CLEARSKY COMFORTPRO®

OPERATION & USERS MANUAL FOR CLEARSKY COMFORTPRO DIESEL PARTICULATE FILTER (CARB-VERIFIED DPF)

MODEL PG1050
MODEL PG1060

62-11477 REV. B

CONTENTS

A. SAFETY 1

Safety Considerations 1

B. INSTALLATION 1

1.0 SYSTEM OVERVIEW 2

1.1 What is it, why do you care? 2

1.2 APU Engine Oil 2

1.3 CARB Regulations 2

1.4 Retrofittable to PC 6000 2

1.5 System Components 2

1.6 Theory of Operation 4

1.7 DCP2 Menu Structure 7

1.8 System Messages 9

2.0 MAINTENANCE 12

3.0 TROUBLESHOOTING 13

4.0 WARRANTY 15

A. SAFETY

Read these instructions carefully before operating the system.

Safety alerts labeled **DANGER**, **WARNING** and **CAUTION** alert you to special instructions or precautions concerning procedures that would be hazardous if performed incorrectly or carelessly.

The safety alerts alone cannot eliminate all hazards. Strict compliance with these special instructions and common sense are major accident prevention measures.

⚠ DANGER

Immediate hazards that will result in severe injury or death.

⚠ CAUTION

Hazards or unsafe practices that could result in minor injury or product or property damage.

⚠ WARNING

Hazards or unsafe practices that could result in severe personal injury or death.

NOTICE

Information that is important to proper installation or maintenance, but is not hazard related.

Safety Considerations

⚠ WARNING

HOT EXHAUST (PIPE AND GAS). During filter regeneration the exhaust gas coming out of the tailpipe can exceed 700°F (370°C) and should not be directed onto materials that can melt or burn. The tailpipe, where it exits the DPF, can reach 1100°F (600°C) and should not be near wiring, brake lines or other sensitive items.

⚠ WARNING

HOT DPF. Just as with a standard muffler, the DPF enclosure can reach 400°F (200°C) during filter regeneration and can cause burns if touched.

⚠ WARNING

AC HIGH VOLTAGE. The DPF uses 120VAC from the APU's onboard generator. This voltage is a shock hazard and wiring should be performed only by trained personnel.

NOTICE

DISCONNECT APU FROM BATTERY TO WORK ON IT.

The APU is equipped with a multi-function control panel that can start the APU automatically. Also, the installation of the DPF requires making electrical connections to the battery wiring in the APU enclosure – a misplaced wrench can become welded and cause batteries to explode. To prevent both hazards, disconnect the APU negative and positive battery cable terminals from the truck batteries before installing the DPF or working on the APU. As there are often several connections to the batteries, ensure that there is no battery power at the APU by checking the voltage at the main starter or alternator terminals.

B. INSTALLATION

To maintain warranty coverage and comply with CARB regulations the DPF system should be installed by trained personnel. The installation instructions are in a separate manual that is available, by request, from the dealer where the DPF system was purchased.

1.0 SYSTEM OVERVIEW

1.1 DPF: What is it, why do you care?

The Diesel Particulare Filter (DPF) is a system that removes most of the black soot particles from the exhaust of your diesel engine. This results in cleaner air for everyone and much less black soot on your truck.

The DPF also replaces the APU muffler and performs the noise reduction function.

1.2 APU Engine Oil

The APU engine oil must be CJ-4 compliant low ash oil ONLY.

1.3 CARB Regulations

The Federal Environmental Protection Agency now requires that class 8 trucks with main engines of model year 2007 or newer be equipped with engines that meet stringent regulations. These regulations are typically met by equipping the main engine with a DPF. The California Air Resources Board has enacted a further regulation that requires APUs used on these same trucks to meet similar regulations. The ComfortPRO APU uses a DPF to meet these regulations when used within California. This regulation went into force on January 1st, 2008. This regulation does not apply to trucks with model year 2006 or older main engines.

If a truck with a 2007 or newer main engine has a ComfortPRO APU without a DPF, the APU may be present on the truck but may not be uses while in California. Failing to comply with this regulation/law may result in fines at the discretion of CARB enforcement officers.

It is worth noting at the time this manual was written, only California had a requirement to meet these regulations. However, other jurisdictions are considering following California with this requirement.

1.4 Retrofittable to PC6000

This system is designed for use on and retrofit to standard installations of the Carrier ComfortPRO PC6000 series of Auxiliary Power Units (APUs).

1.5 System Components

Refer to Figure 1.

1 DPF Controller
2 DCP2*
3 DPF Assembly
4 Heater Cone
5 Filter
6 Temperature Sensor
7 Mounting Bracket
8 Pressure Sensor
9 Pressure Snubber
10 Back-Pressure Sensor Assembly
11 Tailpipe
12 Inter Pipe
13 Exh. Header Pipe

** DCP2 is only available with Model PG1050. All newer APUs are equipped with DCP2 already. If the unit is equipped with a DCP2, Model PG1060 is needed.*

To distinguish between the DCP and DCP2 controllers, look on the front face, top left corner, of the controller. There will be a 'DCP2' logo on the DCP2 controller and there will be none on the DCP controller.

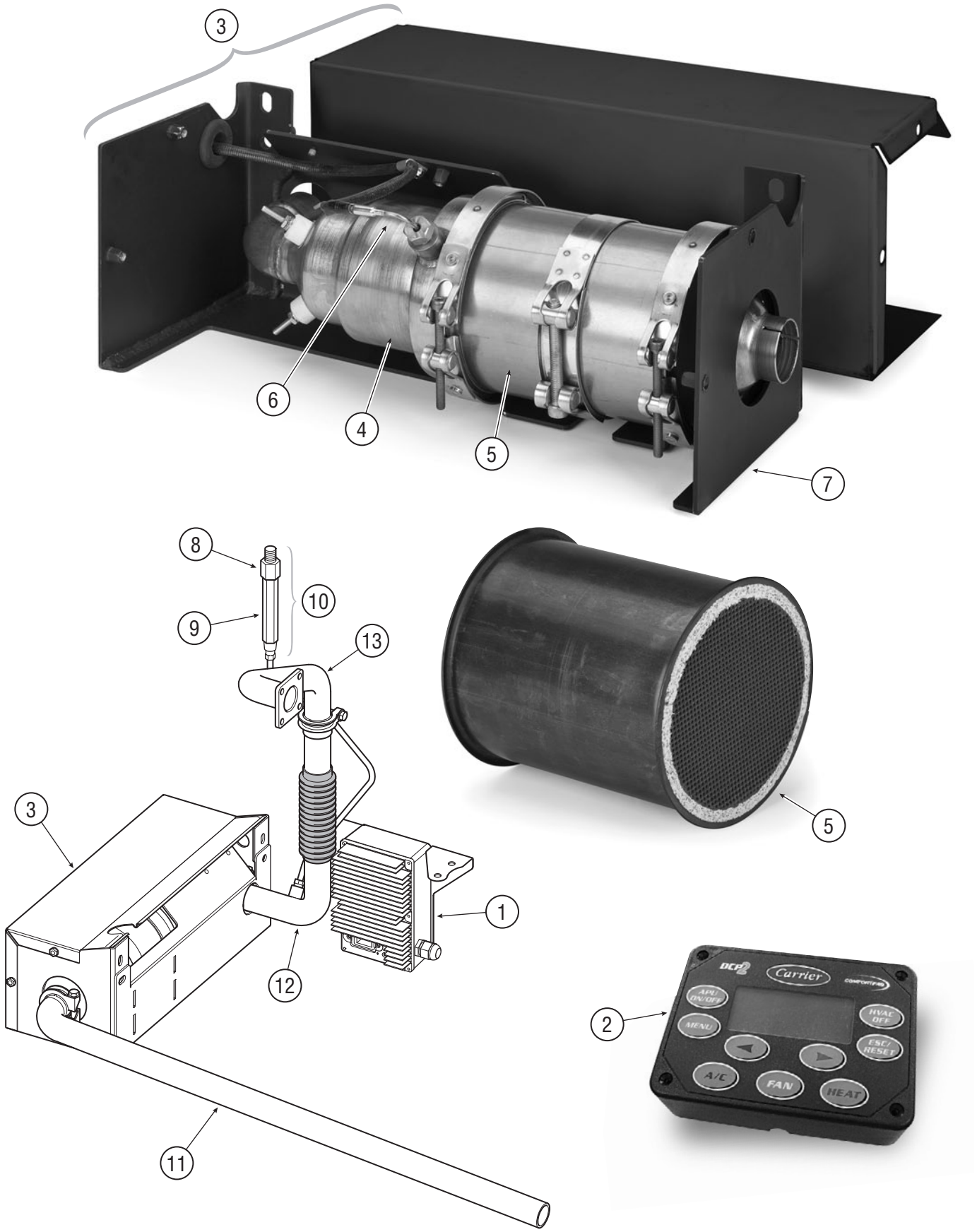

Figure 1. System Components

1.6 Theory of Operation

The DPF is a system. It consists of a filter element, electrical heater, insulated exhaust piping, a controller and sensors for measuring exhaust temperature and back pressure.

Briefly the system operates as follows:

- APU runs normally, produces soot which is captured by filter.
- As soot builds up the filter gradually becomes clogged and causes increasing exhaust back pressure.
- When back pressure reaches a limit the system regenerates the filter by directing generator power to an exhaust heater to heat the exhaust and burn out the soot.
- Regeneration is complete when the back pressure has come down to a "clean" value.

1.6.1 Filtering the Soot

The filter element works like a standard intake air filter in that all of the exhaust from the engine must pass through a porous wall. The wall captures the soot and the cleaned exhaust gases pass through. Due to the temperature of the exhaust gases the filter element is made from ceramic material, therefore care should be used to avoid dropping it or subjecting it to severe shock.

1.6.2 Regenerating the Filter

As the filter collects soot it gradually plugs up and causes restriction on the exhaust system. When the exhaust back pressure gets too high the system burns the collected soot out of the filter. This process is called "regeneration" and is accomplished by energizing the electric heater to raise the temperature of the exhaust gases to about 1100°F (600°C) within the filter. As the soot is burned it goes out the tailpipe as mostly CO2 gas. When the filter is clean the heater is turned off and normal operation is restored.

The system includes a controller and sensors to monitor the exhaust back pressure and temperature. This controller will determine when a regeneration cycle will take place and how long it should last.

1.6.3 Loss of APU Power During Regeneration

Regeneration usually takes between 10–20 minutes. The heater in the DPF system is designed for 120VAC and is powered by the generator on the APU. When the filter requires regeneration all power from the generator is directed to the heater. For the duration of the regeneration, power will not be available for the cab comfort or convenience features normally provided by the Carrier ComfortPRO system.

With a DPF installed, the fuel consumption of the APU is expected to increase by about 5% if alarms and recommended maintenance guidelines are followed. The additional fuel consumption comes mainly from performing regeneration.

1.6.4 System Information and Variables

The system regulates the occurrence and duration of the regeneration event solely by exhaust back pressure. Additionally, exhaust temperature is used to control heater power and verify that the heater is working. These values may be monitored in the DPF Manager/Variables menu item on the Driver's Control Panel for the APU. The DCP2 will also display messages about the operation of the DPF system and any faults that occur.

1.6.5 Ash and Cleaning

During regeneration the soot is burned out of the filter. However, the filter also collects particles which do not burn such as sulfur and phosphorus from fuel and oil and particles of iron from engine wear. These "ash" components remain in the filter and build up over time causing the filter to gradually plug up to the point where even a regeneration cycle will not restore the filter to a clean state.

NOTICE

Even while the filter needs to be cleaned, the system can still be used but the regenerations will be longer and more frequent.

When this happens the system will indicate on the DCP2 that the filter needs to be cleaned. The filter element must be removed from the system and cleaned in a cleaning machine or exchanged for a clean filter. This can be done at an authorized Carrier Service Center. The ash collected from the filter must be considered a hazardous material that must be captured and handled properly. This material must be disposed of in accordance with local, state and federal regulations.

Since much of the ash comes from the fuel and oil it is important to use good quality low sulfur fuel and oil that meets the API CJ-4 "Low Ash" standards. Low sulfur fuel (less than 15ppm) is the standard fuel available throughout the United States and Canada.

1.6.6 Expected Performance

The time between regeneration events depends on many things including how the APU is being used (what load is on the system), weather conditions, state of tune of the APU and the age of both the DPF and APU. As a general guideline, a regeneration can be expected once every 10–30 hours of APU operation time. The regeneration will typically last 20 minutes.

The expected interval for filter cleaning is once every 1000 hours of APU operation and coincides with the standard APU service interval. However, the system will indicate when a cleaning is required and the actual time between cleanings may be shorter or longer depending on factors already indicated.

1.6.7 Operating Considerations and Parameters

In general the system will operate automatically with no intervention required from the user.

When the exhaust pressure exceeds 100mBar the system will automatically perform a regeneration when the APU is turned off. In this state the DCP2 will show "DPF Regen Soon" at the bottom of the display. When the ON/OFF button is pressed the APU will continue running and the DPF system will begin regenerating the filter.

NOTICE

For safety reasons it is always possible to force the APU off by holding the ON/OFF button for 5 seconds.

If the APU is allowed to continue running the exhaust pressure continues to build. When the pressure reaches 130mB the system will start a regeneration cycle immediately.

The regeneration cycle is complete when the exhaust pressure goes below 30mB or if the system has been in the regeneration mode for 30 minutes. The truck can be driven before the regeneration process is complete.

Whenever a regeneration has been completed the APU must complete a 2 minute cool down cycle before being turned off. If the ON/OFF button is pressed during this time the APU will shut down after the cool down period has been completed. If the ON/OFF button is pressed for 5 seconds the APU will shut down immediately.

1.6.8 Main Engine Interlock

If your APU is equipped with the optional main engine interlock feature it will normally not operate when the truck engine is running. However, during regeneration cycles and in the Regen Soon state the interlock feature is disabled and the APU/DPF system will complete the regeneration even if the truck engine is started. When the regeneration is complete the APU interlock feature will be enabled and the APU will shut down if the truck engine is running.

1.6.9 Engine Oil Consumption and Filling

NOTICE

When filling the oil on the engine, DO NOT OVERFILL. The oil level should not be above the "FULL" line.

Excessive oil consumption will cause the filter to plug up sooner than expected. If the engine consumes more than one quart of oil in 200 hours of operation, it requires maintenance.

1.7 DCP2 Menu Structure

TIMER 1
- ON
- OFF
- SET START
  - [hours]
  - [minutes]
  - DAY
    - SUNDAY
    - MONDAY
    - TUESDAY
    - WEDNESDAY
    - THURSDAY
    - FRIDAY
    - SATURDAY
    - WEEKDAYS
    - WEEKENDS
    - ALL DAYS
- SET DURATION
  - [xx.x hours]
- SET TEMP
  - [xx°C/xx°F]

TIMER 2
- ON
- OFF
- SET START
  - [hours]
  - [minutes]
  - DAY
    - SUNDAY
    - MONDAY
    - TUESDAY
    - WEDNESDAY
    - THURSDAY
    - FRIDAY
    - SATURDAY
    - WEEKDAYS
    - WEEKENDS
    - ALL DAYS
- SET DURATION
  - [xx.x hours]
- SET TEMP
  - [xx°C/xx°F]

BATTERY MONITOR
- ON
- OFF
- SET
  - [xx.x volts]

TEMP START
- ON
- OFF
- SET TEMP
  - [xx C / xx F]
- SET DURATION
  - [xx.x hours]

COMFORT MONITOR
- ON
- OFF
- SET
  - [xx C / xx F]

MAXIMUM RUN TIME
- ON
- OFF
- SET
  - [xx.x hours]

TIME & DATE
- 12 HOUR or 24 HOUR
- ## : ## {AM (or PM) if 12 hour mode is selected}
- Set Day of the week (MONDAY, TUESDAY, ... SUNDAY)
- YYYY MMM DD

SET/CHANGE PASSWORD
- ENTER PASSWORD
  - NEW PASSWORD (displayed only if a password has been set)
- CONFIRM

PASSWORD PROTECT
(displayed only if a password has been set)
- TIMER 1
  - YES
  - NO
- TIMER 2
  - YES
  - NO
- BATTERY MONITOR
  - YES
  - NO
- TEMP START
  - YES
  - NO
- COMFORT MONITOR
  - YES
  - NO
- MAXIMUM RUN TIME
  - YES
  - NO
- SET TIME & DATE
  - YES
  - NO
- SYSTEM CONFIG
  - YES
  - NO

CALIBRATE VOLTAGE
"Voltage"

SYSTEM CONFIG
- CHECK
  "Present Devices"
  (APU, CCU, DPF)
- CONFIGURE
  – DPF
  – UNINSTALL

DPF MANAGER
- Start Regen
  (if APU running) or
  Start Emergency Regen
  (if APU not running)
  – YES
  – NO
- STATUS
  "Operating OK" or
  "Regenerating Now"
  or "Regenerating
  Soon"
- VARIABLES
  – EXHST P xx MBAR
  – EXHST T xx C

VIEW FAULTS
- Displays system faults with a time stamp according to the following format:
  "Date" "Time"
  "Device"
  "Description of fault"
- "CLEARED" will be displayed if the fault was cleared at this time.

A discussion of all the menu items is well beyond the scope of this manual; consult the APU manual for the details of the menu items that are not related to the DPF.

1.7.1 System Configuration

Used to determine what components are installed on the system. Also used to Uninstall the DPF after it is disconnected from the system.

1.7.2 DPF Manager

Start Regen: With the APU running, selecting YES under this menu will begin a regeneration immediately. If the DPF is too plugged the APU may not be allowed to run, but it is still possible to regenerate the filter. In this case, an emergency regen can be performed by selecting YES under this menu when the APU is not running and then starting the APU; the system will ignore the high exhaust pressure and start a regen after a 2 minute warmup.

Status: Reports the operating mode of the DPF system.

Variables: Shows current exhaust pressure (in millibars) and temperature. Can be used to determine if a regen will happen soon or the progress of a regen.

1.7.3 View Faults

The DCP2 logs system faults and this is the method to view the fault log. Navigate through all recorded faults using the arrow keys. The display will start with the most recent fault in record. The left arrow key will display the previous fault and the right arrow key to the next fault.

1.8 System Messages

1.8.1 DPF Detected

Indicates that the DCP2 has received communication from a DPF controller recently connected to the CAN bus. The DCP2 will consider the DPF installed at this point and the message may be cleared by pressing the ESC/RESET key on the DCP2.

1.8.2 DPF Regen Start xxx s

"IN x s" where x = 120 counting down to 0

This message will only be displayed during the warmup for an emergency regen and it represents the countdown timer for the warmup cycle.

1.8.3 DPF Regenerating

Indicates that the DPF is regenerating. During this time the comfort (heat and A/C) and convenience (120VAC hotel power) features of the APU system are not available since the power is needed to regenerate the DPF.

1.8.4 DPF Regen Complete

After the DPF regeneration is complete this message will be displayed for one minute and then automatically cleared. The normal comfort and convenience features are restored.

1.8.5 DPF Filter Needs Cleaning

This message indicates that the filter has accumulated a large amount of ash. The system may still be used but the time between regeneration events will be less than normal. This will result in higher fuel consumption and more time spent regenerating the filter. When convenient, the filter element should be removed and cleaned or replaced with a clean one. Press the ESC/RESET key to clear this message.

1.8.6 Pressure Sensor or Snubber Fail

"FORCED REGENERATION"

There is a problem with the exhaust back-pressure sensor. The system will still continue to function but a regeneration of approximately 30 minutes will occur after every 8 hours of APU operation. The problem should be fixed as soon as is convenient but the system can still be used in the meantime. If correct sensor function returns this fault condition will be automatically cleared and normal system operation will resume. Pressing a key will clear the message.

1.8.7 Pressure and Temp Sensor Failure Engine Shutdown

There is a problem with both the pressure and temperature sensors. This will leave the unit inoperable until the unit has been repaired.

1.8.8 APU Will Shutdown

NOTICE

It is not necessary to wait for the regen to complete before driving the truck. Also, for safety reasons, it is always possible to force the APU off by holding the ON/OFF button for 5 seconds.

"REGENERATING" OR "COOLING DOWN" OR "MUST REGEN"
"HOLD ON/OFF FOR 5 SEC TO SHUT DOWN"

You attempted to shut down the APU either during a regen or when the exhaust pressure was over 100mB. In the second case the unit will start a regen immediately. This message indicates that the APU will shut down when the regen cycle is completed.

1.8.9 Exhaust Temperature Sensor Failure

There is a problem with the exhaust temperature sensor. The system will continue to operate normally except that the exhaust temperature is not controlled. In this case the DPF may become overheated during regen events and, over time, this may degrade the performance of the coatings in the filter. Short term operation of the system is still acceptable but degraded coatings will result in longer regeneration cycles in the future. This problem should be fixed as soon as possible. Pressing the ESC/RESET key will clear the message.

1.8.10 DPF Lost Engine Shutdown

CAN bus communication from the DPF controller to the DCP2 has been lost. The APU will not be allowed to operate when this fault is active. Pressing the ESC/RESET key will clear the message.

1.8.11 DPF Filter Plugged Engine Shutdown

If the exhaust back pressure is greater than 190mB, the filter is deemed plugged and the APU is shut down. The engine may be restarted but if the back pressure exceeds 190mB it will be shut down again. It may still be possible to regen the filter and restore system function by performing an emergency regen. Pressing a key will clear this message.

1.8.12 DPF Heater Fail Engine Shutdown

The exhaust temperature did not reach 500°C within 10 minutes after starting the regen cycle. In this case the system cannot perform a regen cycle and the APU will not operate. Pressing the ESC/RESET key will clear the message.

1.8.13 GEN Voltage Low Engine Shutdown

This message appears when the generator voltage to the DPF controller is lower than 65V AC. Pressing the ESC/RESET key will clear the message.

1.8.14 Excessive Time Between Regens Service DPF

This message appears when there has not been a filter regeneration in 50 hours. The filter requires service and must be removed and inspected for physical damage.

The following messages appear in small print at the bottom of the "home" screen (where time and date are shown):

1.8.15 DPF Regen Soon

Indicates that the exhaust back pressure has reached 100mB. If the APU continues to run the back pressure will rise further; at 130mB a regeneration cycle will commence. If you shut down the APU (before reaching 130mB) the system will perform a regeneration cycle before shutting down.

1.8.16 DPF Regen Start In xxx s

This is a countdown timer during a warmup cycle for an emergency regeneration.

1.8.17 DPF Regenerating

This message indicates that a regeneration cycle is in progress; it will disappear when the regen is complete.

1.8.18 APU Cooling Down

NOTICE

It is always possible to force the APU off by holding the ON/OFF button for 5 seconds.

This indicates a cool down period after a regen. The APU will continue to run for 2 minutes after a regen before it will be allowed to shut down.

1.8.19 DPF Service Required

This message on the lower left of the screen indicates that the DPF system requires servicing. This message follows a main DPF fault to remind the user that service is required. To determine what fault triggered this message, use the "View Faults" menu. DPF Service Required messages will require the DPF system to be serviced by a qualified technician.

2.0 MAINTENANCE

The DPF system requires very little maintenance: cleaning or replacing the filter element every 1000 hours of APU operation (or when notified by the system) is all that is needed. All other maintenance items are related to the APU:

2.0.1 Fuel

Use low (or ultra low) sulfur diesel. ULSD is the default diesel formulation available for commercial sale in the United States and Canada. It is also permissible to use biodiesel up to B20 as long as it is low or ultra-low sulfur. The presence of sulfur in the fuel does not damage the filter but leads to ash buildup and may cause a need to clean the filter earlier than normally expected.

2.0.2 Engine Oil

Oil changes and other APU maintenance should be performed on a schedule according to the APU manual. The additional requirements are to use oil that meets the API CJ-4 specification for low ash production and to **be certain that the engine is not over filled with oil**. If the engine consumes more than 1 quart of oil in 200 hours of operation, then the engine needs to be serviced.

Continuing to operate the engine in this condition will cause the DPF to plug prematurely.

3.0 TROUBLESHOOTING

Symptom	Action
Pressure Sensor Failure	• Check that pressure sensor wiring harness is in good condition. • Check that connectors are mated properly. • With the APU running, check the exhaust pressure in the DPF Variables menu; the normal range is 15-130mBar. With the APU not running, or with the sensor removed from the pressure tube, the pressure should be less than 5mBar. It may take several seconds for the pressure to settle after starting or stopping the APU. • Remove the piston from the pressure snubber and clean it.
Temperature Sensor Failure	• Check that temperature sensor wiring harness is in good condition. • Check that connectors are mated properly. • Disconnect the temperature sensor connector and check to the pins with an ohmmeter, **Sensor Temperature** — **Resistance** 32°F (0°C) — 202 ohm 70°F (21°C) — 217 ohm 200°F (93°C) — 272 ohm • With APU running, check the temperature in the DPF Variables menu. With the APU operating with no electrical load the expected exhaust temperature should be 70-120°C with 20°C (68F) intake air.
DPF Lost	• Check the CAN wiring harness to DCP2 is in good condition. • Check that connectors are mated properly. • Look for FLASHING green light on DPF controller, this indicates that the DPF controller is sending messages on the CAN bus. • Reset system by removing power from DCP2 and DPF (together) controllers for 5s. This can be done at the battery or at the connections to the DPF and DCP2 controllers. • If DPF has been removed from APU system, access the DPF Manager menu item in the DCP2 and press MENU to un-install the DPF. System Config / Configure / DPF / Uninstall
DPF Filter Plugged	• It may still be possible to regenerate the filter: with the APU off go to the DPF / Start Regen menu item on the DCP2 and select YES (press MENU after selecting YES to lock in the selection). Then start the APU. If the system can not regenerate the filter you can try again when the weather is less extreme or at lower elevation. If the filter still will not regenerate then the system must be serviced: the filter element must be cleaned or exchanged for a clean one. DPF Manger / Emergency Regen.

DPF Heater Failure

- Check that temperature sensor and heater wiring harnesses are in good condition.
- Check that connectors are mated properly.
- Verify that the heater is good: With the heater COLD, disconnect the connector for the heater and check the resistance between pins on the heater side of the connector.

Between Pins	Resistance
3,4	less than 1 ohm
1,3	4-5 ohms
2,3	7-9 ohms
1,2	11-13 ohms

If you do not get these numbers then remove the DPF assembly cover and check that the wires from the connector to the heater are not broken. You can also check the resistances between the terminals on the heater.

⚠ WARNING

The voltage can be up to 120VAC and the heater cone will get hot so use care in making these measurements.

- Verify that the controller is supplying power to the heater: Remove the DPF assembly cover. Start the APU and start a regen (on the DCP2 go to the DPF / Start Regen menu item, select YES and press MENU). Measure the voltage on the heater terminals with respect to the heater chassis:

Heater Terminal	Vac
Common (no color)	less than 5V
H1 (red)	more than 30V
H2 (blue)	more than 30V

Generator Voltage Low

- Check that wiring harness to the generator and heater is in good condition
- This fault occurs if the generator voltage is very low, less than 65VAC. This should only occur if there is a short circuit in the wiring or the generator is not functioning.

APU Does Not Start

- If the DCP2 shows "CRANK LIMIT" try manually starting the APU, this is done by holding the ON/OFF button to crank the starter as long as the button is held. If you crank for 30 seconds, allow the starter to cool for at least 1 minute.
- Check whether the DPF system is the cause of the problem: Disconnect the CAN cable from the DCP2, remove the DCP2 from its enclosure and disconnect the 2 pin gray Deutsch connector. Then go to the System Config / DPF menu item, select UN-INSTALL and press MENU and then try to start the APU. If, after this, the APU still will not start then the problem is related to the APU and not the DPF, check APU manual for additional troubleshooting. Most likely causes include fuel problems (dirty fuel, fuel ran low and system needs to be primed, fuel filters plugged etc).

APU is Very Loud

- Normally most of the noise from the APU comes from the engine and not the exhaust pipe. However, if the noise from the tailpipe seems louder than normal a trained service person should remove the filter cartridge and check for physical damage.

4.0 DPF WARRANTY STATEMENT

Important Notice

The warranties described in this document cover failure of the Teleflex Ecotrans Technologies products listed herein that are the result of defects in Teleflex Ecotrans Technologies materials, workmanship and design, under normal use and service.

4.0.1 Product Warranty

Your Warranty Rights and Obligations

Teleflex Ecotrans Technologies must warrant the diesel emission control system in the application for which it is sold or leased to be free from defects in design, materials, workmanship, or operation of the diesel emission control system which cause the diesel emission control system to fail to conform to the emission control performance level it was verified to, or to the requirements in the California Code of Regulations, Title 13, Sections 2700 to 2706, and 2710, for the periods of time listed below, provided there has been no abuse, neglect, or improper maintenance of your diesel emission control system, vehicle or equipment, as specified in the owner's manuals. Where a warrantable condition exists, this warranty also covers the engine from damage caused by the diesel emission control system, subject to the same exclusions for abuse, neglect or improper maintenance of your vehicle or equipment. Please review your owner's manual for other warranty information. Your diesel emission control system may include a core part (e.g., particulate filter, diesel oxidation catalyst, selective catalytic reduction converter) as well as hoses, connectors, a back pressure monitor (if applicable), and other emission-related assemblies. Where a warrantable condition exists, Teleflex Ecotrans Technologies will repair or replace your diesel emission control system at no cost to you including diagnosis, parts, and labor.

Warranty Coverage

The warranty period will be (3 years or 1600 hours of operation) whichever occurs first. If any emission-related part of your diesel emission control system is defective in design, materials, workmanship, or operation of the diesel emission control system thus causing the diesel emission control system to fail to conform to the emission control performance level it was verified to, or to the requirements in the California Code of Regulations, Title 13, Sections 2700 to 2706, and 2710, within the warranty period, as defined above, Teleflex Ecotrans Technologies will repair or replace the diesel emission control system, including parts and labor.

In addition, Teleflex Ecotrans Technologies will replace or repair the engine components to the condition they were in prior to the failure, including parts and labor, for damage to the engine proximately caused by the verified diesel emission control strategy. This also includes those relevant diagnostic expenses in the case in which a warranty claim is valid. Teleflex Ecotrans Technologies may, at its option, instead pay the fair market value of the engine prior to the time the failure occurs.

Owner's Warranty Responsibilities

As the Auxiliary Power Unit and Diesel Particulate Filter owner, you are responsible for performing the required maintenance described in your owner's manuals. Teleflex Ecotrans Technologies recommends that you retain all maintenance records and receipts for maintenance expenses for your vehicle, engine, or equipment, and diesel emission control system. If you do not keep your receipts or fail to perform all scheduled maintenance, Teleflex Ecotrans Technologies may have grounds to deny warranty coverage. You are responsible for presenting your vehicle, equipment, or engine, and diesel emission control system to a Teleflex Ecotrans Technologies dealer as soon as a problem is detected. The warranty repair or replacement should be completed in a reasonable amount of time, not to exceed 30 days. If a replacement is needed, this may be extended to 90 days should a replacement not be available, but must be performed as soon as a replacement becomes available.

If you have questions regarding your warranty rights and responsibilities, you should contact Teleflex Ecotrans Technologies Product Support Department at 877-329-1357 or the California Air Resources Board at 9528 Telstar Avenue, El Monte, CA 91731, or 800-363-7664, or electronic mail: helpline@arb.ca.gov

4.0.2 Installation Warranty

Your Warranty Rights and Obligations

Teleflex Ecotrans Technologies must warrant that the installation of a diesel emission control system is free from defects in workmanship or materials which cause the diesel emission control system to fail to conform to the emission control performance level it was verified to, or to the requirements in the California Code of Regulations, Title 13, Sections 2700 to 2706. The warranty period and the extent of the warranty coverage provided by Teleflex Ecotrans Technologies must be the same as the warranty provided by the product manufacturer, and the same exclusions must apply. (3 years or 1600 hours of operation whichever happens first.)

Owner's Warranty Responsibilities

As the Auxiliary Power Unit and Diesel Particulate Filter owner, you are responsible for presenting your vehicle, engine, or equipment, and diesel emission control system to Teleflex Ecotrans Technologies dealer as soon as a problem with the installation is detected.

If you have questions regarding your warranty rights and responsibilities, you should contact Teleflex Ecotrans Technologies Product Support Department at 877-329-1357 or the California Air Resources Board at 9528 Telstar Avenue, El Monte, CA 91731, or 800-363-7664, or electronic mail: helpline@arb.ca.gov

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