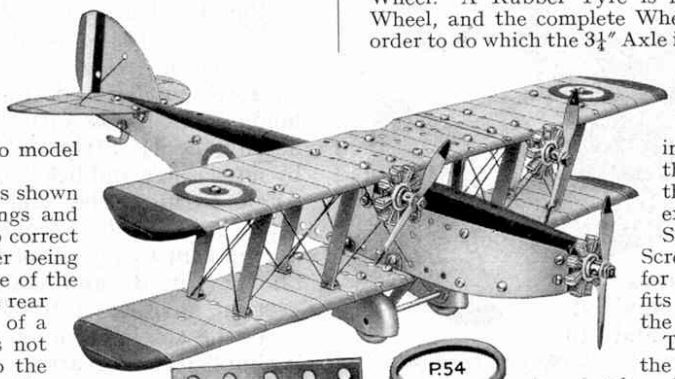
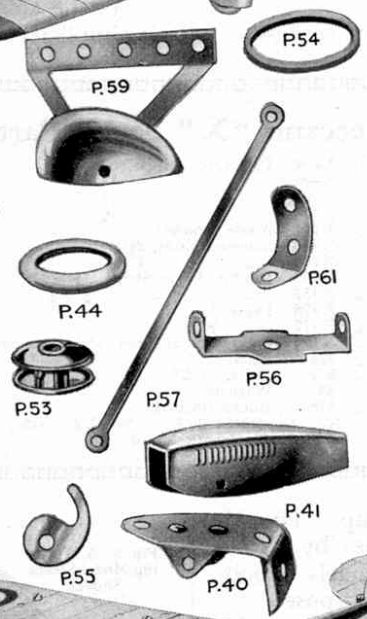
# Meccano Aeroplane Developments

## Greater Realism with New and Improved Parts

ALL keen model builders are anxious to construct models that are in line with the latest developments in actual practice, and readers therefore will be interested in the additions and improvements that have been made to the Meccano Aeroplane Constructor Outfits. Several new parts have been added to the range, and many of the original parts have been modified in order to produce models with an even more realistic and attractive appearance. The illustrations on this page of a three-engined air liner and a seaplane constructed with the new Aero Parts give an excellent idea of the realism of the latest Meccano model aircraft.



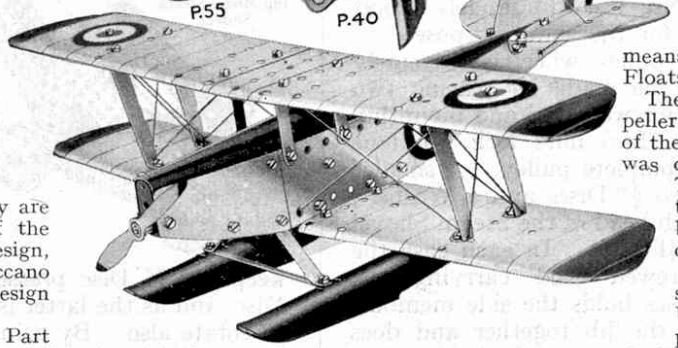
A prominent feature of the models shown is the solid appearance of the Wings and Tail Planes. These are cambered to correct aerofoil section, the rise or camber being greatest at the front or leading edge of the Wing, and tapering gradually to the rear or trailing edge. The introduction of a cambered effect in the model does not affect the assembly of the wings to the Fuselage, or the attachment of the Interplane Struts, but the Angle Bracket, Part No. 12, cannot now be used to secure the Radial Engine units to the wings. A special Engine Bracket, P61, designed to fit to the cambered portion, must therefore be employed.




The inner edges of the Fuselage Top Front and Rear Sections are now shaped to represent the sides of the cockpit of the machine, and the windscreen in the front of the cockpit is represented by a raised lip on the Fuselage Top Front Section. The Fuselage Top Middle Section, which is used when a long fuselage model is being built, has also been modified so that it can be used with the Front and Rear Sections to form a continuous fuselage top portion.

The Fuselage Top Rear Section is now provided with a slot to take the projecting lug formed on the latest pattern of Rudder. The slot cut in the Fuselage Top Front is used when a Meccano Aero Motor is included in the model, the Motor Stop Control being fitted in the slot. The Fuselage Top Front and Rear Sections and the Underside are now enamelled red.

Turning now to the new parts, the Undercarriage Assembly, which consists of Parts P58 and P59, is particularly interesting. The new Undercarriage is seen fitted to the model triple-engined air liner shown on this page, and one of the Vee Struts and Wheel Shield units is also shown separately, Part P59.



Wheel Shields, or "spats" as they are commonly known, represent one of the latest developments in aeroplane design, and the spats that are fitted to the Meccano Undercarriage sections follow the design of the actual units.

The new Meccano Landing Wheel, Part P53, is of correct aero-section, the boss being placed in the centre with one wheel disc on each side. The Rubber Tyre, Part P44, of the large section low-pressure type, fits into the well base formed between the two discs of the wheel, and a remarkably neat assembly results. Owing to the fact that the boss of the Landing Wheel is hidden by the Rubber Tyre, a special method of fitting must be used when fixing the Landing Wheels in the Wheel Shields of the new type Undercarriage unit. This assembly is carried out as follows.

The $3\frac{1}{4}''$ Axle Rod, No. P62, is pushed through one Undercarriage Vee Strut and Wheel Shield, and a $\frac{1}{2}''$ Fast Pulley forming part of the Propeller drive is placed on the Axle. A Rubber Tyre is now fitted to one Landing Wheel, and the complete Wheel is then placed in the Wheel Shield of the second Undercarriage Vee Strut. The end of the $3\frac{1}{4}''$ Axle is then passed through the hole in the Undercarriage Vee Strut and through the centre hole in the Landing Wheel. A Rubber Tyre is next fitted to the second Landing Wheel, and the complete Wheel is placed in its Wheel Shield, in order to do which the $3\frac{1}{4}''$ Axle is drawn slightly to one side and then pushed back so that one end of it passes into the centre hole of the Landing Wheel.

Each Landing Wheel is locked in position on the Axle by rolling the Rubber Tyre to one side with the fingers, so that the Grub Screw is exposed and can be rotated by the Screwdriver. The new type Aero Screwdriver, Part P63, should be used for this operation, as its tapered blade fits in easily between the discs of the Landing Wheels.

The foregoing method of assembling the Undercarriage and Landing Wheels is suitable only when the "cross-axle" type of Undercarriage is to be fitted to the machine. Certain machines, for example those built with the No. 2 Outfit, use the "split" type of Undercarriage, and in such models the assembly is as follows. A Pivot Bolt is first of all pushed through the hole in the Wing Stay, Part P31, and a Landing Wheel complete with Rubber Tyre is placed in position in the Wheel Shield of the Undercarriage. The Pivot Bolt is passed through the Wheel Shield and the Landing Wheel, and held in position by means of two Locknuts. In this case the Grub Screw of the Landing Wheel is not tightened on the Pivot Bolt shank, and therefore the Grub Screw should be withdrawn slightly before the Landing Wheel is placed in position. Thus the Wheel will be able to spin round freely on the Pivot Bolt.

The Tail Skid, Part P55, replaces the Flat Bracket that originally did duty for this unit.

The Float Tie Rod, Part P57, is designed to be used in the Float Undercarriage assembly of seaplane models. It is perforated at each end, so that it may be connected between the Floats by means of the Bolts that secure the Floats to the Float Struts.

The special Rear Bracket for Propeller Shaft, Part P56, takes the place of the $1\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip that was originally used for the purpose. This alteration does not affect the assembly of the mechanism, but it improves the efficiency considerably.

The illustrations on this page show how the Engine Casing Unit has been improved. It now possesses a correct streamlined appearance. The Engine Casing Top, Part P40, originally was held to the Engine Casing Base, Part P41, by means of a $\frac{3}{4}''$ Bolt. A special $1''$ length of Screwed Rod, Part P82, is now provided for this purpose. The Rod is passed through the top and base pieces, and is held in place by a Nut screwed at each end.

A Propeller is of course secured to the Engine Casing in order to complete the power unit, and this should be attached to the Engine Casing Base before the Screwed Rod is fixed in position, by means of a Pivot Bolt and two Nuts. The Nuts are locked against the front lug of the Engine Casing Base.