

AEROCOCKPIT

DESIGN AND PRODUCTION AEROTEAM



**DESIGN AND PRODUCTION OF
COCKPITS FOR RC MODELS**

www.aerocockpit.com

**AEROTEAM Ltd., Svárov 922 , 755 01 Vsetín , Czech republic
www.aerocockpit.com**

High quality and powerful model-building engines enable to built RC models that aproximate their real examples not only by their appearance, but also by dimensions. Undoubtedly, appearance of such models must be completed with cockpit outfit as spacious cockpits now enable a realistic representation of details, thus brinking the models to perfection.

*Now, we will provide you with advise, how to do it. To reach a requi-
red result work is to be divided to several steps :*

Preparation :

*First of all raise high quality documents for the selected aircraft type, i.e. literature, magazines, or own photographs from museum or air show. Now, visiting weg sites seem modern, but here quality of images will be a problem. Please, keep in mind that in museums instru-
ment panels may be fitted with different instruments as originals have not yet been available. Similarly, due to safety reasons, the flying WW II wardbirds have been completed with new navigation instru-
ments, with GPS terminals, etc .*

Cockpit sections :

- Instrument panel, also gun sight in military aircraft,
- Side panels, including controls,
- Pilot seat, including safety belts,
- Control stick or control wheel and pedals,
- Other

The instrument panel :

To make the base of an instrument panel a plastic board or plywood is used or, for panels of large dimensions, 1 mm thick duralumin sheet is recommended.

For drilling openings hinge boring bots are recommended. When using instrument panel construction kit by AEROTEAM the base boards are already provided with respective openings and are spre-
yed by relevant colour.

For you to be informed, standard dimensions of real instrument are :
80 mm (flight instruments and important engine control instruments)
57 mm (other instruments)

In certain historic periods instruments eve of 115 mm may be seen (WW I etc), or possibly 40 mm instruments, which is, however, rather exceptional.

Diameters instruments produced AEROTEAM for RC models

diameter real instrument	1/5 scale	1/4 scale	1/3 scale	1/2 scale
80 mm	16 mm	20 mm	28 mm	40 mm
57 mm	12 mm	15 mm	20 mm	28 mm
115 mm	20 mm	28 mm	40 mm	55 mm

AEROTEAM offer intruments scale 1/6 a 1/8 too .

Diameters for scale 1/6 - 12 a 10 mm , scale 1/8 - 10 a 8 mm

Polyurethane components :

To represent control elements on an instrument panel polyurethane components are most often used that must be carefully cleaned and degreased in alcohol. To paint or everspray the elements, use enamels for plastic models. Use acrylic cement to bond these components. Prior to their bonding, remove enamel from the sedpective spot on the panel, itherwise the components may be torn off from the panel together with a sizable enamet spot.

Water decals :

Some construction kits are provided with decal sheets. They are to be handled very carefully. Prior to their application, soak them briefly in lukewarm water. When a decal may be moved o the base paper, transfer it carefully with fingers or with pincers to its appropriate place in accordance with instructions.

Photo-etched parts :

Moreover, photo-etched parts may be found in a construction kit to represent fine details. Metal parts are to be separated from the sheet and are to be bonded, in compliance with instructions, using acrylic cement again.

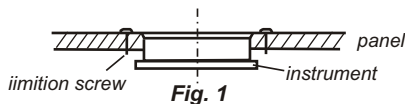
Paper plates :

In the construction kits of both instrument and side panels a number of stencils and plates may also be found that are printed on paper. Their location in spots described in the instruction may be made easy as follows :

Stick the paper sheet on a wide, two-sided adhesive tape. Then cut out relevant plates, remove cover tape, and stick a plate on the panel. It is simple and, first of all, fineness of work will be maintained.

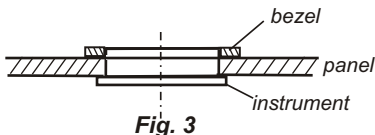
Following the instructions for their positioning, insert particular instruments from side of the panel. After having the instruments carefully aligned, cement them with cement for plastic materials. Instruments not containing bezels are to be aligned with surface of the instrument panel (see Fig. 1).

Layout type A



On these instruments four screws, which fix the instrument to the panel, are to be outlined (see Fig.2).

Some instruments contain bezels (especially German and US World War II instruments etc.) If this is the case, insert such instrument into the panel from its rear side as deep as allowed by the collar on the instrument's rear side, which allows you to fit the bezel to the instrument from its front side (see Fig. 3).
Layout type B.



There are even other instrument panel layouts. Their instruments are fitted as in the Layout A. The whole panel is then covered by a cover provided with openings with offsets. Such instrument panels are often used in the Cessna and Piper aircraft or, for example, you come across with them in the Let L-13 Blanik glider (see Fig. 4).

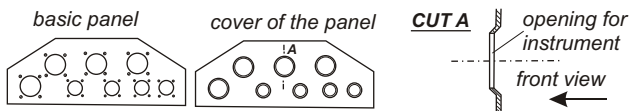


Fig.4



Prior to the assembly of your instrument panel it is recommended to acquire a documentation concerning a respective aircraft type.

An inspiration may be provided on our web site :

www.aerocockpit.com

AEROTEAM Ltd., Svárov 922 , 755 01 Vsetín , Czech republic
www.aerocockpit.com

Cockpit side panels :

Basically, two types of cockpit side panels are used :

- On the both cockpit sides are boards, on which control elements are situated, including their information plates (for example in such aircraft as Fw 190 , F4U Corsair and also in most jet aircraft.
- Another option is to place particular control elements (flaps controls, trims , engine controls, etc.) directly on the cockpit inside structure.

When making the cockpit side panels, AEROTEAM made side panel construction kits may be used, or the side panels may be designed, using suitable available literature.

When making such panels, do not forget to make electric cables and other cables/hoses that provide the cockpit with a highly realistic look.

Seats and safety belts :

If pilot figure is installed in a model, the seat issue is not of such an importance. However, if a model cockpit is to be realistic, the AEROTEAM production line provides you with a solution, or you can make a seat yourself. Several methods of such an own production are possible : fiberglass forming, vacuum moulding, or bonding together of cut-out components (of plastic, plywood, or balsa).

The same applies for the safety belts. AEROTEAM makes a wide production line of safety belts, so it should not be a problem to select a suitable type.

Control stick and control wheels :

These control elements rank among the simpler cockpit parts, though, it is recommended to visit the www.aerocockpit.com site prior to their manufacture as suitable parts may be found there.

Colour of cockpits :

An important factor, which must not be forgotten, is the colour of the cockpit internal panels. In sports and touring aircraft, including helicopters, the colour scheme is varied, according to customer requirements.

The same applies to gliders.

The unification of military aircraft cockpits occurred prior to WW II and particularly in the course of the war.

Air forces adopted regulations that determined cockpit colour schemes. Below some of them are mentioned :

GERMANY - LUFTWAFFE :

In the early WW II period Luftwaffe had a precisely specified cockpit colour scheme determined by an RLM regulation, which determined that all internal cockpit surfaces, including instrument panels, must be medium grey with green tone, RLM 02. Radio transmitter/receiver and other cockpit equipment was dark grey, RLM 66.

From 1942 the latter colour was then used for the whole cockpit surfaces.

Color matching chart : RLM 02 = Federal Standard 24152
RLM 66 = Federal Standard 27030

GREAT BRITAIN - ROYAL AIR FORCE :

The British Air Ministry issued a regulation in 1936, which arranged the colour of cockpits. The then used aluminium colour was replaced by the interior grey-green hue. This colour was used for all cockpit interior surfaces, except for instrument panels and some devices that were black.

Colour ident. : Interior grey-green = Federal Standard FS 24128

U.S.A - USAAF :

Prior to WW II there were two aircraft development lines in the USAAF. Therefore also their cockpit colour layout was different. Aircraft built before the war had their interiors in the colours of originally used metals, non-metallic parts were sprayed by aluminium colour. This colour scheme was applied in most naval aircraft, for example the SB2 Vindicator, Douglas Devadstator.

Then the cockpit interiors were sprayed by the Zinc Chromate Yellow hue. This one was later replaced by the ANA 611 Interior Green.

Colour identification : ANA 611 = FS 24151

JAPAN :

The cockpit colours hues were not determined by any regulations. Grey, grey-green , or green is most often identified.

Soviet Union :

There was no special regulation in respect of the military aircraft cockpit interiors. Therefore the cockpit colours differed according to specific manufacturers.

For example, as a basic colour Polikarpov used light grey-blue, instrument panels were black, and seats and various devices were bright green.

In the new aircraft generation cockpit colours were mostly unified, to be medium grey and instrument panels were black.

Soviet Union :

Aircraft made in France should have had their cockpits Bleu intérieur blue,. However, this regulation was not rigorously observed. Therefore identified were cockpits coloured grey (Caudron, Morane - Saulnier), grey (Curtiss), as well as featuring the correct night interior blue (Bloch).

Conclusion : *If you do not intend to build a contest model and would observe the above colour schemes, you would not make mistake.*