

# ety Corner

## & Incident Reports, ce & Service Difficulties

### Service Warning

#### RG Gusset Welds

This has been mentioned before but those with Retract aircraft need to inspect the gusset welds on their nose gears. We have had a few cracked welds found in the field and although no complete failures have occurred because of this, it must be addressed. Also worth mentioning are the bushing installations in the keel for the retract aircraft. We have had a few aircraft bushings come loose after a hard landing or a shimmy. Some have just cleaned things up and reinstalled them but we have come up with a different method of installing those bushings that not only makes the installation a bit stronger, it is much more adjustable. Basically it involves a combination of plates and bushings and doesn't rely only on the glue for strength. I believe we supply the kits with them now. If you would like to switch to this method, you can call Natalie here at Velocity.

### Service Warning

#### DOT 5 Brake Fluid

##### DOT 5.1 Brake Fluid Warning

George Happ recently telephoned from MATCO Mfg. to relate two field reports where MATCO customers had installed DOT 5.1 brake fluid, which resulted in a rapid deterioration of the seals in the brake system. In George's words, "Dot 5.1 would be death to a system designed for DOT 5." The following is an excerpt from Happ's message to Velocity, Inc.

"DOT 3, DOT 4 and DOT 5.1 brake fluids are glycol based compounds that are compatible with one another. DOT 5 brake fluid is silicone based and should never be mixed with DOT 3, DOT 4 or DOT 5.1.

DOT 3, DOT 4 and DOT 5.1 fluids may damage paint surfaces and DOT 3 and DOT 4 have lower boiling temperatures than DOT 5 (DOT 5.1 has the same boiling point as DOT 5). Furthermore, DOT 3, DOT 4 and DOT 5.1 fluids are 'hygroscopic', which means they absorb moisture from the air. This causes the fluid to turn dark, indicating that it is time for the brake fluid to be replaced. DOT 5 fluid will not damage paint, has a boiling temperature in excess of 500 degrees F., and is not hygroscopic ... (It) doesn't seem to make very much sense from a specification standpoint that the two fluids DOT 5 and DOT 5.1 would be so incompatible and have such a similar designation."

### Service Notice

#### Franklin Engines

Do NOT remove that Franklin Engine Oil Line that goes to your fuel pump!

Dave Lincoln called me and told me some things about his Franklin engine that may be helpful to others with the Franklin. Dave found some problems in his accessory case dealing with worn out bearings and shafts etc... The reason for this, he thinks, relates to him removing the fuel pump and other parts ( a hose that runs from the tee fitting to the fuel pump housing) that is used to help lubricate the inside of the accessory case. He was told by a local Franklin expert that he didn't need this hose or whatever but he now think otherwise. If anyone has installed two electric fuel pumps and removed not just the mechanical pump but also that oil line, they may have a similar problem.

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