

Dead Bed Tilt Repair

Our coach has the type bed that needs to be raised at the back in order to make room for the bedroom and full wall slides to close. Diana puts the bed up part way each morning. She was retracting the bed when it stopped moving after little over a foot of travel. Jim and Kerry Pinkerton came over and helped me troubleshoot and fix the problem. It was a broken wire, which Kerry was able to solder back onto a PC board on the rear of the motor. It was NOT an easy task getting to the point of being able to solder the connection after we found the problem. The end result was that the repair was made, everything put back together, bed motor recalibrated, and we were back in business. However, we also found a bearing under one of the rails and discovered it was for one of the 4 rollers that run in each track when the bed is extended or retracted. We were unable to repair that, and it will be a task for REV at some future date. The bed will work without it. Even though we bought our coach new, some work had obviously been done on the system at some previous time. Attached is the “rest of the story.” The file is too big to email. I have 5 other files if anyone would like them. Send me a request off forum. I’m thankful for Kerry and Jim. Would not have been able to find and fix the problem without them, and it would have been VERY expensive if done by a dealer or REV.

- ❑ When you raise the bed, the storage area underneath has two approximately 3'x3' boards. The one on the left (facing the outside wall) is not secured and can easily be taken out. The other one had two screws on the edge nearest the outside wall. Remove those and remove both boards.
- ❑ When you get the boards out you will see the bed controller (photo at right) The spade connectors are labeled. Take a photo before disconnecting so you get them back in right order. Otherwise the bed may operate backwards, e.g., go up when you press down.
- ❑ We saw no problems with the wire connections, but the controller has two LEDs – 1 red and 1 green. The LEDs are used for calibration and possible identification of motor issues. Both were flashing rapidly. We called Lippert and were told that the signal from the controller wasn't getting to the motor. Note that, overall, Lipper wasn't particularly helpful. REV tech support send some drawings and information that was useful.

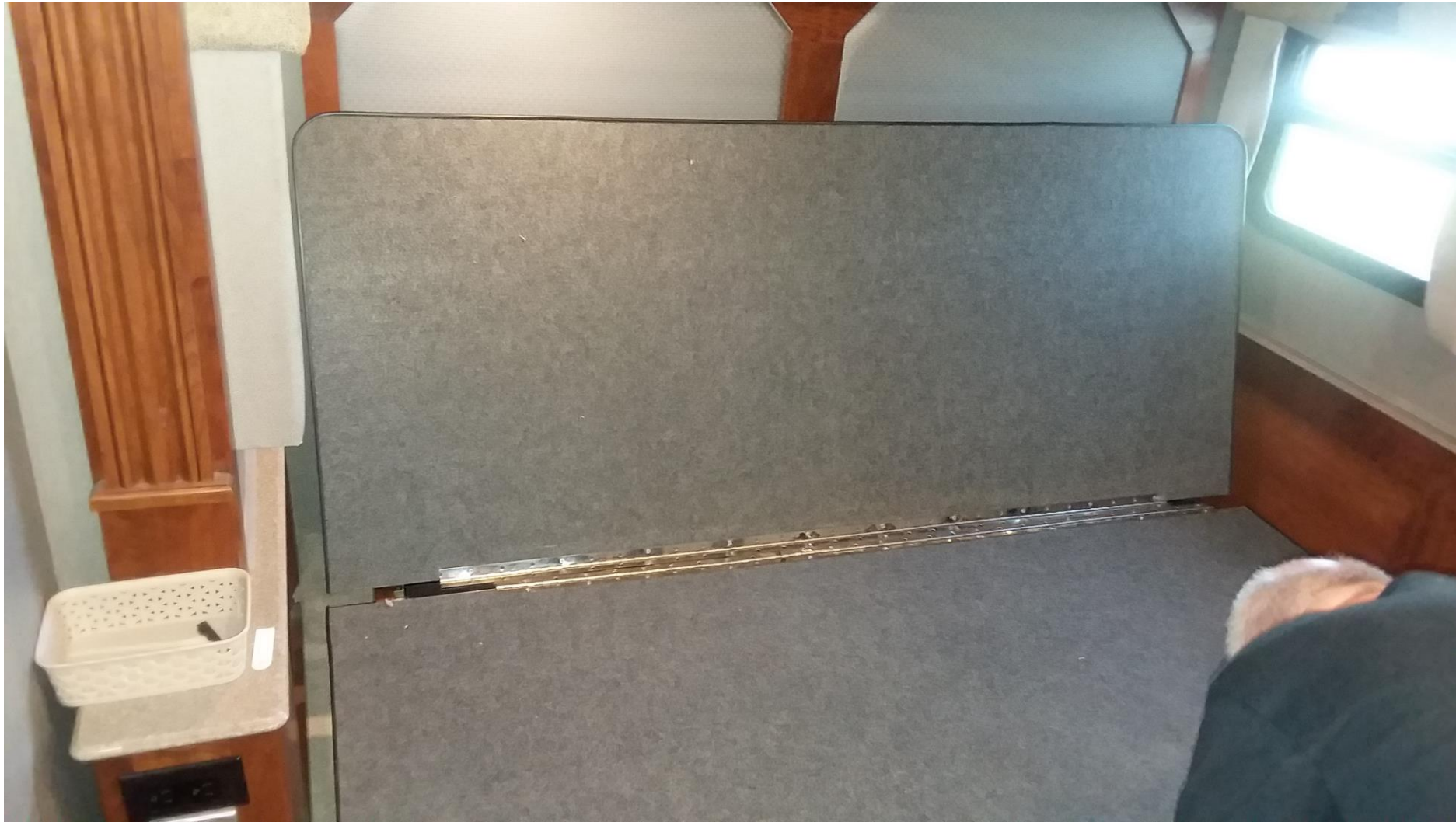




At the foot end of the bed frame, in the same space where the controller is located, we found the two wires (shown on left), which were spliced exactly as shown, and the two loose wires shown in the photo on the right. The spliced wires looked like they might go to the controller, and the loose wires were attached to a magnetic switch at the foot of the bed frame.

It appeared that the two spliced-together wires were at one time attached to the two loose wires and that someone had modified them by cutting the wires and splicing the ends to make the system work. Jury-rigged would be a good description. We did determine that this modification was not the source of the malfunction.



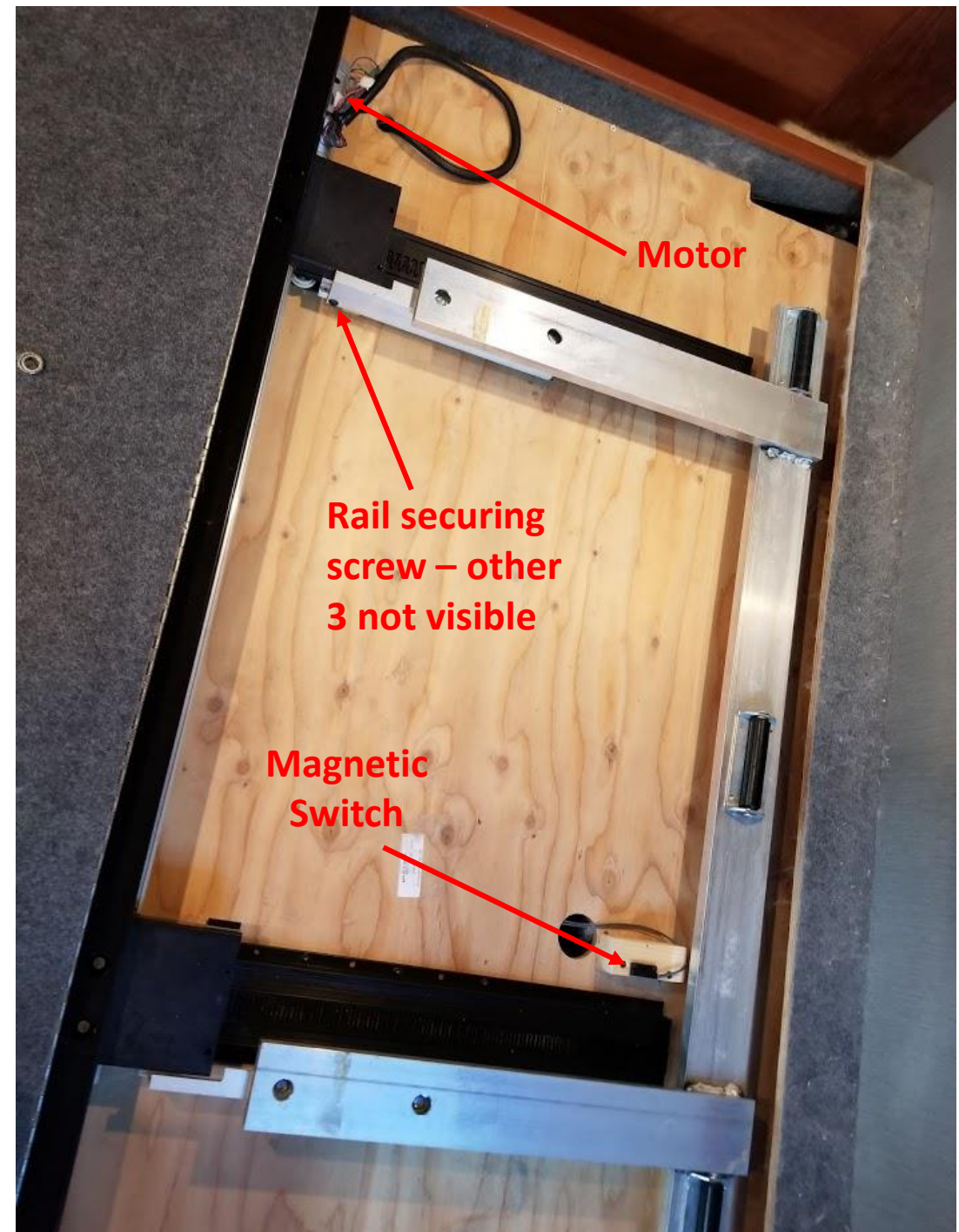


This is the mattress support. It is hinged at the middle with 2 piano hinges to allow the mattress to fold at this point as the bed is retracted. You are looking at it toward the outside wall from the foot end of the bed. The piece toward you is actually horizontal – that may not be clear in the picture. The piece against the outside wall will fold down on the bottom, horizontal piece. The entire assembly is attached to the metal bed frame with four 7/16" nuts and bolts. We removed the securing hardware and slid the mattress support back a few feet to expose the motor and rail assembly.

This is the rail system. The aluminum cross arm is attached with 4 screws, one at the front and one at the back of each arm. Removing these gets the aluminum cross arm out of the way. There is an articulating arm under each aluminum brace of the cross arm. It is that arm that pushes the back, cross rail up to bend the mattress at the support hinge points.

At lower right of photo there is a small wood block with a black something on it. This is a magnetic switch that tells the system that the bed is fully retracted. This is a requirement to allow the bedroom slide to operate.

The motor is barely visible in the photo. The black “box” at upper left is mounting hardware for the motor and rail gear mechanism. The visible cable motor wiring. That cable moves back and forth left and right as the motor and gears travel on the rails.



This photo is looking at the motor assembly from the outside wall of the slide toward the foot of the bed.

Note that the wires are secured to the motor body with a zip tie. The wire ends are soldered to a small PC board on the left end of the motor and covered with a plastic cap.

We found that the green wire was broken at the PC board on the motor. Kerry touched the wire and we activated the bed switch. The bed moved, verifying that this was the source of the problem.

The motor is attached to a rod that goes through the ends of both rails, so both sides of the aluminum articulating beam will move together as the motor travels.



This is another view of the motor/rail assembly, looking from the foot end of the bed. The cap is covering the circuit board in this picture.

Note the wheels on the front of the track. There are two more on the other side of the gear box that are not visible – a total of 4 on each rail gear assembly. One of the wheels was broken and we found the pieces under the rail. We were unable to repair this but the mechanism moves ok on the rail., even with the broke, absent wheel.



This is a close-up of the motor assembly. The green wire visible at right center is the one that was broken off.

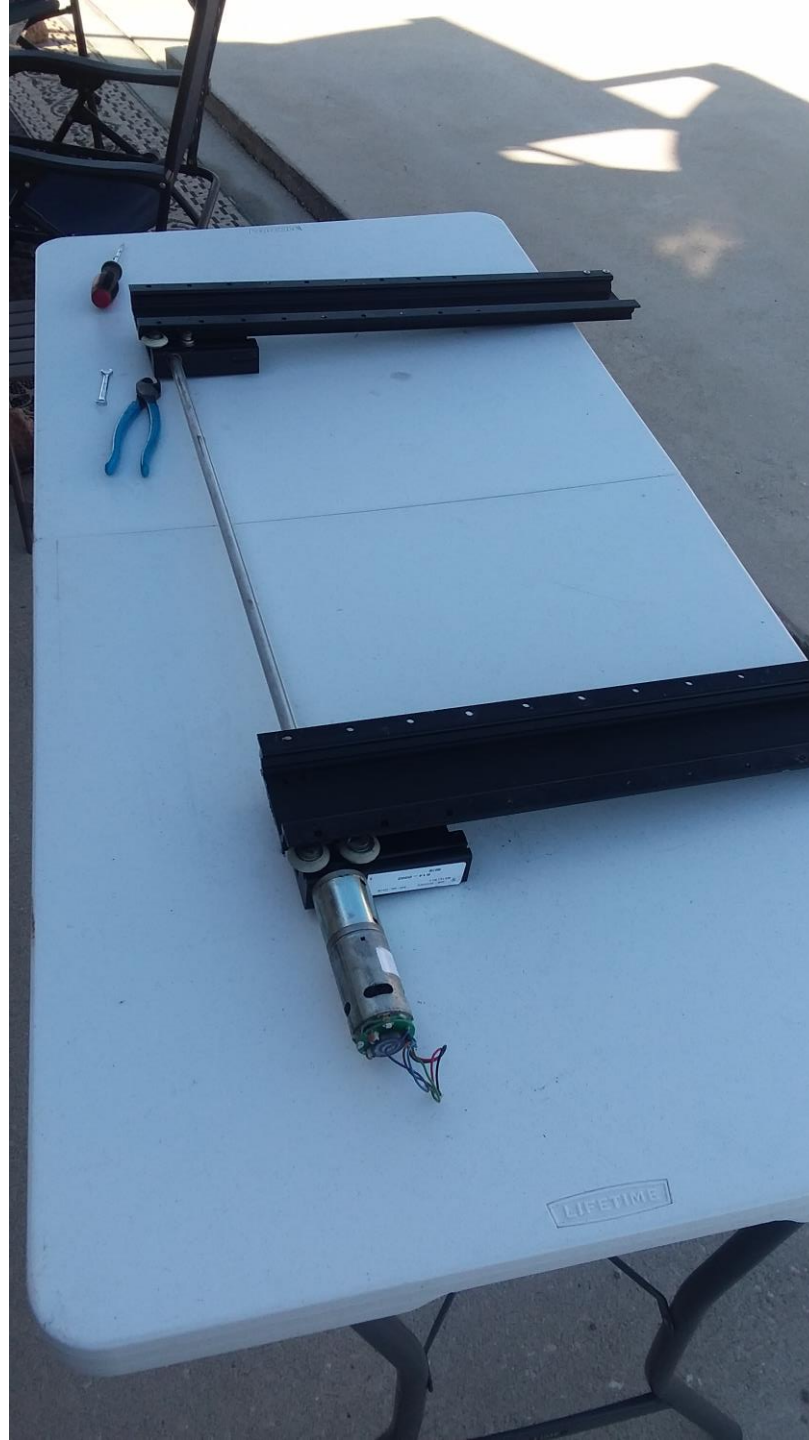
Lesson: When troubleshooting electrical issues, check connections of ALL wires related to problem for corrosion and security.



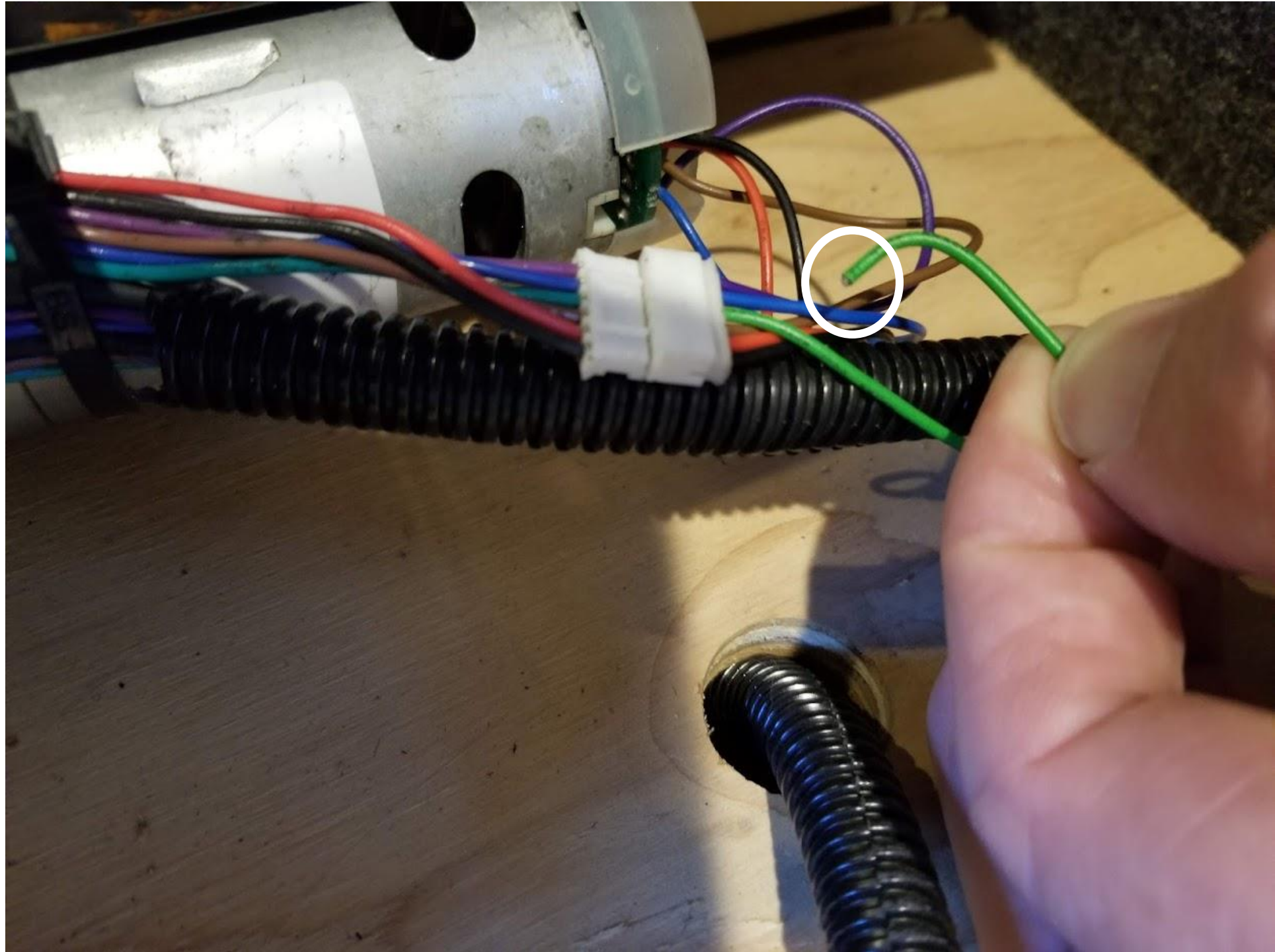
**Broken
(Green) wire**

Even with instructions from Lippert, we could not figure out how to remove the motor, so we removed the whole rail assembly so we could get at the motor to re-solder the broken wire.

This is a photo of the removed rail assembly, clearly showing the rod between the two rails.

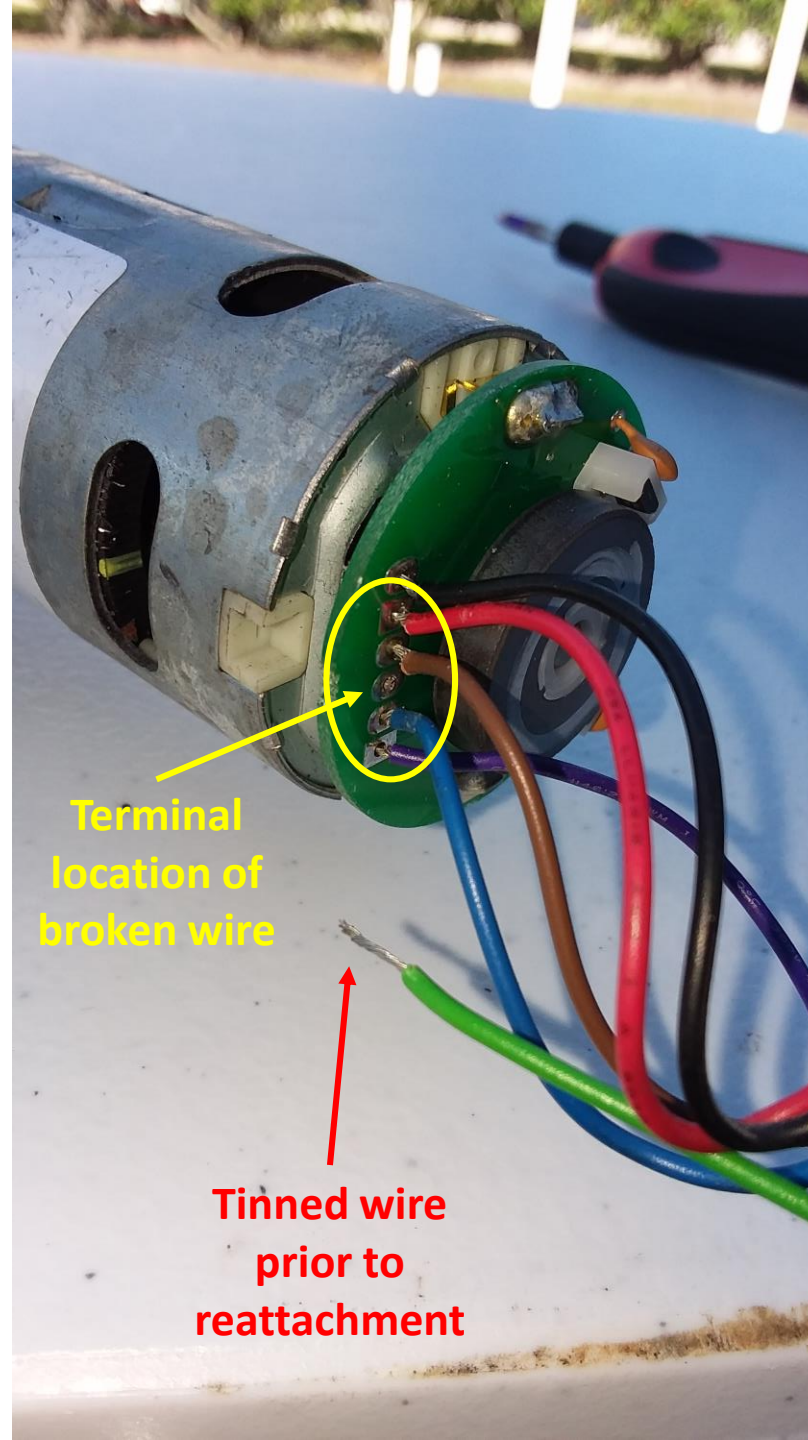


This photo shows the broke wire



This photo shows the broke wire, stripped and ready to solder.

The repair consisted of tinning the broken wire, then heating the back of the PC board connection location to melt the solder there. Then the wire was pushed into the connector hole containing liquified solder and heat removed. The wire was secure when the solder cooled.

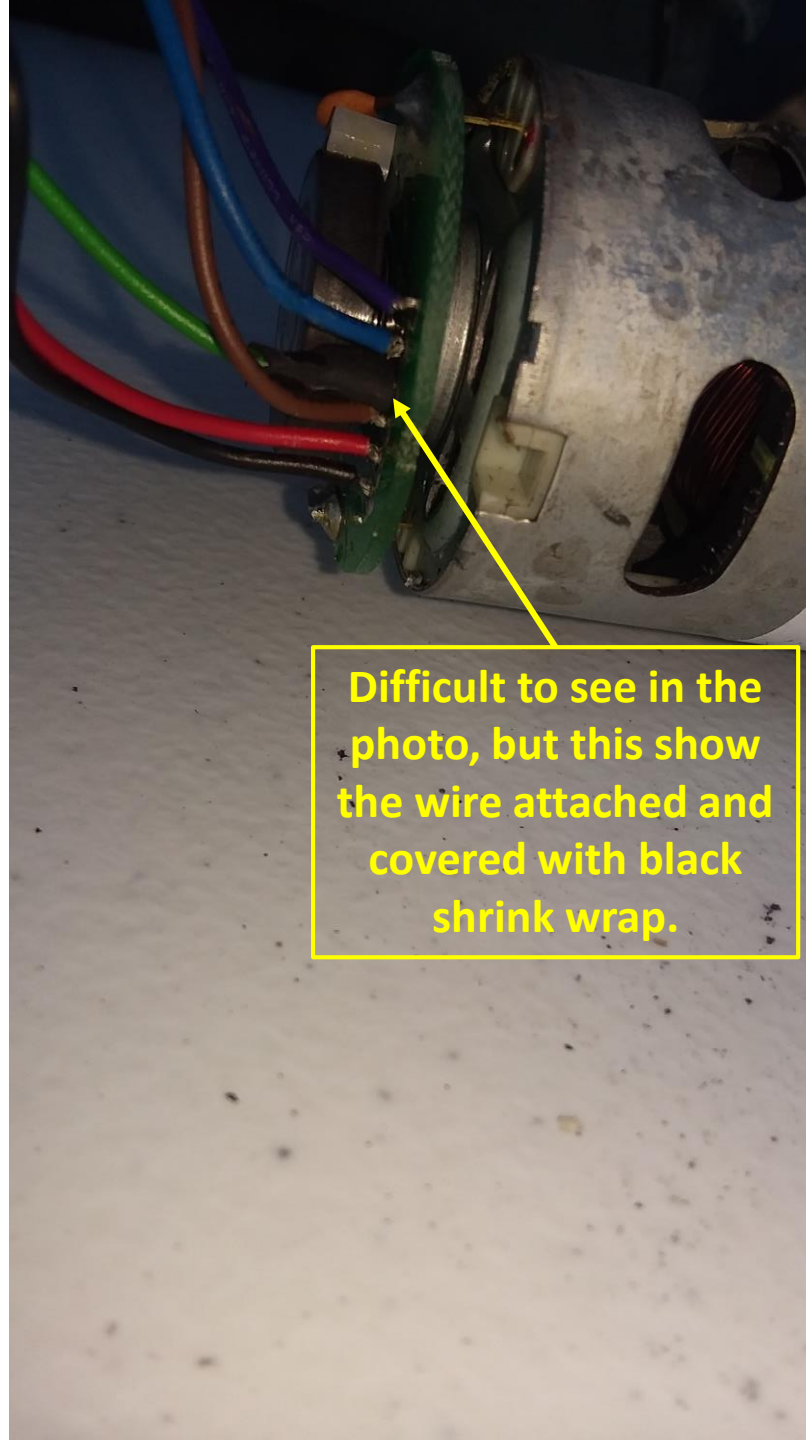


This photo shows wire now attached with shrink tubing attached.

Reassembly was done in the reverse order.

After everything is back together, the system must be re-calibrated to cause the motor to stop at the full extended and full retracted positions. Lippert provides a guide for doing that.

After the repair the motor controller had to be re-calibrated to set the upper and lower limits of travel. The following two slides contain the calibration procedure for the motor controller



Difficult to see in the photo, but this show the wire attached and covered with black shrink wrap.

To calibrate the stops (see following slide also):

Flashing red LED indicates that the upward limit needs to be set (Fig. 8C).

Use the wall switch to move the unit to the desired top position (Fig. 9B).

When at the desired top position, press the configuration button (Fig. 8A).

The top limit is set.

Flashing green LED indicates that the downward limit needs to be set (Fig. 8B).

Use the wall switch to move the unit to its desired downward position (Fig. 9B).

When at the desired downward position, press the configuration button (Fig. 8A).

The downward limit is set.

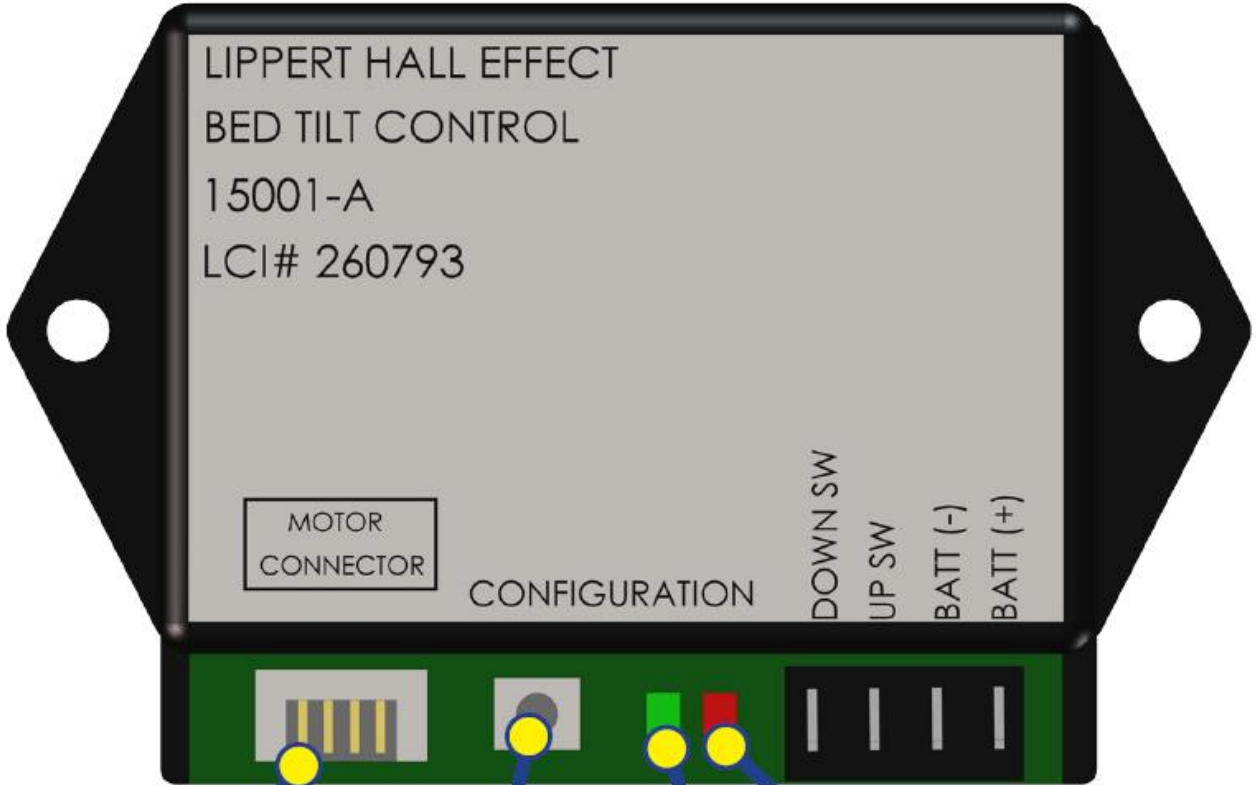
Once the downward limit is set, both Red and Green LEDs will blink simultaneously for a moment (Fig. 8B; 8C).

Both limits have been set successfully.

Note: If an error occurs during this configuration, the Red and Green LEDs will quickly alternate flashing.

Note: To reset the stops, press and hold the configuration button for five seconds. This will allow the system to enter calibration mode.

Fig. 8 - Controller



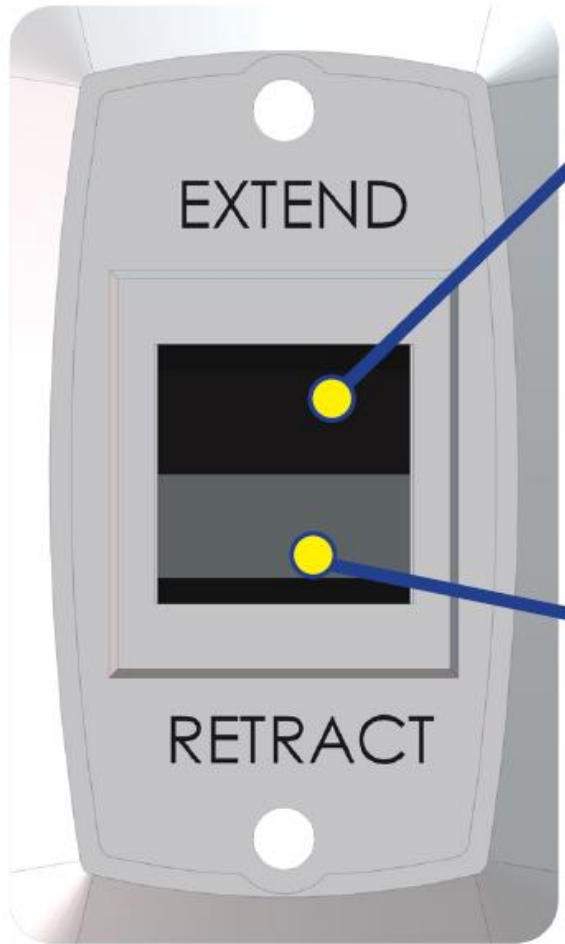
Motor Connector Port

Configuration Button (A)

Green LED (B)

Red LED (C)

Fig. 9 - Switch



Down (A)

Up (B)

