	SPN	FMI	LEV	MESSAGE_TXT
0	1		1	Short circuit in governor motor system
1	2		1	Potentiometer circuit is shorted to Vcc(5V) or battery(+)
2	3		2	Short circuit in pump EPPR valve system
3	4		4	Short circuit in Boom Down EPPR valve system
4	5		3	Short circuit in travel speed solenoid system
5	6		3	Short circuit in travel boost solenoid system
6	7		4	Short circuit in max flow solenoid system
7	8		4	Co Cancel Sol V/V is shorted to power supply(24V) line
8	9		4	Swing Priority Sol V/V is shorted to power supply line
9	10		4	Short circuit in hour-meter system
10	11		1	
11	12		4	P1 pressure sensor circuit is shorted to power supply(24V) line
12	13		4	P2 pressure sensor circuit is shorted to power supply(24V) line
13	14		4	P3 pressure sensor circuit is shorted to power supply(24V) line
14	15		4	Boom Down pressure sensor circuit is short to power supply(24V) line
15	16		1	Governor motor circuit is open or shorted to ground
16	17		1	Potentiometer motor circuit is open or shorted to ground
17	18		2	Pump EPPR valve circuit is open or shorted to ground
18	19		4	Boom Down EPPR valve circuit is open or shorted to ground
19	20		3	Travel speed solenoid circuit is open or shorted to ground
20	21		3	Power boost solenoid circuit is open or shorted to ground
21	22		4	Max flow solenoid circuit is open or shorted to ground
22	23		4	Co Cancel solenoid circuit is open or shorted to ground
23	24		4	Swing priority solenoid circuit is open or shorted to ground
24	25		4	Hour-meter circuit is open or shorted to ground
25	26		1	Accel dial circuit is open or shorted to ground
26	27		4	P1 pressure sensor circuit is open or shorted to ground
27	28		4	P2 pressure sensor circuit is open or shorted to ground
28	29		4	P3 pressure sensor circuit is open or shorted to ground
29	30		4	Boom Down pressure sensor circuit is open or shorted to ground
30	31		4	Engine preheater circuit is open or shorted to ground
31	32		4	Travel alarm buzzer circuit is open or shorted to ground
32	33		3	Alternator circuit is open or shorted to ground
33	34		1	Controller input voltage is below 18V
34	35		1	Controller input voltage is over 38V
35	36		2	Communication error with cluster
36	37		4	Engine speed sensor circuit is open or shorted to ground
37	38		3	Anti-Restart Relay circuit is open or shorted to ground
38	39		2	Governor motor does not stop at a target position
39	40		1	There is more than 500 rpm difference between target speed and actual speed
40	41		3	Hydraulic oil temperature sensor circuit is shorted to ground
41	42		4	Fuel level sensor circuit is shorted to ground
42	43		3	Coolant temperature sensor circuit is shorted to ground
43	44		3	Boom Up Pressure Sensor is shorted to power supply(24V) line
44	45		3	Hydraulic oil temperature sensor circuit is open or shorted to battery(+)
45	46		4	Fuel level sensor circuit is open or shorted to battery(+)
46	47		3	Coolant temperature sensor circuit is open or shorted to battery(+)
47	48		3	Boom Up pressure sensor is open or shorted to ground
48	49		4	Engine preheater circuit shorted to battery(+)
49	50		4	Boom Up EPPR valve circuit is open or shorted to ground
50	51		4	Boom priority solenoid circuit is open or shorted to ground

	SPN	FMI	LEV	MESSAGE_TXT
51	52		4	Arm Half solenoid circuit is open or shorted to ground
52	53		4	Boom Priority solenoid(2) circuit is open or shorted to ground
53	54		4	Arm Flow Co solenoid circuit is open or shorted to ground
54	55		4	Arm Flow Co solenoid circuit is shorted to battery(+)
55	56		4	Travel alarm buzzer circuit is shorted to battery(+)
56	57		4	Boom Up EPPR valve circuit is shorted to battery(+)
57	58		4	Boom priority solenoid circuit is shorted to battery(+)
58	59		4	Arm Half solenoid circuit is shorted to battery(+)
59	60		4	Boom priority solenoid(2) circuit is shorted to battery(+)
60	61		4	P3 Pressure Sensor is shorted to battery(+)
61	62		3	Boom priority solenoid circuit is open or shorted to ground
62	99		4	MCU RMCU Communication error