



ELITE 1500
Polaris RZR1000
QUICK START GUIDE
HT-140990
Suits 2015-16 Non-Turbo



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

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ELITE 1500

Polaris RZR1000

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 RZR1000. 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 be accessed via the software itself by pressing "F1" on your keyboard on the ESP Software.

Compatibility

The Haltech Elite Polaris RZR1000 Plug n Play Kit is compatible with the following vehicles:

- Polaris RZR1000 2015-16 Non-Turbo Model

Supported ECU's

- Elite 1500
- Elite 2500

Included in Haltech Elite Polaris RZR1000 Kit (HT-150990)

- Elite ECU with USB Cable and associated hardware
- Plug & Play Patch Harness
- Haltech Dual Channel Ignition Module with mounting hardware
- 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 RZR1000 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 RZR1000 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:

Remove the Driver Seat by lifting the locking tab shown bellow to gain access to the factory ECU. Disconnect the main harness wires from the ECU by lifting on the locking levers on each connector. You can then remove the factory ECU completely from the vehicle.

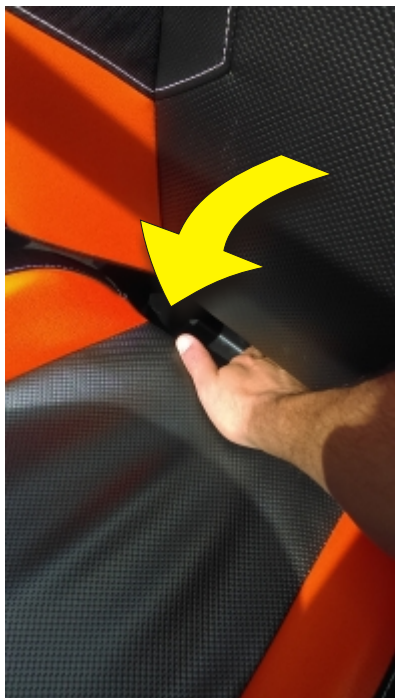


Figure 1 - Factory ECU Located Behind the Driver Seat

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 proceed to mount the ECU on the back firewall using self tapping screws. This has been determined to be the most suitable location for the ECU.



Figure 2 - Connecting Haltech Patch Loom to Factory Harness

Step 3:

In order to prevent any moisture or dirt to get into the ECU connectors the lid must be kept at all times on the ECU, if you require the lid to be removed Haltech can provide covers for the USB connectors and the CAN port to keep them sealed and isolated.



Figure 3 - Weatherproof covers and USB Cable with caps.

Additional Features

The Haltech Elite ECU will have additional features that can be configured and connected through the provided DTM6 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 Polaris RZR1000 Plug n Play harness has been fitted with an 6pin 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	5V Sen. Supply
2	DPO 1	Digital Output
3	+12VDC	12V Power Sup.
4	SPI 4	Digital Input
5	SPI 3	Digital Input
6	Ground	Sensor Ground

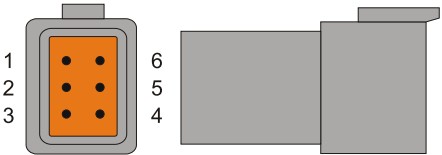
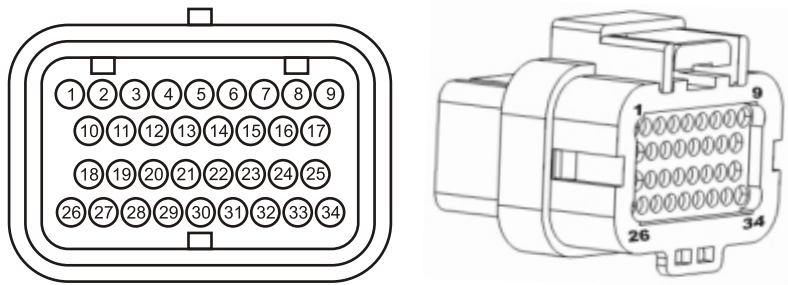


Figure 4 - Auxiliary Functions Connector

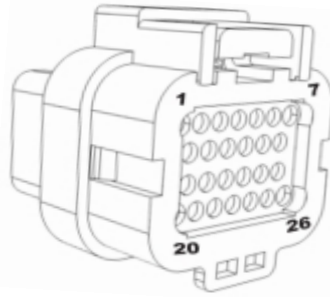
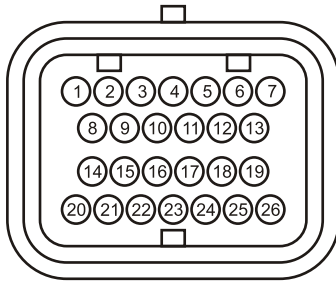
Harness Pinout



ECU CONNECTOR (34 PIN)

Position	Connection	Function	Notes
A1	DPO 2	Thermofan	Thermofan Relay Control
A2	AVI 4	APP #1	Accelerator Pedal Position #1
A3	IGN 1	Ignition Output 1	Cylinder #1 Coil (Via Ignition Module)
A4	IGN 2	Ignition Output 2	Cylinder #2 Coil (Via Ignition Module)
A5	IGN 3	-	-
A6	IGN 4	-	-
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	Gear Detection	Transmission Gear Input
A15	AVI 9	MAP Sensor	Manifold Pressure Sensor Signal
A16	AVI 2	Fuel Level	Fuel Level Sensor
A17	AVI 3	TPS #2	DBW Throttle Position #2
A18	DPO 1	Available Output	Available on DT6 Connector
A19	INJ 1	Injection Output 1	Cylinder #1 Injector
A20	INJ 2	Injection Output 2	Cylinder #2 Injector
A21	INJ 3	-	-
A22	INJ 4	-	-
A23	DPO 3	AWD Control	AWD Control Output
A24	DPO 5	Fuel Pump	Fuel Pump Relay Output
A25	DPO 6	Engine Control Relay	EFI Relay Control
A26	12VDC Switch Input	ECU Power	12V from EFI Relay
A27	-	-	-
A28	-	-	-
A29	-	-	-
A30	-	-	-
A31	Stepper 1	-	-
A32	Stepper 2	-	-
A33	Stepper 3	-	-
A34	Stepper 4	-	-

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	Trigger -	Crank Sensor (-)	Crank Sensor (-) Signal
B6	-	-	-
B7	SPI 4	Available Input	Available on DT6 Connector
B8	SPI 1	AWD Request	AWD Request Input
B9	SPI 2	Speed Sensor	Vehicle Speed Sensor Input
B10	SPI 3	Available Input	Available on DT6 Connector
B11	ECU Power	ECU Power	12V from EFI Relay
B12	AVI 6	Brake Switch	Brake Pedal Switch
B13	AVI 1	TPS #1	DBW Throttle Position #1
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	Chassis Relay	Chassis Relay Control
B20	AVI 5	APP #2	Accelerator Pedal Position #2
B21	Knock 1	-	-
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:

[illegible]

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ENGINE MANAGEMENT SYSTEMS



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