

ADDITIONAL COMPARISONS

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Johnson says this has never been determined. Maxey estimates it would be nearer 200 m.p.h. for the Jennie Mae if the flaps and spoilers remained intact.

The high speed performance data are summarized in the accompanying chart. Even they cannot be compared directly due to the difference in wing loading. The figures on the Jennie Mae are phenomenal but those were made with a wing loading of 7.8 lbs./sq. ft. The RJ 5 is also a tremendously aerodynamically clean plane but its flight tests were made at a wing loading of 5.4 lbs./sq. ft. If ballast were added to it (see analysis of Johnson's World record flight by B. H. Carmichael — *Sailplane and Gliding* Jan. 1952), it would increase its high speed performance very much but at the cost of its low speed performance and even Johnson questioned the value of that.

Having presented these data on a few planes there is but one conclusion I can draw and feel I am on safe, indisputable ground—the statement I made in the original article—namely, that the pilot accounts for at least 75% of the plane's performance.

THE DIAMOND HOLDERS

At the end of December 1956, there were forty-three (43) sailplane pilots in the world who had completed all the flights necessary to add three diamonds to their Gold "C" Badges. These requirements are: 500 km (310.69 miles) free distance, 300 km (186.41 miles) to a declared goal and 5,000 m. (16,404.2 ft.) gain of height.

The official list of Diamond "C" pilots follows:

1950		1954	
1. John Robinson (U.S.A.)		23. Joachim Kuettner (Germany-U.S.A.)	
2. Tadeusz Gora (Poland)		24. Roland Cogne (France)	
1951		25. Andre Breuil (France)	
3. Gerard Pierre (France)		26. Max Gasnier (France)	
4. J. Shelley Charles (U.S.A.)		27. Maurice Kirschroff (France)	
1952		28. Yves Giard (France)	
5. Jacques Lebeau (France)		29. Charles Fevre (France)	
6. Eric Nessler (France)		30. Roger Biagi (France)	
7. Paul Bikle (U.S.A.)		31. Rudolf Kopernok (Poland)	
8. Raymond Parker (U.S.A.)		32. Wanda Szemplinska (Poland)	
9. Williams S. Ivans, Jr. (U.S.A.)		33. Tadeusz Xzymczak (Poland)	
10. Paul Rudolf Opitz (U.S.A.)		34. Stanislaw Cnotliwy (Poland)	
1953		35. Raymund Jakub (Poland)	
11. Gerard Tahon (France)		36. Erazm Kapala (Poland)	
12. Mme. Choynet-Gohard (France)		37. Andre Brozek (Poland)	
13. Andrzej Zieminski (Poland)		1955	
14. Stanislas Skrzydlewski (Poland)		38. Rene Fontelles (France)	
15. Zdislaw Przyjemski (Poland)		39. Paul Lepasne (France)	
16. Zbigniew Kirakowski (Poland)		40. Jean Rouchette (France)	
17. Roman Zydorscak (Poland)		41. Dr. Hans Nietlispach (Switzerland)	
18. Henryk Zydorscak (Poland)		42. H. C. N. Goodhart (Gt. Britain)	
19. Jerzy Popiel (Poland)		1956	
20. Marion Gorzelak (Poland)		43. O. Schwarzenberger (Switzerland)	
21. Antoni Smiegel (Poland)			
22. Jersy Wojnar (Poland)			

ADDITIONAL PERFORMANCE FIGURES

Source of Data	Planes	Wing Loading lbs/sq. ft.	Minimum Sinking Speed in ft/sec. at M.P.H.						Maximum L/D at M.P.H.	L/D at M.P.H.		
			40	48	54	80	90	100		80	90	100
Designer's Calculation	1-23D ¹	3.97	2.08	2.3	2.75	5.6	7.4		29.3 at 47 m.p.h.	20.7	18.4	
Designer's Calculation	1-23F ²	4.39	2.0	2.27	2.6	5.3	6.8		31 at 48 m.p.h.	22.3	19.3	
Designer's Calculation	Skylark III ³	4.56	2.0	2.25	2.6	5.85	8.2	11.4	31.7 at 47 m.p.h.	19.4	15.7	
Flight Tests	Skylark III		Flight Tests Show Maximum L/D Nearer						36 to 1			
Designer's Calculation	Breguet 901 ⁴	5.6	2.0	2.1	2.4	5.2	7.2	9.1	36 at 49 m.p.h.	22.6	18.3	16.1
Designer's Calculation	Breguet 901 with 165 lbs ballast	6.4	2.1	2.2	2.3	4.26	5.7	7.5	36 at 51 m.p.h.			
Flight Tests	Breguet 901 without ballast ⁵	5.6	2.1 (43)						35 at 49.6 m.p.h.			
Flight Tests	RJ5 ⁶	5.4		1.82 (46)	2.1	5.15	6.05	7.6	39.5 at 50 m.p.h.	25.5	21.5	19
Flight Tests	Jennie Mae ⁷	7.8			2.25	(3.9)	4.87	6.35	37.6 at 58 m.p.h.	(30.1)	27.1	23.1

1. Many flight tests have confirmed the performance of the 1-23D figures and indicate they are too conservative.

2. The 1-23F is a heavier skinned model. This shows the improvement obtained by increasing the wing loading and contours.

3. The figures on the Skylark III are admittedly too conservative as shown by the few flight tests.

4. Figures were obtained from a very poor chart whose lines were too thick to allow accurate interpretation. Interpolations could not be made from the L/D from this chart either.

5. A flight test with the water ballast showed a sink of 6.2 ft/sec. at 93 m.p.h.

6. Most accurate and complete flight tests made on any plane. Average cruising speed for 3 meter/sec. thermals is 85 m.p.h.

7. Phenomenal high speed figures as compared with the RJ5 due primarily to the tremendous wing loading of the Jennie Mae.