

'89 to '93 Dashboard Removal

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Intro

When I bought my '91 SE, the paint on the top of the dashboard was in terrible shape and I immediately determined that I would remove the dash in order to strip and refinish it.

After considerable research, I began to get the impression that this would be a painfully difficult endeavor and that I might be better off just living with the damaged finish.

However, having now completed the removal myself, I can say that it's actually a very straightforward and relatively simple process that only took about four hours to complete with frequent breaks and picture taking included.

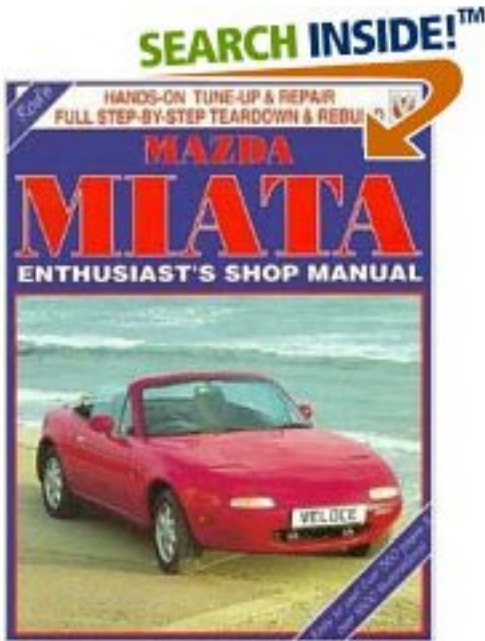


The whole disassembly can be broken down into 13 basic steps, which I've enumerated as sections in this guide:

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Supplements

I found two resources to be invaluable in completing this project, and would strongly suggest them as supplements to this guide:



The Miata Enthusiasts Manual



The photo-guide by Tim Allen on the removal of his '93 LE's dash, located at: <http://rmtconsultants.com/tallen/DashboardRemoval/Page/index.htm>

I. Remove Eyeball Vents

Tools: Coat hanger • 1' cord/rope • Thick work gloves • Pliers

1. Orient the vent as shown in the pic, fold the rope in half and insert into the top outer opening in the vent.



2. With a pair of pliers, create a hook at the end of the coat hanger and insert into the bottom opening of the vent. Hook the folded rope, and pull out.



3. Rotate the vent 90 deg so that the rope is now oriented horizontally. Tie the ends of the rope together to form a loop (double-knot).





4. Put on the gloves. With one hand on the dash near the vent for support, take the rope loop in the other hand and pull straight back (**DO NOT PULL AT AN ANGLE**). You will need to use a lot of force. You will hear popping and cracking noises. You will think you are about to break something.



Have faith and keep pulling harder. Eventually the whole vent assembly will give, and pop out in one piece, unharmed.

(Make sure your face is out of the way, you don't want a black eye.)



5. Repeat for the remaining three vents. On my car, the outer vents were much more difficult than the center vents, but eventually they gave with perseverance.

(Removal of the outer vents is not necessary for dashboard removal.)

II. Remove Steering Wheel

Tools: *Phillips screwdriver • Socket wrench • 21mm 6-point socket • Wrench extender*

My car has an aftermarket wheel on it, so I don't have pics of the OE wheel disassembly. However, it's a fairly simple affair & I will summarize here.

1. Disconnect battery in the trunk (**VERY IMPORTANT SAFETY PRECAUTION - DO NOT SKIP UNLESS YOU WANT TO EAT AN EXPLODING AIRBAG**).
2. On the back of the steering wheel, unscrew 4 phillips-head screws.
3. On the front, pull the center horn / airbag unit forward and away from the wheel and disconnect the blue and orange connectors inside the wheel cavity.
4. Carefully place the airbag unit on the ground, out of the way, **FACE UP**.

5. Turn the steering wheel until it locks. Using the 21mm socket and extension, remove the bolt in the center of the wheel. This bolt is difficult to remove and requires a lot of force. To get the maximum leverage, lock the steering wheel, and turn the arm of the wrench so that the arm is at a 90 deg angle facing to the left. With both hands, push down on the handle of the wrench until the bolt breaks.



6. Before removing the wheel, turn it so that the front wheels are straight. Then, remove it by rocking it left to right. It will eventually break free and slide off the post.



III. Remove Steering Column Cover, Access Panel & Glove Box

Tools: Phillips screwdriver • Masking tape



1. Remove the 4 phillips screws from the bottom of the cover. 3 of these screws are easily accessible, but the 4th screw (on the left side) is in a very deep recess and is more difficult to remove. Also, it is a machine screw and needs to be returned to the same spot upon installation.



2. Once the screws are out, gently compress each side of the cover to unsnap the top half from the bottom.



3. After the covers are removed, tape the clock spring (yellow round thing) to it's outer housing to keep it in place until reinstallation.

4. Under the column is an access panel. Remove the two phillips screws at the bottom of this panel and unhook it from the top to remove it.



5. Under the glove box are 2 phillips screws. Unscrew and pull the glove box down to remove it.



IV. Remove Gauge Hood

Tools: Phillips screwdriver • Work gloves



1. Remove the 2 phillips screws located at the front bottom of the cover, flanking the steering column.



2. Using work gloves for grip, grab each side of the cover and GENTLY move it back and forth, while pulling towards you, to unclip the 3 hidden clips holding it to the dash. Patience is very important here, because too much force will result in one or more of the clips breaking.



I just gripped the cover, rocked it back and forth, and worked my thumbs under the lip between it and the clear plastic screen of the gauge cluster. It took me about 8 minutes to coax it out unharmed.

V. Remove Gauge Cluster

Tools: Phillips screwdriver • Small flat screwdriver • Long needle-nose pliers

1. Remove the 4 phillips screws holding the cluster to the dash: 2 on the top..



and 2 on the bottom.



2. There are 3 items to disconnect from the back of the cluster in order to remove it: 1 white connector on the far left, 1 black connector on the far right, and the speedometer cable on the right center.





While looking behind the cluster through the windshield from outside the car, reach inside with the flat screwdriver and press the tab holding the white connector in place. While pressing down, push the connector backwards and it should pop right out. Repeat for the black connector on the right. Using the needle-nose pliers, compress the tab on the speedometer connector to loosen it's hold.



3. Back in the car, pull the cluster towards you. It will come free with a snap from the speedometer connector.

VI. Remove Center Armrest

Tools: Phillips screwdriver

1. Unscrew gear shift knob by turning it counter-clockwise.



2. Remove 2 phillips screws, one on each side of center console.



3. Remove 1 phillips screw under ashtray.





4. Remove 2 phillips screws inside storage console.

If you have electric windows, now is a good time to make sure they are where you want them to be for a while.



5. Lift the front of the console to expose wire connectors underneath & disconnect all.

6. Lift the console clear of the fuel door release in the storage console to remove it.



7. Remove the insulation surrounding the top of the shifter boot.

VII. Remove Center Console Panel

Tools: Phillips screwdriver

1. Remove 2 phillips screws, one each located just inside the eyeball vent cavities.

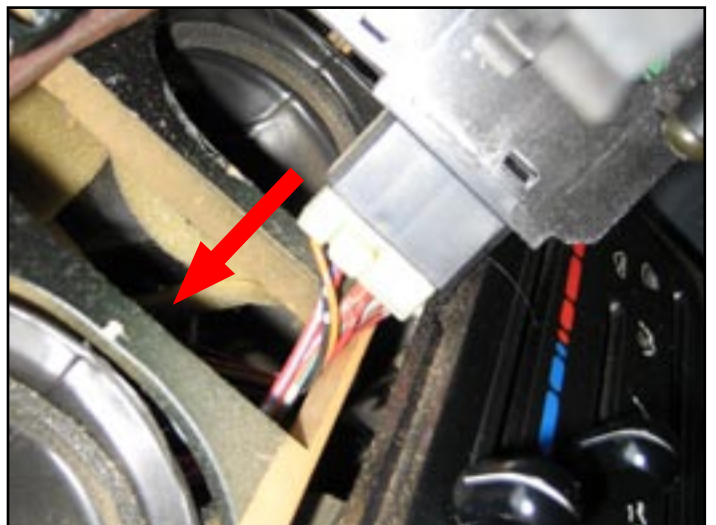


2. Remove 2 phillips screws, one on each side of the center console cover, at the bottom front.



3. Pull cover outward slightly to free clips and access the connectors from behind.

4. Disconnect the connector for the emergency flasher / pop-up switch.



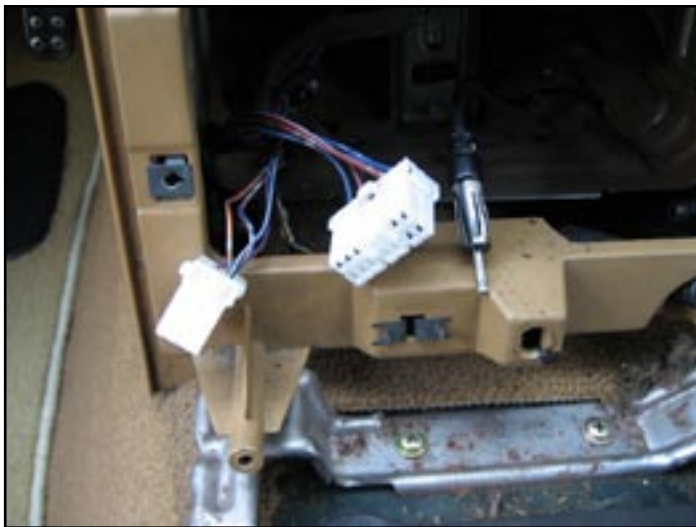
VIII. Remove Stereo

Tools: Phillips screwdriver



While my stereo is OE, removal should be similar with an after-market component.

1. Remove 4 phillips screws, 2 located on each side.



2. Pull stereo outward slightly to access connectors.

3. Remove 2 white connectors from back and antenna connector.

4. Remove phillips screw in back for ground wire (not pictured).

5. Pull stereo towards you to remove.

IX. Remove Heater/AC Controller

Tools: Phillips screwdriver

There are 3 cables to disconnect that can be accessed easily through the openings for the glove box on the right and beneath the steering column on the left.

1. Working through the opening below the steering column, disconnect the control cable by pulling it off of the plastic snap to which it's attached. Next pull the cable housing out of the metal guide.

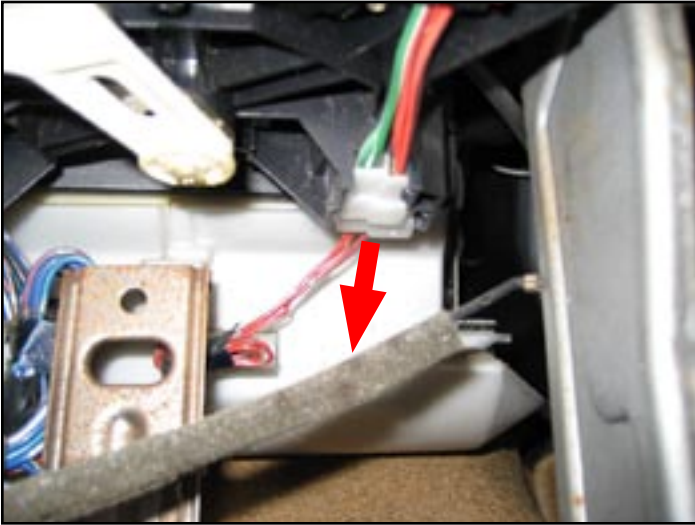


2. Working through the glove box opening repeat the above for the other side of the heater.



3. Looking straight through the glove box opening, disconnect the third control cable by pulling it off its snap, and remove the cable housing from its guide clip.





4. Directly below and to the back of the heater control unit, disconnect the white connector by pulling the backside of the clip out.



5. Remove 4 phillips screws from the front of the unit, 2 on each side.



6. Pull the unit out slightly and disconnect the white connector behind it.

7. Pull the heater control unit out slowly, making sure that the control cables don't get snagged in the dashboard.

X. Drop the Steering Column & Hood Release

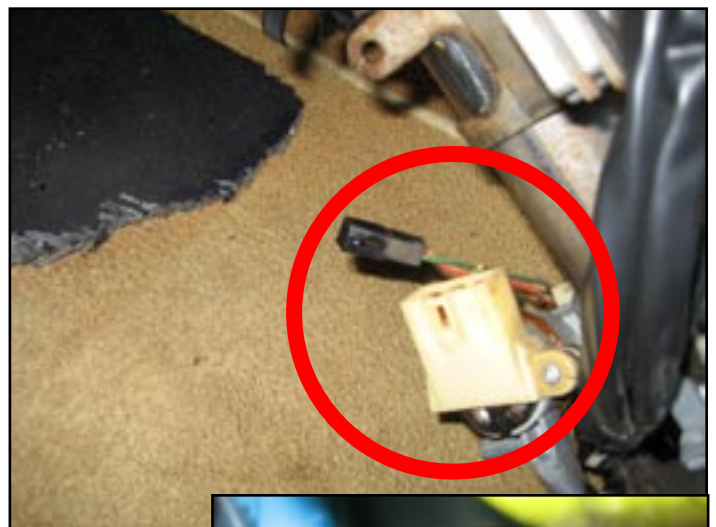
Tools: Socket wrench • 12mm 6-point socket • 15mm wrench • 17mm wrench • Wrench extender

1. Looking directly under the steering column, about halfway down it's length, unclip the plastic tie holding the wire bundle to the column.



2. Under the dash, on the left side of the steering column, there are two connectors, one white, one black, that are not part of the main wiring loom attached to the column. Disconnect these.

Note that the adjacent photo was taken after the column was dropped.



3. Under the dash, at the bottom of the steering column, remove the two 12mm bolts, one on either side, with the socket wrench, 12mm socket, and extension bar.





4. Above the steering column, there are two 15mm nuts, one on either side, each with a 12mm bolt, accessible immediately below it.

Place the 15mm wrench on the top nut, and while holding it in place,



.. remove the 12mm bolt below it with the socket wrench and an extension bar.

Once one bolt is removed, move to the other, but do not remove it completely. You will need to support the weight of the column with one hand, while removing the second bolt with your other hand.



5. Gently guide the front of the column to the floor of the car.



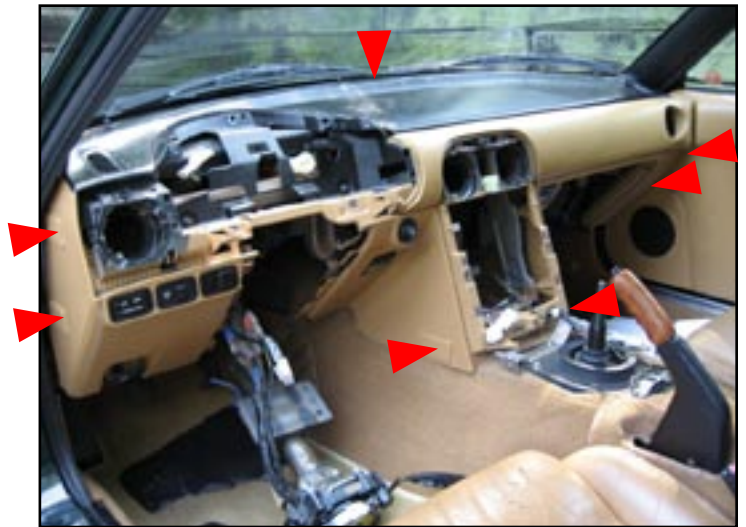
6. Using the 17mm wrench, disconnect the hood release from its restraint by loosening the 17mm nut behind the dash. Pull the whole assembly down and through the opening.

XI. Unbolt The Dashboard

Tools: *Socket wrench • 10mm 6-point socket • 14mm 6-point socket • 10mm angled wrench • Wrench extender • Flat screwdriver*

There are a total of 9 bolts holding the dash to the car. 2 on the far left side, 2 on the far right side, 2 on the left side of the center console, 2 on the right side of the center console, and one on the very top in the center. Each are concealed with a plastic cover that simply clips into place.

1. Remove all plastic covers (7 total), 2 on the left of the dash, 2 on the right, one on each side of the center console, and one on the top of the dash, by gently prying off with a small, flat screwdriver.

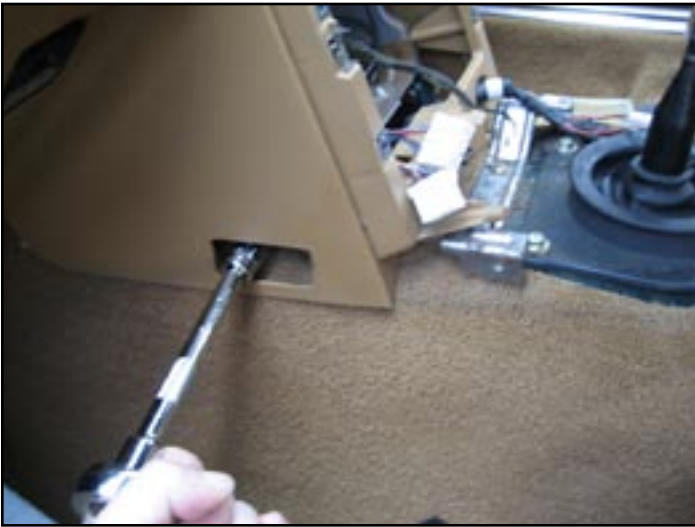


You don't have to worry about remembering which way the covers go back on.



2. Using the socket wrench, a 10mm socket, and an extension, remove the four bolts from the sides of the dash (2 on each side).





3. Using the socket wrench, a 14mm socket, and an extension, remove the four bolts from the sides of the center console (2 on each side).



4. Using the 10mm angled wrench, remove the top bolt from the dash.

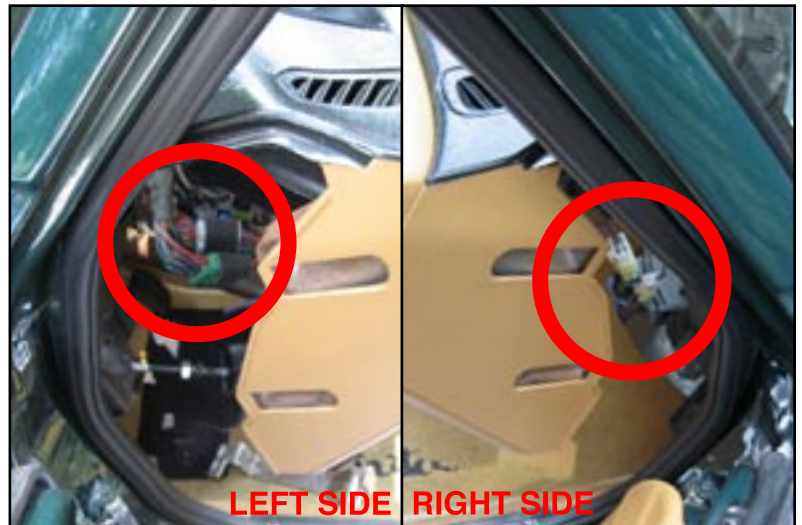


I found it helpful to use the reflection of the wrench in the windshield as a guide.

XII. Disconnect Dash Wiring

Tools: Work gloves • Wire snips • Pliers

There are two main looms to disconnect on each side of the dash, as well as a couple of other, smaller wires underneath. My car is bone-stock, and I'm 100% positive that the dash has never been out of the car. Therefore, I feel confident that most other '89's - '93's will be very similar. However, there may be slight variances in the wiring, especially if after-market items like alarms are fitted.



1. Pull the dash free from the car, with about 6" - 8" of clearance behind it.

2. Working from the driver side, disconnect the 2 white connectors and one green connector.

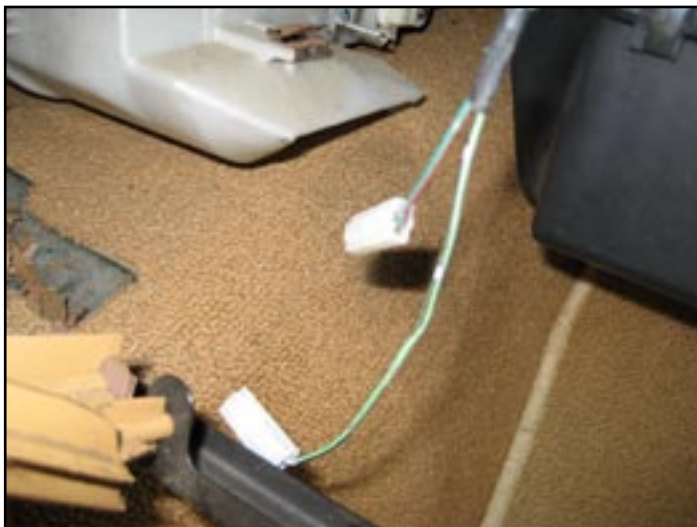


3. Working from the passenger side, disconnect the 3 white connectors.





4. Working through the glove box opening, disconnect the 2 green wires by pulling straight down on the white plastic connectors with the pliers.



5. Trace the blue & yellow wire running from the front of the dash over the shift boot and disconnect the clip (not pictured) under the parking brake handle.

XIII. Remove Dash From Car

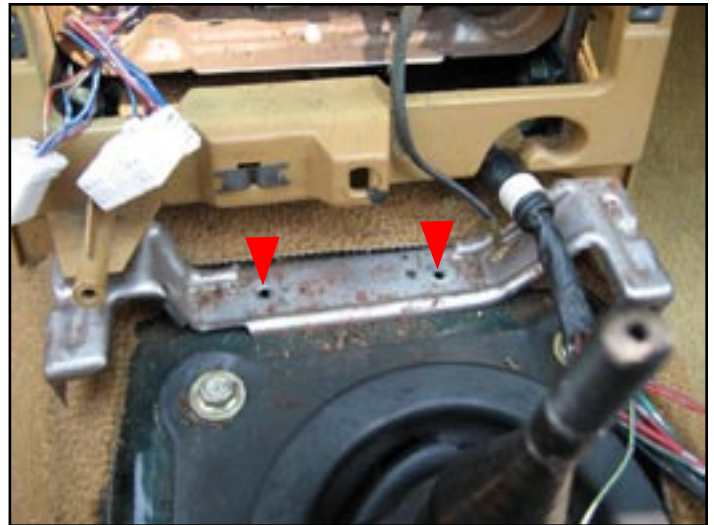
Tools: Work gloves • Phillips screwdriver

Many people have advised me that the dash requires two people to remove from the car. I was able to do it myself - I am a normal guy with a normal build, so the average guy should be able to handle it pretty easily. The dash itself is not heavy, but the uneven weight distribution makes it awkward to maneuver. Also, I did not find it necessary to remove the seats.

1. Fold your convertible top to allow unfettered access to the interior.



2. Remove the support bar in front of the center console by removing the 2 phillips screws on each side.



3. Working from the driver's side, and with the dash pulled free from the car about 6" to 8", grab the top of the dash with your left hand. With your right hand, hold the bottom of the center console in place while you flip the top of the dash forward 45 degrees.





4. When the dash is at about 45deg in the car, grab the dash with your right hand just above the center eyeball vents. With your left hand holding the back lip of the dash, and your right hand above the center vents, lift the dash straight up and then over to clear the car. If you encounter any resistance, stop and check to make sure all wiring has been disconnected.



The dash-less interior.



The dash removed.



All the parts from the dash.



Be sure to carefully bag & label all screws and small parts. You never know how long it will be until reinstallation, and the more specific you are during disassembly, the less guesswork you'll have to do during reassembly.

