

MoTeC USA 2014-2019 C7 Corvette



This kit provides a full replacement for the factory
Chevrolet Corvette ECU. It utilizes existing vehicle wiring
and sensors to deliver plug-in convenience. Using an
integration adapter, patch harness, and a MoTeC M182
ECU the kit delivers fully programmable engine control to
the platform while maintaining stock vehicle systems
functionality. The M1 ECU is supplied with firmware that is
based on the MoTeC USA Drag packages with additional
enhancements and features unique to the 2014 – 2019
Chevrolet Corvette platform and motorsports demands.

The kit compromises of a M182 ECU, Adapter Harness, Adapter Box, Mounting Plate and Screws, MoTeC LTCD and two LSU 4.9 lambda sensors.

The package supports the following OE ECU features with user definable parameters:

- Push Button start
- Air conditioner control
- Variable speed coolant fan control
- Fuel lift pump control
- Cruise control
- Launch Control
- Drive modes
- Alternator control
- Reverse lockout

The supplied start file contains all the calibrations and settings for the OEM sensors, fuel injectors, ignition coils, throttle servo, camshaft control, alternator control and fuel lift pump control.

A significant amount of time will be saved by the user with this initial setup completed. Users can begin tuning to their desired power and modifications right away with the assurance of a working start file.

Included are many ancillary features commonly found on race vehicles such as anti-lag, rolling launch, driver switches, gearbox control, knock control, intercooler spray-bars, launch control, coolant pumps, and traction control.

The product fully integrates with other MoTeC devices, providing pre-defined CAN messaging for all current Displays/Loggers, LTC's, E888, GPS and SLMs.

Both the 7-speed manual and the 8-speed automatic are supported. The ZR1 variant is not supported.

KIT CONTENTS

Hardware

- M182 M182 ECU
- M LTCD MoTeC LTCD Controller
- o **RG.DV0316.01** Adapter Box
- M H 3800-EC057A Adapter loom
- o M 0258 001 LSU 4.9 Sensor (x2)

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- Assorted Mounting Hardware
- Licenses
 - 23044 M1 LIC CORVETTE C7

This license is required to run the C7 Corvette firmware package in the M182 ECU.

FEATURES

- Configurable Launch Control with anti-lag containing tables for engine speed, throttle limit, Fuel Volume Trim, boost aim and closed loop ignition timing control as well Spool Mode to optimize turbocharger response at the starting line.
- Pre-stage setting for Launch Control allowing for a soft rev limiter while staging.
- Traction Control. Closed loop system with the ability to control engine torque using ignition timing, fuel cut, ignition cut and drive by wire throttle using a flexible user configurable strategy.
- Pre-configured OE coolant fan control.
- Pre-configured OE alternator control.
- Pre-configured OE fuel lift pump control.
- Pre-configured air conditioner control.
- Downshift auto-blip rev matching.
- Pre-configured Gear detection with simplified Gear Estimate table.
- Pre-configured Drive by Wire throttle servo control.
- Factory Corvette drive mode integration for mode switching of end-user configurable systems and tables.
- Configurable driver switches for control of various systems.
- Configurable pulsed tachometer output.
- Pre-configured vehicle speed measurement using factory CAN wheel speed inputs. May be reconfigured to use any sensor
- General use definable auxiliary outputs.
- Pre-configured warning system that activates the factory MIL indicator on the dash to indicate faults.
- Adjustable fuel economy gauge calibration.
- Differential pump output with differential temperature threshold and hysteresis control.
- Test settings for injection and ignition outputs for easier setup.
- Exhaust Pressure Based engine efficiency compensation table.
- Data acquisition of numerous factory sensors off the factory CAN Bus, including Longitudinal Acceleration, Lateral Acceleration, Yaw Rate, Steering Angle, Wheel Speeds, Tire Pressures.
- Pre-configured calibrations for Original Equipment sensors.
- Pre-configured reference mode for engine synchronization.

- Pre-configured physical settings for engine displacement, fuel density, stoichiometric ratio, fuel pressure and injector characterization which allows for simplified engine start-up prior to tuning.
- Powerful Efficiency Model with configurable load axis that allows for flexibility in Engine Efficiency mapping for a wide array of modifications from single throttle body with intake plenum to boost over trumpets.
- Pre-configured Engine Efficiency map that allows for quick and easy tuning.
- Secondary Injection (8 inlet runner + 8 factory DI injectors)
 directly supported by M182 with no slave ECU requirement.
 Inlet injectors must be high impedance saturated drive type.
- Optional Flex Fuel using an ethanol composition sensor allows for ethanol composition blending including integration of the Fuel Temperature reading provided by the sensor.
- Pre-configured settings for ethanol fuel density, ethanol stoichiometric ratio to allow fuel blending ("flex fuel").
- Pre-configured throttle rate of change based transient fuel for simplified transient fuel tuning.
- Engine Load Average channel with tables for engine speed limit, ignition trim, fuel mixture aim and throttle limit based on how hard and how long the engine is working.
- Pre-configured ignition output and coil settings.
- Pre-configured individual cylinder knock system.
- Pre-configured camshaft control of inlet cam.
- Pre-configured engine start fuel, idle and ignition settings.
- Pre-configured Closed Loop Idle control systems using ignition and drive by wire actuation, including active adjustments for coolant and air conditioning activation.
- Boost control system with targets based on Engine Speed, Gear, Flex Content, Throttle Position, Driver Mode Switch, Coolant Temperature, Engine Load Average, Exhaust Temperature, Race Time, Inlet Air Temperature and Vehicle Speed.
- Rolling launch ("rolling anti-lag").
- Configurable turbocharger compressor bypass control.
- Intercooler temperature measurement and cooling spray control.
- Supports progressive nitrous with four activation stages that can trigger any of the four nitrous control outputs. Activation can be used to trigger additional fuel pumps
- Nitrous bottle heater controls with bottle pressure feedback
- Race time system with tables for ignition trim, fuel mixture aim and throttle limit.
- Engine run time total for engine hour logging.
- GPS acquisition and logging via CAN or RS232.
- Support of MoTeC devices: E8XX, SLM.
- ECU CAN Receive from other MoTeC devices.

- ECU CAN Transmit of most common channels using standard MoTeC CAN templates.
- Configurable security for multiple users with differing access options.
- Turbocharger Speed, Inlet and Outlet Temperature.
- Wastegate CO2 control.
- Wastegate Pressure and Position logging.
- Wheel Speed (preconfigured).

▶ OPERATION

Reference Mode

The M1 Reference Mode in this Package is locked to the Bosch 140/40 mode used by the Chevrolet Corvette Engine Family.

ECU Power

M1 ECU power follows the ignition switch as well as wake up modes such as unlocking the vehicle.

Engine Start

The Chevrolet Starter section contains settings to maintain the OEM style engine start control.

Driver Switches

Various in-car dials and switches are acquired over the CAN Bus and assigned to Firmware resources to allow for mode switching in the ECU. See the Help for the main Chevrolet group for a complete list.

Lambda

The kit provides a MoTeC LTC with two lambda sensor that must be installed, as the factory lambda sensor is not supported.

Rolling Launch

Designed to assist in building boost for a rolling start. Additional instructions on operation available under the Rolling Launch group in M1 Tune.

Torque

A simplified torque model is included in the manual variant of this package to integrate with OE Chevrolet chassis control modules. These settings are in the Chevrolet Torque group and the supplied settings are generally sufficient. The automatic (A8) variant of this

package has a full-featured Torque model that is required for operation of the automatic 8 speed transmission control module.

Chevrolet Fuel Pump

Integration and control of the factory fuel pump controllers is provided with base settings. This system uses the factory fuel line pressure sensor located on the vehicle for low side lift pump pressure control in closed loop.

Coolant Fan

Base settings provided to operate the factory pulse width modulated variable speed fan.

Drive Mode

The factory drive mode ("ECO" Switch) is preconfigured as Driver Mode Left Switch and Driver Mode Right Switch. State information can be viewed in M1 Tune under Corvette Driver Mode and is available as Firmware11 for custom M1 map switching.

Direct Injection Rail Pressure Sensor

Earlier variants of the C7 Corvette were supplied with a standard analogue rail pressure sensor. This is available on AV5 in the M182 ECU. Later variants were supplied with a digital SENT rail pressure sensor. It is assigned to UDIG5 on the M182 ECU and requires the digital decode be configured in the M182 ECU.

Adapter Box

The kit is provided with a "smart" adapter box that stays in communication with the M1 ECU. It provides power to the M1 ECU in response to the ignition switch and vehicle wake up modes. A subset of functions has been off-loaded to the adapter box and is commanded natively by the M1 ECU via CAN. The following functions are assigned "dummy" resources to expose their functionality in the M1, but are controlled by the adapter box:

- Fuel Pump
- Corvette Reverse Lockout (manual)
- ECU Power Relay
- Warning Light
- Corvette Starter Relay
- Air Conditioner Clutch
- Coolant Pump
- Coolant Fans Duty Cycle

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Status information for the adapter box is available under the "Adapter" section, which should be configured to use CAN Bus 2 at a 1mbps baud rate. Earlier versions of this kit do not have this updated adapter box and will not report any information in this section. The latest revision of this kit no longer requires a slave ECU to drive aftermarket port injection.

UNSUPPORTED OEM FUNCTIONS

- Canister purge valve not supported default state is closed.
- Skip Shift.
- Cylinder Disable



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INSTALLATION

- The M182 ECU and adaptor module replaces the factory ECU fitted in the passenger side fender.
- Remove the front right wheel and wheel well cover. Then remove the 4 screws on the underside of the passenger door.
- Remove the OEM ECU and ECU bracket from the location show in figure 1 below. Disconnect the harness from OEM ECU.

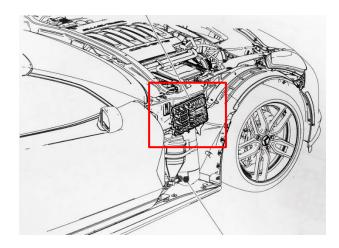


Figure 1: OEM ECU location and Adaptor Box Mounting Location

Connect the blue factory connector harness to the adaptor module. Using the mounting holes for the OEM ECU holder, mount the Adaptor box in the same location (Figure 2). Using the far-left bolt and bottom right bolt, secure the adaptor module into the OEM location. Do not connect the upper right bolt at this time.

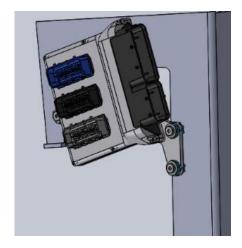


Figure 2: Location of Adapter Module

Connect the Black and grey factory connectors to the adaptor module.

Connect the mating two connectors to the other side of the adaptor board. Latch Both connectors, then tighten the upper right bolt for the adaptor module.

The M182 will be mounted on top of the fender with a supplied bracket and Drill hole template.

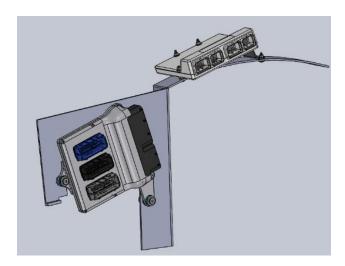


Figure 3: M1 ECU mounting Location

Once the M182 is mounted, connect the three Autosport connectors to the ECU.

Route the LTC connector behind the adaptor module and up through to the top of the manifold. Use zip ties to secure it down in an appropriate location (See Figure 4). The Oxygen sensors will connect to the LTCD directly and use the OEM exhaust bungs located before the cat.



Figure 4: LTC harness route shown in red, LTC mount shown in blue

Route the Ethernet cable underneath the adaptor module and up to the location shown in figure 5.

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Figure 5: Ethernet Connector mounting location

- Ensure all supplied devices are connected. That is the M182, adaptor box and Harness, LTC-D and 2 x LSU 4.9 sensors.
- Attach the fender well back using the OEM screws. Then mount wheel and tighten to manufacturer's spec.

M182 Connector A

A01	INJ_D1A_POS	DIRECT INJECTOR 1A +	INJECTOR 1
A02	INJ_D2A_POS	DIRECT INJECTOR 2A +	INJECTOR 8
A03	INJ_D2B_POS	DIRECT INJECTOR 2B +	INJECTOR 5
A04	INJ_D4A_POS	DIRECT INJECTOR 4A +	INJECTOR 2
A05	INJ_D1B_POS	DIRECT INJECTOR 1B +	INJECTOR 6
A06	LA_NB2	LAMBDA NARROW INPUT 2	-
A07	LA_NB1	LAMBDA NARROW INPUT 1	-
A08	SEN_5V0_C1	SENSOR 5.0V C	5 VOLT - C
A09	SEN_5V0_C2	SENSOR 5.0V C	-
A10	INJ_D4B_POS	DIRECT INJECTOR 4B +	INJECTOR 3
A11	INJ_D1A_NEG	DIRECT INJECTOR 1A -	INJECTOR 1
A12	INJ_D1B_NEG	DIRECT INJECTOR 1B -	INJECTOR 6
A13	AV11	ANALOG VOLTAGE INPUT 11	HUMIDITY SENSOR
A14	DIG2	DIGITAL INPUT 2	SPARE DIGITAL 02
A15	RS232_RX	RS232 RECEIVE	-
A16	SEN_5V0_C3	SENSOR 5.0V C	SPARE 5V
A17	INJ_D6A_POS	DIRECT INJECTOR 6A +	-
A18	SEN_0V_C1	SENSOR OV C	0 VOLT – C
A19	SEN_0V_C2	SENSOR OV C	0 VOLT – C
A20	SEN_0V_C3	SENSOR OV C	SPARES OV
A21	DIG1	DIGITAL INPUT 1	SPARE DIG 01
A22	LIN	LIN BUS	-
A23	RS232_TX	RS232 TRANSMIT	-
A24	CAN2_HI	CAN BUS 2 HIGH	CAN 2 HI
A25	INJ_D6B_POS	DIRECT INJECTOR 6B +	-
A26	INJ_D2A_NEG	DIRECT INJECTOR 2A -	INJECTOR 8
A27	AV15	ANALOG VOLTAGE INPUT 15	FUEL TANK LEVEL SENSOR SECONDARY VOLTAGE
A28	AV16	ANALOG VOLTAGE INPUT 16	SUPERCHARGER PRESSURE
A29	AV17	ANALOG VOLTAGE INPUT 17	SPARE AV 17
A30	DIG3	DIGITAL INPUT 3	SPARE DIG 03
A31	CAN2_LO	CAN BUS 2 LOW	CAN 2 LO
A32	INJ_D3A_POS	DIRECT INJECTOR 3A +	INJECTOR 7
A33	INJ_D2B_NEG	DIRECT INJECTOR 2B -	INJECTOR 5
A34	AV13	ANALOG VOLTAGE 13	MODE SWITCH
A35	AV12	ANALOG VOLTAGE 12	SPARE AV 12
A36	INJ_D6A_NEG	DIRECT INJECTOR 6A -	-
A37	DIG4	DIGITAL INPUT 4	ENGINE OIL LEVEL SWITCH
A38	BAT_BAK	BATTERY BACKUP	-
A39	CAN3_HI	CAN BUS 3 HIGH	GM3 CAN HI
A40	INJ_D3B_POS	DIRECT INJECTOR 3B +	INJECTOR 4
A41	AV14	ANALOG VOLTAGE 14	CLUTCH POSITION
A42	INJ_D3A_NEG	DIRECT INJECTOR 3A -	INJECTOR 7
A43	INJ_D4A_NEG	DIRECT INJECTOR 4A -	INJECTOR 2

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A44	INJ_D5B_NEG	DIRECT INJECTOR 5B -	-
A45	INJ_D6B_NEG	DIRECT INJECTOR 6B -	-
A46	CAN3_LO	CAN BUS 3 LOW	GM3 CAN LO
A47	INJ_D5A_POS	DIRECT INJECTOR 5A +	-
A48	INJ_D5B_POS	DIRECT INJECTOR 5B +	-
A49	INJ_D3B_NEG	DIRECT INJECTOR 3B -	INJECTOR 4
A50	INJ_D4B_NEG	DIRECT INJECTOR 4B -	INEJCTOR 3
A51	INJ_D5A_NEG	DIRECT INJECTOR 5A -	-
A52	IGN_LS12	LOW SIDE IGNITION 12	PORT INJECTOR 3
A53	IGN_LS9	LOW SIDE IGNITION 9	PORT INJECTOR 1
A54	IGN_LS10	LOW SIDE IGNITION 10	PORT INJECTOR 2
A55	IGN_LS11	LOW SIDE IGNITION 11	IGN LS 11

M182 Connector B

ВА	OUT HB1	HALF BRIDGE OUTPUT 1	THROTTLE SERVO BANK 1MOTOR OUTPUT -
	_		
B_B	OUT_HB2	HALF BRIDGE OUTPUT 2	THROTTLE SERVO BANK 1MOTOR OUTPUT +
B_C	OUT_HB3	HALF BRIDGE OUTPUT 3	FUEL PRESSURE DIRECT BANK 1 PUMP A OUTPUT -
B_D	OUT_HB4	HALF BRIDGE OUTPUT 4	FUEL PRESSURE DIRECT BANK 1 PUMP A OUTPUT +
B_E	OUT_HB5	HALF BRIDGE OUTPUT 5	SPARE OUT HB 05
B_F	OUT_HB6	HALF BRIDGE OUTPUT 6	SPARE OUT HB 06
B_G	BAT_NEG1	BATTERY NEGATIVE	GROUND
B_H	BAT_POS1	BATTERY POSITIVE	12V POWER
B_J	BAT_POS2	BATTERY POSITIVE	12V POWER
B_K	BAT_POS3	BATTERY POSITIVE	12V POWER
B_L	BAT_POS4	BATTERY POSITIVE	12V POWER
B_M	OUT_HB10	HALF BRIDGE OUTPUT 10	ALTERNATOR ACTUATOR OUTPUT
B_N	OUT_HB9	HALF BRIDGE OUTPUT 9	SPARE OUT HB 09
B_P	OUT_HB8	HALF BRIDGE OUTPUT 8	INLET CAMSHAFT BANK 1 ACTUATOR OUTPUT
B_R	OUT_HB7	HALF BRIDGE OUTPUT 7	OIL PRESSURE REGULATOR CONTROL
B_S	INJ_LS4	LOW SIDE INJECTOR 4	PORT INJECTOR 6
B_T	INJ_LS6	LOW SIDE INJECTOR 6	PORT INJECTOR 8
B_U	INJ_LS1	LOW SIDE INJECTOR 1	WASTEGATE CONTROL
B_V	INJ_LS2	LOW SIDE INJECTOR 2	PORT INJECTOR 4
B_W	BAG_NEG2	BATTERY NEGATIVE	GROUND
B_X	BAT_NEG3	BATTERY NEGATIVE	GROUND
B_Y	BAT_NEG4	BATTERY NEGATIVE	GROUND
B_Z	BAT_NEG5	BATTERY NEGATIVE	GROUND
B_a	INJ_LS5	LOW SIDE INJECTOR 5	PORT INJECTOR 7
B_b	INJ_LS3	LOW SIDE INJECTOR 3	PORT INJECTOR 5
B_c	BAT_NEG6	BATTERY NEGATIVE	GROUND

M182 Connector C

		_	
C01	IGN_LS4	LOW SIDE IGNITION 4	IGN COIL 4
C02	IGN_LS3	LOW SIDE IGNITION 3	IGN COIL 3
C03	IGN_LS8	LOW SIDE IGNITION 8	IGN COIL 8
C04	IGN_LS6	LOW SIDE IGNITION 6	IGN COIL 6
C05	IGN_LS5	LOW SIDE IGNITION 5	IGN COIL 5
C06	AV8	ANALOG VOLTAGE 8	FUEL TANK PRESSURE SENSOR
C07	AV10	ANALOG VOLTAGE 10	FUEL PRESSURE DIRECT BANK 2
C08	IGN_LS2	LOW SIDE IGNITION 2	IGN COIL 2
C09	IGN_LS7	LOW SIDE IGNITION 7	IGN COIL 7
C10	UDIG8	UNIVERSAL DIGITAL INPUT 8	GEAR POSITION SENSOR X
C11	AV6	ANALOG VOLTAGE INPUT 6	ENGINE OIL PRESSURE SENSOR
C12	AV7	ANALOG VOLTAGE INPUT 7	AIR CONDITIONER REFRIGERANT PRESSURE SESNOR
C13	AV9	ANALOG VOLTAGE INPUT 9	FUEL TANK LEVEL SENSOR
C14	SEN_0V_A1	SENSOR OV A	0 VOLT - A
C15	SEN_OV_A2	SENSOR OV A	0 VOLT - A
C16	IGN_LS1	LOW SIDE IGNITION 1	IGN COIL 1
C17	UDIG7	UNIVERSAL DIGITAL INPUT 7	GEAR POSITION SENSOR Y
C18	UDIG1	UNIVERSAL DIGITAL INPUT 1	CRANK POSITION
C19	UDIG12	UNIVERSAL DIGITAL INPUT 12	REVERSE SWITCH SIGNAL
C20	UDIG11	UNIVERSAL DIGITAL INPUT 11	BRAKE SWITCH
C21	UDIG10	UNIVERSAL DIGITAL INPUT 10	ALTERNATOR INPUT
C22	UDIG9	UNIVERSAL DIGITAL INPUT 9	ENGINE RUN SWITCH
C23	SEN_OV_B1	SENSOR OV B	0 VOLT – B
C24	CAN1_HI	CAN BUS 1 HIGH	GM1 CAN HI
C25	UDIG3	UNIVERSAL DIGITAL INPUT 3	THROTTLE SERVO POSITION
C26	ETH_RX-	ETHERNET RECEIVE-	ETHERNET RX -
C27	UDIG4	UNIVERSAL DIGITAL INPUT 4	REAR WHEEL SPEED SENSOR
C28	AV4	ANALOG VOTLAGE INPUT 4	FUEL PRESSURE SENSOR
C29	AV5	ANALOG VOLTAGE INPUT 5	FUEL PRESSURE DIRECT BANK 1 SENSOR
C30	SEN_OV_B2	SENSOR OV B	0 VOLT – B
C31	CAN1_LO	CAN BUS 1 LOW	GM1 CAN LO
C32	UDIG2	UNIVERSAL DIGITAL INPUT 2	INLET CAM POSITION
C33	ETH_RX+	ETHERNET RECEIVE+	ETHERNET RX +
C34	ETH_TX-	ETHERNET TRANSMIT-	ETHERNET TX -
C35	AV3	ANALOG VOLTAGE INPUT 3	THROTTLE PEDAL SENSOR
C36	AV2	ANALOG VOLTAGE INPUT 2	INLET MANIFOLD PRESSURE SENSOR
C37	AT1	ANALOG TEMPERATURE INPUT 1	INLET AIR TEMPERATURE
C38	AT3	ANALOG TEMPERATURE INPUT 3	TRANSMISSION TEMPERATURE
C39	AT2	ANALOG TEMPERATURE INPUT 2	SECONDARY INLET AIR TEMPERATURE
C40	UDIG5	UNIVERSAL DIGITAL INPUT 5	SENT PRESSURE SIGNAL
C41	ETH_TX+	ETHERNET TRANSMIT+	ETHERNET TX +
C42	AV1	ANALOG VOLTAGE INPUT 1	THROTTLE PEDAL SENSOR MAIN
C43	KNOCK3	KNOCK INPUT 3	KNOCK BANK 2 +
C44	KNOCK2	KNOCK INPUT 2	KNOCK BANK 1 -

C45	AT5	ANALOG TEMPERATURE INPUT 5	COOLANT TEMPERATURE
C46	AT4	ANALOG TEMPERATURE INPUT 4	OIL TEMPERATURE
C47	UDIG6	UNIVERSAL DIGITAL INPUT 6	AIRBOX MASS FLOW
C48	SEN_5V0_A1	SENSOR 5.0V A	5 VOLT – A
C49	KNOCK4	KNOCK INPUT 4	KNOCK CYLINDER 2 -
C50	SEN_5V0_B1	SENSOR 5.0V B	5 VOLT – B
C51	KNOCK1	KNOCK INPUT 1	KNOCK CYLINDER 1
C52	AT6	ANALOG TEMPERATURE INPUT 6	GEAR NUETRAL SWITCH
C53	SEN_5V0_A2	SENSOR 5.0V A	-
C54	SEN_6V3	SENSOR 6.3V	6.3 VOLT
C55	SEN_5V0_B2	SENSOR 5.0V B	-

OUTPUT Spares Connector – DTM06-12S-E007

1	GROUND	GROUND
2	OUT HB 05	SPARE HB 05
3	OUT HB 06	SPARE HB 06
4	OUT HB 09	SPARE HB 09
5	IGN LS 11	SPARE IGN LS 11
6	BATTARY +	SPARE 12 VOLT
7	OEM	SKIP SHIFT
8	ADAPTER	OUTPUT SPARE 2
9	ADAPTER	OUTPUT SPARE 3
10	ADAPTER	OUTPUT SPARE 1
11	-	-
12	-	-

INPUT Spares Connector – DTM06-08S-E007

1	0 VOLT – C	SPARES OV
2	DIG 1	SPARE DIG 1
3	DIG 2	SPARE DIG 2
4	DIG 3	SPARE DIG 3
5	AV 12	SPARE ANALOG VOLTAGE 12
6	AV 17	SPARE ANALOG VOLTAGE 17
7	5 VOLT - C	SPARE 5 VOLT
8	6.3 VOLT	SPARE 6.3 VOLT

INJECTORS Connector – DTM06-08S-E007

1	IGN 9	PORT INJECTOR 1
	1601.40	DODT INVESTOR 2
2	IGN 10	PORT INJECTOR 2
3	IGN 12	PORT INJECTOR 3
4	OUT LS 02	PORT INJECTOR 4
5	OUT LS 03	PORT INJECTOR 5
6	OUT LS 04	PORT INJECTOR 6
7	OUT LS 05	PORT INJECTOR 7
8	OUT LS 06	PORT INJECTOR 8
9	-	-
10	-	-
11	12V POWER	12V POWER
12	12V POWER	12V POWER

LTCD Connector - DTM06-4S-E007

1	GROUND	LTC GROUND
2	CAN 2 LO	CAN 2 LO
3	CAN 2 HI	CAN 2 HI
4	POWER	LTC POWER

CAN2 Connector - DTM06-4S-E007

1	GROUND	CAN 2 SPARE GROUND
2	CAN 2 LO	CAN 2 LO
3	CAN 2 HI	CAN 2 HI
4	12V POWER	CAN 2 SPARE 12V POWER