

USB Charge Port Installation Instructions



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Thank you for purchasing a Logo Lites® USB Charge Port!

USB Charge Port Overview

- Works with 6V and 12V automotive electrical systems.
- Provides two, independent USB Type A Dedicated Charge Ports for universal charging.
- Automatically turns on and off the USB Charge Ports when your engine starts and stops (6V/12V only – not automatic for 8V).
- Will not discharge your vehicle battery when not in use (less than 0.0001 Amp current draw when off).
- Green LED indicates when USB power is available.
- Press the override button for 10 seconds to turn on USB Charge Port for two hours when engine is off.
- USB Charge Port has thermal and overload safeties and includes protection for plugged in devices.



Positive Ground Caution

For positive ground installations, when connecting your device, **always connect the cable to the device first and then to the USB Charge Port**. When disconnecting, **always disconnect from the USB Charge Port first**. It is important to use this sequence to prevent damage to the charge port. The reason is, on some non-standard charge cables, pin one (considered ground) may be electrically connected to the shell (metal exposed ends of the cable). On the phone, or other connected devices, this is the negative side of the power supply. On a positive ground vehicle the polarity is reversed. Since we must connect the negative side of the battery to the USB ground pin, the only protection device is the external fuse. If the metal end of the cable touches the chassis of the vehicle, the 6V negative side of the battery is connected directly to the chassis through the USB Charge Port. Before the fuse can react to a direct short from the battery (negative terminal) to the chassis, the pins on the USB Charge port are likely to be destroyed.

Safety Information

- Read the instructions completely before starting the installation.
- Never attempt automobile wiring without first disconnecting the battery.
- Ensure you know where wiring, fuel, brake, and other critical systems are located in the vehicle.
- When using power tools such as a drill, be sure to use the proper safety equipment (eye protection, etc.). Always follow manufacturer's recommendations when using power and hand tools.
- **The installation discussed is for reference only and does not indicate that any particular configuration will be safe for all vehicles. A safe and secure installation is solely the responsibility of the installer!!**

Tools & Supplies Needed

USB Charge Port installs with simple hand tools found in the average home mechanic's toolbox. Required tools are different for every installation, but a wire crimp tool is required unless you plan to solder your connectors. Some installations will need a drill and 9/64" drill bit. It may be helpful to have tie wraps to suspend wires for a complete installation. A multimeter is helpful to locate power and chassis connections, and to troubleshoot any connection issues.

Before Installation: Determine Chassis Polarity

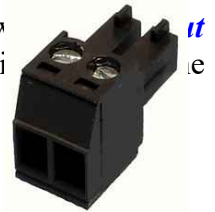
It is very important to determine if your vehicle is positive or negative chassis. Look at your battery in your vehicle. There are two battery cables. One is connected from the battery to the starter or the starter solenoid. The other battery cable is connected from the battery to the frame or engine. The cable that connects to the frame or engine tells which polarity your chassis is. Look at the battery where the cable from the frame or engine connects. If that post has a + marking on the battery, you have a **positive** chassis. If there is a - on that battery post, you have a **negative** chassis. It is important to note if your vehicle is **negative** or **positive** chassis and to follow the appropriate right instructions below.

Choose Installation Type

USB Charge Port mounts to your vehicle or to an A-Plate™, if available for your vehicle. Instructions for both Conventional and A-Plate installations are available below.

Tip – A wire that is too exact in length is difficult to connect. A wire that has too much slack looks sloppy and is easily caught in tools and other equipment. When cutting power wires, pull the wire tight between the two points the wire must span, and then add 1" to the length of the wire before cutting. Adjust this 1" general guideline for your needs using your own best judgment. Remember, it is easy to trim a wire shorter, but not so easy to make it longer.

Before proceeding to the A-Plate or Conventional instructions below, unscrew the two screws on the **Input Connector** several turns counter clockwise so that there is enough room for stripped wires to be inserted into the small clamps. The **Input Connector** color may vary from the one pictured to the right.



Installation on a Logo Lites A-Plate:

- If the A-Plate is already installed, **disconnect vehicle battery** and remove the A-Plate from the vehicle.
- Use two #8-32 screws and nuts to mount the USB Charge Port to an available location on your A-Plate with the **Input Connector** facing up and the USB ports facing down.
- Choose an available fuse terminal for your USB Charge Port.
- Cut red wire to length to reach from fuse terminal to the **Input Connector**.
- Cut black wire to length to reach from the chassis terminals of the fuse block to the **Input Connector**.
- Strip 1/4" of insulation off of both ends of the red and black wires.
- Crimp non-insulated 1/4" female quick disconnect terminal onto the end of the black wire.
- Crimp insulated 1/4" female quick disconnect terminal onto the end of the red wire.



Follow the next step(s) based on the positive or negative chassis polarity.

Positive Chassis



- Looking into the connector's wire holes with the screw heads up, insert stripped end of red wire into left hole of the **Input Connector** and tighten the screw to hold the wire snugly.
- Repeat for the black wire into the other (right) hole of the **Input Connector**.

Negative Chassis



- Looking into the connector's wire holes with the screw heads up, insert stripped end of black wire into left hole of the **Input Connector** and tighten the screw to hold the wire snugly.
- Repeat for the red wire into the other (right) hole of the **Input Connector**.

- Fully insert **Input Connector** into USB Charge Port.
- Push uninsulated 1/4" quick disconnect terminal of black wire onto unused male chassis terminal on fuse block.
- Push red 1/4" quick disconnect terminal of red wire onto the available fuse terminal you chose earlier.
- Insert 3 Amp ATO fuse into the fuse slot for the terminal you chose earlier.
- Install A-Plate into your vehicle.
- Connect harnesses to other devices mounted to A-Plate if equipped.
- Double check that all wires are connected safely and correctly.

- ❑ Reconnect vehicle battery.

Conventional Installation (without a Logo Lites A-Plate™):

- ❑ **Disconnect vehicle battery.**
- ❑ Choose a location to mount the USB Charge Port. The location should be in a dry area in the interior of your vehicle. Be sure that the way you mount your USB Charge Port does not interfere with or damage your vehicle's fuel, electrical, or safety systems. USB Charge Port mounts with two #8 self threading screws (provided). Depending on your application, you might be able to use adhesive backed hook and loop tape to mount your USB Charge Port (not provided).



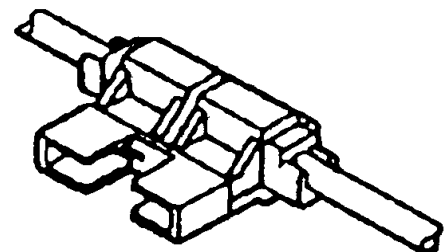
Tip – think about plugging USB devices into the charging ports and how you will run the power wires when choosing a mounting location. Make sure there is room to plug in the USB cables and the power wires will not interfere with vehicle operation.

- ❑ Choose an available power source for your USB Charge Port. The power source should be an “always on” type that has voltage even when the vehicle engine is switched off. Antique cars may have a stud or screw available to connect to with a ring terminal. Some fuse panels have a quick connect terminal labeled BAT for this purpose. *We will call the connector you choose for this purpose the “**Power Connector.**”*
- ❑ Choose an electrical connection location for the chassis wire. The chassis connection should be to a metal, wire, dash, frame, or body location that electrically connects back to the battery. A common chassis ground point may be available under the dash, or an existing screw may provide a chassis connection. Another option is to drill a hole and use an included #8 self tapping screw to provide the chassis connection. *We will call the connector you choose for this purpose the “**Chassis Connector.**”*

Note – This kit is complete for Model A Ford and many other antique vehicles, but you may need to purchase additional electrical connectors for your vehicle's power and chassis needs. Your local auto parts store should have taps, splices, ring terminals, or other electrical connectors if you need them.

- ❑ Drill any needed holes to mount the USB Charge Port. If mounting with the included #8 self tapping screws, the holes should be 9/64” in diameter.
- ❑ If necessary, drill a hole to connect the **Chassis Connector**.
- ❑ Mount the USB Charge Port using the hex key and #8 self tapping screws or other method of your choice.
- ❑ Cut black wire to length to reach from the chassis electrical connection location you chose to the input **Input Connector**.
- ❑ Cut red wire to length to reach from the power source to the USB Charge Port's **Input Connector**.
- ❑ Choose a location for the fuse holder. It may be installed anywhere in the red wire but should be located as close to the **Power Connector** as possible (6” or less).
- ❑ Cut red wire into two pieces where you want to install the fuse holder.
- ❑ Crimp both pieces of red wire into the fuse holder, one on each side.


TIP – Put the fuse holder in your hand with the two metal pieces at the top and facing you. The fuse holder is an insulation displacement type, which means you should not cut the installation off of the wire before you crimp the fuse holder to the wire. The wires go into the fuse holder at the bottom, through the holes from the left and from the right. Push one wire into the right side until it hits the middle stop. It may help to twist the wire to get it to go into the hole. Then take the piece on the top right (with the metal in it) and fold it toward the wire until it contacts the wire. **Use pliers to squeeze it down until the latch catches.** Repeat this for the wire on the other side. This creates an inline fuse holder.



- Strip 1/4" of insulation off of both ends of the red and black wires.
- Crimp the **Chassis Connector** onto the black wire. Your **Chassis Connector** may be a non-insulated #8 ring terminal, female quick disconnect terminal, or other connector you chose for your chassis ground connection earlier.
- Crimp insulated #10 ring terminal, insulated female quick disconnect terminal, or other connector you chose for your **Power Connector** onto the red wire.

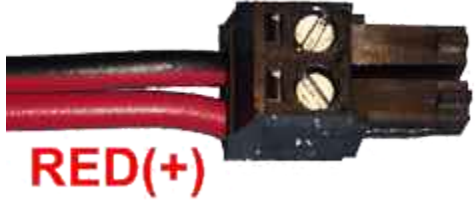
Follow the next step(s) based on the positive or negative chassis polarity noted earlier:

Positive Chassis



- Looking into the connector's wire holes with the screw heads up, insert stripped end of red wire into left hole of power connector and tighten the screw to hold the wire snugly.
- Repeat for the black wire into the other (right) hole of the power connector.

Negative Chassis



- Looking into the connector's wire holes with the screw heads up, insert stripped end of black wire into left hole of power connector and tighten the screw to hold the wire snugly.
- Repeat for the red wire into the other (right) hole of the power connector.

- Fully insert **Input Connector** into USB Charge Port.
- Connect the **Chassis Connector** to the vehicle chassis ground point chosen earlier. If you use the #8 non-insulated ring terminal, insert the #8 screw through the #8 tooth washer and the ring terminal, and use the hex key to screw it into the hole you drilled earlier.
- Connect the **Power Connector** to the terminal, stud, screw, or other power source point chosen earlier.
- Insert 3 Amp ATO fuse into the fuse holder.
- Double check that all wires are connected safely and correctly.



Tip – Use tie wraps or other means to support the wires to prevent them from damage or interference with vehicle moving parts or systems.

- Reconnect vehicle battery.

Troubleshooting

If the fuse is blown, e-mail or call Tech Support (see front of manual) *before* installing a replacement fuse. In this case, a blown fuse indicates a problem with the vehicle's electrical system.

If the fuse is not blown, but the Logo Lites USB Charge Port does not work as expected, here are some steps to help troubleshoot the unit. Begin with the vehicle engine running.

- 1 If USB Charge Port does not turn on as expected, unplug any USB devices and press and hold the red over ride button for ten seconds. If the green light turns on, then the device has voltage and the polarity is correct, so move to step 2. Regardless of the vehicle's chassis polarity, the + should be positive compared to the – at the **Input Connector**. Use a multimeter and touch the probes to the + and – screws and make sure there is voltage to the unit and that the voltage is positive. Check that the **Input Connector** is fully inserted into the unit. Make sure the fuse is installed and not blown. Check if there is power available to the fuse by touching the probes to the **Power Connector** and the **Chassis Connector** and fix as necessary.
- 2 If the green light turns on in override but turns off when you plug USB device(s) in, the connections are not conducting enough current. Make sure the **Input Connector** screws are tight on the power wires. Check the **Power Connector** and the **Chassis Connector**. Make sure the connections are bright, clean, and free of corrosion. Clean and brighten the connections as necessary. If the problem persists, it is likely that the **Chassis Connector** is not conducting enough current. Move the **Chassis Connector** to another chassis location with a better connection to the battery.
- 3 If the green light works manually but does not turn on automatically there may be a battery charging issue. The automatic start time depends upon factors that differ from vehicle to vehicle. On a vehicle with a fully charged battery and modern alternator in good working order, USB Charge Port will start about 10 seconds after the vehicle starts. Vehicles with weak batteries or low current alternators or generators will take longer to start automatically. With the green light off, start the engine. Use a multimeter and touch the probes to the + and – screws and measure the voltage. The USB Charge Port turns on automatically when an ignition signal is detected and the **Input Connector** voltage is between 6.65V – 9.0V or greater than 13.3V. With the vehicle running, if the **Input Connector** connector does not reach these voltages within a few minutes of driving, then the vehicle battery is not being charged properly. In this case the generator, regulator, or alternator needs to be adjusted or serviced. *USB Charge Port will only work automatically with a properly operating charging system.*
- 4 If USB Charge Port turns on automatically and manually but doesn't charge your device then a different USB Cable is needed. USB cables come in two different types known as 'data cables' and 'charging cables'. Data cables are used for transferring data to or from USB devices, such as copying pictures from a phone to a computer. Data cables will charge a USB device, but at a slow rate. They may charge a device overnight, but not provide enough current to run a GPS navigation device all day long on a road trip for example. Charging cables have heavier gauge wires and conduct more current to USB devices. Use USB cables marketed as 'charging cable' for best performance from your USB Charge Port.

Parts List

Qty	Description	Qty	Description	Qty	Description
3	Screw #8 x 1/2" self tapping	1	Tooth washer #8	1	Hex key (wrench)
1	Quick disconnect red insulated terminal	1	Quick disconnect non-insulated terminal	1	Logo Lites screwdriver
1	#10 ring insulated terminal	1	#8 ring non-insulated terminal	1	2-pin plug
1	Red wire	1	Black wire	1	3 Amp ATO fuse
1	Blade fuse holder				

Warranty

Creative Connections, Inc. (hereinafter "CCI") warrants to the Purchaser of this unit that this unit will be free of defects in workmanship and materials for a period of one (1) year from the date of purchase. "Defects" as used herein, refer only to those imperfections which impair the utility of the product. Defective units reported or returned to CCI within one (1) year from date of purchase will be exchanged or repaired without charge at the option of CCI.

This warranty is limited to the repair or exchange of the product and does not cover and CCI will not pay nor provide any other benefit or service including labor or materials which may be necessary to remove or replace a defective unit. CCI shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use or failure of this product. It is the user's responsibility to determine the suitability of this product for its intended use. User assumes any and all risk or liability in connection with the installation and use of this product. This warranty does not apply to any defects resulting from abuse, negligence, intentional damage, modification, improper installation, unreasonable use, exposure to elements, or over-tightening of fasteners.

Defective units should be reported directly to CCI and not to your retailer. Contact CCI by telephone or write to the address shown in this manual. Identify the Logo Lites product purchased, the date and location of purchase, and the nature of the alleged defect. Do not ship your product back to CCI unless and until specifically directed to do so. Shipping instructions will be provided to you at the appropriate time. Shipping to CCI is the responsibility of the purchaser. All defective products returned must be accompanied by proof of purchase.

This warranty is not transferable and applies only to products sold within the United States of America, the District of Columbia, the Commonwealth of Puerto Rico, territories of the United States, and Canada.

This limited warranty is in lieu of all other express warranties. CCI shall not be liable to any special, incidental or consequential damages. Any implied warranty of fitness for a particular purpose, merchantability or otherwise, applicable to this product, shall be limited in duration to the duration of this limited warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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