



Diamant
fuselage
in FFA
test rig.

(connected to the wheel brake) on the left. No one who has flown the ship has experienced trouble with the side-mounted stick, though rolling into a steep bank to the left feels somewhat odd at first. After the first few flights at Marfa I experienced a sore wrist, but this seemed to disappear when I stopped overcontrolling. Then, during the ordeal at the Nationals, my ankles became rather tender (I had flown over 100 hours in less than a month). This may prove to be a problem with the weak-ankled when flying extensively in the reclining position. To my knowledge, however, I am the only one to have experienced this problem.

Like the fuselage the wings and horizontal stabilizer (stabilator?) are molded fiberglass. By using this technique true laminar flow is possible and wing loaded is not as significant a factor as it is in metal or wooden gliders.

The gear is fully retractable and uses fiber-cone springs. These allow one to touch down hard without the normal jolt or tendency to bounce back into the air.

The canopy is optically perfect despite its length and curvature. Vision is excellent in all directions except straight up (my chin is tucked into my chest). Unfortunately the canopy lifts off rather than being hinged or on slides, but this is to be changed in future production models.

Assembly is simple with only a single kingpin and two aileron pin pins to install after the wings are in place. Using the Libelle wrench, the wings snug nicely over the automatic connectors. The full-flying T-tail is attached to the vertical stabilizer with a single hefty pin and lock.

During the pressure of the two contests, assembly was a problem only once, though I bow to no man when it comes to lacking mechanical ability. Real trouble did occur during the Nationals with an elusive little aileron bushing. Fortunately some of the Libelle pilots keep spares in their tool kits. FFA writes that they are now manufacturing their own bushings, so this headache is cured for future owners.

In the air the Diamant knows no peer. Just release, retract the gear, find lift, crank down the flaps and the fun starts. Despite its small wing area (105 sq.ft.) the

Diamant will climb with any sailplane in America. Thanks to the ample tail surfaces there is no stability problem in narrow ragged lift. Stick forces are very light and responses are rapid with a good rate of roll.

At the top of the thermal-roll out, a little negative (reflex) flap, slight forward pressure on the stick and one is slipping over the earth at an astonishing rate. The reflex flap settings allow the pilot to keep the exceptionally small frontal profile straight into the relative wind while cruising. The result is a very flat glide angle at a high forward speed.

Like most high-performance sailplanes the Diamant is not unduly stable. However it can be trimmed to feel rock solid on tow. My early apprehensions about T-tail problems, such as the deep stall (like the BAC-111) and feedback, never materialized. In fact the Diamant flies very docilely with just enough slipperiness to make you respect it. With forward trim I have trouble making the ship stall at all. Full back trim and an abrupt pull up will result in a stall and a dropped wing. Recovery is always very quick with minimum loss of altitude and no tendency to spin.

DIAMANT DIMENSIONS

Wing span	49.2 ft.
Wing area	105 sq.ft.
Aspect ratio	23.8
Overall length	24.8 ft.
Empty weight	375 lbs.
Maximum flying weight	640 lbs.
Maximum L/D	39 @ 54 m.p.h.
Minimum sink	1.9 f.p.s. @ 47 m.p.h.
Two-meter sink speed	97 m.p.h.
Placard speed	157 m.p.h.

My only real comparison test of glide angle was on the sixth day of the Nationals. Neal Ridenour, in his beautifully finished and flown HP-13 (HP-14 wings and HP-11 fuselage) and I worked the last spongy thermal of the day and then made a final glide to Alturas. Our rates of climb in the thermal were identical, but when we arrived at the airport the Diamant was at least 500 feet higher than the 13.