



In Jan. 1917 the Thomas Bros. Co and the Morse Chain Company combined to form the Thomas-Morse Aircraft Corp. Both companies had a long history in the then fledgling field of aircraft design and manufacture.

One of the first new designs of the new company was to become its most successful: the S-4, a single-seat scout type biplane with a 100hp Gnome rotary engine. Construction was typical of the period: wood with internal and external wire bracing. The S-4 made its initial flight in the spring of 1917.

Following successful test flights the S-4 was shipped to the Army's Experimental Flight Station in Hampton, Va. There it was evaluated as a potential advanced trainer for Army pursuit pilots before they went to the war front in France. The Army liked the S-4 except for its use of a Dependussin type wheel control for the ailerons and its excessive tail heaviness

After replacing the wheel control with a standard joystick and an attempt to lighten the tail (never a complete success), the Army placed an order for 100 improved 5-4Bs equipped with the Gnome 100 hp rotary engine.

In Jan., 1918 the conventional wire control system was replaced with a pushrod and torque tube arrangement similar to the French Nieuport 17. This improvement resulted in the S-4C and an order for 400 aircraft by the Army. The S-4C's engine was to be the 80hp Le Rhone vs. The 100hp Gnome of the S-4B due to the latter's difficult starting and poor idling characteristics.

The Tommy exhibited standard gyroscopic coupling effects of all rotary-engined scouts, but otherwise was considered a pleasure to fly, sensitive on the controls, but docile in low-speed flight as long as right-hand rolls were not attempted. With the Gnome and its problems eliminated, the Tommy gained a good reputation at the flying field. Engineers could never quite eliminate the Tommy's characteristic tail heaviness however. In fact, pilots would often tie the stick forward in an attempt to relieve fatigue on long flights from constantly trying keep a nose down attitude.









