The Meccano Aeroplane Constructor Outfits

Tony Press

During the 1920s, Meccano Ltd at Binns Road was producing large quantities of Meccano for an adoring public, following many years of extensive product development. During 1928 a number of new Meccano Parts were introduced, culminating in the largest Part to date, the memorable Geared Roller Bearing.

Ernest Bearsley, a toolmaker and practical engineer who had joined Frank Hornby in about 1906, was Works Director at Binns Road and under his strict control product quality was high. The founder Frank Hornby was still in charge, supported by his sons Roland and Douglas.

By 1931, the management committee must have agreed that there was a need for a more diversified range of products and in September of that year the Aeroplane Constructor Outfit No 1 was introduced, with a simple fold-out Manual showing six models using special interchangeable metal parts, held together with nickel plated 5/32" Whitworth dome head Bolts. Brassed dome head Bolts were first introduced into the standard outfits in the late 1920s but Meccano reverted to the original cheese head by the mid thirties.

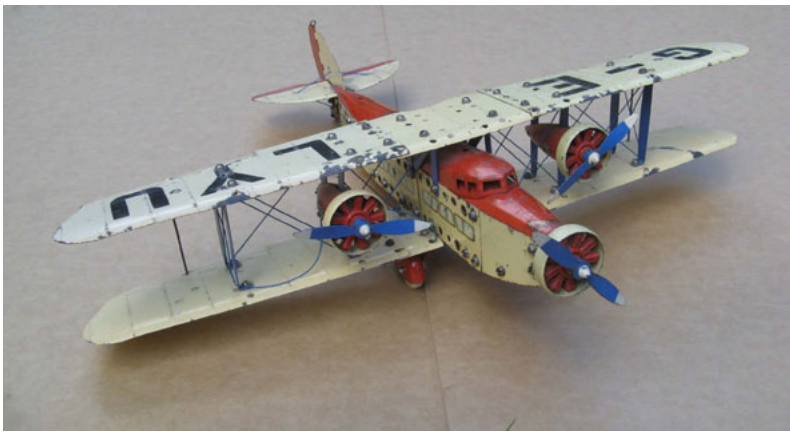
It is interesting to note that the Aeroplane Outfits always included dome head bolts in nickel right up to WWII--possibly using up old stock. This No 1 Aero Outfit was quickly followed by a larger Aeroplane Constructor Outfit No 2 with a much broader range of Parts and models listed in a proper Manual of 24 pages.

These new Aero Outfit Parts were completely different from the standard Meccano range, with large shaped and formed sheet metal panels and wings, but still fixed together with Meccano nuts and bolts. The early Outfits were originally supplied with English military roundels for the wings and fuselage and a painted military marking on the tail fin, but by 1933 this arrangement was replaced by civilian wing and fuselage markings. The wings were quickly improved in design with better and stronger shaping and by 1932 a new smaller 0 Outfit arrived, followed by the 00 Outfit in 1935, similar to the first Outfit but with fewer parts.

This new range was not interchangeable with the larger Outfits, having a single-piece body pressing and 11-inch wingspan, assembled with nickel plated 6 BA Bolts with hex Nuts. (BA was the British Association thread system for small bolts; 6 BA was 0.11 inches, a little over 7/64" diameter, with finer thread than British Standard Whitworth.)

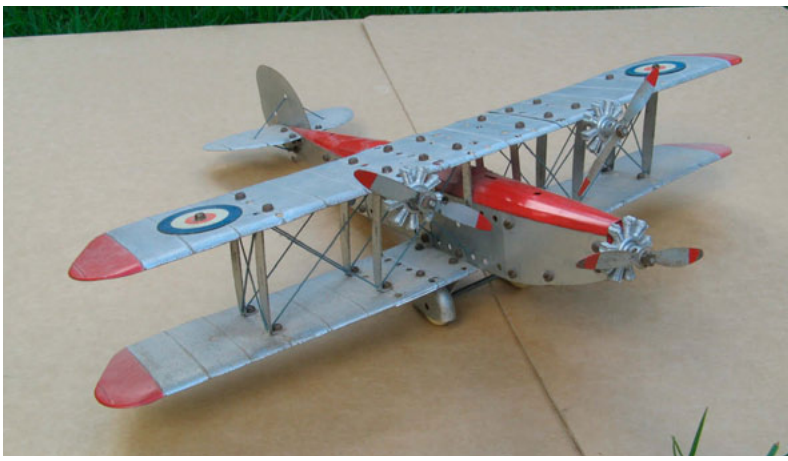
The No 1 and No 2 Outfits had 18-inch wingspan and were assembled with nickel plated standard dome head Meccano Bolts and square Nuts. Sales in the UK must have been satisfactory because by 1933 a new range of much larger Special Aeroplane Constructor Outfits No 1 and 2 were introduced.

These enhanced Outfits provided a wide spread of excellent aeroplane models which could be built, from a single-engine monoplane to a three-engine biplane airliner. To improve realism



A three-engine biplane airliner made from the Special Aeroplane Constructor Outfit No 2. Extras in this Outfit include a cabin for the pilots, and "Townend rings", cowlings around the radial engines. These rings were invented by Dr Hubert Townend and patented in England in 1929. They reduced the drag of radial engines and also added some forward thrust

An aircraft made from an early No 1 Aero set. It has the original flat wings, and standard Meccano wheels with white tyres



This 3-engine biplane bomber is from a later No 2 Aero outfit, with shaped and formed wings, stiffer than earlier versions

Aeroplane Clockwork Motors No 1 and No 2 were also provided for the Outfits.

Following the successful release of the Aero Outfits, in August 1932 Binns Road introduced the new Motor Car Constructor Outfit. These wonderful products of Binns Road ingenuity continued to be made up to WWII, when the factory was turned over to the war effort. Neither range ever appeared again.

As far as I can determine, all the Aero Constructor Outfits were supplied to Australia with no special changes, unlike the European Aero Constructor Outfits supplied from Binns Road, which had ribbed or corrugated panels and wings with European military roundels or (later) civilian wing and fuselage markings. I believe that given the slow state of the Australian economy in the early 1930s, shown by the greatly reduced sales of larger Meccano Outfits by the Australian Meccano agent E G Page & Co (see graphic), it is unlikely that large numbers of Aeroplane Constructor Outfits were sold. I have found here in Victoria a complete boxed Aeroplane Constructor Outfit No 2 and boxed Special Aeroplane Constructor Outfits No 1 and No 2.

The 1935 Meccano price list for Australia show the large Special Aeroplane Outfit No 2 at 45/- (45 shillings, or $4.50) rising in 1940 to 67/6 (sixty seven shillings and sixpence, or $6.75). This was about the price of a pre-war Meccano No 6 Outfit at 68/6. If we assume a very good wage in 1940 was around 100/- (five pounds, or $10) per week, a No 2 Special Aeroplane Outfit would cost Dad a large part of his weekly pay! No wonder sales were slow.

A biplane from the Aero outfit 0. This set was introduced after the larger ones and always had formed wings. It had special diecast wheels, differing from any standard Meccano wheels. Its axles were thinner than normal Meccano and it had the special smaller nuts and bolts

SALES MECCANO OUTFITS 1929-1932

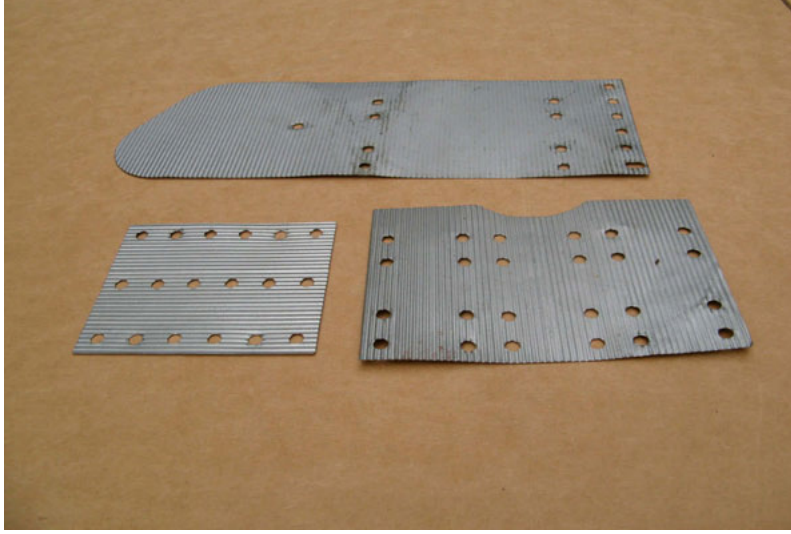
Meccano Outfits	1929 No.	%	1930 No.	%	1931 No.	%	1932 No.	
No. 000	not made		3901	15.8	1792	25	2442	29
No. 00	8940	23.3	6427	26.0	2244	31.3	2411	28
No. 0	11093	29	6908	28	2165	30.2	2097	24
No. 1	10715	28.1	4487	18.2	664	9.3	1054	12
No. 2	5115	13.2	2102	8.5	224	3.2	268	3
No. 3	1841	5.0	687	2.8	53	0.7	108	1
No. 4	377		131		18		18	
No. 5 card	133		31		1		8	
5 wood	3	1.4	-	0.7	-	0.3	-	0.
No. 6 card	13		3		1			
6 wood	2		1		-		-	
No. 7	7		-		-		-	
	38239		24678		7162		8406	

Part of a letter from Australian distributor E G Page & Co to Meccano Ltd, listing sales of Meccano sets from 1929 to 1932 inclusive. It clearly shows dramatic falls in sales as the Depression began, particularly sales of the larger sets. This copy was provided by Max Crago of the Meccano Modellers' Association (NSW), who acquired a large amount of Meccano-related papers at a Page family auction in 1989

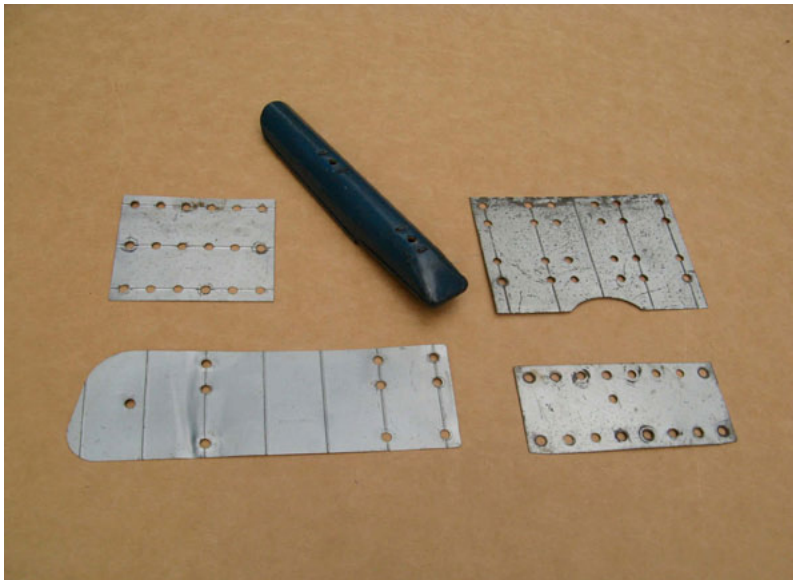
The No 2 Aero Outfit. The 1-inch gear and 1-1/2" pulley show the size of the box

The contents of the No 2 set

Two of the special Aero Outfit wheels. The blue wheel has a boss in between its two faces. To get to the grub screw, you need to peel back the tyre and insert the Aero set screwdriver, which is not flared near the blade (this screwdriver can also be poked through Meccano holes)



Ribbed parts from an Aero set made at Binns Road for the European market



If you found some formed wings or Aero set propellers in with some old Meccano, you would recognise them. But what about these? Wing segments, fuselage panels, and a seaplane float

Typical struts for Aeroplane wings. More Aero pictures, back cover

An aircraft from the No 1 Special Aero set, flying low over Malvern (see pp 13-15)

Left to right: 6 BA bolt from a small Aero set, nickel-plated dome head Bolt from the main Aero sets, 1929-1933 brassed normal Meccano dome head Bolt, post-war cheese-head Meccano Bolt, and late 70s round head Bolt.