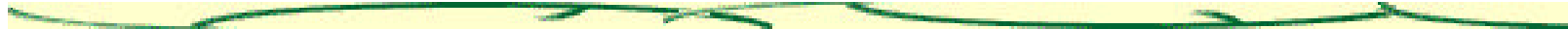


**Corbin Sparrow unofficial service bulletin.**  
**Dashboard removal.**  
Sid Lloyd, 5/19/01  
**Rev B, extra info, putting it back together instructions**  
Davide Andrea 6/11/01

**This is not an official Corbin repair bulletin. In the absence of a Corbin Shop manual, I offer this as advice from one Sparrow owner to another. I cannot take any responsibility for any damage that may result from following this advice. Some details may not apply to your Sparrow.**

This service bulletin shows removal of the dashboard performed on “Beowulf”, red Sparrow VIN 237 with a Kilovac controller, with additional info from Zark, teal Sparrow VIN 28.



Sid:

Removing the dashboard so you can get access to the rear of the instruments and the wiring was actually not that hard. I'll briefly outline the steps below.

Removing the panel gives you outstanding access to all of the wiring behind the panel.

I also found a few things that should be noted by all owners.

Davide:

Well, it was hard enough. Putting it back together was harder yet.

## PART A: REMOVING THE DASHBOARD.

1. **Prep:** Push the BRB. You may want to disconnect the 12 V DC-DC converter as well. Remove any metal apparel (rings, watches, pendants, chain mail shirt, etc.). Get lots of light (flashlights, exterior lighting) and put all screws/bolts/nuts/washers in a small baggie so you won't lose any!

- Put duct tape or some other protection on the right side piece of fiberglass above, between and below the door hinge. The edge of the panel may scrape your paint.
- While you're at it, protect the emergency brake handle too.
- Remove the left side panel (three Allen head screws)



**The left side panel, to the left of the brake handle.**

- Remove the small triangular foot well wall on the left (it just pulls out).



**Left triangular panel.**

Davide: you may want to remove the steering wheel (5 1/8" Allen screws). It's not necessary, but it will give you more room. Carefully disconnect the 2 spade terminals to the horn switch.

**2. Remove the steering column fairing.** This is held on by two Allen head screws.  
Davide: Four total: two on top-front, and two on the lower back.



**The steering column fairing.**

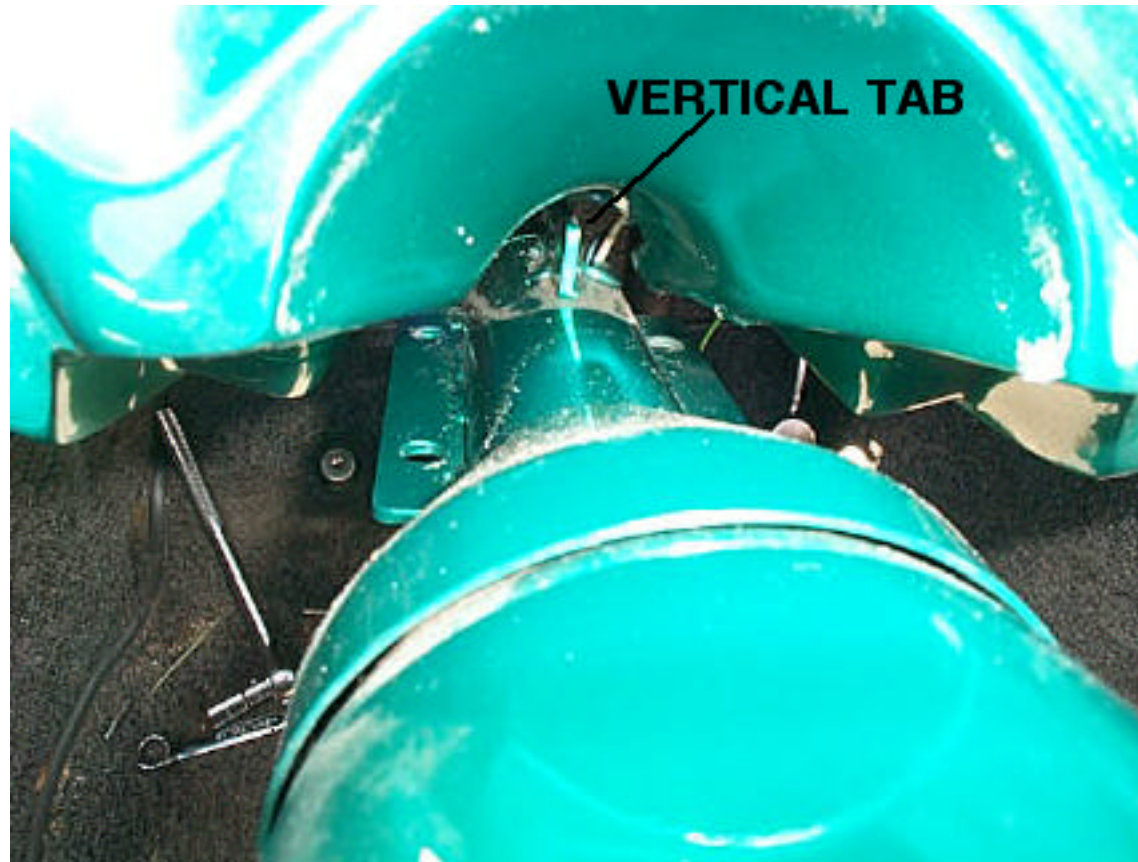


**Steering column fairing removed.**

**3. Remove the steering column.** This is a little more involved. It is held in place by 6 bolts. You need 1/2" sockets and open end box wrenches (all taped with electrical tape to avoid shorts, right?) There are four bolts that hold the column to the panel and two up inside the panel that attach a vertical tab on the steering column to an interior brace that is attached to the front of the Sparrow body.

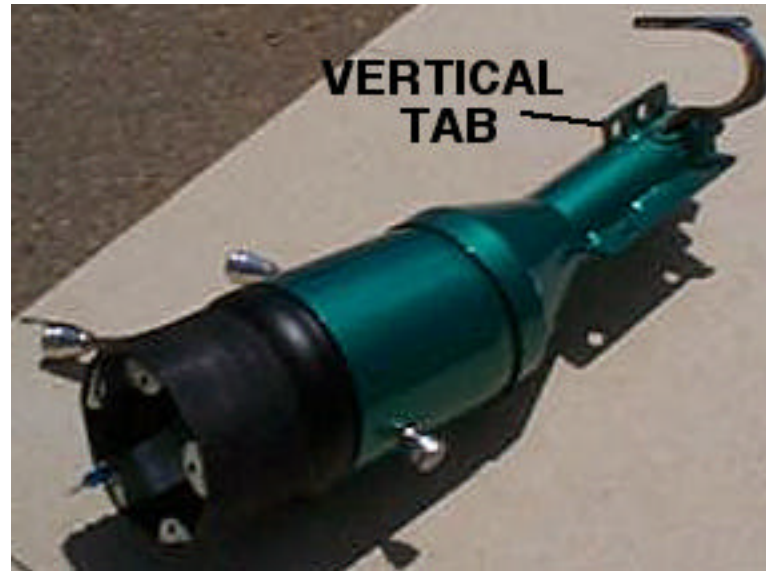
- Remove three or the four bolts holding the column to the panel

- Tape the ground wires together that were on the rear right bolt. (Davide: it was only one green wire in mine.)
- Disconnect the multi-plug that runs to the steering column (Davide: it's black, long and skinny, 12 wires)
- Carefully reach up into the panel from underneath and feel for the two bolts with nuts on them that attach the vertical tab to the brace. (Davide: the bolt are left-to-right, with the hex heads on the left. The nuts on the right are welded to the bracket. See the next picture to see the vertical tab in which these 2 bolts are inserted.)
- Remove them using a ratchet and an open end wrench (1/2") (Davide: a socket ratchet wrench worked better for me.)
- Loosen the nuts that snug the Allen set screws at the upper steering column universal joint (Davide: there are 2 sets of these: one set below the U-joint, and one above. Here we are talking about the set above the U-joint. The nuts lock the set screws in place.)
- Loosen the Allen set screws (you can remove them if you like)
- The column will now drop down and free as you remove the last of the four bolts that you didn't remove in 3a.



**Steering column ready to come off.**

- Remove the column from the car and set down on a padded surface.  
Davide: don't let the steering wheel rotate too much with respect to the steering column. If you do, you may put it back wrong by 180 degrees afterwards (as I did).



Steering column removed (I had already taken off the steering wheel).



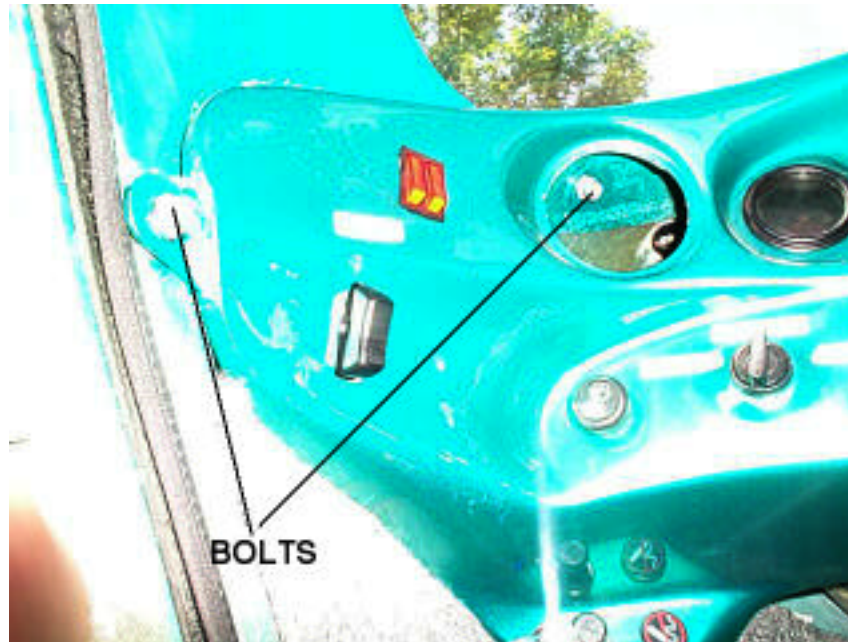
Your panel should now look like this:



**Steering column removed.**

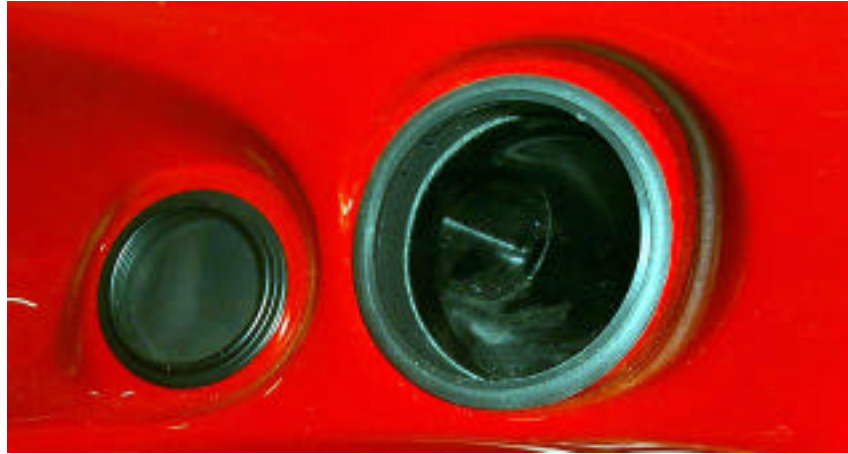
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**4.Remove panel bolts.** Remove the Allen screw on the far right side of the panel and the hex bolt on the far left side. These secure the panel to the edges of the Sparrow.



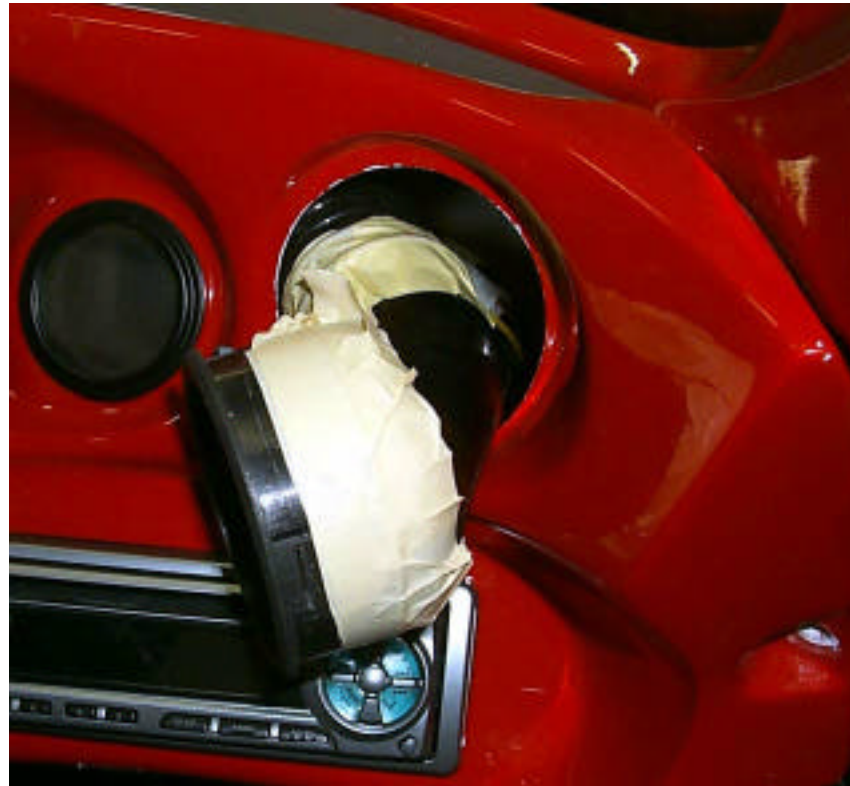
**Left side bolts holding the dash-board.**

**5. Remove the air guide inserts in the three air ducts. These pull straight out.**



**Air guide removed. You see the bezel and the funnel (inside).**

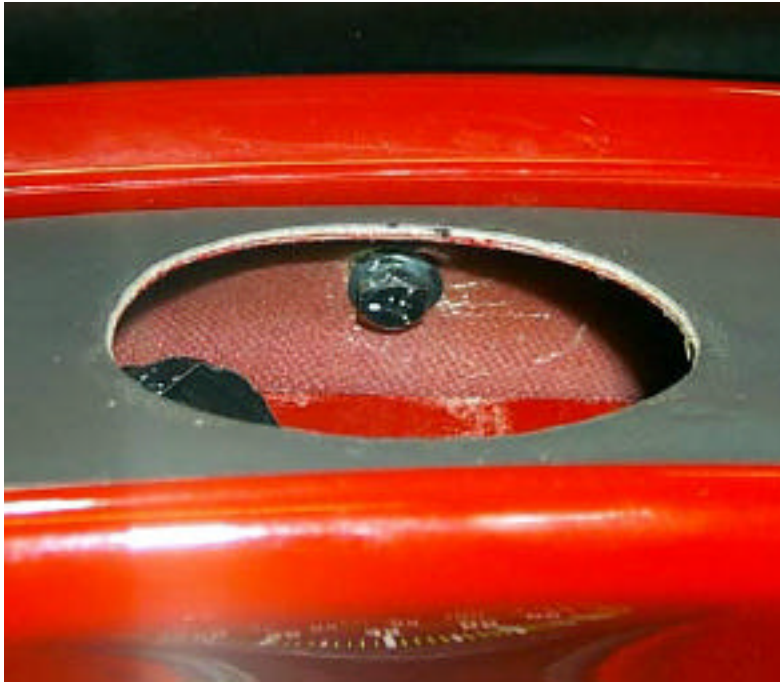
**6. Remove the three air duct fittings.** These L shaped plastic tubes take air from the ducts and route it out of the panel. You will need a narrow, thin, dull metal tool (like a small butter knife) to pull the three tabs sequentially inward in order to pull the air duct fitting out. Work one tab at a time and it will come out.



**Duct fitting removed.**

**7. Remove the air duct fitting from the ducts.** It is only secured with masking tape. (Davide: the tube will want to fall back inside: that's OK.: it's easy to fish back out.)

**8. Unbolt the panel lip bolts.** Hah! They were cleverly hidden behind the vents! By removing the vents, you have now revealed the three 7/16" bolts that secure the forward panel lip to the Sparrow. You need a 7/16" socket wrench with an extension to reach these.



**Access to the bolts that hold the dashboard, center and right.**

Davide: In Zark there are 4 bolts instead. There's no bolt behind the middle air vent. The middle 2 bolts are closer to the sides, and are barely reachable by inserting your arm in the air vent hole.



**Scraping my hairy arm's skin off, reaching for the next bolt over.**

9. **That's it!** Your panel can now be rotated down and toward you.

Davide: pull the panel's right end towards you, to clear the door hinge. Then, move it slightly into the door opening. Now the right end is free, and the whole thing can drop in your lap.



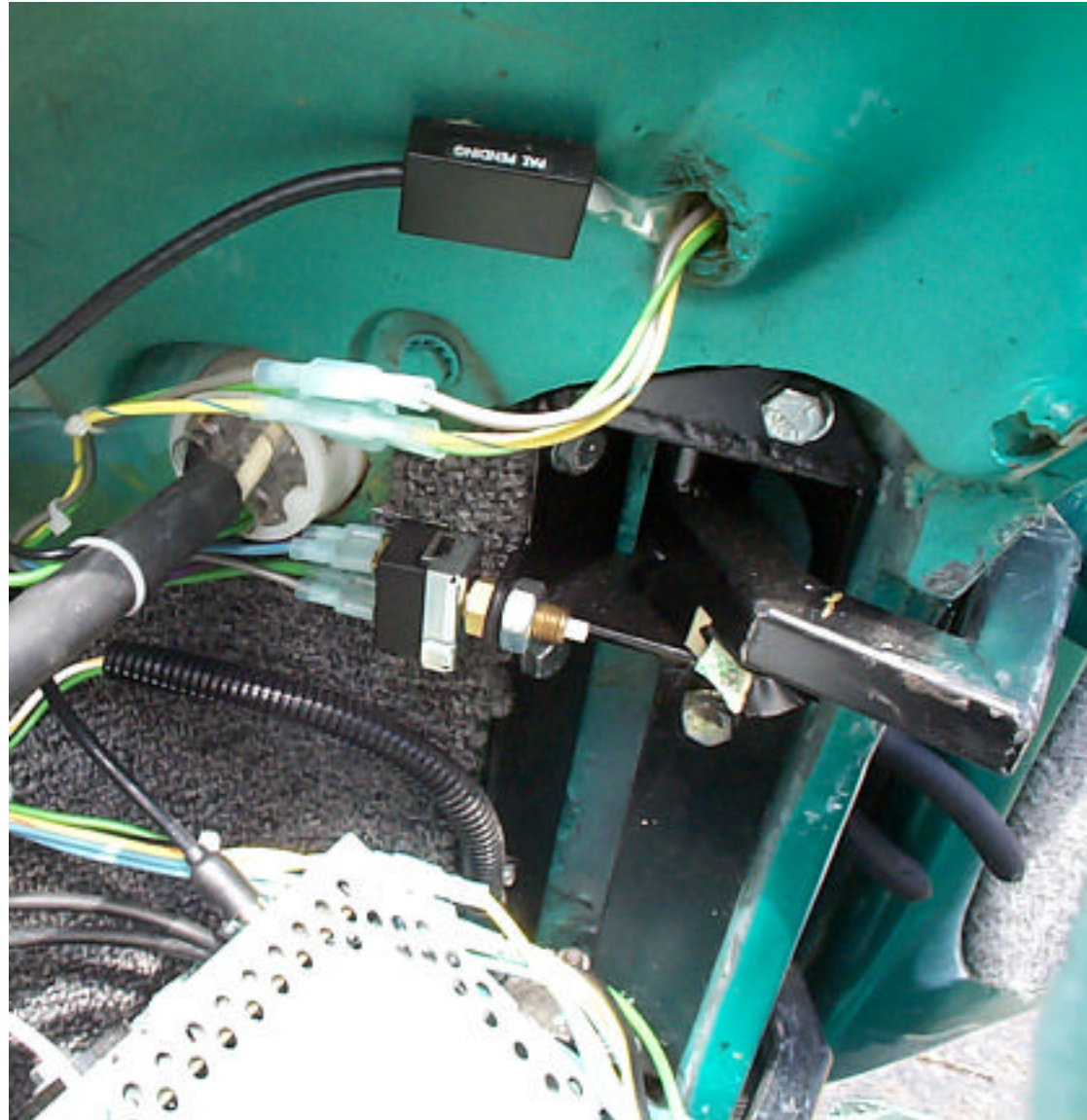
**Dashboard removed.**

You may need to move the left hood latch release cable from the top of the steering column brace to below it so the panel will drop further. But, basically, it is in your lap and you are now free to work on the back side easily.

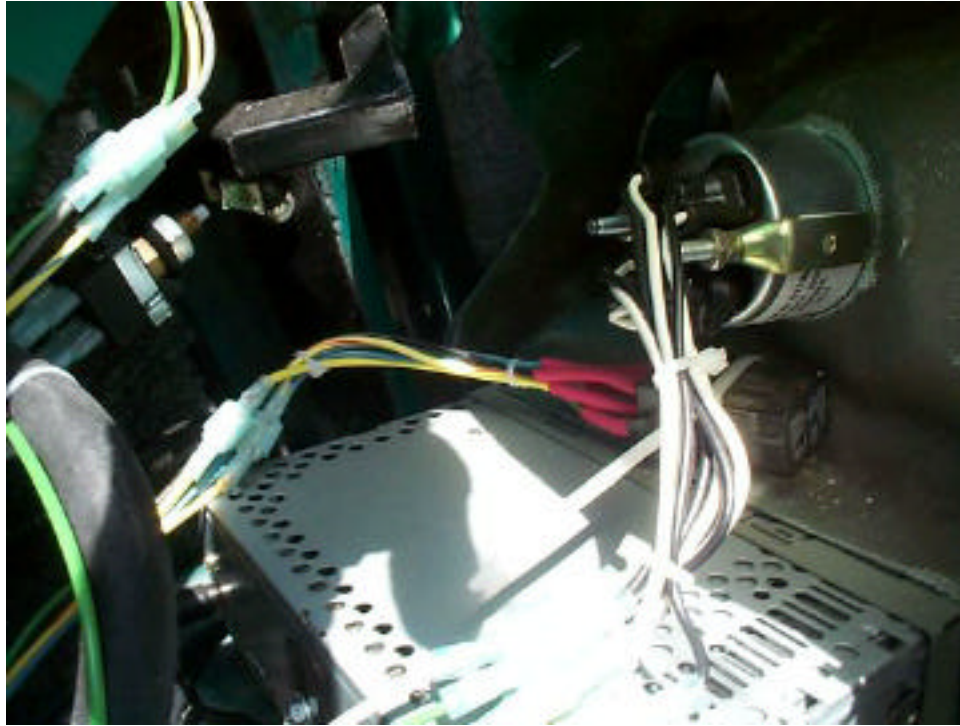


**Dashboard removed, as seen through windshield.**

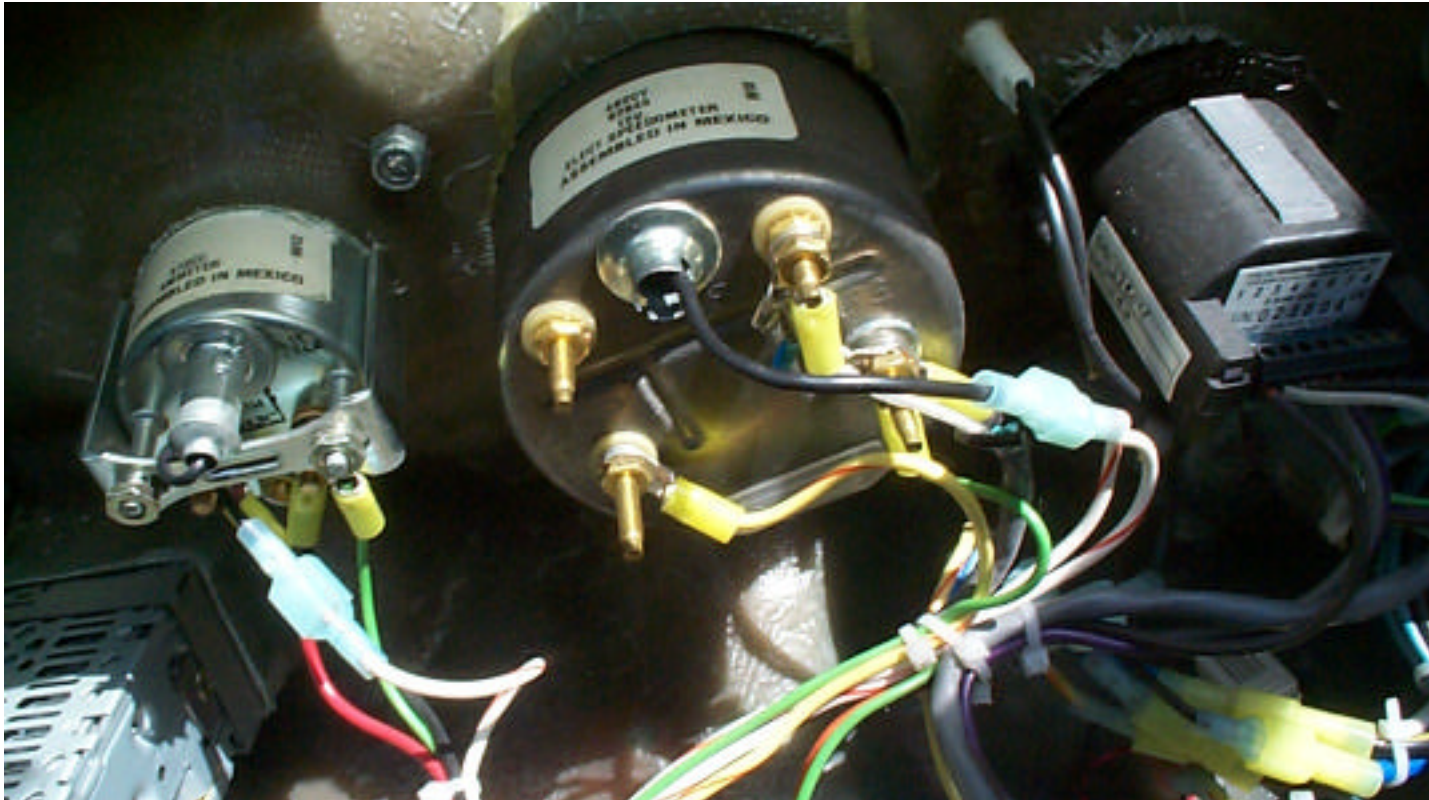




**On the right end: “gas tank” (left), door switch (center), radio antenna (back box on top), radio (below).**



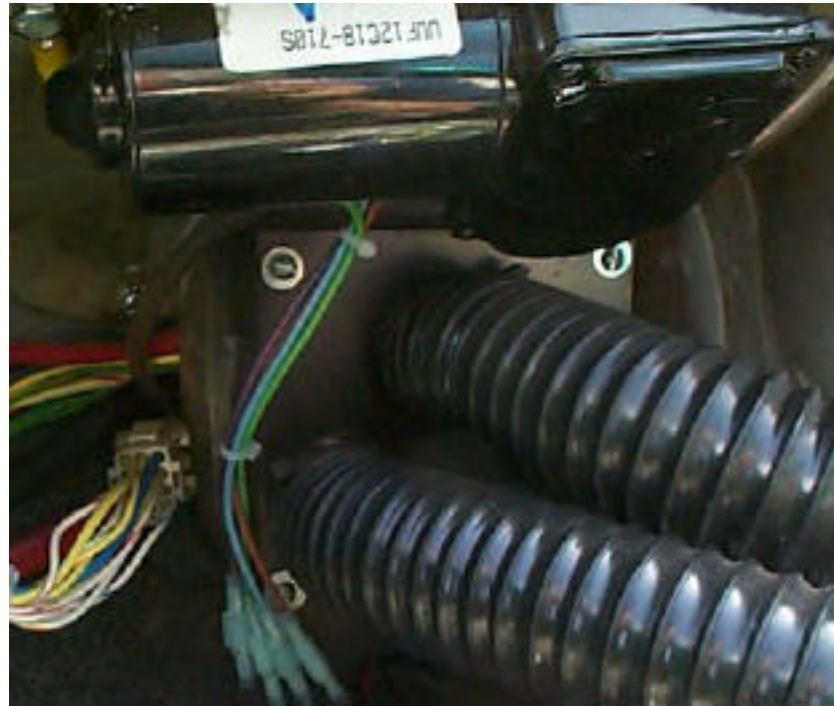
**Door switch, Radio, AC line sense relay (above radio), indicator cluster.**



Analog ammeter, speedometer, ignition indicator, E-Meter. Note the obnoxious buzzer (white, lower right)



**E-Meter, ignition key switch,(bottom), left indicator cluster (top left), direction switch (blue), wiper switch.**



**Windshield wiper operator (top) heater/fan (middle) fuse box connector (left).**

Some comments on things I found:

- There are a number of wire bundles back there that in my opinion need to be secured with tie wraps to the panel and to other bundles.
- I really didn't like the masking tape I found securing ducts on to the air duct outlets. That will age rapidly especially if you use the heater very much. Having aged paper tape adjacent to hot ducts isn't a good idea. Plus, you will have to replace it when it loses its adhesion and the ducts drop off of the outlet. I will replace this with either a tie wrap or a hose clamp when I reassemble.
- The radio is very easy to remove. It is held in place by only one nut on the back. They did not bend down the mounting tabs behind the faceplate (behind the panel), so the entire assembly just slides right out. If these tabs are bent down, a thief would need a thin and narrow metal shim to slide in each side of the radio to extract it. There are two wire connectors to disconnect (speakers and power) and the antenna to unplug and that's it.

## **PART B: REASSEMBLING THE DASHBOARD.**

Unfortunately, it's not enough to say: "reverse the order" to put the dashboard back together.

### 1) Preparation.

Remove the funnels from the ends of the air tubes. You may need to remove the masking tape holding them in place.

Make sure that all 3 air ducts are firmly connected to the heater box.

Use tape to hang the end of each air duct from the air vent hole. That way, you will still have access through the air vent hole, and, when you are ready for the air duct, you pull on the tape and the air duct will come out through the hole.

Make sure that no wire, tube or harness is going to be pinched when you close the dashboard.

Prop the door fully open (for example, by inserting a flat object between the door and the body of the Sparrow, by the hinge).

### 2) Put dash-board back-up.

Let the right end of the dash-board hang a bit out of the door opening, tilt-up the dash-board until it clears the door hinge.

Move the dash-board's left end into place, then move the right end into place.

Thread in the Allen bolt on the right end of the dash-board, just a few turns.

Thread the hex bolt on the left edge, just a few turns.

Thread the hex bolts that hold the front edge of the dash-board. You may need to remove the other bolts to get the most critical ones started first.

Once all the bolts are in place, finger tighten them.

### 3) Test the electrical functions, before you get too far in, and you need to reopen the dashboard.

Connect the steering column, but let it hang loose.

Turn On the BRB.

Check that the E-meter flashes, the dome light is On, the CD player ejects.

Check that speedometer jumps to 85 mph and returns to 0 (in newer models, this will happen later in this sequence).

Turn the key to "ACC".

Check that the radio works (listen to both speakers).

Turn the key to "ON".

Check that the "Door", "Brake", "Seat Belt" indicators light.

Check that the analog ammeter and the speedometer are lit (hard to see in the sunshine).

Check that the tail light is lit.

Switch the Low/High Beam and check that the "High Beam" indicator lights-up accordingly; check that the head-light works.

Check that the direction lights work (inside indicators, front and rear blinkers).

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Check that the horn works (you must touch the ground wire to the metal of the steering column for this test).  
Put your foot on the brake, release the hand-brake and check that the “Brake” indicator goes Off.  
Engage the hand brake again.  
Press the brake pedal and check that all 3 rear lights flash.  
Latch the seat belt and check that the “Seat Belt” light goes off.  
Turn On the windshield wiper and check that it works (both speeds, auto homing, and spray).  
Test both windows, opening and closing.  
Turn On the cabin fan and listen for it, and check that the light in the switch comes on. Turn it Off.  
Set the direction to “Forward” and listen to the forward contactor(s) clunk.  
Check that the “Forward” indicator is On.  
Set the direction to “Reverse” and listen to the reverse contactor(s) clunk.  
Check that you can drive a slight bit in reverse.  
Check that the “Reverse” indicator is On.  
Check that the Back-Up lamp in the rear is On.  
Check that the E-Meter is showing voltage and current.  
Measure the voltage on both cigarette lighters.  
Close the door and check that the “DOOR” indicator and the dome light go Off (the dome light must be in the center position).  
Reopen the door and secure it open.

Turn the key to “START” and let go.  
Check that the green ignition indicator on the dashboard comes On and stays On.  
Listen for the fan in the controller compartment.  
Listen for the clunk of the main contactor.  
Turn On the cabin fan and heater and test that you are getting hot air out of the ducts (or look at the battery current with the E-Meter).  
Check that you can drive (a slight bit is enough).  
Check that the analog ammeter is showing current while driving.

Turn Off the key and the BRB.

If you found any problems, fix them now before you put the dash-board back in. It is probably due to a terminal that came undone, or a wire that came off a crimp terminal.

4) Secure the dashboard and air vents.  
Tighten the bolts that hold the dash-board.  
Pull out each air duct, remove the tape you used to hold it up, and insert the funnel in the correct orientation.  
Insert the bezel to the funnel, taking care of orienting it so that the ridge on its outer perimeter lines-up with the notch in the air vent hole in the dash-board.

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**Mounting the funnel and the bezel.**

If you want, use tape to hold the bezel, funnel and duct together.  
Drop them in the air vent hole, and snap the bezel in the hole.  
Snap the air guide into the bezel.  
Repeat will the other 2 air vents.

5) Install the steering column.

This is not an easy job. A nimble handed child / contortionist would be useful at this point.

First insert a bolt in the lower hole of the vertical bracket, by itself, from the right side: this will be your guide.

Lift-up the steering column, making very sure that the wheel hasn't turned with respect to how it was when you removed the column.

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Inset the shaft in the U-joint. Don't tighten the set screws yet.

Lift up the steering column, and light it up to the vertical bracket, using the bolt as a guide. Hang the column from that bolt.

Place a bolt into the other hole (this time normally, from the left side) into the vertical bracket, and finger tighten a bit.

Place the four bolts in the front, reassembling the ground wires in their previous location (notice that the paint is scraped off there).

Remove the bolt you used as a guide, and reinstall it normally (from the left).

Finger tighten all 6 bolts, then tighten them fully.

If you removed the steering wheel, reassemble it.

Check that the steering wheel is straight when the wheels are straight.

Check that the direction light are canceled when you turn the steering wheel through the center position.

Check that the steering wheel is free to rotate throughout the range of the wheels.

(This is to make sure that you didn't turn the steering wheel 180 °.)

Tighten the Allen set screws just above the U-joint. Lock them in place with the nuts.

6) Install the fairing.

Install it with the 4 bolts. Because of misalignment, I had to enlarge the holes in the fairing. Note that the holes are really made out of metal washers buried in the fiberglass..

7) Test drive the Sparrow.