

# Owner's Manual

## VMAC PREDATAIR

### Hydraulic Compressor

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Owner's Manual VMAC PREDATAIR Hydraulic Compressor

## Changes and Revisions

Version	Revision Details	Revised	Approved	Implemented
0	Original manual	IB 14 Sept 2007	SM 03 Dec 2007	07 Dec 2007

## Important Information

The information in this manual is intended for installers who have knowledge and experience in hydraulic system installation 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. If you have difficulty with the installation, contact VMAC.

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

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.

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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# General Information

## Safety Precautions

Observe the following general safety rules:

- pay attention to operations; do not leave the equipment unattended
- follow safe work practices and wear the appropriate safety equipment when operating air-powered equipment, particularly eye and hearing protection
- avoid all contact with pressurized air, because if it penetrates your skin it can enter your bloodstream and kill you
- to prevent compressor explosion or fire, make sure that the air entering the compressor is free of flammable vapors
- vaporized oil propelled by high-pressure air is an explosive mixture
- do not breathe the compressor air, vaporized oil is a respiratory hazard
- stay clear of all moving parts

Observe these rules when operating the compressor:

- do not bypass or disable the oil temperature sensors
- do not expose the tank or compressor to extreme heat
- do not perform any service until the system has been completely blown-down and you have verified that all air has been discharged
- do not repair or service a pressurized system
- maintenance and repair on system components should only be performed by qualified personnel
- the vehicle must be in park (for automatic transmissions) or neutral (for manual transmissions) with the park brake or air spring brake fully applied before starting the compressor and at all times during compressor operation
- use a regulator in the output line to precisely control the final air delivery pressure
- do not operate the compressor while driving
- do not tamper with the pressure relief valve
- do not attempt to repair or modify any component

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# Installation Instructions

Detailed information is provided in a separate publication, *Installation Manual PREDATAIR Hydraulic Compressor*, which provides specific information for each different application.


This information includes recommendations and other important information for correct installation. The information in the installation manual is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. Installation should not be performed by persons without the appropriate skills.



**Do not attempt to install the PREDATAIR without the appropriate installation manual.**

As part of the installation process, ensure that the Operation Instruction Card is affixed near the PREDATAIR in an obvious location so that users can easily see it and refer to the procedures.

**Air Compressor  
Operator Instructions**  
For detailed information see the Owner's Manual



**General Operating Procedure**

1. If the unit is installed inside an enclosure, open the door or cover completely and secure it in the open position to provide proper ventilation.
2. Check the oil level in the sight glass.
3. Open the hydraulic shut-off valve (if equipped) and engage the hydraulic system.
4. Switch on electrical power to the PREDATAIR. Make sure that the LCD displays "System Ready"
5. Start the PREDATAIR by pressing the "ON" button.
6. When air operations are complete, stop the PREDATAIR by pressing the "OFF" button. Residual air pressure will blow-down automatically.
7. Disengage the hydraulic system and close the hydraulic shut-off valve (if equipped).

**Cold Weather Operation**  
The compressor will not start if the hydraulic oil temperature is lower than 5°F (-15°C). Observe the following precautions:

- below 41°F (5°C): cover the PREDATAIR during transit (if exposed) and pre-heat it by circulating hydraulic oil through the system
- below 5°F (-15°C): install a cold climate kit (A700148)
- do not allow ice or snow to build up around the air filter and inlet control valve

**Hot Weather Operation**  
Thermal protection will prevent operation if the temperature is too high:

- above 100°F (37°C): reduce the compressor duty cycle

**Hydraulic Oil**  
Use hydraulic oil that is correctly rated for the operational temperature range of the equipment for your environment.

*Refer to the Owner's Manual for detailed instructions on servicing, repairs, parts replacement and accessories for extreme use applications.*

*For technical support and to order service kits or parts, call VMAC at the numbers shown below.*

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## Specifications and Components

This is a flooded-lobe, rotary screw compressor (filled with VMAC certified and approved synthetic oil) driven by a hydraulic motor. Compression occurs when inlet air (at normal atmospheric pressure) enters a chamber where it is trapped between the rotating rotor lobes. A lubricated pitch line provides sealing. As the lobes mesh, they reduce the volume of the air, compressing it to the desired pressure.

The system has a two-stage air/oil separator. The first separation stage consists of baffles, which perform mechanical separation. The second stage uses a coalescing element, which delivers dry air to the outlet.

Pressure regulation is achieved with a mechanical inlet control valve and an adjustable pressure regulator.

The compressor is protected by a paper-type replaceable air filter and a spin-on type oil filter. Oil is removed from the delivered service air by a coalescing separator element.

Safety features include:

- 2,800 psi hydraulic pressure relief valve
- 200 PSI relief valve in oil/air tank
- blow-down valve to discharge system pressure on shutdown
- temperature safety sensors in the compressor, hydraulic oil discharge from the cooler and hydraulic oil return at the manifold



***Do not disable or bypass the over-temperature shutdown circuit. Failure of the shutdown system could result in equipment damage, injury or death.***

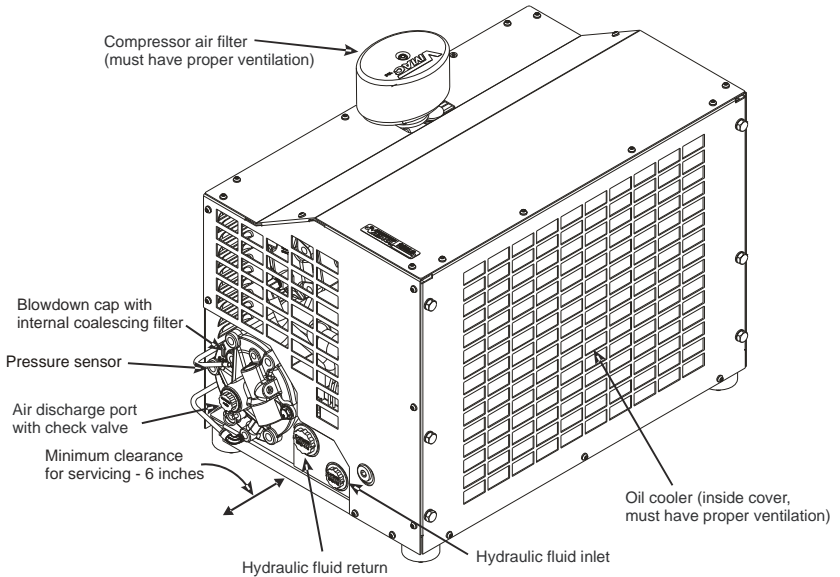
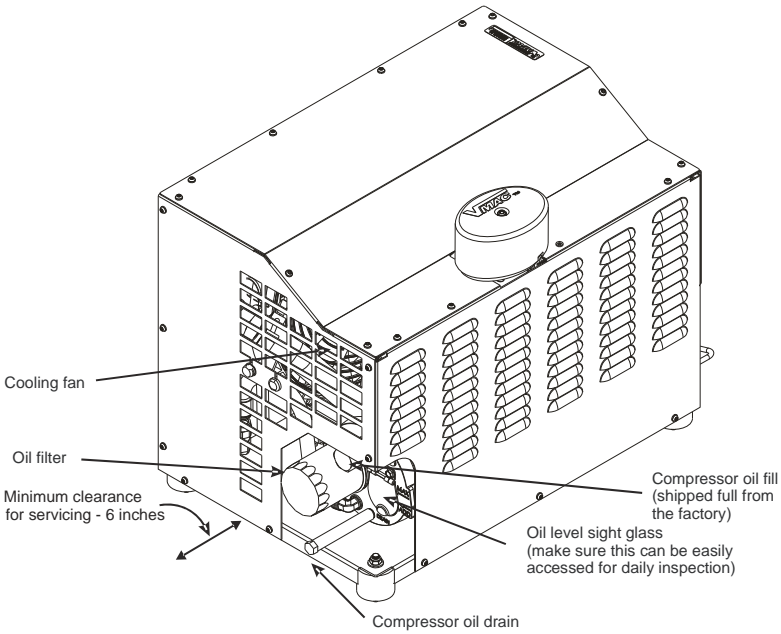
A liquid-to-air cooler maintains operating temperatures in an optimal performance range which increases system durability and reduces the temperature of the compressed air. Ventilation is critical for proper operation. See the *Installation Manual PREDATAIR Hydraulic Compressor* for details.

The system pressure is factory-set at 150 psi. Pressure can be adjusted between 100 and 150 psi by using the display box. To reduce the operating pressure, use a Filter Regulator Lubricator (FRL).

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# Operating the PREDATAIR

## Startup

1. If installed inside a cabinet or enclosure, open the door or cover completely and secure in the open position to provide proper ventilation. Refer to the installation manual for instructions on installing a wiring interlock to prevent operation when the door or cover is closed.
2. Open the hydraulic shut-off valve (if equipped).
3. Check the compressor oil level at the sight glass in the tank and the hydraulic oil level in the hydraulic system tank.
4. Turn on power to the PREDATAIR.
5. Engage the hydraulic system.
6. Start the PREDATAIR with the "ON" switch on the display box.
7. Watch the display for system status information.
8. If a cold climate kit (A700146) is installed, it will automatically activate in cold weather.

## What to Expect at Startup

1. The green light on the display box will illuminate.
2. If the temperature is below -13°F (-25°C) the green light will slowly blink and the display will read "HYD TOO COLD". The hydraulic oil must be preheated before the cold climate kit will activate.

If the temperature is between -13°F (-25°C) and 5°F (-15°C) the green light will slowly blink and the display will read "WARMING XXXF/XXXC".

- if a cold climate kit is installed it will energize to speed warm-up of the hydraulic oil
- if the system has been wired for two-speed operation, the engine will idle up after one minute to speed warm-up of the hydraulic oil

Once the temperature of the hydraulic oil is above 5°F (-15°C), the cold climate kit will turn off and the idle will drop and startup will proceed normally. The display will indicate this with "SOFT START XXC".

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3. The compressor will activate and build air pressure to approximately 40 psi until the compressor has reached operating temperature.
4. When the compressor reaches operating temperature it will “load up” and build air pressure to full system pressure. If the system has been wired for two-speed operation, the engine will speed up to build air pressure faster. If the hydraulic oil has not reached 32°F (0°C), air pressure will only build to 110 psi to reduce the load on the hydraulic system. The compressor can still be used during this stage of operation.
5. Once the system reaches full pressure, the compressor will unload and, if the engine speed had increased, it will drop to base speed to unload the hydraulic system. You may hear a hiss as air pressure is reduced to approximately 40 psi. If air pressure does not drop below the restart point after one minute, the hydraulic motor will turn off and the display will read “STANDBY XXX PSI”. This delay time is adjustable.
6. When air is used and the pressure drops, the sequence of load up and unload will repeat, along with truck engine speed if the system is wired for two speed operation. The system may restart occasionally even without air use to maintain correct compressor operating temperatures.



***A small reservoir is recommended to reduce cycling between the load and unload modes.***

## **Shut-down**

1. When operations are complete, stop the PREDATAIR with the “OFF” button. Residual pressure in the compressor will blow-down automatically.
2. Disengage the hydraulic system.
3. Close the hydraulic shut-off valve (if equipped).
4. Turn off the power supply to the PREDATAIR.



## Cold Weather Operation

The compressor will not start if the hydraulic oil temperature is lower than 5°F (-15°C). Refer to the installation manual for more detailed information. Observe the following precautions:

- if temperatures are below 41°F (5°C), cover the PREDATAIR during transit (if exposed) and pre-heat by circulating hydraulic oil through the system before starting the compressor
- if temperatures are below 5°F (-15°C), install a cold climate kit (A700146) and circulate the hydraulic oil through the system
- do not allow ice or snow to build up around the air filter and inlet control valve

## Hot Weather Operation

Thermal protection will prevent operation if the temperature is too high:

- If temperatures are above 100°F (37°C), reduce the compressor duty cycle.
- Provide additional hydraulic oil cooling.
- Provide proper ventilation if the compressor is inside a cabinet or enclosure. Cool air results in better performance and higher CFM.

## Hydraulic Oil

Use hydraulic oil that is correctly rated for the operational temperature range of the equipment.

## Automatic Shutdown

If the compressor or hydraulic oil gets too hot, the over-temperature circuit will disengage the hydraulic system, preventing operation. The red indicator light will illuminate and the display box will show a message identifying the problem.

If this problem persists, refer to the troubleshooting section in this manual.

1. Turn the compressor switch to the “OFF” position.

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2. Allow a few minutes for the air system to vent pressure and for the oil to drain back to the tank, then check the oil level through the sight-glass on the compressor tank. Oil level must be checked with the vehicle in a level position, not on a slope. If the oil level is low, add compressor oil until the correct level is reached.
3. Check the hydraulic oil to ensure that it is not low; add hydraulic oil until the correct level is reached.

## **Display Box Messages**

### **System Check**

The display will show:

VMAC, SYSTEM CHECK

Both red and green lights will flash.

The display will show:

SYSTEM READY

The system will go to the Ready State.

### **Ready State**

The display will scroll through the following messages:

VMAC

1 250 740 3200

HRS:XXXX:XX

If the system is due for a 500 hr service, it will display:

HRS:XXXX:XX 500S

Additional possible messages:

WARM HYD OIL

If the hydraulic oil temperature is below +5°F(-15°C).

CHECK AIR FILTER

Every 100 hrs the system will remind the operator.

## **Initial Startup**

During initial startup, the display may show the following:

### **SOFT START XXXC**

The system has started, but the compressor oil temperature is still cool. The system is in “Unload” Mode, until the compressor has come up to temperature.

### **HYD TOO COLD**

The hydraulic oil is below -13°F (-25°C), and the system is cautioning the operator to preheat the hydraulic oil. The PREDATAIR will not start.

### **WARMING XXXF/XXXC**

The hydraulic oil is between -13°F(-25°C) and +5°F(-15°C), and if installed, the cold climate kit (A700146) has been turned on to help warm the hydraulic oil. The PREDATAIR won't start until the hydraulic oil has warmed to +5°F(-15°C).

## **Normal Operation**

The following data can be reviewed by pressing the ON button repeatedly:

XXXPSI/XXXKPA  
COMP XXXF/XXXC  
HYD XXXF/YYYYC  
HRS:XXXX:XX

The following message will be displayed if the system was running, and the air pressure stayed above the restart pressure for the duration of the standby delay time:

### **STANDBY XXXPSI**

The hydraulic solenoid is off, and the system is monitoring air pressure and compressor and hydraulic oil temperatures. If the air pressure drops below the restart pressure, or the compressor oil temperature drops below its minimum, it will restart and rebuild air.

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## **Error Messages**

Refer to the Troubleshooting section for problem resolution details.

**OVER TEMP. COMP**  
Compressor is too hot.

**OVER TEMP. HYD**  
Hydraulic oil is too hot.

**COMP. PROBE SHORT**  
Compressor temperature probe has failed in a shorted condition.

**COMP PROBE OPEN**  
Compressor temperature probe has failed in an open condition.

**HYD. PROBE SHORT**  
Hydraulic temperature probe has failed in a shorted condition.

**HYD. PROBE OPEN**  
Hydraulic temperature probe has failed in an open condition.

**BATTERY LOW**  
The control box has sensed a low supply voltage.

**PRESSURE SENSOR?**  
The pressure sensor has failed or is disconnected.

**CONNECTION ERR**  
There is a connection problem between the control box in the PREDATAIR and the display box.

# System Adjustments

## Entering DIAGNOSTICS mode

Turn the system off, push and hold OFF button for 5 sec. The display will show DIAGNOSTICS, release the OFF button.

The system will slowly scroll through menu headings.

## Entering a Heading

When the heading that you want is displayed, press and hold the ON button. When it enters that selection, release the ON button.

## Scrolling

While in a heading, you can scroll through data and variables by using the ON and OFF buttons just like up and down arrows on a keyboard.

## Exiting a heading

Once changes have been made, press and hold both ON and OFF buttons at the same time, and the system will return to the DIAGNOSTICS main menu.

## Exiting DIAGNOSTICS mode

While DIAGNOSTICS is displayed, press and hold both ON and OFF buttons at the same time.

# Menu Headings

## DIAGNOSTICS

Used to return to normal operation.

Press and hold both the ON and OFF buttons at the same time to exit Diagnostics mode and return to normal operation.

## ERROR LOG

Record of the last ten system errors.

This information can be recorded on the VMAC troubleshooting form and faxed to VMAC to assist in troubleshooting issues. Scroll through each error with the ON and OFF buttons.

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## SERVICE LOG

Clears service messages, and records the last ten system service times.

If the display has been showing a reminder for the 500 hour service, once the service has been completed, you can enter this section and clear the message. This also records the system hours when the service was completed. The display will show:

500HR CLEAR?

Push and hold the ON button for 5 seconds, it will be cleared. Scroll through each recorded service with the ON and OFF buttons.

## AIR TEMP. SENSOR

Allows temporary over-ride of the compressor temperature sensor.



***This is only intended for use in an emergency to complete a job when servicing the unit is not immediately possible. Running without a temperature sensor may result in failure of the unit and/or damage to the hydraulic system, and is not recommended.***

To temporarily disable the temperature sensor, press and hold the ON button for 2 seconds. The display will show:

NO AIR TEMP. PROBE?

Press and hold the ON button for 5 seconds. The display will show:

TEMP. PROBE DIS

The air temperature sensor has been disabled.

If you press and hold the OFF button for 5 seconds, the display will show:

TEMP. PROBE EN

The air temperature sensor has been enabled.

## HYD TEMP. SENSOR

Allows temporary over-ride of the hydraulic temperature probe.



***This is only intended to be used in an emergency to complete a job when servicing the unit is not immediately possible. Running without a temperature sensor may result in failure of the unit and/or damage to the hydraulic system, and is not recommended.***

To temporarily disable the temperature sensor, press and hold the ON button for 2 seconds. The display will show:

NO AIR TEMP. PROBE?

Press and hold the ON button for 5 seconds. The display will show:

TEMP. PROBE DIS

The air temperature sensor has been disabled.

If you press and hold the OFF button for 5 seconds, the display will show:

TEMP. PROBE EN

The air temperature sensor has been enabled.

## SYSTEM PRESSURE

Allows adjustment of the maximum system pressure.

Range: 110 to 150 psi

Factory setting: 150 psi

Press and hold the ON button for 2 seconds. The display will show:

ADJ OFF PRES XXX

The XXX is the current pressure setting in psi. Scroll through the range of settings. When the desired setting is displayed, exit normally and the change will be made.

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## **RESTART PRESSURE**

Allows adjustment of the system restart pressure.

Range: 80 to 120 PSI (limited to 30psi or more below the UNLOAD PRESSURE). Factory Setting: 120 psi

Press and hold the ON button for 2 seconds. The display will show:

ADJ ON PRES XXX

The XXX is the current pressure setting in psi. Scroll through the range of settings. When the desired setting is displayed, exit normally, and the change will be made.

## **DELAY TO STANDBY**

Allows adjustment of the time delay before the system goes to STANDBY mode and turns off the compressor.

Range: 30sec, 45sec, 1, 2, 5, 10, 15, 30 min and Never.  
Factory Setting: 1 min.

Scroll through the range of settings using the ON and OFF buttons. When the desired setting is displayed, exit normally, and the change will be made.

## **COLD START LOG**

A record of the last ten cold-start temperatures below 32F(0 C).

This information can be recorded on the VMAC troubleshooting form and faxed to VMAC to assist in troubleshooting issues.

Scroll through each logged cold-start temperature using the ON and OFF buttons.



# Troubleshooting

## System OFF, Power ON

Message/Problem	Possible Cause	Corrective Action
WARM HYD OIL	The hydraulic oil temperature is below +5F(-15°C).	Pre-heat the hydraulic oil before running the system.

## ON button pressed/Initial startup

Message/Problem	Possible Cause	Corrective Action
SOFT START XXXPSI	The system has started, but the compressor oil temperature is still cool.	The system is in "Unload" Mode, until the compressor has come up to temperature +90F(32C).
HYD TOO COLD	The hydraulic oil is below -13F (-25C).	The system is cautioning the operator to preheat the hydraulic oil before starting the PTO system. The Cold Climate Kit (A700146) can be installed to speed warm-up once the hydraulic oil temperature has reached -13F(-25C).
<b>WARMING XXXF/XXXC</b>	The hydraulic oil is between -13F(-25C) and +5F(-15C).	Keep circulating hydraulic fluid until the system warms sufficiently to start. If installed, the Cold Climate Kit (A700146) will speed warm-up. The Predatair won't start until the hydraulic oil has warmed to +5F(-15C).
PREDATAIR does not start when the ON button is pressed.	Inappropriate conditions for start-up.	Check display box for messages.
	Hydraulic solenoid failure.	Check solenoid and connections.
	Hydraulic motor or compressor seized.	Check motor and compressor will roll-over.

## Running

Message/Problem	Possible Cause	Corrective Action
STANDBY XXXPSI	The air pressure stayed above the restart pressure for the duration of the standby delay time.	The hydraulic solenoid is off, and the system is monitoring air pressure and compressor and hydraulic oil temperatures. If the air pressure drops below the restart pressure, or the compressor oil temperature drops below its minimum, it will restart and rebuild air.
Air pressure won't build past approx. 40psi.	The system is in SOFT START.	Wait for the compressor to warm up.
	Unload solenoid on inlet valve has failed or problem with wiring connections	Check solenoid and wiring.
	Pressure sensor has failed or problem with wiring connections	Check pressure sensor and wiring.

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Low system air pressure.	Air reservoir drain open.	Close valve.
	Air leak.	Check all fittings. Check air lines for wear/damage.
	System demands exceed compressor delivery.	Reduce air demand. Check for correct amount of hydraulic flow for the desired CFM.
	Blowdown system stuck.	Check for air venting from blowdown cap while running.
Compressor stalling/not building air.	Hydraulic relief valve lifting.	Check hydraulic pressure while running. Check for other relief valves in system set too low. Minimum setting 2800psi.
	Hydraulic flow too low.	Check for correct amount of hydraulic flow for the desired CFM. Ensure that engine rpm is being maintained when load is applied.
	UNLOAD solenoid failure.	Check solenoid and wiring.

## General

Message/Problem	Possible Cause	Corrective Action
CHECK AIR FILTER	Every 100 hrs, the system reminds the operator to check the air filter.	Check air filter and replace as needed. Message will stop automatically after 6 hrs of operation.
HRS:XXXX:XX 500S	Every 500 hrs, the system reminds the operator to service the compressor.	Perform service as per Owners manual using VMAC service kit. Once complete, enter the Diagnostics Mode and clear the service reminder. Refer to the appropriate section in the Owners manual.
	Every second 500 hrs, service change the coalescing filter.	
OVER TEMP COMP - Compressor is getting too hot and is shutting down.	Low compressor oil.	Check oil level and fill as required.
	Oil flow restricted.	Check oil filter for blockage. Remove hoses and check for blockage. Check cooler for blockage.
	Fan not operating.	Check connections. Check fan and relay.
	Insufficient air-flow or ventilation.	Make sure the cooler and air filter are not blocked. Open door if installed in a cabinet. Improve ventilation. Move the PREDATAIR out of the cabinet.
	Failed temperature probe or bad wiring connection.	Check the temperature probe and wiring connections.
OVER TEMP HYD - Hydraulic oil is getting too hot and the compressor is shutting down.	Insufficient air-flow or ventilation.	Make sure the cooler is not blocked. Open door if installed in a cabinet. Improve ventilation.
	Fan not operating.	Check connections. Check fan and relay.

	Failed temperature probe or bad wiring connections.	Check the temperature probe and wiring connections in the hydraulic manifold.
HYD PROBE OPEN HYD PROBE SHORT	Failed hydraulic temperature probe or bad wiring connection.	Check the temperature probe and wiring connections in the hydraulic manifold.
COMP PROBE OPEN COMP PROBE SHORT	Failed compressor temperature probe or bad wiring connection.	Check the temperature probe and wiring connections.
PRESSURE SENSOR?	Failed pressure sensor or bad wiring connection.	Check the pressure sensor and wiring connections.
CONNECTION ERR	Failed control box, display box, or bad wiring connection.	Check control and display boxes for damage, and wiring connections.
BATTERY LOW  or;  System runs then shuts down, and display resets, but doesn't restart.	Wires connecting to battery positive and ground too small.  Low battery voltage.	Check wire size requirements in the installation manual and install the correct gauge wires.  Check wiring connections. Measure voltage at the input to the PREDATAIR when it is running with the fan on to ensure full voltage. Check charging system.
High oil consumption	Compressor, hose, fitting, or cooler oil leak.	Check system for leaks.
	Compressor shaft seal leaking.	Pull off hydraulic motor and check for oil inside coupling.
Excessive oil in air line	Excessive oil level.	Check oil level and adjust as needed.
	Coalescer filter plugged.	Check and replace as needed.
	Scavenge line plugged.	Check scavenge line and fittings.
Water in air system	FRL (Filter/Regulator/Lubricator) failure.	Check drain on filter.
	Air reservoir not drained regularly	Drain reservoir.
	Excessive water in compressor oil.	Allow system to completely cool, and drain water from tank until oil comes out. Top up oil as per manual.
Air pressure relief valve opens.	Compressor system pressure exceeding 200psi.	Check pressure sensor.
	Air pressure relief valve failure.	Check valve.
	UNLOAD solenoid failed in ON state.	Check solenoid and wiring.

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# Maintaining the PREDATAIR



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

The rotary screw compressor is designed and machined to exacting tolerances. Foreign particles entering the system will drastically damage or shorten the life expectancy of the compressor and will result in damage to bearings, gears, rotors and the inside of the housing.

The system filters enhance performance and extend component life by reducing damage from dust and other debris. Check the air filter frequently to ensure that it is not restricted or damaged. Proper filter maintenance is the key to long compressor life.

Regular, scheduled maintenance is required. This includes:

- inspecting the air cleaner and maintaining the oil level
- 500 hours or 6 months service
- more frequent service in severe operating conditions

Service kits are available for 500 (A700156) hour service intervals. Oil, air filters, oil filters and other replacement parts can be ordered from VMAC.

The PREDATAIR is equipped with a standard air filter. Heavy duty air filters (standard A700136 and cyclonic A700138) are available from VMAC if the system is operated in an extremely dusty environment or is installed in a cabinet or enclosure, as this will improve performance by providing cooler ambient air.

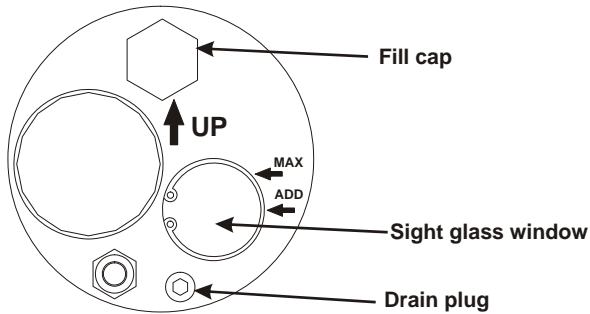
Refer to the Illustrated Parts List for a complete breakdown of all available replacement parts.

## Adding Compressor Oil

1. Remove the fill cap from the tank. Pour VMAC oil into the tank using a clean funnel or use a short hose with a #12 JIC fitting to extend the fill port.
2. Check the level in the sight glass at the front of the tank. Continue adding oil until the level is correct. Do not overfill the system. Overfilling the system with oil can flood the sight glass window and make the system appear empty.
3. Replace and tighten the fill cap.

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4. Activate the hydraulic system.
5. Start the system.
6. Allow the system to pressurize and operate for a few minutes.
7. Turn the compressor off, check for oil leaks and check the oil level. Add oil as required.



***You must use VMAC compressor oil. Failure to use this oil will result in damage to the compressor and may void your warranty.***

## Replacing the Air Filter

If the system has been just operated, shut it off and wait at least 30 seconds for the air pressure to vent before working on the system.

1. Clean loose debris from the area around the filter cover to prevent contamination entering the compressor.
2. Remove the filter cover retaining nut, the filter cover and the filter element.
3. Immediately cover the air inlet opening to prevent contamination. Do not use compressed air or perform any other tasks around the compressor until the filter and cover are replaced.
4. Clean the inside of the filter cover with a clean, dry cloth. Do not use flammable solvents to clean the inside of the cover. If you do use solvent, rinse the inside of the cover thoroughly with fresh water and dry it before installing the cover.
5. Remove the intake covering and install a new air filter. Make sure that the filter fits over the machined step on the housing.
6. Replace the cover and secure it with the cover bolt. Do not over-tighten the bolt.

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***Never attempt to clean the filter element with compressed air. Replace the filter element.***

## **Changing Oil and Filter**

If the system has been just operated, shut it off and wait at least 30 seconds for the air pressure to vent before working on the system.



***Do not attempt to change the oil filter until the oil has cooled. Hot oil can cause severe burns.***

1. Clean the area around the oil drain plug and the filter on the tank to prevent contamination.
2. Remove the drain plug and drain the oil, then install and tighten the plug.
3. Slide a thin drip tray or absorbent material under the filter to collect oil spills.



***To prevent damage, always use a proper filter wrench. Never over-tighten the filter, as this may damage the seal or the filter.***

4. Remove the filter by turning it counterclockwise. Before discarding the filter, check to make sure that the threaded nipple did not unscrew with the filter. If the nipple is in the filter, remove it carefully to avoid thread damage and replace it in the tank housing.
5. Check the gasket-sealing surface on the front of the tank for contamination, old gasket material or damage.
6. Apply a thin coating of compressor oil to the filter-sealing gasket and fill the filter with new oil.
7. Spin the filter onto the threaded nipple until the gasket contacts the sealing surface on the tank, then tighten the filter an additional 3/4 to 1 turn to seat the sealing gasket.
8. Remove the fill cap and pour VMAC compressor oil into the oil fill hole on the compressor tank using a funnel.
9. Check the level in the sight glass at the front of the tank. Continue adding oil until the level is up to "MAX". Do not overfill the system. Overfilling the system with oil can flood the sight glass window and make the system appear empty.
10. Replace and tighten the fill cap.
11. Activate the hydraulic system.

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12. Turn the compressor switch on the control unit to the “ON” position.
13. Allow the system to pressurize and operate for a few minutes.
14. Turn the compressor off, check for oil leaks and check the oil level. Add oil as required.

## Changing the Coalescing Filter

If the system has been just operated, shut it off and wait at least 30 seconds for the air pressure to vent before working on the system. Also allow sufficient time for the oil to cool.

1. Clean the back of the tank to prevent contamination.
2. Remove the drain plug and drain the oil, then install and tighten the plug.
3. If you are replacing the oil filter, follow filter replacement procedures.
4. Disconnect the air outlet line and teflon lines from the back of the tank.



**Caution: The discharge cap is under spring tension.**

5. Remove the bolts holding the discharge cap from the back of the tank and remove the cap and small spring.
6. Remove the coalescing filter and spring from inside the tank.



**Check the inside of the tank for any evidence of metal filings or contamination; if found, flush the tank, hoses and cooler. Metal filings will damage the compressor.**

7. Remove and discard the O-ring seal and the rear cap seal; replace them with new parts.



**If you use solvents for cleaning, thoroughly rinse the parts with hot water to remove all solvent residues.**

8. Clean the thimble screen spring and clean or replace the thimble screen.
9. Thoroughly clean the large spring and spring plate. Remove any rust or contaminants.

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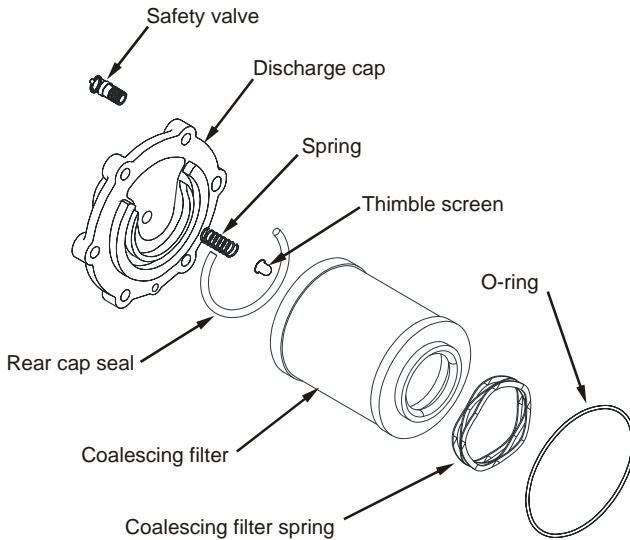
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10. Install the large spring and a new coalescing filter. Make sure that the spring is in place, as it holds the coalescing filter tight against the rear cap seal.



***The large spring also prevents electrostatic buildup by grounding the coalescing filter. If the spring is not installed, an electric arc may occur, which could result in an explosion, potential tank rupture or fire.***

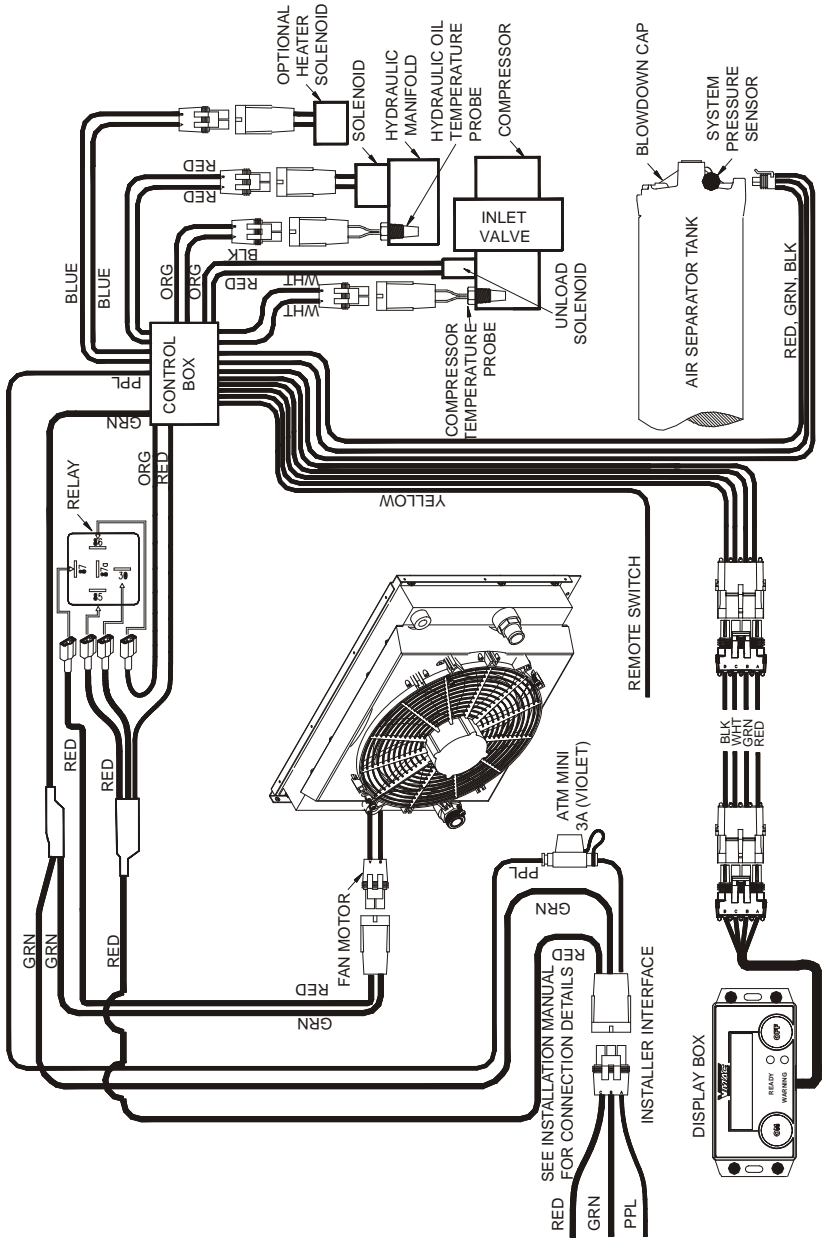


11. Install the discharge cap and torque the bolts to specifications.
12. Install the lines on the back of the tank.
13. Remove the fill cap and pour VMAC compressor oil into the oil fill hole in the compressor tank using a funnel.
14. Check the level at the sight glass at the front of the tank. Continue adding oil until the level is at "MAX". Do not overfill the system. Overfilling the system with oil can flood the sight glass window and make the system appear empty.
15. Replace and tighten the fill cap.
16. Activate the hydraulic system.
17. Start the system.
18. Allow the system to pressurize and operate for a few minutes.
19. Turn the compressor off, check for oil leaks and check the oil level. Add oil as required.

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# System Wiring Diagram



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# Warranty

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.

## 1.0 GENERAL PROVISIONS AND LIMITATIONS

1.1 VMAC, Division of Mangonel Investments Corporation, (hereafter "VMAC") warrants to each original retail purchaser (hereafter "Buyer") of its new PREDATAIR Air Compressor Systems (hereafter "Product(s)") from VMAC or its authorized Dealers that such Product(s) are, at the time of delivery to the Buyer, free of manufacturer defects in material and workmanship.

## 2.0 NO WARRANTY IS MADE WITH RESPECT TO

- 2.1 Any Product(s) which have, in VMAC's judgment, been subject to negligence, accident or improper storage, installation, application, operation or maintenance, or have been repaired or altered in such a way that affects the Product(s) adversely.
- 2.2 Components or accessories manufactured, warranted and serviced by others.
- 2.3 Damages caused from normal maintenance service and repairs and corrections with minimum action, such as adjustments and inspections, or replacement of items, such as service filters, seals and service kits.
- 2.4 Consequential damages caused by Product(s) failure.
- 2.5 Any Product(s) if other than VMAC's genuine components are used in the Product(s).
- 2.6 Normal wear and tear of Product(s).

## 3.0 WARRANTY PERIOD

- 3.1 The warranty period will commence upon installation of the Product(s). The returned warranty registration form marks the date of installation. If the warranty registration form has not been received by VMAC within 6 months from the date of installation of the Product(s), then the warranty period will be deemed to commence 30 days from date of shipment from VMAC. For the full warranty period to apply, installation of Product(s) must be completed within 36 months from the date of shipment of the Product(s) from VMAC.
- 3.2 The Product(s) is warranted against manufacturer defects in materials and workmanship for a period of 24 months or 2,000 hours of operation, whichever expires first.
- 3.3 Replacement components of Product(s), excluding VMAC factory rebuilt components, shall be warranted for the remainder of the original warranty period. If the original warranty period has expired, replacement components of Product(s) purchased by Buyer, shall be warranted for a period of 12 months or 1,000 hours of operation, whichever expires first.
- 3.4 VMAC factory rebuilt components shall be warranted for a period of 6 months from date of shipment from VMAC.

## 4.0 VMAC OBLIGATIONS

- 4.1 VMAC's obligation is limited to repairing or, at VMAC's option, replacing, during normal business hours at an authorized service facility of VMAC, any component, which in VMAC's judgment is proven to be defective as warranted.
- 4.2 VMAC's obligation is limited to Product(s) proven to be warranted. No liability is accepted for any consequential damages, injuries or expenses directly or indirectly related to Product(s) failure.

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## **5.0 BUYER OBLIGATIONS**

- 5.1 Buyer shall notify VMAC of the alleged defect within 10 days of initial discovery and return the allegedly defective component(s) within 30 days of initial discovery.
- 5.2 The Buyer must prepay all costs associated with the warranty claim and submit receipts and/or invoices to VMAC for evaluation.
- 5.3 If required by VMAC, the Buyer must return components claimed under this warranty to a facility designated by VMAC for evaluation, to establish a claim under this warranty.
- 5.4 Buyer shall maintain and service VMAC Product(s) in accordance with the VMAC Product(s) Owner's Manual.

## **6.0 WARRANTY REGISTRATION VALIDATION**

- 6.1 A warranty registration form is provided to the Buyer with the Product(s). The form must be fully completed by the Buyer and returned to VMAC upon completion of the installation of the Product(s) to validate the warranty. Warranty registration can also be completed online on the VMAC website at <http://www.vmac.ca/index.php?warrantyregistration>. Warranty claims will not be processed unless VMAC has received a fully completed warranty registration form.

## **7.0 DISCLAIMER AND WARRANTY SERVICE**

- 7.1 Any labor costs claimed in excess of VMAC's set rate and/or times are not provided by this warranty. If applicable, any labor costs in excess of VMAC rate schedules caused by, but not limited to, location or inaccessibility of the equipment, travel time or labor provided by unauthorized service personnel are not provided by this warranty.
- 7.2 This warranty is in lieu of all other warranties or obligations, express or implied. VMAC expressly disclaims all implied warranties of merchantability or fitness for a particular purpose.
- 7.3 Warranty claims must be pre-authorized by VMAC, and the components returned via prepaid freight using the designated "Returned Merchandise Authorization" number and form.

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# Maintenance and Repair Records

System ID number

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Serial number

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System installed by:

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Address

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Date installed:

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## 50 hour inspection

Date:

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Performed by:

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Address

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Parts replaced

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or notes:

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## 500 hour or 6 month service

Date:

---

Performed by:

---

Address

---

---

Parts replaced

---

or notes:

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**1000 hour or 12 month service**

Date: \_\_\_\_\_

Performed by: \_\_\_\_\_

Address \_\_\_\_\_

Parts replaced \_\_\_\_\_

or notes: \_\_\_\_\_

**1500 hour or 18 month service**

Date: \_\_\_\_\_

Performed by: \_\_\_\_\_

Address \_\_\_\_\_

Parts replaced \_\_\_\_\_

or notes: \_\_\_\_\_

**2000 hour or 24 month service**

Date: \_\_\_\_\_

Performed by: \_\_\_\_\_

Address \_\_\_\_\_

Parts replaced \_\_\_\_\_

or notes: \_\_\_\_\_

# Parts Replacement or Adjustment Record

Date:

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Part or  
adjustment:

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Performed by:

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Reason:

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Date:

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Part or  
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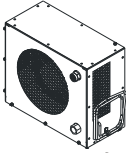
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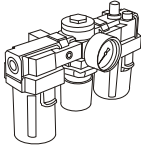
# Ordering Parts

To order parts, contact your nearest VMAC dealer or contact VMAC directly at 250-740-3200 or 1-888-241-2289. Have the system serial number, a description of the part and the quantity. The following accessories are also available from VMAC.



## Eliminator Aftercooler

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



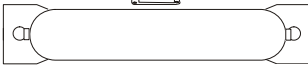
## Filter Regulator Lubricator

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



## Hose Reel

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



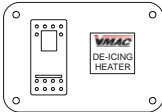
## Air Receiver Tank

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



## De-icer Kit

Insulated rope heater prevents freezing of lines and regulator.



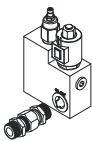
## Service Kits

Using OEM service products will extend the life of your system. Includes oil, filters, seals and O-rings. 500 hour service interval kits are available.



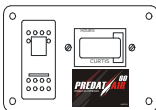
## Cold Climate Kit

Preheats the hydraulic oil during cold startup of the PREDATAIR.



## Switch Panel with Hour Meter

Provides switched 12V power up to 30A with digital hour meter for tracking equipment run-time.



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