

DDEC VI Application & Installation Manual Updates

Update – March 2006

3.1 Motor Control Module

- Table 3-1, 3-2, 3-3, 3-4 “MCM Connector – Series 60” – updated pinout descriptions.
- Table 3-5, 3-6, 3-7, 3-8 “MCM Connector – MBE 900” – updated pinout descriptions.
- Table 3-9, 3-10, 3-11, 3-12 “MCM Connector – MBE 4000” – updated pinout descriptions.
- Table 3-14 “21-Pin Connector to the MCM Part Numbers” – updated DDC part numbers.
- Table 3-15 “31-Pin MCM Pigtail Connector” – updated pinout.
- Table 3-16 “31-Pin MCM Pigtail Connector Part Numbers” – added DDC part numbers.

3.2 Common Powertrain Controller

- Updated table 3-67 “21-Pin Connector to the MCM Part Numbers” – updated DDC part numbers.
- Table 3-68 “31-Pin MCM Pigtail Connector” – updated pinout.
- Updated table 3-69 “31-Pin MCM Pigtail Connector Part Numbers” – updated DDC part numbers.
- Table 3-76 “Current Draw for CPC Configuration” – updated the current draw information.
- Table 3-85 “21-Pin connector to the MCM Part Numbers” – added DDC part numbers.
- Table 3-86 “31-Pin MCM Pigtail Connector” – added DDC part numbers.

3.6 Sensors

- Table 3-101 “Enabling the Engine Coolant Level Sensor” – updated parameter options.
- Figure 3-26 “Turbo Compressor In Temperature Sensor Installation” – new graphic.
- Table 3-102 “Vehicle Speed Sensor Parameters” – updated parameter info.
- Table 3-105 “Vehicle Speed Sensor Parameters for Transmission Output Shaft Speed” – updated parameter info.

3.7 Lamps

- New section to describe instrument panel lamps.

4.1 Digital Inputs

- Updated table 4-1 “Digital Inputs” with new features and corrected pins.
- **4.1.1 – Air Condition Status** - Table 4-2 “Air Condition Status Programming Options” – updated parameters.
- **4.1.2 – ABS Active** - Table 4-3 “ABS Programming Options” – updated parameters.
- **4.1.3 – Auxiliary Shutdown #1** - Table 4-3 “Aux Shutdown #1 Programming Options” – updated parameters.

- **4.1.4 – Clutch Switch** - Table 4-5 “Clutch Switch Programming Options” – updated parameters.
- **4.1.5 – Cruise Control On/Off Switch** - Table 4-6 “Cruise Control On/Off Switch Programming Options” – updated parameters.
- **4.1.6 – Cruise Control Resume/Accel Switch and Set/Coast Switch** - Table 4-7 “Cruise Control Resume/Accel Switch Programming Options” – updated parameters.
- **4.1.7 – DPF Regeneration Inhibit Switch** – New digital input.
- **4.1.8 (old 4.1.13) – DPF Regeneration Switch** –Table 4-9 (old 4-12) “DPF Regeneration Switch Programming Options” – updated parameters.
- **4.1.9 (old 4.1.7) – Dual-Speed Axle Switch** -- Table 4-10 (old 4-9) “Dual Speed Axle Switch Programming Options” – updated parameters.
- **4.1.10 (old 4.1.8) – Engine Brake Disable** - Table 4-11 (old 4-9) “Engine Brake Disable Programming Options – updated parameters.
- **4.1.11 (old 4.1.9) – Engine Brake Low & Medium** –Table 4-12 (old 4-10) “Engine Brake Switch Programming Options” – updated parameters.
- **4.1.15 (old 4.1.14) – Optimized Idle Hood Tilt Switch** –Table 4-14 (old 4-13) “Hood Tilt Switch Programming Options” – updated parameters.
- **4.1.16 (old 4.1.15) – Optimized Idle Thermostat** –Table 4-15 (old 4-15) “OI Thermostat Programming Options” – updated parameters.
- **4.1.17 (old 4.1.16) – Park Brake Switch** –Table 4-16 (old 4-15) “Configuring the Park Brake Switch Input” – updated parameters.
- **4.1.20 (old 4.1.19) – RPM Freeze** - Table 4-18 (old 4-17) “RPM Freeze Programming Options – updated parameters.
- **4.1.21 (old 4.1.20) – Service Brake Switch** –Table 4-19 (old 4-18) “Configuring the Service Brake Switch Input” – updated parameters.
- **4.1.24 (old 4.1.23) – Transmission Neutral Switch** –Table 4-20 (old 4-19) “Configuring the Transmission Neutral Switch Input” – updated parameters.
- **4.1.25 – Transmission Retarder Active** – new input.
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4.2 Switch Inputs Received Over J1939 Data Link

- Updated table 4-22 (old 4-20) “Source Address Options” – added parameter groups.
- Updated table 4-23 (old 4-21) “Parameters for Multiplexing” – updated parameters.

4.2 Digital Outputs

- Updated table 4-24 (old 4-22) “Digital Outputs – CPC” – removed High Oil Temp Lamp.
- **4.3.1 – AGS2 Backup Lamp** –Table 4-26 (old 4-24) “AGS2 Backup Lamp Programming Options” – updated parameters.
- **4.3.2 – AGS2 Check Trans Lamp** –Table 4-27 (old 4-25) “AGS2 Check Trans Lamp Programming Options” – updated parameters.
- **4.3.2 – AGS2 Trans Temp Lamp** –Table 4-28 (old 4-26) “AGS2 Trans Temp Lamp Programming Options” – updated parameters.
- **4.3.5 – Cruise Active Lamp** – Table 4-29 (old 4-27) “Cruise Active Lamp Programming Options” – updated parameters.

- **4.3.5 – Deceleration Lamp** –Table 4-30 (old table 4-28) “Deceleration Lamp Programming Options” – updated parameters.
- **4.3.7 – DPF Regeneration Active Lamp** – added description. Added Table 4-31 “DPF Regeneration Lamp Programming Options”.
- **4.3.8 – Engine Brake Active**–Table 4-32 (old table 4-29) “Engine Brake Active Programming Options” – updated parameters.
- **4.3.9 – Ether Start** – new digital output description. Added Table 4-33 “Ether Start Options”.
- **4.3.10 – High Exhaust Temp Lamp** - new digital output description. Added Table 4-34 “High Exhaust Temp Lamp Options”.
- **4.3.11 - Low Battery Voltage Lamp** –Table 4-35 (old table 4-31) “Low Battery Voltage Lamp Programming Options” – updated parameters.
- **4.3.12 – Low Coolant Level Lamp** –Table 4-36 (old table 4-32) “Low Coolant Level Lamp Programming Options” – updated parameters.
- **4.3.13 – Low Oil Pressure Lamp** –Table 4-37 (old table 4-33) “Low Oil Pressure Lamp Programming Options” – updated parameters.
- **4.3.14 – Malfunction Indicator Lamp (MIL)** – Updated description.
- **4.3.15 (old 4.3.14) – Optimized Idle Active Lamp** –Table 4-38 (old table 4-34) “Optimized Idle Active Lamp Programming Options” – updated parameters.
- **4.3.16 (old 4.3.15) – Optimized Idle Alarm** –Table 4-39 (old table 4-35) “Optimized Idle Alarm Programming Options” – updated parameters.
- **4.3.18 (old 4.3.17) – Starter Lockout** –Table 4-40 (old table 4-36) “Starter Lockout Programming Options” – updated parameters.
- **4.3.19 (old 4.3.18) – Top2 Shift Solenoid** –Table 4-41 (old 4-37) “Top2 Shift Solenoid Programming Options” – updated parameters.
- **4.3.20 (old 4.3.19) – Top2 Lockout Solenoid** –Table 4-42 (old 4-38) “Top2 Lockout Solenoid Programming Options” – updated parameters.
- **4.3.21 (old 4.3.20) – Vehicle Power Shutdown** –Table 4-43 (old 4-39) “Vehicle Power Shutdown Programming Options” – updated parameters.
- **4.3.22 (old 4.3.21) – Wait to Start Lamp** –Table 4-44 (old table 4-40) “Wait to Start Lamp Programming Options” – updated parameters.

4.4 Analog Outputs - CPC

- Corrected parameters names, added parameter groups.
- Added PWM Outputs.

5.0 Features

- **5.2 – Cruise Control**
 - ⇒ Table 5-5 “Cruise Control Input Configuration” – updated parameters.
 - ⇒ Table 5-6 “Cruise Control Parameters” – updated parameters.
- **5.3 Diagnostics**
 - ⇒ Added Instrument Panel Lights.
 - ⇒ Table 5-6 “Cruise Control Parameters” – updated parameters.
- **5.4 – Dual Speed Axle**
 - ⇒ Table 5-8 (old 5-7) “Dual Speed Axle Digital Input” – updated parameters.

- ⇒ Updated table 5-9 (old 5-8) “Programming the Axle Ratios” – updated parameters.
- **5.5 – Engine Brake Controls – MBE900 and MBE4000**
 - ⇒ Table 5-11, 5-12 “CPC Configuration Parameter for Compression Brake Only” – updated parameters.
 - ⇒ Table 5-13, 5-14 “CPC Configuration Parameter for Compression Brake and Exhaust Brake Applications – MBE 906” – updated parameters.
 - ⇒ Table 5-15, 5-16 “CPC Configuration Parameter for Compression Brake and Exhaust Brake Applications – MBE 4000” – updated parameters.
 - ⇒ Table 5-17, 5-18 “CPC Configuration Parameter for Compression Brake and Turbo Brake Applications” – updated parameters.
 - ⇒ Table 5-19 (old 5-16) “Cruise Control Engine Brake Parameters” – updated parameters.
 - ⇒ Table 5-20 (old 5-17) “Service Brake Control of Engine Brake Parameter” – updated parameters.
 - ⇒ Table 5-21 (old 5-18) “Minimum KPH for Engine Brakes options” – updated parameters.
- **5.6 – Engine Brake Controls – Series 60**
 - ⇒ Table 5-22 (old 5-19) “Engine Brake Parameters” – added new parameters, updated old parameters.
 - ⇒ Table 5-23 (old 5-20) “Cruise Control Engine Brake Parameters” – updated parameters.
 - ⇒ Table 5-24 (old 5-21) “Optional Digital Output for Engine Brakes” – updated parameters.
 - ⇒ Table 5-25 (old 5-22) “Optional Fan Braking for Engine Brakes” – updated parameters.
 - ⇒ Table 5-26 (old 5-23) “Service Brake Control for Engine Brake Parameters” – updated parameters.
 - ⇒ Table 5-27 (old 5-24) “Minimum MPH for Engine Brakes Option” – updated parameter name.
- **5.7 Engine Protection**
 - ⇒ Table 5-30 (old 5-25) “Engine Protection” – updated parameters.
- **5.10 Fan Controls**
 - ⇒ Table 5-32 (old 5-27) “CPC Fan Control Parameters” – updated parameters.
 - ⇒ Table 5-33 (old 5-28) “MCM Fan Control Parameters” – updated parameters.
- **5.11 – Fuel Economy Incentive**
 - ⇒ Table 5-35 (old 5-30) “Fuel Economy Incentive Parameters” – updated parameters.
- **5.12 – Idle Adjust**
 - ⇒ Table 5-36 (old 5-31) “Idle Adjust Parameters” – updated parameters.

- **5.12 – Idle Shutdown Timer and PTO Shutdown**
 - ⇒ Updated operation.
 - ⇒ Table 5-37 (old 5-32) “Idle Shutdown Timer Digital Input” – updated parameters.
 - ⇒ Table 5-38 (old 5-33) “Idle Shutdown timer Programming Options” – updated parameters.
- **5.13 – Limiters**
 - ⇒ Table 5-40 (old 5-35) “Limiter 0 and Limiter 1 Parameters” – updated parameters.
- **5.15 – Low Gear Torque Reduction**
 - ⇒ Table 5-43 (old 5-38) “Low Gear Torque Limiting Parameters” – updated parameters.
- **5.20 – Starter Lockout**
 - ⇒ Table 5-56 (old 5-51) “Starter Lockout” – updated parameters.
- **5.21 – Throttle Controls**
 - ⇒ Table 5-57 (old 5-52) “Cruise Switch PTO Digital Inputs” – updated parameters.
 - ⇒ Table 5-58 (old 5-53) “Cruise Switch PTO Parameters (1 of 2)” – updated parameters.
 - ⇒ Table 5-59 (old 5-54) “Cruise Switch PTO Parameters (2 of 2)” – updated parameters.
 - ⇒ Table 5-60 (old 5-55) “Remote PTO Parameters (1 of 2)” – updated parameters.
- **5.24 Transmissions**
 - ⇒ Table 5-66 (old 5-61) “AGS2 Transmission Programming Requirement for Non-Multiplexed Vehicles” – updated parameters.
 - ⇒ Table 5-67 (old 5-62) “AGS2 Transmission Programming Requirement for Multiplexed Vehicles” – updated parameters.
- **5.24 – Vehicle Speed Limiting**
 - ⇒ Table 5-71 (old 5-66) “Vehicle Speed Limiting Parameters” – updated parameters.
- **5.25 – Vehicle Speed Sensor Anti-Tampering**
 - ⇒ Table 5-72 (old 5-67) “VSS Anti-Tampering Parameters” – updated parameters.

6.0 Appendix A

- ⇒ Updated list of fault codes.

Update – December 2005

3.1 Motor Control Module

- Added note, the MCM must not be grounded.
- Table 3-13 “21-Pin Connector to MCM” - updated pins 20 and 21.
- Table 3-14 “21-Pin Connector to the MCM Part Numbers” – added DDC part numbers.
- Table 3-16 “31-Pin MCM Pigtail Connector Part Numbers” – added DDC part numbers.

3.2 Common Powertrain Controller

- Updated CPC connector pin out for various applications.
- Added DDC part numbers for the CPC connectors in tables 3-19, 3-21, 3-23, 3-25, 3-27, 3-29, 3-31, 3-33, 3-35, 3-37, 3-39, 3-41, 3-43, 3-45, 3-47, 3-49, 3-51, 3-53, 3-55, 3-57, 3-59, 3-61, 3-63, 3-65.
- Updated table 3-66 “21-Pin Connector to MCM”, pins 20 and 21.
- Updated table 3-67 “21-Pin Connector to the MCM Part Numbers” – added DDC part numbers.
- Updated table 3-69 “31-Pin MCM Pigtail Connector Part Numbers” – added DDC part numbers.
- Corrected terminal part number in table 3-25, table 3-49, table 3-57, table 3-65, “Connector #4, 18-pin Connector, Key C”.
- Added wire resistance information.
- Added DDC part numbers for the CPC connectors in tables 3-80 (old 3-79), 3-81 (old 3-80), 3-82(old 3-81), 3-83 (old 3-82), 3-84 (old 3-83), 3-85 (old 3-84).

3.6 Sensors

- Updated table 3-97 (old 3-96) “Function and Guidelines for OEM-installed Sensors” with new part numbers for the coolant level sensor.
- Updated figure 3-21 “Engine Coolant Level Sensor Specifications” with new sensor information.
- Updated figure 3-22 “Engine Coolant Level Sensor Installation for CPC” with new coolant level sensor part numbers.
- Updated table 3-99 (old 3-98) “ECL Sensor Installation Kit ¼ in NPTF” and Table 3-100 (old 3-99) “ECL Sensor Installation Kit 3/8 in.” with part numbers.
- Updated table 3-101 (old 3-100) “Enabling the Engine Coolant Level Sensor” options and default.
- Updated table 3-102 (old 3-101) “Vehicle Speed Sensor Parameters” options and default.
- Updated table 3-105 (old 3-104) “Vehicle Speed Sensor Parameters” options and default.

4.1 Digital Inputs

- Updated table 4-1 “Digital Inputs” with new features and corrected pins.
- **4.1.1 – Air Condition Status** - Updated table 4-2 “Air Condition Status Programming Options” – added parameters and options.
- **4.1.4 – Clutch Switch** - Updated table 4-5 “Clutch Switch Programming Options” – updated options.

- **4.1.5 – Cruise Control On/Off Switch** - Updated table 4-6 “Cruise Control On/Off Switch Programming Options” – updated options.
- **4.1.6 – Cruise Control Resume/Accel Switch and Set/Coast Switch** - Updated table 4-7 “Cruise Control Resume/Accel Switch Programming Options” – updated options.
- **4.1.7 (old 4.1.8) – Dual-Speed Axle Switch** -- Updated table 4-8 (old 4-9) “Dual Speed Axle Switch Programming Options” – updated options.
- **4.1.8 (old 4.1.9) – Engine Brake Disable** - Corrected pin for Engine Brake Disable – was 4/13, should be 4/18. Updated table 4-9 (old 4-10) “Engine Brake Disable Programming Options” – updated options.
- **4.1.9 (old 4.1.10) – Engine Brake Low & Medium** – Updated table 4-11 (old 4-12) “Engine Brake Switch Programming Options” – updated options.
- **4.1.12 (old 4.1.13) – Limiter for Torque, Engine Speed, and Vehicle Speed** – changed Limiter 0 to Limiter 1 and Limiter 1 to Limiter 2.
- **4.1.13 (old 4.1.7) - Manual Regeneration Request Switch** - Renamed DPF Regeneration Switch to Manual Regeneration Request. Updated table 4-12 (old 4-8) “Manual Regeneration Switch Programming Options” – corrected parameter, options and default.
- **4.1.14 – Optimized Idle Hood Tilt Switch** – Updated table 4-13 “Hood Tilt Switch Programming Options” – updated options.
- **4.1.15 – Optimized Idle Thermostat** – Updated table 4-14 “OI Thermostat Programming Options” – updated options.
- **4.1.16 – Park Brake Switch** – Updated table 4-15 “Configuring the Park Brake Switch Input” – updated parameter, options and default.
- **4.1.19 – RPM Freeze** - Corrected pin for RPM Freeze – was 4/13, should be 4/18. Updated table 4-17 “RPM Freeze Programming Options” – updated parameter and options.
- **4.1.20 – Service Brake Switch** – Updated table 4-18 “Configuring the Service Brake Switch Input” – updated parameter and options.
- **4.1.23 – Transmission Neutral Switch** – Updated table 4-19 “Configuring the Transmission Neutral Switch Input” – updated options and default.

4.2 Switch Inputs Received Over J1939 Data Link

- Added Cruise Pause Switch
- Updated table 4-21 “Parameters for Multiplexing” – added Cruise Pause Switch, updated options.

4.2 Digital Outputs

- Updated table 4-22 “Digital Outputs – CPC” – corrected pin assignments for Top2 and Vehicle Power Shutdown. Added High Exhaust Temperature.
- **4.3.5 – Cruise Active Lamp** – Added new table 4-27 “Cruise Active Lamp Programming Options”.
- **4.3.5 – Deceleration Lamp** – Updated table 4-28 (old table 4-27) “Deceleration Lamp Programming Options” – updated parameter, setting and options.
- **4.3.8 – Engine Brake Active Lamp** – Updated table 4-29 (old table 4-28) “Engine Brake Active Programming Options” – updated parameter name.

- **4.3.10 – High Oil Temp Lamp** – Updated table 4-30 (old table 4-29) “Oil Temperature High Lamp Programming Options” – updated parameter name.
- **4.3.11 - Low Battery Voltage Lamp** – Updated table 4-31 (old table 4-30) “Low Battery Voltage Lamp Programming Options” – updated parameter name.
- **4.3.12 – Low Coolant Level Lamp** – Updated table 4-32 (old table 4-31) “Low Coolant Level Lamp Programming Options” – updated parameter name.
- **4.3.13 – Low Oil Pressure Lamp** – Updated table 4-33 (old table 4-32) “Low Oil Pressure Lamp Programming Options” – updated parameter name.
- **4.3.15 – Optimized Idle Active Lamp** – Updated table 4-34 (old table 4-33) “Optimized Idle Active Lamp Programming Options” – updated parameter name and options.
- **4.3.16 – Optimized Idle Alarm** – Updated table 4-35 (old table 4-34) “Optimized Idle Alarm Programming Options” – updated parameter name.
- **4.3.18 – Starter Lockout** – Updated table 4-36 (old table 4-35) “Starter Lockout Programming Options” – updated parameter name.
- **4.3.19 – Top2 Shift Solenoid** – Added table 4-37 “Top2 Shift Solenoid Programming Options”.
- **4.3.20 – Top2 Lockout Solenoid** – Added table 4-38 “Top2 Lockout Solenoid Programming Options”.
- **4.3.21 – Vehicle Power Shutdown** – Corrected pin assignment. Added table 4-39 “Vehicle Power Shutdown Programming Options”.
- **4.3.22 – Wait to Start Lamp** – Updated table 4-40 (old table 4-36) “Wait to Start Lamp Programming Options” – updated parameter name.

4.4 Analog Outputs - CPC

- New section.

5.0 Features

- Added new feature Idle Adjust (section 5-12).
- **5.2 – Cruise Control**
 - ⇒ Updated table 5-5 “Cruise Control Input Configuration” – updated options.
 - ⇒ Updated table 5-6 “Cruise Control Parameters” – updated options and default.
- **5.4 – Dual Speed Axle**
 - ⇒ Updated table 5-7 “Dual Speed Axle Digital Input” – updated options.
 - ⇒ Updated table 5-8 “Programming the Axle Ratios” – updated parameter name.
- **5.5 – Engine Brake Controls – MBE900 and MBE4000**
 - ⇒ Updated table 5-11 “Engine Brake Parameter” – updated options.
 - ⇒ Updated table 5-12 “CPC Configuration Parameter for Compression Brake Only” – updated parameter names and options.
 - ⇒ Updated table 5-13 “CPC Configuration Parameter for Compression Brake and Exhaust Brake Applications – MBE 906” – updated parameter names and options.
 - ⇒ Updated table 5-14 “CPC Configuration Parameter for Compression Brake and Exhaust Brake Applications – MBE 4000” – updated parameter names and options.
 - ⇒ Updated table 5-15 “CPC Configuration Parameter for Compression Brake and Turbo Brake Applications” – updated parameter names and options.

- ⇒ Updated table 5-16 “Cruise Control Engine Brake Parameters” – removed obsolete parameters, updated parameter name.
 - ⇒ Updated table 5-17 “Service Brake Control of Engine Brake Parameter” – updated parameter name.
 - ⇒ Updated table 5-18 “Minimum KPH for Engine Brakes options” – updated parameter name.
 - ⇒ Removed table 5-19 “Vehicle Speed Limiting for Engine Brake Operation” – obsolete parameter.
- **5.6 – Engine Brake Controls – Series 60**
 - ⇒ Updated table 5-19 (old 5-20) “Required Digital Inputs for Engine Brake Controls” – updated table with correct parameters.
 - ⇒ Updated table 5-20 (old 5-21) “Cruise Control Engine Brake Parameters” – updated removed obsolete parameters.
 - ⇒ Updated table 5-21 (old 5-23) “Optional Fan Braking for Engine Brakes” – updated parameter name.
 - ⇒ Updated table 5-24 (old 5-25) “Minimum MPH for Engine Brakes Option” – updated parameter name.
- **5.7 Engine Protection**
 - ⇒ Updated operation description.
 - ⇒ Updated figure 5-6 “Rampdown Only”.
 - ⇒ Updated figure 5-7 “Coolant Overtemperature Rampdown (Derate)”.
 - ⇒ Updated figure 5-8 “Engine Shutdown”.
 - ⇒ Updated table 5-25 (old 5-26) “Engine Protection” – removed obsolete parameter.
- **5.10 Fan Controls**
 - ⇒ Deleted table (old 5-36) “Single Fan Digital Inputs and Outputs”.
 - ⇒ Deleted table (old 5-37) “Dual Fans Digital Inputs and Outputs”.
 - ⇒ Deleted table (old 5-38) “Two-speed Fan Digital Inputs and Outputs”.
 - ⇒ Deleted table 5-39 “PWM Fan Control Digital Inputs and Outputs”.
 - ⇒ Updated table 5-27 (old 5-40) “CPC Fan Control Parameters” – updated title.
 - ⇒ Updated table 5-28 (old 5-41) “MCM Fan Control Parameters” – updated title.
- **5.11 – Fuel Economy Incentive**
 - ⇒ Updated table 5-30 (old 5-43) “Fuel Economy Incentive Parameters – updated options.
- **5.12 – Idle Shutdown Timer and PTO Shutdown**
 - ⇒ Updated table 5-32 (old 5-44) “Idle Shutdown Timer Digital Input” – updated parameter name.
 - ⇒ Updated table 5-33 (old 5-45) “Idle Shutdown timer Programming Options” – updated parameter name.
- **5.13 – Limiters**

⇒ Changed Limiter 1 to Limiter 0 and Limiter 2 to Limiter 1 through out the section.

- **5.19 – Progressive Shift**

⇒ Updated table 5-50 (old 5-62) “Progressive Shift Programming” – updated parameter names.

- **5.20 – Starter Lockout**

⇒ Updated table 5-51 (old 5-63) “Starter Lockout” – updated options.

- **5.21 – Throttle Controls**

⇒ Updated table 5-52 (old 5-64) “Cruise Switch PTO Digital Inputs” – updated options and default.

⇒ Updated table 5-53 (old 5-65) “Cruise Switch PTO Parameters (1 of 2)” – updated parameter names.

⇒ Updated table 5-54 (old 5-66) “Cruise Switch PTO Parameters (2 of 2)” – updated parameter names.

⇒ Updated table 5-55 (old 5-67) “Remote PTO Parameters (1 of 2)” – updated parameter names.

⇒ Updated table 5-60 (old 5-72) “Engine Identification” – updated parameter name.

⇒ Updated figure 5-40 (old 5-46) “Top2 Transmission” – updated wiring requirements.

⇒ Updated table 5-63 (old 5-75) “Digital Outputs Used by Top2” – corrected pin assignments.

- **5.24 – Vehicle Speed Limiting**

⇒ Updated table 5-66 (old 5-78) “Vehicle Speed Limiting Parameters” – updated parameter name.

- **5.25 – Vehicle Speed Sensor Anti-Tampering**

⇒ Updated table 5-67 (old 5-79) “VSS Anti-Tampering Parameters” – updated options and default.

6.0 Communication Protocols

- **SAE J1587**

⇒ Updated PID 102.

⇒ Added PID 173, PID 366.

⇒ Removed PID 240.

- **SAE J1939**

⇒ Updated CCVS, CI, DM1, EBC1, EC, EEC1, EEC2, EEC3, EFL/P1, ERC1, ET1, ET2, ETC1, ETC2, HOURS, LFE, RC, REQUESTS, SHUTDOWN, SOFT, TSC1, VD.

⇒ Added ACK/NACK, DM2, DM3, DM11, EBC2, ETC7, TC01.

6.0 Appendix A

⇒ Updated list of fault codes.

Update – October 2005

3.3 Engine Harness

- Updated MBE 4000 engine harness pin out.
- Updated MBE 900 engine harness pin out.
- Updated 31-pin connector pin out.
- Corrected terminal part number in Table 3-16, “31-pin MCM Pigtail Connector Part Numbers”

3.2 Common Powertrain Controller

- Updated CPC connector pin out for various applications.
- Updated 31-pin connector pin out.
- Corrected terminal part number in Table 3-25, Table 3-49, Table 3-57, Table 3-65, “Connector #4, 18-pin Connector, Key C”
- Corrected terminal part number in Table 3-69, Table 3-84, “31-pin MCM Pigtail Connector Part Numbers”
- Corrected terminal part number in Table 3-82, “Connector #4, 18-pin Connector, Key C”

3.6 Sensors

- Updated various parameters names in the entire section.

4.1 Inputs

- Updated various parameters names in the entire section.

4.2 Digital Outputs

- Updated various parameters names in the entire section.

5.0 Features

- Updated parameter names through out the manual.

Appendix A

- Updated diagnostic code list.
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Update – June 2005

3.3 Engine Harness

- Updated Series 60 engine harness pin out.
- Added MBE 4000 engine harness pin out.
- Added MBE 900 engine harness pin out.
- Updated 21-pin connector part numbers.
- Updated 31-pin connector pin out.

3.2 Vehicle Interface Harness

- Updated CPC connector pin out for various applications.
- Updated 21-pin connector part numbers.
- Updated 31-pin connector pin out.
- Updated 10-pin DPF connector pin out.

3.6 Sensors

- Added engine sensors with descriptions.
- Added Turbo Compressor In Temp sensor installation requirements.
- Updated parameter names for the vehicle speed sensor.
- Added new diagram showing the DPF system.
- Corrected part number for the VIH Assembly in old table 3-42 “VIH-to-ECU Connector Part Numbers”.

4.1 Inputs

- Updated digital input pins for selected functions.
- Added Auxiliary Shutdown #1 description.

4.3 Outputs

- Added new digital output functions.

5.1 Cold Start – MBE 900 and MBE 4000

- Added wiring diagrams.

5.2 Cruise Control

- Updated adaptive cruise control information.
- Updated parameter names.

5.7 Engine Protection

- Updated parameter names.

5.8 Engine Starter Control

- Updated the wiring diagram.

5.9 Fan Control

- Updated description.

5.23 Transmissions

- Updated AGS2.
- Added Top2.

Appendix A: Diagnostic Codes

- Added fault codes.
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April 2005

3.1 Motor Control Module

- Updated engine harness pinout for Series 60.
- Added 21-way and 31-way connector pin outs.

3.3 CPC

- Added digital input and output circuit requirements.
- Updated pinout of the CPC for all applications.
- Added connector part numbers.
- Added 21-way MCM, 31-way and 10-way pin outs.
- Added Series 60 Non-Road Equipment Vehicle Interface Harness pin out information.

5.1 Digital Inputs - CPC

- Added CPC digital input functions.

5.3 Digital Outputs - CPC

- Added CPC digital output functions.

6.0 Features

- New Section

7.0 Serial Communications

- New Section

Appendix A – Diagnostic Codes

- New Section