Nose Gear Door Actuation

John Vukos (WI - Dave Ronneberg showed me the basic design of the actuation mechanism while he was building the Berkut. He uses a two door arrangement. I went with one door. He just made the actuation link symmetrical on both sides of the spring steel (see sketch on next page).

The door is made of 4 - 5 plies BID laid up over foam stuck into the NG housing.

I hinged the door with two pieces of aluminum angle, bushed on the fuse-lage end, pivoting on two stainless bolts buried in flox in the fuselage. I've seen piano hinge used too.

I located the optimum actuation link attachment/pivot point on the door by trial and error.

The actuation spring is made of 1" wide spring steel, the thickness depends on what width you find; I just hunted around until I found some steel that "felt right".

I put a gradual bend in the spring steel strap that keeps the door open when the wheel is not in the housing.

The actuation link is made of music wire, approximately 3/32" thick. The bend in the wire provides spring action in the link.

I used set collars from a hobby shop to hold the link on the spring steel and on the door hinge. I grooved an aluminum block to accept the actuation link, and riveted it to the spring steel.

This arrangement is simple, light, and works fine.

