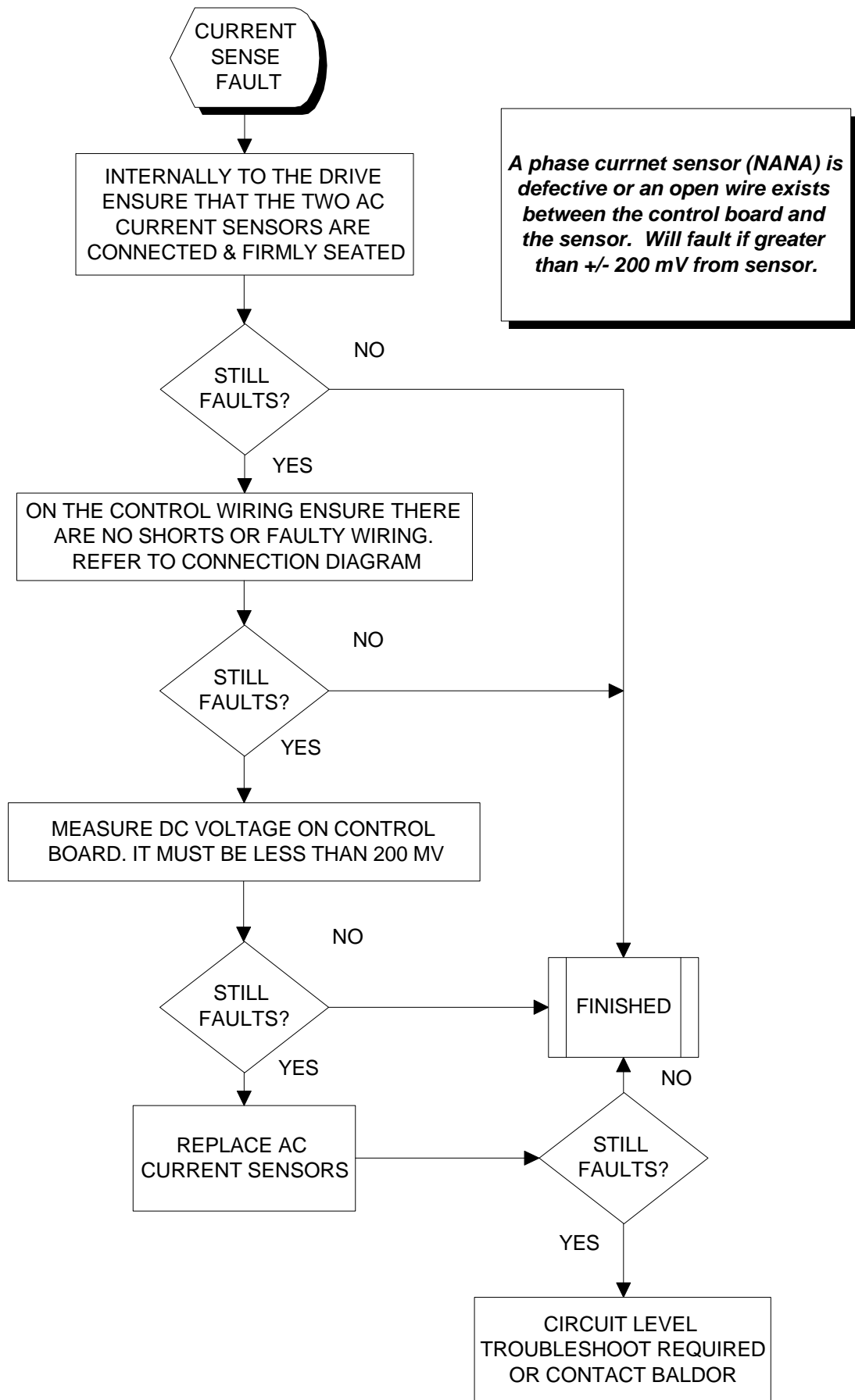
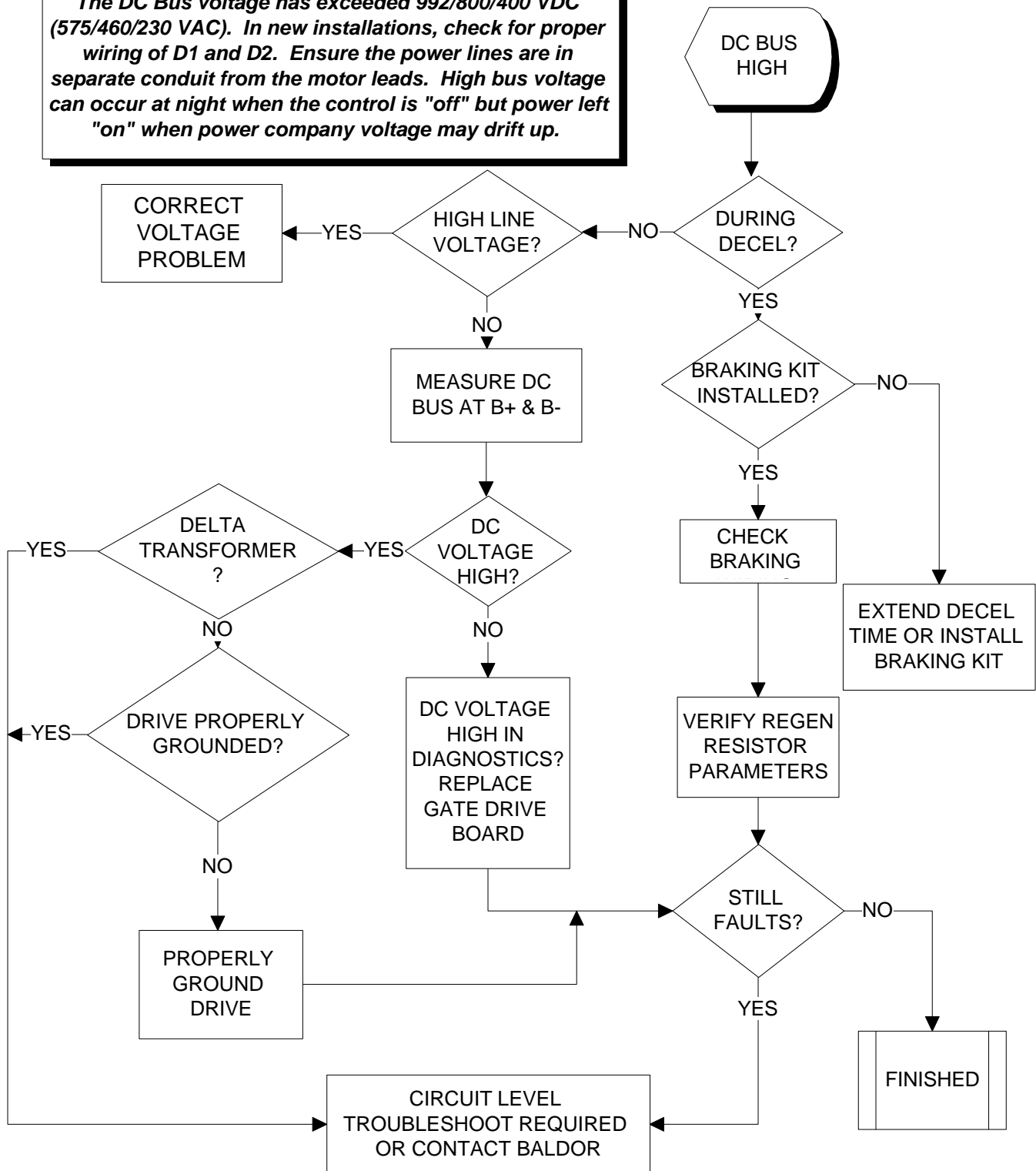
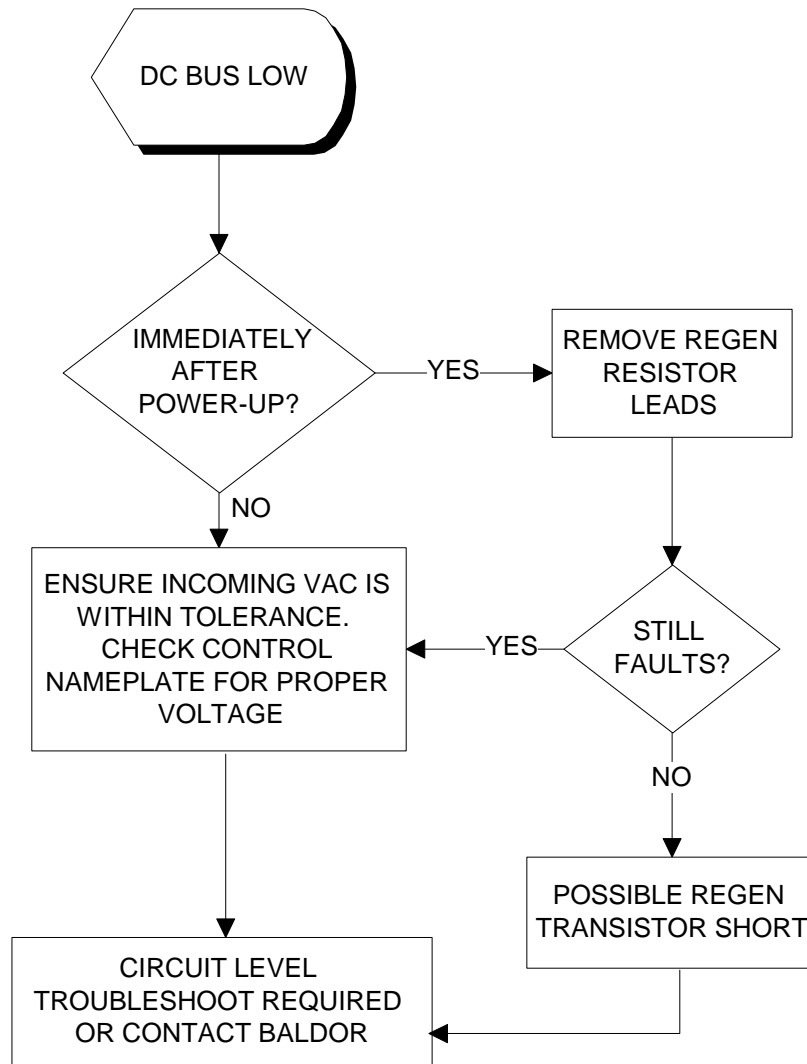


The DSP did not boot properly. Look for connections to the control terminal block that create noise in the terminal block or grounding of the common to the chassis ground. Check coils for snubbers. Can be caused by brown out conditions.

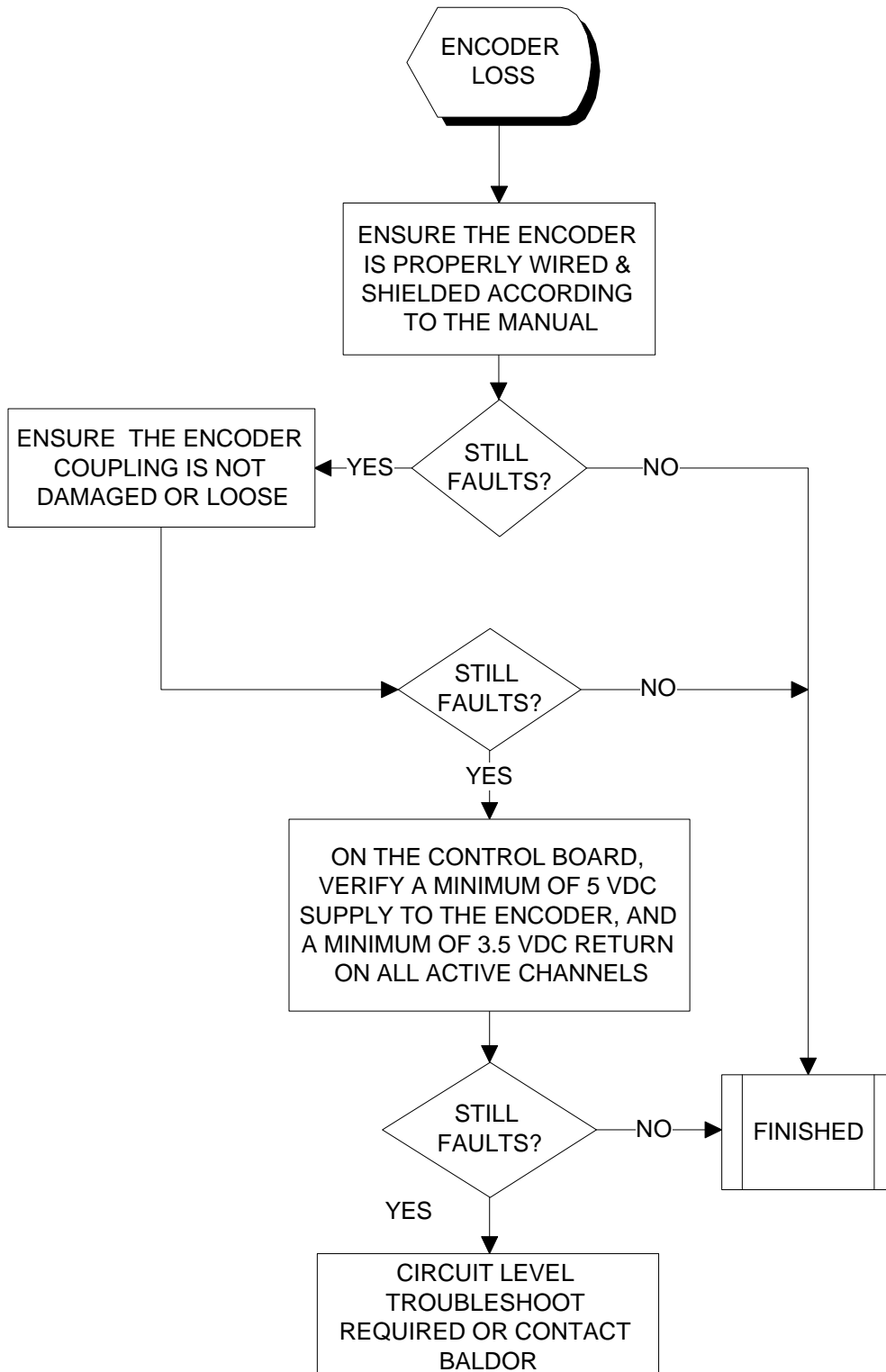


The DC Bus voltage has exceeded 992/800/400 VDC (575/460/230 VAC). In new installations, check for proper wiring of D1 and D2. Ensure the power lines are in separate conduit from the motor leads. High bus voltage can occur at night when the control is "off" but power left "on" when power company voltage may drift up.





The DC Bus voltage has dropped below 550/440/224 VDC (575/460/230 VAC input). If this is a new installation with an external Regen Kit check the wiring on B+ and B-. The most common reasons for this fault are Regen Transistor failure, Soft Start circuit failure or a failed diode bridge. If it occurs during running, the likely failure is the soft start contactor is not closed.



The encoder has experienced a power supply loss, the coupling has slipped or there is excessive noise on the encoder signals. Occurs when the control board detects the encoder signal is running then is abruptly lost. Use the diagnostic screen to find the problem.

EXTERNAL
TRIP

ENSURE THERE IS NOT
AN OPEN CIRCUIT
BETWEEN J1-16 AND
J1-17

STILL
FAULTS?

NO

YES

PLACE A JUMPER BETWEEN J1-16 AND J1-17
THE DIAGNOSTIC SCREEN SHOULD SHOW A
"1" IN THE 9TH DIGIT

STILL
FAULTS?

NO

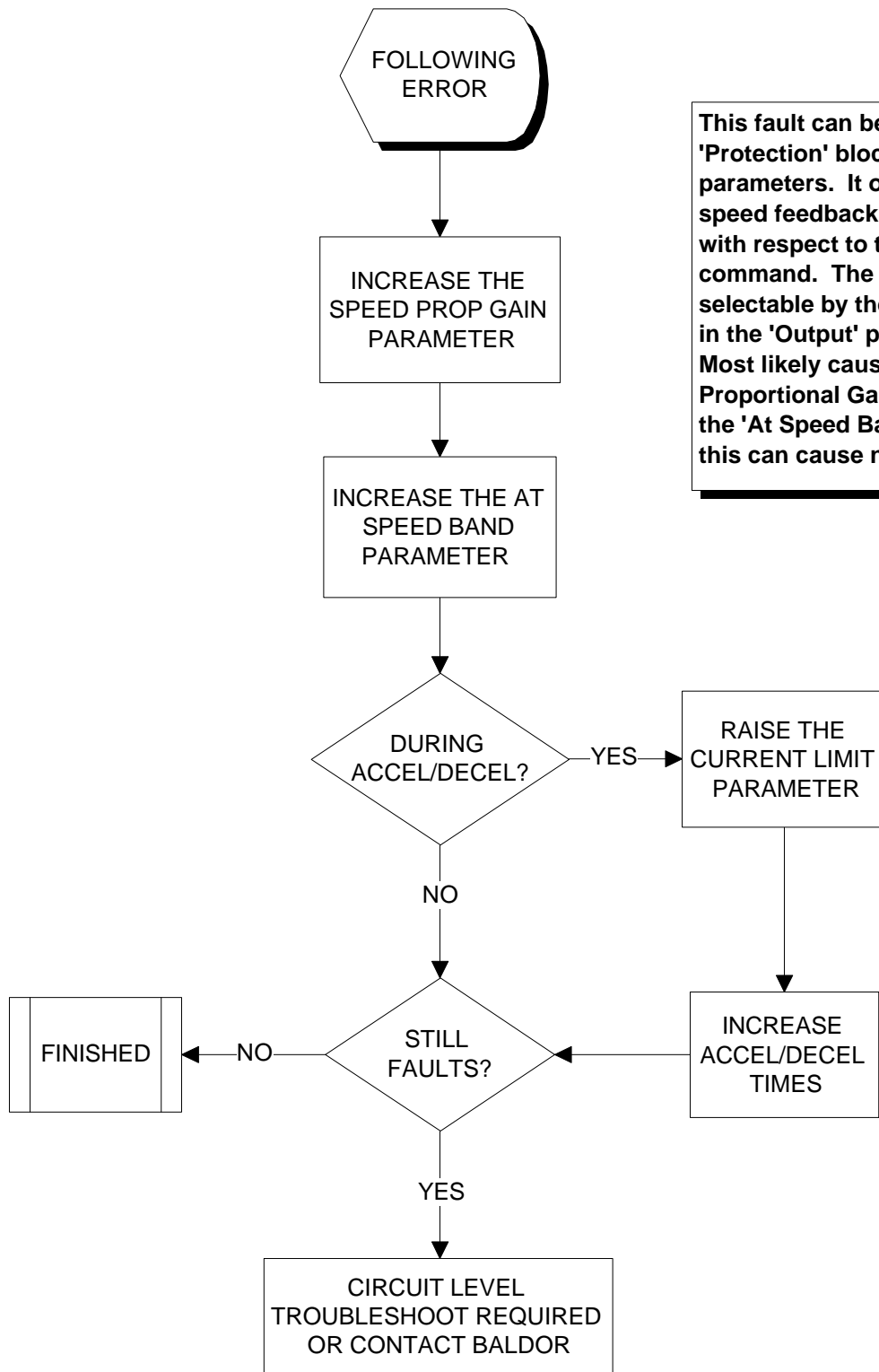
FINISHED

YES

CIRCUIT LEVEL
TROUBLESHOOT REQUIRED
OR CONTACT BALDOR

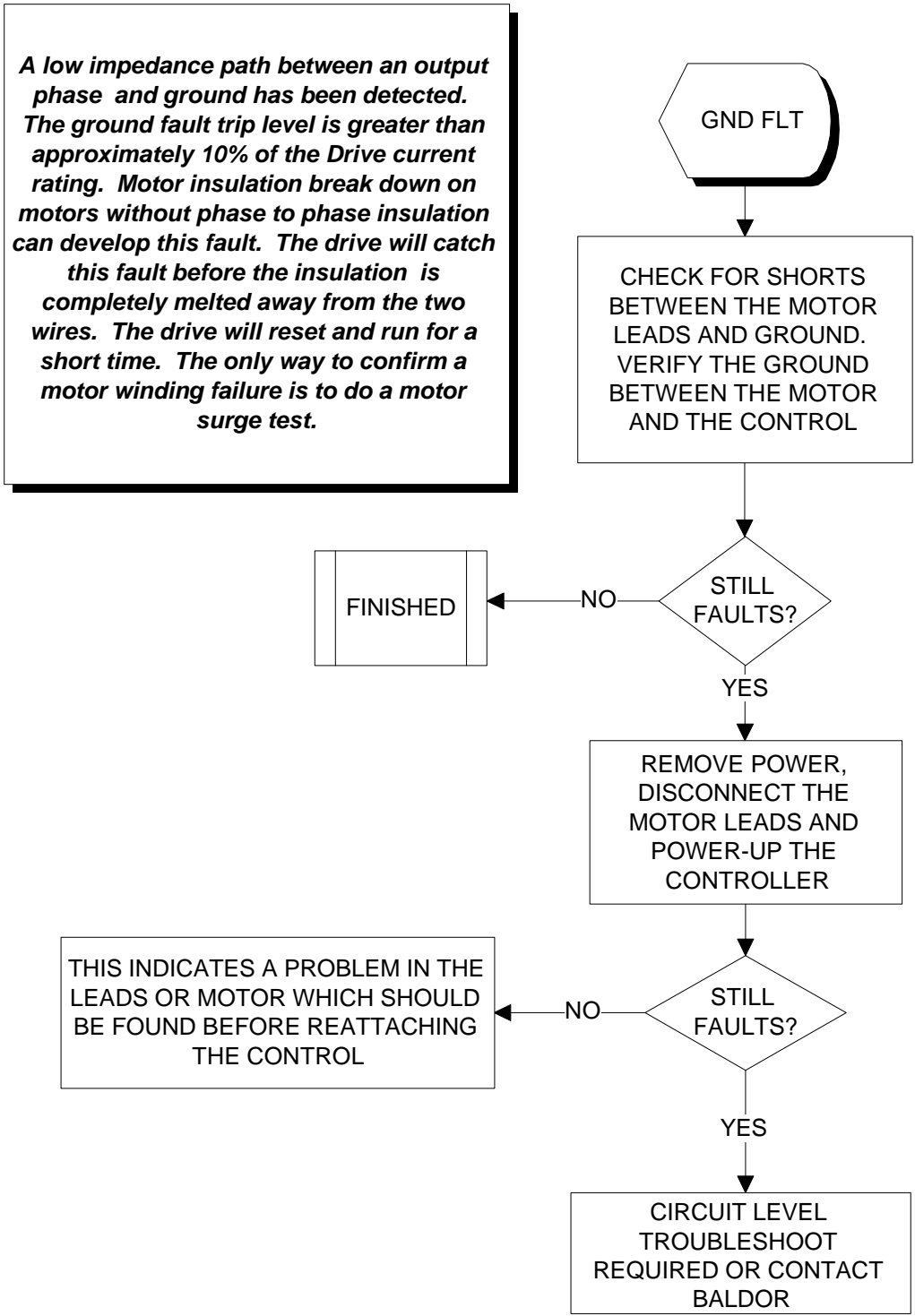
This fault is only active when turned on in the External Trip Parameter, Level 2, Protection Block. An external over temperature or open circuit has occurred between J1-16 and J1-17.

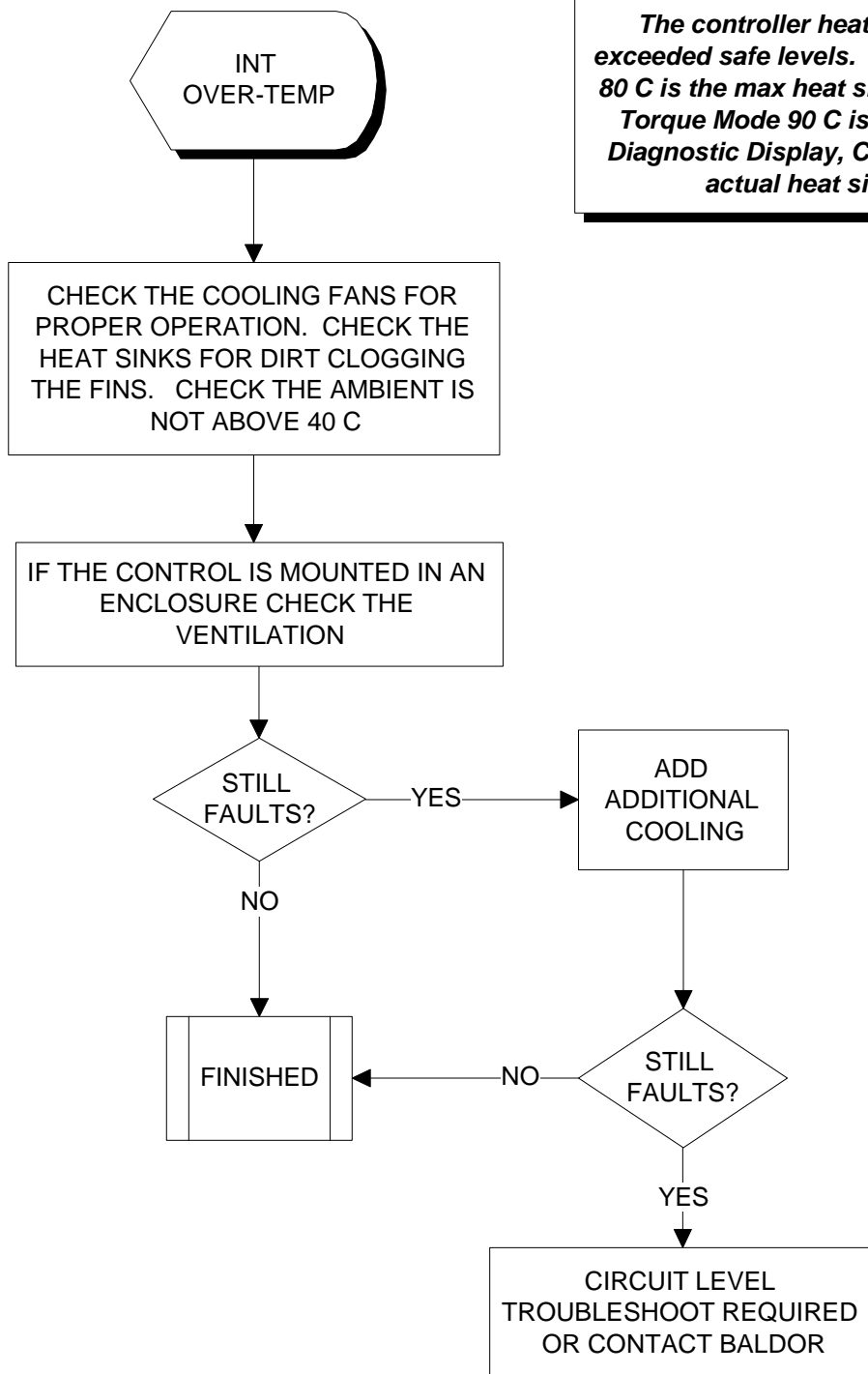
Use the Diagnostic Display DIGITAL I/O to verify the 9th position is a 1 (xxxxxxx1 xxxx).



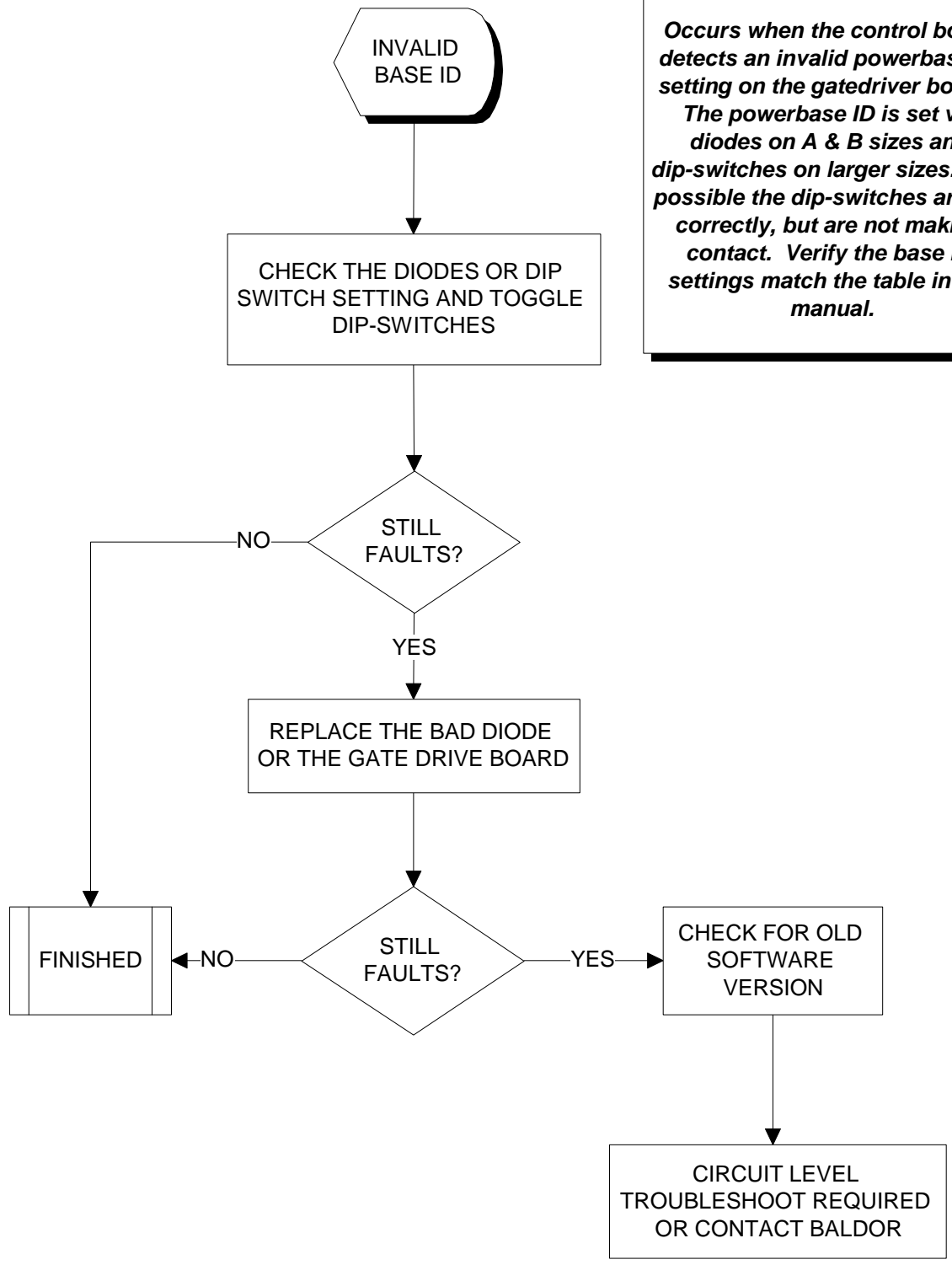
This fault can be turned off in the 'Protection' block of the parameters. It occurs when the speed feedback is out of tolerance with respect to the speed command. The tolerance level is selectable by the 'At Speed Band' in the 'Output' parameter block. Most likely cause is the 'Speed Proportional Gain' being too low. If the 'At Speed Band' is set too low, this can cause nuisance faults.

A low impedance path between an output phase and ground has been detected. The ground fault trip level is greater than approximately 10% of the Drive current rating. Motor insulation break down on motors without phase to phase insulation can develop this fault. The drive will catch this fault before the insulation is completely melted away from the two wires. The drive will reset and run for a short time. The only way to confirm a motor winding failure is to do a motor surge test.

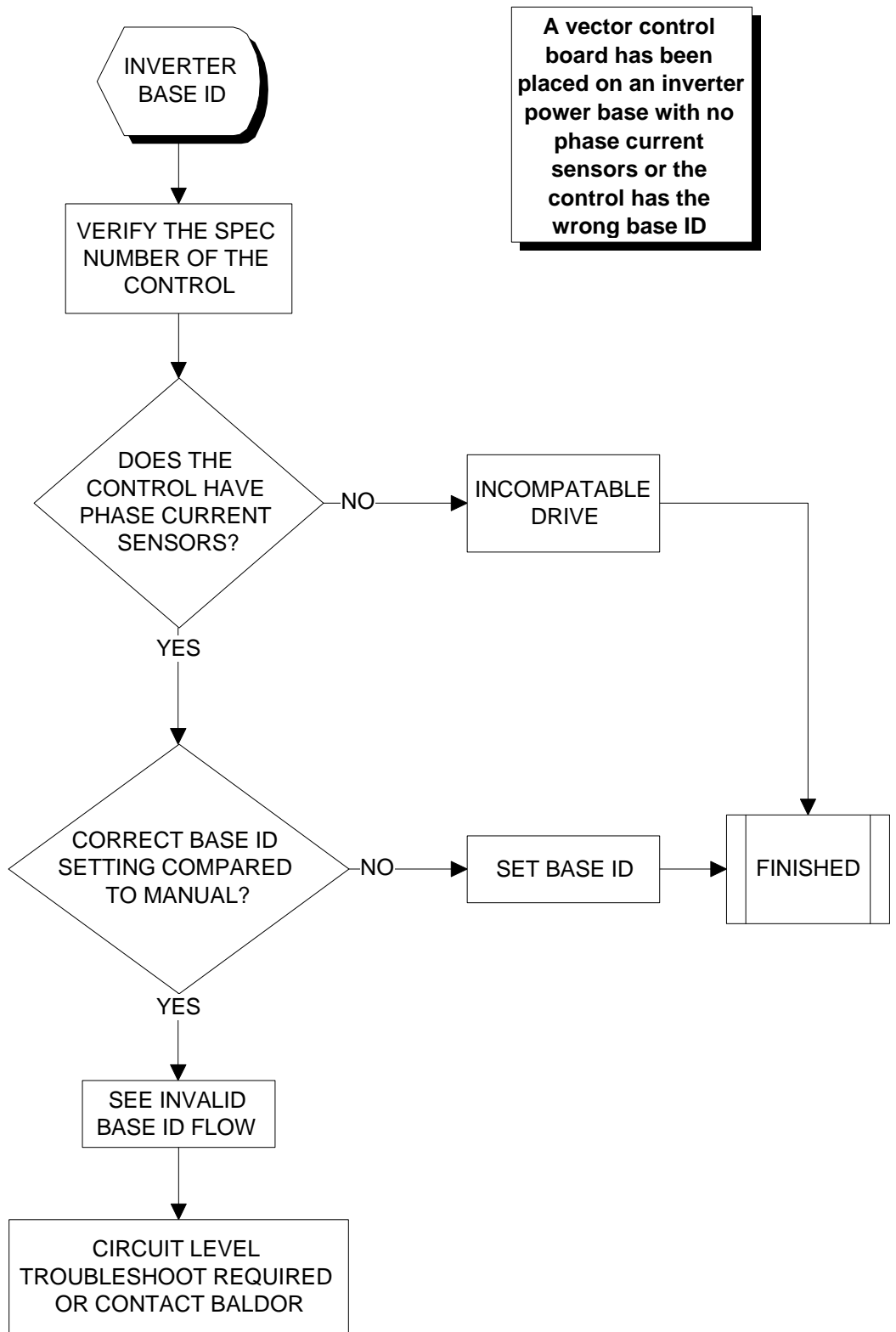




The controller heat sink temperature has exceeded safe levels. In Constant Torque Mode 80 C is the max heat sink temp., and in Variable Torque Mode 90 C is the maximum. Use the Diagnostic Display, CONTROL TMP to see the actual heat sink temperature.



Occurs when the control board detects an invalid powerbase ID setting on the gatedriver board. The powerbase ID is set via diodes on A & B sizes and dip-switches on larger sizes. It is possible the dip-switches are set correctly, but are not making contact. Verify the base ID settings match the table in the manual.



LINE
REGEN
FAULT

ATTACH KEYPAD TO CONVERTER
CONTROL BOARD. READ THE
EXISTING FAULT OR CHECK THE
CONVERTER FAULT LOG.

CONSULT 22H MANUAL
OR 21H/22H FLOW
CHARTS TO
TROUBLESHOOT THE
CONVERTER FAULT.

ON THE CONTROL
WIRING ENSURE THERE
ARE NO SHORTS OR
FAULTY WIRING

STILL
FAULTS?

NO

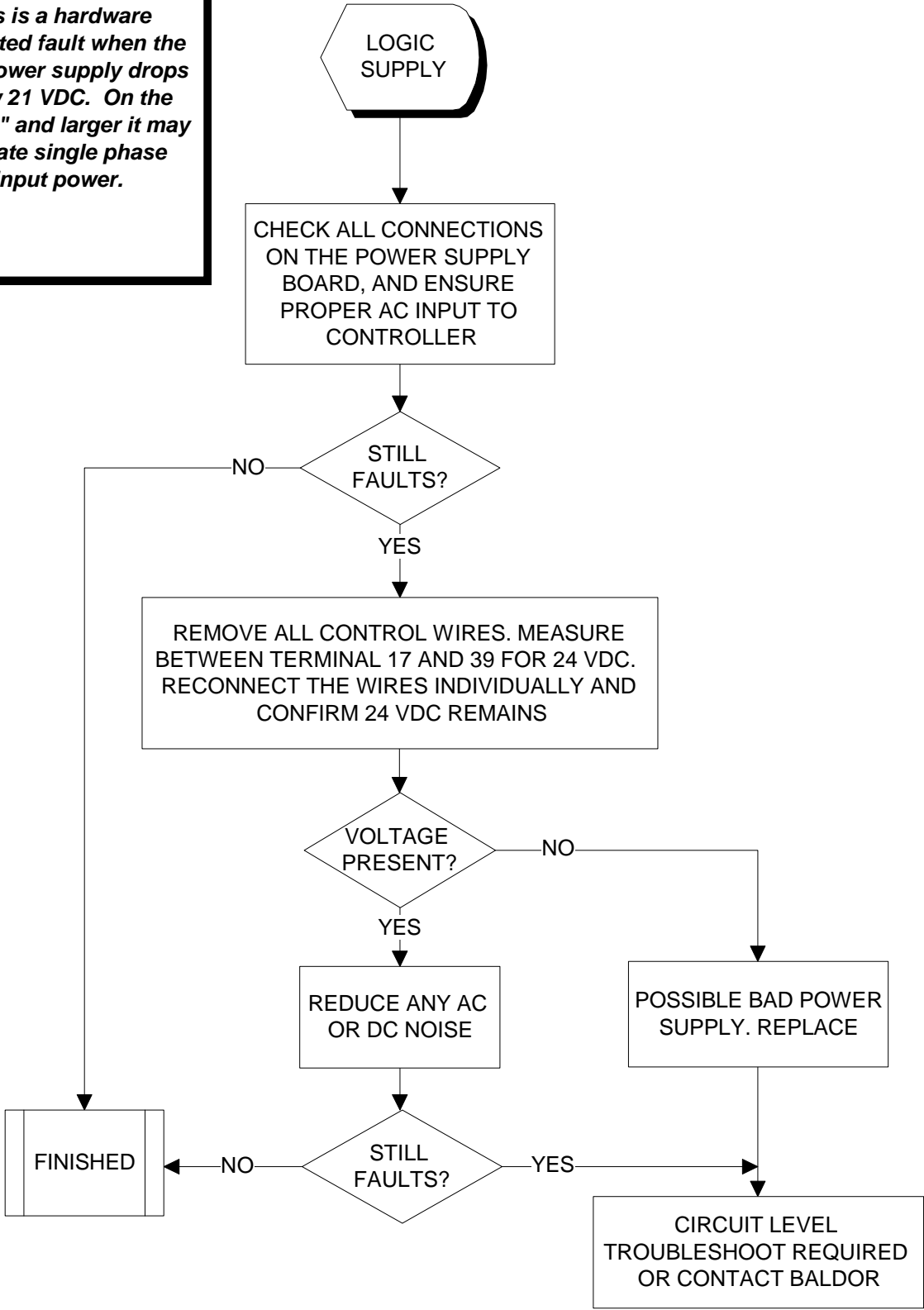
FINISHED

YES

CIRCUIT LEVEL
TROUBLESHOOT REQUIRED
OR CONTACT BALDOR

A fault has occurred on the Converter Control Board of a 22H(Line Regen) Control. This is the vector control board that is mounted on the left hand side of the control. It keeps the DC bus voltage stable and transfers energy to the input power when the motor is regening.

This is a hardware generated fault when the logic power supply drops below 21 VDC. On the "C-Size" and larger it may indicate single phase input power.



LOST
USER
DATA

RESET
FACTORY
PRESETS AND
RELOAD
PARAMETERS

This fault occurs when the battery-backed parameters in RAM are lost. This can occur when installing either new software, or a new control board. If the control is programmed for a mode that allows more than one parameter table, that other table must be programmed if it is to be used (do not power up with the table "1" switch closed and then program that table as the data will be lost at power down) . This fault can also occur if power is lost during programming. This fault can also be caused by noise.

NEW
SOFTWARE/
CONTROL
BOARD?

YES

RESET
FAULT

NO

REMOVE WIRES
FROM THE J1
CONNECTOR

STILL
FAULTS?

YES

REPLACE
CONTROL
BOARD

NO

IF SELECTING 2nd
PARAMETER TABLE,
ENSURE IT IS
PROGRAMMED

STILL
FAULTS?

YES

NO

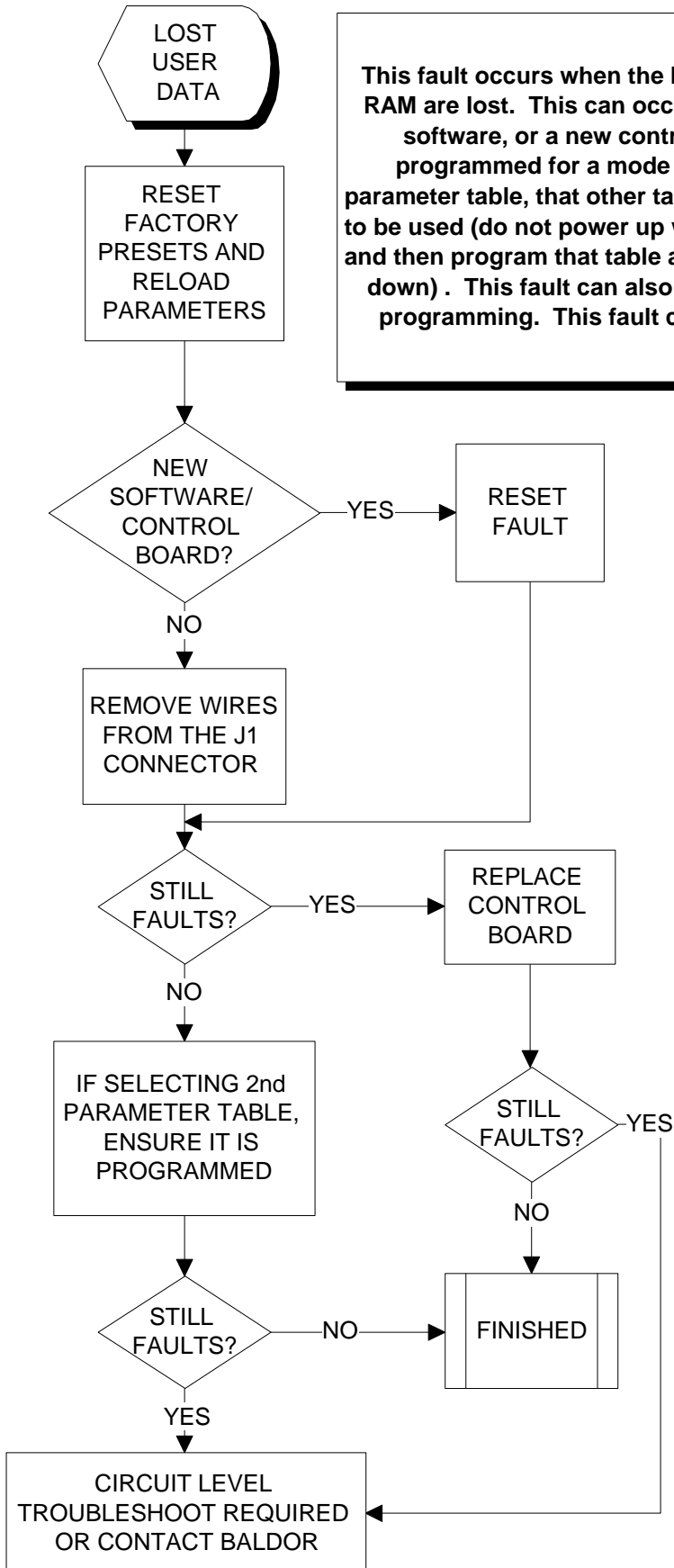
STILL
FAULTS?

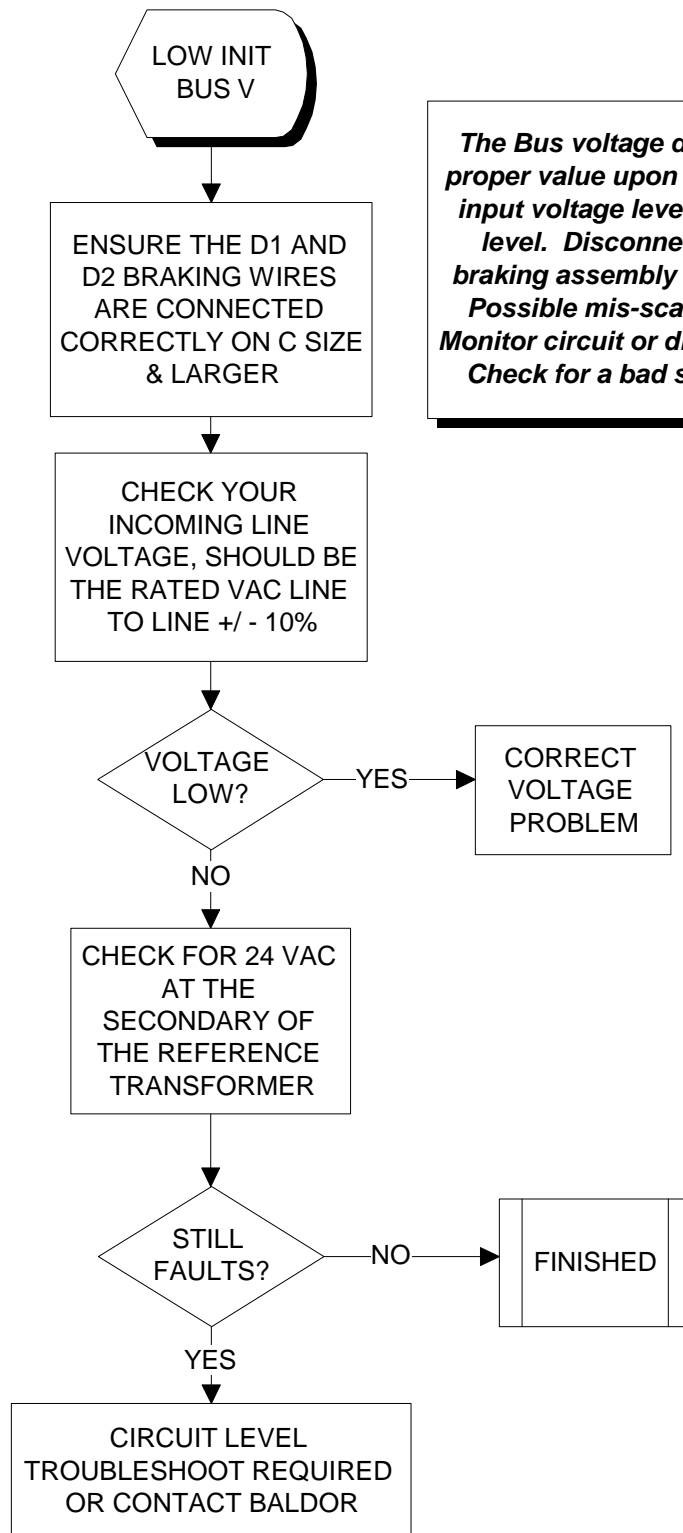
NO

FINISHED

YES

CIRCUIT LEVEL
TROUBLESHOOT REQUIRED
OR CONTACT BALDOR





The Bus voltage did not rise to it's proper value upon power up. Check input voltage level and the DC bus level. Disconnect the dynamic braking assembly wiring and retry. Possible mis-scaled Bus Voltage Monitor circuit or disconnected cable. Check for a bad soft start circuit.

MEMORY
ERROR

Parameter Checksum failure due to corrupted data. Occurs on power up when the parameter checksum in the NV memory does not match the active parameter checksum. This is caused by a bad battery, bad EPROM, or possible noise on the control signal wiring.

CYCLE POWER
ENSURE BUS VOLTAGE
IS COMPLETELY BLEED
DOWN BEFORE POWER
BACK UP

STILL
FAULTS?

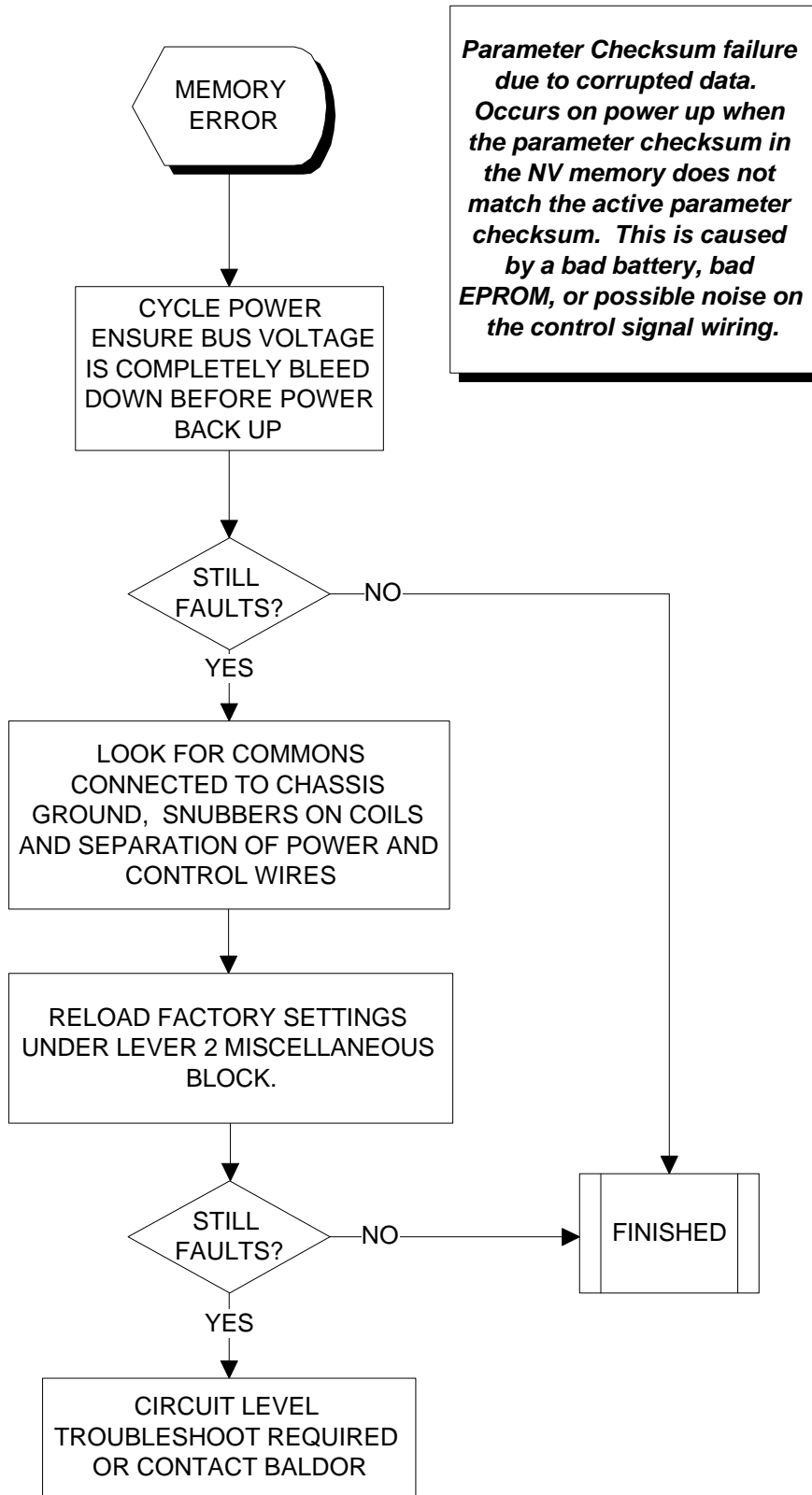
LOOK FOR COMMONS
CONNECTED TO CHASSIS
GROUND, SNUBBERS ON COILS
AND SEPARATION OF POWER AND
CONTROL WIRES

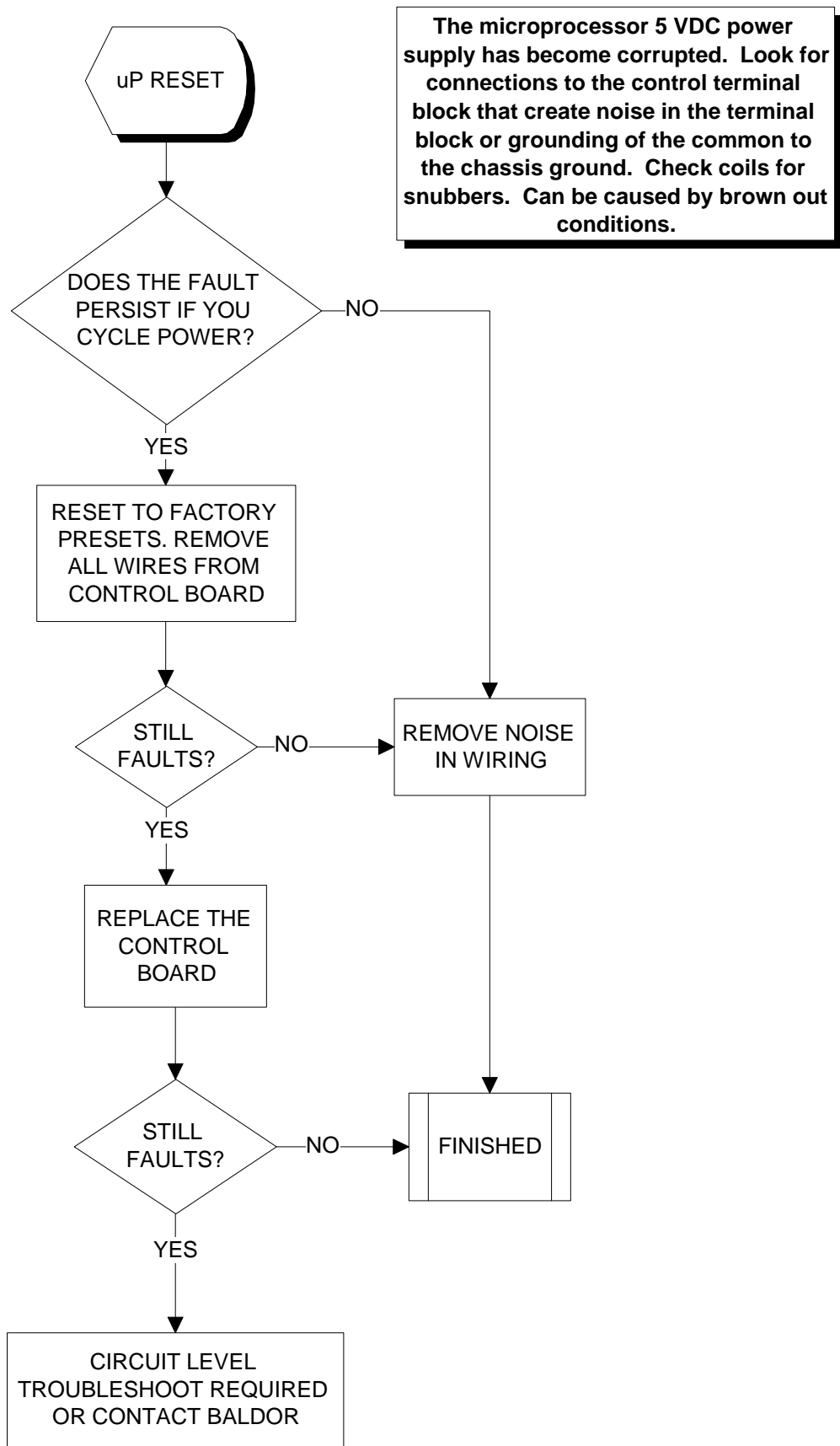
RELOAD FACTORY SETTINGS
UNDER LEVER 2 MISCELLANEOUS
BLOCK.

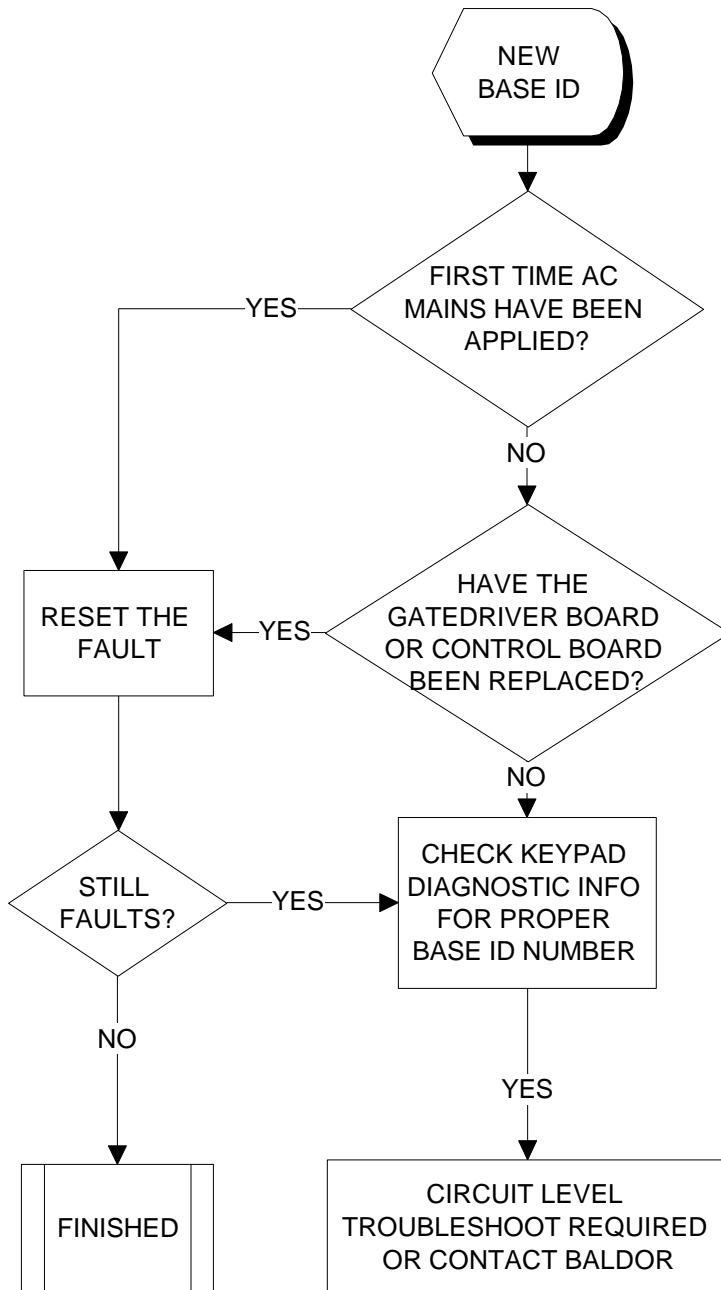
STILL
FAULTS?

CIRCUIT LEVEL
TROUBLESHOOT REQUIRED
OR CONTACT BALDOR

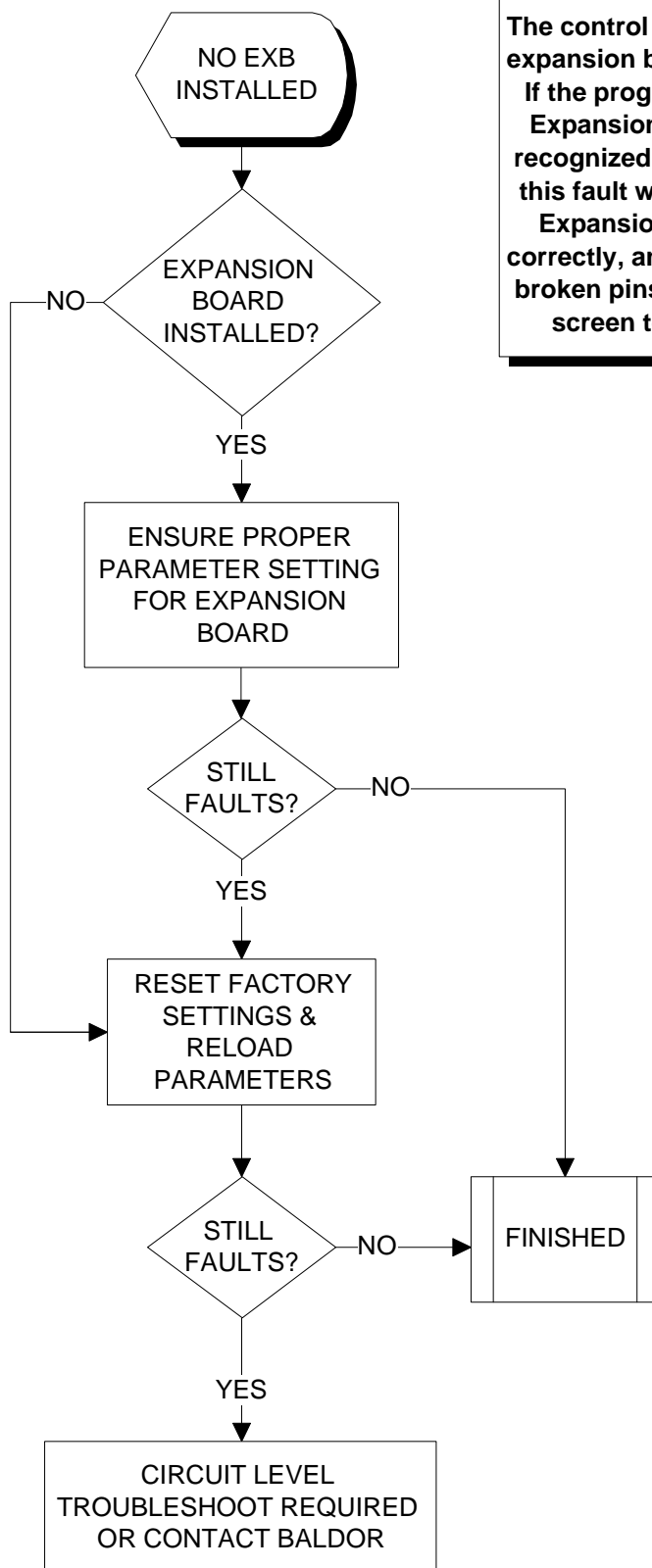
FINISHED





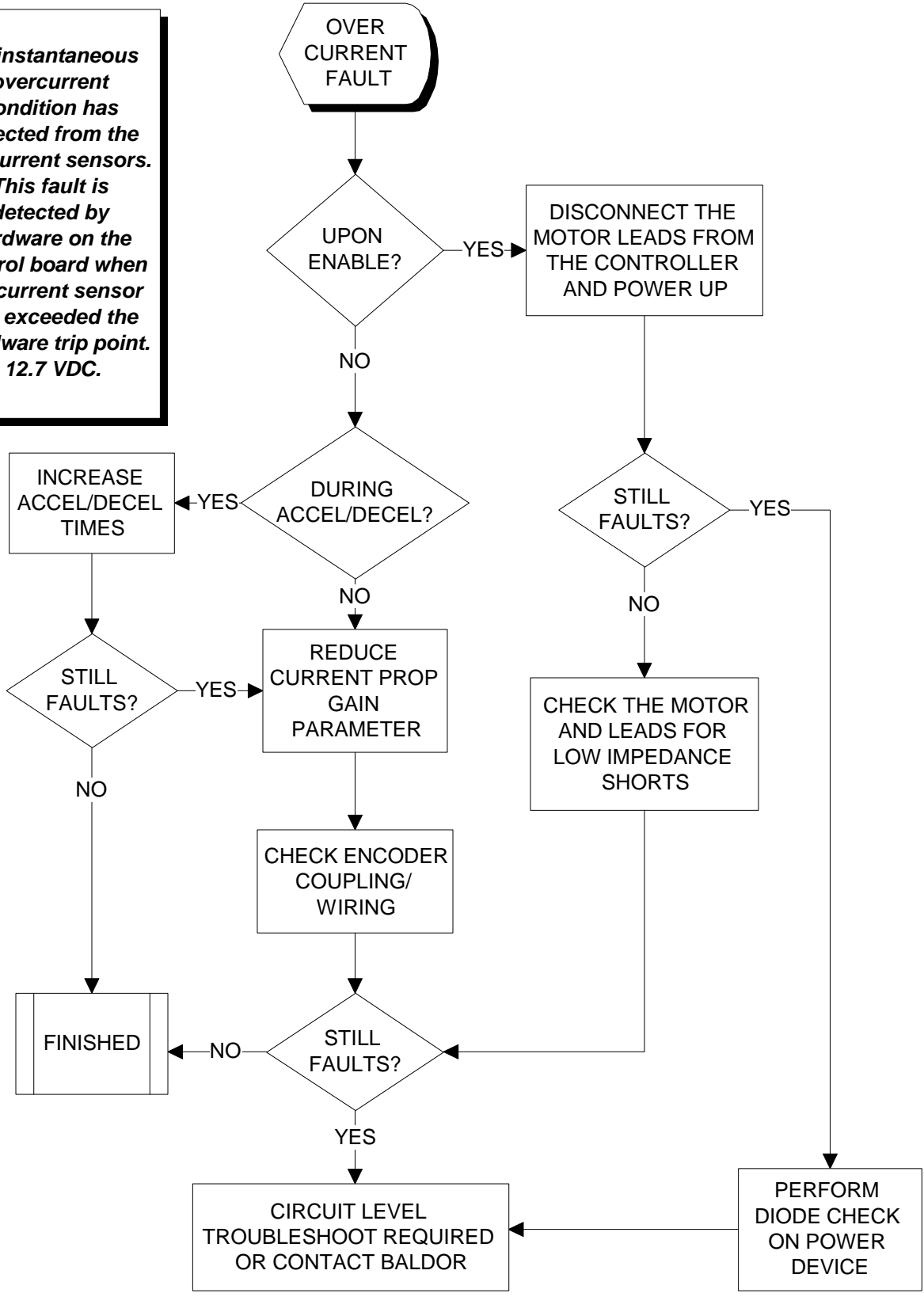


This fault occurs when a controller is powered up for the first time or when a new control board is installed on a controller. This fault will appear EVEN WHEN THE POWERBASE ID IS CORRECTLY SET ON THE GATEDRIVER BOARD. The fault occurs because the base ID stored is different than what the control found on power up. This fault is cleared by pushing the reset button.

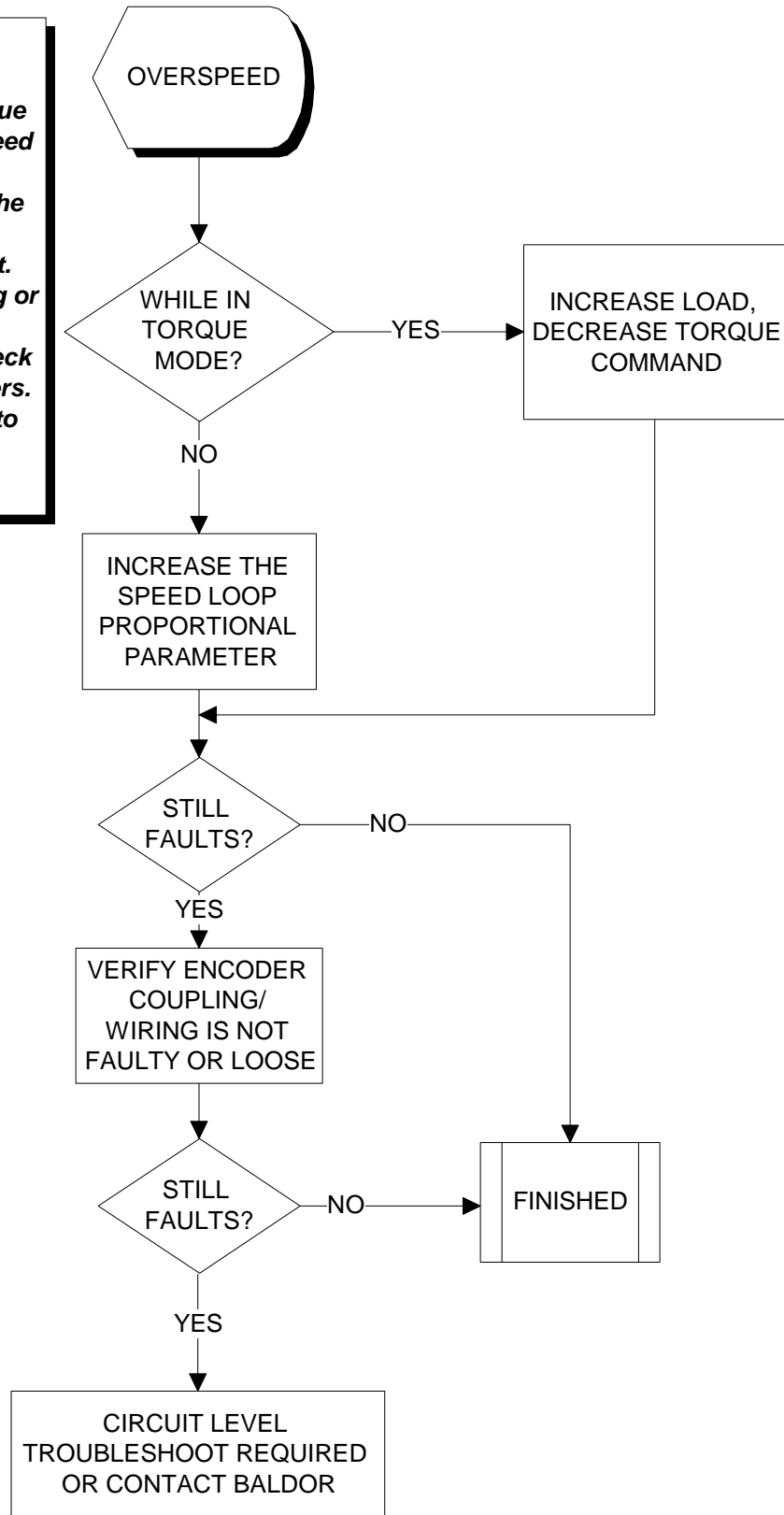


The control board recognizes any expansion board that is installed. If the programming calls for an Expansion board, and it is not recognized by the control board, this fault will occur. Ensure the Expansion board is installed correctly, and there are no bent or broken pins. Use the diagnostic screen to find the problem.

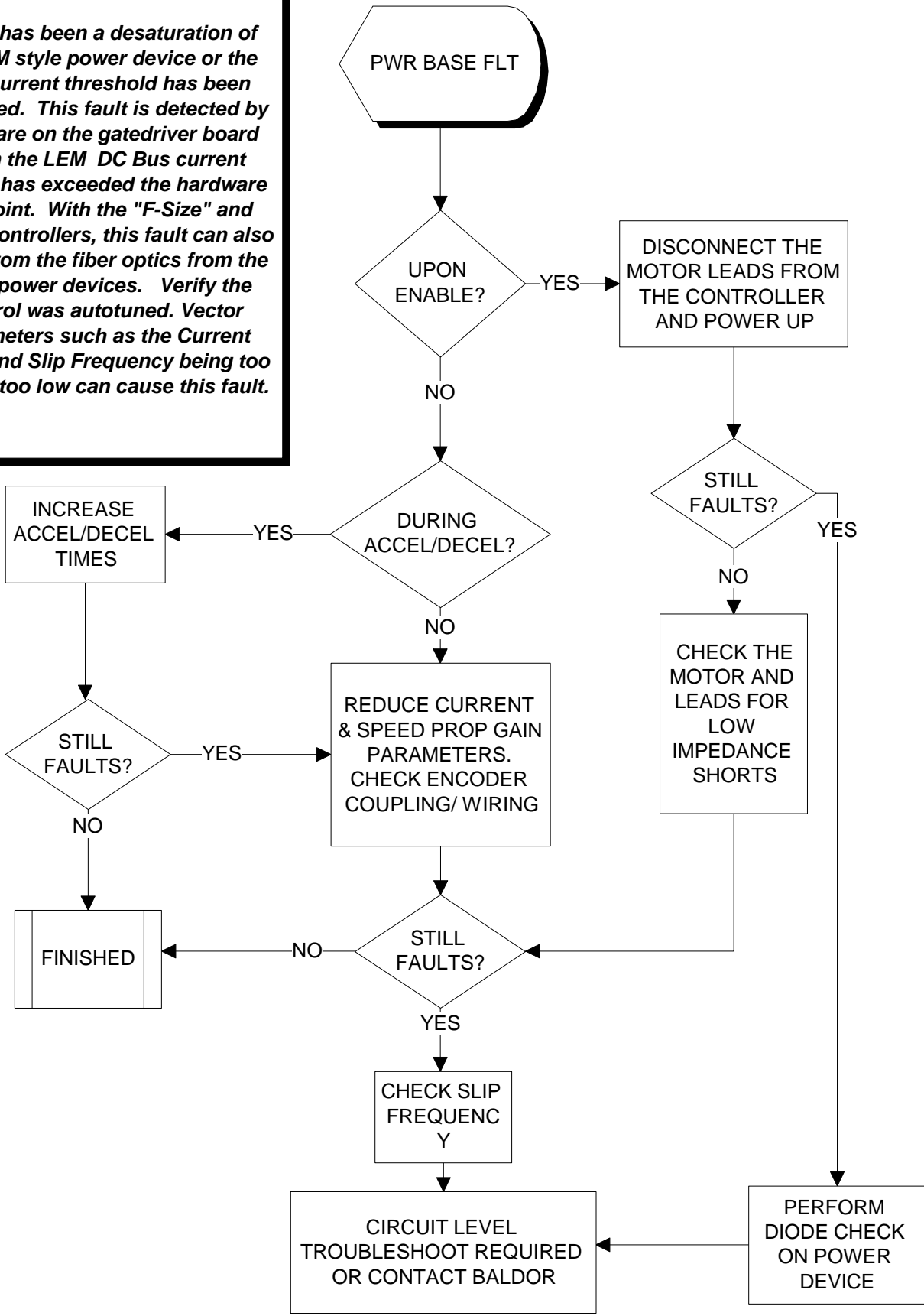
An instantaneous overcurrent condition has detected from the AC current sensors. This fault is detected by hardware on the control board when the current sensor has exceeded the hardware trip point. 12.7 VDC.

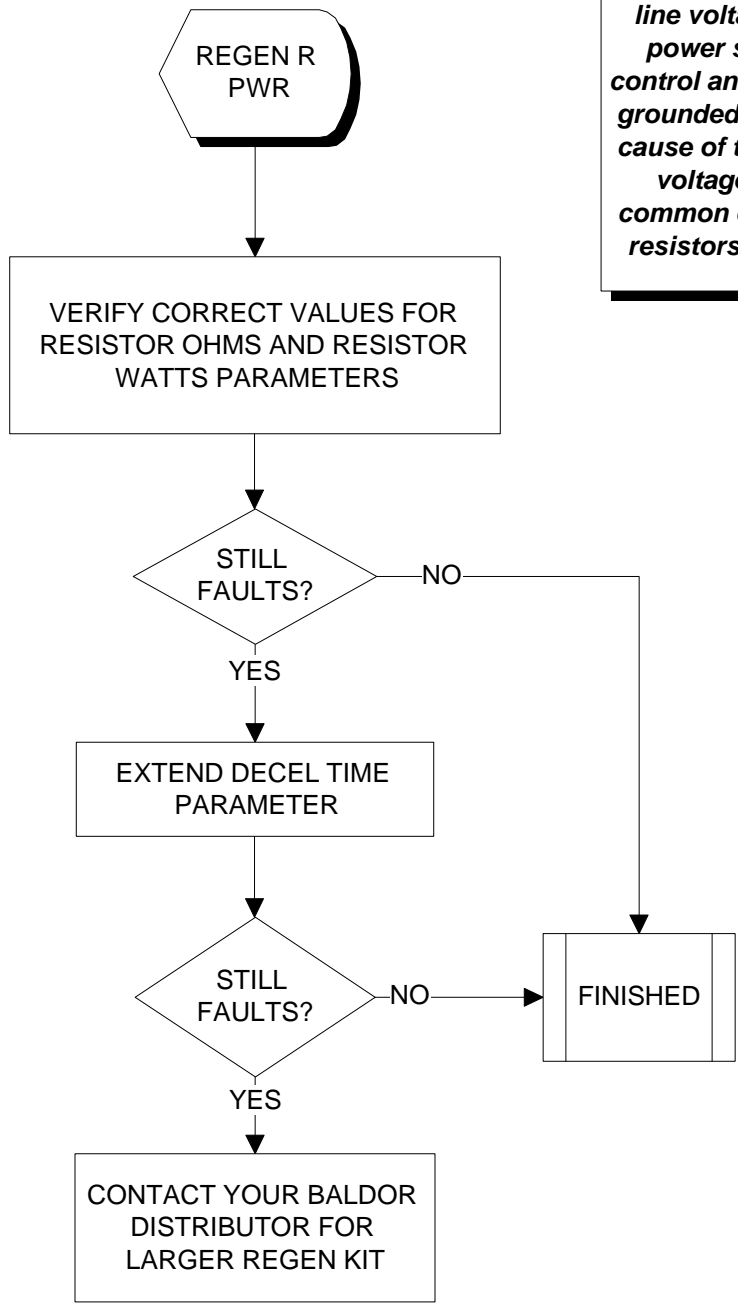


The motor speed has exceeded 110% of the value in the Maximum Motor Speed parameter. The control board has detected that the encoder frequency has exceeded a software limit. Check for a loose coupling or electrical noise on the encoder signals. Also check the Speed Loop Parameters. Check for motor ground to the control.

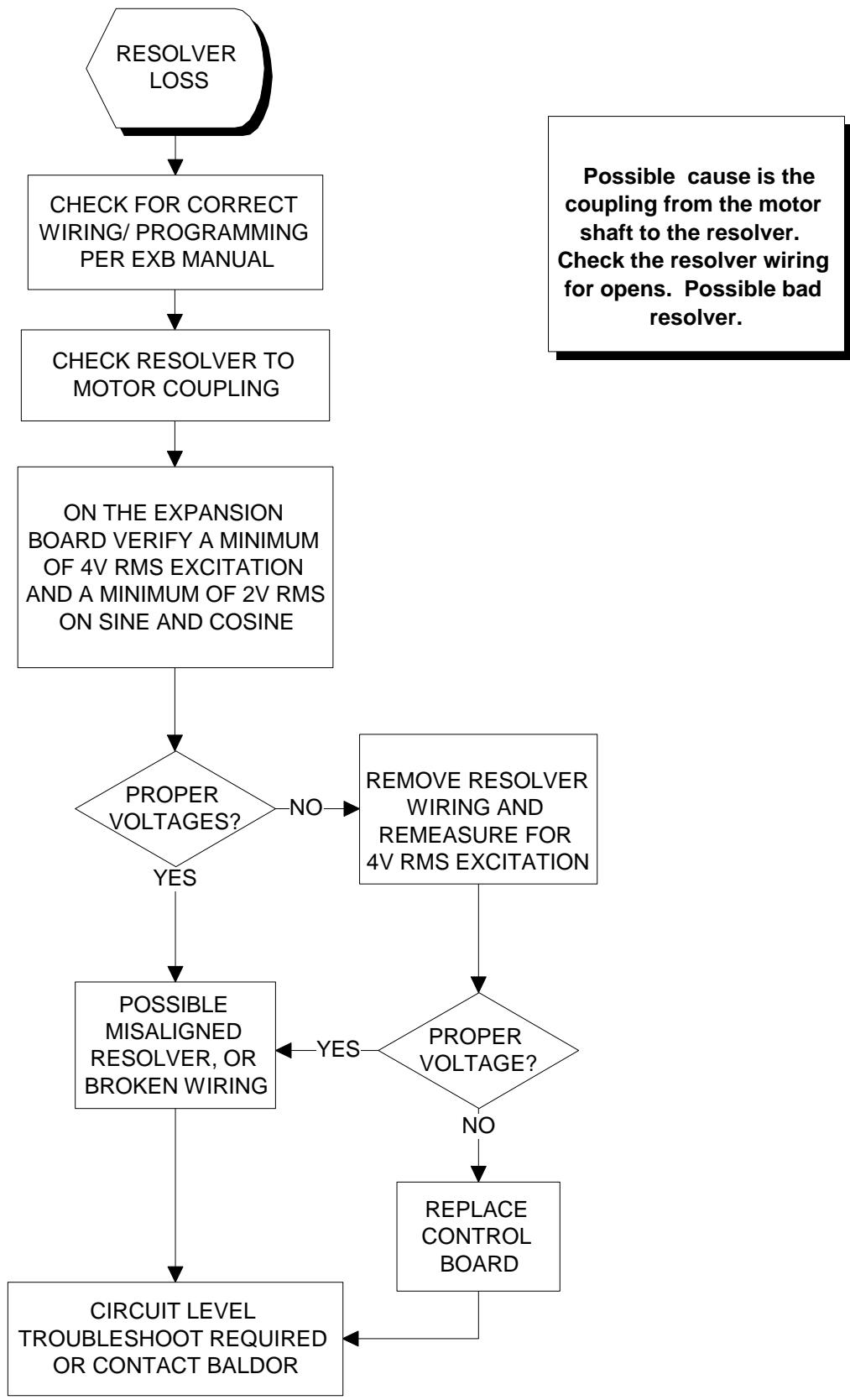


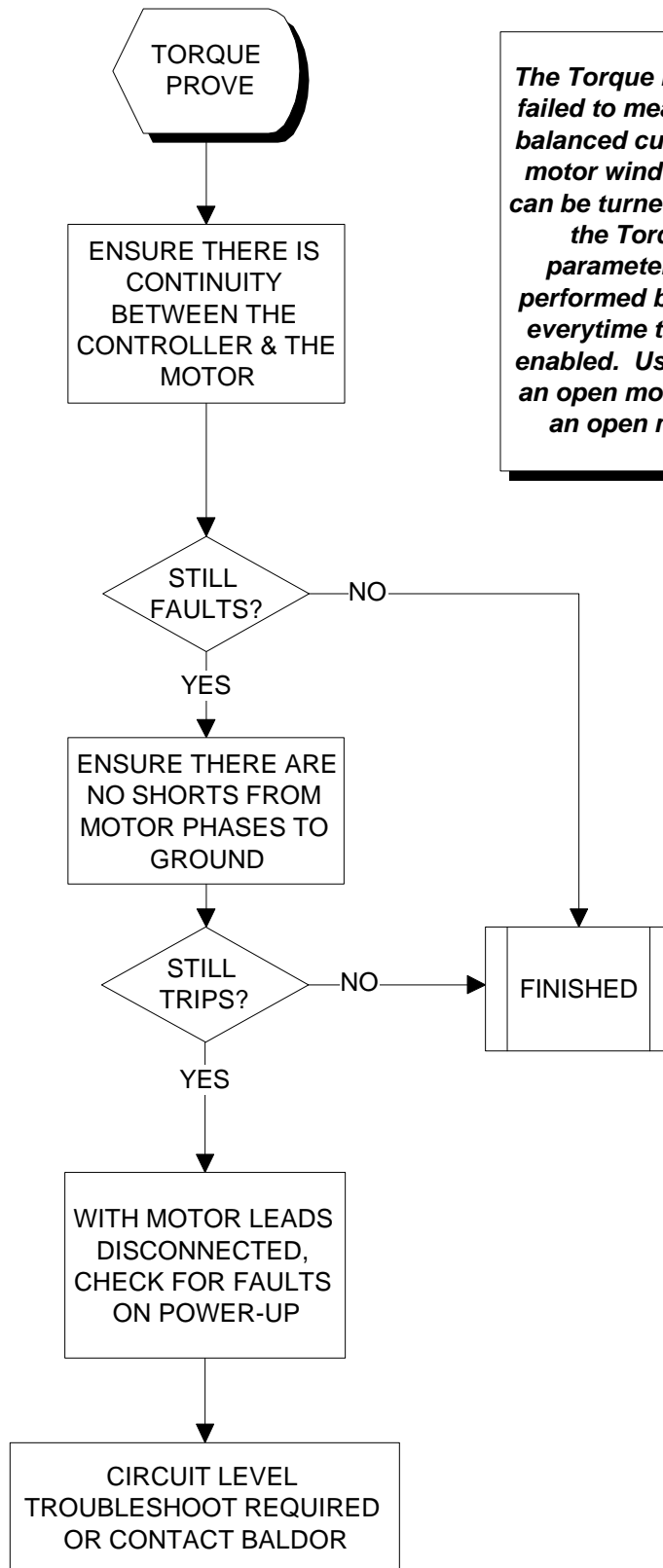
There has been a desaturation of the IPM style power device or the Bus current threshold has been exceeded. This fault is detected by hardware on the gatedriver board when the LEM DC Bus current sensor has exceeded the hardware trip point. With the "F-Size" and larger controllers, this fault can also come from the fiber optics from the Skiip power devices. Verify the control was autotuned. Vector parameters such as the Current Gains and Slip Frequency being too high or too low can cause this fault.





The regeneration power has exceeded the programmed power rating of the braking resistor, set by the resistor Watt parameters, Level 2, Brake Adjust Block. Check the line voltage and for a Delta power supply. Verify the control and motor are properly grounded. The most common cause of this fault is high line voltage. The next most common cause is undersized resistors for the application.





The Torque Proving test has failed to measure adequate, balanced current in all three motor windings. This fault can be turned on and off with the Torque Proving parameter. This test is performed by the controller everytime the controller is enabled. Usually caused by an open motor contactor or an open motor winding

USER TEXT
FAULT

VERIFY THAT ANY PARAMETERS
THAT HAVE BEEN CHANGED ARE
AVAILABLE FOR THIS VERSION OF
SOFTWARE?

STILL
FAULTS?

NO

YES

RESET
FACTORY
SETTINGS

STILL
FAULTS?

NO

YES

CONTACT DRIVE SUPPLIER
FOR USER FAULT
TROUBLESHOOTING

FINISHED

Baldor provides custom software for many special applications. This fault only occurs with custom software. In most cases Baldor does not know how this software functions in the application. The original purchaser of the drive from Baldor will be needed to solve this fault.