

U. S. Air Force F-51D

1/32 SCALE

3/8"=1'-0"

# Mustang

KIT PA77



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quality hobby kits



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Morton Grove, Illinois  
Printed in U.S.A.

*After distinguished service in Europe and in the Pacific theater during World War II, the F-51D (formerly P-51) Mustang, was rated by a U.S. Senate Investigating Committee as "the most aerodynamically perfect pursuit plane in existence". Mainly a single-seat fighter, it also served as fighter-bomber, photo-reconnaissance (F-6K) plane, and dive-bomber (A-36A). It outperformed all other Allied fighters in speed, range and maneuverability and is regarded today as a classic in piston-powered fighter design.*

*The Mustang's origin can be traced back to April 1940, when Great Britain requested a much-needed, superior fighter plane for the R.A.F. North American Aviation Corp. complied by designing and building their NA-73X within 120 days, and test-flying it in October 1940. The first production model was flown in May 1941. Of the first quota produced for England, two were delivered to the Army Air Force, who by then "cultivated" an interest in the NA-73. The new arrival was designated XP-51; the Apache. The British named their new fighter the Mustang, and soon the name "Apache" was dropped to avoid confusion.*

*The P-51A Mustang was one of the first tactical planes to use the radical "laminar flow" airfoil, noted for its low drag characteristics. The plane was designed around the famous Allison V-1710-39, 12 cylinder, liquid cooled 1100 h.p. engine, attaining a top speed of 382 mph. By September 1942, after repeatedly demonstrating high performance potentials, the P-51A progressed to become the P-51B, attaining the phenomenal top speed of 437 mph. Due to the changeover to a Rolls Royce Merlin V-1650-3 engine, the Mustang had 1400 hp at take-off and climbing power to reach 20,000 ft. in 5.9 minutes.*

*In March 1944, a group of P-51B's and C's equipped with drop-off fuel tanks, escorted B-17's and B-24's on an 1100 mile round trip mission to Berlin,—much to the surprise and consternation of the Luftwaffe.*

*In 1944 the P-51D went into production with a still more powerful Merlin 1650-7 built by Packard. The rear of the fuselage was cut down and a beautifully streamlined "bubble" canopy was installed for better rear vision. Although several later models (the P-51F, G, and H) saw action, the P-51D was the most widely produced and popular model. The Mustang broke records from the day of its conception, and the rapid evolution processes it went through were extraordinary by any standard. Total production of all models eventually reached 15,576. Ten of the "D's" became experimental two-seat trainers (TP-51D's), and one was even modified for use as a high-speed observation post for General Eisenhower during the Normandy invasion. Mustangs were used in Korea and later in National Guard Units. In civilian use, Mustangs took part in the Thompson and Bendix races of 1946, 7, and 8. One modified version flew 2008 miles from California to Cleveland averaging 470 mph.*

*The P-51 series, last of the piston-engined fighters, have now been replaced by the jets. Your Monogram model of the Mustang was authentically developed from manufacturer's drawings, Air Force manuals, and hundreds of photos and measurements of an actual Mustang.*







Since a scale operating landing gear is fragile, care must be exercised not to place additional weight on the model when it is resting on the landing gear, otherwise struts may break. It is best to retract the landing gear into the wing when the model is left unattended.

S89 fuel tank bottom indicates that the part is silver with the number 89. B11 tire half is a black part with the number 11 and so on. This will make it easier for you to locate the parts during assembly of your model.

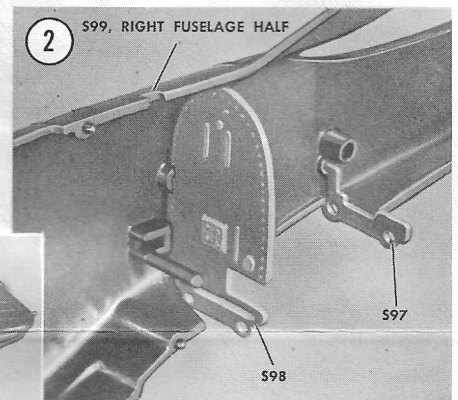
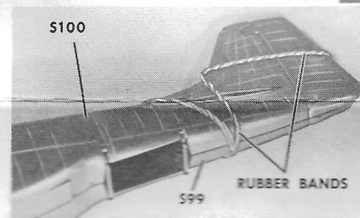
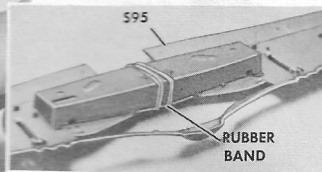
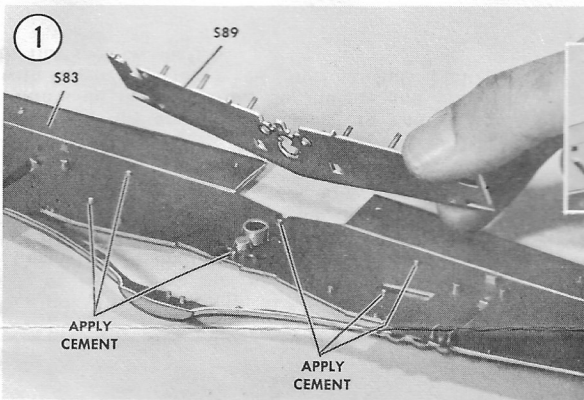
Read each assembly step carefully and refer to the photos for the correct location of each part. Check the fit of each part before you cement it in place and compare your assembly with the one shown in the photo. Apply a thin coating of light grease to movable parts where instructions so indicate. Movable parts should be cemented only in places indicated.

**DO NOT DETACH THE PARTS FROM THE "TREES" UNTIL YOU ARE READY TO USE THEM.** Trim away any excess bits of plastic with a sharp knife such as an X-acto knife, available at your hobby counter. Do not use too much cement to join parts. Small amounts are sufficient to hold them together. All plastic cements contain solvents that dissolve the plastic, forming a weld between two pieces. If too much cement is used it may soften and distort the plastic.

Your F-51D Mustang has remotely operated landing gear, tailwheel, and droppable bombs. The operating components are hidden inside the model. Since the model cannot be readily taken apart to remedy malfunctions, it is very important that assembly is done in precisely the manner described in the instructions. Also, when your model is completed, NEVER operate the landing gear unless the model is held level. If model is tipped, wheel well doors will bind on wheels and may cause landing struts to break off.

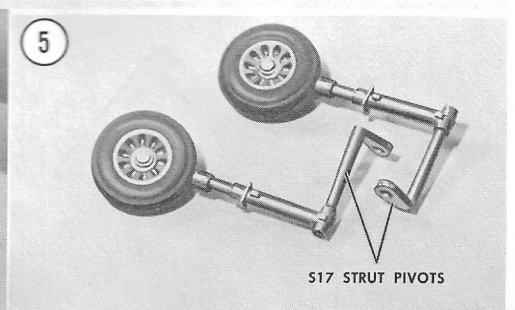
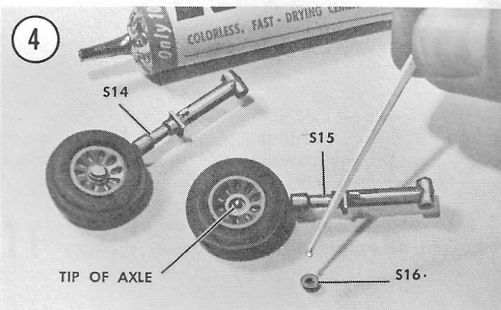
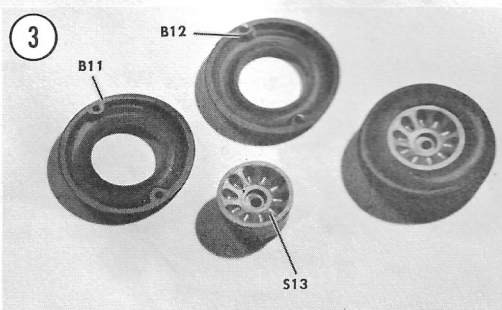
Each plastic piece is identified by a number appearing either on the inside of the part or on a tab near the part. In the assembly instructions the identification numbers of the parts will be preceded by the letters S, B and C to indicate whether the part is SILVER, BLACK OR CLEAR. For example:

If you wish to paint details on your model, refer to the "Painting" instructions. It is best to paint some parts before cementing them into place.



**1** Trim away excess plastic from edge of S89 fuel tank bottom at places where piece was attached to tree. Next apply a tiny drop of cement to top of each of the six pins inside S83 wing bottom indicated in photo and fasten fuel tank bottom into place. **IMPORTANT. FOLLOW THIS PROCEDURE TO MAKE SURE TANK BOTTOM FITS TIGHTLY AGAINST WING: Place (do not cement) S95 fuel tank top onto tank bottom and wrap a rubber band around tank and wing as shown in photo to hold tank bottom down tightly onto wing and set unit aside to dry.**

**2** Cement S97 and S98 bulkheads into S99 right fuselage half as shown. Use cement only in the sockets and slots for neatness. Fit (DO NOT CEMENT) S100 left fuselage half in place and make certain that bulkheads fit into slots. Put a small rubber band around fuselage at front and rear and set assembly aside to dry. Fuselage will be separated later.

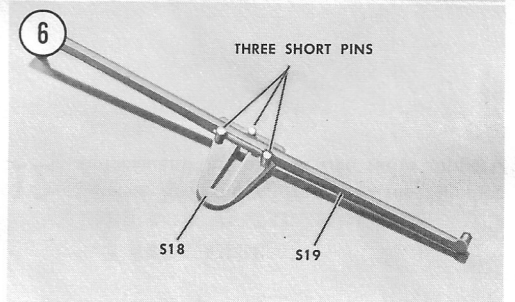


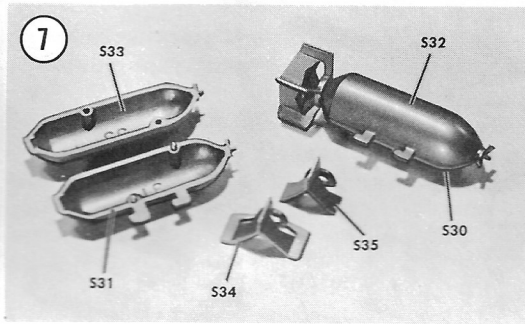
**3** Cement B11 and B12 tire halves together. Then cement S13 wheel hubs onto tires. Be sure they are put in the correct way so outside of hub is flush with tire.

**4** Place wheels onto S14 and S15 strut axles. Using the tip of a toothpick, apply a TINY BIT of cement into hole in S16 axle caps and then press them onto tip of axles. If too much cement is used it may get onto wheels and they will not rotate freely.

**5** Trim off any flash that may exist on the ends of S17 strut pivots. Next, cement strut pivots into top of struts. Use cement very sparingly and be sure strut pivots are pressed in tightly all the way.

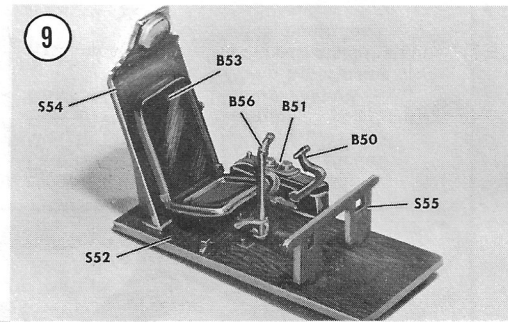
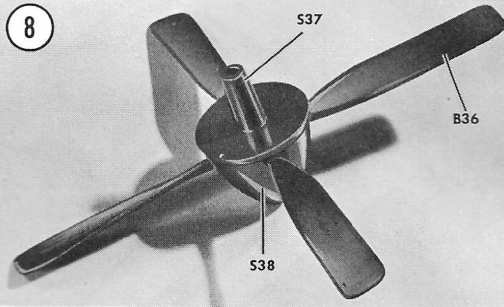
**6** Cement S18 slider to S19 strut link. Link fits between three short pins on slider and pin on link fits into "D" hole in slider.



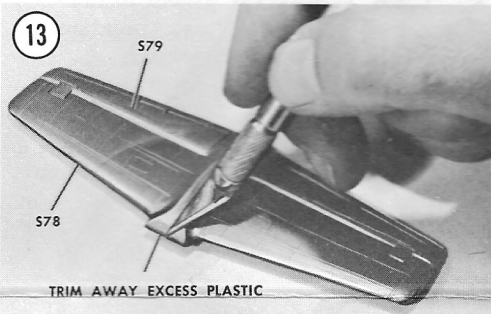


**7** Cement S30, 31, 32, 33 bomb halves together. Also cement S34 and S35 fin halves together. Then cement fins to bombs.

**8** Cement short shaft of S37 spinner back plate into hole in B36 propeller. Then cement S38 spinner to back plate.

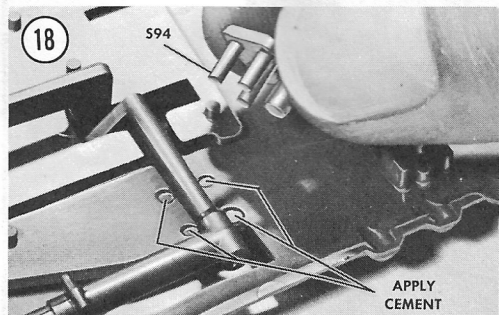
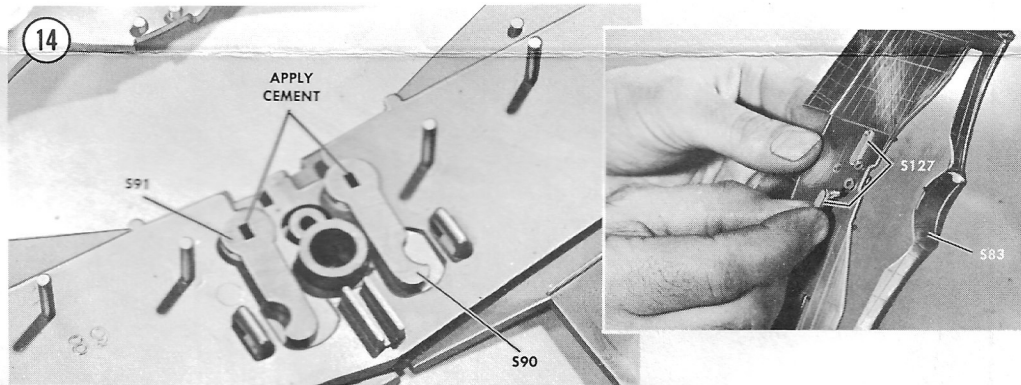


**9** Cement B51 bomb release panel on top of B50 left side panel and cement this unit over long rib on edge of S52 floorboard. Also cement B53 seat to S54 armor plate and attach to floorboard. Remove two small tabs from B56 control stick. Cement control stick and S55 rudder pedals in place.

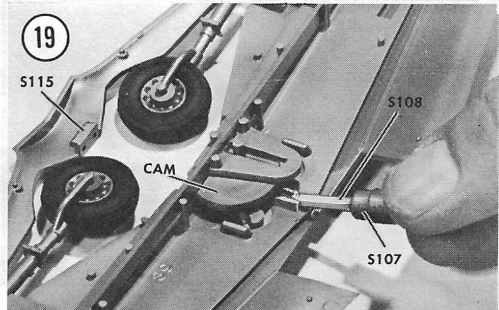


**13** Cement S78 and 79 stabilizer halves together, using very small amounts of cement for neatness. If necessary, use small pieces of scotch tape to hold halves together. Trim away excess plastic at center of front edge as indicated.

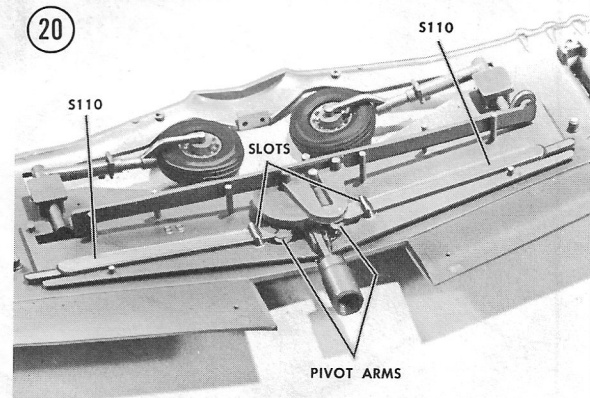
**14** Remove rubber band and tank top from bottom wing. Next remove small overflow tabs from S90 and 91 pivot arms and fit them into holes in tank bottom as shown. **IMPORTANT!** Be sure shoulder on pivot arms goes towards *bottom*, and round notches face-outward, toward wing tips, as shown. Next, remove two bomb toggles S127 from parts tree and fit them into holes in outside surface of S83 wing and into slots in pivot arms as shown in second photo. Next, turn wing over and apply cement over slots in pivot arms with the tip of a toothpick to fasten them to bomb toggles.



**18** BE EXTREMELY CAREFUL WHEN APPLYING CEMENT IN THIS STEP. Using the tip of toothpick, put a **SMALL** spot of cement into each of the four tiny holes on left side of wing as shown in photo. **Be careful not to get cement on small pin or on strut pivot.** Now press S94 bearing plate into place, making certain that four pins fit down into the four holes in the wing. Hold firmly in place for a few moments until cement sets. Hook up right landing strut in the same manner using S93 bearing plate.



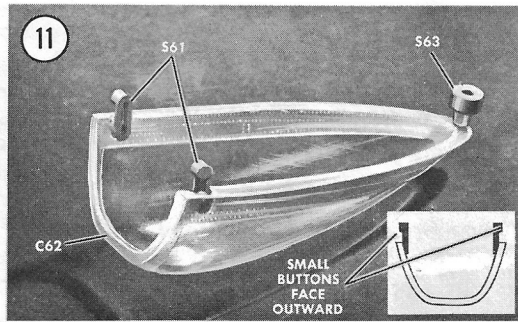
**19** Cement S115 pivot plate on two small pins at front of landing gear opening, with two small holes that will receive pins on wheel well doors facing toward rear. Caution! Do not get cement in these holes. Next cement S108 cam rod into small tapered hole in S107 cam rod connector making sure taper of rod fits into tapered hole correctly. Now apply a thin coating of vaseline to cam rod and small pin on end, then hook short pin on end of cam rod into slot in bottom of cam (do not cement). Cam rod slides between two ribs when cam is turned.



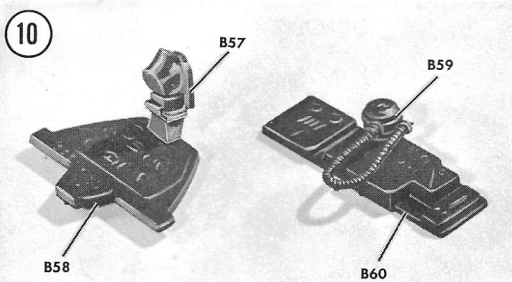
**20** Trim excess plastic from small end of two S110 bomb trip arms so small ends are nicely rounded. Slip bomb trip arms into place under slot and against pivot arms (do not cement). Be sure that small end of bomb trip arms fits *downward* into cutout in fuel tank bottom.



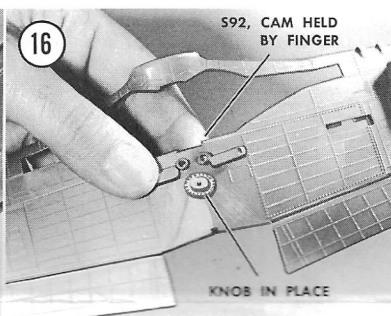
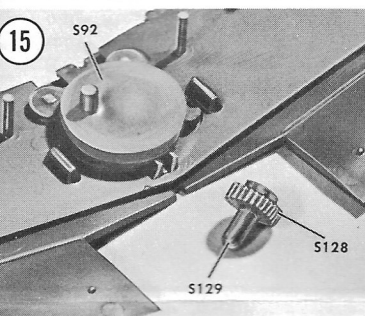
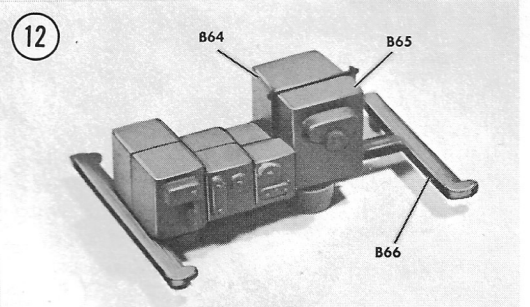
**10** Cement small tab on end of B57 gun-sight into slot in top of B58 instrument panel. Remove small round tab from B59 oxygen tube. Cement oxygen tube unit to B60 right side panel.



**12** Cement B64 and 65 radio halves together and cement this unit to B66 radio support.



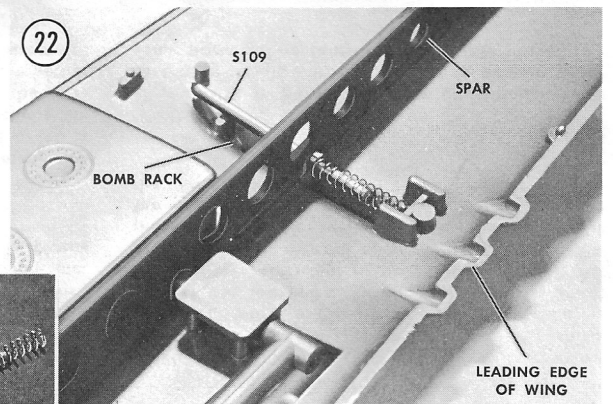
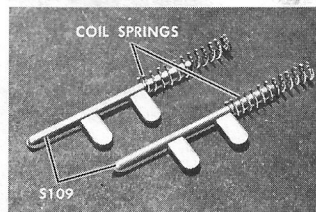
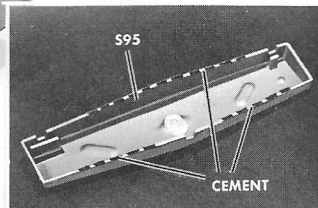
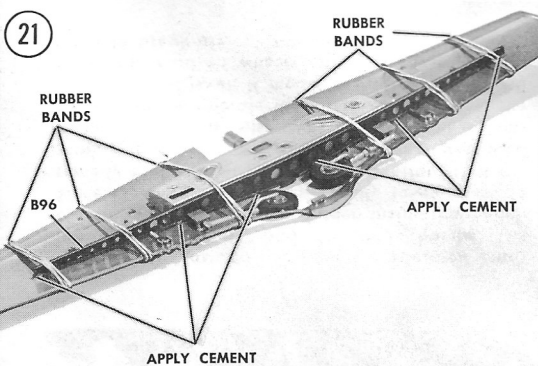
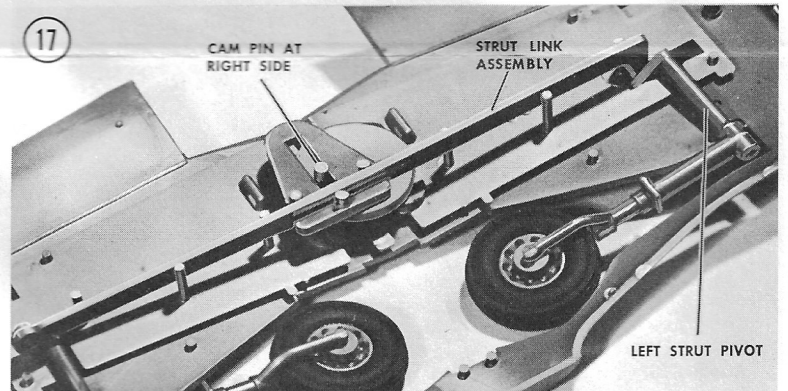
**11** Cement two S61 canopy guides to insides of C62 canopy. Slanted oval pads on canopy guides fit into notches inside canopy and small round buttons face outward as shown in illustration. Also cement S63 retainer onto small pin at rear of canopy.



**15** Cement S129 shaft into hole in S128 knob. Next apply a thin coating of light grease to sidewalls of large hole at center of wing and to groove on S92 cam with the tip of a toothpick. Now place (do not cement) cam into gear hole in wing.

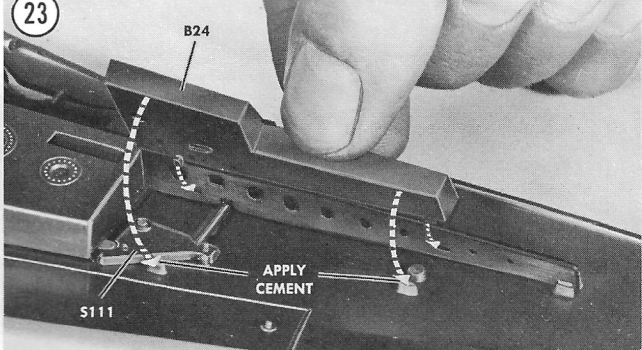
**16** Apply a tiny amount of cement to end of shaft S129 and fit shaft into hole in wing from the outside and into hole in cam. Hold cam down with finger as shown when inserting shaft. Flat spot in hole in cam lines up with flat spot on shaft.

**17** DO NOT USE ANY CEMENT IN THIS STEP. Place wing on table and apply a thin coating of light grease to pin on cam, then turn cam so that pin on cam is on right side as shown in photo. Now lay wheel assemblies in place with struts over wheels facing up, as shown. Fit pin on left side of strut link assembly into hole in left strut pivot. Now drop strut link down into place so it fits between long thin pins on fuel tank bottom, at the same time fitting the slider slot at center, over the cam. Pull the right landing strut forward slightly and work the pin on the other end of strut link into hole in right strut pivot.



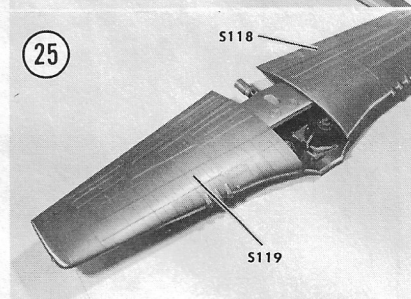
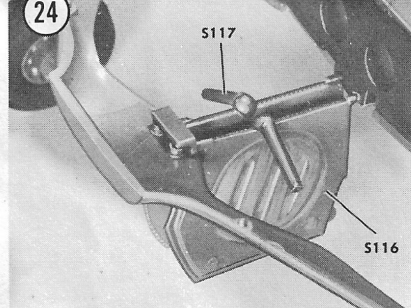
**21** Apply cement to only those edges of S95 fuel tank top indicated by dash lines in inset photo and attach tank top. Next lay B96 wing spar in place on wing with flat side of spar against fuel tank. Be sure that strut pivots, and tabs on fuel tank bottom fit into proper notches in spar. Spar should fit against fuel tank top. Carefully put six rubber bands over wing as shown to hold spar down firmly to wing. Using the tip of a toothpick, apply cement only to the six spots shown to hold wing spar to wing and fuel tank bottom. DO NOT OPERATE LANDING GEAR!

**22** USE CARE IN THIS STEP NOT TO LOSE COIL SPRINGS. If cement holding spar is dry remove rubber bands from wing and begin installation of bomb linkage. First fit tiny coil springs over one end of S109 bomb release pins. Do not cement. Now feed these units CAREFULLY into the bomb racks, under the spar from the rear so spring is closest to the leading edge of the wing. Do not cement.

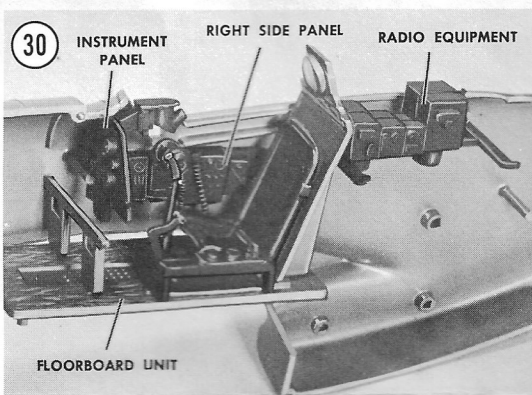


**23** Push both bomb trip arms into wing tank so that a little portion of each sticks out of the ends. Apply a thin coating of light grease to two notches in S111 right bell crank. Now fit bell crank over pin on right wing so ends of bomb release pin and bomb trip arm fit into notches in bell crank. Small raised ring around hole in bell crank must be toward the top. Fit tabs on part B24 into notches in spar. Do not cement yet. Hold this piece down in place and fit tabs on bomb upward into slots in bomb rack to fasten bomb. Now test for smooth release of bomb by pushing bomb toggle forward at bottom center of wing. Part B24 can now be cemented into place. Be sure to apply cement to two ribs on wing on which rear of part B24 rests. Do the same on left wing using parts S112 and B25.

**22** Bring wheels into down position. Next fit S116 and 117 wheel well doors in place. Do not cement. Pins on doors fit into holes in spar and pivot plate. In order to fit pins into holes easily pull forward slightly on front edge of wing at center to spread opening wider. Doors must flop freely without binding. Now hold wing level and retract landing gear into wing. **WHENEVER THE LANDING GEAR IS OPERATED IT MUST BE HELD LEVEL OTHERWISE THE PINS ON THE DOORS WILL CATCH ON THE WHEELS AND PREVENT RETRACTION OF THE LANDING GEAR.**

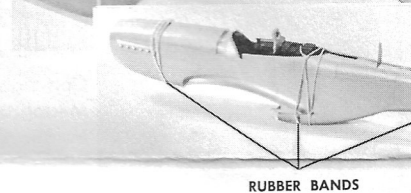
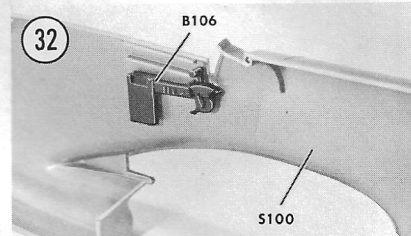
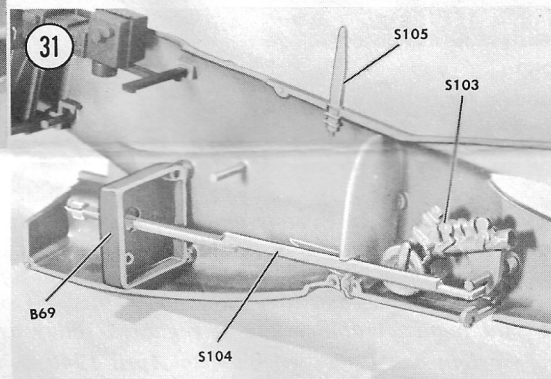


**25** Attach S118 and S119 top wing panels. Apply cement very sparingly along edges so seams will be neat. Use pieces of tape at leading and trailing edges to hold wings together tightly until cement sets.

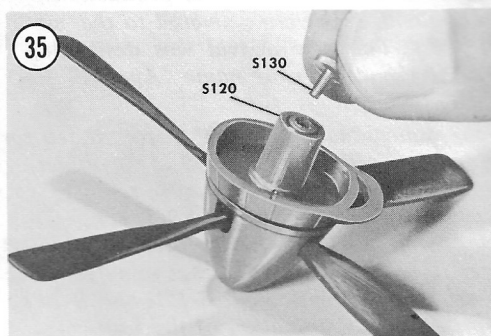


**30** Right side panel with oxygen tube, instrument panel, floorboard unit, and radio equipment should now be cemented to right fuselage half. Pins, tabs, and sockets inside of fuselage correctly locate these pieces.

**31** Cement B69 coolant radiator into place. Fit pin on S103 tailwheel into socket in fuselage. Pass end of S104 tailwheel linkage in coolant radiator from the rear and then fit pin on end of linkage into hole in tailwheel. Do not cement. Cement S105 antenna into notch at top of fuselage.



**32** Cement B106 throttle into place in half of fuselage. Apply cement sparingly around edges of left fuselage. Fasten it to right fuselage half, making rear bulkheads and pin on tailwheel fit into openings. If necessary, use rubber bands to hold fuselage halves tightly together until sets. (See inset photo).

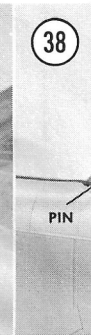
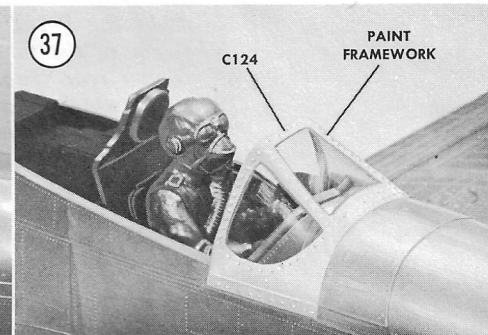
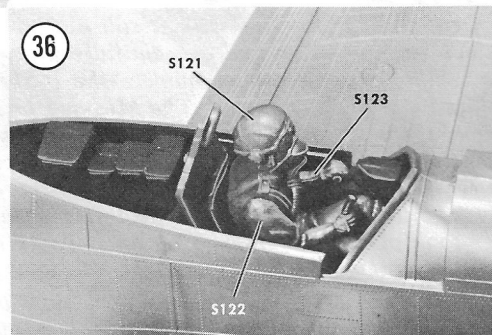


**35** Fit shaft of propeller unit into hole in S120 fuselage front. Apply a little cement to end of S130 propeller retainer and push retainer into hole in propeller shaft. Propeller should spin freely. Now cement assembly to front of fuselage.

**36** If you wish to paint the pilot, refer to the column on PAINTING before putting him in model. Trim any excess plastic material from beneath left arm of S121 pilot's body and cement S122 right and S123 left arms in place. Before arms dry completely, fit (do not cement) pilot into cockpit. Wiggle and press him down until he snaps into place all the way down on seat so canopy when installed, will not hit his head. Pilot will stay in place without cementing. Pilot can also be removed if you wish to display the highly detailed cockpit interior.

**37** Paint the framework of the windshield to match the color of the fuselage. Then place masking tape with sides of fuselage.

**38** Install canopy by hooking sides of fuselage. Then squeeze sides of fuselage. Do not cement.

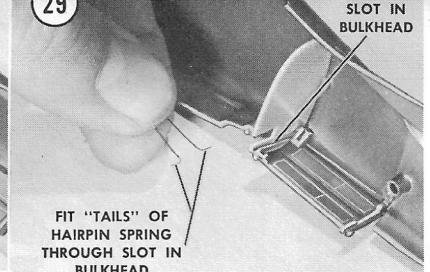
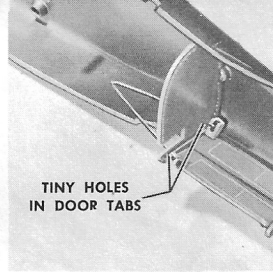
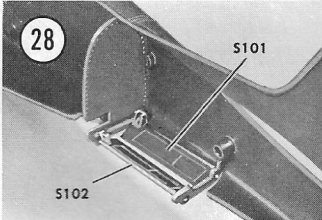
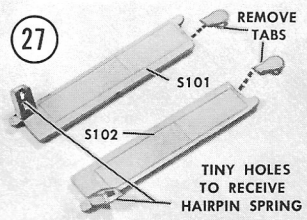
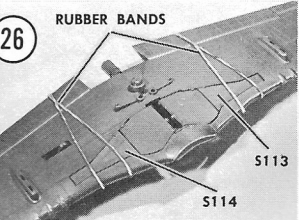




26 Turn wing upside down and cement *S113* right and *S114* left strut covers to landing struts. Pins on struts fit into holes in strut covers. Strut covers should be flush with surface of wing. Put a rubber band around each wing to hold strut covers in place and set wing aside to dry. DO NOT operate the landing gear until cement dries and rubber bands are removed.

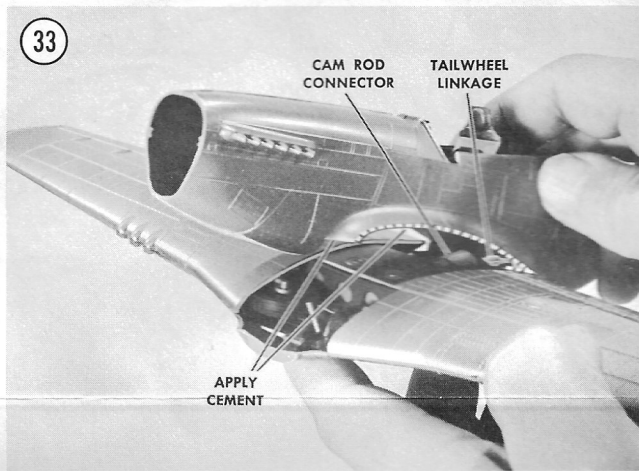
27 Remove overflow tabs from *S101* and *102* tailwheel doors and trim away any slight flash or excess plastic. Also use the point of a straight pin to be certain that tiny holes to receive spring are open.

28 Remove rubber bands from fuselage halves. Install tailwheel doors in right fuselage half (do not use any cement). Pins at end of doors fit into holes in bulkheads. Tab for mounting hairpin spring should go inside of fuselage and towards front of model. Bend fuselage slightly to help get doors in more easily.

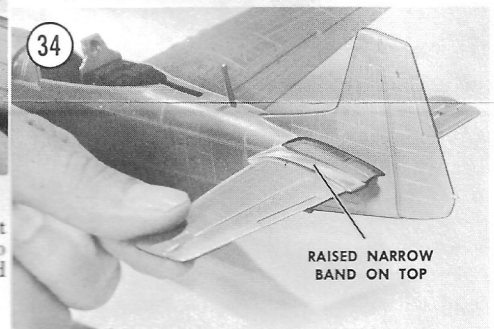


29 Installing the hairpin spring that holds tailwheel doors closed is a delicate operation so be patient and BE CAREFUL NOT TO LOSE THE SPRING. Hold spring compressed as shown and feed the two "tails" through the narrow slot in the large bulkhead from the front and then hook these tails into tiny holes in door tabs. Tailwheel doors should be held in the "closed" position while doing this. Check for smooth operation of the doors by pressing them open from the inside with a pencil point.

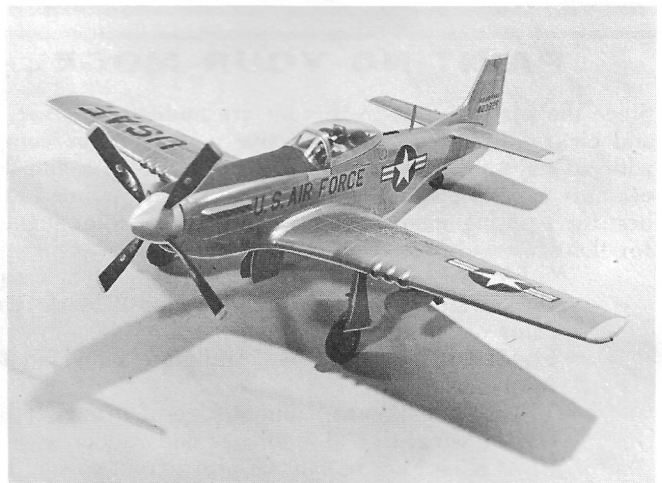
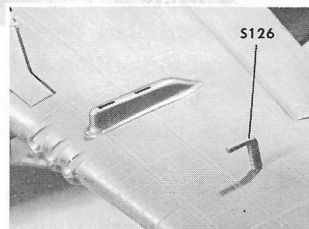
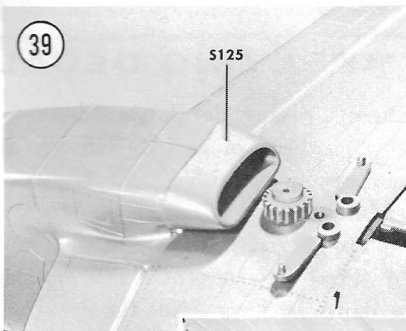
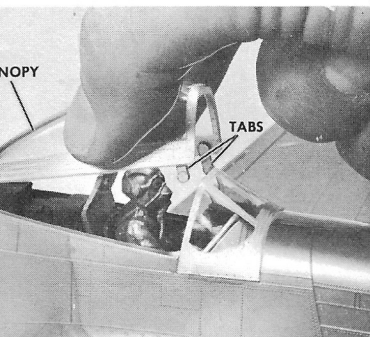
33 Remove rubber bands and tape from wing and fuselage. Attach fuselage to wing using the exact method described here. Practice before using any cement so you will know exactly how parts fit. Landing gear must be in the "up" position. Point nose of fuselage upward and bring it behind cutout in trailing edge of wing as shown in illustration. Apply a tiny bit of cement to front end of tailwheel linkage and along areas of fuselage as indicated—then fit end of linkage into hole in cam rod connector (these parts can be seen by looking through top of cockpit) at the same time dropping fuselage down into position on wing. Make certain that front edge of wing at center is flush with fuselage and that two small tabs on fuselage fit down on top of wing for correct positioning. Open tailwheel doors, push tailwheel up as far as it will go and hold fuselage and wing together until cement sets.



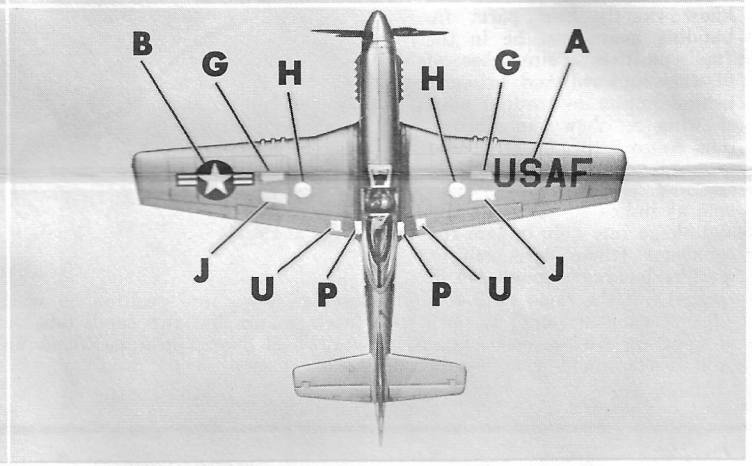
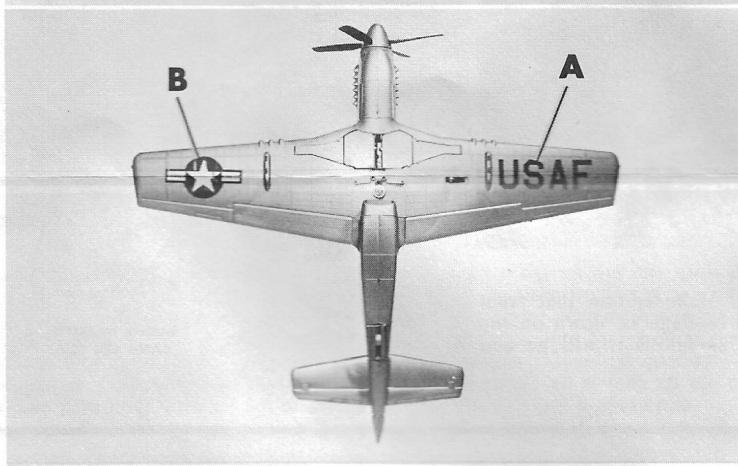
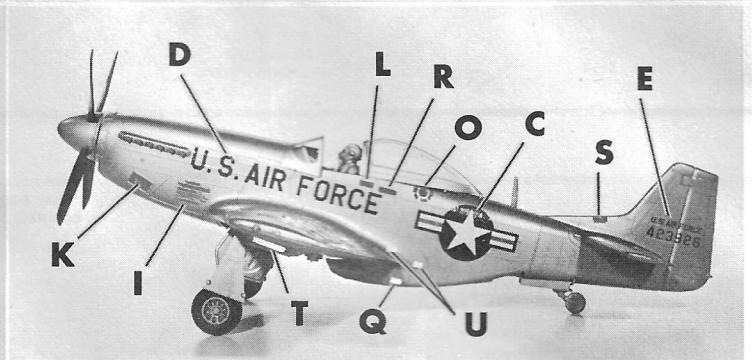
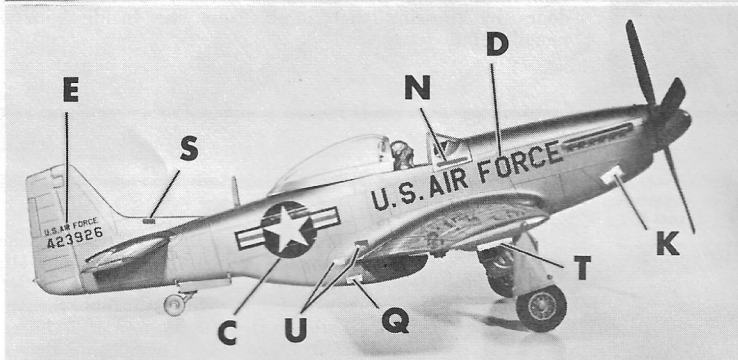
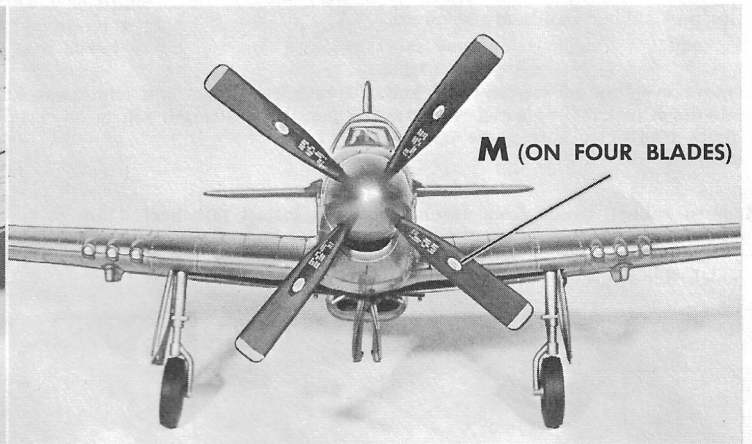
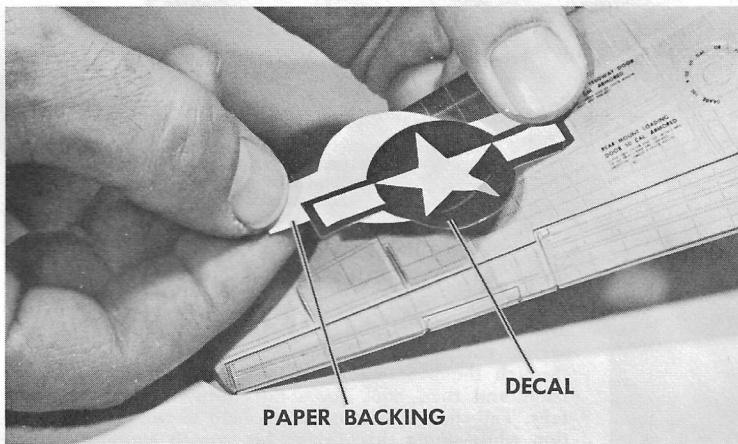
34 Next attach stabilizer. With the narrow raised center band on top, slip the stabilizer into fuselage slot from the left side as shown and wiggle it through the slot until small stop buttons on bottom of stabilizer rest against fuselage side. Then, using the tip of a toothpick, apply cement on the bottom at leading and trailing edges.



39 Turn model over and cement *S125* air scoop to fuselage. Small pin on scoop fits into hole in wing. Next cement *S126* pitot tube into hole in bottom of right wing.



**YOUR MODEL IS NOW COMPLETED.  
SEE INSTRUCTIONS FOR APPLYING DECALS  
ON BACK PAGE**



## PAINING YOUR MODEL

Since the plastic parts in this kit are molded in silver, black and clear polystyrene, an attractive model can be completed with no painting. If you wish to paint some trim and details, use only *enamel* or *paint for plastics*. A small pointed brush is best for painting small areas. Here are a few color suggestions for those who wish to trim up their model.

**SILVER** — Framework on windshield and canopy. Darken silver paint with a few drops of black to match color of silver plastic.

**FLAT OLIVE DRAB** — Anti-glare panel on top of fuselage.

**YELLOW** — Bombs, spinner, tips of propeller blades, tips of wing, tips of stabilizer and rudder.

**BLACK** — Ends of exhaust pipes, front of gun fairings on wing, and tailwheel tire.

**PILOT** — Helmet, jacket and gloves—dark brown. Trousers and fur collar—light tan. Oxygen mask and hose—light olive drab. Shoes—black. Parachute straps—white. Goggles—green lenses with silver frame and straps. Exposed part of face—flesh.

**LIGHTS**—Tail light—white, right wing light—green, left wing light—red.

## APPLYING DECAL MARKINGS

When applying decal transfer, refer to the illustrations that show locations of various subjects on the airplane. Notice that these are coded with letters A, B, C, D, etc. to correspond with markings on the decal sheet. Work with one subject at a time. Cut around subject with scissors to remove it from the sheet. Dip decal in water for a few moments until it slides easily on the paper backing. Slide the decal partly off of the paper backing and place decal on the model in the correct location. Hold decal in position and slide backing out from underneath. Decal can be shifted slightly on the model. When it is in correct position, press out trapped air bubbles and blot with a soft rag. U.S. star and bar insignia is supplied without the red center bar for those builders who prefer the earlier WW II markings. An extra red strip is included and can be cut to length and applied on top of the earlier U.S. insignia to update it.

**MONOGRAM**  
The name for **QUALITY** hobby kits