



PLATINUM
PRO PLUG-IN
Nissan Patrol Y61
2002 - 2009
(HT055014)
QUICK START GUIDE



LIMITED WARRANTY

Lockin Pty Ltd trading as Haltech warrants the Haltech™ Programmable Fuel Injection System to be free from defects in material or workmanship for a period of **12 months** from the date of purchase.

Proof of purchase, in the form of a bill of sale or receipted invoice, which indicates that the product is within the warranty period, must be presented to obtain warranty service. Lockin Pty Ltd trading as Haltech suggests that the purchaser retain the dealer's dated bill of sale as evidence of the date of retail purchase.

If the Haltech™ Programmable Fuel Injection System is found to be defective as mentioned above, it will be replaced or repaired if returned prepaid along with proof of purchase. This shall constitute the sole liability of Lockin Pty Ltd trading as 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 Lockin Pty Ltd trading as Haltech, be liable for special or consequential damages.

DISCLAIMER

Haltech will not be held responsible for any damage caused by the incorrect installation or tuning of this product. It is the installers responsibility to ensure the wiring connections and pinouts match that of the vehicle the unit is being installed into.

Haltech has taken all care to make sure the connections match the specified vehicles listed, but variations in wiring and connections on vehicles can occur and therefore this should be checked BEFORE the unit is installed.

Haltech highly recommends installation and tuning of this product is to be carried out by a professional, with an understanding on installing and tuning engine management systems. Misuse of this product can destroy your engine.

WARNING – HALTECH OFF-ROAD USAGE POLICY

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

This ECU is designed and sold for Sanctioned Offroad/Competition Non-Emissions Controlled Vehicles only. Using this product for street / road use on public highways is prohibited by law. 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 using this product.

GENERAL INSTALLATION WARNING

Avoid open sparks, flames or operation of electrical devices near flammable substances. Always disconnect the battery cables when doing electrical work on your vehicle.

Do not charge the battery with a 24 Volt truck charger or reverse the polarity of the battery or any charging unit. Do not charge the battery with the engine running as this could expose the ECU to an unregulated power supply that could destroy the ECU and other electrical equipment.

All fuel system components and wiring should be mounted away from heat sources, shielded if necessary and well ventilated. Disconnect the Haltech ECU from the electrical system whenever doing any arc welding on the vehicle by unplugging the wiring harness connector from the ECU.

After completing the installation, make sure that there are no fuel leaks, and no wiring left un-insulated in case a spark or short-circuit occurs and causes a fire. Also make sure that you follow all proper workshop safety procedures. If you're working underneath a jacked-up car, always use safety stands!

***PLATINUM* Pro Plug-in Nissan Patrol Y61**

Quick Start Guide

Congratulations on purchasing a Haltech Engine Management System.

This *fully programmable Plug and Play* 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 start guide will walk you through installation of the Platinum Pro ECU into a vehicle. This guide is accompanied by the full service manual located on the software CD 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 downloaded from the Haltech website www.haltech.com

Supported Vehicles

The Platinum Pro Plug-in Nissan Patrol Y61 ECU supports the following vehicles:

- Nissan Patrol Y61 2002 – 2009 (TB48DE)

Platinum Pro Plug-in Nissan Patrol Y61 Kit Includes

- Haltech Platinum Pro Plug-in ECU
- USB Cable
- Software CD
- Quick Start Guide

Optional Accessories (Sold Separately)

- Rear Auxiliary Harness (HT040003)
- Haltech 3 Bar MAP Sensor (HT010104)

Loaded Basemap

Your Platinum Pro Plug-in has been programmed with a basemap to suit a Nissan Patrol Y61 with a TB48DE standard engine using the Haltech Internal MAP Sensor.

Please make sure you connect the Haltech ECU Internal MAP sensor to the intake manifold prior to starting the vehicle.

Please ensure you load, modify and check the corresponding basemap for your application before attempting to start the vehicle.

ECU Installation

To install your new Platinum Pro Plug-in to your Nissan Patrol Y61, please follow the procedures below.

- Please Note the following Installation photos based on a Nissan Patrol Y61 (ADM) with an aftermarket alarm and trailer brake controller installed.

You will require the following tools

- Phillips #2 Screwdriver
- Side Cutters
- Socket Set with 10mm socket and extension bars
- Cable Ties / 3M Double sided tape or similar

1. With Ignition key switched to OFF, locate your factory ECU. This will be located on the drivers side of the vehicle behind the center console, to the left side of the clutch pedal.

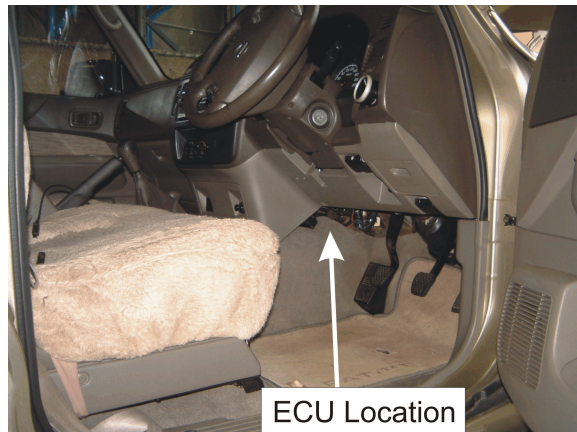


Figure 1 – ECU Location

2. Remove the following to gain access to the factory ECU:
- 2 x 10mm bolts securing the petrol filler door release mechanism
 - 2 x 10mm bolts securing the hood release mechanism
 - 1 x # 2 Phillips Screw on the bottom left corner of the panel
- Once this has been done the lower dash panel can be un-clipped and removed
The factory ECU should now be visible

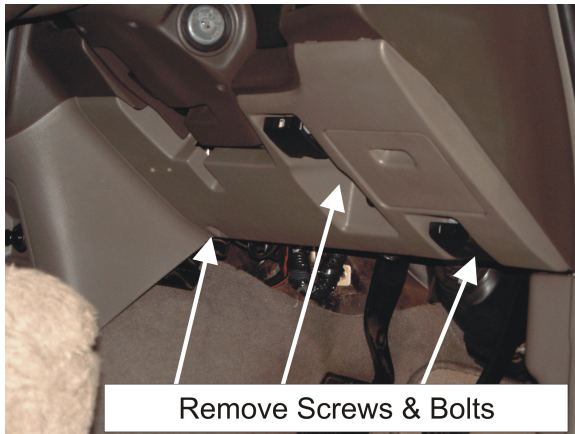


Figure 2 – Cover Removal

3. Disconnect the main wiring harness connector from the ECU by pulling the lever towards the rear of the vehicle. Cut the 2 cable ties securing the wiring harness to the ECU bracket. Remove the 3 securing bolts and nuts from the factory ECU bracket as shown in figure 3. Remove the Factory ECU from the vehicle.

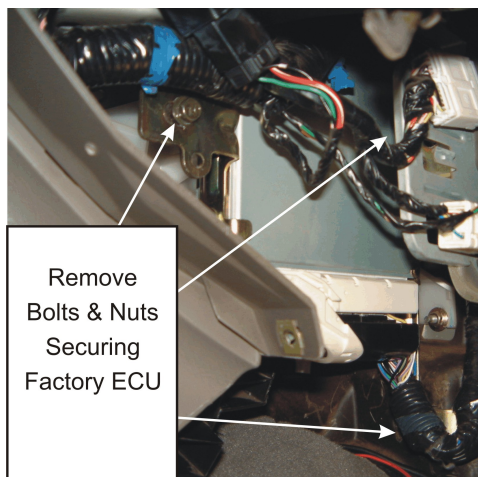


Figure 3 – Factory ECU Location with cover removed

4. Remove the 2 piece mounting bracket from the factory ECU. This is held in place by 4 x 8mm bolts. Once removed re-mount the bracket to the Haltech ECU with the use of double sided tape along the mating surface of the bracket and cable ties to secure, making sure that the bottom lugs line up with the bottom of the Haltech ECU case as shown in figure 4.

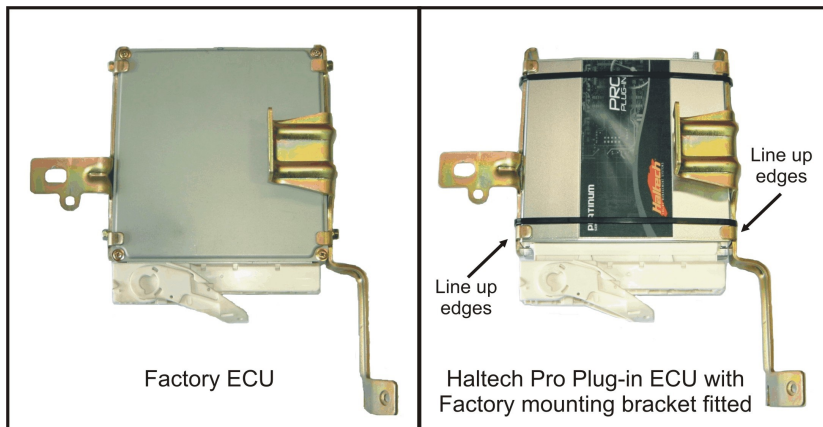


Figure 4 – Factory Mounting Bracket Attachment

5. If the Internal 150 kPa MAP sensor is to be used route a piece of silicon hose from the Internal MAP Connection on the rear of the ECU to the engine, through the harness grommet in the firewall. Connect the hose to the engine via a T-Piece joiner off the manifold as shown in figure 5 and 6 below.

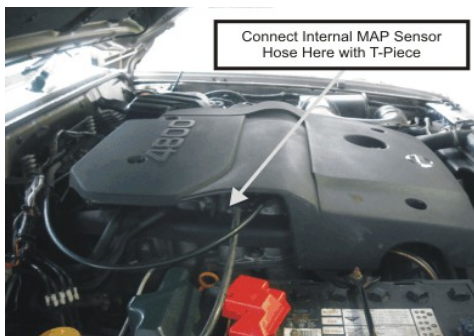


Figure 5
Internal MAP Sensor Connection
to Engine Manifold

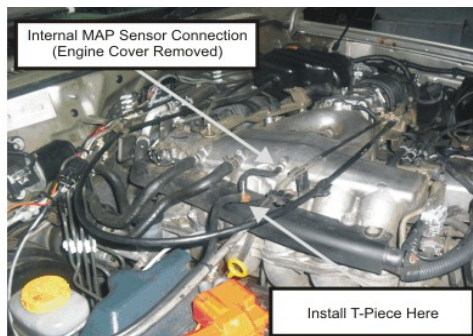


Figure 6
Internal MAP Sensor Connection
to Engine Manifold (Engine Cover Removed)

6. Re-fit the Haltech ECU to the vehicle making sure that you connect the MAP hose, auxiliary plug (if used) and the USB Cable **before** mounting it to the vehicle.

The USB cable can be routed behind the center console and left in the glove compartment for tuning

Secure any cables away from any moving parts under the dash with cable ties

Re-fit the lower dash panel to the vehicle.

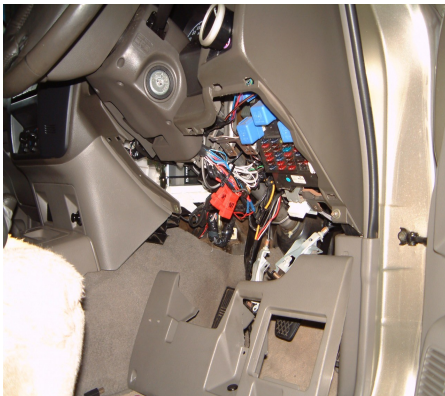


Figure 7
Haltech ECU Mounted in Vehicle



Figure 8
USB Cable in glove compartment

7. With the Haltech ECU installed do not attempt to start the vehicle. You will need to configure the ECU. The Haltech ECU is pre-configured for use with a TB48DE standard engine. If this is your setup then you will not have to load a basemap.

If your engine is not standard please adjust any configuration setting affected according to your setup. You may need adjust your maps, or load a map to suit your modified engine before it will start.

With the suitable settings and basemaps loaded, your engine will now be able to be started.

8. With the engine started and running it's now time to tune
This is best achieved by your nearest engine tuner
See the listing of Haltech dealers on our website to find the one closest to you
Go to www.haltech.com

ECU Manager Software

ECU Manager software is used for setup, calibration and diagnostics and can be found on the CD supplied with this unit or downloaded from the Haltech website www.haltech.com

Minimum System Requirements

Operating System:	Windows 2000 SP4 / XP / Vista / Windows 7
Processor Speed:	1GHz
RAM:	256 Mb
Video Card:	128MB graphics card with 3D acceleration
USB:	1.1
Hard Drive Space:	250Mb
Minimum Screen Resolution:	1024 x 768 pixels

Installing ECU Manager

Installing ECU Manager onto your PC is performed similar to any other Windows software package. Installation is outlined below to ensure correct installation:

1. Insert the CD-ROM into your PC's CD-ROM drive. The CD should automatically launch into the Haltech Browser. If the CD does not run automatically double click on the "My Computer" icon on the desktop, double click on the Haltech icon (CD- ROM drive) to start the browser software.
2. The Browser will display the disclaimer and you will need to agree to the terms stated before allowing to progress. Read the Disclaimer and click on AGREE if you agree.
3. Now you will be able to access all the information contained on the CD
4. To download the Platinum Software, click on the Platinum Series ECU Manager Link. You will be prompted to install the software. Click "Install" to install ECU Manager and the Data Log viewer.
5. Follow the software prompts and install the software.

With your programming cable (USB) attached to your ECU and the other end connected to your laptop, power up the ECU by turning your key to IGN. Start the programming software on your PC and go online with the ECU.

ECU Manager / ECU Manuals

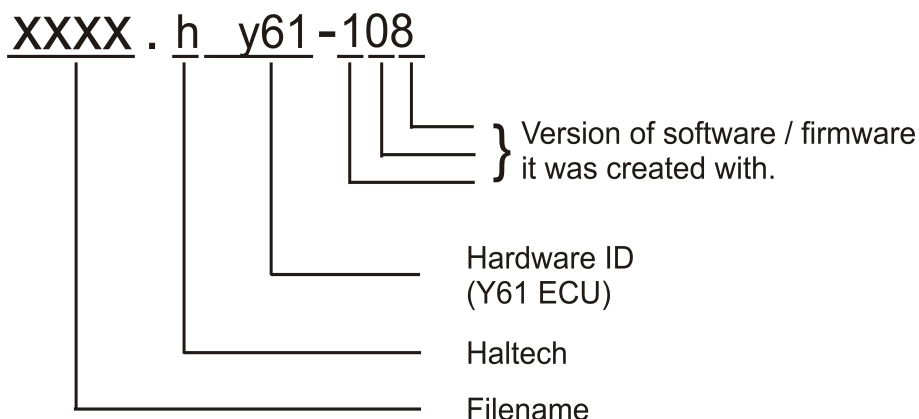
Detailed manuals can be found in the software by pressing your F1 key or by selecting the Help tab located at the top left of the screen

ECU Manager File Extensions

When ECU manager saves the map from the Haltech ECU, it saves the map with a Haltech specific file extension.

The File extension can be broken down as follows:

Example File : xxxx.y61-108



Later map versions cannot be loaded into ECU's with earlier firmware versions.

ECU Manager will upgrade earlier map versions when loading into ECU's with later firmware versions.

ECU Manager upgrades maps between versions where equivalent settings are available. However, new settings not in the original map, will be substituted with values from the new version's default map.

WHENEVER ECU MANAGER CONVERTS YOUR ECU MAP, YOU SHOULD ALWAYS CHECK YOUR MAP SETTINGS TO ENSURE THAT ALL THE APPROPRIATE SETTINGS HAVE BEEN CONVERTED CORRECTLY.

Rear Auxiliary Connector

The Platinum Pro Plugin Series allows further expansion of your ECU by the Rear Auxiliary Connector.

The Rear Auxiliary connector allows you access to:

- 2 Additional Digital Pulsed Outputs (DPO)
- 2 Additional Digital Switched Outputs (DSO)
- 2 Additional Analogue Voltage Inputs (AVI)
- 2 Additional Analogue Temperature Inputs (ATI)

These extra Inputs / Outputs can be used to:

- Fit additional sensors. (eg MAP and Temperature)
- Control additional devices via relays
- Control additional solenoids directly (eg Aftermarket Boost Control solenoid)

The Rear Auxiliary harness is available as an optional extra. (HT040003)



Pin #	Wire Colour	Connection
1	O	+5V
2	Y	AVI1 (MAP)
3	O/B	AVI2
4	B/W	SIGNAL GROUND
5	V/B	DPO1
6	V/BR	DPO2
7	-	-
8	-	-
9	O	+5V
10	GY	ATI1 (AIR)
11	GY/B	ATI2
12	B/W	SIGNAL GROUND
13	V/R	DSO1
14	V/O	DSO2
15	-	-
16	-	-

Figure 9 - Rear Auxiliary Harness Connector and Pinout

Digital Pulsed Outputs (DPO)

Digital Pulsed Outputs are capable of producing pulsed waveforms with varying duty and frequency. DPO's can be used to control various devices such as thermo-fans, shift lights, bypass air control valves, boost control solenoids etc.

When a Digital Pulsed output is activated by the ECU the output will switch to ground. Solenoid valves and shift lights etc can be run directly from the output, however high current devices such as thermo-fans and additional fuel pumps must be activated through a relay. This way the DPO is only switching a relay and not a high current draw device.

Two additional outputs can be connected using the Optional Rear Auxiliary Harness (HT040003)

Digital Pulsed Outputs are limited to 800mA Max current draw.

Digital Switched Outputs (DSO)

Digital Switched Outputs are capable of switching to ground

DSO's can be used to control relays in an on / off state only.

Two additional outputs can be connected using the Optional Rear Auxiliary Harness (HT040003)

Digital Switched Outputs are limited to 800mA Max current draw.

Analogue Voltage Inputs (AVI)

Analogue Voltage Inputs accept variable voltage inputs from 0V to 5V. These inputs can also accept switch inputs that change between two different voltage levels.

The On Voltage and Off Voltage define what the thresholds are between the On and Off states. The Voltage can be viewed as a channel in the software to determine the thresholds for a switched input.

Two additional sensors or switched inputs can be connected using the Optional Rear Auxiliary Harness (HT040003)

Analogue Temperature Inputs (ATI)

Analogue Temperature Inputs accept variable resistance sensors.

These inputs have a pull – up resistor connected to them to allow them to be used with most automotive temperature senders (Variable resistance thermistor types).

Two additional sensors can be connected using the Optional Rear Auxiliary Harness (HT040003)

Wire connections

When using crimp connectors ensure that the correct crimping tool is used – if in doubt do a pull test on a crimp connector, the wire should break before the wire pulls out of the crimp. Terminal soldering can weaken a connection and should only be used as a last resort. If solder joints are used, ensure joints are well isolated from movement as solder joints are prone to fracture.

When splicing 2 wires it is preferable to use a crimp splice – again if using a solder joint, ensure joint is limited in its range of possible movement as solder joints are prone to fracture. Always use heat-shrink sleeving to insulate wires.

The Haltech CAN Network

The Haltech CAN network allows for simple and effective expansion in ECU capability and functionality without having to go to the trouble of wiring in a whole new computer.

Expansion is made possible by the addition of multiple expansion devices that communicate to the main ECU via a Control Area Network (CAN).

Installation time and costs are kept to a minimum as all expansion devices are powered up from the main ECU via the pre-terminated connection cable that comes with each expansion device.

Simply connect the device directly to the 8 pin CAN connector on the rear of the ECU or connect using an optional Haltech CAN Hub (order as part # HT059990) if multiple expansion devices are required).

Each expansion device is pre-programmed with a unique ID code which allows it to be recognised on the network and work correctly first time every time.

For current available expansion devices please go to our website at www.haltech.com



Figure 10 – Haltech ECU connected to a Racepak Dash

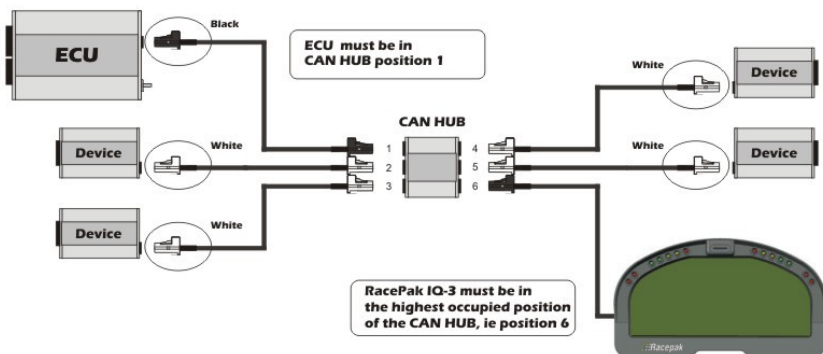
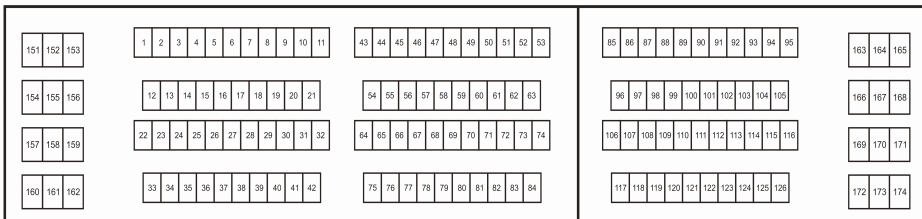


Figure 11 – Haltech ECU connected to 5 Auxiliary CAN based devices

ECU Pinout



LOOKING INTO ECU CONNECTOR

151	-
152	Intake Valve Timing Control Solenoid
153	-
154	-
155	-
156	ECM Ground
157	-
158	-
159	ECM Ground
160	-
161	-
162	-

1	-
2	-
3	-
4	-
5	Injector No.1
6	Injector No.2
7	Injector No.3
8	Heated Oxygen Sensor 1 Heater (Bank 2)
9	Heated Oxygen Sensor 1 Heater (Bank 1)
10	-
11	-
12	-
13	Injector No.4
14	Injector No.5
15	Injector No.6
16	-
17	-
18	Ignition signal No.1
19	Ignition signal No.2
20	Ignition signal No.3
21	Ignition signal No.4
22	-
23	-
24	A/C Relay
25	-
26	-
27	VIAS Control Solenoid Valve
28	-
29	Ignition signal No.5
30	Ignition signal No.6
31	-
32	-
33	-
34	-
35	Malfunction Indicator Lamp (MIL)
36	-
37	-
38	Tacho Output
39	-
40	Fuel Pump Relay * without Immob
41	Fuel Pump Relay * with Immob
42	ECM Relay

43	-
44	-
45	-
46	-
47	-
48	Idle Control Motor (ISC #1)
49	Idle Control Motor (ISC #2)
50	Idle Control Motor (ISC #3)
51	Idle Control Motor (ISC #4)
52	Vehicle Speed Sensor
53	Ignition Switch
54	EVAP Control Solenoid Valve
55	Cooling Fan Relay (High)
56	Cooling Fan Relay (Low)
57	-
58	-
59	Start Signal
60	Transfer Switch (2WD/4WD)
61	-
62	Cam Sensor (1 deg Signal)*without Immob
63	Camshaft Sensor (1 deg.Signal)*with immob
64	-
65	-
66	-
67	-
68	-
69	-
70	-
71	-
72	-
73	-
74	-
75	-
76	-
77	-
78	-
79	Power Steering Oil Pressure Switch
80	PNP Switch
81	-
82	-
83	Camshaft Position Sensor (120deg Signal)
84	Camshaft Position Sensor (120deg Signal)

85	-
86	Air Conditioner Switch
87	-
88	-
89	Sensor Ground
90	-
91	Mass Air Flow Sensor
92	-
93	-
94	-
95	Power Supply for ECM (Backup)
96	-
97	-
98	-
99	-
100	-
101	-
102	-
103	Sensor Power Supply
104	-
105	-
106	-
107	-
108	Throttle Position Sensor
109	Mass Air Flow Sensor (Ground)
110	-
111	-
112	-
113	-
114	Heated O2 Sensor 1 (Bank 1)
115	Heated O2 Sensor 1 (Bank 2)
116	-
117	-
118	-
119	-
120	-
121	Engine Coolant Temperature Sensor
122	-
123	-
124	-
125	Knock Sensor (Bank 1)
126	Knock Sensor (Bank 2)

163	Power Supply for ECM
164	-
165	ECM Ground
166	Power Supply for ECM
167	-
168	ECM Ground
169	-
170	-
171	CAN Communication Line
172	-
173	-
174	CAN Communication Line

Figure 12 – Platinum Pro Plug-in Nissan Patrol Y61 ECU Pinout

Haltech™

ENGINE MANAGEMENT SYSTEMS



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