

Installation Manual for VMAC System V900090

**Ford 2008 F250-F550 6.4L
Power Stroke Diesel**

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Installation Manual for VMAC System V900090
Ford 2008 6.4L Power Stroke Diesel

Changes and Revisions

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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 for underhood mechanical work. Any grinding, bending or restructuring operations for correct fit in modified vehicles must follow standard shop practices.

These instructions are a general guide for installing this system on standard production trucks and do not contain information for installation on non-standard trucks. This system may not fit special order models or those which have had other changes without additional modifications. 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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Printed in Canada

VMAC – Vehicle Mounted Air Compressors

Toll Free: 1-800-738-8622

Fax: 1-250-740-3201

General Information

Before You Start

Read this manual before attempting installation so that you can familiarize yourself with the components and how they fit on the vehicle. Identify variations for different model years and different situations that are listed in the manual. Open the package, unpack the components and identify them.

All fasteners must be torqued to specifications. Use manufacturers torque values for OEM fasteners. Apply Loctite 242 or equivalent on all engine-mounted fasteners. Torque values are with Loctite applied unless otherwise specified.

STANDARD GRADE 8 NATIONAL COARSE THREAD								
Size	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4
Foot-pounds (ft-lb)	9	18	35	55	80	110	170	280
Newton meter (N•m)	12	24	47	74	108	149	230	379

STANDARD GRADE 8 NATIONAL FINE THREAD					
Size	3/8	7/16	1/2	5/8	3/4
Foot-pounds (ft-lb)	40	60	90	180	320
Newton meter (N•m)	54	81	122	244	434

METRIC CLASS 10.9					
Size	M8	M10	M12	M14	M16
Foot-pounds (ft-lb)	19	41	69	104	174
Newton meter (N•m)	25	55	93	141	236

Hose Coding

Different frame designations will affect the tank mounting position. If you have to move the tank, the lines may be too short. Measure the hose shortfall and order a *Hose Extender Kit*. The following table shows the color code used by VMAC to identify hose diameters.

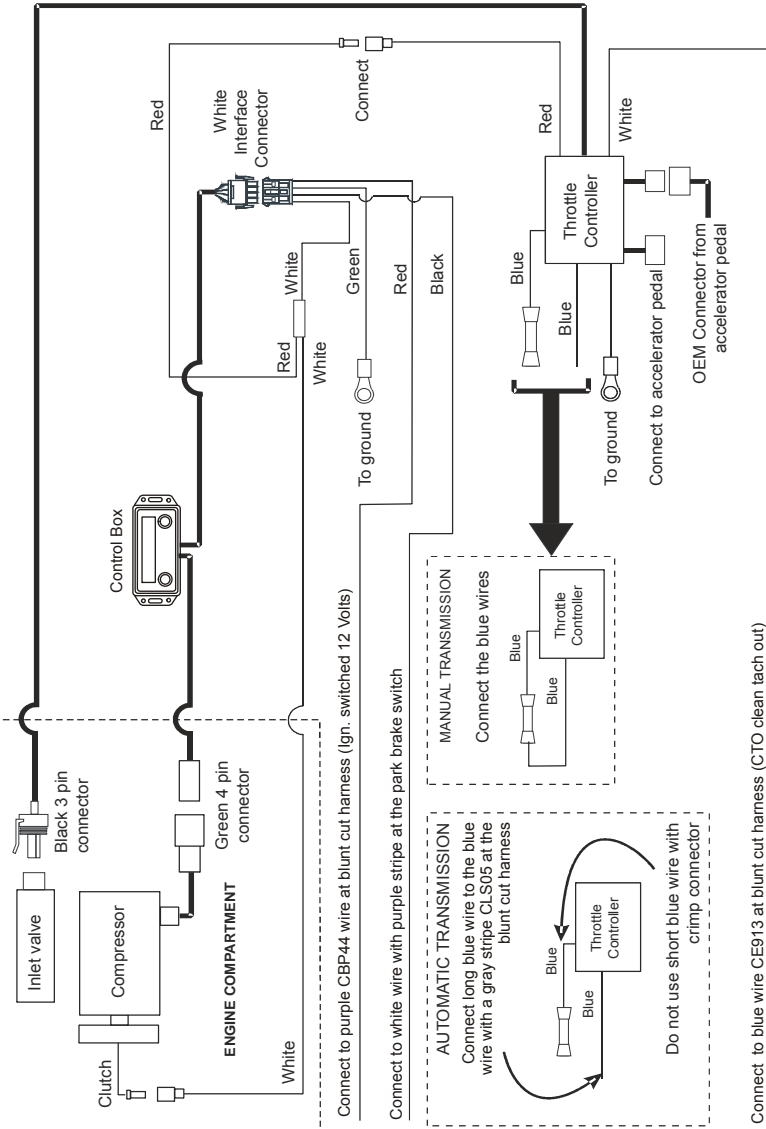
Hose Diameter	Colour-Coded Label
1/2 inch	Blue
5/8 inch	Blue
3/4 inch	Green
1 inch	Green

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Part 1: Installing the Control Components



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1.1 Installing the Components

- Install the control box in a convenient location in the cab, positioned so that the wire harness will reach the compressor location at the right front side of the engine.



Keep wires away from the park brake mechanism. Route wires clear of the steering column and pedals so they do not contact moving parts. Before drilling holes, make sure that there are no OEM wire bundles where you will be drilling.

- Tie-wrap the throttle control box to the dash support bracket to the right of the steering column with the adjusting screws facing out.

1.2 Routing the Under-hood Wiring

- Cut an opening in a firewall plug and route the following wires from the cab to the engine compartment:
 - small grey harness with the green connector
 - small grey harness with the black connector
 - white wire with a bullet connector
- Insert all of the engine compartment wires into a plastic loom and route them from the firewall, along the driver's side fender, across the top of the radiator to the compressor. Connect them to the matching connections at the compressor.



Avoid the turbo and other hot or moving parts.

1.3 Connecting the In-cab Wiring

- Unplug the cable from the foot pedal assembly and connect it to the throttle control box.
- Connect the throttle control box cable to the foot pedal assembly.
- Connect the white four-wire interface connector to the matching white plug on the harness from the control unit.

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- Connect the green ground wires from the throttle control box and the interface connector to a dashboard ground point.
- Locate the blunt-cut OEM wire harness, on the driver's side just below the OBDII port (Figure 1.1). You will need to find the following wires:
 - ignition-switched 12V OEM circuit CBP44 – purple wire
 - tachometer signal OEM circuit CE913 – blue wire
 - transmission park signal OEM circuit CLS05 – blue with a grey stripe

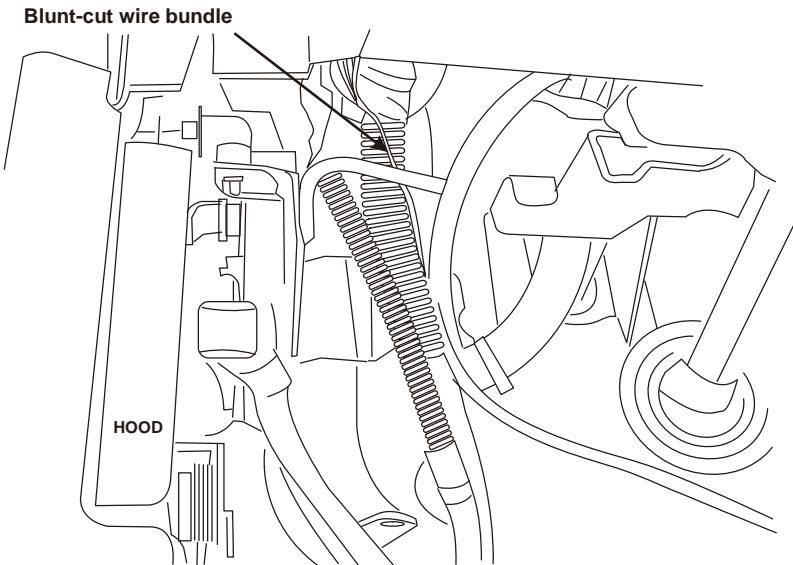


Figure 1.1

- Solder and seal the red “key switched 12V” wire to the OEM circuit CBP44 purple wire at the blunt-cut harness.
- Connect the red wire from the interface connector to the red wire with the matching connector from the throttle control box.
- Solder and seal the white “OEM clean tach out” wire from the throttle control box to the OEM circuit CE913 blue wire at the blunt-cut harness.

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- Locate the park brake signal wire that is white with a purple stripe in a two-pin connector located behind the park brake mechanism.
- Solder and seal the black wire from the interface cable to the white wire with a purple stripe in the park brake connector.

4.3.1 Manual Transmission

- Cut the long blue wire to approximately 6 inches, strip and crimp it to the short blue wire with the butt connector.

4.3.2 Automatic Transmission

- Solder and seal the long blue wire from the throttle control box to the OEM circuit CLS05 blue wire with grey stripe in the blunt-cut bundle.

Part 2: Preparing for Installation

2.1 Preparing for Installation

Preparation for installation is very important. Missing an item can cause problems in the installation or even damage to components. Check off each item as it is completed so that you do not miss any preparation steps.

Keep all removed and unused OEM items if the truck is to be returned to original equipment.

- Remove the hood (optional).
- Disconnect the batteries and remove the passenger-side battery.
- Disconnect the sensors then remove the air cleaner.



Cover the turbo outlet and the intercooler inlet to protect the system.

- Drain the coolant.
- Remove all the bolts from the top radiator cross-support (Figure 2.1).
- Remove the clamp securing both sides of the cross beam to the radiator.
- Lift up the passenger end of the cross beam to gain access and remove the intercooler tube.
- Slide back and pull out the air conditioning line from the clip on the battery box, disconnect the windshield washer bottle tube and remove the battery box/windshield washer bottle.

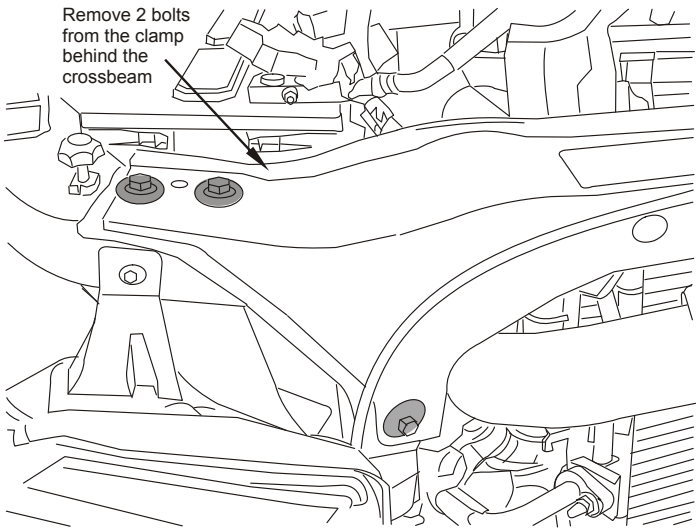


Figure 2.1

- Remove the two bolts securing the power steering reservoir to the fan shroud. Remove the fuel cooler line from the clip on the power steering reservoir and lift the power steering reservoir clear of the fan shroud. Use a small punch to remove the two plastic dowels at each end of the radiator support (Figure 2.2).

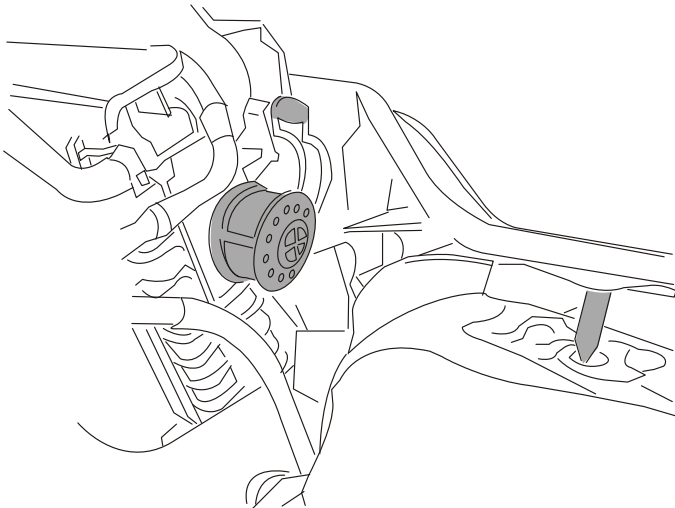


Figure 2.2

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- Remove the hoses from the vacuum relay on the upper fan shroud and remove the upper fan shroud.
- Disconnect the fan wire connector and remove the fan wire from its clip into the fan stator.
- Remove the fan (left hand thread) and pull the radiator cross beam forward to provide clearance for the fan. VMAC tool 5900219 is available to lock the fan when undoing the fan nut.
- Remove the 4 fan stator bolts locating it to the engine and remove the stator.
- Lock the OEM main belt and air conditioning tensioners by rotating them counter-clockwise until the protruding boss clears the locking hole, insert a 7/32 inch drill bit and ease the tensioner back until it rests on the drill bit (Figure 2.3).
- Remove the main OEM belt but leave the AC belt in place. Remove the main belt tensioner.

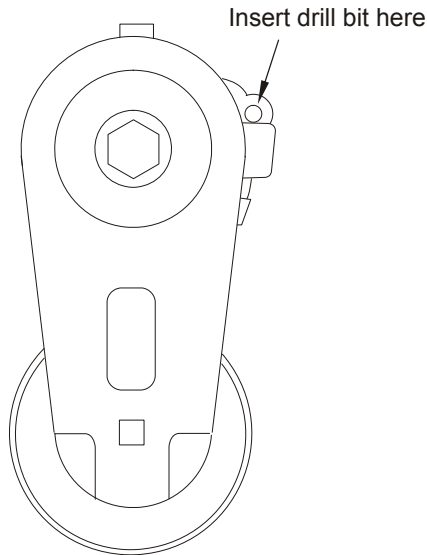


Figure 2.3

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- Disconnect the alternator wiring.
- Remove the OEM idler pulley that is under the power steering pump.
- Remove the OEM alternator bracket, complete with air conditioning tensioner and alternator.
- Modify the battery box to provide clearance for the compressor (Figure 2.4).

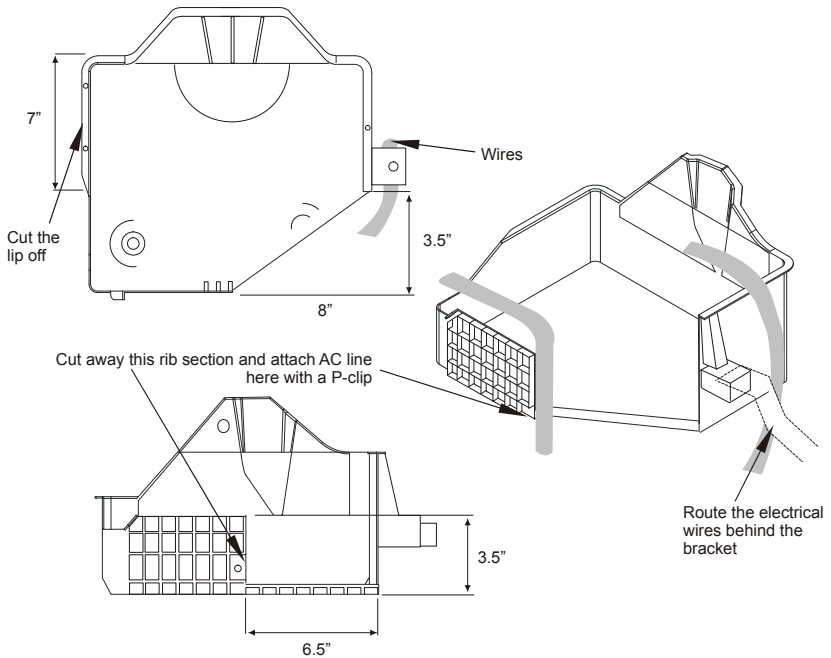


Figure 2.4

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Part 3: Installing the Tank and Hoses

3.1 Assembling the Tank and Brackets

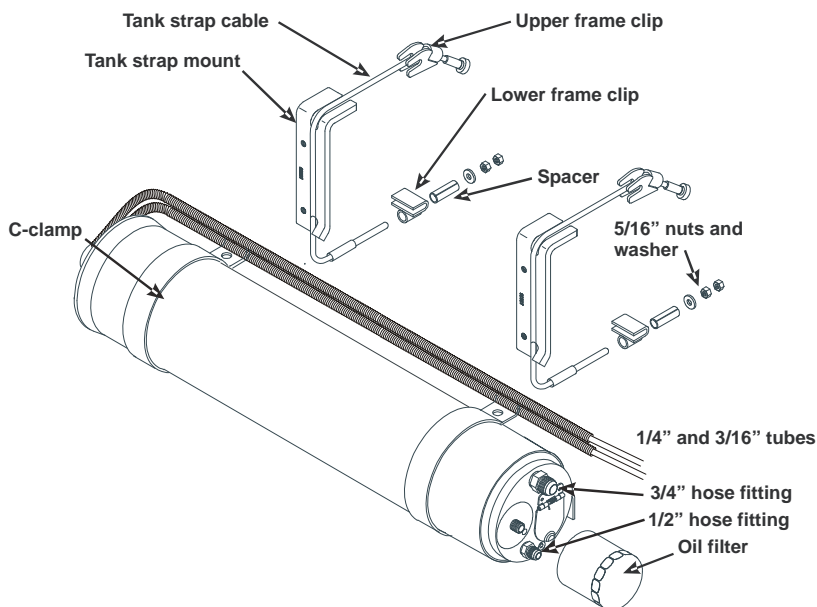


Figure 3.1

- Place the tank on a work bench with the front (oil filter end) of the tank to your left and remove the oil filter.
- Remove the two 1/4 inch clamp bolts from the C-clamps. Expand the clamps slightly and slide them over the front of the tank.
- Install the 1/4 inch clamp bolts into the C-clamps so that the heads of the bolts face toward you, apply Loctite and install the nuts. Leave the C-clamps loose enough so that they can be repositioned on the tank.

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- Place the two L-shaped tank strap mounts under the C-clamps with the right-angle ends facing you and hanging over the edge of the work bench.
- Thread 5/16 x 1/2 inch bolts into the holes on each bracket, but do not tighten.



The tank will mount on the passenger side frame rail under the cab and must be level. Variations in frame design may affect the positioning of the brackets. Always check fit before tightening the fasteners.

- Place the tank in position on the frame about 1 inch back from the floor support. Adjust the position of the clamps and brackets for best fit and to ensure that the tank will be level when mounted and to provide adequate clearance for hose connections and filter installation.
- Mark the position of the C-clamps on the tank and the position of the brackets on the frame. Remove the tank assembly and place it back on the workbench.
- Rotate the tank so that the directional arrow on the end of the tank is parallel to the work bench and faces toward you. The arrow must point upward when the tank is installed.
- Align the C-clamps with your marks and tighten the clamp bolts.
- Remove the 5/16 x 1/2 inch bolts from the C-clamps, apply Loctite and install the two bottom bolts with washers.
- Apply Loctite and insert 5/16 x 1/2 inch bolts through the C-clamps and thread them into the mount brackets. Adjust the C-clamps so they are at the same position on both mount brackets and tighten the mounting bolts.
- Install a 3/4 inch fitting (not supplied) in the back of the tank.

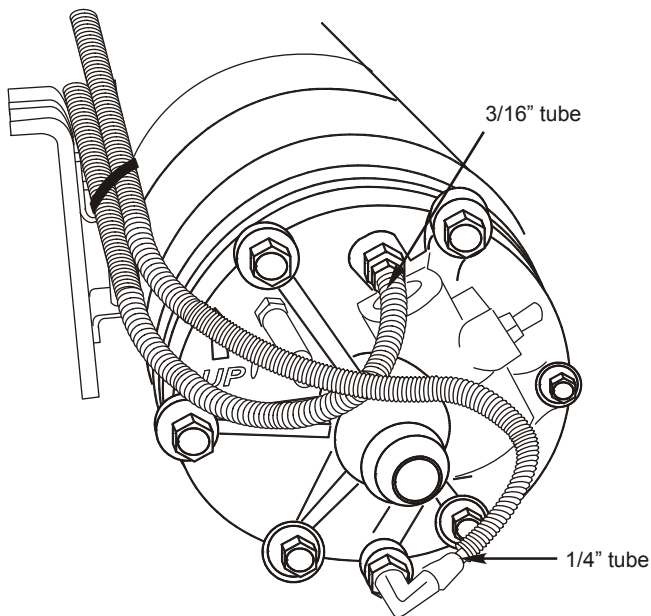


Figure 3.2

3.2 Installing the Tank



The front of the tank should be approximately 13-1/2 inches from the middle of the front cab mount bolt (standard cab) so that the hoses will reach.

- Insert the cable straps through the tubes of the upper frame clips.
- Pass the cable strap upper frame clips over the passenger side frame from the inside. Position the straps at the marks on the frame.
- Support the tank and L-bracket assembly in place on the outside of the frame between the cab mounts, with the short part of the L-bracket over the top of the frame.
- Route the cable straps through the grooves on the tank mount brackets and under the frame (Figure 3.3).

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- Install the frame clips, spacers (if necessary for narrow frames), flat washers and nuts. Tighten the nuts just enough to hold the tank in position between the two body mounts.



A wider U-clip is provided to accommodate trucks where the tank must be mounted on a double frame section.

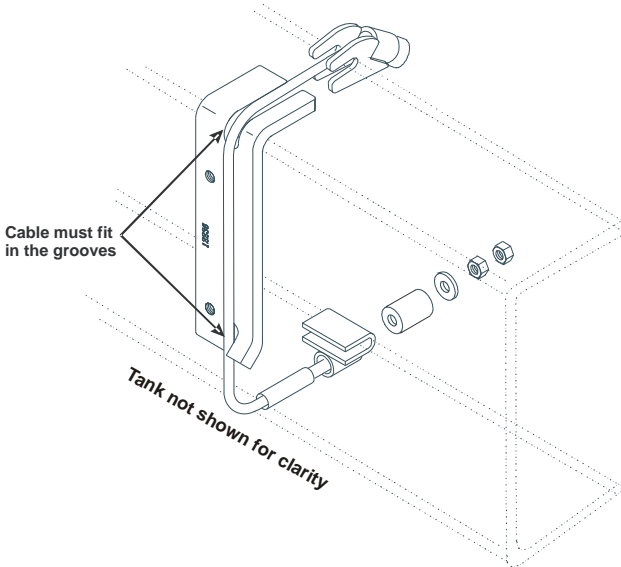


Figure 3.3

- If necessary, reposition the tank on the frame to provide adequate clearance for hose connections and filter installation. When the tank is correctly positioned, tighten the securing cable retaining nuts until the cables pull tight and snug around the frame. Do not over-tighten.
- Install a second 5/16 inch nut and tighten it securely against the first to act as a locknut.
- Connect the straight end of the longest 1/2 inch hose to the matching fitting on the front of the tank. Route this hose along the frame rail, over and inside the cab mounting bracket and around the steering idler arm to the front of the vehicle. Do not tighten the fitting.

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- Connect the straight end of the 1 inch hose to the matching fitting on the front of the tank. Route this hose outside the cab mount, up behind the mud guard and fender liner towards the rear of the engine and along the passenger side valve cover. Do not tighten the fitting.

- Route the 1/4 and 3/16 inch tubes along the same route.

Part 4: Installing the Cooler, Bracket and Compressor

4.1 Installing the Oil Cooler

- Disconnect the lower radiator hose from the clip holding it to the lower crossbeam.
- Place the two U-bolt brackets over the beam under the radiator from the rear of the truck.
- Place the the cooler mounting bracket in front of the beam with the angle section downwards and facing forward.
- Thread the four bracket bolts into the mounting bracket. Pry the lower fan shroud up to assist in starting the bolts. Adjust the bracket so the air bag sensor on the front of the beam is in the middle of the mounting bracket (Figure 4.1).



Do not obstruct the air bag sensor and do not trap the wire.

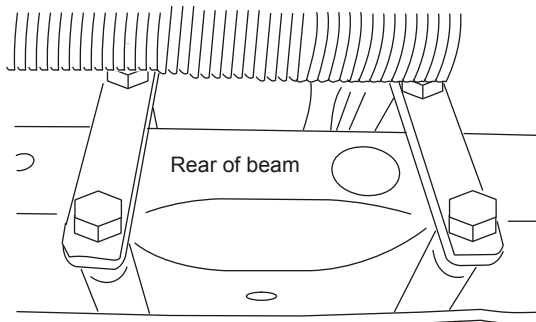


Figure 4.1

- Bolt the cooler into the two holes in the mounting bracket so that it faces the back of the truck.

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- At the lower front cross-member, cut the lower radiator hose right after the plastic clamps at the coupler on each side and discard the OEM plastic coupler (Figure 4.2).

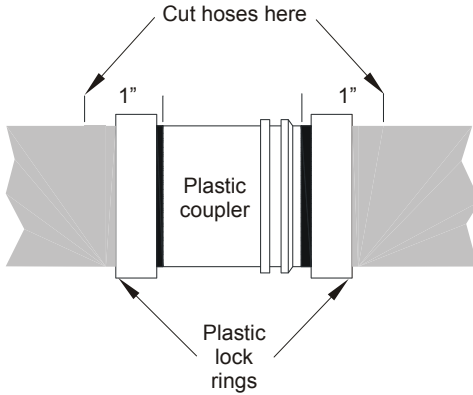


Figure 4.2

- If necessary to provide sufficient clearance, select a straight section of the hose facing downwards and cut the hose on the driver's side. Insert the supplied steel joiner tube to lengthen the hose and secure the two halves on the joiner with hose clamps.
- Fit the two cut ends to the cooler spigots; twist the hoses for good alignment and to remove any kinks. Secure with hose clamps.
- Locate the heater return hose between the brake master cylinder and the cooling system surge container with the pressure cap (Figure 4.3).
- Cut the hose just past the end of the protective covering, place clamps over the hose ends and insert the supplied plastic T-fitting.
- Connect one end of the supplied heater hose to the T-fitting and route the other end to the spigot on the oil cooler. Make sure that you avoid any contact with moving parts, drive belts or hot components. Secure the hose as necessary to prevent contact.

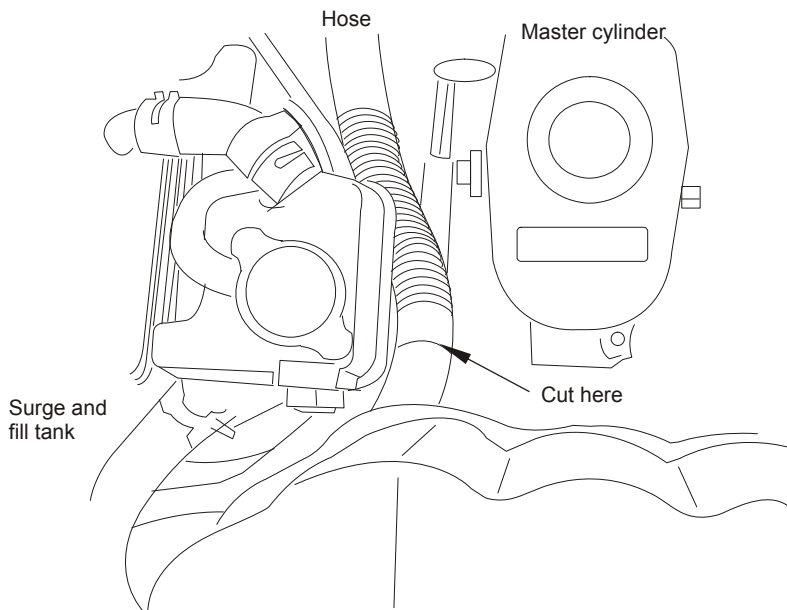


Figure 4.3

- Adjust the position of the T-fitting and tighten all the clamps.
- Fill the cooling system with the OEM approved coolant.

Oil Hoses

- Connect the 90 degree end of the 1/2 inch hose from the tank to the driver's side fitting on the cooler. Tighten the fittings at both ends of the hose.
- Connect the 90 degree end of the remaining 1/2 inch hose to the passenger side fitting on the cooler, but leave the fitting loose until the other end is connected to the compressor.

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4.2 Installing the Main Bracket and Compressor

- Remove and discard the OEM plastic support clip that shrouds the harness and holds it to the steel battery support. Route the harness under the steel battery support frame where it was previously held in place by the OEM plastic support clip, and under the air box support. Loom and/or tape wires where necessary.
- Loosen the clip securing the OEM plastic oil tube to the valve cover. Rotate the clip approximately 90 degrees counter-clockwise (Figure 4.4) so that the tube will clear the compressor. Tighten the clip in that position.

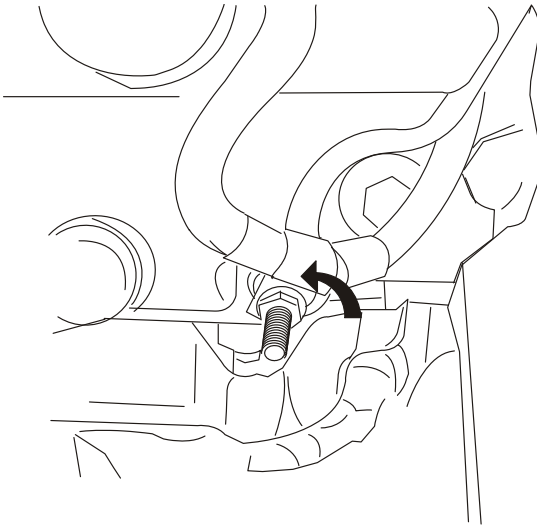


Figure 4.4

- Cut the long threaded end of the front valve cover stud flush with the nut.
- Place the alternator on the compressor bracket, align the mounting holes and thread the bolts into the bracket. Make sure the alternator seats correctly and there is no interference. Tighten the bolts to specifications.
- Install the alternator extender wires.

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- Unclip the OEM wiring harness where the bracket will fit and relocate it to prevent it from being pinched. Also remove all of the plastic harness clips from the frame under where the bracket will mount.
- Reroute the wiring harness to avoid contact with the compressor and secure it with nylon tie straps to keep them away from the compressor.
- Remove the pulleys and tensioner from the main bracket.
- Install the compressor bracket on the engine, thread in the OEM bolts and nuts and tighten them to specifications. Make sure that no wires, hoses or tubes are trapped behind the bracket.
- Remove air conditioning belt tensioner from the OEM bracket and mount it on the compressor bracket.
- Place the air conditioning belt back in position and remove the drill bit locking the tensioner.
- Install the OEM tensioner on the compressor bracket.
- Place the supplied spacer on the OEM idler and install it on the compressor bracket.
- Install the OEM accessory drive belt (Figure 4.5) and remove the locking pin from the tensioner.
- Install the insulating boot from the OEM alternator wire on the extension wire. Join the OEM wire and the extension wire with the supplied nut and bolt. Use the supplied length of shrink sleeve to seal the junction of the two wires.
- Remove the inlet valve from the compressor and immediately cover the opening to prevent debris from entering the compressor.
- Install the passenger side battery box.

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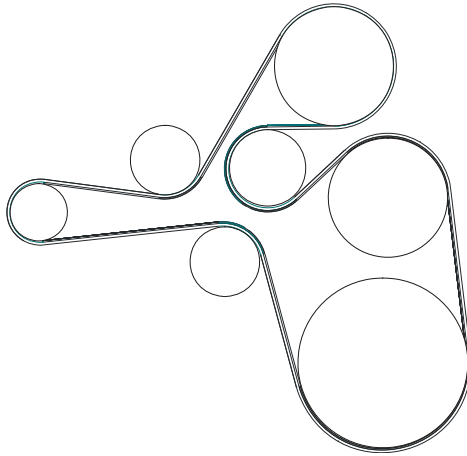


Figure 4.5

- Place the compressor on the main bracket; install and tighten the mounting bolts.



Make sure that the wire harness from the discharge temperature sensor is not trapped under the compressor and that the wire clip is located so that the wiring does not touch the discharge area.

Make sure that there is at least 1/2 inch clearance between the battery box and the compressor. Trim additional material as required.

- Connect the end of the hose from the passenger side fitting on the cooler to the 90 degree fitting on the side of the compressor. Tighten the fittings at both ends.
- Remove the covering and install the inlet valve.
- Insert the 1/4 and 3/16 inch tubes into the fittings on the back of the tank and install high temperature loom around tubes. Route the tubes through the frame up to the compressor and connect them to the matching fittings on the compressor inlet valve.
- Connect the large hose from the tank to the matching fitting on the back of the compressor. Route the hose outside of the air conditioning and outside of the chassis frame. Face the 45 degree elbow on the hose towards the passenger side fender.

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Make sure that no part of this hose is higher than the center of the compressor, as oil trapped in the line can flood the compressor and cause damage on startup.

4.4 Completing the Installation

- Drill a hole in the lower portion of the battery box at the cut out section. Cut the outer rib away to provide clearance and secure the air conditioning hose using the supplied rubber covered clip.
- Route all of the battery cables on the passenger side behind the air box mount to the rear of the battery box. Make sure that the wires do not touch the compressor or become pinched when the engine rocks.
- Install the passenger side battery. Pull all battery cables up and connect them to the battery cable with the webbing cover.
- Make sure that all wiring is routed clear and secured so that they are not near the compressor, moving parts or hot components.
- Install the air cleaner and ducting.
- Insert the plastic tube with the attached pressure transducer into the push-fit 90 degree connector on the pressure control side of the inlet valve.
- Mount the pressure transducer to the inner fender using a p-clamp (Figure 4.6). Position the clamp and the transducer to clear the hood gas strut when the hood is closed.
- Connect all other wiring.
- Modify the fan stator by cutting out a section (Figure 4.7) and enlarging the hole at the top so that the connector will fit through the opening.
- Install the fan stator by inserting the driver side lower stator mount first and lower and rotating the stator to clear all components.

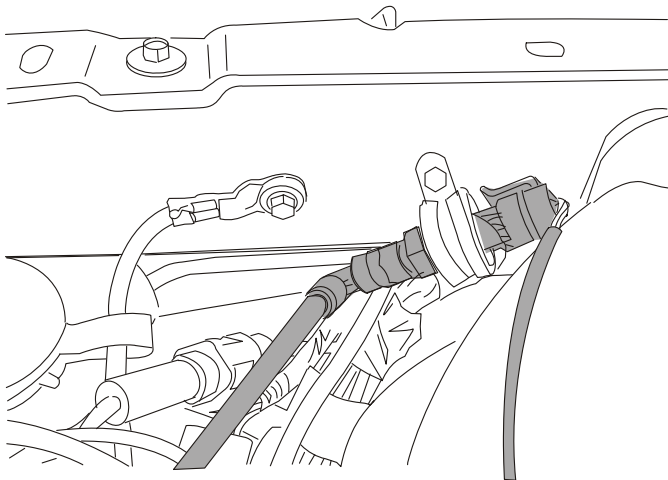


Figure 4.6

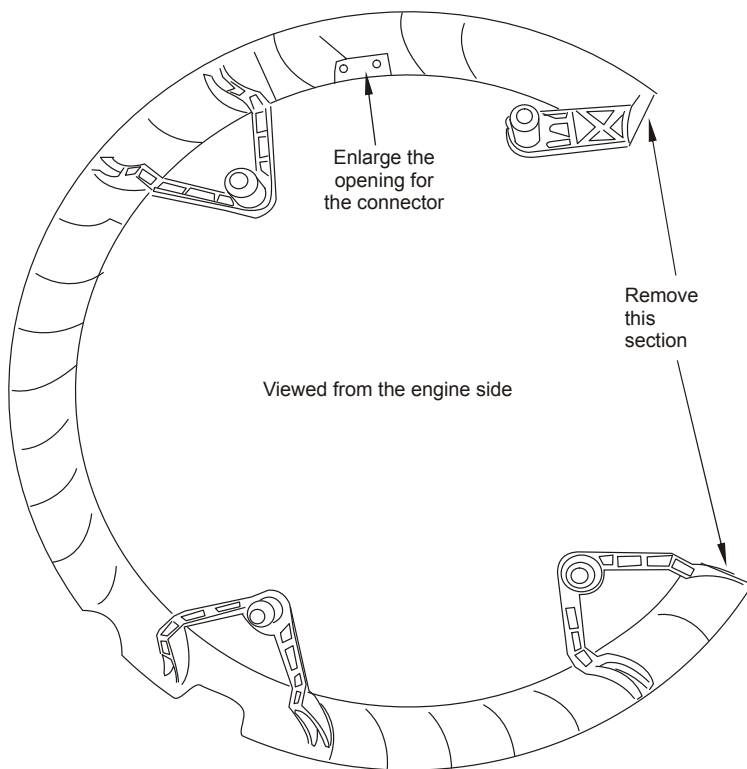


Figure 4.7

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- Install the VR tensioner and pulleys.
- Clean the face of the OEM pulley, install the VR pulley, align the bolt holes and ensure that the pulley is sitting flush.
- Apply Loctite, install three M10 x 130mm bolts and flat washers and torque to specification.
- Install the VR compressor belt (Figure 4.8).

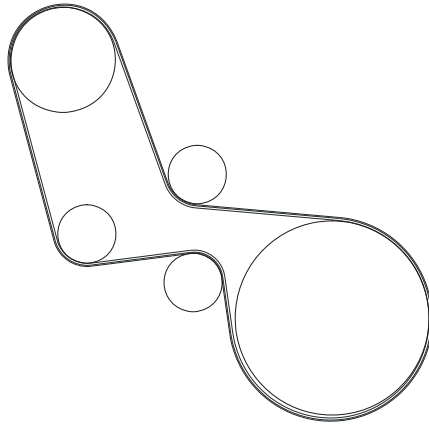


Figure 4.8

- Install the fan spacer.
- Pull the radiator assembly forward, slip the fan between the radiator and stator and install it onto the fan spacer.
- Insert the fan wiring connector into the replacement support bracket.
- Feed the other end of the connector from the engine wiring harness through the enlarged hole in the stator and snap the two connectors together.
- Slide the support bracket onto the stator so that the two long tabs with the drilled holes are on top and push it into place until the ends of the tabs contact the lip on the stator (Figure 4.9).

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- Drill two holes in the stator using the holes in the support bracket as guides and fasten the bracket in place with the supplied screws. Install the upper fan shroud.



Make sure that there is clearance between the plastic fan wire molding and the radiator to prevent rubbing damage.

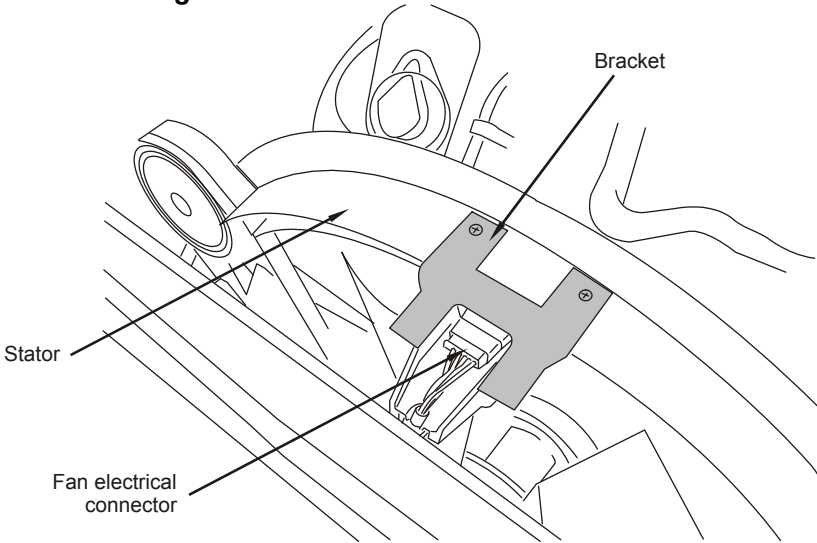


Figure 4.9

- Modify the upper fan shroud to provide clearance for the compressor clutch (Figure 4.10).
- Install the upper fan shroud. Check the clearance between fan blade and harness to ensure there is a minimum of 1-1/8 inches.
- Install the OEM rubber connectors on the replacement intercooler tube. Lift the passenger side of the radiator cross beam and insert the intercooler tube, install the clamps, connect it to the matching fittings and tighten the clamps. Install the rubber sections first, with the straight section on top and the ribbed section on the bottom.
- Install and tighten all the retaining bolts in the upper radiator cross beam.

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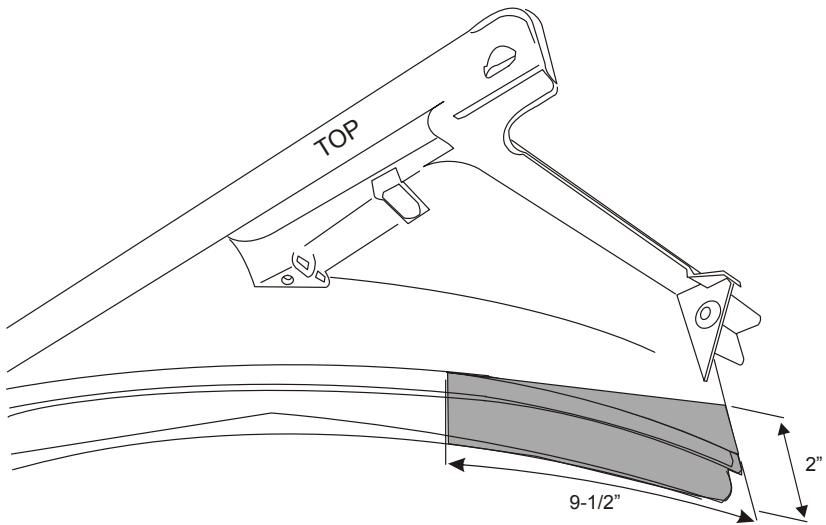


Figure 4.10

- Connect the hoses to the vacuum relay on the fan shroud.
- Attach the power steering reservoir onto the fan shroud.

4.5 Adding Oil to the System



You must use the VMAC supplied and approved compressor oil in this system. Failure to use this special oil will result in damage to the compressor and will void your warranty.

- Remove the fill plug from the air inlet control valve and pour oil into the oil fill hole on the inlet control valve using a funnel.
- Turn the compressor clutch clockwise with a ratchet and a 1/2 inch socket using the hex head bolt at the centre of the compressor clutch during the fill process.
- Allow 5 minutes for the oil to drain into the tank, then check the level at the sight glass at the front of the tank. Continue adding oil until the level is correct.
- Install the fill plug in the inlet control valve and tighten it securely.

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Do not overfill the system. Overfilling the system with oil can flood the sight glass window and make the system appear empty.

4.6 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 truck. Make sure no wiring or other components touch the compressor or the discharge hose. Secure all wiring with nylon ties and loom as required. Tie the air conditioning lines that are behind the compressor to any solid object so that they will not touch the compressor or the discharge hose.
- Install and connect the batteries.

4.6.1 Confirmation Test

- Place the automatic transmission in PARK or manual transmission in neutral and apply the park brake. Turn the ignition key “ON” but do not start the engine.
- Check the control box to see if there is a number showing in the LCD display. If there is no display, there is no power to the control box.
- Press the “ON” button on the control box. The green light should illuminate and you should hear the compressor clutch engage.
- Release the park brake. The green light should flash and “PARK BRAKE” will be displayed on the control box. The compressor clutch should disengage.
- Apply the park brake and after a 20 second pause, press the “ON” button. The green light should illuminate and you should hear the compressor clutch engage.
- Press the “OFF” button and turn the ignition off.



If the truck fails the test, check the wiring to make sure that all the connections are correct and secure. If you require additional assistance, contact your local VMAC dealer. Call 1-800-738-8622 or 250-740-3200.

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Part 5: Finishing the Installation

5.1 Before Starting the Engine Checklist

Make sure that the following have been completed:

- Check the coolant.
- Check the compressor oil level.
- Do a final inspection to make sure that everything has been completed and tightened.
- Perform a final belt alignment check.
- Check all wiring for security and protection.

5.2 After Starting the Engine Checklist



Place the vehicle in a safe operating position and block the wheels. Ensure that there are no people around the vehicle before beginning the test.

- With the automatic transmission in Park and the park brake applied, start the engine and allow it to reach operating temperature.
- Push the control box "ON" button. Engine speed will increase to 1800-2200 rpm and then reduce to 1050-1100 rpm.
- With the wheels blocked and brake pedal firmly depressed release the park brake. The compressor clutch will disengage and engine speed will return to base idle. The green light on the control box will be flashing and "Park Brake" will be displayed.
- Apply the park brake, wait 20 seconds and press the ON button. Engine speed will increase to 2200 rpm and then reduce to 1050-1100 rpm.

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5.2.1 Automatic Transmission

- Place your foot firmly on the brake pedal, shift the automatic transmission out of Park and into Reverse. Engine speed will return to base idle (about 650 RPM) and the control box green light will stay on. Repeat this test in all gear selector positions to make sure that the engine does not idle up unless the selector is in Park.
- Operate the system with an air tool or with the test tool for at least 1/2 hour (1 hour preferred).
- Road test the vehicle for approximately 14 miles (20 km).
- Check the underhood operation to make sure that belts rotate properly and nothing is rubbing or contacting hot parts.
- Check all components once the engine is turned off and the system has cooled.
- Check the vehicle coolant after the vehicle reaches operating temperature.
- Check the compressor oil level after the vehicle has been shut down and the oil level has had time to stabilize.

5.3 Setup, Performance Testing and Adjustments

This system has been adjusted at the factory for general operation. If your tests indicate that adjustment is necessary, refer to the owner's manual for specific instructions on how to adjust the system.

You can test the system operation using the tools that will be operated by the system or you can test operations using an orifice in the outlet to simulate tool use (Figure 5.1).

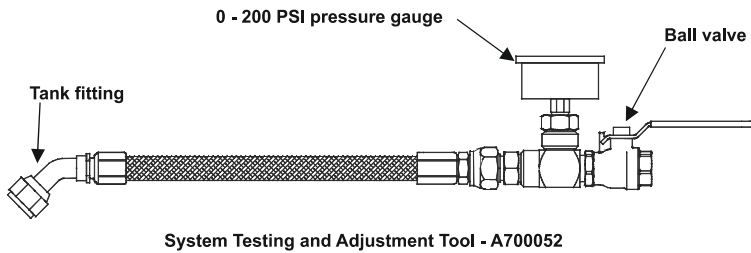


Figure 5.1

1. Install the test tool in the tank outlet fitting.
2. Make sure that the ball valve is closed.
3. Place the manual transmission in neutral or the automatic transmission in park and fully apply the park brake.
4. Allow the vehicle to run until the engine is at operating temperature.
5. Operate the air compressor system until the oil is warm.
6. Observe the pressure gauge. Pressure should be approximately 150 psi.
7. Open the ball valve on the test tool and observe the engine tachometer. Engine speed should increase to about 1,800 to 2,200 RPM.
8. Close the air valve slowly to allow the system pressure to rise.
9. Once the system pressure is at maximum, slowly open the ball valve on the test tool until the pressure on the gauge begins to drop. Engine speed should start to ramp-up when air pressure drops to approximately 140 PSI.

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5.4 System Identification and Warnings

The System Identification Number Plate must be attached to the vehicle at the time of installation (Figure 5.2). This plate provides information which allows VMAC to assist in customer inquiries and the ordering of parts. Mark and drill two 7/64 inch holes, then secure the plate with self-tapping screws.

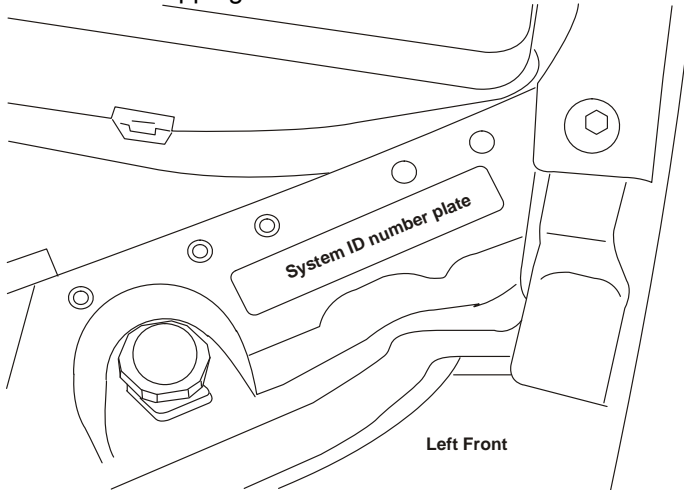



Figure 5.2

As part of the installation process, ensure that the safety and operational instruction decal is affixed in an obvious location so that it can be seen by vehicle operators (Figure 5.3).



VMAC
VEHICLE MOUNTED AIR COMPRESSORS

This Vehicle is Equipped with a VMAC Air Compressor System

OPERATING INSTRUCTIONS

<p>Daily Pre-Start Check</p> <ol style="list-style-type: none">1. Check Oil Level in Tank2. Check Drive Belt3. Check for Leaks	<p>Start Up Procedure</p> <ol style="list-style-type: none">1. Ensure Compressor is OFF2. Ensure discharge valve is CLOSED3. Ensure air system is discharged4. Place vehicle in Neutral or Park and engage vehicle safety features - park brake5. Start engine and bring up to operating temperature6. Turn ON compressor	<p>Shutdown Procedure</p> <ol style="list-style-type: none">1. Allow engine to idle for 1 minute2. Turn OFF compressor3. Wait for system to discharge for 1 minute before restarting
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For Technical Support/Parts contact your VMAC Dealer
To locate your nearest dealer call 1-800-738-8622 (250-740-3200)


 **WARNING**
Always allow system pressure to discharge before restarting

Figure 5.3

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5.5 Auxiliary Air Receiver



If you intend to use an auxiliary air receiver with this system you must observe the following installation procedure to prevent damage to the system.

The line from the VMAC tank to the auxiliary air receiver must have a one-way check valve installed (part #3600078) to prevent blow back from the auxiliary tank to stop moisture from entering the VMAC tank (Figure 5.4).

The line to the auxiliary tank must not be installed in the bottom of the tank, but must be installed as high as possible to prevent water from entering the line.

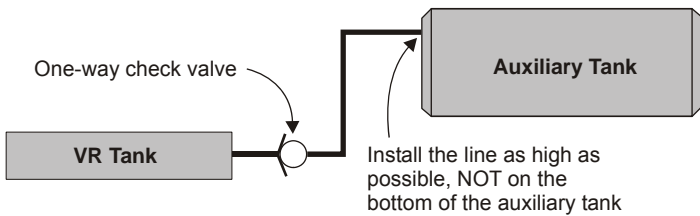
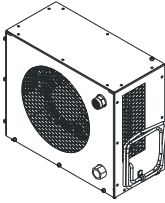


Figure 5.4

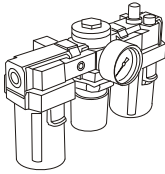
Accessory Products from VMAC

The following accessory products for your VR compressor system are available from VMAC. For more information or to order these products, call 1-800-738-8622.



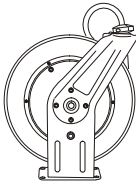
Eliminator Aftercooler Part Number A800070

Removes up to 80% of moisture from compressed air. Quick installation, automatic drain and compact design



Filter Regulator Lubricator Part Number A700151

Removes lubricants, water and dirt from the air stream. Adds atomized tool oil to lubricate tools. Reduces pressure for longer tool life.



Hose Reel Part Number A700007

Secure, compact, retractable hose storage in a sturdy reel.



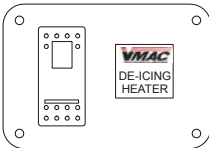
Air Receiver Tank Part Number A300010

Thirty-five gallon capacity in a compact tank, complete with fittings and a gauge.



De-icer Kit Part Number A700031

Insulated rope heater prevents freezing of lines and regulator.



Service Kits

VR140 200 hour Part Number A700059

VR140 400 hour Part Number A700060

VR70 200 hour Part Number A700019

VR70 400 hour Part Number A700020



Using OEM service products will extend the life of your system. Includes oil, filters, seals and O-rings. 200 hour and 400 hour service interval kits are available

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