



DIAMONDPower
s y s t e m s

Auxiliary Power Unit Installation Guide

MODEL No. DPS6500

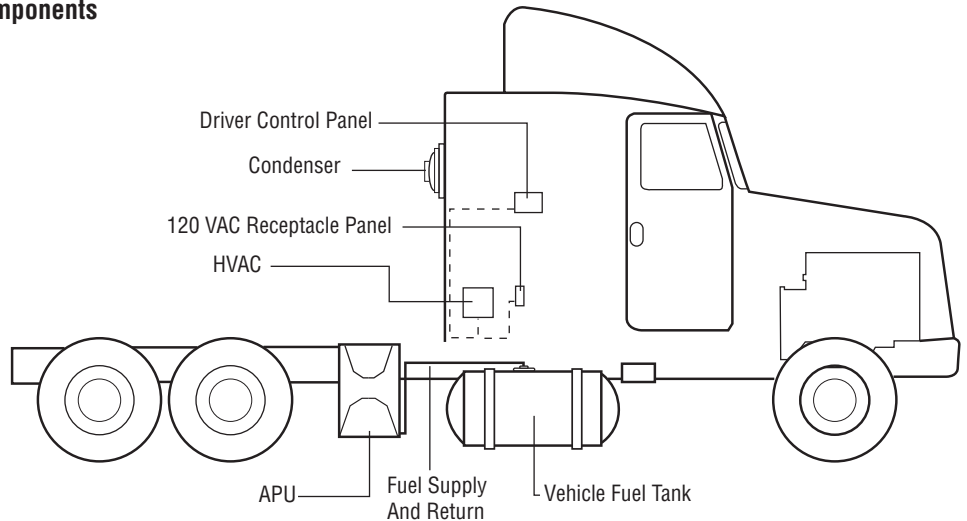
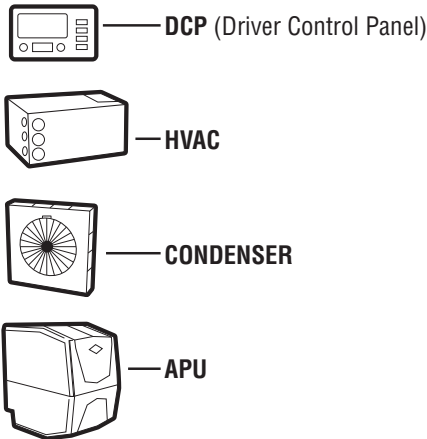




READ BEFORE STARTING INSTALLATION

Each truck chassis is built differently and will require a different installation method.

Review the placement of **ALL** parts and components before beginning the installation process.



APU Parts and Components

Parts List:

APU	1
APU Installation Kit	1
Frame locks	4
1/2" x 6" Bolts	4
1/2" Split Lock Washers	8
1/2" lock nuts	4
Frame Washers	2
Fuel Pick-up Kit	1
Pick-up	1
Clamps	2
Exhaust Extension Kit	1
90 Degree exhaust pipe	1
Support bracket	1
Exhaust clamps	2
5/16" NC bolt	1
5/16" Washers	2
5/16" Lock Nuts	2

Battery Terminal Kit

Red heat shrink	1
Black heat shrink	1
Ring terminals	2
Cable ties	75
Condenser	1
Hoses	2
Mounting hardware	1
Harness	1
HVAC	1
Driver Control Panel	1
Power Outlet	1

Parts and Tools Required

- Radiator hose – 3/4"
- Radiator shut off valves
- Radiator hose clamps
- An assortment of nuts, bolts, and washers as required
- An assortment of electrical connectors and protective conduit as required
- Heat shrink, pipe sealant, never seize, electrical tape, expanding foam
- Torque wrench (100ft/lb)
- Hole saw kit (1", 1 1/2", 3", 3 1/2", 4")
- Portable lighting
- Hand forklift/lifting device
- Step drill
- Angle drill
- Reciprocating saw
- Nutsert® installation tool
- Scale (refrigerant) accurate to ounces
- Gauges (refrigerant) 134A compatible
- Diamond Test Switch Module PG1008
- Flow Meter TK 9002

NOTE: The APU requires periodic maintenance. Ensure you have access to internal components (i.e. oil filter, air filter, fuel filter and oil filter). The Diamond comes filled with long life coolant. Consult the truck owner prior to altering the vehicle in any way.

CAUTION: Trucks with longer chassis should have the APU mounted closer to the sleeper unit to avoid obstacles such as railway crossings, speed bumps, curbs, etc. Before beginning installation of the Diamond system, disconnect the vehicle's batteries. If truck is equipped with a coolant valve, valve must be fully opened before starting APU.



MOUNTING THE APU

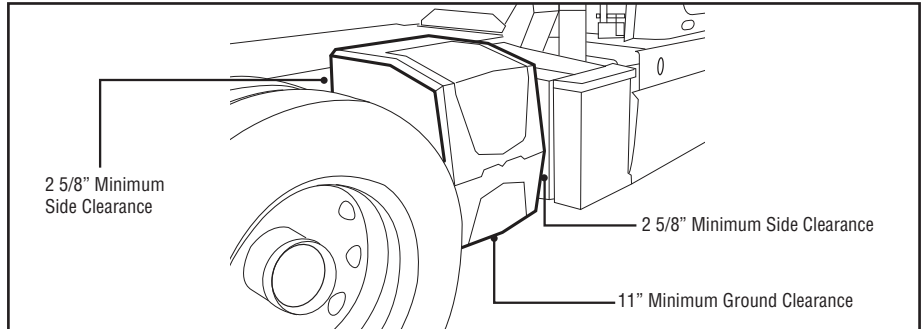
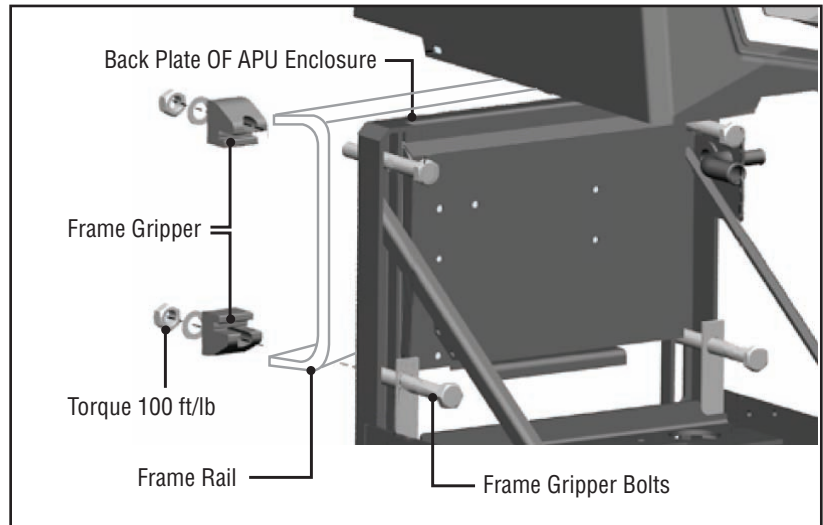


Installing

1. Use existing holes at back of APU. Do not drill new holes in the APU.
2. Torque mounting bolts to 100 ft/lbs.
3. Install exhaust pipe extension to APU; direct exhaust away from vehicle.

Consider the Following:

- Free space around existing covers.
- Brackets for attaching covers, dryers, fuel tanks, fasteners, existing plumbing for air, fuel and water lines.
- Battery tray.
- Any hardware found in the mounting location: move or modify if necessary.



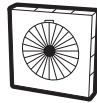
WARNING: The APU is weighty. Do not drop it! Use a lifting device.

CAUTION: Do not mount the Diamond APU to bottom pan. Unit is designed to hang from chassis rails.

NOTE: Consult OEM frame drilling requirements if you are bolting APU directly to the trucks frame rail.



MOUNTING THE CONDENSER

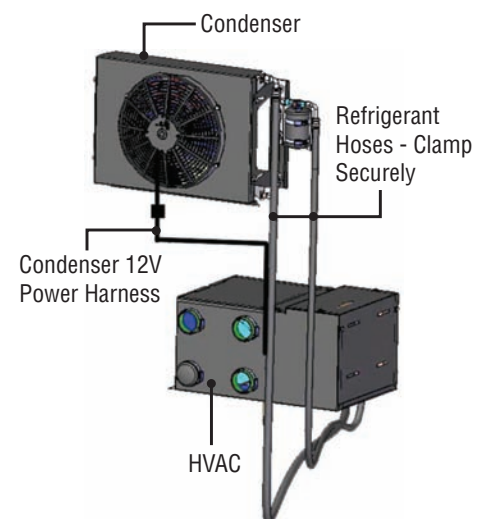
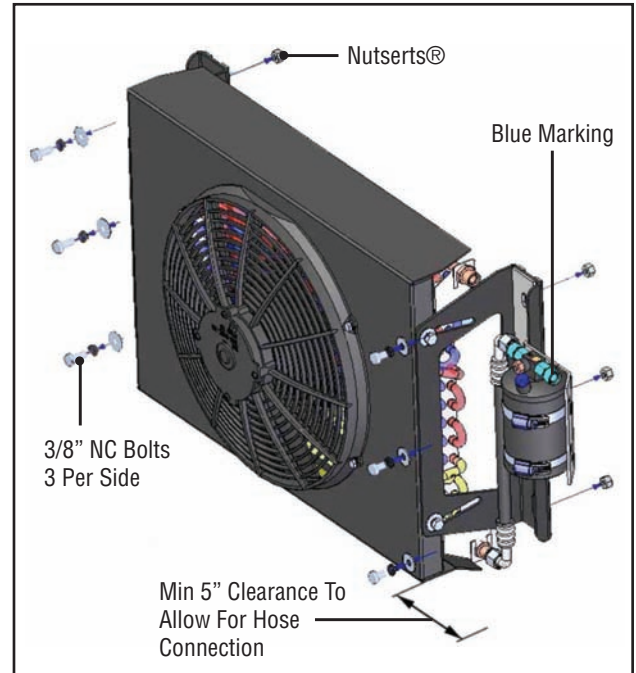


Condenser Installation

1. Select the site for the condenser on the rear or the vehicle sleeper.
2. Hold condenser in the preferred location and mark the holes clearly.
3. Drill holes 17/32" for Nutserts®.
4. Install the condenser assembly in the preferred location.

Mounting Considerations

- The condenser must be installed on the back wall of the sleeper (outside). Airflow around the condenser must not be blocked by headache racks, for example.
- Install condenser within 8' of the HVAC.
- The condenser must be installed vertically with the blue-marked side on the bottom right (where the liquid refrigerant collects).
- Hose connection side of the condenser requires 5" free space to the nearest obstruction to allow for hose connection.
- Keep the condenser out of the path of road spray.
- Refrigerant hoses must be clamped firmly.
- Do not allow Refrigerant hoses to touch each other; heat transfer will occur and change the performance of the HVAC. Insulate or keep the hoses together.



WARNING: If you are installing the condenser to the back wall of the sleeper, use large fender washers or a backing plate for extra support.

NOTE: All hoses, cables, and electrical wiring should be kept safe and secured using split loom and cable ties to prevent abrasion. Stay clear of exhaust pipe and muffler.



PLUMB THE APU TO THE MAIN ENGINE

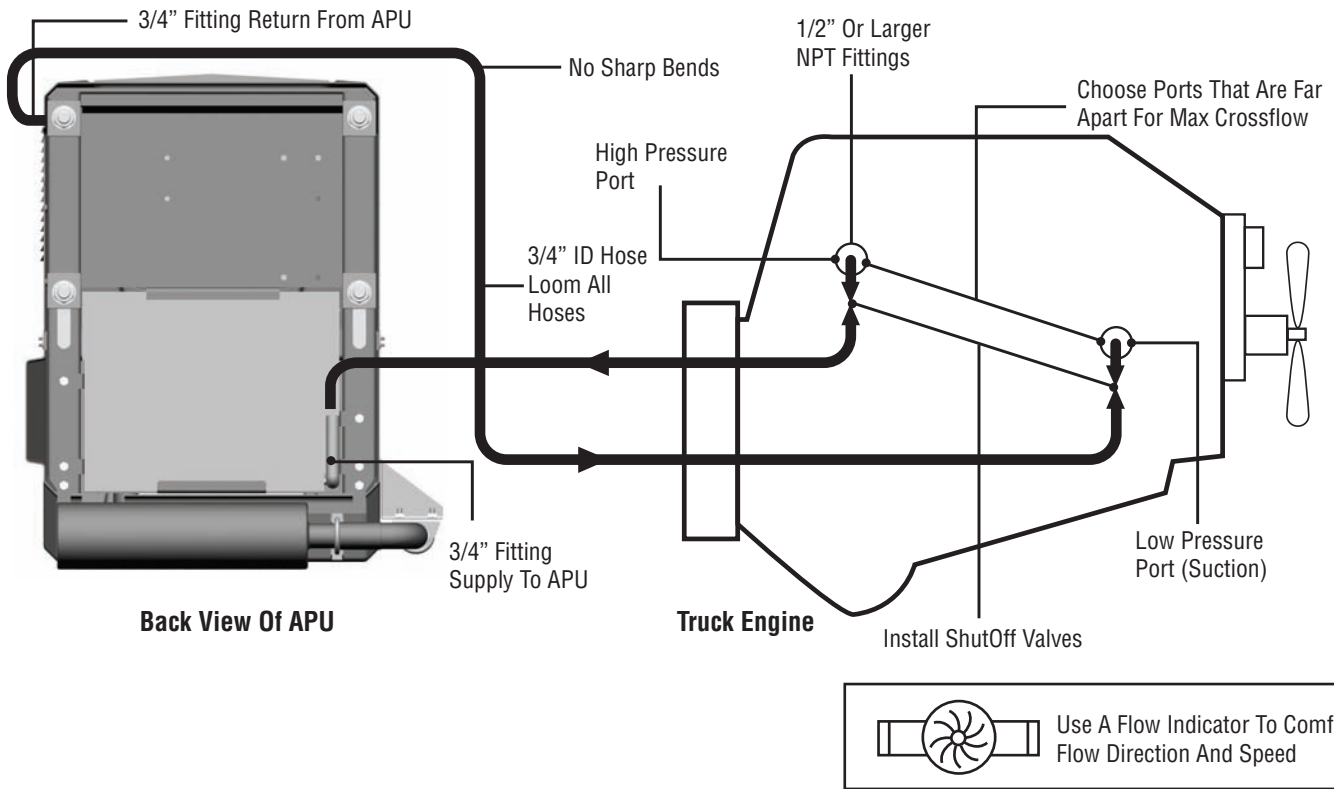
Note: This APU Systems comes with a built in radiator. The connection below is optional.

Plumbing Procedure

1. Remove the truck radiator cap to free pressure from coolant system. Do not open when hot.
2. Deplete the truck coolant system (if necessary).
3. The APU is shipped with extensive life anti-freeze. Ensure this is compatible with truck coolant.
4. Ensure that the coolant will flow in the right direction (same direction whether the Diamond or main engine is running). The Diamond flow indicator can be used to verify the flow.
5. Replenish the engine coolant in the system according to the specific engine manufacturer's recommendations (additional coolant will be required).

Plumbing Considerations

- Silicon hose is satisfactory to use as coolant hose, but requires the use of silicon hose clamps.
- Ensure radiator coolant can always flow between truck engine and APU.



WARNING: To avoid serious injury, permit the engine to cool before opening the radiator cap.

CAUTION: Plumbing through the dash or sleeper heater will null and void your warranty.

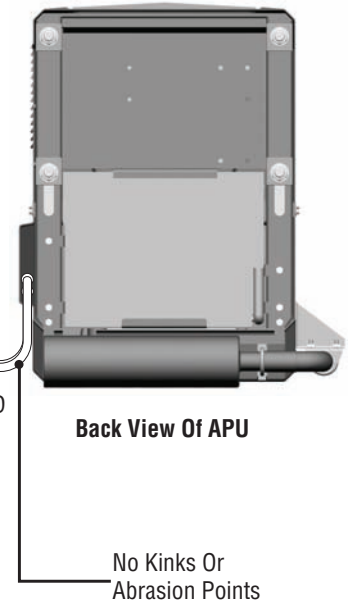
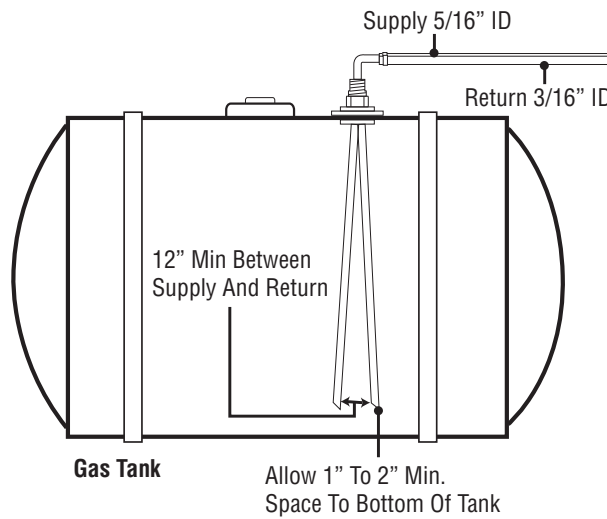
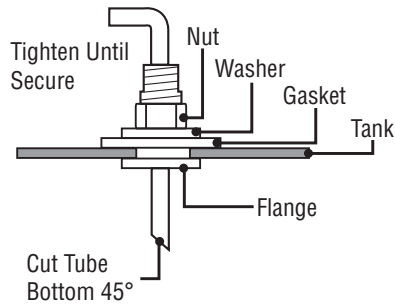
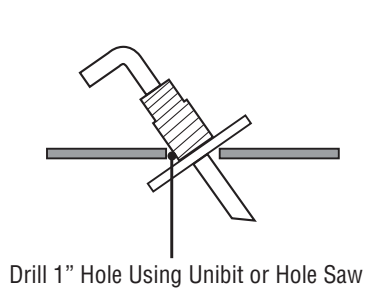
CAUTION: Take care not to spill coolant.



INSTALLING THE FUEL LINES

Installing The Stand Pipe

1. Locate hole in an area where the fuel pickup is kept safe (the center of the tank is recommended).
2. Tighten hose clamps.
3. Secure the fuel lines to reduce movement.



WARNING: Exercise safety measures when working near flammable fuel.

CAUTION: Keep fuel lines away from exhaust pipes and heated moving parts.

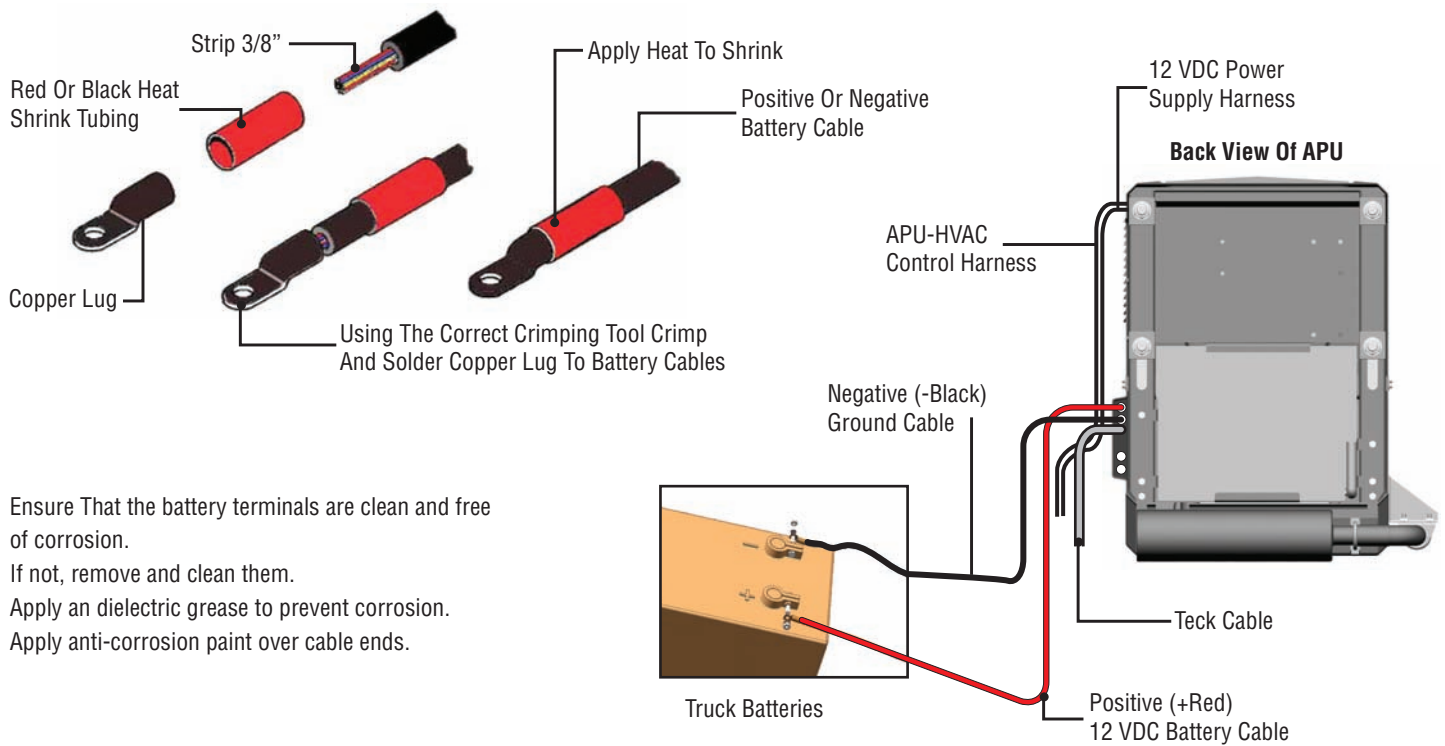
CAUTION: Keep fuel lines safe from wear points.

CAUTION: The standpipe must enter the tank from the top and not the side.



ARRANGE BATTERY CABLES

Connecting To The Truck's Battery



Ensure That the battery terminals are clean and free of corrosion.
 If not, remove and clean them.
 Apply an dielectric grease to prevent corrosion.
 Apply anti-corrosion paint over cable ends.



WARNING: Do not join the APU battery connections until the installation is complete and the APU is ready to test-start.



WARNING: Make sure the 120 VAC cable is connected to the installed CCU (if applicable). Terminate cable ends if no CCU is installed.



WARNING: Make sure that the polarity is correct before attaching battery leads. (The APU connects to 12VDC systems only).



SYSTEM CHECK

Important: Perform these steps only after the HVAC and all other components have been installed.

System Check

- Oil level in the APU engine, add oil if necessary.
- Electrical and plumbing connections are secure.
- Radiator coolant valves (if any) fully open.

APU First Time Start Up

Before first time starting use the priming pump to clear the air in the fuel line.

Priming Pump



WARNING: Do not start or run the APU prior to purging the entire cooling system of air.

Failure to do so will result in APU engine failure.



WARNING: Do not operate the engine without the enclosure cover in place. Failure to do so may result in injury.

Completing the Installation

- Test all the functions of the APU and the HVAC.
- Replace vehicle access panels, fairings, interior components and hardware that was removed to facilitate the installation.
- Seal all holes made through the floor or walls of the truck bunk with suitable sealant such as expanding foam.
- Vacuum the interior of the cab/sleeper.
- Review the installation with the owner and instruct them on the proper operation of the Diamond Power Systems. Give the owner the Operator's Manual.
- Complete all warranty cards and return to Diamond Power Systems.