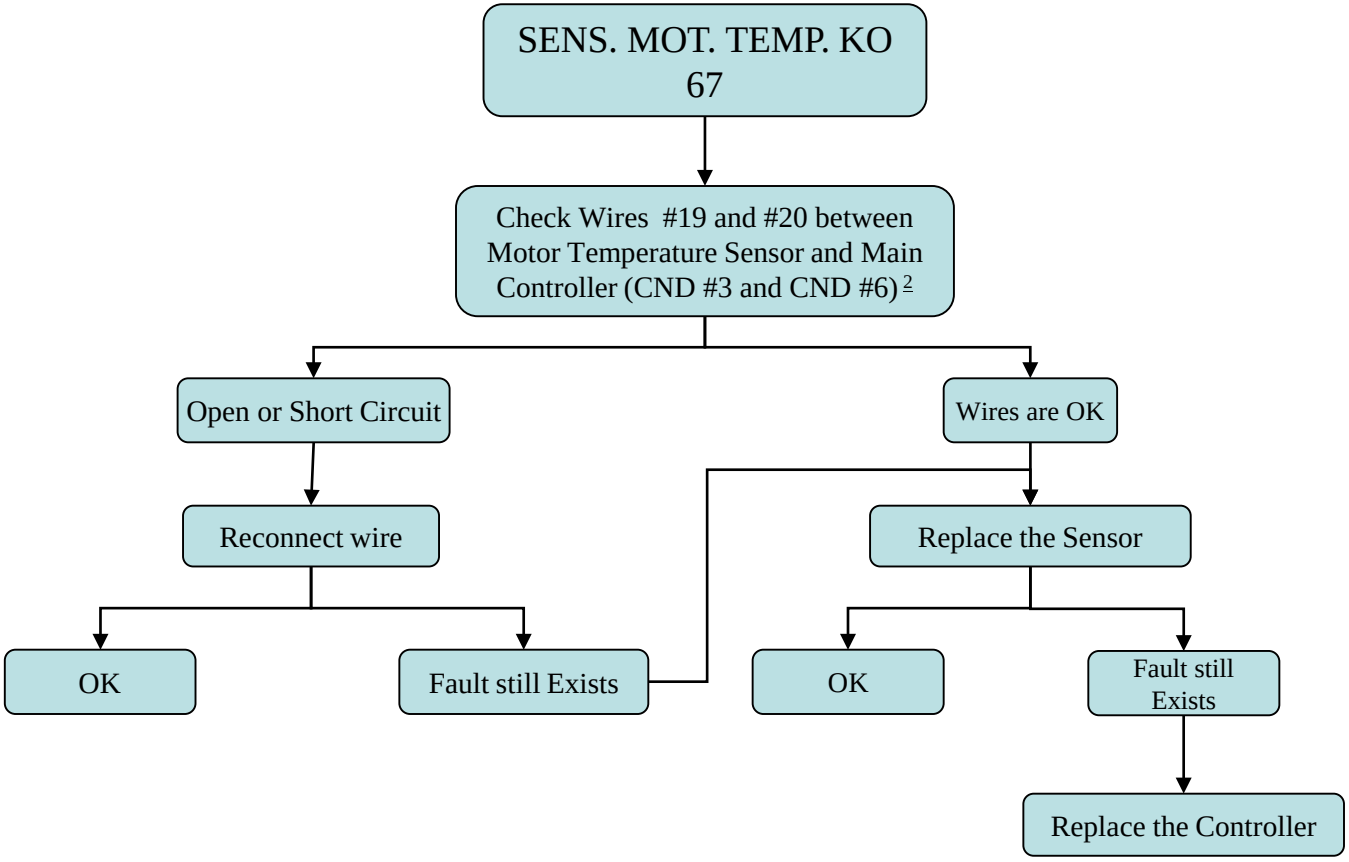
ALARM #65 on NODE #2 MOTOR TEMPERAT



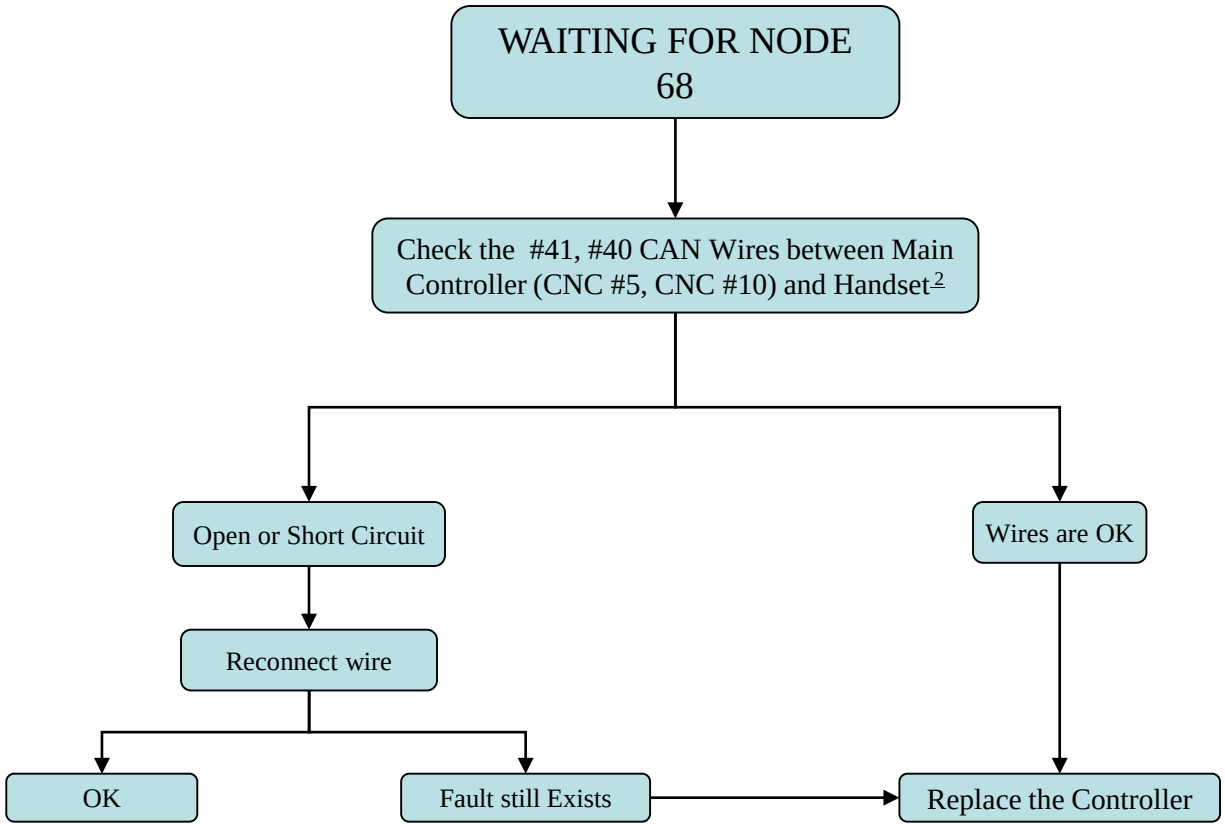
ALARM #66 on NODE #2 BATTERY LOW



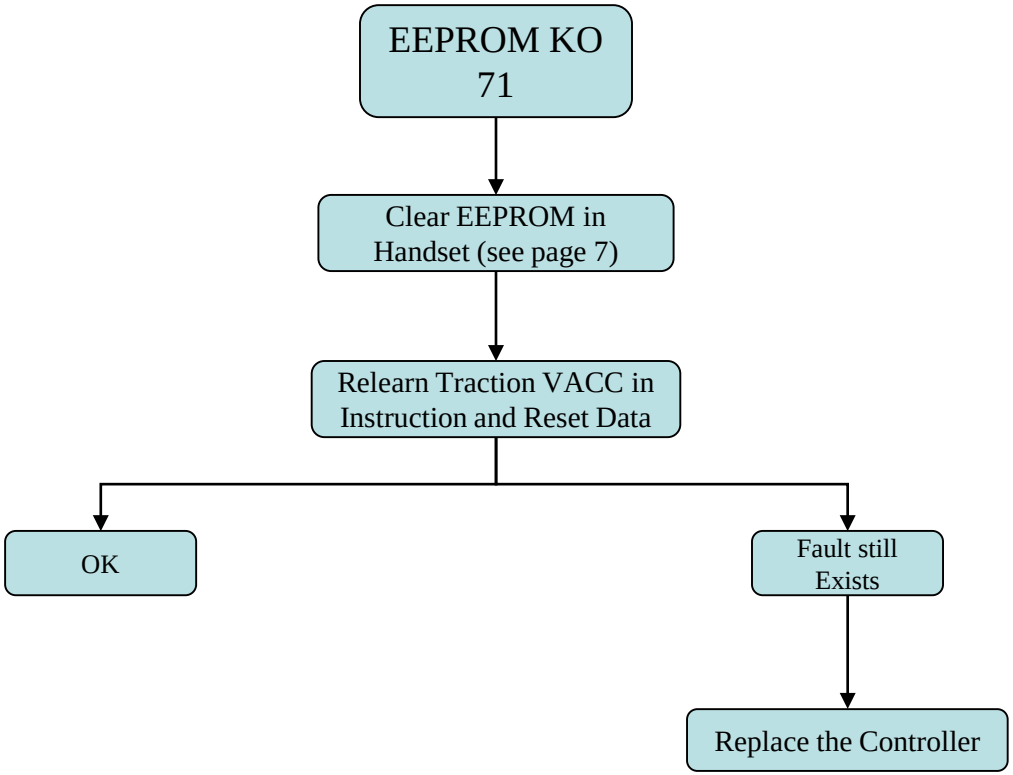
ALARM #67 on NODE #2 SENS. MOT. TEMP. KO



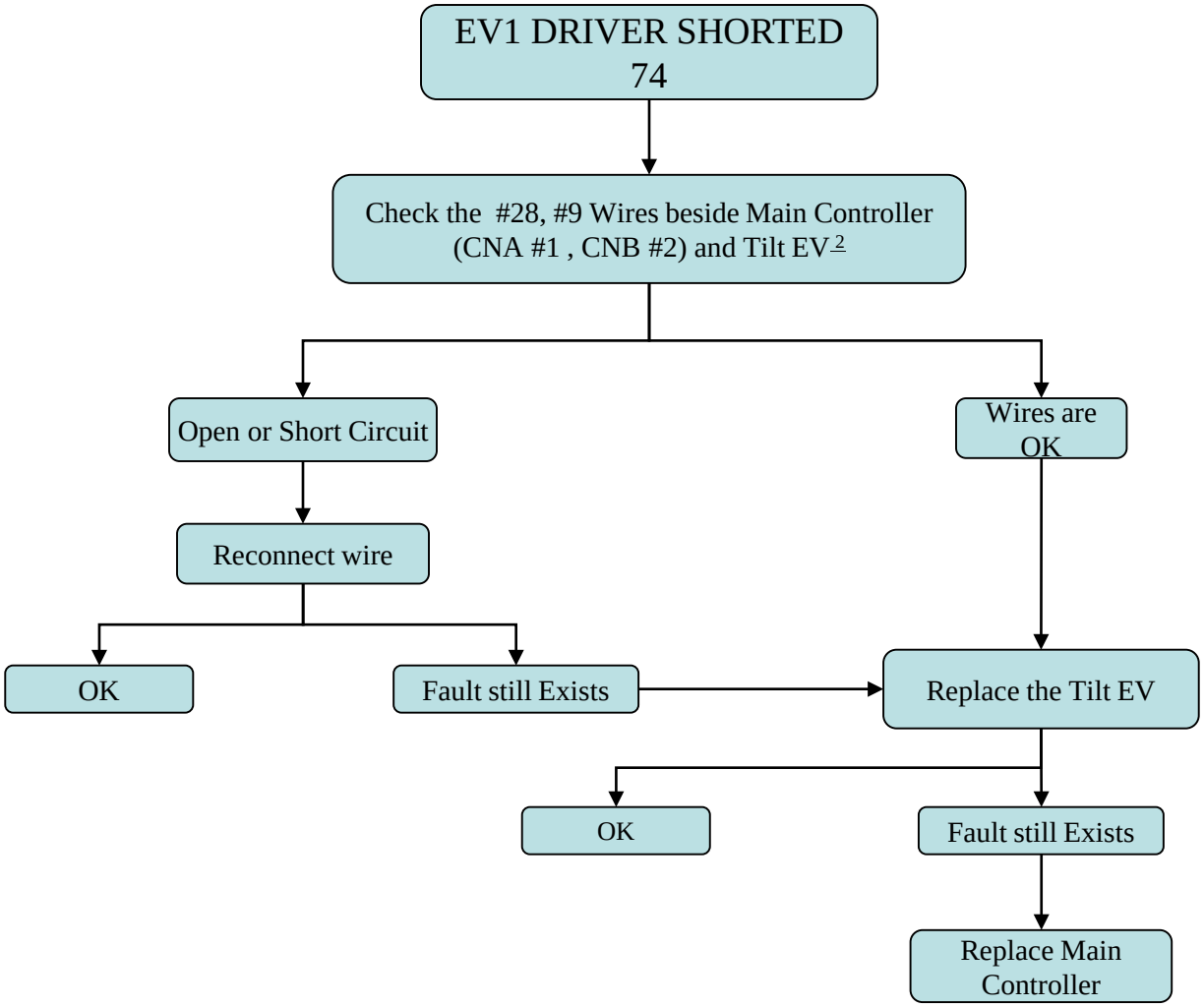
ALARM #68 on NODE #2 WAITING FOR NODE



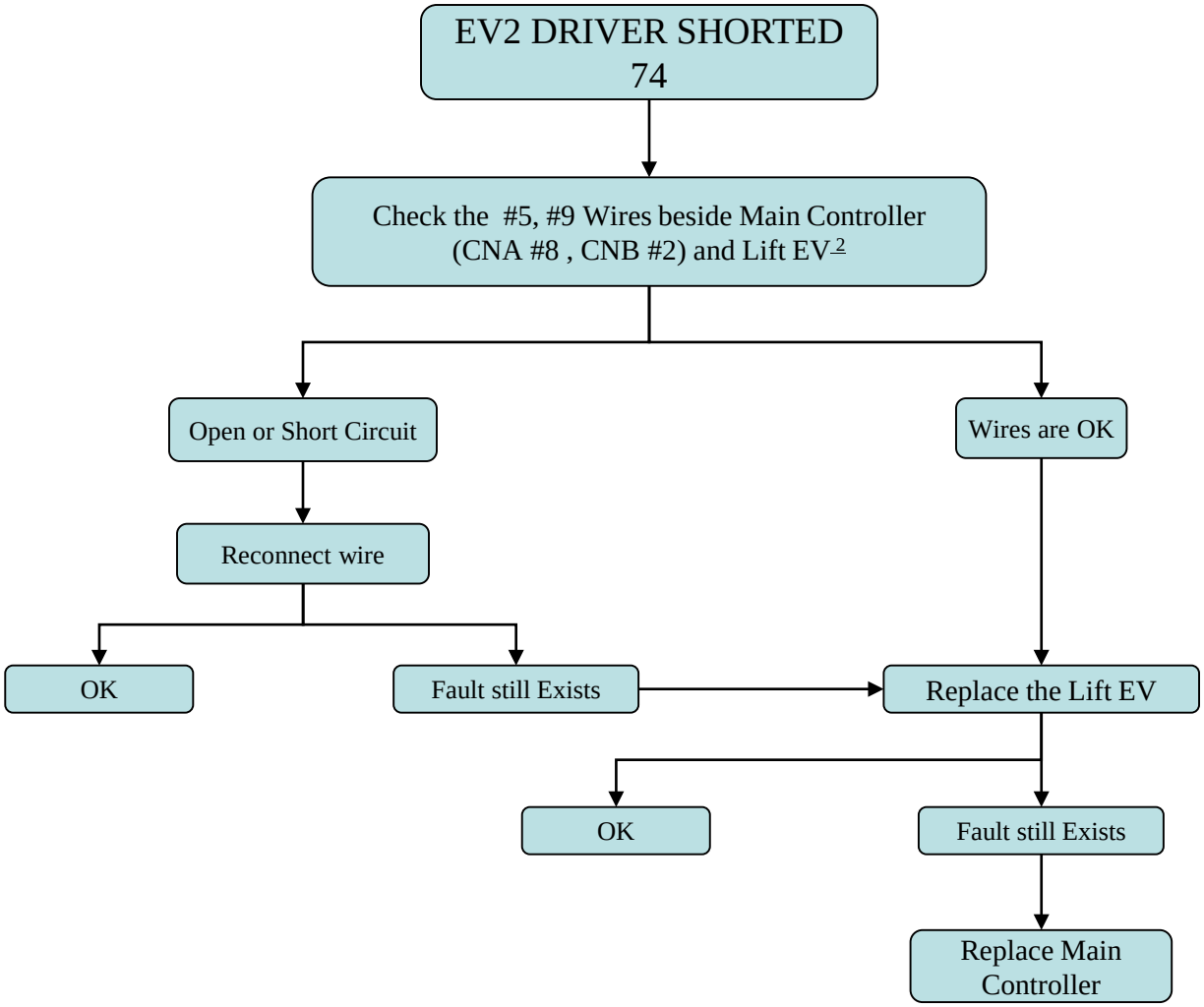
ALARM #71 on NODE #2 EEPROM KO



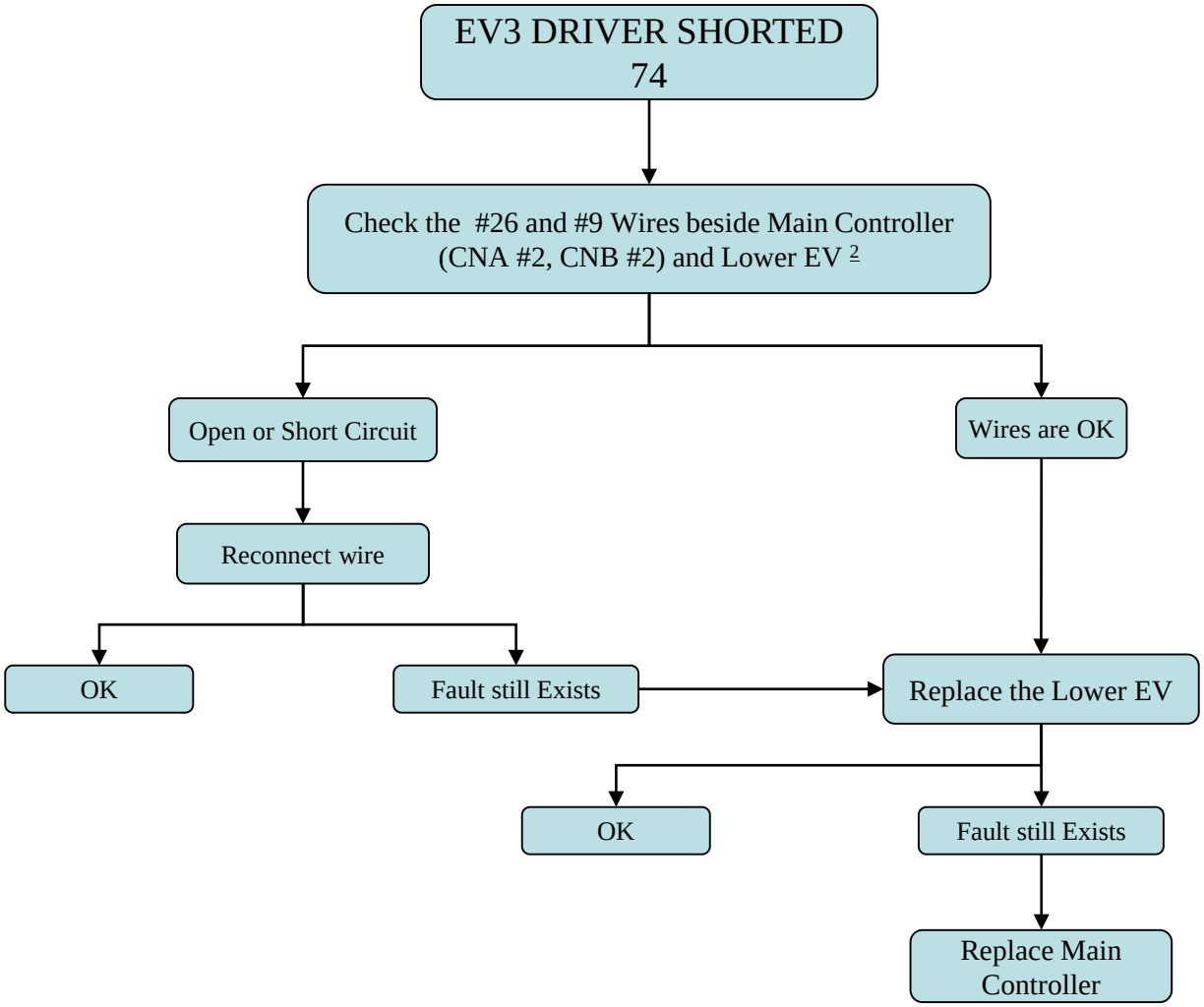
ALARM #74 on NODE #2 EV1 DRIVER SHORTED



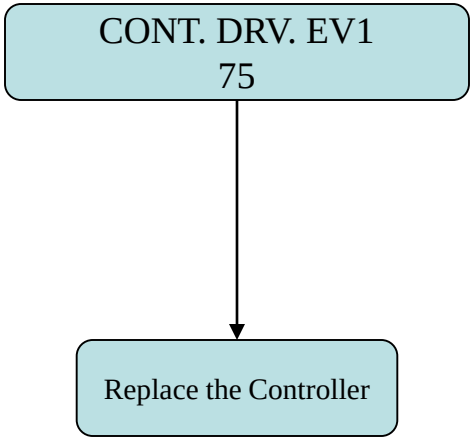
ALARM #74 on NODE #2 EV2 DRIVER SHORTED



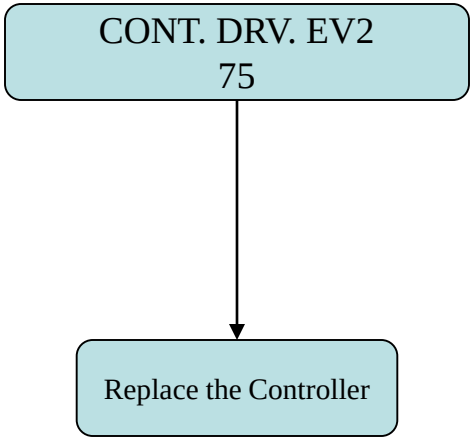
ALARM #74 on NODE #2 EV3 DRIVER SHORTED



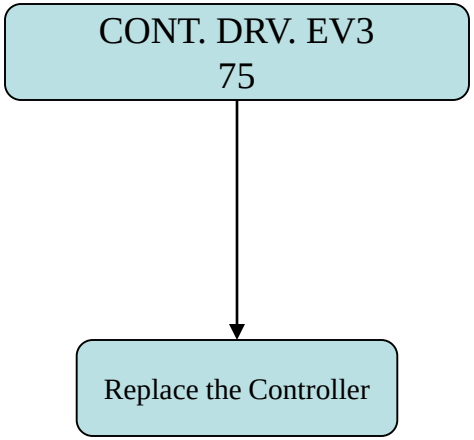
ALARM #75 on NODE #2 CONT. DRV. EV1



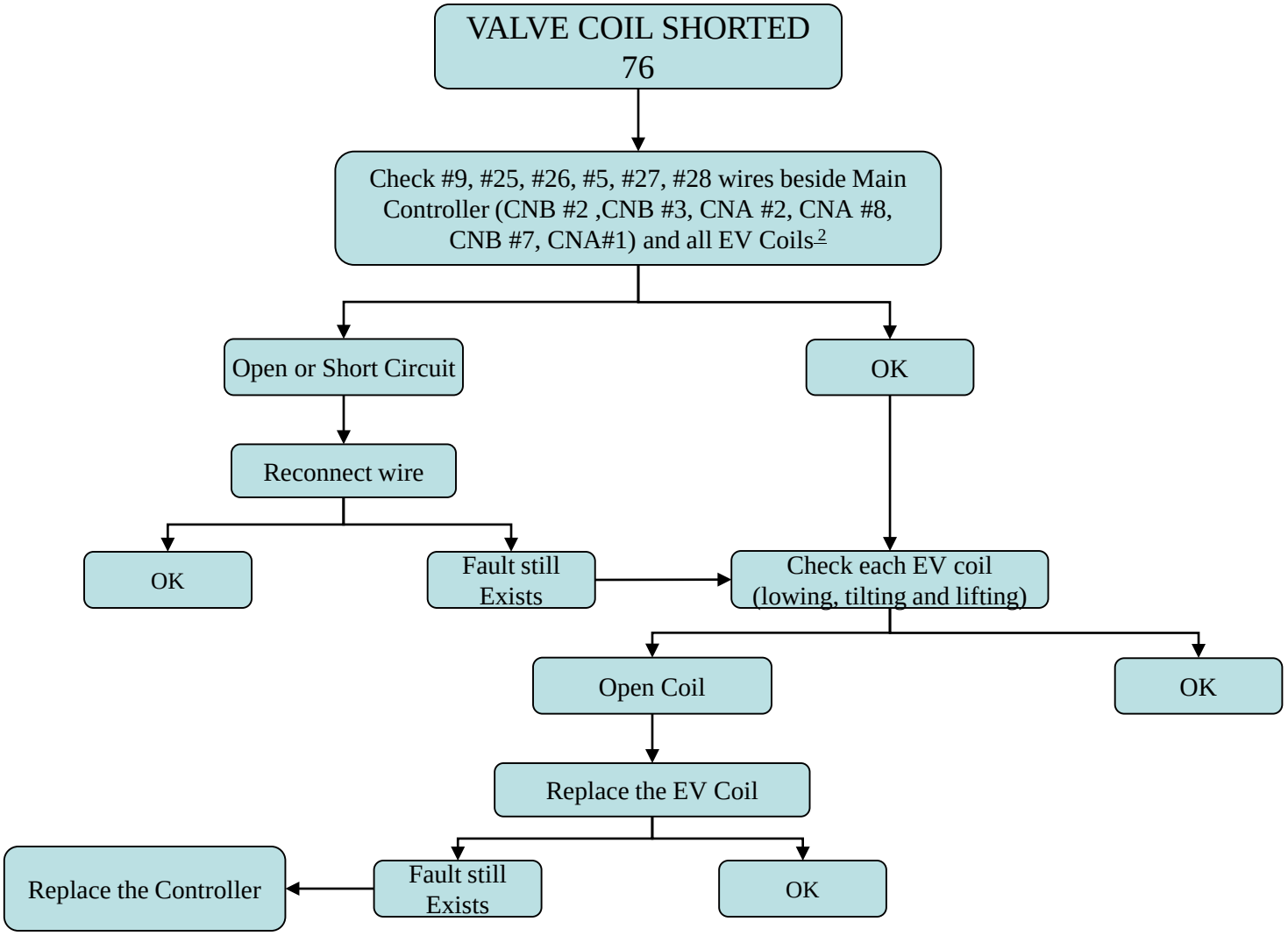
ALARM #75 on NODE #2 CONT. DRV. EV2



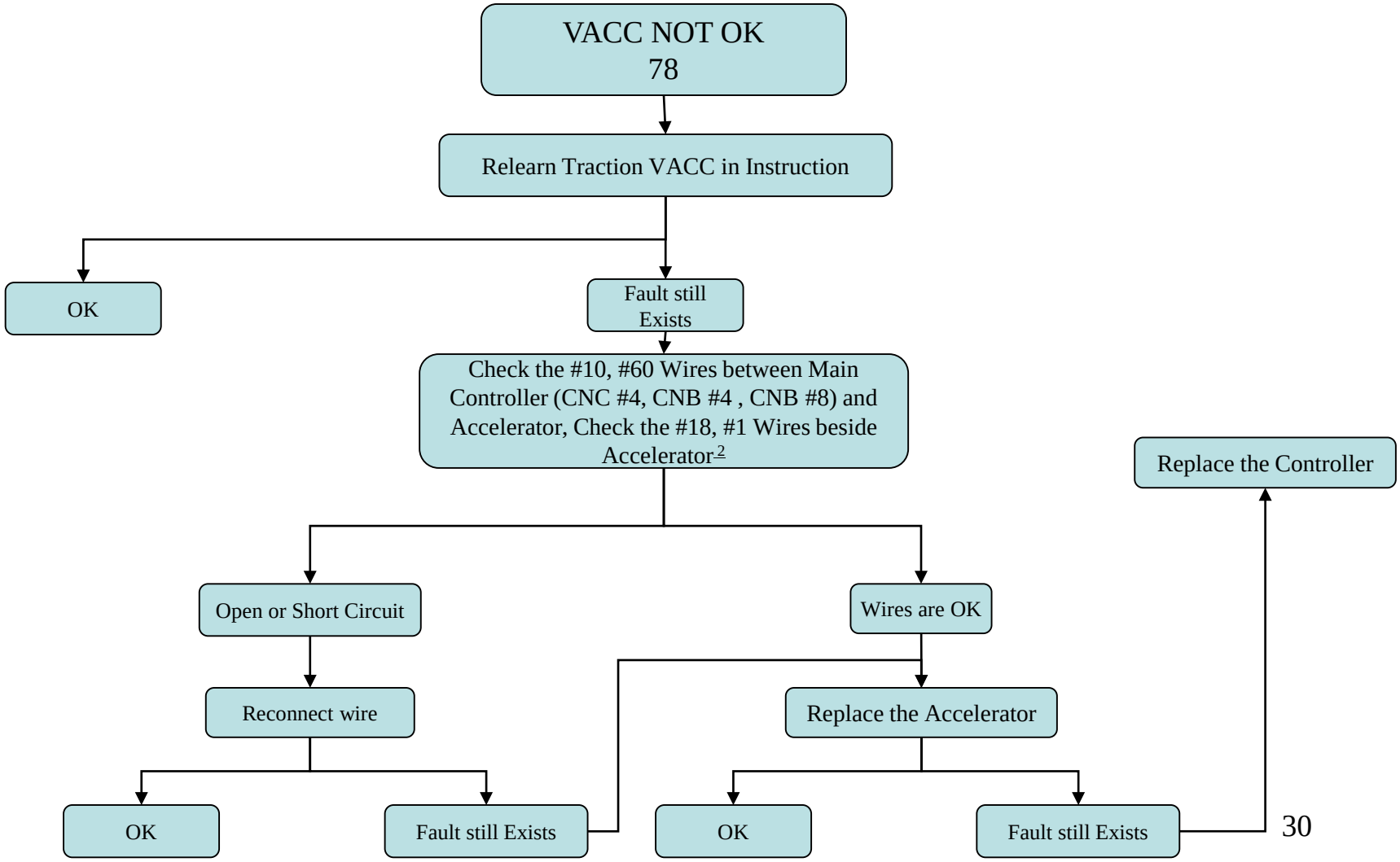
ALARM #75 on NODE #2 CONT. DRV. EV3



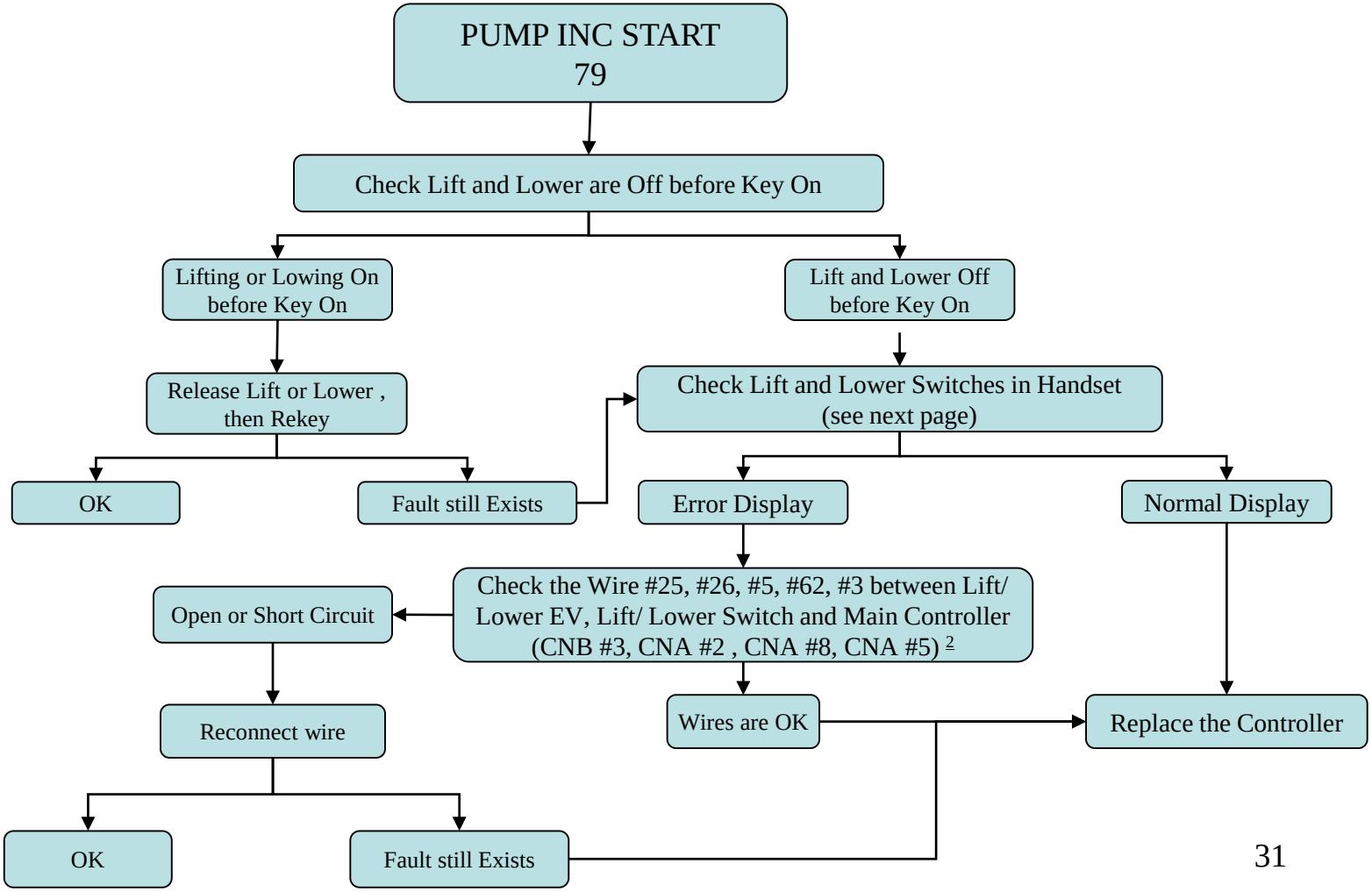
ALARM #76 on NODE #2 VALVE COIL SHORTED



ALARM #78 on NODE #2 VACC NOT OK



ALARM #79 on NODE #2 PUMP INC START



Check Lift and Lower Switch in Handset

Turn on ZAPI Handset

Push and hold the power button for 3s

Cons AFG ZP021*

The Display will show:

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

Cons AFG ZP021*
CAN CONSOLE

The Display will show :

Press OK to go into the CANCONSOLE Menu

The Display will show:

CANCONSOLE
SELECT NODE

Push 》, or 《
To select Node 2

The Display will show:

SELECT NODE
NODE 2

Press OK to go into the
Traction controller

The Display will show:

ADXT2S C22EP006
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 LIFT SW shows on the display

The display will show:

LIFT EV SW OFF

Press the Lift Switch and hold on

The display will show:

LIFT EV SW ON

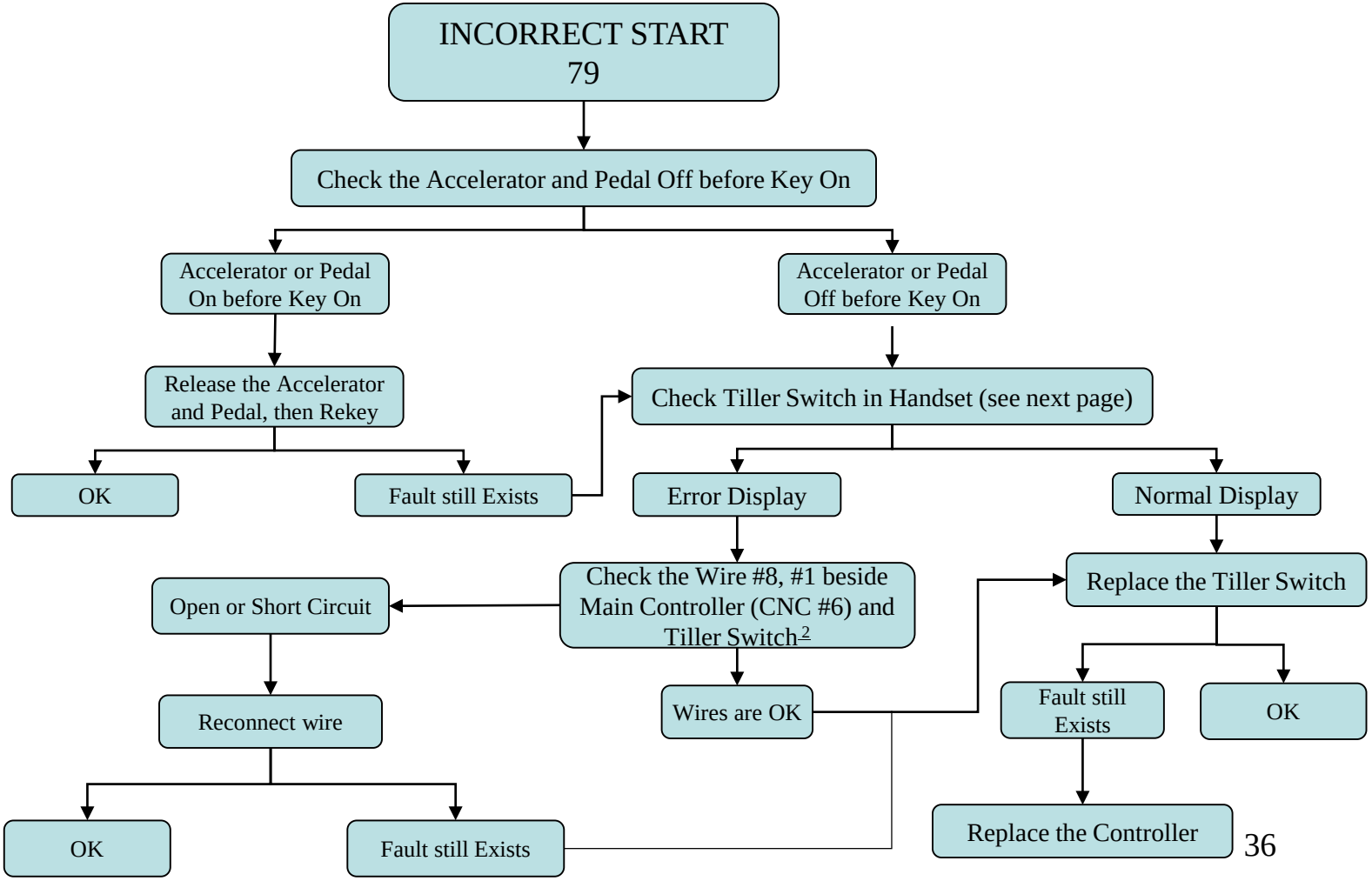
Repeat Step for Lower Switch:

LOWER EV SW OFF

LOWER EV SW ON

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

ALARM #79 on NODE #2 INCORRECT START



Check Tiller Switch in Handset

Turn on ZAPI Handset

Push and hold the power button for 3s

Cons AFG ZP021*

The Display will show:

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

Cons AFG ZP021*
CAN CONSOLE

The Display will show :

Press OK to go into the CANCONSOLE Menu

The Display will show:

CANCONSOLE
SELECT NODE

Push 》, or 《
To select Node 2

The Display will show:

SELECT NODE
NODE 2

Press OK to go into the
Traction controller

The Display will show:

ADXT2S C22EP006
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

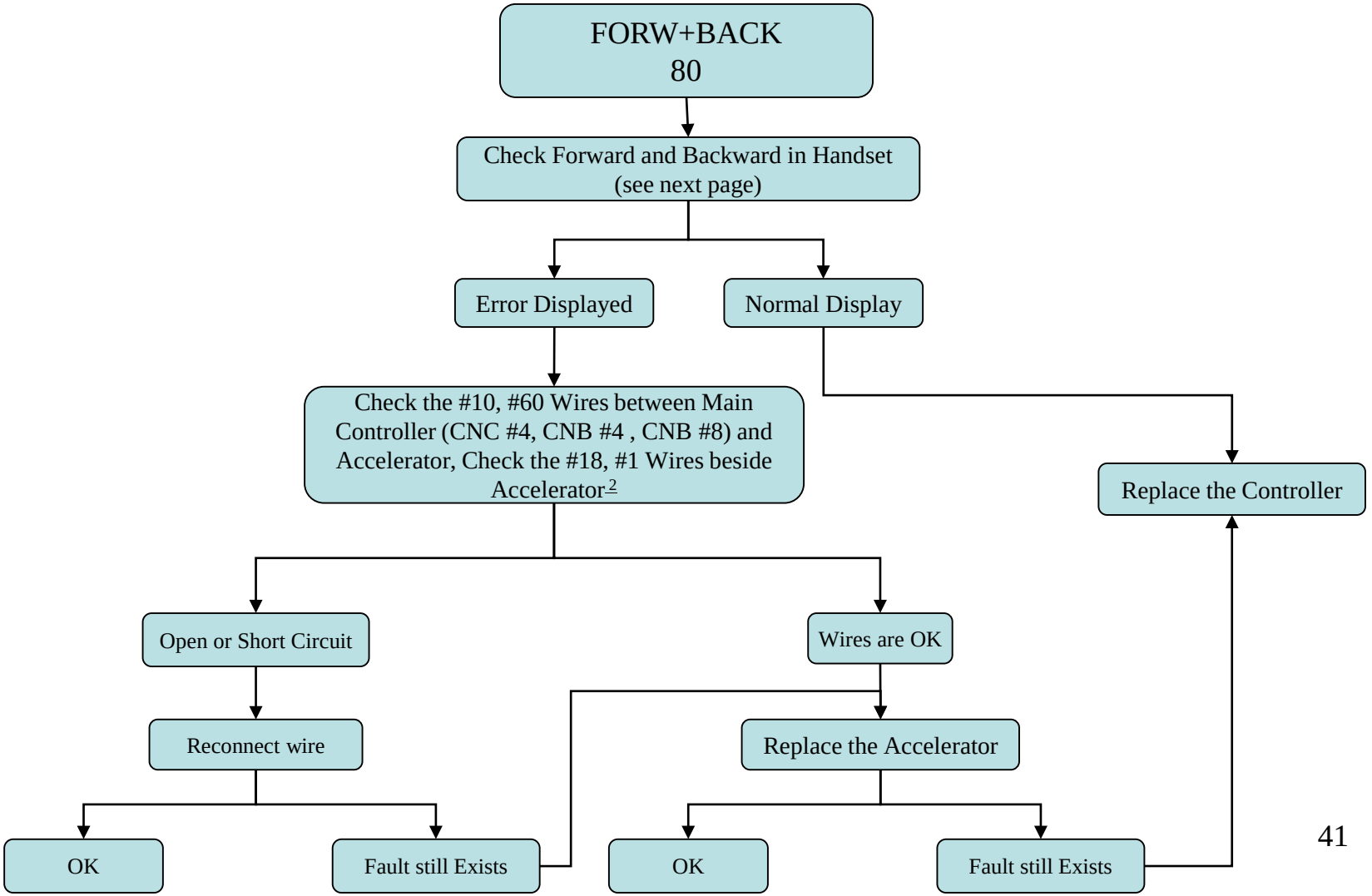
Pull down the handle, Push the accelerator and hold on

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

Turn on ZAPI Handset

Push and hold the power button for 3s

Cons AFG ZP021*

The Display will show:

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

Cons AFG ZP021*
CAN CONSOLE

The Display will show :

Press OK to go into the CANCONSOLE Menu

The Display will show:

CANCONSOLE
SELECT NODE

Push 》, or 《
To select Node 2

The Display will show:

SELECT NODE
NODE 2

Press OK to go into the
Traction controller

The Display will show:

ADXT2S C22EP006
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:

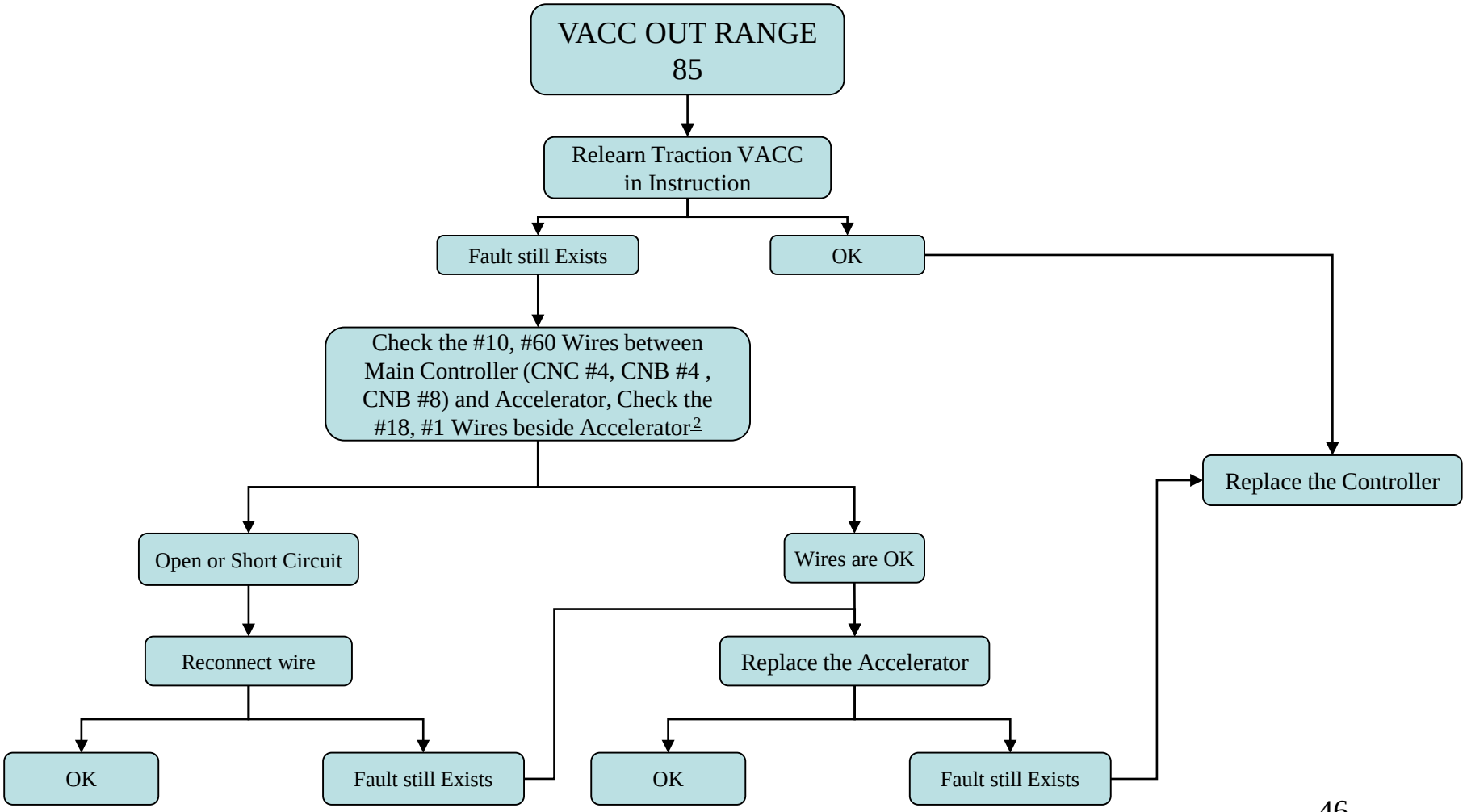
FORWARD ON

Repeat step for reverse direction

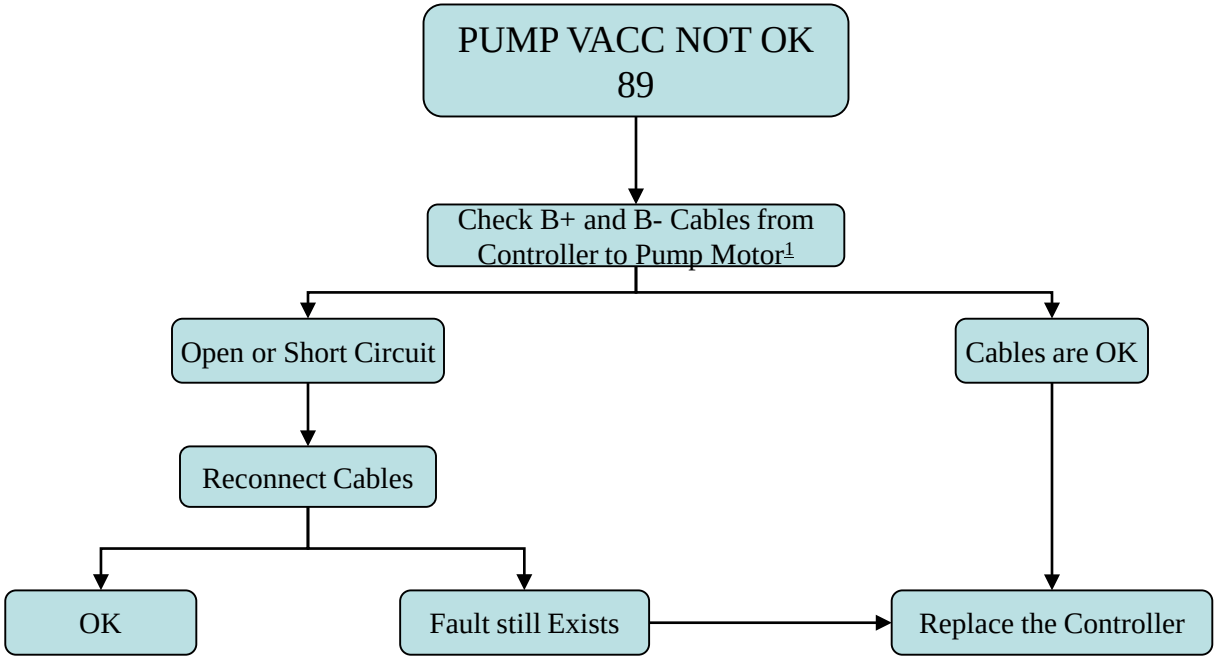
BACKWARD OFF
BACKWARD ON

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

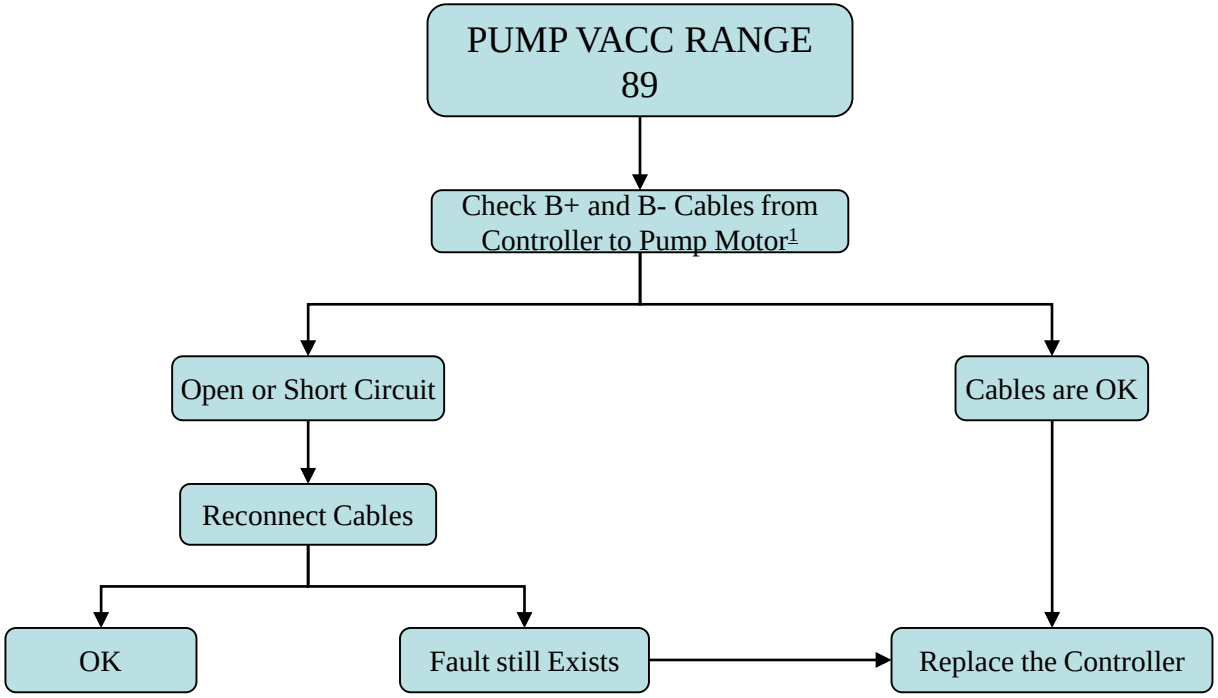
ALARM #85 on NODE #2 VACC OUT RANGE



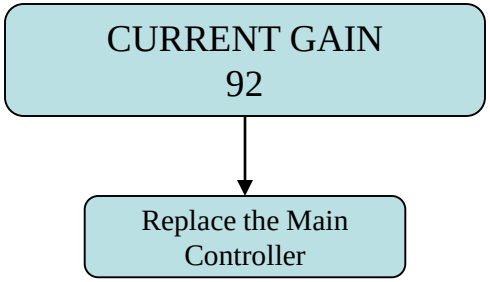
ALARM #89 on NODE #2 PUMP VACC NOT OK



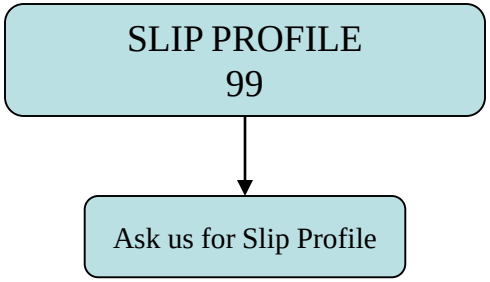
ALARM #90 on NODE #2 PUMP VACC RANGE



ALARM #92 on NODE #2 CURRENT GAIN

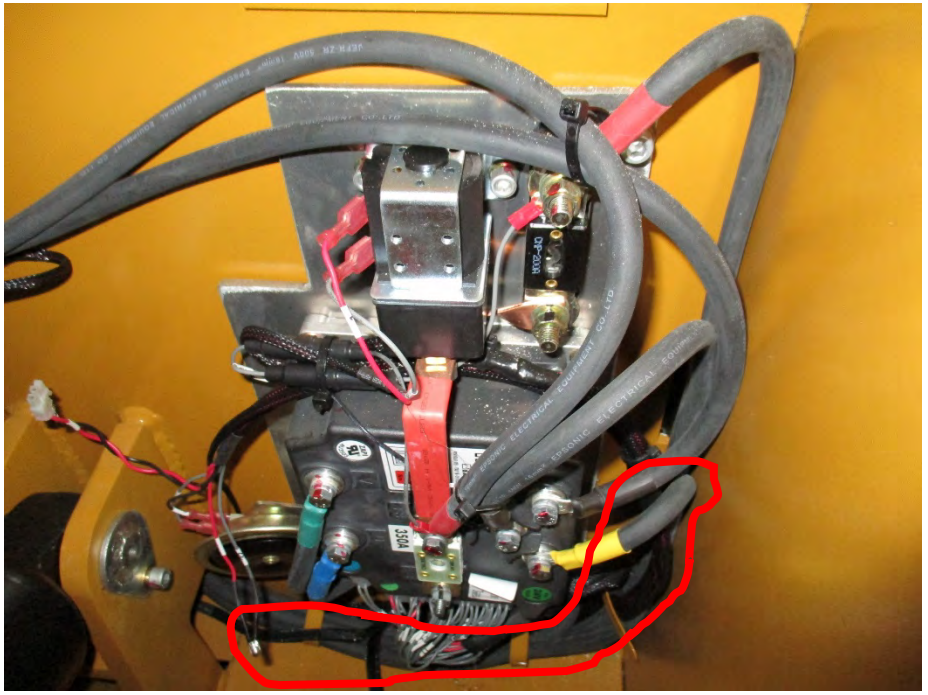


ALARM #99 on NODE #2 SLIP PROFILE

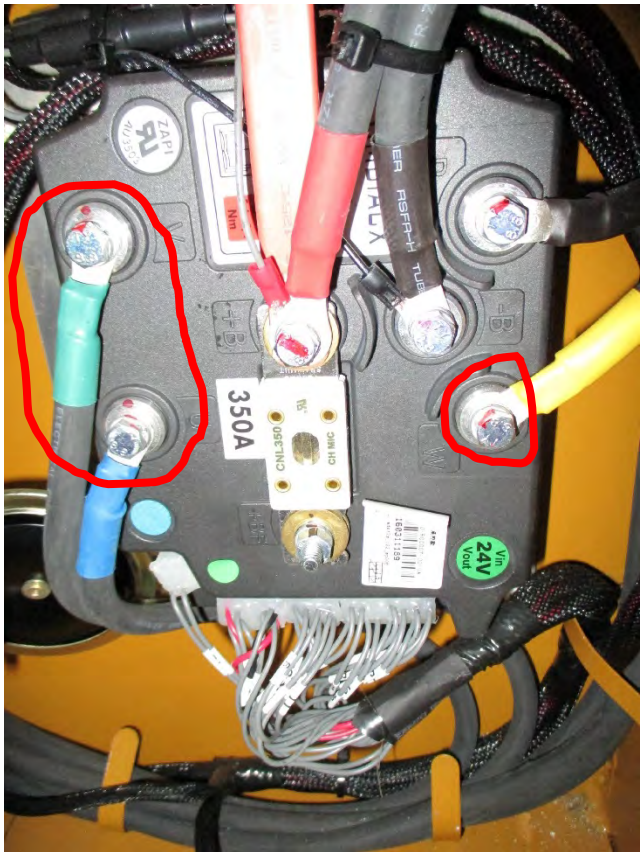


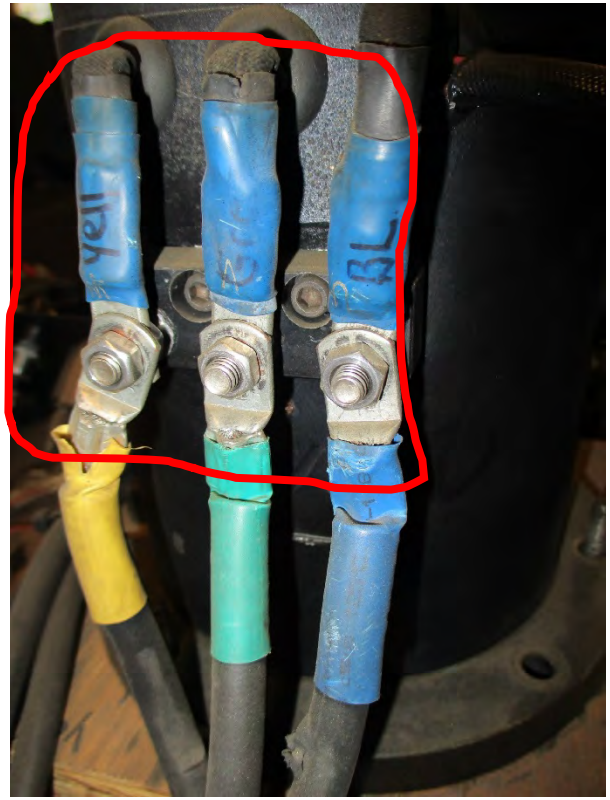
Appendix A

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.

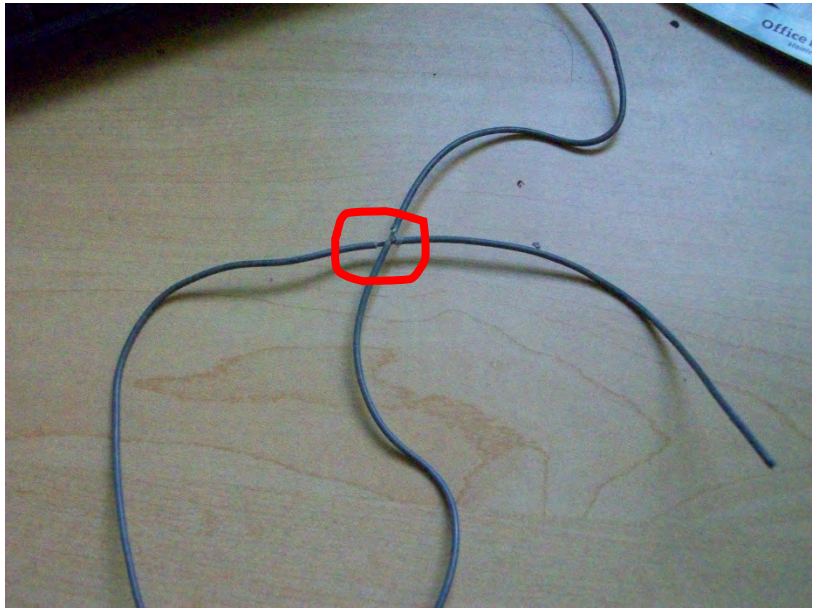


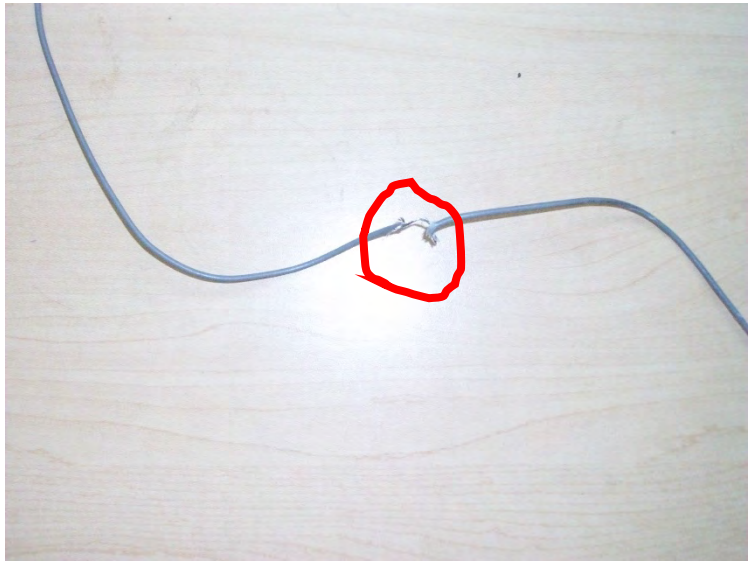
Check the connection points of the motor cables, and controller cables. Check the cable terminals for burn marks. Check if hardware is loose or burned. Ensure connections are tightened properly.



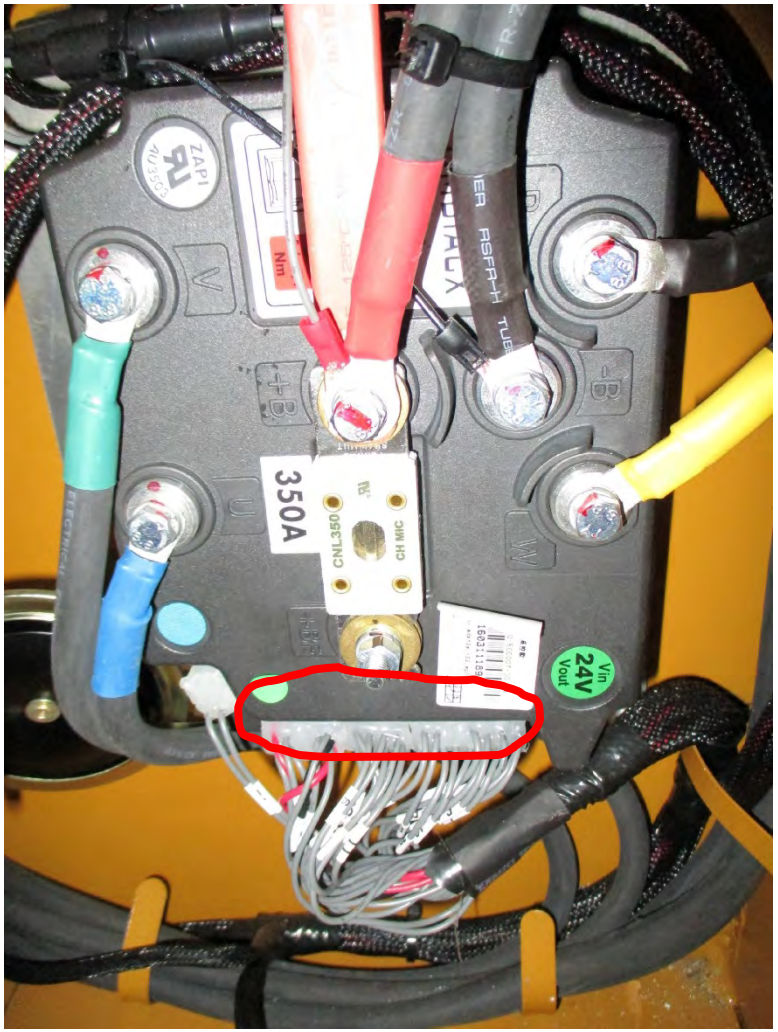


2. Check if cables are opened or shorted. A shorted cable means the cable jacketing is damaged and it is shorting to another cable or it is in contact with a metal object like the frame. An open cable means one of the inside metal wires are cut/damaged. If you are not sure, pleasure measure the resistance of the individual wire or cable. If the resistance is more than 1 ohm, it is open.

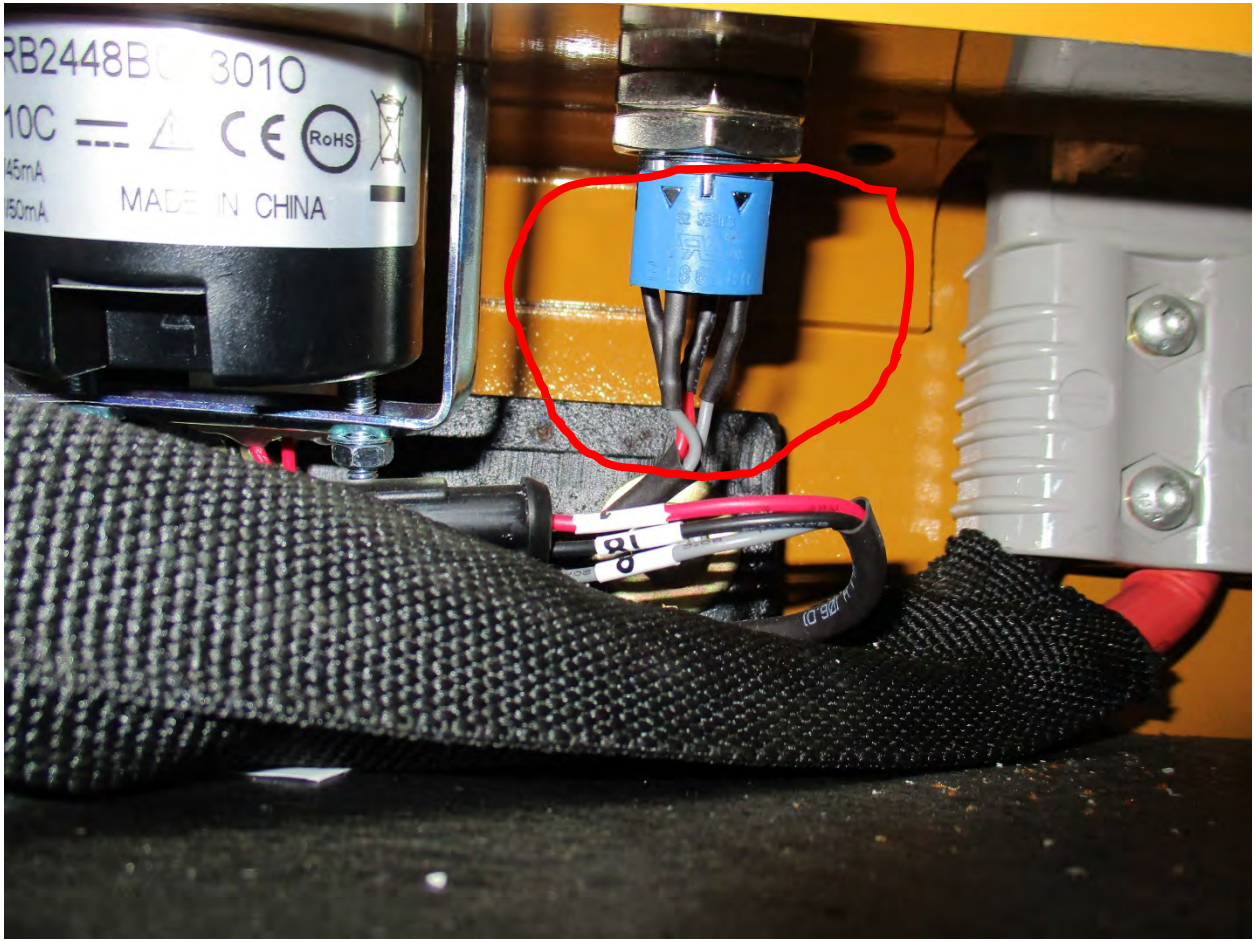




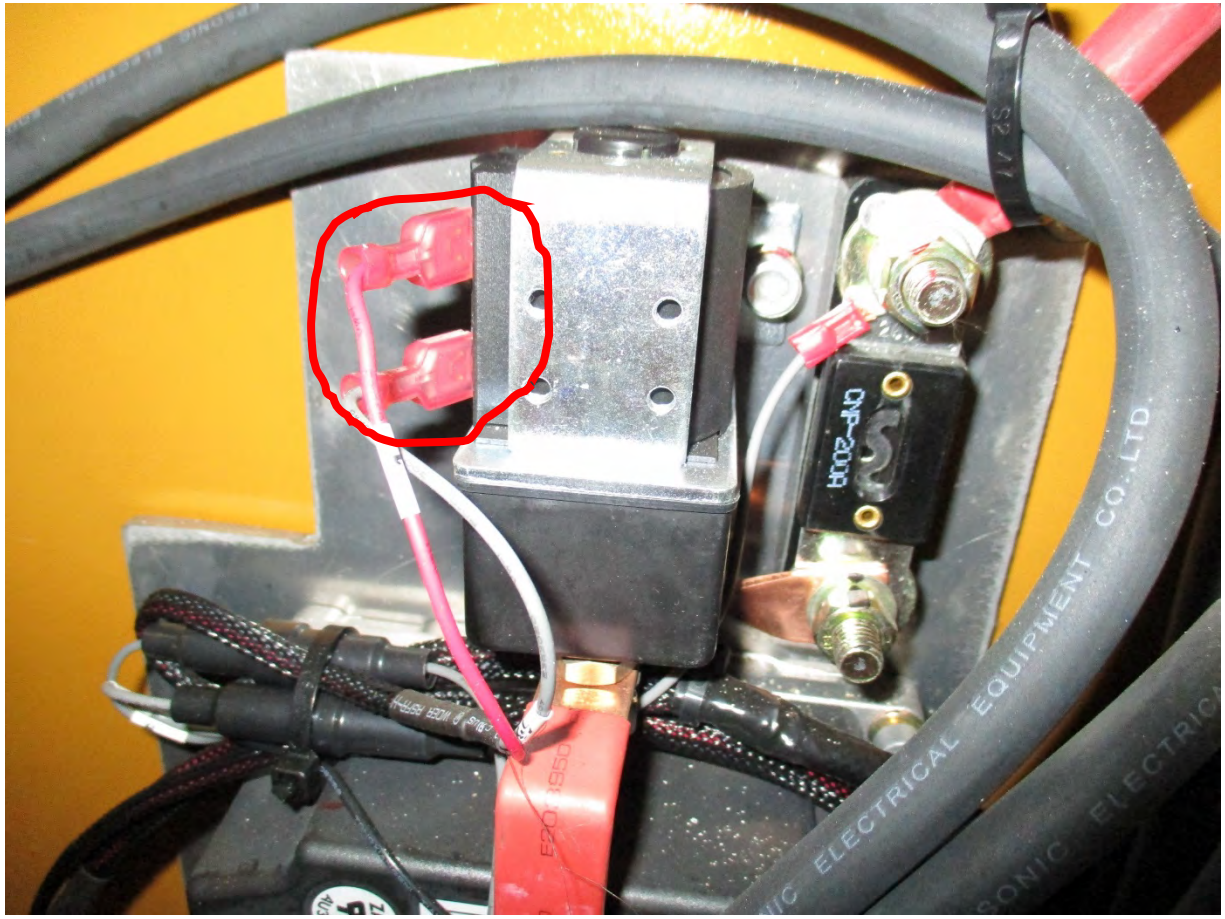
Check the connectors and pins on the Controller. Ensure connector locks are not damaged and no pins are broken or pushed out of the connector. Ensure no wires at pin terminations are cut/damaged



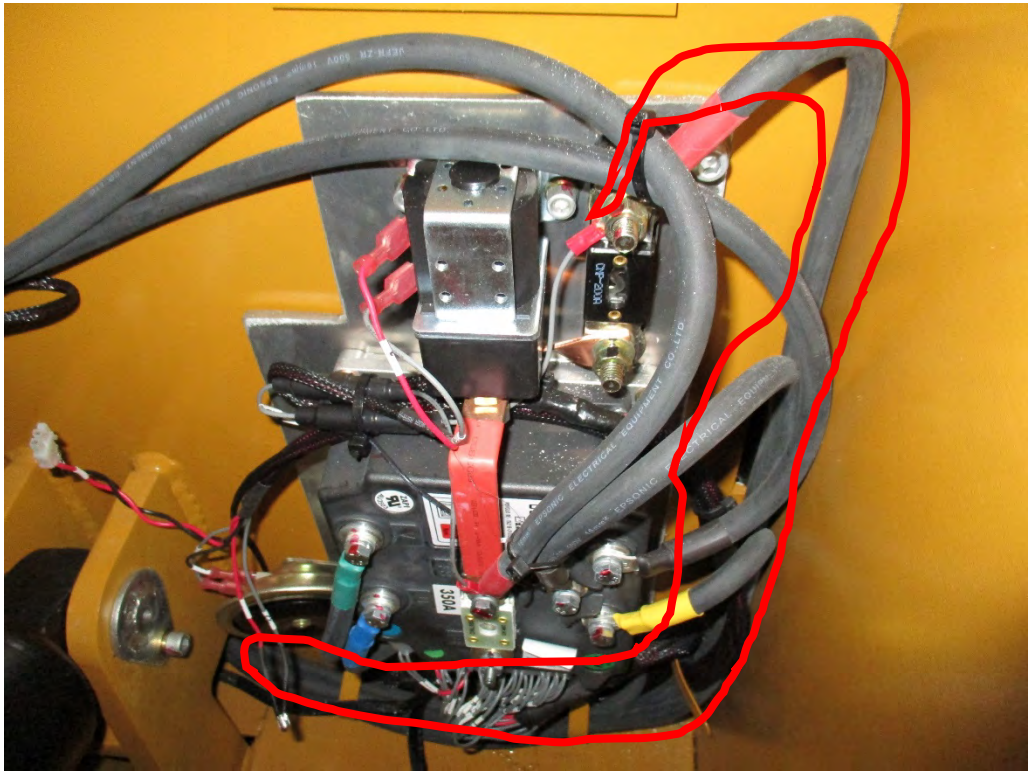
Check the connections between Controller wires and switches/sensors. Ensure wires are not cut or damaged.



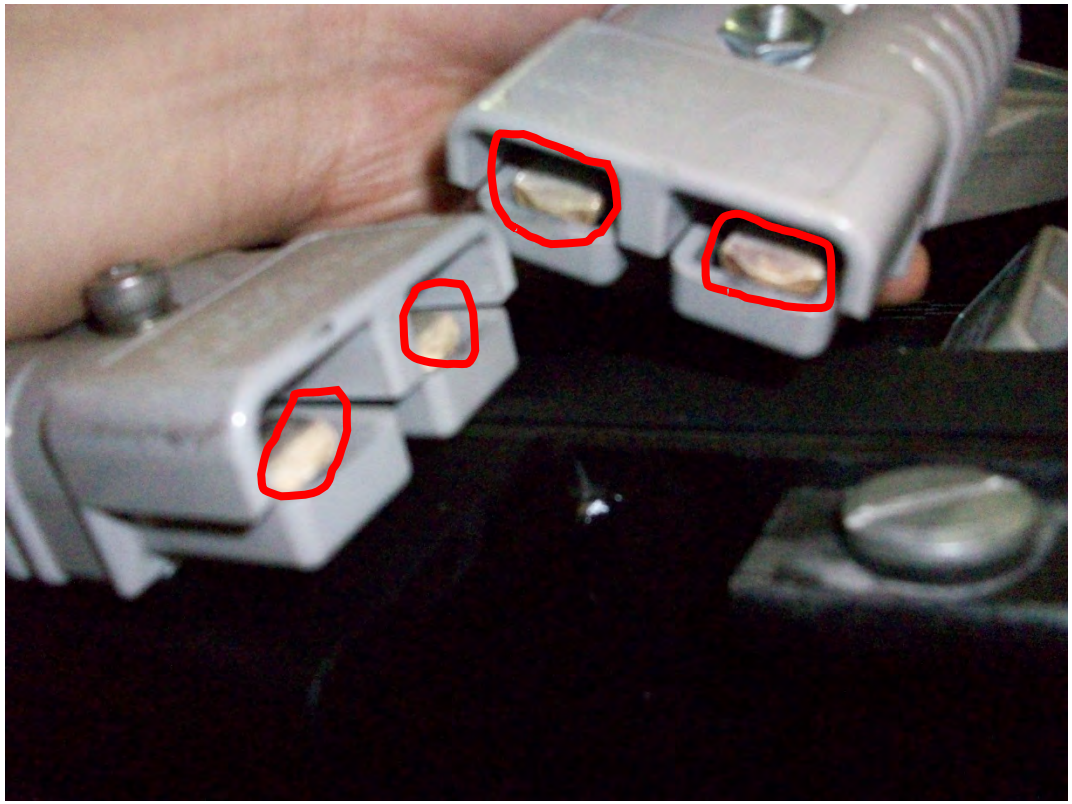
Check if connectors are loose or burned (such as the 2 pin connectors on the Main Contact). Ensure the parts are properly tightened.



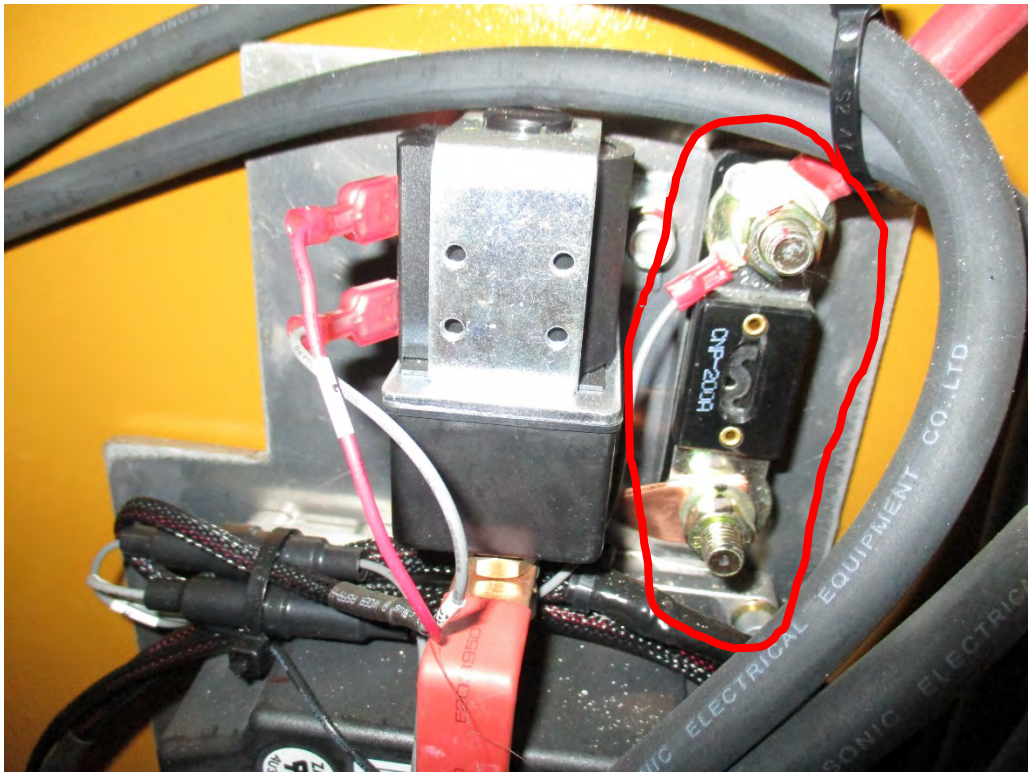
3. Check if cables are opened or shorted. A shorted cable means the cable jacketing is damaged and it is shorting to another cable or it is in contact with a metal object like the frame. An open cable means one of the inside metal wires are cut/damaged. If you are not sure, pleasure measure the resistance of the individual wire or cable. If the resistance is more than 1 ohm, it is open



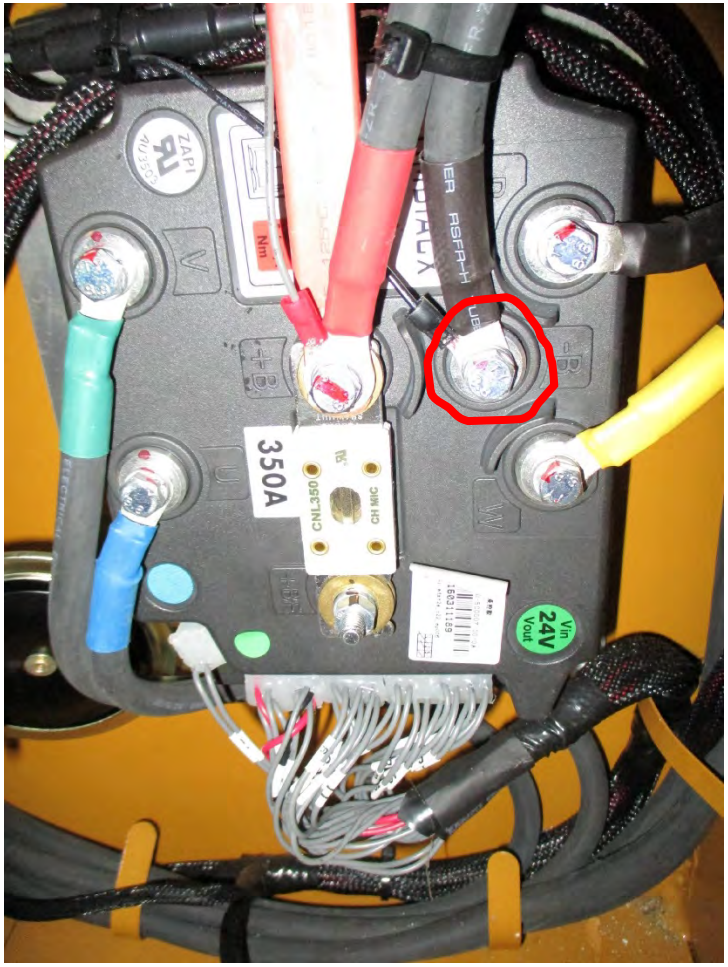
Check the Connectors between Battery and truck to see if they fit loose or are burned (Concentrate on the inside of the connector). If they do not fit correctly, replace cable lugs and/or connector housing to correct the issue.



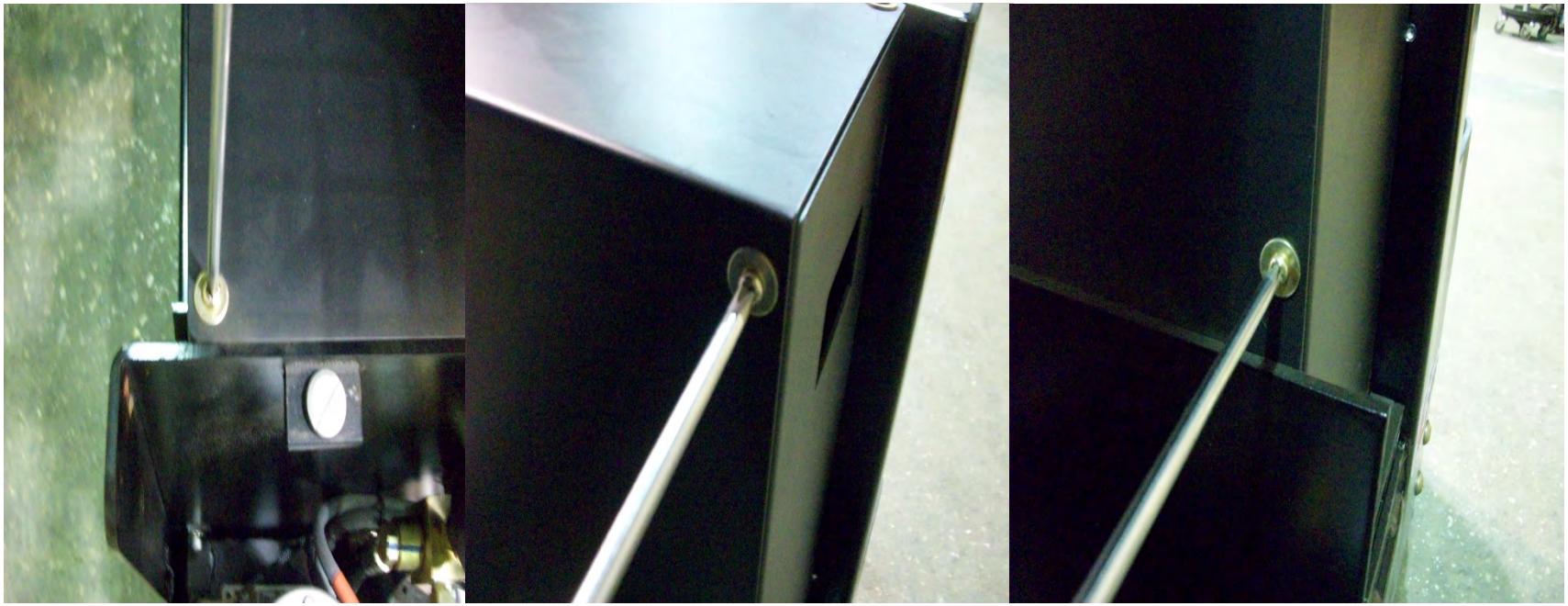
Check if the fuses are blown out or not



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