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THROTTLE COMMANDER INSTALLATION MANUAL

T500108

Ford 2005 - 2010 5.4 L and 6.8 L
F250 - F550 and E250 - E550 Super Duty

www.vmacair.com

Installing the *Throttle Commander*

Ford F250 - F550 and E250 - E550 Super Duty

5.4 L and 6.8 L Gasoline, 2005-2010
T500108

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Changes and Revisions

Version	Revision Details	Revised	Approved	Implemented
C	ECN 08-022	SL 10 Mar 2008	GP 11 Mar 2008	12 Mar 2008
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E	ECN 08-307	SL 10 Nov 2008	GP 12 Nov 2008	12 Nov 2008
F	ECN 10-037	SH 28 Apr 2010	SM 9 Jun 2010	10 Jun 2010

Important Information

The information in this manual is intended for certified VMAC installers who have been trained in installation procedures and for people with mechanical trade certification who have the tools and equipment to properly and safely perform the installation. Do not attempt this installation if you do not have the appropriate mechanical training, knowledge and experience.

Follow all safety precautions and standard shop practices for mechanical work.

These instructions are a general guide for installing this throttle control on standard production trucks and do not contain information for installation on non-standard trucks. If you have difficulty with the installation, contact VMAC.

The VMAC warranty form is located at the back of this manual. This warranty form must be completed and mailed or faxed to VMAC at the time of installation for any subsequent warranty claim to be considered valid.

To order parts, contact your VMAC dealer. Your dealer will ask for the VMAC serial number, part number, description and quantity. To locate your nearest dealer, call 1-888-241-2289.

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VMAC – Vehicle Mounted Air Compressors

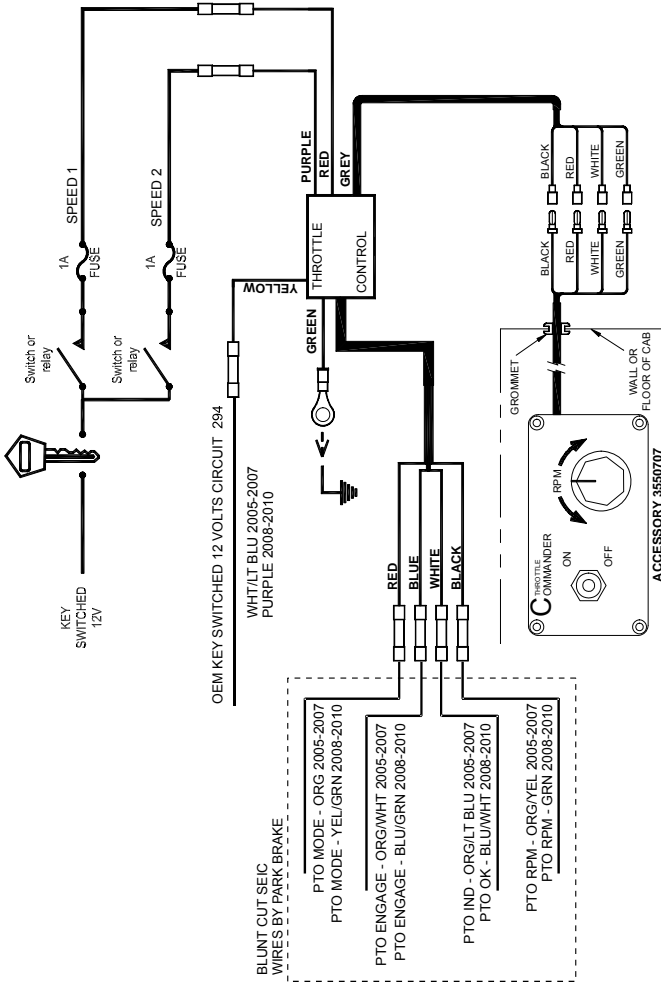
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1.0 Preparing for Installation

- Disconnect the vehicle batteries.
- Study the wiring diagrams and locate the wires on the components so that you are familiar with the connections.

Wiring Diagram F250 – F550 (2005 – 2010)

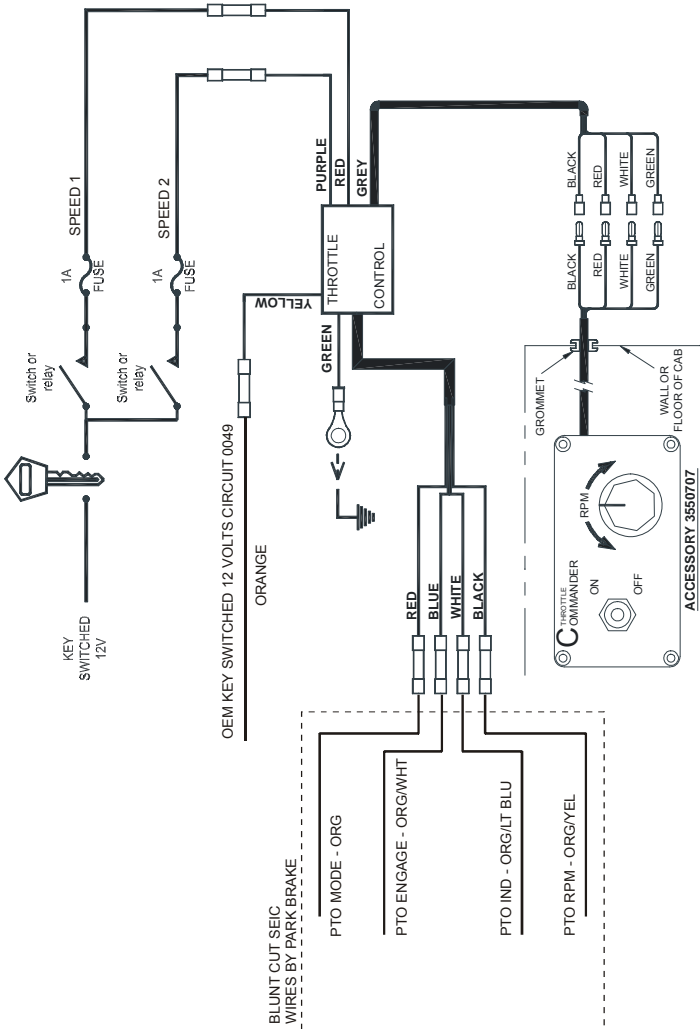


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Wiring Diagram E250 – E450 (2005 – 2008)

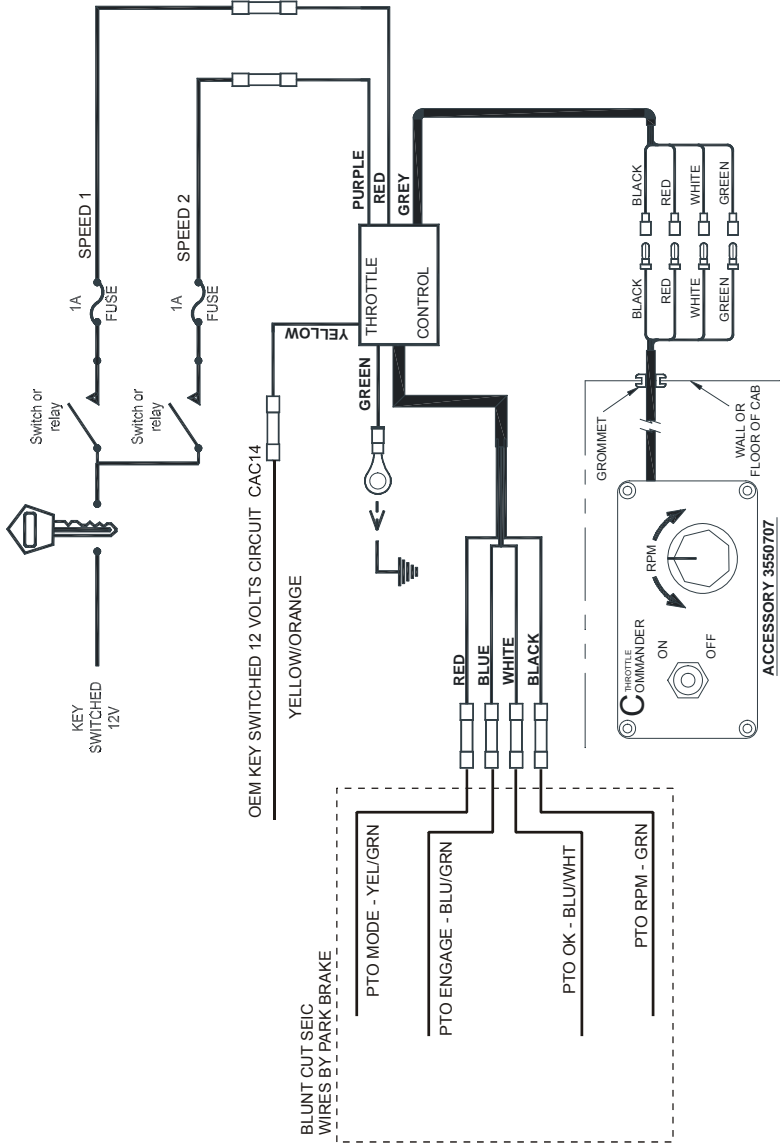


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Wiring Diagram E250-450, (2009-2010)



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2.0 Installing the Throttle Control Box

- Remove the dash panel below the steering column and tie-wrap the throttle control box under the dash.

3.0 Connecting the Wiring

- Locate the bundle of blunt cut Customer Access/SEIC wires:
 - F-Series – bundle is under the dash by the park brake (Figure 1).
 - E-Series – bundle is in the engine compartment in the wire harness on the firewall (Figure 2).

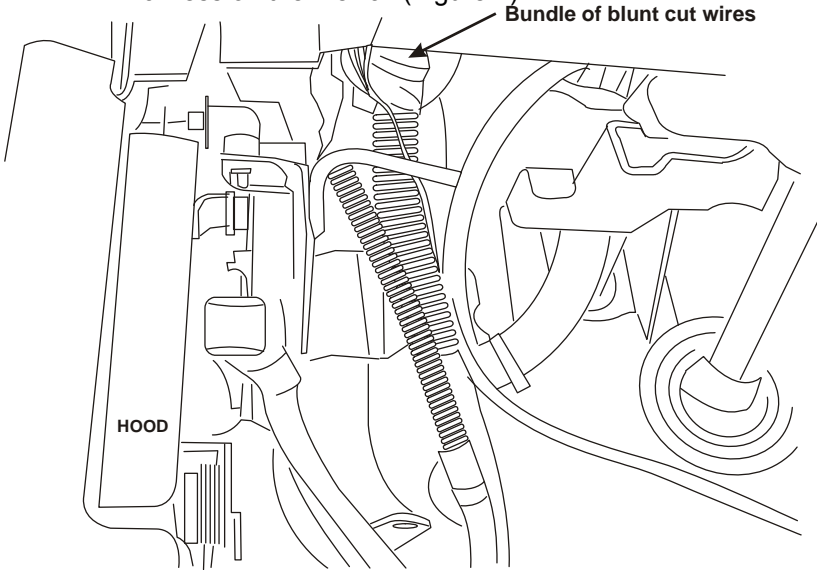


Figure 1

- Identify the correct application table and connect the wires as indicated. For van connections, use 18 or 20 AWG wire to extend the connections into the engine compartment.

Throttle Cable Wire Color	SEIC Wire (2005-2007) F250 – F550 E250 – E450 (2005 – 2008)	SEIC Wire (2008-2010) F250 – F550 E250 – E450 2009-2010
Red	PTO-MODE-Orange (cct2242)	PTO-Y/GN (ce912)
Black	PTO-RPM-Orange/Yellow (cct2246)	PTO-RPM-GRN (ce914)
White	PTO-IND-Orange/Lt. Blue (cct2244)	PTO_OK-BU/W (ce326)
Blue	PTO-ENGAGE-Orange/White (cct2243)	PTO-ENGAGE-BU/GN (ce924)
Individual	Connect to Chassis ground	Connect to Chassis ground

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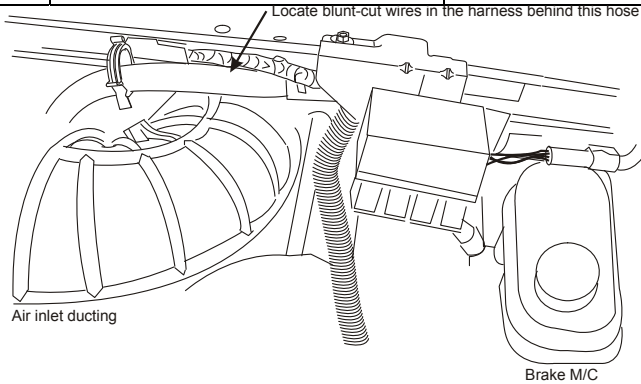


Figure 2

3.1 Key Switched 12V (2005 - 2007) (F250 – F550)

- Connect the “Key Switched 12 Volt” yellow wire to the OEM white with light blue stripe wire (2005-2007) located in the bundle of blunt cut wires near the diagnostic connector (Figure 3).

3.2 Key Switched 12V (2008-2010) (F250 – F550)

- Connect the key switched 12V yellow wire to the OEM purple wire located in the bundle of blunt cut wires near the parking brake (Figure 1).

3.3 Key Switched 12V (2005 – 2008) (E250 – E450)

- Connect the key switched 12V yellow wire to the OEM orange wire located at 4-pin connector above the brake master cylinder, part of the Modified Vehicle Wiring.

3.4 Key Switched 12V (2009-2010) (E250 - E450)

- Connect the key switched 12V yellow wire to the OEM yellow with orange stripe wire. This wire can be found at the 4-pin connector above the brake master cylinder or above and to the right of parking brake release handle by the relay pack, part of the Modified Vehicle Wiring.

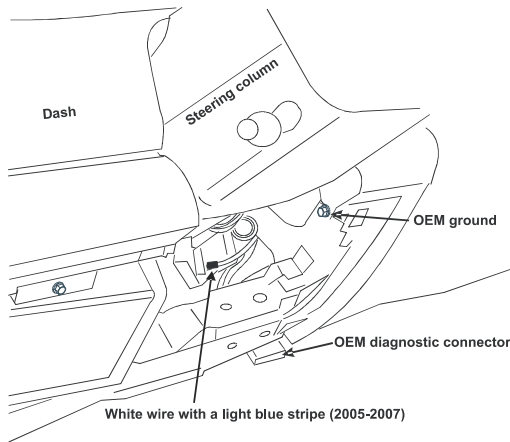


Figure 3

3.4 Remote Pendant Connections (Accessory Part #3550707)

- Route the remote pendant cable into the cab through a suitable opening and connect the four colored wires on the pendant cable to the matching colored wires in the heavy cable from the throttle control box. Make sure that the connectors are pushed together securely to make a good connection.

4.0 Completing and Testing the Installation

- Check all wiring to ensure that it will not contact any hot or moving components and will not interfere with the operation of the vehicle. Secure all wiring with nylon ties and the supplied loom as required.
- Connect the batteries. Place the vehicle in a safe operating position and block the wheels. Ensure that there are no people near the vehicle before beginning the test.
- Temporarily route an 18 gauge test wire from the positive battery terminal into the cab. This wire will be used for the operational and safety tests.

- Place the automatic transmission in PARK or manual transmission in neutral and engage the park brake. Start the vehicle engine and wait for the idle to stabilize and for engine temperature to reach normal operating range.
- Momentarily activate the throttle by connecting the temporary wire from the battery positive post to the red speed 1 or purple speed 2 wire (located in the same bundle as the yellow power and green ground wires). The engine should start to idle up.
- Release the park brake and momentarily activate as before. The engine should not idle up.
- Apply the park brake and shift the automatic transmission into reverse with your foot on the service brake pedal. Momentarily activate as before. The engine should not idle up. Repeat the test in all gears.
- Shift the transmission into Park and shut down the engine.

4.1 Testing Throttles with Pendant Control

- Make sure that the “RPM” knob is turned down counter-clockwise, turn on the switch on the remote pendant, then slowly turn up the “RPM” knob clockwise. The engine should begin to idle up.
- Turn the knob fully counter-clockwise. The engine should idle down.
- Firmly apply the service brake pedal and hold it down.
- Release the park brake and activate as before. The engine should not idle up.
- Apply the park brake and shift the automatic transmission into reverse with your foot on the service brake pedal and activate as before. The engine should not idle up. Repeat the test in all forward gears.
- Shift the transmission into Park and shut down the engine.



If the vehicle fails the test, check the wiring connections. If you require additional assistance, contact your local VMAC dealer or call VMAC at 1-888-241-2289 or 250-740-3200.

5.0 Auxiliary Equipment Connection

The throttle control has three possible speed settings by providing battery power to the red and purple wires. Default settings are:

Speed Selection	Red wire	Purple wire	Factory setting
Off	0 Volts	0 Volts	0 RPM
Speed 1	12 Volts	0 Volts	1,250 RPM
Speed 2	0 Volts or 12 Volts*	12 Volts	1,800 RPM

* Speed 2 overrides Speed 1

Different methods for single speed connection are shown in Figure 4 (switched) and Figure 5 (relayed). Multiple speed connections are a duplicate of the single speed method.

5.1 Single Speed Control

- Connect the red wire from the throttle control through a suitable switch to an ignition activated 12-volt power source using an 18 gauge or heavier wire.
- Coil and insulate the purple wire with tape.
- Install a 1-amp inline fuse between the switch and the red wire.

5.2 Multiple Speed Control

- Make the single speed connection using the red wire.
- Connect the purple wire from the throttle control through a second switch to an ignition activated 12-volt power source using 18 gauge or heavier wire.
- Install a 1-amp inline fuse between the switch and the wire.

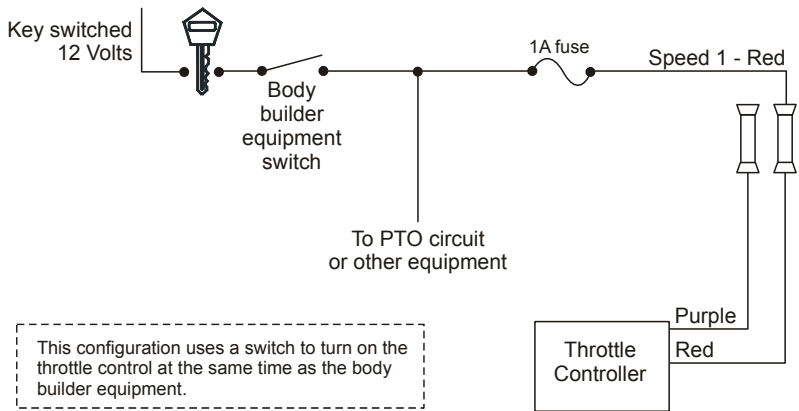


Figure 4

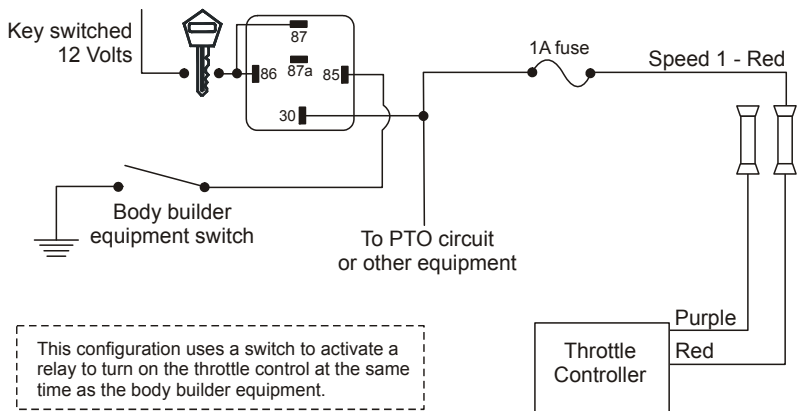


Figure 5

6.0 Adjusting the Throttle Control

- Make sure that the switches or equipment supplying power to the throttle control are turned off.
- Start the engine. Allow the engine to reach normal operating temperature.
- Engine speed is adjusted by turning the screws on the throttle control. To increase the engine speed turn the screw clockwise, to decrease the engine speed turn the screw counter-clockwise.

To adjust SPEED 1, activate the throttle control using the control that is connected to the red wire. Adjust the RPM by turning the RPM 1 screw.

To adjust SPEED 2, activate the throttle control using the control that is connected to the purple wire. Adjust the RPM by turning the RPM 2 screw.



Never use the park brake or the transmission as an ON-OFF switch. When the engine is OFF, the throttle switch must be OFF. Do not reactivate the throttle switch until the engine has been restarted and the RPM has stabilized.

7.0 Operating the Pendant Controls



Pendant control will override both Speed 1 and Speed 2.

7.1 Turning the Throttle On

Make sure that the “RPM” knob is turned down counter-clockwise before turning the throttle on to ensure the engine doesn’t rev past the desired operating speed.

With the engine running and the truck in “Park” with the park brake on, turn on the switch on the remote pendant.

Slowly turn up the “RPM” knob clockwise until the engine is at the desired speed.

7.2 Turning the Throttle Off

Turn the “RPM” knob fully counter-clockwise.














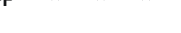




Turn off the switch on the remote pendant.

Shut off the engine.

8.0 Troubleshooting

Conditions that enable SEIC (all required)	Conditions that disable SEIC (any one required)	
Park brake applied	Park brake released	Yes
Foot off of service brake	Service brake depressed	Yes
Vehicle in park (automatic trans)	Vehicle taken out of park	Yes
Foot off of clutch (manual trans)	Clutch depressed	Yes
Foot off of accelerator pedal		Yes
Vehicle is stationary (0 mph)		Yes
Brake lights are functional	Brake light circuit disconnected	Yes
Engine at a stable base idle speed		Yes
	Transmission Oil Temperature Limit exceeds 240F	Yes
Engine Coolant Temperature (ECT) 140 Degrees F minimum	Engine Coolant Temperature Limit	Yes
	Catalyst Temperature Limit	Yes

Enable/Disable Conditions for SEIC Operation

CODE	LED STATE	DESCRIPTION
OFF	<p style="text-align: center;">Steady OFF</p> <p>ON </p> <p>OFF </p>	Throttle is off and has no power.
0	<p style="text-align: center;">Standby mode "Slow Blink"</p> <p>ON </p> <p>OFF </p>	Standby state. +12V applied to yellow wire.
1	<p style="text-align: center;">Standby "Single Flash"</p> <p>ON </p> <p>OFF </p>	Speed 1 request. +12V applied to yellow wire. +12V applied to red Speed 1 wire. Enable conditions have not been met.
2	<p style="text-align: center;">Standby "Double Flash"</p> <p>ON </p> <p>OFF </p>	Speed 2 request. +12V applied to yellow wire **+12V applied to purple Speed 2 wire. Enable conditions have not been met.
3	<p style="text-align: center;">Standby "Triple Flash"</p> <p>ON </p> <p>OFF </p>	Remote Pendant request. +12V applied to yellow wire. **(Pendant turned on). Enable conditions have not been met.
4	<p style="text-align: center;">Steady ON</p> <p>ON </p> <p>OFF </p>	Throttle on. +12V applied to yellow wire. **+12V applied to red Speed 1 wire, and/or purple Speed 2 wire, and/or Pendant turned on.
5	<p style="text-align: center;">"Single Flash"</p> <p>ON </p> <p>OFF </p>	Speed 1 requested, throttle disabled. +12V applied to yellow wire. +12V applied to red Speed 1 wire. *A disable condition has occurred.
6	<p style="text-align: center;">"Double Flash"</p> <p>ON </p> <p>OFF </p>	Speed 2 requested, throttle disabled. +12V applied to yellow wire. **+12V applied to purple Speed 2 wire. *A disable condition has occurred.
7	<p style="text-align: center;">"Triple Flash"</p> <p>ON </p> <p>OFF </p>	Remote Pendant requested, throttle disabled. +12V applied to yellow wire. **(Pendant turned on). *A disable condition has occurred.

*Turn off Speed 1, Speed 2 and Remote Pendant to Restart Throttle.

** Speed 2 overrides Speed 1 and Remote Pendant overrides both Speeds 2 and 1.



If you are unable to effectively troubleshoot operational problems, call your local VMAC dealer for technical support. To locate your nearest dealer call: 1-888-241-2289 or 250-740-3200.

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Fax: 1-250-740-3201

9.0 Ordering Parts and Warranty

To order parts, contact your nearest VMAC dealer. Please quote the VMAC part number, the description and the quantity.

The VMAC warranty form must be completed and mailed or faxed to VMAC at the time of installation for any subsequent warranty claim to be considered valid.

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Warranty Registration

This form must be **fully** completed and returned to VMAC at the time of installation. Warranty may be void if this form is not received by VMAC within **30 days** of installation.



VMAC's Warranty policy and registration can be viewed online at: www.vmacair.com/warranty

VMAC Dealer Information

Company Name: _____

City: _____ State / Province: _____

Installer Information

Company Name: _____

City: _____ State / Province: _____

Installation Date: ____/____/____
Day Month Year

Owner Information

Company Name: _____

Address: _____

City: _____ State / Province: _____

Zip/Postal: _____ Phone #: (____) ____ - ____

Email Address: _____

Vehicle Information

Year: _____ Make: _____

Vehicle Identification Number: _____

Unit #: _____

Product Information

System Identification Number: T _____

Submitted by

Name: _____ Contact: _____

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