INDEX

A	SAE J1708/J1587, messages, 6-5 SAE J1939/J1587 connector, 3-72
Acceleration Limiter, 5-3 Active Codes, 5-17 Aftertreatment Device (ATD), parked regeneration, 5-117	DDEC Data, 5-81
	DDEC Reports, 5-83
	Deceleration Lamp, requirements and guidelines, 3-114
AGS2 Backup Lamp, requirements and guidelines, 3-119	Deutsch Connectors, 3-74 Deutsch Terminals
AGS2 Check Trans Lamp, requirements and guidelines, 3-120	installation, 3-74 removal, 3-76
AGS2 Trans Temp Lamp, requirements and guidelines, 3-121	Diagnostics, 5-8, 5-17 amber warning lamp, 5-17 dashboard panel lamps, 5-17 flashing fault codes, 5-19 red stop lamp, 5-17
Amber Warning Lamp (AWL), 3-107 engine protection, 5-47 idle shutdown, 5-93	
requirements and guidelines, 3-107	Diesel Particulate Filter (DPF) Connector, 3-23, 3-25
use in diagnostics, 5-17	Digital Outputs, 4-29
Analog Outputs, 4-49	optimized idle active light, 4-42 Top2 shift lockout solenoid, 4-46
Automotive Limiting Speed Governor (ALSG), 5-137, accelerator pedal, 5-137	Top2 shift solenoid, 4-45
	DPF Regeneration Lamp, requirements and guidelines, 3-109
С	Dual Speed Axle, 5-21
Cold Start, MBE 900 & MBE 4000, 5-5	
Common Powertrain Controller (CPC), 3-27 environmental conditions, 3-29 vehicle interface harness, 3-30	E
Communication Link, J1939, 6-28, 3-63	Engine Brake, MBE 900 & MBE 4000, 5-23 clutch released input, 5-24 cruise control, 5-24 disable, 5-24 engine fan braking, 5-24 minimum mph, 5-25 service brake control of, 5-24 switches, 5-23 Engine Brake, Series 60, 5-39 active, 5-40 clutch released input, 5-40 cruise control, 5-40 disable, 5-40 engine fan braking, 5-40 minimum mph, 5-40 service brake control of, 5-39
Conduit and Loom, 3-87	
Connectors, deutsch connector, 3-72	
Criteria, wires, 3-73	
Cruise Active Lamp, requirements and guidelines, 3-113	
Cruise Control, 5-9 clutch released, 5-11 engine brake, 5-24, 5-40 resume/accel, 5-11 service brake released, 5-12 set/coast, 5-11 throttle inhibit switch, 5-15 vss fault, 5-15	
	Engine Coolant Level Sensor, 3-97
Data Link SAE J1587, 6-4	Engine Harness (EH) 120–pin connector, MBE 4000, 3-12 120–pin connector, MBE 900, 3-8 120–pin connector, series 60, 3-4

Engine Protection, 5-47 prewarning, 5-48 J1939, switch inputs, 4-27 stop engine override, momentary override, 5-48 warning, 5-48 Engine Starter Control, 5-53 Ether Starting, Series 60, 5-55 Lamps ags2 backup lamp, 3-119 ags2 check trans lamp, 3-120 ags2 trans temp lamp, 3-121 amber warning lamp, 3-107 Fan Control, 5-57 dual fans type 6, 5-64 cruise active lamp, 3-113 dashboard panel lamps, 5-17 single-speed fan type 4, 5-58 deceleration lamp, 3-114 single-speed fan type 7, 5-61 dpf regeneration lamp, 3-109 two-speed fan, 5-68 high exhaust system temperature lamp, 3-110 variable speed fan type 2, with fan speed feedback, low battery voltage lamp, 3-115 low coolant level lamp, 3-116 variable-speed fan type 3, without fan speed feedback, low oil pressure lamp, 3-112 5-72 malfunction indicator lamp, 3-111 Flashing Fault Codes, 5-19 optimized idle active lamp, 3-117 Fleet Management, 5-81 red stop lamp, 3-108 DDEC data, 5-81 wait to start lamp, 3-118 DDEC reports, 5-83 Limiters, 5-101 FMI, CPC identifier, 6-4 Low Battery Voltage Lamp, requirements and guidelines, Fuel Economy Incentive, 5-89 Fuses, 3-68 Low Coolant Level Lamp, requirements and guidelines, 3-116 Low Gear Torque Reduction, 5-105 Low Oil Pressure Lamp, requirements and guidelines, 3-112 Governors, 5-137 automotive limiting speed governor, 5-137 PTO, 5-138 M Main Power Supply Shutdown, 3-67 Н Malfunction Indicator Lamp (MIL), requirements and High Exhaust System Temperature Lamp, requirements guidelines, 3-111 and guidelines, 3-110 MCM, diagnostics, 5-17 Message Identification Character (MID), description of, 6-4 MIDs, CPC identifier, 6-4 Idle Adjust, 5-91 Motor Control Module (MCM), 3-3 120-pin connector, MBE 4000, 3-12-3-15 Idle Shutdown Timer, 5-93-5-94 120-pin connector, MBE 900, 3-8-3-11 idle shutdown override, 5-94 120-pin connector, series 60, 3-4 vehicle power shutdown, 5-97 120-pin connector, Series 60, 3-4-3-7 Inactive Codes, 5-17 21-pin connector, 3-17 Inputs, 4-3 31-pin pigtail connector, 3-19

0	SAE J1939, message format, 6-28
OEM diagnostic connector, 3-72 installed sensors, 3-94 supplied lights, 3-107 Optimized Idle digital outputs, 4-42 engine mode, 5-110 thermostat mode, 5-112	SAE J1939/71, application layer parameter group definitions, 6-29
	Sensors, 3-91–3-92, 3-94
	engine coolant level sensor, 3-97 factory-installed sensors, 3-92, function and location,
	3-92 OEM-installed sensors, 3-94, function and guidelines, 3-94
Optimized Idle Active Lamp, requirements and guidelines, 3-117	vehicle speed sensor, 3-102
	SIDs, CPC identifier, 6-4
	Starter Lockout, 5-133
Р	Stop Engine Override Options, 5-48 Switch Inputs, 4-27
Parked Regeneration, 5-117	Switch inputs, 4-27
PasSmart, 5-121	_
Passwords, 5-125	Т
PIDs	Tachometer Drive, 5-135
CPC identifier, 6-4 double byte parameters, 6-14 single byte parameters, 6-6 variable length parameters, 6-17	Tape and Taping, 3-89
	Terminal Installation, Deutsch connectors, 3-74
	Terminal Removal, Deutsch terminals, 3-76
Power Supply, 12 volt system, 3-65	Throttle Control, 5-137
Power Take-off (PTO), 5-138	Top2, 5-157, digital outputs, 4-45-4-46
Progressive Shift, 5-127 high range, 5-129 low range #1, 5-128 low range #2, 5-128	Transmission Interface, 5-153 Allison, 5-164 Eaton autoshift, 5-162 Eaton Top2, 5-157 Eaton ultrashift, 5-160
PTO Shutdown, 5-93	Eaton ultrashift asw, 5-161
PWM Output, 4-51	manual transmissions, 5-153 Mercedes AGS2 transmissions, 5-153 ZF astronic, 5-163
• •	
Red Stop Lamp (RSL) engine protection, 5-47 requirements and guidelines, 3-108 shutdown, 5-48 use in diagnostics, 5-17	Vehicle Interface Harness (VIH), 3-30 design criteria, 3-31 power wiring, 3-61 wiring coach applications, 3-42-3-45
S	crane applications, 3-50–3-53 fire truck applications, 3-46–3-49
SAE J1587 message format, 6-4	transit bus applications, 3-54-3-57
PIDs	truck applications, 3-34–3-37 vocational applications, 3-38–3-41
double byte parameters, 6-14	Vehicle Speed Limiting, 5-167
single byte parameters, 6-6 variable length parameters, 6-17	Vehicle Speed Sensor, 3-102

Vehicle Speed Sensor Anti-tampering, 5-169 VSS Anti-tampering, 5-169



Wait to Start Lamp, 5-7, requirements and guidelines, 3-118

Wires

criteria, 3-73
recommendations, 3-73
requirements, 3-73
Wiring
communication wiring, 3-63, proprietary
Engine-CAN link, 3-65
power wiring, 3-61
tachometer, 5-135
Top2 transmission, 5-158