



# BEST HYBRID BATTERIES

## 2000-2006 Honda Insight IMA battery.

It takes a first-timer about three hours to remove the battery. With practice, the entire replacement can be done in 45 minutes.

Tools required: 10mm socket, 12mm socket, 8" or longer extension, Torx-T30 star bit, voltmeter, long-nose pliers

### Safety first!

Safety

[Unplug the negative terminal of the 12V battery \(the black wire\) under the hood.](#)




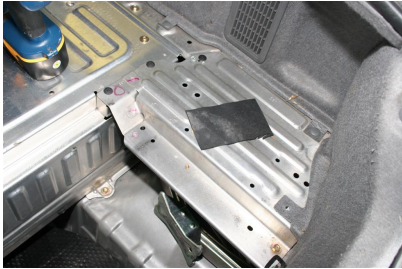




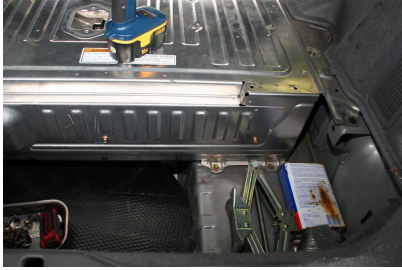
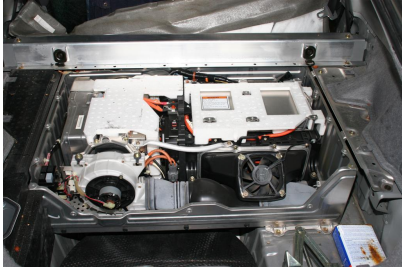
### Opening the lid

O1.

[Open the hatch.](#)








O2.	<a href="#"><u>Remove the carpet and trunk box.</u></a>	
O3.	<a href="#"><u>Open the little hatch.</u></a>	
O4.	<a href="#"><u>Turn off the switch, put the red cover back on backwards and remove the little bolt. A pair of pliers is the easiest way to remove it.</u></a>	
O5.	<a href="#"><u>Remove this plate. There are three bolts at the rear and three push-clips that look like phillips-head screws. Use a sharp knife or small screwdriver to pry up the center of the clip and remove it. Then the ring can be removed.</u></a>	
O6.	<a href="#"><u>Remove all the bolts in the lid. These are 10mm and the three on the each side are Torx T30.</u></a>	

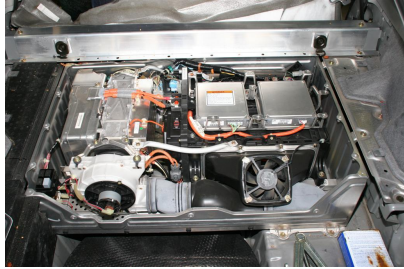


O10.	<a href="#">Peel back the rug to reveal a row of bolts to be removed.</a>	
O11.	<a href="#">Remove the three bolts on the back of the IPU box.</a>	
O12.	<a href="#">Remove the lid.</a>	

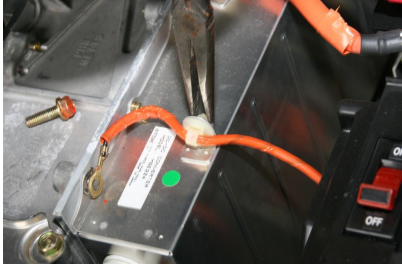

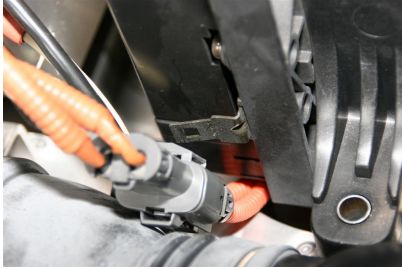


The center-pillar crossmember is a bar located behind the seats that sticks up to form the lip at the front of the cargo area. Its' purpose is to strengthen the car from left to right in the event of an accident, and also to help keep cargo from sliding forward. Tom Mix, the silent-screen cowboy star was killed when his car ran into a ditch and the suitcases behind his head flew forward and broke his neck. For this reason, we sometimes refer to this bar as the "Tom Mix bar". Two of the battery bolts are located below this bar so the bar must be removed from the car to access them.

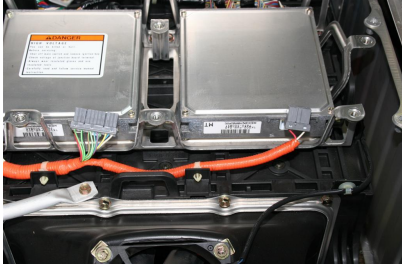

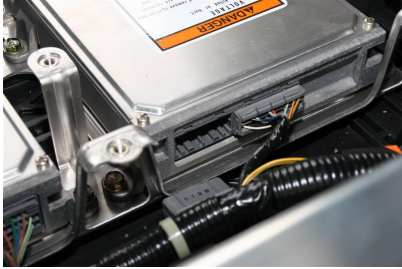


<b>Removing the crossmember</b>	
TR1.	<a href="#">Remove the doorsills...</a>
	


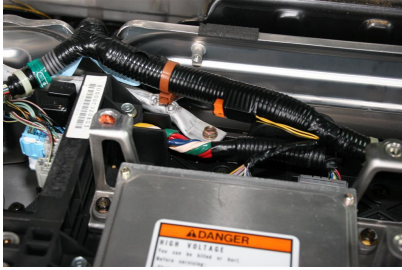

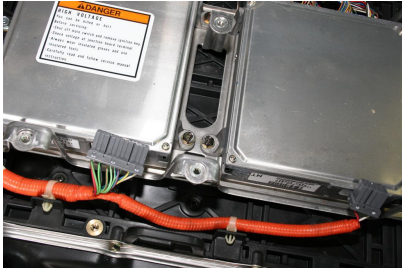
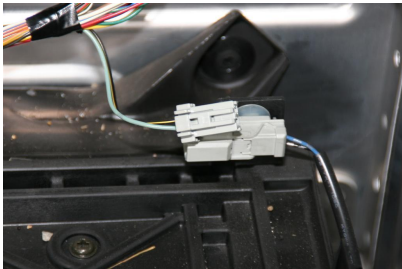
TR2.	<a href="#">...by pulling up on them.</a>	
TR3.	<a href="#">Remove the seatbelt covers...</a>	
TR4.	<a href="#">...by pulling on them. The 4 plastic clips often pop loose or even break. They can be purchased at most automotive stores.</a>	
TR5.	<a href="#">After you flip the rug over, remove these bolts.</a>	
TR6.	<a href="#">Remove the "Tom Mix" bar.</a>	

TR7.	<a href="#">Remove this duct retaining bolt and pull the duct away.</a>	
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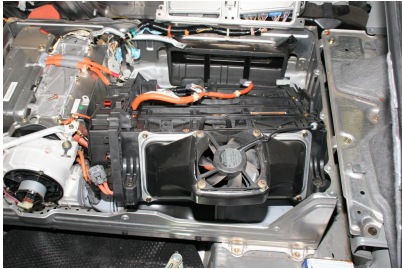

Removing the battery		
R1.	<a href="#">Remove the styrofoam. The styrofoam must be put back later as it helps cool the battery and IPU.</a>	
R2.	<a href="#">Test for voltage at these two wires. You will probably see 3 Volts. If you see more than 12 volts, stop and call us! If there are 12V or less, remove the two bolts. If they are covered in red or orange paint, be aware that it is still wet (even after 10 years) and will stain everything. Clean it off with a rag first.</a>	
R3.	<a href="#">Remove this ground bolt. It is covered in the same wet paint.</a>	

R4.	<p><a href="#"><u>Squeeze this tab to release the ground wire.</u></a></p>	
R5.	<p><a href="#"><u>This plug has a safety interlock. It is clipped to a pin. You have to reach around it and feel for the flat plastic tab and push the tab toward the front of the car.</u></a></p>	
R6.	<p><a href="#"><u>Then you can slide the plug to the left and off the pin.</u></a></p>	
R7.	<p><a href="#"><u>Finally, squeeze the button and pull and the plug comes apart.</u></a></p>	
R8.	<p><a href="#"><u>The computer on the left is the BCM and the one on the right is the MCM.</u></a></p>	






R9.	<a href="#">Unplug these two plugs.</a>	
R10.	<a href="#">On the other side there are two plugs.</a>	
R11.	<a href="#">Remove the passenger-side plug.</a>	
R12.	<a href="#">Remove this battery bolt (12mm).</a>	
R13.	<a href="#">Remove this battery bolt (12mm) also.</a>	





R14.	<a href="#"><u>This tubular brace connects the battery to the IPU. Remove it.</u></a>	
R15.	<a href="#"><u>Remove the bolts from the rear brace also.</u></a>	
R16.	<a href="#"><u>Remove the front battery bolts.</u></a>	
R17.	<a href="#"><u>Remove the eight bolts that hold the BCM and MCM on.</u></a>	
R18.	<a href="#"><u>Unplug the fan.</u></a>	



<p>R19.</p>	<p><a href="#"><u>Flip the BCM, MCM and frame up and out of the way.</u></a></p>	
<p>R20.</p>	<p><a href="#"><u>Unplug these three connectors.</u></a></p>	
<p>R21.</p>	<p><a href="#"><u>Have a helper in the front seat lift that end of the battery as you lift and pull the battery toward the back of the car.</u></a></p>	
<p>R22.</p>	<p><a href="#"><u>Once you have moved it this far, you can lift it out.</u></a></p>	
<p>R23.</p>	<p><a href="#"><u>Tape up the two high voltage cables. Always retest the voltage at the high voltage wires if you have turned on the key or if it has been a few hours. The capacitors in the IPU can pick up a charge from the electric motor or from the air.</u></a></p>	

## Installing the crossmember

T11.	<a href="#"><u>Install the "Tom Mix" bar and attach the four bolts a few turns. Don't tighten them yet.</u></a>	
T12.	<a href="#"><u>Install these bolts a few turns, then tighten them all, then tighten the four bolts on the "Tom Mix" bar.</u></a>	
T13.	<a href="#"><u>Flip the rug down and install the seatbelt covers by lining up all four clips (or as many as you still have) and then pushing them into place.</u></a>	
T14.	<a href="#"><u>The back can be tapped into place with your fist.</u></a>	
T15.	<a href="#"><u>Install the doorsills by lining up the clips and pushing down (use your fist again).</u></a>	

<b>Closing the lid</b>		
C1.	<a href="#"><u>Put the lid on and install one bolt on the back of the IPU box.</u></a>	
C2.	<a href="#"><u>Install two bolts in this row.</u></a>	
C3.	<a href="#"><u>Install this plate. There are three bolts at the rear and three push-clips that look like phillips-head screws. Push the plastic ring in and then push in the center pins, THEN put the three bolts in. Make sure the cargo ring pokes out of its' hole when you're done.</u></a>	
C4.	<a href="#"><u>Install the trunk box and carpet.</u></a>	

If you are sending in your battery, remove the fan from it by removing the eight bolts that hold it on. Do not ship the fan with the battery as it will be crushed.