V8 Troubleshooting

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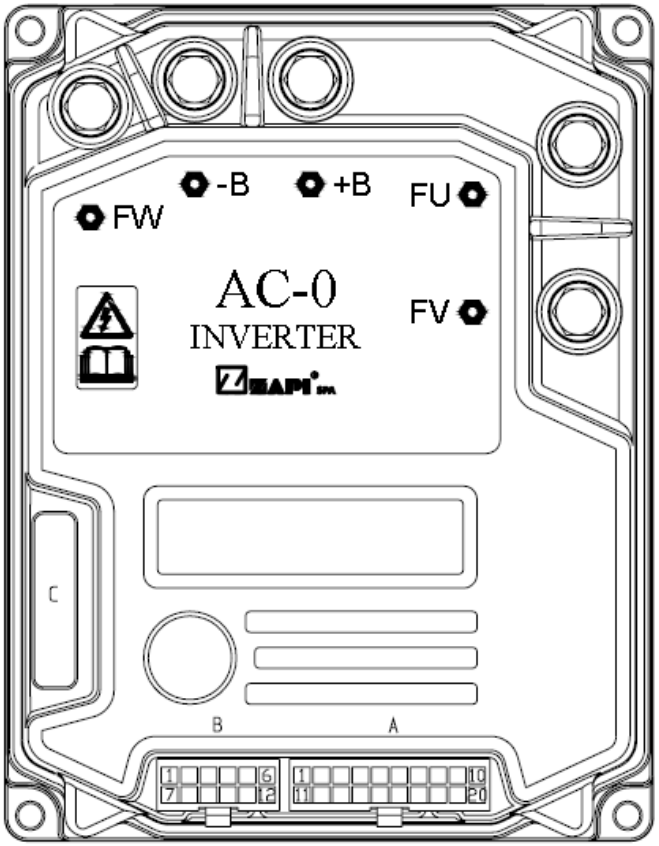
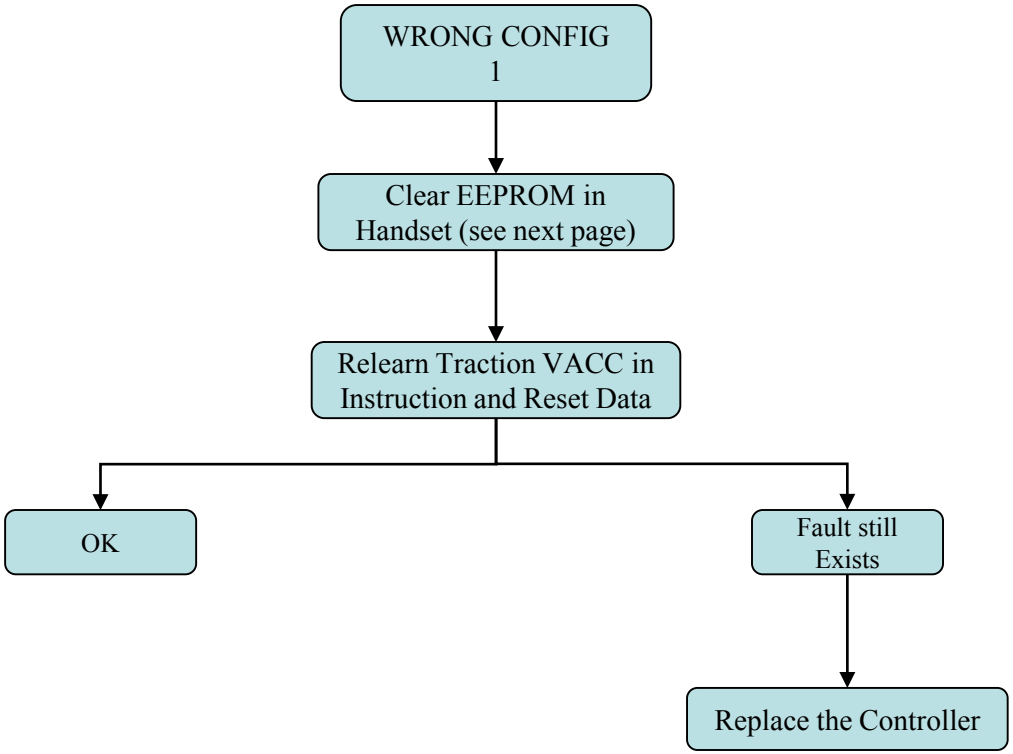
Main Controller 1—AC0



ALARM #1 on NODE #2 WRONG CONFIG



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:

ACOT2BESK EP0.45
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

MAIN MENU
CLEAR EEPROM

The Display will show:

Press OK to go into the CLEAR EEPROM function

The Display will ask:
ARE YOU SURE?

ARE YOU SURE?
YES= OK NO=ESC

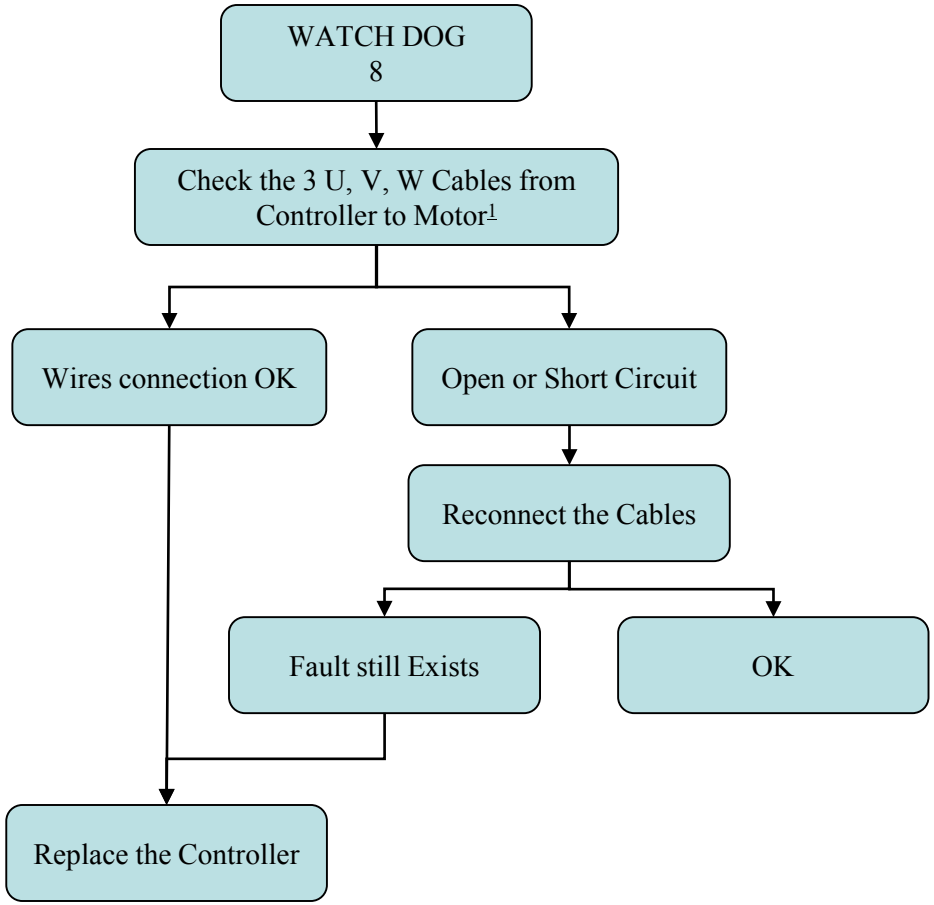
Press OK to CLEAR EEPROM

The display will show:

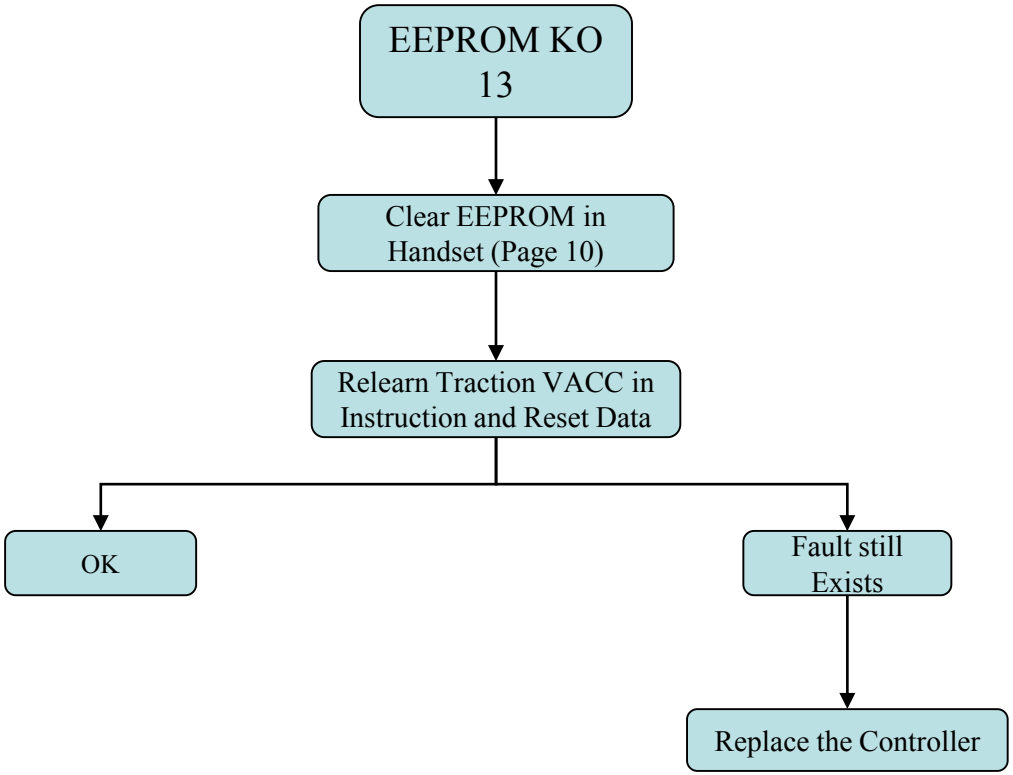
EEPROM CLEARED!
KEY OFF, PLEASE

Rekey truck, and restart handset

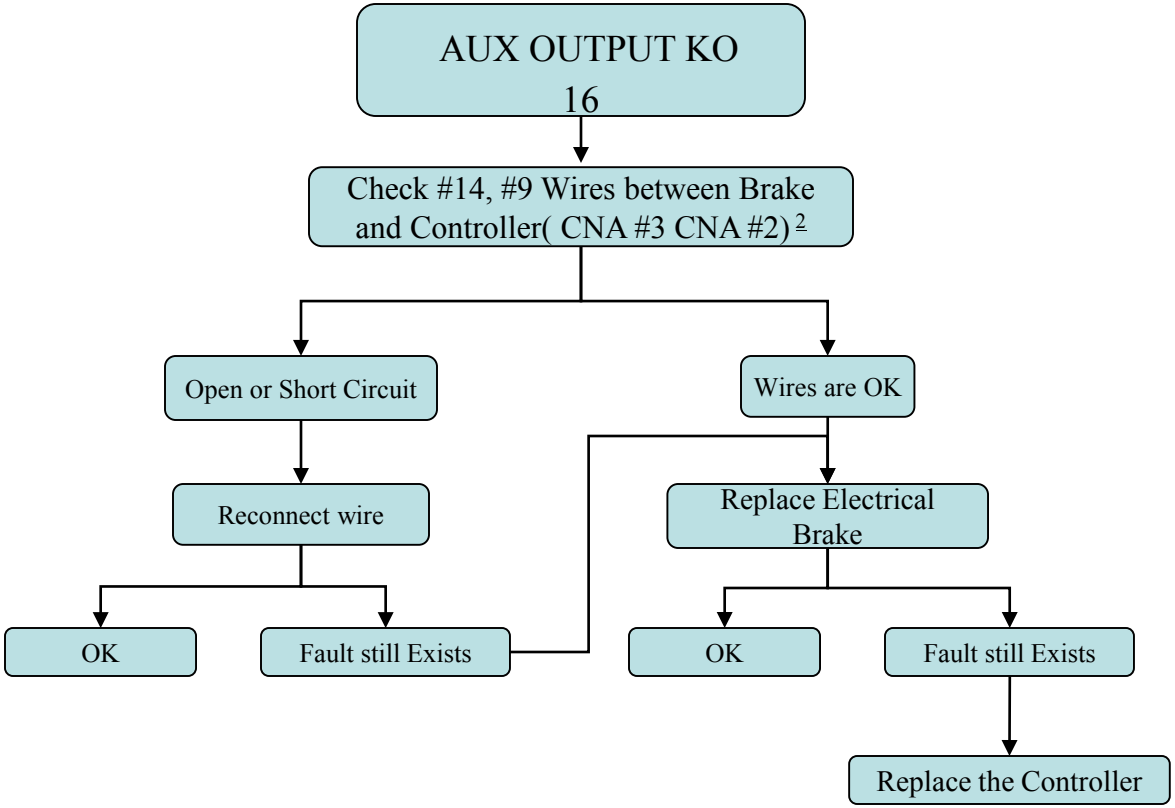
ALARM #8 on NODE #2 Watch Dog



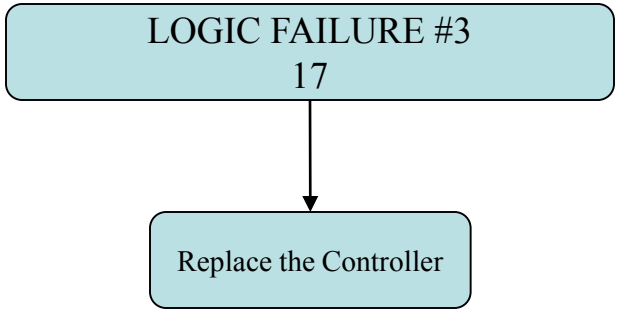
ALARM #13 on NODE #2 EEPROM KO



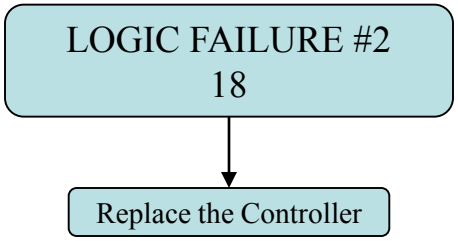
ALARM #16 on NODE #2 AUX OUTPUT KO



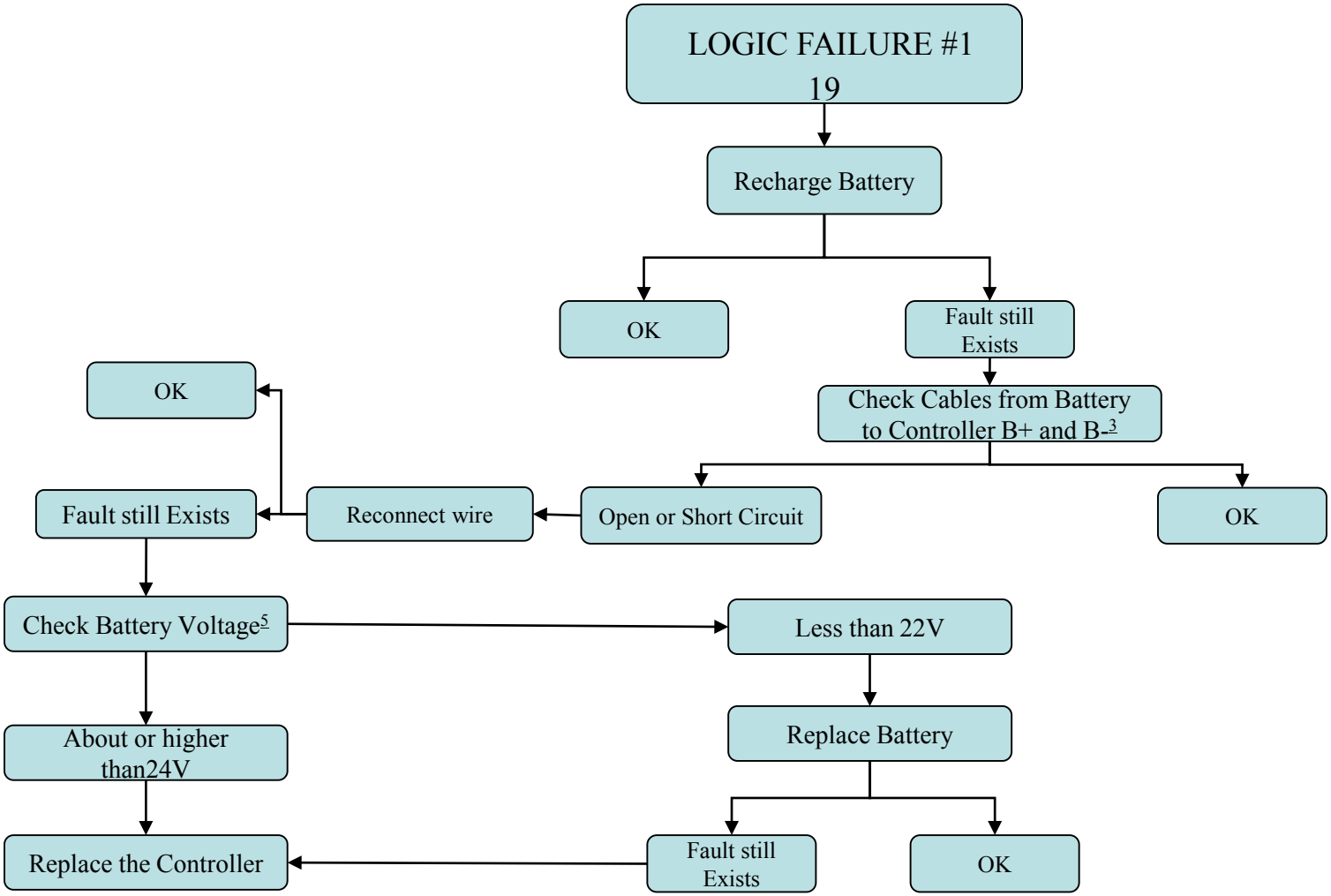
ALARM #17 on NODE #2 LOGIC FAILURE #3



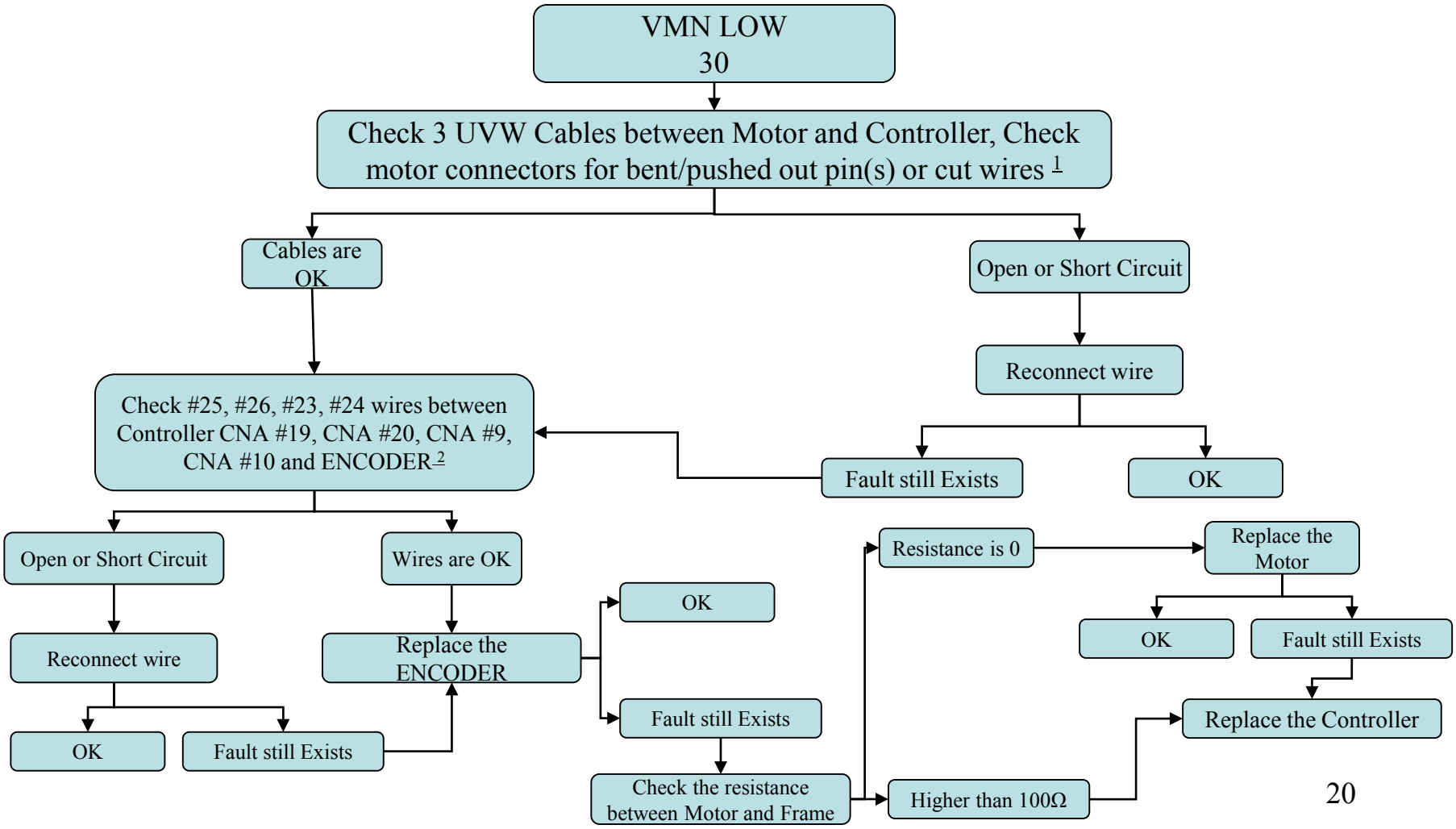
ALARM #18 on NODE #2 LOGIC FAILURE #2



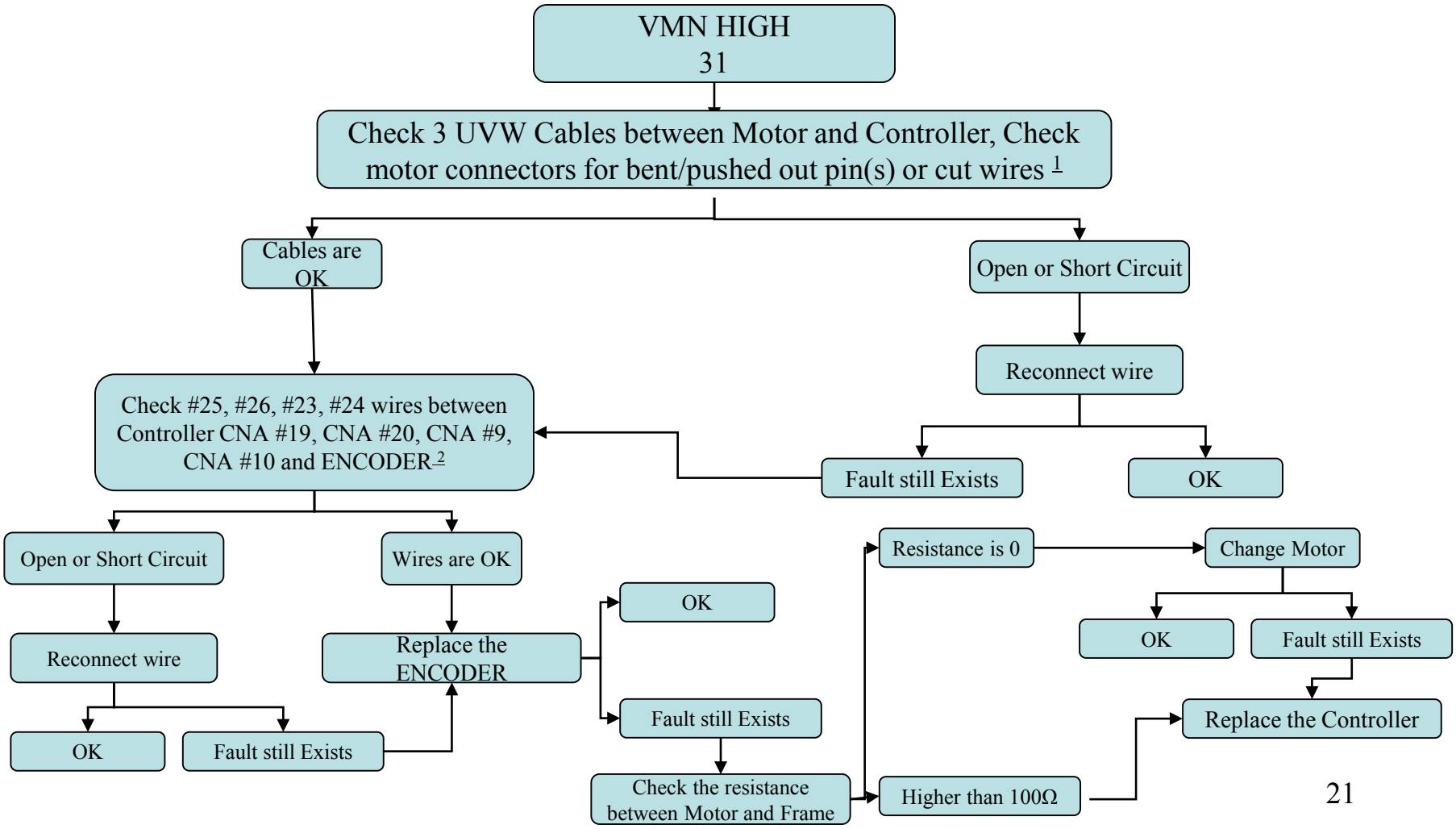
ALARM #19 on NODE #2 LOGIC FAILURE #1



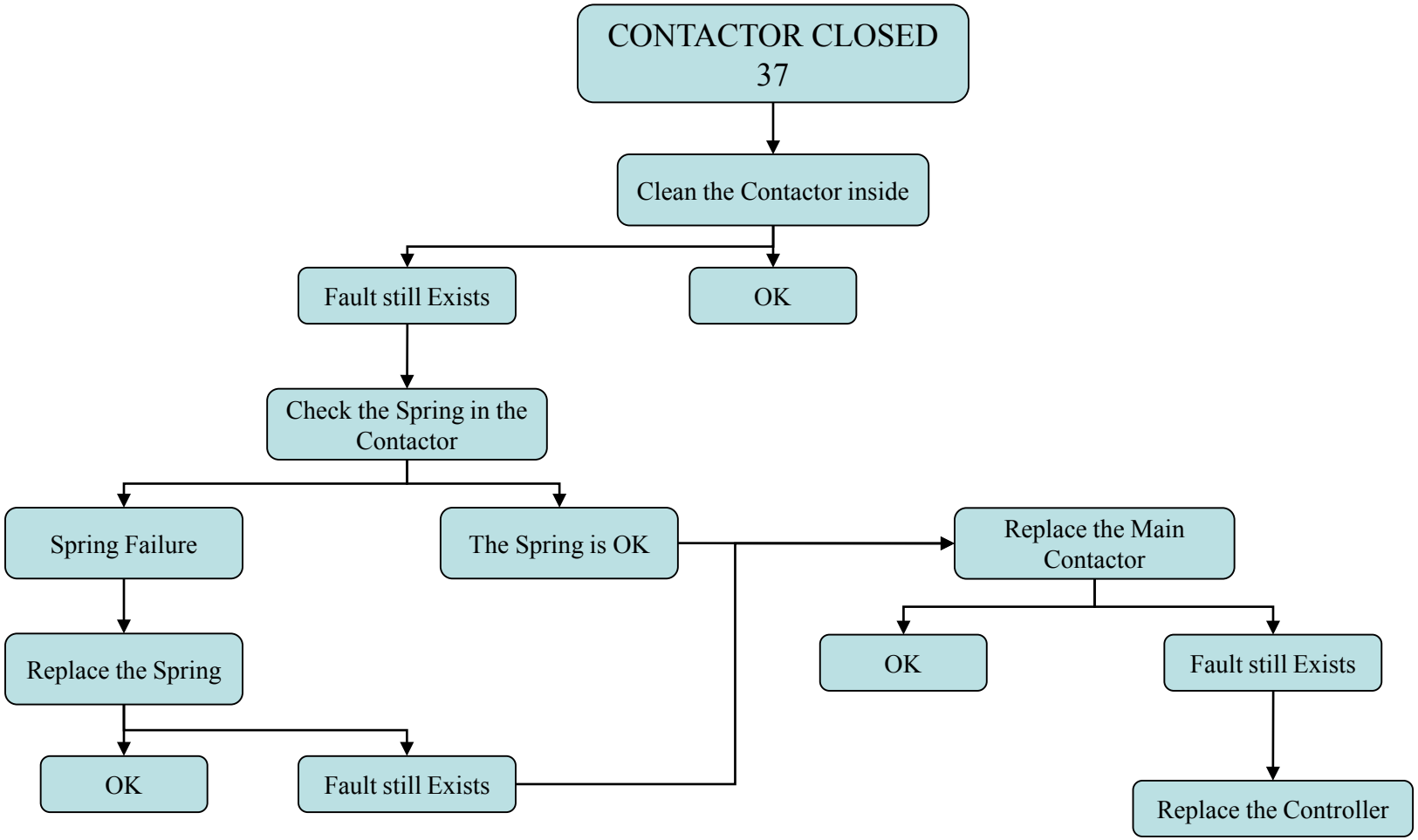
ALARM #30 on NODE #2 VMN LOW



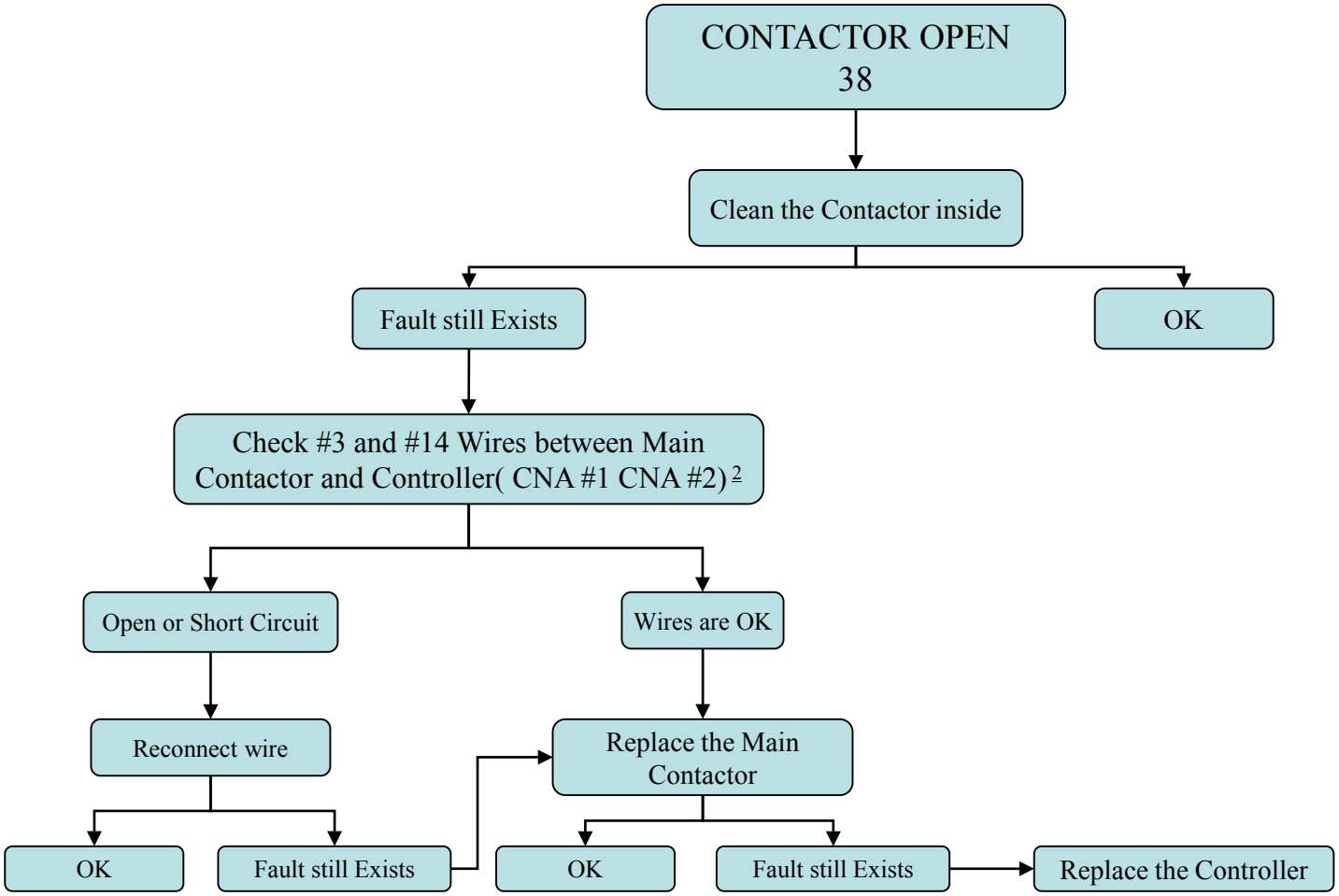
ALARM #31 on NODE #2 VMN HIGH



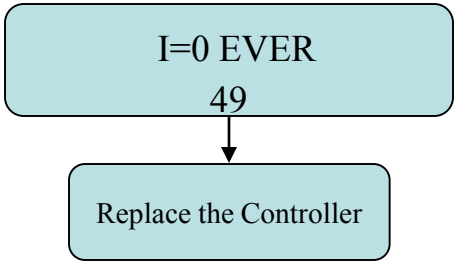
ALARM #37 on NODE #2 CONTACTOR CLOSED



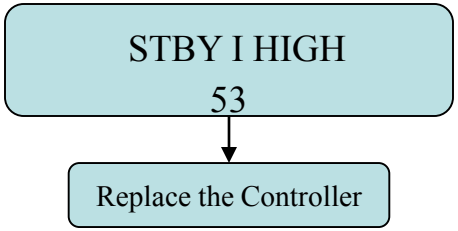
ALARM #38 on NODE #2 CONTACTOR OPEN



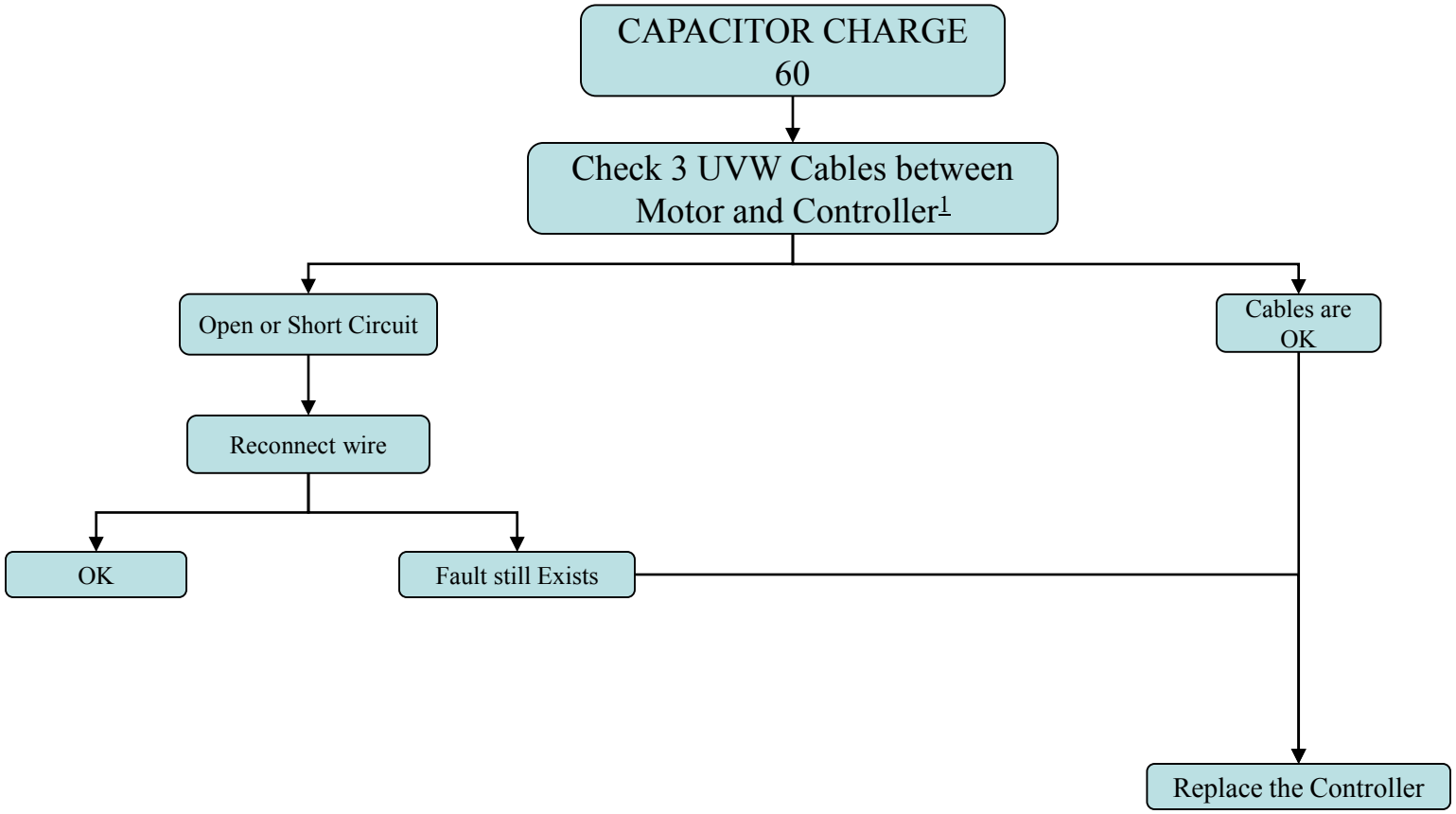
ALARM #49 on NODE #2 I=0 EVER



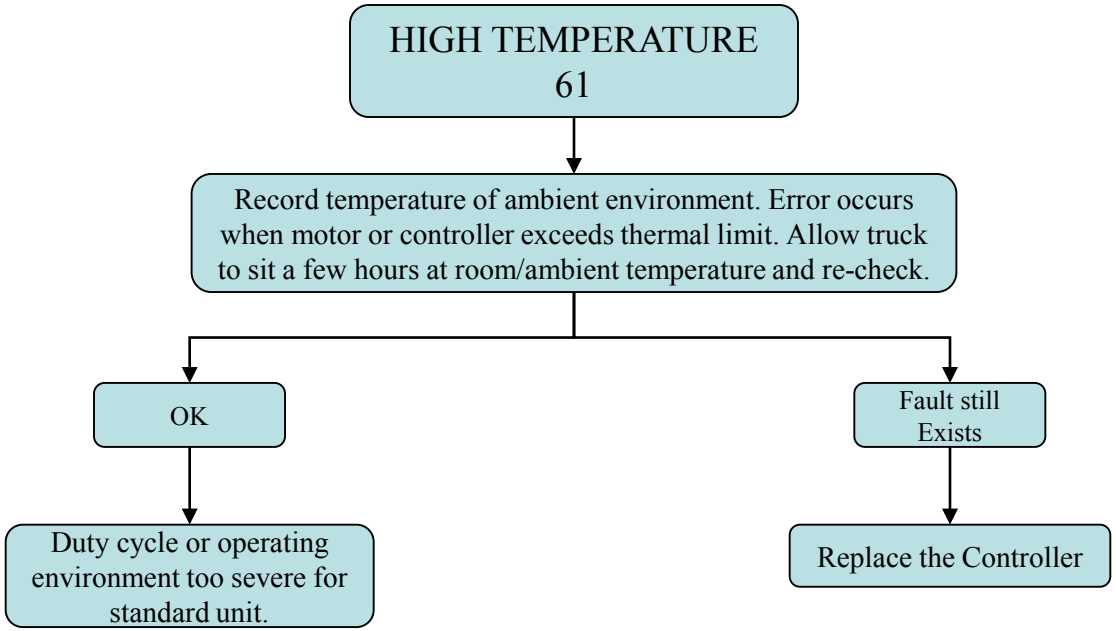
ALARM #53 on NODE #2 STBY I HIGH



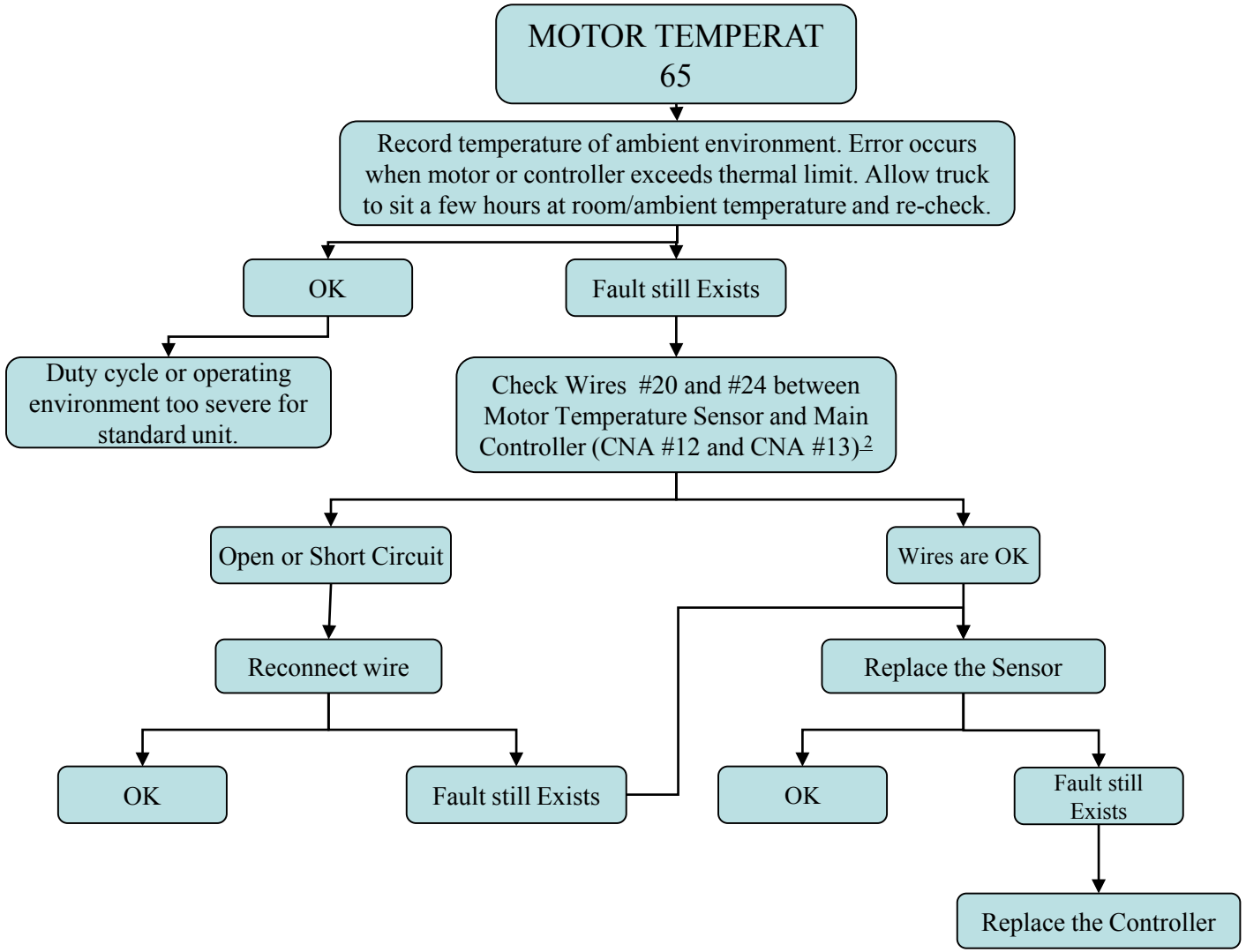
ALARM #60 on NODE #2 CAPACITOR CHARGE



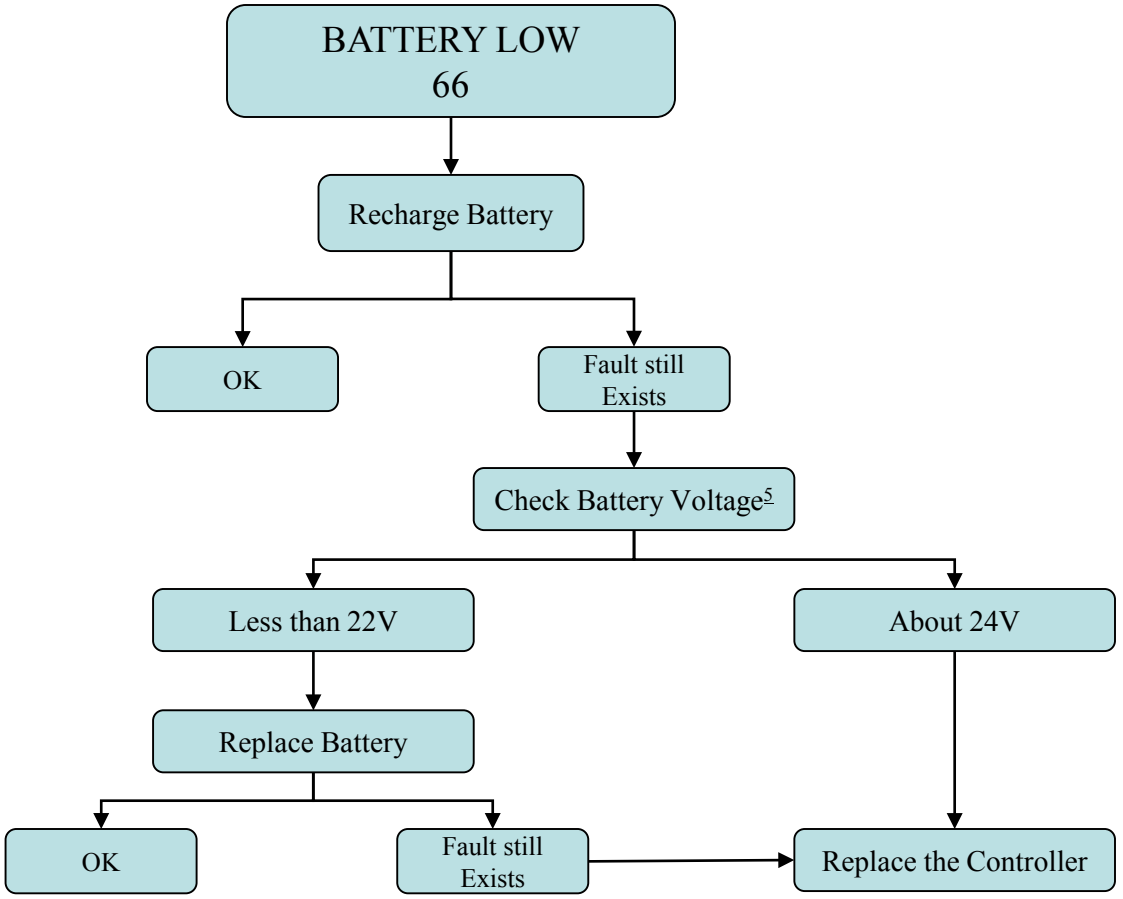
ALARM #61 on NODE #2 HIGH TEMPERATURE



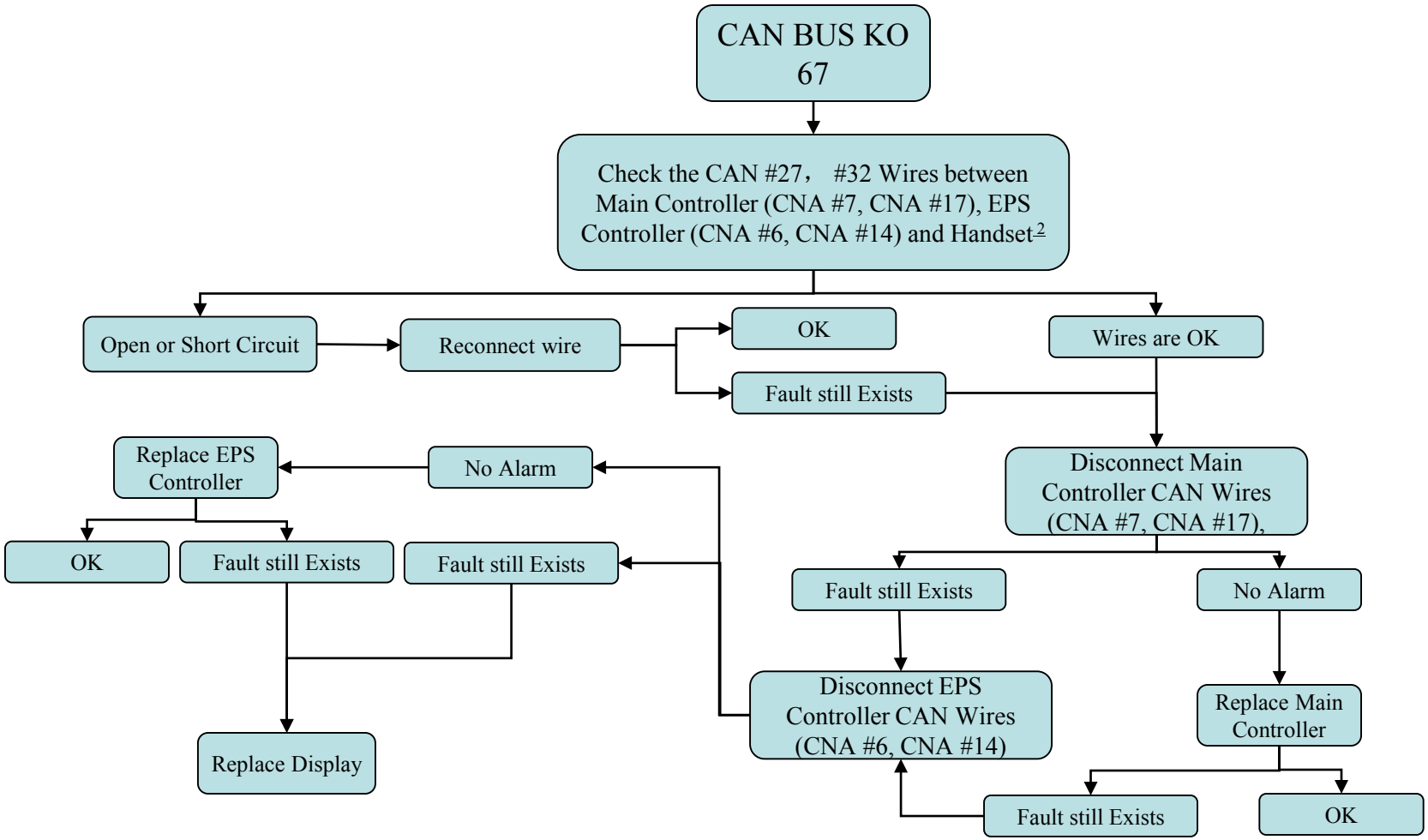
ALARM #65 on NODE #2 MOTOR TEMPERAT



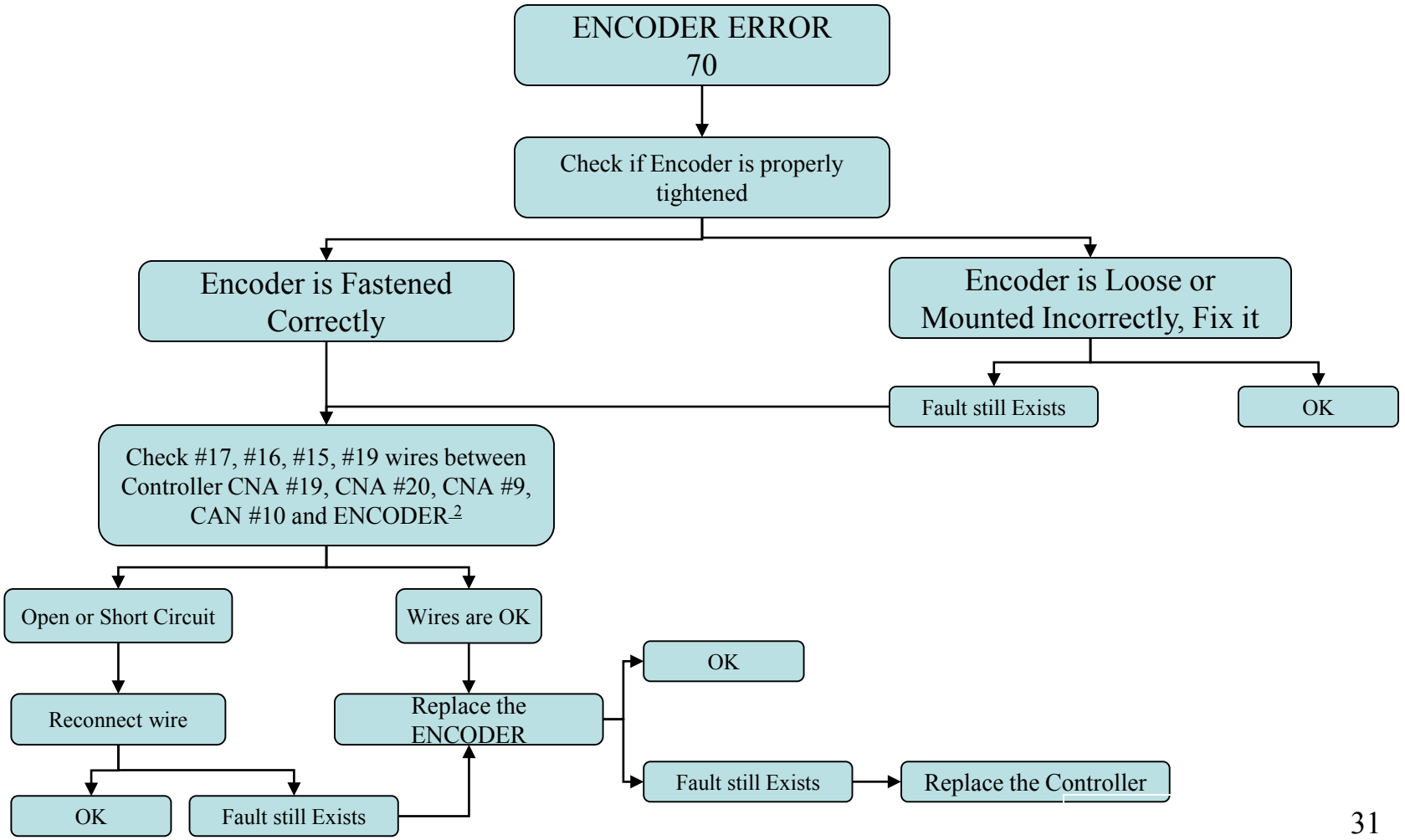
ALARM #66 on NODE #2 BATTERY LOW



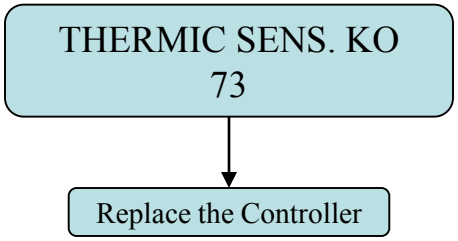
ALARM #67 on NODE #2 CAN BUS KO



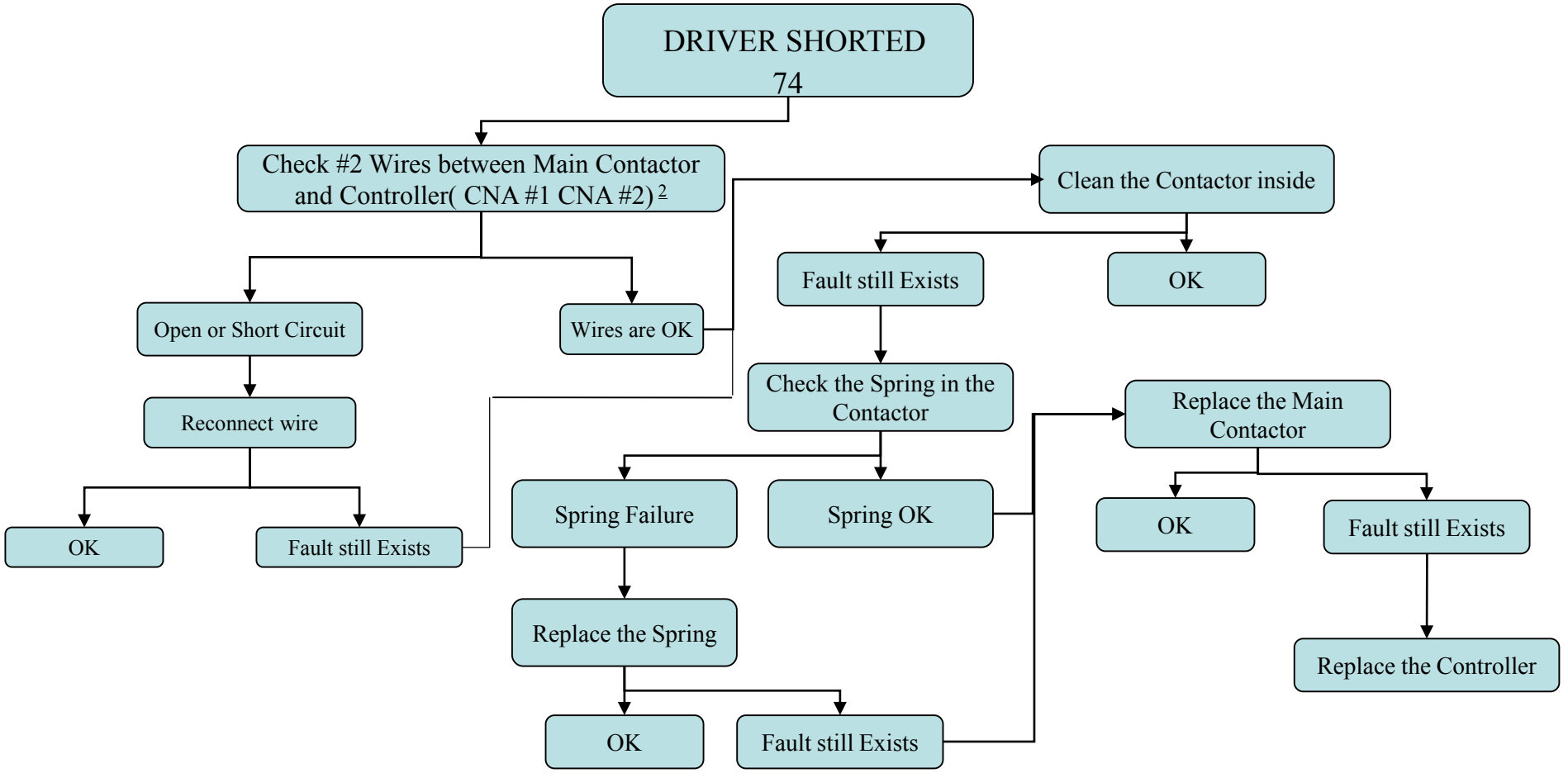
ALARM #70 on NODE #2 ENCODER ERROR



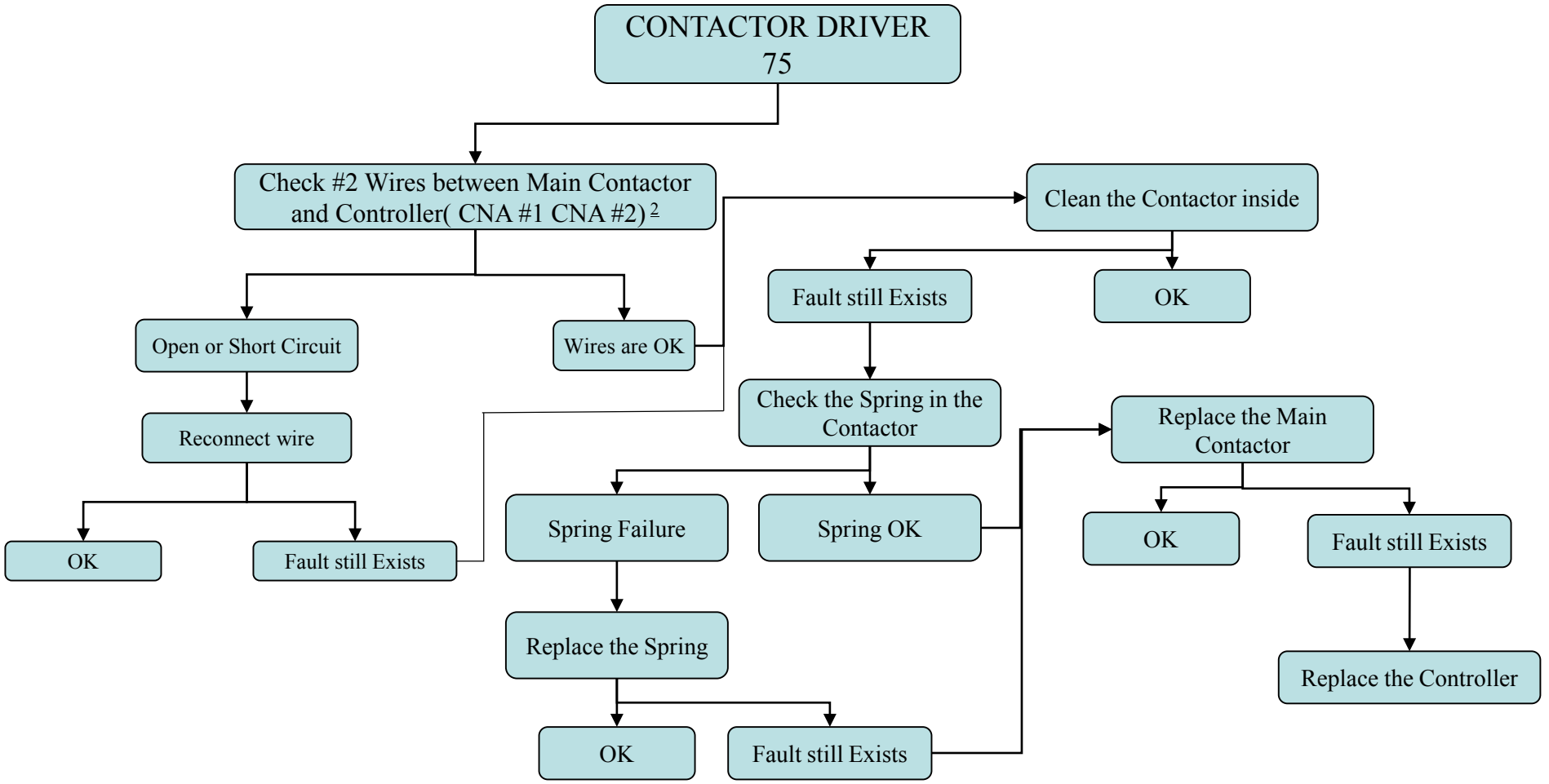
ALARM #73 on NODE #2 THERMIC SENS. KO



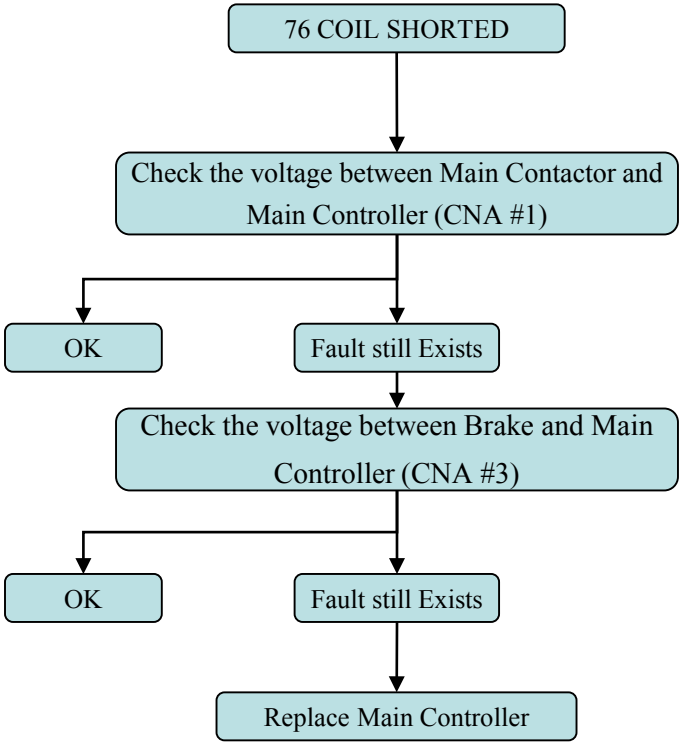
ALARM #74 on NODE #2 DRIVER SHORTED

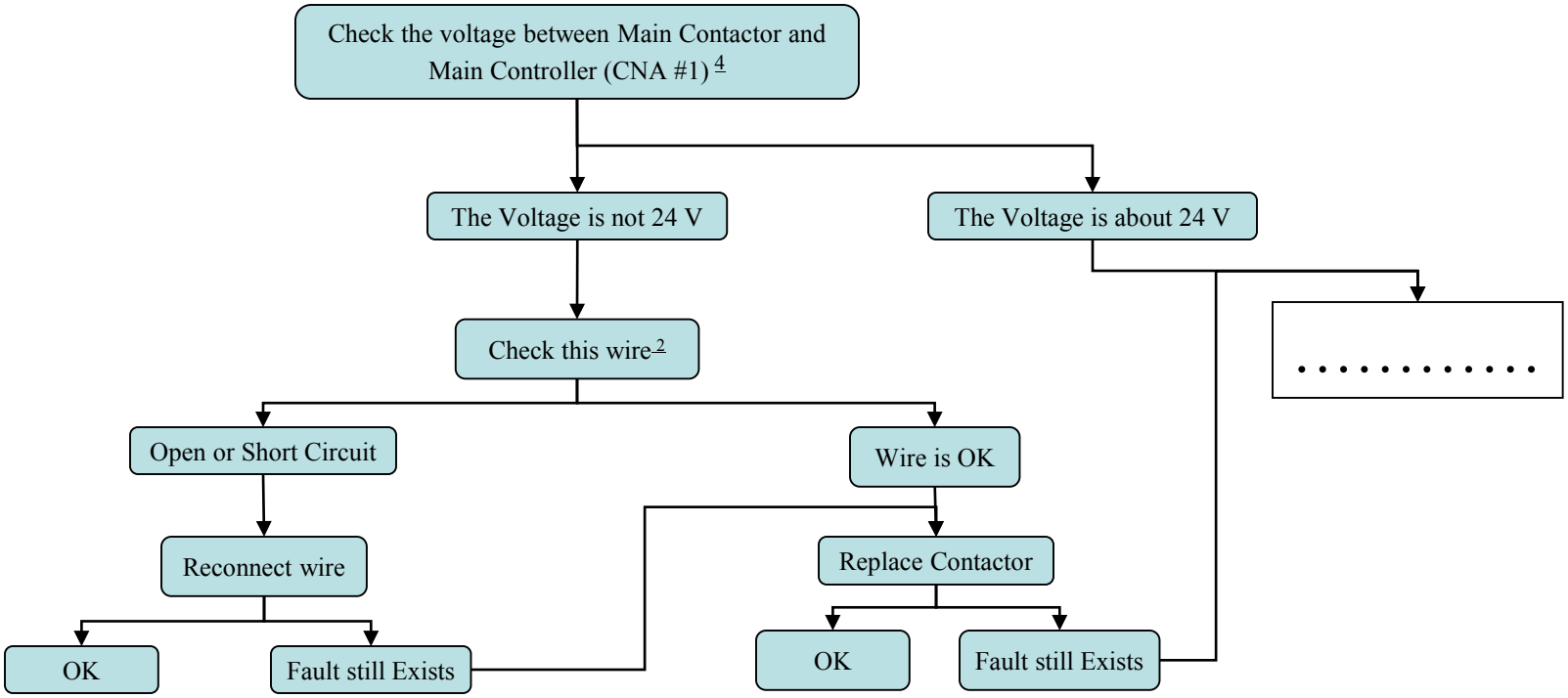


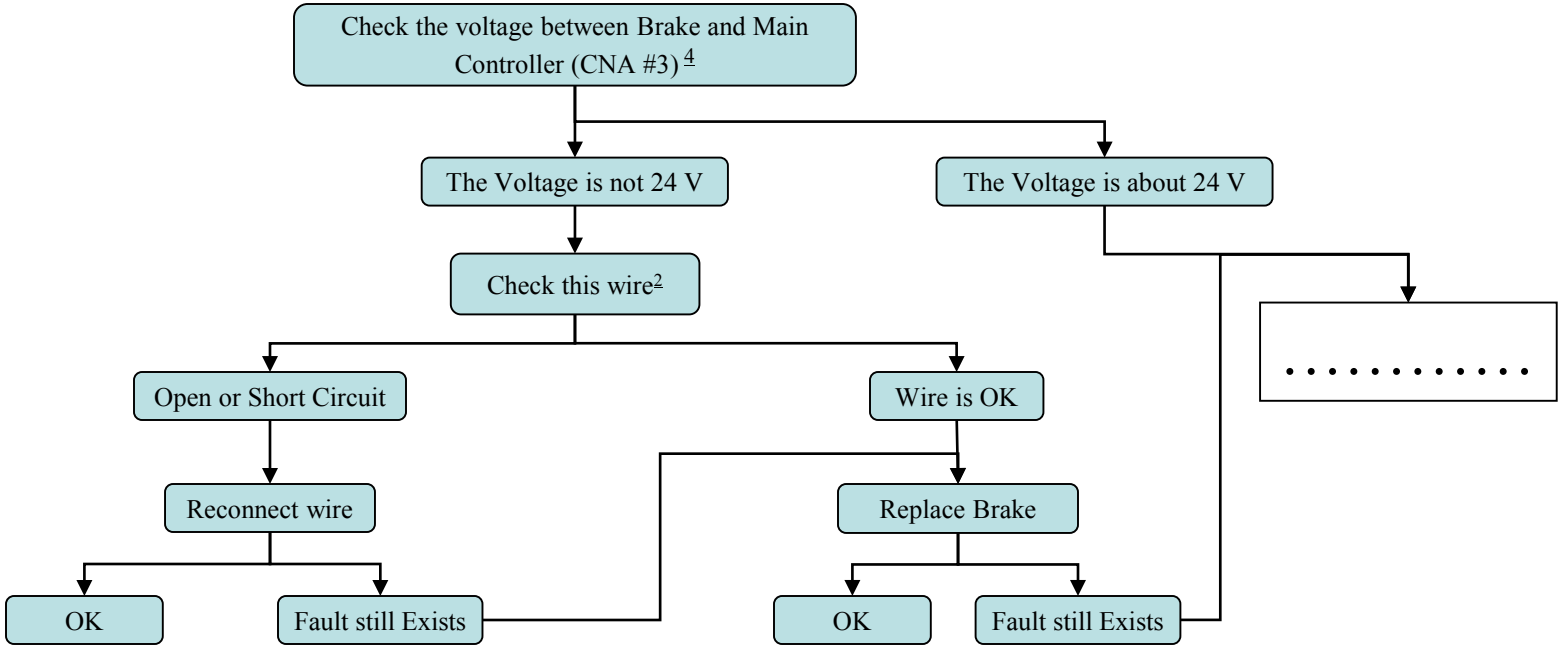
ALARM #75 on NODE #2 CONTACTOR DRIVER



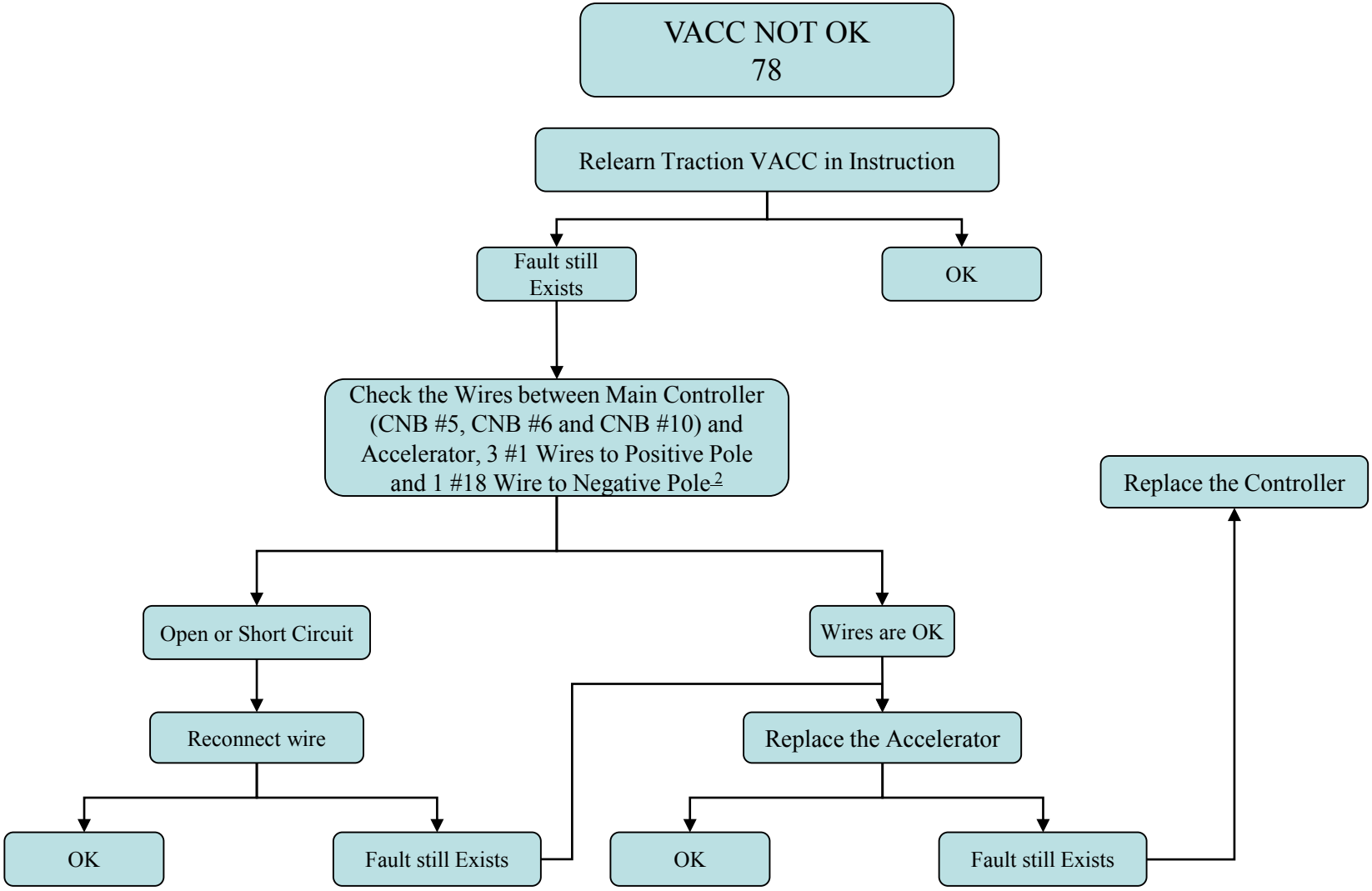
ALARM #76 on NODE #2 COIL SHORTED



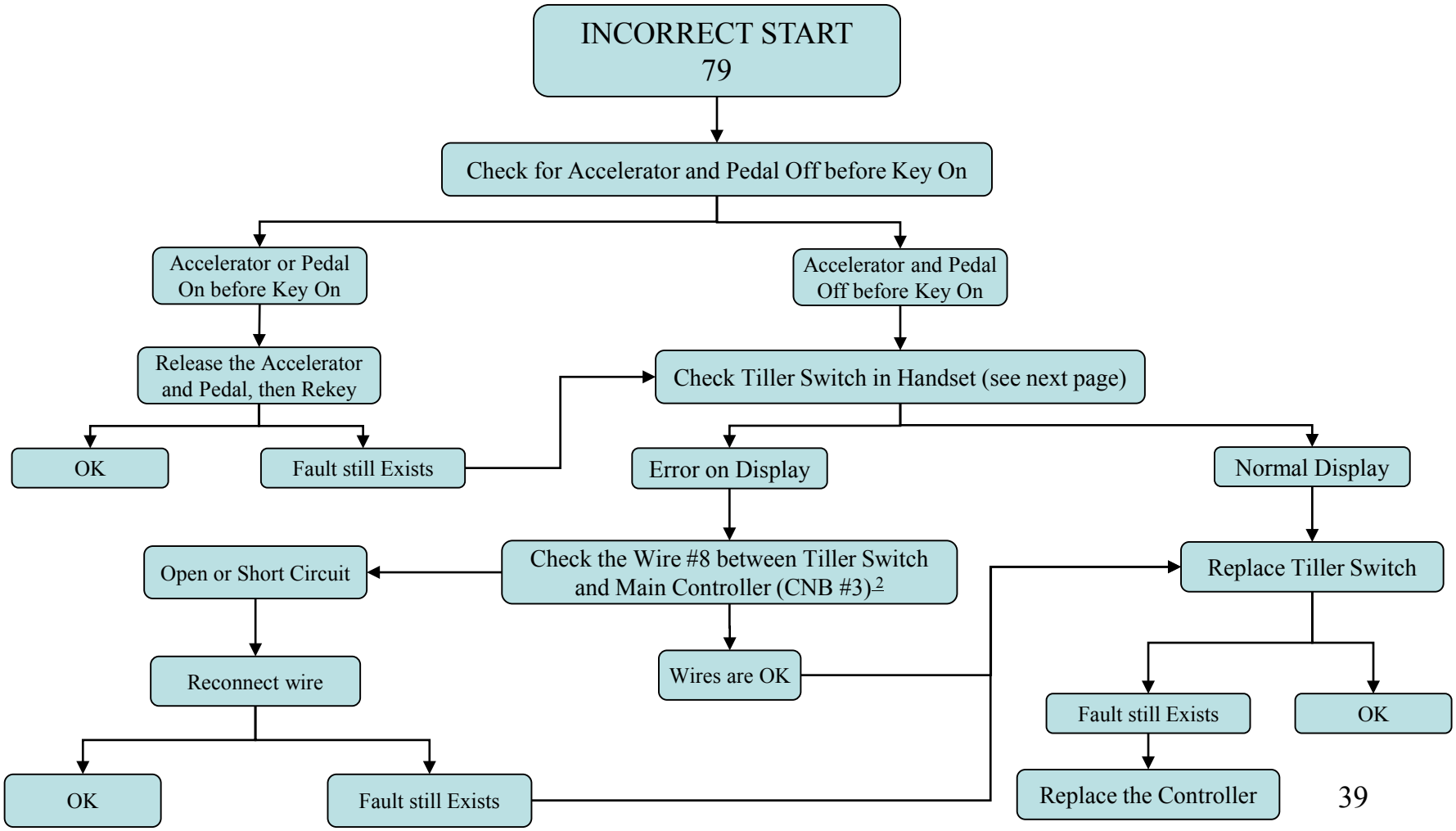

Check the voltage between Main Contactor and Main Controller (CNA #1) 4
The Voltage is not 24 V
The Voltage is about 24 V
Check this wire 2
. . . . . .
Open or Short Circuit
Wire is OK
Reconnect wire
Replace Contactor
OK
Fault still Exists
OK
Fault still Exists


Check the voltage between Brake and Main Controller (CNA #3) 4
The Voltage is not 24 V
The Voltage is about 24 V
Check this wire2
. . . . . .
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

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:

ACOT2BESK EP0.45
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:

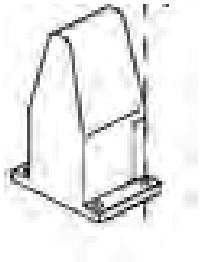
TEST

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

The display will show:

HANDLE/ SEAT SW OFF

Press Pedal and Push the accelerator and hold on

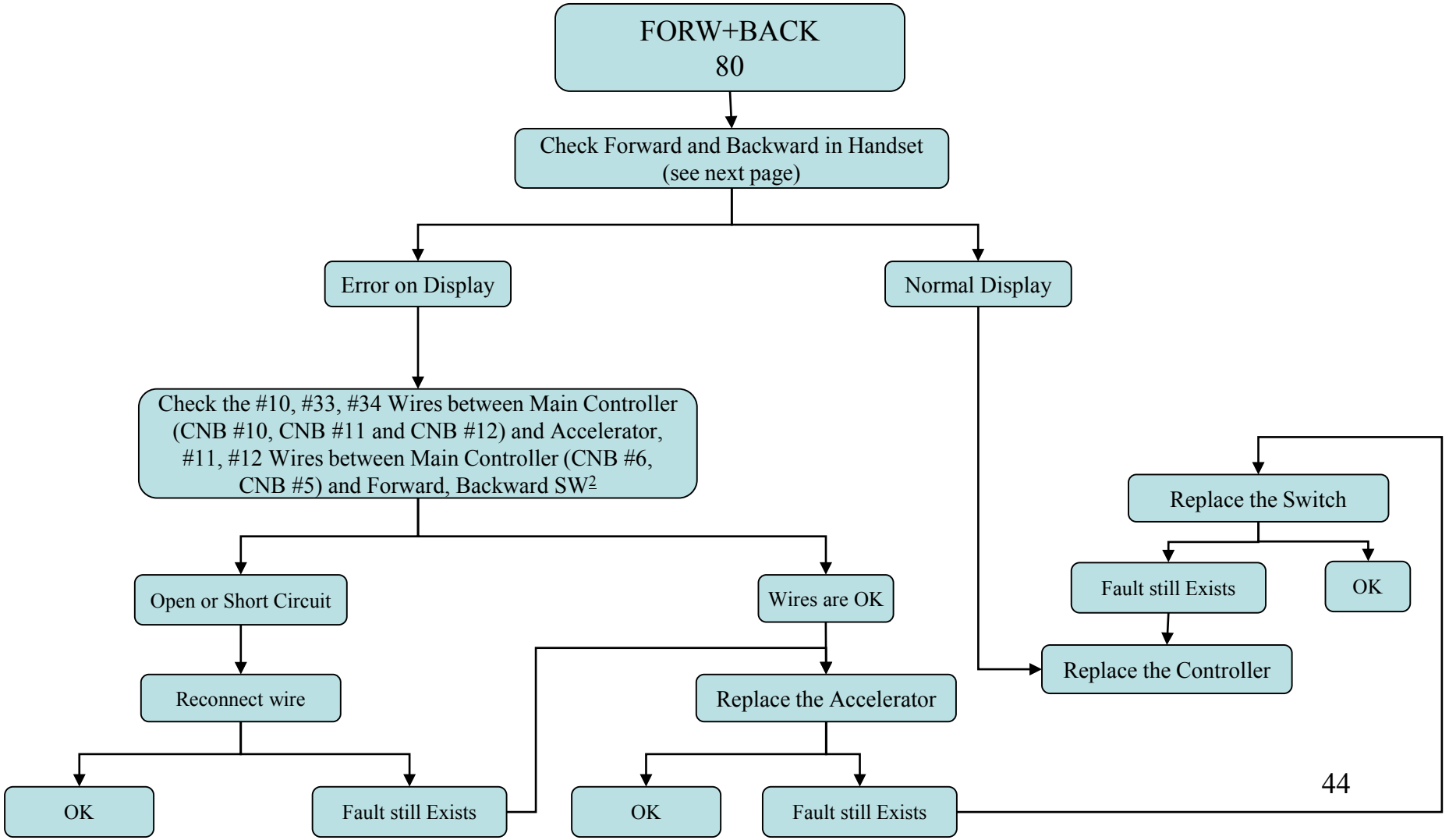


The display will show:

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

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:

ACOT2BESK EP0.45
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:

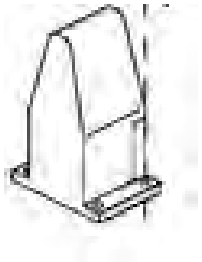
TEST

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:

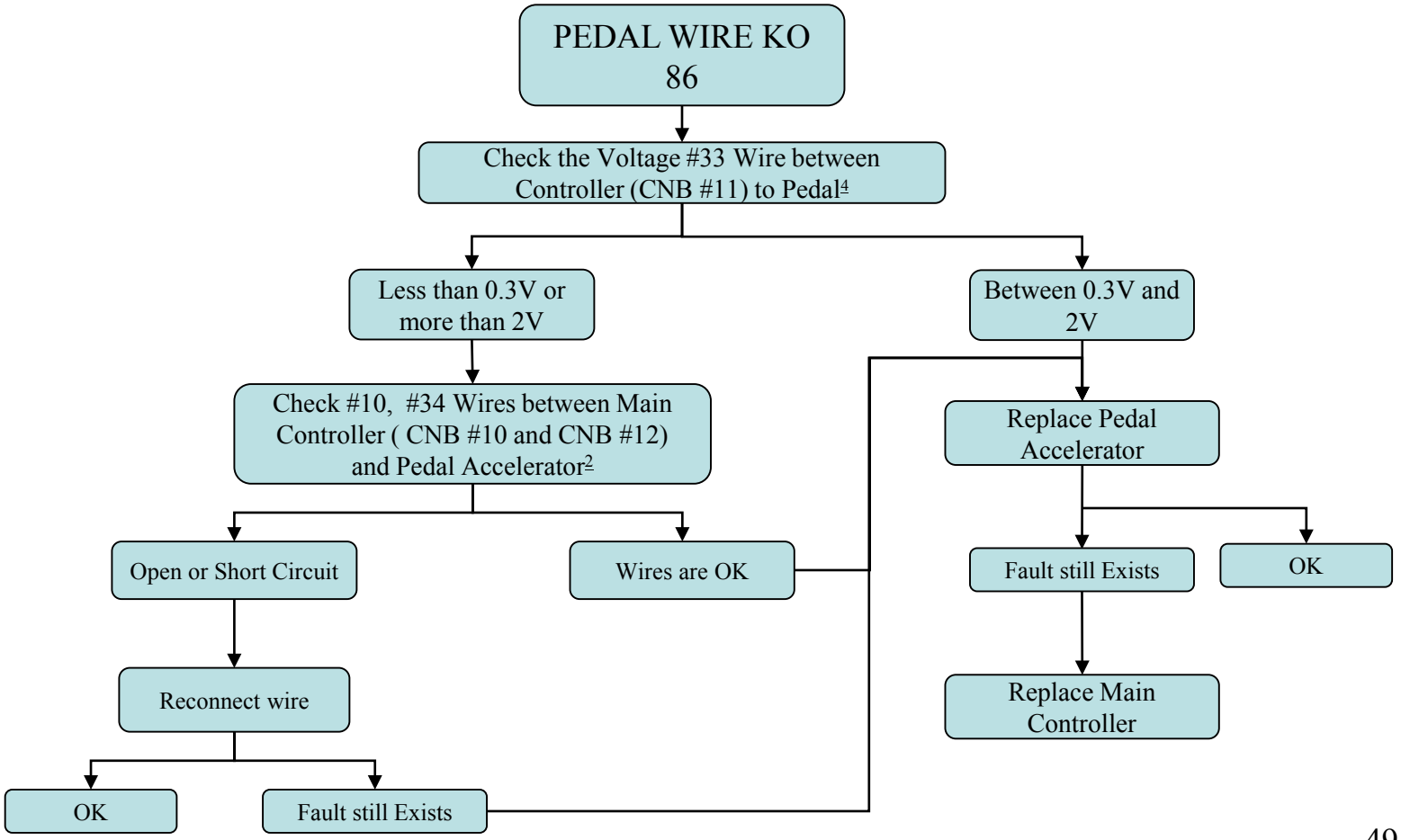
FORWARD ON

Repeat step for reverse direction

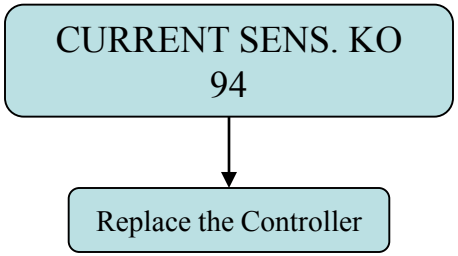
BACKWARD OFF
BACKWARD ON

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

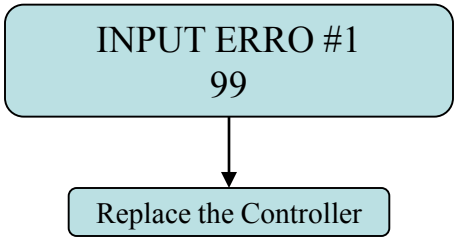
ALARM #86 on NODE #2 PEDAL WIRE KO



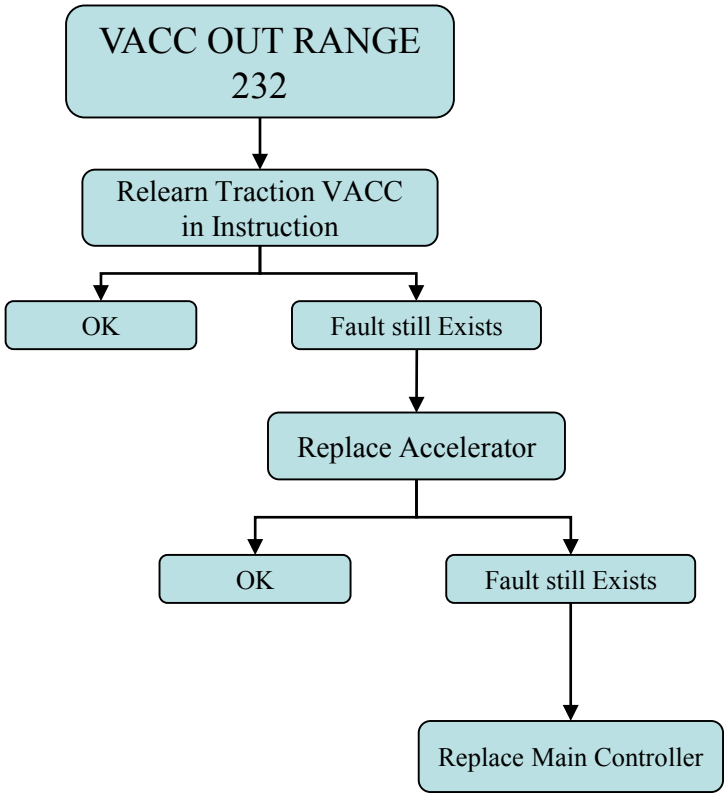
ALARM #94 on NODE #2 CURRENT SENS. KO



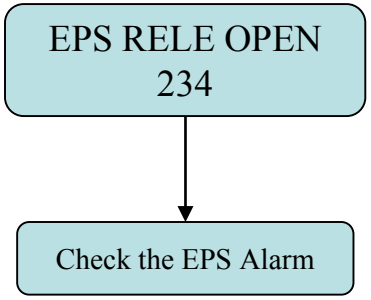
ALARM #99 on NODE #2 INPUT ERROR #1



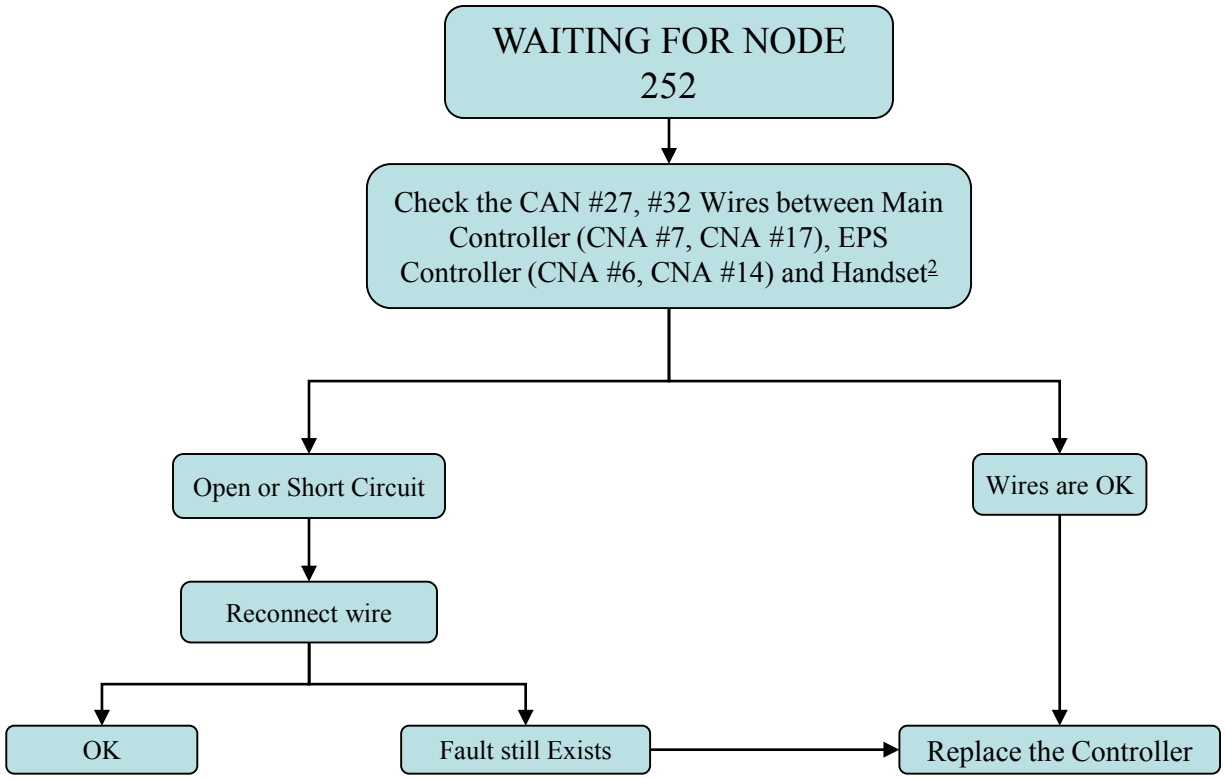
ALARM #232 on NODE #2 VACC OUT RANGE



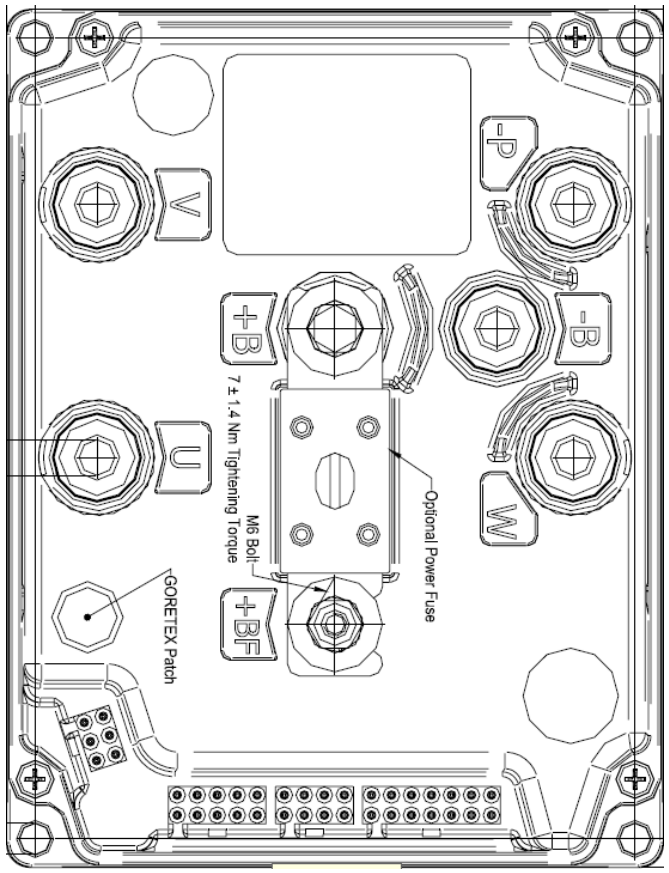
ALARM #234 on NODE #2 EPS RELE OPEN



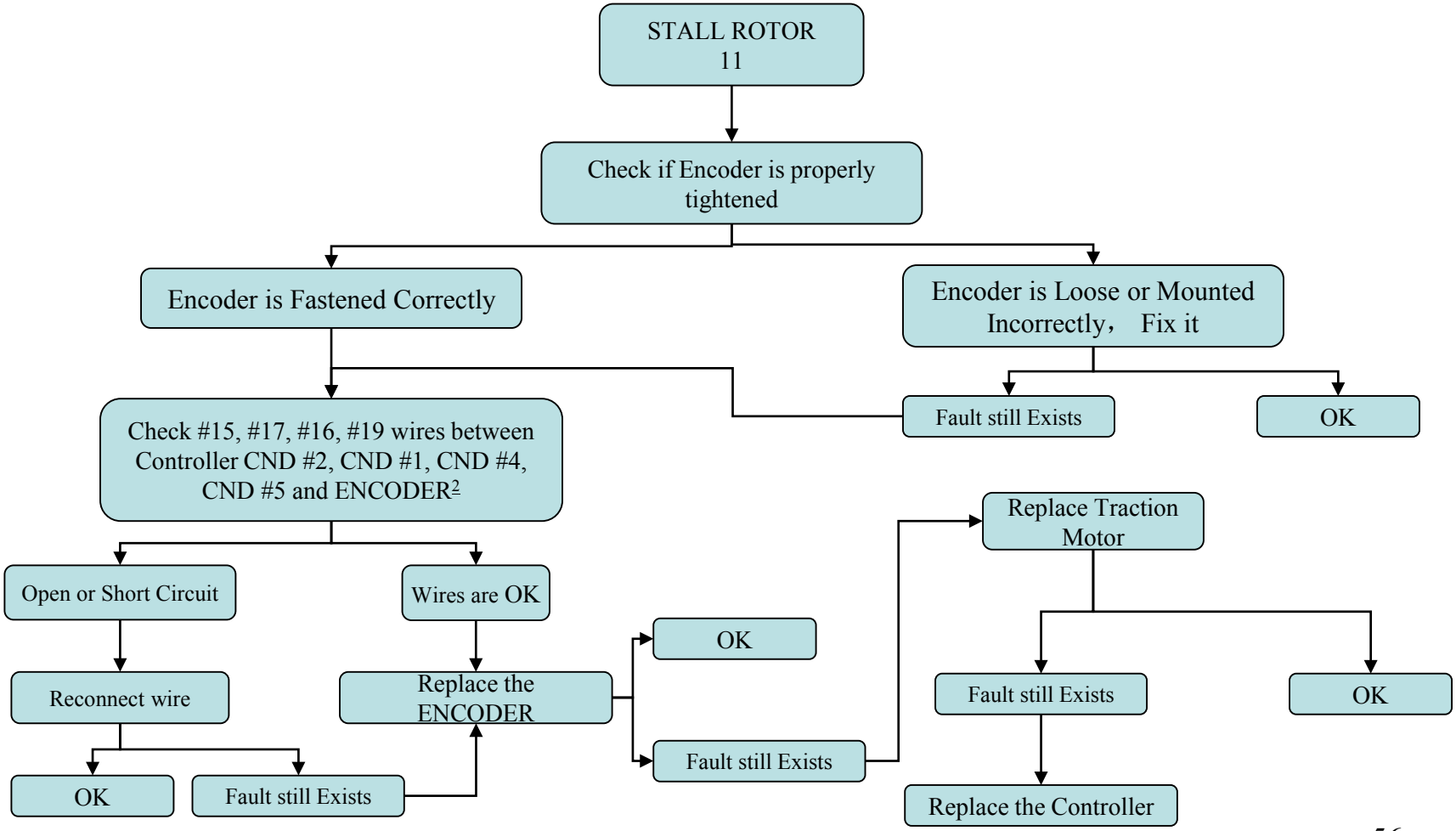
ALARM #252 on NODE #2 WAITING FOR NODE



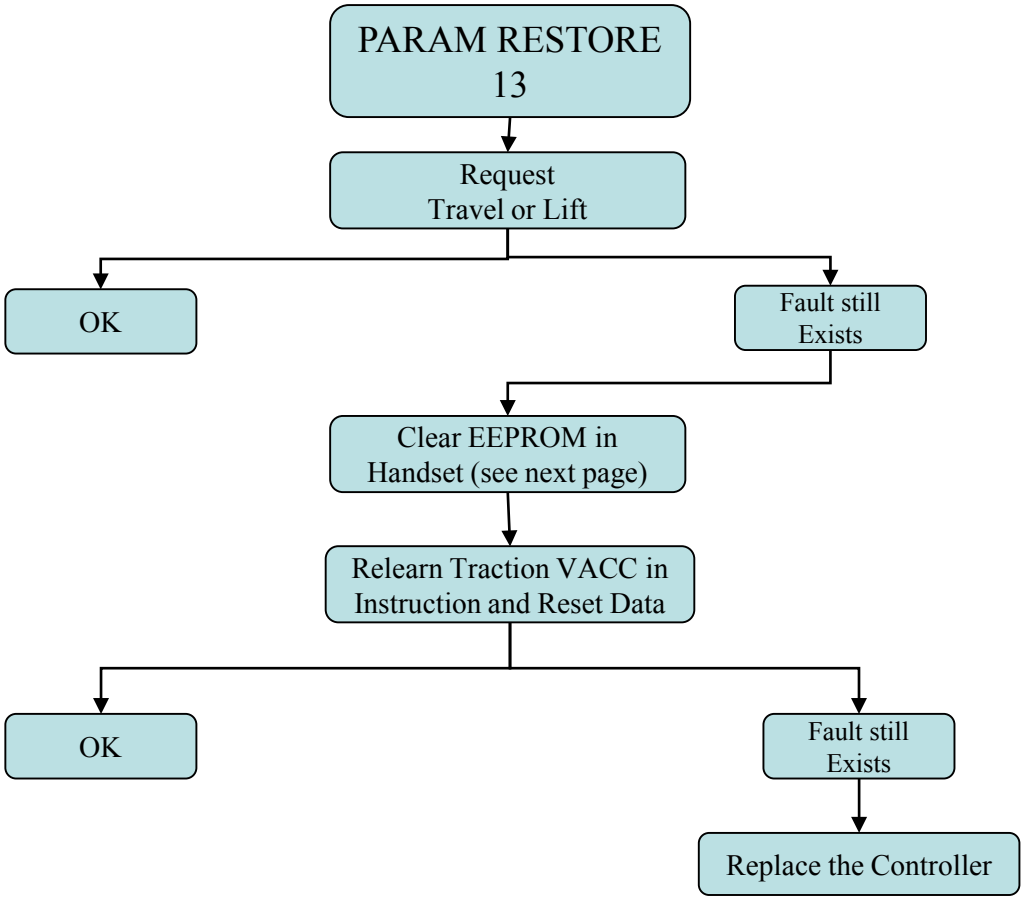
Main Controller 2—CombiAC



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:

ACOT2BESK EP0.45
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

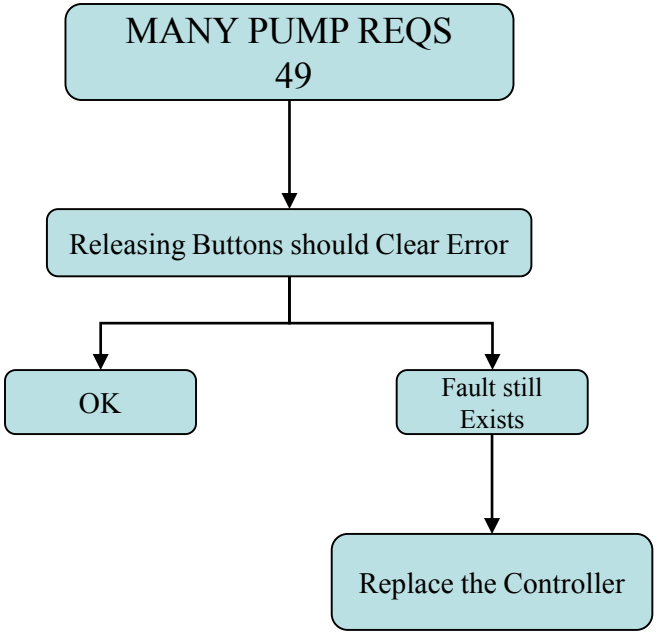
Press OK to CLEAR EEPROM

The display will show:

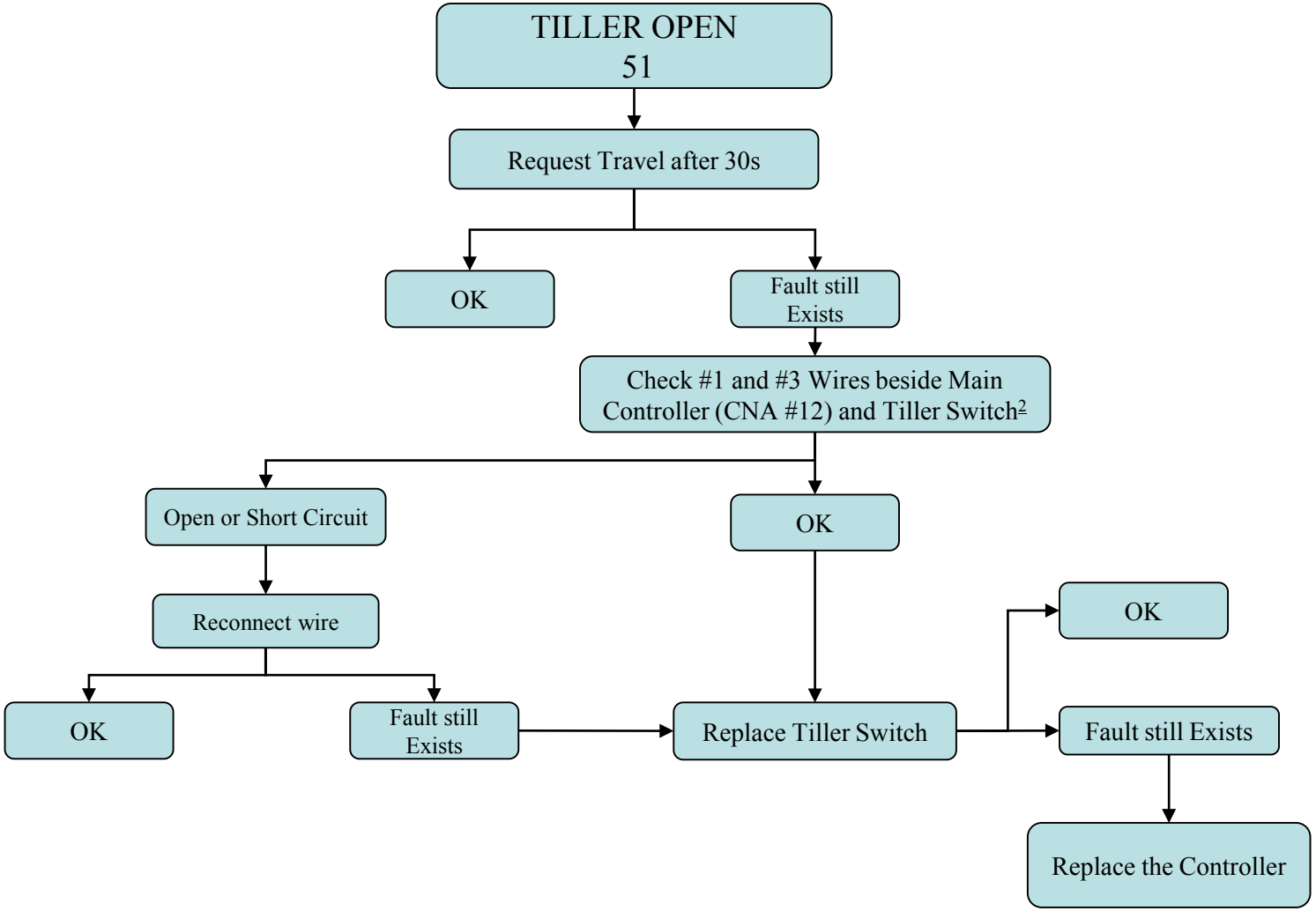
EEPROM CLEARED!
KEY OFF, PLEASE

Rekey truck, and restart handset

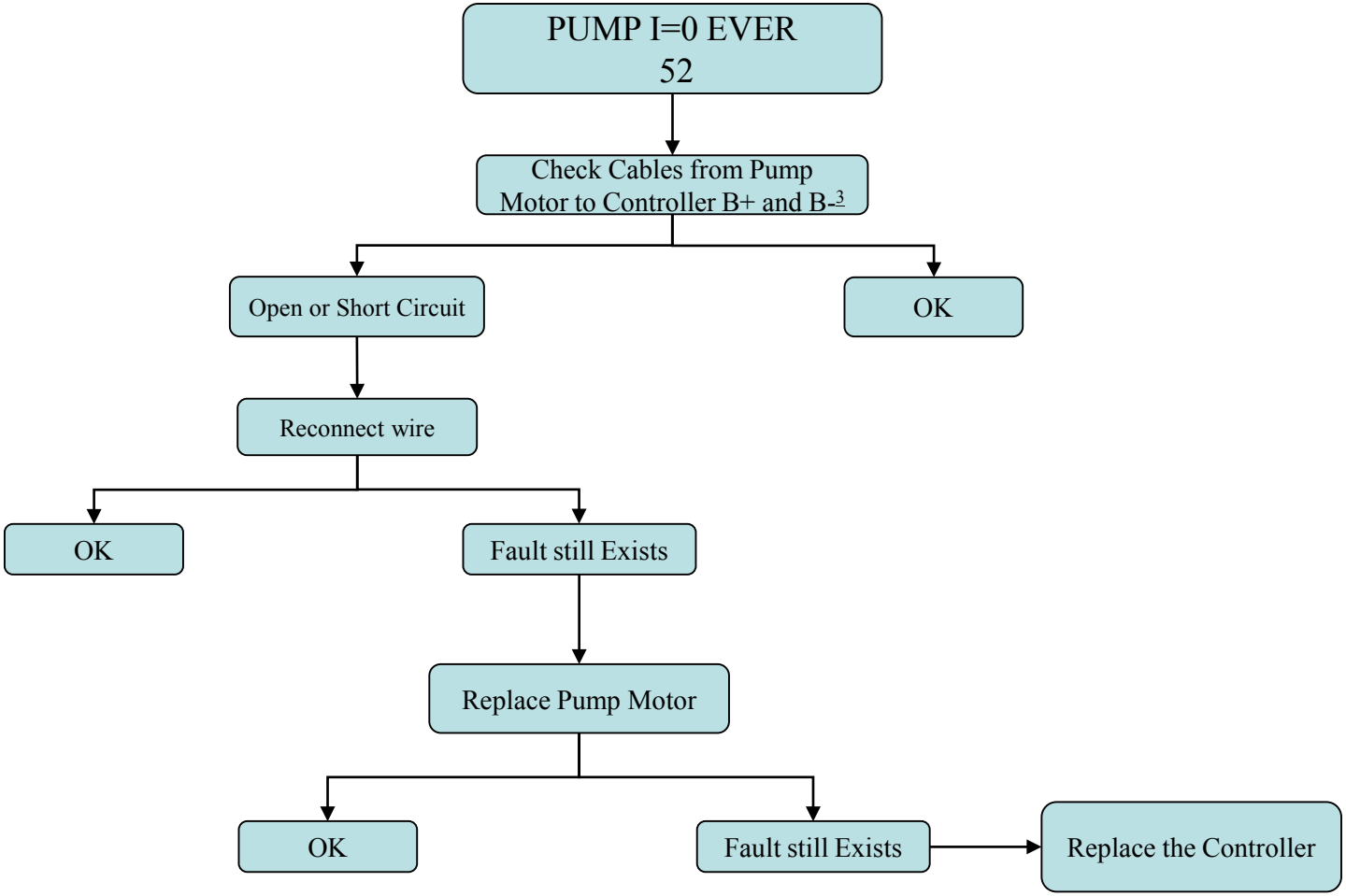
ALARM #49 on NODE #2 MANY PUMP REQS



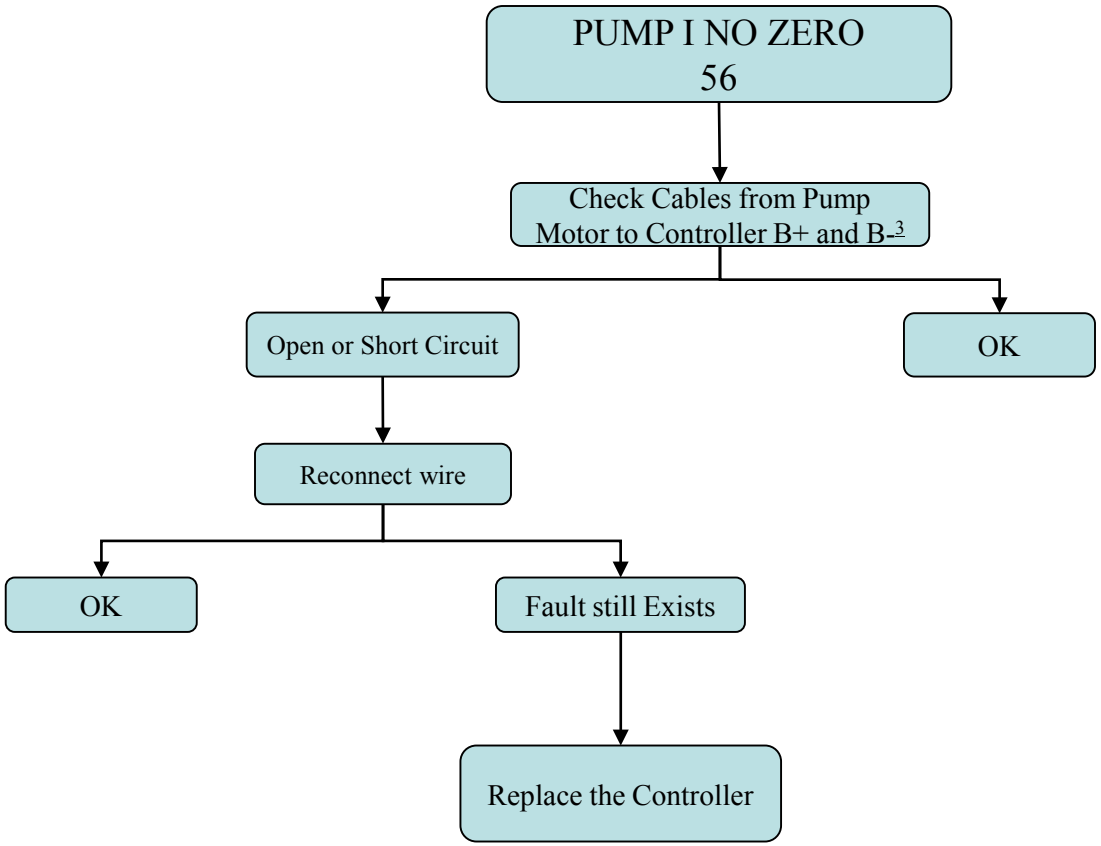
ALARM #51 on NODE #2 TILLER OPEN



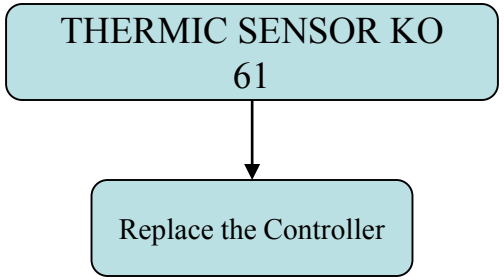
ALARM #52 on NODE #2 PUMP I=0 EVER



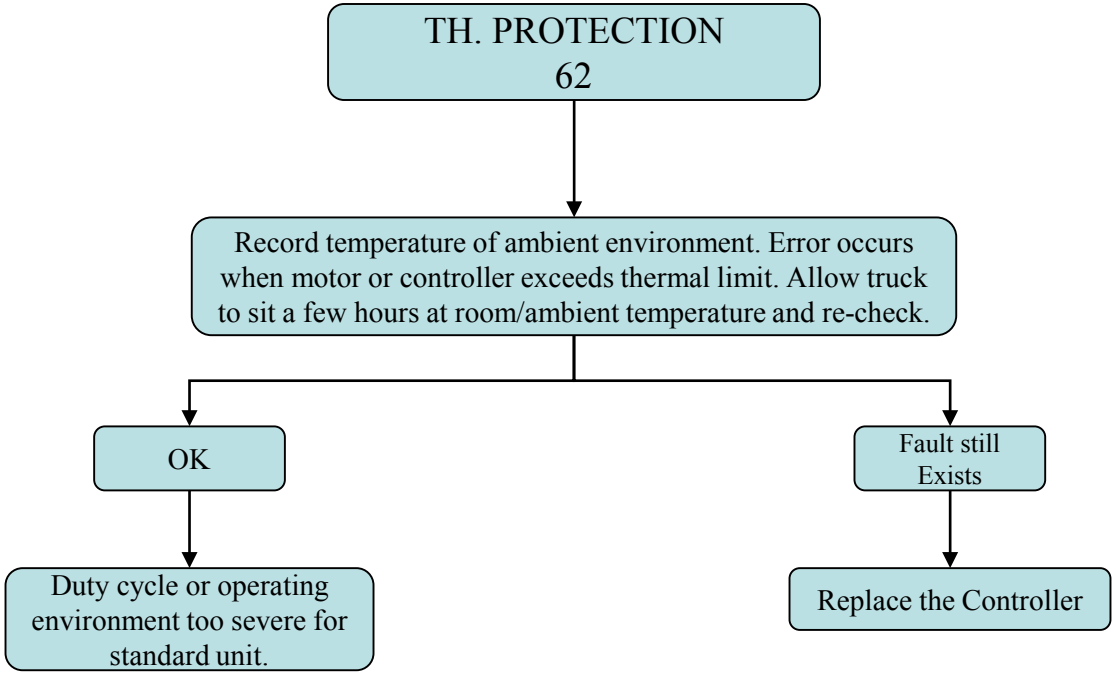
ALARM #56 on NODE #2 PUMP I NO ZERO



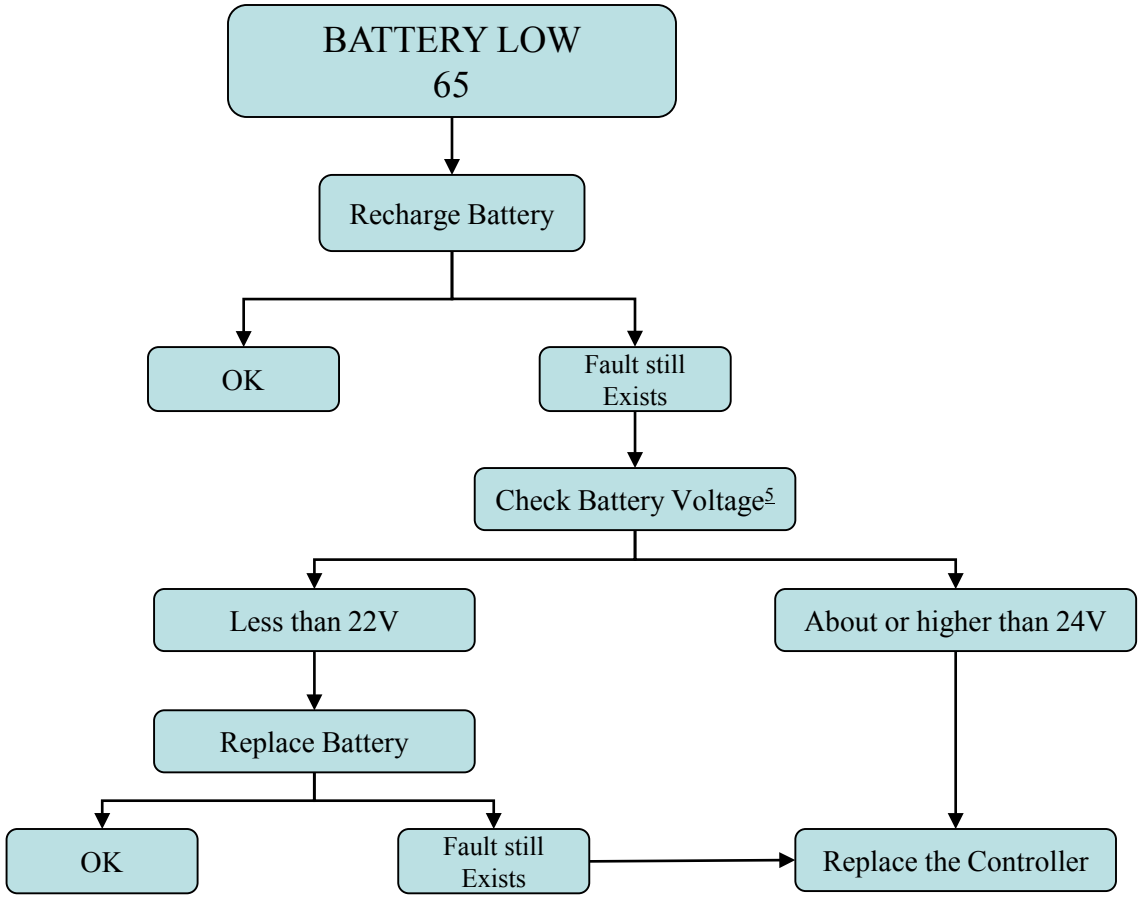
ALARM #61 on NODE #2 THERMIC SENSOR KO



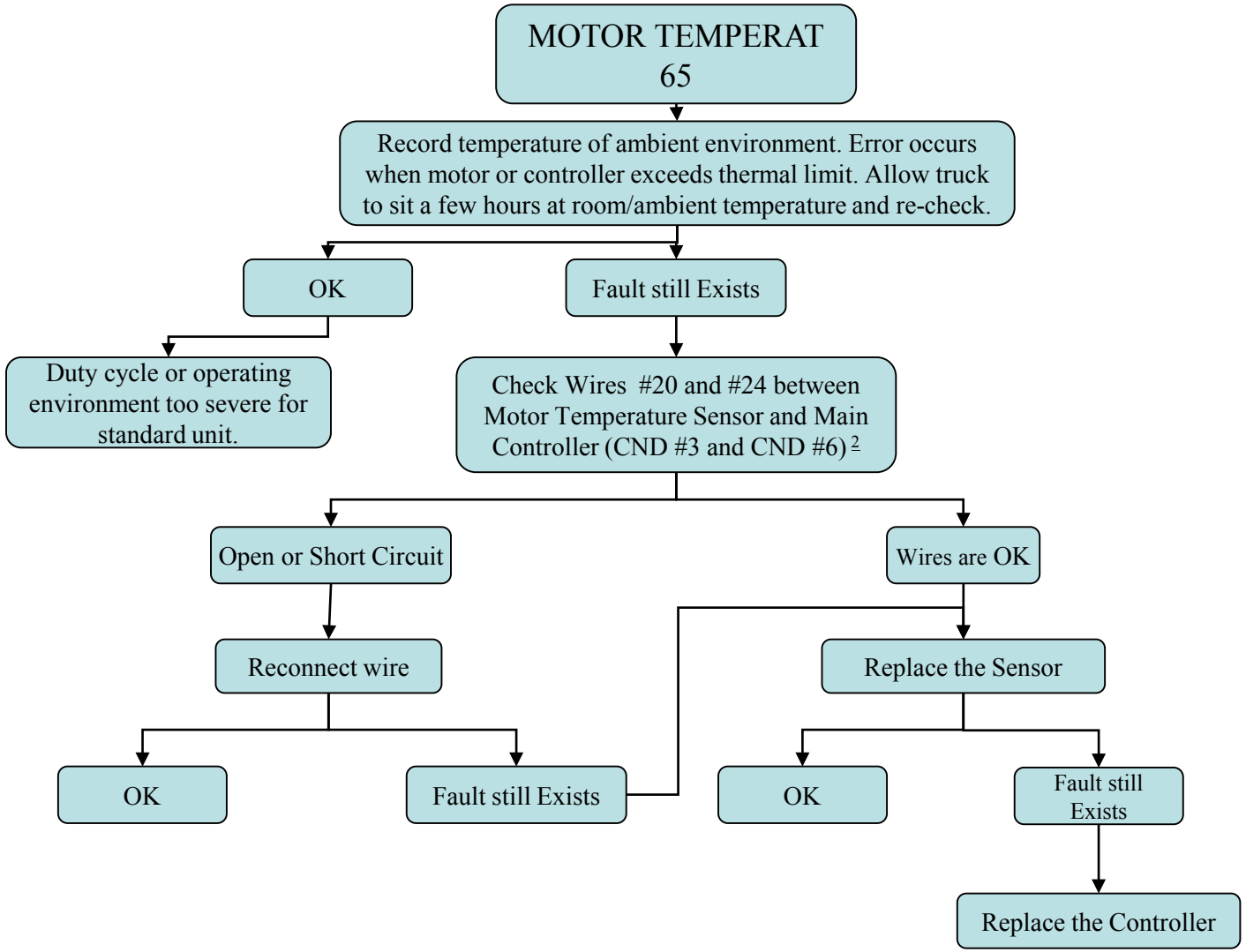
ALARM #62 on NODE #2 TH. PROTECTION



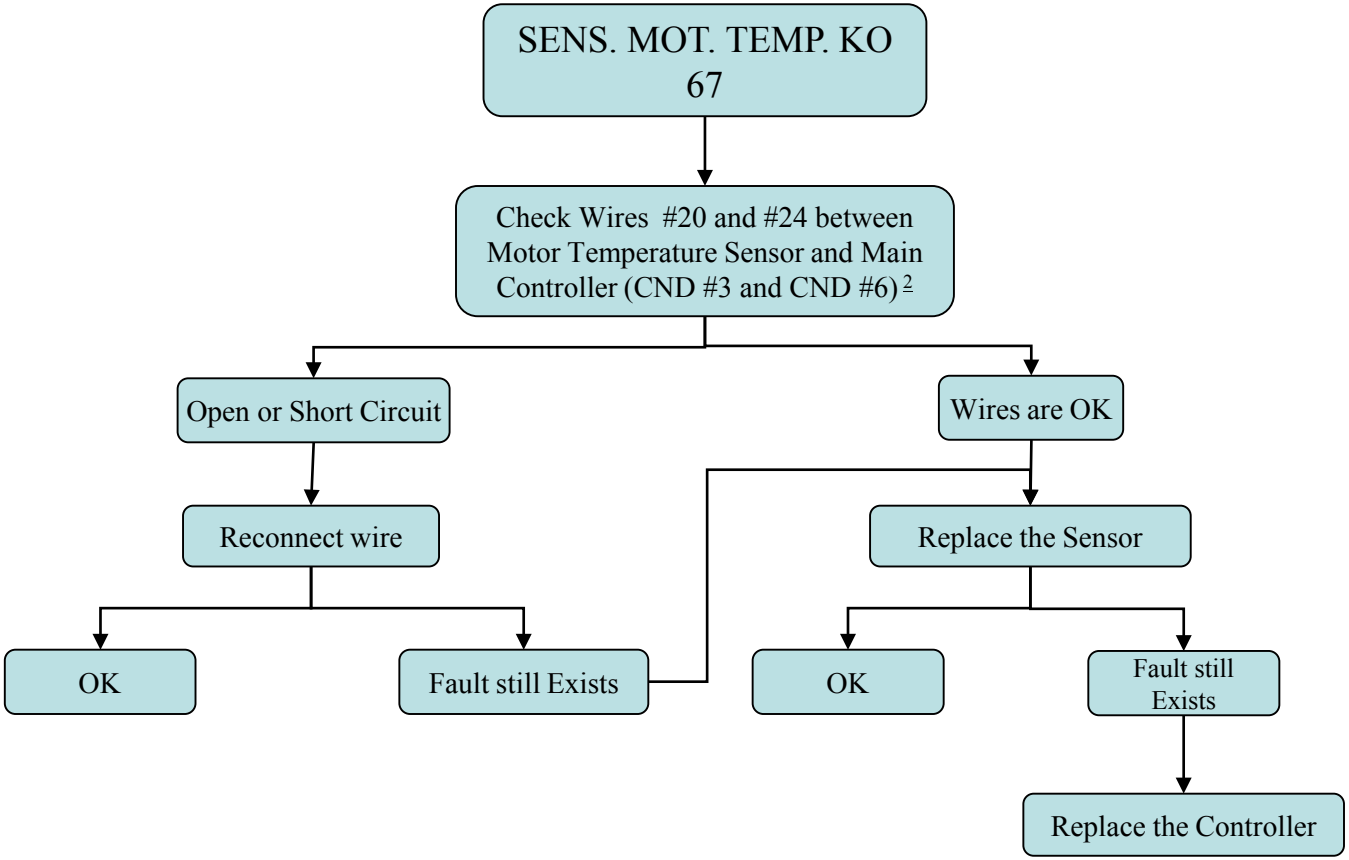
ALARM #65 on NODE #2 BATTERY LOW



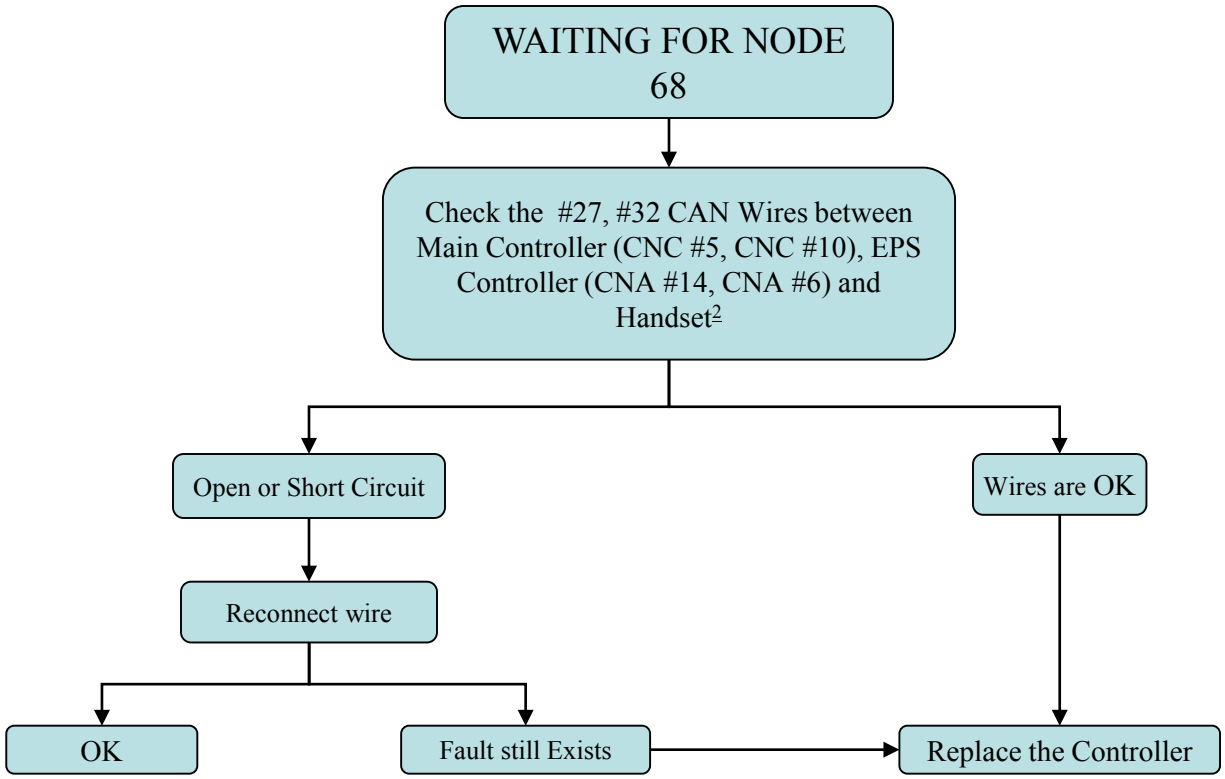
ALARM #65 on NODE #2 MOTOR TEMPERAT



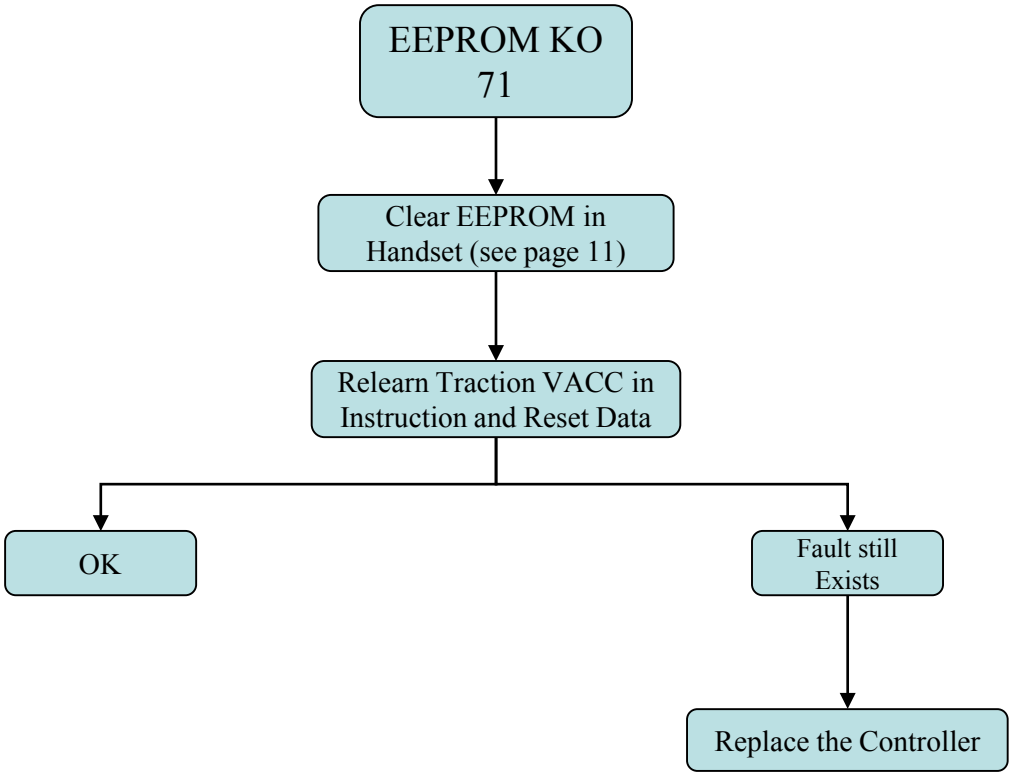
ALARM #67 on NODE #2 SENS. MOT. TEMP. KO



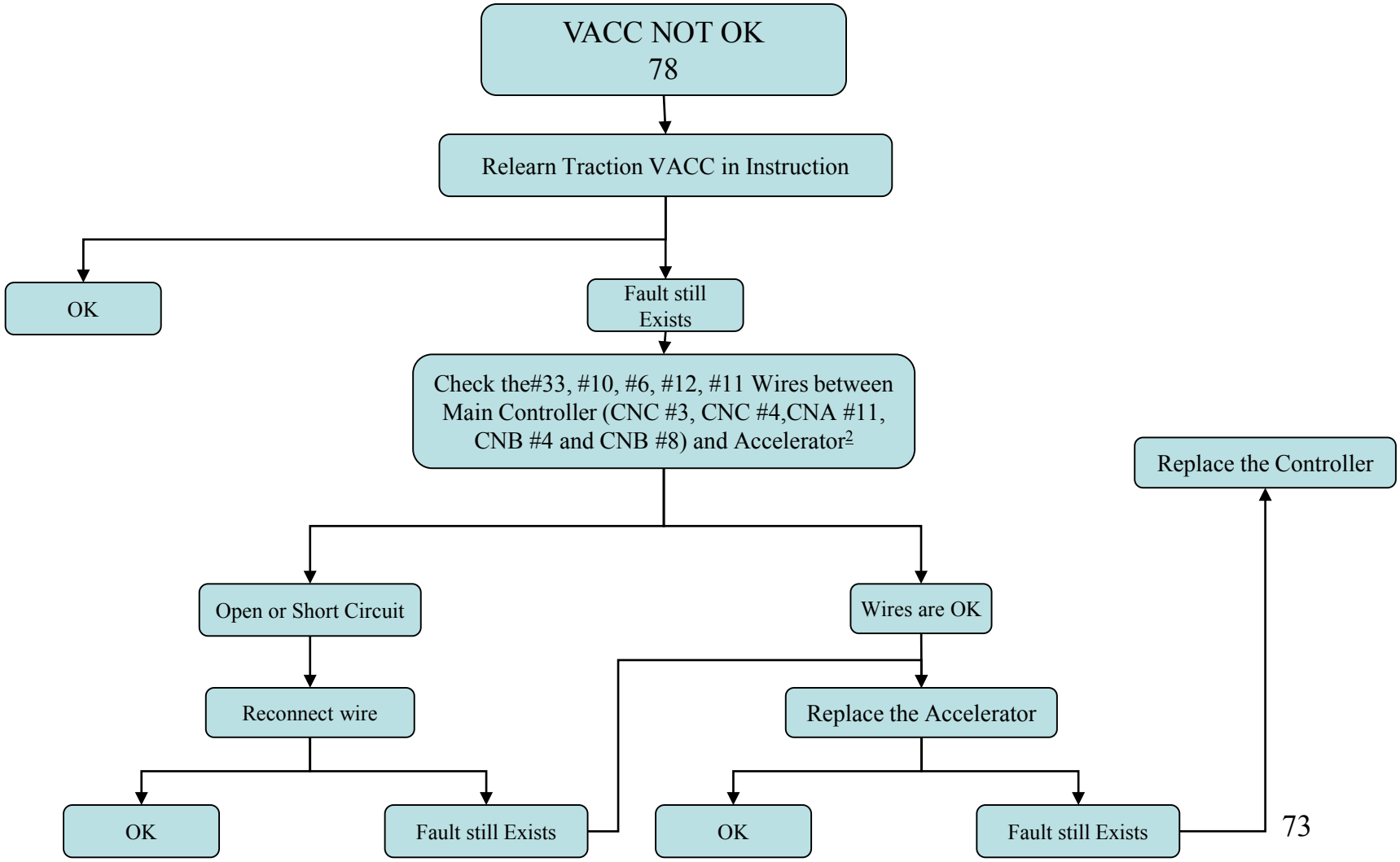
ALARM #68 on NODE #2 WAITING FOR NODE



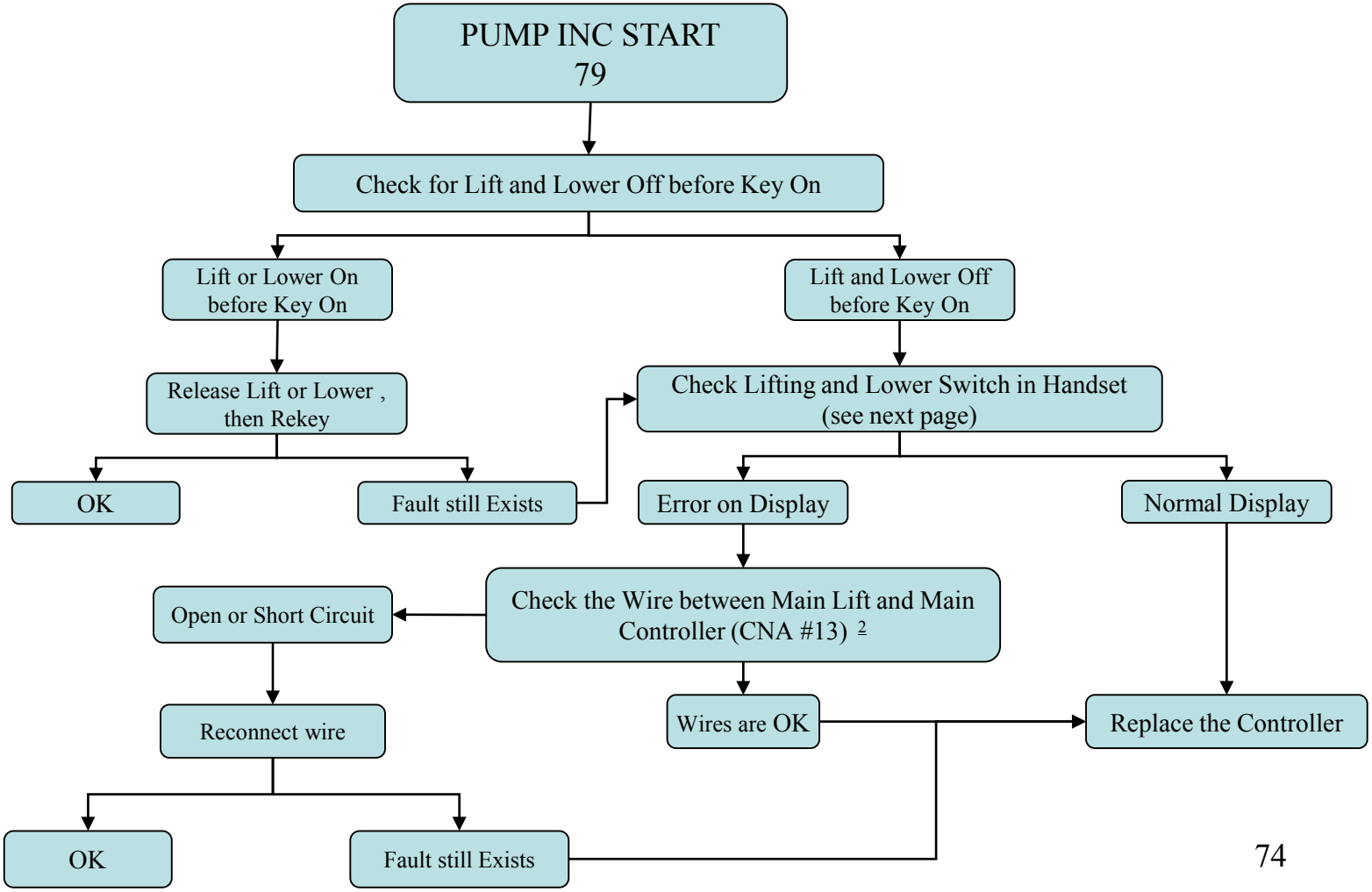
ALARM #71 on NODE #2 EEPROM KO



ALARM #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:

ADXT2B 5 EP0.07
24V 240A 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

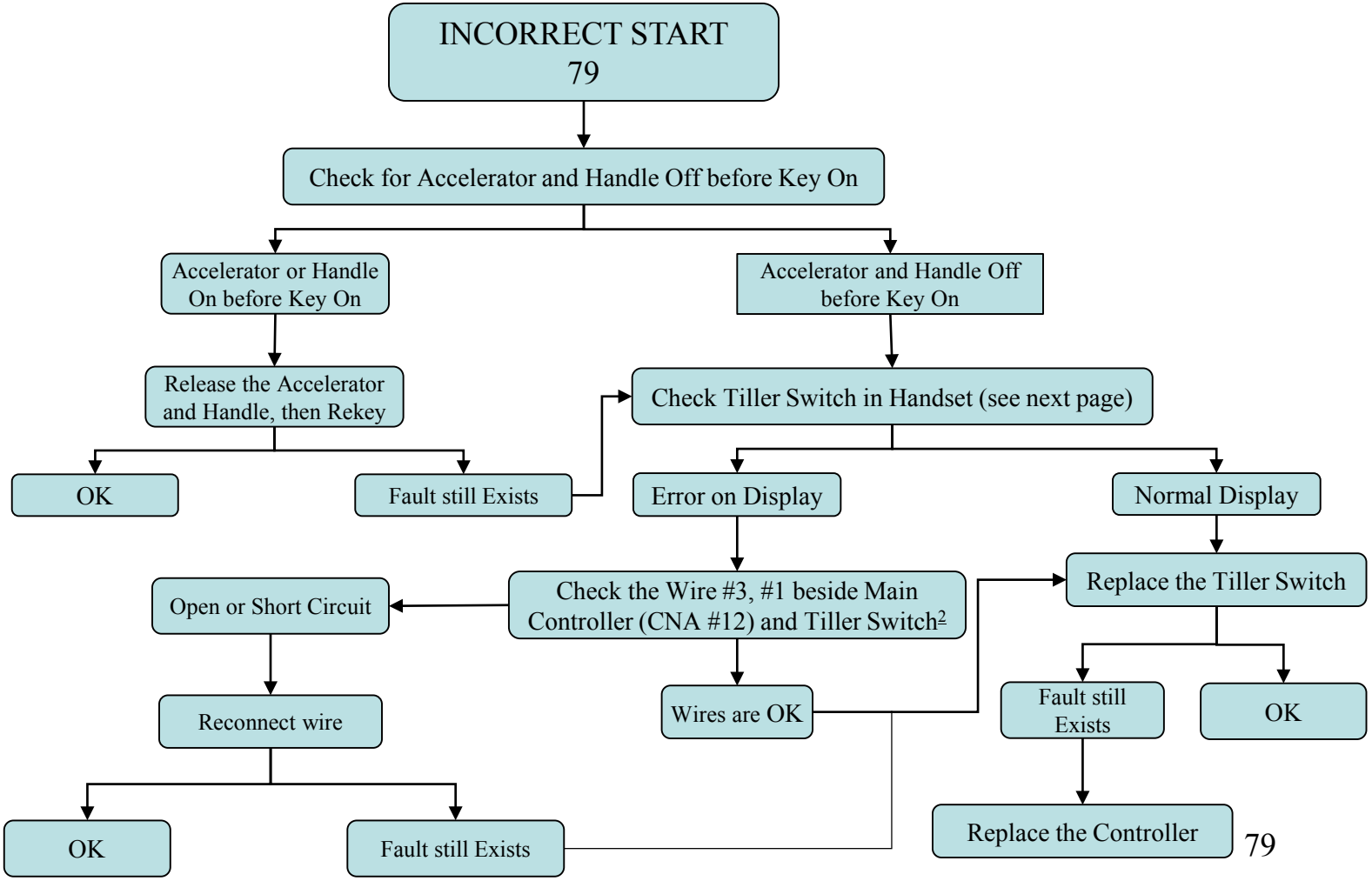
Repeat Step for Lower Switch:

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:

ADXT2B 5 EP0.07
24V 240A 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

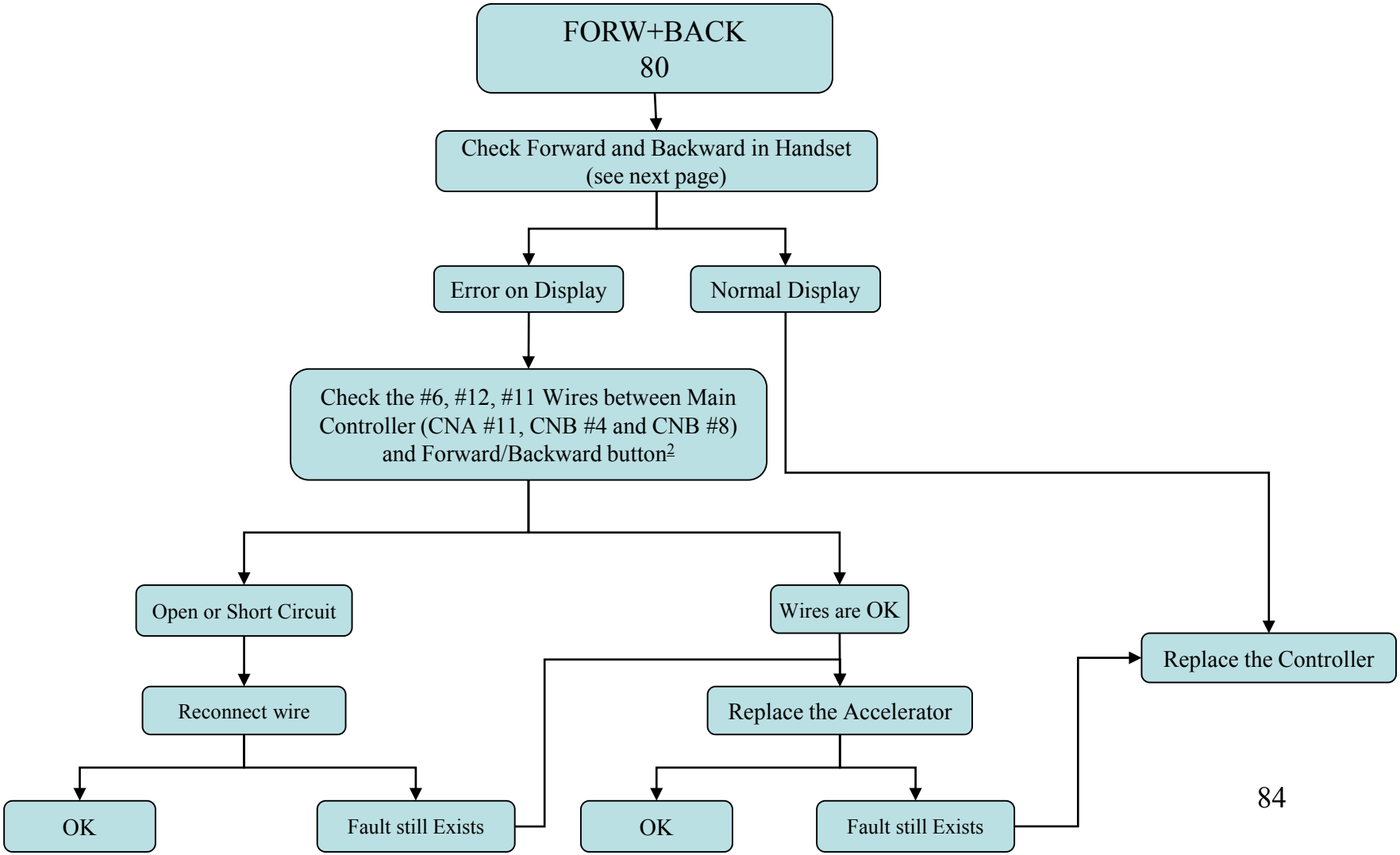
Sit down on the seat

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:

ADXT2B 5 EP0.07
24V 240A 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 forward

The display will show:

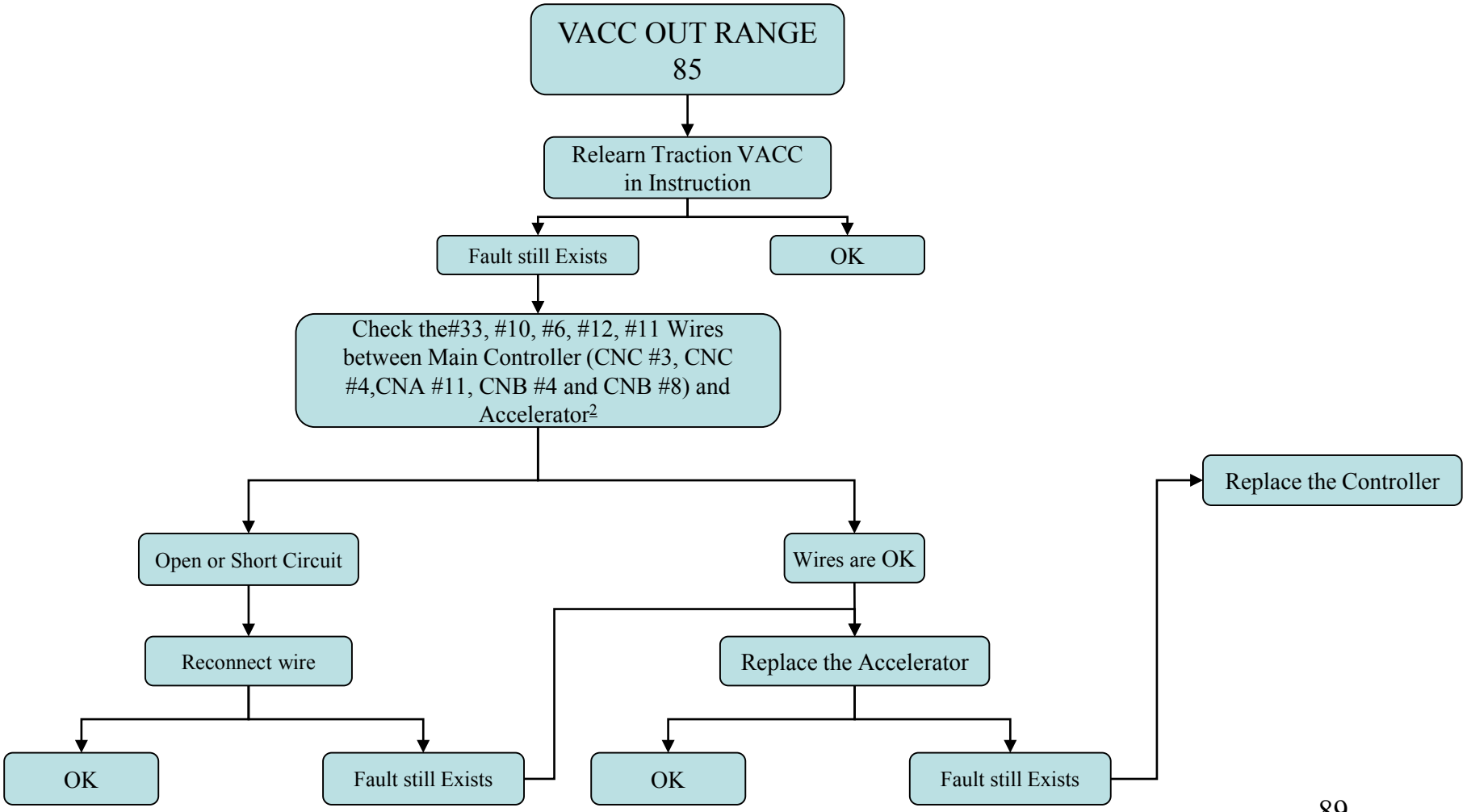
FORWARD ON

Repeat step for reverse direction

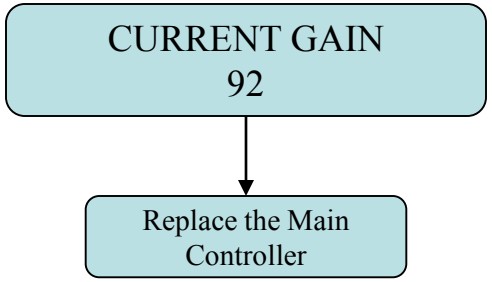
BACKWARD OFF
BACKWARD ON

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

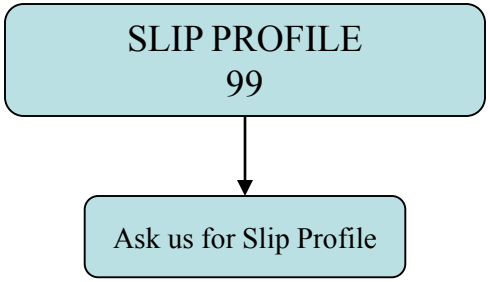
ALARM #85 on NODE #2 VACC OUT RANGE



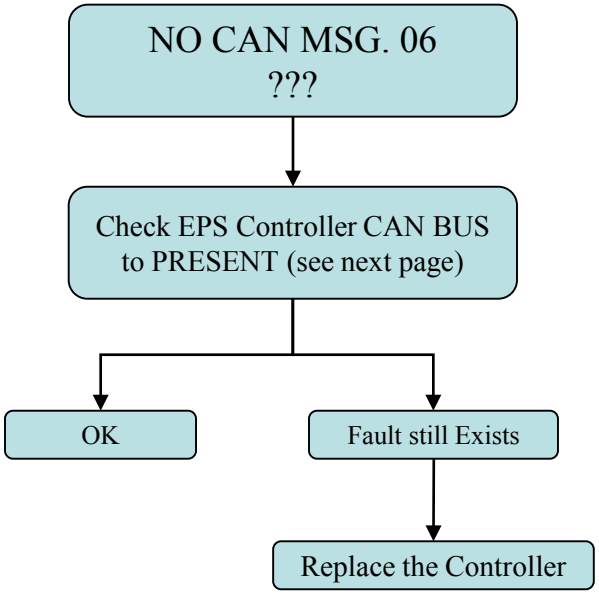
ALARM #92 on NODE #2 CURRENT GAIN



ALARM #99 on NODE #2 SLIP PROFILE



ALARM #??? on NODE #2 NO CAN MSG.06



Check CAN BUS 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 6

The Display will show:

SELECT NODE
NODE 6

Press OK to go into the
Traction controller

The Display will show:

EPSDOERA20EP0.13
24V 50A 0H

Press OK to go into the
Main Menu

The Display will show:

Main Menu

Press ^ or v button until HARDWARE SETTING shows on the display

The Display will show:

MAIN MENU
HARDWARE SETTING

Press OK to go into the HARDWARE SETTING function

The Display will show:

HARDWARE SETTING

Press ^ or v button until CAN BUS. shows on the display

The display will show:

CAN BUS
ABASENT

Push 》, or 《
To select PRESENT

The display will show:

CAN BUS
PRESENT

When finished , press ESC

The Display will ask : APPLY CHANGES ?

APPLY CHANGES?
YES= OK NO=ESC

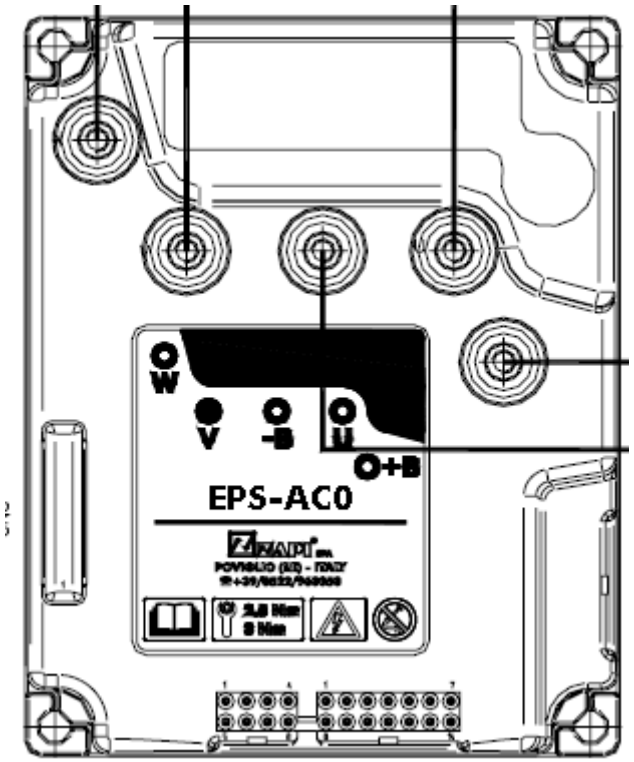
Press OK for yes

When finished, the Console shows :

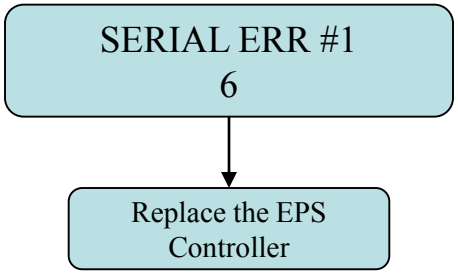
Main Menu

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

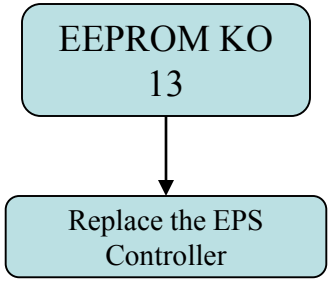
EPS Controller



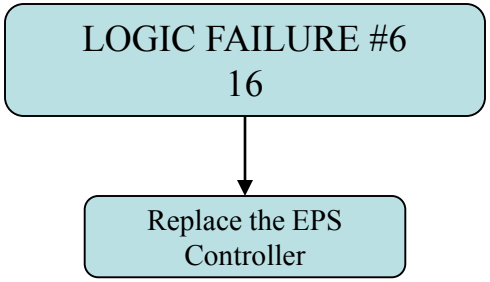
ALARM #6 on NODE #6 SERIAL ERR #1



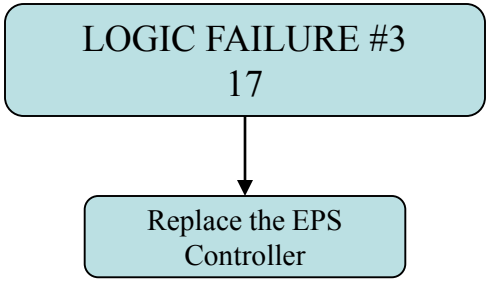
ALARM #13 on NODE #6 EEPROM KO



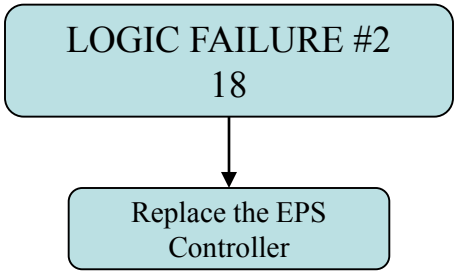
ALARM #16 on NODE #6 LOGIC FAILURE #4



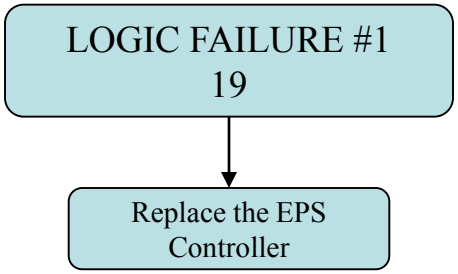
ALARM #17 on NODE #6 LOGIC FAILURE #3



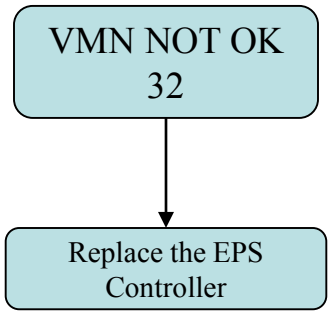
ALARM #18 on NODE #6 LOGIC FAILURE #2



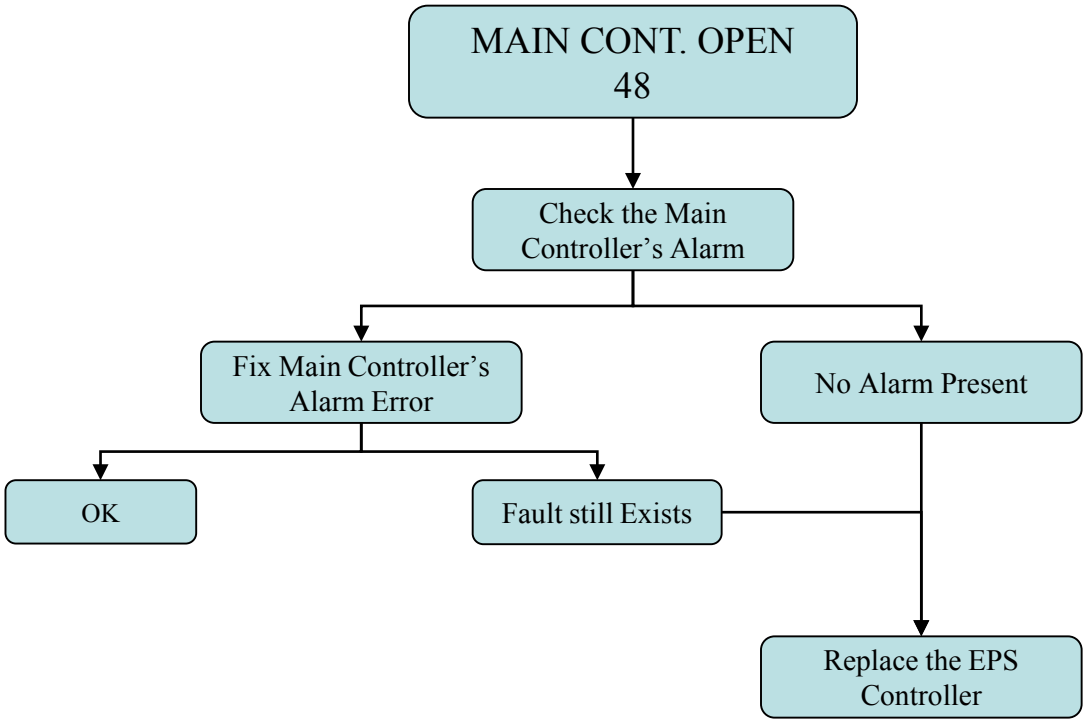
ALARM #19 on NODE #6 LOGIC FAILURE #1



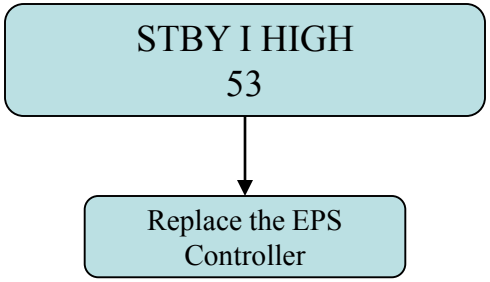
ALARM #32 on NODE #6 VMN NOT OK



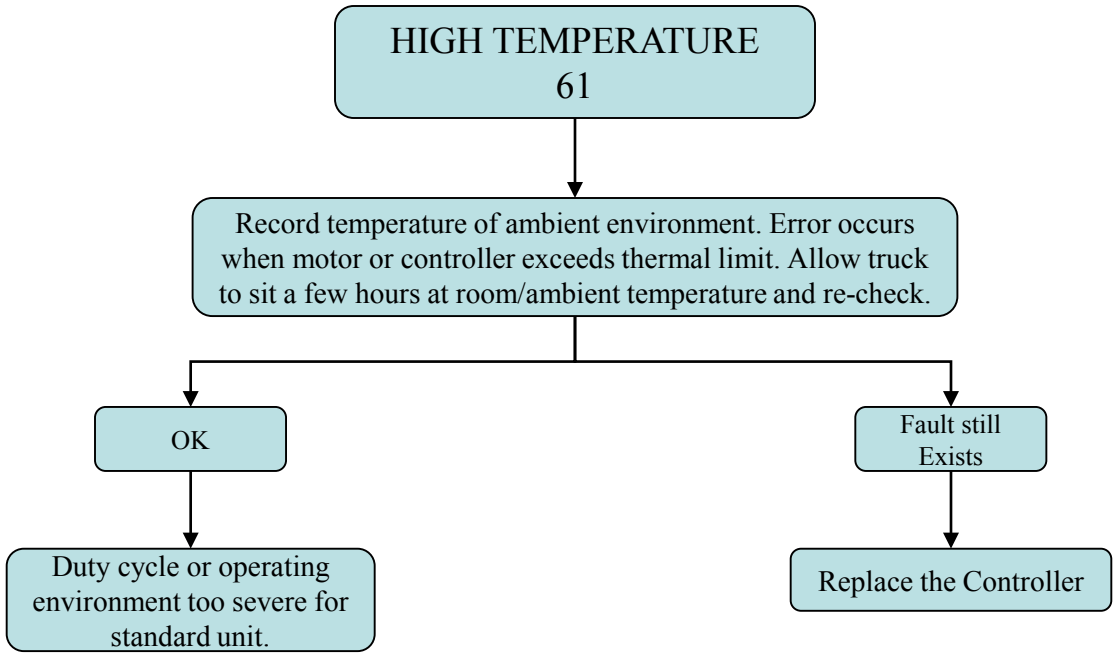
ALARM #48 on NODE #6 MAIN CONT. OPEN



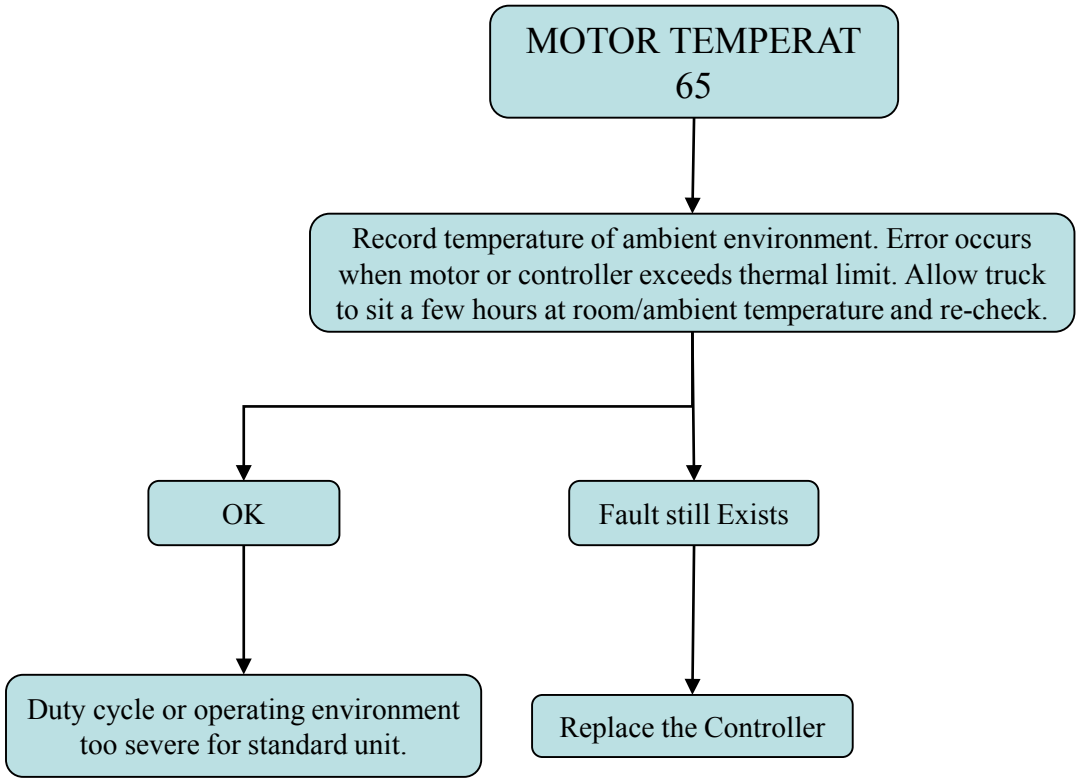
ALARM #53 on NODE #6 STBY I HIGH



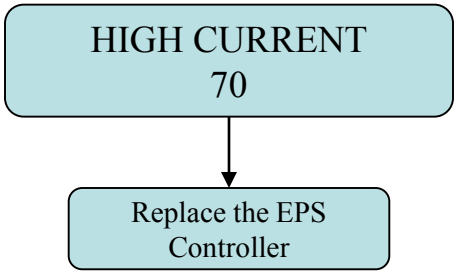
ALARM #61 on NODE #6 HIGH TEMPERATURE



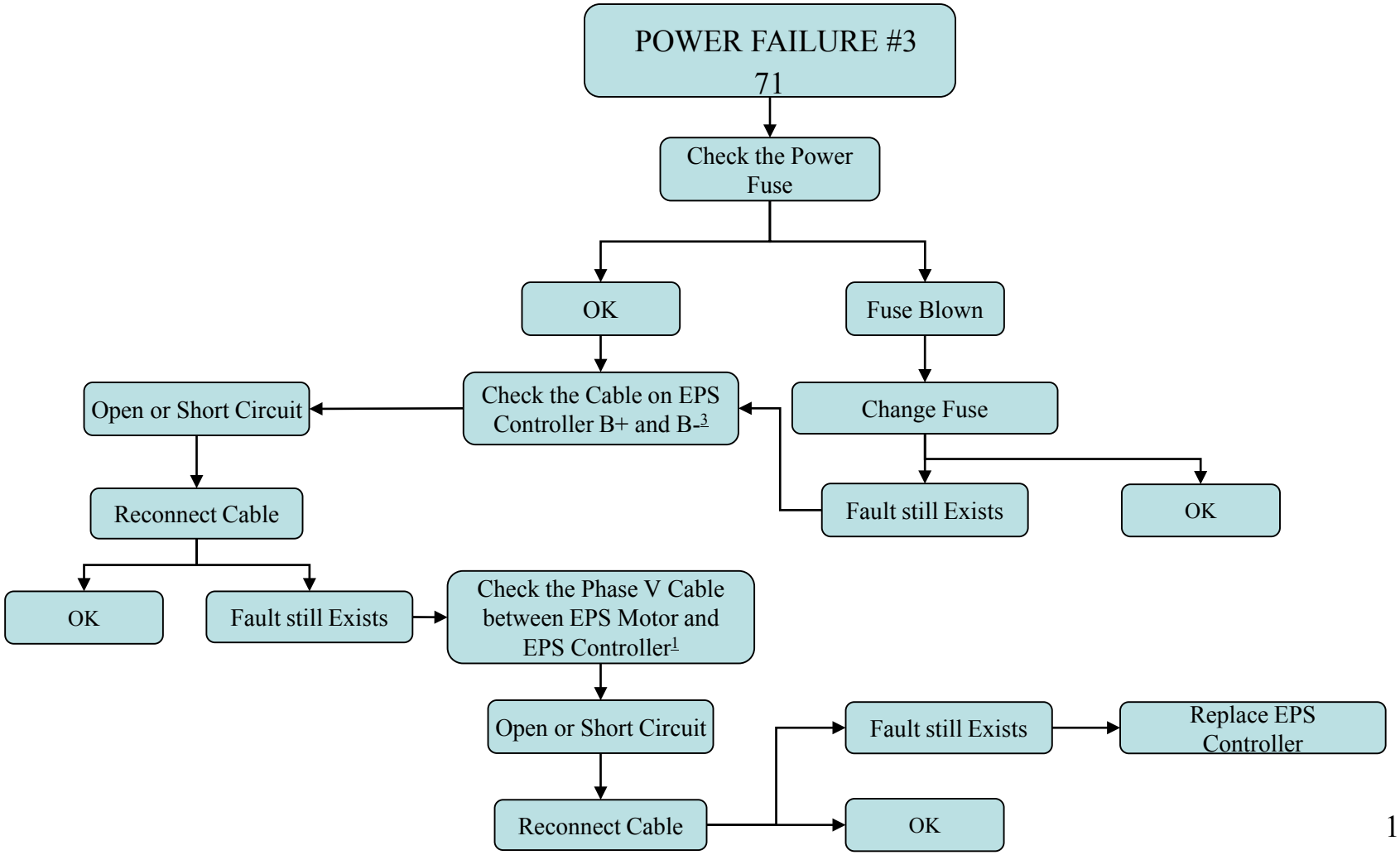
ALARM #65 on NODE #6 MOTOR TEMPERAT



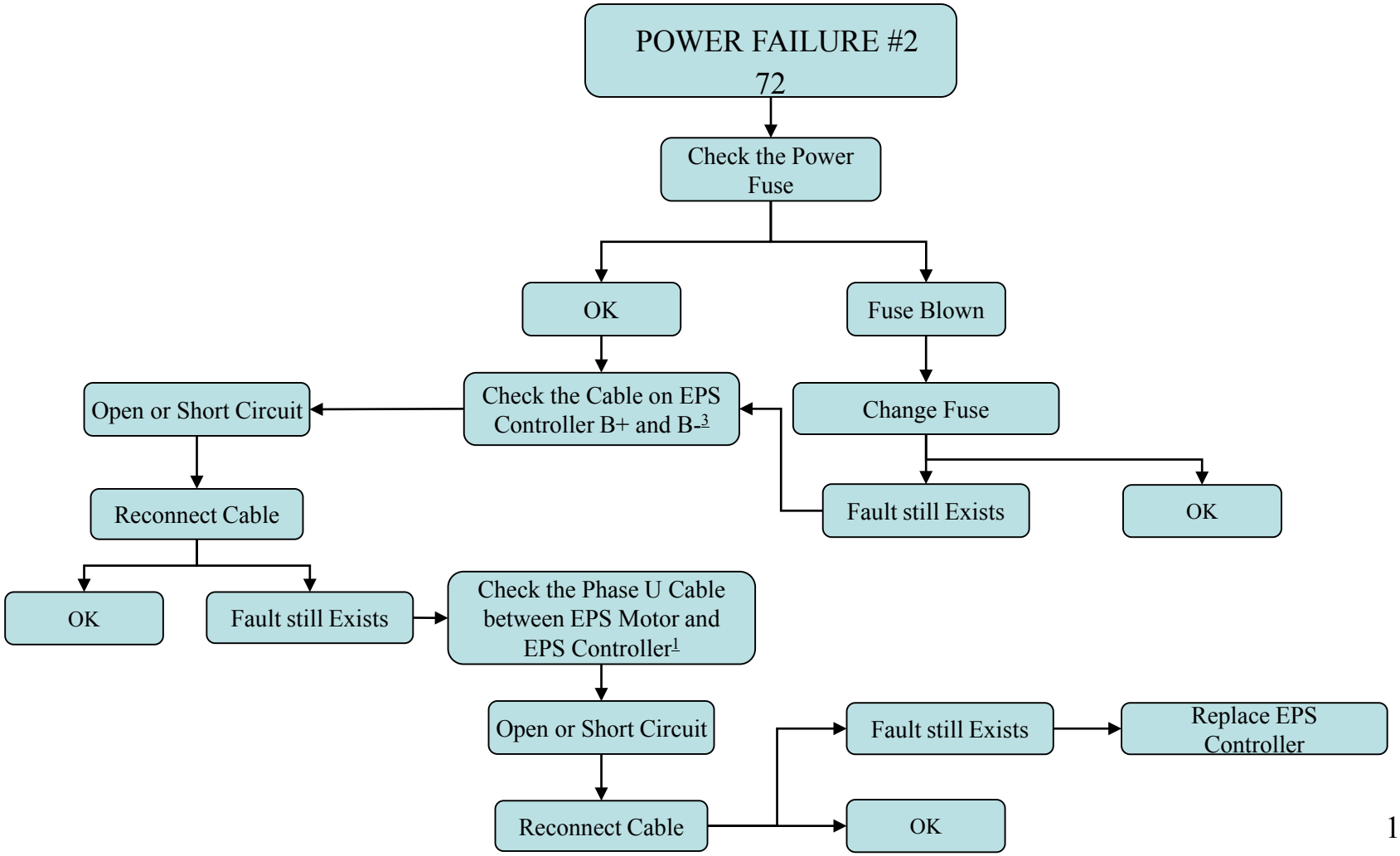
ALARM #70 on NODE #6 HIGH CURRENT



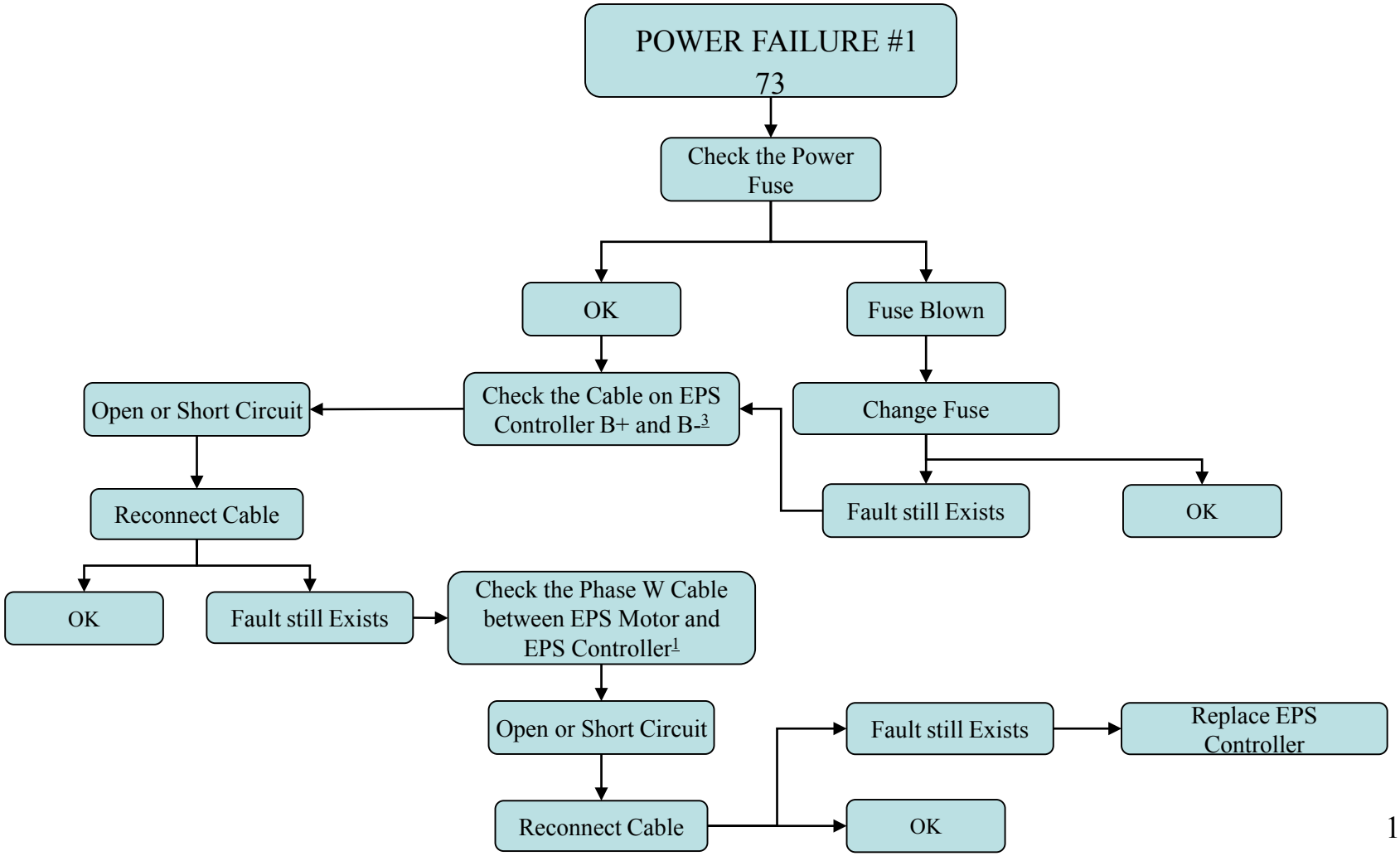
ALARM #71 on NODE #6 POWER FAILURE #3



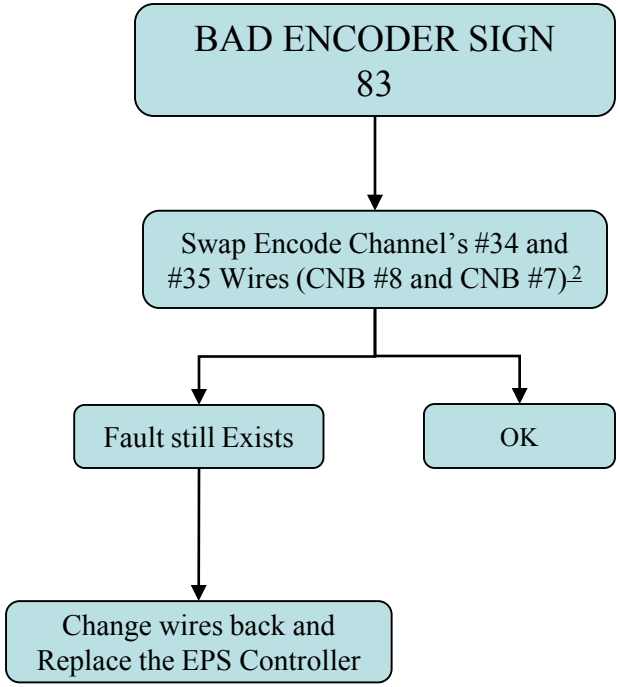
ALARM #72 on NODE #6 POWER FAILURE #2



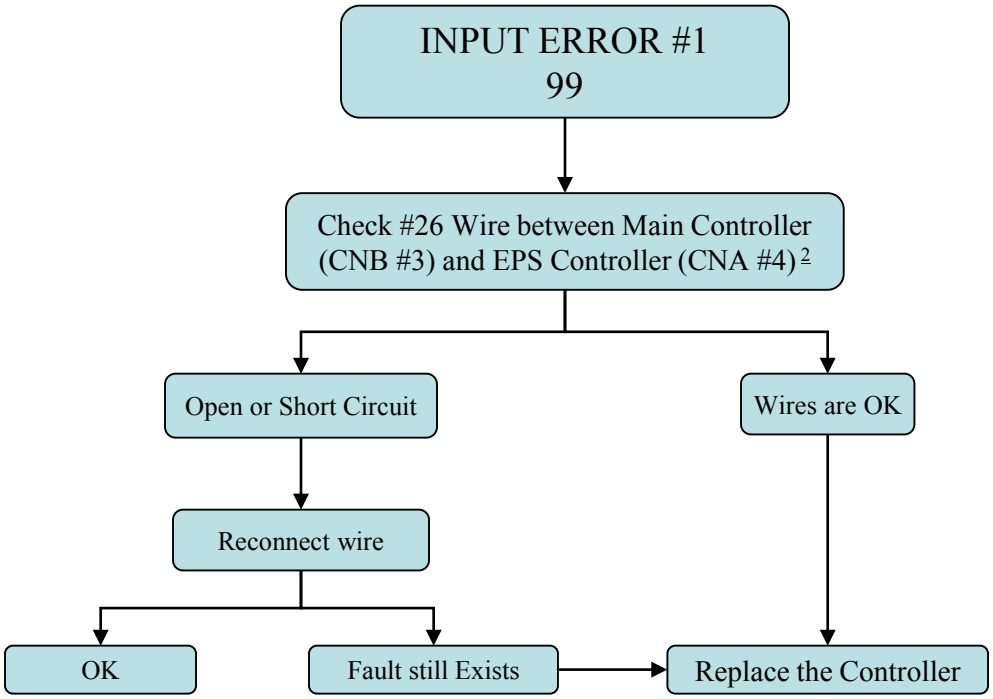
ALARM #73 on NODE #6 POWER FAILURE #1



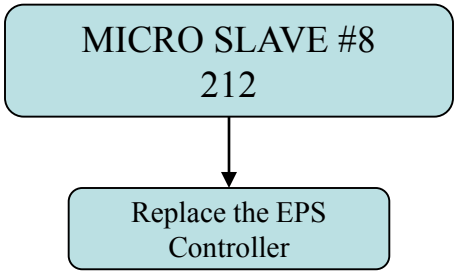
ALARM #83 on NODE #6 BAD ENCODER SIGN



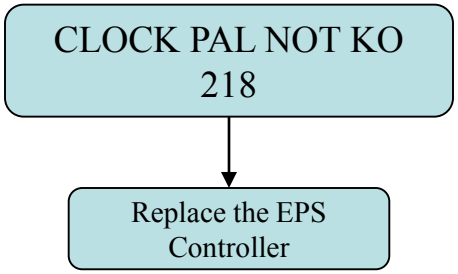
ALARM #99 on NODE #6 INPUT ERROR #1



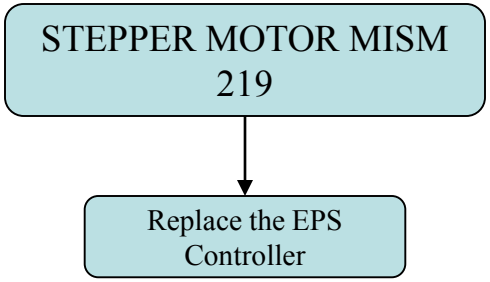
ALARM #212 on NODE #6 MICRO SLAVE #8



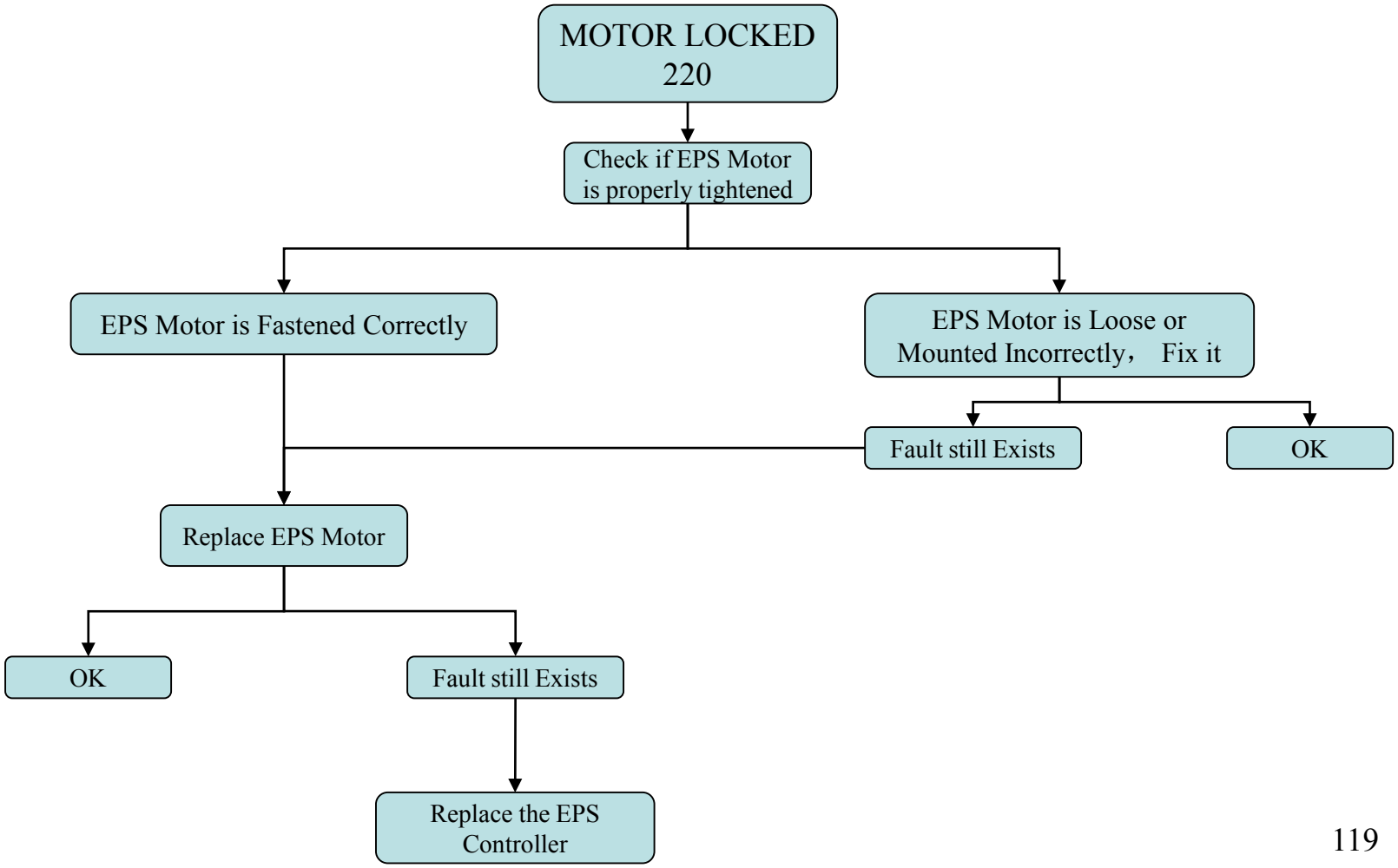
ALARM #218 on NODE #6 CLOCK PAL NOT KO



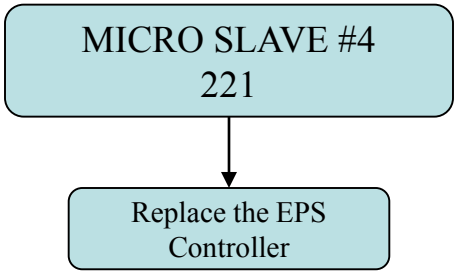
ALARM #219 on NODE #6 STEPPER MOTOR MISM



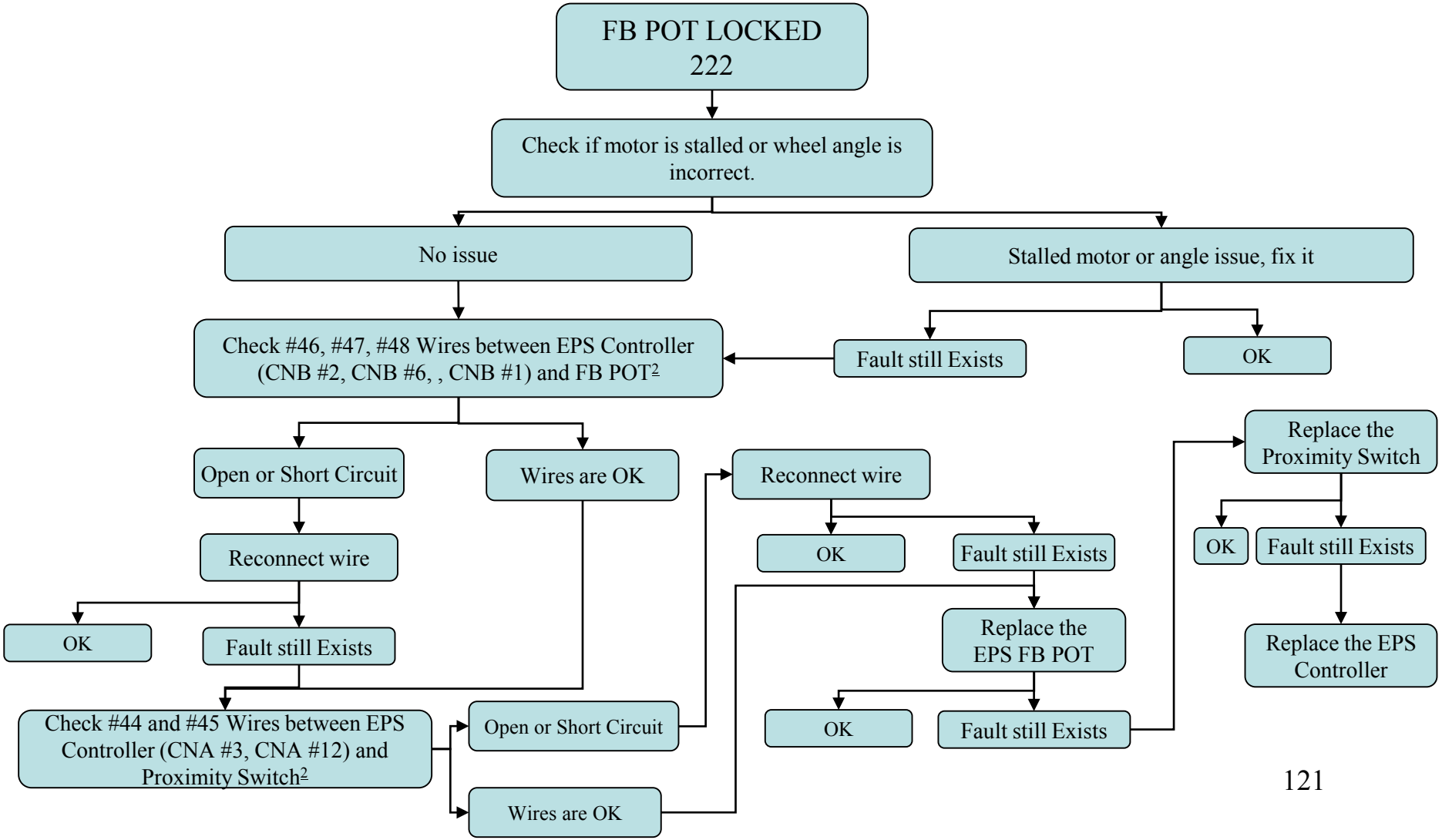
ALARM #220 on NODE #6 MOTOR LOCKED



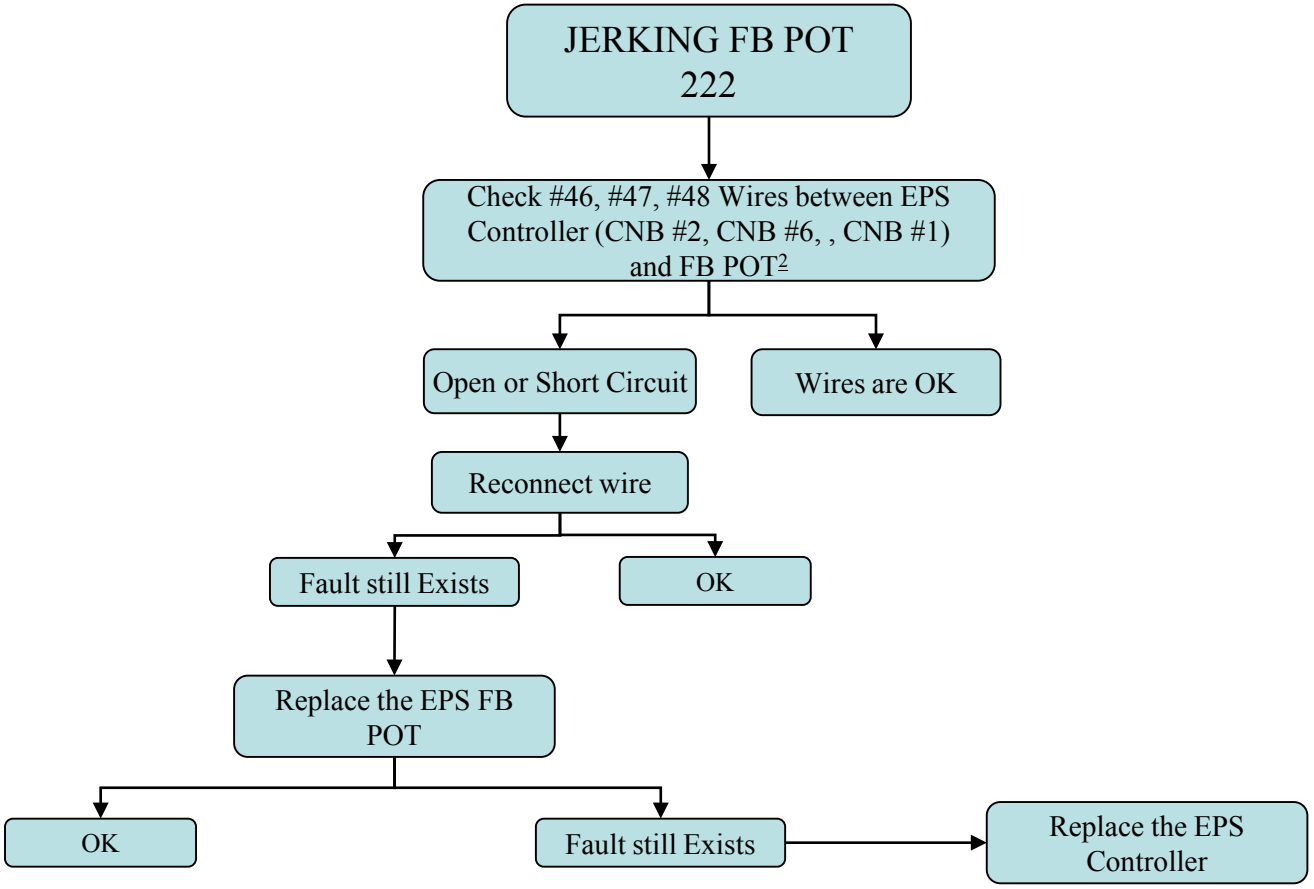
ALARM #221 on NODE #6 MICRO SLAVE #4



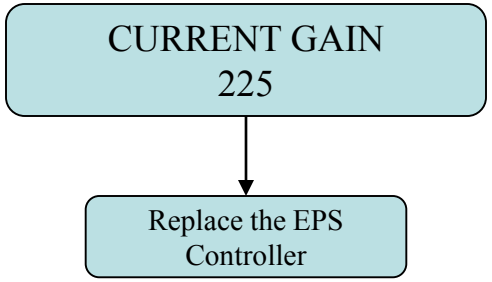
ALARM #222 on NODE #6 FB POT LOCKED



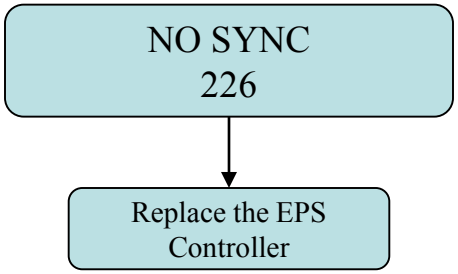
ALARM #223 on NODE #6 JERKING FB POT



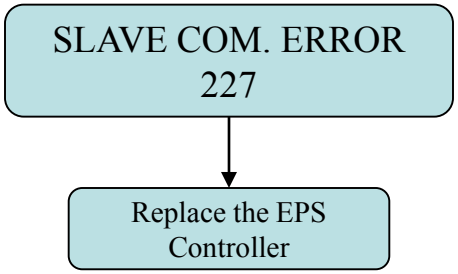
ALARM #225 on NODE #6 CURRENT GAIN



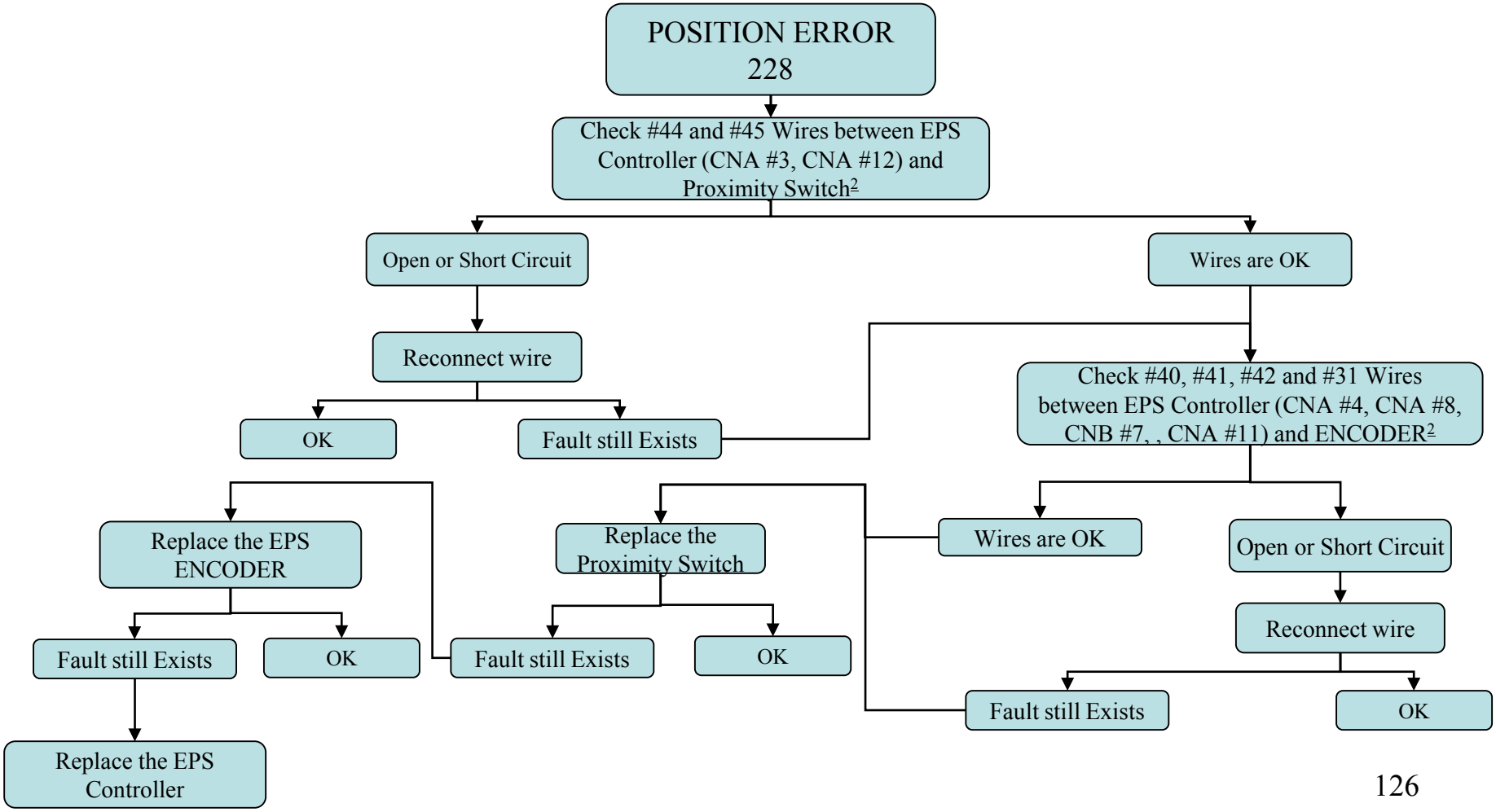
ALARM #226 on NODE #6 NO SYNC



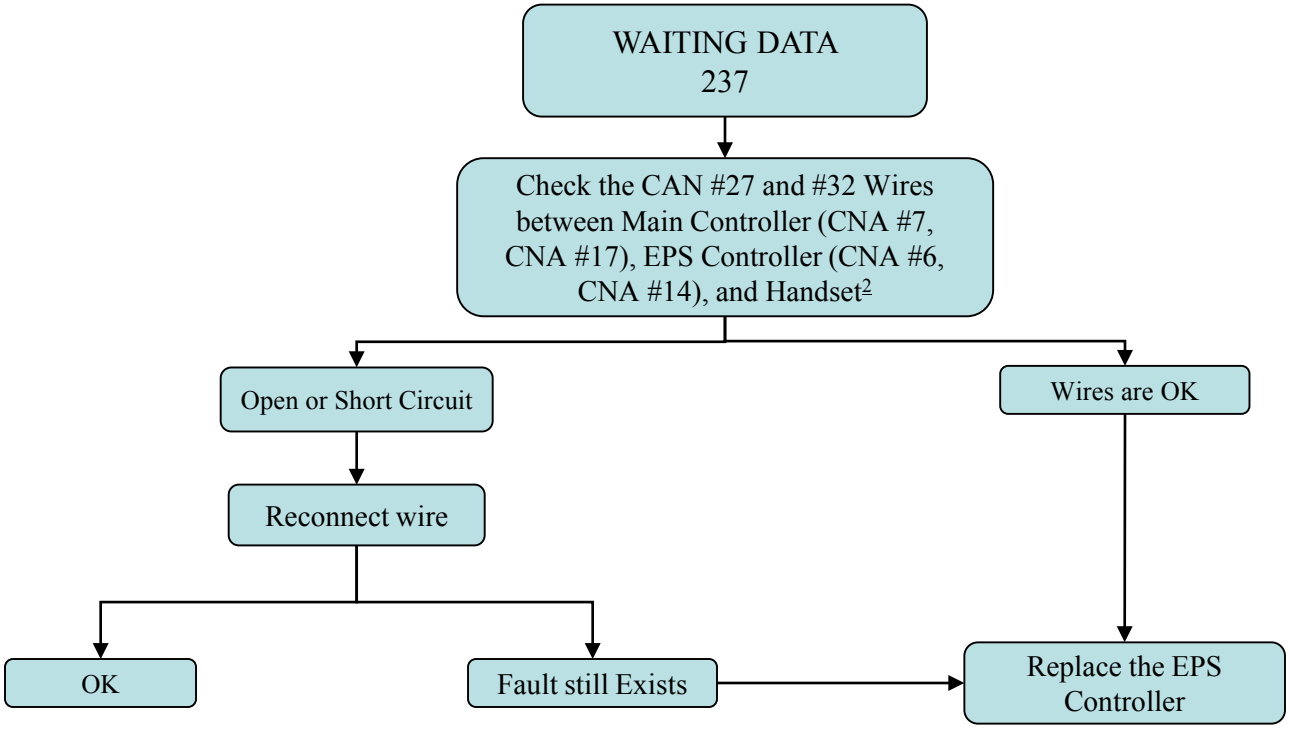
ALARM #227 on NODE #6 SLAVE COM. ERROR



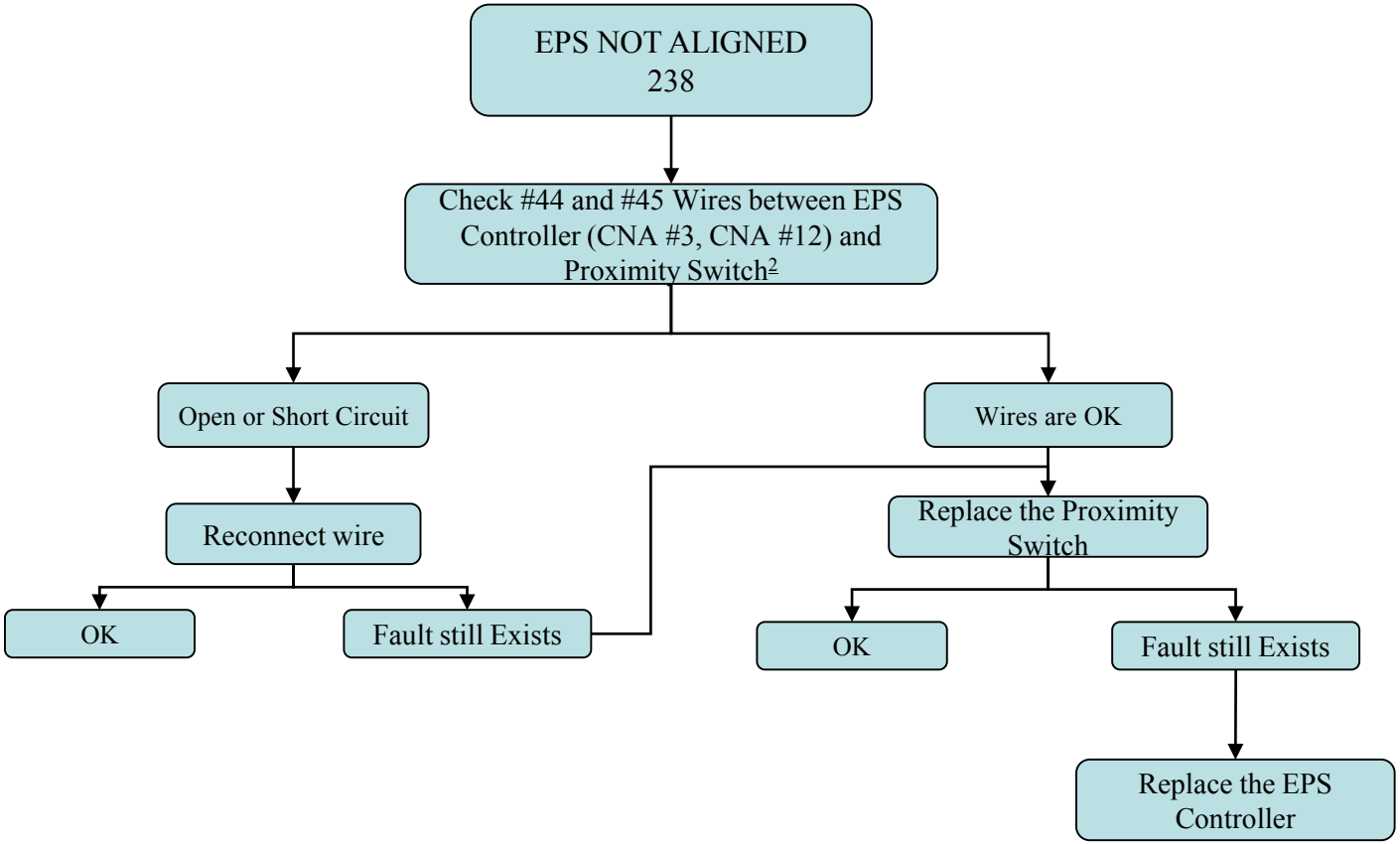
ALARM #228 on NODE #6 POSITION ERROR



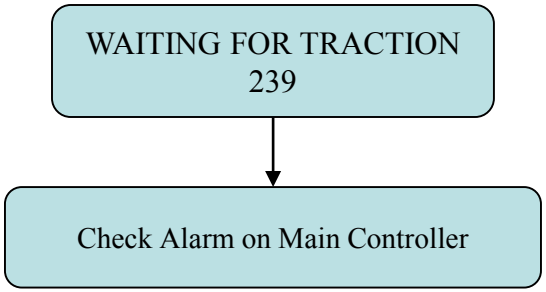
ALARM #237 on NODE #6 WAITING DATA



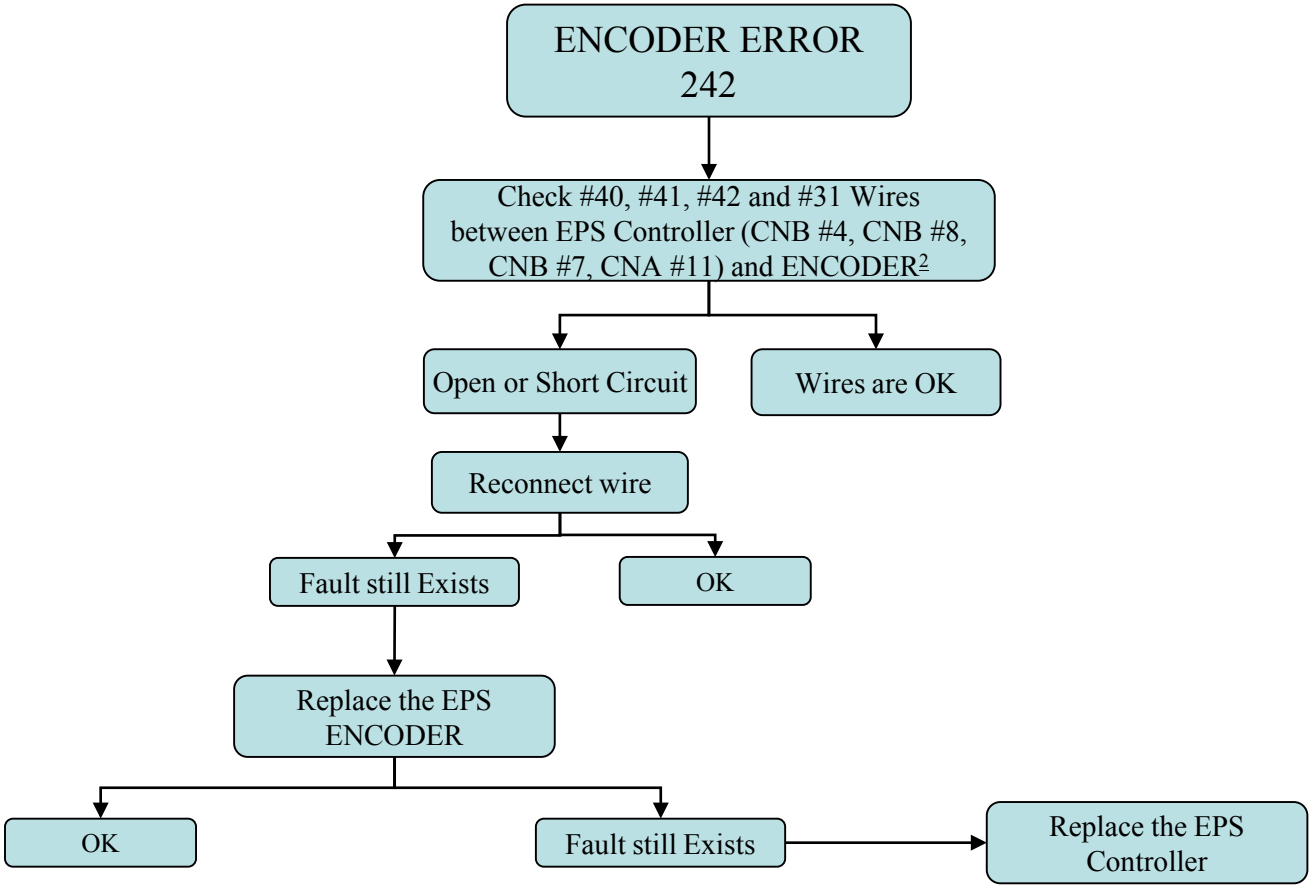
ALARM #238 on NODE #6 EPS NOT ALIGNED



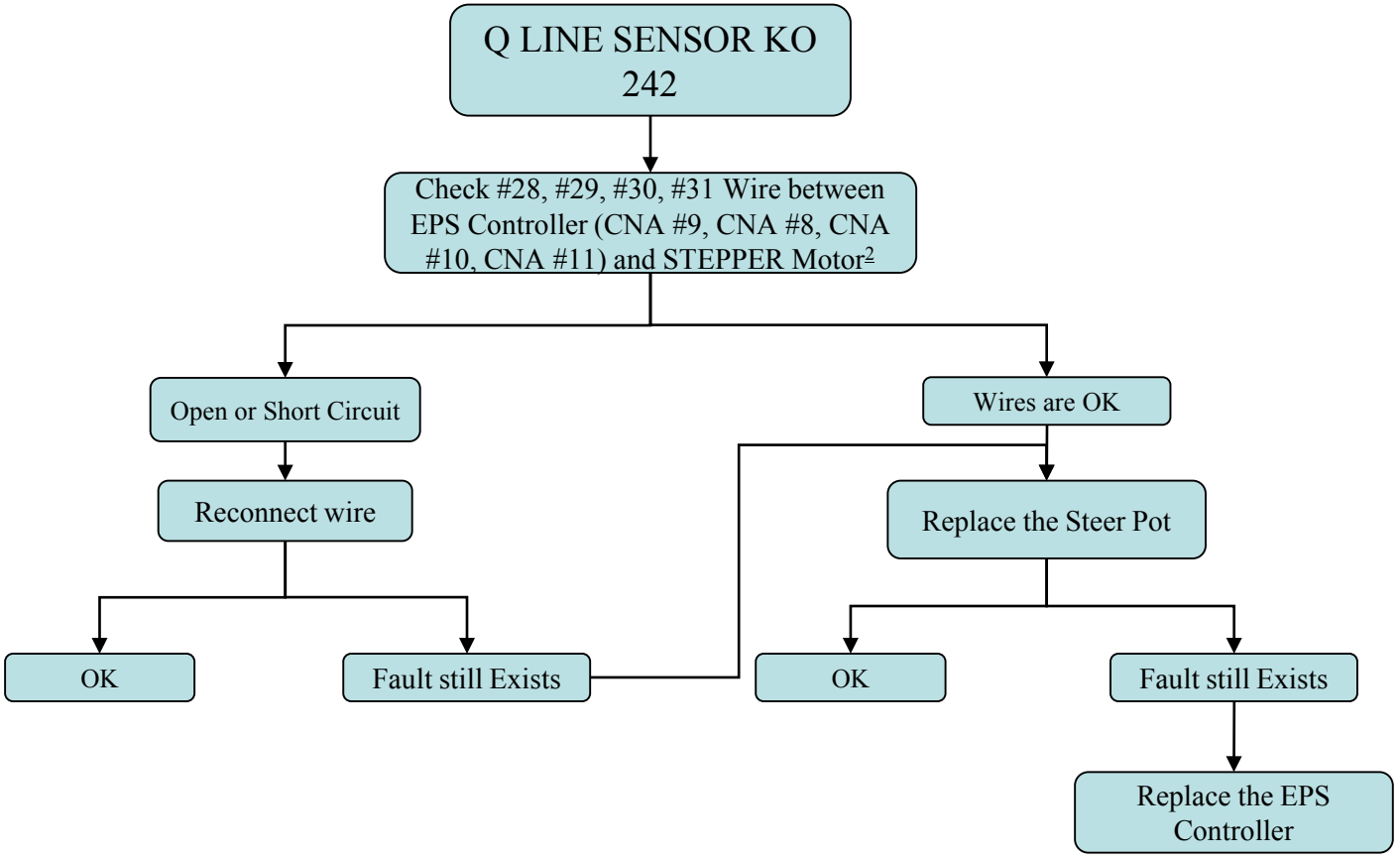
ALARM #239 on NODE #6 WAITING FOR TRACTION



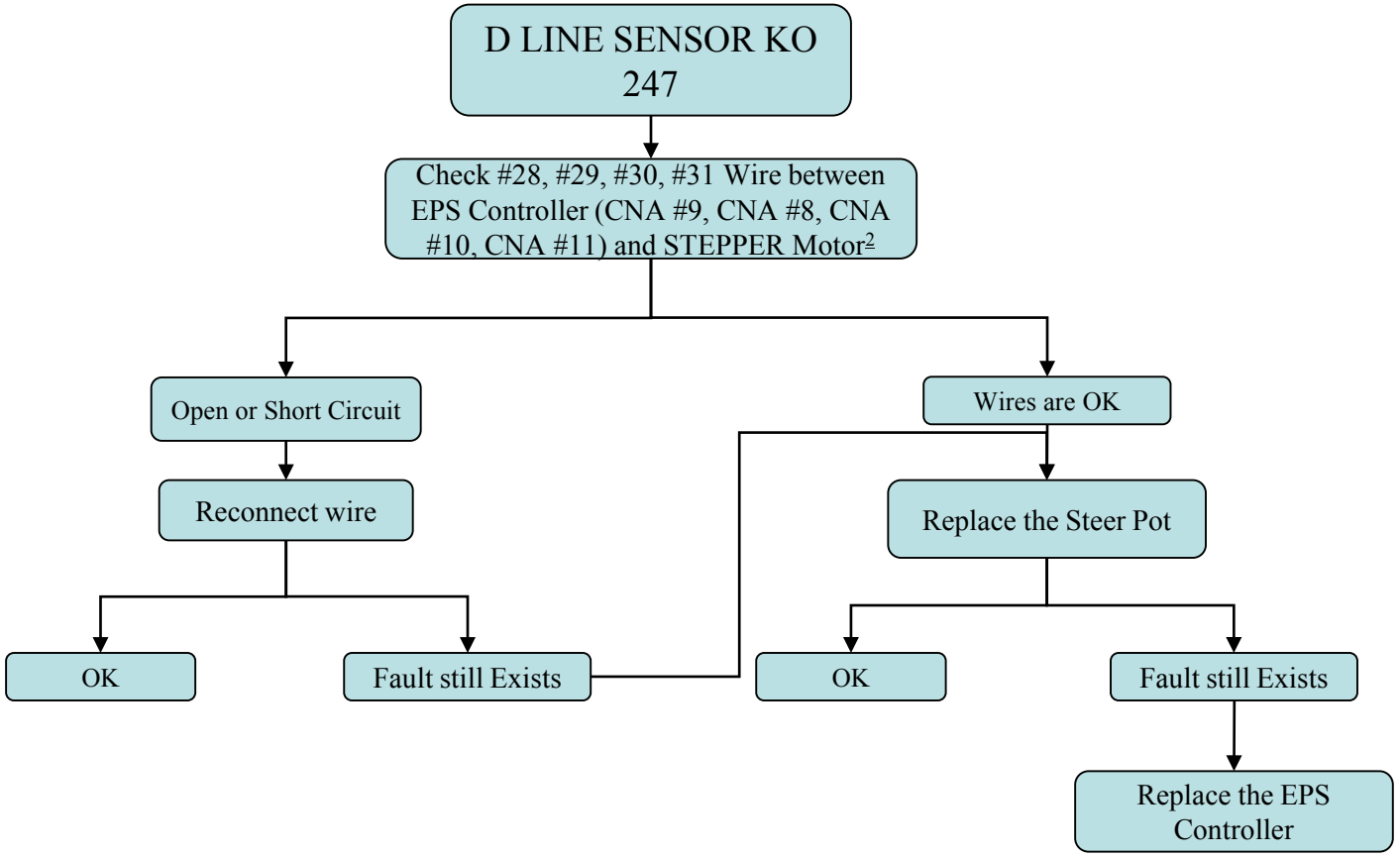
ALARM #241 on NODE #6 ENCODER ERROR



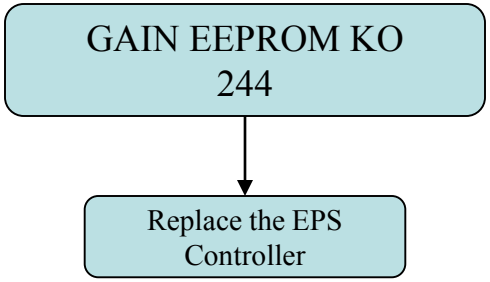
ALARM #242 on NODE #6 Q LINE SENSOR KO



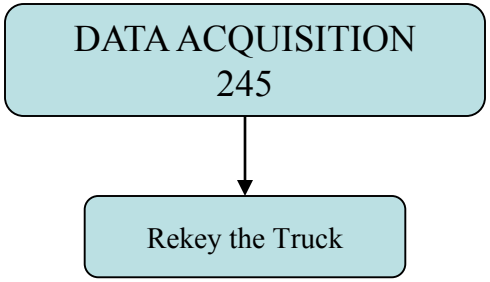
ALARM #243 on NODE #6 D LINE SENSOR KO



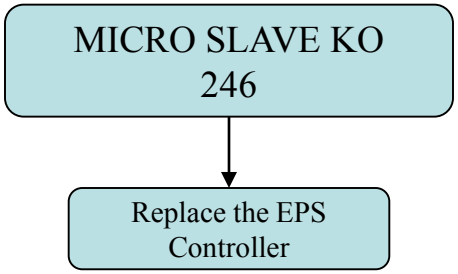
ALARM #244 on NODE #6 GAIN EEPROM KO



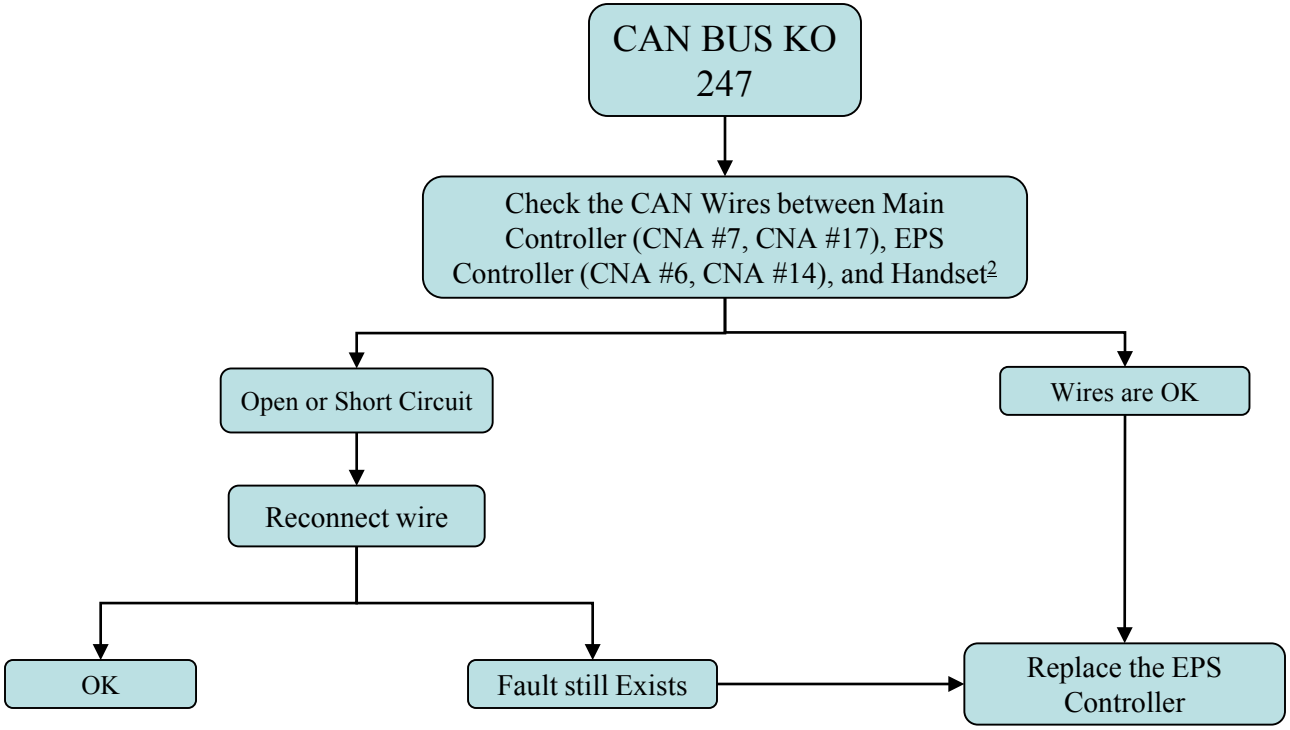
ALARM #245 on NODE #6 DATA ACQUISITION



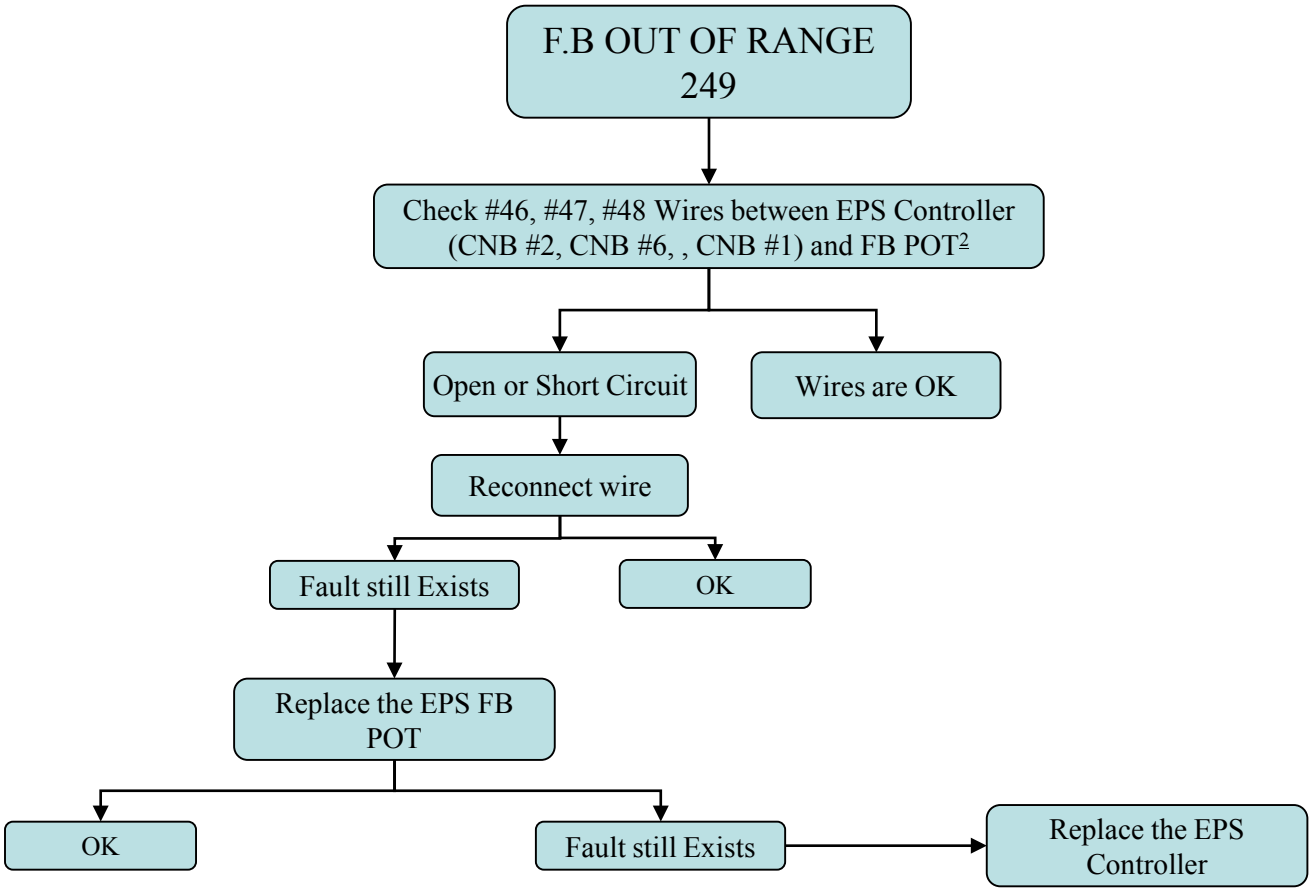
ALARM #246 on NODE #6 MICRO SLAVE KO



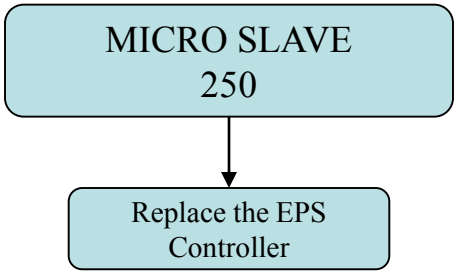
ALARM #247 on NODE #6 CAN BUS KO



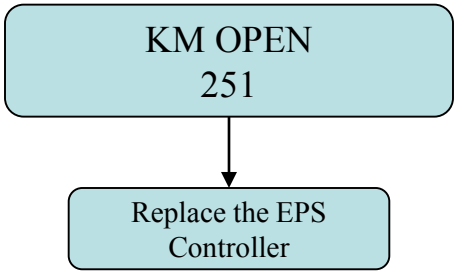
ALARM #249 on NODE #6 F.B OUT OF RANGE



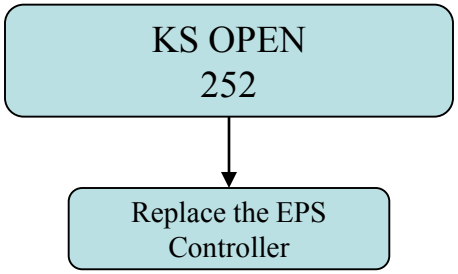
ALARM #250 on NODE #6 MICRO SLAVE



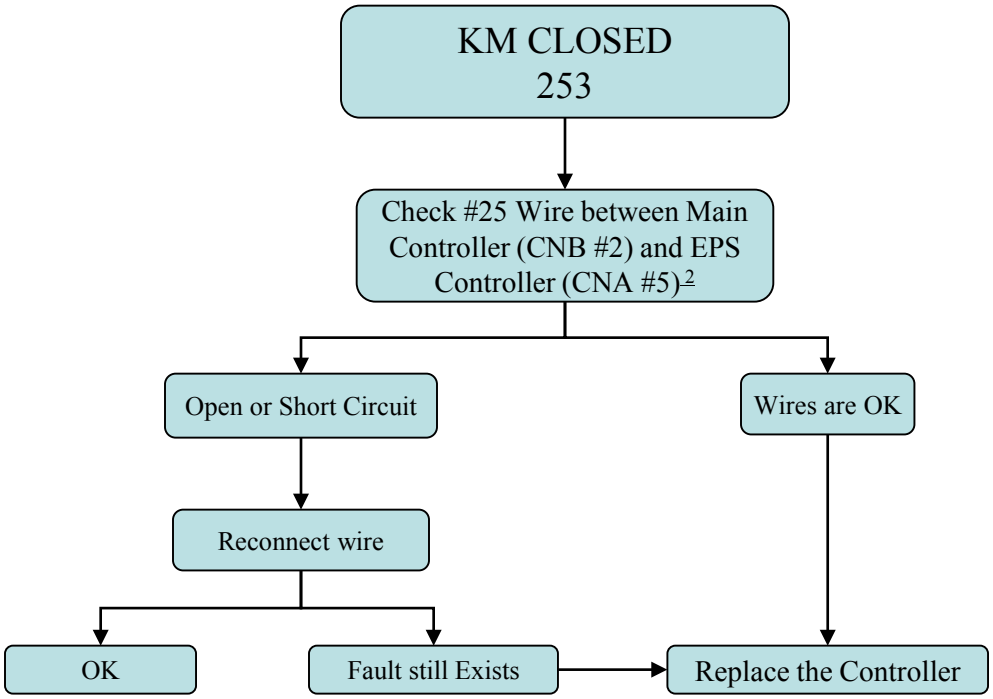
ALARM #251 on NODE #6 KM OPEN



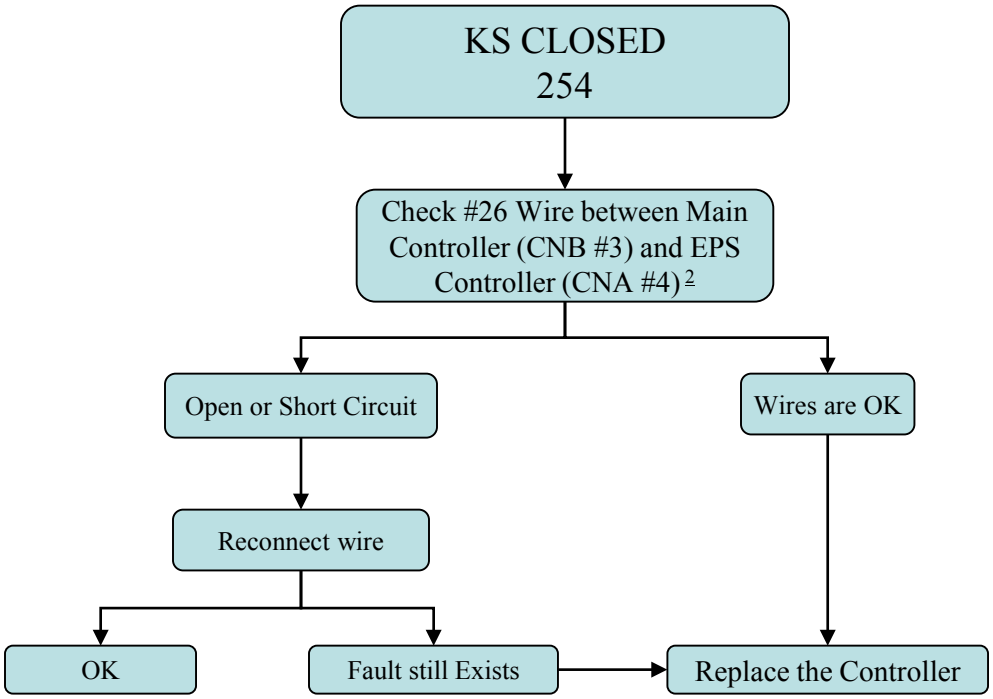
ALARM #252 on NODE #6 KS OPEN



ALARM #253 on NODE #6 KM CLOSED



ALARM #254 on NODE #6 KS CLOSED



Appendix A

Fuse
Main Contactor
EPS Controller UVW Cables
Main Controller UVW Cables
Main Controller Wires
EPS Controller Wires
350A

Electrical Brake
Traction Motor Encode
EPS Motor Cables
EPS Motor Encode
Traction Motor Temperature Sensor (White Wire)
EPS Motor Cables
Proximity Switch

Lift and lower Switches

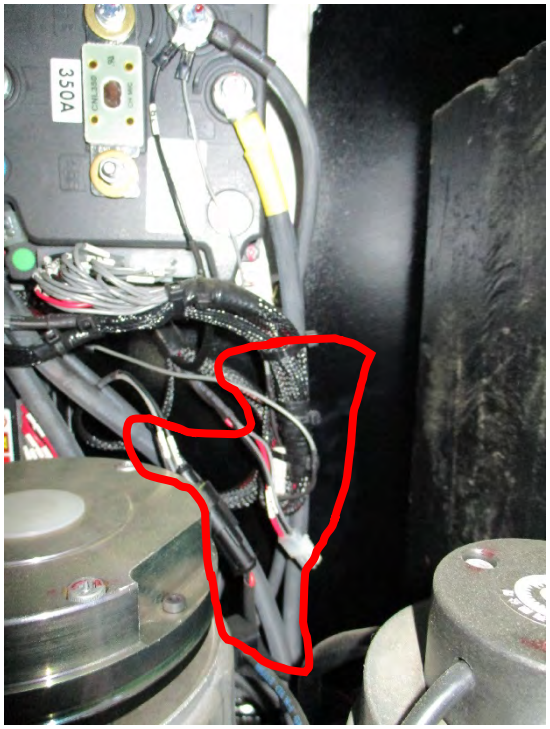
Electrical Brake Pedal

Accelerator

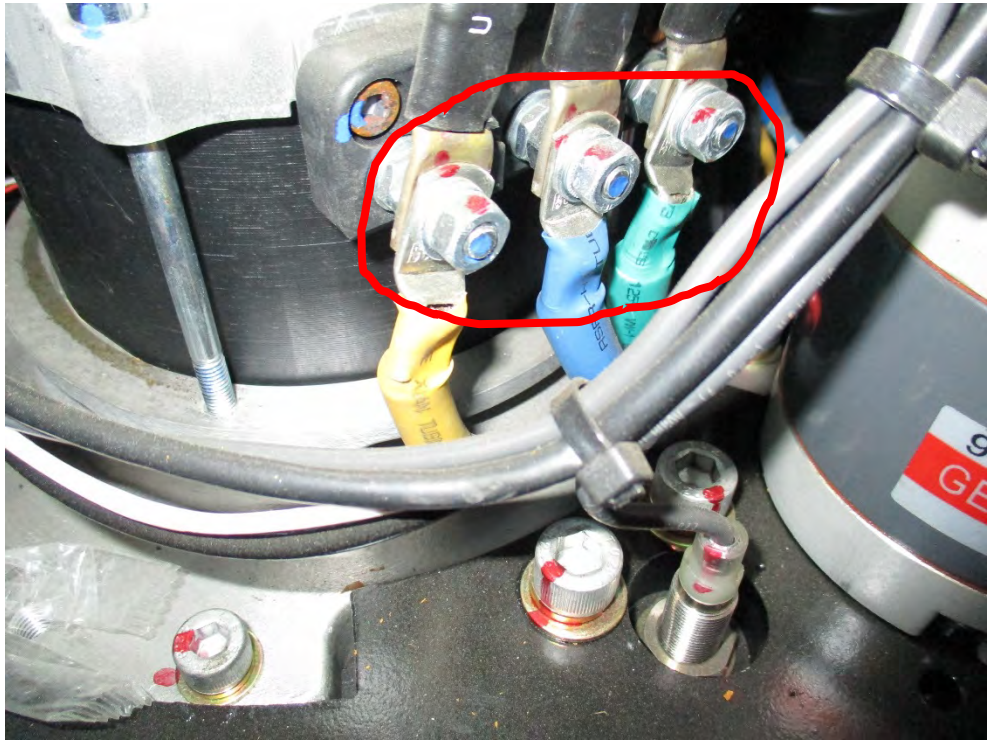
Emergency Stop
Steering Wheel
Display
Horn Button
Forward and Backward
WARNING

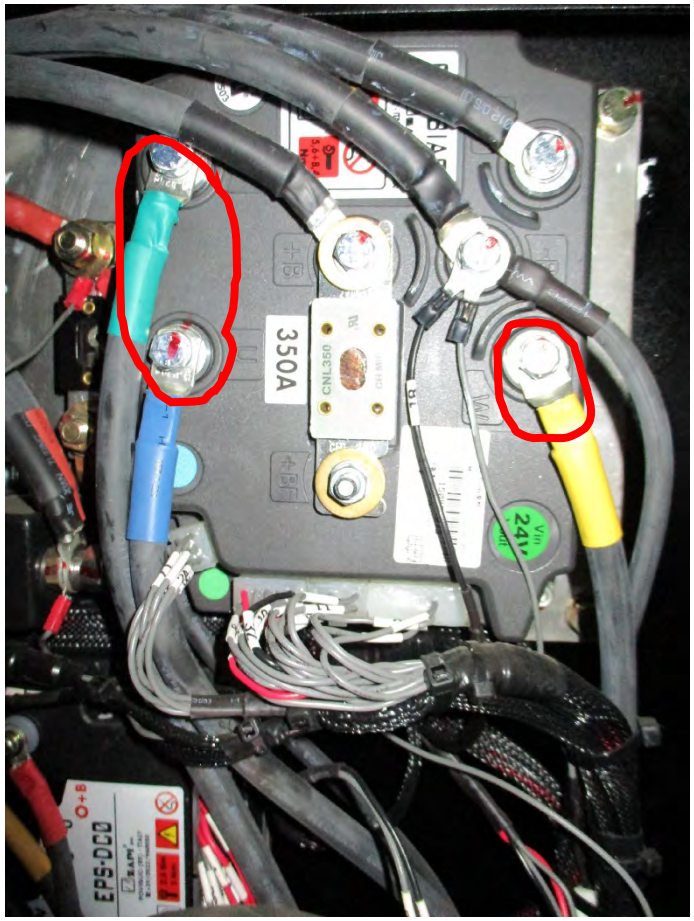
Appendix B

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.

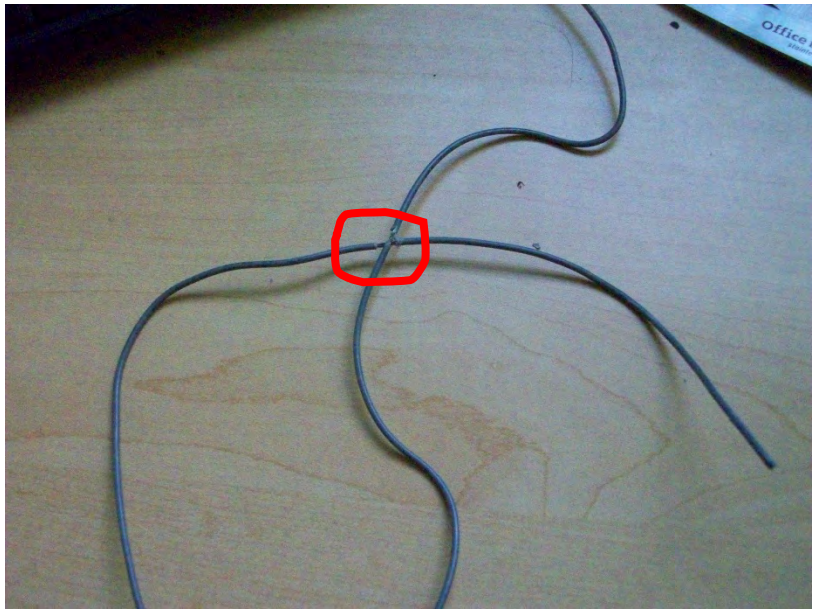


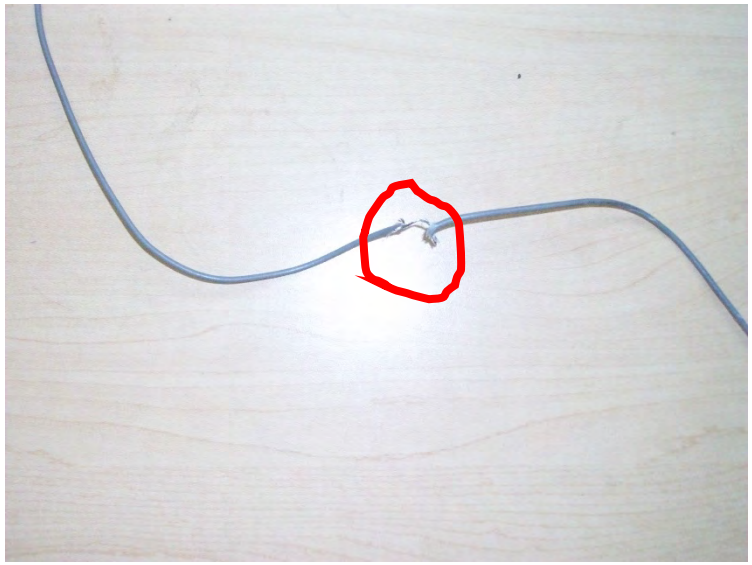
Check the connection points of the motor cables, and controller cables. Check the cable terminals for burn marks. Check if hardware is loose or burned. Ensure connections re tightened properly.



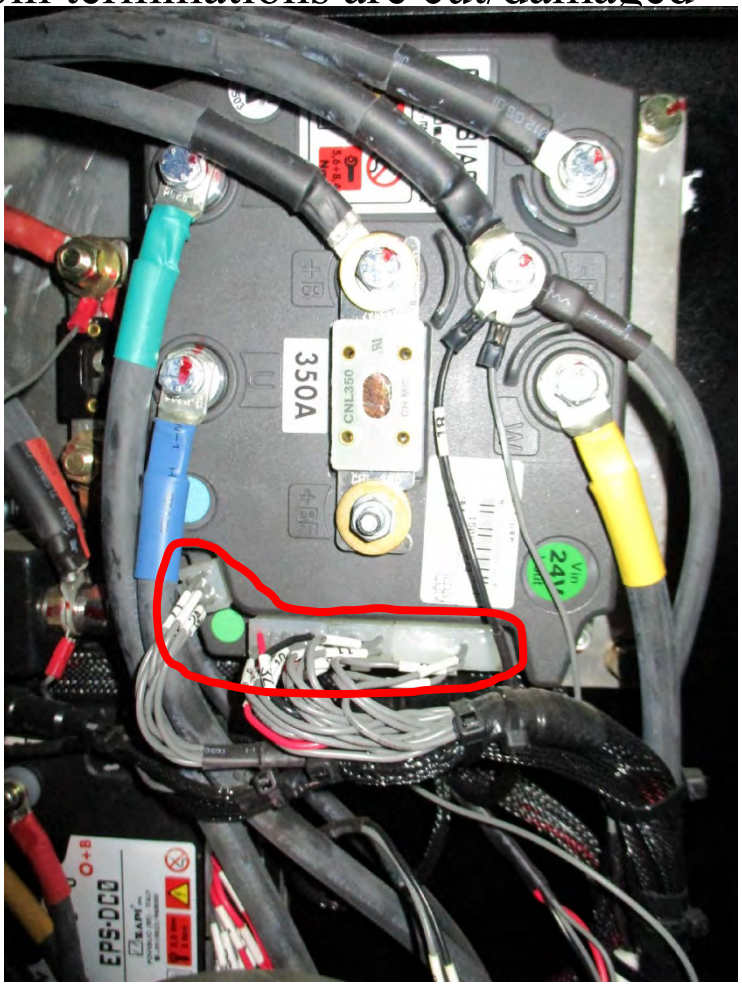


2. Check if cables are opened or shorted. A shorted cable means the cable jacketing is damaged and it is shorting to another cable or it is in contact with a metal object like the frame. An open cable means one of the inside metal wires are cut/damaged. If you are not sure, pleasure measure the resistance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

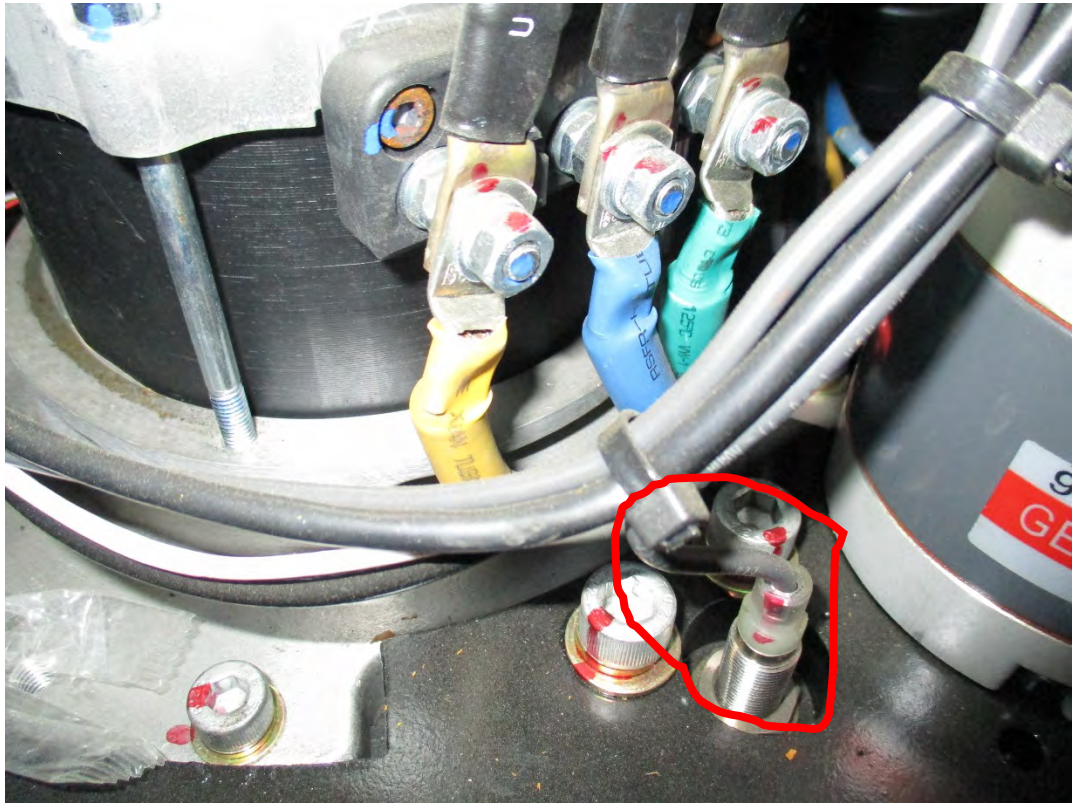




Check the connectors and pins on the Controller. Ensure connector locks are not damaged and no pins are broken or pushed out of the connector. Ensure no wires at pin terminations are cut/damaged

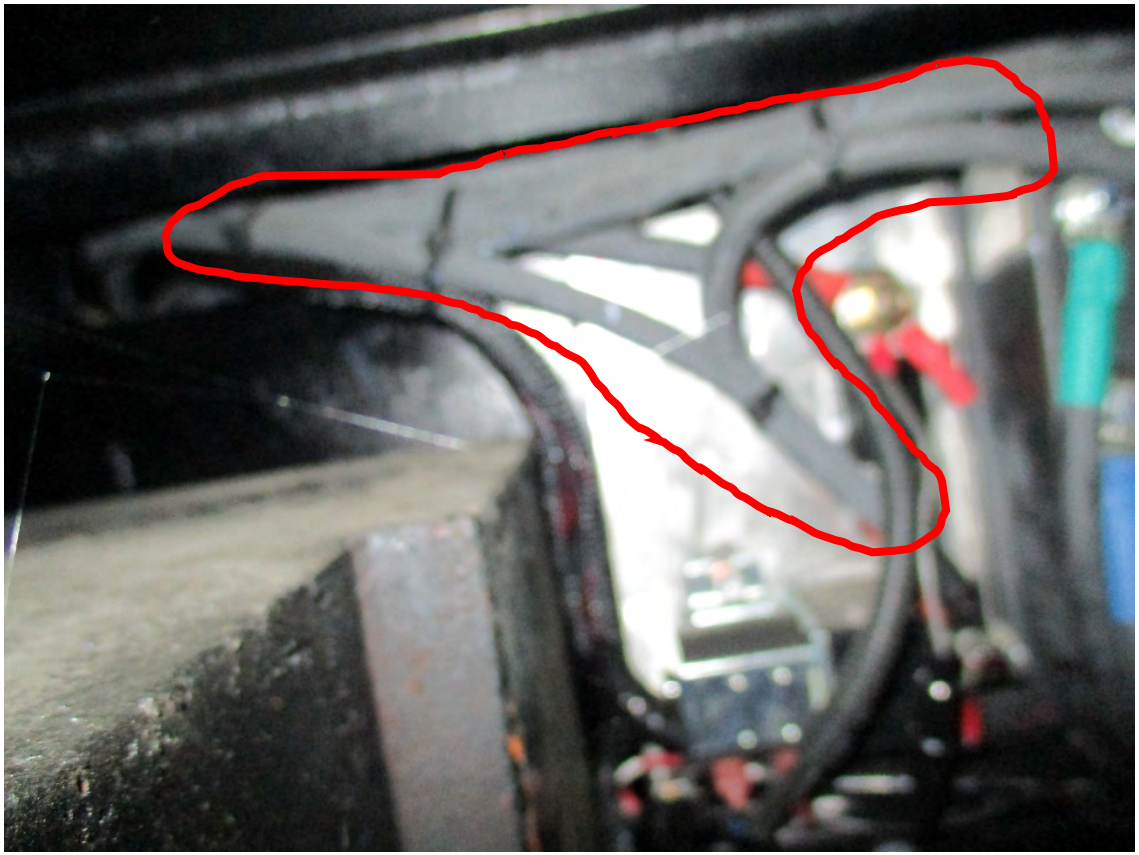


Check the connections between Controller wires and switches/sensors. Ensure wires are not cut or damaged.

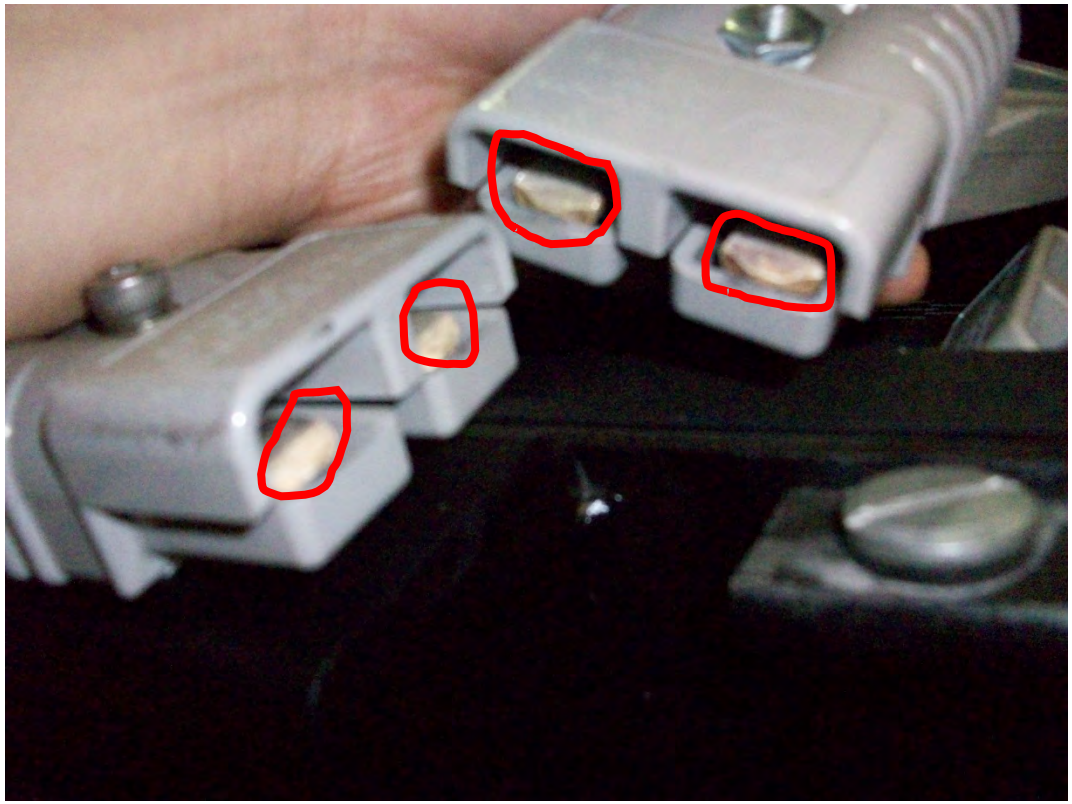


Check if connectors are loose or burned (such as the 2 pin connectors on the Main Contact). Ensure the parts are properly tightened.

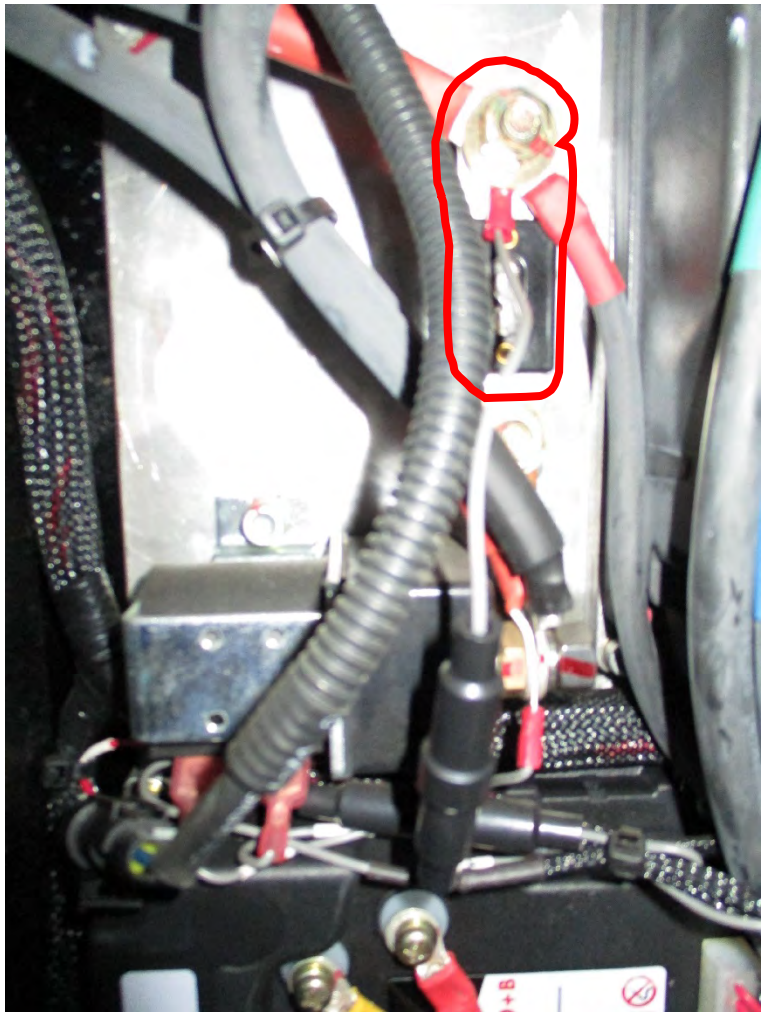
3. Check if cables are opened or shorted. A shorted cable means the cable jacketing is damaged and it is shorting to another cable or it is in contact with a metal object like the frame. An open cable means one of the inside metal wires are cut/damaged. If you are not sure, pleasure measure the resistance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



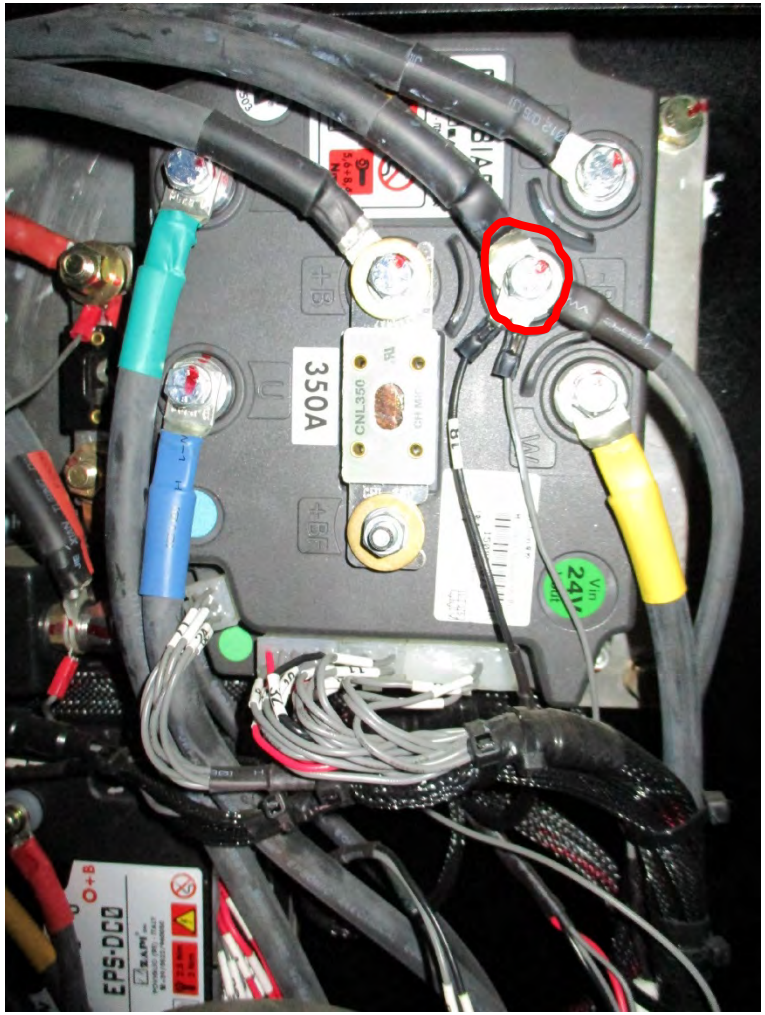
Check the Connectors between Battery and truck to see if they fit loose or are burned (Concentrate on the inside of the connector). If they do not fit correctly, replace cable lugs and/or connector housing to correct the issue.



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 (load should be no more than 1500 pound). If the no load voltage less than 22V, or the voltage difference between the empty lifting and loaded lifting is more than 5V. Please replace battery.