

Vehicle Power Install Kit

Installation Instructions

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Using the Vehicle Power Install Kit

The vehicle power install kit (P/N 203-802-xxx) lets you connect an Intermec computer, printer, and/or other equipment to the electrical system of your vehicle. After you install this kit, your vehicle can provide power to operate a vehicle dock, printer, and all other connected equipment. It will also charge the internal battery of both the computer or the printer.



Note: For help installing the vehicle dock with other equipment, contact your local Intermec representative.

This kit contains all of the hardware necessary to connect the battery cable directly to the vehicle battery. This direct connection reduces installation problems and allows for improved vehicle battery filtering.

What You Need

- Common hand tools, such as a wrench
- Wire crimping and stripping tool
- Electric drill and drill bits
- Voltmeter
- Cable clamps or wire-ties

What You Need To Do

- 1 Determine your vehicle's voltage level.
- 2 Install the power cable.

These instructions describe how to perform each step.

Determining Your Vehicle's Voltage Level

Before installing this kit, make sure that your vehicle's electrical system is in good working condition for all types of installations. The charging circuit must work properly and vehicle generated electrical "noise" must be minimized.

Excess electrical noise can be severe enough to defeat the electrical filtering that is built into Intermec cables, printers, and vehicle docks. Defective ignition wiring, damaged insulation, or a faulty vehicle electrical component can cause electrical noise, possibly causing unpredictable behavior in printers and docks.



Note: If the vehicle voltage is too high or too low, the Intermec equipment may not work.

To determine your vehicle's voltage level

- 1 Measure the vehicle battery voltage with a voltmeter. It should read approximately 13.0 VDC with the engine **OFF**. For 24 V vehicle systems, check each battery individually.
- 2 Start the vehicle engine. Continue monitoring the battery's voltage while you run the vehicle's engine at a fast idle for five minutes.

The voltage should read below 14.5 VDC. It must not exceed 18.0 V. If the battery voltage exceeds 18.0 VDC, there is a problem with the vehicle electrical system which must be diagnosed and repaired before the Intermec equipment will work properly. Check your engine for a bad voltage regulator or a poor ground, either of which cause excessive voltage.

Installing the Power Cable

Before installing the power cable, note these installation guidelines:

- Choose a mounting location for the Intermec equipment and the cables. Make sure that the mounting location is convenient for the vehicle operator and that the cables will reach from the power source to the equipment.
- Use cable clamps or wire-ties to secure cables at least every 46 cm (18 in).

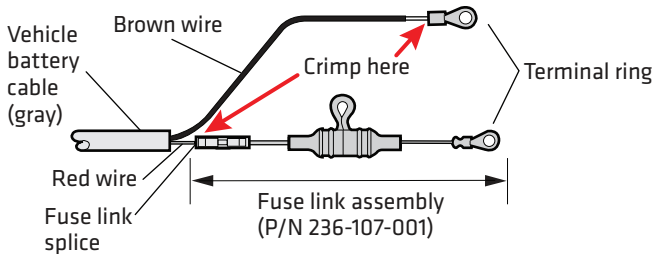
Installing the Gray Vehicle Battery Power Cable

- 1 Route the gray battery power cable (P/N 236-106-xxx) from the equipment toward the vehicle battery.



Note: Do not secure the gray battery power cable to any moving parts on the vehicle. Make sure the cable is at least 6 inches from the exhaust system.

- 2 Cut the gray battery power cable near the battery leaving enough of the cable to reach the battery terminals.
- 3 Strip the battery power cable jacket 31 to 36 cm (12 to 14 in).



- 4 If necessary, shorten the red wire of the gray battery power cable.
- 5 Strip 6.4 mm (0.25 in) of insulation from the red wire on the gray battery power cable.
- 6 Find the fuse link assembly (P/N 236-107-001), and securely crimp the fuse link splice onto the red wire.
- 7 Strip 6.4 mm (0.25 in) of insulation from the brown wire on the power cable.
- 8 Crimp the 3/8-inch terminal ring onto this wire.

Connecting to the Vehicle Battery



Warning

Verify that the cable to battery connections are correct. Electrical energy from vehicle batteries can harm equipment and people.

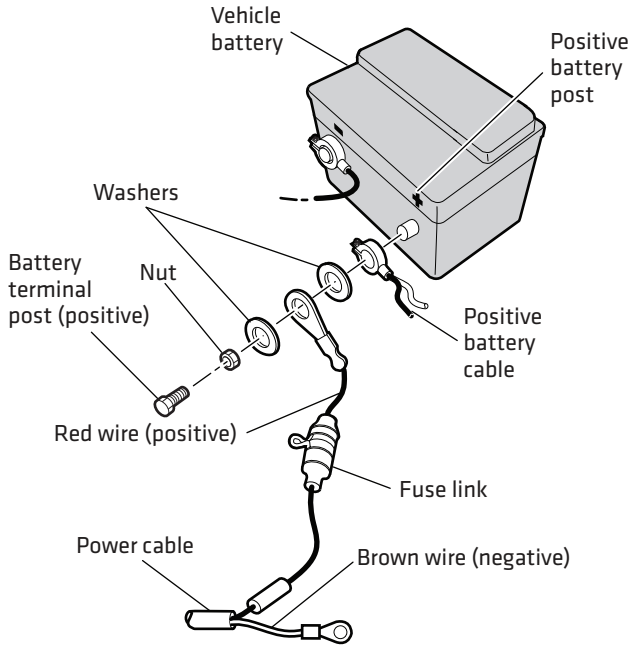
You can connect to the vehicle battery by connecting to the side battery terminal, the top battery terminal, or a two-battery vehicle system. For a two-battery vehicle system, you only connect to one of the batteries.



Note: When you remove the battery terminal side post bolts from the vehicle battery, the vehicle's computer and radio will return to default settings.

Connecting to the Side Battery Terminal

- 1 Remove both battery terminal side post bolts from the vehicle battery.

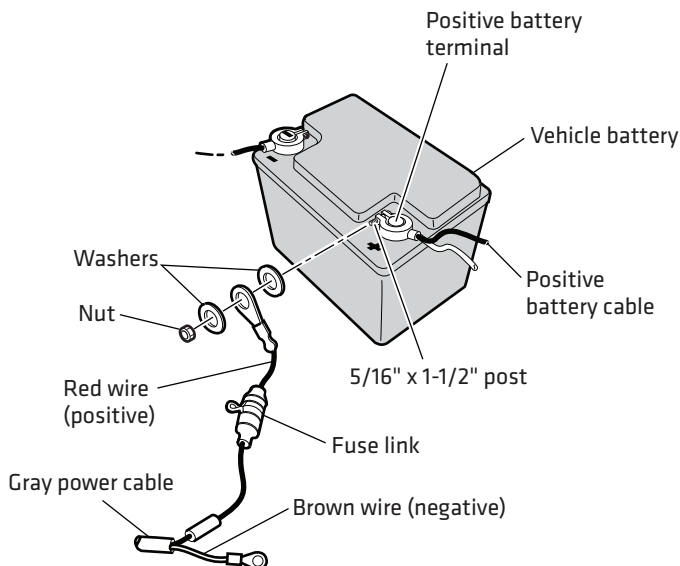


- 2 Fasten a 3/8-inch nut to one of the 3/8-inch x 1-1/2-inch posts (provided).
- 3 Place a 3/8-inch washer on the battery terminal post.
- 4 Slide the positive (red wire) fuse link terminal ring from the battery cable onto the positive (+) battery terminal post.
- 5 Place another 3/8-inch washer on the battery terminal post.
- 6 Slide the vehicle positive battery cable onto the battery terminal post.
- 7 Thread the post assembly (Steps 2 through 6) into the positive battery terminal. Tighten the battery terminal post securely.

- 8 Tighten the nut installed in Step 2 to secure the washers and cables firmly in place.
- 9 Repeat Steps 2 through 8 for the negative (brown) wire from the battery cable, connecting the negative cables to the negative (-) battery terminal.

Connecting to the Top Battery Terminal

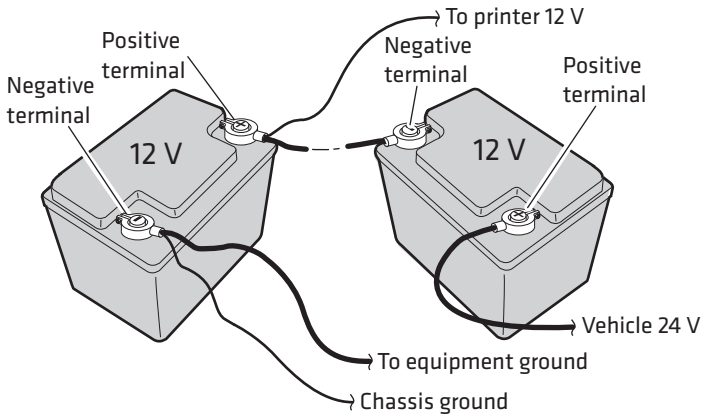
- 1 Remove the battery clamp posts from the vehicle battery terminals.



- 2 Install a 5/16-inch x 1-1/2-inch post and nut (provided) on each of the battery terminals, and tighten the nut securely.
- 3 Place a 3/8-inch washer onto the extended end of each battery clamp bolt.
- 4 Slide the positive (red wire) fuse link terminal ring from the battery cable onto the positive (+) battery clamp bolt.
- 5 Place another 3/8-inch washer onto the battery clamp bolt.
- 6 Thread another 3/8-inch nut onto the battery clamp bolt, and tighten the nut.
- 7 Repeat Steps 2 through 6 for the negative (brown) wire from the battery cable, connecting the wire to the negative (-) battery terminal.

Connecting to a Two-Battery Vehicle System

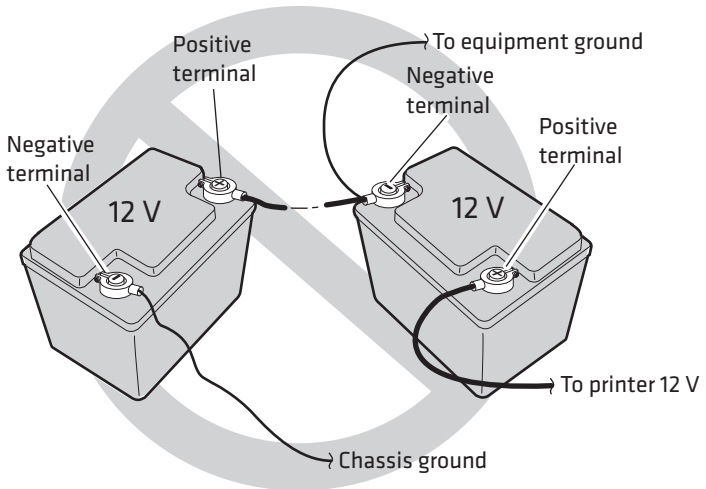
The next illustration shows the correct way to connect to a 24 V two-battery system by wiring the printer to one of the batteries.



Connecting to a Two-Battery Vehicle System



Do NOT connect to batteries as shown in the next illustration. This connection will damage the printer.



Incorrect Connection for a Two-Battery Vehicle System

Fastening the Ground Strap

The braided green wire grounding strap is connected to the white connector on the battery power cable. To ensure proper cable shielding, you need to fasten the grounding strap to the vehicle's sheet metal.

To fasten the ground strap

- 1 Drill a small hole into the metal where you intend to fasten the ground strap.
- 2 Use a punch to dimple and enlarge the hole until it is the same size as the screw.
- 3 Scrape a small circle of paint from around the hole. Make sure to expose bare metal to make a good electrical connection.
- 4 Use a #8 x 5/8-inch screw and flat washer to secure the green grounding strap.
- 5 Install your equipment. For more information, see your equipment's installation instructions.

Connecting the Dock-to-Fuse Block Cable

- 1 Locate your vehicle fuse block.
- 2 In the fuse block, locate the spade lug contacts that attach directly to the battery.



Note: When the vehicle ignition is off, these contacts are still powered.

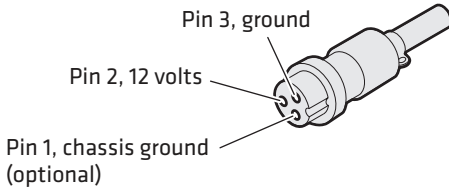
- 3 In the dock-to-fuse block cable (P/N 226-109-103), locate the white quick connect contact wire.
- 4 Attach the wire to the fuse block's spade lug with 12 V positive polarity.
- 5 In the dock-to-fuse block cable, locate the black quick connect contact wire.
- 6 Attach the wire to the fuse block's spade lug with negative polarity (chassis or ground).

Verifying the Dock Power Cable Polarity

Before you make the final cable connection, you need to verify the dock power cable polarity.

To verify the dock power cable polarity

- Use a volt meter to make sure that +12 volts is on Pin 2.



Jump-Starting Your Vehicle



Caution

Always disconnect the power cables from the Intermec equipment before attempting to jump-start your vehicle. Failure to do so may result in damage to your mobile computer equipment.



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P/N 931-053-005