

Scale model instrument panels

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MODEL INSTRUMENT PANELS

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After showing my scale models in fly-ins, contests, mall displays, and club meetings there is one feature that attracts tremendous attention. That feature is the simulated instrument panel in the cockpit(s). Until you have built one or two they may seem daunting or complicated. If you are starting out with a full cockpit in an F-16, then, it is way complicated. So, start out with a simpler example.

In most scale contests there is not much incentive to present a detailed cockpit because there are no points given especially for cockpit presentation. The recognition is from the craftsmanship judge and casual viewers who can appreciate the work involved. All right, you want to go ahead anyway? The good news is instrument panels rarely weigh enough to affect CG or wing loading. I've seen nice panels in tiny rubber band models.

To start your project you should obtain a photo or drawing of the full-scale panel(s) for your subject if one is available. Most of us would look at this photo and see instruments, levers and switches in a particular arrangement. Master modelers like Dave Platt look at *every detail* of the panel. What color and finish is on the panel surface? Lettering? What type of switches, lever or pushbutton? Are mounting screws visible, and are they brass, steel, or painted? How many, if any, are three dimensional and stick out from the panel (gun-sight ?)? Are there any adjusting knobs (altimeter Kolsman knob, clock setting)? If radios are mounted on the panel, can you find a way to replicate them? Well, you get the idea here.

Some instrument panels are actually multiple panels located around the pilot. See a full scale WWII fighter for instance. Jets are even more complicated with large panels just for circuit breakers. Let's start simple with a panel for an aerobatic model. There will be a few basic engine instruments and a few basic navigation instruments. A throttle and prop pitch control may be mounted on the panel as well as a few electrical circuit breakers and switches. The circuit breakers and fuse holders look very similar. Oh, I almost forgot that the keyed magneto switch for a recip engine is usually on the panel. The magneto switch will have "Left", "right", "both" and "off" positions. Here is a minimal panel for a sports model. Here are a few more examples of simple panels.



Pilatus PC-9 cockpit.

Originally, I had planned to offer a step-by-step construction article, but the sheer variety of panels was staggering. A simple panel consists of a ply, balsa, or metal panel usually painted flat black for glare resistance. Printed instrument are laid out on a balsa or paper drawing of the panel and matching holes cut into the panel. The sandwich is complete when a layer of clear plastic is placed between the instrument sheet and the panel. Printed instruments are available from JTEC (web site is JTEC.com) and they offer instrument panels kits in various scales. You can look for instrument panel photos in full-scale aviation magazines and Xerox those instruments, which you can then enlarge, or shrink, to meet your scale.

One favorite trick I use for simulating toggle switches is to squeeze a short (3/16") length of solder in a pair of long nose pliers to widen one end and glue it into a 2-56 hex nut. The assembly is then glued onto the face of the panel in the desired position. You can make dozens of these at very little cost and they look real.

From there you can go into casting instrument faces from patterns, and casting polyurethane instrument panel faces with convoluted shapes. Have fun experimenting and share your good results with other modelers.



photos: Ron Peterka

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