NISSAN RB TERMINATED HARNESS FOR NEXUS R3 ECU

QUICK START GUIDE

HT-186401



HARNESS OVERVIEW

Congratulations on purchasing a Nissan RB terminated wiring harness for a Nexus R3 VCU! This specialized harness is designed for engine conversions using the following Nissan RB engines:

- **RB20DET**
- **RB25DET**
- **RB25DET Neo**
- **RB26DETT**
- **RB30E**

When used with a Nexus R3 VCU, your Nissan RB engine will have access to a wide range of performance and tuning capabilities.

This Quick Start Guide will walk you through the installation of the terminated harness, as well as the available sub-harnesses and other compatible devices.

Harness Features:

- Direct plug-in to Nexus R3 VCU
- Terminated engine bay and in-cabin connections
- CAN connectivity for Haltech CAN devices (e.g., dash displays, keypads, etc.)
- Sensor connections (e.g., CAS, temperature, fluid pressure, position, speed, etc.)
- Direct wideband lambda sensor connection
- Dual knock sensor support (Bosch sensors)
- Injector sub-harness options (EV1, EV6, Denso)
- Ignition sub-harness options (Direct fire ignition using R35 ignition coils)
- Direct VCU control for thermofan, fuel pump, and starter
- Compatible with cable throttle and DBW systems (cable throttle sub-harness included)
- Alternator control connection options
- Transmission wiring breakout connector
- Spare inputs and outputs located in both the cabin and the engine bay.

GENERAL INSTALLATION WARNING:

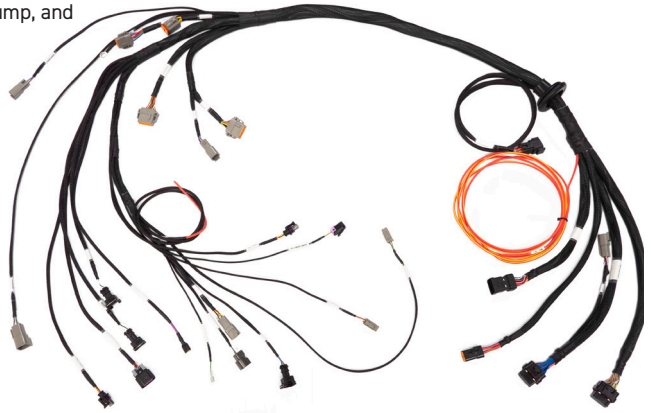
A Nexus series ECU or VCU allows connection to your laptop via the Nexus Software Programmer (NSP) using the included USB cable, without the need for +12V power. This feature conveniently lets you set up your ignition, injector, and various other outputs before initially powering up the control unit using this harness. Turning on the control unit with incorrect configurations can lead to damage to both the engine and control unit components.

This wiring harness is not designed to provide grounding for your engine. Ensure your engine is adequately grounded using a grounding or earthing strap to connect your engine to the battery.

Avoid creating sparks or using electrical devices near flammable substances. Always disconnect the battery cables when working on the electrical systems of your vehicle. Make sure all fuel system components and wiring are installed away from heat sources, properly shielded if necessary, and in well-ventilated areas.

After installation, double-check for any fuel leaks and ensure that no wiring is left exposed or uninsulated to avoid the risk of a fire from a spark or short circuit.

Do not charge or disconnect the battery while the engine is running. Doing so could expose the control unit to an unregulated power supply, which might lead to control unit failure.



What's in the bag?

- Nexus Nissan RB terminated harness (HT-186401)
- Nexus RB CAS adaptor to suit RB25 RB26 (HT-186142)
- Nexus RB CAS adaptor to suit RB30 (HT-186141)
- Nexus RB cable throttle sub-harness to suit RB25 RB26 (HT-186164)
- Nexus RB cable throttle sub-harness to suit RB30 (HT-186167)
- Nexus 2 Pin Yazaki alternator adaptor (HT-186125)
- Nexus 2 Pin EV1 alternator adaptor (HT-186126)
- Cabin adaptor harness (HT-186130)
- Opposing connectors and pins to use with boost control solenoid, spare inputs and outputs, and transmission breakout.



HT-186130



HT-186125



HT-186126



HT-186141



HT-186401



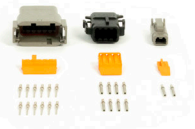
HT-186142



HT-186164



HT-186167



Opposing Connectors and Pins

Available adaptors and sub-harnesses (sold separately)

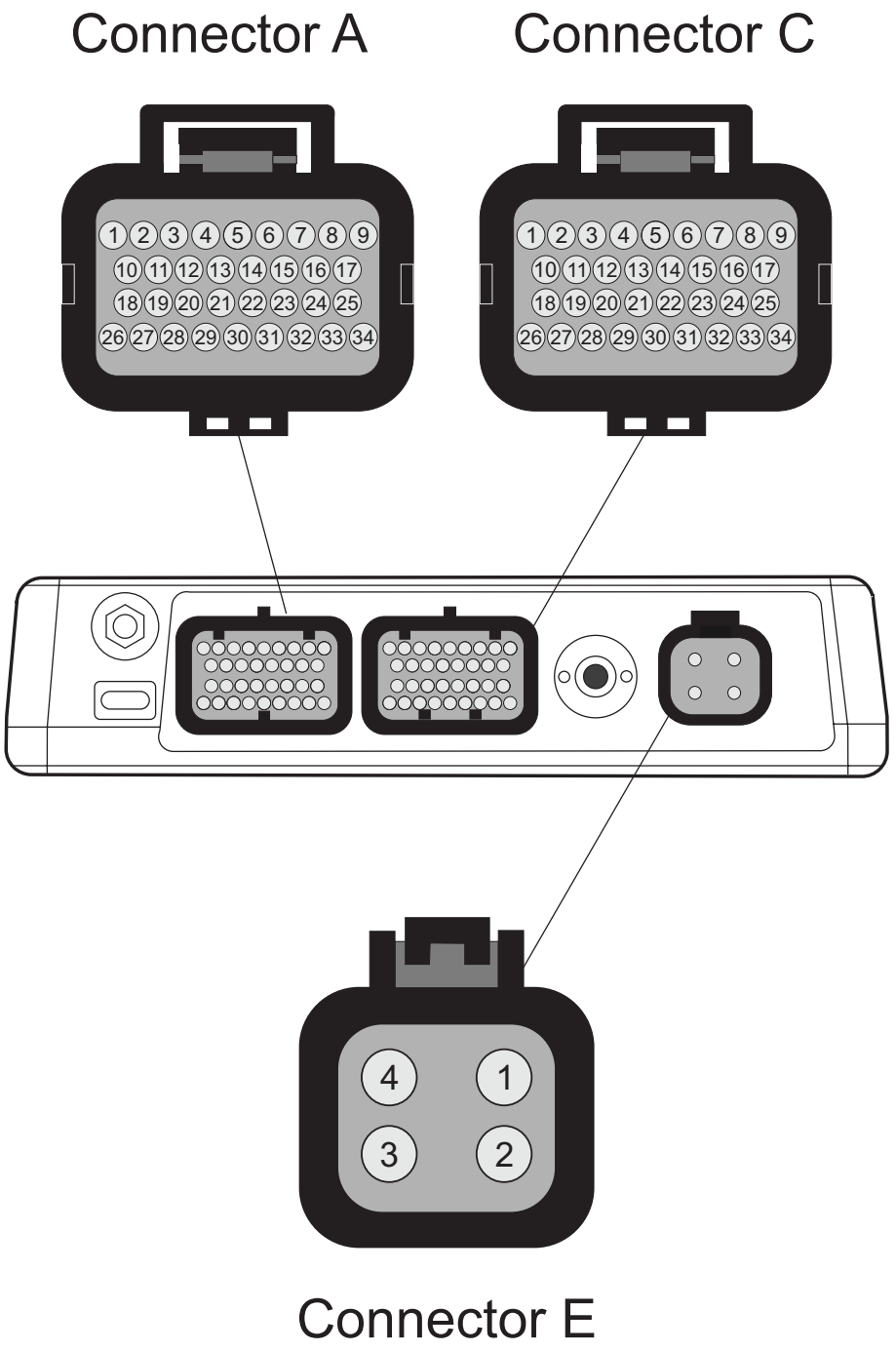
- HT-186010 - i6 Sumitomo (Denso) primary injector harness
- HT-186004 - i6 Timer (EV1) primary injector harness
- HT-186007 - i6 GT150 (USCAR EV6) primary injector harness
- HT-186063 - i6 R35 COP ignition harness
- HT-186162 - Nexus DBW harness - suits Bosch

HARNESS PINOUT DIAGRAM

CONNECTOR A (KEYWAY TYPE 1)		
Pin	**Function**	**Color**
A1	Injector 1	Blue
A2	Injector 2	Blue/Black
A3	Injector 3	Blue/Brown
A4	Injector 4	Blue/Red
A5	Injector 5	Blue/Orange
A6	Injector 6	Blue/Yellow
A7	Injector 7 (VCT)	Blue/Green
A8	Injector 8 (Boost control)	Blue/Violet
A9	DPO 1 (Cabin)	Violet/Black
A10	Power ground output	Black
A11	Power ground output	Black
A12	DPO 2 (Cabin)	Violet/Brown
A13	Ignition switch input	Pink
A14	DPO 3 (Cabin)	Violet/Red
A15	DPO 4 (Spare)	Violet/Orange
A16	DPO 5 (Spare)	Violet/Yellow
A17	DPO 6 (Cabin)	Violet/Green
A18	HBO 5 (Transmission)	Pink/Red
A19	HBO 1 (Throttle)	Brown/Black
A20	HBO 2 (Throttle)	Brown/Red
A21	HBO 3 (Throttle)	Brown/Green
A22	HBO 4 (Throttle)	Brown/Pink
A23	CAN 1 High	White
A24	CAN 1 Low	Blue
A25	HBO 6 (CAN power)	Pink/Brown
A26	Const 12V (Transmission)	Red
A27	Ignition 1	Yellow/Black
A28	Ignition 2	Yellow/Red
A29	Ignition 3	Yellow/Orange
A30	Ignition 4	Yellow/Green
A31	Ignition 5	Yellow/Brown
A32	Ignition 6	Yellow/Blue
A33	Ignition 7 (Spare)	Yellow/Violet
A34	Ignition 8 (Spare)	Yellow/Gray

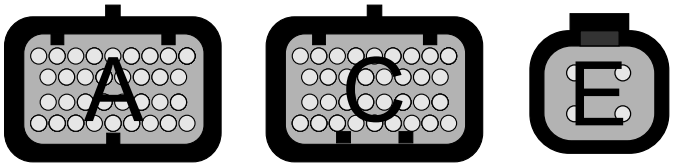
CONNECTOR C (KEYWAY TYPE 2)		
Pin	**Function**	**Color**
C1	Trigger +	Yellow
C2	Unused	Unused
C3	Home +	Green
C4	Unused	Unused
C5	SPI 1 (Cabin)	Gray/Brown
C6	SPI 2 (Spare)	Gray/Red
C7	SPI 3 (Spare)	Gray/Orange
C8	SPI 4 (Flex fuel)	Gray/Yellow
C9	Unused	Unused
C10	AVI 1 (Cabin)	White
C11	AVI 2 (Cabin)	White/Yellow
C12	AVI 3 (Fuel pressure)	White/Gray
C13	AVI 4 (Oil pressure)	White/Violet
C14	AVI 5 (Spare)	White/Green
C15	AVI 6 (Throttle)	White/Orange
C16	AVI 7 (Throttle)	White/Black
C17	AVI 8 (Cabin)	White/Brown
C18	AVI 9 (Cabin)	White/Red
C19	Unused	Unused
C20	SPI 6 (Transmission)	Gray/L.Green
C21	CAN 2 High	White
C22	CAN 2 Low	Blue
C23	Knock 1	Black/Blue
C24	Knock 2	Black/Green
C25	5V sensor supply	Orange
C26	Sensor ground	Black/White
C27	AVI 10 (Coolant temp)	L.Green
C28	AVI 11 (Air temp)	L.Green/Black
C29	WBI 1 Heater +	Gray
C30	WBI 1 Common	Yellow
C31	WBI 1 Pump	Red
C32	WBI 1 Nernst	Black
C33	WBI 1 Heater -	White
C34	WBI 1 Cal	Green

CONNECTOR E		
Pin	**Function**	**Color**
E1	HCO 25A 1 (Starter)	Red/Blue
E2	HCO 25A 2 (Fuel pump)	Red/Yellow
E3	HCO 25A 3 (Thermofan)	Red/Orange
E4	HCO 25A 4 (Ign Inj12V)	Red/Green



Nexus R3 VCU Connection

With the unit powered off, connect the 3 VCU plugs on the main harness to the Nexus R3 ECU.



Connector A:
34-pin, Keyway Type 1
Connector C:
34-pin, Keyway Type 2
Connector E:
4-pin, DTP

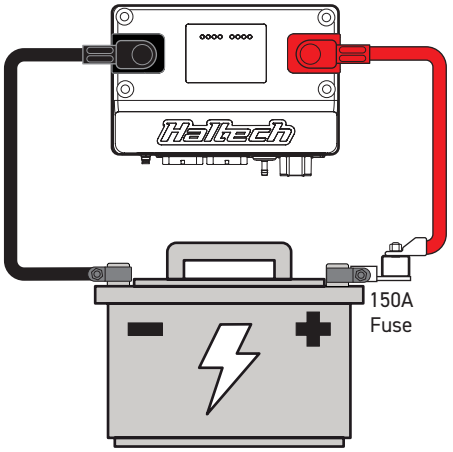


Battery Positive and Battery Negative (Nexus R3 VCU)

For correct operation, the battery positive and battery negative must be connected to the Nexus R3 VCU at all times.

The Nexus R3 VCU's positive (red) terminal must be connected to the positive (+) terminal of the battery. It is recommended to use a 150A fuse (sample CF fuse shown below) in this connection. Use the supplied red Surlok connector, along with a red 4 AWG battery cable (sold separately), to complete the connection.

The Nexus R3 VCU's negative (black) terminal must be connected to the negative (–) terminal of the battery using the supplied black Surlok connector, along with a black 4 AWG battery cable to complete the connection.



Nexus R3 VCU battery connection (fused)

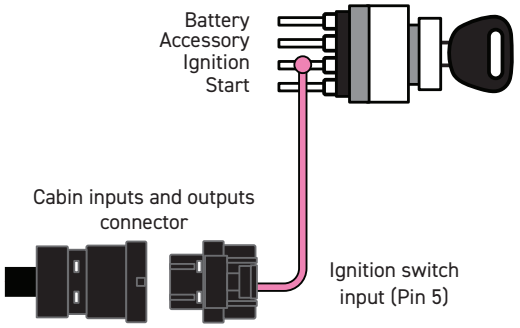
Ignition Switch Input

(Label: IGN. SW.)

The ignition switch input (pink) wire must be connected to a switched +12V source to turn the Nexus R3 VCU on.

When connecting this wire to the ignition key switch, it is important to make sure to use the main ignition wire (i.e., not accessory) so it doesn't lose power when the key is in the "Start" position, causing the VCU to momentarily turn off.

The pink ignition switch input wire comes out of the connector for spare cabin inputs and outputs, where the APP adaptor is also integrated.



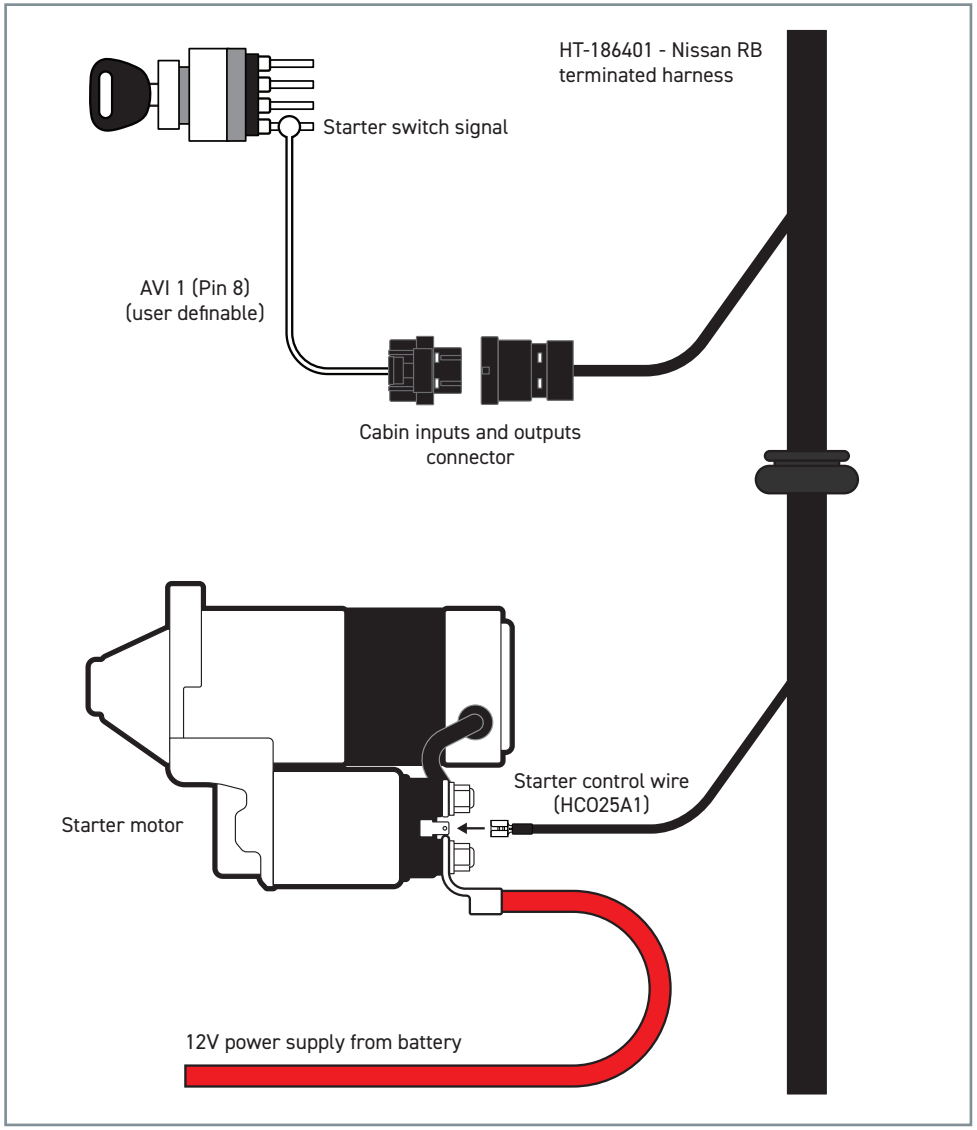
Starter Motor Control

(Label: STARTER)

The Nissan RB terminated harness features a high-current output wire that can supply +12V (25A) to the starter solenoid when needed to engage the starter motor. This wire is terminated with a spade terminal that connects directly into the starter solenoid. The output is controlled by the VCU via the HCO 25A 1 pin, which is assigned to the starter control function in the VCU settings.

Controlling the starter also requires a starter switch signal to be connected to the VCU. A white wire is fitted to the cabin connector and is pinned to AVI 1 (pin 8) for this purpose. This wire must be connected to the starter switch signal from the ignition key switch.

Alternatively, the starter switch signal can be assigned to any available AVI/SPI within NSP, or to a CAN keypad button if your setup includes one.



Alternator
(Label: ALT)

This harness is equipped with a 2 pin DTM plug to provide switched +12V power to alternators with built-in regulators. Additionally, the harness kit includes alternator adapter harnesses to suit the most common RB engine alternators, with the following connectors:

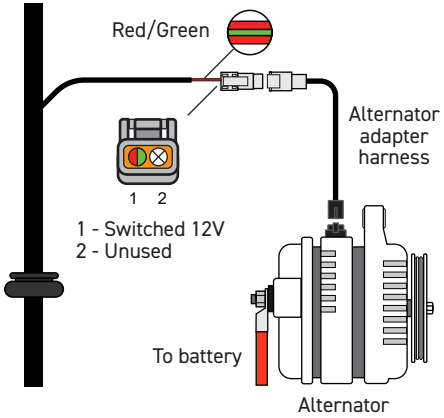
HT-186126: Nexus 2 Pin EV1 Alternator Harness

HT-186125: Nexus 2 Pin Yazaki Alternator Harness





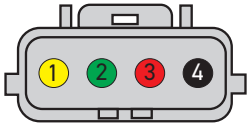
Using the adapter harnesses above excites the alternator using a 470-ohm inline resistor, serving as a replacement for the charge indicator light.



Cam Angle Sensor (CAS)
(Label: ENG REF)

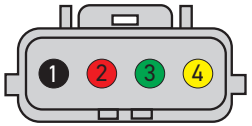
The RB engines found in the Nissan Skyline R32, R33, and R34 use an optical Cam Angle Sensor (CAS) located at the front of the exhaust cam. This single CAS assembly provides both engine speed and engine position to the VCU, eliminating the need for a separate crank sensor.

The Nissan RB terminated harness supports the different CAS pinouts across the R32, R33, and R34 models by using the HT-186142 CAS harness, where the wires are terminated with pins but left unterminated at the included CAS connector. This allows the user to pin the connector to suit the correct application. Use the two tables below for pinout information for the R32/R33 versus the R34 Cam Angle Sensor.



Wire Side View

R32/R33 CAS CONNECTOR PINOUT		
Pin	**Function**	**Color**
1	Trigger + (120° signal)	Yellow
2	Home + (1° signal)	Green
3	+12V switched	Red
4	Power ground	Black



Wire Side View

R34 CAS CONNECTOR PINOUT		
Pin	**Function**	**Color**
1	Power ground	Black
2	+12V switched	Red
3	Home + (1° signal)	Green
4	Trigger + (120° signal)	Yellow



Similarly, the RB30 engine uses an optical Cam Angle Sensor (CAS); however, the sensor is built into the distributor as a single assembly. The Nissan RB terminated harness supports the RB30 CAS through the use of the HT-186141 RB30 CAS adaptor, which plugs directly into the distributor.





RB30 CAS
(inside the distributor)



R32/R33 CAS



R34 CAS

NOTE: The RB optical Cam Angle Sensors are grounded to the engine through the CAS assembly. Do not connect the ground pin to any sensor ground, as this can cause inaccurate readings for other sensors.

Wideband Lambda Sensor
(Label: WBO2)

The Nissan RB terminated harness is equipped with a DTM-6 connector that plugs into a Haltech wideband hardware pack and is directly controlled by the wideband controller built into the Nexus R3 VCU. Wideband hardware packs are available with either a Bosch LSU4.9 sensor (HT-010746) or NTK sensor (HT-010747).

Using a wideband lambda sensor allows the VCU to utilise functions such as closed-loop fuel control, where the VCU targets the desired fuel mixture for any RPM and engine load combination. It also enables the VCU to implement engine protection strategies when it detects that the fuel mixture is running too lean.



HT-010746 - Bosch LSU4.9 Wideband Hardware Pack

Knock Sensors
(Label: KNOCK1, KNOCK2)

The Nissan RB terminated harness features two knock sensor connectors that plug into two Bosch knock sensors (sold separately). Bosch knock sensors detect a wider range of frequencies, making them more suitable for performance applications. Utilizing knock sensors allows the Nexus R3 VCU to detect knock and implement knock control strategies.



Fuel Injector Breakout

(Label: INJ)

The Nexus Nissan RB terminated harness uses an injector breakout connector that plugs into multiple types of injector sub-harnesses (sold separately). The choice of sub-harness depends on the type of injector connectors being used.

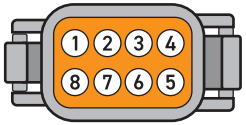
Each injector plug is labeled accordingly to easily identify which injector on the engine it connects to.



HT-186004 - EV1 Primary Injector Harness



HT-186007 - GT150 (USCAR EV6) Primary Injector Harness



Fuel injector breakout connector
(Main harness wire side view)

FUEL INJECTOR BREAKOUT CONNECTOR		
PIN	FUNCTION	COLOR
1	Injector 1	Blue
2	Injector 2	Blue/Black
3	Injector 3	Blue/Brown
4	Injector 4	Blue/Red
5	Injector 5	Blue/Orange
6	Injector 6	Blue/Yellow
7	Injector supply	Red/Green
8	Injector supply	Red/Green

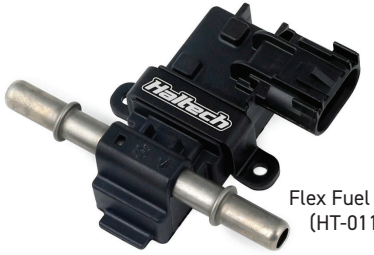


HT-186010 - Sumitomo (Denso) Primary Injector Harness

Fuel Fuel Sensor

(Label: FLEX F)

The Nexus Nissan RB terminated harness also features an optional connector that plugs into a Haltech Flex Fuel Sensor. Using a Flex Fuel Sensor enables the VCU to make real-time adjustments to optimize the tune for varying ethanol blends.



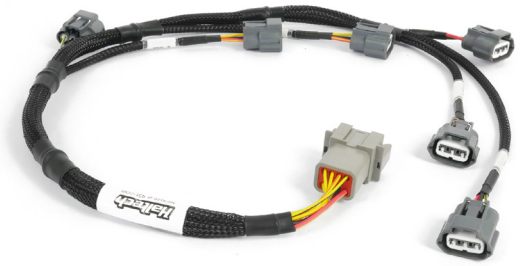
Flex Fuel Sensor
(HT-011000)

Ignition Coil Breakout

(Label: IGN)

The Nexus Nissan RB terminated harness uses an ignition coil breakout connector that plugs into the HT-186063 R35 Coil ignition sub-harness (sold separately). This configuration eliminates the need for the factory external igniter module found on earlier RB engines, simplifying the wiring harness while upgrading the ignition system to use high-output ignition coils.

Alternatively, the breakout connector may also be used to wire the main harness to support a different ignition coil and igniter combination, if required.

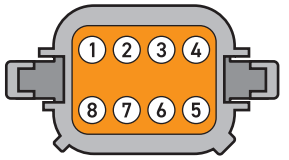


HT-186063 - Nexus R35 COP Ignition sub-harness



HT-120202 - R35 Coil bracket kit for Nissan RB20, RB25 Non-NEO, and RB26

(includes bracket, R35 ignition coils and connectors)



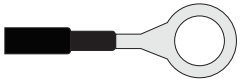
Ignition coil breakout connector
(Main harness wire side view)

IGNITION COIL BREAKOUT CONNECTOR		
PIN	FUNCTION	COLOR
1	Ignition 1	Yellow/Black
2	Ignition 2	Yellow/Red
3	Ignition 3	Yellow/Orange
4	Ignition 4	Yellow/Green
5	Ignition 5	Yellow/Brown
6	Ignition 6	Yellow/Blue
7	Engine ground	Black
8	Ignition supply	Red/Green

Ignition Coil Ground

(Label: CYL HEAD GROUND)

The Nexus Nissan RB terminated harness also includes an integrated grounding for the ignition coils, using a 10 mm ring terminal that must be bolted to the engine head.

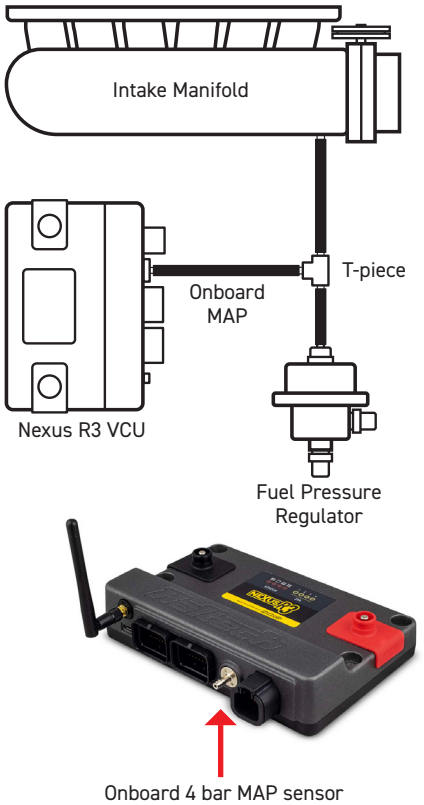


NOTE: Make sure your engine is adequately grounded using a grounding cable or earthing strap that connects the engine to the battery. This ground ring terminal does not provide grounding for your engine.

Manifold Absolute Pressure (MAP) Sensor

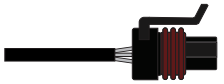
Air Flow Meters (AFMs) or MAF sensors are not primarily used by the Nexus R3 VCU; instead, engine load is measured using a MAP sensor. The Nexus R3 VCU features an onboard 4-bar MAP sensor capable of measuring up to 43 psi of boost pressure. This can be utilised by connecting a vacuum hose from the MAP sensor barb to a vacuum port on the intake manifold, or by using a T-piece in line with the fuel pressure regulator's vacuum hose.

If the engine will be running more than 43 psi of boost, an external MAP sensor can be used and wired to the spare connector located at the engine-bay end of the harness.



Oil and Fuel Pressure Sensors
(Label: OIL PRESS / FUEL PRESS)

This harness plugs directly into Haltech oil and fuel pressure sensors using the Delphi 3-pin pressure sensor connector shown below. While oil and fuel pressure sensors are not required for the engine to run, they are highly recommended to enable the VCU to make fueling adjustments and provide engine protection.



Delphi 3-pin
Pressure sensor connector



HT-010910 - 150 PSI Motorsport Pressure Sensor
HT-010912 - 250 PSI Motorsport Pressure Sensor

Coolant and Intake Air Temperature
(Label: COOLANT TEMP / AIR TEMP)

The Nexus Nissan RB terminated harness is equipped with connectors that plug directly into the factory 2-pin coolant temperature sensor and a Haltech air temperature sensor (HT-010206).

These are vital sensors that the VCU uses as part of the Volumetric Efficiency (VE) fuel model and are often used for engine protection as well.

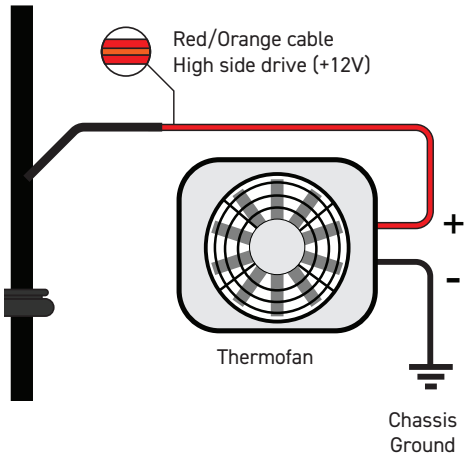
Oil Pressure Gauge Signal
(Label: OIL PRESS GAUGE)

The Nexus Nissan RB terminated harness is fitted with a connector that plugs into the factory oil pressure gauge sensor that runs to pin 19 of the cabin connector input allowing connection to an analog gauge.

Thermofan Control
(Label: FAN)

This harness provides direct thermofan control using the Red/Orange 10AWG cable.

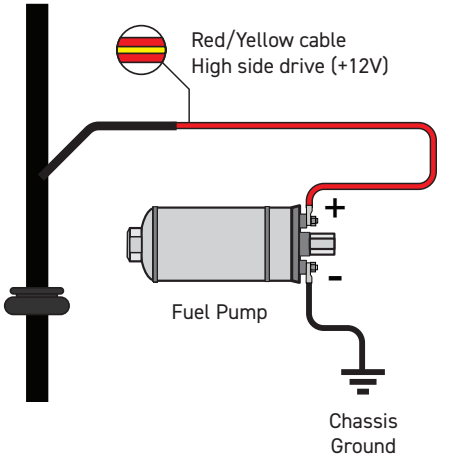
Use this cable to supply +12V power directly to the thermofan and leverage VCU functions, such as setting the fan's on/off temperature threshold, activating the fan with air-conditioning, or deactivating the fan when the vehicle reaches a specified speed (vehicle speed sensor is required).



Fuel Pump Control
(Label: F PUMP)

The harness also provides direct fuel pump control using the Red/Yellow 10AWG terminated cable.

Use this cable to supply +12V power directly to the fuel pump, allowing the VCU to prime the pump when the system is turned on and to implement safety functions, such as automatically turning the pump off when the VCU no longer detects an RPM signal.



Factory Coolant Temperature Sensor (2-pin)



Haltech Air Temperature Sensor (HT-010206)



Factory Oil Pressure Gauge Sensor

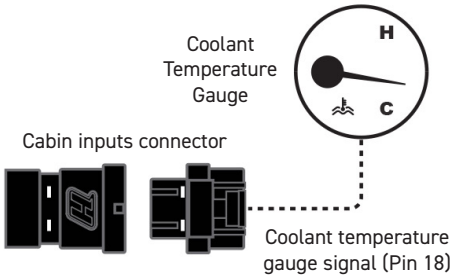


Factory Coolant Temperature Gauge Sensor (1-pin)



Coolant Temperature Gauge Signal
(Label: WATER SENDER)

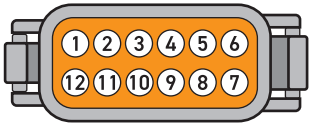
The Nexus Nissan RB terminated harness is fitted with a connector that plugs into the factory coolant temperature gauge sensor. This single pin sensor is not used by the VCU, but the wire runs from the sensor to pin 18 of the cabin connector input, allowing connection to an analog coolant temperature gauge.



Throttle Breakout Connector

(Label: THROT)

The Nexus Nissan RB terminated harness features a throttle breakout connector that provides the option to use either the included cable-throttle sub-harness or to upgrade to electronic throttle control using a Bosch DBW sub-harness (sold separately).



Throttle breakout connector
(Main harness wire side view)

THROTTLE BODY CONNECTOR PINOUT		
PIN	FUNCTION	COLOR
1	HBO 3	Brown/Green
2	HBO 4	Brown/Pink
3	HBO 1	Brown/Black
4	HBO 2	Brown/Red
5	Sensor ground	Black/White
6	5V	Orange
7	AVI 6	White/Orange
8	AVI 7	White/Black
9	Brake pedal signal	L. Green/Brown
10	Switched 12V	Red/Green
11	Unused	No connection
12	Unused	No connection

Cable Throttle Sub-harness

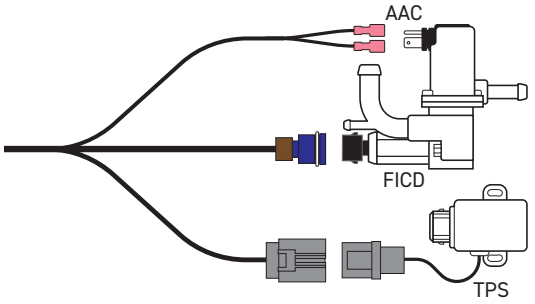
There are two cable throttle sub-harnesses included in the kit, each with connectors to suit the common types of idle valves (AAC), Fast Idle Control Devices (FICD), and Throttle Position Sensors (TPS) used on RB25, RB26, and RB30 engines.



HT-186167 - This cable throttle sub-harness is typically used with an RB30 equipped with the earlier style connectors. It is important to note that the TPS on these engines may either be a single connector switch type sensor or a dual connector sensor that provides both a switched signal and a variable signal. Haltech ECUs and VCUs require a variable type TPS; therefore, if the engine is equipped with a switch-type TPS, it must be replaced with the dual-connector type or an appropriate aftermarket variable TPS.

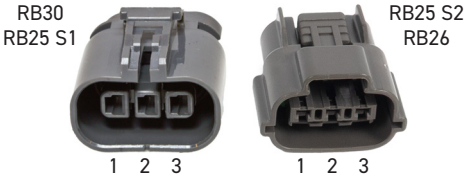


Variable signal RB Throttle Position Sensors

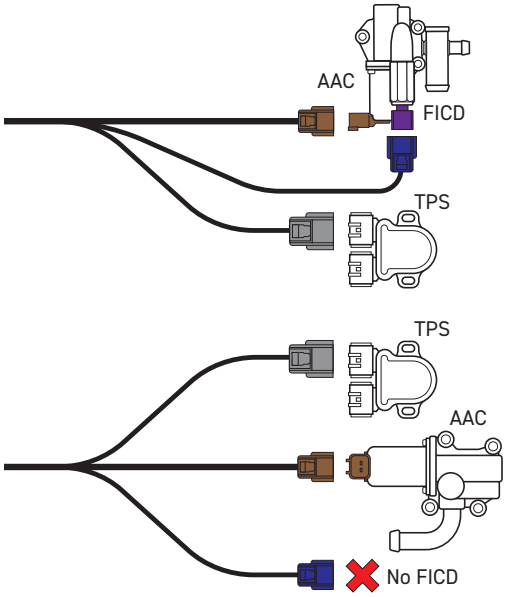


Example of the HT-186167 cable throttle harness used with earlier style AAC, FICD, and variable signal TPS. Note that the AAC connection is non-polarity dependent, and the spade connectors can be plugged in either orientation.

HT-186164 - For twin cam engines, or engines that use the newer style connectors, the HT-186164 cable throttle sub-harness is typically used. Similarly, engines equipped with a single connector TPS must be tested to determine whether the sensor is only a switch. If it is, the TPS must be replaced with a variable type unit from another RB engine or an appropriate aftermarket alternative for the Haltech ECU or VCU to use. The TPS branch has also been provisioned with a flying lead connection to allow the end user additional pinout options for the Nissan throttle position sensor. Refer to the table below for pinout information.



TPS CONNECTOR PINOUT			
ENGINE	PIN 1	PIN 2	PIN 3
RB30	Sensor ground	Signal	5V
RB25 S1	Sensor ground	Signal	5V
RB25 S2	5V	Signal	Sensor ground
RB26	5V	Signal	Sensor ground



Examples of the HT-186164 cable throttle harness used with newer style AAC, FICD, and variable signal TPS. Note that some engines are not equipped with an FICD and that the connection may be repurposed for a different function if required.

DBW Throttle Sub-harness

If you're upgrading from the conventional cable-throttle system to electronic throttle, also known as Drive-By-Wire (DBW), the DBW throttle sub-harness (HT-186162) can be used to plug into the throttle breakout connector and connect to a Bosch electronic throttle body.



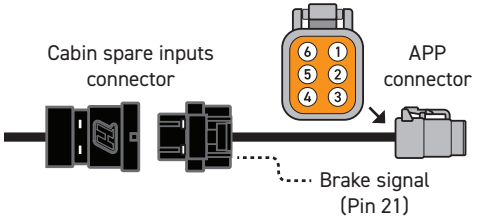
Accelerator Pedal Position

(Label: APP)

To complete the DBW throttle system, a DBW pedal or Accelerator Pedal Position (APP) assembly must be used to replace the mechanical pedal from the cable throttle system.

The supplied cabin input connector includes an integrated universal 6 pin DTM connector for this purpose, allowing you to wire in the pedal of your choice.

The cabin connector also includes a dedicated pin (Pin 21) designed for connection to a brake pedal switch or brake light signal, as part of the DBW control strategy. This brake input signal is expected to read +12V whenever the brake pedal is pressed.



APP CONNECTOR PINOUT		
PIN	FUNCTION	COLOR
1	Sensor ground	Black/White
2	APP 1	White/Brown
3	5V	Orange
4	5V	Orange
5	APP 2	White/Red
6	Sensor ground	Black/White

Boost Control
(Label: BOOST)

The Nexus Nissan RB terminated harness features a dedicated 2 pin DTM connector for wiring a Haltech boost control solenoid. A 3-port boost solenoid, such as the HT-020400, is suitable for performance applications and provides much more stable control over the desired boost pressure.

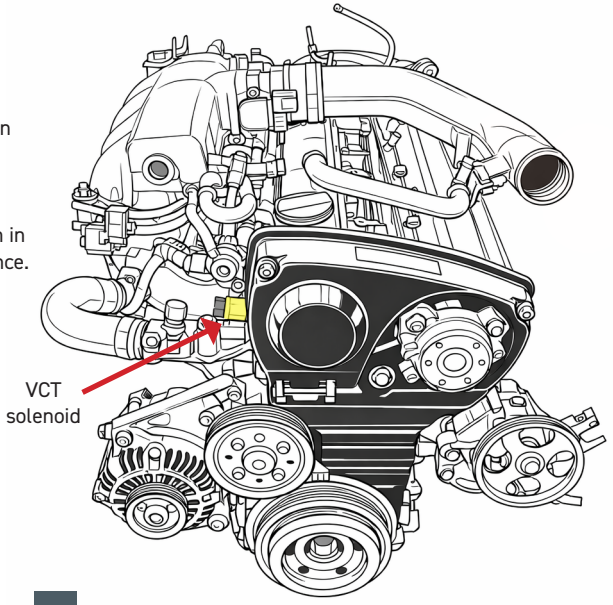


3-Port Boost Control Solenoid
(HT-020400)

VCT
(Label: VCT)

For engines equipped with VCT, the Nexus Nissan RB terminated harness includes a connector that plugs into the VCT solenoid, located behind the timing belt cover near the intake ports. This solenoid is tuned using the Cam Control function in the NSP software to maximise engine performance.

If the engine is not equipped with VCT, this connector and the associated output on the Nexus R3 VCU can be repurposed for a different application.



Transmission Breakout Connector
(Label: TRANSMISSION)

The transmission breakout connector on the Nissan RB terminated harness can be used to wire in transmission sensors and wiring, or to interface with a CAN-based Haltech transmission controller.

Pinout information is provided below, and an opposing connector and pin set is included in the kit.



Main harness wire side view

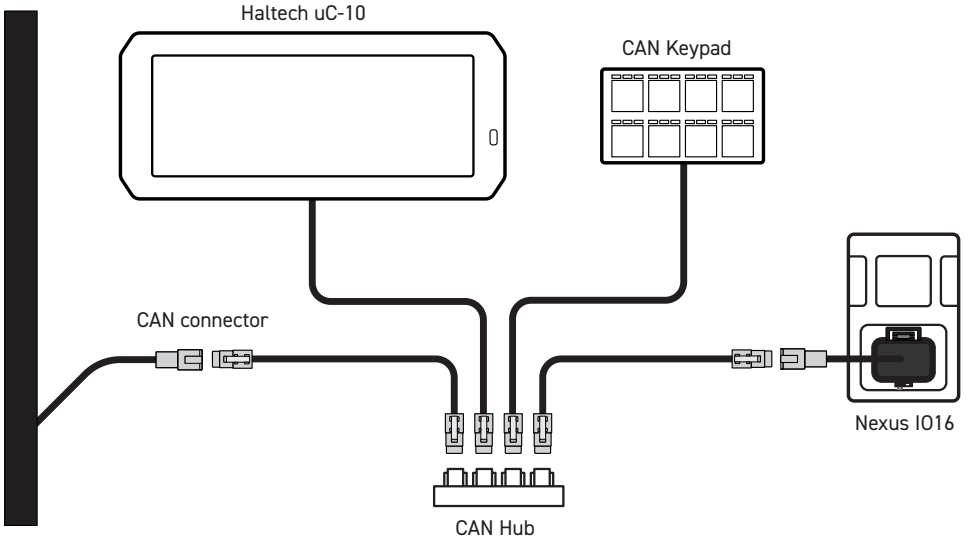
TRANSMISSION BREAKOUT CONNECTOR		
PIN	FUNCTION	COLOR
1	HBO 5	Pink/Red
2	Power ground	Black
3	CAN 1 High	White
4	CAN 1 Low	Blue
5	SPI 6	Gray/L.Green
6	Constant 12V	Red
7	5V	Orange
8	Sensor ground	Black/White

Haltech CAN connection
(Label: CAN)

This harness is equipped with 4 pin DTM connectors—one at the cabin end and the other at the engine bay end of the harness. These CAN connectors are designed to connect to Haltech CAN devices (e.g., display dash, keypad, PDM), which further expand the functionality of the application.

If you are using multiple Haltech CAN devices, a Haltech CAN Hub can be used to increase the number of available connection ports.







Spare Inputs and Outputs

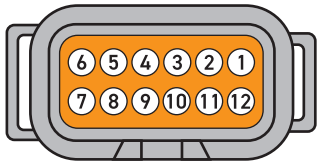
(Label: CABIN, SPARE)

The Nissan RB terminated harness features two connectors with spare inputs and outputs that can be used to wire in additional sensors, switches, or to control relays, solenoids, warning lights, or other devices you want the VCU to control.

The connector located at the cabin end of the harness is labelled "Cabin" and uses a 26-pin connector.

The other connector, labelled "Spare," is located at the engine bay end of the harness and uses a 12-pin DTM connector.

Both opposing connectors are supplied in the kit, with pinout information provided below for reference.



Spare IO connector (engine bay)
Opposing connector, wire side view

SPARE IO CONNECTOR (ENGINE BAY)		
PIN	FUNCTION	COLOR
1	AVI 5	White/Green
2	SPI 2	Gray/Red
3	SPI 3	Gray/Orange
4	Signal Ground	Black/White
5	5V	Orange
6	Switched 12V	Red/Green
7	DPO 4	Violet/Orange
8	DPO 5	Violet/Yellow
9	Ignition 7	Yellow/Violet
10	Ignition 8	Yellow/Gray
11	Power ground	Black
12	Unused	No connection



Cabin IO connector (In-cabin)
Opposing connector, wire side view

SPARE IO CONNECTOR (IN-CABIN)		
PIN	FUNCTION	COLOR
1	CAN 1 High	White
2	CAN 1 Low	Blue
3	Switched 12V	Red/Green
4	Power ground	Black
5	Ignition switch	Pink
6	Switched 12V	Red/Green
7	Unused	No connection
8	AVI 1	White
9	Power ground	Black
10	AVI 2	White/Yellow
11	DPO 1	Violet/Black
12	5V	Orange
13	DPO 2	Violet/Brown
14	CAN 2 High	White
15	CAN 2 Low	Blue
16	Sensor ground	Black/White
17	DPO 6	Violet/Green
18	CTS Gauge	Green/Red
19	Oil Pressure Gauge	Green/Orange
20	DPO 3	Violet/Red
21	Brake signal	L.Green/ Brown
22	SPI 1	Gray/Brown
23	Sensor ground	Black/White
24	AVI 8 / APP 1	White/Brown
25	AVI 9 / APP 2	White/Red
26	5V	Orange

WARRANTY CERTIFICATE

At Haltech we make every effort to design and manufacture fault-free products that perform up to or above the market expectations. All our products are covered by a Limited 12 Month Warranty.

Haltech Limited Warranty

Unless specified otherwise, Haltech warrants its products to be free from defects in material or workmanship for a period of 12 months from the date of purchase.

If the Haltech product is found to be defective as mentioned above, it will be replaced or repaired if returned prepaid along with proof of purchase. Proof of purchase in the form of a copy of the original purchase invoice, receipt or bill of sale which indicates that the product is within the warranty period, must be presented to obtain warranty service.

Replacement or repair of a defective product shall constitute the sole liability of Haltech. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representations, either expressed or implied, including any implied warranty of merchantability or fitness. In no event shall Haltech, be liable for special or consequential damages.

Product Returns

Please include a copy of the original purchase invoice, receipt or bill of sale along with the unused, undamaged product and its original packaging. Any product returned with missing accessory items or packaging will incur extra charges to return the item to a re-saleable condition.

All product returns must be sent via a freight method with adequate tracking, insurance and proof of delivery services. Haltech will not be held responsible for product returns lost during transit.

Returns of Products Supplied in Sealed Packaging

The sale of any sensor or accessory supplied in sealed packaging is strictly non-refundable if the sealed packaging has been opened or tampered with. This will be clearly noted on the product packaging. If you do not accept these terms please return the sensor in its original unopened packaging within 30 days for a full refund.

A sensor or accessory product may be returned after 30 days of purchase (with its sealed packaging intact) for credit only (no refunds given) and will be subject to a 10% restocking fee.

Installation of Haltech Products

No responsibility whatsoever is accepted by Haltech for the fitment of Haltech Products. The onus is clearly on the installer to ensure that both their knowledge and the parts selected are correct for that particular application. Any damage to parts or consequential damage or costs resulting from the incorrect installation of Haltech products are totally the responsibility of the installer.

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!

Haltech Off-Road Usage Policy

In many states it is unlawful to tamper with your vehicle's emissions equipment. Haltech products are designed and sold for sanctioned off-road/competition non-emissions controlled vehicles only and may never be used on a public road or highway.

Using Haltech products for street/road use on public roads or highways is prohibited by law unless a specific regulatory exemption exists (more information can be found on the SEMA Action Network website www.semasan.com/emissions for state by state details in the USA).

It is the responsibility of the installer and/or user of this product to ensure compliance with all applicable local and federal laws and regulations. Please check with your local vehicle authority before purchasing, using or installing any Haltech product.

02/2026



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