Installing the *Throttle Commander*Ford F250 – F550 Super Duty

6.0 L Power Stroke Diesel 2003.25 – 2004 T500082, T500083 and T500084

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Document 1930073 Installation Manual for VMAC *Throttle Commander* Ford 2003.25-2004 6.0 L Power Stroke Diesel F250-F550 Super Duty

Changes and Revisions

Version	Revision Details	Revised	Approved	Implemented
00	Original manual	IB 23 Aug 2004	SM 5 Oct 2004	5 Oct 2004
01	Revisions and reformat	IB 7 Feb 2005		

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.

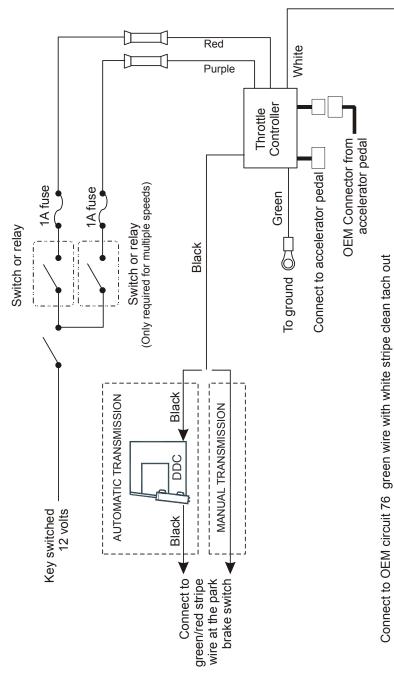
The VMAC warranty form is located at the back of this manual. This warranty form must be completed and mailed or faxed to VMAC at the time of installation for any subsequent warranty claim to be considered valid.

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 1-800-738-8622.

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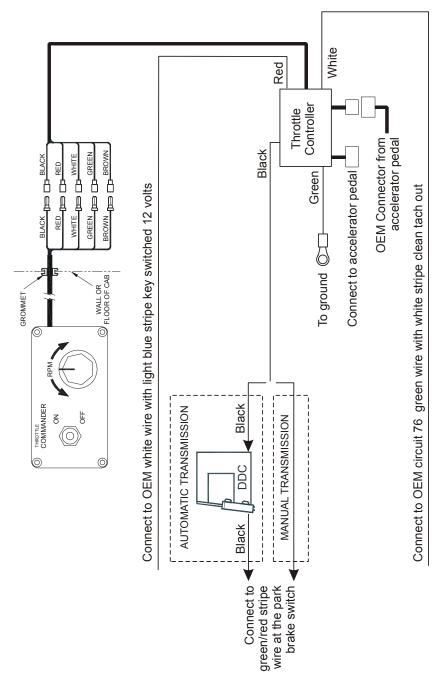
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Wiring Diagram T500082

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Wiring Diagram T500083 and T500084

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1.0 Preparing for Installation

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

2.0 Installing the Throttle Control Box

Remove the dash panel below the steering column and tie-wrap the throttle control box to the dash support bracket to the right of the steering column, behind the diagnostic connector (Figure 1) with the adjusting screws facing out.

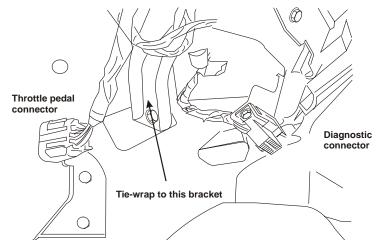


Figure 1

2.1 Connecting the Wiring

Ш	Unplug the cable(s) from the foot pedal assembly and connect them to the matching connectors from the throttle control box.
	Connect the throttle control box cable(s) to the matching connectors on the foot pedal assembly.

For T500082, leave the red and purple wires inside the vehicle for operational testing.

For T500083 and T500084, connect the red wire to the keyswitched 12V OEM white with blue stripe wire under the dash (Ford CCT #294) located near the OEM diagnostic connector (Figure 2).		
Attach the green wire with the ring connector to the OEM ground above the diagnostic connector (Figure 2).		
Dash Steering column		
Dash		
White wire with a light blue stripe OEM ground		
OEM diagnostic connector		
OEW diagnostic connector		
Figure 2		
Solder and seal the white wire to the OEM light green with white stripe Clean Tach Out (CTO - Ford CCT #76) wire located in the bundle of blunt cut wires near the park brake (Figure 3).		
2.2 Manual Transmission Trucks		
Solder and seal the black wire from the throttle control box to the green with red stripe wire at the park brake (Figure 4).		

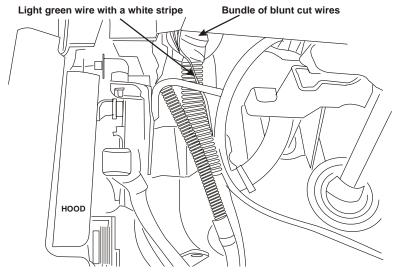


Figure 3

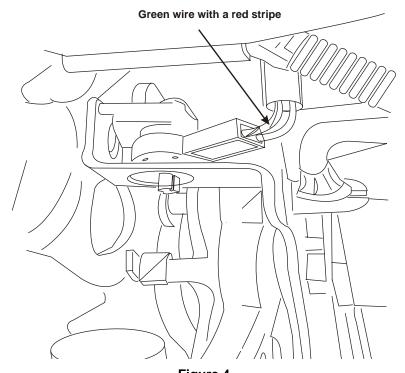


Figure 4

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2.3 Automatic Transmission



If the vehicle has an automatic transmission, the *Throttle Commander* must be connected so that it will not function unless the transmission is in PARK or Neutral.

FAILURE TO PROPERLY INSTALL AND VERIFY THE FUNCTION OF THIS SAFETY FEATURE CAN RESULT IN INJURY OR DEATH.

If you require a safety interconnect to perform this task, order the VMAC Drive Disable Circuit part number 3550679.

Be sure to perform the safety test in the DDC installation instructions before proceeding.

Follow the instructions in VMAC Drive Disable Circuit part number 3550679.

2.4 Remote Pendant Connections			
	Route the remote pendant cable into the cab through a suitable opening.		
	Connect the five colored wires on the pendant cable to the matching colored wires in the heavy cable from the throttle control box. Make sure that the bullet connectors are pushed together securely to make a good connection.		
3.0	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.		
3.1	T500082		
	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 quickly connecting and disconnecting the temporary wire from the battery positive post to the red wire. The engine should start to idle up. Repeat with the purple wire.
	Firmly apply the service brake pedal and hold it down.
	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.
3.2	T500083 and T500084 Remote Pendant
	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.
	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 momentarily activate as before. The engine should not idle up.
	3

	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	If the vehicle fails the test, check the wiring connections. If you require additional assistance, contact your local VMAC dealer or call VMAC at 1-800-738-8622 or 250-740-3200.
4.0	Operating the Pendant Controls
4.1	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.
4.2	Turning the Throttle Off
	Turn the "RPM" knob fully counter-clockwise.
	Turn off the switch on the remote pendant.
	Shut off the engine.

5.0 T500082 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	12 Volts	1,800 RPM
Speed 3	12 Volts	12 Volts	approximate average of 1 & 2

Different methods for single speed connection are shown in Figure 5 (switched) and Figure 6 (relayed). Multiple speed connections are a duplicate of the single speed method.

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 usir 18 gauge or heavier wire.
☐ Install a 1-amp inline fuse between the switch and the wire.

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5.1 Single Speed Control

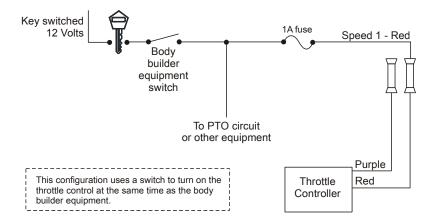


Figure 5

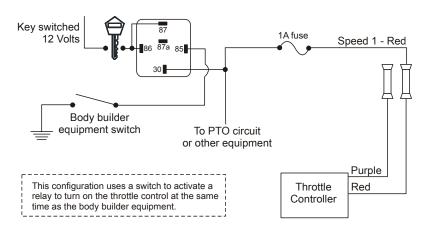


Figure 6

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.
SPEED 3 is an approximate average of SPEED 1 and SPEED 2.



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 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.

8.0 Troubleshooting

Problem	Possible Causes	Corrective Action
Engine RPM climbs to red line when <i>Throttle Commander</i> is activated	Clear tipped or white wire not connected properly	Check connections
	Throttle Commander adjusted incorrectly	Turn the adjustment screw RPM1 for SPEED1 or RPM2 for SPEED2 counter- clockwise (up to 20 turns) until RPM comes down
	RPM knob turned fully clockwise	Turn RPM knob counterclockwise
Engine stays at base idle (600 RPM) and accelerator pedal	Red &/or Purple wires not receiving 12V	Check supply of 12V to red and/or purple wires
continues to have	Park brake not on	Set park brake
authority over engine speed	Black wire not connected properly, if automatic transmission, DDC not connected properly	With park brake on, check electrical continuity from black wire to chassis ground. If no continuity, check connection of black wire to park brake switch. If connection is good but still no continuity to ground, replace park brake switch
Engine stays at base idle (600 RPM) and accelerator pedal does not have authority over engine speed	Throttle Commander adjusted incorrectly	Turn adjustment screw clockwise (as many as 20 turns may be necessary) until RPM comes up to desired level
Engine RPM will not adjust below 1200 RPM	Proper operation of Throttle Commander being disrupted by PTO circuit	Disconnect all wires running to Ford CCT 322 (blue/yellow wire near data link connector at lower center of dash)
Engine stays at pre-set RPM even with <i>Throttle</i> <i>Commander</i> switched off	Proper operation of Throttle Commander being overridden by PTO circuit	Disconnect all wires running to Ford CCT 322 (blue/yellow wire near data link connector at lower center of dash)
"Check Engine" light comes on	Bad plug connection at the <i>Throttle</i> <i>Commander</i> or foot pedal assembly	Make sure all plugs are properly engaged and fully seated and latched



If you are unable to effectively troubleshoot operational problems, call your local VMAC dealer for technical support. To locate your nearest dealer call: 1-800-738-8622 or 250-740-3200.

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