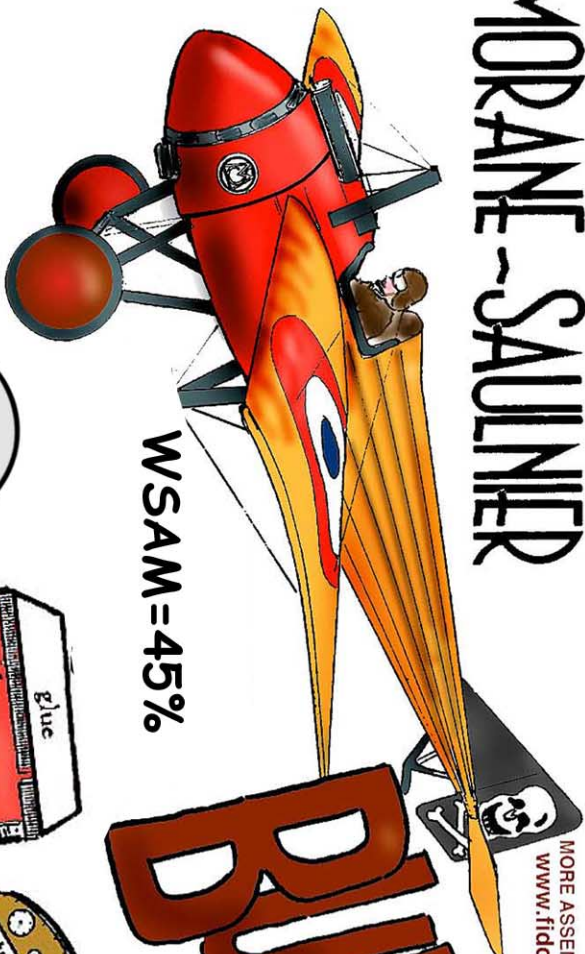


# MORANE-SAILNIER

# BULLET

MORE ASSEMBLY DETAILS AT:  
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WSAM = 45%

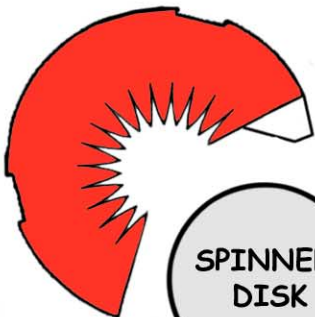


PROPELLER

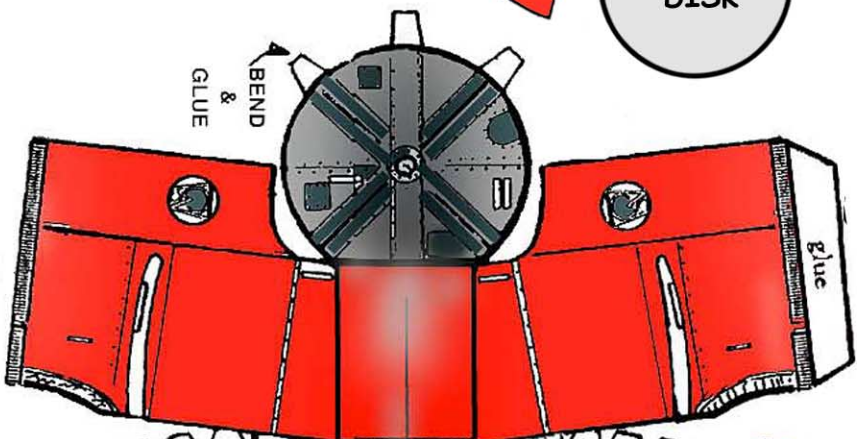
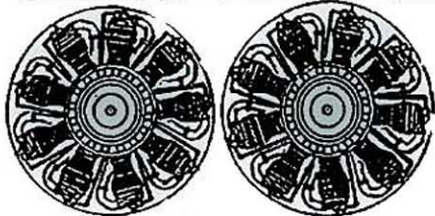
SHEET ONE



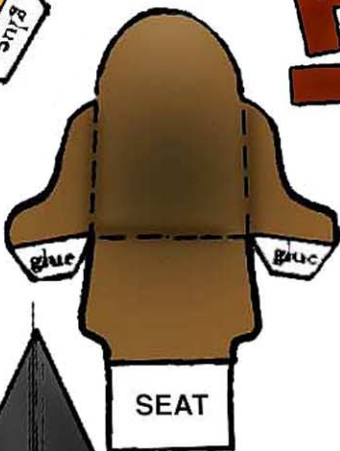
SPINNER DISK



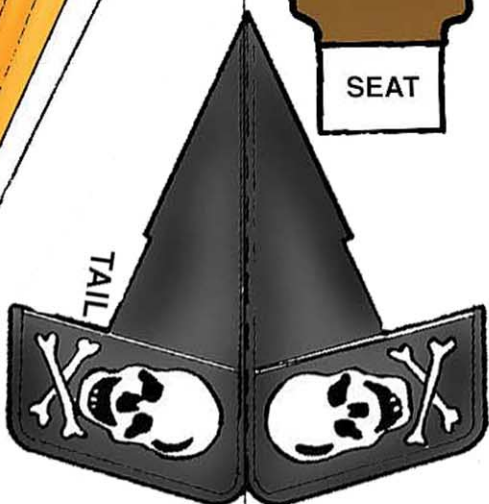
ROTARY ENGINE  
(optional)



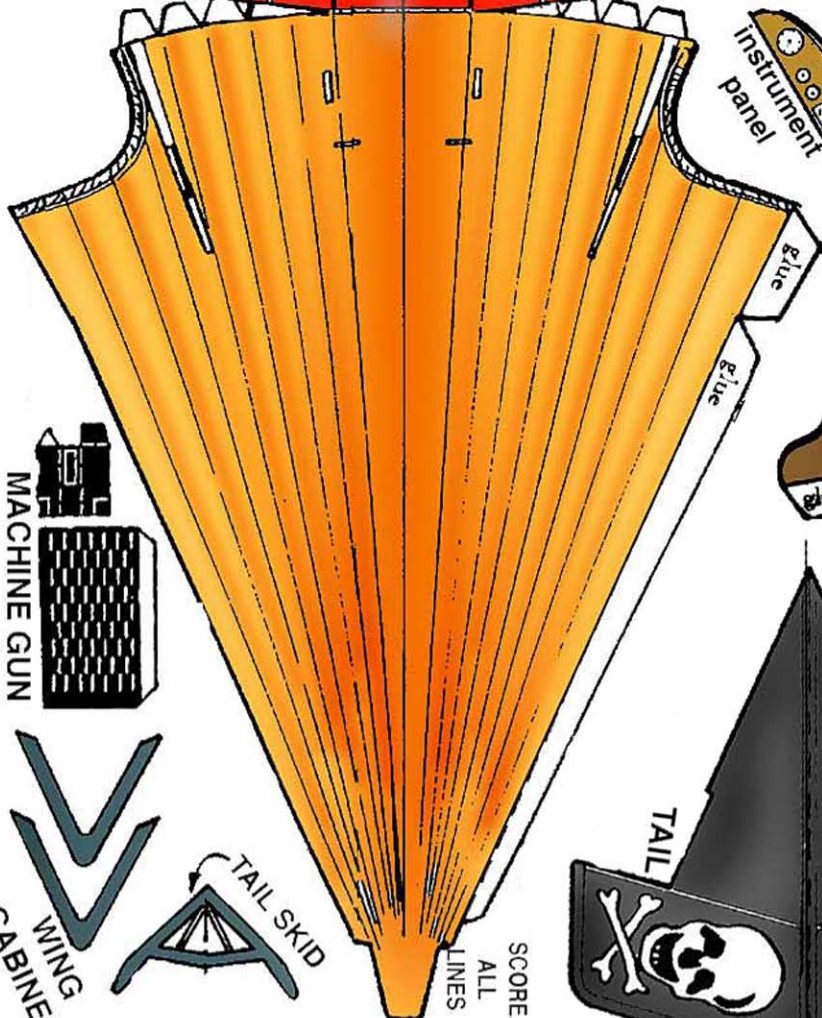
instrument panel



SEAT



TAIL



SCORE ALL LINES

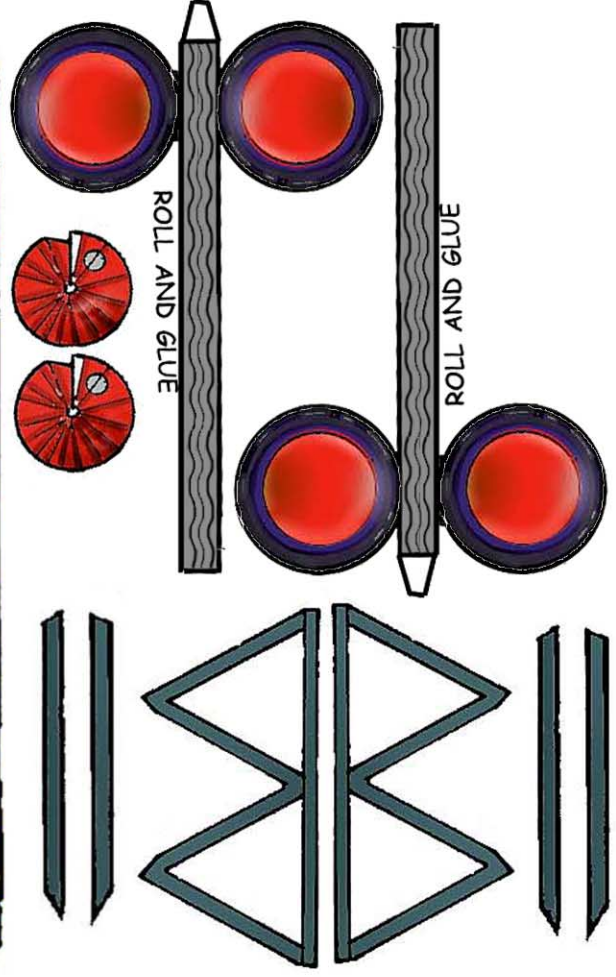
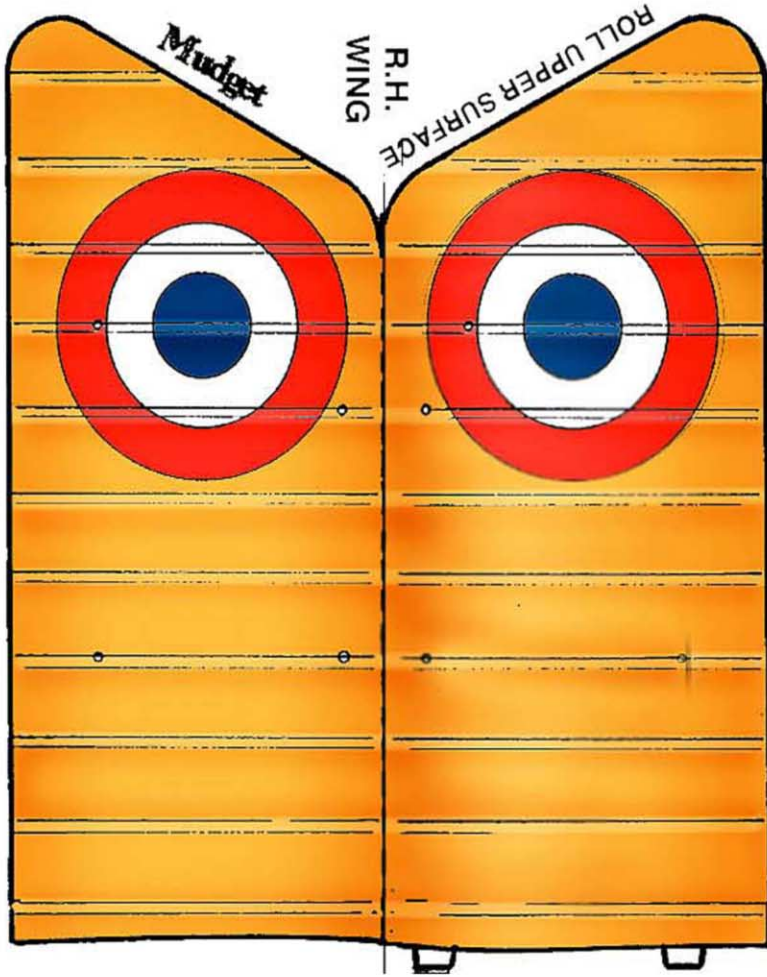


MACHINE GUN

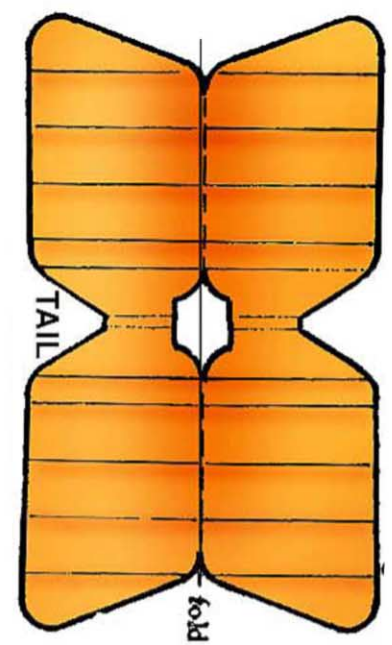
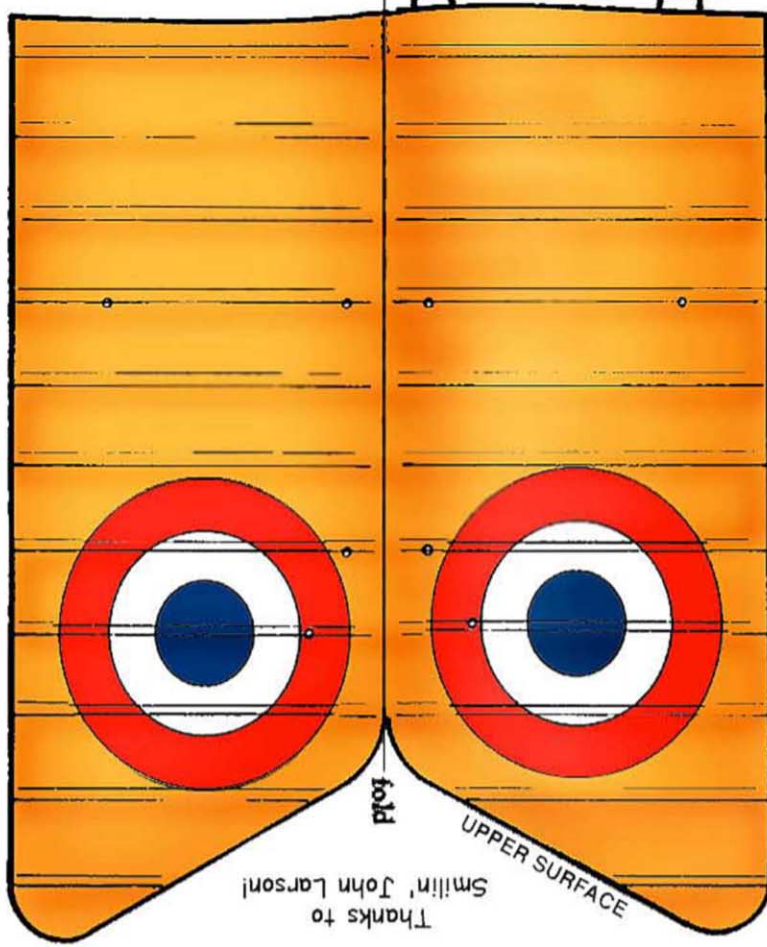


WING CABINES

TAIL SKID

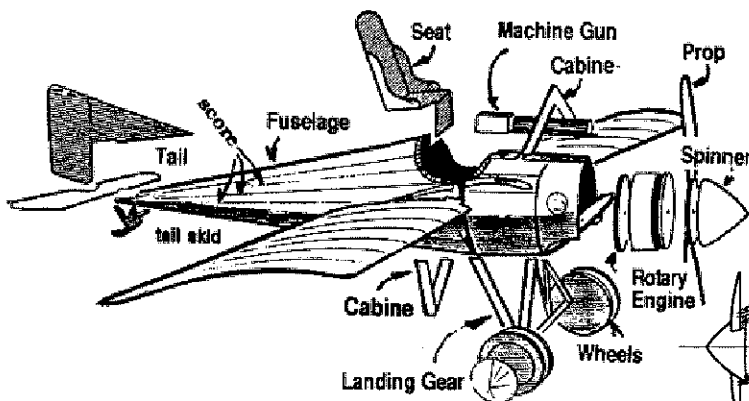


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**MS BULLET**  
SHEET TWO

# Morane-Saulnier N 'BULLET'

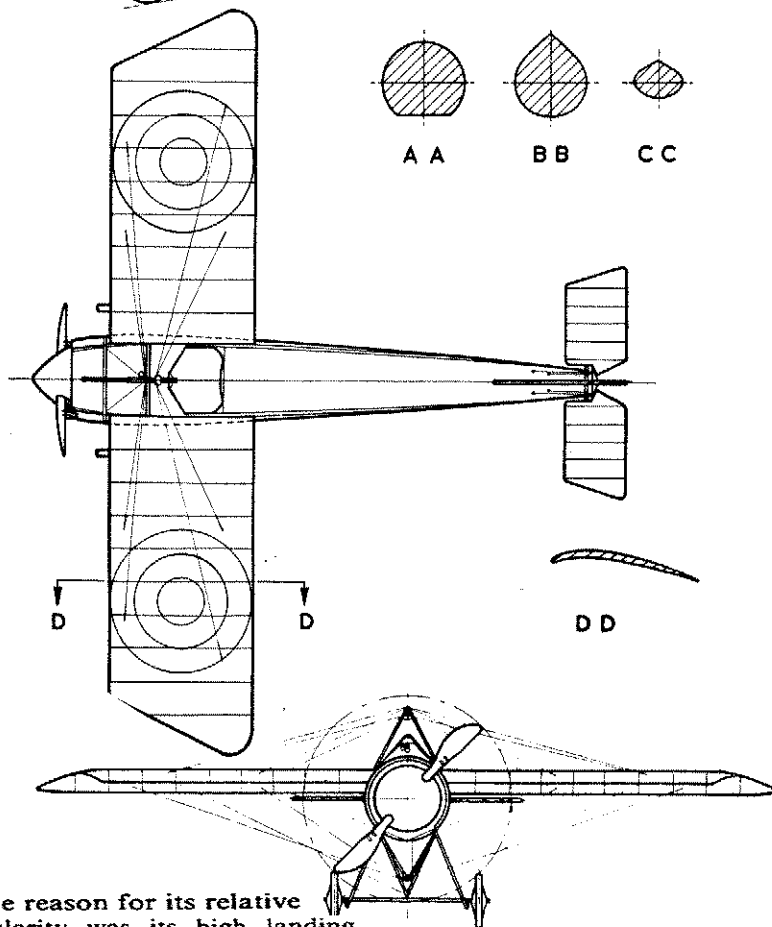
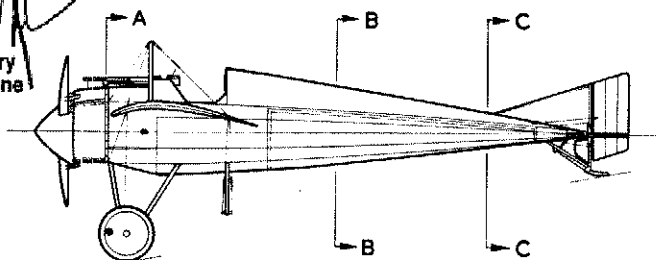
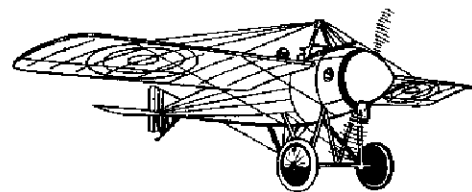


The first fixed forward-firing machine-gun to be fired in anger from a plane in flight, early in 1915, was installed on a Morane-Saulnier L. The gun, an 8-mm (.315-in) Hotchkiss, was installed just behind the engine cowling, and was fired successfully through the propeller disk with the aid of a simple mechanism: two steel plates fastened to the rear of the blades on the line of fire protected the propeller by deflecting bullets that would have struck its blades. Rudimentary as this deflector plate system may have been, it made the Morane-Saulnier L the first real 'fighter' plane in the history of aviation. The user of this deflector, French pilot Roland Garros, shot down five enemy planes in the first three weeks of April 1915.

The Morane-Saulnier L was the first in a long line of monoplane fighters produced by Robert and Léon Morane and their partner Raymond Saulnier. The design was developed in 1913 and when war broke out, many Type Ls were ordered for reconnaissance work. This high-performance plane was a better aircraft than the contemporary Aviatik and Albatros two-seaters. The crews carried small arms, such as pistols and carbines, to combat enemy planes, and several planes were downed in this primitive system of air combat. One of many pilots who had their baptism of fire in a Type L monoplane was the then Corporal Guynemer, who was to become one of the great aces of the war. He shot down a German two-seater on July 19, 1915, with a machine-gun.

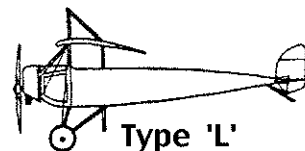
The Morane-Saulnier L, of which about 600 were built, was followed in 1914 by the Types LA and P, larger, more powerful and better armed. The Type P was the more popular of the two. It did reconnaissance duty in the French air force, and was also used by the British until 1916-17: 595 of them were built.

The Morane-Saulnier N, which also appeared in 1914, was very different from its predecessors. It was a plane of very advanced design, highly streamlined, very fast and extremely manoeuvrable. Nevertheless, it was not as successful as other Morane-Saulnier models, and only 49 were built.

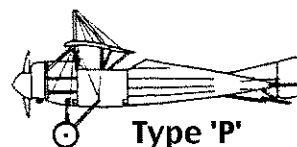


One reason for its relative unpopularity was its high landing speed and its delicate handling characteristics. It took a really expert pilot to fly it for the French air force, with another small batch going to the Royal Flying Corps (enough for four squadrons) and an even smaller batch to the Imperial Russian Air Service (enough for just one squadron).

Type: Fighter  
 Year: 1914  
 Engine: Le Rhône 9C 9-cylinder air-cooled rotary, 80 hp  
 Wingspan: 26 ft 8.5 in (8.15 m)  
 Length: 19 ft 1.5 in (5.83 m)  
 Height: 7 ft 4.5 in (2.25 m)  
 Weight: 976 lbs (444 kg)  
 Maximum speed: 90 mph (144 kph)  
 Ceiling: 13,123 ft (4,000 m)  
 Endurance: 1 hr 30 mins  
 Armament: 1 machine-gun  
 Crew: 1



Type 'L'



Type 'P'

Lots more information at [www.fiddlersgreen.net](http://www.fiddlersgreen.net)

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- \* **How to contact us**

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