

Kevin Kolvenbach, May 12,2002

**Power Antenna Install Procedure:** (Re: Acknowledgements at end)

This procedure describes the installation of a GM power antenna as it was installed on a 2002 Camaro (SS convertible), however would most likely apply to any 4<sup>th</sup> generation F-body.

Page references are made within this procedure to the "2002 Service Manual" for Camaro/Firebird Volume 3 of 3. A copy is not required for the procedure, however is a helpful reference. (PN for this manual is included in the part list.)

Information is included (however OPTIONAL) to make use of a factory OEM toggle switch to manually over-ride the radio's control of the antenna. You can (obviously) opt for no switch at all, or your own two way switch for the same function. I utilized a factory (OEM fog lamp) switch since it is made to fit in the 'spare' switch openings of the dash bezel, ...right where the factory "Camaro" dash plaque snaps into.

We'll begin with the parts list, ...then the procedure and follow that with some helpful hints about the install.

**Parts list:** (Everything you need to do the job...)

<b>PART DESCRIPTION</b>	<b>PART No.</b>	<b>Description/Function</b>	
Gm Electric Antenna (BLACK)	#10482859	Power Antenna assembly with BLACK mast. (This is the Chevrolet PN) Uses SAME quarter panel (rubber) grommet as fixed mast antenna. NOTE: PN# 10482860 is the Pontiac PN.	
+ connector/pigtail for antenna	#12117322	Connector/pigtail that mates/plugs to connector on antenna assembly.	
Radio Shack "25-position Female, D-subminiature, Crimp-type Connector Kit"	#276-1430	You'll only need ONE of the (tiny) little connectors in this kit. This connector will be used to plug onto the unused "remote antenna signal" pin on the back of your radio.	
MISC:			
18 gauge wire		To run radio remote antenna control signal	
Tap Splices		For power and ground from antenna	
Butt Splices		For remote relay, green wire on antenna	
Tywraps			
OPTIONAL:			
Toggle Switch (GM foglamp sw)	#10273879	Switch used to manually override antenna.	
+ connector/pigtail for switch	#12125665	Connector/pigtail that mates/plugs to back of switch.	
REFERENCES:			
HELM Service manual set (for 2002 Camaro/Firebird)	#GMP02F	A complete set of (3) books. (Book 3 of 3 was primarily used for this install)	

**Start of Procedure:**

Before you begin, remember to DISCONNECT THE BATTERY NEGATIVE CABLE!!

We will begin by removing the rear interior panels for access to the antenna, and then to the dash for removal of the stereo/radio. Next will be power and ground hook-up for the antenna, followed by antenna signal wire connection at the radio. We will then 'TEST' the system by running (antenna signal) wire over the seats. Once proper operation is confirmed, we will then remove remaining trim panels and permanently run the antenna signal wire to the antenna for final connection.

**Begin by removing the necessary interior panels for access to antenna and stereo:**

Remove rear interior panels to allow removal of spare tire, thus access to the factory fixed mast antenna. Disconnect the antenna lead (and the fixed mast if you have not done so already). Then remove the mounting screw that holds the antenna assembly in place. Gently slide the antenna downward to remove it from the rubber grommet in the quarter panel. Now install the power antenna assembly utilizing the SAME quarter panel grommet and same mounting hardware. Next, move to the dash area for stereo removal.

The bezel/trim piece around the radio has four spring like clips holding it on (two per side). Start by getting your fingertips under the top and gently slide them down each side, the bezel will pop free. Disconnect the FogLamp and ASR switches to completely remove the bezel. Next, remove the screws that hold the stereo in. Carefully begin sliding the stereo out. You may need to 'free' the wiring harness behind the stereo to allow complete removal from the dash. (There is enough wire length there, but it's a tight fit to get your hand behind the radio to free it.)

Note: Removal of interior passenger's side kick panel, etc. will be necessary for final install however can be done after the next two steps. (By temporarily laying the 'radio on signal' wire over the seats from the radio to the antenna, you can/should first confirm antenna operation.)

**Antenna Power and Ground wire connections:**

The power and ground for the antenna can be accessed by tapping into the factory amp which is located near the antenna. There is a big connector full of wires (Re: Helm P.8-444, Connector 1211-0115), ...you will notice 2 orange wires side by side (Pins E11 and E12) and 2 black wires side by side (Pins E8 and E9). The orange wires are "Battery Positive Voltage" and the black wires are "Ground".

The Power Antenna Assembly (PN#10482859) has a connector on it with THREE(3) wires (Re: Helm P.8-446, Connector 1206-4759). The wire colors/functions are: Orange(A- "Battery Positive Voltage"), Green(B- "Radio On Signal") and Black(C - "Ground"). (NOTE: The "Radio On Signal" wire is listed as "Pink" in color from the Helm manual, since Pontiac uses this wire.)

Using the connector/pigtail (PN#12117322) you can wire in the respective antenna connections. Using tap splices, connect the Orange wire from the antenna to the Orange wire from the amp. Connect the Black wire from the antenna to the Black wire on from the amp.

**Antenna Signal wire connections:**

The Green "Radio On Signal" (at the antenna) is the wire that will be coming from the stereo/radio. This will be connected FROM the Radio (pin#8), using 18-gauge wire and run all the way back to the antenna.

NOTE: If you are installing a TOGGLE SWITCH, this is the line to switch, ...see toggle switch install notes below.

To connect to radio pin #8, you will need to use ONE of the tiny little connectors from the Radio Shack "25-position Female, D-subminiature, Crimp-type Connector Kit" (PN# 276-1430). This kit comes with 25 tiny female connectors in it.

You only need ONE of those connectors, ...simply break it off the strip of metal and then crimp that connector onto the end of the 18-gauge wire, (soldering is optional, but recommended).

Next, plug this tiny connector/pin into the back of the radio wiring harness where pin#8 is. When looking at the wiring harness connected to the back of the radio, there are two rows of pins/connectors. The top row is a black plastic piece and the bottom row is white. The pin positions in the BLACK plastic piece are numbered 1-10 from RIGHT to LEFT (Re: Helm P.8-448, "Radio Connector C1",1204-7531). Count from the left side, pin#10, #9, ...#8, and you will notice location #8 is blank. Place the tiny (Radio Shack) connector into pin#8 position of the black plastic piece, where it will slide right onto the pin (#8) of the radio. (I noticed a slightly loose fit of this connector over the pin, so I placed a small tywrap near the black connector to keep the wire in place.)

(Note on pin#8: Chevrolet- pin#8 will be blank; Pontiac-pin#8 will have a pink wire there that runs back to the antenna.)

A quick **TEST**... Now that you have the antenna signal wire connected to the back of the radio, you can TEST your system by temporarily laying this wire over the seats and running it back to the antenna (Green wire ). First, reconnect the battery. Turn the radio on and the antenna should raise. Turn the radio off, ... the antenna should lower.

Once you are done testing, ... DISCONNECT THE BATTERY NEGATIVE CABLE!! Before you continue...

Now that operation is confirmed, you can permanently run the antenna signal wire from the radio to the antenna. If you want to install a manual over-ride SWITCH, ...now is the time to do so. Simply splice the switch into the wire that runs from the radio to the antenna. (See toggle switch installation notes below).

Now you can start taking out the remaining trim panels necessary for final installation. I found it necessary to remove the passenger's side under dash panel and kick panel to properly run the wire back to the antenna. Once all wires are permanently connected and in place, you could run another test, ...and then replace all interior trim panels to complete the installation.

### **Toggle Switch Installation (Optional):**

These instruction deal specifically with the use of a Chevrolet OEM "Fog Lamp" toggle switch, however a simple on/off switch could be used. In either case, ...simply splice the switch into the wire that runs from the radio to the antenna.

Note that this switch will be placed where your "Camaro" dash plaque is located and that the plaque will no longer be put there. ( Just so you're aware...)

To utilize an OEM "Fog Lamp" switch you will need the switch itself (PN#10273879) and the pigtail/connector (PN#12125665) that mates to this switch. The "Fog Lamp" switch has SIX(6) pins on it labeled A-F (Re: Helm P.8-240, "Fog Lamp Switch - Chevrolet",1206-4762), with various functions. It includes a switch (between pins E and F); has an amber "ON" indicator (between pins A and F) (yes, "F"); and has instrument panel illumination (between pins B and C). The pin assignments/functions listed below are those which will be utilized for the power antenna circuit. (Note that the switch itself DOES HAVE PIN DESIGNATIONS on it, very tiny but they are there.)

Pin Layout:

F	E	D
A	B	C

- A- GROUND for 'on' indicator lamp circuit. (Tie this to pin B)
- B- GROUND. (I ran this to the ground lug behind the passenger's kick panel) (Re: Helm P.8-91, (4) G201).
- C- Instrument panel supply voltage. (Tie to Pin C of ACTUAL Fog Lamp switch using tap splice).
- D- Not Used.
- E- Switch Input, Radio Antenna signal. (this is wired FROM Radio Pin#8).
- F- Switch Output, Radio Antenna signal. (this is wired TO the Antenna, pin B (green wire))

Once the switch (and antenna) are all hooked up, you can test the switch. With the radio on AND the switch on, the antenna should raise. You should also see the amber 'ON' indicator in the switch illuminate. Leave the radio on, flip the switch off, ... the antenna lowers and the amber indicator goes off. Note that no matter where the switch is, ...if the radio is Off, ...the antenna will be down. Lastly for checking the switch hookup, ...confirm the instrument panel illumination feature of the switch is working. On or Off, the switch should be illuminated when instrumentation is illuminated, (ie. Headlamps on).

### **Some notes from the install:**

The antenna mounting bracket needed to be bent slightly to conform to the mounting surface behind the spare. This was easy to do and only done to ensure a good fit and that the antenna mast would be straight up and down when raised.

The antenna drain tube was way too short. So I slipped a length of surgical tubing over the end to extend it. There was already a small (approx. 1/4") hole in the base of spare tire well that I ran the tube through. IF a hole must be drilled in the floor of the trunk for the drain tube, be careful not to catch the bumper cover.

If you listen to CD's more than the radio, the install of a switch to manually-overide the antenna is recommended. Installing a basic toggle/rocker switch would be much simpler to do than using an OEM ("fog lamp") switch. However if you are concerned with the "stock/factory" appearance, ...you might consider using the "fog lamp" switch. In either case, when the switch is off and the radio is turned on, the antenna will not raise. While the radio is on, the antenna can be raised or lowered simply by flipping the switch. No matter which position the switch is in, the antenna will lower when the radio is turned off. (If the wire from the radio is run directly to the antenna, the antenna will raise when the radio is turned on and lower when the radio is turned off).

If your car is a convertible and you opt for a typical toggle switch, you might consider mounting the switch next to the power top switch

### **Antenna Maintenance:**

The mast should be cleaned from time to time. To clean the mast-

1. Turn on radio to raise antenna.
2. Dampen a clean cloth with mineral spirits or equivalent
3. Wipe the mast sections with the cloth removing any dirt.
4. Wipe dry with a clean cloth.
5. Cycle the antenna up/down
6. Repeat as needed.

**NOTE:** Do NOT lubricate the antenna. Lubrication could damage it! If the antenna does not go down when the radio is turned off, it may be damaged or need to be cleaned. In either case, lower it by hand by carefully pressing the antenna down. If the mast portion of the antenna is damaged, you can easily replace it. See your dealer for a replacement kit.

### **Acknowledgments:**

I was emailed a copy of an install procedure from a friend (Thanks Joey-Red), that was off the web. I've edited it, added to it, etc. however I did start with that procedure, hence a Thanks to the names credited within.

Therefore a THANKS to **RCowan99SSConv** Who I believe started it. Also a THANKS to **RoadHazard, Smiley, Sshevy** and **Warpig**, ...since their names were listed.

...Thanks, Kevin Kolvenbach (aka "RAGSS")