

Brass cylinder when
viewed from inside the
rheostat.

It rides directly against
the steel plate.



When spring is compressed inside the rheostat, it generates enough axial force for the brass cylinder to have decent friction against the steel plate.

Very small rotational motions due to fuel movement in the tank appears be enough to cause this grinding/galling, and then sticking.

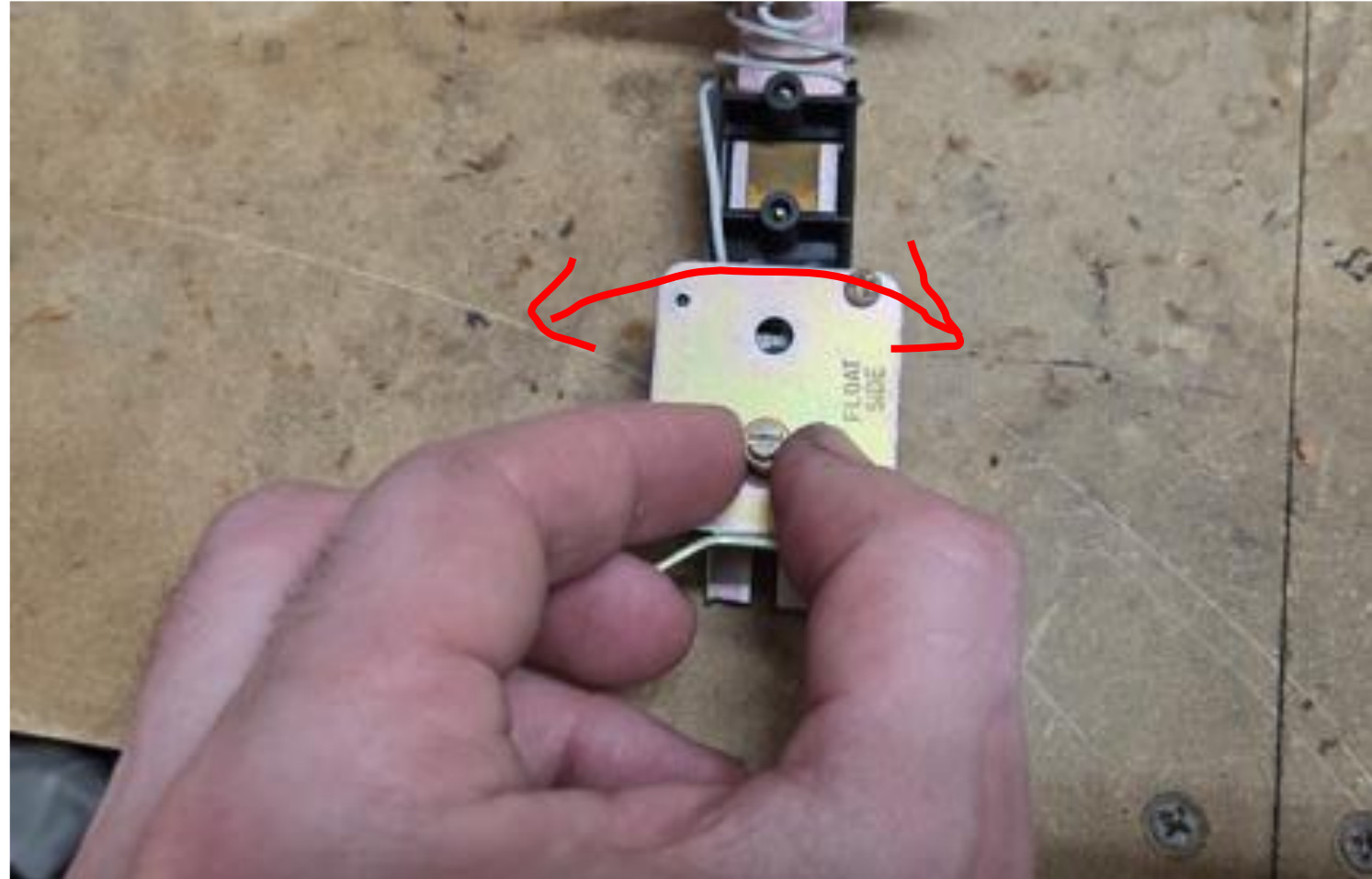
The float arm is very short for the dimensions of the tank and the arm doesn't have enough mass to generate the leverage to overcome the sticking.



Very small back and forth movements for about 30 seconds and you can start feeling metal on metal grinding/galling.

Large manual movements cannot reproduce the sticky behavior noticed when in the tank.

It takes small continuous motions over time to start generating the galling (which is what you'd expect with minor fuel movement during driving).



.010" thick copper shim to go between brass cylinder and steel plate.

The softer copper eliminates the grinding/galling.



With the fuel sender now able to move freely and unhindered, and with Tanks' instructions, combined with Autometer gauge, the fuel level appears to report very accurately.

Tanks' technical rep said that there is approximate 3 gallons of margin built into the "empty" position of the float arm, which seems to correlate well to the gauge reading.

Rough fuel sloshing by hand with the tank out of the car doesn't seem to perturb the fuel level reading anymore. Needle moves very little and very slowly, but returns to the original reading.

