

Repair of Broken Full-Wall Slide Lock Motor Mount

Rick Blaher

- The full-wall slide lock assembly on a 40E (and probably others) consists of a small 12v motor, and a screw jack that moves the hook in and out of a slot on the fore and aft walls of the slide when it is retracted. The assembly is sealed, but water can enter the slot that the hook retracts into when it rains and water runs down the fore and aft slide walls. This is by design, and the small amount of water that enters the slot will evaporate. Water will not leak into the coach if the lock assembly and outside plastic cover plate are properly sealed.
- The motor is attached to the lock assembly with a single bolt through two ¼-inch thick PLASTIC ears on the assembly. The other end of the clamp goes through 1/4" STEEL ears but the force on both sets of ears is the same. As you engage the locks, the arm comes out and presses against the side of the coach to hold it in place. As it presses, the load is transferred to the motor mount bolt and goes through the plastic ears. When the plastic ears try to hold the same force as the steel ears, the plastic breaks. This is a terrible design, and one or both of the plastic ears are susceptible to failure. (Rick has had 3 lock assembly failure over the last 2 years.) The locks can be disabled by unplugging the two wires attached to the motor. The slide should still operate – Rick's 2016 one does.
- If one or both ears break, the assembly is rendered unusable.
- You cannot replace just the motor mount. You must purchase the entire assembly at a cost of about \$400 from REV.
- Kerry Pinkerton devised an innovative way to repair a broken motor mount using ¼-inch aluminum plate. The following slides document the mount failure and fabrication of the metal ears. Note that some cutting, welding, and shaping of the ears is required. This can be done in 2-3 hours with the right tools and ability (Rick will admit that both leave him out).

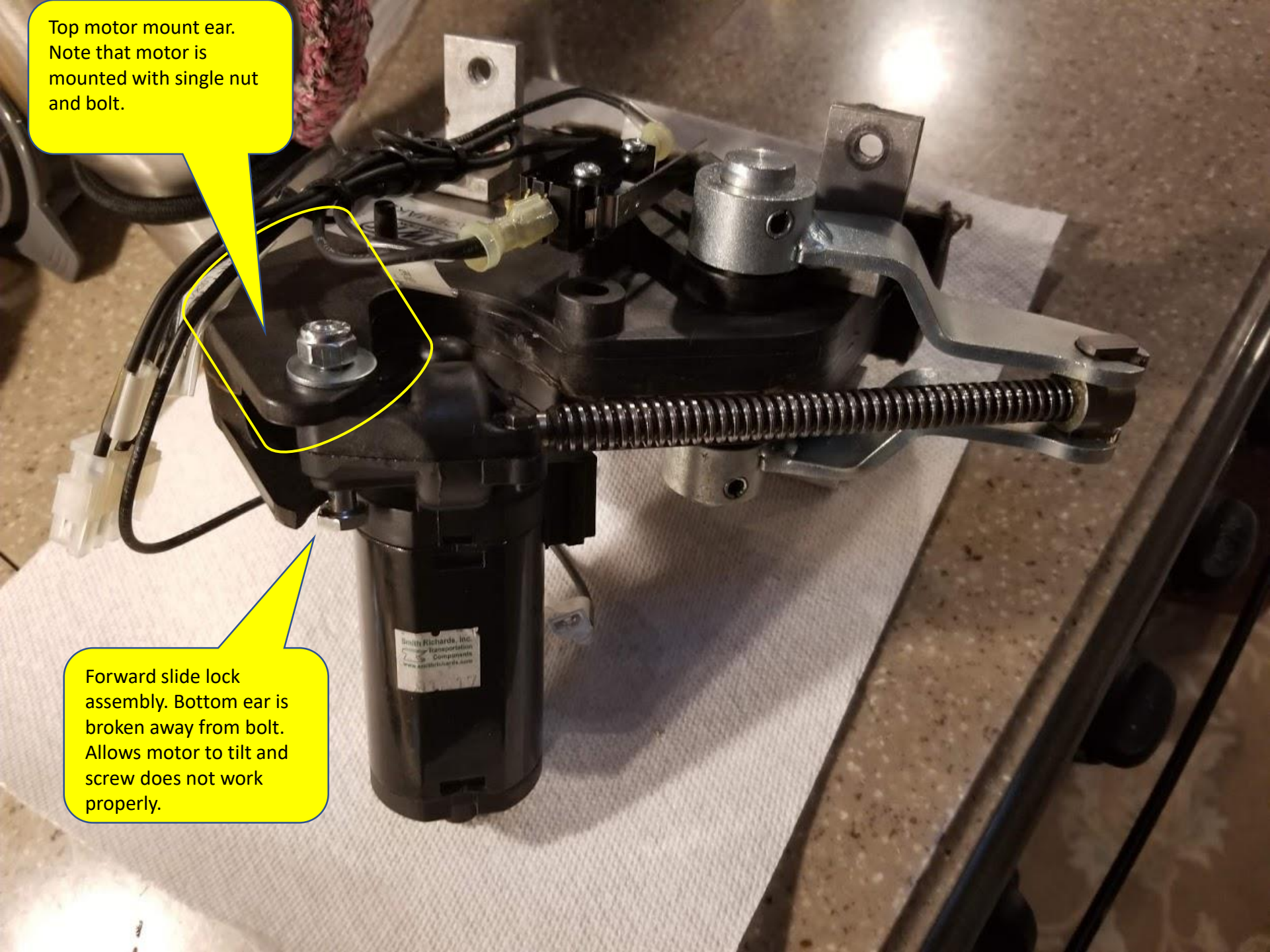


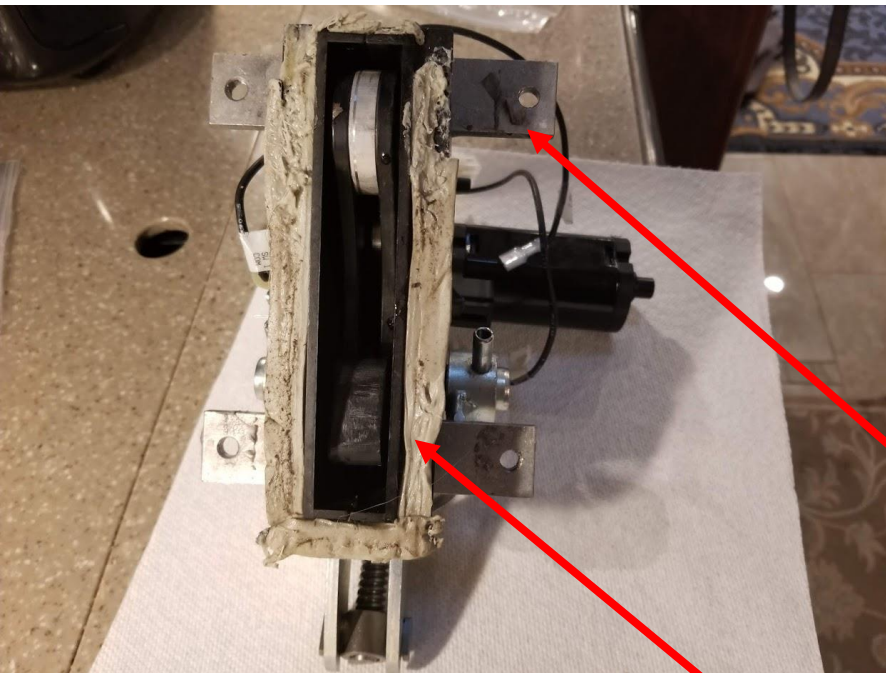
**Installed, functional slide lock
(After repair)**

Note that the slide motor hangs DOWN. These locks are mirror images of each other so if you don't put the motors on the correct side, you'll have two lefts or two rights. Mark each assembly with a permanent marker.

Top motor mount ear.
Note that motor is
mounted with single nut
and bolt.

Forward slide lock
assembly. Bottom ear is
broken away from bolt.
Allows motor to tilt and
screw does not work
properly.



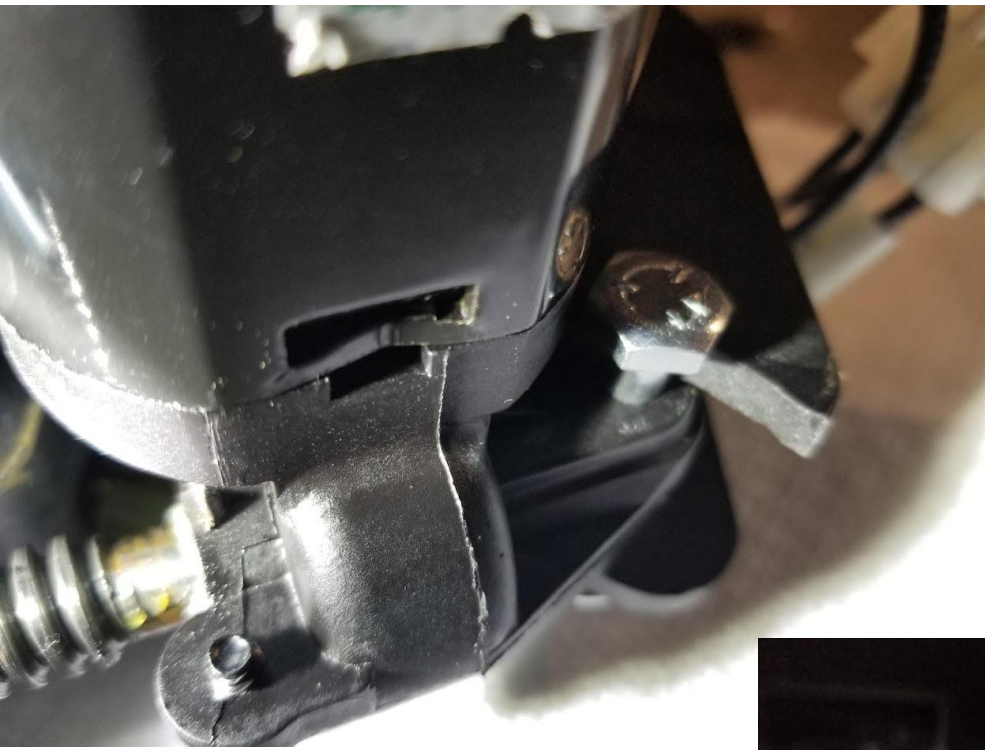


This part of the assembly faces from inside toward the forward slide wall. The motor (right center) faces down when the assembly is properly oriented for installation.



4 attachment tabs attach the lock assembly to the end of the slide wall. Remove/Install with $\frac{1}{4}$ " drive, 6" extension, and $\frac{3}{8}$ " deep socket. The top attachment toward the outside is the hardest one to remove and re-install because it is not visible and has to be done by feel.

Note also the BUTYL weather seal around the outside of the slide lock slot. Replace this with new seal, available at hardware stores.




These photos show the broken ear and the piece that broke off. Rick has had three broken assemblies in 2 years – all broken similarly.





**Start repair with 2
'plates' of $\frac{1}{4}$ "
aluminum,
approximately $3\frac{1}{4}$ "
x $1\frac{1}{2}$ "**



Kerry probed the box with a stiff wire and determined there is an interior 'wall' that separated the open area where the lock is from the end where the ear is. This meant that we could drill holes in the ear area and water/moisture/critters could not get into the coach. He drew a line with a marker to define where NOT to drill. The 3 holes are positioned outside the marked line

Note the relationship of the plate compared to the pin at the corner of the white tag. While holding the overlay in place, mark locations for 3 holes. The assembly mount is hollow beneath where these are marked, so you will be able to drill through the assembly for the new mounting holes without impacting the integrity of the mount.



Drill three ¼-inch holes through the marked plate.

Use the drilled plate as a template and drill the second plate.

Then, mark the hole locations on the mount and drill through the mount.

Insert ¼" – 20 bolts through the plates to test the hole alignment.

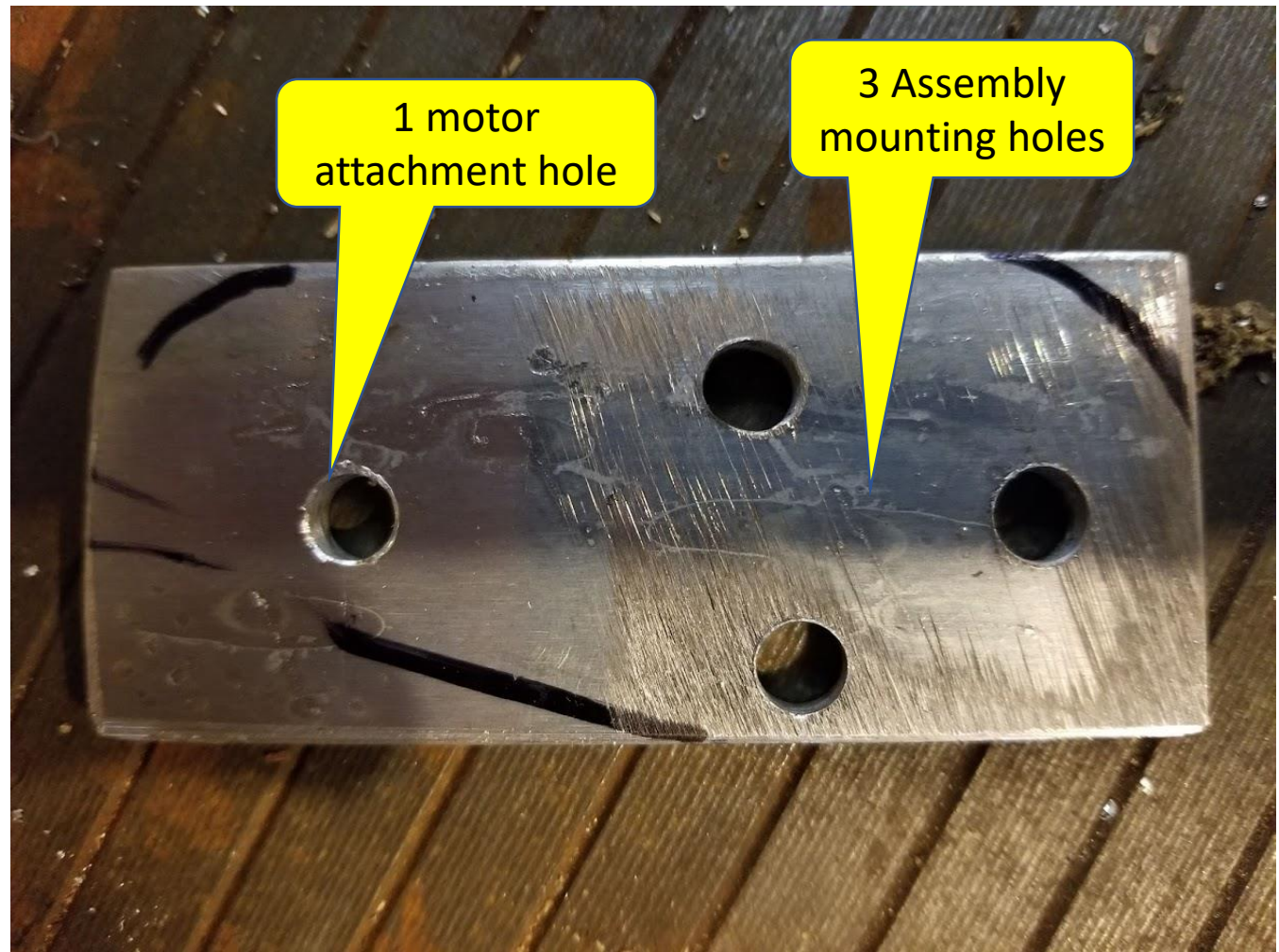


This slide shows the 2 rectangular, drilled plates installed on the motor mount.

Mark and drill a hole on each plate for the motor attachment.



Marked mount
assembly outline



1 motor
attachment hole

3 Assembly
mounting holes

**These photos show the 4 drilled holes for each plate.
Mark the outline of the assembly mount on each plate
with a permanent marker.**



Use appropriate tools and safety procedures to trim and shape each of the motor mount plates. Kerry used a bandsaw and belt sander to cut these parts. They are small and will be difficult to hold and cut with a handheld jig saw and handheld belt sander.



Completed mounting plate
Note that each motor assembly
will require modification of one
of the two plates to provide
clearance for the slide lock
motor.



The ear on this side had to be removed to allow proper positioning of the motor. Part of the modified (welded) aluminum plate occupies this space. Exercise care to cut off the correct ear. After cutting, it may be necessary to taper off the cut in order for the modified ear to fit.

Rear tab on this mount is the one that is broken – obvious in this photo.



Notice how close the motor fits to the ear. This is the reason Kerry had to cut and weld one of the replacement aluminum mounts. There is only enough room on the motor side for a 1/4" thick ear. The other side doesn't matter.

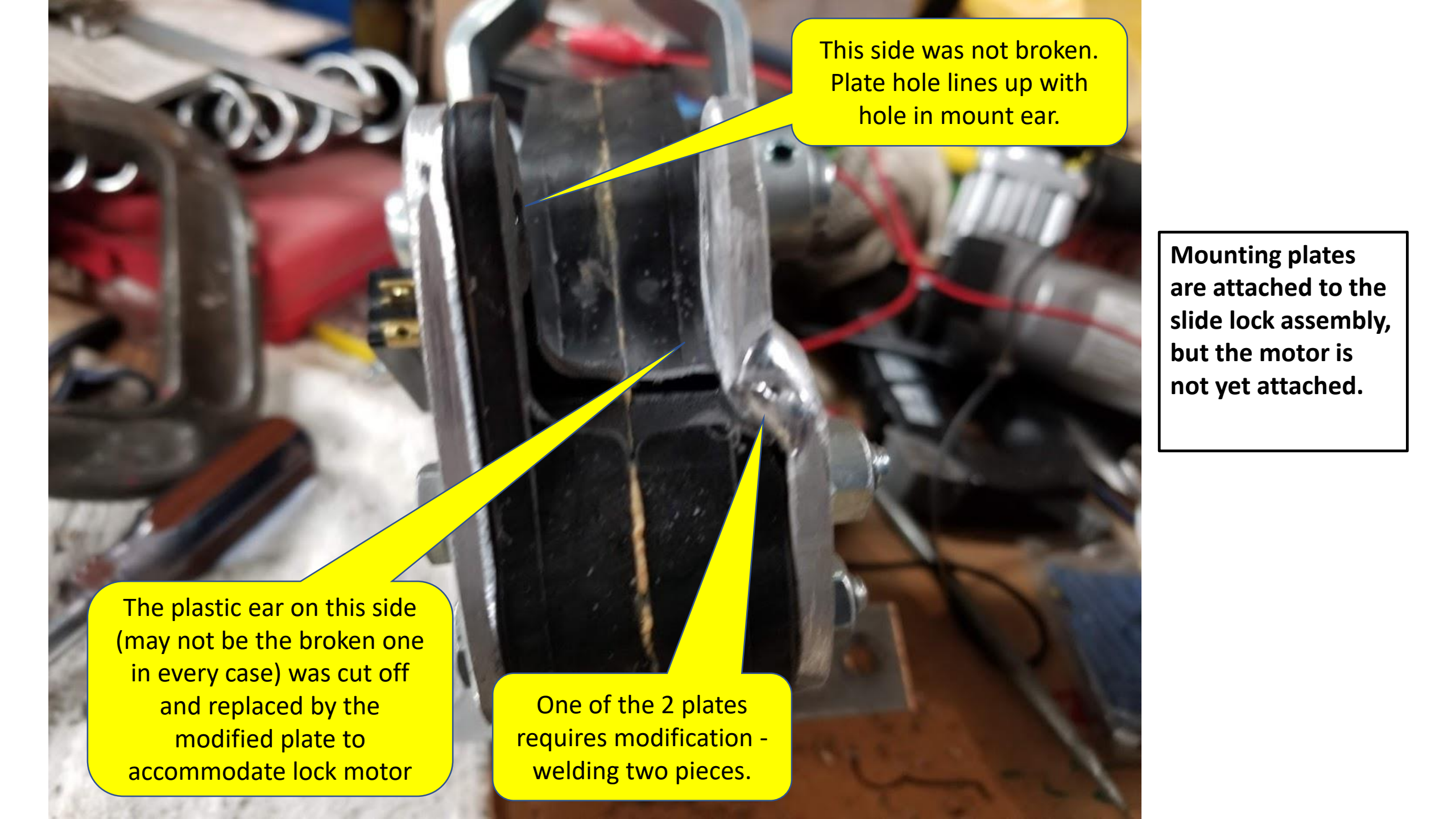


This ear plate must be precisely cut and the pieces welded back together to accommodate motor attachment.

Make sure you cut the tab in the correct place to go inside the cut off plastic ear, AND make sure it is oriented correctly. The ears are NOT reversible and if you do it wrong, the bolt holes won't line up or the intended step will go out instead of in.



Weld 2 sections of plate here to produce a "step." Kerry welded the two pieces of aluminum together with a TIG welder.

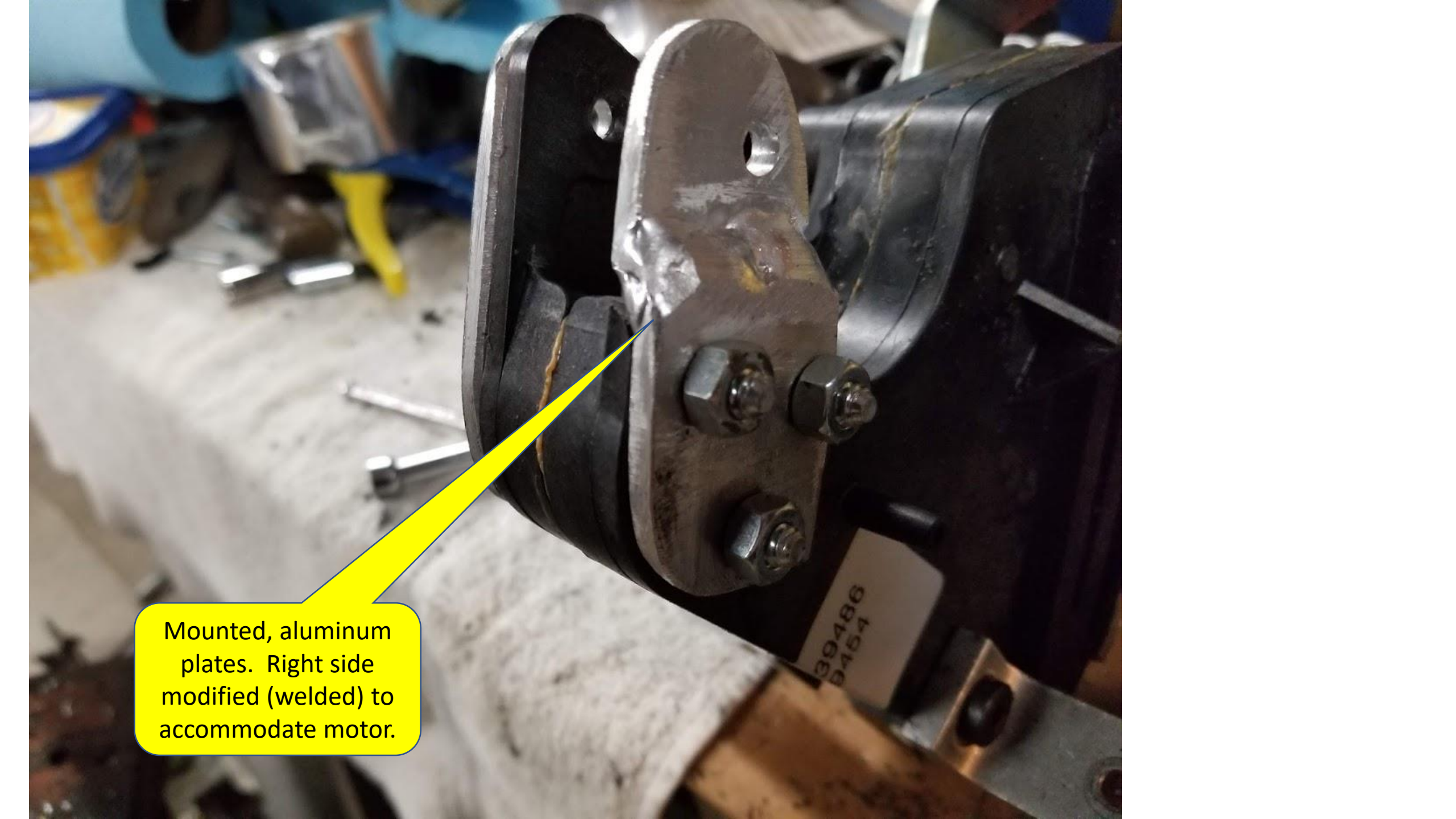


This side was not broken.
Plate hole lines up with
hole in mount ear.

**Mounting plates
are attached to the
slide lock assembly,
but the motor is
not yet attached.**

The plastic ear on this side
(may not be the broken one
in every case) was cut off
and replaced by the
modified plate to
accommodate lock motor

One of the 2 plates
requires modification -
welding two pieces.



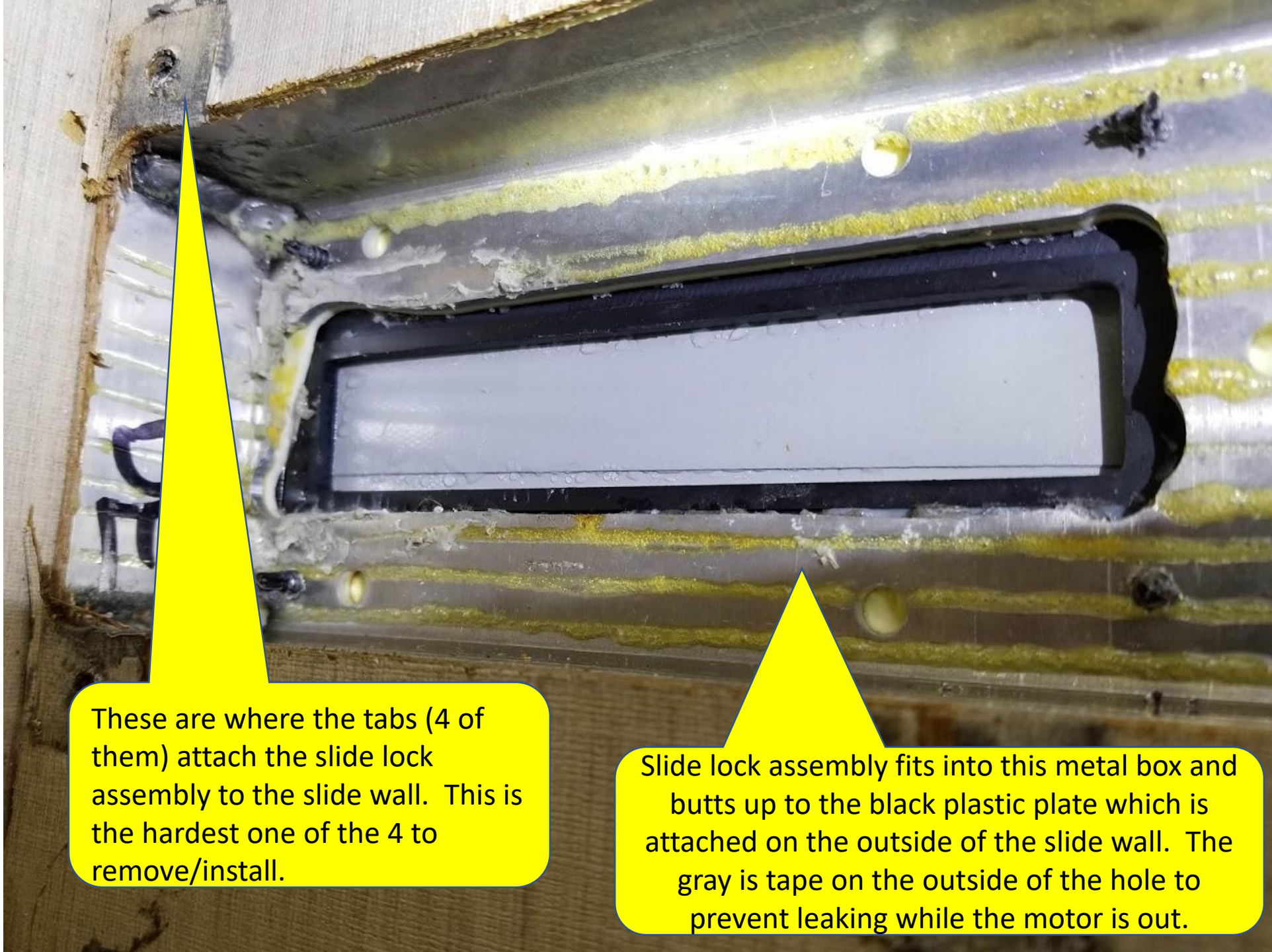
Mounted, aluminum plates. Right side modified (welded) to accommodate motor.



Side view of mounting plates attached to the slide lock assembly. The motor is not yet attached.

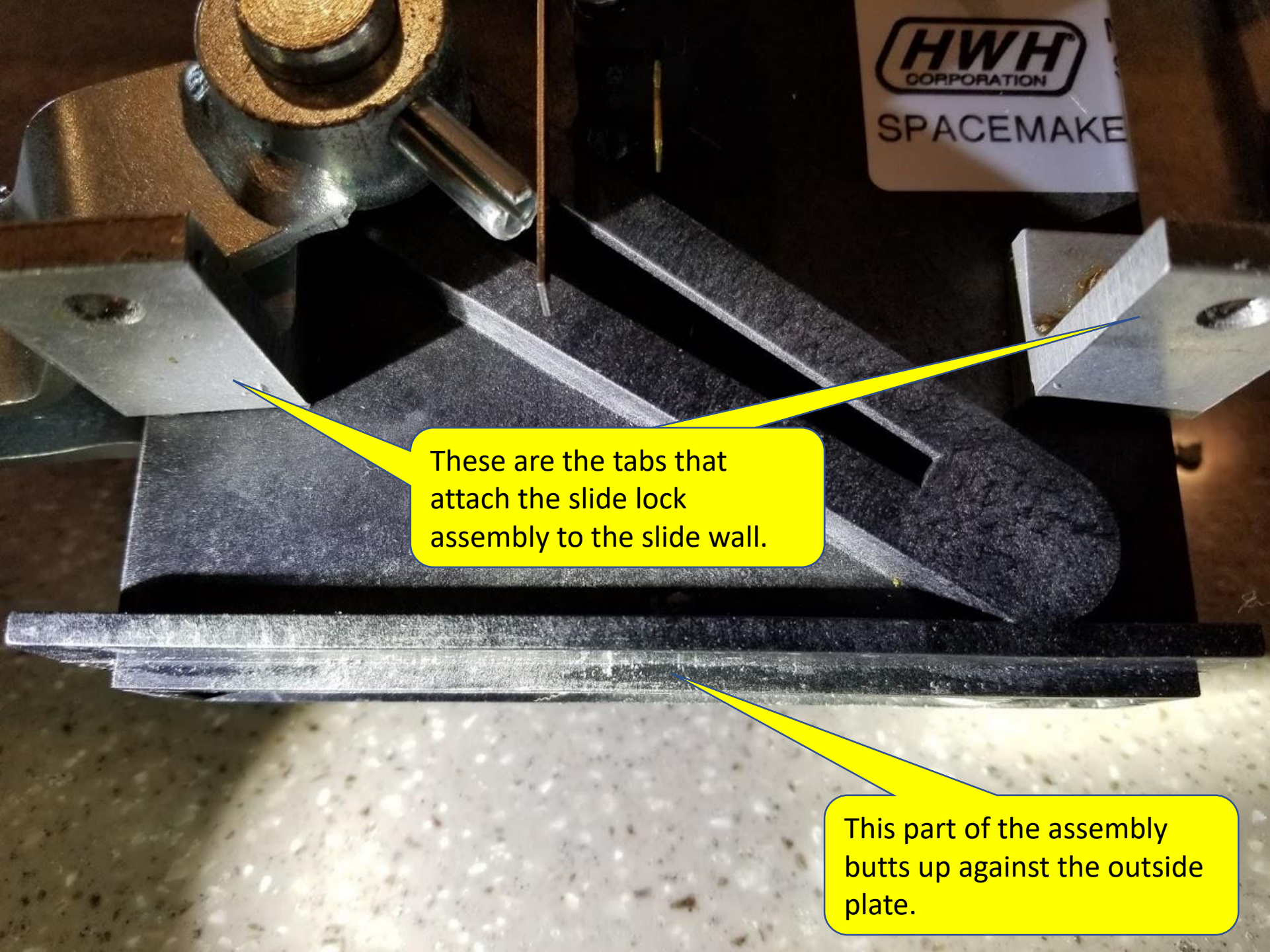
Modification of the bottom plate is clearly visible.

Also clearly visible, is the removed bottom plastic ear and the still existent top ear that, in this case, was not broken. If both ears are broken off, you'll want to put a 1/4" thick spacer (the broken ear will be fine) to keep the motor from moving around on the pivot bolt




These are where the tabs (4 of them) attach the slide lock assembly to the slide wall. This is the hardest one of the 4 to remove/install.

Slide lock assembly fits into this metal box and butts up to the black plastic plate which is attached on the outside of the slide wall. The gray is tape on the outside of the hole to prevent leaking while the motor is out.

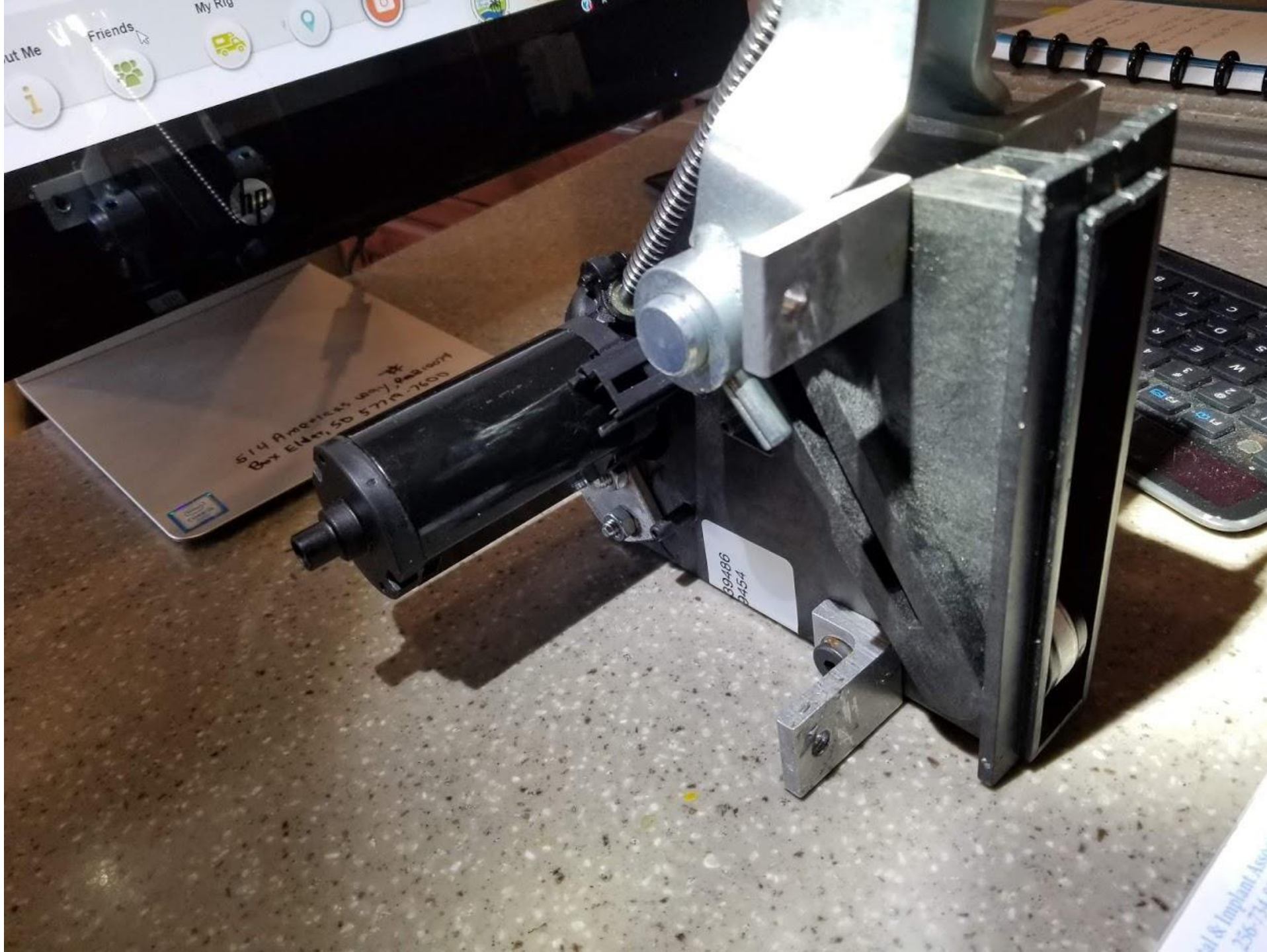


These are the tabs that attach the slide lock assembly to the slide wall.

This part of the assembly butts up against the outside plate.



Weather seal goes on this surface around the hook mechanism.



Completed assembly



Completed assembly with motor attached. Ready to be installed. 'The original ears are just unsupported plastic tabs with a single bolt going through them. The repaired aluminum ears mount into the plastic housing with THREE bolts clamped through a SUPPORTED plastic box. It is MANY times stronger than the original design. However, if the slide lock motor continues to push against side of the coach, considerable force will be applied to the motor mount. If whatever mechanism causes the red light to display indicating the locks are fully deployed is not calibrated correctly, it is conceivable (but doubtful) that this too can fail.

Kerry is willing to make these repair ears and ship them to folks who want to do the repair themselves. Alternative, the lock can be removed sent to him for repair. The aluminum ears alone will be \$100 delivered in the US and will include instructions. Locks sent to him for repair will probably be about \$200 plus shipping. He can be contacted by voice or text at 256 six7nine four488 or Pinkertonk at yahoo dot com.