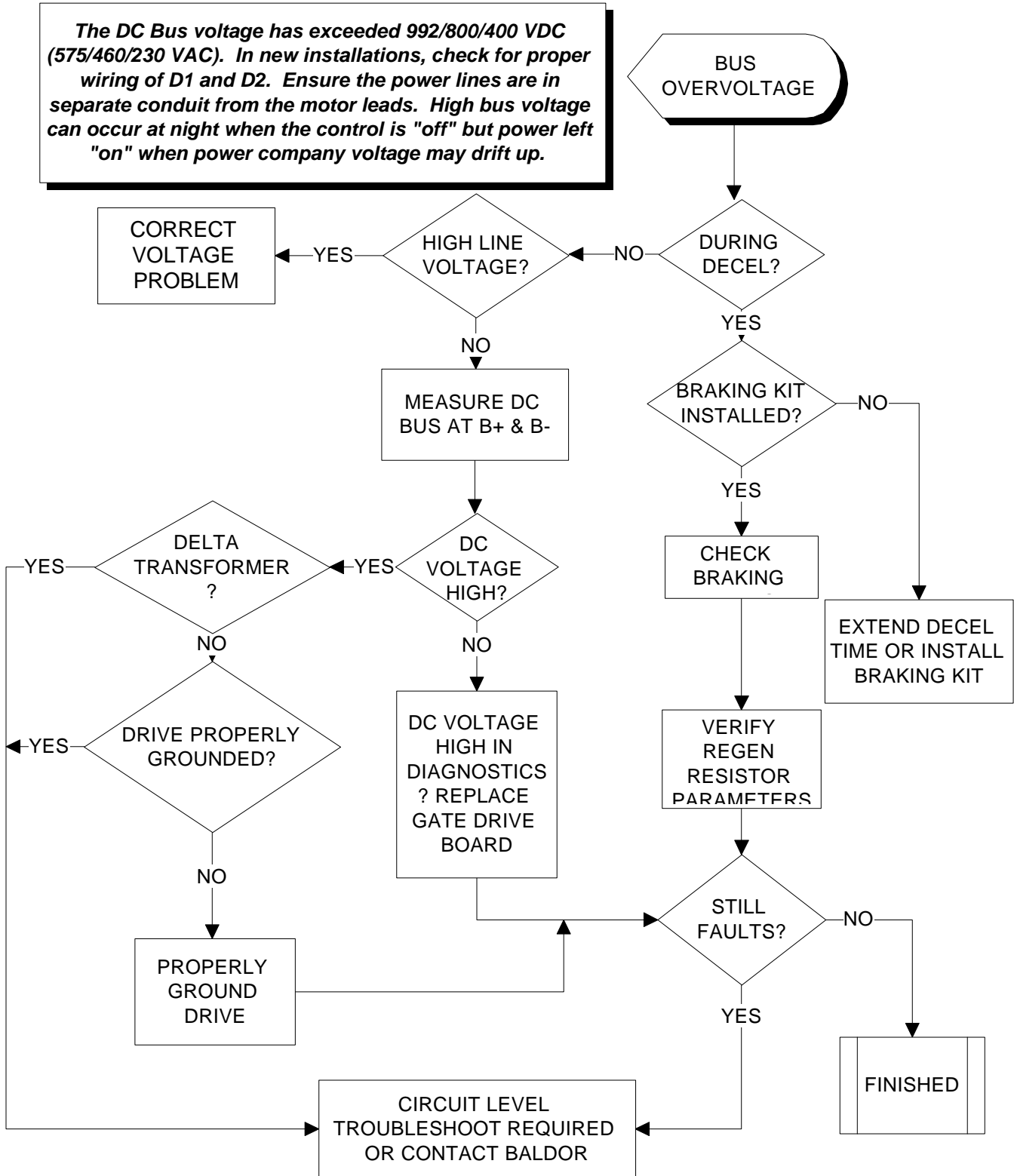
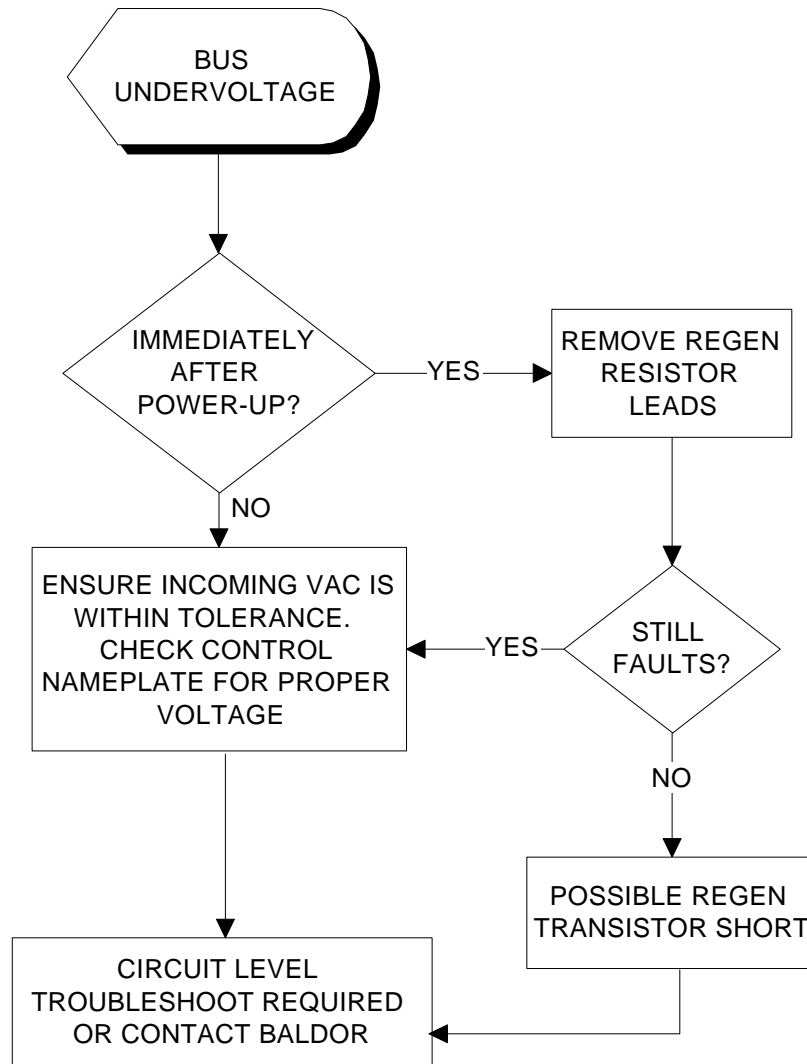


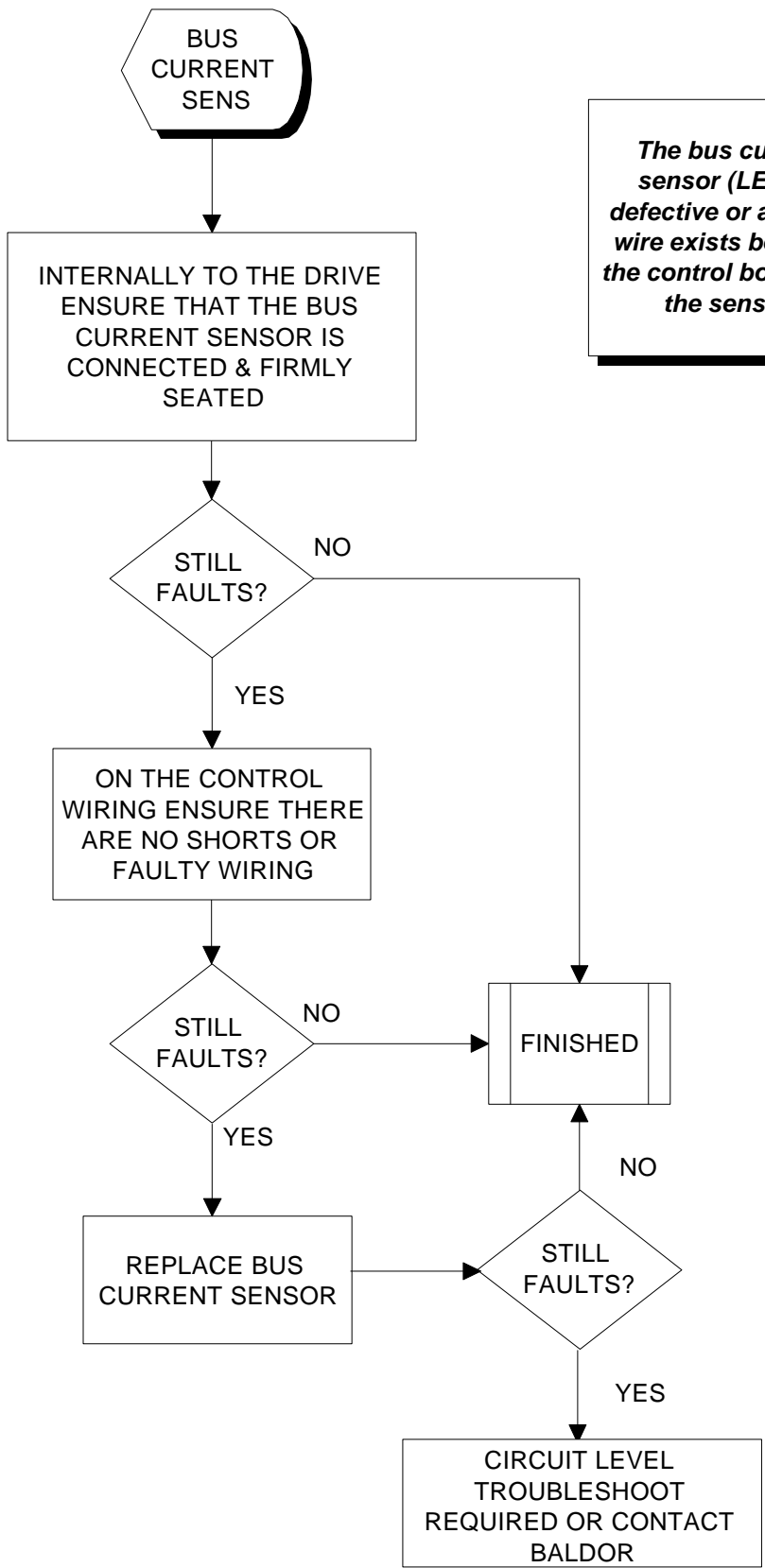
This is the Electronic Overload Protection Fault. The current rating of the control has been exceeded. Four common causes for this fault are 1) excessive load on motor, 2) low accel times, 3) improperly wired motor, 4) failure to program for a Variable Torque Load (level 2 OUTPUT LIMITS). Use the Diagnostic Display Screen OVRLD LEFT (OVERLOAD LEFT) to help find the problem.

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.

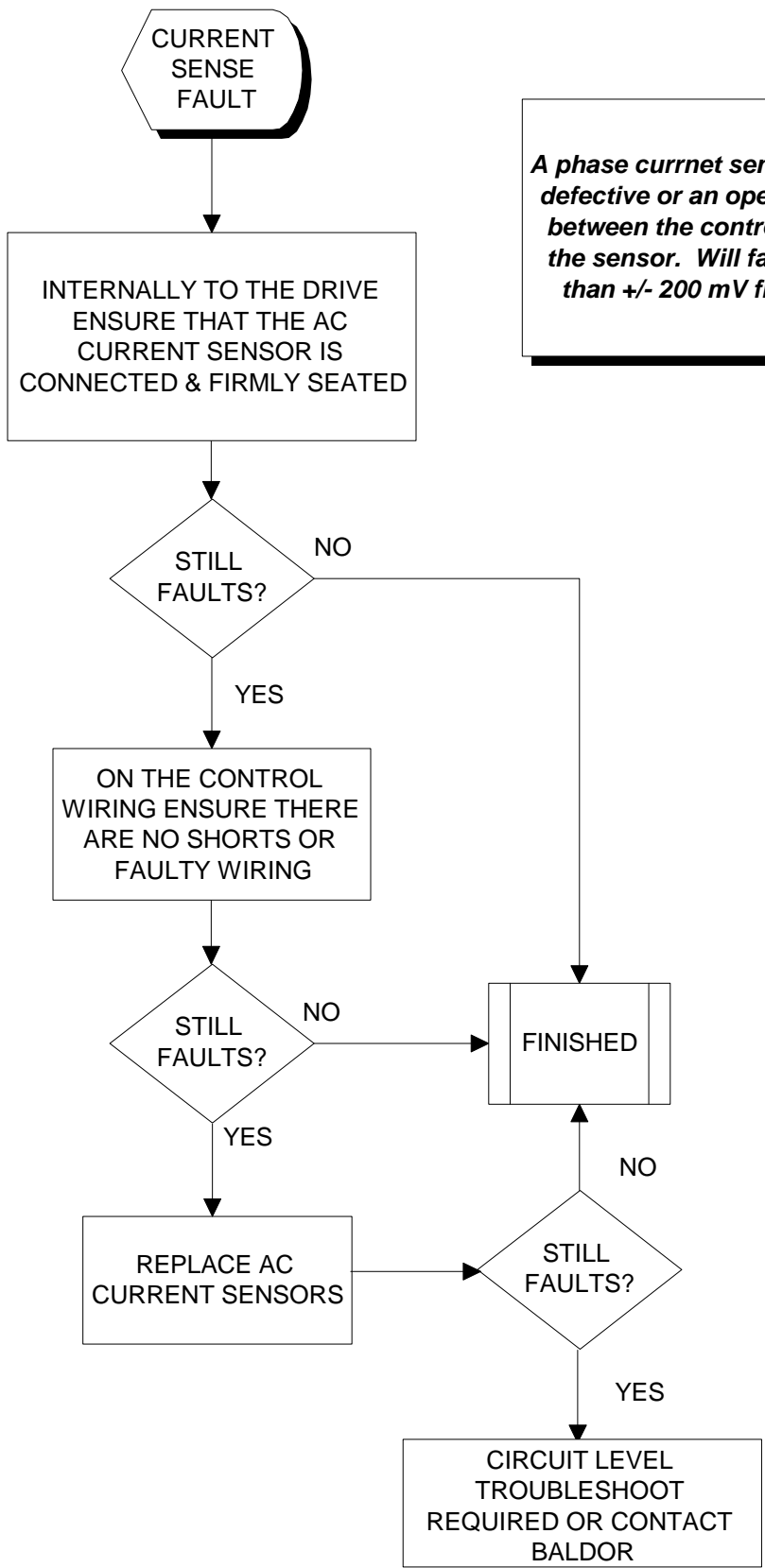




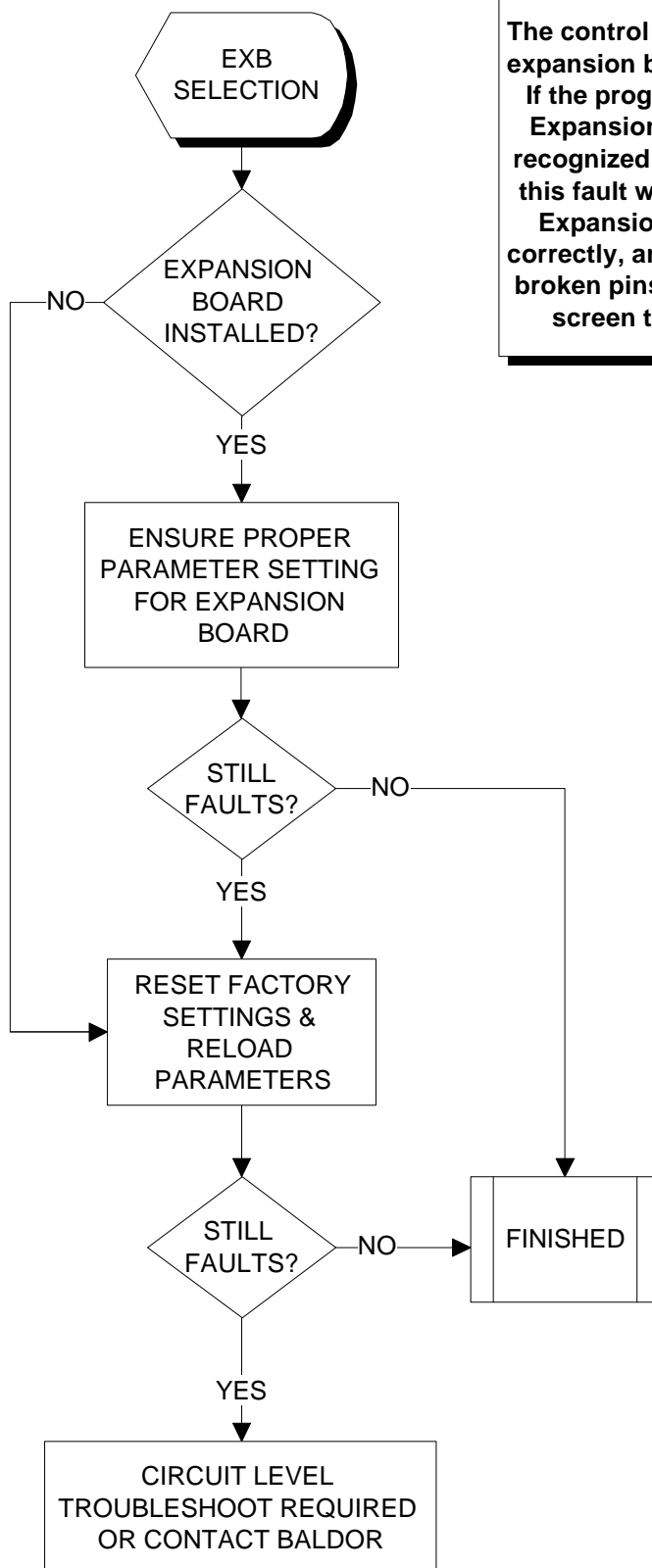
The DC Bus voltage has dropped below 550/440/224 VDC (575/460/230 VAC input). If this is a new installation with an external Regen Kit check the wiring on B+ and B-. The most common reasons for this fault are Regen Transistor failure, Soft Start circuit failure or a failed diode bridge. If it occurs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



The bus current sensor (LEM) is defective or an open wire exists between the control board and the sensor.



A phase current sensor (NANA) is defective or an open wire exists between the control board and the sensor. Will fault if greater than +/- 200 mV from sensor.



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.

EXTERNAL TRIP

ENSURE THERE IS NOT AN OPEN CIRCUIT BETWEEN J4-16 AND J4-17

STILL FAULTS?

NO

YES

PLACE A JUMPER BETWEEN J4-16 AND J4-17 THE DIAGNOSTIC SCREEN SHOULD SHOW A "1" IN THE 9TH DIGIT

STILL FAULTS?

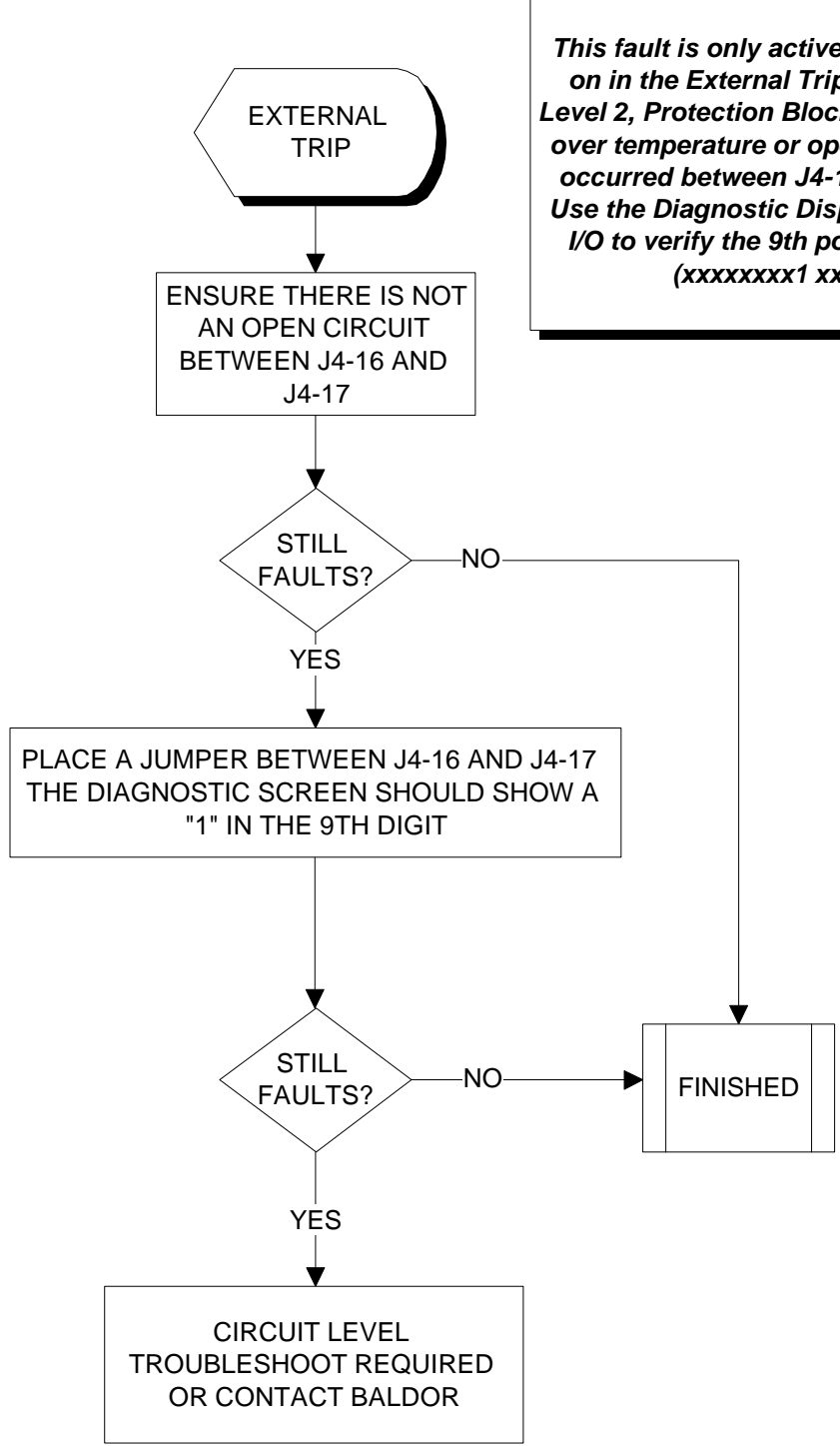
NO

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 J4-16 and J4-17. Use the Diagnostic Display DIGITAL I/O to verify the 9th position is a 1 (xxxxxxxx1xxxx).



HARDWARE
PROTECT

ENSURE THERE IS NO
HIGH FREQUENCY
NOISE ON THE AC LINE

STILL
FAULTS?

NO

YES

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?

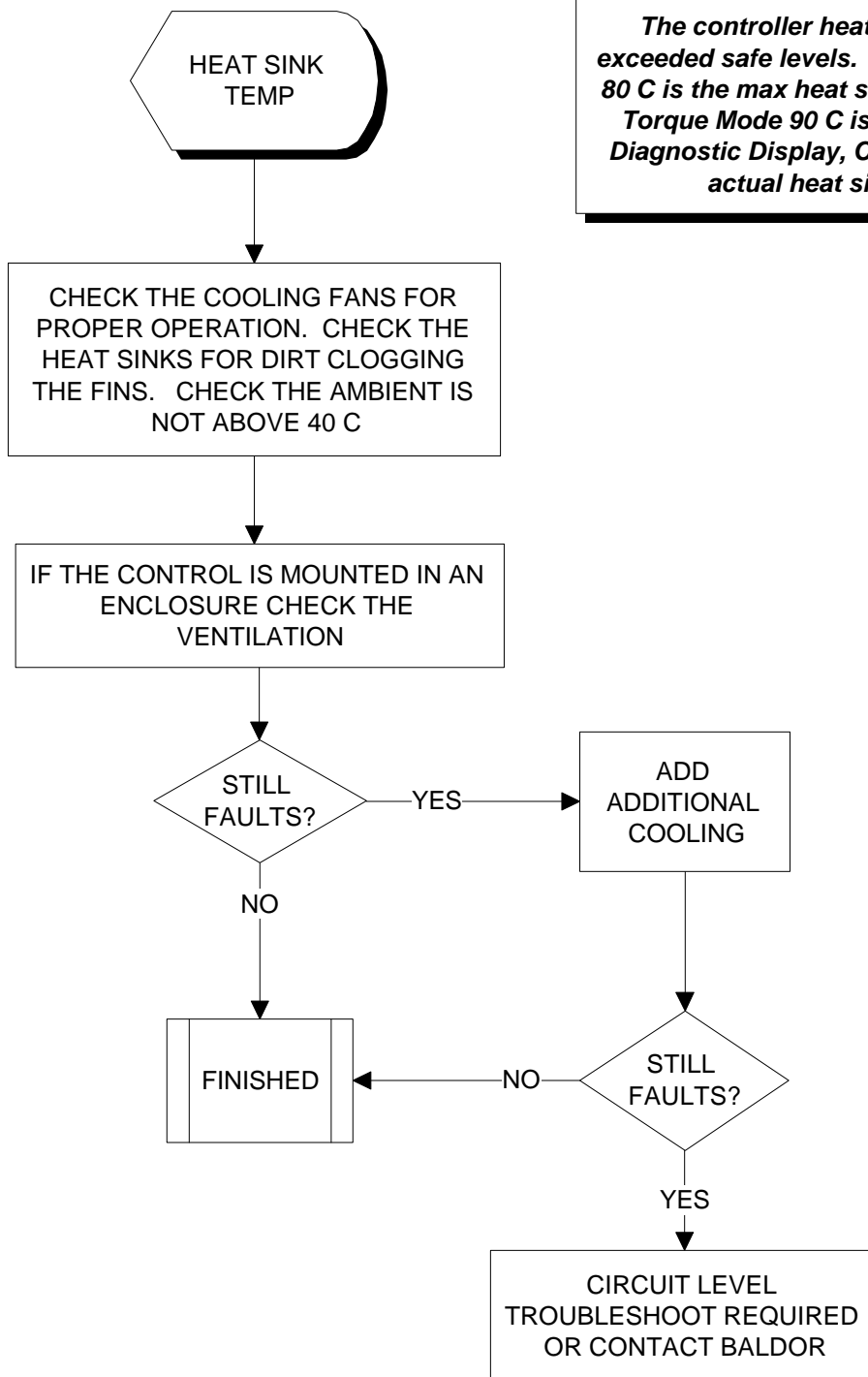
NO

YES

CIRCUIT LEVEL
TROUBLESHOOT REQUIRED
OR CONTACT BALDOR

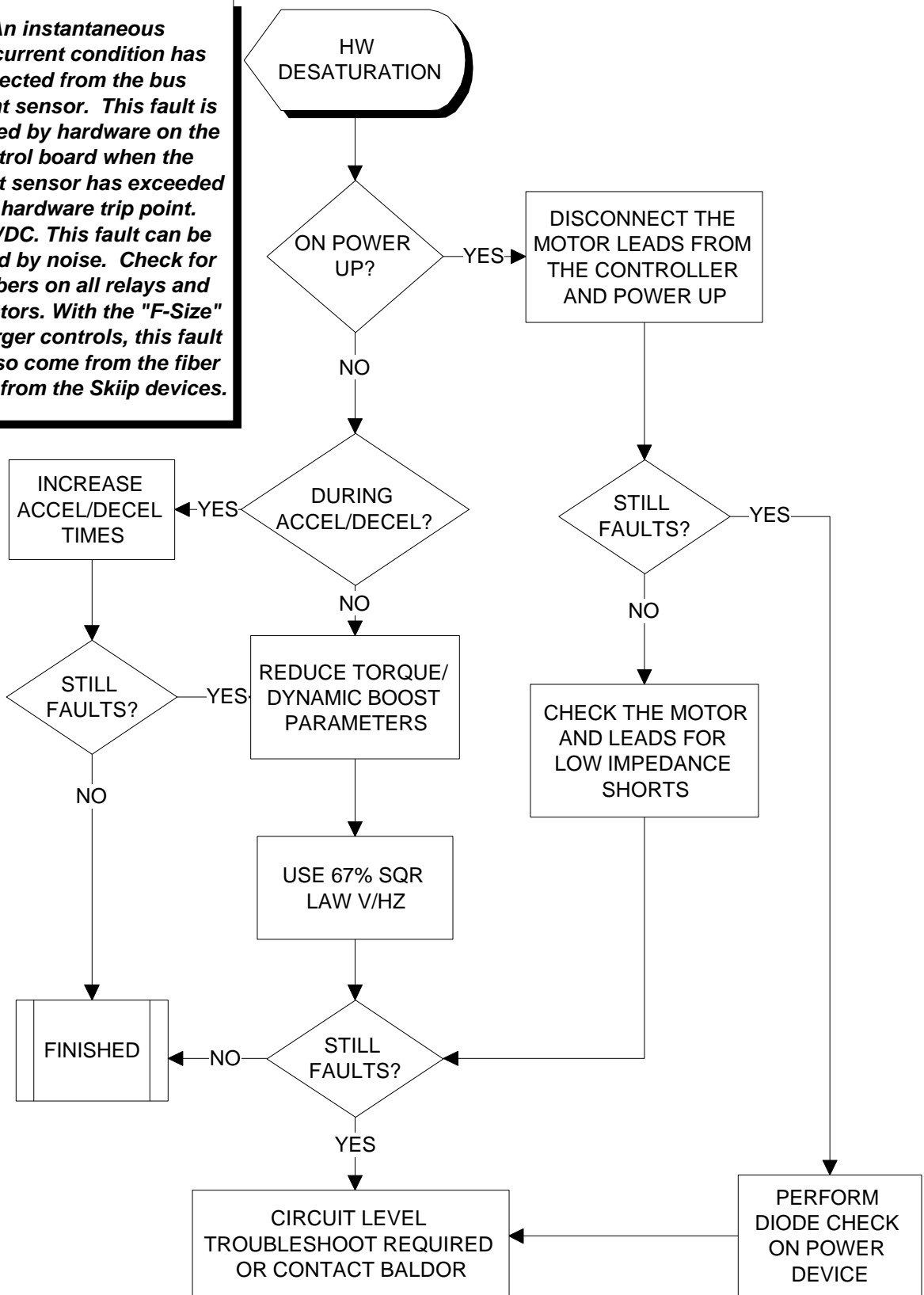
A fault condition has occurred, but it was not sustained long enough for the control board to determine the source. This fault is generally related to noise on the control board. Look for contactors without snubbers, shields grounded on both ends and other noise inducing situations.

FINISHED

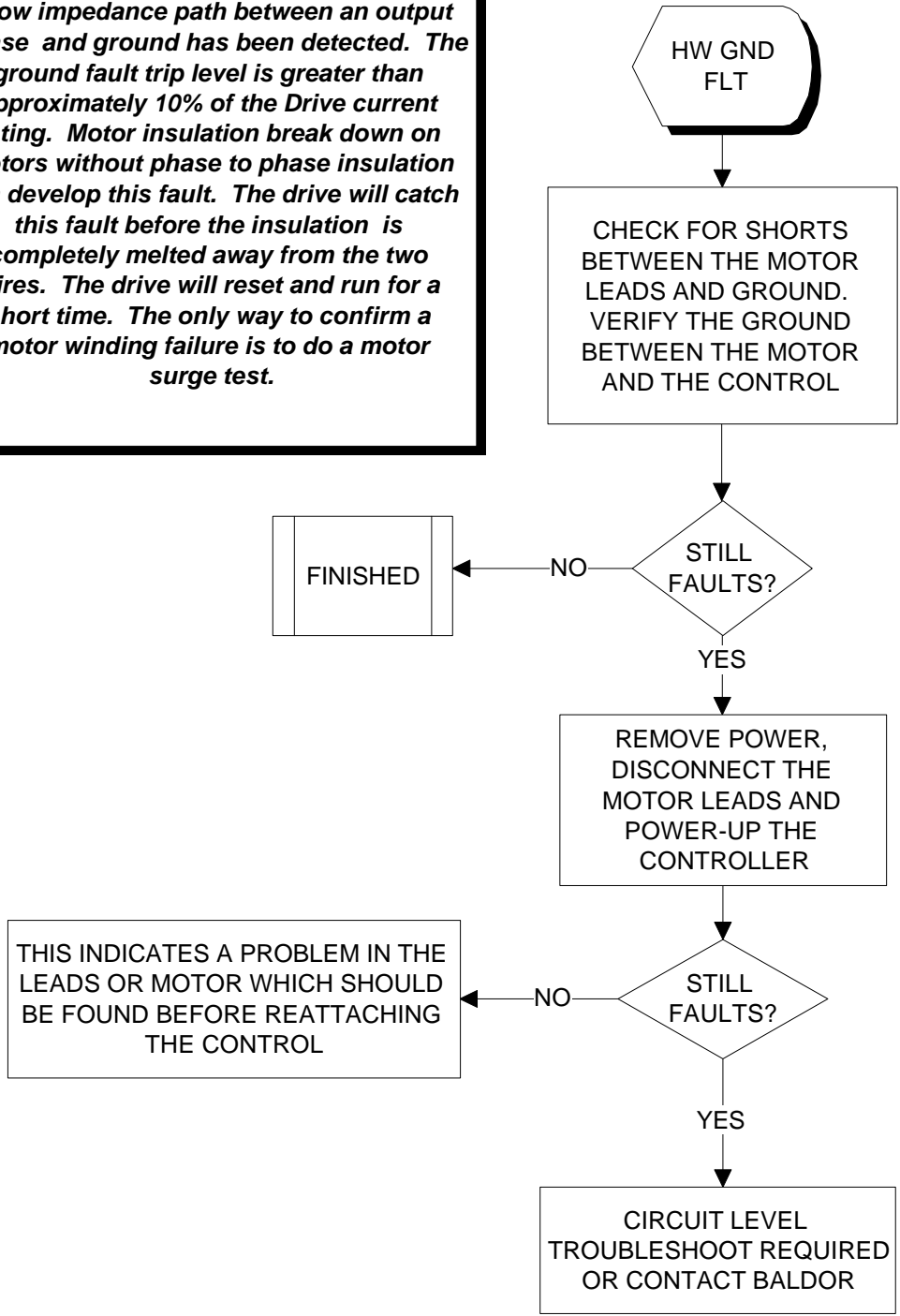


The controller heat sink temperature has exceeded safe levels. In Constant Torque Mode 80 C is the max heat sink temp., and in Variable Torque Mode 90 C is the maximum. Use the Diagnostic Display, CONTROL TMP to see the actual heat sink temperature.

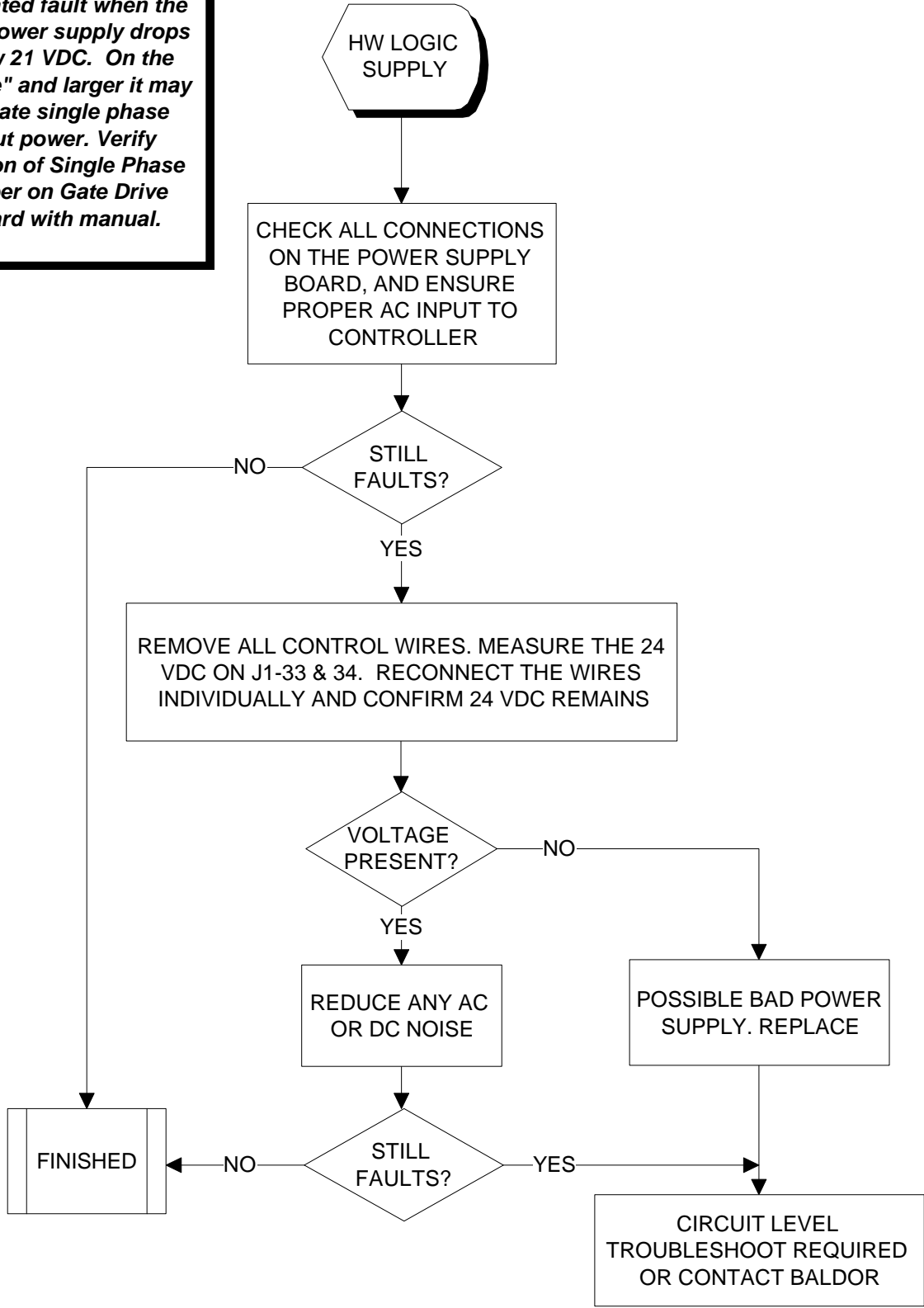
An instantaneous overcurrent condition has detected from the bus current sensor. This fault is detected by hardware on the control board when the current sensor has exceeded the hardware trip point. 12.7 VDC. This fault can be caused by noise. Check for snubbers on all relays and contactors. With the "F-Size" and larger controls, this fault can also come from the fiber optics from the Skiiip devices.

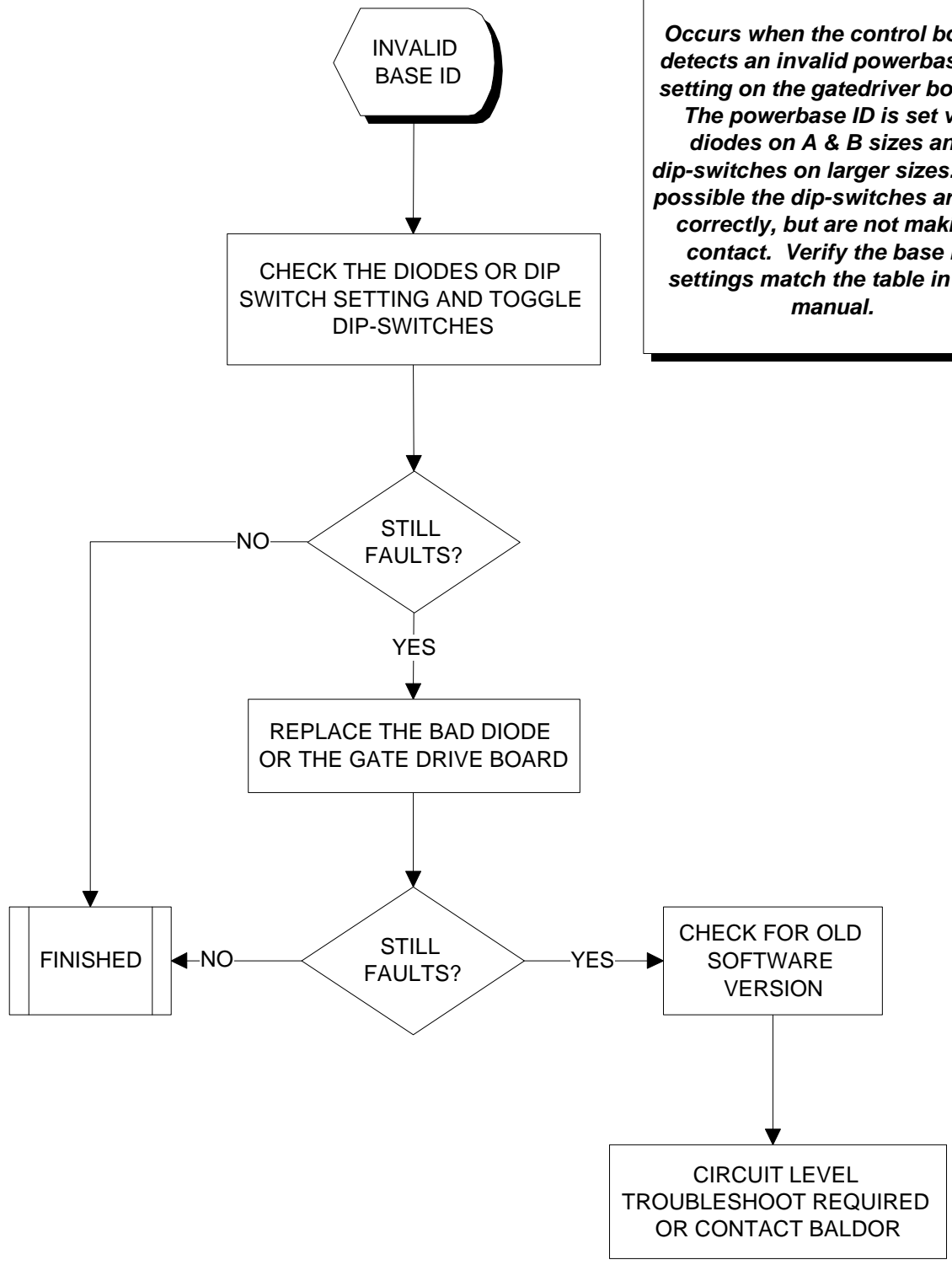


A low impedance path between an output phase and ground has been detected. The ground fault trip level is greater than approximately 10% of the Drive current rating. Motor insulation break down on motors without phase to phase insulation can develop this fault. The drive will catch this fault before 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.



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. Verify position of Single Phase jumper on Gate Drive Board with manual.





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 21H 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?

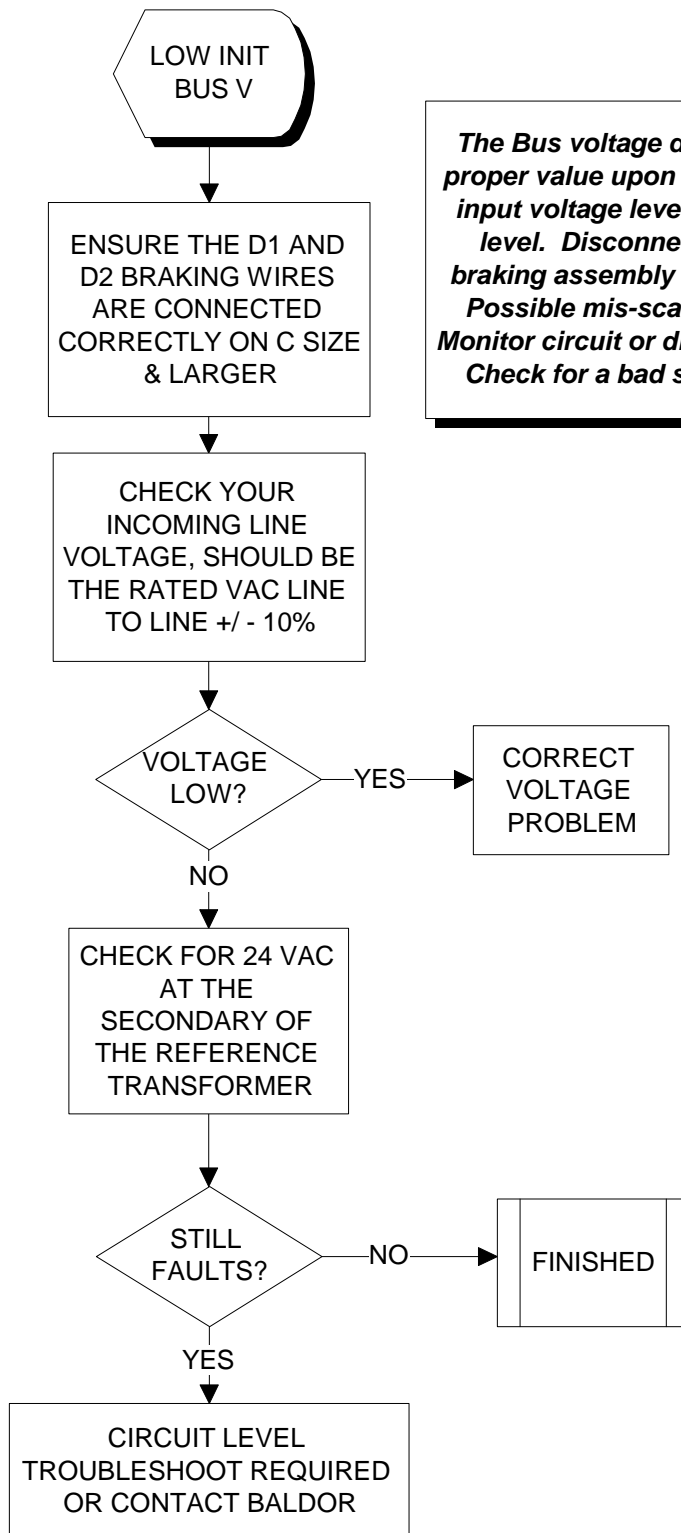
NO

FINISHED

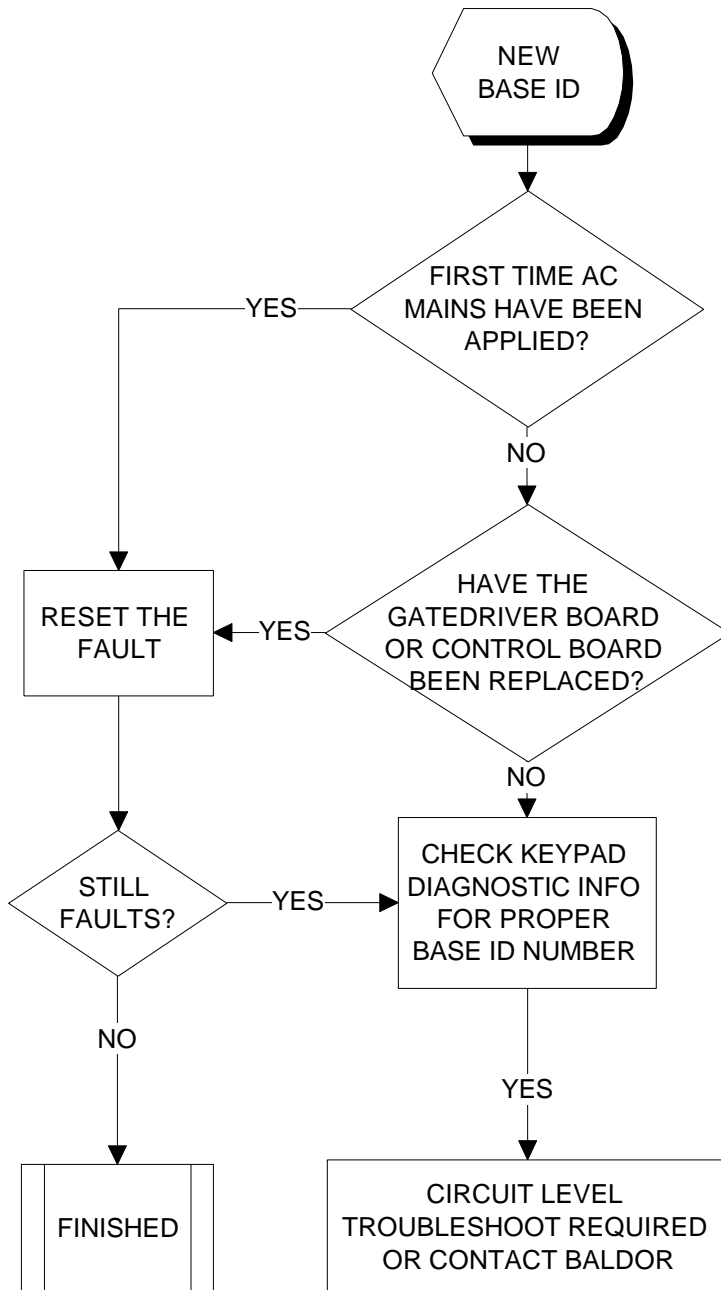
YES

CIRCUIT LEVEL
TROUBLESHOOT REQUIRED
OR CONTACT BALDOR

A fault has occurred on the Converter Control Board of a 21H(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.



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.



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.

NV MEMORY
FAIL

**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?

NO

YES

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.

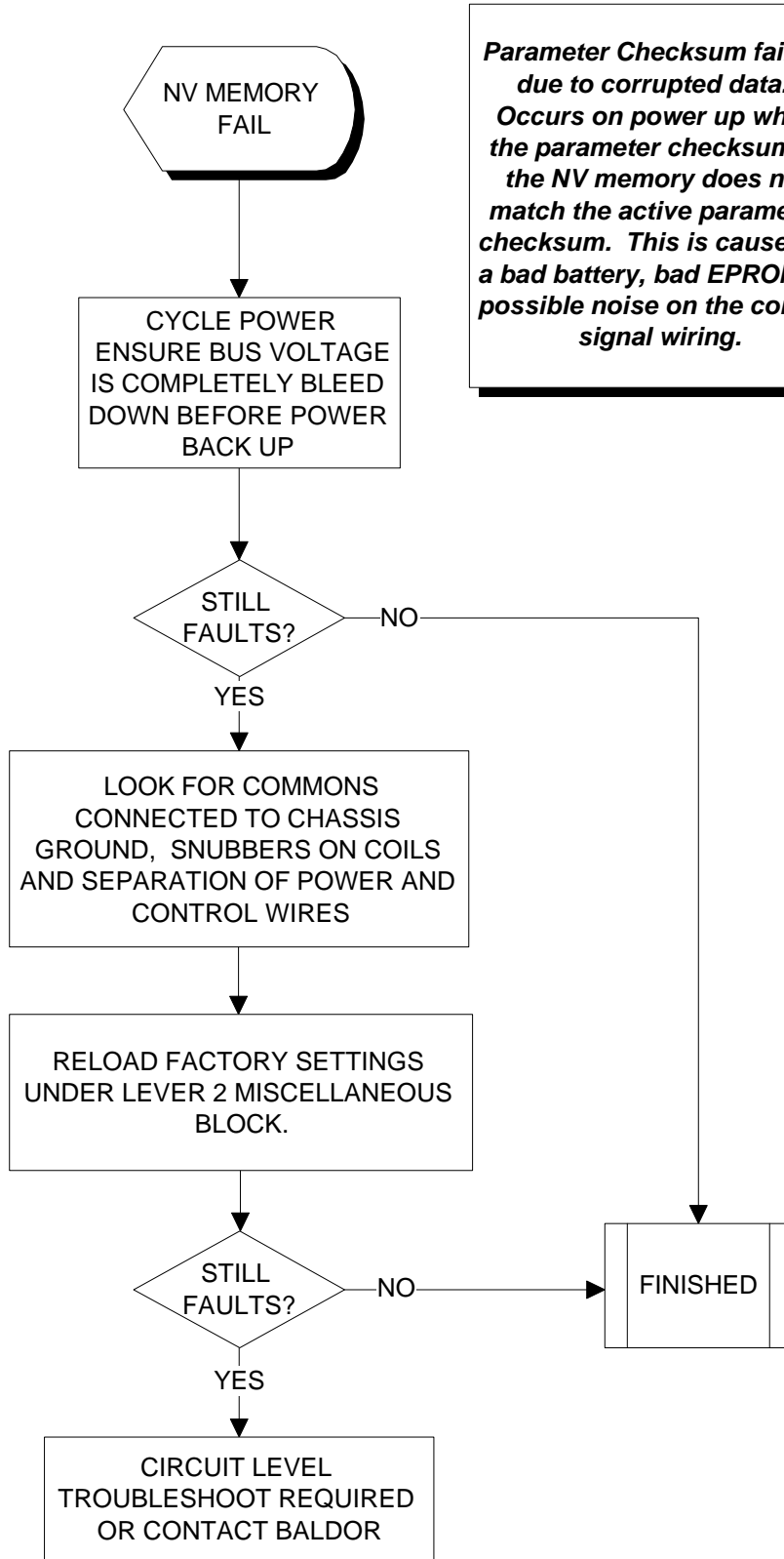
STILL
FAULTS?

NO

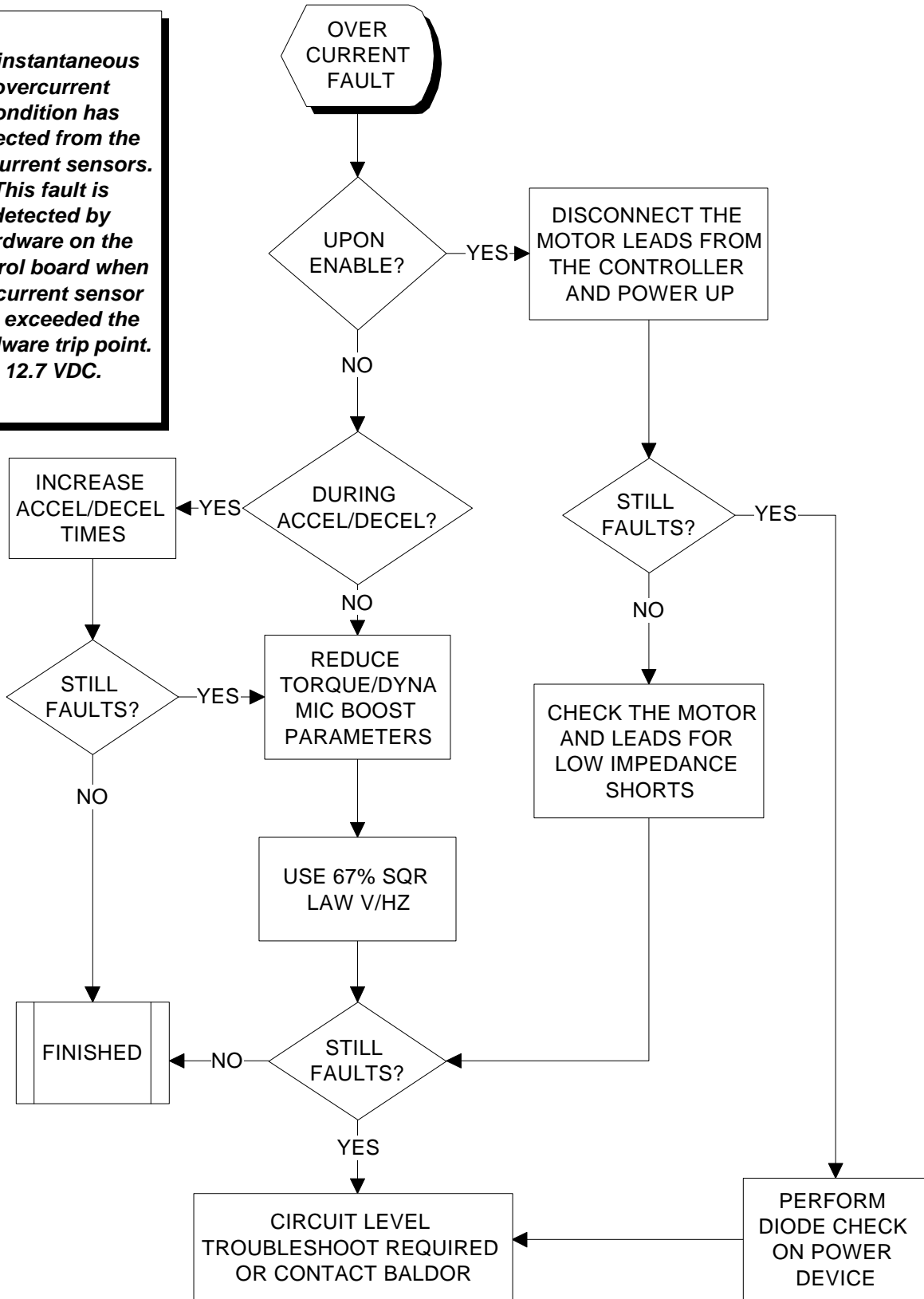
YES

CIRCUIT LEVEL
TROUBLESHOOT REQUIRED
OR CONTACT BALDOR

FINISHED



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.



PARAM
CHECKSUM

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

STILL
FAULTS?

NO

YES

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.

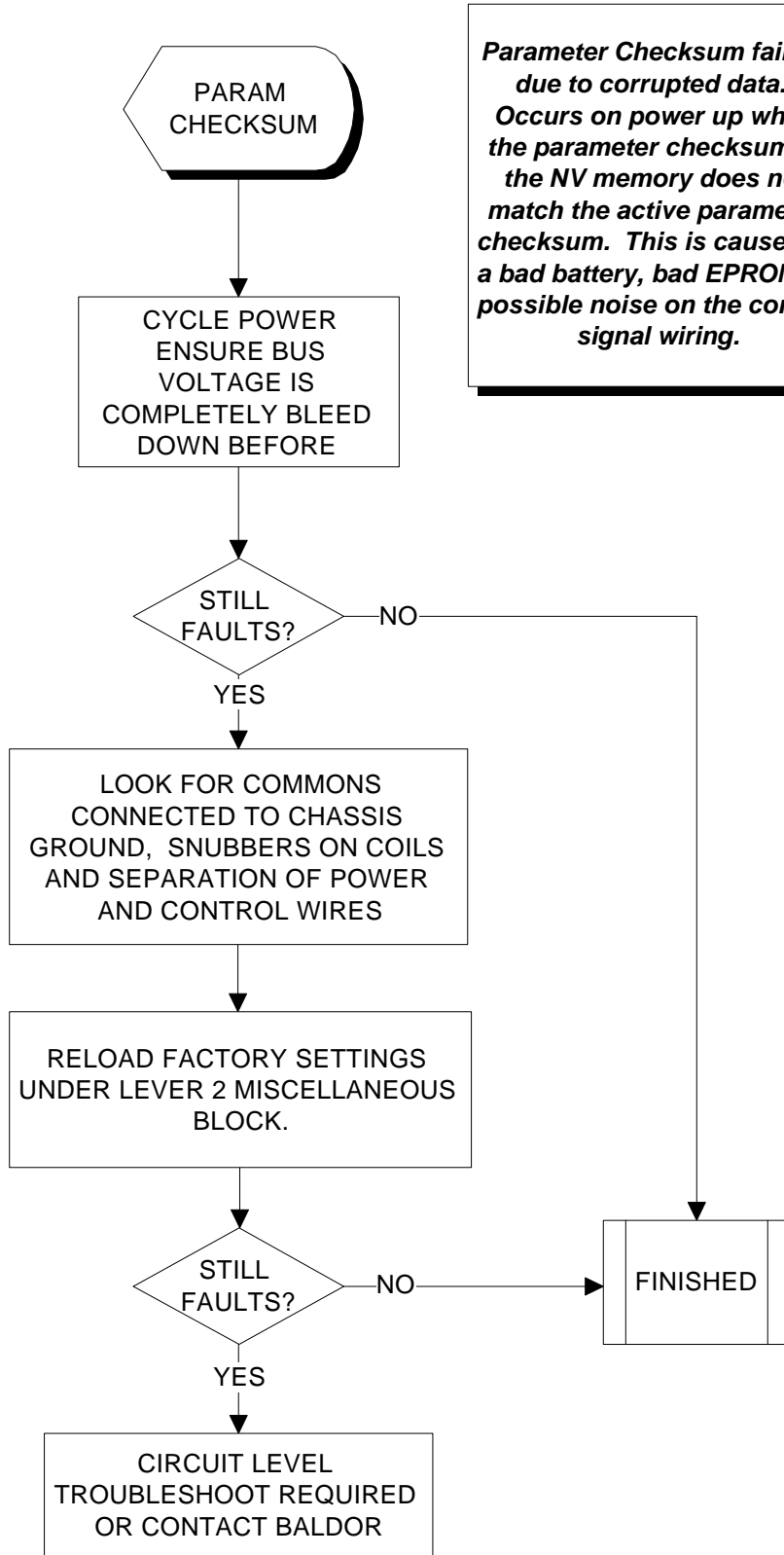
STILL
FAULTS?

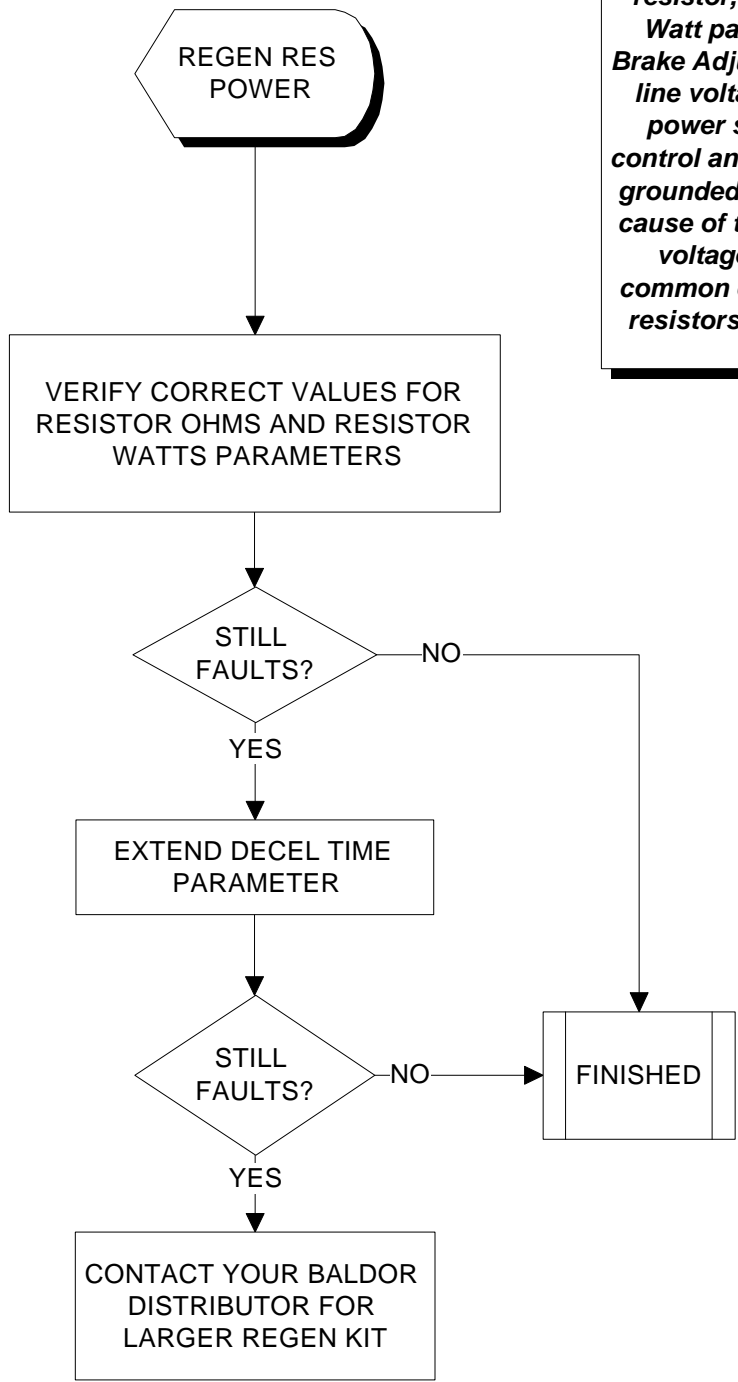
NO

YES

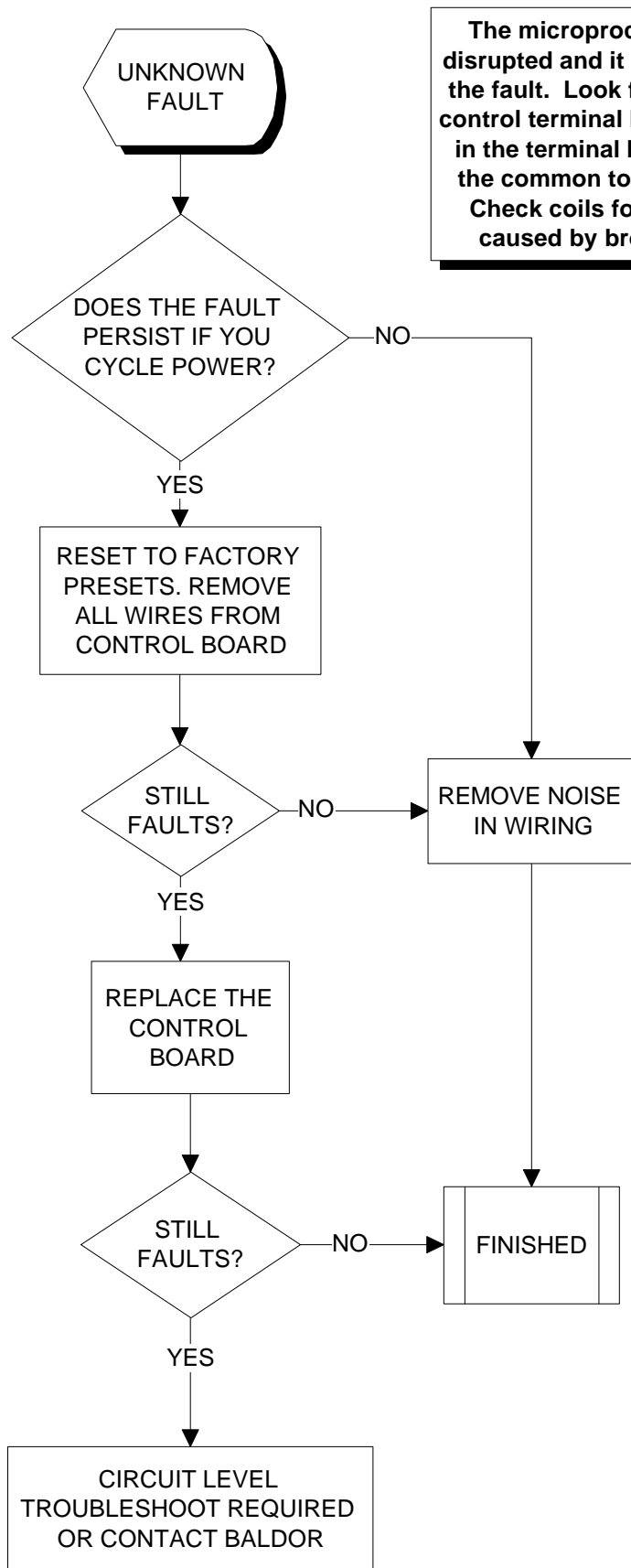
CIRCUIT LEVEL
TROUBLESHOOT REQUIRED
OR CONTACT BALDOR

FINISHED

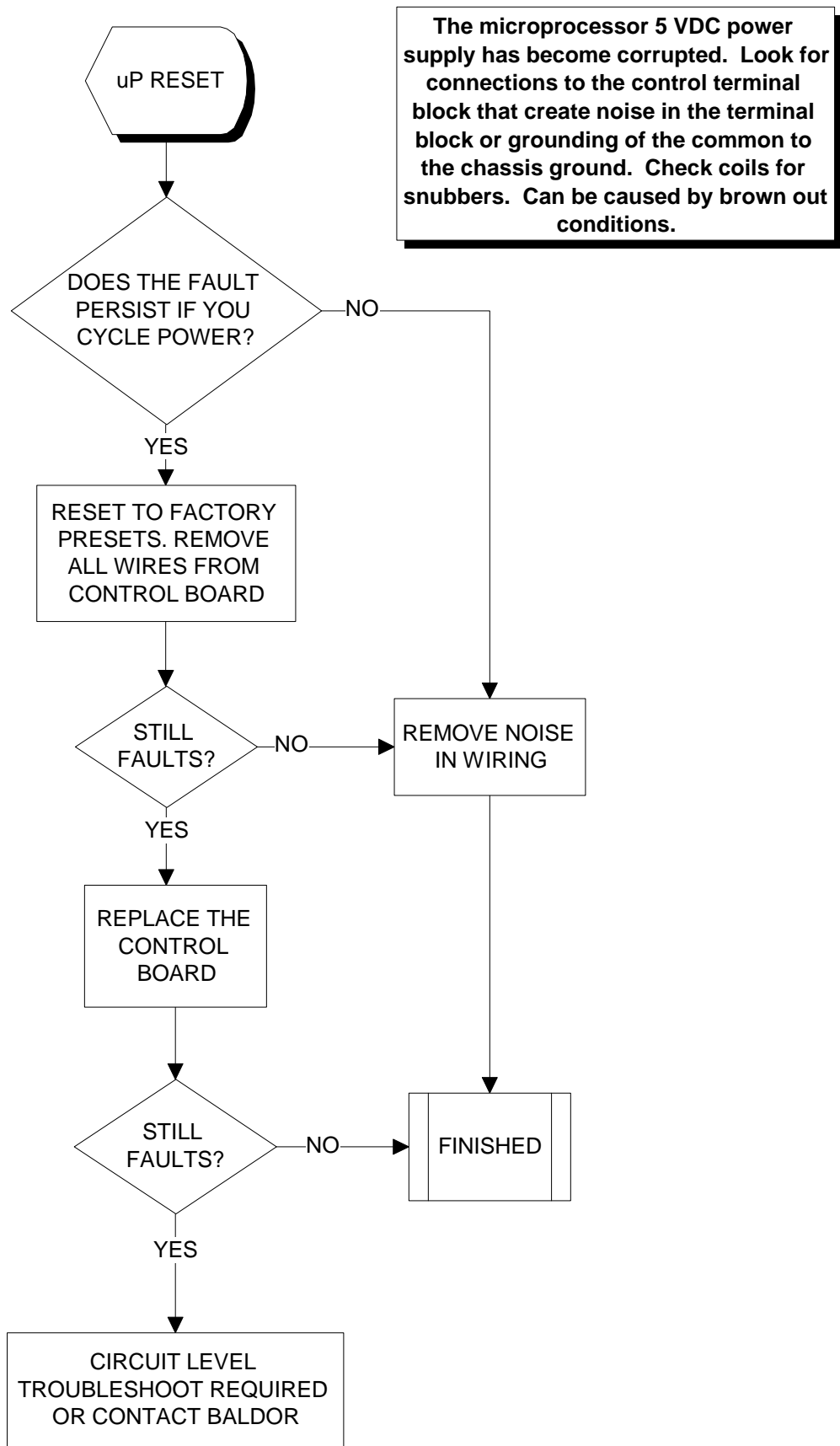




The regeneration power has exceeded the programmed power rating of the braking resistor, set by the resistor Watt parameters, Level 2, Brake Adjust Block. Check the line voltage and for a Delta power supply. Verify the control and motor are properly grounded. The most common cause of this fault is high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



The microprocesspower has been disrupted and it is unable to determine the fault. 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.



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.