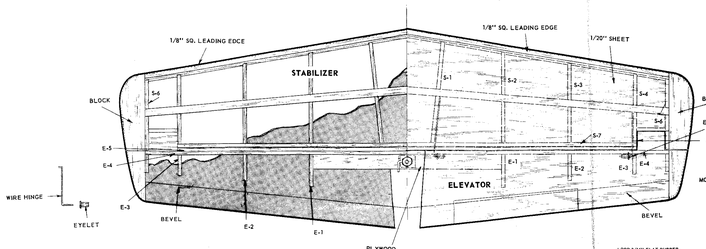
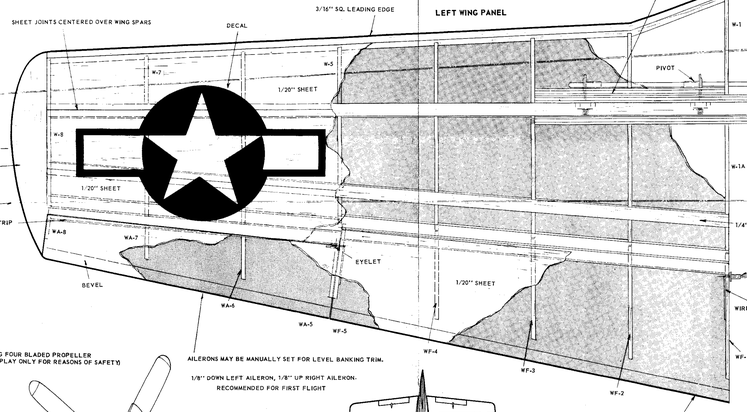
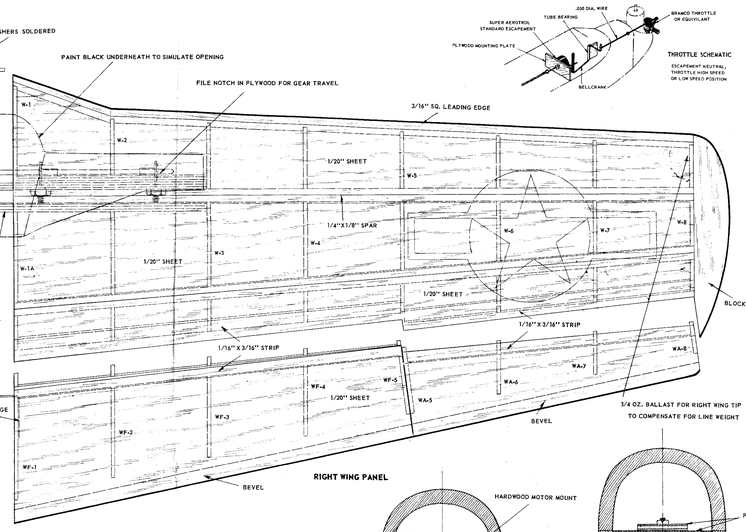


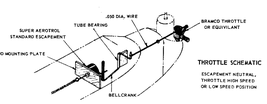

FINISHING: No tissue covering is required. If you wish to apply it anyway, it may be added, and will make a slightly more durable model. For preparation of wood surfaces, apply several coats of a good grade of fuel-proof sealer, to fill the pores. Sand between each coat until all grain etc. is hidden. Apply several coats of clear fuel-proof dope, paint all of airplane fuel-proof silver, with black anti-glare areas as indicated on the 3 view details. Apply decals as shown. Spray if possible a thin coat of fuel-proofer over them. Use care in brushing. Cut exhaust outlet, and pipe exhaust free of plane with tin can stock.

TYPICAL FLAP PROPORTIONS

NOTE CONFORMING CONTOURS OF SLOT TO MAINTAIN AIR FLOW OVER FLAP WHEN DEFLECTED

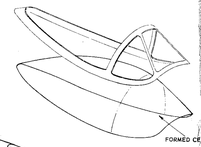


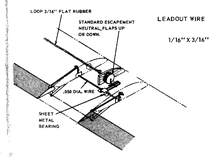




THROTTLE SCHEMATIC

ESCAPEMENT NEUTRAL, THROTTLE HIGH SPEED OR LOW SPEED POSITION

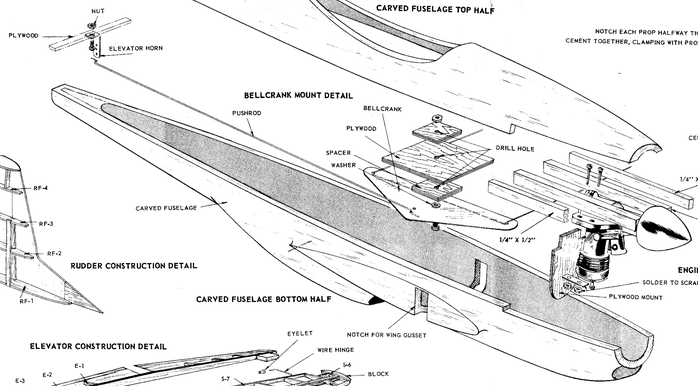


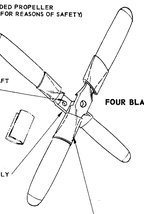




OPTIONAL METHOD FOR MAKING FOUR BLADED PROPELLER (RECOMMENDED FOR SCALE DISPLAY ONLY FOR REASONS OF SAFETY)

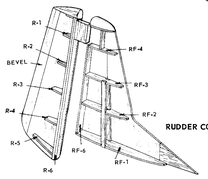
AILERONS MAY BE MANUALLY SET FOR LEVEL BANKING TRIM.

1/8" DOWN LEFT AILERON, 1/8" UP RIGHT AILERON- RECOMMENDED FOR FIRST FLIGHT

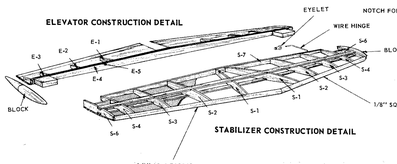



FOUR BLADED PROP DETAIL

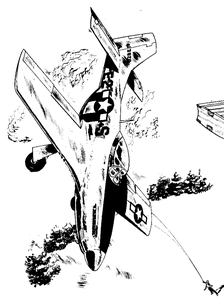


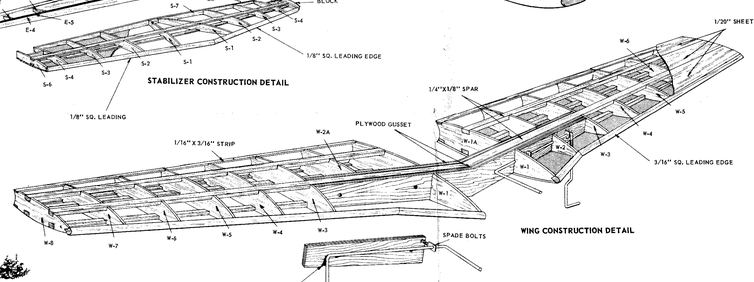

RUDDER CONSTRUCTION DETAIL

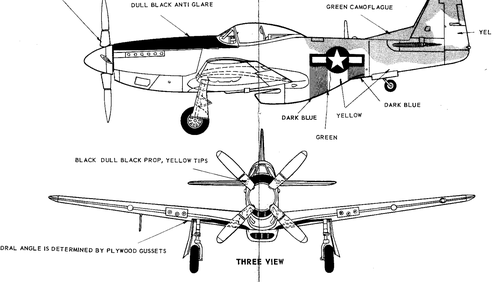










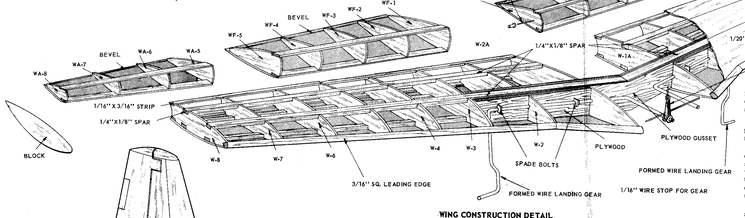



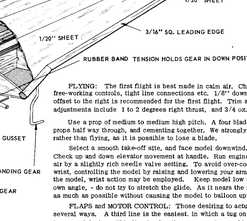


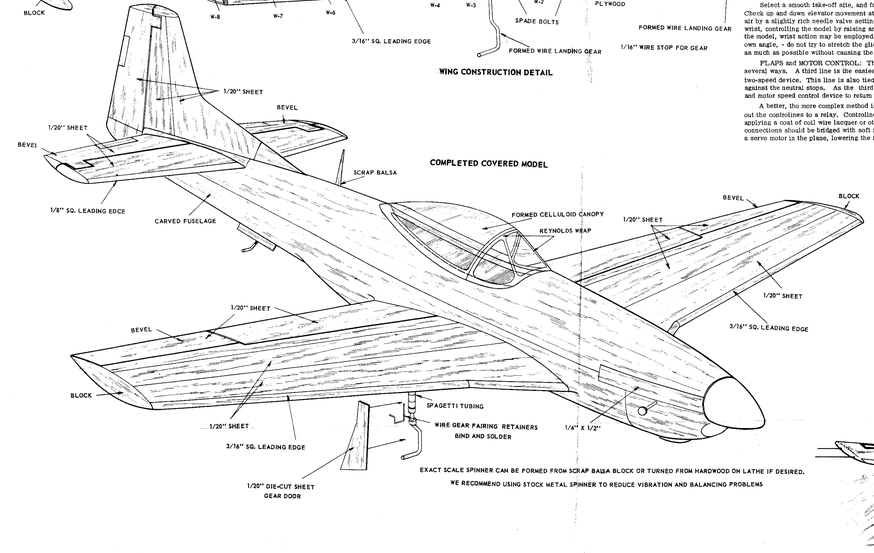

FILE OUT RECESS FOR GEAR TRAVEL

FORMED WIRE LANDING GEAR

MAY BE BENT UP AFTER PASSING THROUGH EYELET TO ACT AS HORN

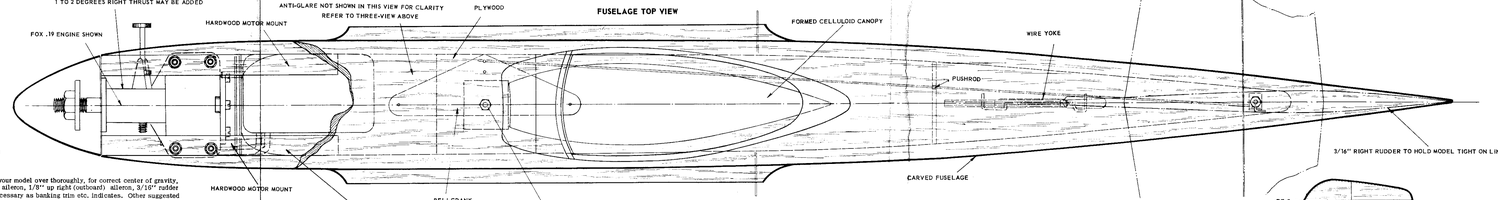


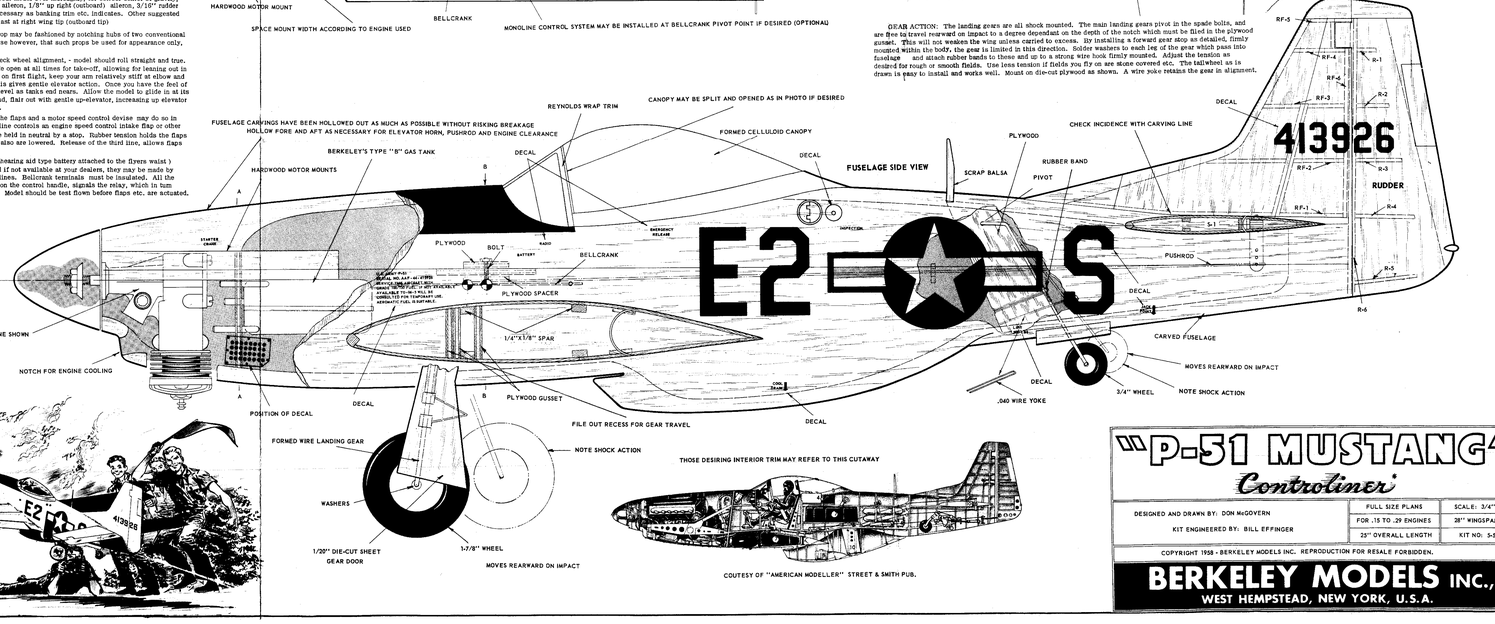



1 TO 2 DEGREES RIGHT THRUST MAY BE ADDED

ANTI-GLARE NOT SHOWN IN THIS VIEW FOR CLARITY REFER TO THREE-VIEW ABOVE







THOSE DESIRING INTERIOR TRIM MAY REFER TO THIS CUTAWAY



COUTESY OF "AMERICAN MODELLER" STREET & SMITH PUB.

## BUILDING AND FLYING INSTRUCTIONS:

The P-51D "MUSTANG" as presented here is an ideal controline design. Rugged, easy-to-fly, it will give you many worthwhile flights. Those desiring to do so may actuate the flaps and a flap in the engine intake for two-speed control. All surfaces are balsa, no tissue covering is required. Fuselage top and bottom is fully carved and hollowed as much as possible by machine. The wing and tail surfaces are covered with 1/20" sheet, with all curved areas die-cut. The landing gear pivots in its mount, and is shock mounted with rubber to allow it to flex to the rear on impact. Study the plan carefully, remove die-cut parts from the sheets and you are all set to begin:

WING PANELS: It is best to begin construction of the wing by cementing the forward bottom 1/8" x 1/4" spar to the rear 1/8" plywood gusset. Lay in position over plan, and cement into notches in ribs W-1A, W-2A, W-3, W-4, W-5, W-6, W-7 and W-8 in that order. Each rib will seek its own height, standing on its own alignment legs. Block up spar to proper height as necessary. Pin each rib to plan for best results. Carefully slip the other rear bottom 1/8" x 1/4" spar into position and cement. The upper 1/8" x 1/4" spars may now be installed. When dry, this much of the panel may be removed from the plan for easier installation of the 1/16" x 3/16" strips which reinforce sheet edges along the wing ailerons and flaps. Align these in notches carefully.

Before installing the leading edge, it is advisable to construct the opposite panel in like manner. Block the first panel up to the height required for the rear plywood gusset to nest the opposite panel bottom spar, and proceed as before. The landing gear is the next consideration. Laminate the forward plywood gusset to the reinforcements which are also plywood, and run from W-1 to W-3 ribs. Drill for spade bolts as punch marked. Install an eyelet into each of the four spade bolts, pass gear wire through, and attach to plywood gusset assembly with nuts provided. Tighten well and cement nuts. The forward plywood gusset with attached gear may now be positioned within the fuselage. Add the remaining rib units, leading edge etc. after panels are installed on fuselage.

All the 1/20" wing sheeting is die-cut. Bear in mind before applying sheeting, that all flap hinges, linkage, leadout wires, ballast, leadout line guides etc. must be installed. We suggest applying the sheeting to the upper surface first, installing wing on fuselage, passing leadouts through the upper surface sheeting, through ribs as indicated through the line guide on W-7 rib, after which the bottom camber sheeting may be installed. Add wing tips, bomb racks and any other detail visible on the three-view you wish. Such detail of course should be added after structure is complete and fully sanded.

WING AILERONS: The ailerons are easily assembled. All parts are die-cut. Bevel sheeting edges to line indicated and cement WA-5 through WA-8 ribs in place. Leading edge is 1/16" x 3/16" strips. Sheet upper surface and sand smooth, rounding leading edge as on the flap section. Tack cement in place for field adjustment if necessary. See the flying instructions for correct setting.

WING FLAPS: These are assembled in identical manner to the ailerons, differing only in that the wing flaps are sheeted with stock provided. Trim to shape shown, allowing extra 1/16" width for forshortened dimension.

RUDDER PIN: Pin R-5 in place over the plan as the rudder post. Position the spars, ribs etc, as on the other surfaces. No leading edge is used as it complicates dorsal sheeting, and rudder is very thin at that point anyway. Bevel sheeting along leading edge and dorsal slightly, not as much as along trailing edge.

RUDDER: This is assembled in the same way as the ailerons etc., differing only in that it must be offset to the right 3/16" to hold the model tight on the lines.

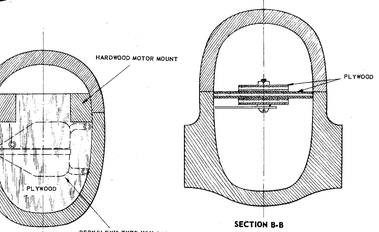
STABILIZER: One half of the stabilizer is laid out on the plan at a time, due to the change in thickness of the airfoil from center to tip. The rear spar at the elevator break, S-7 of course is in one piece. Pin the bottom 1/16" x 1/2" spar to the plan and cement each of the ribs in place. Toward the extreme tip the ribs are spar notched on bottom only to prevent breakage at assembly time. Notch later when cement has dried for top spar. Gusset center if desired, the the sheeting to be added plus cementing to the carving will make it quite rugged as it is. Install leading edge and die-cut 1/20" planking after hinges have been installed. Add tips, trim and sand structure.

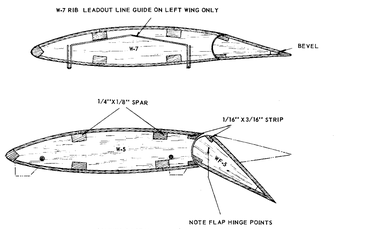
ELEVATORS: The elevators are also similar to the ailerons and flaps in construction. Note cross-bar, hinges etc. Bolt horn to the plywood.

FUSELAGE: The carving process is in some ways similar to lathe work, namely that the code must be held between centers and thickened to prevent breakage. This excess fore and aft must be trimmed away. A few strokes of a sharp model knife will suffice. Hollow as necessary for engine clearance and horn movement. Install the engine mounts and plywood firewall as you proceed. Remember that the forward portion starting at the firewall on the bottom carving must be made removable for engine access. Slice free carefully with sharp model knife or razor. Control system installation is well detailed and simple. Monoline may be used as per its own instruction sheet if desired. Mount at same pivot point as bellcrank, with leadout passing wire tip at a point midway from the two present leadouts. Test fit the wing as you proceed, inserting forward plywood gusset with its gear attached first, to assure proper clearance, then cementing wing panels to this structure, adding leading edge etc in order.

Adjust gear legs for proper angle, and install 1/16" wire stop to hold gear in forward position. Space is a factor to consider at this point due to the proximity of the fuel tank. Straddle tank to be used as much as possible, or mount tank vertically if you have a problem, as a wedge type tank is not essential on a model of this type which is not intended for inverted flight. The lengths of the gear legs may also be shortened if necessary, which will also allow easier installation of the shock rubber etc. Also as the stabilizer is installed on the upper shelf in the recess provided, test control action for equal up and down motion. Trim stabilizer recess fore or aft for proper setting. A check should be made to insure proper incidence as on side view. Use a dividers, template or other means.

CANOPY AND TRIM: The bubble canopy should be carefully trimmed from the celluloid base, and test-fitted. Flair out on sides at rear to meet fillet and reynolds wrap or similar aluminum foil trim. Gear cover doors, optional fuseline tubing trim etc, are now added to the gear.

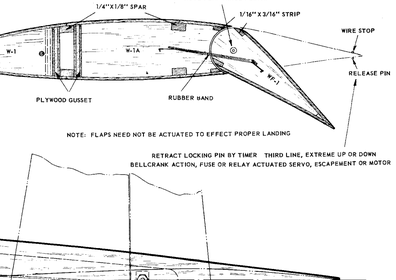


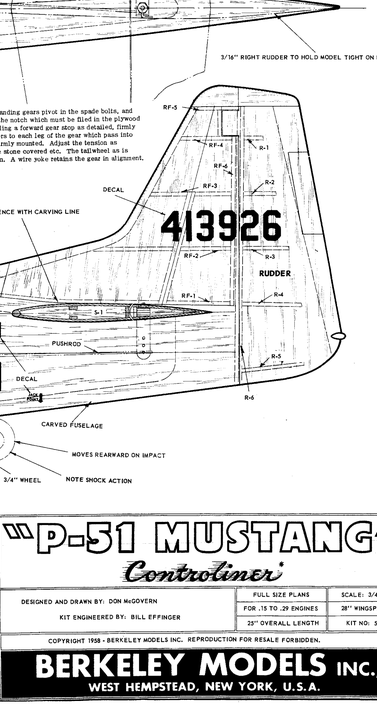




NOTE: FLAPS NEED NOT BE ACTUATED TO EFFECT PROPER LANDING

RETRACT LOCKING PIN BY TIMER THIRD LINE, EXTREME UP OR DOWN BELLCRANK ACTION, FUSE OR RELAY ACTUATED SERVO, ESCAPEMENT OR MOTOR

GEAR ACTION: The landing gears are all shock mounted. The main landing gears pivot in the spade bolts, and are free to travel rearward on impact to a degree dependant on the depth of the notch which must be filed in the plywood gusset. This will not weaken the wing unless carried to excess. Fly installing a forward gear stop as detailed, firmly mounted within the body, the gear is limited in this direction. Solder washers to each leg of the gear which pass into fuselage and attach rubber bands to these and up to a strong wire hook firmly mounted. Adjust the tension as desired for rough or smooth fields. Too less tension if fields you fly on are stone covered etc. The tailwheel as is drawn is easy to install and works well. Mount on die-cut plywood as shown. A wire yoke retains the gear in alignment.




# "P-51 MUSTANG" Controliner

| | | |
|---|---|---|
| DESIGNED AND DRAWN BY: DON McGOVERN | FULL SIZE PLANS FOR .15 TO .29 ENGINES | SCALE: 3/4" = 1" |
| KIT ENGINEERED BY: BILL EFFINGER | 25" OVERALL LENGTH | 28" WINGSPAN |
| | | KIT NO: S-5 |

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