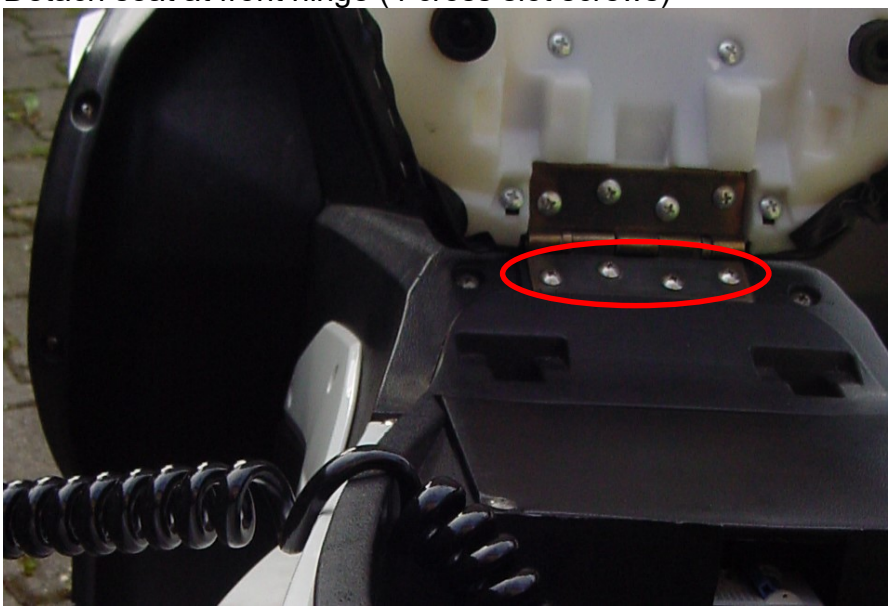
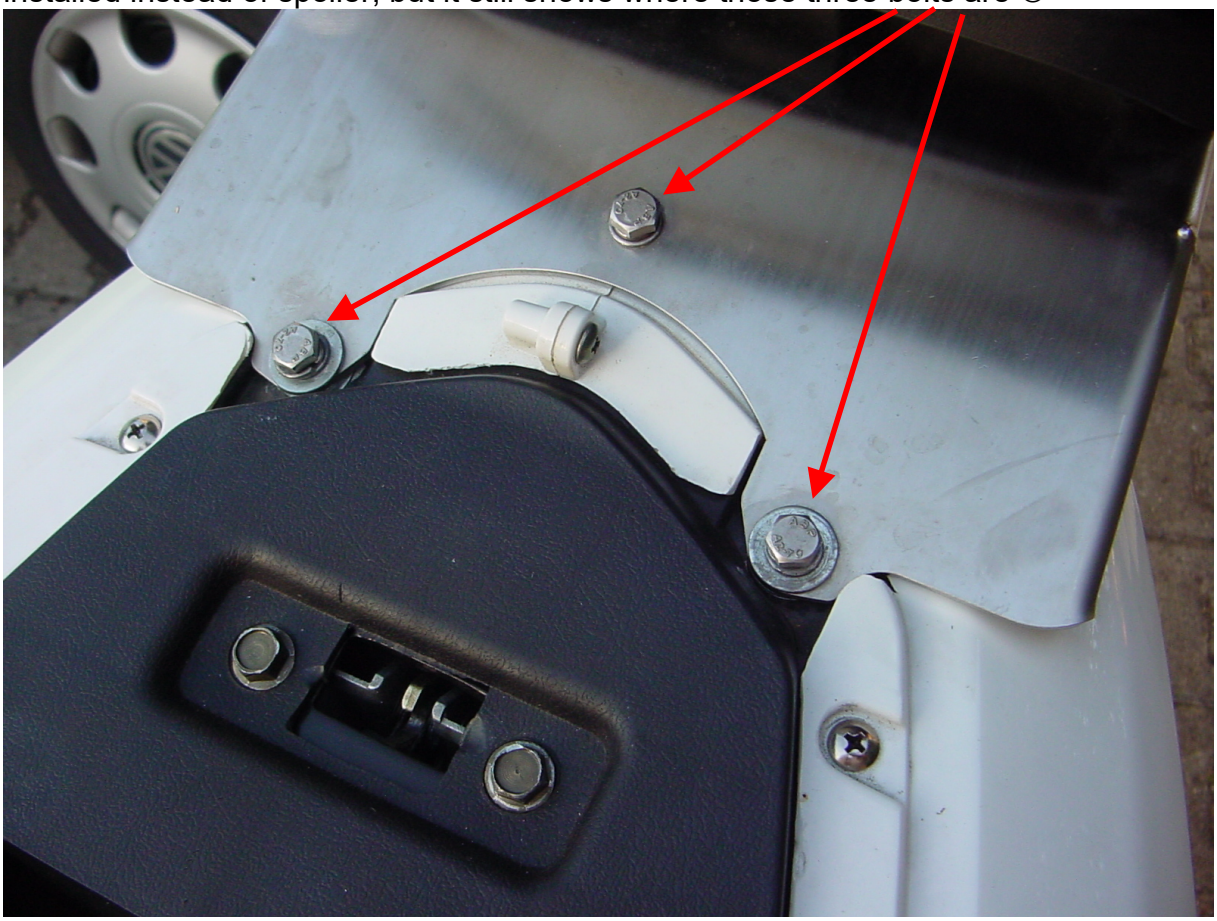
Dismantling a Xiamen ZAP / Erider Thunder (frame by Taizhou Huangyan Xinrongzhou Vehicle Business Co. Ltd., bodywork by Zhejiang Xunda Plastic & Mould) electric scooter to get at the battery

Firstly prepare well. You may want to have a sorting box ready for the screws and bolts of each individual body panel, plus a means to mark each little compartment…

1. Detach seat at front hinge (4 cross slot screws)



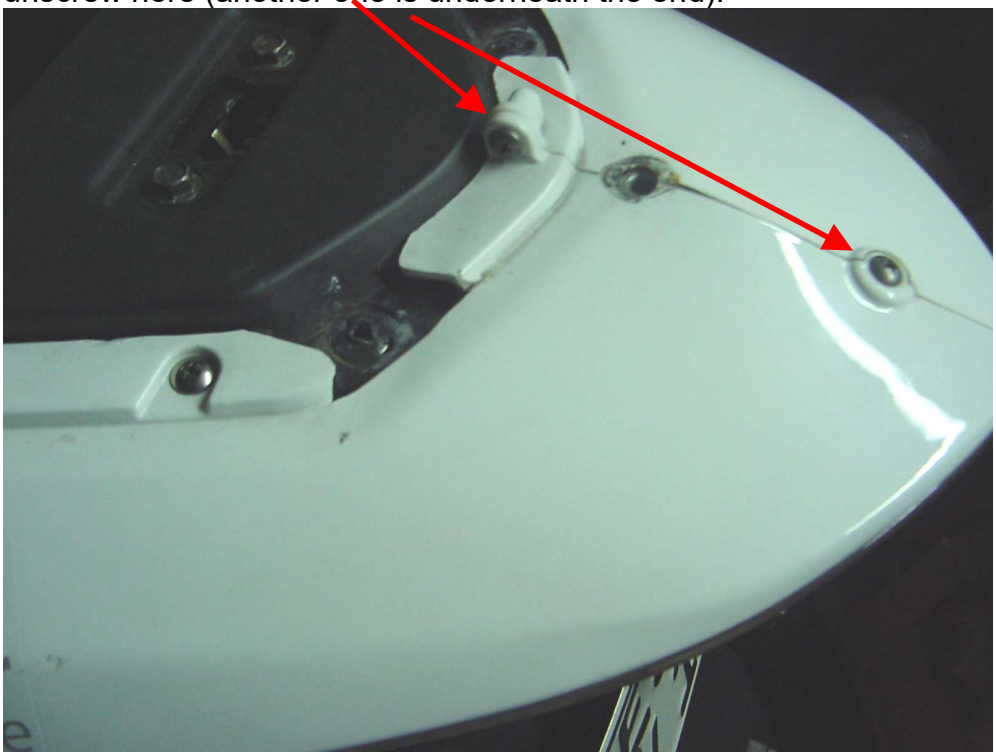
2. Unscrew rear spoiler (3 hexagonal bolts). Sorry, just have a pic with luggage rack installed instead of spoiler, but it still shows where those three bolts are ☺



3. “Boomerangs” on the sides of the center console should be unscrewed (5 cross slot screws).

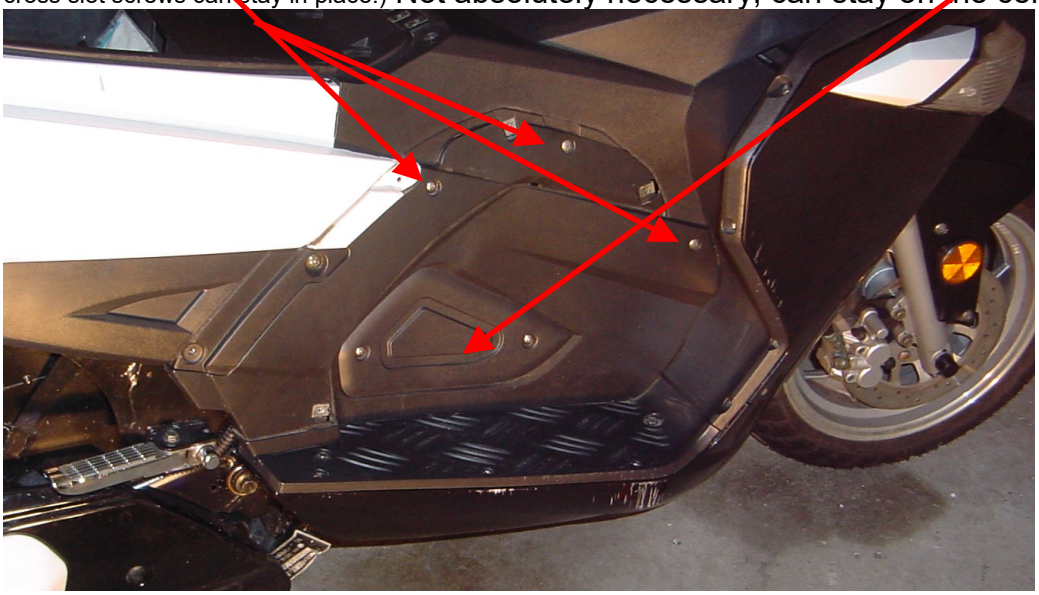
4. Unscrew the small side fairings (2 cross slot screws).
5. Unscrew the triangular side pieces (1 large cross slot bolt) and pull them out to the back

6. Unscrew the big rear side fairings but leave the two halves attached at the back. Do not unscrew here (another one is underneath the end):

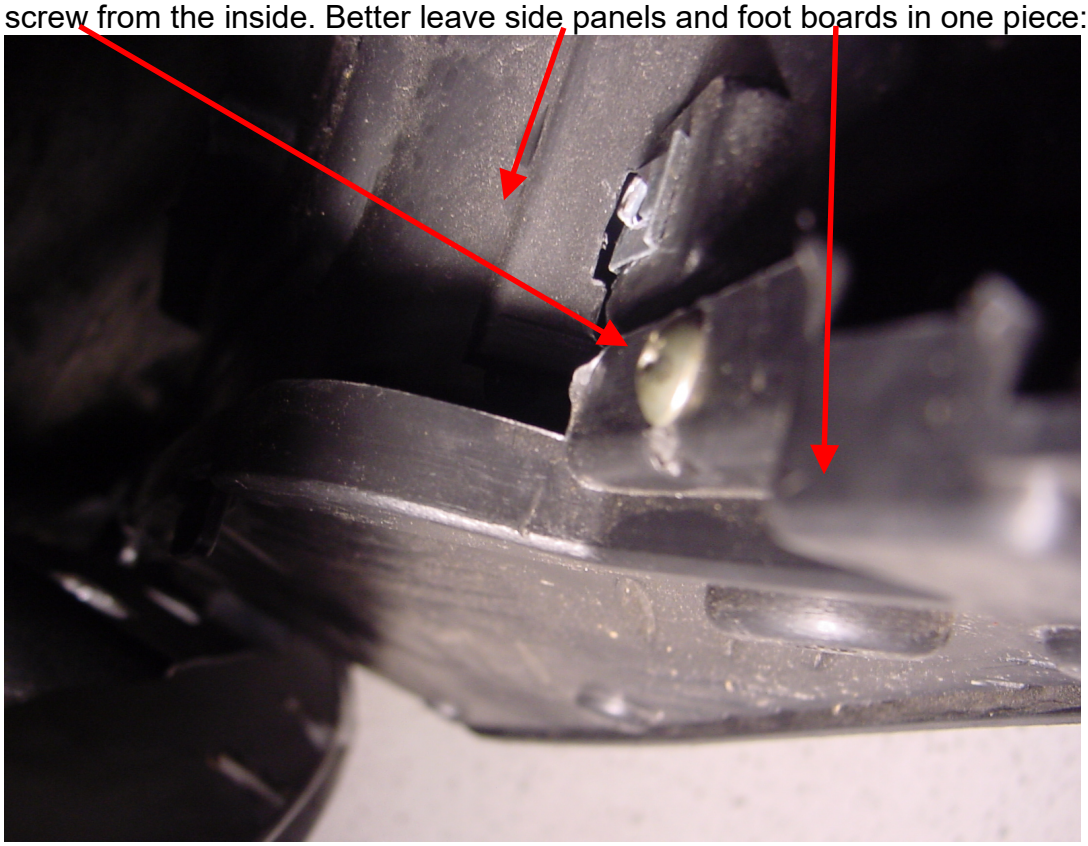


These fairings are secured with numerous clearly visible screws and bolts around the circumference, among them also two hexagonal bolts that fix them to the frame. The whole assembly can then be nudged out the back, though some unhooking from neighboring parts may be necessary in the process… As soon as you can reach between the rear edge of the underseat compartment and fairings do so and turn the rear light bulb holder counter-clockwise and pull it and the bulb out, and likewise unhook the steel cable from the seat lock under the left fairing so you can completely detach the fairings from the scooter. This is the single longest chunk that must be detached to get at the battery.

7. (Unscrew the black side panels along the center console. The smaller panel secured to the side panels with two cross slot screws can stay in place.) Not absolutely necessary, can stay on the center console

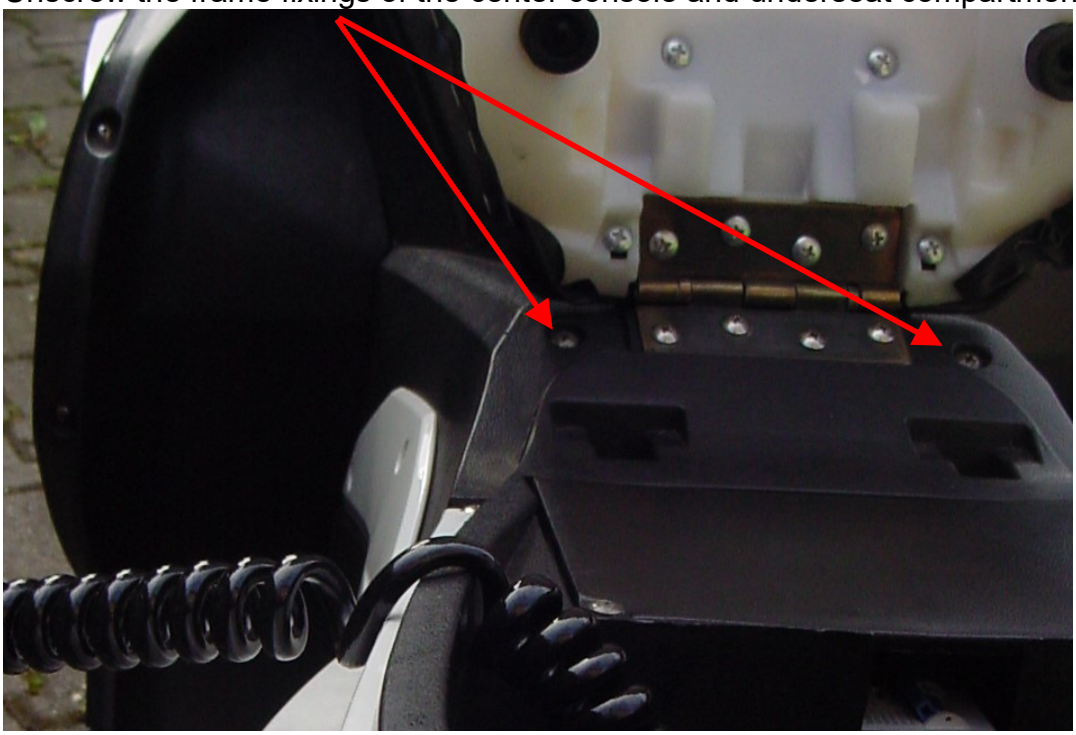


Beware! These side panels are fixed to the back of the foot boards with one cross slot screw from the inside. Better leave side panels and foot boards in one piece:

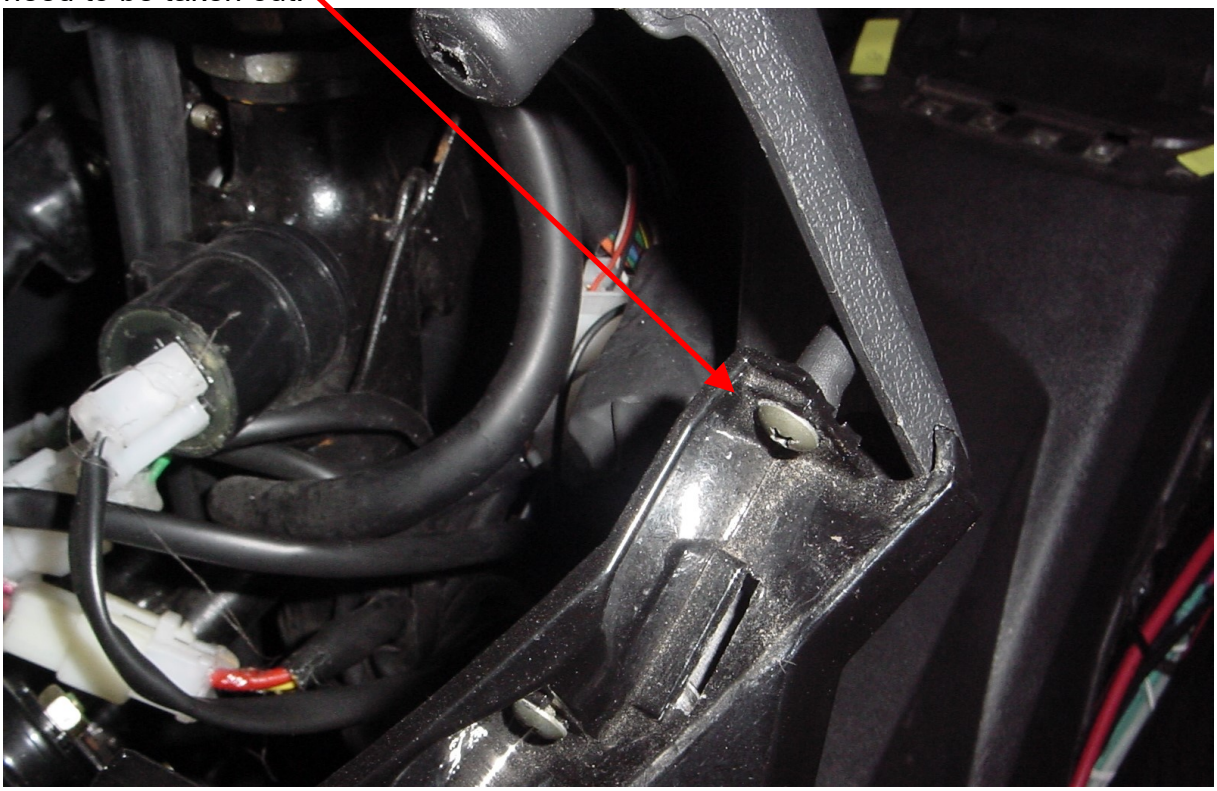


No need to pull the panels apart from the center console and inner leg shield yet, they are hooked to it at the front.

8. Unscrew the frame fixings of the center console and underseat compartment:



9. Now comes another major screwing operation – the inner leg shield. Take care not to forget to unbolt the center hook (hexagonal bolt!), and two not so obvious screws from the front. They are hidden behind the big triangular front shield between the lights. One recessed screw fixes it from underneath the “nose” – unscrew it. Two screws facing backwards hold it at the top – also unscrew these. Then unhook it at the top by pushing downwards and forward. Behind the top corners you will find these two screws that also need to be taken out:

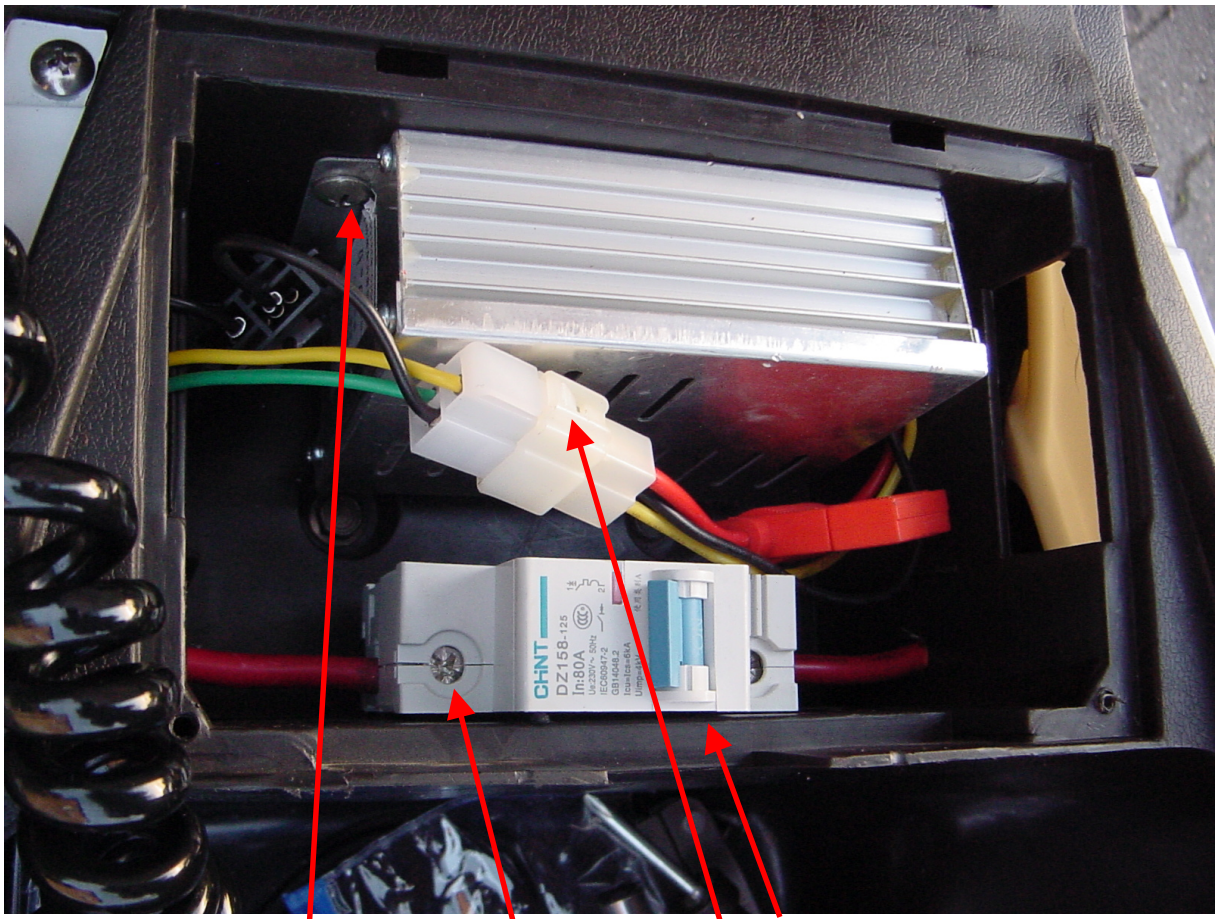


Turn the ring around the ignition lock counter-clockwise and pull it off.
At this point the whole front loses it’s last fixing point to the frame and will sag down onto the front fender

10. Next unbolt the footboards. Careful here: There is a front and a rear hexagonal bolt. The front one is longer than the rear one! Another 3 cross slot screws also need to come out.

11. Now it is time to take this puzzle apart. In the end only the center console and inner leg shield should still be more or less in place. Getting those out will take multiple nudges up and down, left and right, and pushing the handlebars from side to side to pull this big chunk of plastic molding out from underneath handlebar fairing and from the frame. Before pulling it out too far make sure you unplug the charging display (only for scooters with on-board charger!)!

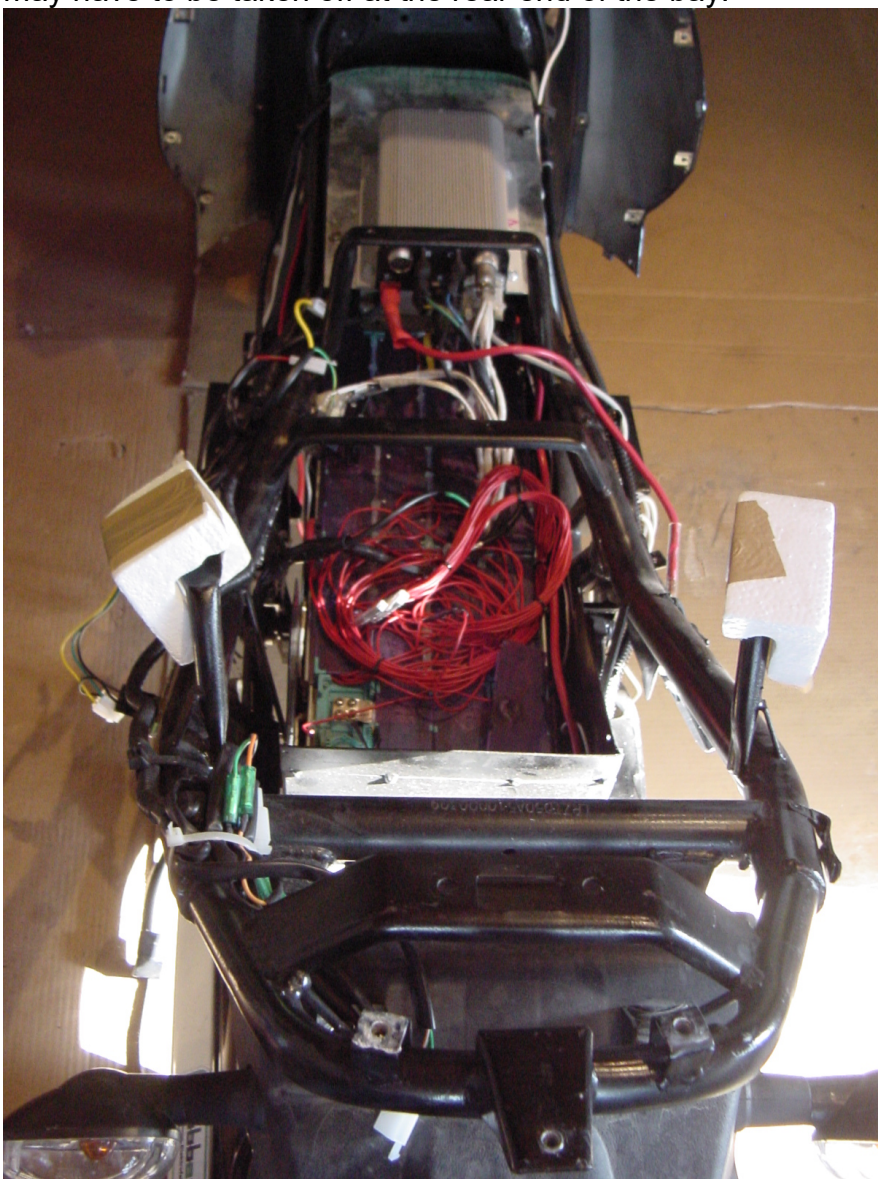
12. Before the underseat compartment can come off various electrical bits first need to be taken care of: If not already done unscrew the cover at the front (the glove or former battery compartment…) and take it off.



Under there should be the main circuit breaker from Chint (switch it off) and the DC-DC converter (unplug it after pressing the lock down with a small screwdriver) that is screwed to the front of the glove compartment at the top corners. There may be two washers between the converter flange and the compartment wall to keep the hot housing at a distance. Take the converter out.
Next **prepare an insulation means** for the red power cables going into and coming out of the circuit breaker. First unscrew the left cable and carefully pull it out to the left. **It is live at this point!!!** Carefully apply your insulation means to the cable lead.
Then unscrew the right cable and pull it out to the right and likewise apply your insulation means. This end goes to the controller.

13. Wew, now you are ready unbolt the underseat compartment from the frame. Two hexagonal bolts are at the bottom of the “glove” compartment, the rest is clearly visible. The two rear bolts also hold the seat lock which will fall down once unbolted (see the pic at step 2. for details). Before taking the whole compartment off make sure you disconnect the charging cable on the left wall of the seat compartment, it is a big and solid Anderson connector.
    The location of BMS devices may differ between individual models. In my case it was mounted to the right outer wall of the underseat compartment, so that the two OC and OD LEDs are visible through the right window in the glove compartment. That would also have to be detached from the compartment before it is taken off.

14. Now the rear part of the battery bay should be visible, unless an additional covering may have to be taken off at the rear end of the bay.



15. The last chunk needing removal should be the piece of sheet metal to which the controller is bolted, and possibly below it also the on-board charger in a separate steel tray. But this will only be the case when up to 24 x 40Ah cells are in the battery bay. Anything with higher capacity will most likely have an external charger.

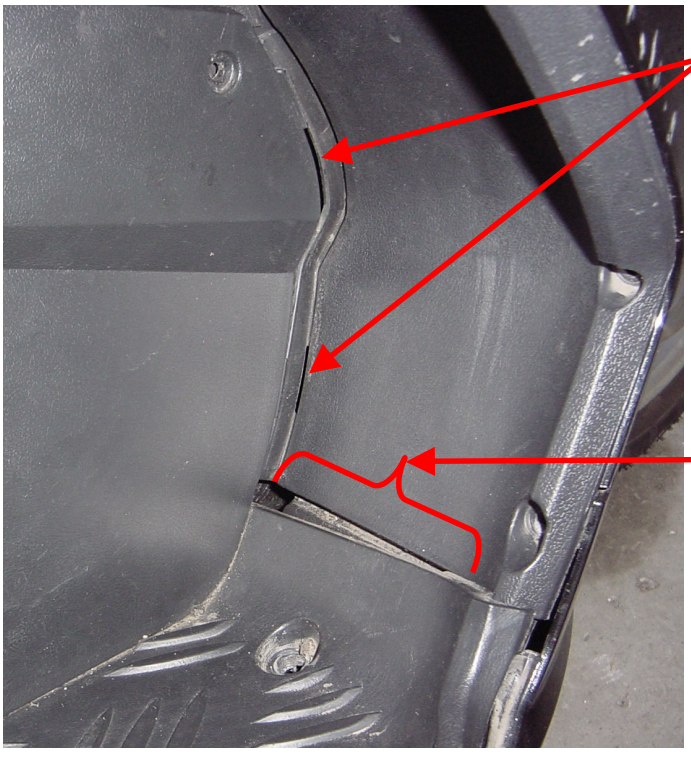
The sheet metal is bolted to the frame in four places. When you take this assembly off ensure you have enough cable length to place it to one side of the battery compartment. This may require cutting some cable ties that will have to be replaced.
When all this is done the battery should finally be accessible…

<u>For putting everything back together this whole process should be followed roughly in reverse order ☺</u>

HOWEVER! For the body panels no screws nor bolts until the whole puzzle (apart from the “boomerangs” and small side fairings) is successfully hooked together and correctly draped over the frame. After that the most important first bolt to put in is the central one in the inner leg shield and center console with the hook for shopping bags. It basically dictates the correct height of the complete front end in relation to the frame.

One really tricky part is fitting the side panels and footboards back into the inner leg shield and center console: Firstly the top front corner and adjoining edge go UNDERNEATH the center console, but the front goes on top of it again!

And this one can be quite ugly, particularly if the center console and inner leg shield have been screwed onto everything already (so don’t that until everything is together!):



Tabs on the front edge of the side panels go into these recesses of the inner leg shield

The front edge of the foot board goes into this slot of the inner leg shield.

Therefore it is a good idea to keep these bits in one piece in the first place ☺

ATTENTION! No warrantee whatsoever is given that this information is correct. Use at your own discretion and risk!