RV Flap Motor Info

I have not heard lately of problems with the flap motors. I wonder if the problems are still occurring but not being reported? I am about to install and wire the flap motor in my 8A. The motor I have was made be Motion Systems, Inc. in May 1998. The info from Vans indicates that the problem was due to a bad batch of Motion Systems motors they received just before they switched to their own in 2002. Does anyone know if the problem was indeed limited to one batch of motors? Can anyone who has a Motion Systems flap motor made around 1998 advise if they have had problems with it? I am also wondering if I should disassemble the flap motor now, before I install it, and remove "access" grease. Of course, that opens the question to how much grease is "access" and how much should be left. Any info would be appreciated.
Tony Johnson RV8A "Badboy" N12TJ res Orlando

Don't know if you've seen this yet...but here is Van's document on flap motor issues:Flap Motor Maintenance

Jamie D. Painter Atlanta, GA RV-7A Electrical, FWF Superior XP-360 (injected), Hartzell C/S, Dynon EFIS+EMS

I had the same problem a couple years ago. I did some research and found www.clickautomation.com. They will sell you a brand new motor for around $65.00. I believe the part number is: **9234S004**. Van isn't the only place to get replacement parts.Tom Emery N193RV WPA RV BUILDERS

The flap motor brushes have a very high amount of copper in them, which tends to sit on the commutator, so after 200 hours they are worn out, I have ordered some new from a speciality shop. But if you can get a new motor for 65$ it may not be economical. I have cleaned my commutator twice and it will go again for xx hoursJørn MøllerRV8 208 hours

I had a flap system failure last week. Today I pulled the flap motor assembly and discovered the worm gear and pinion to be stripped. Yikes! $280 to replace. I'm pondering why this happened. The flaps have a free wheeling run-out mechanism so that if you leave the motor running, it should not grind the gears. I did notice that the pivot in the flap motor assembly was binding a fair amount, creating a lot of friction... perhaps that's the cause. Maybe even forgetting to retract the flaps below Vfe once or twice was the problem, but I don't think this would cause this. The worm gear on the motor shaft was quite worn down, indicating that it was soft. The pinion on the extension arm was not as bad, but still showed damage. Normally, you'd expect the gears would hold up better than this.Anyone else had this happen?Vern Little
rv-9a@telus.net

I had a similar problem - I found that the wires to the connector would vibrate if not properly secured, causing several strands to break. Eventually the motor would not run in either direction
Smoky

RV Flap Motor Brush Replacement Info

After very few hours my flap motor failed. I believe this was due to incorrect setting up of the flap positioning system micro-switch bracket, which caused damage to the brushes from to arcing. Via the hard route, I have learned quite about how the mechanism works and can fail.
The bottom line is that it is possible to get a replacement brush assembly from Motion Systems for their motor, at a cost of 18.85 USD via airmail within a week. It is not difficult to fit, subject to a few precautions. Chris Hughes at Motion Systems is very helpful.
The current flap mechanism, made by Usher Precision Machining, comes with a Pittman motor, which looks identical to the Motion Systems one. I strongly suspect they are one and the same items, but with different badges. Neither Van's nor Usher suggested that a new brush assembly could be purchased. I can provide further help should anyone need it.
Stan Gould, RV-7A G-CEIT, new permit 5/9/08

Stan,
I am replying to you directly. If you have any photos of how you accomplished this task, would greatly appreciate it.
Charlie Kuss SE Florida

Hi Charlie,
I may not have time until the weekend to disassemble the motor and insert the new brush assembly, and take some photos. The brush holder assembly comes with a temporary spacer between the brushes. The brushes are spring loaded. Somehow, when fitting the brush holder, you must prevent the brushes from springing out. Before I got the new brushes I did a practice run with the damaged brush assembly and I believe I just kept my little finger partially between the brushes as I gently pushed the assembly over the commutator.
Don't lose any of the small washers when you disassemble the motor. Hold the motor over a large tray or something. On my motor there is a thick
washer then three very thin ones, another thick one and finally a non-conducting one adjacent to the commutator. I should add that I did clean the segments with electrical contact cleaner, and used a thin blade to scrape between the segments. When I reassembled it the motor worked fine with the worn brushes, but I will replace them anyway.
Also there is a small pip on the inside surface the motor cap which engages with the central indentation on the brush holder molding. This means that the side from which the lengths of the brushes are visible goes against the commutator. The above applies to the Motion System motor. I hope this helpful in the meantime.
Stan Gould Bedford, UK

Hi Chas,
I'm sending this off line; photos don't get posted on the RV squadron. This shows the side of the

brush assembly that faces the body of the motor. You can see the plastic bung to prevent the brushes from springing out. You have to ease this out while fitting the assembly to the commutator. I pushed at the bung with one finger to hold the brush on one side, and held a thin knife against the other brush as I pushed the assembly onto the commutator.

This is the opposite side showing the small central hole into which the pip on the motor cap fits. This shows the outside edge of the brush and part of the spring. Here you can see the sequence of washers I mentioned previously.

Here is the brush assembly in place. All that dust is carbon. It was not at all obvious to the naked eye, but the camera picked it up. Needless to say I cleaned it up with cotton buds. Inside of the motor cap, the small pip at the top engages with the hole in the brush assembly. The notch on the left engages with a slot in
the motor casing. Be careful on re-assembly to ensure that these pips are engaged and don't tighten up screws until they are. I hope this is helpful.
Stan Gould