T-Matics COMMAND
Installation Guide - Plug Harness

This device complies with Part 15 of the FCC Rules and Industry Canada License-Exempt RSS Standard(s).

Operation is subject to the following two conditions:
(1) This device may not cause harmful interface, and
(2) This device must accept any interferences received, including interference that may cause undesired operation.

L ‘ utilisation de ce dispositif est autorisée seulement aux conditions suivantes :
(1) il ne doit pas produire de brouillage et
(2) l’ utilisateur du dispositif doit étre prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

The transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. This equipment complies with the FCC RF/IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and any part of your body.

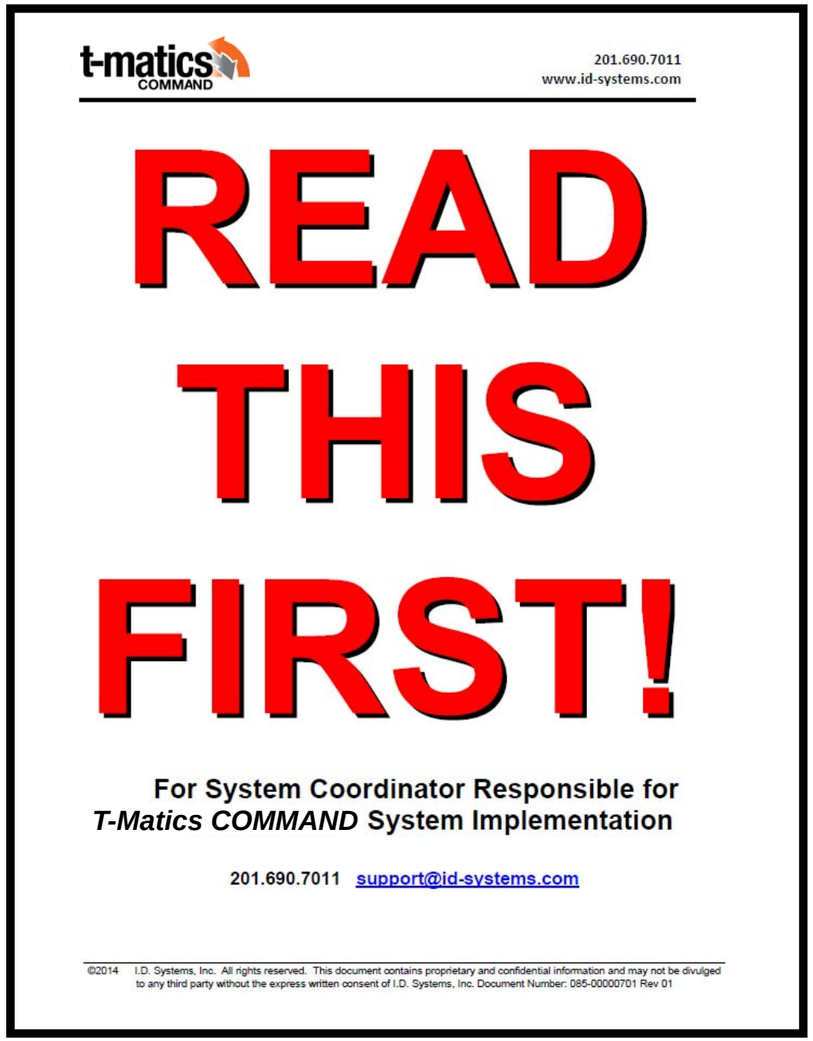
Note: This equipment has been tested and found to comply with the limits for digital device, pursuant to Part 15 of FCC Rules.
These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with FCC instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try correcting the interference by one or more of the following measures:

1.1. Reorient or relocate the receiving antenna,
1.2. Increase the separation between the equipment and receiver.
1.3. Connect the equipment into an outlet on a circuit different from that to which receiver is connected.
1.4. Consult the dealer or experienced radio/TV technician for help.

WARNING
Changes or modifications not expressly approved by the manufacturer could void the user’s authority to operate the equipment.

Note: This publication is intended to provide the general knowledge needed to install the Vehicle Asset Communicator (VAC). Since vehicle designs vary widely throughout the industry, this guide focuses on providing comprehensive instruction for a "typical" installation method instead of tailored instructions by vehicle model.

1 System coordinator and installers should first refer to the ***T-Matics COMMAND VAC4 Getting Started Guide*** for complete product overview.



2 Select an appropriate location to perform the vehicle installation. Ideally, a well-lit, open area where the vehicle can be test driven for about 5 seconds forward and then 5 seconds in reverse once the installation is complete.

3 Confirm that the vehicle kit is complete.

Component	Description	Qty
Vehicle Asset Communicator (VAC)	Black box with LCD screen and keypad	1
VAC mounting bracket	VAC Bracket	1
Vehicle hardware kit	VAC Bracket rear mounting plate, grommet, screws and nuts	1
VAC cable	12' cable harness	1
Impact sensor	Square plastic device with integrated 12' cable	1
Electrical installation kit	Cable ties, ring terminals, etc.	1

4 Gather recommended installation tools.

Vehicle electrical diagram	17/64" (7 mm) drill bit
Multimeter and clip leads	11/32" (9 mm) drill bit
Allen wrench set	1-1/4" (32 mm) Holesaw
Metric socket set	Wire stripper/cutter
Metric combination wrench set	Utility knife
Phillips and flathead screwdriver set	Pliers
18 AWG wire	Electrical tape
Butt splices	Flashlight
Spare fuses (supplied in the *Open Me First* box)	

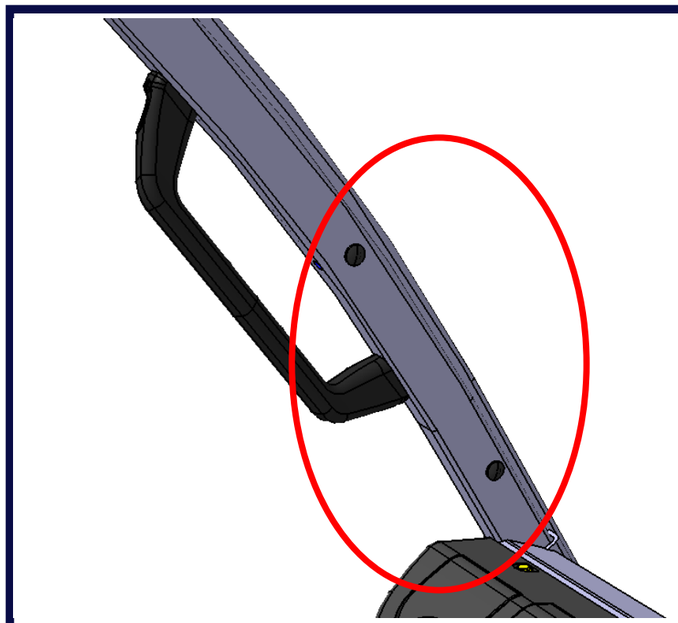
NOTE: In addition to the recommended installation tools listed above, tools to be used for dismantling the vehicle body and potentially removing the vehicle battery will be needed.

By following these installation guidelines, the aftermarket installation of the I.D. Systems VMS hardware does not void the vehicle manufacturer's warranty.

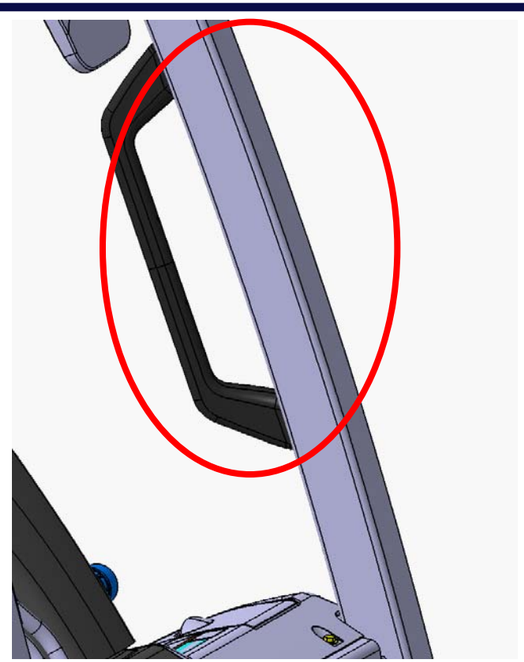
5 Identify the VAC mounting location.

VAC Mounting Location

P Pillar



X800



B800, D800

6 Loosen the RAM mount arm bolt so that the mount plate can be adjusted.

7 Mount the bracket and attach the RAM mount based on the VAC mounting location determined in Step 5.

Mount the Bracket

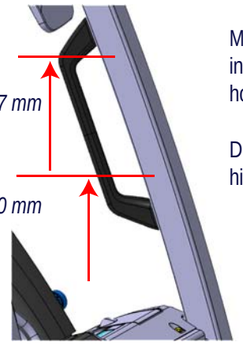
7a X800

Remove the plastic inserts from the left stay.

Install the insert nuts in the two locations shown.

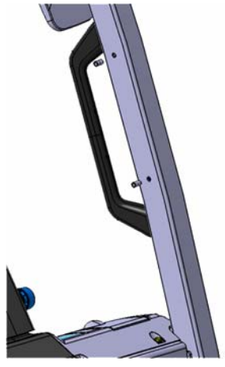
Mount the bracket using the two bolts provided.

7b B800, D800



Measure 300 mm up from the instrument panel and drill a 9 mm hole in the left front stay.

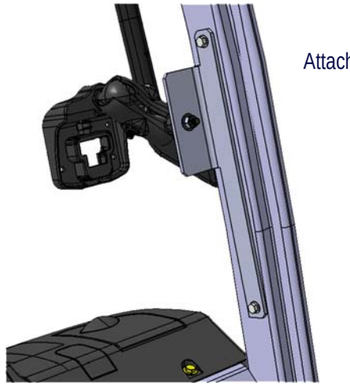
Drill a second hole 327 mm higher.



Install the insert nuts in the two locations shown.

Mount the bracket using the two bolts provided.

7c Attach RAM Mount to the Bracket



Attach the RAM mount to the bracket using the 1/2” RAM nut provided.

VAC Mounting Hardware

VAC Unit

RAM Mount

Mounting Bracket

Bolts (2)

Clamps (2)

Insert Nuts (2)

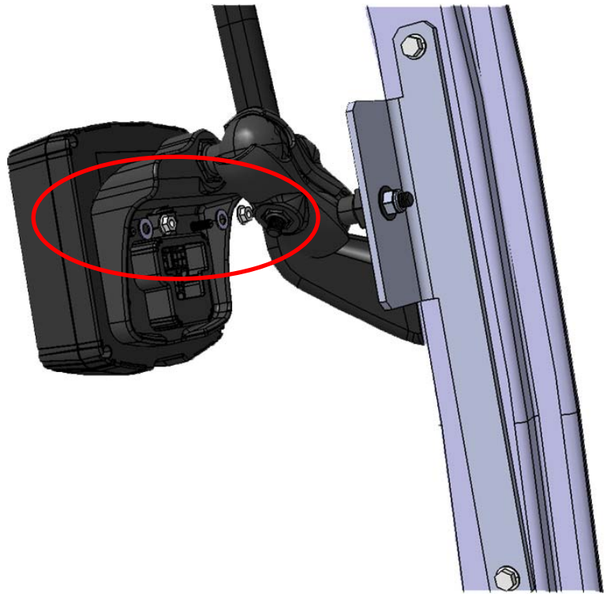
VAC Nuts (2)

Washers (2)

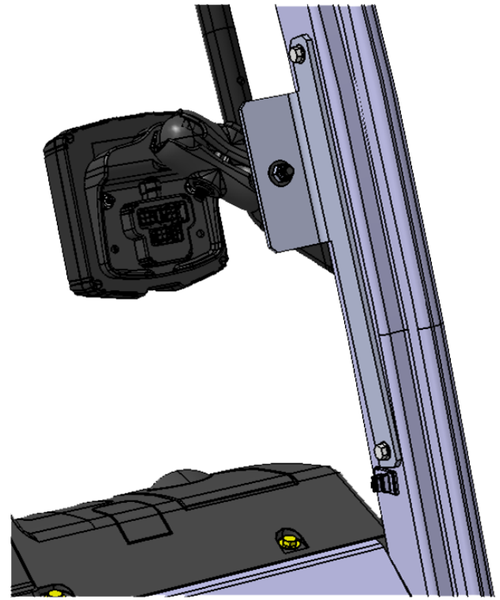
RAM Nut (1)

8 Mount the VAC to the RAM mount.

8a Mount the VAC using the two washers and nuts as shown. Attach any wiring before securing the VAC in place.



8b Attach the clamps to the stay to keep the wires secure. Notch the instrument panel to allow the wires to pass through and secure them in place.

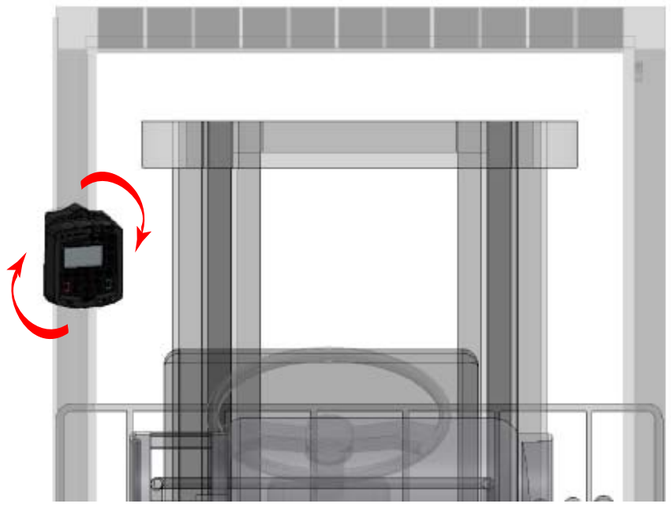


8c If needed, adjust the orientation of the RAM mount.

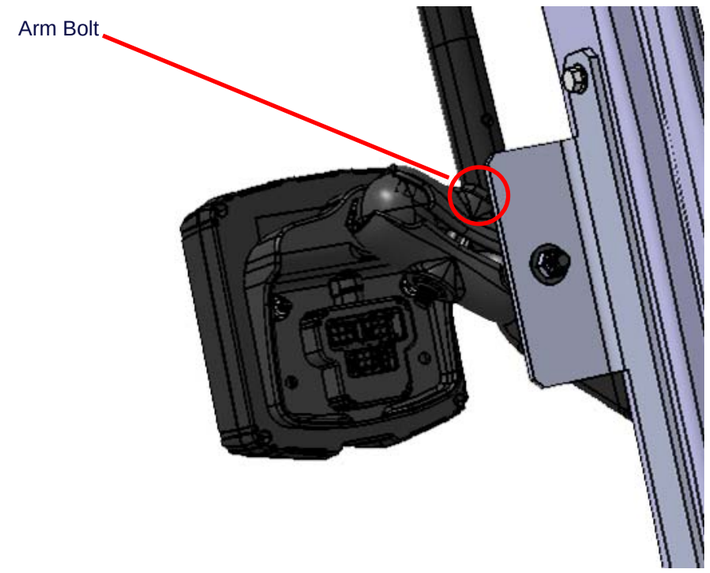
The vehicle operator should be able to easily access the VAC.

The VAC and bracket must remain within the overall dimensions of the vehicle.

Install the VAC and cable in a manner that will not interfere with routine vehicle operation.

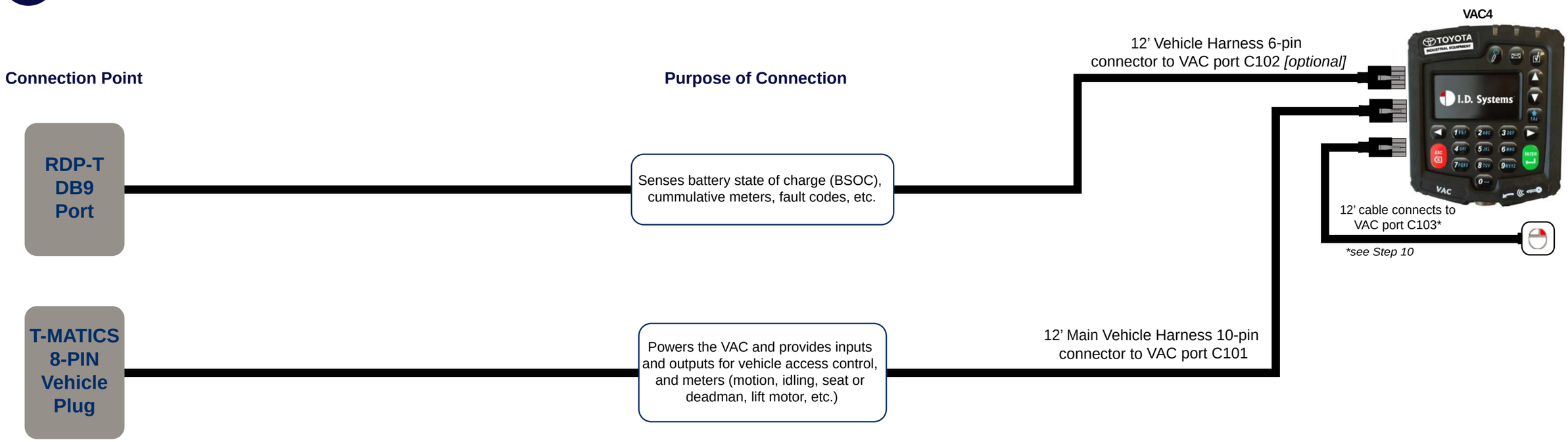


8d Tighten the RAM mount arm bolt.



Toyota Vehicles with OEM Plug

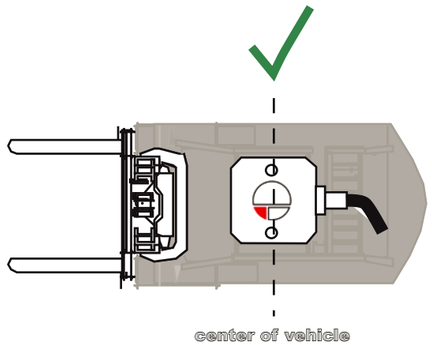
9 Route and connect the supplied vehicle cables bewteen the available vehicle ports and the VAC.

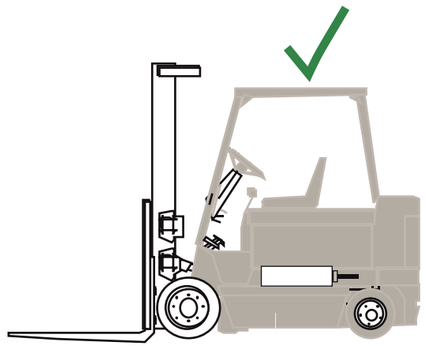


10 Mount the impact sensor on a stable section of the vehicle's frame.

Verify the impact sensor cable will reach the mounted VAC location.

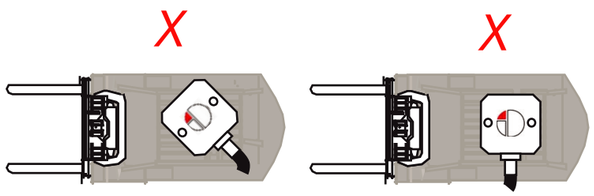
Select a location that is not prone to vibration or routine shock and is as close to the center of the vehicle as possible (see below).





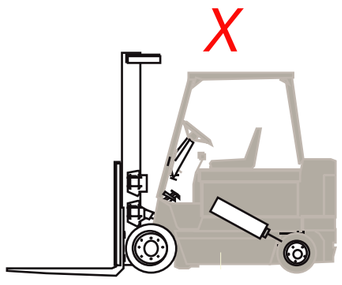
- Impact sensor should be mounted near the vehicle's center of gravity, as shown above.

- Impact sensor cable should protrude toward the back or front of the vehicle, not to the sides or at an angle.



- Impact sensor should be mounted parallel with the ground.

- Impact sensor should be secured to the vehicle frame.



Clean the vehicle surface prior to adhering the impact sensor's double-sided tape.

The supplied tape cannot be reused. If the sensor must be moved, new tape must be used.

Do not mount the impact sensor with screws.

Do not leave excess cables resting on top of the impact sensor as this may produce false impacts.

11 Determine cable routing path.

- Avoid installing or coiling the cables adjacent to the high-current cables or high-noise sources (e.g. motors)

- Avoid routing through pinch points that may damage the cable jacket.

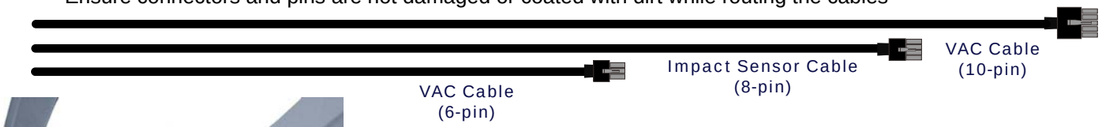
- Check that the vehicle connectors will fit through any 'holes' the cable has to route through. Routing from the 'middle' outward is often the most efficient method.

- Avoid routing through areas containing, or often in contact with, chemicals and/or corrosive material.

- Avoid areas where the cables may become submerged in water.

12 Route the cables that plug into the VAC.

Ensure connectors and pins are not damaged or coated with dirt while routing the cables



12a Whenever possible, route cables via the vehicle's established cable paths and pass the cable's into the vehicle using existing access areas.

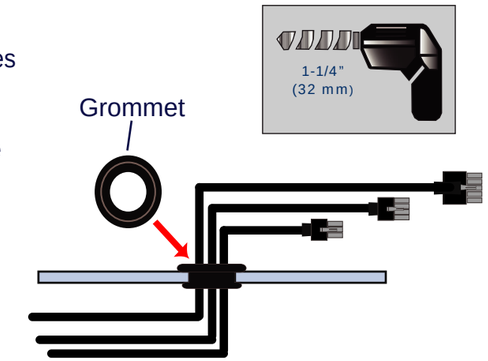
12b If existing cable channels are not available:

i.) Select a safe, unobstructed location where the cables can enter the vehicle and route to their respective connection points.

ii.) Use a 1-1/4" (32 mm) bit to drill a cable access hole at the location identified in the previous step.

iii.) Route the VAC and Impact Sensor cables through the cable access hole.

iv.) Fit the grommet snugly into the cable access hole.



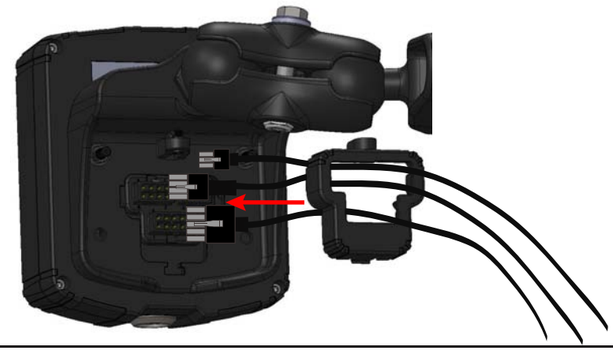
13 Remove the cable cover.

13a Using 2.5 mm Hex Key (Allen key), loosen the security screw at the top of the cable cover until the top of the cable cover can be removed.

! Do not completely remove the security screw.

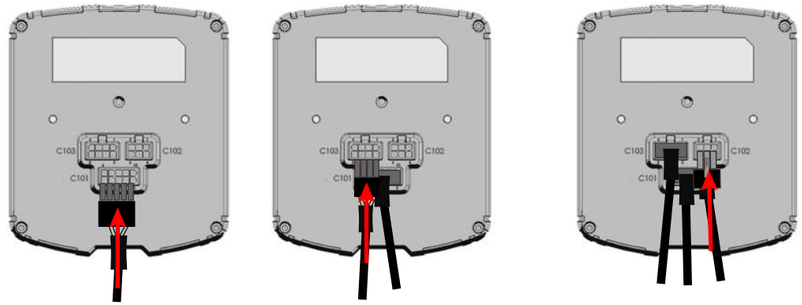
13b Press in the latch at the bottom of the cable cover and remove the cable cover.

14 Slide the VAC and Impact Sensor cables through the cable cover.



15 Connect the VAC and Impact Sensor cable connectors to their respective ports.

! Verify that the connector latches are engaged to ensure that the cables are secured to the VAC.



The 10-pin VAC cable connector to port C101.

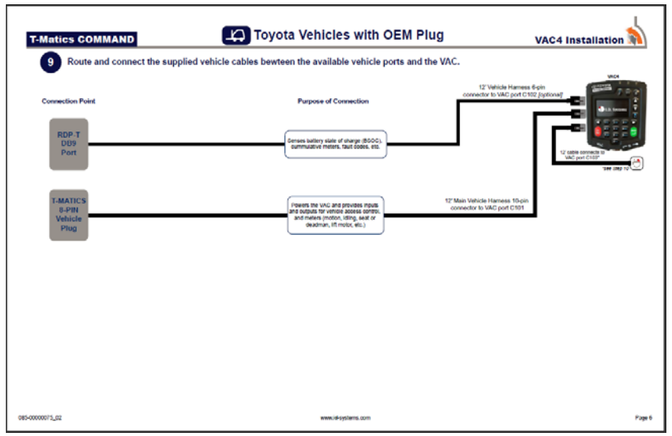
The 8-pin Impact Sensor cable connector to port C103.

The 6-pin VAC cable connector to port C102.

16 Snap in the cable cover and tighten the security screw with a 2.5 mm Hex key (Allen key).

Do not overtighten the security screw.

17 Make sure the cables are connected properly per Step 9.



18 Reassemble the vehicle so it can accommodate a test drive.

19 Log into the VAC as a Maintenance operator and select “Install” to run the configuration wizard.

iButton VAC - Use the yellow Maintenance operator iButton

Contactless reader VAC - Enter the Maintenance operator ID and password using the VAC keypad

Maintenance ID: 7262468
Maintenance password: 2378

Master ID: 7278737
Master password: 5915

If needed, refer to the ***T-Matics COMMAND Hardware User’s Guide*** for details on running the configuration wizard and routine troubleshooting.

20 Verify the Basic configuration wizard completes successfully. If configuration fails, address any issues identified by the VAC and re-run the configuration wizard.

21 Install cable ties to strain relief cables. Secure all cables, wires, etc. and then completely reassemble the vehicle.

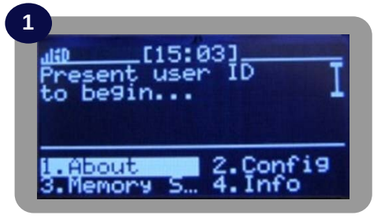
22 Wi-Fi Configuration (for Wi-Fi enabled VACs only)

If the VAC has not received a valid Wi-Fi configuration from a WAM or other VAC in transmit mode (refer to the ***T-Matics COMMAND Hardware User’s Guide*** for details), these credentials can be entered manually or synchronized via VAC Jack.

23a Manually entering Wi-Fi credentials on the VAC using the keypad.

23a-1.) Log into the VAC as a Maintenance Operator or IT Operator.

1



23a-2.) From the main menu, select the Wi-Fi menu option.

2

23a-3.) If the VAC is in range of wireless networks, a list will appear on the VAC screen.

23a-4.) The VAC’s default Wi-Fi configuration uses DHCP.
* To configure the VAC using DHCP, skip to Step 23a-6.
* To configure the VAC to use a Static IP address, complete Step 23a-5.

23a-5.) Select the VAC IP menu option and select Static. When prompted, enter the requested IP, Subnet Mask, and Default Gateway values. Use leading zeros as appropriate (for example, if the IP Address is “150.215.17.9” the value entered into the VAC should be “150.215.017.009”). After providing the requested Static IP values, press ENTER.

23a-6.) To identify the Server to connect with, select the Server IP menu option. Select the server IP ‘type’ (Static IP or Domain Name), then type in prompted data using either the Server IP or Domain Name. In both cases, the Server Port must be entered. For IDSY-hosted systems, this information is provided to you by I.D. Systems.

Note: If Steps 23a-4 through 23a-6 are not performed in the proper order, the VAC will not connect to the server or access point.

23a-7.) Select the *Connect* menu option.

7

23a-8.) Connect to the facility’s wireless network.

23a-8a.) If the VAC display lists the desired SSID, use the up and down scroll arrows to select the desired SSID from the list.

i.) Press the ENTER key.

ii.) Enter the credentials for the selected SSID in the locations provided. Use the navigation arrows to skip to different areas of the text entry boxes.

Note: For WEP credentials, 10 or 26 HEX (0-9;A-F) characters must be entered (ASCII entry not permitted).

iii.) Press the ENTER key.

iv.) The VAC will automatically attempt to connect to the selected SSID using the credentials provided.

23a-8b.) If the VAC display does not list the desired SSID, select the Other menu option and press ENTER.

i.) Using the VAC keypad, manually enter the SSID.

ii.) Select the security method that corresponds with the SSID.

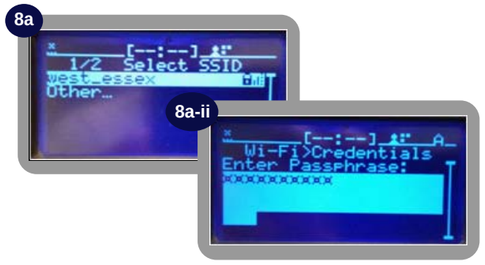
iii.) Enter the credentials for the SSID.

Note: For WEP credentials, 10 or 26 HEX (0-9;A-F) characters must be entered (ASCII entry not permitted).

iv.) The VAC will automatically attempt to connect to the SSID using the credentials provided.

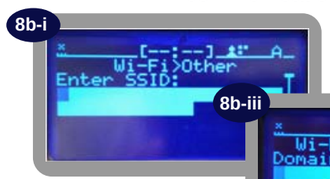
Note: To successfully connect, the VAC must be within wireless communication range of the SSID.

8a

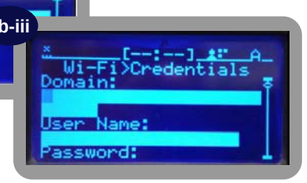


8a-ii

8b-i



8b-iii



23a-9.) Once connected, the VAC screen will display the Wi-Fi status indicator.

23a-10.) For instruction on how to broadcast the VAC’s Wi-Fi credentials to nearby VACs that have not been configured, refer to the PowerFleet VAC4 Hardware User’s Guide.

23b Loading Wi-Fi credentials from a configured USB Flash Drive using a VAC Jack.

23b-1.) Insert a configured USB flash drive in the VAC Jack (refer to the T-Matics COMMAND Hardware User’s Guide for information on configuring the USB flash drive).

23b-2.) Connect the VAC Jack to the VAC.

a.) Unplug the Vehicle Cable from the VAC.

b.) Plug the I.D. Systems’ AC wall adapter into the VAC Jack to power up the VAC Jack.

c.) Make sure the VAC Jack button is pressed in and the corresponding LED is on.

23b-3.) Plug the VAC Jack into the VAC.

23b-4.) The VAC Jack button LED will illuminate while reading data from the USB and programming the VAC. During this time, the VAC will indicate programming status via LEDs and an on-screen progress message.

23b-5.) Once complete, unplug the VAC Jack from the VAC.

23b-6.) Plug the Vehicle Cable back into the VAC.

23b-7.) The VAC’s default Wi-Fi configuration uses DHCP. To configure the VAC to use a Static IP address, refer to sub-steps Steps 23a-1 – 23a-6 to configure the IP address of the VAC.

23b-8.) With the VAC installed, it will automatically attempt to connect using the new Wi-Fi credentials.