


GreenRoad Installation Document (GRID)		Document Number:		VWR10	
	Chassis:	Volvo B10BLE	Version	Created By	Date
	Body:	Wright Renown	1.0	JP	15/06/2011
	Year:	1998/2000			
	Configuration:	Single Deck Bus			

Adherence to the installation process outlined within the GreenRoad Installation Document (GRID) will ensure that all policies and procedures required by GreenRoad are achieved:

- Specific client requirements are addressed.
- Hardware placement is optimised for system performance, allowing predefined hardware profiles to be chosen accurately, which is critical for solution functionality.
- Installation practices will not contravene hardware warranty requirements.

No changes to the installation process outlined within this GRID will be permitted unless authorised in writing. Any proposed changes must be communicated to and agreed by the GreenRoad Field Operations Manager prior to installation. This will ensure that if required, any profile adjustments can be considered in consultation with the client and GreenRoad Technical.

Any changes to vehicle specifications which subsequently create inaccuracies within this GRID must be communicated to the GreenRoad Field Operations Manager. Pictures and detailed notes will assist us to ensure accuracy when making amendments to this documentation.



GreenRoad Live[®] - General Information

- **System Specifications:**

Operating voltage9-30 V

Operating temperature.....-20 to 80 C

- **Current Consumption:**

Standby..... >10mA

Normal..... 50-70mA

Transmit..... 200 mA (Avg)

- **Lead Specification:**

Red: Positive 9-30V

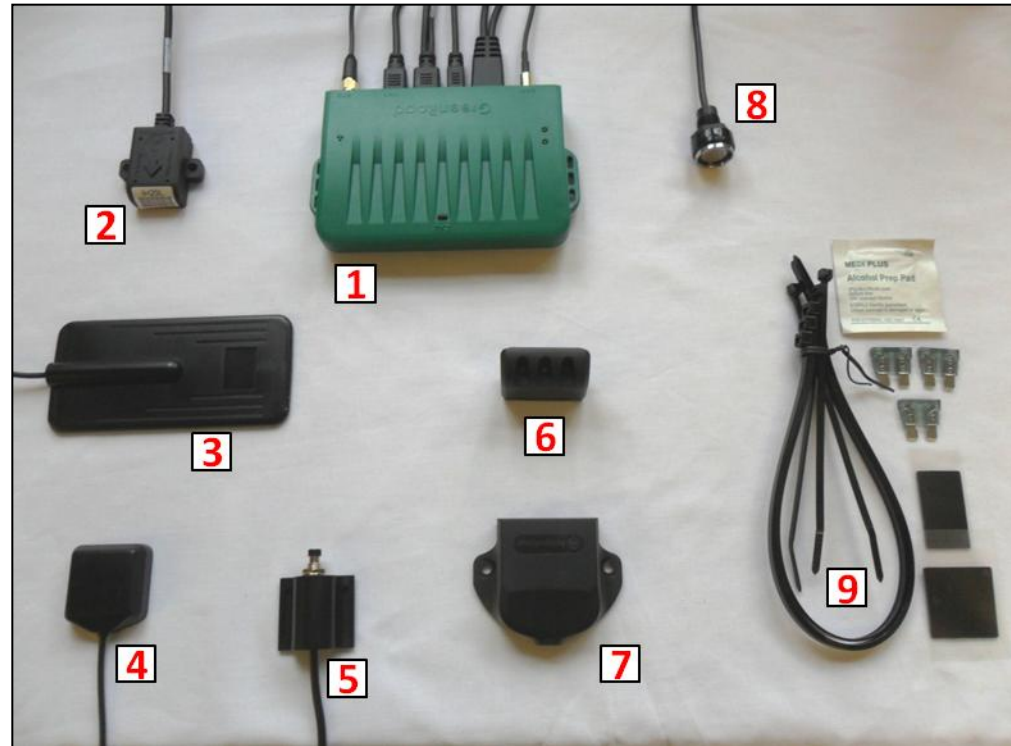
2A ATO fused connection to permanent Live circuit

Black: Negative / Chassis

2A ATO fused connection to GND circuit

GreenRoad Live[®] - Hardware Overview

1. GreenRoad Live[®] Unit (V5-IVU)
2. Accelerometer Sensor
3. Cellular Antenna (GPRS)
4. GPS Antenna
5. Reset Switch
6. Driver LED Display
7. Anti-tamper Display Hood
8. Driver ID Probe (Dallas)
9. Installation Accessories



GreenRoad Live[®] Unit

GreenRoad Live[®] Unit (IVU)

Location:	The IVU is located behind the right section of the Instrument panel. Unit is mounted to metal support strut running along the front of the dashboard.
Access:	Remove the Instrument panel by removing the retaining screws and carefully pulling the panel forward.
	Caution: <i>Ensure plugs and other connections are not disturbed during instrument panel removal.</i>
Installation:	Secure the unit to the metal support strut using a double-sided adhesive pad and 2 x self tapping screws.
Cable Routing:	Cables must be neatly bundled and secured together with main harness.
Advisories:	Post-installation vehicle inspection should include instrument panel switch and gauge checks.



Drivers LED Display

LED Display	
Requirements:	Display must be secured using the Anti-tamper Hood included in kit.
Location:	The Display is mounted to the top surface of the dashboard on the right-hand side of the instrument panel. The front edge of the Display should be towards the trim edge.
Access:	Remove the Instrument panel by removing the retaining screws and carefully pulling the panel forward.
	Caution: <i>Ensure plugs and other connections are not disturbed during instrument panel removal.</i>
Installation:	A 13mm dia hole is required for the cable entry into the dashboard. Drill the hole so that the display cable is retained under the Anti-tamper Hood as much as possible for protection. Anti-tamper Hood should be mounted with 2 x self-taping screws.
Cable Routing:	Cables must be neatly bundled so not to interfere with vehicle components and to allow the proper refitting of the instrument panel.



GPRS Antenna

Cellular (GPRS) Antenna

Location:	The Cellular (GPRS) Antenna is mounted to the inner top front surface of the dashboard behind the instrument panel.
Access:	<p>Remove the instrument panel by removing the retaining screws around the perimeter. Carefully pull Instrument panel forward to access the mounting location.</p> <p>Caution: Ensure plugs and other connections are not disturbed during instrument panel removal.</p>
Installation:	<p>Antenna must be secured using the 3M VHB Adhesive Pad included in kit. Fabric tape or hot-melt adhesive may be used to provide additional security on rough surfaces.</p> <p>Note: Mounting surface must be thoroughly cleaned with an alcohol wipe included in kit. Ensure the surface is completely dry before applying VHB adhesive pad to mounting surface.</p>
Cable Routing:	Cables must be neatly bundled so as not to interfere with vehicle components and to allow the proper refitting of the instrument panel.



GPS Antenna

GPS Antenna	
Location:	GPS Antenna is located inside on the base of the left-hand inner front surface of the dashboard.
	Note: Antenna must have a clear view of the sky - free of metal obstructions.
Access:	Remove the instrument panel by removing the retaining screws around the perimeter. Carefully pull the Instrument panel forward to access the mounting location.
	Caution: Ensure plugs and other connections are not disturbed during instrument panel removal.
Installation:	Antenna must be secured using the 3M VHB adhesive pad included in the kit. Fabric tape or hot-melt adhesive may be used to provide additional security on rough surfaces.
	Mounting surface must be thoroughly cleaned with an alcohol wipe included in the kit. Ensure mounting surface is completely dry before applying the VHB adhesive pad to mounting surface.
Cable Routing:	Cables must be neatly bundled so as not to interfere with vehicle components and to allow the proper refitting of the instrument panel.



Accelerometer Sensor

Accelerometer Sensor	
Location:	Sensor is mounted to the floor inside the base of the electrical cabinet located in the bulkhead behind driver.
Access:	Remove the access panel for the bottom electrical cabinet by releasing triangle key catches. Keys are available from Engineering.
Installation:	<i>The Accelerometer Sensor must be positioned with the direction "arrow" pointing directly towards the front of the vehicle.</i>
	The Sensor must be securely fastened on the level mounting surface using the 3M double-sided VHB adhesive pad and 2 x short self tapping screws. The mounting surface must be thoroughly cleaned using an alcohol wipe supplied in the kit. Note: The mounting surface must be completely dry before applying the VHB adhesive pad to the mounting surface.
Cable Routing:	Sensor cable must be run together with the power cable towards the side cabinet. Cables must be well secured with cable ties.
See power section for cable routing



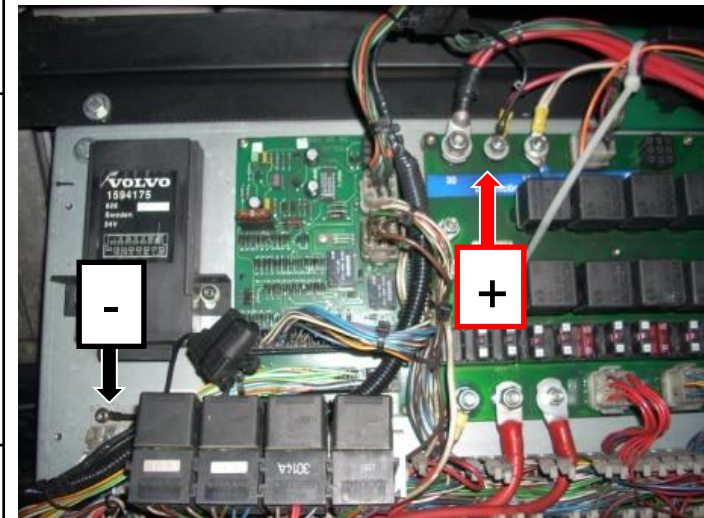
Driver ID Probe (Dallas)

Driver ID Probe (Dallas)	
Location:	The Driver ID Probe is to be installed into the dashboard fascia adjacent to the gear selector panel.
Access:	Remove the instrument panel by removing the retaining screws around the perimeter. Carefully pull the instrument panel forward to access the mounting location. Reach down behind gear selector panel to access mounting location.
	Caution: <i>Ensure plugs and other connections are not disturbed during instrument panel removal.</i>
Installation:	Use a 12mm drill bit to mount the probe into the dashboard fascia. Tighten dallas nut to secure probe into the fascia. Hot-melt adhesive may be applied under probe head for added security.
	Caution: <i>Before drilling, ensure there are no obstructions or foreign objects behind the mounting location.</i>
Cable Routing:	Cables must be neatly run and well secured with cable ties to main harnesses.

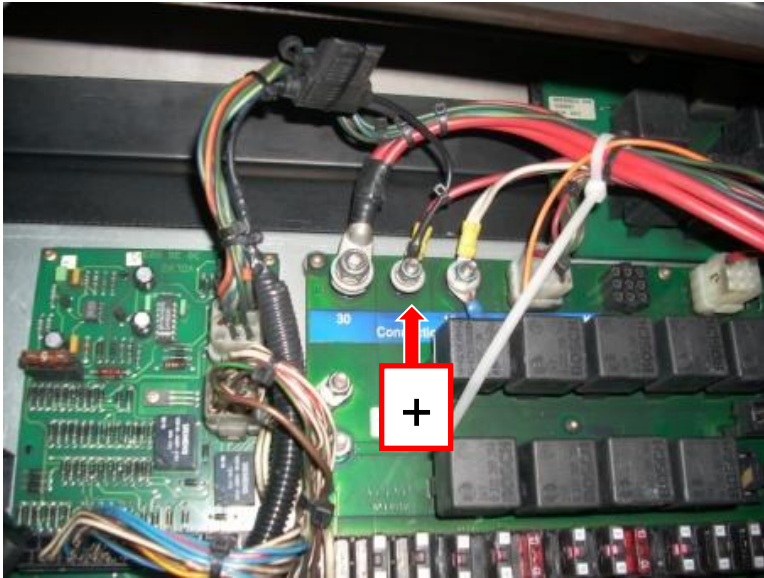


Power Connections

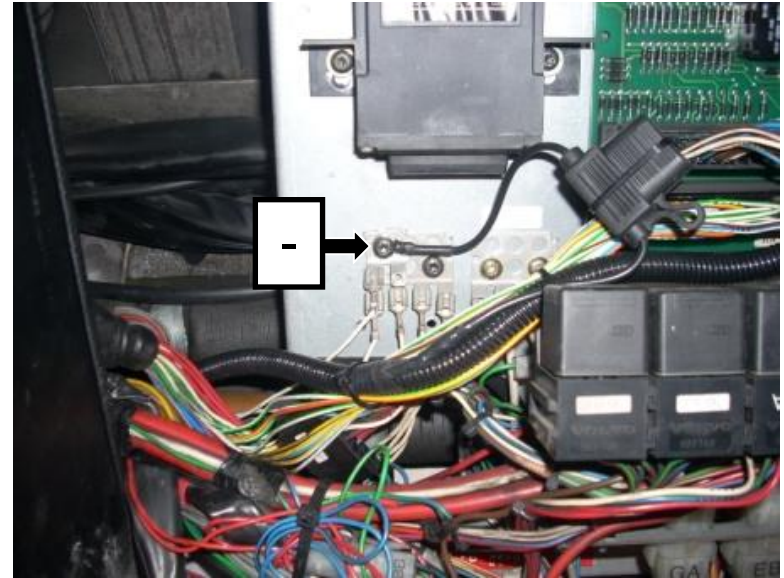
Power Connections	
Requirements:	24 Volt DC Permanent Power Supply and GND Connection.
Location:	Permanent & Earth are taken from the main power board located above the passenger galley on the right side behind the driver compartment bulkhead.
Access:	Access is gained by unlocking the cabinet door with a triangle key (obtain key from engineering).
Installation:	Permanent is taken from the 10mm 'permanent' connection post on the top of the green relay & fuse board. Earth is taken from the GND connection point on the TX25 screw securing the Earth bank plate on the lower left-hand side of the dropdown panel. Note: Power must not be taken from any other source.
Cable Run:	Power harness is not long enough to reach from the power board to the IVU so additional twin core cable is required. Route twin core cable from the power board in behind the bulkhead and down the 'B' pillar inside trunking with vehicle loom. Using a long pull-through. Remove box panel between base of pillar trunking and drivers side panel. Make power connection with GRT harness here. Run GRT harness (including Sensor cable) through side cabinet to dashboard cavity.
See next page for more illustrations



Power Connections (Cont.)



Permanent is on the 10mm post on the top of the green relay & fuse board.

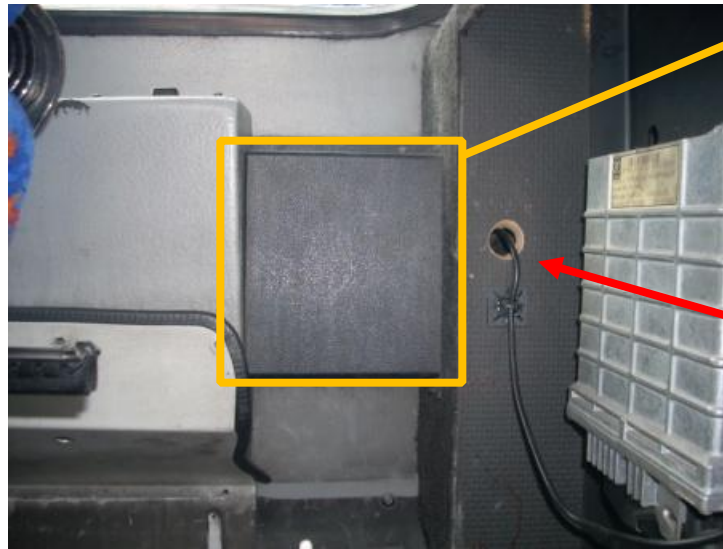


Earth is taken from the TX25 screw securing the GND bank plate.

Power Connections (Cont.)



Using a long pull-through, run twin core cable with vehicles wiring down this trunking, into rear of drivers area and into side cabinet.



Remove trunking 'box' to facilitate twin core & Sensor cable routing from 'B' pillar to side cabinet.

If necessary, drill a 20mm hole in the side of the 'B' pillar (to be hidden by the bulkhead access panel) to facilitate Sensor cable routing. **Caution: Check there are no obstacles before drilling.**



Join twin core cable to GRT harness here. Use a long pull-through to route GRT harness (with Sensor cable) through side cabinet to dashboard cavity.

Reset Switch

Reset Switch	
Location:	Mount Reset Switch on top of the metal support strut running along the inside front of the dashboard adjacent to the IVU.
Access:	Access the location by removing the screws securing the instrument panel and carefully pull the instrument panel forward.
	Caution: <i>Ensure plugs and other connections are not disturbed during instrument panel removal.</i>
Installation:	When mounting the reset switch, check clearances to ensure that the switch will not be triggered by vibration or loose foreign objects.
	Mounting surface must be thoroughly cleaned with an alcohol wipe provided in installation kit. Ensure mounting surface is completely dry before attempting to apply the VHB adhesive pad to the mounting surface.
Cable Routing:	Cables must be neatly bundled and cable tied so as not to interfere with vehicle components or the refitting of the instrument panel.



Support Contact

For Technical Support regarding the configuration and use of the Installer Suite please contact:

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