Haltech
ENGINE MANAGEMENT SYSTEMS

ELITE 1500
Polaris Slingshot
QUICK START GUIDE
HT-140997
Suits 2015-16 Model

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It is unlawful to tamper with your vehicle's emissions equipment.

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Always disconnect the battery when doing electrical work on your vehicle. Avoid sparks, open flames or use of electrical devices near flammable substances. Do not run the engine with a battery charger connected as this could damage the ECU and other electrical equipment. Do not overcharge the battery or reverse the polarity of the battery or any charging unit. Disconnect the Haltech ECU from the electrical system whenever doing any welding on the vehicle by unplugging the wiring harness connector from the ECU. After completing the ECU installation, make sure there is no wiring left un-insulated. Uninsulated wiring can cause sparks, short circuits and in some cases fire. Before attempting to run the engine ensure there are no leaks in the fuel system. All fuel system components and wiring should be mounted away from heat sources, shielded if necessary and well ventilated. Always ensure that you follow workshop safety procedures. If you're working underneath a jacked-up car, always use safety stands!

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ELITE 1500
Polaris Slingshot
Plug n Play Harness Kit
Quick Start Guide

Congratulations on purchasing a Haltech Engine Management System. This *fully programmable* product opens the door to virtually limitless performance modification and tuning of your vehicle. Programmable systems allow you to extract all the performance from your engine by delivering precisely the required amount of fuel and ignition timing that your engine requires for maximum output under all operating conditions.

This quick startup guide will walk you through installation of a Haltech ECU into a Polaris Slingshot. This guide is accompanied by the full service manual located on the software USB provided with the ECU that you or your tuner will need to refer to before completing your installation and configuration. The Manual can also beaccessed via the software it self by pressing “F1” on your keyboard on the ESP Software.

Compatibility

The Haltech Elite Polaris Slingshot Plug n Play Kit is compatible with the following vehicles:

- Polaris Slingshot 2015-16

Supported ECU's

- Elite 1500
- Elite 2500

Included in Haltech Elite Polaris Slingshot Kit (HT-150997)

- Elite ECU with USB Cable and USB resource key
- Plug & Play Patch Harness
- Auxiliary Connector and Pins

Optional Accessories (Sold Separately)

- Haltech Single Channel CAN Wideband controller (HT059976)
- Haltech I/O Expander with prebuilt harness (HT059904)
- FlexFuel Sensor includes Plugs n Pins (HT011000)
- Auxiliary Connector, pins and sealing plugs
- Screw on USB only Water Proof Cap (HT070002)
- Water proof USB Comm cable with Water Proof Cap (HT070004)

Harness Overview

The Haltech Polaris Slingshot plug and play solution that allows full control of the Engine by removing the factory ECU in favor of the Haltech Elite 1500.

Installation is simple and easy as the harness is designed for the engine. All lengths are correct and all wires are clearly labeled.

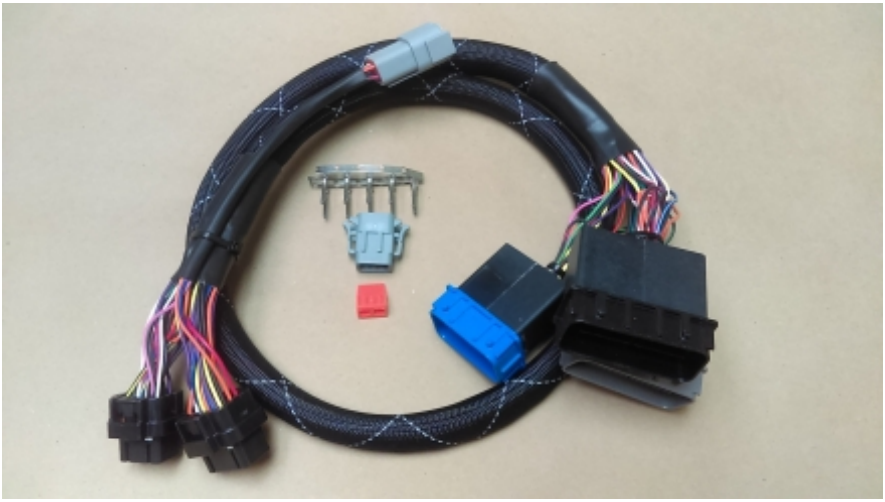
Notes on Installation:

- Make sure your vehicle is ready to be worked on.
- Please make sure to perform a Throttle and Pedal Calibration before starting the vehicle.
- Please make sure the ECU and all wiring is installed properly and away from extreme heat sources.

WARNING!

Damage can occur to your ECU if your ignition system is not configured correctly. Please make sure to load the Base Map for the ignition coils you will be using.

- Keep all wires away from the exhaust manifold and extreme sources of heat.
- The harness is designed to plug directly into the OEM wiring loom.
- Base maps are available by emailing sales@haltech.com.au or usasupport@haltech.com.



Installation

Installing the Haltech Elite 1500 on to your Polaris Slingshot is quite simple. The following installation instructions will outline the steps necessary to connect your ECU with the provided Plug n Play harness.

Step 1:

Locate the factory ECU in the engine bay and disconnect the main harness wires from the connectors by lifting on the locking levers on each connector after releasing the locking tab on each one. You can then remove the factory ECU completely from the vehicle.

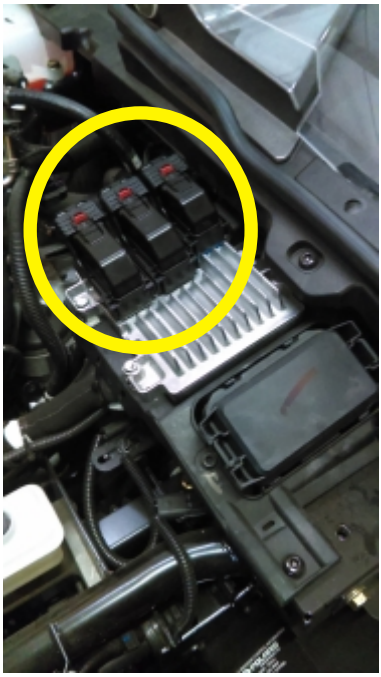


Figure 1 - Factory ECU Located in the Engine Bay

WARNING!
It is recommended that the Haltech ECU be installed inside the cabin to keep it away from heat and water intrusion. The front cover must be installed to maintain IP67 water resistant rating. If you wish to leave a USB cable plugged into the ECU then you must contact your Haltech dealer to purchase caps for each connector inside the lid as well as a sealed USB cable.

Step 2:

After disconnecting the factory connectors from the OEM ECU connect the Haltech harness wires to each corresponding connector and run the harness inside the cabin via the center console opening in the firewall.

Figure 2 - Connecting Haltech Harness to Factory Harness

Step 3:

Remove the center console storage bin for easier access from the engine bay. This will allow you to run the wiring harness into the cabin and down to the passenger side footwell.

Locating the ECU in the center storage bin space exposes the ECU to excessive engine heat and is not ideal. The passenger side foot well, or inside the glove box is a much better location for it. As such, the wiring harness has been made long enough to allow for proper installation of the ECU.

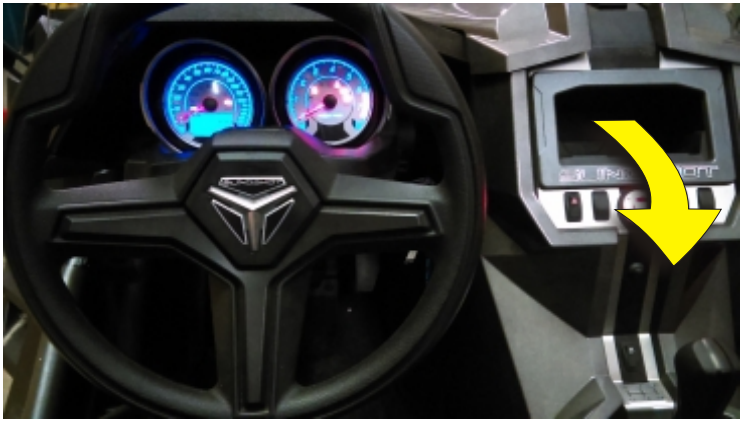


Figure 3 - Running the Wiring Harness into the Cabin

Additional Features

The Haltech Elite ECU will have additional features that can be configured and connected through the provided DTM8 connector which is part of the harness. This connector has outputs and inputs that can be configured in the software for different functions. These can be, but are not limited to:

Digital Outputs

- Air Con Output
- Aux Fuel Pump
- Boost Control
- ECU Diagnostic Light
- Intercooler Fans
- Thermo fans
- Shift Light

Digital and Analog Inputs

- Switched Inputs
- Aux. RPM Limit
- Flex Fuel Sensor
- Vehicle/Driveshaft Speed Sensors
- Trans Brake Input Switch
- Launch Control Switch
- Flat Shift Switch

Auxiliary Functions Connector

The Slingshot Plug n Play harness has been fitted with an 8pin DTM connector for additional inputs and outputs to be used if needed. Please see the Help Manual within ESP Software for information on the different functionality that these inputs and outputs can provide.Extra pins have also been included if more functionality is needed.

Position	Connection	Function
1	+5VDC	Sensor Supply
2	AVI 10	Analog Input
3	DPO 1	Digital Output
4	DPO 3	Digital Output
5	DPO 5	Digital Output
6	+12VDC	Power Supply
7	SPI 2	Digital Input
8	Ground	Signal Ground

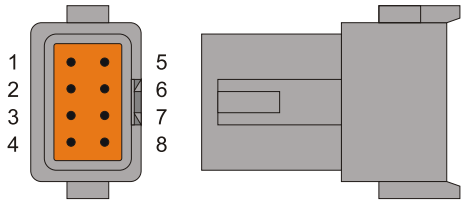
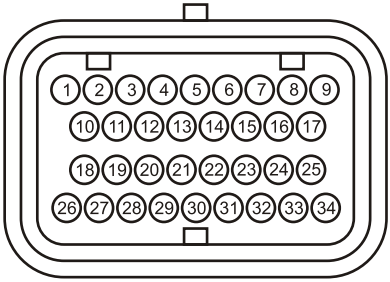
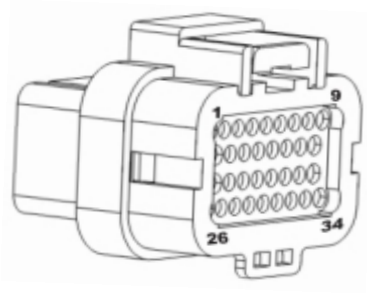


Figure 4 - Auxiliary Functions Connector

Harness Pinout

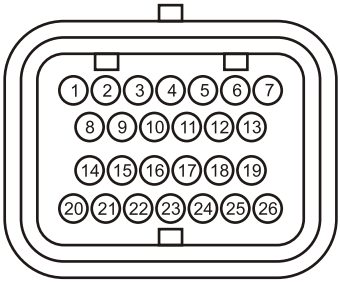


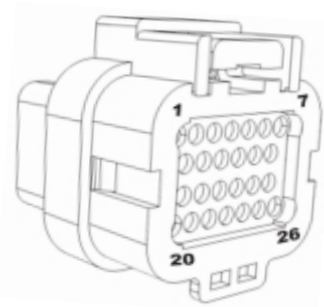


ECU CONNECTOR (34 PIN)

c	Connection	Function	Notes
A1	DPO 2	O2 Heater	Factory O2 Sensor Heater Control
A2	AVI 4	APP #1	Accelerator Pedal Position #1
A3	IGN 1	Ignition Output 1	Cylinder #1 Coil
A4	IGN 2	Ignition Output 2	Cylinder #2 Coil
A5	IGN 3	Ignition Output 3	Cylinder #3 Coil
A6	IGN 4	Ignition Output 4	Cylinder #4 Coil
A7	-	-	-
A8	-	-	-
A9	5VDC	5V Sensor Power	5V Supply to Sensors
A10	Chassis Ground	Chassis Ground	ECU Grounds
A11	Chassis Ground	Chassis Ground	ECU Grounds
A12	-	-	-
A13	Ignition Switch	Ignition Input	Ignition 12V Switch for ECU
A14	AVI 10	Available Analog Input	On Aux. Deutsch Connector
A15	AVI 9	MAP Sensor	Manifold Pressure Sensor Signal
A16	AVI 2	TPS #1	DBW Throttle Position #1
A17	AVI 3	TPS #2	DBW Throttle Position #2
A18	DPO 1	Spare Digital Output	On Aux. Deutsch Connector
A19	INJ 1	Injection Output 1	Cylinder #1 Injector
A20	INJ 2	Injection Output 2	Cylinder #2 Injector
A21	INJ 3	Injection Output 3	Cylinder #3 Injector
A22	INJ 4	Injection Output 4	Cylinder #1 Injector
A23	DPO 3	Spare Digital Output	On Aux. Deutsch Connector
A24	DPO 5	Spare Digital Output	On Aux. Deutsch Connector
A25	DPO 6	Engine Control Relay	Powertrain Relay Control
A26	12VDC Switch Input	ECU Power	ECU Power
A27	-	-	-
A28	-	-	-
A29	-	-	-
A30	-	-	-
A31	Stepper 1	Intake Cam Control	Intake Cam Solenoid Control (High Side)
A32	Stepper 2	Exhaust Cam Control	Exhaust Cam Solenoid Control (High Side)
A33	Stepper 3	Radiator Fan	Radiator Fan Relay (High Side)
A34	Stepper 4	Fuel Pump	Fuel Pump Relay (High Side)

Figure 5 - 34 Pin Harness Connector Pin Allocation





ECU CONNECTOR (26 PIN)

Position	Connection	Function	Notes
B1	Trigger +	Crank / Ref Signal	Crank Sensor Signal
B2	Home +	Cam / Sync Signal	Cam Sensor Signal (Intake Cam)
B3	Air Temp	IAT Signal	Intake Air Temp Sensor Signal
B4	Coolant Temp	ECT Signal	Coolant Temp Sensor Signal
B5	-	-	-
B6	-	-	-
B7	SPI 4	Clutch Switch	Clutch Switch Input Signal
B8	SPI 1	Exhaust Cam Position	Cam Sensor Signal (Exhaust Cam)
B9	SPI 2	Spare Digital Input	In Aux. Deutsch Connctor
B10	SPI 3	Speed Sensor	Vehicle Speed Signal
B11	ECU Power	ECU Power	ECU Power
B12	AVI 6	O2 Sensor	Factory Narrowband O2 Sensor
B13	AVI 1	Roll Over Sensor	Roll Over Sensor (Kill Switch)
B14	Signal Ground	Signal Ground	To Sensor Grounds
B15	Signal Ground	Signal Ground	To Sensor Grounds
B16	Signal Ground	Signal Ground	To Sensor Grounds
B17	-	-	-
B18	-	-	-
B19	DPO 4	-	-
B20	AVI 5	APP #2	Accelerator Pedal Position #2
B21	Knock 1	Knock Sensor	Knock Sensor Signal
B22	-	-	-
B23	CAN Hi	CAN Hi	Factory CAN Communication Bus
B24	Can Lo	Can Lo	Factory CAN Communication Bus
B25	DBW 1	DBW Motor +	ETC Motor Open
B26	DBW 2	DBW Motor -	ETC Motor Close

Figure 6 - 26 Pin Harness Connector Pin Allocation

Notes:

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Need more help?

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