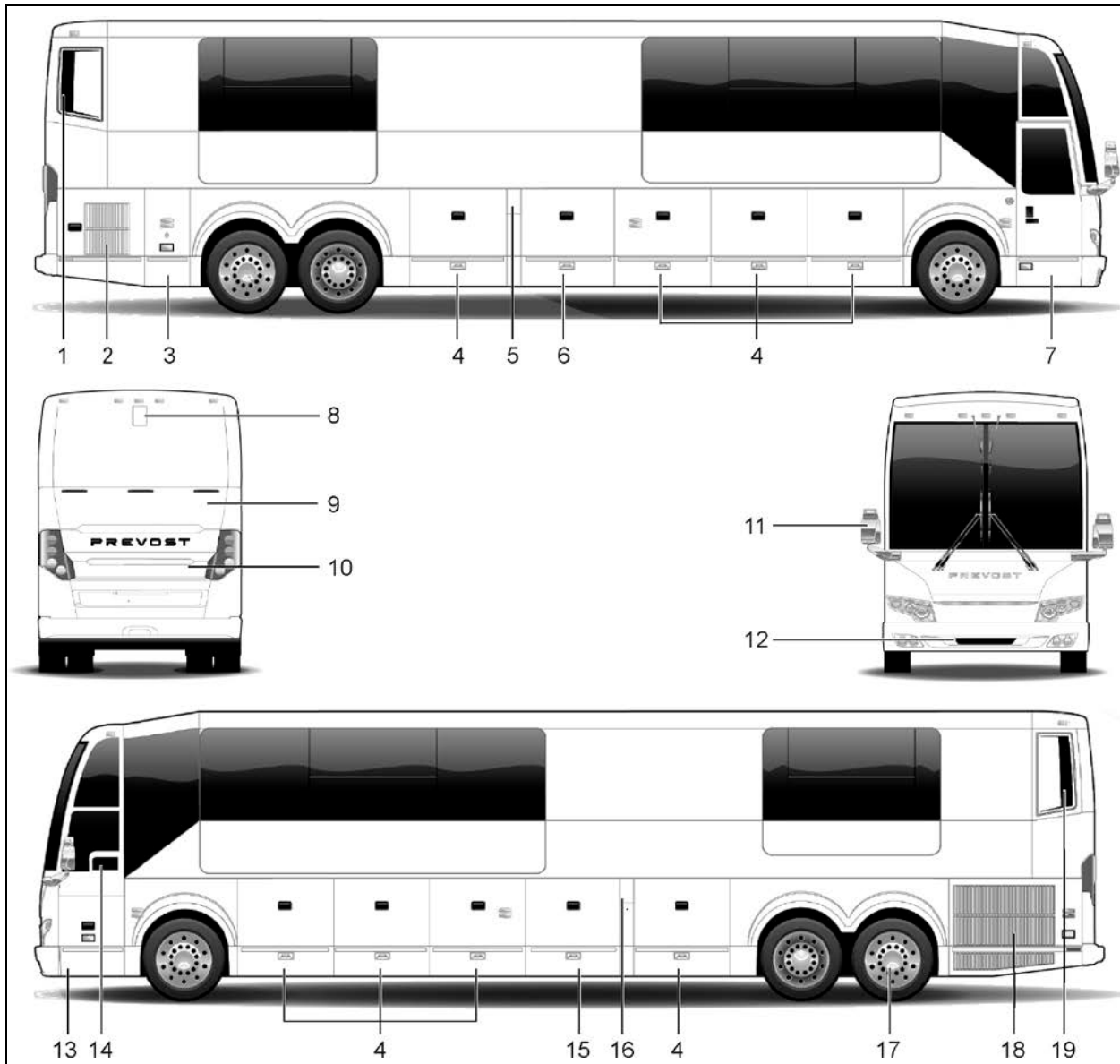


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2-2 VEHICLE EXTERIOR

EXTERIOR VIEW

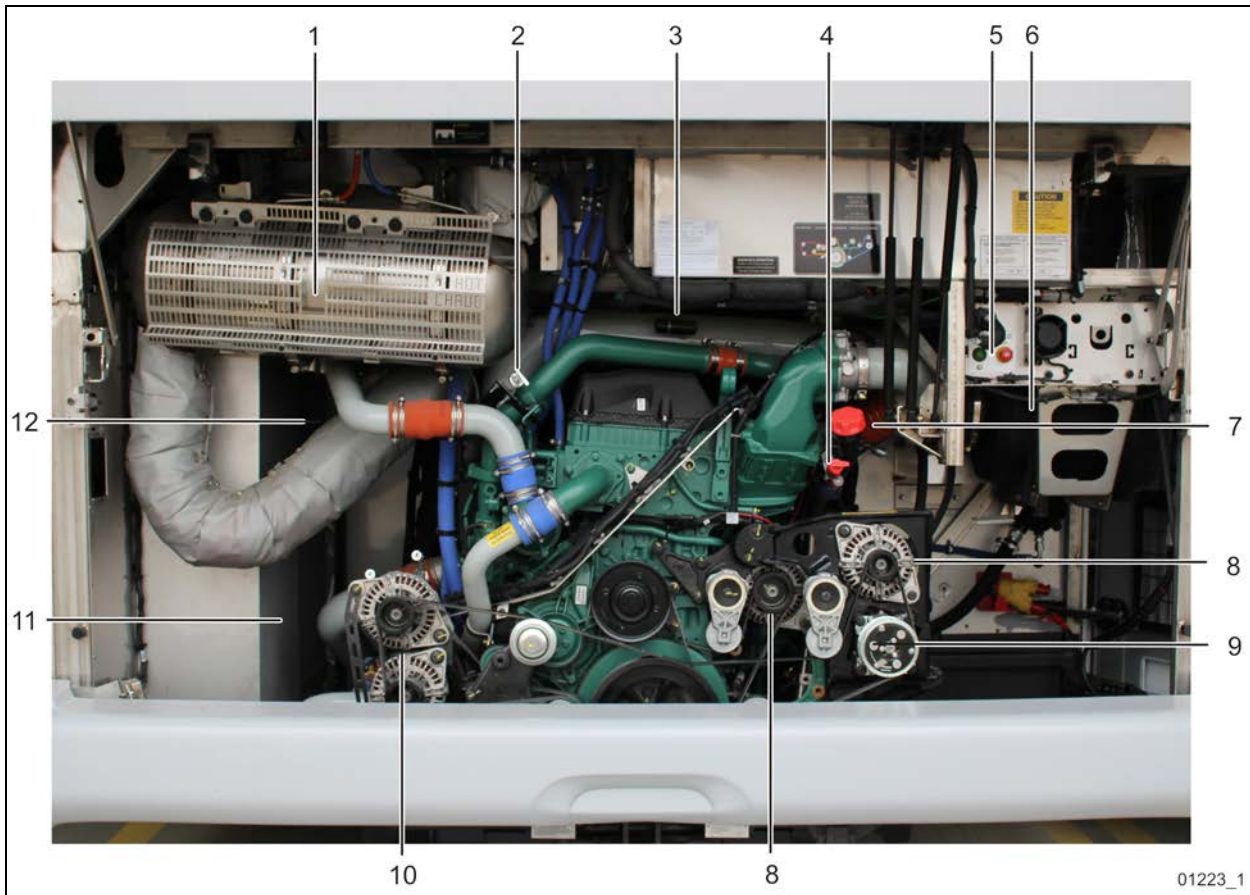


H3-45 VIP EXTERIOR VIEW

18688

- | | |
|---|---|
| 1. Engine air intake | 12. Reclining bumper compartment |
| 2. Engine R.H. side access door | 13. Front electrical and service compartment |
| 3. Main power compartment | 14. Driver's power window |
| 4. Baggage compartment | 15. Heating, ventilating and air conditioning compartment (HVAC) or baggage compartment |
| 5. Fuel filler neck access door | 16. Fuel filler neck and diesel exhaust fluid (DEF) filler neck access door |
| 6. A/C condenser compartment or baggage compartment | 17. Auxiliary axle |
| 7. Entrance door | 18. Engine radiator door |
| 8. Retractable back up camera (optional) | 19. SCR catalytic converter access door |
| 9. Diesel Particulate Filter (DPF) access door | |
| 10. Engine compartment rear door | |
| 11. Rear-view mirror | |

ENGINE COMPARTMENT COMPONENTS

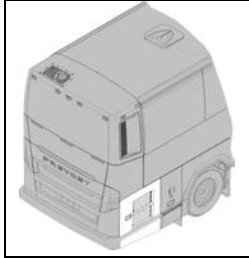


1. Diesel Oxidation Catalyst (DOC) & Diesel Particulate Filter (DPF) Assembly;
2. Transmission fluid dipstick;
3. Air filter restriction indicator;
4. Engine oil dipstick;
5. Rear start / stop panel;
6. Air filter;
7. Engine oil filler tube & cap;
8. Alternator, Curb side (2 total);
9. Small A/C compressor;
10. Alternators, Road side;
11. Radiator;
12. Charge air cooler (CAC);

01223_1

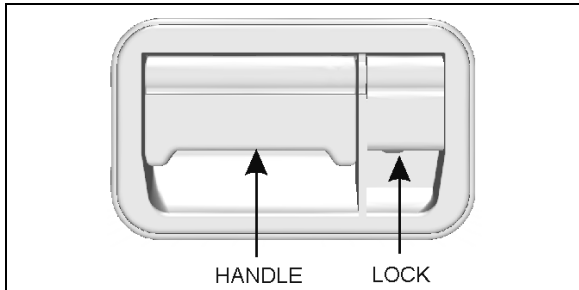
2-4 VEHICLE EXTERIOR

ENGINE COMPARTMENT CURBSIDE DOOR



Lock this door using the exterior compartment key. Lift up protector cover to gain access to the lock. Pull up the door handle to release the latch and then pull the door open.

The curbside door has a safety catch on top to prevent it from closing inadvertently. Release the safety catch before closing the door.



DOOR HANDLE

18184

The engine compartment curbside door provides access to the following (if equipped)

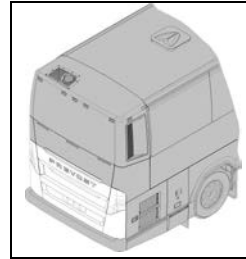
- Engine compartment rear door release lever
- Fuel Pro 382 filtration system (optional)
- Primary and secondary air system fill valve
- Booster block terminals
- Wet air tank drain valve
- Engine air filter
- Engine block heater connector
- Power steering fluid reservoir
- Battery charger 110-120 volts connector



WARNING

Unless otherwise stated, do not run the engine when the engine compartment curbside door is open.

ENGINE COMPARTMENT DOOR



To open engine compartment door, first open engine compartment curbside door. Lift the latch release lever, place hand on the upper right of the rear door and pull rearward.

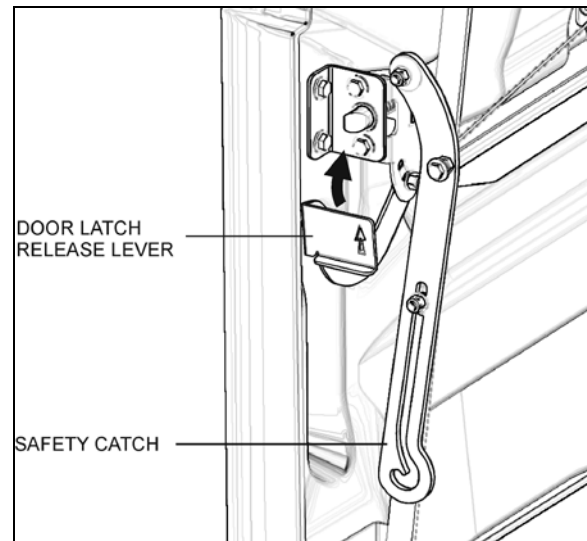
Then, using both hands, lift the door up. Always engage the safety catch when the engine compartment rear door is open. Release the catch before closing the door.

The lighting in the engine compartment turns on automatically when the door is open. When open or not closed properly, a pictogram appears on the instrument cluster DID. To close the door, lift it slightly and release the safety catch.



WARNING

Pressurized cylinders assist the engine compartment door opening. To avoid injury, stand clear when opening the engine compartment rear door.



OPENING THE ENGINE COMPARTMENT DOOR

18331

The engine compartment rear door provides access to the following:

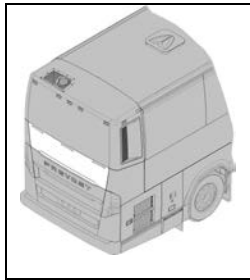
- Engine
- Alternators
- Compressor(s)

- Belts & Belt tensioner control valve (see *Care and Maintenance* chapter)
- Rear start panel (see *Section 6 Starting and Stopping Procedures* chapter)
- Engine cooling fluid surge tank and filler cap
- Engine air filter restriction indicator
- Engine oil dipstick
- Engine oil filler cap
- Allison transmission oil dipstick & filler tube

WARNING

Unless otherwise stated, avoid running the engine when the engine compartment door is open.

DPF ACCESS DOOR

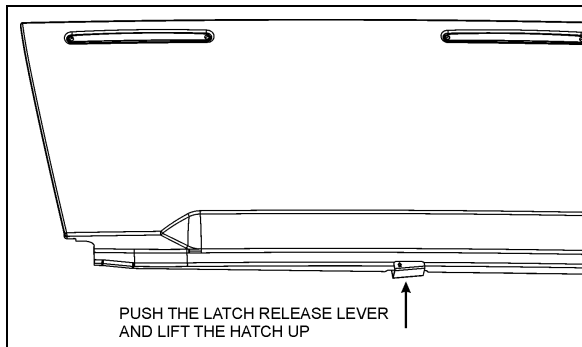


The engine door must be open before opening the diesel particulate filter access door. To open the DPF access door, press the latch release lever. Using both hands, push the door up until it locks in place.

To close the door, press the latch release lever again and lower the door, holding it with both hands.

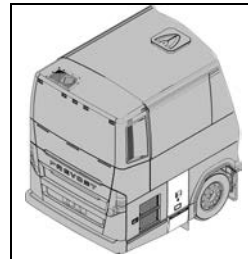
WARNING

Proceed with extreme care when opening the DPF access door. Hold the door with both hands and never place your fingers behind the door panel.



DIESEL PARTICULATE FILTER ACCESS DOOR

MAIN POWER COMPARTMENT (BATTERY)



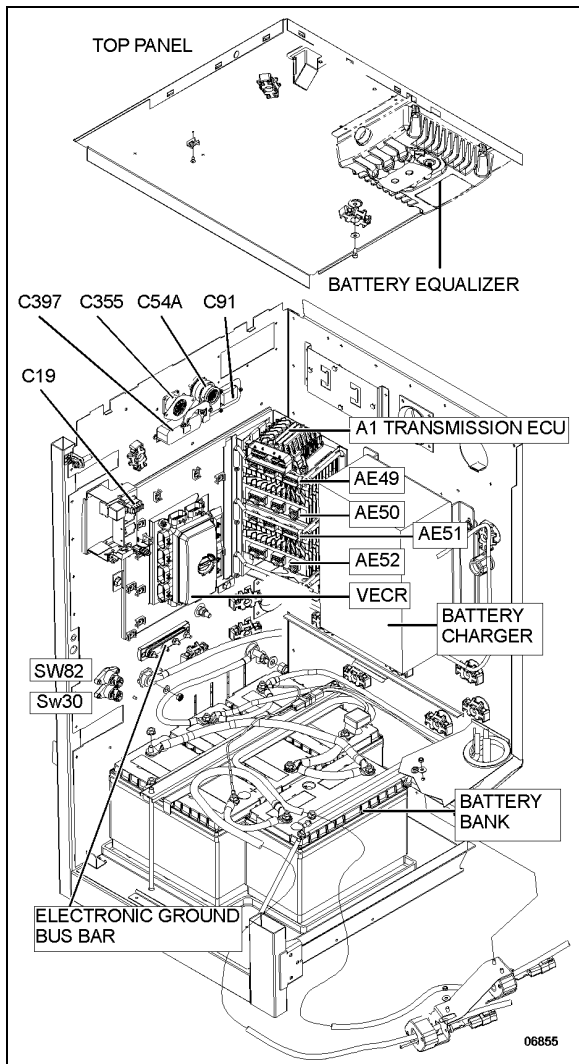
To unlock the main power compartment door, use the exterior compartment door key. The door will pop open.

The compartment light turns on automatically when the door is open and the ignition switch is in the ON position. A telltale light indicating that a compartment door is open will illuminate on the dashboard.

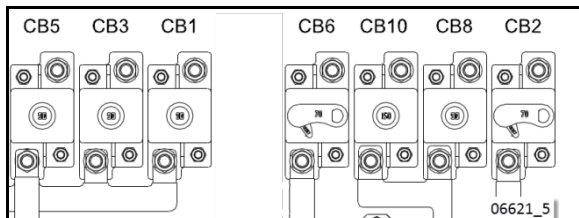
This compartment is closed off from the engine compartment and is used to house the batteries and electrical components. The following items are located in the main power compartment:

- (4x) 12-volt batteries
- 12-volt and 24-volt electrical systems main circuit breakers
- Battery charger (optional)
- Vanner battery equalizer
- Transmission Electronic Control Unit (TECU)
- Rear Multiplex modules
- Rear fuse box (VECR) & spare fuses
- Relays and diodes
- Electronic ground stud

2-6 VEHICLE EXTERIOR



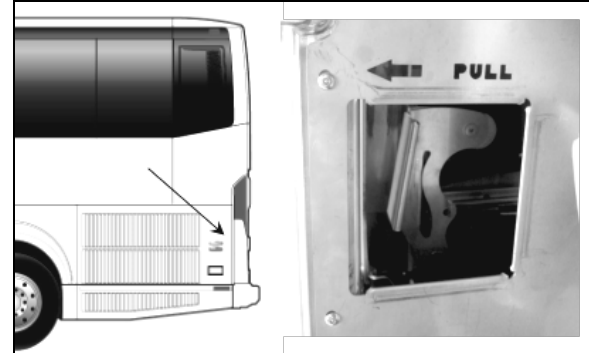
PARTIAL VIEW OF MAIN POWER COMPARTMENT



MAIN CIRCUIT BREAKERS 12-VOLT & 24-VOLT (LARGE A/C)

ENGINE RADIATOR DOOR

Open the engine radiator door by pushing on the latch release lever inside the engine door.



RADIATOR DOOR RELEASE LATCH LOCATION 18529_2

SCR CATALYTIC CONVERTER ACCESS HATCH

To gain access to the SCR catalytic converter:

1. Open the radiator door first;
2. Pull the catch connecting rod to unlock the access hatch;
3. Lift the hatch open;
4. Hold the door open by inserting the support rod free end into the receptacle located on the left side of the door.



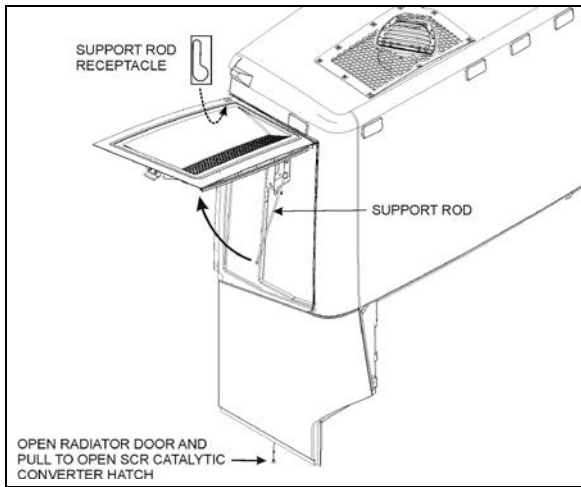
WARNING

After inserting the support rod into the receptacle, make sure that the rod supports the door securely from falling down on to your head or body.



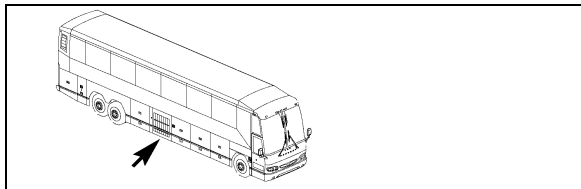
WARNING

External and internal temperatures remain hot long after engine has been shutdown. Allow the aftertreatment device and DPF to cool before handling. Wear protective clothing and glove while servicing.



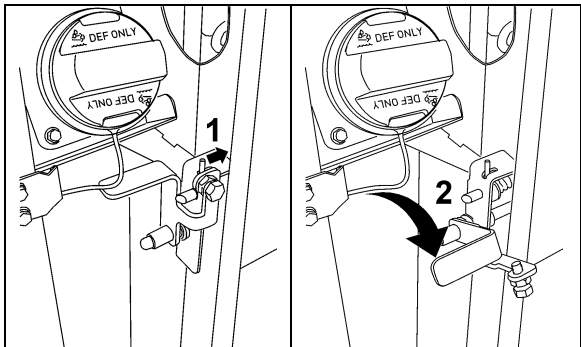
ACCESSING THE SCR CATALYTIC CONVERTER 04035

CONDENSER COMPARTMENT (with optional central A/C system)

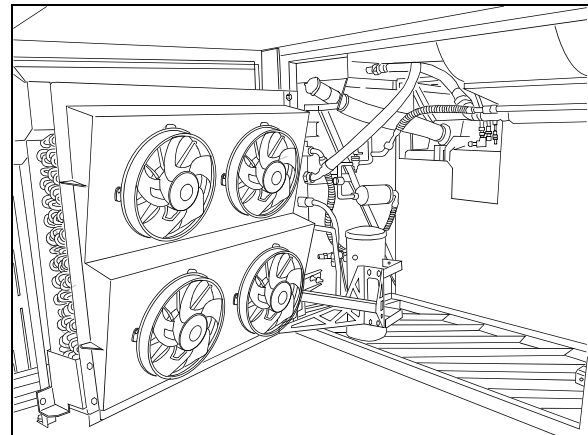


To open the condenser compartment door:

1. Open the fuel filler door first;
2. Move the latch bolt pin to the right as shown (step 1 on image);
3. Rotate the latch handle as shown (step 2);
4. Open the door on the right side when facing the door.



A/C CONDENSER COMPARTMENT DOOR OPENING

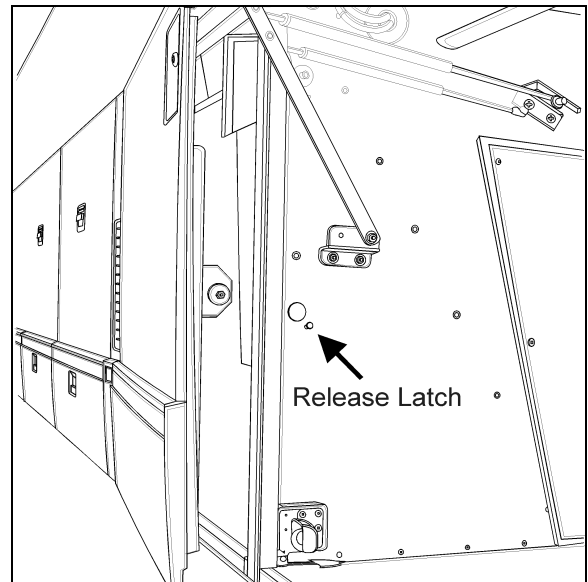


CONDENSER COMPARTMENT (WITH CENTRAL A/C SYSTEM, DEF TANK NOT SHOWN) 22362

EVAPORATOR COMPARTMENT (with optional central A/C system)

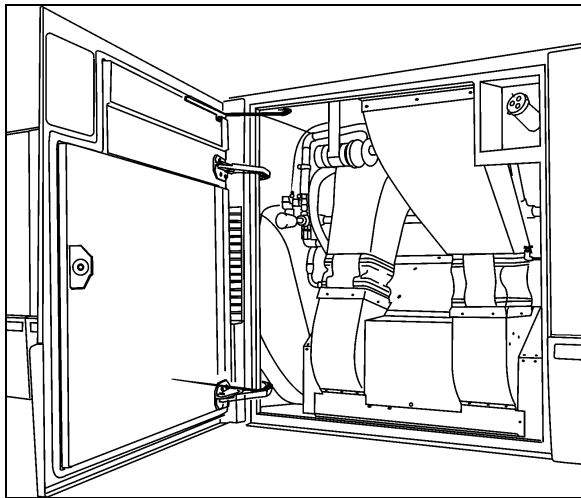
Find the evaporator compartment door release latch on the left wall of the adjacent baggage compartment. Pull the release latch then pull the evaporator compartment door open.

The evaporator compartment contains relays, diodes and an I/O-B multiplex module mounted on a panel located on the R.H. side wall when facing the compartment.

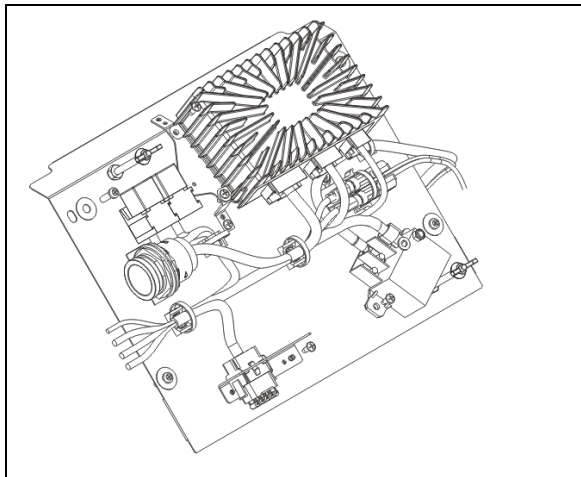


EVAPORATOR COMPARTMENT ACCESS 18306

2-8 VEHICLE EXTERIOR



EVAPORATOR COMPARTMENT (WITH CENTRAL A/C SYSTEM ONLY) 22365

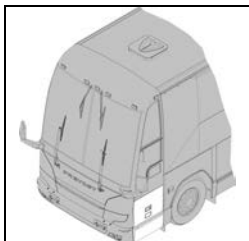


HVAC COMPONENTS PANEL 06775_2

NOTE

It is important to keep the evaporator compartment door closed while checking the HVAC system to prevent faulty readings.

FRONT ELECTRICAL AND SERVICE COMPARTMENT

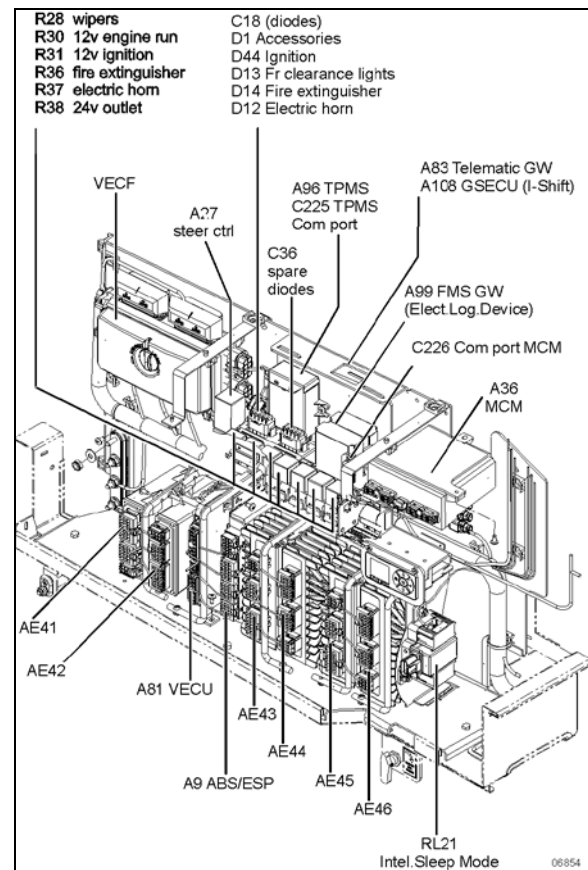


Unlock this compartment door using the exterior compartment key. Pull up door handle to release the latch then pull the door open.

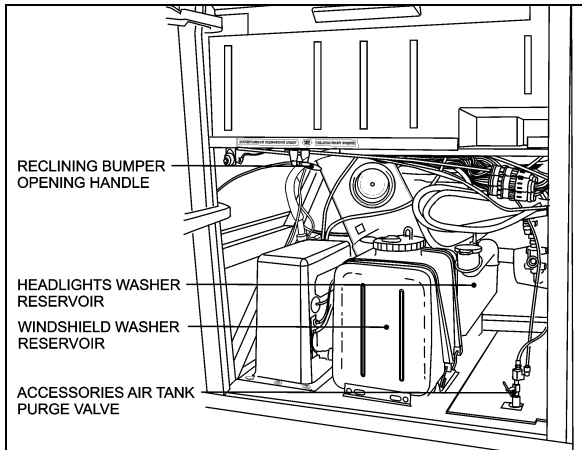
The lighting in the front electrical & service compartment turns on automatically when the door is open if the ignition key is set to ON or ACC.

The front electrical and service compartment provides access to the following:

- Front fuse box (VECF) & spare fuses
- ABS module
- Multiplex modules: I/O-A, I/O-B
- Relays & diode blocks
- Windshield washer reservoir
- Headlights washer reservoir
- Reclining bumper opening lever
- Accessory air tank drain valve
- Accessory air tank fill valve
- Electronic ground stud
- MCM module
- Keyless entry module
- Tire Pressure Monitoring System module



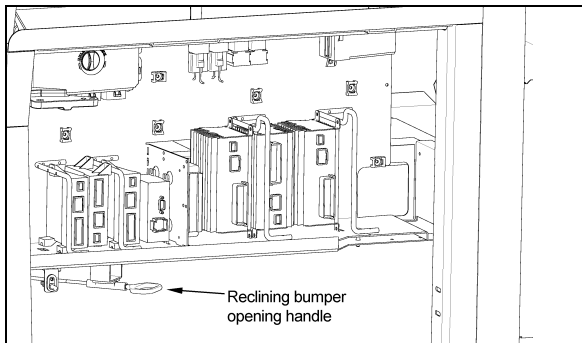
FRONT ELECTRICAL & SERVICE COMPARTMENT 06854



FRONT ELECTRICAL & SERVICE COMPARTMENT 14066

RECLINING BUMPER COMPARTMENT

The front bumper can be tilted downward to give access to the compartment. Pull the opening handle located in the front electrical and service compartment to unlock. Tilt down the bumper to access the compartment. Push the bumper back up firmly in place to lock in position.



RECLINING BUMPER OPENING HANDLE 06602



WARNING

The compartment behind the bumper is not designed for storage. Never store loose objects in this compartment since they can interfere with the steering linkage mechanism.

Use care when opening or closing the reclining bumper compartment to prevent personal injury

BAGGAGE COMPARTMENTS

The baggage compartment doors can be locked and unlocked using the exterior compartment key. Lift up the cover to gain access to the lock.

Pull up door handle to release the latch and then pull the door open. Pressurized cylinders assist the opening and closing of the baggage compartment doors and hold the doors open.

The lighting in the baggage compartments turns on automatically when the door is opened if the ignition key is set to ON or ACC.



WARNING

To avoid injury, keep hands clear of door edge and door frame when closing.

NOTE

To prevent theft and vandalism, always lock all doors before leaving the vehicle unattended.

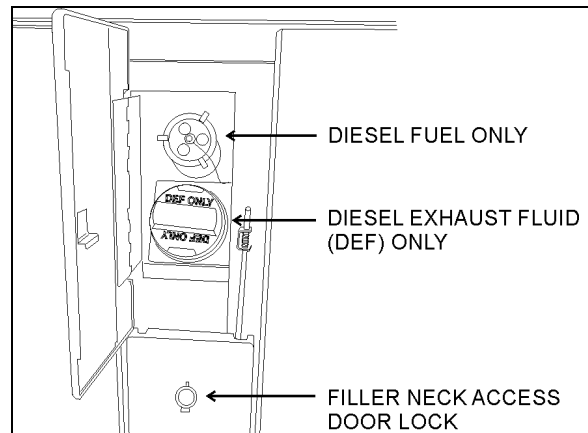
NOTE

The baggage compartment doors can also be locked and unlocked using:

- The baggage compartments central locking system switch on the L.H. dashboard (refer to Controls and Instruments chapter).
- The keyless entry system.
- The remote entry transmitter (refer to Controls and Instruments chapter).

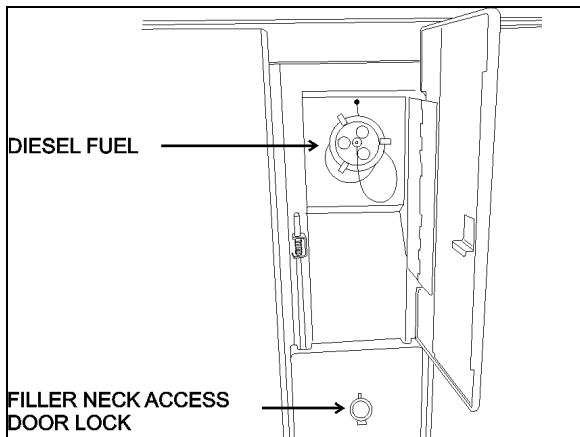
FUEL AND DIESEL EXHAUST FLUID (DEF) FILLER NECK ACCESS DOOR

These access doors must be opened with the exterior compartment key. To open, turn the key ¼ turn clockwise. Hold the door with your hand as you open the door. Open the street side filler neck access door to gain access to the DEF filler neck.



STREET SIDE FUEL AND DEF FILLER NECK ACCESS DOOR 03093

2-10 VEHICLE EXTERIOR



CURBSIDE FUEL FILLER NECK ACCESS DOOR 03093

NOTE

Provided the vehicle is parked on level ground, an automatic nozzle will automatically shut off when tank is approximately 95% full.



CAUTION

Do not fill to more than 95% of the tank capacity. Do not "top off" the tank, doing so may result in fuel spillage when the fuel expands.



CAUTION

Diesel exhaust fluid DEF will begin to crystallize and freeze at 12°F (-11°C) and expand by 7% when frozen. To allow expansion without damaging the DEF tank, do not fill the tank with more than 15.9 gallons (60 liters).

During vehicle operation, the SCR system is designed to provide heating for the DEF tank and supply lines. If DEF freezes when the vehicle is shut down, start up and normal operation of the vehicle will not be inhibited. The SCR heating system is designed to quickly return the DEF to liquid form and the operation of the vehicle will not be impacted.

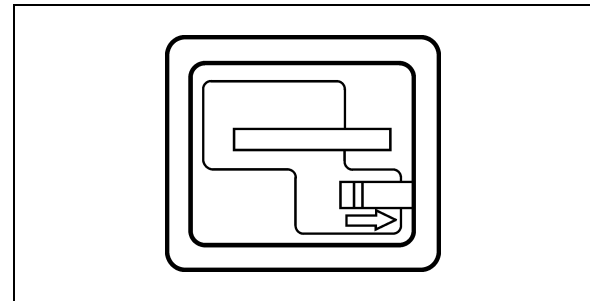
ENTRANCE DOOR

INSIDE OPERATION

Lock or unlock the entrance door from the inside either by actuating the front entrance door rocker switch on the R.H. dashboard panel or using the door inside lock knob.

NOTE

If the alarm system is armed, unlocking the entrance door from the inside by sliding its lock knob will not disarm the alarm system. The alarm will sound.



DOOR LOCK KNOB INSIDE THE VEHICLE

18187

OUTSIDE OPERATION

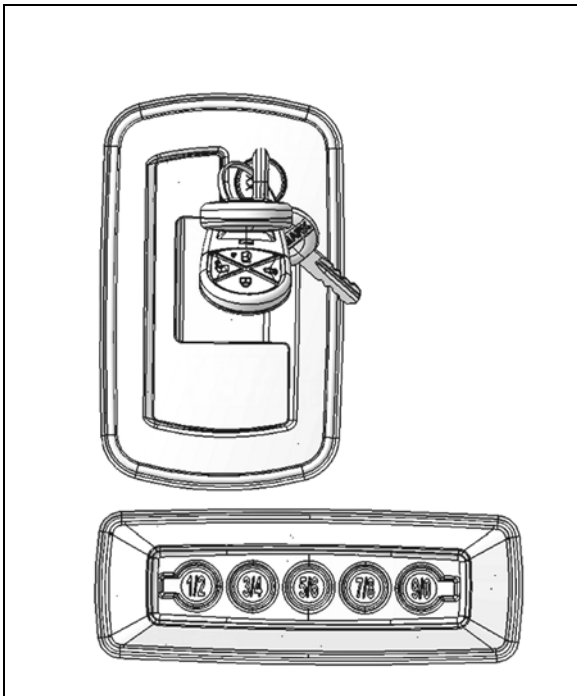
The first way of locking and unlocking the entrance door from the outside is the front entrance door lock key provided with the vehicle. Turn key counterclockwise to lock or clockwise to unlock the entrance door and disarm the intrusion protection and anti-theft system.

NOTE

The stepwell lights and entrance overhead light turn on as the door opens.

NOTE

For complete information regarding the Keyless Entry System & Anti-theft Alarm System, refer to the document included in your vehicle's "publication box".



DOOR HANDLE & KEYLESS ENTRY SYSTEM KEYBOARD

KEYLESS ENTRY SYSTEM

This system, located below the entrance door handle, is used to lock or unlock the entrance door, the baggage compartment and the service compartment. A default 4 digits access code is permanently programmed in the module by the manufacturer. A 6 digits authority code will also be supplied to the owner and will be used to store up to 40 new personal access codes (4 digits).

NOTE

Refer to “Other Features” chapter for complete keyless system operating instructions.

EXTERIOR REAR VIEW MIRRORS

The vehicle is equipped with flat-type and convex-type rear-view mirrors. Convex mirrors give a wide angle view. Objects viewed in convex-type rear-view mirrors appear smaller and are actually closer than they appear.

To provide good visibility in cold weather, the mirrors may be equipped with heating elements activated by a rocker switch located on the dashboard. Refer to *Controls and Instruments* chapter. Thermostats are used to prevent continuous operation of the heating elements.



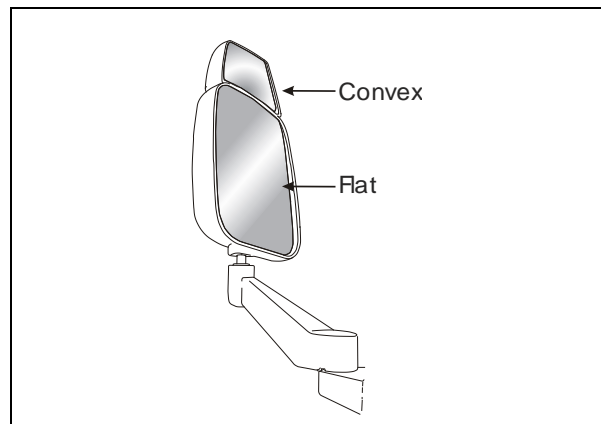
CAUTION

Do not attach stick-on type convex mirror accessories to the heated mirror glass. This could impede uniform heat distribution on the mirror surface and could break the mirror glass.

ELECTRICALLY ADJUSTED MIRROR

Electrically adjusted mirrors are adjusted by the outside mirror controls located on the L.H. control panel. Refer to *Controls and Instruments* chapter. Manual adjustment is also possible.

Adjust the side-view mirrors until the side of the vehicle is visible. Adjust the flat-type mirror until the road behind is in full view.



RAMCO REAR-VIEW MIRROR

18443

RETRACTABLE BACK-UP CAMERA

An optional back-up camera is available which provides the driver with visual assistance when backing-up. The back-up camera is mounted in a retractable housing. For additional information, refer to *Controls and Instruments* and *Care and maintenance* chapters.

NOTE

A switch located in the rear electric compartment is used to retract the back-up camera for cleaning or maintenance.

120 VOLTS CONNECTOR

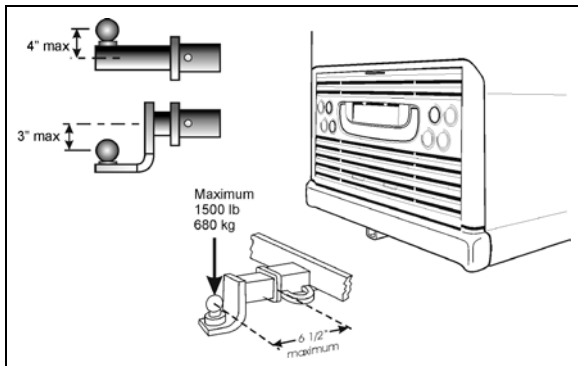
This connector is used with a 120 volts supply and is connected to the optional engine block heater. Refer to *Starting and Stopping Procedures* chapter.

2-12 VEHICLE EXTERIOR

TRAILER HITCH

Your vehicle may be equipped with a factory installed trailer hitch which has been designed to meet the following rating:

- **Maximum gross trailer weight: 20,000 lbs (9072 kg)**
- **Maximum tongue weight at 6 ½ inches (165 mm) or less from coupling receiver : 1,500 lbs (680 kg)**



TRAILER HITCH

18487



WARNING

The draw bar and the ball used for towing the trailer should be rated for 20,000 lb capacity or more.



WARNING

Pulling a trailer weighing more than the recommended maximum gross weight may cause engine and transmission overheating, and also possible hitch failure.

NOTE

Pulling a trailer over long distances is considered as a "severe operating condition" for the vehicle and therefore, power plant requires more frequent servicing.



CAUTION

The minimum requirement for a trailer weighing up to 20,000 lbs when coupled to a 20,000 lb Prevest Trailer Hitch is as per the following:

- A) Trailer must comply with **Federal Motor Carrier Safety Regulations 393.52** regarding trailer breaking capability.
- B) The trailer coupling attachments meet the following minimum static test load requirements :
 - Longitudinal tension and compression: (1.5 x GVWR of trailer)
 - Transverse thrust : (0.5 x GVWR of trailer)
 - Vertical tension and compression: (0.5 x GVWR of trailer)

Loads indicated must be applied without incurring loss of attachments or distortion or failure which could affect the safe towing of trailer.

- C) The ball and trailer coupling should meet the following minimum test load requirements without incurring failure :

- Longitudinal tension and compression : (Gross Trailer Weight of trailer x 3)
- Transverse thrust : (Gross Trailer Weight of trailer x 1)
- Vertical tension and compression : (Gross Trailer Weight of trailer x 1.3)

In this case, failure is identified as the point at which the coupling or ball will accept no additional test load without separation of the ball from the coupling ball socket, or the occurrence of a metal fracture of either coupling ball or coupling assembly, which results in separation of the ball from the coupling ball socket.

- D) Two lengths of safety chain shall be used. The strength rating (minimum breaking force) of each individual chain and its connecting means shall be equal to, or exceed the trailer GVWR.
- E) Towing vehicle must be equipped with engine or transmission retarder. The engine or the transmission retarder on the vehicle must be functional at all time (to be inspected frequently).

This hitch must be used for recreational use only.