

THE MARTIN-HANDASYDE MONOPLANE.

SINCE the very early Brooklands days, when they were experimenting with an extremely pretty light monoplane, with a 35-h.p. J.A.P. engine, Messrs. Martin and Handasyde have kept firm to a design greatly resembling the Antoinette. Yet, although the Antoinette has lived its day, and now has almost died out, these two enthusiasts have gone forward, keeping true to their faith in their design, to a successful issue. No one will deny that the Martin-Handasyde monoplane as it stands to day is decidedly good as a flying machine, and one of the two prettiest monoplanes that are built in England.

In passing, there is an uncommon interest in the fact that this monoplane is driven by an Antoinette motor. Back in the days when there were more Antoinette monoplanes about than there are now, many were the attempts to get these machines to fly satisfactorily with a different engine. Gnome, E.N.V., and other motors were tried, but the results obtained were not comparable with those arrived at when the Antoinette motor itself was fitted. There seemed to have been a conspiracy between the two, the machine refusing to be put on its best behaviour unless it were accompanied by the motor that was designed for it. It may be pure coincidence, it may be something to do with the fact that the same brain, M. Leon Levavasseur's, devised the two. And in support of this phenomenon, or whatever one likes to call it, we find that Mr. Handasyde, having in the course of his experiments fitted his machines with both J.A.P. and Gnome motors, returns to the Antoinette.

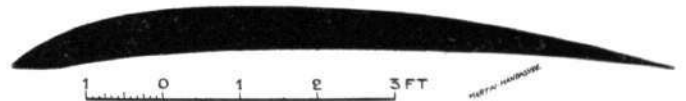
Whatever different opinions have been held in the past relative to the general design of the Martin-Handasyde machine, and it may be as well to remark that no machine ever appears in the aerodrome without giving rise to most conflicting opinions as to its worth, everyone has been unanimous in writing down the designer as one who is unusually clever at detail work, and enormously particular regarding the standard of workmanship that he demands from his working staff.

The backbone of the machine is a girder, of a section that may be likened to a triangle standing upon its truncated apex. It is its widest in the neighbourhood of the seats, and tapers away to either end like a boat. Its construction is interesting, for it is not built up in the usual manner with piano-wire bracing and transverse struts. There are four *longerons* of ash, which taper towards the tail. These are clamped down to a mould, and to them are screwed sheets of three-ply wood, from which, afterwards a diamond shaped piece is cut for lightness sake. Forward of the passenger's seat these sheets of three-ply wood are left solid, for there greater strength is required. The

sheets having been applied, the *fuselage* is removed from the mould, covered with fabric, and doped, and the result is a body that is simple to construct, that is light, and that is extremely strong against longitudinal bending and lateral torsion.

The landing gear is quite Antoinette in its appearance, but in its action, quite different, for elastic shock absorbers are employed, whereas the Antoinette rejoiced in a compressed air suspension. The weight of the whole machine is taken in a single large diameter steel tube that is built into the body at a point just forward of the centre of gravity when the machine is fully loaded. Landing shocks are absorbed by the tube travelling vertically against the tension of rubber *amortisseurs*. A skid of hickory, shaped like a hockey stick, extends forward below the propeller to protect it, and in front is supported from the body by a stout ash strut.

Everything about the chassis strikes one as being very strong, and the same remark applies to the wings. They are each most intricately constructed about two hollow spars built up of ash and three-ply wood. At the wing root the front spar has a depth of 7 ins. and the rear one



Wing section, to scale, of the Martin-Handasyde monoplane.

6 ins., and they both taper to 3 ins. at the tip. Both are rigidly braced by spruce king-posts and stranded steel cable. For their shape they taper towards the tip, and there is noticeable a progressive "wash-out" in the camber. Covered and varnished, each wing weighs about 110 lbs.

So that the engine shall offer as little head resistance as possible, it is covered right in by aluminium sheeting, and the lines of this covering are continued on to a point to the rear of the pilot's seat by a fabric-covered superstructure of spruce and three-ply wood.

On either side of the body are the aluminium condensers, 13 ft. 6 ins. long, that recover the steam, which is formed in the cooling-jackets of the motor. They are most extraordinarily light, for the pair only weigh about 9 lbs., and have a cooling surface of nearly 70 square feet.

The tail of the machine takes a little share of the total lift, for although it is flat on the undersurface, it is cambered on top. Elevation is controlled by tail flaps. The motor, turning a Regy propeller of 2 m. 60 diameter and 1 m. 40 pitch at 1,150 r.p.m. on the ground, develops 60-h.p. at 1,300 r.p.m. in the air. She flies at 64 miles per hour.

THINGS WE SHOULD LIKE TO KNOW.

WHEN the light railway from Weybridge Station to the sheds is likely to be started. _____

If it is not a fact that a lot of good work is going on in a quiet way down on the south coast. _____

Where the machines are coming from to stock the new aerial coast-defence stations. _____

Who the dozen or so wrecks at Brooklands belong to. _____

Are they calculated to impress embryo pupils. _____

If they are any good, why they cannot be put away, instead of lying all over the enclosure. _____

Whether it would not be better to have a bonfire. _____

Whether it would not be as well to take the ban off monoplanes, and get going with some orders. _____

How Desoutter likes parachuting. _____

What Noel said when his engine started missing over the sheds, when broadside on, in a 40-mile wind. _____

If it is true that the motor and other boats at Hendon were in use on Boxing Day. _____

How Manton liked hovering over the railway for 15 mins., drifting 1 mile an hour backwards. _____

Whether he had any momentum. _____

If the visitor to Hendon who said he "liked the one with the two boilers best" was M.I.M.E. _____

"WILL-O'-THE-WISP."