THESE DAYS, when it's back to basics and aeromodellers feel the need to put the fun back into flying, there is real merit in reviving the '30s style, rise-off-ground (ROG) type rubber model. The author is not quite enough of a Vintage specimen to have flown one in that decade, but was introduced to this type of model in the late '40s via the Jasco ROG, designed by the venerable Frank Zaic. Dozens of these fun flyers were built - often with mods - and the key to good performance proved to be the adjustable trim tabs on the flying surfaces. These are essential to using the model as a learning tool - misadjustment of the tabs provides some instant lessons in aerodynamic
reactions! Once the bizarre manoeuvres are ironed out, the tabs allow trimming for optimum endurance. The proportions of Gym Dandy and certain structural concepts were inspired by good friend and fun flyer John Aldenkamp of San Diego, and naturally, the trim tabs are prominently featured.

Gym Dandy is not only (we think) stylish and racy looking, it is also extremely easy and quick to build, and flies like a dream on a loop of ordinary rubber (no contest stuff needed). It can be flown indoors or outdoors on calm days, but is subject to flyaways as it is not fitted with a dethermaliser. One alternative is to fly in the evening in a car park or street, with the model lifting off the tarmac and circling up toward the street light like a moth. This night flying is a surrealistic experience . . . How about building this little bird? Materials include a minimal amount of balsa strip and sheet (a real benefit at today's prices) a plastic prop from a North Pacific ready to fly model available at any model shop (or from Peck) and some 20 swg diameter piano wire, light modelling tissue and a few bits and pieces. Use aliphatic resin or PVA glue only to avoid warps.

A flat building board about 12 x 24in will suffice - you should be able to stick pins in it easily. Do not stick them through the strip wood, but on either side in an ‘X’ fashion. Pin holes make weak spots in this balsa strip. Soft wallboard or a basswood draughting board is ideal. Tape the plans to the board and cover with thin polythene which prevents parts from being glued to it. A balsa knife with a new blade is ideal for slicing the ribs and all other cutting. Pliers will be required to bend the undercarriage and rubber hooks (the original prop shaft is cut to remove the plastic bearing) and modelling pins are needed in abundance.

**Flying Surfaces**

Build these first so they can dry while you fiddle with the details of fuselage continued overleaf
and gear. Cut the outline for the fin and tail to length and pin down. Cut ribs to fit and glue in place.

Wing ribs are sliced from a 75mm length of 50mm wide, 1.5mm sheet, quarter grain if possible. An aluminium, tin or ply pattern is needed to guide the knife in slicing the curve. Press the template against the rib blank, make a cut, move down an estimated 1.5mm (+ir) and cut again along the curve. Presto! You have a nice curved rib slice eight more. Then pin down edges of wing after bevelling joint at centre for dihedral (add later) and begin to fit ribs. Trim to length from rear. Glue in all except the rib at the centre. When glue is dry, prop up one wingtip 100mm and glue joints at centre. Add the centre rib, angling to bisect the dihedral angle. Allow to dry thoroughly before removing from board.

Fuselage
Cut the motor stick to length from rock-hard strip and taper the rear as shown. Cut the triangular keel from light balsa and add doublers at wing mount. Glue keel to stick, centering on top. Add 2mm sq hard scrap as a spacer for the aluminium tube shaft bearing. Glue well and wrap with fine Terylene thread. Add a glue skin over this assembly as it takes a lot of stress. Bend the rear motor hook and take-off gear from piano wire, carefully following pattern for the latter. Add these items and glue/thread wrap. The gear clamps over the front wing mount doubler. Now add the plastic wheels and a drop of epoxy to axle as a keeper for each. Bend a new prop shaft, insert in bearing, then add a small washer or bead, the prop, and bend the end over to fit free wheeler hub on the North Pacific prop.

Covering
This must be accomplished dry, with tissue cut slightly oversize for each surface but cover one side only. We have found that aliphatic resin or white glue (PVA) which has been thinned 50/50 with water and applied with a small brush makes an excellent adhesive for covering. Put a dab at each end of the tail, lay tissue in place, then peel back to apply glue to outline. Do the fin in one pass. The wing must be covered in two pieces, with a slight overlap at the centre. When dry, trim off excess tissue with a sharp razor blade, or by sanding the edge with an emery fingernail board. This method of finishing ensures that there are no cuts in the fragile outlines - simply draw the emery board along the edge while holding tissue taut. Do not watershrink or dope the tissue. If you do, the surfaces will be as warped as a potato crisp! Do not tissue cover the fuselage.

Assembly
Glue the tailplane to the bottom of the motor stick, noting that the taper gives the correct decalage. Add the fin to the top of stick along with the small dorsal fin. Do not offset fin, any turn is achieved via trim tab. Ensure that fin is at right angles to tailplane. Glue the wing to the keel at the doublers. Prop up tips so that wing sits square on body as seen from front. Using a black felt pen or black dope, simulate a cockpit on the balsa keel. Add thick paper trim tabs to the fin and starboard (right) wing. We found that tabs on the tail and port wing were not necessary, but use them if you wish. Tie a tight square knot in a 29in. length of 3mm flat rubber to make the motor. Affix this to the propshaft and rear hook. Now balance the model as shown on the plan - this forward CG position is important for stability. If necessary, add dabs of Plasticene to nose to balance.

Flying
Bend the wing trim tab up about 3mm and fin tab left about 3mm for initial adjustment. Make sure no thrustline turn has been built into prop bearing; if it has, cut loose and re-glue. This model is wound from the rear and normally a helper is needed. Have your assistant hold the propshaft between thumb and index finger while you unhook rear of motor and attach to hook of a geared winder, or even a hook held in a hand drill. Stretch motor out three times its slack length and put on about 800 turns while moving in. When winder hook is near the model, grasp motor near the hook and let the winder unwind. This will result in a small loop that can easily be attached to the rear hook when the winder hook is removed.

There is no point in hand launching an ROG (or test gliding either) so grasp the prop tip in one hand, the keel in the other, and let it take off from the ground! Adjust for a 30ft diameter circle, then increase the number of turns for longer flights.

Have fun!