

Diagnostic Codes For The AccuGrade Laser System

Display (CB), Electric Mast (EM), Laser Receiver (LR), Valve Module (VM)

Diagnostic Code	Description
CB 1	Display Fault Messages
CB 2	Set Level Fault
CB 3	No Data
CB 4	Calibration Failure
CB 5	Out of Range
CB 6	Speed Sensor (Right Track)
CB 7	Speed Sensor (Left Track)
CB 8	Wheel Slacks Motor
CB 9	Tractor Failure
CB 10	Calibration Failure
CB 11	Low Voltage
CB 12	Low Voltage
CB 13	Calibration Error - Receiver
CB 14	Memory Error - Receiver
CB 15	Memory Error - Factory Default
CB 16	Memory Error - Receiver
CB 17	Internal Failure - Cycle Power
CB 18	Network Error - Check
CB 19	Network Error - Check
CB 20	Unknown Device - Cycle Power
CB 21	Unknown Device - Cycle Power
CB 22	Unknown Device - Cycle Power
CB 23	Unknown Device - Cycle Power
CB 24	Unknown Device - Cycle Power
CB 25	Unknown Device - Cycle Power
CB 26	Unknown Device - Cycle Power
CB 27	Unknown Device - Cycle Power
CB 28	Unknown Device - Cycle Power
CB 29	Unknown Device - Cycle Power
CB 30	Unknown Device - Cycle Power
CB 31	Unknown Device - Cycle Power
CB 32	Unknown Device - Cycle Power
CB 33	Unknown Device - Cycle Power
CB 34	Unknown Device - Cycle Power
CB 35	Unknown Device - Cycle Power
CB 36	Unknown Device - Cycle Power
CB 37	Unknown Device - Cycle Power
CB 38	Unknown Device - Cycle Power
CB 39	Unknown Device - Cycle Power
CB 40	Unknown Device - Cycle Power
CB 41	Unknown Device - Cycle Power
CB 42	Unknown Device - Cycle Power
CB 43	Unknown Device - Cycle Power
CB 44	Unknown Device - Cycle Power
CB 45	Unknown Device - Cycle Power
CB 46	Unknown Device - Cycle Power
CB 47	Unknown Device - Cycle Power
CB 48	Unknown Device - Cycle Power
CB 49	Unknown Device - Cycle Power
CB 50	Unknown Device - Cycle Power

Electric Mast Fault Messages

EM 1	PCB Fault
EM 2	Left Side Fan
EM 3	Left Side Fan
EM 4	Left Side Fan
EM 5	Left Side Fan
EM 6	Left Side Fan
EM 7	Left Side Fan
EM 8	Left Side Fan
EM 9	Left Side Fan
EM 10	Left Side Fan
EM 11	Left Side Fan
EM 12	Left Side Fan
EM 13	Left Side Fan
EM 14	Left Side Fan
EM 15	Left Side Fan
EM 16	Left Side Fan
EM 17	Left Side Fan
EM 18	Left Side Fan
EM 19	Left Side Fan
EM 20	Left Side Fan
EM 21	Left Side Fan
EM 22	Left Side Fan
EM 23	Left Side Fan
EM 24	Left Side Fan
EM 25	Left Side Fan
EM 26	Left Side Fan
EM 27	Left Side Fan
EM 28	Left Side Fan
EM 29	Left Side Fan
EM 30	Left Side Fan
EM 31	Left Side Fan
EM 32	Left Side Fan
EM 33	Left Side Fan
EM 34	Left Side Fan
EM 35	Left Side Fan
EM 36	Left Side Fan
EM 37	Left Side Fan
EM 38	Left Side Fan
EM 39	Left Side Fan
EM 40	Left Side Fan
EM 41	Left Side Fan
EM 42	Left Side Fan
EM 43	Left Side Fan
EM 44	Left Side Fan
EM 45	Left Side Fan
EM 46	Left Side Fan
EM 47	Left Side Fan
EM 48	Left Side Fan
EM 49	Left Side Fan
EM 50	Left Side Fan

Laser Receiver Fault Messages

LR 20	Check Connection
LR 21	Check Connection
LR 22	Check Connection
LR 23	Check Connection
LR 24	Check Connection
LR 25	Check Connection
LR 26	Check Connection
LR 27	Check Connection
LR 28	Check Connection
LR 29	Check Connection
LR 30	Check Connection
LR 31	Check Connection
LR 32	Check Connection
LR 33	Check Connection
LR 34	Check Connection
LR 35	Check Connection
LR 36	Check Connection
LR 37	Check Connection
LR 38	Check Connection
LR 39	Check Connection
LR 40	Check Connection
LR 41	Check Connection
LR 42	Check Connection
LR 43	Check Connection
LR 44	Check Connection
LR 45	Check Connection
LR 46	Check Connection
LR 47	Check Connection
LR 48	Check Connection
LR 49	Check Connection
LR 50	Check Connection

Valve Module Fault Messages

VM 1	Memory Error - Receiver
VM 2	Memory Error - Receiver
VM 3	Memory Error - Receiver
VM 4	Memory Error - Receiver
VM 5	Memory Error - Receiver
VM 6	Memory Error - Receiver
VM 7	Memory Error - Receiver
VM 8	Memory Error - Receiver
VM 9	Memory Error - Receiver
VM 10	Memory Error - Receiver
VM 11	Memory Error - Receiver
VM 12	Memory Error - Receiver
VM 13	Memory Error - Receiver
VM 14	Memory Error - Receiver
VM 15	Memory Error - Receiver
VM 16	Memory Error - Receiver
VM 17	Memory Error - Receiver
VM 18	Memory Error - Receiver
VM 19	Memory Error - Receiver
VM 20	Memory Error - Receiver
VM 21	Memory Error - Receiver
VM 22	Memory Error - Receiver
VM 23	Memory Error - Receiver
VM 24	Memory Error - Receiver
VM 25	Memory Error - Receiver
VM 26	Memory Error - Receiver
VM 27	Memory Error - Receiver
VM 28	Memory Error - Receiver
VM 29	Memory Error - Receiver
VM 30	Memory Error - Receiver
VM 31	Memory Error - Receiver
VM 32	Memory Error - Receiver
VM 33	Memory Error - Receiver
VM 34	Memory Error - Receiver
VM 35	Memory Error - Receiver
VM 36	Memory Error - Receiver
VM 37	Memory Error - Receiver
VM 38	Memory Error - Receiver
VM 39	Memory Error - Receiver
VM 40	Memory Error - Receiver

Component Identifiers (CID)

CID	Component
0017	Speed Sensor (Right Drive Motor)
0018	Speed Sensor (Left Drive Motor)
0019	Speed Sensor (Right Drive Motor)
0020	Speed Sensor (Left Drive Motor)
0021	Speed Sensor (Right Drive Motor)
0022	Speed Sensor (Left Drive Motor)
0023	Speed Sensor (Right Drive Motor)
0024	Speed Sensor (Left Drive Motor)
0025	Speed Sensor (Right Drive Motor)
0026	Speed Sensor (Left Drive Motor)
0027	Speed Sensor (Right Drive Motor)
0028	Speed Sensor (Left Drive Motor)
0029	Speed Sensor (Right Drive Motor)
0030	Speed Sensor (Left Drive Motor)
0031	Speed Sensor (Right Drive Motor)
0032	Speed Sensor (Left Drive Motor)
0033	Speed Sensor (Right Drive Motor)
0034	Speed Sensor (Left Drive Motor)
0035	Speed Sensor (Right Drive Motor)
0036	Speed Sensor (Left Drive Motor)
0037	Speed Sensor (Right Drive Motor)
0038	Speed Sensor (Left Drive Motor)
0039	Speed Sensor (Right Drive Motor)
0040	Speed Sensor (Left Drive Motor)
0041	Speed Sensor (Right Drive Motor)
0042	Speed Sensor (Left Drive Motor)
0043	Speed Sensor (Right Drive Motor)
0044	Speed Sensor (Left Drive Motor)
0045	Speed Sensor (Right Drive Motor)
0046	Speed Sensor (Left Drive Motor)
0047	Speed Sensor (Right Drive Motor)
0048	Speed Sensor (Left Drive Motor)
0049	Speed Sensor (Right Drive Motor)
0050	Speed Sensor (Left Drive Motor)
0051	Speed Sensor (Right Drive Motor)
0052	Speed Sensor (Left Drive Motor)
0053	Speed Sensor (Right Drive Motor)
0054	Speed Sensor (Left Drive Motor)
0055	Speed Sensor (Right Drive Motor)
0056	Speed Sensor (Left Drive Motor)
0057	Speed Sensor (Right Drive Motor)
0058	Speed Sensor (Left Drive Motor)
0059	Speed Sensor (Right Drive Motor)
0060	Speed Sensor (Left Drive Motor)
0061	Speed Sensor (Right Drive Motor)
0062	Speed Sensor (Left Drive Motor)
0063	Speed Sensor (Right Drive Motor)
0064	Speed Sensor (Left Drive Motor)
0065	Speed Sensor (Right Drive Motor)
0066	Speed Sensor (Left Drive Motor)
0067	Speed Sensor (Right Drive Motor)
0068	Speed Sensor (Left Drive Motor)
0069	Speed Sensor (Right Drive Motor)
0070	Speed Sensor (Left Drive Motor)
0071	Speed Sensor (Right Drive Motor)
0072	Speed Sensor (Left Drive Motor)
0073	Speed Sensor (Right Drive Motor)
0074	Speed Sensor (Left Drive Motor)
0075	Speed Sensor (Right Drive Motor)
0076	Speed Sensor (Left Drive Motor)
0077	Speed Sensor (Right Drive Motor)
0078	Speed Sensor (Left Drive Motor)
0079	Speed Sensor (Right Drive Motor)
0080	Speed Sensor (Left Drive Motor)
0081	Speed Sensor (Right Drive Motor)
0082	Speed Sensor (Left Drive Motor)
0083	Speed Sensor (Right Drive Motor)
0084	Speed Sensor (Left Drive Motor)
0085	Speed Sensor (Right Drive Motor)
0086	Speed Sensor (Left Drive Motor)
0087	Speed Sensor (Right Drive Motor)
0088	Speed Sensor (Left Drive Motor)
0089	Speed Sensor (Right Drive Motor)
0090	Speed Sensor (Left Drive Motor)
0091	Speed Sensor (Right Drive Motor)
0092	Speed Sensor (Left Drive Motor)
0093	Speed Sensor (Right Drive Motor)
0094	Speed Sensor (Left Drive Motor)
0095	Speed Sensor (Right Drive Motor)
0096	Speed Sensor (Left Drive Motor)
0097	Speed Sensor (Right Drive Motor)
0098	Speed Sensor (Left Drive Motor)
0099	Speed Sensor (Right Drive Motor)
0100	Speed Sensor (Left Drive Motor)

Failure Mode Identifiers (FMI)

FMI No.	Failure Description
0	Data valid but above normal operational range
1	Data valid but below normal operational range
2	Data erratic, intermittent, or impossible
3	Voltage above normal or not valid
4	Voltage below normal or not valid
5	Current below normal or open circuit
6	Current above normal or shorted circuit
7	Mechanical system not responding properly
8	Abnormal response, false switch, or sensor
9	Abnormal output
10	Abnormal rate of change
11	Failure mode not identifiable
12	Bad device or component
13	Out of calibration
14	Parameter failures
15	Parameter failures
16	Parameter not available
17	Parameter not available
18	Parameter not available
19	Parameter not available
20	Parameter failures
21	Parameter failures
22	Parameter failures
23	Parameter failures
24	Parameter failures
25	Parameter failures
26	Parameter failures
27	Parameter failures
28	Parameter failures
29	Parameter failures
30	Parameter failures
31	Parameter failures
32	Parameter failures
33	Parameter failures
34	Parameter failures
35	Parameter failures
36	Parameter failures
37	Parameter failures
38	Parameter failures
39	Parameter failures
40	Parameter failures
41	Parameter failures
42	Parameter failures
43	Parameter failures
44	Parameter failures
45	Parameter failures
46	Parameter failures
47	Parameter failures
48	Parameter failures
49	Parameter failures
50	Parameter failures

Event Codes

Event Code	Location
E108	Service Brake Pedal Not Actuating Parking Brake
E109	Engine Overheated Condition
E110	Transmission Shift Condition
E402	Unspooled Left Track Forward Movement Detected
E403	Unspooled Right Track Forward Movement Detected
E404	Unspooled Left Track Reverse Movement Detected
E405	Unspooled Right Track Reverse Movement Detected

Machine Control

Event Code	Location
E108	Service Brake Pedal Not Actuating Parking Brake
E109	Engine Overheated Condition
E110	Transmission Shift Condition
E402	Unspooled Left Track Forward Movement Detected
E403	Unspooled Right Track Forward Movement Detected
E404	Unspooled Left Track Reverse Movement Detected
E405	Unspooled Right Track Reverse Movement Detected

Wire Description

Wire Number	Wire Color	Description	Wire Number	Wire Color	Description
101	RED	Power Circuits	526	PK	Accessory Circuits (Continued)
102	BLU	Lighting (1) Fuse	527	WH	Washer - Left Door
103	YL	Lighting (2) Fuse	528	WH	Washer - Right Door
104	YL	Stop Air Relay	529	WH	AC Motor SW (Blower Speed SW)
105	RED	AC Power	530	WH	AC Motor SW (Blower Speed SW)
106	WH	Diode	531	WH	AC Motor SW (Blower Speed SW)
107	RED	AC Power	532	WH	AC Motor SW (Blower Speed SW)
108	RED	AC Power	533	WH	AC Motor SW (Blower Speed SW)
109	RED	AC Power	534	WH	AC Motor SW (Blower Speed SW)
110	RED	AC Power	535	WH	AC Motor SW (Blower Speed SW)
111	RED	AC Power	536	WH	AC Motor SW (Blower Speed SW)
112	RED	AC Power	537	WH	AC Motor SW (Blower Speed SW)
113	RED	AC Power	538	WH	AC Motor SW (Blower Speed SW)
114	RED	AC Power	539	WH	AC Motor SW (Blower Speed SW)
115	RED	AC Power	540	WH	AC Motor SW (Blower Speed SW)
116	RED	AC Power	541	WH	AC Motor SW (Blower Speed SW)
117	RED	AC Power	542	WH	AC Motor SW (Blower Speed SW)
118	RED	AC Power	543	WH	AC Motor SW (Blower Speed SW)
119	RED	AC Power	544	WH	AC Motor SW (Blower Speed SW)
120	RED	AC Power	545	WH	AC Motor SW (Blower Speed SW)
121	RED	AC Power	546	WH	AC Motor SW (Blower Speed SW)
122	RED	AC Power	547	WH	AC Motor SW (Blower Speed SW)
123	RED	AC Power	548	WH	AC Motor SW (Blower Speed SW)
124	RED	AC Power	549	WH	AC Motor SW (Blower Speed SW)
125	RED	AC Power	550	WH	AC Motor SW (Blower Speed SW)
126	RED	AC Power	551	WH	AC Motor SW (Blower Speed SW)
127	RED	AC Power	552	WH	AC Motor SW (Blower Speed SW)
128	RED	AC Power	553	WH	AC Motor SW (Blower Speed SW)
129	RED	AC Power	554	WH	AC Motor SW (Blower Speed SW)
130	RED	AC Power	555	WH	AC Motor SW (Blower Speed SW)
131	RED	AC Power	556	WH	AC Motor SW (Blower Speed SW)
132	RED	AC Power	557	WH	AC Motor SW (Blower Speed SW)
133	RED	AC Power	558	WH	AC Motor SW (Blower Speed SW)
134	RED	AC Power	559	WH	AC Motor SW (Blower Speed SW)
135	RED	AC Power	560	WH	AC Motor SW (Blower Speed SW)
136	RED	AC Power	561	WH	AC Motor SW (Blower Speed SW)
137	RED	AC Power	562	WH	AC Motor SW (Blower Speed SW)
138	RED	AC Power	563	WH	AC Motor SW (Blower Speed SW)
139	RED	AC Power	564	WH	AC Motor SW (Blower Speed SW)
140	RED	AC Power	565	WH	AC Motor SW (Blower Speed SW)
141	RED	AC Power	566	WH	AC Motor SW (Blower Speed SW)
142	RED	AC Power	567	WH	AC Motor SW (Blower Speed SW)
143	RED	AC Power	568	WH	AC Motor SW (Blower Speed SW)
144	RED	AC Power	569	WH	AC Motor SW (Blower Speed SW)
145	RED	AC Power	570	WH	AC Motor SW (Blower Speed SW)

Schematic

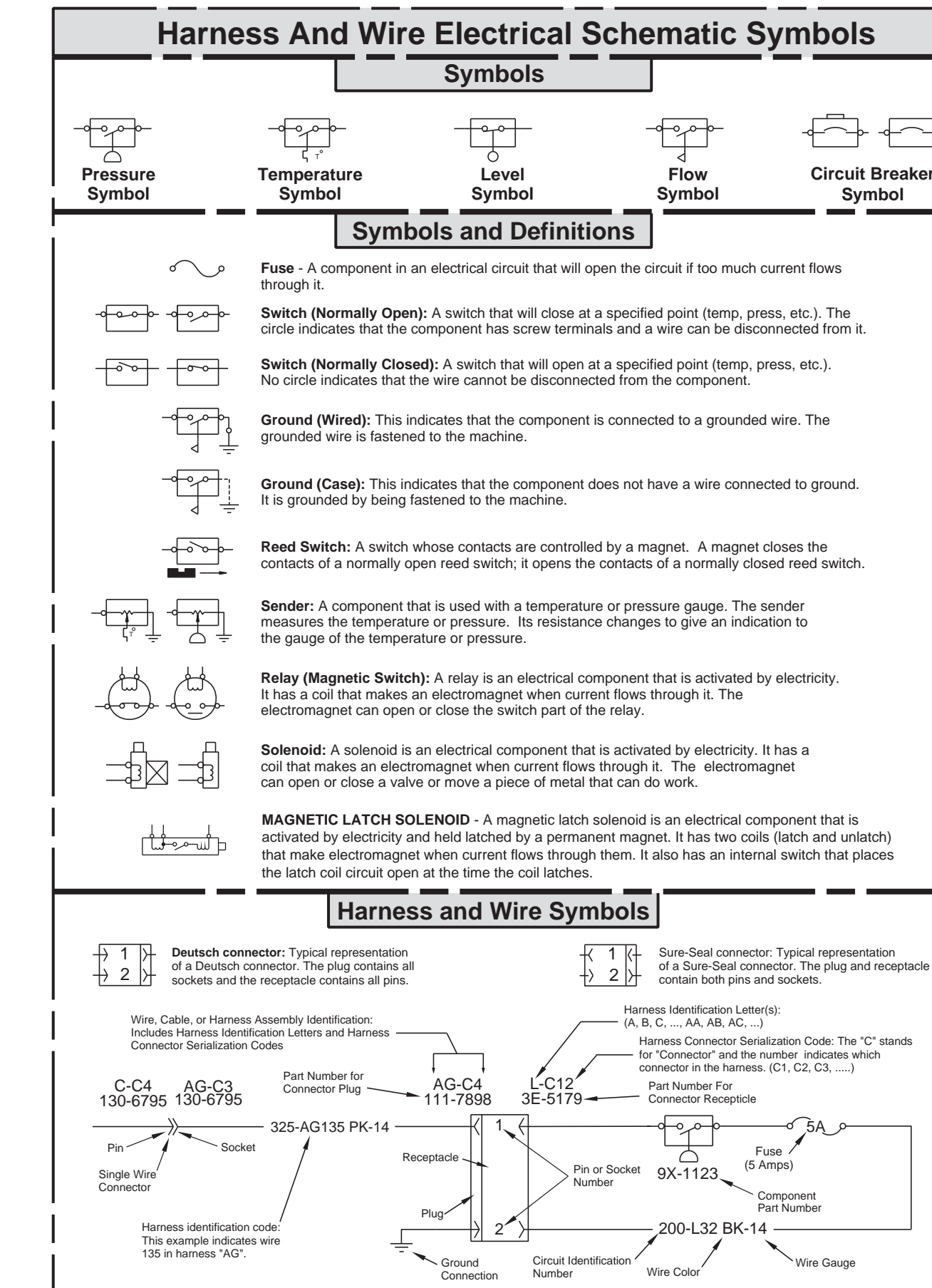
D3G, D4G and D5G HYSTAT Track-Type Tractors Electrical System

D3G: JM1H-UP
BY1R-UP
D4G: HY1D-UP
TLX1-UP
D5G: WGB1-UP
RKG1-UP

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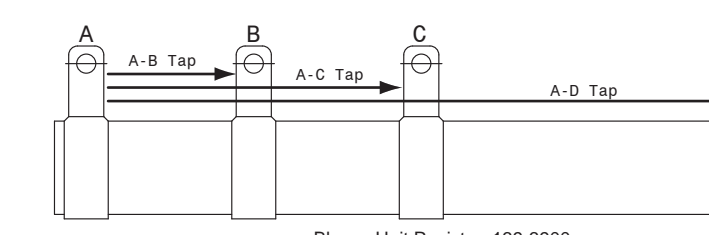
Component Identifiers (CID) Module Identifier (MID) Machine ECM (MID No. 079)

CID	Component
0012	Solenoid Valve (Fuel Shut-off)
0044	Solenoid Valve (Hydraulic)
0205	Solenoid Valve (Hydraulic)
0110	Temperature Sensor (Engine Coolant)
0103	Temperature Sensor (Engine Coolant)
0103	Temperature Sensor (Right Track)
0104	Temperature Sensor (Left Track)
0105	Temperature Sensor (Right Track)
0106	Temperature Sensor (Left Track)
0107	Temperature Sensor (Right Track)
0108	Temperature Sensor (Left Track)
0109	Temperature Sensor (Right Track)
0110	Temperature Sensor (Left Track)
0111	Temperature Sensor (Right Track)
0112	Temperature Sensor (Left Track)
0113	Temperature Sensor (Right Track)
0114	Temperature Sensor (Left Track)
0115	Temperature Sensor (Right Track)
0116	Temperature Sensor (Left Track)
0117	Temperature Sensor (Right Track)
0118	Temperature Sensor (Left Track)
0119	Temperature Sensor (Right Track)
0120	Temperature Sensor (Left Track)
0121	Temperature Sensor (Right Track)
0122	Temperature Sensor (Left Track)
0123	Temperature Sensor (Right Track)
0124	Temperature Sensor (Left Track)
0125	Temperature Sensor (Right Track)
0126	Temperature Sensor (Left Track)
0127	Temperature Sensor (Right Track)
0128	Temperature Sensor (Left Track)
0129	Temperature Sensor (Right Track)
0130	Temperature Sensor (Left Track)
0131	Temperature Sensor (Right Track)
0132	Temperature Sensor (Left Track)
0133	Temperature Sensor (Right Track)
0134	Temperature Sensor (Left Track)
0135	Temperature Sensor (Right Track)
0136	Temperature Sensor (Left Track)
0137	Temperature Sensor (Right Track)
0138	Temperature Sensor (Left Track)
0139	Temperature Sensor (Right Track)
0140	Temperature Sensor (Left Track)
0141	Temperature Sensor (Right Track)
0142	Temperature Sensor (Left Track)
0143	Temperature Sensor (Right Track)
0144	Temperature Sensor (Left Track)
0145	Temperature Sensor (Right Track)
0146	Temperature Sensor (Left Track)
0147	Temperature Sensor (Right Track)
0148	Temperature Sensor (Left Track)
0149	Temperature Sensor (Right Track)
0150	Temperature Sensor (Left Track)
0151	Temperature Sensor (Right Track)
0152	Temperature Sensor (Left Track)
0153	Temperature Sensor (Right Track)
0154	Temperature Sensor (Left Track)
0155	Temperature Sensor (Right Track)
0156	Temperature Sensor (Left Track)
0157	Temperature Sensor (Right Track)
0158	Temperature Sensor (Left Track)
0159	Temperature Sensor (Right Track)
0160	Temperature Sensor (Left Track)
0161	Temperature Sensor (Right Track)
0162	Temperature Sensor (Left Track)
0163	Temperature Sensor (Right Track)
0164	Temperature Sensor (Left Track)
0165	Temperature Sensor (Right Track)
0166	Temperature Sensor (Left Track)
0167	Temperature Sensor (Right Track)
0168	Temperature Sensor (Left Track)
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0170	Temperature Sensor (Left Track)
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0180	Temperature Sensor (Left Track)
0181	Temperature Sensor (Right Track)
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0190	Temperature Sensor (Left Track)
0191	Temperature Sensor (Right Track)
0192	Temperature Sensor (Left Track)
0193	Temperature Sensor (Right Track)
0194	Temperature Sensor (Left Track)
0195	Temperature Sensor (Right Track)
0196	Temperature Sensor (Left Track)
0197	Temperature Sensor (Right Track)
0198	Temperature Sensor (Left Track)
0199	Temperature Sensor (Right Track)
0200	Temperature Sensor (Left Track)
0201	Temperature Sensor (Right Track)
0202	Temperature Sensor (Left Track)
0203	Temperature Sensor (Right Track)
0204	Temperature Sensor (Left Track)
0205	Temperature Sensor (Right Track)
0206	Temperature Sensor (Left Track)
0207	Temperature Sensor (Right Track)
0208	Temperature Sensor (Left Track)
0209	Temperature Sensor (Right Track)
0210	Temperature Sensor (Left Track)
0211	Temperature Sensor (Right Track)
0212	Temperature Sensor (Left Track)
0213	Temperature Sensor (Right Track)
0214	Temperature Sensor (Left Track)
0215	Temperature Sensor (Right Track)
0216	Temperature Sensor (Left Track)
0217	Temperature Sensor (Right Track)
0218	Temperature Sensor (Left Track)
0219	Temperature Sensor (Right Track)
0220	Temperature Sensor (Left Track)
0221	Temperature Sensor (Right Track)
0222	Temperature Sensor (Left Track)
0223	Temperature Sensor (Right Track)
0224	Temperature Sensor (Left Track)
0225	Temperature Sensor (Right Track)
0226	Temperature Sensor (Left Track)
0227	Temperature Sensor (Right Track)
0228	Temperature Sensor (Left Track)
0229	Temperature Sensor (Right Track)
0230	Temperature Sensor (Left Track)
0231	Temperature Sensor (Right Track)
0232	Temperature Sensor (Left Track)
0233	Temperature Sensor (Right Track)
0234	Temperature Sensor (Left Track)
0235	Temperature Sensor (Right Track)
0236	Temperature Sensor (Left Track)
0237	Temperature Sensor (Right Track)
0238	Temperature Sensor (Left Track)
0239	Temperature Sensor (Right Track)
0240	Temperature Sensor (Left Track)
0241	Temperature Sensor (Right Track)
0242	Temperature Sensor (Left Track)
0243	Temperature Sensor (Right Track)
0244	Temperature Sensor (Left Track)
0245	Temperature Sensor (Right Track)
0246	Temperature Sensor (Left Track)
0247	Temperature Sensor (Right Track)
0248	Temperature Sensor (Left Track)
0249	Temperature Sensor (Right Track)
0250	Temperature Sensor (Left Track)
0251	Temperature Sensor (Right Track)
0252	Temperature Sensor (Left Track)
0253	Temperature Sensor (Right Track)
0254	Temperature Sensor (Left Track)
0255	Temperature Sensor (Right Track)
0256	Temperature Sensor (Left Track)
0257	Temperature Sensor (Right Track)
0258	Temperature Sensor (Left Track)
0259	Temperature Sensor (Right Track)
0260	Temperature Sensor (Left Track)
0261	Temperature Sensor (Right Track)
0262	Temperature Sensor (Left Track)
0263	Temperature Sensor (Right Track)
0264	Temperature Sensor (Left Track)
0265	Temperature Sensor (Right Track)
0266	Temperature Sensor (Left Track)
0267	Temperature Sensor (Right Track)
0268	Temperature Sensor (Left Track)
0269	Temperature Sensor (Right Track)
0270	Temperature Sensor (Left Track)
0271	Temperature Sensor (Right Track)
0272	Temperature Sensor (Left Track)
0273	Temperature Sensor (Right Track)
0274	Temperature Sensor (Left Track)
0275	Temperature Sensor (Right Track)
0276	Temperature Sensor (Left Track)
0277	Temperature Sensor (Right Track)
0278	Temperature Sensor (Left Track)
0279	Temperature Sensor (Right Track)
0280	Temperature Sensor (Left Track)
0281	Temperature Sensor (Right Track)
0282	Temperature Sensor (Left Track)
0283	Temperature Sensor (Right Track)
0284	Temperature Sensor (Left Track)
0285	Temperature Sensor (Right Track)
0286	Temperature Sensor (Left Track)
0287	Temperature Sensor (Right Track)
0288	Temperature Sensor (Left Track)
0289	Temperature Sensor (Right Track)
0290	Temperature Sensor (Left Track)
0291	Temperature Sensor (Right Track)
0292	Temperature Sensor (Left Track)
0293	Temperature Sensor (Right Track)
0294	Temperature Sensor (Left Track)
0295	Temperature Sensor (Right Track)
0296	Temperature Sensor (Left Track)
0297	Temperature Sensor (Right Track)
0298	Temperature Sensor (Left Track)
0299	Temperature Sensor (Right Track)
0300	Temperature Sensor (Left Track)

Failure Mode Identifiers (FMI)

FMI No.	Failure Description
0	Data valid but above normal operational range
1	Data valid but below normal operational range
2	Data erratic, intermittent, or incorrect
3	Voltage above normal or incorrect
4	Current above normal or incorrect
5	Current below normal or open circuit
6	Current above normal or grounded circuit
7	Mechanical system not responding properly
8	Abnormal update
9	Abnormal rate of change
10	Failure mode not identifiable
11	Bad device or component
12	Clear calibration
13	Parameter failures
14	Parameter failures
15	Parameter not available
16	Module not responding
17	Sensor health fault
18	Condition not met
19	Multiple failures
20	Multiple failures

The FMI is a diagnostic code that indicates what type of failure has occurred.



Resistor, Sender, and Solenoid Specifications

Part No.	Component Description	Resistance (Ohms)
790-9943	Solenoid - Hydraulic Temperature	960 to 176 Ω @ 54 °C (129 °F) 721 to 816 Ω @ 110 °C (230 °F)
134-2540	Resistor - M55 Term.	100
130-9754	Solenoid - Water Brake (Over)	17.47 ± 1.00
130-9752	Solenoid - Water Brake (Under)	17.47 ± 1.00
130-3000	Resistor - A/C Blower Unit (See Illustration Above)	A/B Tap 0.25 ± 0.05 A/C Tap 0.25 ± 0.05 A/D Tap 1.0 ± 0.1
155-4032	Sender - Engine Oil Pressure	227 to 537 Ω @ 0.2 MPa (0.3 psi) 102 ± 27.5 Ω @ 48.3 kPa (3.5 psi) 103 ± 111 Ω @ 204.8 kPa (150 psi) 21.5 ± 45.5 Ω @ 552 kPa (400 psi)
179-0302	Solenoid - Fuel Shut-off	10.3 ± .6
100-4370	Solenoid - Left Pump Reverse	4.5 ± .3
205-2171	Solenoid - Park Brake	0.18 ± .08
390-3994	Sender - Cooler Temperature	605 ± 78 Ω @ 54 °C (129 °F) 82 ± 8 Ω @ 110 °C (230 °F)
214-6343	Solenoid - Left Motor	4.5 ± .3
234-8587	Sender - Fuel Level	Empty: 240 to 300 Full: 28 to 33

* At room temperature unless otherwise noted.

Off Machine Specification

Part No.	Function	Resistance	Contact Position
3E-5464	Thermostat	1.1 ± 0.1 Ω @ 2.2 ± 0.1 °C 2.2 ± 0.1 Ω @ 13.3 ± 0.1 °C	Normally Closed
094-6997	Engine Oil Pressure	500 Ω @ 500 kPa 275 Ω @ 275 kPa	Normally Closed
134-0404	Hydraulic Filter Bypass (11.42 and 43)	225 Ω @ 225 kPa 207 Ω @ 207 kPa	Normally Open
201-4159	Low Park Brake Pressure	400 Ω @ 400 kPa 350 Ω @ 350 kPa	Normally Closed
238-8620	A/C Pressure	275 Ω @ 275 kPa 80 to 255 Ω @ 80 to 255 kPa	Normally Open

When necessary, measure the closed condition; can be maintained up to 2800 rpm (RPM) psi, with increasing pressure the closed condition can be maintained down to 170 rpm (2500).

* Contact position at the contacts of the harness connector.

Diagnostic Codes For The AccuGrade Laser System

Diagnostic Code	Description
CB 1	Display Fault Messages
CB 2	No Data
CB 3	Calibration Failure
CB 4	Class Error
CB 5	Calibration Failure
CB 6	Class Error
CB 7	Calibration Failure
CB 8	Class Error
CB 9	Calibration Failure
CB 10	Class Error
CB 11	Low Voltage
CB 12	Class Error
CB 13	Calibration Failure
CB 14	Class Error
CB 15	Miscellaneous Error
CB 16	Class Error
CB 17	Calibration Failure
CB 18	Class Error
CB 19	Calibration Failure
CB 20	Class Error
CB 21	Calibration Failure
CB 22	Class Error
CB 23	Calibration Failure
CB 24	Class Error
CB 25	Calibration Failure
CB 26	Class Error
CB 27	Calibration Failure
CB 28	Class Error
CB 29	Calibration Failure
CB 30	Class Error
CB 31	Calibration Failure
CB 32	Class Error
CB 33	Calibration Failure
CB 34	Class Error
CB 35	Calibration Failure
CB 36	Class Error

Electric Mast Fault Messages

EM No.	Failure Description
EM 1	PCB Fault
EM 2	Class Error
EM 3	Class Error
EM 4	Class Error
EM 5	Class Error
EM 6	Class Error
EM 7	Class Error
EM 8	Class Error
EM 9	Class Error
EM 10	Class Error
EM 11	Class Error
EM 12	Class Error
EM 13	Class Error
EM 14	Class Error
EM 15	Class Error
EM 16	Class Error
EM 17	Class Error
EM 18	Class Error
EM 19	Class Error
EM 20	Class Error
EM 21	Class Error
EM 22	Class Error
EM 23	Class Error
EM 24	Class Error
EM 25	Class Error
EM 26	Class Error
EM 27	Class Error
EM 28	Class Error
EM 29	Class Error
EM 30	Class Error
EM 31	Class Error
EM 32	Class Error

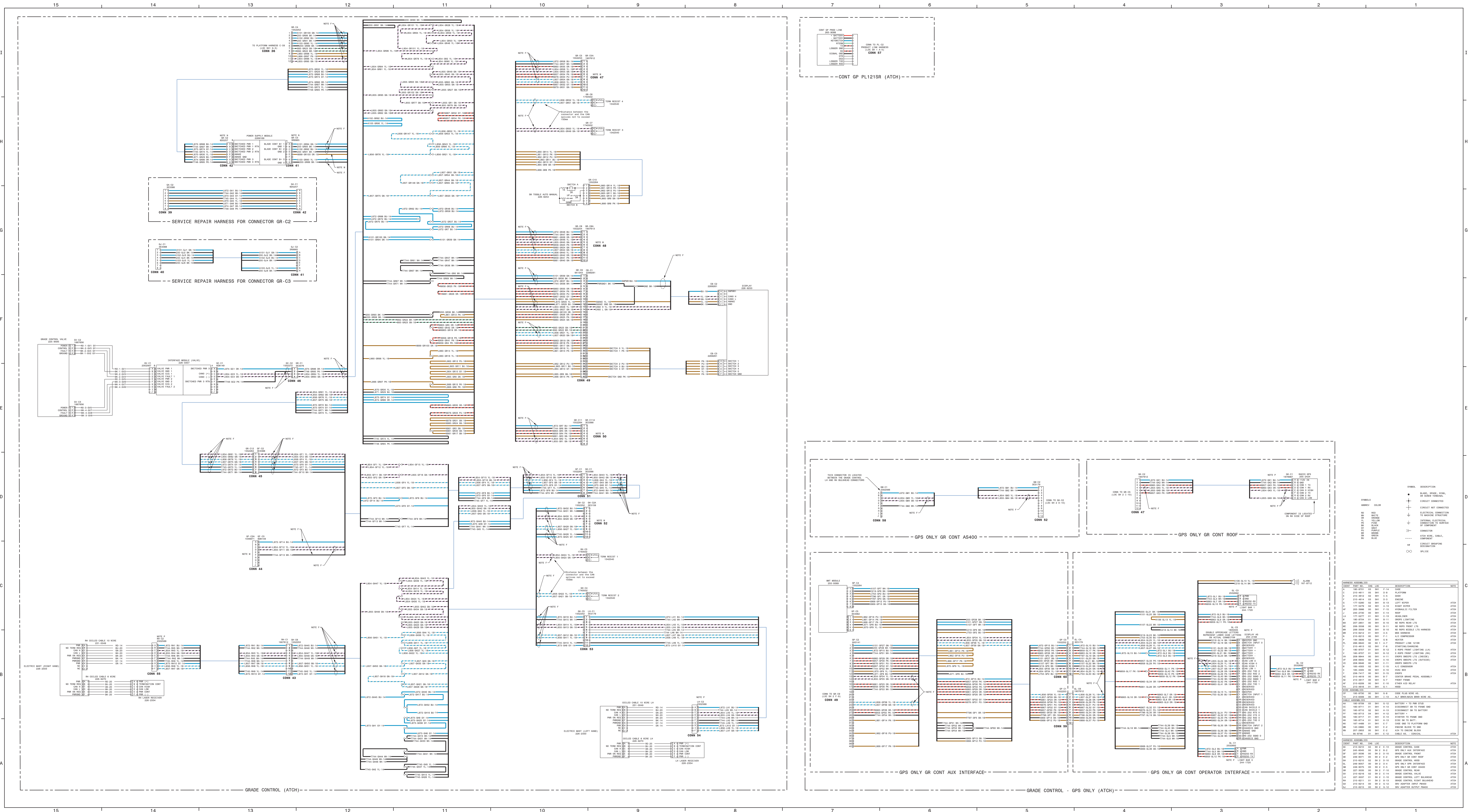
Laser Receiver Fault Messages

LR No.	Failure Description
LR 20	Class Error
LR 21	Class Error
LR 22	Class Error
LR 23	Class Error
LR 24	Class Error
LR 25	Class Error
LR 26	Class Error
LR 27	Class Error
LR 28	Class Error
LR 29	Class Error
LR 30	Class Error
LR 31	Class Error
LR 32	Class Error
LR 33	Class Error
LR 34	Class Error
LR 35	Class Error
LR 36	Class Error
LR 37	Class Error
LR 38	Class Error
LR 39	Class Error
LR 40	Class Error
LR 41	Class Error
LR 42	Class Error
LR 43	Class Error
LR 44	Class Error
LR 45	Class Error
LR 46	Class Error
LR 47	Class Error
LR 48	Class Error
LR 49	Class Error
LR 50	Class Error
LR 51	Class Error
LR 52	Class Error
LR 53	Class Error
LR 54	Class Error
LR 55	Class Error
LR 56	Class Error
LR 57	Class Error
LR 58	Class Error
LR 59	Class Error
LR 60	Class Error
LR 61	Class Error
LR 62	Class Error
LR 63	Class Error
LR 64	Class Error
LR 65	Class Error
LR 66	Class Error
LR 67	Class Error
LR 68	Class Error
LR 69	Class Error
LR 70	Class Error
LR 71	Class Error
LR 72	Class Error
LR 73	Class Error
LR 74	Class Error
LR 75	Class Error
LR 76	Class Error
LR 77	Class Error
LR 78	Class Error
LR 79	Class Error
LR 80	Class Error
LR 81	Class Error
LR 82	Class Error
LR 83	Class Error
LR 84	Class Error
LR 85	Class Error
LR 86	Class Error
LR 87	Class Error
LR 88	Class Error
LR 89	Class Error
LR 90	Class Error
LR 91	Class Error
LR 92	Class Error
LR 93	Class Error
LR 94	Class Error
LR 95	Class Error
LR 96	Class Error
LR 97	Class Error
LR 98	Class Error
LR 99	Class Error
LR 100	Class Error

Related Electrical Service Manuals

Title	Form Number
AccuGrade - Laser System	SEN7803
AccuGrade - GPS System	SEN8003
Electric Starting Motor	SEN3328
Motor Control	REN7733
M55 Control	REN7760
Systems Operation	REN7814

Wire Number	Wire Color	Wire Description	Wire Number	Wire Color	Wire Description
101	RD	Start	526	PK	Accessory Circuits (Continued)
102	BU	Lighting #1 Fuse	529	WH	Washer - Left Door
103	YL	Lighting #2 Fuse	530	OR	Washer - Right Door
104	YL	Start Air Relay	567	WH	A/C M55 Fan Blower Speed SW
105	RD	Key SW	568	GR	A/C M55 Fan Blower Speed SW
106	WH	Defrost	569	GR	A/C M55 Fan Blower Speed SW
108	BU	Control Lamp	570	GR	A/C M55 Fan Blower Speed SW
109	RD	On/Off Relay Term.	571	GR	A/C M55 Fan Blower Speed SW
112	BU	Main Power Relay Output	572	GR	A/C M55 Fan Blower Speed SW
113	RD	Warning Horn (Front)	573	GR	A/C M55 Fan Blower Speed SW
115	RD	Alternator Breaker	574	GR	A/C M55 Fan Blower Speed SW
116	PK	Front/Rear Wiper	575	GR	A/C M55 Fan Blower Speed SW
120	YL	Left Wiper	576		



WIRE GROUP COLOR DESCRIPTIONS	
WIRE GROUP 1 (RED)	WIRING THAT HAS SYSTEM VOLTAGE WHEN THE KEY SWITCH IS OFF
WIRE GROUP 2 (ORANGE)	WIRING THAT HAS SYSTEM VOLTAGE WHEN THE KEY SWITCH IS ON
WIRE GROUP 3 (YELLOW)	STARTING CIRCUIT
WIRE GROUP 4 (GREEN)	STARTING AID CIRCUIT
WIRE GROUP 5 (BLUE)	IGNITION CIRCUIT
WIRE GROUP 6 (PURPLE)	IGNITION CIRCUIT
WIRE GROUP 7 (BROWN)	IGNITION CIRCUIT
WIRE GROUP 8 (BLACK)	IGNITION CIRCUIT
WIRE GROUP 9 (WHITE)	IGNITION CIRCUIT
WIRE GROUP 10 (GRAY)	IGNITION CIRCUIT
WIRE GROUP 11 (PINK)	IGNITION CIRCUIT
WIRE GROUP 12 (LAVENDER)	IGNITION CIRCUIT
WIRE GROUP 13 (MAGENTA)	IGNITION CIRCUIT
WIRE GROUP 14 (TEAL)	IGNITION CIRCUIT
WIRE GROUP 15 (Cyan)	IGNITION CIRCUIT
WIRE GROUP 16 (Light Blue)	IGNITION CIRCUIT
WIRE GROUP 17 (Sky Blue)	IGNITION CIRCUIT
WIRE GROUP 18 (Blue)	IGNITION CIRCUIT
WIRE GROUP 19 (Dark Blue)	IGNITION CIRCUIT
WIRE GROUP 20 (Navy Blue)	IGNITION CIRCUIT
WIRE GROUP 21 (Black)	IGNITION CIRCUIT
WIRE GROUP 22 (White)	IGNITION CIRCUIT
WIRE GROUP 23 (Gray)	IGNITION CIRCUIT
WIRE GROUP 24 (Brown)	IGNITION CIRCUIT
WIRE GROUP 25 (Orange)	IGNITION CIRCUIT
WIRE GROUP 26 (Red)	IGNITION CIRCUIT
WIRE GROUP 27 (Yellow)	IGNITION CIRCUIT
WIRE GROUP 28 (Green)	IGNITION CIRCUIT
WIRE GROUP 29 (Blue)	IGNITION CIRCUIT
WIRE GROUP 30 (Purple)	IGNITION CIRCUIT
WIRE GROUP 31 (Pink)	IGNITION CIRCUIT
WIRE GROUP 32 (Lavender)	IGNITION CIRCUIT
WIRE GROUP 33 (Magenta)	IGNITION CIRCUIT
WIRE GROUP 34 (Teal)	IGNITION CIRCUIT
WIRE GROUP 35 (Cyan)	IGNITION CIRCUIT
WIRE GROUP 36 (Light Blue)	IGNITION CIRCUIT
WIRE GROUP 37 (Sky Blue)	IGNITION CIRCUIT
WIRE GROUP 38 (Blue)	IGNITION CIRCUIT
WIRE GROUP 39 (Dark Blue)	IGNITION CIRCUIT
WIRE GROUP 40 (Navy Blue)	IGNITION CIRCUIT
WIRE GROUP 41 (Black)	IGNITION CIRCUIT
WIRE GROUP 42 (White)	IGNITION CIRCUIT
WIRE GROUP 43 (Gray)	IGNITION CIRCUIT
WIRE GROUP 44 (Brown)	IGNITION CIRCUIT
WIRE GROUP 45 (Orange)	IGNITION CIRCUIT
WIRE GROUP 46 (Red)	IGNITION CIRCUIT
WIRE GROUP 47 (Yellow)	IGNITION CIRCUIT
WIRE GROUP 48 (Green)	IGNITION CIRCUIT
WIRE GROUP 49 (Blue)	IGNITION CIRCUIT
WIRE GROUP 50 (Purple)	IGNITION CIRCUIT
WIRE GROUP 51 (Pink)	IGNITION CIRCUIT
WIRE GROUP 52 (Lavender)	IGNITION CIRCUIT
WIRE GROUP 53 (Magenta)	IGNITION CIRCUIT
WIRE GROUP 54 (Teal)	IGNITION CIRCUIT
WIRE GROUP 55 (Cyan)	IGNITION CIRCUIT
WIRE GROUP 56 (Light Blue)	IGNITION CIRCUIT
WIRE GROUP 57 (Sky Blue)	IGNITION CIRCUIT
WIRE GROUP 58 (Blue)	IGNITION CIRCUIT
WIRE GROUP 59 (Dark Blue)	IGNITION CIRCUIT
WIRE GROUP 60 (Navy Blue)	IGNITION CIRCUIT
WIRE GROUP 61 (Black)	IGNITION CIRCUIT
WIRE GROUP 62 (White)	IGNITION CIRCUIT
WIRE GROUP 63 (Gray)	IGNITION CIRCUIT
WIRE GROUP 64 (Brown)	IGNITION CIRCUIT
WIRE GROUP 65 (Orange)	IGNITION CIRCUIT
WIRE GROUP 66 (Red)	IGNITION CIRCUIT
WIRE GROUP 67 (Yellow)	IGNITION CIRCUIT
WIRE GROUP 68 (Green)	IGNITION CIRCUIT
WIRE GROUP 69 (Blue)	IGNITION CIRCUIT
WIRE GROUP 70 (Purple)	IGNITION CIRCUIT
WIRE GROUP 71 (Pink)	IGNITION CIRCUIT
WIRE GROUP 72 (Lavender)	IGNITION CIRCUIT
WIRE GROUP 73 (Magenta)	IGNITION CIRCUIT
WIRE GROUP 74 (Teal)	IGNITION CIRCUIT
WIRE GROUP 75 (Cyan)	IGNITION CIRCUIT
WIRE GROUP 76 (Light Blue)	IGNITION CIRCUIT
WIRE GROUP 77 (Sky Blue)	IGNITION CIRCUIT
WIRE GROUP 78 (Blue)	IGNITION CIRCUIT
WIRE GROUP 79 (Dark Blue)	IGNITION CIRCUIT
WIRE GROUP 80 (Navy Blue)	IGNITION CIRCUIT
WIRE GROUP 81 (Black)	IGNITION CIRCUIT
WIRE GROUP 82 (White)	IGNITION CIRCUIT
WIRE GROUP 83 (Gray)	IGNITION CIRCUIT
WIRE GROUP 84 (Brown)	IGNITION CIRCUIT
WIRE GROUP 85 (Orange)	IGNITION CIRCUIT
WIRE GROUP 86 (Red)	IGNITION CIRCUIT
WIRE GROUP 87 (Yellow)	IGNITION CIRCUIT
WIRE GROUP 88 (Green)	IGNITION CIRCUIT
WIRE GROUP 89 (Blue)	IGNITION CIRCUIT
WIRE GROUP 90 (Purple)	IGNITION CIRCUIT
WIRE GROUP 91 (Pink)	IGNITION CIRCUIT
WIRE GROUP 92 (Lavender)	IGNITION CIRCUIT
WIRE GROUP 93 (Magenta)	IGNITION CIRCUIT
WIRE GROUP 94 (Teal)	IGNITION CIRCUIT
WIRE GROUP 95 (Cyan)	IGNITION CIRCUIT
WIRE GROUP 96 (Light Blue)	IGNITION CIRCUIT
WIRE GROUP 97 (Sky Blue)	IGNITION CIRCUIT
WIRE GROUP 98 (Blue)	IGNITION CIRCUIT
WIRE GROUP 99 (Dark Blue)	IGNITION CIRCUIT
WIRE GROUP 100 (Navy Blue)	IGNITION CIRCUIT

