

## Installing Your McCord Power Plate<sup>2</sup>

The installation of the MPP<sup>2</sup> for either a downpipe, a Borla catback system, or a cutout is basically the same. Total installation should take less than two hours. The basic installation is performed in two phases. They can be done in either order. Your MPP<sup>2</sup> comes with just about everything you need to install it. The following will be needed to complete the install:

### Installation Checklist:

Wire cutter	Wire strippers	Small flatblade screwdriver
Torque Wrench	Exacto Knife	Power Drill
1/4" drill bit		Adjustable crescent wrench
RTV Red Silicone	Wire Ties	(4) Butt splice connectors
4' Red 18-20 gauge wire	4' Black 18-20 gauge wire	Lock-Tite (Red)
Sheetmetal self tapping screw	Silicone sealant	Wire lug
Anti-seize compound	3 SS 3/8-16 Bolts (borla)	3 3/8-16 nuts & lock washers (cutout or downpipe)

## Unpacking Your McCord Power Plate<sup>2</sup>

Your MPP<sup>2</sup> is shipped together, but is separated for installation. Find the black weatherproof connectors on your cable and pull them apart. The entire unit will now be in two sections, the switch and led, and the cable attached to the motor.

Inspect the unit for any damage that may have occurred during shipping. If you discover damage, immediately call McCord Consulting Group, Ltd at (314) 830-9471 or email at [powerplate04@mccordcg.com](mailto:powerplate04@mccordcg.com) .

### Preparing The Vehicle

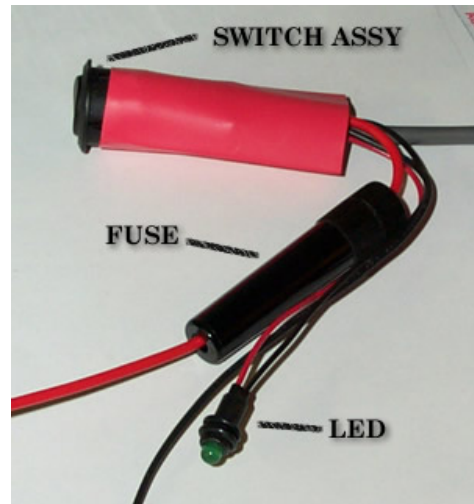
- ✓ Since you will be working on the electrical system, we recommend disconnecting the positive lead to the battery.
- ✓ Jack up and support the vehicle following the manufacturer's recommendations. Make sure that you have the parking brake set and the wheels chocked while lifting.
- ✓ We recommend running the cable through a grommet that is located in the floor pan.

**Before you install the MPP<sup>2</sup> we strongly recommend that you attach your unit off the vehicle to a battery and get familiar with the operation of the unit, its speed, and how the LED interacts with you.**

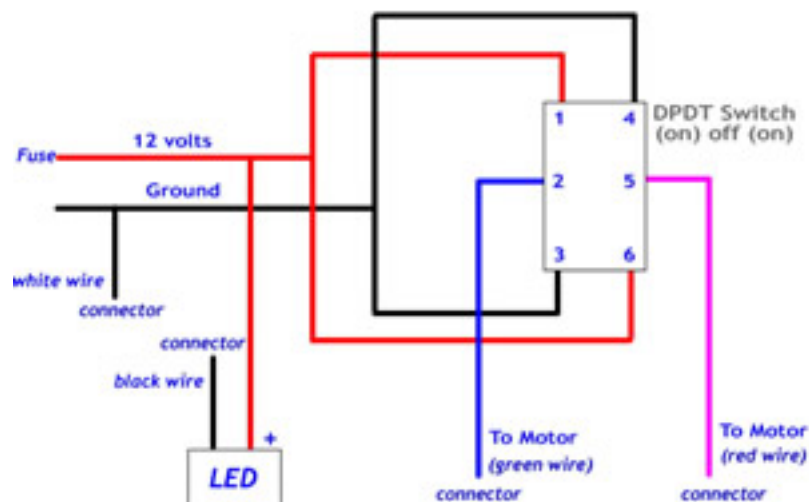
## Installing the Switch

The switch should be located in a place that is easy to access. We recommend locating it in the ashtray. Other places would include: the kick panel of the dashboard, the glove box, center console storage bin, etc. Before mounting the switch, ensure that your chosen location is such that there is enough wire in the kit to reach.

- ✓ Make sure that the positive lead to the battery has been disconnected. Failure to do so may destroy delicate electronic instrumentation in the vehicle.
- ✓ Locate the black ground wire coming from the switch assy. Strip back approximately 1" of wire and using a butt splice, attach the 4' of black wire to this wire.
- ✓ Locate the red power wire (it has the fuse on it) coming from the switch harness. Strip back approximately 1" of wire and using a butt splice, attach the 4' of red wire to this wire.
- ✓ Connect the now lengthened red power wire to a switched 12 volt source (ie. one that is only hot when the ignition is on). You can run it to a switched fuse in the fuse panel located on the driver side dashboard. *The MPP<sup>2</sup> only draws power when the motor is moving. The LED could be on depending on the location of the butterfly. If an always hot 12 volt source is chosen, the battery could be run down over extended periods of time due to the LED.*
- ✓ We strongly recommend attaching a lug to the end of the now lengthened "GROUND" wire to ensure a good ground connection. Locate a screw in the floorpan, or drill a hole and use a self tapping sheetmetal screw to make a new chassis ground point. Regardless of where you find your ground, ensure that it is a good ground source or the unit will fail to function.
- ✓ The hole for the switch is created by drilling a 3/4" diameter hole. The LED hole should be mounted so that you can see it easily. The LED requires a 1/4" diameter hole.
- ✓ Label the spade connectors on the bottom of the switch. Remove the spade terminals from the bottom of the switch. Push the switch through the hole until it snaps in place. Reconnect the spade terminals to the bottom of the switch. Reference schematic if the spade terminals have become mixed up.
- ✓ Install switch and LED in the holes you just drilled by removing one o-ring from the LED and feeding it through the bottom. Reinstall the o-ring from the top to secure the LED.



The switch installation is now complete.

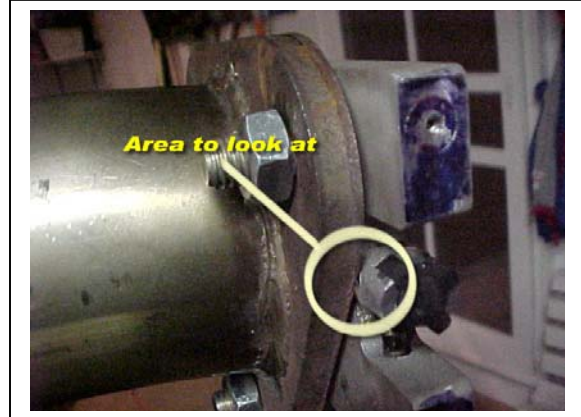


## Installing the Power Plate

\*\* For Borla users: Remove the three bolts that hold the passenger side exhaust extension. Loosen the band clamp that holds the collector to the tailpipe. We will adjust this position after the plate is installed to make up for the extra ½" thickness of the plate. Remove any borla block-off plate if installed.

- ✓ Position the MPP<sup>2</sup> over the collector of either the Borla exhaust, downpipe or cutout.

**Borla Users:** Reposition the flange and thread the three bolts into the base of the Borla exhaust. The motor should face to the passenger side of the car. The installation is exactly the same as changing the standard Borla plates. Make sure to use Anti-seize compound on all of the bolts. Occasionally, Borla ships out their plates warped. A simple fix is to place the largest holed plate on the warped flange. Spread a good silicone sealer to keep the leakage down. Also, insure that the coupler sufficiently clears the flanges of the Borla.



**Downpipe/Cutout Users:** Coat the flange of the cutout with a thin bead of RTV Red Silicone. This will help to seal the MPP<sup>2</sup> to the cutout. Place the MPP<sup>2</sup> on the bolts on the cutout and press firmly to seat into the RTV. We recommend the plate be installed as shown in the picture to the right. These will be installed on the cutout and the plate will be mounted on these bolts. *Avoid substituting nylon lock nuts since the nylon is susceptible to breaking down in the heat.*

- ✓ Liberally coat the bolts with Red Loc-tite to prevent the plate from vibrating loose
- ✓ Torque the bolts to 28 ft-lbs. Over torquing can cause the aluminum body to warp and possibly cause the unit to not open properly.

## Routing The Wire

- ✓ Route the wire up through the underside of the car. We recommend routing over the axle and following the torque arm. **Be careful to ensure that the spinning drive shaft cannot come into contact with the cable. Also make sure that the cable does not come into contact with the hot exhaust pipes.**
- ✓ Route the cables into the car.
- ✓ Run the cable to the switch area and reconnect the weatherproof connectors.
- ✓ Using wire ties, ensure the cable is located away from moving parts, and the hot exhaust pipes. Heat can damage the cable and this will not be covered under warranty if the exhaust burns the cable.

## Finishing the Install

- ✓ Reconnect the positive lead on the battery.
- ✓ Lower the vehicle back to the ground.
- ✓ Before starting vehicle, turn key to run position and flip the toggle switch in the direction that the arrows indicated was open. Then, exercise the toggle switch in both directions (like a light switch) to open and close the valve. Ensure that the valve is not binding or sticking (i.e. is centered in the exhaust and is not hitting any objects).
- ✓ Start the car and enjoy!

## Maintenance Issues

The MPP<sup>2</sup> requires very little maintenance. We recommend every three to six months to re-lubricate the area that the LED brass rod rides on. Your MPP<sup>2</sup> comes from the factory lubricated with a high quality, high temperature bearing grease to lubricate the following rod.

## **Debugging Your Installation**

### **LED isn't functioning properly:**

- The LED may require adjustment. Locate the microswitch on the body of the MPP2. A small brass flat arm extends from the plastic body and contacts a brass rod that passes through the body and contacts the black, cylindrical coupler. There are one or two divots machined in the coupler depending on the action required. The brass rod should release the switch arm on the microswitch when the brass rod enters the divot. The microswitch should be activated when the brass rod rides out of the divot.
- If the LED is not lighting, then the brass rod is not releasing when going into the divot, take a small screwdriver and GENTLY bend down on the brass arm until the switch releases. You will hear a click and the LED will light.
- If the LED is always lit, then the arm needs to be adjusted because the brass rod is not actuating the switch when it rides out of the divot. Rotate the plate until the brass rod rides out of the divot. Take a small needlenose pliers and GENTLY bend the arm with a twist until the switch activates.

### **Butterfly is slow, hangs or sticks:**

- Make sure that the butterfly is not hitting the pipe for the cutout/borla. Remove MPP2 and test to see if plate swings freely. You have approximately 1/8" play in locating the butterfly centered in the bore of the cutout. Adjust placement if necessary.
- Lift up the brass rod out of the hole in the coupler. If plate now moves, a burr has formed on the divot in the coupler. A few seconds with a file or dremel to smooth the lip of the divot will fix this problem.
- Check to make sure that the RTV sealer is not holding the butterfly in place. If so, slice free with a razor blade or sharp knife.
- Some gasoline formulations produce a tar like substance that can stick the bearings. A quick flush with brake fluid followed by a healthy dose of a spray lubricant such as LPS or WD40 will flush out the particulates and free the plate.
- Check voltage using the debug sheet attached. Speed of the DC motor is dependant on voltage. Low voltages will cause the plate to go much slower. Anything lower than 11v will cause a significant slowdown. Also, poor grounding can cause this too.

### **Plate seems to leak air:**

- Severe nitrous backfires and forced induction backfires can damage the plate. Check butterflies for damage.
- The butterfly is sealed with RTV high temperature silicone before it leaves. As the plate experiences thermal growth from a variety of exhaust temperatures, it may leak. You can reapply the RTV around the jams as well as where the shaft and butterfly meet to close off any pinhole leaks.
- Overtightening the plate can warp the main body and cause the butterfly to not seat against the jam. Per the installation instructions, you should not apply more than 28 ft-lbs of torque to the bolts. A warped body, if not too severe, can be sealed with additional RTV.
- Occasionally, as the plate settles onto the exhaust system, the fully closed position of the butterfly falls off the drive side of the final gear in the gearbox. As a result, the plate will flex back when the button is released. If this is occurring, loosen the screws that hold the motor to the body and rotate approximately 2-3 degrees to put it back on the gear drive side. This will effectively take out the backlash in the gearbox. Be sure and use loc-tite on the screws when retightening and do not overtighten the screws.



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### **Warranty**

McCord Consulting Group, Ltd. provides a limited warranty against defects in materials and workmanship on MPP<sup>2</sup> for a period of 1 year on the motor and gearbox and electronic, and 3 years on the body from date of sale to the original purchaser. Upon inspection and verification of warranty, McCord Consulting Group, Ltd will, at its option, repair or replace products, which prove to be defective.

### **Exclusions & Limitations**

- Any product which has been subjected to abuse, accident, alteration, neglected maintenance or improper installation renders the product warranty null and void.
- Conditions resulting from acts of nature, criminal activity or accidents are subject to adjustment under the product warranty.
- Shipping and handling charges are the responsibility of the end user and are not covered by warranty.
- Any and all labor charges that may be incurred for the removal and or replacement of any covered component for the purpose of effecting this warranty is the sole responsibility of the consumer.

### **Return Policy**

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