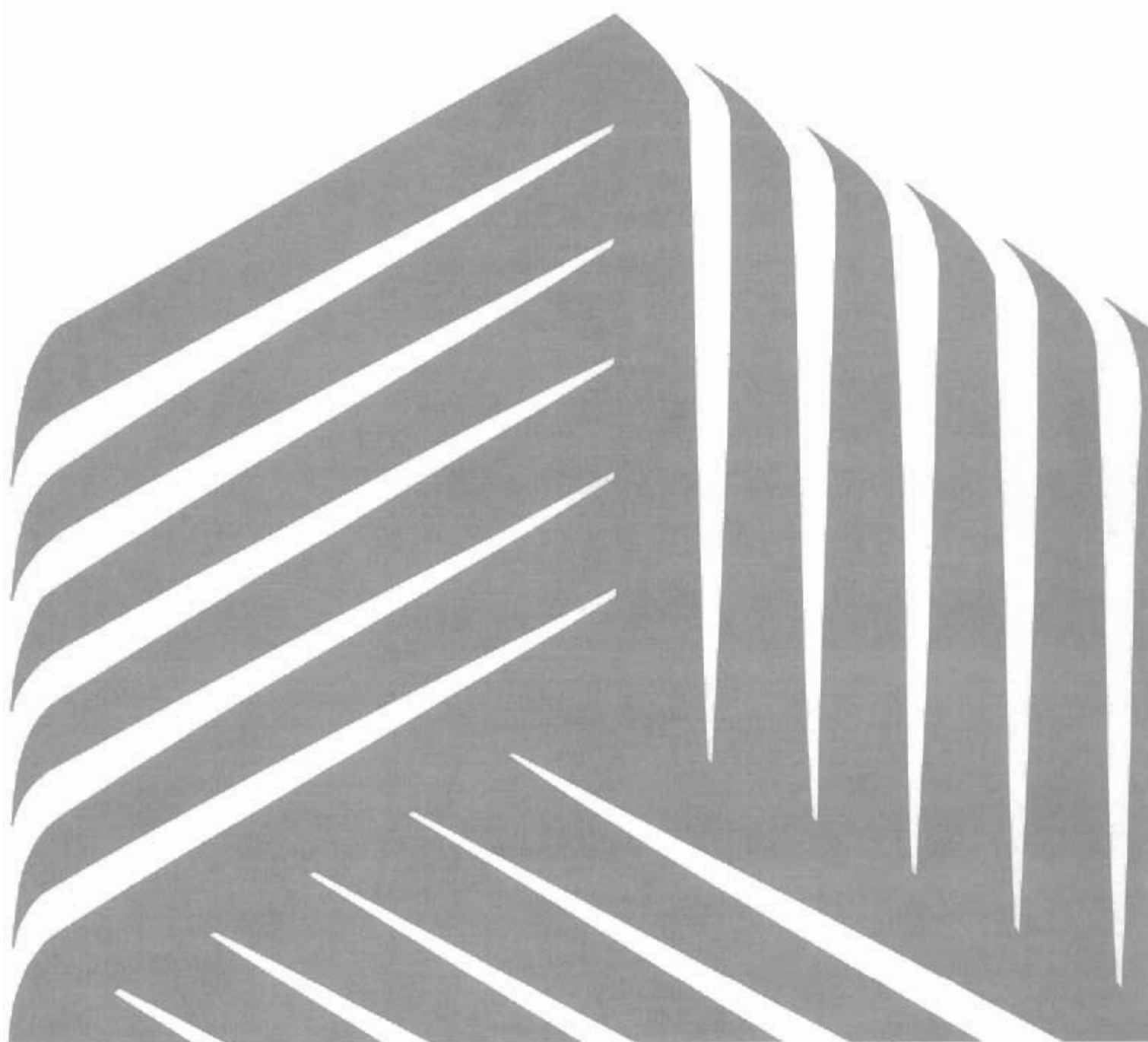


Trouble Shooting Guide for
Seed Manager[®] SE



Contents

Explaining Error Codes:	1
User Setup	2
Harness Failure Troubleshooting	3
Monitor Will Not Power	4
Incorrect System Voltage:	5
ERROR CODE E00: No Modules Detected	6
ERROR CODE E01: Too Many Modules Connected To P1/P2	7
ERROR CODE E10: Too Few Material Flow Modules Connected	8
ERROR CODE E11: Too Many Seed Modules Connected	9
ERROR CODE E20: Too Few Shaft Modules Connected	10
ERROR CODE E21: Too Many Shaft Modules Connected	11
ERROR CODE E30_X: Too Few Seed Sensors Connect To Module X	12
ERROR CODE E31_X: Too Many Seed Sensors Connect To Module X	13
ERROR CODE E40: Too Few Hopper Sensors Connected	14
ERROR CODE E41: Too Many Hopper Sensors Connected	15
ERROR CODE E50: Too Few Pressure Sensors Connected	16
ERROR CODE E51: Too Many Pressure Sensors Connected	17
ERROR CODE E70_X: Module Sensor Supply (8 Volts) Is Too Low	18
ERROR CODE E71_X: Module Sensor Supply (8 Volts) Is Too High	19
ERROR CODE E98: Internal Console Error	20
Ground Speed Sensor Fails While Planting:	21
Seed Sensor Fails While Planting	22
Shaft/Fan Sensor Fails While Planting	23
Pressure Sensor Fails While Planting:	24
Monitor Cab Harness Pin Out Diagram	26
Module Harness 12 Row w/Hopper Diagram	27
Module Harness 16 Row w/out Hopper Diagram	28

Explaining Error Codes:

The monitor communicates any system failures that are detected through the use of various error codes. These error codes inform the user of specific failures and can be related to the entire system or limited to a specific module. The list of error codes, their descriptions, description of the error display, and most common cause(s) of the error are displayed below (note: *Upper Display* refers to the upper 5 digit display portion of the LCD, *Lower Display* refers to the lower 2 digit display of the LCD):

ERROR CODE:	DESCRIPTON	DISPLAY	MOST COMMON CAUSE(S)
E 00	No modules connected.	E 00 on Upper Display. TEST, ROWS, FAILED displayed.	Disconnected/damage harnessing, defective module(s), or monitor
E 01	Too many modules connected to either P1 or P2.	E 01 on Upper Display. TEST, ROWS, FAILED displayed.	Incorrect installation or user entered constant, defective module.
E 10	Too few seed modules connected.	E 10 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.	Incorrect installation or user entered constant, defective module.
E 11	Too many seed modules connected.	E 11 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.	Incorrect installation or user entered constant, defective module.
E 20	Too few shaft modules connected.	E 21 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.	Incorrect installation or user entered constant, defective module.
E 21	Too many shaft modules connected.	E 21 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.	Incorrect installation or user entered constant, defective module.
E 30 X	Too few/Failed seed sensors detected on module X.	E 30 with the number of the module affected on the Upper Display. The number of sensors detected on module X on the Lower Display. TEST, ROW(S), FAILED are displayed.	Incorrect installation or user entered constant, defective sensor(s). Defective module or module harness.
E 31 X	Too many seed sensors detected on module X.	E 31 with the number of the module affected on the Upper Display. The number of sensors detected on module X on the Lower Display. TEST, NUM, FAILED are displayed.	Incorrect installation or user entered constant, defective sensor(s). Defective module.
E 40	Too few/Failed hopper level sensors detected.	E 40 on Upper Display. The number of sensors detected on Lower Display. HOPPER, NUM, TEST, FAILED are displayed.	Incorrect installation or user entered constant, defective sensor(s). Defective module or module harness.

ERROR CODE	DESCRIPTION	DISPLAY	MOST COMMON CAUSE(S)
E 00	No modules connected.	E 00 on Upper Display. TEST, ROWN, FAILED displayed.	Disconnected/damaged harnessing, defective module(s), or harness.
E 01	Too many modules connected to either P1 or P2.	E 01 on Upper Display. TEST, ROWN, FAILED displayed.	Incorrect installation or user entered constant, defective module.
E 10	Too few seed modules connected.	E 10 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.	Incorrect installation or user entered constant, defective module.
E 11	Too many seed modules connected.	E 11 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.	Incorrect installation or user entered constant, defective module.
E 20	Too few shaft modules connected.	E 21 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.	Incorrect installation or user entered constant, defective module.
E 21	Too many shaft modules connected.	E 21 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.	Incorrect installation or user entered constant, defective module.
E 30 X	Too few/Failed seed sensors detected on module X.	E 30 with the number of the module affected on the Upper Display. The number of sensors detected on module X on the Lower Display. TEST, ROWN, FAILED are displayed.	Incorrect installation or user entered constant, defective sensor(s), Defective module or module harness.
E 31 X	Too many seed sensors detected on module X.	E 31 with the number of the module affected on the Upper Display. The number of sensors detected on module X on the Lower Display. TEST, ROWN, FAILED are displayed.	Incorrect installation or user entered constant, defective sensor(s), Defective module.
E 40	Too few/Failed harrow level sensors detected.	E 40 on Upper Display. The number of sensors detected on Lower Display. HARROW, NUM, TEST, FAILED are displayed.	Incorrect installation or user entered constant, defective sensor(s), Defective module or module harness.
E 41	Too many harrow level sensors detected.	E 41 on Upper Display. The number of sensors detected on Lower Display. HARROW, NUM, TEST, FAILED are displayed.	Incorrect installation or user entered constant, defective sensor(s), Defective module.
E 50	Too few/Failed pressure sensors connected.	E 50 on Upper Display. The number of sensors detected on Lower Display. PRESS, NUM, TEST, FAILED are displayed.	Incorrect installation or user entered constant, defective sensor(s), Defective module or module harness.
E 51	Too many pressure sensors connected.	E 51 on Upper Display. The number of sensors detected on Lower Display. PRESS, NUM, TEST, FAILED are displayed.	Incorrect installation or user entered constant, defective sensor(s), Defective module.
E 70	-RVIDC sensor power too low on module X.	E70 with the number of the module affected on the Upper Display. FAILED is also displayed.	Disconnected module harness, or defective module.
E 71	-RVIDC sensor power too high on module X.	E71 with the number of the module affected on the Upper Display. FAILED is also displayed.	Disconnected module harness, or defective module.
E 98	Memory error	E 98 on Upper Display. FAILED is also displayed.	Defective processor
E 99	Memory error	E 99 on Upper Display. FAILED is also displayed.	Defective processor

USER SETUP

Proper operation is dependent upon the user setup and calibration. Common areas where setup and calibration errors occur are:

1. Number of sensors per module. Make sure that this constant agrees with the number of sensors connected to the applicable module. Better yet, use the Auto Config feature to have the system automatically detect the number of modules and sensors connected. When connecting sensors to modules, make sure to follow the procedures outlined in the Operator's Manual, section C of System Installation.
2. When applicable, make sure to connect the correct shaft/rpm sensor into the correctly identified connection of the shaft module harness.
3. Use the setup record sheet to record all of the constants that describe the planter. Having this record available will save time in the event that a constant is lost. Even though setup constants are retained during normal system power off, it is advisable to have a record of the current constants readily available.
4. Proper operation, displayed readouts, planter error warnings are dependent on correct user constants being entered. For the system to operate properly, accurate ground speed calibration, row width, imp width, etc. must be entered. If incorrect population, speed, area, values are being displayed, the first check is to make sure that the user constants have not been changed or lost.

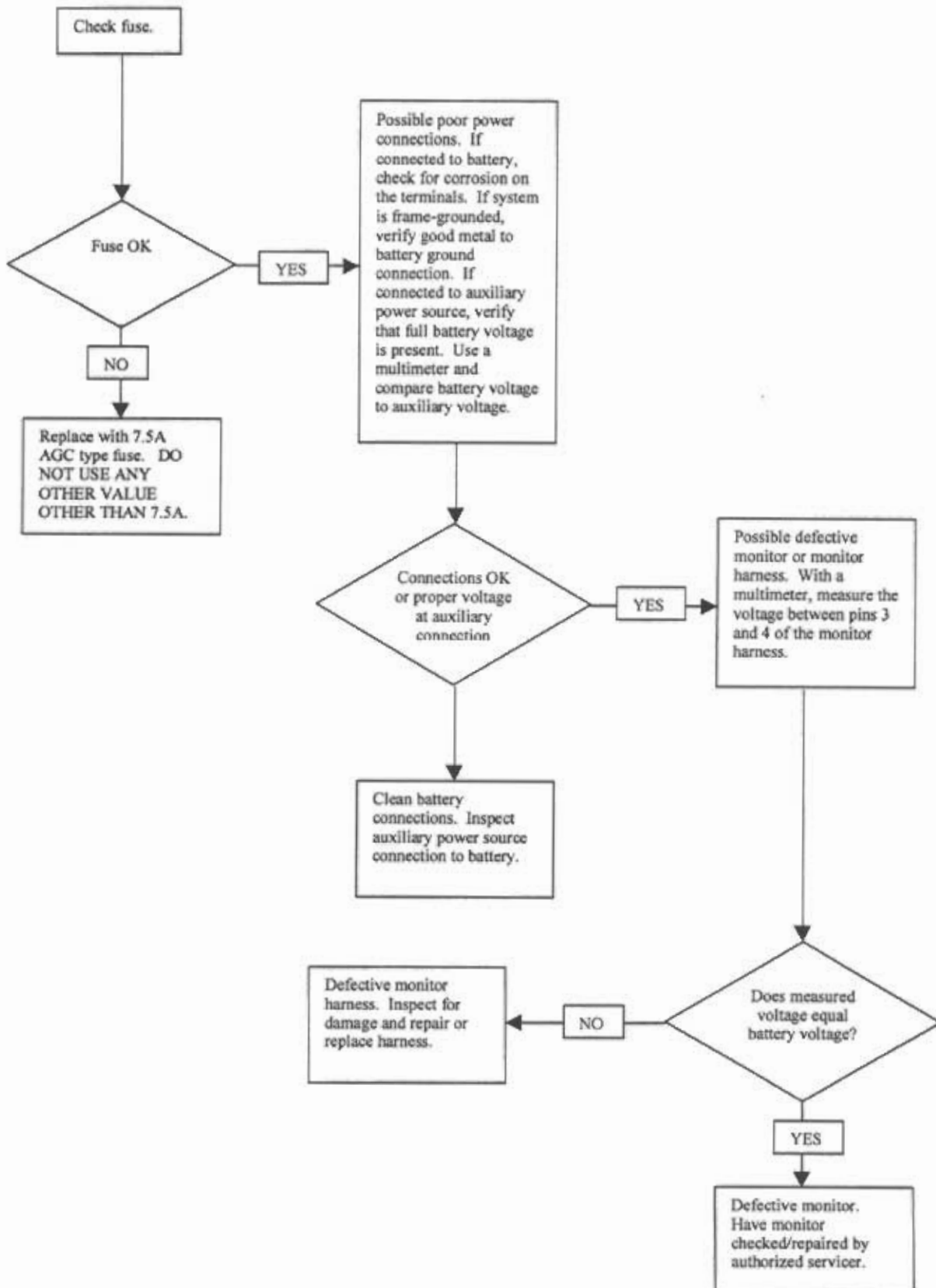
HARNESS FAILURE TROUBLESHOOTING

Many system failures can be traced back to system harnessing. Observe the following precautions when troubleshooting harnessing on your planter:

1. Closely observe the harnessing for damage. The majority of harness failures are visible. Pay particular attention to areas of the planter/seeder that pivot, fold, flex, etc. Also, check in the area of chain drives to planter units and planter drive shafts.
2. If there is no visible damage evident, disconnect and inspect the connectors and terminals for corrosion or bent/damaged terminals. Harness to module connectors have a plastic insert that may be removed by a pair of needle-nosed pliers. Simply pull the insert straight out. Corroded terminals are a sign of moisture entering the connector which is usually caused by the connectors not being fully mated. If no damage or corrosion is detected, use a small screwdriver or similar device to gently push on each terminal to ensure that it is fully seated in the connector housing.
3. If there is no terminal/connector damage, continuity measurements can be made with an ohmmeter to ensure that the harness wires are not cut or damaged. With the ohmmeter, measure the resistance between the ends of connected terminals as designated by the harness diagrams. Any resistance measured that is greater than 1Ω indicates a faulty wire.

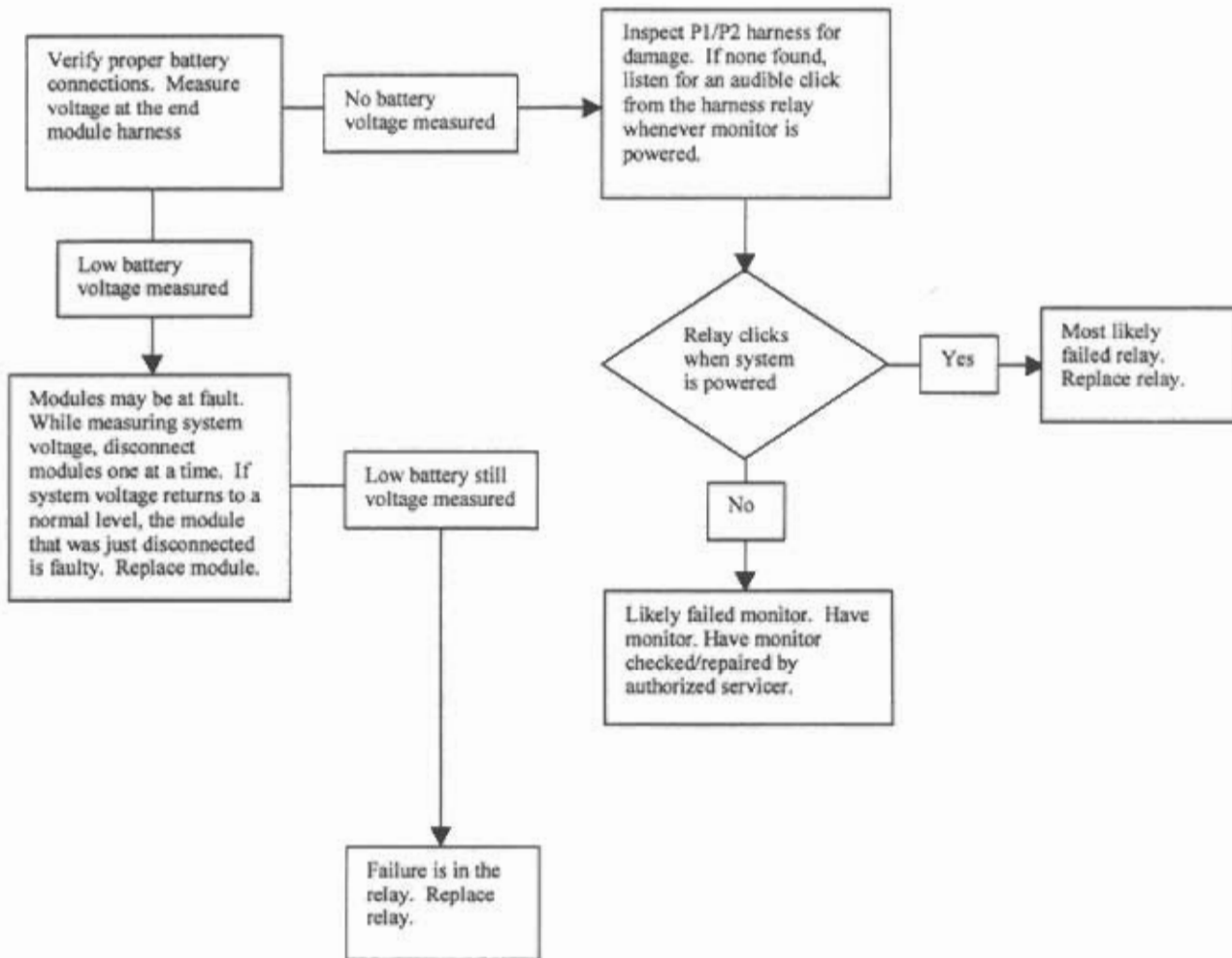
If continuity measurements pass, isolation measurements can be made to verify that harness wires are not shorted to any other wires in the harness. To do this, measure with an ohmmeter pin 1 of the grey module connector to each of the other 23 pins of both the grey and black module connectors in succession. Then measure pin 2 of the grey module connector to each of the other 22 (there is no need to probe pin 1 again) pins in both

MONITOR WILL NOT POWER



INCORRECT SYSTEM VOLTAGE:

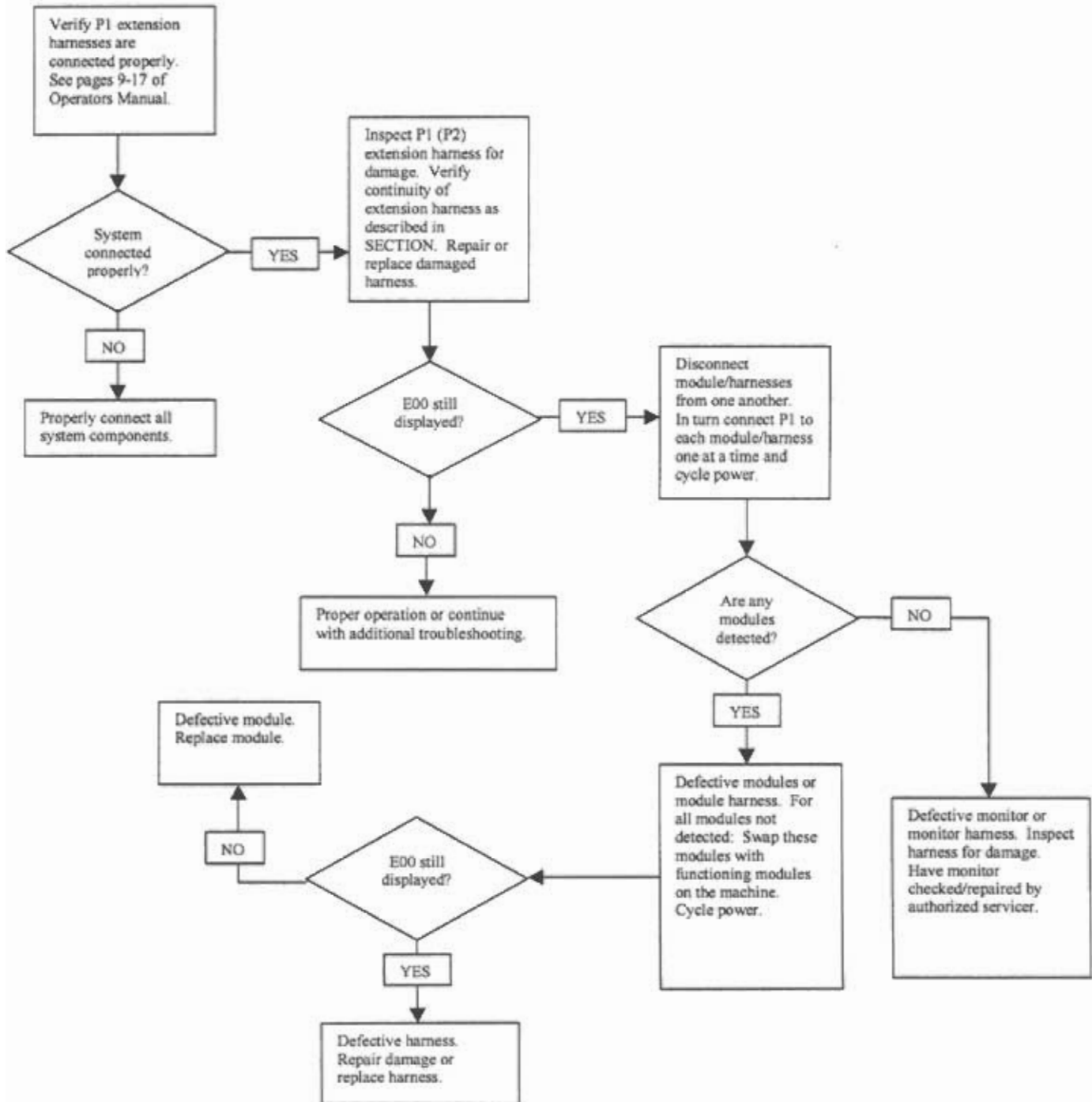
Use this troubleshooting chart when system voltage is lost, or is less than 11.0VDC and there is no battery warning alarm on the monitor. Result of incorrect system voltage will be an E00 error code on power up. Likely causes of lost system voltage are the relay, monitor harness, or monitor. Likely causes for low system voltage are the relay, or modules.



ERROR CODE E00: NO MODULES DETECTED

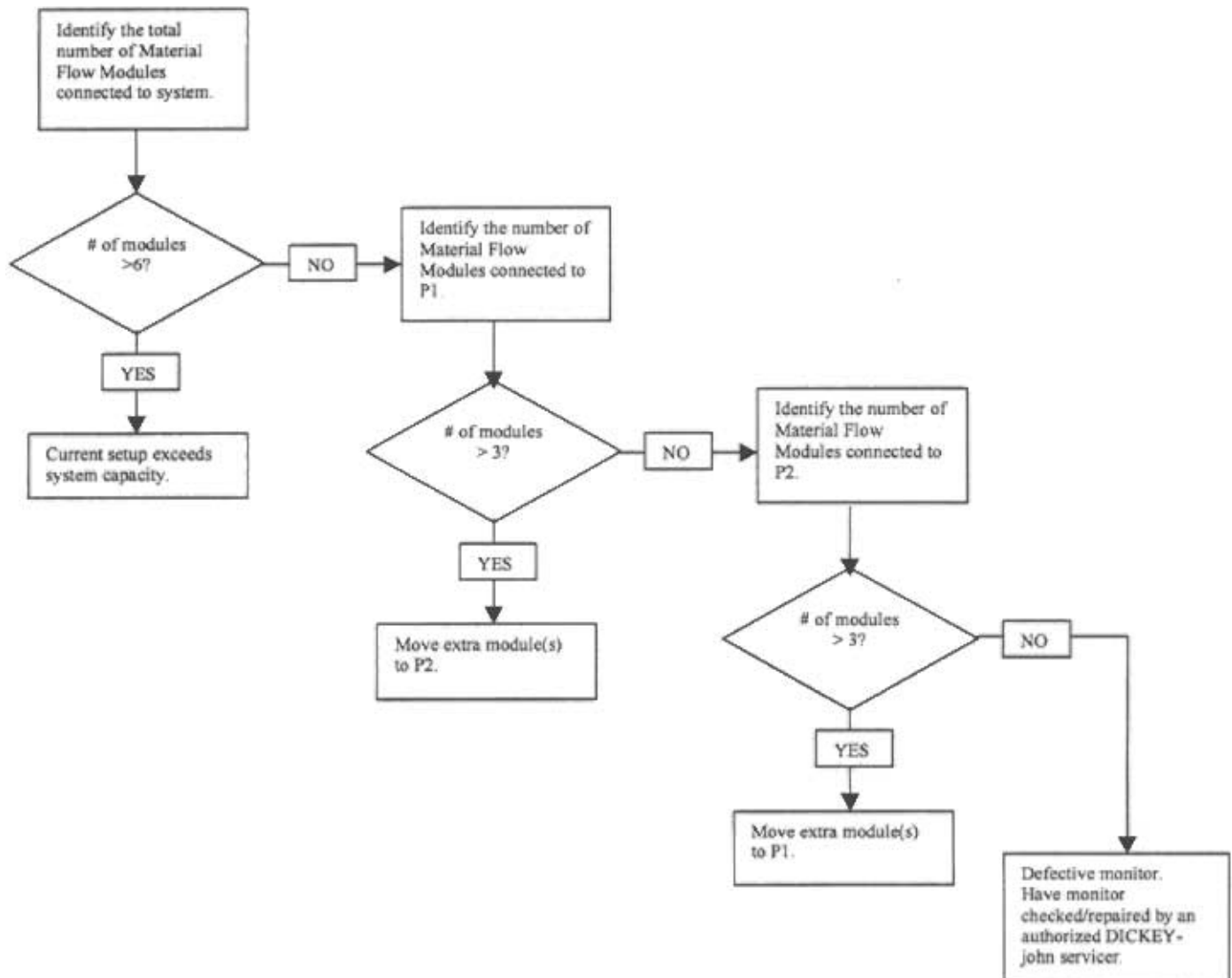
This error is generated whenever the monitor detects no modules connected. Likely causes of this error are loss of module power, defective modules, defective module harness, defective extension harness, defective monitor harness, or defective monitor.

Note: Verify proper system voltage before proceeding. If the low system voltage alarm is displayed by the monitor (battery symbol), refer to flowchart BATTERY SYMBOL APPEARS ON DISPLAY. If the low voltage alarm is not displayed and there is no or low system voltage measured, refer to flowchart: INCORRECT SYSTEM VOLTAGE.



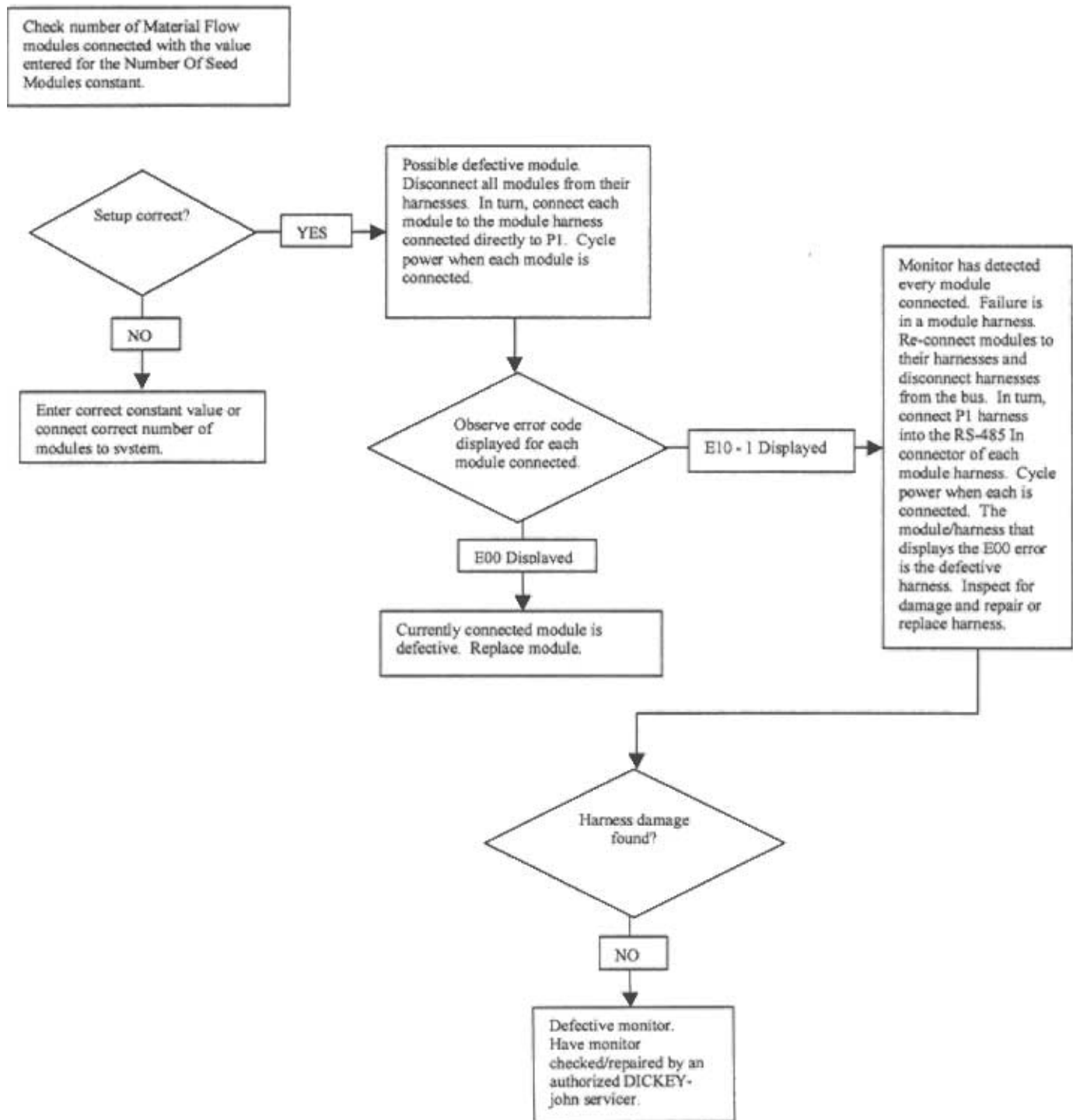
ERROR CODE E01: TOO MANY MODULES CONNECTED TO P1/P2

This error is generated whenever there are more than three Material Flow Modules connected to either P1 or P2 (see page 9 of Operators Manual). The only cause of this error is greater than three Material Flow Modules connected to either P1 or P2.



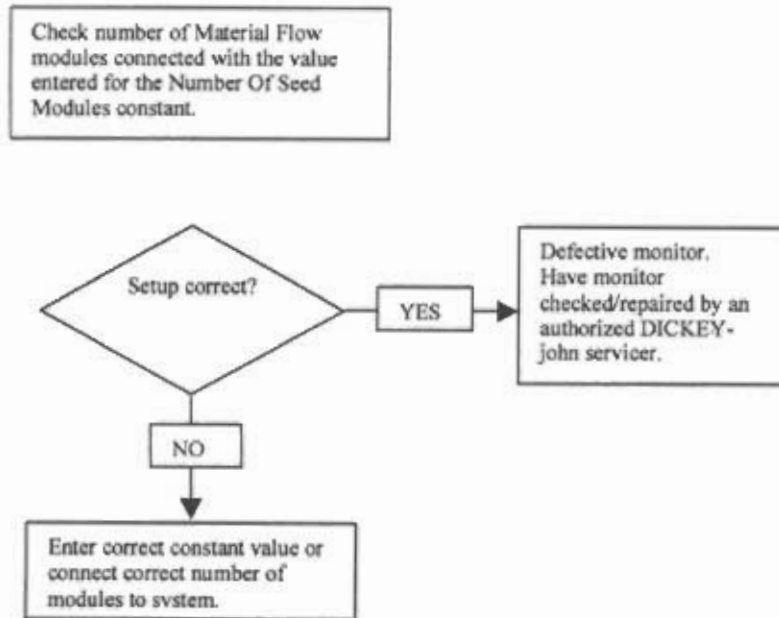
ERROR CODE E10: TOO FEW MATERIAL FLOW MODULES CONNECTED

This error is generated when the monitor detects fewer Material Flow Modules than what the setup configuration specifies. The value displayed in the lower 2 digit display represents the number of Seed Modules that were detected (if the value 5 is displayed and the system is setup for 6 modules, the monitor detected only 5 modules). Likely causes are: Incorrect setup constants, module harnessing, or modules. NOTE: Material Flow Module and Seed Module describe the same module type.



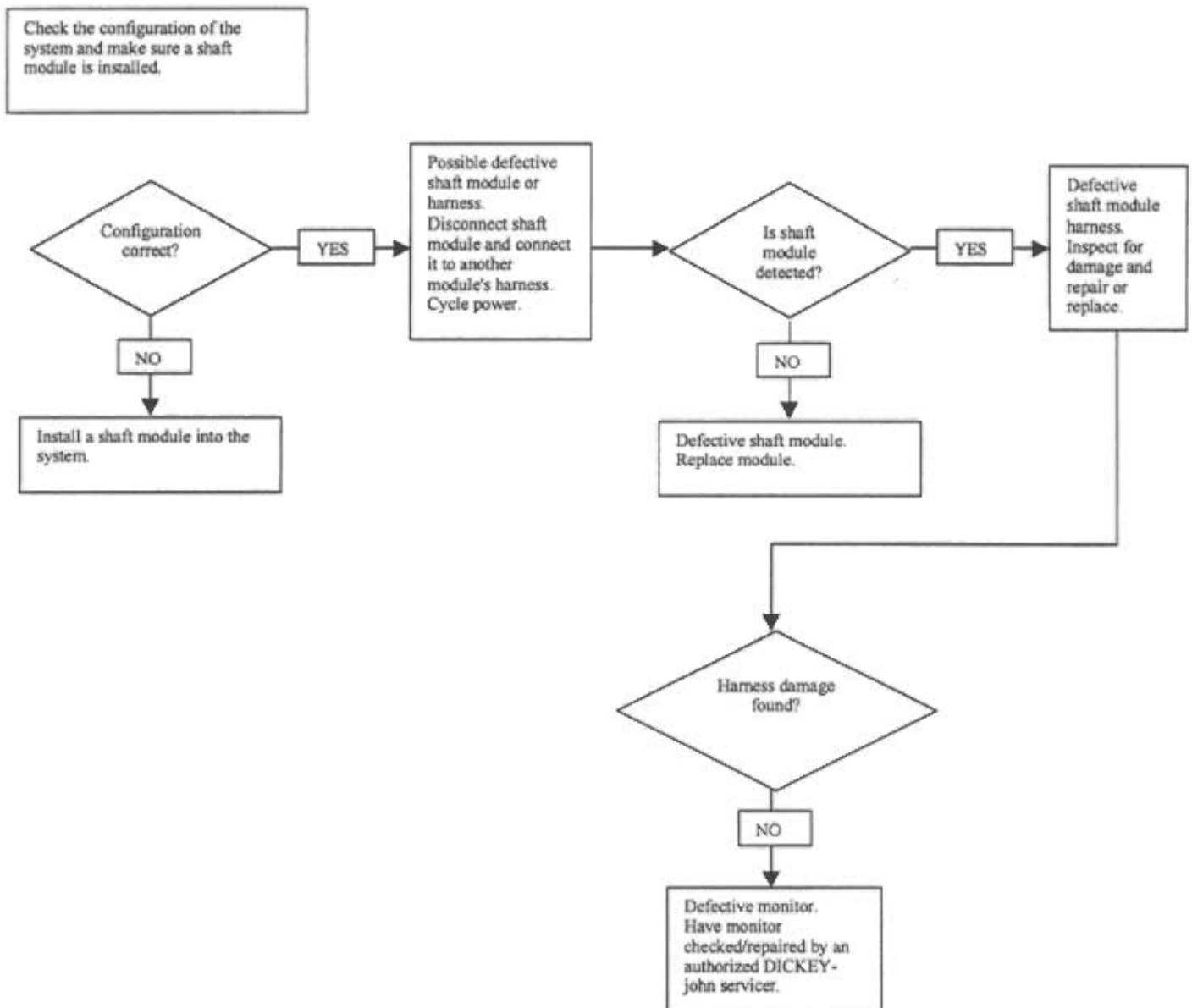
ERROR CODE E11: TOO MANY SEED MODULES CONNECTED

This error is generated when the monitor detects more Material Flow Modules than what the setup configuration specifies. The value displayed in the lower 2 digit display represents the number of Seed Modules that were detected (if the value 6 is displayed and the system is setup for 5 modules, the monitor detected 6 modules). Likely causes are: Incorrect setup constants or incorrect system configuration. NOTE: Material Flow Module and Seed Module describe the same module type.



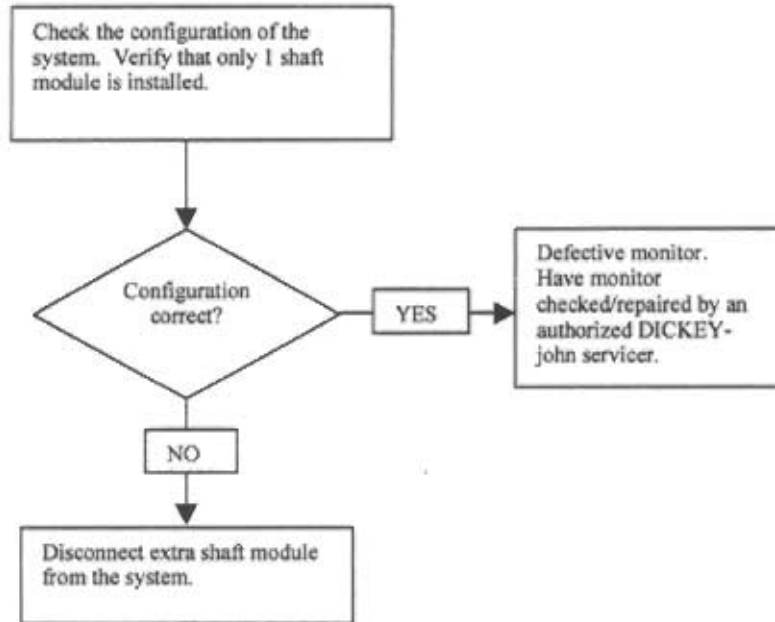
ERROR CODE E20: TOO FEW SHAFT MODULES CONNECTED

This error is generated when the monitor detects few shaft modules than what the setup configuration specifies. The value displayed in the lower 2 digit display represents the number of shaft modules that were detected (which will usually be 0). Likely causes are: Incorrect setup constants, module harnessing, or modules.



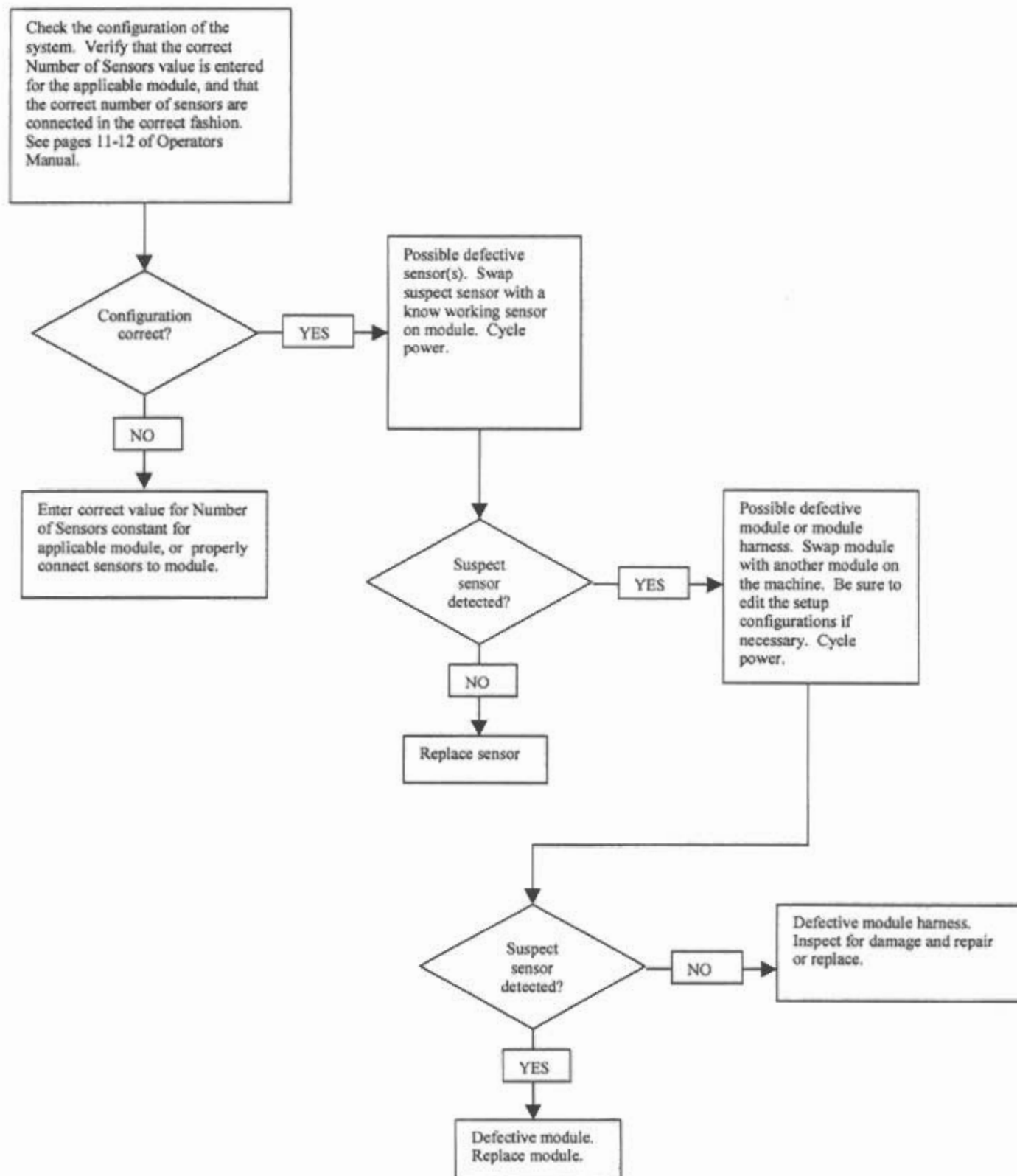
ERROR CODE E21: TOO MANY SHAFT MODULES CONNECTED

This error is generated when the monitor detects few shaft modules than what the setup configuration specifies. The value displayed in the lower 2 digit display represents the number of shaft modules that were detected. Likely causes are: Incorrect system configuration. Only one shaft module can be installed in a system (see page 9 of Operators Manual).



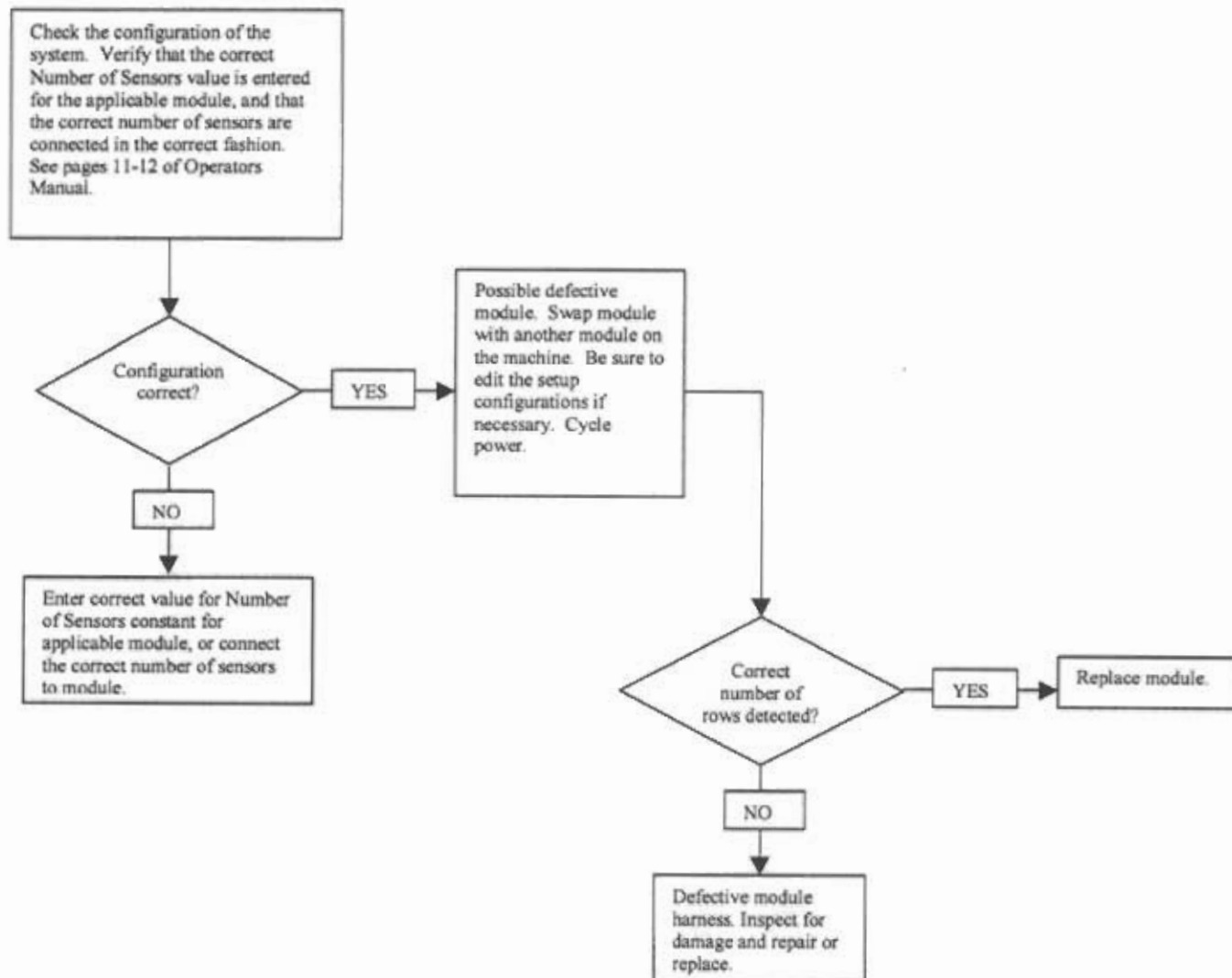
ERROR CODE E30_X: TOO FEW SEED SENSORS CONNECT TO MODULE X

This error is generated whenever a particular module detects fewer sensors than the setup configuration specifies. This can be caused by an incorrect Number of Sensors constant, failed sensors, incorrect number of sensors installed, or defective module harness. The 'X' represents the number of the module where the failed condition was detected.



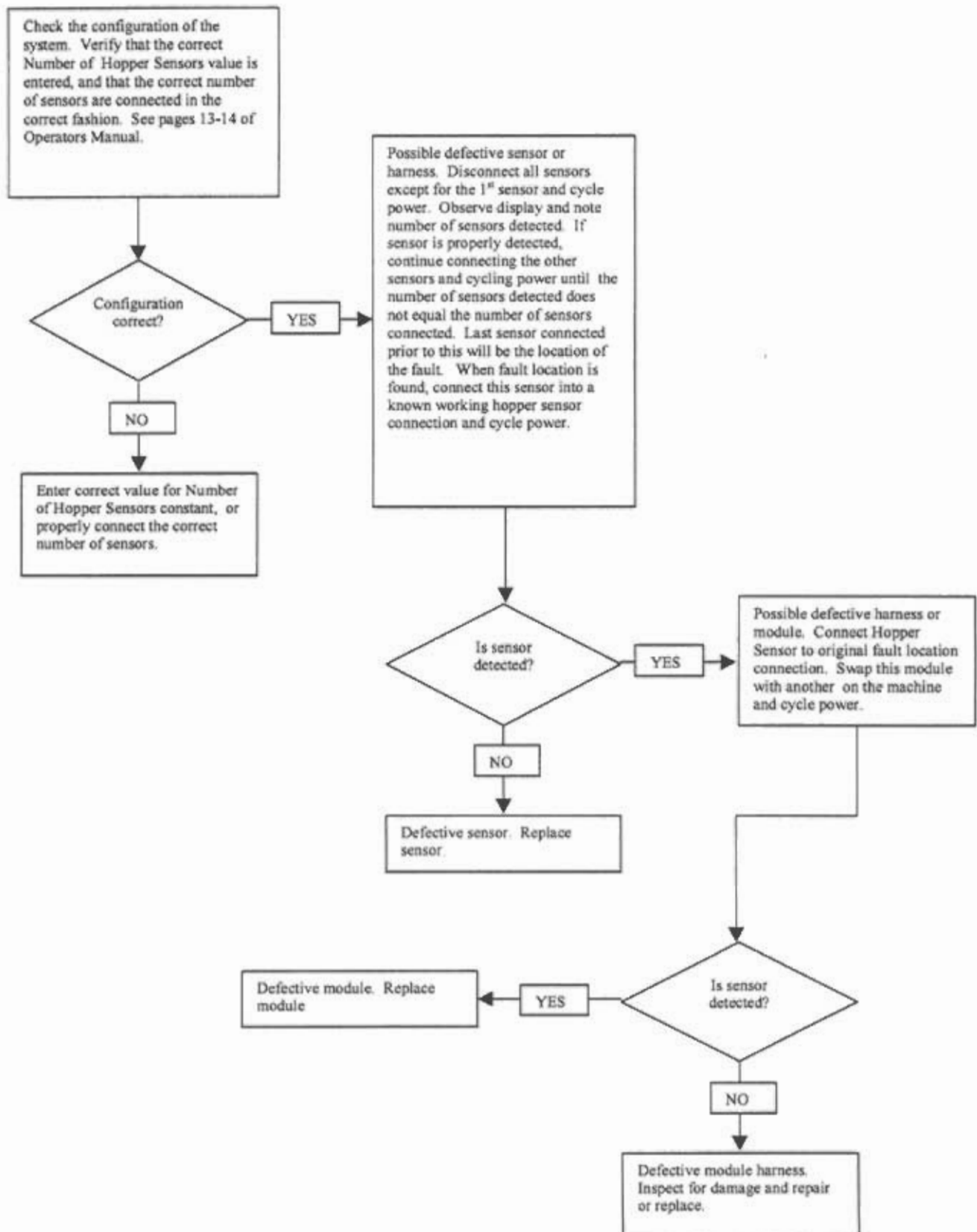
ERROR CODE E31_X: TOO MANY SEED SENSORS CONNECT TO MODULE X

This error is generated whenever a particular module detects more sensors than the setup configuration specifies. This can be caused by an incorrect Number of Sensors constant, incorrect number of sensors installed, or defective module. The 'X' represents the number of the module where the failed condition was detected.



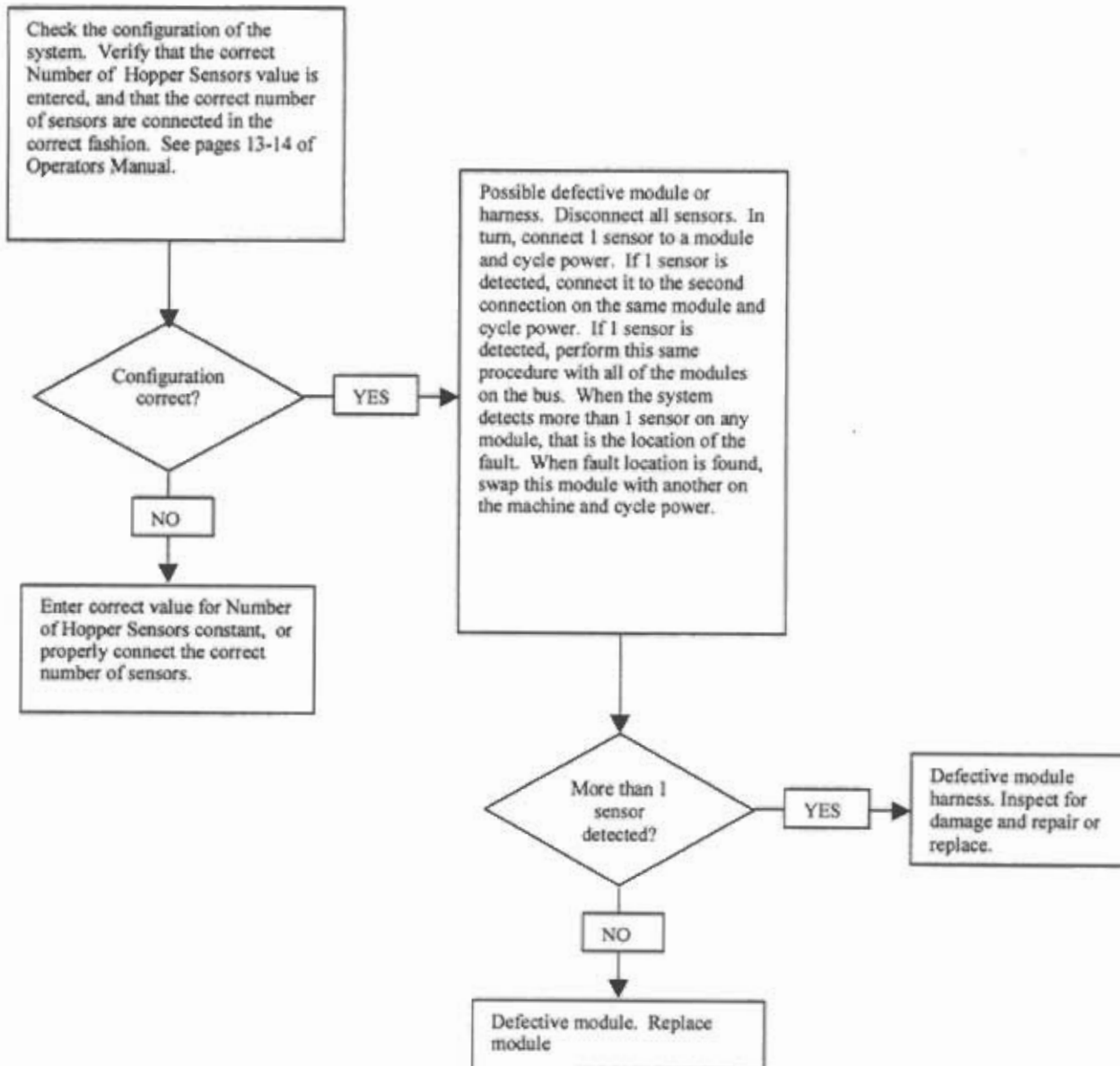
ERROR CODE E40: TOO FEW HOPPER SENSORS CONNECTED

This error is generated whenever fewer hopper level sensors are detected by the modules in the system than what the setup configuration specifies. This can be caused by an incorrect setup constant, defective hopper sensor, defective module, or defective harnessing. The value associated with the error code represents the total number of hopper level sensors detected by the modules in the system.



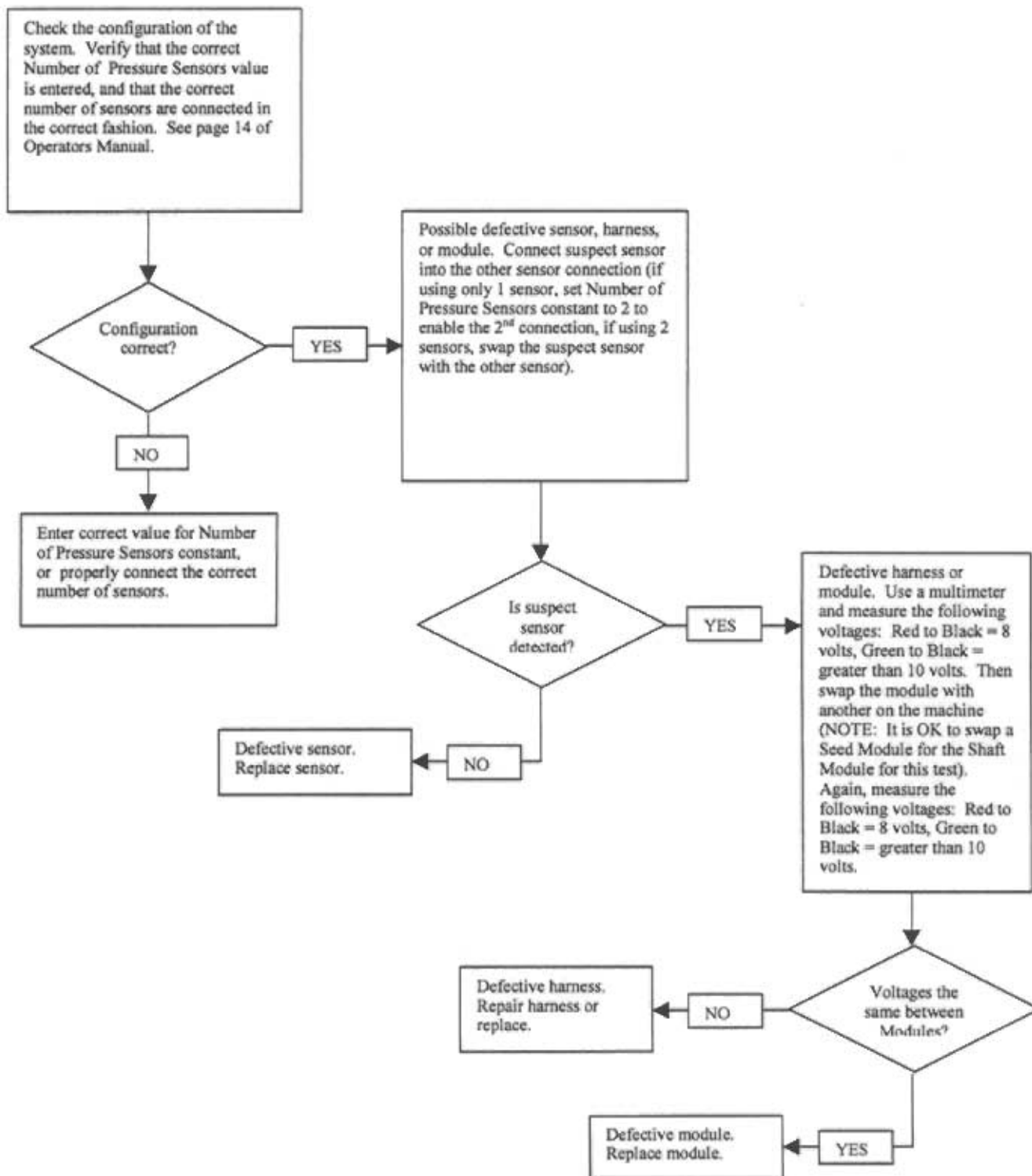
ERROR CODE E41: TOO MANY HOPPER SENSORS CONNECTED

This error is generated whenever more hopper level sensors are detected by the modules in the system than what the setup configuration specifies. This can be caused by an incorrect setup constant, defective module harness, or a defective module. The value associated with the error code represents the total number of hopper level sensors detected by the modules in the system.



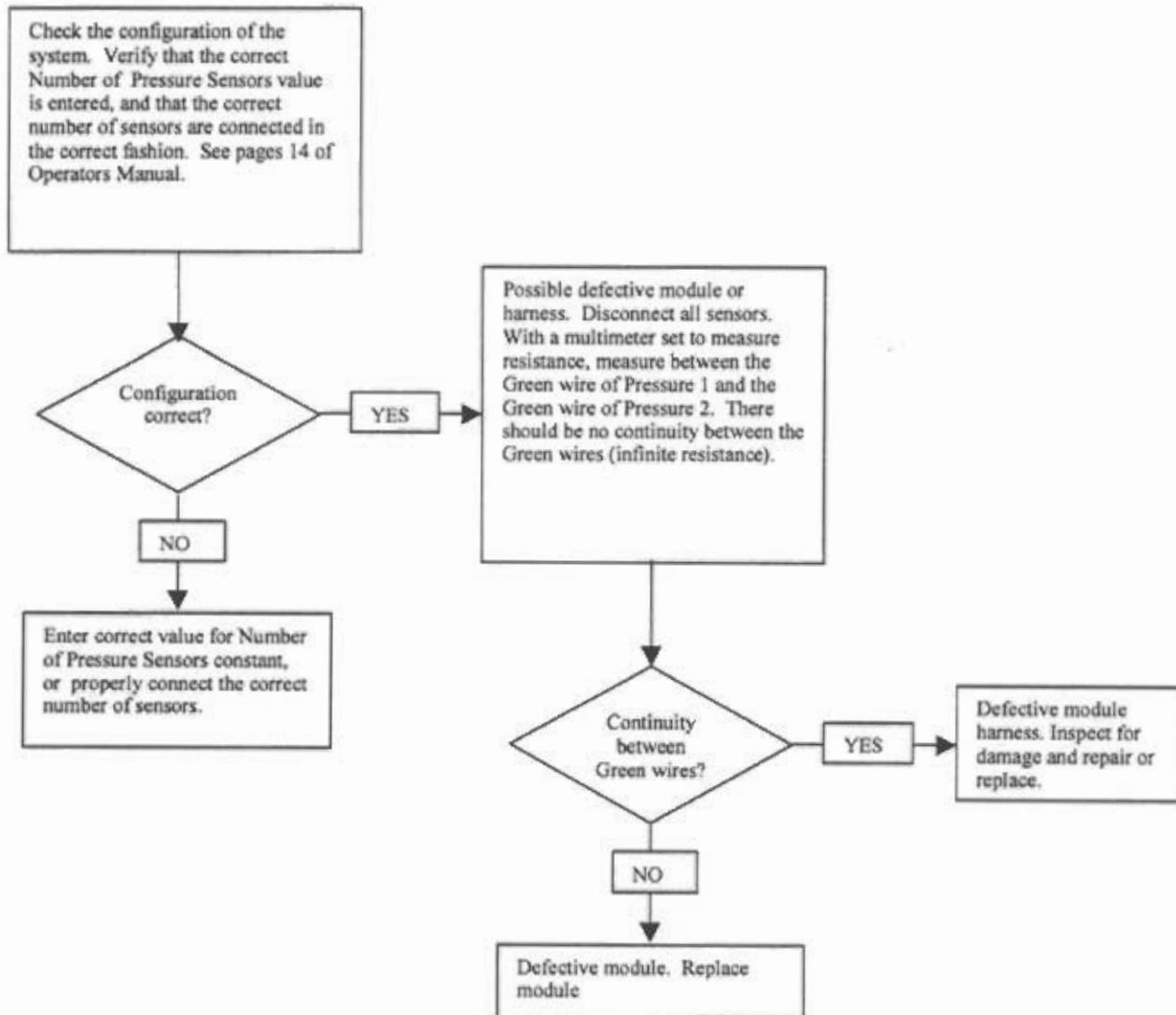
ERROR CODE E50: TOO FEW PRESSURE SENSORS CONNECTED.

This error is generated whenever fewer pressure sensors are detected by the modules in the system than what the setup configuration specifies. This can be caused by an incorrect setup constant, defective hopper sensor, defective module, or defective harnessing. The value associated with the error code represents the total number of hopper level sensors detected by the modules in the system.



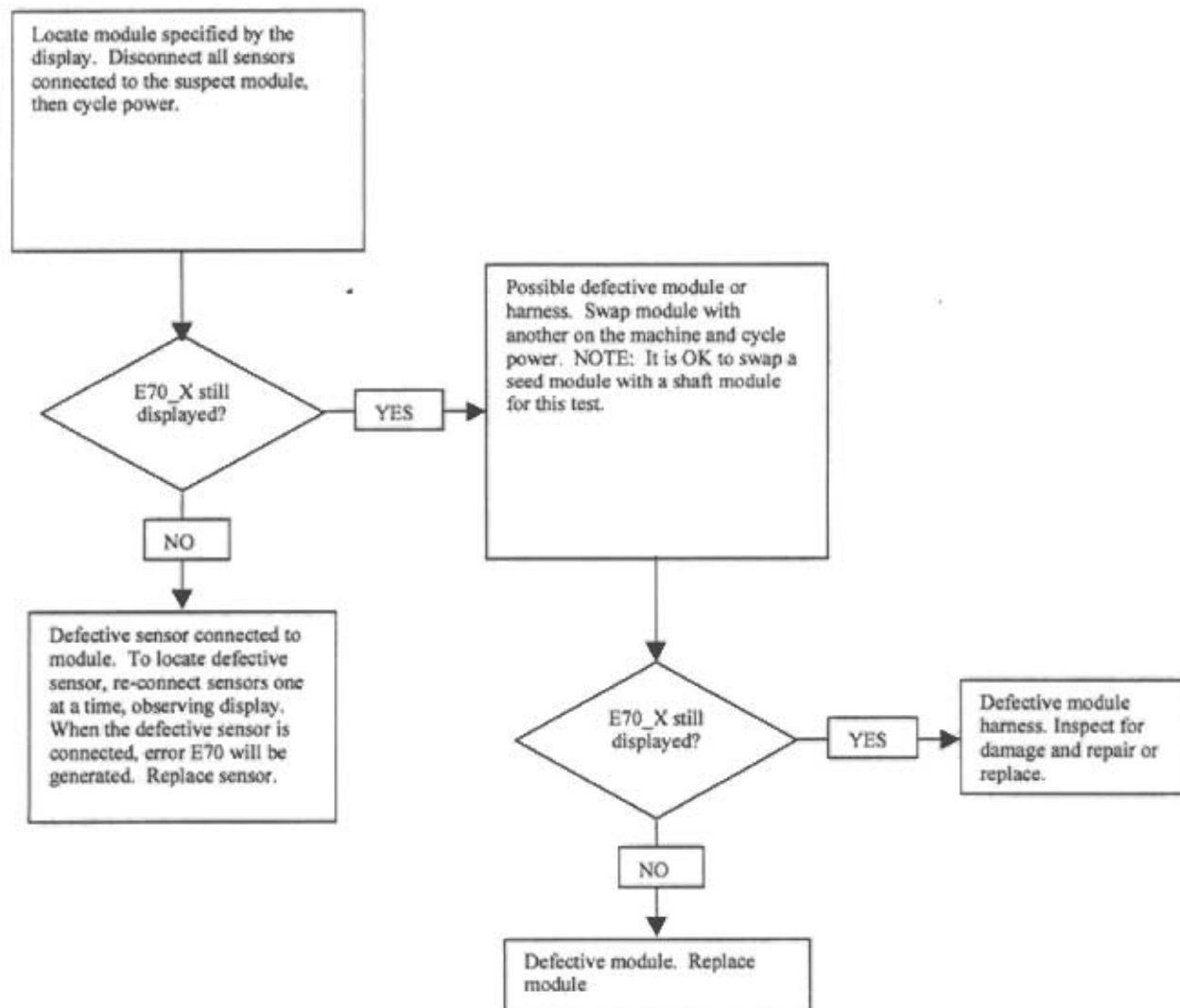
ERROR CODE E51: TOO MANY PRESSURE SENSORS CONNECTED

This error is generated whenever more pressure sensors are detected by the modules in the system than what the setup configuration specifies. This can be caused by an incorrect setup constant, defective module, or a defective module. The value associated with the error code represents the total number of pressure sensors detected by the modules in the system.



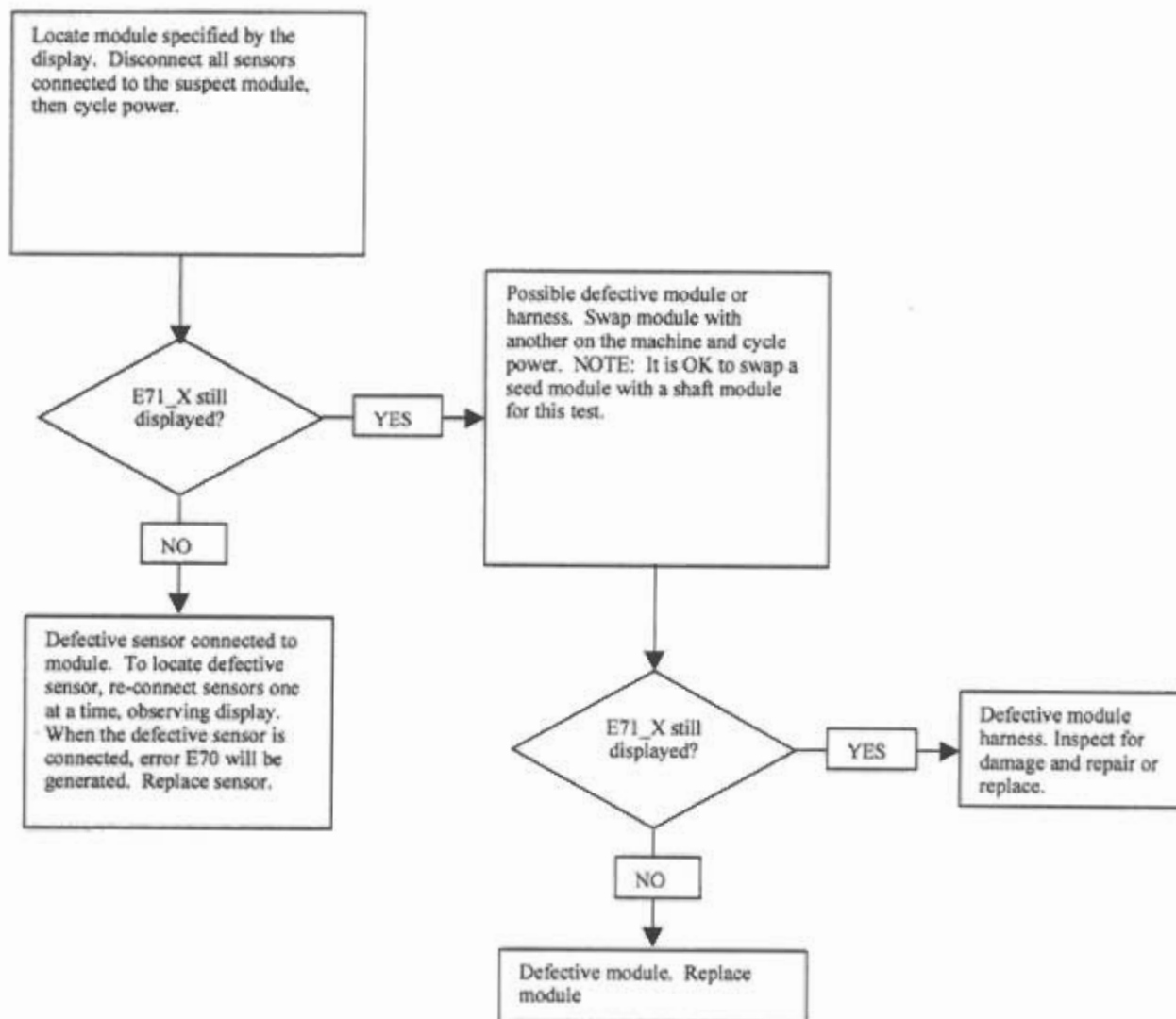
ERROR CODE E70_X: MODULE SENSOR SUPPLY (8 VOLTS) IS TOO LOW

This error is generated whenever a module senses that the 8 volt sensor supply (seed, hopper, pressure sensors) is below a preset threshold. Likely causes of this error are a damaged harness, defective module, or defective sensor. The 'X' represents the number of the module where the failed condition was detected.



ERROR CODE E71_X: MODULE SENSOR SUPPLY (8 VOLTS) IS TOO HIGH

This error is generated whenever a module senses that the 8 volt sensor supply (seed, hopper, pressure sensors) is greater than a preset threshold. Likely causes of this error are a damaged harness, defective module, or defective sensor. The 'X' represents the number of the module where the failed condition was detected.

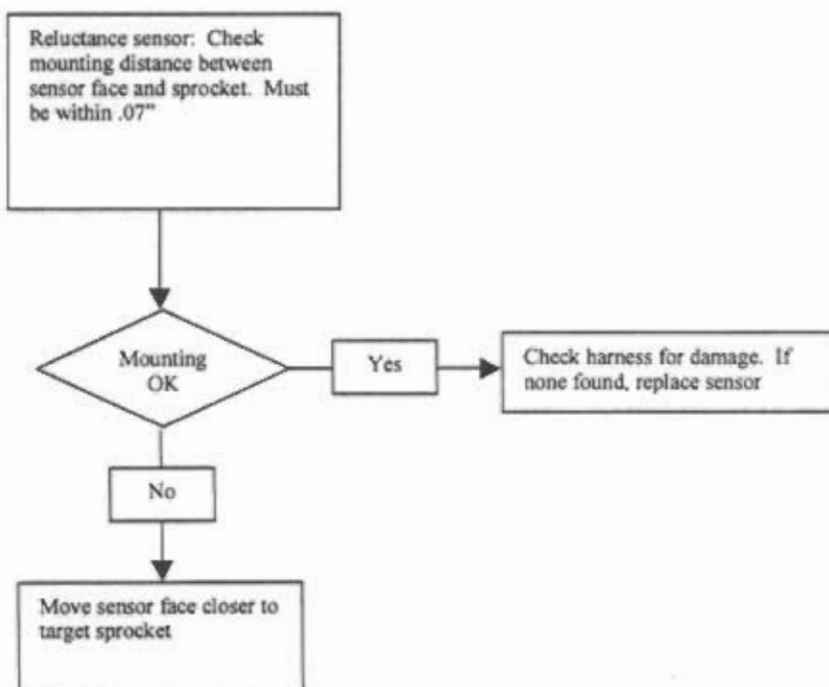
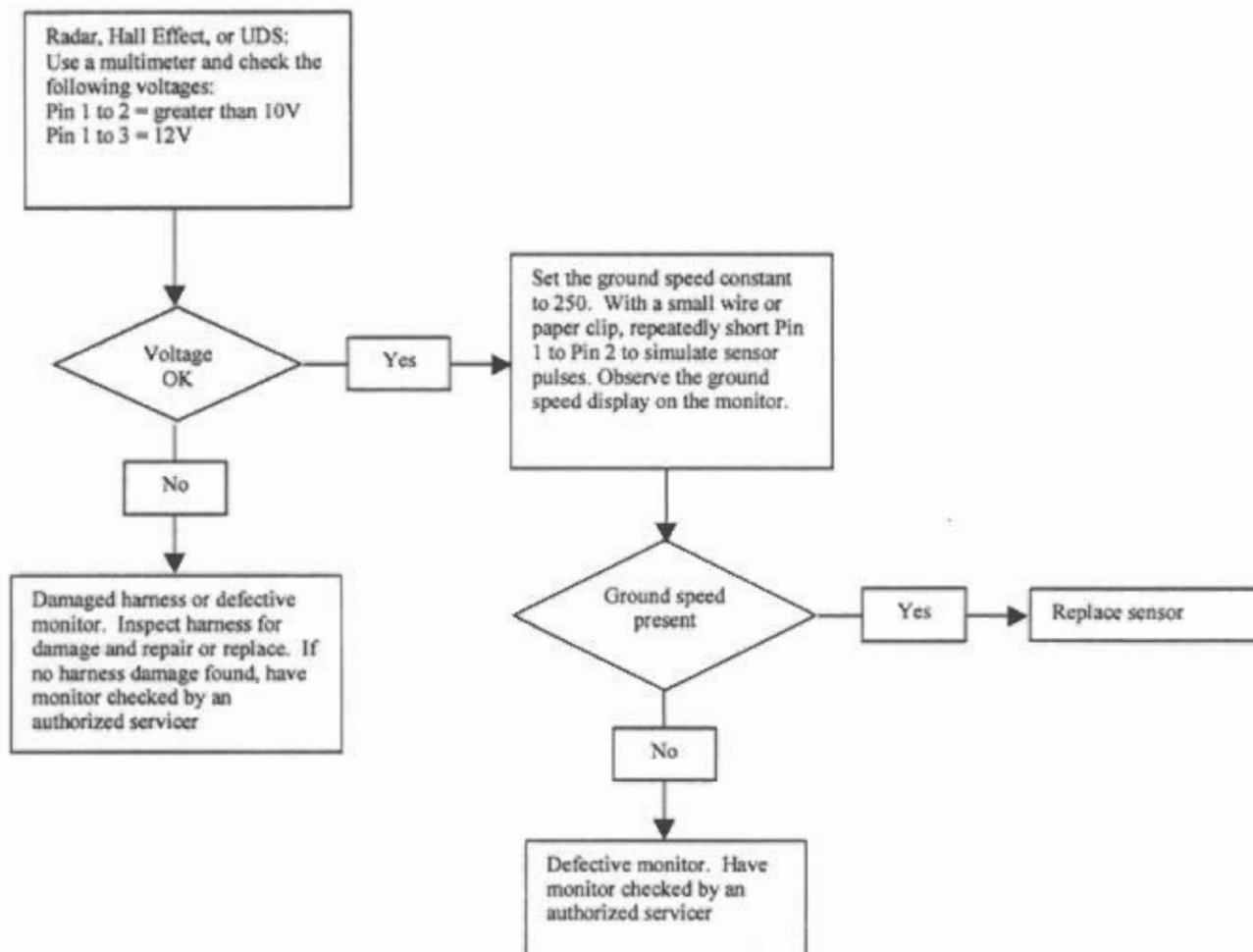


ERROR CODE E98: INTERNAL CONSOLE ERROR

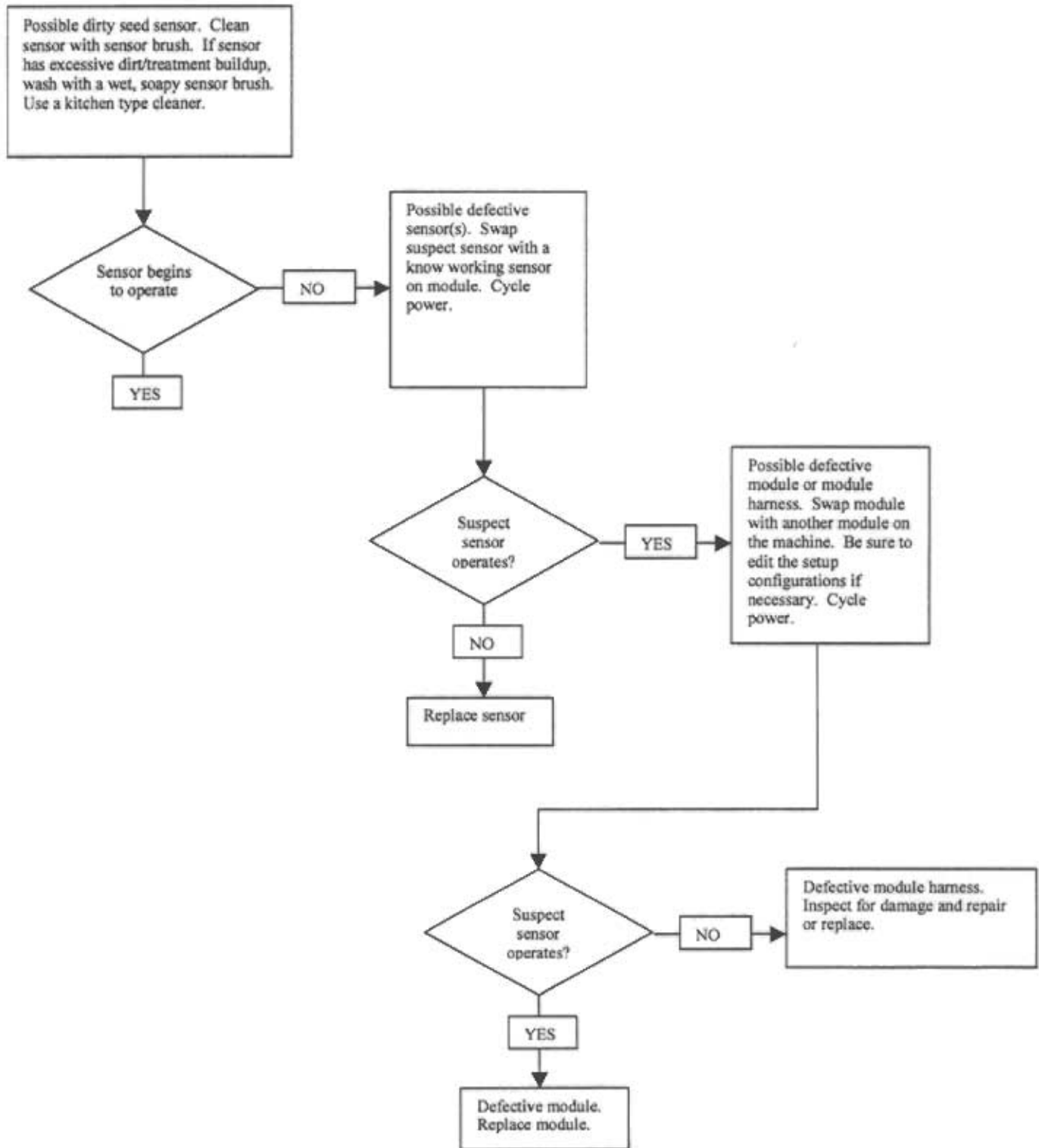
ERROR CODE E99: INTERNAL CONSOLE ERROR

These error codes are generated whenever the monitor has experienced an internal error. There is no troubleshooting for these errors. If these errors occur, contact DICKEY-john Technical Support for further assistance.

GROUND SPEED SENSOR FAILS WHILE PLANTING:

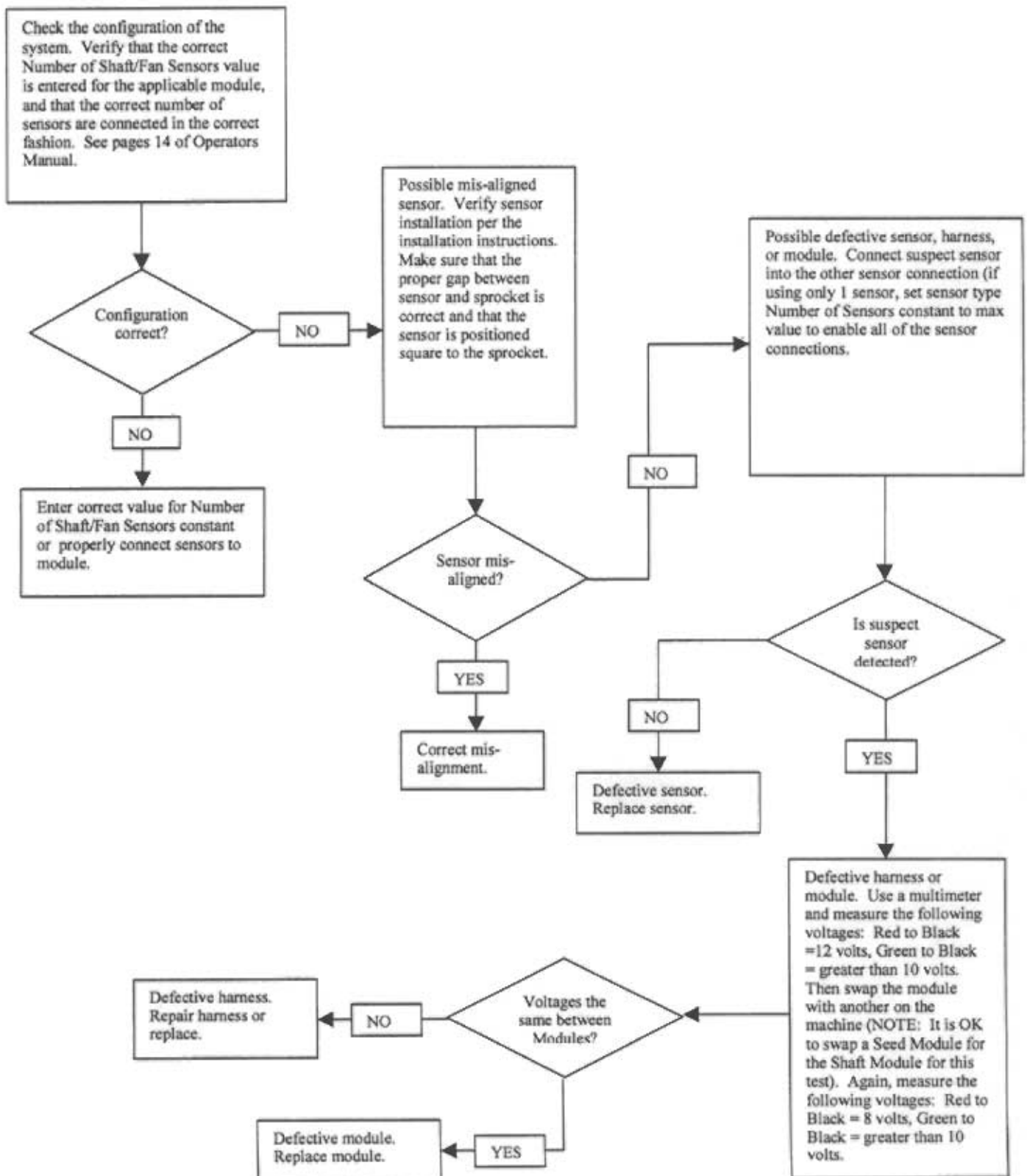


SEED SENSOR FAILS WHILE PLANTING

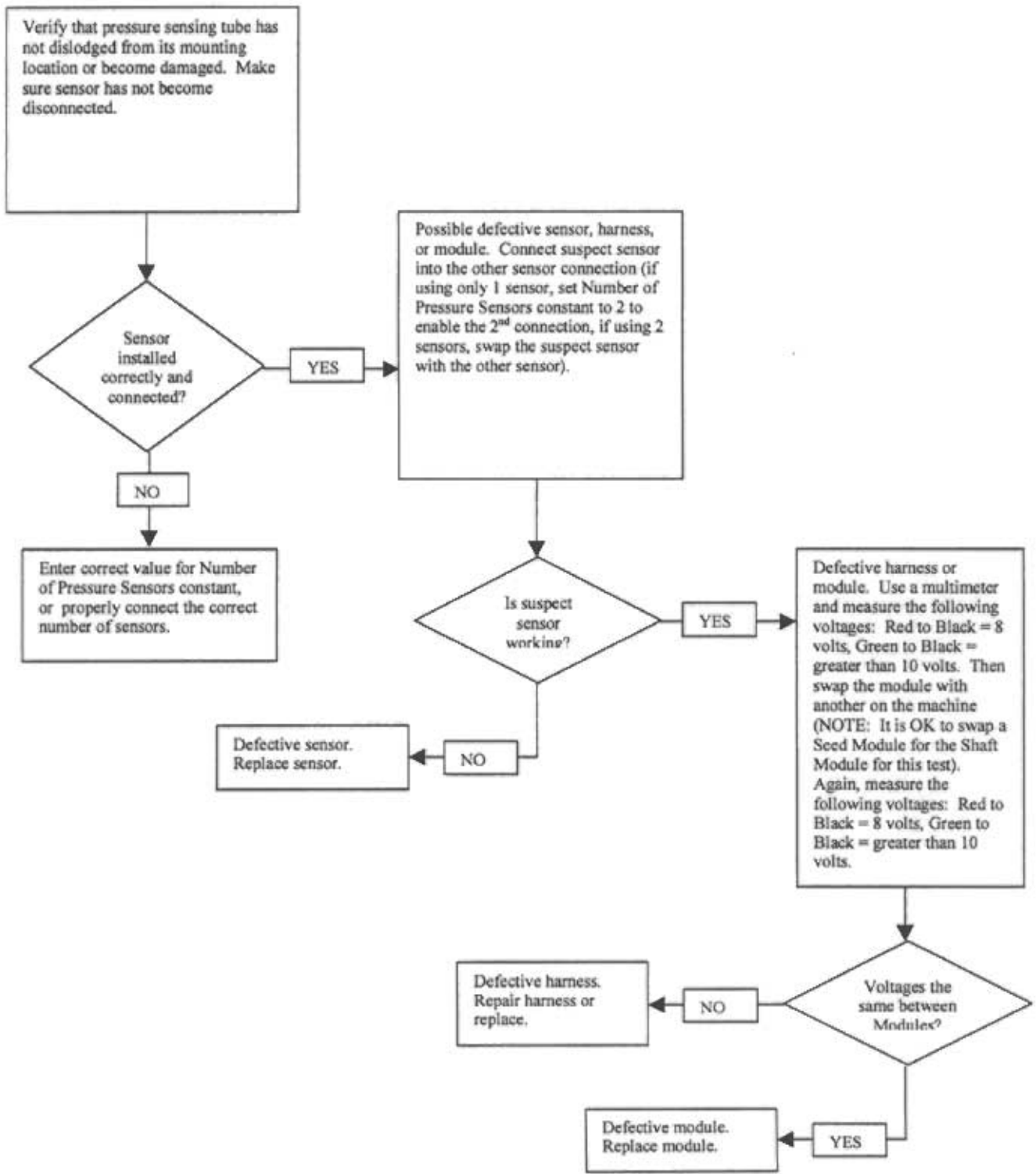


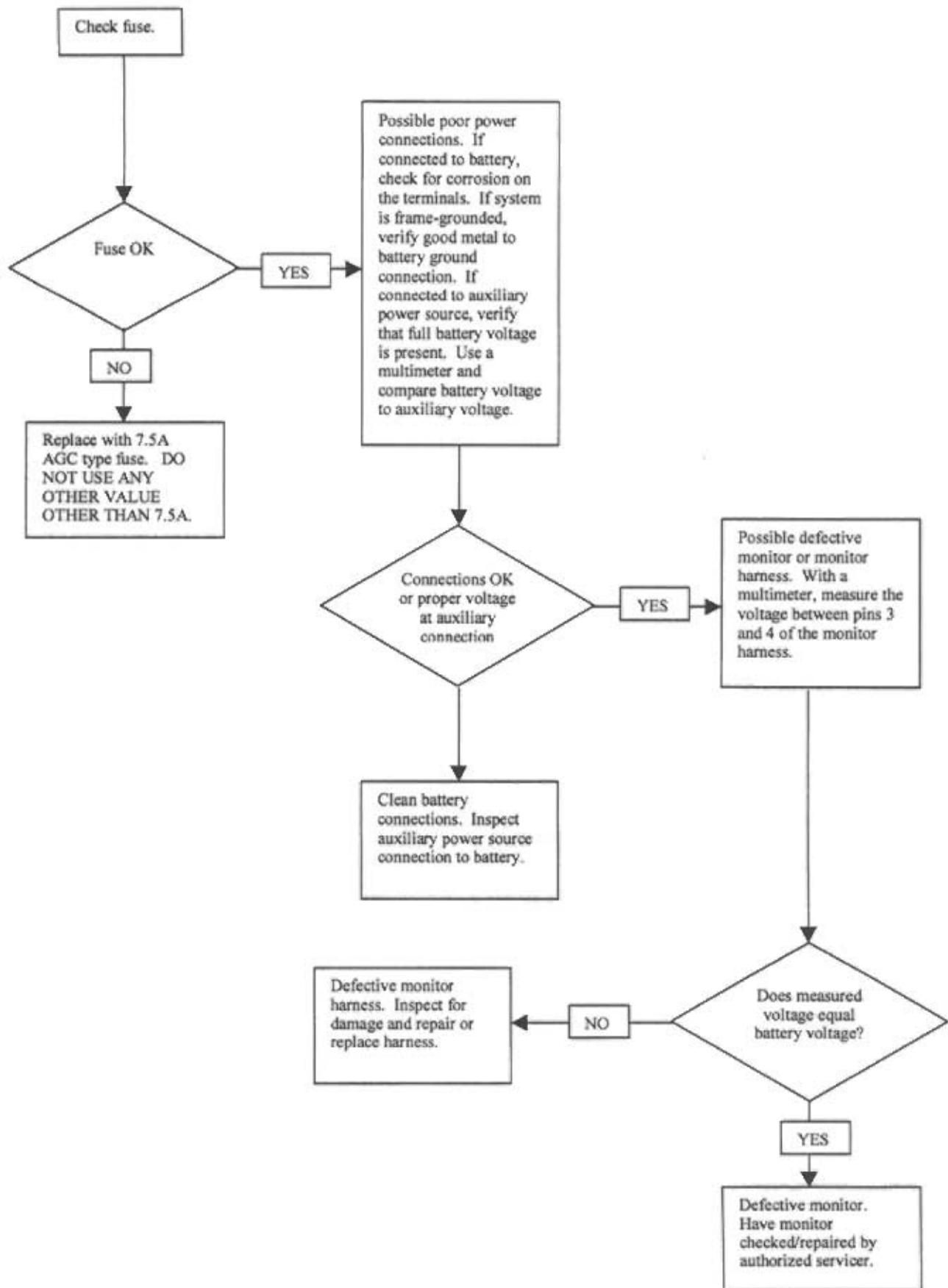
SHAFT/FAN SENSOR FAILS WHILE PLANTING

The Shaft/Fan sensor failures can be caused by incorrect Number of Shaft-Number of Fan Sensors constant, defective/missing sensors, defective module harness, or defective Shaft Module. The Shaft/Fan sensor failure has no associated error code.



PRESSURE SENSOR FAILS WHILE PLANTING:



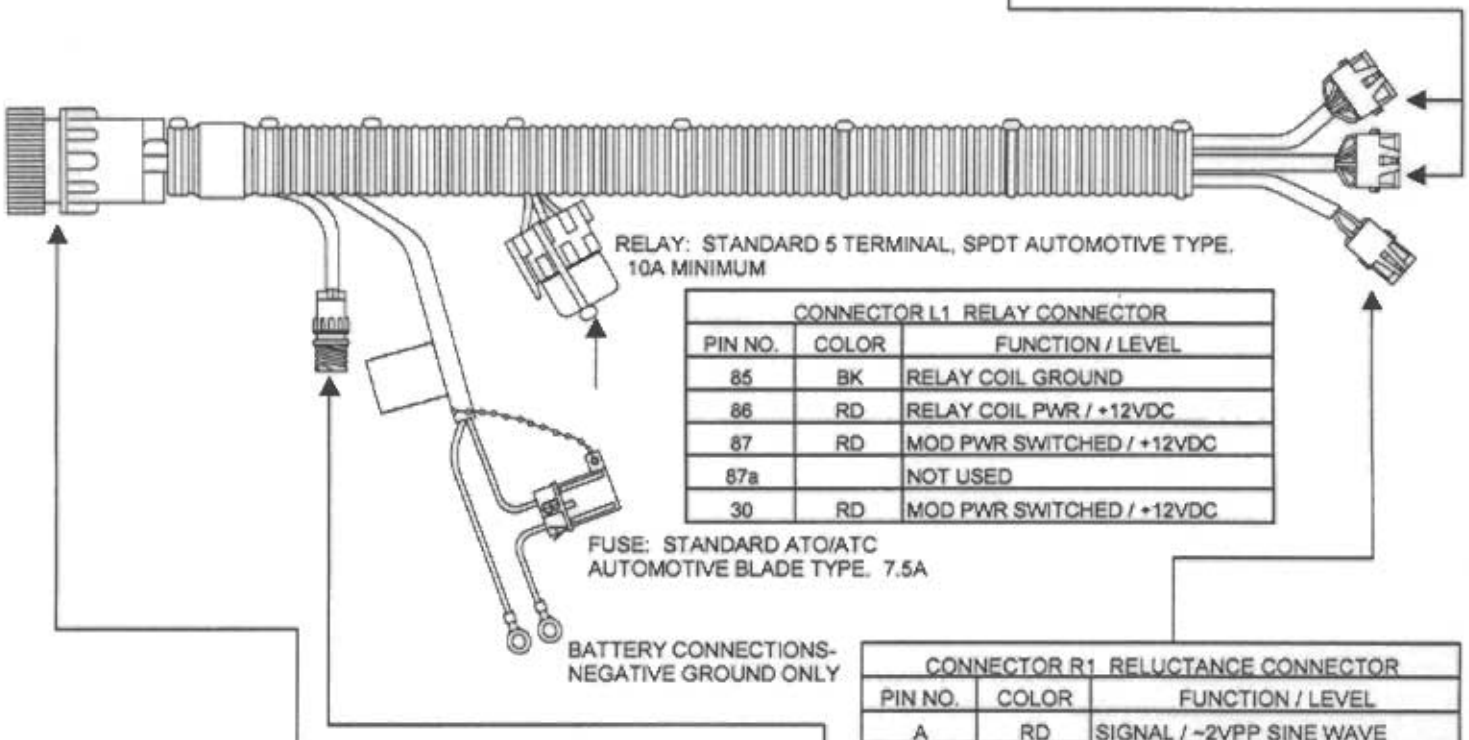


MONITOR CAB HARNESS PIN OUT

46682-0133

46682-0134

CONNECTOR P1/P2 MODULE BUS CONNECTOR(S)		
PIN NO.	COLOR	FUNCTION / LEVEL
A	GN	MOD BUS COMMUNICATIONS / SERIAL
B	WH	MOD BUS COMMUNICATIONS / SERIAL
C	OR	PROGRAM / ~+1 TO +5VDC
D	N/A	NOT USED
E	RD	MOD PWR SWITCHED / +12VDC
F	BK	GND



RELAY: STANDARD 5 TERMINAL, SPDT AUTOMOTIVE TYPE, 10A MINIMUM

CONNECTOR L1 RELAY CONNECTOR		
PIN NO.	COLOR	FUNCTION / LEVEL
85	BK	RELAY COIL GROUND
86	RD	RELAY COIL PWR / +12VDC
87	RD	MOD PWR SWITCHED / +12VDC
87a		NOT USED
30	RD	MOD PWR SWITCHED / +12VDC

FUSE: STANDARD ATO/ATC AUTOMOTIVE BLADE TYPE. 7.5A

BATTERY CONNECTIONS-NEGATIVE GROUND ONLY

CONNECTOR R1 RELUCTANCE CONNECTOR		
PIN NO.	COLOR	FUNCTION / LEVEL
A	RD	SIGNAL / ~2VPP SINE WAVE
B	BK	SIGNAL / ~2VPP SINE WAVE

CONNECTOR J1 MONITOR CONNECTOR			
PIN NO.	COLOR	FUNCTION	TO/FROM
1	RD	RELAY +12VDC	TO L1 PIN 86
2	BK	RELAY GND	TO L1 PIN 85
3	RD	MONITOR +12VDC	FROM BATTERY
4	BK	MONITOR GND	FROM BATTERY
A	GN	MOD COMMUNICATIONS	TO P1/P2 PIN A
B	WH	MOD COMMUNICATIONS	TO P1/P2 PIN B
aa	OR	PROG OUT P1	TO P1 PIN C
bb	OR	PROG OUT P2	TO P2 PIN C
cc	BK	REL SIG	TO R1 PIN B
gg	RD	REL SIG	TO R1 PIN A
ff	GN	RADAR SIG	TO D1 PIN 2
V	RD	RADAR +12VDC	TO D1 PIN 3
W	BK	RADAR GND	TO D1 PIN 1

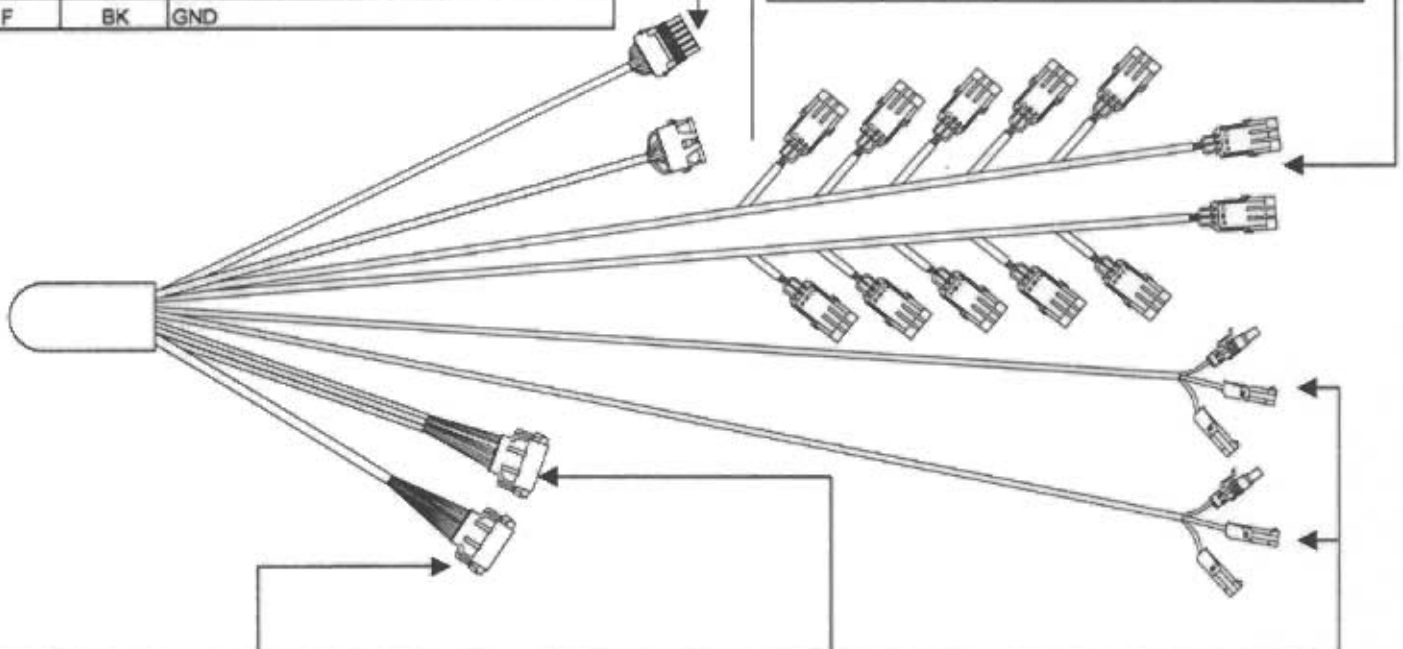
CONNECTOR D1 RADAR CONNECTOR		
PIN NO.	COLOR	FUNCTION / LEVEL
1	BK	GND
2	GN	SIGNAL / +12VDC SQUARE WAVE
3	RD	PWR / +12VDC

**MODULE HARNESS 12R W/ HOPPER
46775-130X ALL LENGTHS**

CONNECTOR P OUT MODULE BUS CONNECTOR		
PIN NO.	COLOR	FUNCTION / LEVEL
A	GN	MOD 485 COM / SERIAL
B	WH	MOD 485 COM / SERIAL
C	OR	PROGRAM OUT/ →1 TO +5VDC
D	N/A	NOT USED
E	RD	MOD PWR SWITCHED / +12VDC
F	BK	GND

CONNECTOR P IN MODULE BUS CONNECTOR		
PIN NO.	COLOR	FUNCTION / LEVEL
A	GN	MOD 485 COM / SERIAL
B	WH	MOD 485 COM / SERIAL
C	OR	PROGRAM IN/ →1 TO +5VDC
D	N/A	NOT USED
E	RD	MOD PWR SWITCHED / +12VDC
F	BK	GND

CONNECTOR S SEED SENSOR CONNECTORS		
PIN NO.	COLOR	FUNCTION / LEVEL
A	GN	SIGNAL / - 0 TO +12VDC PULSE
B	BK	GND
C	RD	PWR / +8VDC



CONNECTOR MOD A MODULE CONNECTOR (GREY)			
PIN NO.	COLOR	FUNCTION	TO/FROM
1	GN	SEED SENSOR 1	FROM S ROW 1 PIN A
2	BN	SEED SENSOR 2	FROM S ROW 2 PIN A
3	BL	SEED SENSOR 3	FROM S ROW 3 PIN A
4	OR	SEED SENSOR 4	FROM S ROW 4 PIN A
5	YL	SEED SENSOR 5	FROM S ROW 5 PIN A
6	VI	SEED SENSOR 6	FROM S ROW 6 PIN A
7	GY	SEED SENSOR 7	FROM S ROW 7 PIN A
8	PK	SEED SENSOR 8	FROM S ROW 8 PIN A
9	TN	SEED SENSOR 9	FROM S ROW 9 PIN A
10	WHBK	SEED SENSOR 10	FROM S ROW 10 PIN A
11	RDBK	SEED SENSOR 11	FROM S ROW 11 PIN A
12	GNBK	SEED SENSOR 12	FROM S ROW 12 PIN A

CONNECTOR MOD B MODULE CONNECTOR (BLACK)			
PIN NO.	COLOR	FUNCTION	TO/FROM
1	OR	PROGRAM IN	FROM P IN PIN C
2	WH	PROGRAM OUT	FROM P OUT PIN C
3	GN	MOD 485 COM	FROM P IN-OUT PIN A
4	WH	MOD 485 COM	FROM P-OUT PIN B
5	GN	HOPPER SENS 1	FROM H SENS 1 GN WIRE
6	BN	HOPPER SENS 2	FROM H SENS 2 GN WIRE
7		NOT USED	
8		NOT USED	
9	RD	SENSOR PWR	TO S PIN C, & RD ALL SENSORS
10	BK	SENSOR GND	TO S PIN B, & BK ALL SENSORS
11	RD	MOD PWR SWITCHED	FROM P IN-OUT PIN E
12	BK	MOD GND	FROM P IN-OUT PIN F

NOTE:
ALL POSITIONS IN CONNECTORS MOD A AND MOD B MUST BE FILLED WITH WIRES OR WITH CAVITY PLUGS.

CONNECTOR H HOPPER SENSORS 1 - 2 CONNECTORS	
COLOR	FUNCTION / LEVEL
BK	GND
GN	SIGNAL / - 0 TO +12VDC PULSE
RD	PWR / +8VDC

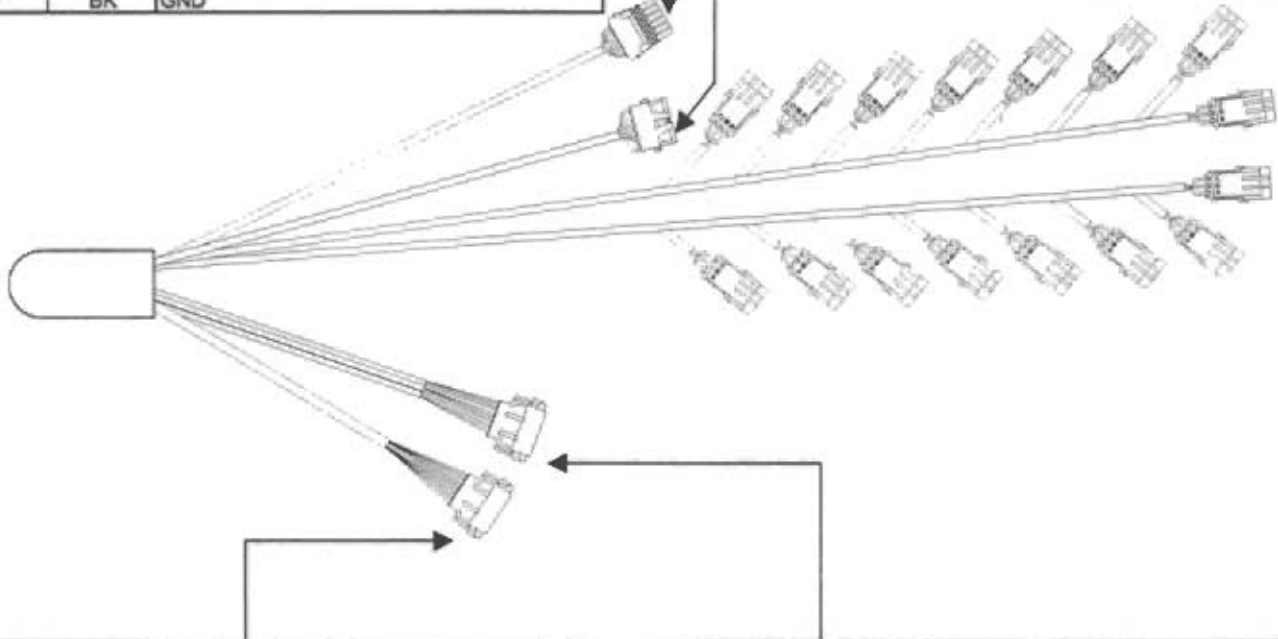
MODULE HARNESS 16R W/OUT HOPPER

46775-131X ALL LENGTHS
 46775-140X ALL LENGTHS
 46775-141X ALL LENGTHS
 46775-142X ALL LENGTHS
 46775-143X ALL LENGTHS
 46775-144X ALL LENGTHS
 46775-145X ALL LENGTHS
 46775-147X ALL LENGTHS

CONNECTOR P OUT MODULE BUS CONNECTOR		
PIN NO.	COLOR	FUNCTION / LEVEL
A	GN	MOD 485 COM / SERIAL
B	WH	MOD 485 COM / SERIAL
C	OR	PROGRAM OUT/ →1 TO +5VDC
D	N/A	NOT USED
E	RD	MOD PWR SWITCHED / +12VDC
F	BK	GND

CONNECTOR P IN MODULE BUS CONNECTOR		
PIN NO.	COLOR	FUNCTION / LEVEL
A	GN	MOD 485 COM / SERIAL
B	WH	MOD 485 COM / SERIAL
C	OR	PROGRAM IN/ →1 TO +5VDC
D	N/A	NOT USED
E	RD	MOD PWR SWITCHED / +12VDC
F	BK	GND

CONNECTOR S SEED SENSOR CONNECTORS		
PIN NO.	COLOR	FUNCTION / LEVEL
A	GN	SIGNAL / ~ 0 TO +12VDC PULSE
B	BK	GND
C	RD	PWR / +8VDC



CONNECTOR MOD A MODULE CONNECTOR (GREY)			
PIN NO.	COLOR	FUNCTION	TO/FROM
1	GN	SEED SENSOR 1	FROM S ROW 1 PIN A
2	BN	SEED SENSOR 2	FROM S ROW 2 PIN A
3	BL	SEED SENSOR 3	FROM S ROW 3 PIN A
4	OR	SEED SENSOR 4	FROM S ROW 4 PIN A
5	YL	SEED SENSOR 5	FROM S ROW 5 PIN A
6	VI	SEED SENSOR 6	FROM S ROW 6 PIN A
7	GY	SEED SENSOR 7	FROM S ROW 7 PIN A
8	PK	SEED SENSOR 8	FROM S ROW 8 PIN A
9	TN	SEED SENSOR 9	FROM S ROW 9 PIN A
10	WHBK	SEED SENSOR 10	FROM S ROW 10 PIN A
11	RDBK	SEED SENSOR 11	FROM S ROW 11 PIN A
12	GNBK	SEED SENSOR 12	FROM S ROW 12 PIN A

CONNECTOR MOD B MODULE CONNECTOR (BLACK)			
PIN NO.	COLOR	FUNCTION	TO/FROM
1	OR	PROGRAM IN	FROM P IN PIN C
2	WH	PROGRAM OUT	FROM P OUT PIN C
3	GN	MOD 485 COM	FROM P IN-OUT PIN A
4	WH	MOD 485 COM	FROM P-OUT PIN B
5	GN	SEED SENSOR 13	FROM S ROW 13 PIN A
6	BN	SEED SENSOR 14	FROM S ROW 14 PIN A
7	BL	SEED SENSOR 15	FROM S ROW 15 PIN A
8	OR	SEED SENSOR 16	FROM S ROW 16 PIN A
9	RD	SENSOR PWR	TO S PIN C ALL SENSORS
10	BK	SENSOR GND	TO S PIN B ALL SENSORS
11	RD	MOD PWR SWITCHED	FROM P IN-OUT PIN E
12	BK	MOD GND	FROM P IN-OUT PIN F

NOTE:

ALL POSITIONS IN CONNECTORS MOD A AND MOD B MUST BE FILLED WITH WIRES OR WITH CAVITY PLUGS.