

Subject
PREDATAIR Error Codes and Symptoms

System or Parts affected

- PREDATAIR40 (H400001)
- PREDATAIR60 (H600002)
- PREDATAIR HHP60 (H600004)

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Overview

General error codes, symptoms and trouble shooting.

Retrieve stored error codes

- Enter DIAGNOSTIC mode: at the display box 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. When the heading ERROR LOG is displayed, press and hold the ON button. When it enters this selection, release the ON button. While in the error log you can scroll through data by using the ON and OFF buttons.
- Record error codes in box below
- Once you have recorded the stored errors, press and hold both ON and OFF buttons at the same time to exit Diagnostics mode.

A video showing how to access the PREDATAIR Diagnostics can be found here:

https://www.youtube.com/watch?v=72TqKU_mngk



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i Figure 1 gives an example of an error code.

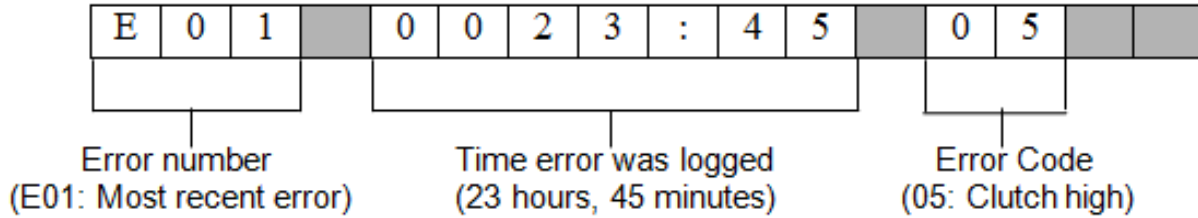


Figure 1

Name: _____
 Company: _____
 Date: _____

Phone#: _____
 Email/Fax#: _____

Error Code	Error
1	Compressor has Over Temped >138C
2	Hydraulic has Over Temped >88C
3	Not Used
4	Compressor Probe Short
5	Hydraulic Probe Short
6	Not Used
7	Compressor Probe Open
8	Hydraulic Probe Open
9	Not Used
10	Not Used (Battery Voltage)
11	No Pressure Sensor
12	No CAN Bus Connection

HRS→																		
ERRORS→	Time										Error							
E 0 1																		
E 0 2																		
E 0 3																		
E 0 4																		
E 0 5																		
E 0 6																		
E 0 7																		
E 0 8																		
E 0 9																		
E 1 0																		
SERVICE→ TIMES	Time										Error							
S 0 1																		
S 0 2																		
S 0 3																		
S 0 4																		
S 0 5																		
S 0 6																		
S 0 7																		
S 0 8																		
S 0 9																		
S 1 0																		









When you have reached the end, "NO SVC NEEDED" will be displayed. Email completed sheet to techsupport@vmacair.com or fax to (250) 740-3202

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Flash Code Table

Some early models of PREDATIAR were not equipped with a Display Box. These models will have a GREEN and RED LED on the top of the unit. Use the table below to determine the error code.

Green	Red	State	Problem
On Steady 	Off	Operating	None
Off	On Steady 	Compressor Off Fan On	Compressor Too Hot
Off	Flashes On-Off continuously 	Compressor Off Fan On	Hydraulic Oil Too Hot
One Flash-Pause-One Flash continuously 	Off	Compressor Off Fan On	High Pressure Start Warning
Flashes On-Off continuously 	Off	Compressor Off Fan OFF Preheater on (If equipped)	Cold Start Mode
Off	One Flash-Pause-One Flash continuously 	Compressor Off Fan OFF - Probe Open Fan On – Probe Shorted	Compressor Temperature Probe Failure (Service Req.)
Off	Two Flashes-Pause-Two Flashes continuously 	Compressor Off Fan OFF - Probe Open Fan On – Probe Shorted	Hydraulic Cooler Temperature Probe Failure (Service Req.)
Off	Three Flashes-Pause-Three Flashes continuously 	Compressor Off Fan OFF - Probe Open Fan On – Probe Shorted	Hydraulic Manifold Temperature Probe Failure (Service Req.)

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Display box messages

Power ON, System OFF

Message/Problem	Possible Causes	Corrective Action
HYD OIL TOO COLD	The hydraulic oil temperature is below 5°F (-15°C)	Pre-heat the hydraulic oil before running the system.
No power to display box	Fuse blown or bad connection	Check components, replace fuse inside PREDATAIR

ON button pressed/Initial start-up

Message/Problem	Possible Causes	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 +122°F(50°C)
HYD OIL TOO COLD	The hydraulic oil is below -13°F (-25°C).	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 -13°F(-25°C).
HYD OIL WARMING, HYD XXXF/XXXC	The hydraulic oil is between -13°F(-25°C) and +5°F(-15°C)	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 +5°F(- 15°C).
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 Causes	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	Check solenoid and wiring.

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Technical Support

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	or problem with wiring connections	
	Pressure sensor has failed or problem with wiring connections	Check pressure sensor and wiring.
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 Causes	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 Owner's manual using VMAC service kit. Once complete, enter the Diagnostics Mode and clear the service reminder. Refer to the appropriate section in the Owner's manual.
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.

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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.	Failed control box, display box, or bad wiring connection.
BATTERY LOW or; System runs then shuts down, and display resets, but doesn't restart	Wires connecting to battery positive and ground too small.	Check wire size requirements in the installation manual and install the correct gauge wires.
	Low battery voltage.	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.

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	Air pressure relief valve failure.	Check valve.
	Air Inlet solenoid valve failed in the ON state.	Check solenoid and wiring.

Temperature Sensor Trouble Shooting

Temporarily override 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 compressor temperature sensor, access the DIAGNOSTICS mode by pressing and holding the OFF button. Once in DIAGNOSTIC mode allow system to scroll through headings until the display shows: AIR TEMP SENSOR Press the ON button to access this setting.
 - Press and hold the ON button until NO AIR TEMP PROBE DIS? Appears on the screen and then release the ON button.
 - Press and hold the ON button again until TEMP PROBE DIS appears on the screen and then RELEASE the ON button.
- After the probe is disabled you need to back out of the DIAGNOSTIC screen by pressing both the ON and OFF buttons simultaneously. You will need to do this twice to back right out to the main screen.
- To reset the PREDATAIR to default settings turn the power OFF then ON again. This will reset the PREDATAIR temperature probes to ON.

Temporarily override the hydraulic 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 hydraulic temperature sensor, access the DIAGNOSTICS by pressing and holding the OFF button. Once in DIAGNOSTIC mode and allow system to scroll through headings until the display shows: HYD TEMP SENSOR? Press the ON button to access this setting.
 - Press and hold the ON button until NO HYD TEMP PRB? Appears on the screen and then release the ON button.
 - Press and hold the ON button again until TEMP PROBE DIS appears on the screen and then RELEASE the ON button.
- After the probe is disabled you need to back out of the DIAGNOSTIC screen by pressing both the ON and OFF buttons simultaneously. You will need to do this twice to back right out to the main screen.
- To reset the PREDATAIR to default settings turn the power OFF then ON again. This will reset the PREDATAIR temperature probes to ON.

A video showing how to disable the PREDATAIR Temperature Sensors can be found here:

<https://www.youtube.com/watch?v=9jzzm0oTMgw>



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Electrical Schematic

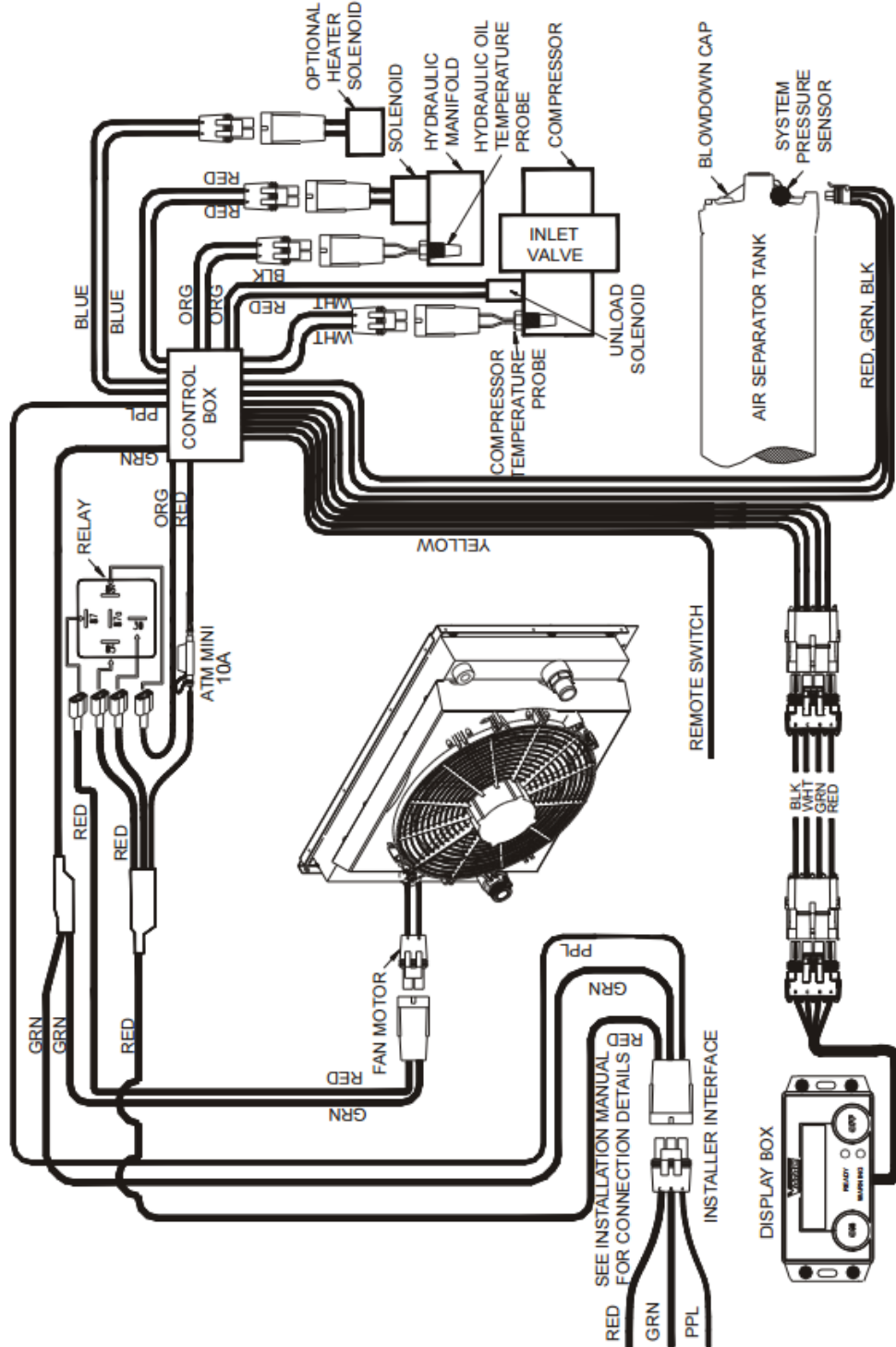


Figure 2

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