

| Subject |
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| Diesel Drive 60 Error Codes and Symptoms |

System or Parts affected

- D600003 Diesel Drive 60 cfm compressor system.
- D600004 Diesel Drive 60 cfm compressor system with cold climate kit.
- D600017 Diesel Drive 60 cfm compressor system, white body panels.
- D600018 Diesel Drive 60 cfm compressor system, white body panels, with cold climate kit.

Index

| | |
|--|---|
| System or Parts affected | 1 |
| Overview | 1 |
| Entering DIAGNOSTIC MODE to Retrieve Logged Errors | 1 |
| Error Message Table | 3 |
| Warning Message Table | 4 |
| Trouble Shooting Table | 5 |
| Modifying System Parameters | 6 |
| Factory Reset | 6 |
| Wiring Schematic | 7 |

Overview

A quick reference for error codes, symptoms, troubleshooting and wire diagrams.



If an error is present, the Diesel Drive 60 unit WILL NOT start the compressor until the error is cleared. When an error is present the WARNING LED will flash on/off and the screen will display 'ERRORS DETECTED' followed by the following list of errors. The user MUST scroll through ALL the displayed errors by pressing the NEXT button before the unit can re-try the start sequence.

Entering DIAGNOSTIC MODE to Retrieve Logged Errors

- ☐ Key on the system but do not start. No error messages on the display box should be shown.
- ☐ Press the "NEXT" and "BACK" buttons for 5 seconds to enter Diagnostics Mode.
- ☐ Press the "NEXT" and "BACK" buttons to scroll to "VIEW LOGGED ERRORS".
- ☐ Press the "ON/ENTER" button to view the errors.
- ☐ Use "NEXT" and "BACK" to scroll through the errors. Fill in all of the blank boxes on the following table.

The tables below represent the lines that will be shown on the control box display. Completely fill in all of the blanks on the following tables. (Figure 1 provides an example of an error message)

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Subject

Diesel Drive 60 Error Codes and Symptoms

Figure 1

Date: _____

| | | | | | | | | | | | | | |
|---|----|--|--|--|---|---|---|--|--|--|---|---|--|
| E | 1 | | | | | | . | | | | | | |
| D | : | | | | M | : | | | | | Y | : | |
| E | 2 | | | | | | . | | | | | | |
| D | : | | | | M | : | | | | | Y | : | |
| E | 3 | | | | | | . | | | | | | |
| D | : | | | | M | : | | | | | Y | : | |
| E | 4 | | | | | | . | | | | | | |
| D | : | | | | M | : | | | | | Y | : | |
| E | 5 | | | | | | . | | | | | | |
| D | : | | | | M | : | | | | | Y | : | |
| E | 6 | | | | | | . | | | | | | |
| D | : | | | | M | : | | | | | Y | : | |
| E | 7 | | | | | | . | | | | | | |
| D | : | | | | M | : | | | | | Y | : | |
| E | 8 | | | | | | . | | | | | | |
| D | : | | | | M | : | | | | | Y | : | |
| E | 9 | | | | | | . | | | | | | |
| D | : | | | | M | : | | | | | Y | : | |
| E | 10 | | | | | | . | | | | | | |
| D | : | | | | M | : | | | | | Y | : | |

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Page 2 of 7

| Subject |
|--|
| Diesel Drive 60 Error Codes and Symptoms |

Error Message Table

| Error Code | Error Message Displayed | Cause |
|------------|---|---|
| 5 | COMP TEMP SENSOR FAILED – OPEN | Compressor temperature probe disconnected or failed. |
| 6 | COMP TEMP SENSOR FAILED – SHORT | Compressor temperature probe or wires shorted or failed. |
| 7 | COMP TOO COLD xx.x F/xx.x C | The compressor temperature is below 5 °C (41 °F). The temperature is displayed. |
| 8 | COMP OVER TEMP xx.x F/xx.x C | The compressor temperature is above 138 °C (280 °F). The temperature is displayed. |
| 9 | MANIFOLD TEMP FAILED – OPEN | Temperature sensor on the manifold is unplugged or wire to control box has been cut. |
| 10 | MANIFOLD TEMP FAILED – SHORT | Temperature sensor on the manifold is shorted. |
| 11 | MANIFOLD ERROR CHECK COALESCER | Restriction detected at the coalescing filter |
| 12 | AIR PRESS SIGNAL VOLTAGE LOW | Low voltage reading on the air pressure transducer. |
| 13 | AIR PRESS SIGNAL VOLTAGE HIGH | Low voltage reading on the air pressure transducer. |
| 14 | AIR PRESS SENSOR TOO HIGH AIR PRESSURE xxx.x PSI | Air pressure is too high to start the engine. The air pressure is displayed. |
| 27 | UNEXPECTED ENGINE OPERATION | Engine rpm is detected during an engine OFF state. |
| 34 | ENGINE RPM NOT DETECTED | Engine rpm is not detected in an engine ON and running state |
| 35 | ENGINE CRANK NOT DETECTED | The engine did not start during the crank cycle. |
| 36 | ENGINE OIL LOW | Engine oil pressure is low. |
| 37 | ENGINE TEMP PROBE OPEN | Engine temperature probe is disconnected or failed. |
| 38 | ENGINE TEMP PROBE SHORT | Engine temperature probe failed or temp probe wires shorted. |
| 39 | ENGINE TEMP TOO COLD TO START | Engine temperature is below -40 °C (-40 °F) |
| 40 | ENGINE OVER TEMP | The engine temperature is above 110 °C (230 °F). |
| 42 | FUEL LEVEL LOW PLEASE RE-FILL | Fuel level for the diesel engine is low. It must be re-filled before the unit is run. |
| 51 | ENGINE OVERSPEED | Engine speed above 4,200 rpm detected. |
| 52 | ENGINE RPM UNDERSPEED | Engine speed went below 2000 rpm for 3 seconds. |

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| | | |
|---|-------------------------------|--|
| - | DISPLAY CANBUS CONN ERROR | A CAN bus connection error between the Display box and Control box. |
| - | END OF ERRORS OK TO RETRY? | End of errors screen. Pressing ENTER will try to restart the system. |

Listed below are additional messages, which may be displayed. If a message is present, the red WARNING LED will flash on and off. These messages appear in both the SYSTEM READY and SYSTEM RUNNING menu

Warning Message Table

| Error Code | Message Displayed | Cause |
|------------|---------------------------------------|--|
| 29 | AIR FILTER PLUGGED | Air filter is restricted or working incorrectly. |
| 32 | BATTERY VOLTAGE TOO LOW | The battery voltage is below 11.9 v threshold for 5 seconds |
| 46 | ENGINE RESTART DUE TO COLD | The engine has auto restarted due to the low internal temperature. |
| - | 500HR/6MTH SERV DUE IN xx HOURS | This warning will show up 10 hours before the 500 hour service interval. |
| 54 | COMPRESSOR SERV 500HR / 6MTH | The system is due for a service. This warning will show after every 500 hours of running the compressor. Clearing the compressor service reminder is required through the Diagnostic menu. |
| | 1000HR / 12MTH SER DUE IN xx HOURS | This warning will show up 10 hours before the 1000 hour service interval. |
| 55 | COMPRESSOR SERV 1000HR/12MTH | The system is due for a service. This warning will show after every 1000 hours of running the compressor Clearing the compressor service reminder is required through the Diagnostic menu. |
| - | ENGINE SERVICE 50 HOURS | Engine servicing required. See Owner's Manual. |
| - | ENGINE SERVICE 100 HRS/ENG. OIL | 100 hour engine servicing required. See Owner's Manual. |
| - | ENGINE SERVICE 200 HRS/ENG. OIL | 200 hour engine servicing required. See Owner's Manual. |
| 58 | ENGINE RESTART DUE TO LOW BATT | Battery voltage below restart threshold for 30 seconds. |

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Trouble Shooting Table

| Symptom | Possible Cause | Corrective Action |
|-------------------------------------|--|--|
| Frequent relief valve operation | Pressure control line plugged or frozen | Remove and clear the line |
| | System still at high pressure | Wait for system blow-down or bleed off all system pressure |
| | Defective relief valve | Replace the valve |
| Compressor does not run | High system pressure | system will not start with more than 10 psi system pressure |
| | High oil temperature | See "frequent over-temperature shut-down" |
| Frequent over-temperature shut-down | Low oil level | Check oil level with equipment on level ground |
| | Restricted oil lines | Check for kinked or pinched lines |
| | Plugged oil filter | Replace oil filter |
| | Cooler not functioning or plugged | Replace or clean oil cooler |
| | Engine cooling system failure (high engine temperature) | Correct problem |
| | High ambient temperatures | Reduce duty cycle |
| | Oil temperature sensor failure | Replace if defective |
| Excessive oil in the air | Coalescing separator failure | Replace element |
| | Clogged scavenge line screen | Clean or replace |
| | High oil level | Check oil level with equipment on level ground |
| | Operating angle in excess of 15 degrees from horizontal | Reduce operating angle |
| | Air operated equipment is faulty, or not correctly connected to supply valve | Test air operated equipment for proper operation and connect to supply valve |
| | Incorrect start-up/ shutdown procedures | Observe start-up/ shutdown procedures detailed in the Owner's Manual |

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Modifying System Parameters

To modify a system parameter (such as Standby Delay):

- ☐ Turn the key ignition ON. Do not start the compressor system.
- ☐ Press and hold the NEXT and BACK buttons on the display box for 5 seconds to enter Setup/Diagnostics Menu.
- ☐ When display box shows USER SETUP, press ON/ENTER
- ☐ Use NEXT and BACK to scroll to STANDBY DELAY
- ☐ Press ON/ENTER.
- ☐ Use NEXT and BACK to change Standby Delay parameter value.
- ☐ Press ON/ENTER to select value, or EXIT to cancel change.
- ☐ Verify STANDBY DELAY screen shows desired parameter value.
- ☐ Press EXIT to return to USER SETUP.
- ☐ Press EXIT to exit Setup/Diagnostics Menu.

Factory Reset

All adjustable parameters will reset to factory settings.

- ☐ Pressing ENTER on this screen will display CANCEL
- ☐ Pressing NEXT will show CONFIRM RESET? Pressing BACK will display CANCEL again
- ☐ Select the desired option and press the ENTER button

For details and an explanation for adjusting system parameters, see section 7.7 Adjusting System Parameters in the RAPTAIR60 Installation and User's Manual.

| Setting | Description | Adjustment | Default |
|----------------------------|---|---|-------------|
| UNLOAD DELAY | Delay time to unload | 0.5, 1, 2, 5, 10, 15, 30 minutes, Never | 1 min |
| STANDBY DELAY | Delay time to standby | 1, 2, 5, 10, 15, 30 minutes, Never | 5 min |
| SYSTEM PRESSURE | Operating System Pressure | 80 to 150 psi @ 5 psi increments | 150 psi |
| TOP-UP PRESSURE | psi below system pressure to allow inlet to open and build pressure | 1 to 15 psi @ 1psi increments | 10 psi |
| HIGH AIR USE RATE | Air rate set-point for pressure-based restart condition | 0 to -30 psi @ 0.5 psi increments - | 3.0 psi/sec |
| PRESSURE RESTART PSI | Air pressure set-point for pressure-based restart | 80 to 150 psi @ 5 psi increments | 120 psi |
| ALLOW COLD ENGINE RESTART | Allow to restart the engine if engine is beginning to freeze | Enable/Disable | Enabled |
| DISABLE AUTO RESTART DELAY | Timer for disabling automatic engine restart | Always, 30 min, 60 min, 120 min, Never | 60 min |

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|--|
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| Setting | Description | Adjustment | Default |
|---------------------------------|---|--------------------------------|---------|
| Allow Low Battery Restart | In Standby, allow the engine to restart based on low battery level | Enabled/Disabled | Enabled |
| Battery Restart Lower Threshold | Engine will restart if below this threshold for 30 seconds in Standby | 10.0 – 14.0V @ 0.1V increments | 12.1V |
| Battery Restart Upper Threshold | System will start duration timer if above value | 10.0 – 15.0V @ 0.1V increments | 12.8V |
| Battery Restart Duration | Once above Upper Threshold, stay running for duration to charge battery | 1, 2, 5, 10, 15, 30 minutes | 2 min |

Wiring Schematic

To view wiring schematics go to [VMAC Manuals & Illustrated Parts Lists](#) , enter the model number of the Diesel Driven compressor system (first 7 characters of the system ID) and click on “Electrical Schematic”, or scan/click the following QR code:



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