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PART 1: INTRODUCTION

Safety Signals

A number of alerting messages are in this manual. Please read and follow them. They are there for your protection and information. These messages can help you avoid injury to yourself and your passengers, and help prevent costly damage to the vehicle.

Key symbols and “signal words” are used to indicate what kind of message is going to follow. Pay special attention to instructions prefaced by symbols and signal words “WARNING,” “CAUTION,” or “NOTE.” Please do not ignore any of these alerts.



WARNING:

When you see this symbol and word, the message that follows is especially vital. This signals something that can cause injury or even death. This message will tell you what the hazard is, what can happen if you don't heed the warning, and how to avoid it. For example:



WARNING! Do not carry additional fuel containers in your vehicle. Fuel containers, either full or empty, may leak, explode, and cause or feed a fire. Do not carry extra fuel containers. Even empty ones are dangerous.



CAUTION:

This symbol and word signals something that could damage your vehicle. For example:



CAUTION: Continuing to operate your vehicle with insufficient oil pressure will cause serious engine damage.

NOTE:



Gives you information we feel you would like to have. It could have to do with care of your vehicle or with driving more efficiently. For example:



NOTE: Pumping the accelerator will not assist in starting the engine.

Please take the time to read these messages when you see them, and remember:

WARNING!

Something that could cause an injury or even death.

CAUTION:

Something that could cause damage to your vehicle.

NOTE:

Useful information.

The Peterbilt ComfortClass™ System

This system utilizes a sleeper air conditioning system and diesel fuel-powered sleeper heater that are compliant with anti-idling requirements. The sleeper air conditioning system provides up to 10 hours of engine-off cooling in typical conditions*. The air conditioning system recharges as the vehicle is driven or by shore power and requires approximately 4-6 hours of recharging depending upon outside conditions. The cold air for the air conditioning system comes from a Storage Cooler that is located behind the sleeper. It stores the system's cooling capacity by freezing water. As the system is used, the ice melts back into water and needs to be recharged (frozen) again by the Air Conditioning Charge Unit.

The system is powered by an energy-efficient Comfort-Class System Battery Box that includes four deep-cycle AGM batteries and is outfitted with 2000 watt, 12 VDC/120 VAC inverter. The system includes a 20 amp shore power capability with a 25-foot shore power cable and includes ComfortClass System battery charging capability while on shore power.

The system has an enhanced charge/start capability that includes two 1000 CCA dedicated Starter Batteries in the

starter battery box, a starter battery charger and a 185A alternator with remote voltage regulator located in the ComfortClass System Battery Box. The voltage regulator is optimized and pre-programmed with a specific charge profile for optimal charging of the deep-cycle batteries that increases the deep-cycle battery life.

An enhanced insulation package includes upgraded sleeper in-wall insulation. Interior features include the following:

- Floor insulation,
- A cab dash-mounted A/C charge enable switch,
- Two 120 VAC, GFCI (ground fault circuit interruption) duplex outlets in passenger side closet and under driver side bunk,
- A dedicated sleeper control panel with diagnostic feedback, via "blink" codes (status of HVAC modes, inverter modes, alerts, etc.),
- Sleeper fresh or recirculated air intake, and
- A premium-grade dust and pollen filter readily accessible under sleeper bunk.

* Overall performance may vary depending on conditions described on page 33.

System features include:

- Engine-off sleeper heating, cooling, and 120-Volt AC power.
- No engine noise or vibration.
- Decrease in overall fuel consumption.



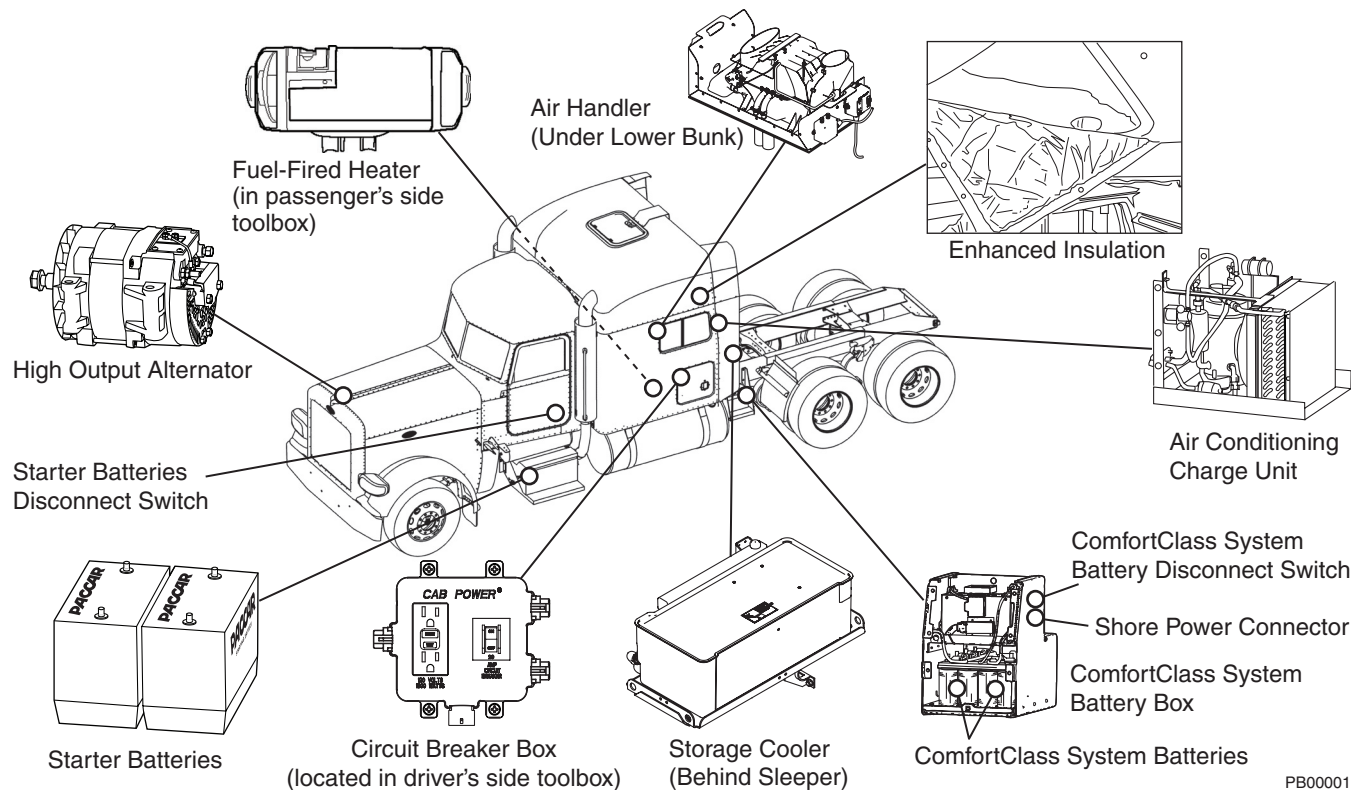
NOTE: This system is NOT designed to cool a hot sleeper. Use the vehicle's air conditioner to pre-cool the sleeper to at least 75°F prior to turning on the ComfortClass System air conditioner. The system can then be used to maintain that temperature.

NOTE: The system is designed to maintain the interior sleeper temperature around 75°F for a period of up to 10 hours, based on maximum outside temperature of 95°F, a relative humidity of 50%, and with the sleeper not in direct sunlight. The sleeper environment must be pre-cooled to 75°F by the air conditioner prior to use of the system. The system is NOT designed to maintain sleeper temperatures under extremes of heat or direct sunlight. You may need to supplement the ComfortClass System by operating the vehicle's air conditioner if the ComfortClass System is unable to maintain the desired temperature level.*

* Overall performance may vary depending on conditions described on page 33.

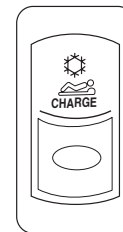
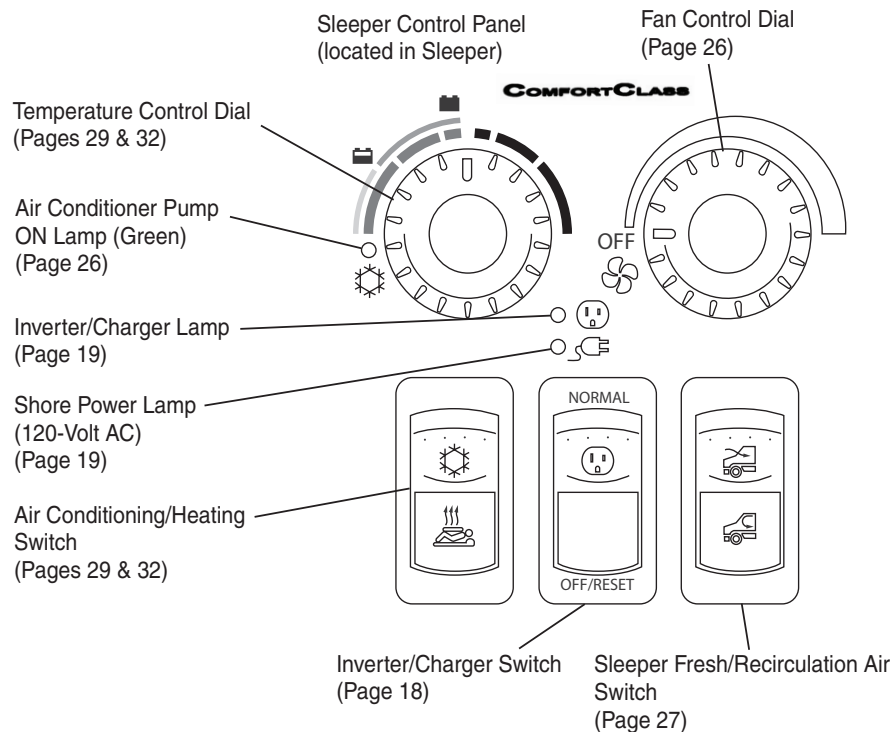
This Operator's Manual contains useful information for the safe and efficient operation of your ComfortClass System.

All information contained in this manual is based on the latest production information available at the time of publication. Peterbilt Motors reserves the right to make changes at any time without notice.

Location of Components

PB00001

Location of Components



Charge/Enable Switch
(located on cab dash)
(Page 37)

PB00002

PART 2: ELECTRIC POWER SYSTEM

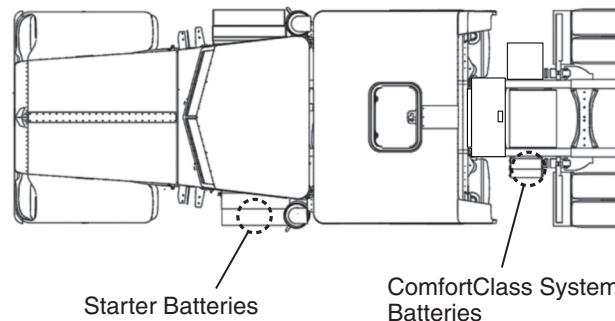
Charging/Jump-Starting Instructions



WARNING! The electrical charging system used for the ComfortClass System is different from normal charging systems. Failure to adhere to the proper charging or jump-starting procedures could lead to death or serious injury, damage to the Inverter/Charger or vehicle damage. Follow the Charging/Jump-Starting Instructions on page 10.



NOTE: The charging/jump-starting instructions can also be found on the top of the ComfortClass System Battery Box cover.



PB00006A

Vehicles equipped with the ComfortClass System have battery configurations that are different from traditional vehicles. These vehicles have a dedicated set of batteries in addition to the Starter Batteries. These batteries are referred to as the “ComfortClass System Batteries.” These batteries provide power to the vehicles’ electrical demands including on-board computers and the starting batteries. The starter is the only electrical device that does not depend on the ComfortClass System Batteries. The schematic on page 9 is provided to help illustrate the system.



NOTE: Do not attempt to jump-start the vehicle without first reading the instructions on top of the ComfortClass System Battery Box cover. If you have a battery problem, it is best to contact an authorized repair facility or a reputable towing service. When you do, inform them of the charging instructions on page 10 and the wiring schematic on page 9. These instructions can also be found on the top of the ComfortClass System Battery Box cover.

The ComfortClass System Batteries are located in the ComfortClass System Battery Box behind the sleeper, on the driver's side. They power all electrical systems on the vehicle EXCEPT the starter motor.



NOTE: Because the ComfortClass System Batteries power the engine controls and starter relay, you may experience a no-crank condition if the ComfortClass System Battery voltage is below 9.5-Volt, even though the Starter Batteries are fully charged.



NOTE: A DC/DC charger, also located below the cab on the driver's side, serves to isolate the starting batteries from the ComfortClass System Batteries and provides charge to the starting batteries to maintain them at a minimum of 12-Volt.



NOTE: The DC/DC charger will only be activated when either the truck is running or the truck is attached to a shore power electrical supply and the key is in the IGN or ON position.

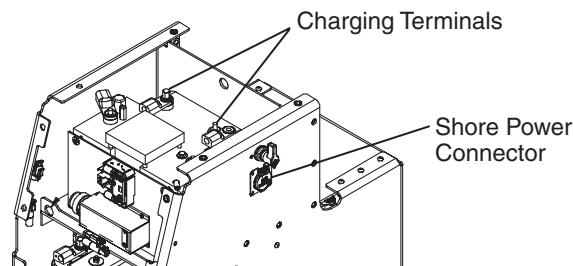
Charging/Jump-Starting Instructions

There may be occasions where the vehicle will crank but it will not start, even after charging the starting batteries and/or attempting to jump-start the vehicle using normal procedures found in the *Operator's Manual*. You may also notice that the voltage meter on your dash is below 11 volts, interior lights are dimmed or not on, and the DC outlets have no power.



NOTE: The voltmeter only monitors the Comfort-Class System Batteries, not the Starter Batteries.

In such situations, the ComfortClass System System Battery voltage has dropped below 9.5 volts. It is necessary to charge the ComfortClass System System Batteries to above 11 volts (and ensure that the Starter Batteries are at 12 volts) in order to start the vehicle.



PB00032

The ComfortClass System Batteries are located in the driver's side frame-mounted box located behind the sleeper. The batteries can be accessed by removing the cover plate and connecting a charger to the charging terminals. Turn the battery disconnect switch, on the side of the ComfortClass System Battery Box, to the "ON" position if you want to charge the batteries using the charging terminals. Charging these batteries can also be performed by using the shore power connection on the side of this box.

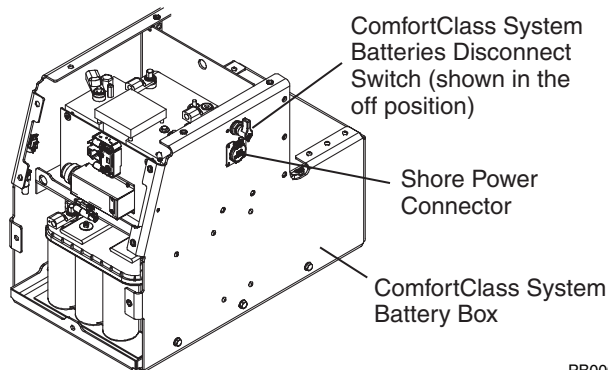
Please have your ComfortClass System inspected by an authorized dealer if your ComfortClass System Batteries continue to drop below 11 volts or if you are unable to start the vehicle after charging both the starter and the Comfort-Class System Batteries.

Refer to **"Battery Charging"** and **"Jump-Starting Vehicles"** in the Peterbilt *Operator's Manual* for additional battery charging and jump-starting procedures. Also, refer to the **Troubleshooting Section on page 41** for more details.



CAUTION: Do not connect any accessories directly to the starting batteries. This could drain the batteries to a point where they can no longer start the engine.

Disconnect Instructions



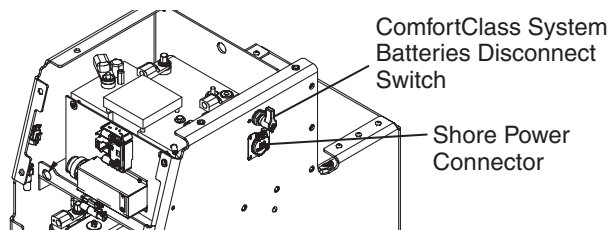
PB00004

Prior to servicing the vehicle, disconnect the electrical system as follows:

1. Turn air heater off and wait three minutes prior to turning the disconnect switches to the OFF position (steps 3 and 4 below). This gives three minutes for the heater to purge any fuel still in the heater and allows the unit to cool off.
2. Unplug shore power connection.
3. Turn Starter Battery disconnect to OFF position.

4. Turn ComfortClass System Battery disconnect located on ComfortClass System Battery Box (located on driver's side, rear of sleeper) to OFF position.

Charging ComfortClass System Batteries using Shore Power



PB00005



WARNING! Electric Shock Hazard. 120-Volt AC power present. This can cause electrical shock or fire resulting in death, personal injury or property damage. Only a trained technician should work on the shore power system. Turn all battery disconnect switches to the OFF position and unplug the shore power electrical supply before servicing any part of the vehicle's electrical system.



WARNING! Electric Shock Hazard. 120-Volt AC power present. An improperly maintained shore power electrical system can cause fires and electrical shocks that may lead to death, personal injury or property damage. Regularly inspect the shore power truck wiring, AC shore power cord, plugs and connectors for damaged or frayed wiring. Do not use the shore power system if there are any signs of problems.

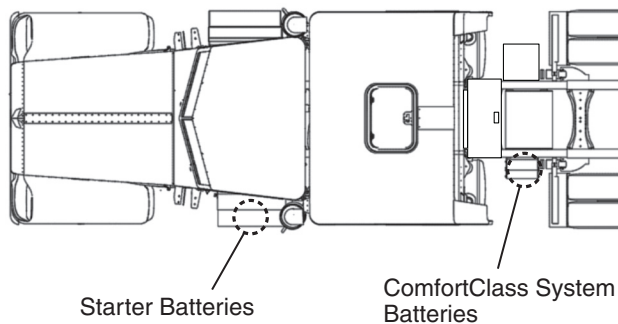


WARNING! Do not use an undersized AC extension cord or a cord that is too long as there is an Electric Shock Hazard due to the 120-Volt AC power present. An undersized AC extension cord can cause fires and electrical shocks that may lead to death, personal injury or property damage. Always use a properly grounded 20 Amp UL rated AC extension cord that is no longer than 25 ft. and a 20 Amp AC protected power source with a grounding conductor when connecting to a shore power electrical supply.

1. Attach the shore power cord to a 20 Amp protected circuit and the shore power connector until system voltage is restored (9.5 Volts minimum at Comfort-Class System Batteries and 12 Volts minimum at Starter Batteries). The shore power connector is located on the rear of the ComfortClass System Battery Box.
2. Make sure the Inverter/Charger Switch (shown on page 20) is in the ON position and that the circuit breaker on the Protection Unit box has not been tripped. The Shore Power Lamp on the Sleeper Control Panel will illuminate green and the Inverter/Charger Lamp will illuminate orange.

Normal system voltage is 13.5 to 14.6 Volts with the engine running. Typically the ComfortClass System Batteries must reach at least a 9.5-Volt charge to power the engine controls necessary to start the engine.

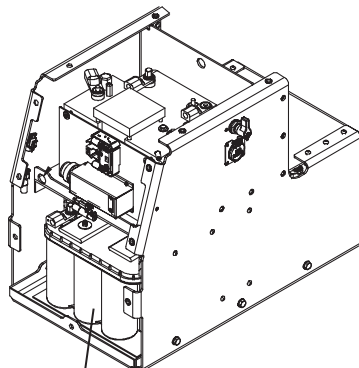
12-Volt DC System



PB00006A

The 12-Volt Direct Current (DC) System consists of ComfortClass System Batteries, Starter Batteries, a Low Voltage Disconnect system and gauges for Electrical Monitoring. Vehicles equipped with the Peterbilt Comfort-Class System have a unique 12-Volt electrical system. The system uses a high output alternator and two sets of batteries: the ComfortClass System Batteries and the Starter Batteries.

ComfortClass System Batteries



ComfortClass System Batteries
Deep-Cycle AGM (Gel Cell)

PB00007



WARNING! Do not cover the batteries with additional insulation or covers or store any items around the batteries. Additional insulation or items around the batteries will lead to poor venting which could result in a fire and/or explosion that may lead to death, personal injury or equipment damage.

The ComfortClass System Batteries are located in the ComfortClass System Battery Box on the driver's side of the vehicle behind the sleeper compartment. The four Deep Cycle AGM (Gel Cell) batteries power all electrical system components on the vehicle EXCEPT the starter motor.

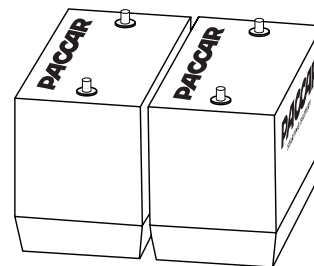


CAUTION: Do not replace the Deep Cycle AGM (Gel Cell) batteries with common lead acid batteries. The ComfortClass System is designed to draw to very low voltages which will significantly reduce the life of a lead acid battery. Use only PACCAR recommended ComfortClass System Batteries. See your Peterbilt dealer for additional information.



NOTE: Because the ComfortClass System Batteries power the engine controls and starter relay, you may experience a no-crank condition if the ComfortClass System Battery voltage is below 9.5-Volt, even though the Starter Batteries are fully charged.

Starter Batteries



PB00008



NOTE: The charging instructions can also be found on the top of the ComfortClass System Battery Box cover.

The Starter Batteries (two 1000 Cold Cranking Amp 12-Volt batteries) are located below the cab on the driver's side of the vehicle. These batteries are used only to power the starter motor.

A DC/DC charger serves to isolate the starting batteries from the ComfortClass System Batteries and provides charge to the Starter Batteries to maintain them at a minimum of 12 Volts.



NOTE: The DC/DC charger will only be activated when either the truck is running or the truck is attached to a shore power electrical supply and the key is in the IGN or ON position.

Low-Voltage Disconnect



NOTE: The electrical system is equipped with a low-voltage disconnect feature that will shut down all non-essential electrical components if ComfortClass System Battery voltage drops below 11 Volts.

The system is designed to disconnect when ComfortClass System Battery voltage drops below 11 Volts. Three minutes prior to system disconnect, an audible warning in the Sleeper Control Panel will sound to give the operator time to switch to an alternative power source or reduce loads. To reset the system the ComfortClass System Batteries must be charged until a system voltage of 13.2 Volts or greater is reached. This can be accomplished by attaching to shore power or starting the engine. Turning the ignition key to the ON position will not disable the Low-Voltage Disconnect.

Electrical System Monitoring

Normal system voltage on vehicles equipped with the Peterbilt ComfortClass System is between 13.5 and 14.6 Volts with the engine running. This is slightly higher than vehicles without the Peterbilt ComfortClass System.

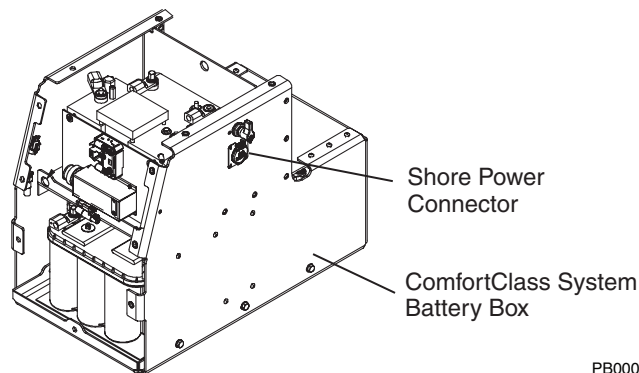
All vehicles come equipped with a dash-mounted voltmeter. Some vehicles may be equipped with an optional ammeter as well.



NOTE: These gauges monitor the ComfortClass System Batteries, not the Starter Batteries.

An indicator lamp on the face of the voltmeter will illuminate if system voltage reaches 15 Volts. This is considered an over voltage condition. If this occurs, contact the nearest authorized repair facility.

Shore Power



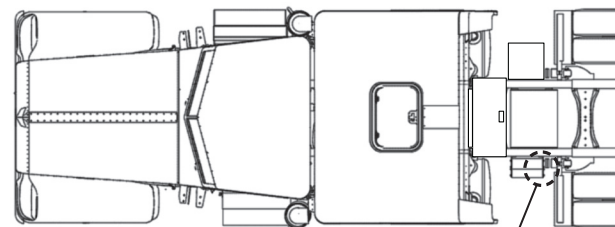
PB00010



WARNING! Electric Shock Hazard. 120-Volt AC power present. This can cause electrical shock or fire resulting in death, personal injury and/or property damage. Only a trained technician should work on the shore power system. Turn all battery disconnect switches to the OFF position and unplug the shore power electrical supply before servicing any part of the vehicle's electrical system.

The shore power system is located in the ComfortClass System Battery Box and consists of a 120-Volt AC Electrical System connection, Inverter/Charger, Circuit Breaker Box, and 120-Volt AC outlets in the sleeper.

Shore Power and Inverter



Shore Power Hook Up

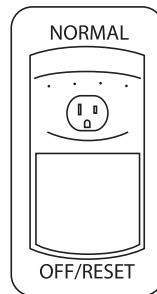
PB00006B



WARNING! Electric Shock Hazard. 120-Volt AC power present. An improperly maintained Shore Power electrical system can cause fires and electrical shocks that may lead to death, personal injury or property damage. Regularly inspect the shore power truck wiring, AC shore power cord, plugs and connectors for damaged or frayed wiring. Do not use the shore power system if there are any signs of problems. Always use a properly grounded 20 Amp UL rated AC extension cord that is no longer than 25 ft. and a 20 Amp AC protected power source with a grounding conductor when connecting to a shore power electrical supply.

The Peterbilt ComfortClass System enables you to access 120-Volt AC power from two different sources. A shore power connection allows access to an outside power source and an electrical inverter system can produce 120-Volt AC from the ComfortClass System Batteries.

Inverter/Charger Switch



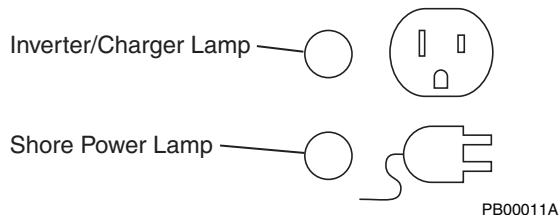
PB00011

The 120-Volt AC system function is controlled by the Inverter/Charger Switch located on the Sleeper Control Panel.

When the top of the switch is pressed (NORMAL position), the Inverter/Charger is on and the green electrical outlet symbol on the switch will turn on. This is the normal operating position for the Inverter/Charger.

When the bottom of the switch is pressed (OFF/RESET position), the Inverter/Charger will be off and the green electrical outlet symbol on the switch will turn off. Refer to the ***Inverter/Charger Indicator Chart on page 20*** for Reset information.

Inverter/Charger & Shore Power Lamps



The Inverter/Charger and Shore Power Lamps located in the center of the Sleeper Control Panel will illuminate in an array of colors and configurations to designate system status. Refer to the Inverter/Charger Indicator chart on the next page for more information.

Inverter/Charger Indicator Chart

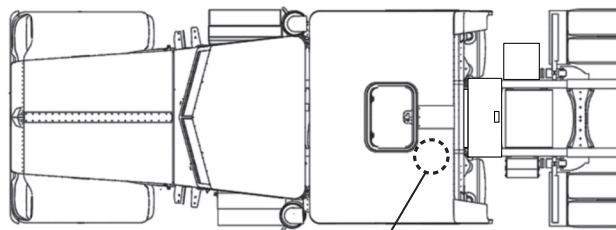
Inverter/Charger & Shore Power Lamps Status		System Status			
Inverter/Charger Lamp	Shore Power Lamp	Inverter/Charge Switch	Shore Power	Inverter	Charger
 Solid Green	 OFF	ON	OFF	ON	OFF
 Blinking Green (0.5 sec ON, 0.5 sec OFF)	 OFF	ON	OFF	Input Low Voltage	OFF
 Blinking Green 3x (0.2 sec ON/OFF) 4.5 sec OFF	 OFF	ON	OFF	Input Low Voltage Warning	OFF
 Blinking Green (0.5 sec ON, 0.5 sec OFF)	 OFF	ON	OFF	Input Over Voltage Protection	OFF
 Solid Red	 OFF	ON	OFF	Overload; Short Circuit Protection; Output Over Voltage Protection	OFF
 OFF	 OFF	ON	OFF	Over Temp	OFF
 Solid Orange	 Solid Green	ON	ON	OFF	ON
 Solid Orange	 Solid Green	ON	ON	OFF	Thermally Derated Charge
 Solid Orange	 Solid Green	ON	ON	OFF	Overload; Short Circuit Protection
 Blinking Orange/Red (4 sec Orange, 1 sec Red)	 Solid Green	ON	ON	OFF	Low Voltage Timed Charge
 Blinking Orange/Red (0.5 sec Orange, 0.5 sec Red)	 Solid Green	ON	ON	OFF	Low Voltage Auto-Stop
 OFF	 OFF	ON	Battery Disconnect		
 OFF	 OFF	OFF	OFF		

Inverter/Charger & Shore Power Lamps Status		
Inverter/Charger Lamp	Shore Power Lamp	Remedy
 Solid Green	 OFF	Normal inverter/charger operation, no action required.
 Blinking Green (0.5 sec ON, 4.5 sec OFF)	 OFF	- Inverter/charger will auto-restart if voltage reaches an acceptable level. - Cycle inverter/charger on/off switch to off/reset and then back on to reset inverter. ¹
 Blinking Green 3x (0.2 sec ON/OFF) 4.5 sec OFF	 OFF	- Inverter/charger will auto-restart if voltage reaches an acceptable level. - Cycle inverter/charger on/off switch to off/reset and then back on to reset inverter. ¹
 Blinking Green (0.5 sec ON, 0.5 sec OFF)	 OFF	- Inverter/charger will auto-restart if voltage reaches an acceptable level. - Cycle inverter/charger on/off switch to off/reset and then back on to reset inverter. ¹
 Solid Red	 OFF	- Cycle inverter/charger on/off switch to off/reset and then back on to reset inverter. ¹
 OFF	 OFF	- Inverter/charger will auto-restart if temperature reaches an acceptable level. - Cycle inverter/charger on/off switch to off/reset and then back on to reset inverter. ¹
 Solid Orange	 Solid Green	Normal inverter/charger operation, no action required.
 Solid Orange	 Solid Green	Charging will derate at high temperatures, no action required.
 Solid Orange	 Solid Green	- Inverter/charger will auto-restart if conditions reach an acceptable level. - Cycle inverter/charger on/off switch to off/reset and then back on to reset inverter. ¹
 Blinking Orange/Red (4 sec Orange, 1 sec Red)	 Solid Green	Low voltage charging operation, allows for charging of batteries as low as 5V, no action required.
 Blinking Orange/Red (0.5 sec Orange, 0.5 sec Red)	 Solid Green	If batteries at a low voltage are not successfully accepting a charge, inverter/charger will turn off. Cycle inverter/charger on/off switch to off/reset and then back on to reset inverter/charger. ^{1,2}
 OFF	 OFF	Turn inverter/charger on/off switch to off/reset. Reconnect batteries to inverter/charger. Turn inverter/charger on/off switch to on.
 OFF	 OFF	For inverter/charger function, turn inverter/charger on/off switch to on.

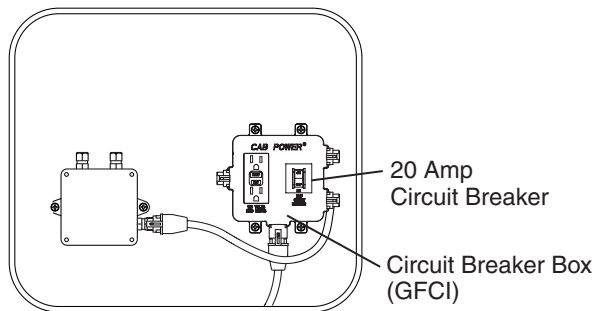
¹ If after restarting the inverter/charger the blink code persists, please see your local Peterbilt service dealer.

² Continuous charging of low voltage batteries is not recommended. If low voltage charging is unsuccessful after restarting inverter/charger, replace main batteries.

Circuit Breaker Box



Circuit Breaker Box



PB00012



WARNING! Electrical shock hazard. Use of a ground fault circuit interrupter other than that supplied with the Circuit Breaker Box may fail to operate properly and may lead to death, personal injury or equipment damage. Use only the ground fault circuit interrupter that is supplied with the Circuit Breaker Box (Hubbell Part Number GFBF20GYL GFCI).

The Circuit Breaker Box houses a 20 Amp circuit breaker and a Ground Fault Circuit Interrupter (GFCI) that provides circuit protection for the 120-Volt AC system. (The Circuit Breaker Box is located in the tool box on the driver's side of the sleeper.)

The circuit breaker is located on the right side of the Circuit Breaker Box. If the breaker is tripped (circuit open) it can be reset by pressing the top of the rocker switch to the ON position.

The GFCI is located on the left side of the Circuit Breaker Box. The GFCI will open (disconnecting the power) if a ground fault is detected on the circuit. The unit can be reset by pressing the RESET button on the top of the GFCI.

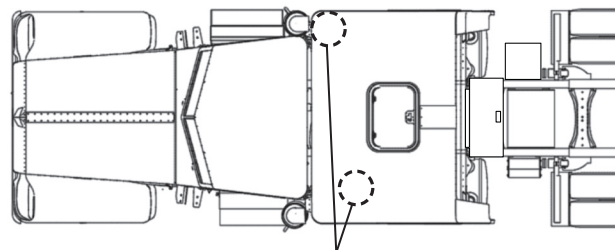


NOTE: Replace GFCI if light on GFCI flashes. If this is not done, outlets will not be powered. Replace with a new Hubbell GFBF20GYL GFCI.



NOTE: The Inverter has its own low-voltage disconnect system that will shut off power to the two duplex outlets when the ComfortClass System Battery voltage gets below 11 Volts.

120-Volt AC Outlets



120-Volt AC Outlets

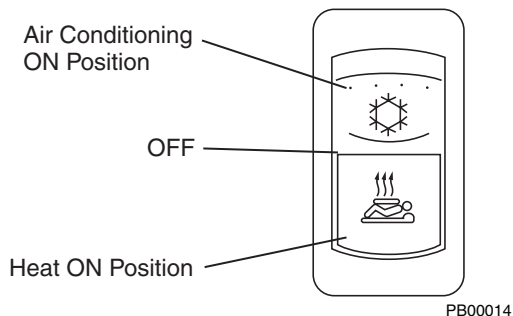
PB00013B

Two 120-Volt AC duplex style outlets are located in the sleeper compartment, one under the driver's side lower bunk, the second in the passenger side closet. They are powered by either a shore power electrical supply or by the ComfortClass System Batteries through the Inverter.

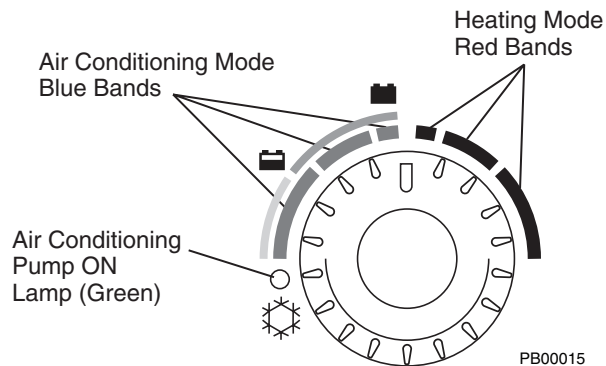
NOTES

PART 3: HEATING AND AIR CONDITIONING SYSTEM

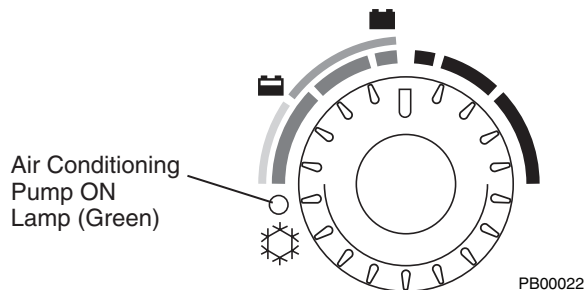
Controls and Switches



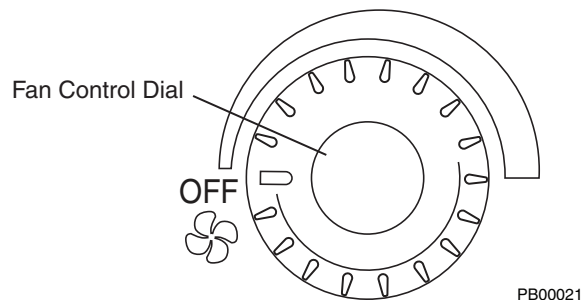
The Air Conditioning/Heating Switch is the leftmost switch in the Sleeper Control Panel. The middle is the OFF position of the switch. Pressing on the top of the switch will turn the sleeper air conditioning system on. Pressing on the bottom of the switch will turn the sleeper fuel fired heater on.



The Temperature Control Dial is located on the left side of the Sleeper Control Panel. Turning the dial clockwise from the 12 o'clock position to the red bands controls the sleeper heater. Turning the dial counterclockwise from the 12 o'clock position to the blue bands controls the sleeper air conditioning.

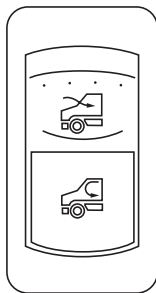
**Air Conditioning Pump ON Lamp**

The Air Conditioning Pump ON Lamp is located on the left side of the Temperature Control Dial between the blue band and the white snowflake. The lamp will illuminate green when the Temperature Control Dial is turned to a temperature range which requires the air conditioning pump to turn on (i.e., colder temperature). The pump will cycle on and off automatically to maintain a desired temperature.

**Fan Control Dial**

NOTE: The more the pump is on, the more the ice in the Storage Cooler melts. When all of the ice has melted, you will lose the ability for the system to provide cold air until the Storage Cooler has been recharged. See **Storage Cooler on page 35**.

Fresh/Recirculation Air Switch



PB00023



NOTE: The Fresh/Recirculation Switch is only operational when the Fan Control Dial is in the ON position. When the Fan Control Dial is in the OFF position, the Fresh/Recirculation door and control will be deactivated. The Fresh/Recirculation door will remain in the position (open or closed) selected prior to turning the fan off.

The Fresh/Recirculation Air Switch is the rightmost switch on the Sleeper Control Panel. The two-position switch controls the source of the incoming air to the air conditioning and ventilation system. With the switch in the FRESH position (top position pressed), outside air is introduced to the air conditioning or ventilation system. In the RECIRCULATION position (bottom position pressed), sleeper air is recirculated through the system.

The system can be operated in a ventilation only mode by placing the Air Conditioning/Heating Switch in the OFF position and moving the Fan Control Dial from the OFF position. With the Fresh/Recirculation Switch in the FRESH position, outside air is vented to the sleeper compartment.

Using the Heater



WARNING! Do not operate the sleeper heating system or ventilating system around hazardous fumes or exhaust gases. Hazardous fumes and exhaust fumes may be vented into the sleeper compartment causing serious illness that may lead to death. Do not park your vehicle near other vehicles that are idling or where other hazardous fumes may be present.



WARNING! Do not operate the heater portion of the ComfortClass System when vehicle is in an enclosed, unventilated area. Exhaust fumes from the air heater contain carbon monoxide, a colorless and odorless gas which, if inhaled, can cause serious illness that may lead to death. Never park in an enclosed area when operating the heater.

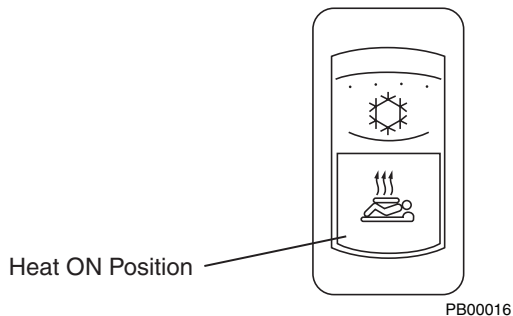


WARNING! Exhaust fumes from the heating unit contain carbon monoxide, a colorless and odorless gas. Do not breathe the heater exhaust gas. A poorly maintained, damaged, or corroded exhaust system can allow carbon monoxide to enter the cab or sleeper. Entry of carbon monoxide into the cab or sleeper is also possible from other vehicles nearby. Failure to properly maintain your vehicle could cause carbon monoxide to enter the cab/sleeper and cause serious illness that may lead to death.



NOTE: When filling fuel tanks with low-temperature fuel, run the air heater for 15 minutes in warmer climates to circulate the low-temperature fuel into the heater system to prevent the fuel from gelling in colder climates.

Follow the steps to properly start and operate the heater.

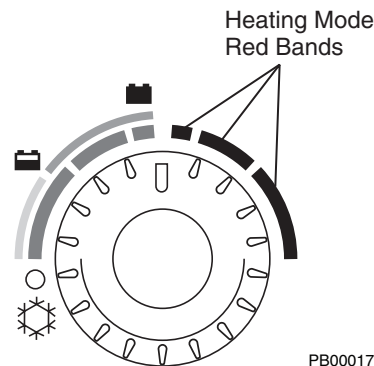


Air Conditioning/Heating Switch

Step 1: Turn the Air Conditioning/Heating Switch to the Heater ON position.



NOTE: A flashing RED lamp indicates a system fault. Contact the nearest authorized repair facility.

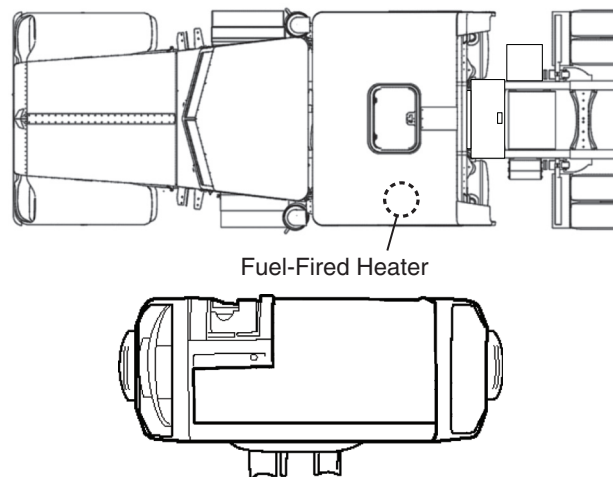


Temperature Control Dial

Step 2: Turn the Temperature Control Dial clockwise to the Heating Mode. Turning the dial in a clockwise direction (red band on dial) increases both the temperature and the Fuel-Fired Heater fan speed simultaneously. Turn the knob clockwise to increase the temperature or counterclockwise to decrease the temperature. Once the desired temperature is reached, the system will maintain it automatically. The dial is not calibrated to specific temperatures.

Step 3: If you want more air from the vents, you can set the Fresh/Recirculation Air Switch to the RECIRCULATION position and increase the air from the vents via the Fan Control Dial.

Fuel-Fired Heater



PB00018

The Fuel-Fired Heater is a stand-alone unit that is controlled only by the Sleeper Control Panel. It is located in front of the toolbox on the side of the vehicle. Its design and function are similar to units used on other vehicles. The heater uses diesel fuel drawn from the vehicle's fuel tank(s) to create heat.

Using the Air Conditioner



WARNING! Do not operate the sleeper air conditioning system or ventilating system around hazardous fumes or exhaust gases. Hazardous fumes and exhaust fumes may be vented into the sleeper compartment causing serious illness that may lead to death. Do not park your vehicle near other vehicles that are idling or where other hazardous fumes may be present.



WARNING! Do not breathe the engine exhaust gas. Exhaust fumes from the engine contain carbon monoxide, a colorless and odorless gas. A poorly maintained, damaged, or corroded exhaust system can allow carbon monoxide to enter the cab or sleeper and cause serious illness that may lead to death. Inspect the exhaust system for leaks monthly or every 7,500 miles (12,000 km).

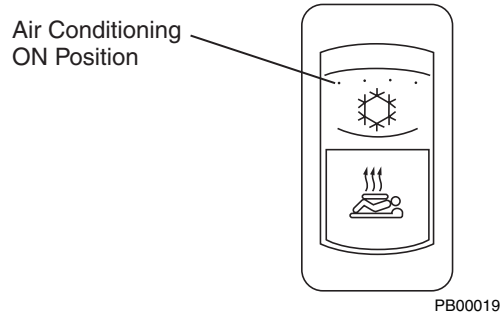


NOTE: This system is NOT designed to cool a hot sleeper. Use the vehicle's air conditioner to pre-cool the sleeper to at least 75°F prior to turning on the ComfortClass System air conditioner. The system can then be used to maintain that temperature.



NOTE: The system is designed to maintain the interior sleeper temperature around 75°F for a period of up to 10 hours*, based on maximum outside temperature of 95°F, a relative humidity of 50%, and with the sleeper not in direct sunlight. The sleeper environment must be pre-cooled to 75°F by the air conditioner prior to use of the system. The system is NOT designed to maintain sleeper temperatures under extremes of heat or direct sunlight. You may need to supplement the ComfortClass System by operating the vehicle's air conditioner if the ComfortClass System is unable to maintain the desired temperature level.

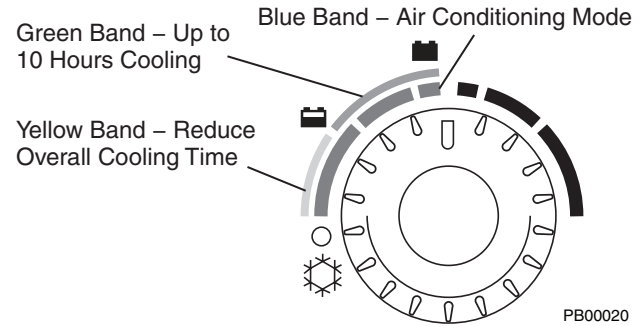
* Overall performance may vary depending on conditions described on page 33.



Air Conditioning/Heating Switch

Follow the steps to properly start and operate the air conditioner.

Step 1: Turn the Air Conditioning/Heating Switch to the air conditioning ON position.



Temperature Control Dial

Step 2: Turn the Fan Control Dial clockwise to start the fan. Continuing to turn the dial clockwise will gradually increase fan speed. In the full counterclockwise position the dial is in the OFF position. In the OFF position, the air conditioning system will be deactivated. The dial controls fan speed for the air conditioning system only and not for the heater.

Step 3: Turn the Temperature Control Dial counterclockwise to the Air Conditioning Mode. Continuing to turn the dial in a counterclockwise direction (blue band on dial) will lower (colder) the air conditioning output temperature. Once the desired temperature is reached, the system will maintain it automatically. Setting the dial within the green band should give up to 10 hours of cooling (depending upon the outside heat conditions). Adjusting the dial further to the left (yellow band on dial) will lower the output temperature. The dial is not calibrated to specific temperatures, so where you position the dial to achieve the same temperature will vary depending on the current outside temperature conditions.



NOTE: Setting the dial in the yellow band will lower the output temperature produced by the system. Leaving the dial in this position for extended periods will cause the ice in the Storage Cooler to melt more quickly, thus reducing the amount of cooling time available for your use. When all of the ice has melted, you will lose the ability for the system to provide cold air until the Storage Cooler has been recharged. See **Storage Cooler on page 35**.

Cooling Efficiency

In order to maximize engine-off cooling many factors must be considered. The following factors all affect the system's cooling ability:

- Direct Sunlight
- Vehicle Color
- Ambient Temperature
- Initial Compartment Temperature
- Intake Air Mix
- Sleeper Curtain Position
- Window Coverings



NOTE: This system is NOT designed to cool a hot sleeper. Use the vehicle's air conditioner to pre-cool the sleeper to at least 75°F prior to turning on the ComfortClass System air conditioner. The system can then be used to maintain that temperature.



NOTE: The system is designed to maintain the interior sleeper temperature around 75°F for a period of up to 10 hours, based on maximum outside temperature of 95°F, a relative humidity of 50%, and with the sleeper not in direct sunlight. The sleeper environment must be pre-cooled to 75°F by the air conditioner prior to use of the system. The system is NOT designed to maintain sleeper temperatures under extremes of heat or direct sunlight. You may need to supplement the ComfortClass System by operating the vehicle's air conditioner if the ComfortClass System is unable to maintain the desired temperature level.*

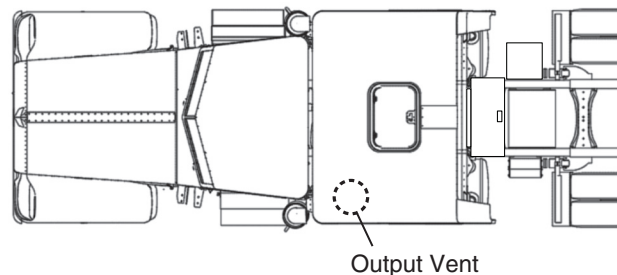
* Overall performance may vary depending on conditions described on page 33.

For maximum cooling ability:

- The sleeper compartment should already be at a maximum 75°F temperature using the cab A/C system.
- The window covers and sleeper curtain should be in place and closed.
- The Fresh/Recirculation Air Switch should be in the RECIRCULATION position.
- The Temperature Control Dial of the sleeper should be in the green band.
- The dust and pollen filter must be clean and clear of dust and pollen.
- The truck must be parked in shade out of direct sunlight.

Cooling System Components

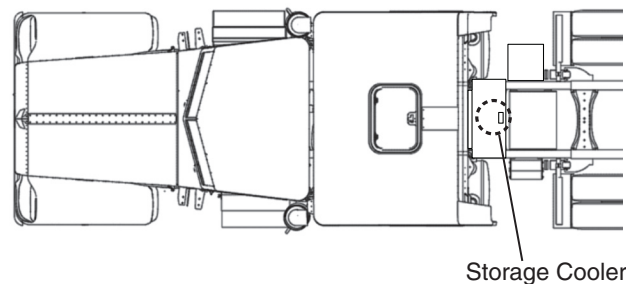
Cooling Vents



PB00024

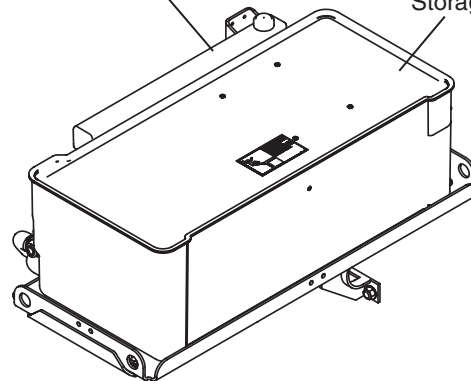
The ComfortClass System has one dedicated air vent. This vent is separate from the vents used for the vehicle's HVAC system.

Storage Cooler



Coolant Reservoir

Storage Cooler



PB00026



CAUTION: *The coolant reservoir on the Storage Cooler does not require maintenance. If coolant is added, use only a 50/50 mix of water and antifreeze to prevent coolant from freezing in the Storage Cooler.*

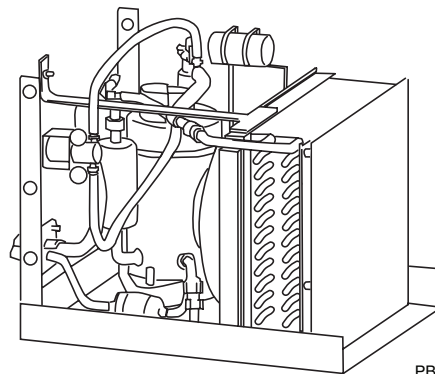
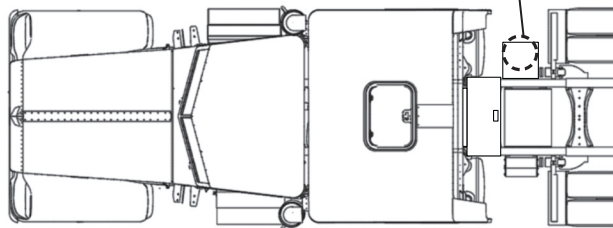
The Storage Cooler is located behind the sleeper. It stores the system's cooling capacity by freezing water. As the system is used, the ice melts back into water and needs to be recharged (frozen) again by the Air Conditioning Charge Unit in order to cool the sleeper. A fully charged (frozen) Storage Cooler can cool the sleeper up to 10 hours (depending on the outside heat conditions). The approximate time required to fully charge the Storage Cooler, without the ComfortClass air handler and pump on, is 4 to 6 hours.



NOTE: *The sleeper cooling system can be used while the Storage Cooler is being charged by the Air Conditioning Charge Unit; however, this will increase the time required to fully charge the Storage Cooler.*

Air Conditioning Charge Unit

Air Conditioning Charge Unit



PB000028

The Air Conditioning Charge Unit is an electric refrigeration unit that operates automatically to cool the Storage Cooler, and is located on the passenger's side of the vehicle, behind the sleeper compartment. The dash-mounted Charge/Enable Switch must be in the CHARGE position to enable the Charge Unit to operate. The unit will operate when the engine is running or connected to a shore power electrical supply. It will not operate using only battery power as this will deplete the batteries too quickly.

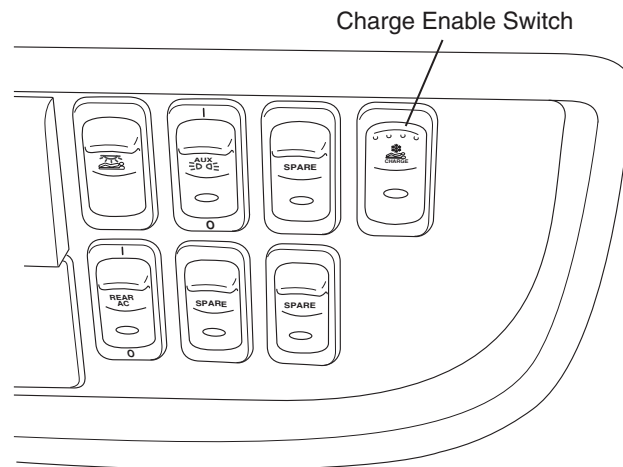


WARNING! Electrical Shock Hazard. 120 Volts AC are present inside the charging unit. This can cause electrical shock or fire resulting in death, personal injury and/or property damage. Disconnect shore power source to inverter before servicing equipment.



WARNING! Immediately get away from vehicle if you hear sounds or arcing (sizzling, sputtering or popping) inside the charging unit. Hot gas may vent from compressor terminals causing death, personal injury and/or property damage. Improper servicing can lead to fire, electrocution or explosion which can result in death, personal injury and/or property damage. Never service, repair or troubleshoot a system unless you are a trained service person.

Charge/Enable Switch



PB00033

The Charge/Enable Switch is located on the cab dash and enables the Air Conditioning Charge Unit to refreeze/replenish the Storage Cooler. The switch should normally be left in the CHARGE position (top of switch is pressed). Switching to the OFF position (bottom of switch is pressed) will disable the Air Conditioning Charge Unit. When the Air Conditioning Charge Unit is on, a green lamp will be displayed on the Charge/Enable Switch. When the green lamp turns off, the charging cycle is complete.



NOTE: The Charge/Enable Switch does not turn on the Sleeper Air Conditioning System. It only enables the Air Conditioning Charge Unit to refreeze/replenish the Storage Cooler.



NOTE: Upon initial start-up of the truck engine, the ComfortClass System Batteries must go through a charge cycle before the Air Conditioning Charge Unit will begin charging the Storage Cooler. This ComfortClass System Battery charge cycle can take up to 60 minutes. The air conditioning compressor will not turn on until this ComfortClass System Battery charge cycle is completed. Leave the Charge/Enable Switch in the CHARGE position during the battery charge cycle.



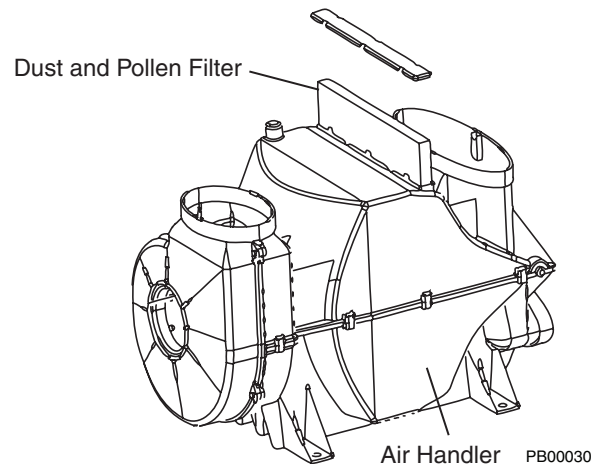
NOTE: The green lamp can cycle on and off as the system maintains the cooling capacity.

Preventative Maintenance

The following section identifies serviceable parts for the ComfortClass System. You may avoid expensive and time-consuming repairs by replacing serviceable parts at the recommended intervals. Your system will operate better, will operate safer and will last longer. Neglect of recommended maintenance may void your vehicle's warranty.

Dust and Pollen Filter

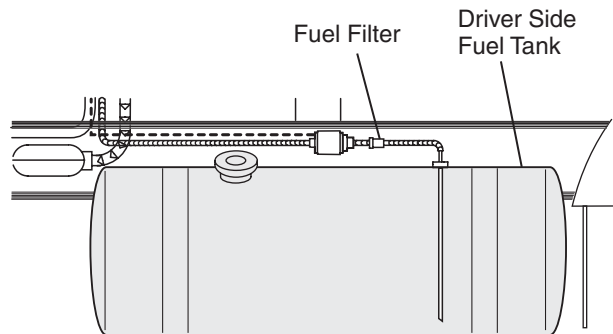
The ComfortClass System air handler has a dust and pollen filter. To access the air handler, raise the lower bunk from inside the sleeper.



Check and replace dirty dust and pollen filter once every 12 months, or earlier if operating in highly dusty environments.

Fuel Filter

The ComfortClass System utilizes a fuel-fired heater. Subsequently, the heater has a dedicated fuel filter and is a serviceable part.



PB00031

The fuel filter is located along the frame above the driver side fuel tank. The fuel filter should be inspected every 12 months. Check the filter for debris, sediment or water. Replace if any is found.



NOTE: Do not substitute the Webasto supplied fuel filter with a non-Webasto replacement filter. Irregular heater operation may result if a non-Webasto filter is used.

PART 4: TROUBLESHOOTING

Concern	Possible Cause	Remedy
Parked truck will not get cool.	Storage Cooler not charged.	1. Make sure Charge/Enable dash switch is in the ON position. 2. Make sure the Inverter/Charger Switch is in the ON position. 3. Make sure the circuit breaker in the Circuit Breaker Box is not tripped. Reset if necessary. 4. Air conditioning component service/refrigerant level check. (Please note, if outside temperature is below 55°F, compressor will not turn on.)
	Lack of cool air out of vents.	1. Make sure blower is in the ON position. 2. Make sure air conditioning mode is selected. 3. Make sure temperature control is set in the blue zone. 4. Service fresh air/recirculation filter. 5. Check coolant level. 6. Component service. 7. Cab was not pre-cooled.
Parked truck will not stay cool for up to 10 hours.	Storage Cooler is depleting too quickly.	1. Make sure temperature control is set in the green zone. 2. Make sure sleeper pass-through curtain is closed and all window coverings are installed.
Parked truck will not get warm.	Lack of hot air out of lower heater vent.	1. Make sure heating mode is selected. 2. Make sure temperature control is set in the red zone. 3. Check for heater diagnostic blink codes at the heater mode selection LED. 4. Make sure heater inlet in tool compartment is not blocked. 5. Make sure fuel and exhaust lines are not blocked. 6. Component service.

Concern	Possible Cause	Remedy
Sleeper AC electrical outlets not working.	No power to sleeper AC electrical outlets.	1. Make sure battery disconnect switch on ComfortClass System Battery Box is in the ON position. 2. Make sure Inverter/Charger Switch is in the ON position. 3. Make sure the circuit breaker in the Circuit Breaker Box is not tripped. Reset if necessary. 4. Make sure GFCI in the Circuit Breaker Box is not tripped. Reset if necessary. 5. Component service.
Cannot run cab/sleeper DC loads.	Not enough power available for cab/sleeper DC loads.	1. Make sure battery disconnects are in the ON position. 2. Make sure LVD is not tripped. (To reset, ComfortClass System Battery voltage must be brought up to 13.2 Volts by starting the truck or using Shore Power electrical supply). 3. Check ComfortClass System Battery voltage. If voltage is below 11 Volts, charge the ComfortClass System Batteries.
Cannot start truck.	Voltage at ComfortClass System Batteries is too low (below 9.5 Volts).	1. Make sure both battery disconnects are in the ON position. 2. Hook up to Shore Power electrical supply to charge ComfortClass System Batteries or attach battery charger to charging terminals.
	Not enough cranking power from starting batteries.	1. Make sure both battery disconnects are in the ON position. 2. Check starting battery voltage. If voltage is below 12 Volts (check at starter using voltmeter), charge starting batteries with external battery charger. 3. If starting battery voltage continues to discharge, replace starting batteries and/or have an authorized repair facility service the vehicle.