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Building airliners is fun



build a lot of models of a lot of different subjects—1/48 scale Australian and British military aircraft, 1/35 scale armor (modern and anything Russian), 1/24 scale trucks, and science fiction—but for as long as I can remember, I've wanted to build airliners.



Part of my attraction to model airliners is my love of flying; even today, when air travel seems more like a trial to be survived, I still love to fly. The thrill of takeoff as the engines rev and the overhead bins rattle, the view from 35,000 feet (I always book a window seat), the grind of the flaps extending, and the thump of the main wheels touching down have lost no romance for me. Just being around airports is exciting to me—ask my ever-patient wife, Beth, how I always find an excuse to drive by an airport. In part, I blame my dad for my fascination.

When I was growing up, he and I spent many weekends and school holidays watching the traffic coming and going at Eagle Farm Airport in Brisbane, Australia.

While the focus of my early modeling was 1/72 scale World War II aircraft, I kept trying to build airliners, with varying degrees of success. Most of my early attempts fell short because gloss white and natural-metal finishes are a challenge at the best of times, let alone by hand-brushing. But those frustrations didn't stop me from continuing to build.

Why build airliners?

Put simply, I build airliners because I love the subject. Commercial aircraft are colorful. Airlines use their aircraft as flying billboards, so liveries tend to be bright, bold, and eye-catching.

And talk about variety. Boeing has built more than 7,000 737s since the family was introduced in the late 1960s. Airbus has built more than 5,000 aircraft in the A320 family, including the A318, A319, and A321, since the 1980s. That means you can build hundreds of each and never repeat a



livery. It's the equivalent of modelers who set out to build whole fleets of Messerschmitt Bf 109s or P-51 Mustangs.

Speaking of variety, adding colorful airliners to a shelf of matte gray or green aircraft can provide a nice change of pace.

There's no better time

With the recent growth in the number of new kits being produced, modelers have an ever-increasing selection of airliners and materials to choose from. Old mainstream players like Airfix, Revell, and Hasegawa have been joined by newcomers like Zvezda and Minicraft in producing state-of-the-art, injection-molded kits of modern and classic airliners. Other companies, such as Roden and ICM, have added airliners to their catalogs.

Short-run and independent companies—AZ Model, F-RSIN, Skyline, Amodel—have added injection-molded

kits to the mix. And a whole host of manufacturers, including Authentic Airliners, BraZ Models, and Welsh, use materials such as resin and vacuum-formed plastic to create airliners.

What about some color?

All of those kits are useless without markings. Most kits come with at least one livery, but airline modelers live and die by aftermarket decals. And they haven't been disappointed. The advent of new printing technologies has created an explosion of decal makers. A quick internet search pops up names like Draw Decal, Boa, Hawkeye Models Australia, Vintage Flyer, Flying Colors, and F-DCAL, to name just a few. This means lots of options. And lots of temptation: I'm drawn to attractive airline decals like a moth to a light, which means I have more decals than I have kits to put them on.

What to build

So you've decided to build an airliner, but you aren't sure what to build. Some people build aircraft they've traveled on. I know several current and former airline pilots who built aircraft they crewed.

I also know guys whose intention it is to model every aircraft type flown by a particular airline or to build each version of an airliner, such as the 737-100 through -900.

The theme of my collection is, well, squishy. Having grown up in Australia, I have built several of the aircraft and airlines I saw as a kid: Ansett, Trans-Australia Airlines (later Australian), Qantas, and East-West.

Then there's my intention to model the airliners I've traveled on—Delta L-1011, Kuwait Boeing 777, Continental DC-10, Aer Lingus 737, and Virgin Atlantic A340—and the ones I'll build because the livery

looks cool (Braniff) or the decals were too hard to resist (Gulf Air VC-10). Did I mention that I like decals? (Hi. My name is Aaron Skinner and I have a problem ...)

A question of scale

An important consideration when building is the scale of the replica. Bigger usually means more detail, but that may not always be the best choice for airliners.

The most common scales for commercial aircraft are 1/144 and 1/200 scales. I prefer 1/144 scale because there are just more subjects available. The major players—Revell, Zvezda, Airfix, Minicraft—as well as many of the smaller manufacturers focus on it. At 1/144 scale, 10 feet on the real aircraft is .067" (1 meter equals 6.9mm). This means a 747-200 would scale out to 19½" long with a wingspan of 16½". That's a good-sized model. Hasegawa is the main proponent of 1/200 scale and their kits offer a nice compromise—a 747 is less than 14" long.

Other airliner scales include 1/125, 1/100, 1/96, 1/72, and 1/48. I have a few 1/72 scale airliners in my collection, mostly smaller commuter types, such as the Britten-Norman Islander, but I prefer to stick with one scale for consistency in my collection.

Inspiration and information

Want ideas on what to build? Drive to your local airport and see what's on the apron. Just be aware of local laws about stopping on roads around airports. Current security restrictions limit access to many areas, but some airports have places where aircraft watchers can park and take photos.

If you can't actually get to an airport, any airport in the world can come to you via the Internet. In the past, spotters traded and sold slides and prints. Websites have taken their place. The biggest, www.airliners.net, features over 1 million photos, and has a search engine that allows viewers to find aircraft by type, airline, airport, and date. You can even search individual registrations, which is useful if you have decals for a particular airliner. It's a great site for just wandering around and finding airlines and aircraft you may not have been aware of before. Other photo websites such as jetphotos.com may offer images not available elsewhere.



While you are online, check out airline websites, sometimes a good source for photos and information. Manufacturers like Boeing (boeing.com) and Airbus (www.airbus.com) put a lot of information, photos, and diagrams on their sites. (Note that Boeing's site has information about Douglas and McDonnell-Douglas.)

Fan sites devoted to airlines and aircraft also provide a lot of stuff you can't find elsewhere.

For a more traditional approach, many books are available. Some are collections of photos grouped by era, airline, or theme. Others are informational and detail an aircraft type with photos and development and service histories. Publishers include Midland, Specialty Press, and Squadron/Signal.

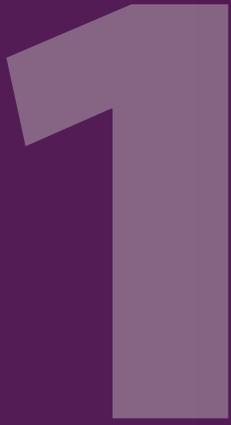
Don't overlook magazines. *Airliners & Airports Magazine*, *Airways*, *Air International*, *Airline World*, and others regularly feature photos of new airlines and aircraft as well as historical surveys and airline spotlights.

Where to buy kits and things

Well-stocked hobby stores carry a few airliner kits or can order them for you if you ask. Getting aftermarket parts or decals tends to be more difficult, but the Internet makes it easier. There are several good specialty vendors. I use Airline Hobby Supplies (www.airline-hobby.com) and Joy Decals (www.joydecals.com) a lot. Many decal and aftermarket parts makers sell their wares from their own websites. Ebay can be useful for out-of-production items.

Have fun

It may seem like a given to say have fun, but remember modeling is supposed to be fun and relaxing. Sure, it can be frustrating when things don't work the way you expect. Don't be afraid to step away from the workbench for a few minutes or a day. And practice the techniques. It takes time and effort to produce good-looking models, but the skills *can* be learned and developed.



Construction



Airliners, especially larger subjects in smaller scales like 1/144 and 1/200 scale, are fairly basic builds. They comprise fuselage halves, wings, horizontal stabilizers, engines, and landing gear. Small-scale airliners rarely have any interior detail, so there's little to do before beginning major construction. But that doesn't mean airliners aren't without challenges. In this chapter, I'll show you how to build injection-molded plastic airliners straight from the box.



41

Airbrush Alclad II at 12–15 psi and apply it in light coats. I used polished aluminum to paint the leading edges of a Minicraft 737.



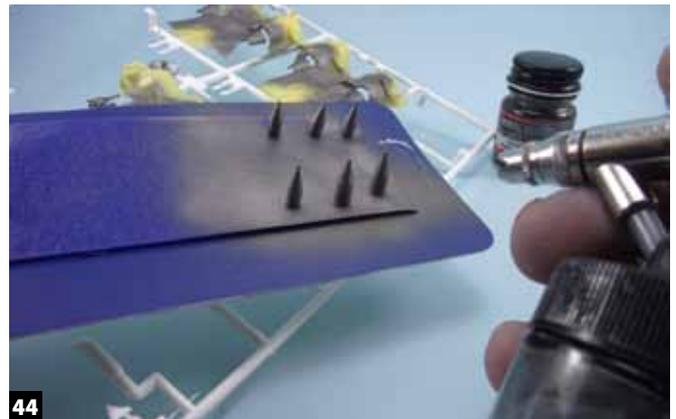
42

Engine intake rings aren't usually as shiny as leading edges, so I paint them with Floquil old silver.



43

I attached the hot sections of 737 engines to a piece of cardboard while airbrushing them Hawkeye's Spray Metal aluminum.



44

Testors Model Master Metalizer burnt metal looks great on exhaust sections. Metalizer must be applied with an airbrush.



45

I airbrushed Minicraft's C-54 with Alclad II Primer and Microfiller to fill and eliminate scratches and small gaps.



46

The next step is sanding. I used a set of Alpha Abrasives sanding cloths to polish out the primer on the C-54.

enamel for bare-steel jet engine intake rings, **42**. The hot section of an engine usually reveals several metallic shades. You can find a variety of shades from Testors Metalizer, Hawkeye's (formerly SnJ) Spray Metal, and Alclad II, **43**. Metalizer burnt metal is a great option for heat-affected exhausts, **44**.

Metallic finishes starkly reveal every blemish or scratch in the surface, so good

surface preparation is absolutely essential. This is even more important when painting an overall natural-metal finish.

After construction, prime the model with Mr. Surfacer or Alclad II Primer and Microfiller, **45**. These thick primers help fill sanding scratches. Fix any problems and then reprime. Once you're satisfied the model is blemish-free, begin sanding

the primer with progressively finer grits, **46**. I usually start with 2000 grit and work through 3200, 3600, 4000, 6000, 8000, and 12000. To achieve the best results, it's important not to skip any grits.

Applying metallic finishes over gray produces slightly weathered aluminum, **47**. You can vary the finish by masking panels and airbrushing different shades,

3

Applying decals



One of my favorite parts of any build is adding the decals. This always seems like the moment when a painted piece of plastic takes on recognizable elements of realism.



1 The TwoSix Decals sheet (at left) features individual clear coat, which can be seen as a glossy outline around each marking. The Draw Decal sheet (at right) is printed with a continuous layer of clear coat.



2 For cutting decals, you can use a sharp hobby knife and a small pair of scissors. Use the scissors only for cutting decals in order to preserve the edge and minimize damage to decals.



3 I have paintbrushes dedicated for decal use. Using the same brushes for both paint and decals can result in flecks of paint on the model. I use toothpicks to move small decals on the model.



4 Decaling is a wet process. Use paper towels and cotton swabs to soak up extra water and to press decals into the surface.



5 I almost always use Microscale Micro Set and Micro Sol but keep other setting solutions on hand for some types of decals.

What are decals?

While modelers occasionally use dry transfers—markings that are applied using pressure—most airline liveries come in the form of water-slide decals. In general, these decals are formed of layers of ink over a water-activated adhesive.

Traditionally, they are screen-printed, but many aftermarket decals are now produced on inkjet, laser, and other small printers. These different production methods require slightly different application.

Decals produced by Microscale and other major manufacturers are screen-printed with clear coat over individual markings. Aftermarket screen-printed decals, such as those from Flightpath and Draw, have a continuous layer of clear coat. This means that each decal must be cut close to the marking. The same is true for laser or inkjet printed decals. If the instructions don't specify whether the

sheet has continuous or individual clear coat, examine the sheet closely by holding it at different angles under a light, **1**. You should see a slight difference at the edge of the clear coat. Some sheets don't have clear coat and require an application of decal film before use.

Laser and inkjet printers can't print white, and their decals tend to be a little thin. They often come with separate sheets of white decals produced on an ALPS printer that are applied first to back the livery decals.

Be sure and read the instructions that come with each set of decals, and don't assume that what works with one will work with another.

For example, Draw Decals are printed using a digital silk-screening technique that produces dense colors, but the ink is a little thick and unaffected by setting solutions. Instructions included with each

set or those found on a company's website tell you to use hot water to soften the ink during application.

Tools

To remove decals from a sheet, I use a dedicated pair of small, sharp scissors and a hobby knife, **2**.

I keep several brushes solely for decals and setting solutions, and use toothpicks to manipulate decals on the model, **3**. You'll also need paper towels and cotton swabs to remove excess water, **4**. Look for good quality medical swabs that are less likely to shed fibers during application.

Setting solutions are essential in helping decals conform to the surface, **5**. There are several brands, and each is a little different, but they all soften the decals. Some are stronger than others, so it's a good idea to test them on a spare decal before using them on a full sheet.



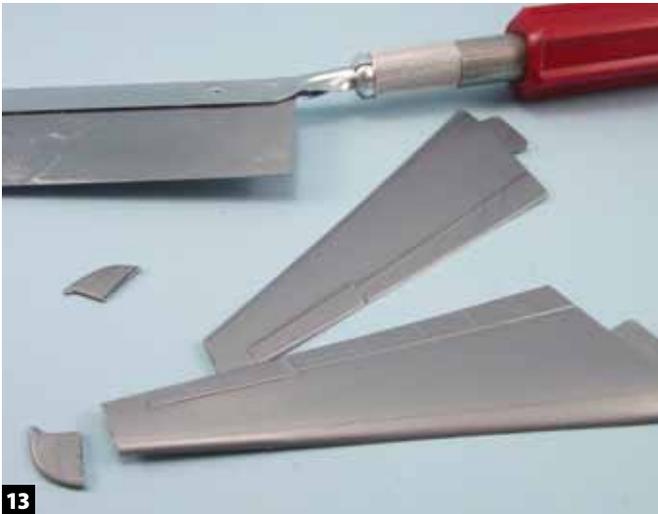
11

For comparison, here's the modified fuselage half for the DC-9-10 (top) and the original -30 kit part.



12

I filled gaps between the sections with a liberal dose of Apoxie Sculpt and sanded everything smooth. It took a few applications of super glue to eliminate all of the gaps.



13

To complete the DC-9-30 transformation to the earlier model, I had to trim the wingtips. I made the first cuts with a razor saw.



14

Then I cleaned up the cut and restored the area's aerodynamic shape with sanding sticks.



15

To reduce the DC-9's wing chord, I trimmed about 2mm from the leading edge with a saw.



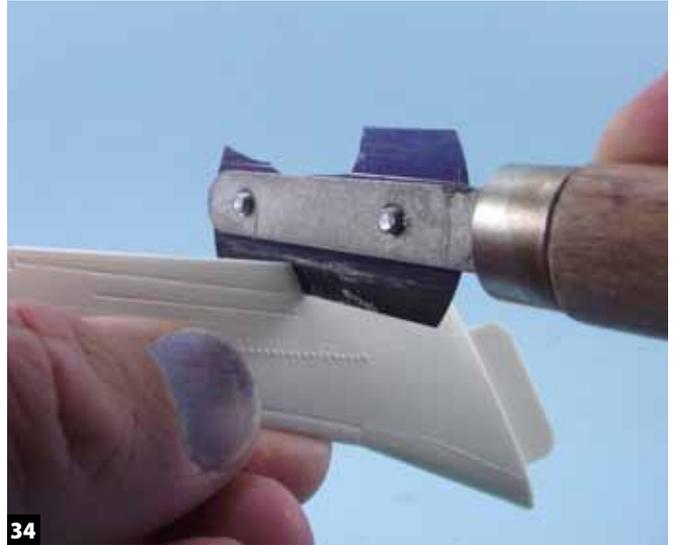
16

Sanding restored the leading-edge curve. Check your work often to avoid unevenness or flat spots.



33

I began cutting out the flaps on Airfix's 1/144 scale 737 wing by scoring along the front edge with a scribe.



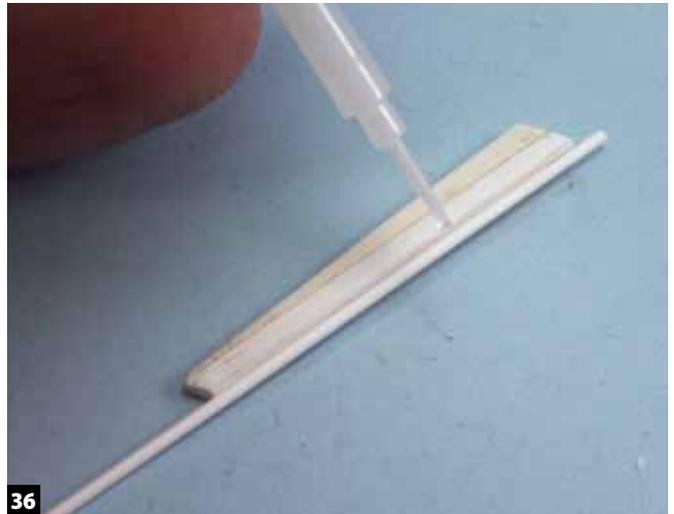
34

I cut out the sides of the flaps with a razor saw.



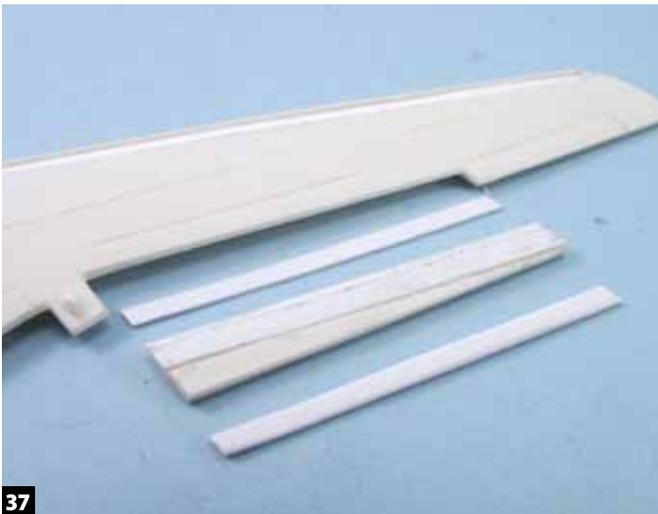
35

After scoring and cutting, it's easy to snap the flap from the wing. Set it aside for later.



36

Styrene rod glued to the leading edge of the flap and sanded replicates the section that's buried in the wing during operation.



37

On airliners with slotted flaps, deploying them is more than cutting and repositioning. I added styrene strips to make extra flaps.



38

I cut the flap actuator fairings under the 737 wing, extended them with styrene rod, and glued the flap sections onto them.