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APPENDIX A

PARAMETER GROUP ASSIGNMENTS



TABLE A1
J1939 Parameter Group Template

Legend:

DP = Data Page (1 bit)
 PF = PDU Format (8 bits)
 PS = PDU Specific Field (8 bits)
 (either DA or GE)

GE = Group Extension (8 bits)
 DA = Destination Address (8 bits)
 NA = Not Allowed
 un = Undefined

PGN = Parameter Group Number (3 bytes) (see J1939-21, Section 4.1.7 for description)

<u>DP</u>	<u>PF</u>	<u>PS</u>	<u>Parameter Group Definition</u>	<u>Multipacket</u>	<u>PGN</u>
0	0	DA	PDU1 Format	NA	
0	1	DA			
(Less than or equal to 100mS)					↓
Boundary x			-----		
(Greater than or equal to 100mS)			↑	↑	
0	238	DA	PDU1 Format	Allowed	
0	239	DA	PDU1 Format Proprietary		
0	240	0	PDU2 Format	NA	
0	240	1			
(Less than or equal to 100mS)					↓
Boundary y			-----		
(Greater than or equal to 100mS)			↑	↑	
0	254	254			
0	254	255	PDU2 Format	Allowed	
0	255	0 - 255*	PDU2 Format - Proprietary		
1	0	DA	PDU1 Format	NA	
1	1	DA			
(Less than or equal to 100mS)					↓
Boundary x1			-----		
(Greater than or equal to 100mS)			↑	↑	
1	238	DA			
1	239	DA	PDU1 Format	Allowed	
1	240	0	PDU2 Format	NA	
1	240	1			

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(Less than or equal to 100mS)				↓	↓
Boundary y1					
(Greater than or equal to 100mS)			↑	↑	
1	255	254			
1	255	255	PDU2 Format	Allowed	

* Definition is up to the manufacturer



TABLE A2
J1939 Parameter Groups

Legend:

DP	=	Data Page (1 bit)	GE	=	Group Extension (8 bits)
PF	=	PDU Format (8 bits)	DA	=	Destination Address (8 bits)
PS	=	PDU Specific Field (8 bits) (either DA or GE)	X	=	Allowed
			un	=	Undefined

PGN = Parameter Group Number (3 bytes) (see J1939-21, Section 4.1.7 for description)

Rev	DP	PF	PS	Parameter Group Label	Acronym	Multi- packet	PGN	J1939-	Section
	0	0	DA	Torque-Speed Control #1	TSC1		0	-71	3.3.1
	0	1	DA	Transmission Control #1	TC1		256	-71	3.3.2
	0	2	DA	Reserved for ISO 11992	EBS11		512		
	0	3	DA	Reserved for ISO 11992	EBS21		768		
				Less than 100 msec					

				More than 100 msec					
	0	210	DA	(next available)					
(11)	0	211	DA	Reserved for Calibration Information	DM 21		54016	- 73	
(11)	0	212	DA	Reserved for Data Security	DM 20		54272	- 73	
	0	213	DA	Time/date Adjust			54528	-71	3.3.144
(11)	0	214	DA	Reserved for Boot Load Data	DM 19		54784	-73	
(11)	0	215	DA	Reserved for Binary Data Transfer	DM 18		55040	-73	
(11)	0	216	DA	Reserved for Memory Access Response	DM 17		55296	-73	
(11)	0	217	DA	Reserved for Memory Access Request	DM 16	x	55552	-73	
	0	218	DA	Reserved for ISO 15765	DM14		55808		
	0	219	DA	Reserved for ISO 15765	DM15		56064		
	0	220	DA	Anti-theft Status			56320	-71	
	0	221	DA	Anti-theft Request			56576	-71	3.3.101
	0	222	DA	Reset			56832	-71	3.3.74
	0	223	DA	Diagnostic Message #13	DM13		57088	-73	5.7.13
	0	224	DA	Cab Message #1	CM1		57344	-71	3.3.59
	0	225	DA	Reserved for ISO 11992	GFM21		57600		
	0	226	DA	Reserved for ISO 11992	GFM11		57856		
	0	227	DA	Diagnostic Message #7	DM7		58112	-73	5.7.7
	0	228	DA	Reserved for ISO 11992	GFM12		58368		
	0	229	DA	Reserved for ISO 11992	GFM22		58624		
	0	230	DA	Virtual Terminal-to-Node	VT12	x	58880	-72	3.2.4
				Virtual Terminal	VT21	x	59136	-72	3.2.4
				edgment Message	ACKM		59392	-21	3.4.4

	0	234	DA Request PG	RQST		59904	-21 3.4.2
	0	235	DA Transport Protocol - Data Transfer	TP.DT		60160	-21 3.10.4
	0	236	DA Transport Protocol - Connection Mgmt	TP.CM.xx		60416	-21 3.10.3
	0	237	DA Network Layer	N.xx	x	60672	-31 3.3.1
(7)	0	238	DA Address Claimed			60928	-81 3.2.2.1
	0	239	DA Proprietary A	PropA	x	61184	-21 3.4.5
	0	240	0 Electronic Retarder Controller #1	ERC1		61440	-71 3.3.3
	0	240	1 Electronic Brake Controller #1	EBC1		61441	-71 3.3.4
	0	240	2 Electronic Transmission Controller #1	ETC1		61442	-71 3.3.5
	0	240	3 Electronic Engine Controller #2	EEC2		61443	-71 3.3.6
	0	240	4 Electronic Engine Controller #1	EEC1		61444	-71 3.3.7
	0	240	5 Electronic Transmission Controller #2	ETC2		61445	-71 3.3.8
	0	240	6 Electronic Axle Controller #1	EAC1		61446	-71 3.3.9

Less than 100 msec

Bou
ndar
y y

More than 100 msec

(next available)

	0	254	105 (next available)			65129	-71
(10)	0	254	106 Reserved for Engine Fuel/lube systems			65130	-71 3.3.112
(10)	0	254	107 Reserved for Driver Identification			65131	-71 3.3.145
(10)	0	254	108 TCO1			65132	-71 3.3.143
(10)	0	254	109 (available)			65133	-71
(10)	0	254	110 High Resolution Wheel Speed			65134	-71 3.3.142
(10)	0	254	111 Adaptive Cruise Control			65135	-71 3.3.141
(10)	0	254	112 Combination Vehicle Weight		x	65136	-71 3.3.140
(9)	0	254	113 Laser Tracer Position			65137	-71 3.3.139
(9)	0	254	114 Laser Leveling System Blade Control			65138	-71 3.3.138
(9)	0	254	115 Laser Receiver Mast Position			65139	-71 3.3.137
(9)	0	254	116 Modify Leveling System Control Set Point			65140	-71 3.3.136
(9)	0	254	117 Laser Leveling System Vertical Deviation			65141	-71 3.3.135
(9)	0	254	118 Laser Leveling System Vertical Position Dis- play Data			65142	-71 3.3.134
(9)	0	254	119 Reserved for Auxiliary Pressures			65143	-71 3.3.133
(8)	0	254	120 Tire Pressure Control Unit Mode and Status			65144	-71 3.3.132
(8)	0	254	121 Tire Pressure Control Unit Target Pressures			65145	-71 3.3.131
(8)	0	254	122 Tire Pressure Control Unit Current Pressures			65146	-71 3.3.130
(8)	0	254	123 Combustion Time #1			65147	-71 3.3.124
(8)	0	254	124 Combustion Time #2			65148	-71 3.3.125
(8)	0	254	125 Combustion Time #3			65149	-71 3.3.126
(8)	0	254	126 Combustion Time #4			65150	-71 3.3.127
(8)	0	254	127 Combustion Time #5			65151	-71 3.3.128
(8)	0	254	128 Combustion Time #6			65152	-71 3.3.129
(8)	0	254	129 Reserved for Fuel Information #2 (Gaseous)			65153	-71 3.3.123
---	-	---	Timing #1			65154	-71 3.3.117
			Timing #2			65155	-71 3.3.118

(7)	0	254	132 Ignition Timing #3	65156	-71 3.3.119
(7)	0	254	133 Ignition Timing #4	65157	-71 3.3.120
(7)	0	254	134 Ignition Timing #5	65158	-71 3.3.121
(7)	0	254	135 Ignition Timing #6	65159	-71 3.3.122
(7)	0	254	136 Ignition Transformer Secondary Output #1	65160	-71 3.3.114
(7)	0	254	137 Ignition Transformer Secondary Output #2	65161	-71 3.3.115
(7)	0	254	138 Ignition Transformer Secondary Output #3	65162	-71 3.3.116
(7)	0	254	139 Gaseous Fuel Pressure	65163	-71 3.3.113
(7)	0	254	140 Auxiliary Analog Information	65164	-71 3.3.111
(7)	0	254	141 Vehicle Electrical Power #2	65165	-71 3.3.110
(6)	0	254	142 Service #2	65166	-71 3.3.109
(6)	0	254	143 Supply Pressure #2	65167	-71 3.3.108
(6)	0	254	144 Engine Torque History	x 65168	-71 3.3.107
(6)	0	254	145 Fuel Leakage	65169	-71 3.3.106
	0	254	146 Engine Information	65170	-71 3.3.105
	0	254	147 Engine Electrical System/Module Information	65171	-71 3.3.104
	0	254	148 Engine Auxiliary Coolant	65172	-71 3.3.103
	0	254	149 Rebuild Information	65173	-71 3.3.100
	0	254	150 Turbocharger Wastegate	65174	-71 3.3.99
	0	254	151 Turbocharger Information #5	65175	-71 3.3.98
	0	254	152 Turbocharger Information #4	65176	-71 3.3.97
	0	254	153 Turbocharger Information #3	65177	-71 3.3.96
	0	254	154 Turbocharger Information #2	65178	-71 3.3.95
	0	254	155 Turbocharger Information #1	65179	-71 3.3.94
	0	254	156 Main Bearing Temperature #3	65180	-71 3.3.93
	0	254	157 Main Bearing Temperature #2	65181	-71 3.3.92
	0	254	158 Main Bearing Temperature #1	65182	-71 3.3.91
	0	254	159 Exhaust Port Temperature #5	65183	-71 3.3.90
	0	254	160 Exhaust Port Temperature #4	65184	-71 3.3.89
	0	254	161 Exhaust Port Temperature #3	65185	-71 3.3.88
	0	254	162 Exhaust Port Temperature #2	65186	-71 3.3.87
	0	254	163 Exhaust Port Temperature #1	65187	-71 3.3.86
	0	254	164 Engine Temperature #2	65188	-71 3.3.85
	0	254	165 Intake Manifold Information #2	65189	-71 3.3.84
	0	254	166 Intake Manifold Information #1	65190	-71 3.3.83
	0	254	167 Alternator Temperature	65191	-71 3.3.82
	0	254	168 Articulation Control	65192	-71 3.3.81
	0	254	169 Exhaust Oxygen #1	65193	-71 3.3.80
	0	254	170 Alternate Fuel #2	65194	-71 3.3.79
	0	254	171 Electronic Transmission Controller #6 ETC6	65195	-71 3.3.78
	0	254	172 Wheel Brake Lining Remaining Information EBC4	65196	-71 3.3.77
	0	254	173 Wheel Application Pressure High Range Inform- EBC3	65197	-71 3.3.76
			mation		
	0	254	174 Supply Pressure	65198	-71 3.3.75
	0	254	175 Fuel Consumption (Gaseous)	65199	-71 3.3.73
	0	254	176 Trip Time Information #2	65200	-71 3.3.72
	0	254	177 ECU History	65201	-71 3.3.71
	0	254	178 Fuel Information #1 (Gaseous)	65202	-71 3.3.70
	0	254	179 Fuel Information	65203	-71 3.3.69
	0	254	180 Trip Time Information #1	65204	-71 3.3.68
	0	254	181 Trip Shutdown Information	65205	-71 3.3.67
-	---	---	Vehicle Speed-Cruise Distance Informa-	65206	-71 3.3.66



0	254	183 Engine Speed-Load Factor Information			65207	-71 3.3.65
0	254	184 Trip Fuel Information (Gaseous)			65208	-71 3.3.64
0	254	185 Trip Fuel Information (Liquid)			65209	-71 3.3.63
0	254	186 Trip Distance Information			65210	-71 3.3.62
0	254	187 Trip Fan Information			65211	-71 3.3.61
0	254	188 Compression-Service Brake Information			65212	-71 3.3.60
0	254	189 Fan Drive			65213	-71 3.3.58
0	254	190 Electronic Engine Controller #4	EEC4		65214	-71 3.3.57
0	254	191 Wheel Speed Information	EBC2		65215	-71 3.3.56
0	254	192 Service Information			65216	-71 3.3.55
0	254	193 High Resolution Vehicle Distance			65217	-71 3.3.54
0	254	194 Electronic Retarder Controller #2	ERC2		65218	-71 3.3.53
0	254	195 Electronic Transmission Controller #5	ETC5		65219	-71 3.3.52
0	254	196 Reserved for ISO 11992	EBS22		65220	
0	254	197 Electronic Transmission Controller #4	ETC4		65221	-71 3.3.51
0	254	198 Reserved for ISO 11992	EBS23-		65222	
			GFM23			
0	254	199 Electronic Transmission Controller #3	ETC3		65223	-71 3.3.50
0	254	200 Reserved for ISO 11992	GFM24		65224	
0	254	201 Reserved for ISO 11992	EBS12		65225	
0	254	202 Diagnostic Message #1	DM1	x	65226	-73 5.7.1
0	254	203 Diagnostic Message #2	DM2	x	65227	-73 5.7.2
0	254	204 Diagnostic Message #3	DM3		65228	-73 5.7.3
0	254	205 Diagnostic Message #4	DM4	x	65229	-73 5.7.4
0	254	206 Diagnostic Message #5	DM5	x	65230	-73 5.7.5
0	254	207 Diagnostic Message #6	DM6	x	65231	-73 5.7.6
0	254	208 Diagnostic Message #8	DM8		65232	-73 5.7.8
0	254	209 Reserved for Diagnostic Message #9	DM9		65233	-73 5.7.9
0	254	210 Diagnostic Message #10	DM10		65234	-73 5.7.10
0	254	211 Diagnostic Message #11	DM11		65235	-73 5.7.11
0	254	212 Diagnostic Message #12	DM12	x	65236	-73 5.7.12
0	254	213 Alternator Speed			65237	-71 3.3.49
0	254	214 Reserved for Network Management			65238	
(7)	0	254 215 Reserved			65239	-81
(7)	0	254 216 Commanded Address			65240	-81 3.2.3.1
0	254	217 Auxiliary Input/Output Status	AUXIO		65241	-71 3.3.48
0	254	218 Software Identification			65242	-71 3.3.47
0	254	219 Engine Fluid Level/Pressure #2			65243	-71 3.3.46
0	254	220 Idle Operation			65244	-71 3.3.10
0	254	221 Turbocharger			65245	-71 3.3.11
0	254	222 Air Start Pressure			65246	-71 3.3.12
0	254	223 Electronic Engine Controller #3	EEC3		65247	-71 3.3.13
0	254	224 Vehicle Distance			65248	-71 3.3.14
0	254	225 Retarder Configuration		x	65249	-71 3.3.15
0	254	226 Transmission Configuration		x	65250	-71 3.3.16
0	254	227 Engine Configuration		x	65251	-71 3.3.17
0	254	228 Shutdown			65252	-71 3.3.18
0	254	229 Engine Hours, Revolutions			65253	-71 3.3.19
0	254	230 Time/Date			65254	-71 3.3.20
0	254	231 Vehicle Hours			65255	-71 3.3.21
0	254	232 Vehicle Direction/Speed			65256	-71 3.3.22
-	---	sumption			65257	-71 3.3.23
		Veight			65258	-71 3.3.24



0	254	235 Component Identification		x	65259	-71 3.3.25
0	254	236 Vehicle Identification		x	65260	-71 3.3.26
0	254	237 Cruise Control/Vehicle Speed Setup			65261	-71 3.3.27
0	254	238 Engine Temperature #1			65262	-71 3.3.28
0	254	239 Engine Fluid Level/Pressure #1			65263	-71 3.3.29
0	254	240 Power Takeoff Information			65264	-71 3.3.30
0	254	241 Cruise Control/Vehicle Speed			65265	-71 3.3.31
0	254	242 Fuel Economy (Liquid)			65266	-71 3.3.32
0	254	243 Vehicle Position			65267	-71 3.3.33
0	254	244 Tire Condition			65268	-71 3.3.34
0	254	245 Ambient Conditions			65269	-71 3.3.35
0	254	246 Inlet/Exhaust Conditions			65270	-71 3.3.36
0	254	247 Vehicle Electrical Power			65271	-71 3.3.37
0	254	248 Transmission Fluids			65272	-71 3.3.38
0	254	249 Axle Information			65273	-71 3.3.39
0	254	250 Brakes			65274	-71 3.3.40
0	254	251 Retarder fluids			65275	-71 3.3.41
0	254	252 Dash Display			65276	-71 3.3.42
0	254	253 Alternate Fuel #1			65277	-71 3.3.43
0	254	254 Auxiliary Water Pump Pressure			65278	-71 3.3.44
0	254	255 Water in Fuel Indicator			65279	-71 3.3.45
0	255	0- Proprietary B	PropB	x	65,280-	-21 3.4.5
		255			65,535	

Notes: Items approved or modified on date

- (1) July, 1996 (7) February 1998
- (2) October, 1996(8) April 1998
- (3) January, 1997(9) July 1998
- (4) April, 1997 (10) October 1998
- (5) August 1997(11) February 1999
- (6) November 1997



APPENDIX B
ADDRESS AND IDENTITY ASSIGNMENTS



TABLE B1
J1939 INDUSTRY GROUPS

<u>Industry Group</u>	<u>Industry</u>
0	Global, applies to all
1	On-Highway Equipment
2	Agricultural and Forestry Equipment
3	Construction Equipment
4	Marine
5	Industrial-Process Control-Stationary (Gen-Sets)
6	Reserved for future assignment
7	Not available



TABLE B2
J1939 PREFERRED ADDRESSES
INDUSTRY GROUP #0 - GLOBAL

Rev	Address	ECU-Module	Definition
0	Engine #1		
1	Engine #2		
2	Turbocharger		
3	Transmission #1		
4	Transmission #2		
5	Shift Console – Primary		
6	Shift Console – Secondary		
7	Power TakeOff - (Main or Rear)		
8	Axle – Steering		
9	Axle - Drive #1		
10	Axle - Drive #2		
11	Brakes - System Controller		
12	Brakes - Steer Axle		
13	Brakes - Drive axle #1		
14	Brakes - Drive Axle #2		
15	Retarder – Engine		Engine Compression Braking
16	Retarder – Driveline		
17	Cruise Control		Speed-based control
18	Fuel System		
19	Steering Controller		
20	Suspension – Steer Axle		
21	Suspension – Drive Axle #1		
22	Suspension – Drive Axle #2		
23	Instrument Cluster		
24	Trip Recorder		
25	Passenger-Operator Climate Control		
26	Electrical Charging System		
27	Aerodynamic Control		
28	Vehicle Navigation		
29	Vehicle Security		
30	Electrical System		
31	Starter System		
(11)	32	Tractor-Trailer Bridge #1	Tractor mounted bridge leading to trailer(s)
	33	Body Controller	
	34	Auxiliary Valve Control	
	35	Hitch Control	
	36	Power TakeOff (Front or Secondary)	
	37	Off Vehicle Gateway	
	38	Virtual Terminal (in cab)	
(11)	39	Management Computer #1	Manages vehicle systems, i.e. power-train.
	40	Cab Display	Other than instruments or virtual terminal

haust, Engine #1

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	42	Headway Controller	Collision avoidance, speed controller, or speed matching
	43	On-Board Diagnostic Unit	
	44	Retarder, Exhaust, Engine #2	
	45	Endurance Braking System	
	46	Hydraulic Pump Controller	
(11)	47	Suspension - System Controller #1	
	48	Pneumatic - System Controller	
	49	Cab Controller - Primary	
	50	Cab Controller - Secondary	
	51	Tire Pressure Controller	
	52	Ignition Control Module #1	
	53	Ignition Control Module #2	
(7)	54	Seat Controls	
(7)	55	Lighting - Operator Controls	
(8)	56	Rear Axle Steering Controller #1	
(8)	57	Water Pump Controller	
(8)	58	Passenger-Operator Climate Control #2	
(9)	59	Transmission Display - Primary	Display to operate specifically in conjunction with the transmission control
(9)	60	Transmission Display - Secondary	Secondary display to operate specifically in conjunction with the transmission control
(11)	61	Suspension - System Controller #2	
(11)	62	Information System Controller #1	Information management system, for the vehicle's application, such as transit passenger/fare monitoring, truck cargo management, etc.
(11)	63	Ramp Control	Control of ramps, lifts, or tailgates
	64 -127	Reserved for future assignment by SAE	
	128-247	Industry Group Specific (see Tables B3 - B7, one per industry group)	
	248	Reserved for future use	
	249	Off Board Diagnostic-Service Tool #1	
	250	Off Board Diagnostic-Service Tool #2	
	251	On-Board Data Logger	
	252	Reserved for Experimental Use	
	253	Reserved for OEM	
	254	Null Address	
	255	GLOBAL (All-Any Node)	

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 (4) April, 1997 (10) October 1998
 (5) August 1997(11) February 1999



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Table B3
J1939 PREFERRED ADDRESSES
INDUSTRY GROUP #1 - ON-HIGHWAY EQUIPMENT

<u>Rev</u>	<u>Address</u>	<u>ECU-Module</u>	<u>Definition</u>
	128-167	Reserved for future assignment by SAE but available for use by self configurable ECUs	Used for dynamic address assignment
	168	Trailer #5 Bridge	Bridge for fifth towed Vehicle System (e.g. trailer or dolly)
	169	Trailer #5 Lighting-electrical	
	170	Trailer #5 Brakes (ABS-EBS)	
	171	Trailer #5 Reefer	
	172	Trailer #5 Cargo	
(8)	173	Trailer #5 Chassis-Suspension	Recommended address space for subnetwork devices
	174-175	Other Trailer #5 Devices	
	176	Trailer #4 Bridge	Bridge for fourth towed Vehicle System (e.g. trailer or dolly)
	177	Trailer #4 Lighting-electrical	
	178	Trailer #4 Brakes (ABS-EBS)	
	179	Trailer #4 Reefer	
	180	Trailer #4 Cargo	
(8)	181	Trailer #4 Chassis-Suspension	Recommended address space for subnetwork devices
	182-183	Other Trailer #4 Devices	
	184	Trailer #3 Bridge	Bridge for third towed Vehicle System (e.g. trailer or dolly)
	185	Trailer #3 Lighting-electrical	
	186	Trailer #3 Brakes (ABS-EBS)	
	187	Trailer #3 Reefer	
	188	Trailer #3 Cargo	
(8)	189	Trailer #3 Chassis-Suspension	Recommended address space for subnetwork devices
	190-191	Other Trailer #3 Devices	
	192	Trailer #2 Bridge	Bridge for second towed Vehicle System (e.g. trailer or dolly)
	193	Trailer #2 Lighting-electrical	
	194	Trailer #2 Brakes (ABS-EBS)	
	195	Trailer #2 Reefer	
	196	Trailer #2 Cargo	
(8)	197	Trailer #2 Chassis-Suspension	Recommended address space for subnetwork devices
	198-199	Other Trailer #2 Devices	
	200	Trailer #1 Bridge	Bridge for first towed Vehicle System (e.g. trailer or dolly)
	201	Trailer #1 Lighting-electrical	
	202	Trailer #1 Brakes (ABS-EBS)	
	203	Trailer #1 Reefer	
	204	Trailer #1 Cargo	
		1 Chassis-Suspension	

	206-207	Other Trailer #1 Devices	Recommended address space for subnetwork devices
	208-232	Reserved for future assignment by SAE	To be used for individual preassigned addresses
(11)	233	Door Controller # 3	
(11)	234	Door Controller #4	
(11)	235	Tractor/Trailer Bridge #2	Second tractor mounted bridge leading to trailer(s)
	236	Door Controller #1	cab drivers side or first door
	237	Door Controller #2	cab codrivers side or second door
	238	Tachograph	
	239	Electric Propulsion Control Unit #1	First or only on-board device converting torque commands to current commands in an electric vehicle system
	240	Electric Propulsion Control Unit #2	Second on-board device converting torque commands to current commands in an electric vehicle system
	241	Electric Propulsion Control Unit #3	Third on-board device converting torque commands to current commands in an electric vehicle system
	242	Electric Propulsion Control Unit #4	Fourth on-board device converting torque commands to current commands in an electric vehicle system
	243	Battery Pack Monitor #1	Device to monitor battery pack #1
	244	Battery Pack Monitor #2	Device to monitor battery pack #2
	245	Battery Pack Monitor #3	Device to monitor battery pack #3
	246	Battery Pack Monitor #4	Device to monitor battery pack #4
	247	Auxiliary Power Unit (APU)	Device used to provide auxiliary power, such as electrical, hydraulic, pneumatic, or rotary

Notes: Items approved or modified on date

- (1) July, 1996 (7) February 1998
 (2) October, 1996(8) April 1998
 (3) January, 1997(9) July 1998
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 (6) November 1997



Table B4
J1939 PREFERRED ADDRESSES
INDUSTRY GROUP #2 - AGRICULTURAL AND FORESTRY EQUIPMENT

<u>Rev</u>	<u>Address</u>	<u>ECU-Module</u>	<u>Definition</u>
	128-207	Reserved for future assignment by SAE	Used for dynamic address assignment (self-configurable)
	208-240	Reserved for future assignment	Used for individual preassigned addresses
	241	Tailings Monitor	
	242	Header Control	
	243	Grain Loss Monitor	
	244	Moisture Sensor	
	245	Precision Farming Display (non-VT)	
	246	Machine Specific Operator Input	
	247	Mapping Computer (Task Controller)	

Notes: Items approved or modified on date

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- (6) November 1997



Table B5
J1939 PREFERRED ADDRESSES
INDUSTRY GROUP #3 - CONSTRUCTION EQUIPMENT

<u>Rev</u>	<u>Address</u>	<u>ECU-Module</u>	<u>Definition</u>
	128-207	Reserved for future assignment by SAE	Used for dynamic address assignment (self-configurable)
	208-227	Reserved for future assignment	Used for individual preassigned addresses
(11)	228	Loader Control	Controls the hydraulic system of the loader attachment of a loader/backhoe, wheel loader, skid steer, or similar vehicle
(9)	229	Laser Tracer	A device that receives a laser strike and reports the vertical and horizontal position.
(9)	230	Land Leveling System Display	This device displays position information at a remote location.
(9)	231	Single Land Leveling System Supervisor	This device is the Land Leveling System Supervisor for a single control loop.
(9)	232	Land Leveling Electric Mast	A device that moves a Sensor to maintain a specific position.
(9)	233	Single Land Leveling System Operator Interface	A component that allows the user to control the Land Leveling System and display information about the operation of the system.
(9)	234	Laser Receiver	A device that receives a laser strike, and reports the specific position.
(7)	235	Supplemental Sensor Processing Unit #1	
(7)	236	Supplemental Sensor Processing Unit #2	
(7)	237	Supplemental Sensor Processing Unit #3	
(7)	238	Supplemental Sensor Processing Unit #4	
(7)	239	Supplemental Sensor Processing Unit #5	
(7)	240	Supplemental Sensor Processing Unit #6	
	241	Engine Monitor #1	
	242	Engine Monitor #2	
	243	Engine Monitor #3	
	244	Engine Monitor #4	
	245	Engine Monitor #5	
	246	Engine Monitor #6	
	247	Engine Monitor #7	

Notes: Items approved or modified on date

(7) February 1998



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(2) October, 1996(8) April 1998
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(4) April, 1997 (10) October 1998
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(6) November 1997



Table B6
J1939 PREFERRED ADDRESSES
INDUSTRY GROUP #4 - MARINE EQUIPMENT

<u>Rev</u>	<u>Address</u>	<u>ECU-Module</u>	<u>Definition</u>
	128-207	Reserved for future assignment by SAE	Used for dynamic address assignment (self-configurable)
	208-247	Reserved for future assignment	Used for individual preassigned addresses

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- (6) November 1997



Table B7
J1939 PREFERRED ADDRESSES
INDUSTRY GROUP #5 - INDUSTRIAL, PROCESS CONTROL, STATIONARY EQUIPMENT

<u>Rev</u>	<u>Address</u>	<u>ECU-Module</u>	<u>Definition</u>
	128-207	Reserved for future assignment by SAE	Used for dynamic address assignment (self-configurable)
	208-234	Reserved for future assignment	Used for individual preassigned addresses
(7)	235	Supplemental Sensor Processing Unit #1	
(7)	236	Supplemental Sensor Processing Unit #2	
(7)	237	Supplemental Sensor Processing Unit #3	
(7)	238	Supplemental Sensor Processing Unit #4	
(7)	239	Supplemental Sensor Processing Unit #5	
(7)	240	Supplemental Sensor Processing Unit #6	
	241	Engine Monitor #1	
	242	Engine Monitor #2	
	243	Engine Monitor #3	
	244	Engine Monitor #4	
	245	Engine Monitor #5	
	246	Engine Monitor #6	
	247	Engine Monitor #7	

Notes: Items approved or modified on date

- | | |
|-------------------|--------------------|
| (1) July, 1996 | (7) February 1998 |
| (2) October, 1996 | (8) April 1998 |
| (3) January, 1997 | (9) July 1998 |
| (4) April, 1997 | (10) October 1998 |
| (5) August 1997 | (11) February 1999 |
| (6) November 1997 | |



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**Tables B8 through B9
J1939 PREFERRED ADDRESSES
(Industry Groups 6 to 7)
Reserved for future assignment**



TABLE B10
J1939 MANUFACTURER CODES

<u>Rev</u>	<u>COD</u> <u>E</u>	<u>MANUFACTURER</u>	<u>LOCATION</u>
0	Reserved		
1	Allied Signal Inc.		Elyria, OH, USA
2	Allison Transmission, GMC		Indianapolis, IN, USA
3	Ametek, US Gauge Division		Sellersville, PA, USA
4	Ametek-Dixson		Grand Junction, CO, USA
5	AMP Inc.		Harrisburg, PA, USA
6	Berifors Electronics AB		Stockholm, Sweden
7	Case Corp.		Burr Ridge, IL, USA
8	Caterpillar Inc.		Peoria, IL, USA
9	Chrysler Corp.		Auburn Hills, MI, USA
10	Cummins Engine Co		Columbus, IN, USA
11	Dearborn Group Inc.		Indianapolis, IN, Farmington Hills, MI, USA
12	Deere & Company, Precision Farming		East Moline, IL, USA
13	Delco Electronics		Kokomo, IN, USA
14	Detroit Diesel Corporation		Detroit, MI, USA
15	Dickey-john Corp.		Auburn IL, USA
16	Eaton Corp		Southfield, MI, USA
17	Eaton Corp, Corp Res & Dev		Milwaukee, WI, USA
18	Faton Corp, Transmission Div.		Kalamazoo, MI, USA



	19	Eaton Corp. Trucking Info Services	Clemmons, NC, USA
	20	Eaton Ltd	Worsley, England
	21	Echlin Inc., Midland Brake Inc.	Kansas City, MO, USA
	22	Ford Motor Co., Electronic Concepts & Systems	Dearborn, MI, USA
	23	Ford Motor Co., Heavy Truck	Dearborn, MI, USA
	24	Ford Motor Co., Vehicle Controls	Dearborn, MI, USA
	25	Freightliner Corp.	Portland, OR, USA
	26	General Motors Corp, Service Technology Grp	Romulus, MI, USA
	27	GMC	Troy, MI, USA
	28	Grote Ind. Inc.	Madison, IN, USA
	29	Hino Motors Ltd.	Tokyo, Japan
	30	Isuzu Motors Ltd	Kawasaki, Japan
	31	J Pollak Corp	Boston, MA, USA
(9)	32	Jacobs Vehicle Systems	Bloomfield, CT, USA
	33	John Deere	Waterloo IA, USA
	34	Kelsey Hayes Co.	Livonia, MI, USA
	35	Kenworth Truck Co.	Kirkland, WA, USA
	36	Lucas Ind.	Solihull WMidInd, England
	37	Mack Trucks Inc.	Hagerstown, MD, USA
	38	Micro Processor Systems Inc.	Sterling Hts, MI, USA
	39	Microfirm Inc.	Stillwater, OK, USA
	40	Motorola AIEGInc.	Northbrook, IL, USA
	41	Motorola Inc.	Schaumburg, IL, USA
	42	Navistar Intl Trans Co., Engine Electronics	Melrose Park, IL, USA



	43	Navistar Intl Trans Corp.,	Fort Wayne, IN, USA
	44	Nippondenso Co. Ltd.	Kariya Aichi, Japan
	45	PACCAR	Mount Vernon, WA, USA
	46	Parasoft Computing Solutions	Winston Salem, NC, USA
	47	Phillips Semiconductor	Sunnyvale, CA, USA
	48	Pollak Alphabet	El Paso, TX, USA
	49	RE America Inc.	Cleveland, OH, USA
	50	Robert Bosch Corp	Broadview, IL, USA
	51	Robert Bosch GmbH	Stuttgart, Germany
(6)	52	Meritor Automotive, Inc. (formerly Rockwell Automotive)	Troy, MI, USA
	53	Rockwell Land Transportation	Cedar Rapids, IA, USA
	54	Meritor Wabco	Troy, MI, USA
	55	Ryder System Inc.	Miami, FL, USA
	56	SAIC	San Diego, CA, USA
	57	Sauer Sundstrand Co.	Minneapolis, MN, USA
	58	SPX Corporation, OTC Div	Owatonna, MN, USA
	59	VES Inc.	Rock Hill, SC, USA
(11)	60	Volvo Trucks North America Inc.	Greensboro, NC, USA
	61	Volvo Truck Corp.	Göteborg, Sweden
	62	Wabco	Hanover, Germany
	63	ZF Industries Inc.	Vernon Hills, IL, USA
(8)	64	Spectra Precision, Inc. (Previously Spectra-Physics Laserplane Inc.)	Dayton, OH, USA
(11)	65	MAN Nutzfahrzeuge AG	Munich, Germany
	66	John Deere, Worldwide Industrial Equipment Division	Dubuque, IA, USA



	67	Funk Manufacturing Company	Coffeyville, KS, USA
	68	Scania	Södertälje, Sweden
	69	Trimble Navigation	Sunnyvale, CA, USA
	70	Flex-coil Limited	Saskatoon, SK, Canada
	71	Vansco Electronics Ltd.	Winnipeg, Manitoba, Canada
	72	Sisu Corporation	ESPOO, Finland
	73	LeTourneau, Inc.	Longview, Texas, USA
	74	Eaton Axle-Brake Division	Kalamazoo, MI, USA
(7)	75	Deere & Co, Agricultural Division	
(7)	76	Deere & Co, Construction Division	
(7)	77	Deere Power Systems Group	
(7)	78	Frank W. Murphy Manufacturing, Inc	Tulsa, OK, USA
(7)	79	Daimler Benz AG - Engine Division (PBM)	Stuttgart, Germany
(8)	80	Twin Disc, Inc.	Racine, WI, USA
(8)	81	Fire Research Corp.	Nesconset, NY, USA
	82 - 2047	reserved for future assignment	

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TABLE B11
J1939 ALL-INDUSTRY-INCLUSIVE NAMES

The NAME fields are described in Section 3.1.3 and in J1939-81, Section 4.1. This table defines the Lower 128 Functions which are independent of the Vehicle System or Industry Group. These functions are used with all 8 Industry Groups, which is a distinction from Industry Group 0 which is an Industry Group itself but applicable to all industries.

<u>Rev</u>	<u>Value</u>	<u>FUNCTION</u> <u>Description</u>	<u>NOTES</u>
	0	Engine	
		Auxiliary Power Unit (APU)	
		Electric Propulsion Control	
		Transmission	
		Battery Pack Monitor	
		Shift Control	
		Power TakeOff - (Main or Rear)	
		Axle - Steering	
		Axle - Drive	
		Brakes - System Controller	
		Brakes - Steer Axle	
		Brakes - Drive axle	
		Retarder - Engine	
		Retarder - Driveline	
		Cruise Control	
		Fuel System	
		Steering Controller	
		Suspension - Steer Axle	
		Suspension - Drive Axle	
		Instrument Cluster	
		Trip Recorder	
		Cab Climate Control	
		Aerodynamic Control	
		Vehicle Navigation	
		Vehicle Security	
		Network Interconnect ECU	For any Vehicle System (tractor or trailer)
		Body Controller	
		Power TakeOff (Front or Secondary)	
		Off Vehicle Gateway	
		Virtual Terminal (in cab)	
(11)	30	Management Computer #1	
	31	Propulsion Battery Charger	
	32	Headway Controller	
	33	System Monitor	
	34	Hydraulic Pump Controller	
	35	Suspension - System Controller	
	36	Pneumatic - System Controller	
	37	Cab Controller	
	38	Tire Pressure Control	
	39	Ignition Control Module	
(11)	40	Seat Controls	
		j - Operator Controls	

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(8)	42	Water Pump Control	
(9)	43	Transmission Display	
(11)	44	Information System Controller #1	
(11)	45	Ramp Control	
	46-127	reserved	

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(6) November 1997



TABLE B12
J1939 NAMES

The NAME fields are described in Section 3.1.3 and in J1939-81, Section 4.1. This table defines the Upper 128 Functions which are dependent on the Industry Group and Vehicle System. Due to the dependencies of Vehicle System on Industry Group, and of Function on Vehicle System, the following table is used to define both Vehicle System and Function.

<u>Rev</u>	<u>Industry Group</u>	<u>Vehicle System</u>		<u>Function</u>		<u>Notes</u>
		<u>Value</u>	<u>Description</u>	<u>Value</u>	<u>Description</u>	
	0	0	Non-specific system	0-127	See Table B11	Industry non-specific
				128	Reserved	
				129	Off-board diagnostic-service tool	
				130	On-board data logger	
				131-254	Reserved for future assignment	
	1	0	Non-specific system			On-Highway Equipment
				0-127	See Table B11	Industry non-specific
				128	Tachograph	
				129	Door Controller	
				130-254	Reserved for future assignment	
		1	Tractor			Towing Vehicle System
				0-127	See Table B11	Industry non-specific
				128-254	Reserved for future assignment	
		2	Trailer			Towed Vehicle System
				0-127	See Table B11	Industry non-specific
				128-254	Reserved for future assignment	
	2	0	Non-specific system			Agricultural Equipment
(7)				0-127	See Table B11	Industry non-specific
(7)				128	Precision Farming Display (non-VT)	
(7)				129	Machine Specific Operator Input	
(7)				130	Mapping Computer (Task Controller)	
(7)				131 - 254	Reserved for future assignment	
(7)		1	Tractor			Towing Vehicle System
(7)				0-127	See Table B11	Industry non-specific
(7)				128-254	Reserved for future assignment	
(7)						
			Tillage			

(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)	3	Secondary Tillage			
(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)	4	Planters-Seeders			
(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)	5	Fertilizers			
(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)	6	Sprayers			
(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)	7	Combine Harvesters			
(7)			0-127	See Table B11	Industry non-specific
(7)			128	Tailings Monitor	
(7)			129	Header Control	
(7)			130	Grain Loss Monitor	
(7)			131	Moisture Sensor	
(7)			132-254	Reserved for future assignment	
(7)	8	Root Harvesters			
(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)	9	Forage			
(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)	10	Irrigation			
(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)	11	Transport-Trailer			Towed Vehicle
(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)	12	Farm Yard Operations			
(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)		Powered Auxiliary Devices			

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(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)	14	Special Crops			
(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)	15	Earth Work			
(7)			0-127	See Table B11	Industry non-specific
(7)			128-254	Reserved for future assignment	
(7)					
	3				Construction Equipment
		0 Non-specific system			
			0-127	See Table B11	Industry non-specific
(7)			128	Supplemental Engine Control Sensing	
(9)			129	Laser Receiver	A device that receives a laser strike, and reports the specific position.
(9)			130	Single Land Leveling System Operator Interface	A component that allows the user to control the Land Leveling System and display information about the operation of the system.
(9)			131	Land Leveling Electric Mast	A device that moves a Sensor to maintain a specific position.
(9)			132	Single Land Leveling System Supervisor	This device is the Land Leveling System Supervisor for a single control loop.
(9)			133	Land Leveling System Display	This device displays position information at a remote location.
(9)			134	Laser Tracer	A device that receives a laser strike and reports the vertical and horizontal position.
(11)			135	Loader Control	Controls the hydraulic system of the loader attachment of a loader/backhoe, wheel loader, skid steer, or similar vehicle
			136-254	Reserved for future assignment	
	4				Marine
		0 Non-specific system			
			0-127	See Table B11	Industry non-specific
			128-254	Reserved for future assignment	



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	5				Industrial-Process Control-Stationary (Gen-Sets)
		0	Non-specific system		
(7)		0-127	See Table B11	Industry non-specific	
(7)		128	Supplemental Engine Control Sensing		
		129-254	Reserved for future assignment		

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APPENDIX C

FAULT REPORTING PARAMETERS



TABLE C1
Suspect Parameter Numbers (SPN)

Rev.	Parameter ¶ Num	Parameter	J1939-71 Reference				J1587 Reference			
			SPN	PGN	PGN ¶ Num	pos	bit size	PID	MI D	SID
(7)	3.2.5.286	Fuel Filter (Suction Side) Differential Pressure (see also SPN 1382)	16	65130	3.3.112	3	8	16		
(8)		Extended Range Fuel Pressure	18					18		
(8)		Extended Range Engine Oil Pressure	19					19		
(8)		Extended Range Engine Coolant Pressure	20					20		
(8)	3.2.5.216	Engine ECU Temperature (see also SPNs 1136 and 1207)	21	65188	3.3.085	3,4	16	21		
(9)	3.2.5.241	Extended Crankcase Blow-by Pressure (see also SPN 1264)	22	65263	3.3.029	2	8	22		
		Generator Oil Pressure	23					23		
		Generator Coolant Temperature	24					24		
(2)		Percent Exhaust Gas Recirculation Valve Position	27					27		
(1)		Percent Accelerator Position #3	28					28		
(1)		Percent Accelerator Position #2	29					29		
(1)		Crankcase Blowby Pressure	30					30		
(3)		Transmission Range Position	31					31		
		Transmission Splitter Position	32					32		
		Clutch Cylinder Position	33					33		
		Clutch Plates	36					36		
		Transmission Tank Air Pressure	37					37		
		Second Fuel Level (Right Side)	38					38		
(8)	3.2.5.269	Tire Pressure Check Interval	39	65144	3.3.132	1	8	39		
(3)	3.2.5.170	Vehicle Wet Tank Pressure (Supply Pressure)	46	65198	3.3.075	1	8	46		
		Extended Range Barometric Pressure	48					48		
	3.2.5.096	Throttle Position	51	65266	3.3.032	7	8	51		
	3.2.5.006	Engine Intercooler Temperature	52	65262	3.3.028	7	8	52		
	3.2.5.100	Transmission Synchronizer Clutch Value	53	65221	3.3.051	1	8	53		
	3.2.5.101	Transmission Synchronizer Brake Value	54	65221	3.3.051	2	8	54		
	3.2.5.099	Shift Finger Gear Position	59	65223	3.3.050	1	8	59		
	3.2.5.098	Shift Finger Rail Position	60	65223	3.3.050	2	8	60		
	3.2.6.001	Two Speed Axle Switch	69	65265	3.3.031	1.1	2	69		
	3.2.6.008	Parking Brake Switch	70	65265	3.3.031	1.3	2	70		
	3.2.5.069	Blower Bypass Valve Position	72	65277	3.3.043	1	8	72		
	3.2.5.022	Auxiliary Pump Pressure	73	65278	3.3.044	1	8	73		
	3.2.5.046	Maximum Vehicle Speed Limit	74	65261	3.3.027	1	8	74		
	3.2.5.001	Steering Axle Temperature	75	65273	3.3.039	1	8	75		
		Axle Lift Air Pressure	76					76		
		Forward Rear Drive Axle Temperature	77					77		
		Rear Rear Drive Axle Temperature	78					78		
	3.2.5.009	Road Surface Temperature	79	65269	3.3.035	7,8	16	79		
	3.2.5.070	Washer Fluid Level	80	65276	3.3.042	1	8	80		
	3.2.5.041	Particulate Trap Inlet Pressure	81	65270	3.3.036	1	8	81		
	3.2.5.026	Air Start Pressure	82	65246	3.3.012	1	8	82		
	3.2.1.12	Wheel-Based Vehicle Speed	84	65265	3.3.031	2,3	16	84		
		Speed	86	65265	3.3.031	6	8	86		
		Sh Set Limit Speed	87	65261	3.3.027	2	8	87		



3.2.5.049	Cruise Control Low Set Limit Speed	88	65261	3.3.027	3	8	88
3.2.5.003	Power Takeoff Oil Temperature	90	65264	3.3.030	1	8	90
3.2.1.08	Accelerator Pedal (AP) Position	91	61443	3.3.006	2	8	91
3.2.1.07	Percent Load At Current Speed	92	61443	3.3.006	3	8	92
	Net Brake Torque	93					93
3.2.5.027	Fuel Delivery Pressure	94	65263	3.3.029	1	8	94
3.2.5.035	Fuel Filter Differential Pressure	95	65276	3.3.042	3	8	95
3.2.5.071	Fuel Level	96	65276	3.3.042	2	8	96
3.2.6.007	Water In Fuel Indicator	97	65279	3.3.045	1.1	2	97
3.2.5.072	Engine Oil Level	98	65263	3.3.029	3	8	98
3.2.5.042	Engine Oil Filter Differential Pressure	99	65276	3.3.042	4	8	99
3.2.5.028	Engine Oil Pressure	100	65263	3.3.029	4	8	100
3.2.5.040	Crankcase Pressure	101	65263	3.3.029	5,6	16	101
3.2.5.036	Boost Pressure	102	65270	3.3.036	2	8	102
3.2.5.053	Turbocharger 1 Speed	103	65245	3.3.011	2,3	16	103
3.2.5.029	Turbocharger Lube Oil Pressure 1	104	65245	3.3.011	1	8	104
3.2.5.004	Intake Manifold 1 Temperature	105	65270	3.3.036	3	8	105
3.2.5.037	Air Inlet Pressure	106	65270	3.3.036	4	8	106
3.2.5.045	Air Filter Differential Pressure	107	65270	3.3.036	5	8	107
3.2.5.043	Barometric Pressure	108	65269	3.3.035	1	8	108
3.2.5.038	Coolant Pressure	109	65263	3.3.029	7	8	109
3.2.5.005	Engine Coolant Temperature	110	65262	3.3.028	1	8	110
3.2.5.073	Coolant Level	111	65263	3.3.029	8	8	111
3.2.5.044	Coolant Filter Differential Pressure	112	65270	3.3.036	8	8	112
	Governor Droop	113					113
3.2.5.078	Net Battery Current	114	65271	3.3.037	1	8	114
3.2.5.079	Alternator Current	115	65271	3.3.037	2	8	115
3.2.5.030	Brake Application Pressure	116	65274	3.3.040	1	8	116
3.2.5.031	Brake Primary Pressure	117	65274	3.3.040	2	8	117
3.2.5.032	Brake Secondary Pressure	118	65274	3.3.040	3	8	118
3.2.5.033	Hydraulic Retarder Pressure	119	65275	3.3.041	1	8	119
3.2.5.007	Hydraulic Retarder Oil Temperature	120	65275	3.3.041	2	8	120
	Engine Retarder Percent	122					122
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3.2.1.22	Current Gear	523	61445	3.3.008	4	8	
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3.2.1.28	Engine Speed At Points 3, 4, And 5 (Engine Configuration)	529	65251	3.3.017	07,08	16	
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3.2.1.36	Percent Torque At Idle, Point 1 (Engine Configuration)	539	65251	3.3.017	03	8
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3.2.1.38	Percent Torque At Points 3, 4, And 5 (Engine Configuration)	541	65251	3.3.017	09	8
3.2.1.38	Percent Torque At Points 3, 4, And 5 (Engine Configuration)	542	65251	3.3.017	12	8
3.2.1.38	Percent Torque At Points 3, 4, And 5 (Engine Configuration)	543	65251	3.3.017	15	8
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3.2.1.40	Gain (Kp) Of The Endspeer Governor (Engine Configuration)	545	65251	3.3.017	18,19	16
3.2.1.41	Retarder Speed At Idle, Point 1 (Retarder Configuration)	546	65249	3.3.015	03,04	16
3.2.1.42	Retarder Speed At Peak Torque, Point 5 (Retarder Configuration)	547	65249	3.3.015	15,16	16
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3.2.1.44	Retarder Speed At Points 3 And 4 (Retarder Configuration)	549	65249	3.3.015	09,10	16
3.2.1.44	Retarder Speed At Points 3 And 4 (Retarder Configuration)	550	65249	3.3.015	12,13	16
3.2.1.45	Percent Torque At Idle, Point 1 (Retarder Configuration)	551	65249	3.3.015	05	8
3.2.1.46	Percent Torque At Maximum Speed, Point 2 (Retarder Configuration)	552	65249	3.3.015	08	8
3.2.1.47	Percent Torque At Points 3 And 4 (Retarder Configuration)	553	65249	3.3.015	11	8
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3.2.1.48	Percent Torque At Peak Torque, Point 5 (Retarder Configuration)	555	65249	3.3.015	19	8
3.2.1.49	Reference Retarder Torque (Retarder Configuration)	556	65249	3.3.015	17,18	16
3.2.1.50	Retarder Control Method (Retarder Configuration)	557	65249	3.3.015	02	8
3.2.2.04	Accelerator Pedal Low Idle Switch	558	61443	3.3.006	1.1	2
3.2.2.05	Accelerator Pedal Kickdown Switch	559	61443	3.3.006	1.3	2
3.2.2.06	Driveline Engaged	560	61442	3.3.005	1.1	2
3.2.2.07	ASR Engine Control Active	561	61441	3.3.004	1.1	2
3.2.2.08	ASR Brake Control Active	562	61441	3.3.004	1.3	2
3.2.2.09	Anti-Lock Braking (ABS) Active	563	61441	3.3.004	1.5	2
3.2.2.10	Differential Lock State - Central	564	61446	3.3.009	3.1	2
3.2.2.10	Differential Lock State - Central Front	565	61446	3.3.009	3.3	2
3.2.2.10	Differential Lock State - Central Rear	566	61446	3.3.009	3.5	2
3.2.2.10	Differential Lock State - Front Axle 1	567	61446	3.3.009	2.1	2
3.2.2.10	Differential Lock State - Front Axle 2	568	61446	3.3.009	2.3	2
3.2.2.10	Differential Lock State - Rear Axle 1	569	61446	3.3.009	2.5	2
3.2.2.10	Differential Lock State - Rear Axle 2	570	61446	3.3.009	2.7	2
3.2.2.11	Retarder Enable - Brake Assist Switch	571	61440	3.3.003	1.5	2
3.2.2.12	Retarder Enable - Shift Assist Switch	572	61440	3.3.003	1.7	2
3.2.2.13	Torque Converter Lockup Engaged	573	61442	3.3.005	1.3	2
3.2.2.14	Shift In Process	574	61442	3.3.005	1.5	2
3.2.2.15	ABS Offroad Switch	575	61441	3.3.004	3.1	2
3.2.2.16	ASR Offroad Switch	576	61441	3.3.004	3.3	2
3.2.2.17	ASR "Hill Holder" Switch	577	61441	3.3.004	3.5	2
3.2.5.002	Drive Axle Temperature	578	65273	3.3.039	4	8
3.2.5.025	Drive Axle Lift Air Pressure	579	65273	3.3.039	3	8
3.2.5.052	Altitude	580	65256	3.3.022	7,8	16
3.2.4.02	Gear Ratio	581	65250	3.3.016	3,4	16
3.2.5.080	Axle Weight	582	65258	3.3.024	2,3	16
3.2.5.084	Pitch	583	65256	3.3.022	5,6	16
		584	65267	3.3.033	1-4	32



3.2.5.086	Longitude	585	65267	3.3.033	5-8	32		
3.2.5.090	Make	586	65259	3.3.025	1	n/a		
3.2.5.091	Model	587	65259	3.3.025	2	n/a		
3.2.5.092	Serial Number	588	65259	3.3.025	3	n/a		
3.2.5.097	Alternator Speed	589	65237	3.3.049	1,2	16		
3.2.6.002	Idle Shutdown Timer State	590	65252	3.3.018	1.7	2		
3.2.6.003	Idle Shutdown Timer Function	591	65252	3.3.018	2.7	2		
3.2.6.004	Idle Shutdown Timer Override	592	65252	3.3.018	1.5	2		
3.2.6.005	Idle Shutdown has Shutdown engine	593	65252	3.3.018	1.1	2		
3.2.6.006	Idle Shutdown Driver Alert Mode	594	65252	3.3.018	1.3	2		
3.2.6.009	Cruise Control Active	595	65265	3.3.031	4.1	2		
3.2.6.010	Cruise Control Enable Switch	596	65265	3.3.031	4.3	2		
3.2.6.011	Brake Switch	597	65265	3.3.031	4.5	2	0	246
3.2.6.012	Clutch Switch	598	65265	3.3.031	4.7	2	0	245
3.2.6.014	Cruise Control Set Switch	599	65265	3.3.031	5.1	2		
3.2.6.015	Cruise Control Coast (Decelerate) Switch	600	65265	3.3.031	5.3	2		
3.2.6.016	Cruise Control Resume Switch	601	65265	3.3.031	5.5	2		
3.2.6.017	Cruise Control Accelerate Switch	602	65265	3.3.031	5.7	2		
	Brake Pedal Switch #2	603					0	247
3.2.6.037	Transmission Neutral Switch	604	65219	3.3.052	2.3	2	0	226
3.2.6.050	Refrigerant High Pressure Switch	605	65252	3.3.018	3.5	2	0	228
3.2.3.12	Momentary Engine Overspeed Enable	606	61442	3.3.005	5.1	2		
3.2.3.11	Progressive Shift Disable	607	61442	3.3.005	5.3	2		
(11)	J1587 (previously SAE J1708 (J1587) Data Link)	608	57088	-73	1.5	2	0	250
	Controller #2	609					0	233
	Power Connect Device	610					0	236
	System Diagnostic Code #1	611					0	151
	System Diagnostic Code #2	612					0	152
	System Diagnostic Code #3	613					0	153
	System Diagnostic Code #4	614					0	154
	System Diagnostic Code #5	615					0	155
	Auxiliary Analog Input #1	616					0	227
	Parking Brake On Actuator	617					0	234
	Parking Brake Off Actuator	618					0	235
3.2.6.013	Parking Brake Actuator	619	65274	3.3.040	4.1	2		
	5 Volts DC Supply	620					0	232
	Antenna Electronics	621					219	2
(11)	J1922 (previously SAE J1922 Data Link)	622	57088	-73	1.3	2	0	249
(11)	Red Stop Lamp (previously Diagnostic Lamp – Red)	623	65226	-73	1.5	2	0	238
(11)	Amber Warning Lamp (previously Diagnostic Light – Amber)	624	65226	-73	1.3	2	0	239
	Proprietary Data Link	625					0	248
	Start Enable Device	626					0	237
	Power Supply	627					0	251
	Program Memory	628					0	240
	Controller #1	629					0	254
	Calibration Memory	630					0	253
	Calibration Module	631					0	252
	Fuel Shutoff Valve	632					128	17
	Fuel Control Valve #1	633					128	18
	Throttle Bypass Valve	634					128	19
	Timing Actuator #1	635					128	20
	nsor	636					128	21
		637					128	22



	Rack Actuator	638					128	23
(11)	J1939 Network #1, Primary Vehicle Network (previously SAE J1939 Data Link)	639	57088	-73	1.1	2	0	231
	External Engine Protection Input	640					128	25
	Variable Geometry Turbocharger Actuator #1	641					128	27
	Variable Geometry Turbocharger Actuator #2	642					128	28
	External Fuel Command Input	643					128	29
	External Speed Command Input	644					128	30
	Tachometer Signal Output	645					128	31
(4) 3.2.5.209	Turbocharger 1 Wastegate Drive (see also SPN 1188)	646	65174	3.3.099	1	8	128	32
	Fan Clutch Output Device Driver	647					128	33
	Exhaust Back Pressure Sensor	648					128	34
	Exhaust Back Pressure Regulator Solenoid	649					128	35
	Electronic Drive Unit Power Relay	650					128	37
	Injector Cylinder #01	651					128	1
	Injector Cylinder #02	652					128	2
	Injector Cylinder #03	653					128	3
	Injector Cylinder #04	654					128	4
	Injector Cylinder #05	655					128	5
	Injector Cylinder #06	656					128	6
	Injector Cylinder #07	657					128	7
	Injector Cylinder #08	658					128	8
	Injector Cylinder #09	659					128	9
	Injector Cylinder #10	660					128	10
	Injector Cylinder #11	661					128	11
	Injector Cylinder #12	662					128	12
	Injector Cylinder #13	663					128	13
	Injector Cylinder #14	664					128	14
	Injector Cylinder #15	665					128	15
	Injector Cylinder #16	666					128	16
	Injector Cylinder #17	667					128	47
	Injector Cylinder #18	668					128	48
	Injector Cylinder #19	669					128	49
	Injector Cylinder #20	670					128	50
	Injector Cylinder #21	671					128	72
	Injector Cylinder #22	672					128	73
	Injector Cylinder #23	673					128	74
	Injector Cylinder #24	674					128	75
	Glow Plug Lamp	675					128	36
	Glow Plug Relay	676					128	38
	Engine Starter Motor Relay	677					128	39
	ECU 8 Volts DC Supply	678					128	41
	Injection Control Pressure Regulator	679					128	42
	Variable Swirl System Valve	680					128	61
3.2.3.04	Gear Shift Inhibit Request	681	256	3.3.002	1.1	2		
3.2.3.05	Torque Converter Lockup Disable Request	682	256	3.3.002	1.3	2		
3.2.3.06	Disengage Driveline Request	683	256	3.3.002	1.5	2		
3.2.1.21	Requested Percent Clutch Slip	684	256	3.3.002	2	8		
3.2.3.07	Disengage Differential Lock Request - Front Axle 1	685	256	3.3.002	4.1	2		
3.2.3.07	Disengage Differential Lock Request - Front Axle 2	686	256	3.3.002	4.3	2		
3.2.3.07	Disengage Differential Lock Request - Rear Axle 1	687	256	3.3.002	4.5	2		
3.2.3.07	Disengage Differential Lock Request - Rear Axle 2	688	256	3.3.002	4.7	2		
	Disengage Differential Lock Request - Central	689	256	3.3.002	5.1	2		



3.2.3.07	Disengage Differential Lock Request - Central Front	690	256	3.3.002	5.3	2		
3.2.3.07	Disengage Differential Lock Request - Central Rear	691	256	3.3.002	5.5	2		
3.2.3.08	ABS Offroad Switch Request	692						
3.2.3.09	ASR Offroad Switch Request	693						
3.2.3.10	ASR "Hill Holder" Switch Request	694						
3.2.3.01	Override Control Mode	695	0	3.3.001	1.1	2		
3.2.3.02	Requested Speed Control Conditions	696	0	3.3.001	1.3	2		
	Auxiliary PWM Driver #1	697					128	57
	Auxiliary PWM Driver #2	698					128	58
	Auxiliary PWM Driver #3	699					128	59
	Auxiliary PWM Driver #4	700					128	60
3.2.6.018	Auxiliary I/O #01	701	65241	3.3.048	1.7	2	128	26
3.2.6.018	Auxiliary I/O #02	702	65241	3.3.048	1.5	2	128	40
3.2.6.018	Auxiliary I/O #03	703	65241	3.3.048	1.3	2	128	51
3.2.6.018	Auxiliary I/O #04	704	65241	3.3.048	1.1	2	128	52
3.2.6.018	Auxiliary I/O #05	705	65241	3.3.048	2.7	2	128	53
3.2.6.018	Auxiliary I/O #06	706	65241	3.3.048	2.5	2	128	54
3.2.6.018	Auxiliary I/O #07	707	65241	3.3.048	2.3	2	128	55
3.2.6.018	Auxiliary I/O #08	708	65241	3.3.048	2.1	2		
3.2.6.018	Auxiliary I/O #09	709	65241	3.3.048	3.7	2		
3.2.6.018	Auxiliary I/O #10	710	65241	3.3.048	3.5	2		
3.2.6.018	Auxiliary I/O #11	711	65241	3.3.048	3.3	2		
3.2.6.018	Auxiliary I/O #12	712	65241	3.3.048	3.1	2		
3.2.6.018	Auxiliary I/O #13	713	65241	3.3.048	4.7	2		
3.2.6.018	Auxiliary I/O #14	714	65241	3.3.048	4.5	2		
3.2.6.018	Auxiliary I/O #15	715	65241	3.3.048	4.3	2		
3.2.6.018	Auxiliary I/O #16	716	65241	3.3.048	4.1	2		
	Autoshift High Gear Actuator	717					128	43
	Autoshift Low Gear Actuator	718					128	44
	Autoshift Neutral Actuator	719					128	45
	Autoshift Common Low Side (Return)	720					128	46
	Prestroke Sensor	721					128	62
	Prestroke Actuator	722					128	63
	Engine Speed Sensor #2	723					128	64
	Heated Oxygen Sensor	724					128	65
	Ignition Control Mode Signal	725					128	66
	Ignition Control Timing Signal	726					128	67
	Secondary Turbo Inlet Pressure	727					128	68
	After Cooler-Oil Cooler Coolant Temperature	728					128	69
	Inlet Air Heater Driver #1	729					128	70
	Inlet Air Heater Driver #2	730					128	71
	Knock Sensor	731					128	76
	Gas Metering Valve	732					128	77
	Rack Position Sensor	733					128	24
	C1 Solenoid Valve	734					130	1
	C2 Solenoid Valve	735					130	2
	C3 Solenoid Valve	736					130	3
	C4 Solenoid Valve	737					130	4
	C5 Solenoid Valve	738					130	5
	C6 Solenoid Valve	739					130	6
3.2.6.032	Lockup Clutch Actuator	740	65223	3.3.050	6.3	2	130	7
	Valve	741					130	8
	id Valve	742					130	9



	Retarder Enable Solenoid Valve	743					130	10
	Retarder Modulation Solenoid Valve	744					130	11
	Retarder Response Solenoid Valve	745					130	12
	Differential Lock Solenoid Valve	746					130	13
	Engine/Transmission Match	747					130	14
3.2.6.039	Transmission Output Retarder	748	65218	3.3.053	1.1	2	130	15
	Neutral Start Output	749					130	16
	Turbine Speed Sensor	750					130	17
	Primary Shift Selector	751					130	18
	Secondary Shift Selector	752					130	19
	Special Function Inputs	753					130	20
	C1 Clutch Pressure Indicator	754					130	21
	C2 Clutch Pressure Indicator	755					130	22
	C3 Clutch Pressure Indicator	756					130	23
	C4 Clutch Pressure Indicator	757					130	24
	C5 Clutch Pressure Indicator	758					130	25
	C6 Clutch Pressure Indicator	759					130	26
	Lockup Clutch Pressure Indicator	760					130	27
	Forward Range Pressure Indicator	761					130	28
	Neutral Range Pressure Indicator	762					130	29
	Reverse Range Pressure Indicator	763					130	30
	Retarder Response System Pressure Indicator	764					130	31
	Differential Lock Clutch Pressure Indicator	765					130	32
	Multiple Pressure Indicators	766					130	33
3.2.6.038	Transmission Reverse Direction Switch	767	65219	3.3.052	2.1	2	130	34
3.2.6.029	Range High Actuator	768	65223	3.3.050	5.1	2	130	35
3.2.6.028	Range Low Actuator	769	65223	3.3.050	5.3	2	130	36
3.2.6.027	Splitter Direct Actuator	770	65223	3.3.050	5.5	2	130	37
3.2.6.026	Splitter Indirect Actuator	771	65223	3.3.050	5.7	2	130	38
3.2.6.024	Shift Finger Rail Actuator 1	772	65223	3.3.050	4.1	2	130	39
3.2.6.022	Shift Finger Gear Actuator 1	773	65223	3.3.050	4.3	2	130	40
	Upshift Request Switch	774					130	41
	Downshift Request Switch	775					130	42
	Torque Converter Interrupt Actuator	776					130	43
	Torque Converter Lockup Actuator	777					130	44
3.2.6.035	Transmission High Range Sense Switch	778	65219	3.3.052	1.1	2	130	45
3.2.6.034	Transmission Low Range Sense Switch	779	65219	3.3.052	1.3	2	130	46
3.2.6.019	Shift Finger Neutral Indicator	780	65223	3.3.050	3.1	2	130	47
3.2.6.020	Shift Finger Engagement Indicator	781	65223	3.3.050	3.3	2	130	48
3.2.6.021	Shift Finger Center Rail Indicator	782	65223	3.3.050	3.5	2	130	49
3.2.6.025	Shift Finger Rail Actuator 2	783	65223	3.3.050	4.5	2	130	50
3.2.6.023	Shift Finger Gear Actuator 2	784	65223	3.3.050	4.7	2	130	51
	Hydraulic System	785					130	52
3.2.6.031	Defuel Actuator	786	65223	3.3.050	6.5	2	130	53
3.2.6.030	Inertia Brake Actuator	787	65223	3.3.050	6.7	2	130	54
3.2.6.033	Clutch Actuator	788	65223	3.3.050	6.1	2	130	55
	Wheel Sensor ABS Axle 1 Left	789					136	1
	Wheel Sensor ABS Axle 1 Right	790					136	2
	Wheel Sensor ABS Axle 2 Left	791					136	3
	Wheel Sensor ABS Axle 2 Right	792					136	4
	Wheel Sensor ABS Axle 3 Left	793					136	5
	Wheel Sensor ABS Axle 3 Right	794					136	6
	Wheel Sensor ABS Axle 1 Left	795					136	7



Pressure Modulation Valve ABS Axle 1 Right	796	136	8
Pressure Modulation Valve ABS Axle 2 Left	797	136	9
Pressure Modulation Valve ABS Axle 2 Right	798	136	10
Pressure Modulation Valve ABS Axle 3 Left	799	136	11
Pressure Modulation Valve ABS Axle 3 Right	800	136	12
Retarder Control Relay	801	136	13
Relay Diagonal 1	802	136	14
Relay Diagonal 2	803	136	15
Mode Switch ABS	804	136	16
Mode Switch ASR	805	136	17
Dif 1 - ASR Valve	806	136	18
Dif 2 - ASR Valve	807	136	19
Pneumatic Engine Control	808	136	20
Electronic Engine Control (Servomotor)	809	136	21
Speed Signal Input	810	136	22
Warning Light Bulb	811	136	23
ASR Light Bulb	812	136	24
Wheel Sensor ABS Axle 1 Average	813	136	25
Wheel Sensor ABS Axle 2 Average	814	136	26
Wheel Sensor ABS Axle 3 Average	815	136	27
Pressure Modulator, Drive Axle Relay Valve	816	136	28
Pressure Transducer, Drive Axle Relay Valve	817	136	29
Master Control Relay	818	136	30
Trailer Brake Slack Out Of Adjustment Forward Axle Left	819	136	31
Trailer Brake Slack Out Of Adjustment Forward Axle Right	820	136	32
Trailer Brake Slack Out Of Adjustment Rear Axle Left	821	136	33
Trailer Brake Slack Out Of Adjustment Rear Axle Right	822	136	34
Tractor Brake Slack Out Of Adjustment Axle 1 Left	823	136	35
Tractor Brake Slack Out Of Adjustment Axle 1 Right	824	136	36
Tractor Brake Slack Out Of Adjustment Axle 2 Left	825	136	37
Tractor Brake Slack Out Of Adjustment Axle 2 Right	826	136	38
Tractor Brake Slack Out Of Adjustment Axle 3 Left	827	136	39
Tractor Brake Slack Out Of Adjustment Axle 3 Right	828	136	40
Left Fuel Level Sensor	829	140	1
Right Fuel Level Sensor	830	140	2
Fuel Feed Rate Sensor	831	140	3
Fuel Return Rate Sensor	832	140	4
Fuel Rack Position Sensor	833	142	3
Fuel Rack Actuator	834	142	4
Oil Level Indicator Output	835	142	5
Tachometer Drive Output	836	142	6
Speedometer Drive Output	837	142	7
PWM Input (ABS/ASR)	838	142	8
Dead Reckoning Unit	839	162	1
Loran Receiver	840	162	2
Global Positioning System (GPS)	841	162	3
Integrated Navigation Unit	842	162	4
Operator Control Panel (OCP)	843	166	1
Pneumatic Control Unit (PCU)	844	166	2
PCU Steer Solenoid	845	166	3
PCU Drive Solenoid	846	166	4
Dr Push Solenoid	847	166	5
oid	848	166	6



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	PCU Control Solenoid	849				166	7
	PCU Deflate Solenoid	850				166	8
	Pneumatic - Steer Channel	851				166	9
	Pneumatic - Drive Channel	852				166	10
	Pneumatic - Trailer, Tag Or Push Channel	853				166	11
	Heater Circuit #01	854				177	1
	Heater Circuit #02	855				177	2
	Heater Circuit #03	856				177	3
	Heater Circuit #04	857				177	4
	Heater Circuit #05	858				177	5
	Heater Circuit #06	859				177	6
	Heater Circuit #07	860				177	7
	Heater Circuit #08	861				177	8
	Heater Circuit #09	862				177	9
	Heater Circuit #10	863				177	10
	Heater Circuit #11	864				177	11
	Heater Circuit #12	865				177	12
	Heater Circuit #13	866				177	13
	Heater Circuit #14	867				177	14
	Heater Circuit #15	868				177	15
	Heater Circuit #16	869				177	16
	Heater Regeneration System	870				177	17
	Refrigerant Charge	871				190	1
	Refrigerant Moisture Level	872				190	2
	Non-Condensable Gas In Refrigerant	873				190	3
	Refrigerant Flow Control Solenoid	874				190	4
3.2.6.051	Refrigerant Low Pressure Switch	875	65252	3.3.018	3.3	2	5
	Compressor Clutch Circuit	876				190	6
	Evaporator Thermostat Circuit	877				190	7
	Clearance, Side Marker, Identification Lamp Circuit (Black)	878				217	9
	Left Turn Lamp Circuit (Yellow)	879				217	10
	Stop Lamp Circuit (Red)	880				217	11
	Right Turn Lamp Circuit (Green)	881				217	12
	Tail Lamp/License Plate Lamp Circuit (Brown)	882				217	13
	Auxiliary Lamp Circuit (Blue)	883				217	14
	Tractor Mounted Rear Axle Slider Control Unit	884				217	15
	Trailer Mounted Rear Axle Slider Control Unit	885				217	16
	Headway Controller Forward Antenna	886				219	1
	Headway Controller Brake Input Monitor	887				219	3
	Headway Controller Speaker Monitor	888				219	4
	Headway Controller Steering Sensor Monitor	889				219	5
	Headway Controller Speedometer Monitor	890				219	6
	Headway Controller Right Turn Signal Monitor	891				219	7
	Headway Controller Left Turn Signal Monitor	892				219	8
	Headway Controller Control Display Unit	893				219	9
	Headway Controller Right Side Sensor	894				219	10
	Headway Controller Left Side Sensor	895				219	11
	Headway Controller Rear Sensor	896				219	12
3.2.3.03	Override Control Mode Priority	897	0	3.3.001	1.5	2	
3.2.1.19	Requested Speed/Speed Limit	898	0	3.3.001	2,3	16	
3.2.2.01	Retarder Torque Mode	899	61440	3.3.003	1.1	4	
	de	900	61444	3.3.007	1.1	4	
		901	65249	3.3.015	01.1	4	



3.2.2.03	Retarder Location	902	65249	3.3.015	01.5	4		
3.2.6.036	Transmission Forward Direction Switch	903	65219	3.3.052	2.5	2		
3.2.1.51	Front Axle Speed	904	65215	3.3.056	1,2	16		
3.2.1.52	Relative Speed; Front Axle, Left Wheel	905	65215	3.3.056	3	8		
3.2.1.53	Relative Speed; Front Axle, Right Wheel	906	65215	3.3.056	4	8		
3.2.1.54	Relative Speed; Rear Axle #1, Left Wheel	907	65215	3.3.056	5	8		
3.2.1.55	Relative Speed; Rear Axle #1, Right Wheel	908	65215	3.3.056	6	8		
3.2.1.56	Relative Speed; Rear Axle #2, Left Wheel	909	65215	3.3.056	7	8		
3.2.1.57	Relative Speed; Rear Axle #2, Right Wheel	910	65215	3.3.056	8	8		
3.2.5.102	Service Component Identification	911	65216	3.3.055	1	8		
3.2.5.102	Service Component Identification	912	65216	3.3.055	4	8		
3.2.5.102	Service Component Identification	913	65216	3.3.055	6	8		
3.2.5.103	Service Distance	914	65216	3.3.055	2,3	16		
3.2.5.104	Service Delay/Calendar Time Based	915	65216	3.3.055	5	8		
3.2.5.105	Service Delay/Operational Time Based	916	65216	3.3.055	7,8	16		
3.2.5.106	High Resolution Total Vehicle Distance	917	65217	3.3.054	1-4	32		
3.2.5.107	High Resolution Trip Distance	918	65217	3.3.054	5-8	32		
	Ambient Light Sensor	919					0	223
	Audible Alarm	920					0	224
	Green Lamp	921					0	225
	Ride Height Relay	922					136	41
	PWM Output	923					142	9
	Auxiliary Output #1	924					142	10
	Auxiliary Output #2	925					142	11
	Auxiliary Output #3	926					142	12
3.2.5.095	Location	927	61446	3.3.009	1	8		
3.2.5.095	Axle Location	928	65258	3.3.024	1	8		
3.2.5.095	Location	929	65268	3.3.034	1	8		
3.2.5.095	Drive Axle Location	930	65273	3.3.039	2	8		
	Fuel Supply Pump Actuator	931					128	78
	Brake System Hold Modulator Valve Solenoid Axle 1 Left	932					136	42
	Brake System Hold Modulator Valve Solenoid Axle 1 Right	933					136	43
	Brake System Hold Modulator Valve Solenoid Axle 2 Left	934					136	44
	Brake System Hold Modulator Valve Solenoid Axle 2 Right	935					136	45
	Brake System Hold Modulator Valve Solenoid Axle 3 Left	936					136	46
	Brake System Hold Modulator Valve Solenoid Axle 3 Right	937					136	47
	Brake System Dump Modulator Valve Solenoid Axle 1 Left	938					136	48
	Brake System Dump Modulator Valve Solenoid Axle 1 Right	939					136	49
	Brake System Dump Modulator Valve Solenoid Axle 2 Left	940					136	50
	Brake System Dump Modulator Valve Solenoid Axle 2 Right	941					136	51
	Brake System Dump Modulator Valve Solenoid Axle 3 Left	942					136	52
	Brake System Dump Modulator Valve Solenoid Axle 3 Right	943					136	53
	Driver Air Bag Ignitor Loop	944					232	1
	Passenger Air Bag Ignitor Loop	945					232	2
	Left Belt Tensioner Ignitor Loop	946					232	3
	Right Belt Tensioner Ignitor Loop	947					232	4
	Safety Restraint System Lamp	948					232	5
	Automotive Seat Occupancy Sensor - passenger side	949					232	6
	Side Collision Detector - Left	950					232	7
	Side Bag Ignitor Loop 1 - Left	951					232	8
	Side Bag Ignitor Loop 2 - Left	952					232	9
	Side Bag Ignitor Loop 3 - Right	953					232	10
	Side Bag Ignitor Loop 1 - Right	954					232	11



	Side Bag Ignitor Loop 2 - Right	955						232	12
	Rollover Sensor	956						232	13
3.2.4.04	Number of Forward Gear Ratios	957	65250	3.3.016	2	8			
3.2.4.05	Number of Reverse Gear Ratios	958	65250	3.3.016	1	8			
3.2.5.093	Seconds	959	65254	3.3.020	1	8			
3.2.5.094	Minutes	960	65254	3.3.020	2	8			
3.2.5.110	Hours	961	65254	3.3.020	3	8			
3.2.5.111	Day	962	65254	3.3.020	5	8			
3.2.5.112	Month	963	65254	3.3.020	4	8			
3.2.5.113	Year	964	65254	3.3.020	6	8			
3.2.5.114	Number of Software Identification Fields	965	65242	3.3.047	1	8			
3.2.6.040	Engine Test Mode Switch	966	65265	3.3.031	8.5	2			
3.2.6.041	Idle Decrement Switch	967	65265	3.3.031	8.3	2			
3.2.6.042	Idle Increment Switch	968	65265	3.3.031	8.1	2			
3.2.6.053	Remote Accelerator Enable Switch	969	61441	3.3.004	4.7	2			
3.2.6.054	Auxiliary Engine Shutdown Switch	970	61441	3.3.004	4.5	2			
3.2.6.055	Engine Derate Switch	971	61441	3.3.004	4.3	2			
3.2.6.056	Accelerator Interlock Switch	972	61441	3.3.004	4.1	2			
3.2.1.58	Engine Retarder Selection	973	61441	3.3.004	5	8			
3.2.1.59	Remote Accelerator	974	61443	3.3.006	4	8			
3.2.1.60	Estimated Percent Fan Speed	975	65213	3.3.058	1	8	26		
3.2.2.19	PTO State	976	65265	3.3.031	7.1	5			
3.2.2.20	Fan Drive State	977	65213	3.3.058	2.1	4			
3.2.6.043	Remote PTO Variable Speed Control Switch	978	65264	3.3.030	6.5	2			
3.2.6.044	Remote PTO Preprogrammed Speed Control Switch	979	65264	3.3.030	6.3	2			
3.2.6.045	PTO Enable Switch	980	65264	3.3.030	6.1	2			
3.2.6.046	PTO Accelerate Switch	981	65264	3.3.030	7.7	2			
3.2.6.047	PTO Resume Switch	982	65264	3.3.030	7.5	2			
3.2.6.048	PTO Coast/Decelerate Switch	983	65264	3.3.030	7.3	2			
3.2.6.049	PTO Set Switch	984	65264	3.3.030	7.1	2			
3.2.6.052	A/C High Pressure Fan Switch	985	65252	3.3.018	3.1	2			
3.2.1.61	Requested Percent Fan Speed	986	57344	3.3.059	1	8			
(11)	Protect lamp	987	65226	-73	1.1	2		0	222
(1) 3.2.3.13	Trip Group 1	988	56832	3.3.074	1.1	2			
(1) 3.2.3.14	Trip Group 2 - Proprietary	989	56832	3.3.074	1.3	2			
(1) 3.2.5.117	Total Compression Brake Distance	990	65212	3.3.060	01-04	32			
(1) 3.2.5.118	Trip Compression Brake Distance	991	65212	3.3.060	05-08	32			
(1) 3.2.5.119	Trip Service Brake Distance	992	65212	3.3.060	09-12	32			
(1) 3.2.5.120	Trip Service Brake Applications	993	65212	3.3.060	13-16	32			
(1) 3.2.5.121	Trip Fan On Time	994	65211	3.3.061	01-04	32			
(1) 3.2.5.122	Trip Fan On Time Due to the Engine System	995	65211	3.3.061	05-08	32			
(1) 3.2.5.123	Trip Fan On Time Due to a Manual Switch	996	65211	3.3.061	09-12	32			
(1) 3.2.5.124	Trip Fan On Time Due to the A/C System	997	65211	3.3.061	13-16	32			
(1) 3.2.5.125	Trip Distance on VSL	998	65210	3.3.062	01-04	32			
(1) 3.2.5.126	Trip Gear Down Distance	999	65210	3.3.062	05-08	32			
(1) 3.2.5.127	Trip Distance in Top Gear	1000	65210	3.3.062	09-12	32			
(1) 3.2.5.128	Trip Drive Fuel Used	1001	65209	3.3.063	01-04	32			
(1) 3.2.5.129	Trip PTO Moving Fuel Used	1002	65209	3.3.063	05-08	32			
(1) 3.2.5.130	Trip PTO Non-moving Fuel Used	1003	65209	3.3.063	09-12	32			
(1) 3.2.5.131	Trip Vehicle Idle Fuel Used	1004	65209	3.3.063	13-16	32			
(1) 3.2.5.132	Trip Cruise Fuel Used	1005	65209	3.3.063	17-20	32			
	onomy	1006	65209	3.3.063	21-22	16			
	ed (Natural Gas)	1007	65208	3.3.064	01-04	32			



(1) 3.2.5.135	Trip PTO Moving Fuel Used (Natural Gas)	1008	65208	3.3.064	05-08	32		
(1) 3.2.5.136	Trip PTO Non-moving Fuel Used (Natural Gas)	1009	65208	3.3.064	09-12	32		
(1) 3.2.5.137	Trip Vehicle Idle Fuel Used (Natural Gas)	1010	65208	3.3.064	13-16	32		
(1) 3.2.5.138	Trip Cruise Fuel Used (Natural Gas)	1011	65208	3.3.064	17-20	32		
(1) 3.2.5.139	Trip Drive Fuel Economy (Natural Gas)	1012	65208	3.3.064	21-22	16		
(1) 3.2.5.140	Trip Maximum Engine Speed	1013	65207	3.3.065	1,2	16		
(1) 3.2.5.141	Trip Average Engine Speed	1014	65207	3.3.065	3,4	16		
(1) 3.2.5.142	Trip Drive Average Load Factor	1015	65207	3.3.065	5	8		
(1) 3.2.5.143	Total Drive Average Load Factor	1016	65207	3.3.065	6	8		
(1) 3.2.5.144	Total Engine Cruise Time	1017	65207	3.3.065	7-10	32		
(1) 3.2.5.145	Trip Maximum Vehicle Speed	1018	65206	3.3.066	1,2	16		
(1) 3.2.5.146	Trip Cruise Distance	1019	65206	3.3.066	3-6	32		
(1) 3.2.5.147	Trip Number of Hot Shutdowns	1020	65205	3.3.067	1,2	16		
(1) 3.2.5.148	Trip Number of Idle Shutdowns	1021	65205	3.3.067	3,4	16		
(1) 3.2.5.149	Trip Number of Idle Shutdown Overrides	1022	65205	3.3.067	5,6	16		
(1) 3.2.5.150	Trip Sudden Decelerations	1023	65205	3.3.067	7,8	16		
(1) 3.2.5.151	Trip Time in VSL	1024	65204	3.3.068	01-04	32		
(1) 3.2.5.152	Trip Time in Top Gear	1025	65204	3.3.068	05-08	32		
(1) 3.2.5.153	Trip Time in Gear Down	1026	65204	3.3.068	09-12	32		
(1) 3.2.5.154	Trip Time in Derate by Engine	1027	65204	3.3.068	13-16	32		
(1) 3.2.5.155	Total Engine PTO Fuel Used	1028	65203	3.3.069	1-4	32		
(1) 3.2.5.156	Trip Average Fuel Rate	1029	65203	3.3.069	5,6	16		
(1) 3.2.5.157	Total Engine PTO Fuel Used (Natural Gas)	1030	65202	3.3.070	1-4	32		
(1) 3.2.5.158	Trip Average Fuel Rate (Natural Gas)	1031	65202	3.3.070	5,6	16		
(1) 3.2.5.159	Total ECU Distance	1032	65201	3.3.071	01-04	32		
(1) 3.2.5.160	Total ECU Run Time	1033	65201	3.3.071	05-08	32		
(1) 3.2.5.161	Trip Cruise Time	1034	65200	3.3.072	01-04	32		
(1) 3.2.5.162	Trip PTO Time	1035	65200	3.3.072	05-08	32		
(1) 3.2.5.163	Engine Running Time	1036	65200	3.3.072	09-12	32		
(1) 3.2.5.164	Trip Idle Time	1037	65200	3.3.072	13-16	32		
(1) 3.2.5.165	Trip Air Compressor On Time	1038	65200	3.3.072	17-20	32		
(1) 3.2.5.166	Trip Fuel (Natural Gas)	1039	65199	3.3.073	1-4	32		
(1) 3.2.5.167	Total Fuel Used (Natural Gas)	1040	65199	3.3.073	5-8	32		
(1)	Start Signal Indicator	1041					0	219
(1)	Electronic Tractor/Trailer Interface (ISO 11992)	1042					0	220
(1)	Internal Sensor Voltage Supply	1043					0	221
(1)	Hydraulic Pump Motor	1044					136	54
(1)	Brake Light Switch 1	1045					136	55
(1)	Brake Light Switch 2	1046					136	56
(1)	Electronic Pressure Control Axle 1	1047					136	57
(1)	Pneumatic Back-up Pressure Control Axle 1	1048					136	58
(1)	Brake Pressure Sensing Axle 1	1049					136	59
(1)	Electronic Pressure Control Axle 2	1050					136	60
(1)	Pneumatic Back-up Pressure Control Axle 2	1051					136	61
(1)	Brake Pressure Sensing Axle 2	1052					136	62
(1)	Electronic Pressure Control Axle 3	1053					136	63
(1)	Pneumatic Back-up Pressure Control Axle 3	1054					136	64
(1)	Brake Pressure Sensing Axle 3	1055					136	65
(1)	Electronic Pressure Control, Trailer Control	1056					136	66
(1)	Pneumatic Back-up Pressure Control, Trailer Control	1057					136	67
(1)	Brake Pressure Sensing, Trailer Control	1058					136	68
		1059					136	69
		1060					136	70

r Axle 1 Left



(1)	Lining Wear Sensor Axle 1 Right	1061				136	71
(1)	Lining Wear Sensor Axle 2 Left	1062				136	72
(1)	Lining Wear Sensor Axle 2 Right	1063				136	73
(1)	Lining Wear Sensor Axle 3 Left	1064				136	74
(1)	Lining Wear Sensor Axle 3 Right	1065				136	75
(1)	Brake Signal Transmitter	1066				136	76
(1)	Brake Signal Sensor 1	1067				136	77
(1)	Brake Signal Sensor 2	1068				136	78
(1)	Tire Dimension Supervision	1069				136	79
(1)	Vehicle Deceleration Control	1070				136	80
(1)	Cooling Fan Drive Output	1071				143	27
(1)	Engine (Compression) Brake Output #1	1072				143	28
(1)	Engine (Compression) Brake Output #2	1073				143	29
(1)	Engine (Exhaust) Brake Output	1074				143	30
(2)	Electric Lift Pump for Engine Fuel Supply	1075					
(2)	Fuel Injection Pump Fuel Control Valve	1076					
(2)	Fuel Injection Pump Controller	1077					
(2)	Fuel Injection Pump Speed/Position Sensor	1078					
(2)	Sensor Supply Voltage 1 (+5V DC)	1079					
(2)	Sensor Supply Voltage 2 (+5V DC)	1080					
(2) 3.2.6.101	Wait to Start Lamp	1081	65252	3.3.018	4.1	2	
(3) 3.2.2.21	Engine Coolant Load Increase	1082	61440	3.3.003	4.1	2	
(3) 3.2.5.168	Auxiliary I/O Channel #1	1083	65241	3.3.048	5,6	16	
(3) 3.2.5.168	Auxiliary I/O Channel #2	1084	65241	3.3.048	7,8	16	
(3) 3.2.5.169	Intended Retarder Percent Torque	1085	61440	3.3.003	3	8	
(3) 3.2.5.171	Parking and/or Trailer Air Pressure	1086	65198	3.3.075	2	8	
(3) 3.2.5.172	Service Brake Air Pressure Circuit #1	1087	65198	3.3.075	3	8	
(3) 3.2.5.173	Service Brake Air Pressure Circuit #2	1088	65198	3.3.075	4	8	
(4) 3.2.5.174	Auxiliary Equipment Supply Pressure	1089	65198	3.3.075	5	8	
(4) 3.2.5.175	Air Suspension Supply Pressure	1090	65198	3.3.075	6	8	
(3) 3.2.5.176	Brake Application Pressure High Range, Front Axle, Left Wheel	1091	65197	3.3.076	1	8	
(3) 3.2.5.177	Brake Application Pressure High Range, Front Axle, Right Wheel	1092	65197	3.3.076	2	8	
(3) 3.2.5.178	Brake Application Pressure High Range, Rear Axle #1, Left Wheel	1093	65197	3.3.076	3	8	
(3) 3.2.5.179	Brake Application Pressure High Range, Rear Axle #1, Right Wheel	1094	65197	3.3.076	4	8	
(3) 3.2.5.180	Brake Application Pressure High Range, Rear Axle #2, Left Wheel	1095	65197	3.3.076	5	8	
(3) 3.2.5.181	Brake Application Pressure High Range, Rear Axle #2, Right Wheel	1096	65197	3.3.076	6	8	
(3) 3.2.5.182	Brake Application Pressure High Range, Rear Axle #2, Left Wheel	1097	65197	3.3.076	7	8	
(3) 3.2.5.183	Brake Application Pressure High Range, Rear Axle #2, Right Wheel	1098	65197	3.3.076	8	8	
(3) 3.2.5.184	Brake Lining Remaining, Front Axle, Left Wheel	1099	65196	3.3.077	1	8	
(3) 3.2.5.185	Brake Lining Remaining, Front Axle, Right Wheel	1100	65196	3.3.077	2	8	
(3) 3.2.5.186	Brake Lining Remaining, Rear Axle #1, Left Wheel	1101	65196	3.3.077	3	8	
(3) 3.2.5.187	Brake Lining Remaining, Rear Axle #1, Right Wheel	1102	65196	3.3.077	4	8	
(3) 3.2.5.188	Brake Lining Remaining, Rear Axle #2, Left Wheel	1103	65196	3.3.077	5	8	
(3) 3.2.5.189	Brake Lining Remaining, Rear Axle #2, Right Wheel	1104	65196	3.3.077	6	8	
(3) 3.2.5.190	Brake Lining Remaining, Rear Axle #3, Left Wheel	1105	65196	3.3.077	7	8	
(3) 3.2.5.191	Brake Lining Remaining, Rear Axle #3, Right Wheel	1106	65196	3.3.077	8	8	
(3) 3.2.6.058	Engine Protection System Timer State	1107	65252	3.3.018	5.7	2	
(3) 3.2.6.059	Engine Protection System Timer Override	1108	65252	3.3.018	5.5	2	
(3) 3.2.6.060	Engine Protection System Approaching Shutdown	1109	65252	3.3.018	5.3	2	
(3) 3.2.6.061	Engine Protection System has Shutdown Engine	1110	65252	3.3.018	5.1	2	
(3) 3.2.6.062	Engine Protection System Configuration	1111	65252	3.3.018	6.7	2	
	ion) Brake Output #3	1112					128 82
	ar	1113	65195	3.3.078	1	8	

(11) 3.2.5.193	Lowest Possible Gear	1114	65195	3.3.078	3	8
(11) 3.2.5.194	Highest Possible Gear	1115	65195	3.3.078	2	8
(4) 3.2.5.195	Gaseous Fuel Correction Factor	1116	65194	3.3.079	1	8
(4) 3.2.5.196	Desired Rated Exhaust Oxygen	1117	65193	3.3.080	1,2	16
(4) 3.2.5.197	Desired Exhaust Oxygen	1118	65193	3.3.080	3,4	16
(4) 3.2.5.198	Actual Exhaust Oxygen	1119	65193	3.3.080	5,6	16
(4) 3.2.5.199	Articulation Angle	1120	65192	3.3.081	1	8
(4) 3.2.6.071	EBS Brake Switch	1121	61441	3.3.004	1.7	2
(4) 3.2.5.200	Alternator Bearing 1 Temperature	1122	65191	3.3.082	1	8
(4) 3.2.5.200	Alternator Bearing 2 Temperature	1123	65191	3.3.082	2	8
(4) 3.2.5.201	Alternator Winding 1 Temperature	1124	65191	3.3.082	3	8
(4) 3.2.5.201	Alternator Winding 2 Temperature	1125	65191	3.3.082	4	8
(4) 3.2.5.201	Alternator Winding 3 Temperature	1126	65191	3.3.082	5	8
(4) 3.2.5.202	Turbocharger 1 Boost Pressure	1127	65190	3.3.083	1,2	16
(4) 3.2.5.202	Turbocharger 2 Boost Pressure	1128	65190	3.3.083	3,4	16
(4) 3.2.5.202	Turbocharger 3 Boost Pressure	1129	65190	3.3.083	5,6	16
(4) 3.2.5.202	Turbocharger 4 Boost Pressure	1130	65190	3.3.083	7,8	16
(4) 3.2.5.004	Intake Manifold 2 Temperature	1131	65189	3.3.084	1	8
(4) 3.2.5.004	Intake Manifold 3 Temperature	1132	65189	3.3.084	2	8
(4) 3.2.5.004	Intake Manifold 4 Temperature	1133	65189	3.3.084	3	8
(4) 3.2.5.242	Engine Intercooler Thermostat Opening	1134	65262	3.3.028	8	8
(4) 3.2.5.015	Engine Oil Temperature 2	1135	65188	3.3.085	1,2	16
(4) 3.2.5.216	Engine ECU Temperature - duplicate (see SPNs 21 and 1207)	1136	65188	3.3.085	3,4	0
(4) 3.2.5.203	Exhaust Gas Port 1 Temperature	1137	65187	3.3.086	1,2	16
(4) 3.2.5.203	Exhaust Gas Port 2 Temperature	1138	65187	3.3.086	3,4	16
(4) 3.2.5.203	Exhaust Gas Port 3 Temperature	1139	65187	3.3.086	5,6	16
(4) 3.2.5.203	Exhaust Gas Port 4 Temperature	1140	65187	3.3.086	7,8	16
(4) 3.2.5.203	Exhaust Gas Port 5 Temperature	1141	65186	3.3.087	1,2	16
(4) 3.2.5.203	Exhaust Gas Port 6 Temperature	1142	65186	3.3.087	3,4	16
(4) 3.2.5.203	Exhaust Gas Port 7 Temperature	1143	65186	3.3.087	5,6	16
(4) 3.2.5.203	Exhaust Gas Port 8 Temperature	1144	65186	3.3.087	7,8	16
(4) 3.2.5.203	Exhaust Gas Port 9 Temperature	1145	65185	3.3.088	1,2	16
(4) 3.2.5.203	Exhaust Gas Port 10 Temperature	1146	65185	3.3.088	3,4	16
(4) 3.2.5.203	Exhaust Gas Port 11 Temperature	1147	65185	3.3.088	5,6	16
(4) 3.2.5.203	Exhaust Gas Port 12 Temperature	1148	65185	3.3.088	7,8	16
(4) 3.2.5.203	Exhaust Gas Port 13 Temperature	1149	65184	3.3.089	1,2	16
(4) 3.2.5.203	Exhaust Gas Port 14 Temperature	1150	65184	3.3.089	3,4	16
(4) 3.2.5.203	Exhaust Gas Port 15 Temperature	1151	65184	3.3.089	5,6	16
(4) 3.2.5.203	Exhaust Gas Port 16 Temperature	1152	65184	3.3.089	7,8	16
(4) 3.2.5.203	Exhaust Gas Port 17 Temperature	1153	65183	3.3.090	1,2	16
(4) 3.2.5.203	Exhaust Gas Port 18 Temperature	1154	65183	3.3.090	3,4	16
(4) 3.2.5.203	Exhaust Gas Port 19 Temperature	1155	65183	3.3.090	5,6	16
(4) 3.2.5.203	Exhaust Gas Port 20 Temperature	1156	65183	3.3.090	7,8	16
(4) 3.2.5.204	Main Bearing 1 Temperature	1157	65182	3.3.091	1,2	16
(4) 3.2.5.204	Main Bearing 2 Temperature	1158	65182	3.3.091	3,4	16
(4) 3.2.5.204	Main Bearing 3 Temperature	1159	65182	3.3.091	5,6	16
(4) 3.2.5.204	Main Bearing 4 Temperature	1160	65182	3.3.091	7,8	16
(4) 3.2.5.204	Main Bearing 5 Temperature	1161	65181	3.3.092	1,2	16
(4) 3.2.5.204	Main Bearing 6 Temperature	1162	65181	3.3.092	3,4	16
(4) 3.2.5.204	Main Bearing 7 Temperature	1163	65181	3.3.092	5,6	16
(4) 3.2.5.204	Main Bearing 8 Temperature	1164	65181	3.3.092	7,8	16
	Temperature	1165	65180	3.3.093	1,2	16
	Temperature	1166	65180	3.3.093	3,4	16



(4) 3.2.5.204	Main Bearing 11 Temperature	1167	65180	3.3.093	5,6	16		
(4) 3.2.5.029	Turbocharger Lube Oil Pressure 2	1168	65179	3.3.094	1	8		
(4) 3.2.5.053	Turbocharger 2 Speed	1169	65179	3.3.094	2,3	16		
(4) 3.2.5.053	Turbocharger 3 Speed	1170	65179	3.3.094	4,5	16		
(4) 3.2.5.053	Turbocharger 4 Speed	1171	65179	3.3.094	6,7	16		
(4) 3.2.5.205	Turbocharger 1 Compressor Inlet Temperature	1172	65178	3.3.095	1	8		
(4) 3.2.5.205	Turbocharger 2 Compressor Inlet Temperature	1173	65178	3.3.095	2	8		
(4) 3.2.5.205	Turbocharger 3 Compressor Inlet Temperature	1174	65178	3.3.095	3	8		
(4) 3.2.5.205	Turbocharger 4 Compressor Inlet Temperature	1175	65178	3.3.095	4	8		
(4) 3.2.5.206	Turbocharger 1 Compressor Inlet Pressure	1176	65177	3.3.096	1,2	16		
(4) 3.2.5.206	Turbocharger 2 Compressor Inlet Pressure	1177	65177	3.3.096	3,4	16		
(4) 3.2.5.206	Turbocharger 3 Compressor Inlet Pressure	1178	65177	3.3.096	5,6	16		
(4) 3.2.5.206	Turbocharger 4 Compressor Inlet Pressure	1179	65177	3.3.096	7,8	16		
(4) 3.2.5.207	Turbocharger 1 Turbine Inlet Temperature	1180	65176	3.3.097	1,2	16		
(4) 3.2.5.207	Turbocharger 2 Turbine Inlet Temperature	1181	65176	3.3.097	3,4	16		
(4) 3.2.5.207	Turbocharger 3 Turbine Inlet Temperature	1182	65176	3.3.097	5,6	16		
(4) 3.2.5.207	Turbocharger 4 Turbine Inlet Temperature	1183	65176	3.3.097	7,8	16		
(4) 3.2.5.208	Turbocharger 1 Turbine Outlet Temperature	1184	65175	3.3.098	1,2	16		
(4) 3.2.5.208	Turbocharger 2 Turbine Outlet Temperature	1185	65175	3.3.098	3,4	16		
(4) 3.2.5.208	Turbocharger 3 Turbine Outlet Temperature	1186	65175	3.3.098	5,6	16		
(4) 3.2.5.208	Turbocharger 4 Turbine Outlet Temperature	1187	65175	3.3.098	7,8	16		
(4) 3.2.5.209	Turbocharger 1 Wastegate Drive - duplicate (see SPN 646)	1188	65174	3.3.099	1	0	128	32
(4) 3.2.5.209	Turbocharger 2 Wastegate Drive	1189	65174	3.3.099	2	8	128	88
(4) 3.2.5.209	Turbocharger 3 Wastegate Drive	1190	65174	3.3.099	3	8		
(4) 3.2.5.209	Turbocharger 4 Wastegate Drive	1191	65174	3.3.099	4	8		
(4) 3.2.5.210	Turbocharger Wastegate Actuator Control Air Pressure	1192	65174	3.3.099	5	8		
(4) 3.2.5.211	Engine Operation Time Since Rebuild	1193	65173	3.3.100	1-4	32		
(4) 3.2.6.063	Anti-theft Encryption Seed Present Indicator	1194	56320	3.3.102	1.1	2		
(4) 3.2.6.064	Anti-theft Password Valid Indicator	1195	56320	3.3.102	1.3	2	0	217
(4) 3.2.6.065	Anti-theft Component Status States	1196	56320	3.3.102	1.5	2		
(4) 3.2.6.066	Anti-theft Modify Password States	1197	56320	3.3.102	1.7	2		
(4) 3.2.5.212	Anti-theft Random Number	1198	56320	3.3.102	2-8	56		
(4) 3.2.6.067	Anti-theft Encryption Indicator States	1199	56576	3.3.101	1.2	2		
(4) 3.2.6.068	Anti-theft Desired Exit Mode States	1200	56576	3.3.101	1.4	2		
(4) 3.2.6.069	Anti-theft Command States	1201	56576	3.3.101	1.6	3		
(4) 3.2.5.213	Anti-theft Password Representation	1202	56576	3.3.101	2-8	56		
(6) 3.2.5.214	Engine Auxiliary Coolant Pressure	1203	65172	3.3.103	1	8		
(5) 3.2.5.215	Electrical Load	1204	65171	3.3.104	1,2	16		
(5) 3.2.6.099	Safety Wire Status	1205	65171	3.3.104	3.1	2		
(5) 3.2.6.100	Turning Gear Engaged	1206	65171	3.3.104	3.3	2		
(5) 3.2.5.216	Engine ECU Temperature - duplicate (see SPNs 21 and 1136)	1207	65188	3.3.085	3,4	0		
(5) 3.2.5.217	Pre-filter Oil Pressure	1208	65170	3.3.105	1	8		
(5) 3.2.5.218	Exhaust Gas Pressure	1209	65170	3.3.105	2,3	16		
(5) 3.2.5.219	Rack Position	1210	65170	3.3.105	4	8		
(5) 3.2.6.070	Engine Build Hours Reset	1211	56832	3.3.074	3.1	2		
(6) 3.2.5.220	Engine Auxiliary Coolant Temperature	1212	65172	3.3.103	2	8		
(11)	Malfunction Indicator Lamp	1213	65226	-73	1.7	2		
(11)	Suspect Parameter Number	1214	65226	-73	3,4,5	19		
(11)	Failure Mode Identifier	1215	65226	-73	5	5		
(11)	Occurrence Count	1216	65226	-73	6	7		
(11)	Freeze Frame Length	1217	65229	-73	1	8		
	des	1218	65230	-73	1	8		
	Trouble Codes	1219	65230	-73	2	8		



(11)	OBD Compliance	1220	65230	-73	3	8		
(11)	Continuously Monitored Systems Support/Status	1221	65230	-73	4	8		
(11)	Non-continuously Monitored Systems Support	1222	65230	-73	5, 6	16		
(11)	Non-continuously Monitored Systems Status	1223	65230	-73	7, 8	16		
(11)	Test Identifier	1224	58112	-73	1	8		
(11)	Test Type/Component Identifier	1225	65232	-73	2	8		
(11)	Test Value	1226	65232	-73	3, 4	16		
(11)	Test Limit Maximum	1227	65232	-73	5, 6	16		
(11)	Test Limit Minimum	1228	65232	-73	7, 8	16		
(11)	Test Identifiers Supported	1229	65234	-73	1 - 8	64		
(11)	Current Data Link	1230	57088	-73	1.7	2		
(11)	J1939 Network #2	1231	57088	-73	2.7	2		
(11)	ISO 9141	1232	57088	-73	2.5	2		
(11)	J1850	1233	57088	-73	2.3	2		
(11)	Other, Manufacturer Specified Port	1234	57088	-73	2.1	2		
(11)	J1939 Network #3	1235	57088	-73	3.7	2		
(11)	Hold Signal	1236	57088	-73	4.5	2		
(5) 3.2.6.102	Engine Shutdown Override Switch	1237	65265	3.3.031	8.7	2		
(5) 3.2.6.072	Traction Control Override Switch	1238	61441	3.3.004	3.7	2		
(6) 3.2.6.098	Fuel Leakage 1	1239	65169	3.3.106	1.1	2		
(6) 3.2.6.098	Fuel Leakage 2	1240	65169	3.3.106	1.3	2		
(6) 3.2.5.221	Natural Gas Mass Flow	1241	65170	3.3.105	5,6	16		
(6) 3.2.5.222	Instantaneous Estimated Brake Power	1242	65170	3.3.105	7,8	16		
(6) 3.2.6.075	ABS Fully Operational	1243	61441	3.3.004	6.1	2		
(6)	Fuel Control Valve #2	1244					128	83
(6)	Timing Actuator #2	1245					128	84
(6) 3.2.5.223	Number of Calibration Records	1246	65168	3.3.107	01	8		
(6) 3.2.5.224	Engine Power	1247	65168	3.3.107	02,03	16		
(6) 3.2.5.225	Peak Engine Torque 1	1248	65168	3.3.107	04,05	16		
(6) 3.2.5.226	Peak Engine Torque 2	1249	65168	3.3.107	06,07	16		
(6) 3.2.5.227	Calibration Record Start Month	1250	65168	3.3.107	08	8		
(6) 3.2.5.228	Calibration Record Start Day	1251	65168	3.3.107	09	8		
(6) 3.2.5.229	Calibration Record Start Year	1252	65168	3.3.107	10	8		
(6) 3.2.5.230	Calibration Record Duration Time	1253	65168	3.3.107	11-14	32		
(6) 3.2.6.103	Torque Limiting Feature Status	1254	65168	3.3.107	15.1	2		
(6) 3.2.5.232	Transmission Gear Ratio 1	1255	65168	3.3.107	16,17	16		
(6) 3.2.5.233	Engine Torque Limit 1, Transmission	1256	65168	3.3.107	18,19	16		
(6) 3.2.5.234	Transmission Gear Ratio 2	1257	65168	3.3.107	20,21	16		
(6) 3.2.5.235	Engine Torque Limit 2, Transmission	1258	65168	3.3.107	22,23	16		
(6) 3.2.5.236	Transmission Gear Ratio 3	1259	65168	3.3.107	24,25	16		
(6) 3.2.5.237	Engine Torque Limit 3, Transmission	1260	65168	3.3.107	26,27	16		
(6) 3.2.5.238	Engine Torque Limit 4, Transmission	1261	65168	3.3.107	28,29	16		
(6) 3.2.5.239	Engine Torque Limit 5, Switch	1262	65168	3.3.107	30,31	16		
(6) 3.2.5.240	Engine Torque Limit 6, Axle Input	1263	65168	3.3.107	32,33	16		
(6) 3.2.5.241	Extended Crankcase Blow-by Pressure - duplicate (see SPN 22)	1264	65263	3.3.029	2	0	22	
(6)	Engine Oil Burn Valve	1265					128	85
(6)	Engine Oil Replacement Valve	1266					128	86
(6)	Idle Shutdown Vehicle Accessories Relay Driver Circuit	1267					128	87
(6)	Ignition Coil #1	1268						
(6)	Ignition Coil #2	1269						
(6)	Ignition Coil #3	1270						
		1271						
		1272						



(6)	Ignition Coil #6	1273							
(6)	Ignition Coil #7	1274							
(6)	Ignition Coil #8	1275							
(6)	Ignition Coil #9	1276							
(6)	Ignition Coil #10	1277							
(6)	Ignition Coil #11	1278							
(6)	Ignition Coil #12	1279							
(6)	Ignition Coil #13	1280							
(6)	Ignition Coil #14	1281							
(6)	Ignition Coil #15	1282							
(6)	Ignition Coil #16	1283							
(6)	Ignition Coil #17	1284							
(6)	Ignition Coil #18	1285							
(6)	Ignition Coil #19	1286							
(6)	Ignition Coil #20	1287							
(6)	Ignition Coil #21	1288							
(6)	Ignition Coil #22	1289							
(6)	Ignition Coil #23	1290							
(6)	Ignition Coil #24	1291							
(6)	Ignition Control Module #1	1292							
(6)	Ignition Control Module #2	1293							
(6)	Spark Plug #1	1294							
(6)	Spark Plug #2	1295							
(6)	Spark Plug #3	1296							
(6)	Spark Plug #4	1297							
(6)	Spark Plug #5	1298							
(6)	Spark Plug #6	1299							
(6)	Spark Plug #7	1300							
(6)	Spark Plug #8	1301							
(6)	Spark Plug #9	1302							
(6)	Spark Plug #10	1303							
(6)	Spark Plug #11	1304							
(6)	Spark Plug #12	1305							
(6)	Spark Plug #13	1306							
(6)	Spark Plug #14	1307							
(6)	Spark Plug #15	1308							
(6)	Spark Plug #16	1309							
(6)	Spark Plug #17	1310							
(6)	Spark Plug #18	1311							
(6)	Spark Plug #19	1312							
(6)	Spark Plug #20	1313							
(6)	Spark Plug #21	1314							
(6)	Spark Plug #22	1315							
(6)	Spark Plug #23	1316							
(6)	Spark Plug #24	1317							
(6)	Exhaust Temperature Bank Imbalance	1318							
(6)	Intake Manifold Pressure Bank Imbalance	1319							
(6) 3.2.5.247	Externally Supplied Air Pressure	1320	65167	3.3.108	1,2	16			
(6)	Starter Solenoid Lockout Relay Driver Circuit	1321						0	237
(6)	Engine Misfire for Multiple Cylinders	1322							
(6)	Engine Misfire Cylinder #1	1323							
	linder #2	1324							
	linder #3	1325							



(6)	Engine Misfire Cylinder #4	1326							
(6)	Engine Misfire Cylinder #5	1327							
(6)	Engine Misfire Cylinder #6	1328							
(6)	Engine Misfire Cylinder #7	1329							
(6)	Engine Misfire Cylinder #8	1330							
(6)	Engine Misfire Cylinder #9	1331							
(6)	Engine Misfire Cylinder #10	1332							
(6)	Engine Misfire Cylinder #11	1333							
(6)	Engine Misfire Cylinder #12	1334							
(6)	Engine Misfire Cylinder #13	1335							
(6)	Engine Misfire Cylinder #14	1336							
(6)	Engine Misfire Cylinder #15	1337							
(6)	Engine Misfire Cylinder #16	1338							
(6)	Engine Misfire Cylinder #17	1339							
(6)	Engine Misfire Cylinder #18	1340							
(6)	Engine Misfire Cylinder #19	1341							
(6)	Engine Misfire Cylinder #20	1342							
(6)	Engine Misfire Cylinder #21	1343							
(6)	Engine Misfire Cylinder #22	1344							
(6)	Engine Misfire Cylinder #23	1345							
(6)	Engine Misfire Cylinder #24	1346							
(6)	Fuel Pump Pressurizing Assembly #1	1347							
(6)	Fuel Pump Pressurizing Assembly #2	1348							
(6) 3.2.5.244	Injector Metering Rail 2 Pressure	1349	65243	3.3.046	7,8	16	129		
(6) 3.2.5.246	Time Since Last Service	1350	65166	3.3.109	2,3				
(6)	Air Compressor Actuator Circuit	1351						128	89
(6)	Engine Cylinder #1 Knock Sensor	1352						128	90
(6)	Engine Cylinder #2 Knock Sensor	1353						128	91
(6)	Engine Cylinder #3 Knock Sensor	1354						128	92
(6)	Engine Cylinder #4 Knock Sensor	1355						128	93
(6)	Engine Cylinder #5 Knock Sensor	1356						128	94
(6)	Engine Cylinder #6 Knock Sensor	1357						128	95
(6)	Engine Cylinder #7 Knock Sensor	1358						128	96
(6)	Engine Cylinder #8 Knock Sensor	1359						128	97
(6)	Engine Cylinder #9 Knock Sensor	1360						128	98
(6)	Engine Cylinder #10 Knock Sensor	1361						128	99
(6)	Engine Cylinder #11 Knock Sensor	1362						128	100
(6)	Engine Cylinder #12 Knock Sensor	1363						128	101
(6)	Engine Cylinder #13 Knock Sensor	1364						128	102
(6)	Engine Cylinder #14 Knock Sensor	1365						128	103
(6)	Engine Cylinder #15 Knock Sensor	1366						128	104
(6)	Engine Cylinder #16 Knock Sensor	1367						128	105
(6)	Engine Cylinder #17 Knock Sensor	1368						128	106
(6)	Engine Cylinder #18 Knock Sensor	1369						128	107
(6)	Engine Cylinder #19 Knock Sensor	1370						128	108
(6)	Engine Cylinder #20 Knock Sensor	1371						128	109
(6)	Engine Cylinder #21 Knock Sensor	1372						128	110
(6)	Engine Cylinder #22 Knock Sensor	1373						128	111
(6)	Engine Cylinder #23 Knock Sensor	1374						128	112
(6)	Engine Cylinder #24 Knock Sensor	1375						128	113
(6) 3.2.5.254	Battery 2 Potential (Voltage) - duplicate (see SPN 444)	1376	65165	3.3.110	1,2	0			
	Chronization Switch	1377						128	114
	Interval	1378						128	115



(6) 3.2.5.102	Service Component Identification	1379	65166	3.3.109	1		
(7) 3.2.5.284	Engine Oil Level Remote Reservoir	1380	65130	3.3.112	1	8	
(7) 3.2.5.285	Fuel Supply Pump Inlet Pressure	1381	65130	3.3.112	2	8	
(7) 3.2.5.286	Fuel Filter (Suction Side) Differential Pressure - duplicate (see SPN 16)	1382	65130	3.3.112	3	0	16
(7)	Engine was Shut Down Hot	1383					
(7)	Engine has Been Shut Down from Data Link Information	1384					
(7) 3.2.5.249	Auxiliary Temperature 1 - duplicate (see SPN 441)	1385	65164	3.3.111	1	0	
(7) 3.2.5.249	Auxiliary Temperature 2 - duplicate (see SPN 442)	1386	65164	3.3.111	2	0	
(7) 3.2.5.248	Auxiliary Pressure 1	1387	65164	3.3.111	3	8	
(7) 3.2.5.248	Auxiliary Pressure 2	1388	65164	3.3.111	4	8	
(7) 3.2.5.245	Fuel Specific Gravity	1389	65202	3.3.070	7,8	16	
(7) 3.2.5.250	Absolute Fuel Valve Inlet Pressure	1390	65163	3.3.113	1,2	16	
(7) 3.2.5.251	Outlet to Inlet Fuel Valve Differential Pressure	1391	65163	3.3.113	3,4	16	
(7) 3.2.5.252	Air to Fuel Differential Pressure	1392	65163	3.3.113	5,6	16	
(7) 3.2.5.253	Cylinder 1 Ignition Transformer Secondary Output	1393	65160	3.3.114	1	8	
(7) 3.2.5.253	Cylinder 2 Ignition Transformer Secondary Output	1394	65160	3.3.114	2	8	
(7) 3.2.5.253	Cylinder 3 Ignition Transformer Secondary Output	1395	65160	3.3.114	3	8	
(7) 3.2.5.253	Cylinder 4 Ignition Transformer Secondary Output	1396	65160	3.3.114	4	8	
(7) 3.2.5.253	Cylinder 5 Ignition Transformer Secondary Output	1397	65160	3.3.114	5	8	
(7) 3.2.5.253	Cylinder 6 Ignition Transformer Secondary Output	1398	65160	3.3.114	6	8	
(7) 3.2.5.253	Cylinder 7 Ignition Transformer Secondary Output	1399	65160	3.3.114	7	8	
(7) 3.2.5.253	Cylinder 8 Ignition Transformer Secondary Output	1400	65160	3.3.114	8	8	
(7) 3.2.5.253	Cylinder 9 Ignition Transformer Secondary Output	1401	65161	3.3.115	1	8	
(7) 3.2.5.253	Cylinder 10 Ignition Transformer Secondary Output	1402	65161	3.3.115	2	8	
(7) 3.2.5.253	Cylinder 11 Ignition Transformer Secondary Output	1403	65161	3.3.115	3	8	
(7) 3.2.5.253	Cylinder 12 Ignition Transformer Secondary Output	1404	65161	3.3.115	4	8	
(7) 3.2.5.253	Cylinder 13 Ignition Transformer Secondary Output	1405	65161	3.3.115	5	8	
(7) 3.2.5.253	Cylinder 14 Ignition Transformer Secondary Output	1406	65161	3.3.115	6	8	
(7) 3.2.5.253	Cylinder 15 Ignition Transformer Secondary Output	1407	65161	3.3.115	7	8	
(7) 3.2.5.253	Cylinder 16 Ignition Transformer Secondary Output	1408	65161	3.3.115	8	8	
(7) 3.2.5.253	Cylinder 17 Ignition Transformer Secondary Output	1409	65162	3.3.116	1	8	
(7) 3.2.5.253	Cylinder 18 Ignition Transformer Secondary Output	1410	65162	3.3.116	2	8	
(7) 3.2.5.253	Cylinder 19 Ignition Transformer Secondary Output	1411	65162	3.3.116	3	8	
(7) 3.2.5.253	Cylinder 20 Ignition Transformer Secondary Output	1412	65162	3.3.116	4	8	
(7) 3.2.5.257	Cylinder 1 Ignition Timing	1413	65154	3.3.117	1,2	16	
(7) 3.2.5.257	Cylinder 2 Ignition Timing	1414	65154	3.3.117	3,4	16	
(7) 3.2.5.257	Cylinder 3 Ignition Timing	1415	65154	3.3.117	5,6	16	
(7) 3.2.5.257	Cylinder 4 Ignition Timing	1416	65154	3.3.117	7,8	16	
(7) 3.2.5.257	Cylinder 5 Ignition Timing	1417	65155	3.3.118	1,2	16	
(7) 3.2.5.257	Cylinder 6 Ignition Timing	1418	65155	3.3.118	3,4	16	
(7) 3.2.5.257	Cylinder 7 Ignition Timing	1419	65155	3.3.118	5,6	16	
(7) 3.2.5.257	Cylinder 8 Ignition Timing	1420	65155	3.3.118	7,8	16	
(7) 3.2.5.257	Cylinder 9 Ignition Timing	1421	65156	3.3.119	1,2	16	
(7) 3.2.5.257	Cylinder 10 Ignition Timing	1422	65156	3.3.119	3,4	16	
(7) 3.2.5.257	Cylinder 11 Ignition Timing	1423	65156	3.3.119	5,6	16	
(7) 3.2.5.257	Cylinder 12 Ignition Timing	1424	65156	3.3.119	7,8	16	
(7) 3.2.5.257	Cylinder 13 Ignition Timing	1425	65157	3.3.120	1,2	16	
(7) 3.2.5.257	Cylinder 14 Ignition Timing	1426	65157	3.3.120	3,4	16	
(7) 3.2.5.257	Cylinder 15 Ignition Timing	1427	65157	3.3.120	5,6	16	
(7) 3.2.5.257	Cylinder 16 Ignition Timing	1428	65157	3.3.120	7,8	16	
(7) 3.2.5.257	Cylinder 17 Ignition Timing	1429	65158	3.3.121	1,2	16	
	Ignition Timing	1430	65158	3.3.121	3,4	16	



(7) 3.2.5.257	Cylinder 19 Ignition Timing	1431	65158	3.3.121	5,6	16
(7) 3.2.5.257	Cylinder 20 Ignition Timing	1432	65158	3.3.121	7,8	16
(7) 3.2.5.256	Desired Ignition Timing 1	1433	65159	3.3.122	1,2	16
(7) 3.2.5.256	Desired Ignition Timing 2	1434	65159	3.3.122	3,4	16
(7) 3.2.5.256	Desired Ignition Timing 3	1435	65159	3.3.122	5,6	16
(7) 3.2.5.255	Actual Ignition Timing	1436	65159	3.3.122	7,8	16
(7) 3.2.6.076	Road Speed Limit Status	1437	61443	3.3.006	1.5	2
(7) 3.2.6.073	ABS/EBS Amber Warning State	1438	61441	3.3.004	6.5	2
(7) 3.2.6.074	EBS Red Warning State	1439	61441	3.3.004	6.3	2
(8) 3.2.5.262	Reserved for Fuel Flow Rate 1	1440	65153	3.3.123	1,2	16
(8) 3.2.5.262	Reserved for Fuel Flow Rate 2	1441	65153	3.3.123	3,4	16
(8) 3.2.5.261	Reserved for Fuel Valve 1 Position	1442	65153	3.3.123	5	8
(8) 3.2.5.261	Reserved for Fuel Valve 2 Position	1443	65153	3.3.123	6	8
(8) 3.2.5.260	Cylinder 1 Combustion Time	1444	65147	3.3.124	1,2	16
(8) 3.2.5.260	Cylinder 2 Combustion Time	1445	65147	3.3.124	3,4	16
(8) 3.2.5.260	Cylinder 3 Combustion Time	1446	65147	3.3.124	5,6	16
(8) 3.2.5.260	Cylinder 4 Combustion Time	1447	65147	3.3.124	7,8	16
(8) 3.2.5.260	Cylinder 5 Combustion Time	1448	65148	3.3.125	1,2	16
(8) 3.2.5.260	Cylinder 6 Combustion Time	1449	65148	3.3.125	3,4	16
(8) 3.2.5.260	Cylinder 7 Combustion Time	1450	65148	3.3.125	5,6	16
(8) 3.2.5.260	Cylinder 8 Combustion Time	1451	65148	3.3.125	7,8	16
(8) 3.2.5.260	Cylinder 9 Combustion Time	1452	65149	3.3.126	1,2	16
(8) 3.2.5.260	Cylinder 10 Combustion Time	1453	65149	3.3.126	3,4	16
(8) 3.2.5.260	Cylinder 11 Combustion Time	1454	65149	3.3.126	5,6	16
(8) 3.2.5.260	Cylinder 12 Combustion Time	1455	65149	3.3.126	7,8	16
(8) 3.2.5.260	Cylinder 13 Combustion Time	1456	65150	3.3.127	1,2	16
(8) 3.2.5.260	Cylinder 14 Combustion Time	1457	65150	3.3.127	3,4	16
(8) 3.2.5.260	Cylinder 15 Combustion Time	1458	65150	3.3.127	5,6	16
(8) 3.2.5.260	Cylinder 16 Combustion Time	1459	65150	3.3.127	7,8	16
(8) 3.2.5.260	Cylinder 17 Combustion Time	1460	65151	3.3.128	1,2	16
(8) 3.2.5.260	Cylinder 18 Combustion Time	1461	65151	3.3.128	3,4	16
(8) 3.2.5.260	Cylinder 19 Combustion Time	1462	65151	3.3.128	5,6	16
(8) 3.2.5.260	Cylinder 20 Combustion Time	1463	65151	3.3.128	7,8	16
(8) 3.2.5.258	Desired Combustion Time	1464	65152	3.3.129	1,2	16
(8) 3.2.5.259	Average Engine Combustion Time	1465	65152	3.3.129	3,4	16
(8) 3.2.6.088	Steer Channel Mode	1466	65144	3.3.132	2.1	4
(8) 3.2.6.089	Trailer/tag Channel Mode	1467	65144	3.3.132	3.1	4
(8) 3.2.6.090	Drive Channel Mode	1468	65144	3.3.132	3.5	4
(8) 3.2.6.091	PCU Drive Solenoid Status	1469	65144	3.3.132	4.1	2
(8) 3.2.6.092	PCU Steer Solenoid Status	1470	65144	3.3.132	4.3	2
(8) 3.2.6.093	Tire Pressure Supply Switch	1471	65144	3.3.132	4.5	2
(8) 3.2.6.094	PCU Deflate Solenoid Status	1472	65144	3.3.132	5.1	2
(8) 3.2.6.095	PCU Control Solenoid Status	1473	65144	3.3.132	5.3	2
(8) 3.2.6.096	PCU Supply Solenoid Status	1474	65144	3.3.132	5.5	2
(8) 3.2.6.097	PCU Trailer, Tag or Push Solenoid Status	1475	65144	3.3.132	5.7	2
(8) 3.2.5.231	Engine Oil Specific Resistance	1476				
(8) 3.2.5.302	Engine Oil Kinematic Viscosity	1477				
(8) 3.2.5.303	Engine Oil Relative Dielectricity	1478				
(11)	Security Entity Type	1479	54272	-73	2.5	4
(8) 3.2.5.300	Source Address of Controlling Device for Retarder Control	1480	61440	3.3.003	5	8
(8) 3.2.5.299	Source Address of Controlling Device for Brake Control	1481	61441	3.3.004	7	8
	Controlling Device for Transmission Control	1482	61442	3.3.005	8	8
	Controlling Device for Engine Control	1483	61444	3.3.007	6	8



(8)	Other ECUs Have Reported Fault Codes Affecting Operation	1484	0	216
(8)	ECU Main Relay	1485	0	218
(9)	Concave Position	1486		
(9)	Instrument Panel Backlighting Intensity Control Adjustment	1487		
(9)	Thresher Speed	1488		
(9)	Cleaning Fan Speed	1489		
(9)	Header Backshaft Speed	1490		
(9)	Instrument Panel #1 Backlighting Driver	1491		
(9)	Instrument Panel #2 Backlighting Driver	1492		
(9)	Tailings System	1493		
(9)	Tailings Sensor #1	1494		
(9)	Tailings Sensor #2	1495		
(9)	Tailings Elevator Paddles	1496		
(9)	Unloading Auger Drive	1497		
(9)	Header Drive	1498		
(9)	Separator Drive	1499		
(9)	Tachometer Module Switch Matrix	1500		
(9)	Grain Loss Module Switch Matrix	1501		
(9)	Automatic Header Control Switch Matrix	1502		
(9)	Arm Rest Switch Matrix	1503		
(9)	Operator in Seat Detection Switch	1504		
(9)	Automatic Header Sensitivity Adjustment	1505		
(9)	Automatic Header Rate Adjustment	1506		
(9)	Discharge Beater Speed Disable Adjustment	1507		
(9)	Hydraulic Reservoir Temperature	1508		
(9)	Thresher Separator Hydraulic Drive #1 Temperature	1509		
(9)	Chopper Vane Angle Adjustment	1510		
(9)	Rightmost Cleaning Shoe Grain Loss	1511		
(9)	Leftmost Cleaning Shoe Grain Loss	1512		
(9)	Rightmost Separator Grain Loss	1513		
(9)	Leftmost Separator Grain Loss	1514		
(9)	Header Height System	1515		
(9)	Header	1516		
(9)	Header Lift Cylinder Pressure	1517		
(9)	Header Identification	1518		
(9)	Header Raise Valve Drive	1519		
(9)	Header Lower Valve Drive	1520		
(9)	Header Tilt Left Valve Drive	1521		
(9)	Header Tilt Right Valve Drive	1522		
(9)	Header Lift Cylinder Pressure Diverter Valve Drive	1523		
(9)	Reel Position Forward Actuator	1524		
(9)	Reel Position Aft Actuator	1525		
(9)	Reel Position Raise Actuator	1526		
(9)	Reel Position Lower Actuator	1527		
(9)	Header Drop Rate Control Valve Drive	1528		
(9)	Header Lift Cylinder Accumulator Shutoff Valve Drive	1529		
(9)	Unloading Auger Flow Bypass Valve Drive	1530		
(9)	Reel Drive Motor Speed Increase Valve Drive	1531		
(9)	Reel Drive Motor Speed Decrease Valve Drive	1532		
(9)	Feederhouse Angle	1533		
(9)	Header Leftmost Height	1534		
	Height	1535		
	ght	1536		



(9)	Reel Fore-Aft Position	1537				
(9)	Reel Up-Down Position	1538				
(9)	Header Lateral Tilt Angle	1539				
(9)	Reel Speed Actuator Position	1540				
(9)	Reel Speed	1541				
(9)	Power Supply #2	1542				
(9)	Power Supply #3	1543				
(9)	Hydro Handle Matrix Switch	1544				
(9)	Not used - reserved	1545				
(9)	HVAC Coolant Valve Position	1546				
(9)	A/C Evaporator Temperature	1547				
(9)	HVAC Duct Temperature	1548				
(9)	HVAC Coolant Valve Drive	1549				
(9)	Not used - reserved	1550				
(9)	HVAC Pressurizer Drive	1551				
(9)	HVAC Temperature Setpoint Adjustment	1552				
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(9)	Moisture Sensor Cell Frequency	1555				
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(9)	Programming Error, Device Refused to Enter Programming Mode	1558				
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(9)	Torque Curve Selection	1568				
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(9)	Implement Disconnected	1570				
(9)	Display Conflict	1571				
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(9) 3.2.5.304	LED Display Data #1	1573	65142	3.3.134	1	8
(9) 3.2.5.305	Laser Strike Vertical Deviation	1574	65141	3.3.135	1,2	16
(9) 3.2.5.306	Modify Set Point	1575	65140	3.3.136	1,2	16
(9) 3.2.5.307	Mast Position	1576	65139	3.3.137	1,2	16
(9) 3.2.5.308	Blade Duration and Direction	1577	65138	3.3.138	1,2	16
(9) 3.2.5.309	Blade Control Mode	1578	65138	3.3.138	3	8
(9) 3.2.5.310	Laser Tracer Target Deviation	1579	65137	3.3.139	1,2	16
(9) 3.2.5.311	Laser Tracer Vertical Distance	1580	65137	3.3.139	3,4	16
(9) 3.2.5.312	Laser Tracer Horizontal Deviation	1581	65137	3.3.139	5	8
(9) 3.2.5.304	LED Display Data #2	1582	65137	3.3.139	6	8
(9) 3.2.5.313	Laser Tracer Information	1583	65137	3.3.139	7	8
(8) 3.2.5.102	Service Component Identification	1584	56832	3.3.074	2	8
(9) 3.2.5.273	Powered Vehicle Weight	1585	65136	3.3.140	1,2	16
(9) 3.2.5.274	Speed of Forward Vehicle	1586	65135	3.3.141	1	8
(9) 3.2.5.275	Distance to Forward Vehicle	1587	65135	3.3.141	2	8
	Control Set Speed	1588	65135	3.3.141	3	8



(9)	3.2.6.086	Adaptive Cruise Control Set Distance Mode	1589	65135	3.3.141	4.4	3
(9)	3.2.6.087	Adaptive Cruise Control State	1590	65135	3.3.141	4.1	3
(9)	3.2.5.277	Road Curvature	1591	65135	3.3.141	5,6	16
(9)	3.2.5.278	Front Axle, Left Wheel Speed	1592	65134	3.3.142	1,2	16
(9)	3.2.5.279	Front Axle, Right Wheel Speed	1593	65134	3.3.142	3,4	16
(9)	3.2.5.280	Rear Axle, Left Wheel Speed	1594	65134	3.3.142	5,6	16
(9)	3.2.5.281	Rear Axle, Right Wheel Speed	1595	65134	3.3.142	7,8	16
(11)		Security Entity Length	1596	54272	-73	1, 2.1	12
(11)		Security Entity Parameter	1597	54272	-73	3	na
(9)		PGN of message to be authenticated	1598		-73		
(11)		Seed	1599	55296	-73	7, 8	16
(9)		Authentication message data parameter	1600		-73		
(9)	3.2.5.296	Local Minute Offset	1601	65254	3.3.020	7	8
(9)	3.2.5.297	Local Hour Offset	1602	65254	3.3.020	8	8
(9)	3.2.5.288	Adjust Seconds	1603	54528	3.3.144	1	8
(9)	3.2.5.289	Adjust Minutes	1604	54528	3.3.144	2	8
(9)	3.2.5.290	Adjust Hours	1605	54528	3.3.144	3	8
(9)	3.2.5.291	Adjust Month	1606	54528	3.3.144	4	8
(9)	3.2.5.292	Adjust Day	1607	54528	3.3.144	5	8
(9)	3.2.5.293	Adjust Year	1608	54528	3.3.144	6	8
(9)	3.2.5.294	Adjust Local Minute Offset	1609	54528	3.3.144	7	8
(9)	3.2.5.295	Adjust Local Hour Offset	1610	54528	3.3.144	8	8
(9)	3.2.6.078	Drive Recognize	1611	65132	3.3.143	1.7	2
(9)	3.2.6.077	Driver 1 Working State	1612	65132	3.3.143	1.1	3
(9)	3.2.6.077	Driver 2 Working State	1613	65132	3.3.143	1.4	3
(9)	3.2.6.081	Overspeed	1614	65132	3.3.143	2.7	2
(9)	3.2.6.080	Driver 1 Card	1615	65132	3.3.143	2.5	2
(9)	3.2.6.080	Driver 2 Card	1616	65132	3.3.143	3.5	2
(9)	3.2.6.079	Driver 1 Time Related States	1617	65132	3.3.143	2.1	4
(9)	3.2.6.079	Driver 2 Time Related States	1618	65132	3.3.143	3.1	4
(9)	3.2.6.085	Direction Indicator	1619	65132	3.3.143	4.7	2
(9)	3.2.6.084	Tachograph Performance	1620	65132	3.3.143	4.5	2
(9)	3.2.6.083	Handling Information	1621	65132	3.3.143	4.3	2
(9)	3.2.6.082	System Event	1622	65132	3.3.143	4.1	2
(9)	3.2.5.282	Tachograph Output Shaft Speed	1623	65132	3.3.143	5,6	16
(9)	3.2.5.283	Tachograph Vehicle Speed	1624	65132	3.3.143	7,8	16
(9)	3.2.5.287	Reserved for Driver 1 Identification	1625	65131	3.3.145	1	
(9)	3.2.5.287	Reserved for Driver 2 Identification	1626	65131	3.3.145	?	
(9)		Reserved for Certification agency ID	1627		-73		
(9)		Reserved for Certification seed/key length	1628		-73		
(9)		Reserved for Certification signature	1629		-73		
(9)		Reserved for Certification public key	1630		-73		
(9)		Reserved for Certification vehicle identification number	1631		-73		
(6)	3.2.6.104	Torque Limit Feature	1632	65168	3.3.107	15.3	2
(11)		Cruise Control Pause Switch	1633	65265	3.3.31	1.6	2
(11)		Calibration Verification Number	1634		-73		
(11)		Calibration Identification	1635		-73		
(11)		Intake Manifold 1 Air Temperature (High Resolution)	1636	65129		1,2	16
(11)		Engine Coolant Temperature (High Resolution)	1637	65129		3,4	16
(11)		Hydraulic Temperature	1638	65128		1	8
(11)		Fan Speed	1639	65213		3,4	16
		Requested	1640	55552	-73	1, 2.1	11
			1641	55552	-73	2.8	1



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(11)	Command	1642 55552	-73	2.5	2
(11)	Pointer Extension	1643 55552	-73	6	8
(11)	Pointer	1644 55552	-73	3 - 5	24
(11)	Key/User_Level	1645 55552	-73	7, 8	16
(11)	Status (for DM 17)	1646 55296	-73	2.5	3
(11)	EDCP Extension	1647 55296	-73	6	8
(11)	Error Indicator/EDC Parameter	1648 55296	-73	3 - 5	24
(11)	Length/Number Allowed	1649 55296	-73	1, 2.1	11
(11)	Number of Occurrences of Raw Binary Data	1650 55040	-73	1	8
(11)	Raw Binary Data	1651 55040	-73	2 - 8	8
(11)	Boot Load Data	1652 54784	-73	1 - 8	8

(10)	Injector Needle Lift Sensor #1				128	118
(10)	Injector Needle Lift Sensor #2				128	119
(10)	Coolant System Thermostat				128	120
(10)	Engine Automatic Start Alarm				128	121
(10)	Engine Automatic Start Lamp				128	122
(10)	Cab Interior Temperature Thermostat				0	215
(10)	Engine Automatic Start Safety Interlock Circuit				128	123
(10)	Engine Automatic Start Failed (Engine)				128	124
(10)	Transmission Controller Power Relay				130	62

(10)	Source Address 0	2000
(10)	Source Address 1	2001
(10)	Source Address 2	2002
(10)	Source Address 3	2003
(10)	Source Address 4	2004
(10)	Source Address 5	2005
(10)	Source Address 6	2006
(10)	Source Address 7	2007
(10)	Source Address 8	2008
(10)	Source Address 9	2009
(10)	Source Address 10	2010
(10)	Source Address 11	2011
(10)	Source Address 12	2012
(10)	Source Address 13	2013
(10)	Source Address 14	2014
(10)	Source Address 15	2015
(10)	Source Address 16	2016
(10)	Source Address 17	2017
(10)	Source Address 18	2018
(10)	Source Address 19	2019
(10)	Source Address 20	2020
(10)	Source Address 21	2021
(10)	Source Address 22	2022
(10)	Source Address 23	2023
(10)	Source Address 24	2024
(10)	Source Address 25	2025
(10)	Source Address 26	2026
		2027
		2028



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(10)	Source Address 29	2029
(10)	Source Address 30	2030
(10)	Source Address 31	2031
(10)	Source Address 32	2032
(10)	Source Address 33	2033
(10)	Source Address 34	2034
(10)	Source Address 35	2035
(10)	Source Address 36	2036
(10)	Source Address 37	2037
(10)	Source Address 38	2038
(10)	Source Address 39	2039
(10)	Source Address 40	2040
(10)	Source Address 41	2041
(10)	Source Address 42	2042
(10)	Source Address 43	2043
(10)	Source Address 44	2044
(10)	Source Address 45	2045
(10)	Source Address 46	2046
(10)	Source Address 47	2047
(10)	Source Address 48	2048
(10)	Source Address 49	2049
(10)	Source Address 50	2050
(10)	Source Address 51	2051
(10)	Source Address 52	2052
(10)	Source Address 53	2053
(10)	Source Address 54	2054
(10)	Source Address 55	2055
(10)	Source Address 56	2056
(10)	Source Address 57	2057
(10)	Source Address 58	2058
(10)	Source Address 59	2059
(10)	Source Address 60	2060
(10)	Source Address 61	2061
(10)	Source Address 62	2062
(10)	Source Address 63	2063
(10)	Source Address 64	2064
(10)	Source Address 65	2065
(10)	Source Address 66	2066
(10)	Source Address 67	2067
(10)	Source Address 68	2068
(10)	Source Address 69	2069
(10)	Source Address 70	2070
(10)	Source Address 71	2071
(10)	Source Address 72	2072
(10)	Source Address 73	2073
(10)	Source Address 74	2074
(10)	Source Address 75	2075
(10)	Source Address 76	2076
(10)	Source Address 77	2077
(10)	Source Address 78	2078
(10)	Source Address 79	2079
		2080
		2081



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(10)	Source Address 82	2082
(10)	Source Address 83	2083
(10)	Source Address 84	2084
(10)	Source Address 85	2085
(10)	Source Address 86	2086
(10)	Source Address 87	2087
(10)	Source Address 88	2088
(10)	Source Address 89	2089
(10)	Source Address 90	2090
(10)	Source Address 91	2091
(10)	Source Address 92	2092
(10)	Source Address 93	2093
(10)	Source Address 94	2094
(10)	Source Address 95	2095
(10)	Source Address 96	2096
(10)	Source Address 97	2097
(10)	Source Address 98	2098
(10)	Source Address 99	2099
(10)	Source Address 100	2100
(10)	Source Address 101	2101
(10)	Source Address 102	2102
(10)	Source Address 103	2103
(10)	Source Address 104	2104
(10)	Source Address 105	2105
(10)	Source Address 106	2106
(10)	Source Address 107	2107
(10)	Source Address 108	2108
(10)	Source Address 109	2109
(10)	Source Address 110	2110
(10)	Source Address 111	2111
(10)	Source Address 112	2112
(10)	Source Address 113	2113
(10)	Source Address 114	2114
(10)	Source Address 115	2115
(10)	Source Address 116	2116
(10)	Source Address 117	2117
(10)	Source Address 118	2118
(10)	Source Address 119	2119
(10)	Source Address 120	2120
(10)	Source Address 121	2121
(10)	Source Address 122	2122
(10)	Source Address 123	2123
(10)	Source Address 124	2124
(10)	Source Address 125	2125
(10)	Source Address 126	2126
(10)	Source Address 127	2127
(10)	Source Address 128	2128
(10)	Source Address 129	2129
(10)	Source Address 130	2130
(10)	Source Address 131	2131
(10)	Source Address 132	2132
	3	2133
	4	2134



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(10)	Source Address 135	2135
(10)	Source Address 136	2136
(10)	Source Address 137	2137
(10)	Source Address 138	2138
(10)	Source Address 139	2139
(10)	Source Address 140	2140
(10)	Source Address 141	2141
(10)	Source Address 142	2142
(10)	Source Address 143	2143
(10)	Source Address 144	2144
(10)	Source Address 145	2145
(10)	Source Address 146	2146
(10)	Source Address 147	2147
(10)	Source Address 148	2148
(10)	Source Address 149	2149
(10)	Source Address 150	2150
(10)	Source Address 151	2151
(10)	Source Address 152	2152
(10)	Source Address 153	2153
(10)	Source Address 154	2154
(10)	Source Address 155	2155
(10)	Source Address 156	2156
(10)	Source Address 157	2157
(10)	Source Address 158	2158
(10)	Source Address 159	2159
(10)	Source Address 160	2160
(10)	Source Address 161	2161
(10)	Source Address 162	2162
(10)	Source Address 163	2163
(10)	Source Address 164	2164
(10)	Source Address 165	2165
(10)	Source Address 166	2166
(10)	Source Address 167	2167
(10)	Source Address 168	2168
(10)	Source Address 169	2169
(10)	Source Address 170	2170
(10)	Source Address 171	2171
(10)	Source Address 172	2172
(10)	Source Address 173	2173
(10)	Source Address 174	2174
(10)	Source Address 175	2175
(10)	Source Address 176	2176
(10)	Source Address 177	2177
(10)	Source Address 178	2178
(10)	Source Address 179	2179
(10)	Source Address 180	2180
(10)	Source Address 181	2181
(10)	Source Address 182	2182
(10)	Source Address 183	2183
(10)	Source Address 184	2184
(10)	Source Address 185	2185
	6	2186
	7	2187



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(10)	Source Address 188	2188
(10)	Source Address 189	2189
(10)	Source Address 190	2190
(10)	Source Address 191	2191
(10)	Source Address 192	2192
(10)	Source Address 193	2193
(10)	Source Address 194	2194
(10)	Source Address 195	2195
(10)	Source Address 196	2196
(10)	Source Address 197	2197
(10)	Source Address 198	2198
(10)	Source Address 199	2199
(10)	Source Address 200	2200
(10)	Source Address 201	2201
(10)	Source Address 202	2202
(10)	Source Address 203	2203
(10)	Source Address 204	2204
(10)	Source Address 205	2205
(10)	Source Address 206	2206
(10)	Source Address 207	2207
(10)	Source Address 208	2208
(10)	Source Address 209	2209
(10)	Source Address 210	2210
(10)	Source Address 211	2211
(10)	Source Address 212	2212
(10)	Source Address 213	2213
(10)	Source Address 214	2214
(10)	Source Address 215	2215
(10)	Source Address 216	2216
(10)	Source Address 217	2217
(10)	Source Address 218	2218
(10)	Source Address 219	2219
(10)	Source Address 220	2220
(10)	Source Address 221	2221
(10)	Source Address 222	2222
(10)	Source Address 223	2223
(10)	Source Address 224	2224
(10)	Source Address 225	2225
(10)	Source Address 226	2226
(10)	Source Address 227	2227
(10)	Source Address 228	2228
(10)	Source Address 229	2229
(10)	Source Address 230	2230
(10)	Source Address 231	2231
(10)	Source Address 232	2232
(10)	Source Address 233	2233
(10)	Source Address 234	2234
(10)	Source Address 235	2235
(10)	Source Address 236	2236
(10)	Source Address 237	2237
(10)	Source Address 238	2238
	9	2239
	0	2240



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(10)	Source Address 241	2241
(10)	Source Address 242	2242
(10)	Source Address 243	2243
(10)	Source Address 244	2244
(10)	Source Address 245	2245
(10)	Source Address 246	2246
(10)	Source Address 247	2247
(10)	Source Address 248	2248
(10)	Source Address 249	2249
(10)	Source Address 250	2250
(10)	Source Address 251	2251
(10)	Source Address 252	2252
(10)	Source Address 253	2253
(10)	Source Address 254	2254
(10)	Source Address 255	2255

Notes: Items approved or modified on date

(1) July, 1996 (7) February 1998
(2) October, 1996(8) April 1998
(3) January, 1997(9) July 1998
(4) April, 1997 (10) October 1998
(5) August 1997(11) February 1999
(6) November 1997



APPENDIX D
ASSIGNMENT REQUEST FORMS



SAE Control and Communications Subcommittee

**Industry Group and Manufacturer Code
Request Form
(For modification of Tables B1 and-or B10)**

Requester Name: _____ Date: _____

Requester Company: _____

Requester Address: _____

Requester Phone: _____

1. If this is a request for a new Industry Group, enter the desired industry description.

:

2. If this is a request for a new Manufacturer Code, enter the Manufacturer's data below.

Manufacturer Name: _____

Manufacturer Division (if applicable): _____

Manufacturer Address (city, state, country): _____

3. If this is a request to modify an existing definition, please describe the modification requested and an explanation of why it is required: _____

Note that changes are rarely made to published definitions and entries are never deleted so as to avoid conflicts with any systems that may be using that definition. Any change other than for clarification or to correct errors in the table will require an extremely convincing explanation.

4. Additional description or explanation of request, if needed: _____

For Use BY SAE Only:

Approved: _____ Disapproved: _____

Comments: _____

Signature: _____ Date: _____



SAE Control and Communications Subcommittee

Preferred Address Request Form

(For Modification of Tables B2 to B9)

Requester Name: _____ Date: _____

Requester Company: _____

Requester Address: _____

Requester Phone: _____

1. Applicable Industry Group: _____

2. If request is to modify an existing Preferred Address definition, please go Step 5.

3. New ECU-Module Name: _____

4. Definition: _____

5. If modification of an existing Preferred Address name or description, provide an explanation of the changes requested: _____

Note that changes are rarely made to published definitions and entries are never deleted so as to avoid conflicts with any systems that may be using that definition. Any change other than for clarification or to correct errors in the table will require an extremely convincing explanation.

6. Additional description or explanation of request, if needed: _____

For Use BY SAE Only:

Approved-New SA Number: _____ Disapproved: _____

Comments: _____

Signature: _____ Date: _____



SAE Control and Communications Subcommittee

NAME Request Form

(For Modification of Tables B11 and B12)

Requester Name: _____ Date: _____

Requester Company: _____

Requester Address: _____

Requester Phone: _____

Note: only one NAME request per form, use multiple forms to make multiple requests.

1. Applicable Industry Group: _____

2. Vehicle System

If an existing Vehicle System is applicable, enter name and value:

If new Vehicle System is requested, enter requested system name: _____

requested system description: _____

If a modification to an existing Vehicle System, describe the requested change: _____

3. Function

If new Function is requested, enter requested Function name: _____

requested Function description: _____

If a modification to an existing Function, describe the requested change: _____

4. Additional explanation of request, if necessary: _____

Note that changes are rarely made to published definitions and entries are never deleted so as to avoid conflicts with any systems that may be using that definition. Any change other than for clarification or to correct errors in the table will require an extremely convincing explanation.

For Use BY SAE Only:

By: _____ Disapproved: _____



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Signature: _____

Date: _____



SAE Control and Communications Subcommittee

Suspect Parameter Number (SPN) Request Form

(For Modification of Table C1)

Requester Name: _____ Date: _____

Requester Company: _____

Requester Address: _____

Requester Phone: _____

1. Applicable Application Layer document (J1939-7X): _____

Paragraph describing this parameter: _____

Paragraph describing the Parameter Group(s) using this parameter: _____

2. If modification of an existing SPN, provide existing SPN number and explanation of the changes requested:

Note that changes are rarely made to published definitions and entries are never deleted so as to avoid conflicts with any systems that may be using that definition. Any change other than for clarification or to correct errors in the table will require an extremely convincing explanation.

3. If Parameter Group requested but not yet assigned, identify Parameter Groups being requested:

4. New Parameter requested: _____

5. New Parameter Definition: _____

6. Additional description or explanation of request, if needed: _____

For Use BY SAE Only:

Approved-New SA Number: _____ Disapproved: _____

Comments: _____

Signature: _____ Date: _____



SAE Control and Communications Subcommittee

Parameter Request Form
(For modification of an Application Layer document)

Requester Name: _____ Date: _____

Requester Company: _____

Requester Address: _____

Requester Phone: _____

Type of request: New _____ Modification _____

1. Description of request, addition, or modification to parameter: _____

—

—

—

2. Application Layer Document Number: _____; Section-Para Number (if existing): _____

For each of the following entries, provide the requested new value, or if a change to an existing Parameter, identify what is to be changed and why. Do not enter existing data that will not change except where it is necessary to fully and explicitly define the request.

3. Requested Parameter Name: _____

If existing, enter old name: _____

4. Requested Parameter Description-Definition: _____

5. Data Length (Bytes): _____

6. Type (measured or status) _____

For bit-wide state or control parameters, skip to 8. For byte-wide parameters, refer to standard SLOT definitions in Table 4 of J1939-71:

7. SLOT definition, Requested Values*: Parameter: _____ Scaling: _____ Limits: _____

Offset: _____ Size: _____

Explanation, if new SLOT is requested: _____

(Form continued on next page)



SAE Control and Communications Subcommittee

Parameter Request Form (Continued)
(For modification of an Application Layer document)

For bit-wide parameters, refer to bit definition in either Table 2 or 3 of J1939-71:

8.. Acceptable Table: (2 or 3): _____

If no acceptable bit definition exists:

9. Number of bits: _____

10. For each bit (use additional pages if required): Range Name

Value

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

* For J1939-71, SLOT definitions are defined in Table 4 and should be used as defined in Table 4 unless it is absolutely necessary to create a new definition. New SLOT definitions or changes to the values defined in Table 4 will be allowed only if adequate justification is provided. Notes, table, or other explanation (including associated parameters and preferred DC assignments):

For Use BY SAE Only:

Approved-New-Modified Parameter: _____ Disapproved: _____

Comments: _____

Signature: _____ Date: _____



SAE Control and Communications Subcommittee

Parameter Group Request Form

Requester Name: _____ Date: _____

Requester Company: _____

Requester Address: _____

1. Description of request, addition, or modification to Parameter Group: _____

2. Requested PGN Name: _____

Answer the following questions:

3. Application Layer Document Number: _____

If an existing PGN, Section-Paragraph Number: _____ ; PG Number: _____

4. Destination specific or broadcast format? _____

5. What type of acknowledgment is required? (Response to request, Broadcast data, ACK-NACK, None)

6. What is the message priority (0 highest to 7 lowest)? _____

7. What is the update rate? _____

8. What is the data length? (0 to 1785 bytes) _____

9. What is the proposed PDU format? (1 or 2) _____

10. DATA (use additional page for individual Bit definitions), 8 bytes must always be defined, even if one or more are reserved for future assignment:

Byte	Parameter Name-Label (use additional pages)	Bit Level Definition? and Paragraph No.	J1939-7X
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
8	_____	_____	_____

Note: A parameter should be used in only one Parameter Group regardless of the distribution of ECUs that may originate or use the data. Any request which results in a parameter being included in more than one PG will almost certainly be rejected. Whenever adding new Parameters, a modification to an existing Parameter Group is usually preferable to requesting that a new Parameter Group be defined.

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_____ Disapproved: _____



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Comments: _____

Signature: _____ Date: _____



SAE Control and Communications Subcommittee

Parameter Group Request Form (Continued)

PG Bit Definitions

Accompanies Requested PGN: _____ Date: _____

Requester Name: _____

Requester Company: _____

Requester Address: _____

[illegible]

For Use BY SAE Only:

Approved-New Bit Definitions for PGN: _____ Disapproved: _____

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**This document is now
PUBLIC**

2/9/99

Signature: _____ Date: _____



Assignment request form instructions

Submit only those forms required for the desired action. It is not necessary, and leads to confusion, when a form is submitted but no committee action is required. Separate forms are provided for each of the different assignments possible. In many cases, multiple forms will be required such as when requesting a new parameter and a new PGN. There are situations where only one form is required and thus only the one form should be submitted.

If the committee cannot fully understand the request, such as when a new Parameter Group is requested but it appears that an existing one could be modified instead, it will be necessary to then table the request until the committee's questions are answered, resulting in months of delay before the issue can be resolved.

Provide additional pages of explanation if necessary to ensure that the committee fully understands what is requested. All too often, a request has to be tabled so that questions arising from committee discussion can be resolved. Once an assignment has been made, it cannot be deleted or significantly altered because systems using this definition may have already been fielded. This forces the committee to seriously challenge any request that is not fully understood or which might result in a future request that is very similar. All requesters are invited to attend committee meetings should they wish to make a personal presentation of their request and answer questions about it. Experience has shown that submitting a request in person often results in committee questions being resolved immediately with an approval at that time rather than waiting three or four months for the next committee meeting to take place.

