INSTRUCTION

NORTH AMERICAN F-51D MUSTANG

KC-1003

RADIO CONTROL MODEL AIRPLANE KIT

WING SPAN 48" LENGTH 41" ENGINE 40 R/C

KYOSHO

Kyosho Corporation

1636 EAST EDINGER, UNIT-N, SANTA ANA, CALIF. 92705 5

Read these instructions carefully in order to efficiently assemble this model aircraft, which was designed especially for the newest proportional R/C equipment. Included in this kit are the parts listed below. Check all parts for completeness by laying them out on the plans spread out on the floor to insure that no parts are missing. All parts are cut by automatic machine for a precise fit and from the best quality balsa obtainable. They are of balsa unless otherwise stated.

COMPLETE PARTS LIST FOR F-51D MUSTANG

FUSELAGE PARTS NO.	DESCRIPTION	TOTAL QUANTITY
F-1 to F-10	PLYWOOD FORMERS	10 pcs.
F-11	STRINGER, R & L	1 pr.
F-12	FUSELAGE SIDE BALSA SHEETING	1 pr.
F-13 and F-14	KEEL	2 prs.
F-15	FUSELAGE SIDE SHEETING, R & L	1 pr.
F-16	TAIL WHEEL ASSEMBLY	1 set.
F-17	FUSELAGE SHEETING	1 sht.
F-18	FUSELAGE SHEETING	1 sht.
F-19	LOWER NOSE BLOCK	1 pce.
F-20	NOSE BLOCK	1 pce.
F-21	FILLET, R & L	1 pr.
F-22	TRIANGLE STRINGER	1 pce.
F-23	VERTICAL FIN PLATFORM	1 pce.
F-24 to F-27	AIR SCOOP	1 set
F-28	HARDWOOD WING MOUNT	1 set
F-29	SERVO MOTOR MOUNT	1 pr.
F-30	EXHAUST STACKS	1 set
F-31	METAL SPINNER, 3-3/4"	1 pce.
F-32	HARDWOOD ENGINE MOUNT, R & L	1 pr.
F-33	CANOPY, CLEAR PLASTIC	1 pce.
F-34	BALSA WOOD ANTENNA	1 pce.
F-35	PLASTIC FUEL TANK	1 pce.

WING PARTS NO.	DESCRIPTION	TOTAL QUANTITY
W-1	PLYWOOD RIB	1 pce.
W-2	PLYWOOD RIB, RIGHT & LEFT	1 pr.
W-3 to W-10	RIBS	8 prs.
W-11	TIP, RIGHT & LEFT	1 pr.
W-12	DIHEDRAL BRACE	1 pce.
W-13	BALSA SPAR, RIGHT & LEFT	1 pr.
W-14	LANDING GEAR GUSSETS PLYWOOD	4 pcs.
W-15 and W-16	HARDWOOD LANDING GEAR MOUNT	4 pcs.
W-17	LEADING EDGE CENTER BALSA BLOCK	1 pce.
W-18	LEADING EDGE	2 pcs.
W-19	AILERON RIB	2 pcs.
W-20	AILERON EDGE	2 pcs.

WING PARTS NO.	DESCRIPTION	TOTAL QUANTITY
W-21	WING TRAILING EDGE, AT AILERON POSITION	2 pcs.
W-22	AILERON HINGES	6 pcs.
W-23	DIHEDRAL BRACE	1 pce.
W-24	HARDWOOD DOWELS	2 pcs.
W-25	AILERON CONTROL ROD MOUNTING, R & L	2 pcs.
W-26	AILERON CONTROL ROD	2 pcs.
W-27	BALSA SHEET, TOP & BOTTOM	8 shts.
W-28	TORQUE ROD MOUNTS	2 pcs.
W-29	LANDING GEAR COVER BRACKET	1 set
W-30	LANDING GEAR ASSEMBLY 2-1/4" DIA. WHEEL	1 set

VERTICAL FIN AND RUDDER PARTS NO.	DESCRIPTION	TOTAL QUANTITY
R-1 and R-2	VERTICAL FIN	2 pcs.
R-3	RUDDER	1 pce.
R-4	RUDDER HORN	1 pce.
R-5	RUDDER HINGES	3 pcs.

STABILIZER PARTS NO.	DESCRIPTION	TOTAL QUANTITY
S-1	TRAILING EDGE	1 pce.
S-2	TIP	2 pcs.
S-3	LEADING EDGE (S-3 & S-3A)	2 pcs.
S-4	BALSA CENTER SECTION	1 pce.
S-5 to S-7	RIBS (RIGHT & LEFT)	3 prs.
S-8	ELEVATOR	2 pcs.
S-9	ELEVATOR HORN	1 pce.
S-10	ELEVATOR HINGES	6 pcs.
S-11	BALSA SPAR (USE FROM W-27 SHEET)	

MISCELLANEOUS PARTS NO.	DESCRIPTION	TOTAL QUANTITY
M-1	SILK	1 sht.
M-2	DECAL	1 set

FUSELAGE AND GENERAL ASSEMBLY

STEP 1

Insert both hardwood engine mounts into Formers F-1, F-2 and F-3. Be sure the stamped numbers are on top and facing toward the nose of the model, while the words "Engine Mount" are facing upward and visible from the top. Following these precautions will help in the correct assembly of the MUSTANG. Next cement the two balsa pieces F-12 that shape the nose to the structure. At this point, it should have already been determined what motor is to be used on your own MUSTANG and the hardwood motor mounts modified accordingly. Mark the position of each former on Side Stringer F-11. Next cement plywood Formers F-4, F-5 and F-6 to the structure, then add the Side Stringers F-11, holding F-11 together at the tail with a clothes-pin or rubber band until dry. While this is drying, mount the tail wheel assembly to F-9 using the hardware supplied. Next add Formers F-7, F-8, F-9 and F-10 to the fuselage, making certain that they are properly aligned. Continue on by cementing the keel (F-13 and F-14).

Before you set aside to dry, take a triangle and check to see that there are no warps in the fuselage. Allow this part to dry thoroughly before adding any more parts. When thoroughly dry, add the fuselage Side Sheets F-15 on both sides of the lower fuselage, then add the upper sides (F-17), wrapping with rubber bands or strips of cloth. We found that a contact cement that comes in a spray can was very useful for adding these sheet sides..... just follow the instructions on the can.

Trim the Nose Section Covering F-17 to shape by dry fitting, then when exact, cement to the fuselage, again using contact cement. At the same time, add the Bottom Sheeting F-18 from Former F-6 to F-10 as shown on the plan. The Lower Nose Block, F-19 is now added, as well as the Nose Block F-20. Add TRIANGLE STRINGER F-22 on each side. These will be trimmed to shape later on. The Fillets F-21 require special care. First they must be shaped to the curvature of the wing, then the fillet part carved to shape. It is best to wait until the wing is available before completing this part of the fuselage. Likewise the portion of the air scoop that is cemented to and becomes a part of the wing. However, we will describe the construction now. Refer to the sketch below the fuselage on the plan which shows all the parts that make up the air scoop.

The outline of the actual intake is made with black ink or black dope, there is no reason to have air enter the fuselage at this point. As a matter of fact it may create additional drag. Assemble the parts with pins and cement, when dry, add to the wing center sections. A very good fit must be obtained at this point so as to not spoil the appearance of the sleek fuselage. Finally carve and rough shape the fuselage and remove all irregularities. The piece for the antenna is drilled out inside so that the radio antenna can be threaded through and fastened to the fin with a rubber band. It is not added until the fuselage is covered with silk or Super MonoKote.

WING ASSEMBLY

STEP 2

A sheet of wax paper over the plans will prevent the cement from sticking to the paper. Because there is dihedral of 2-1/4" in each wing panel the panels must be built separately, then joined. Merely cut the separate wing tip from the plans and join where indicated for a full span wing plan. Take Wing Spar W-13 and mark the position of each rib and pin it down on the plans. Cement the ribs in succession to Spar W-13 starting with W-2 and ending with W-10. Then add the Leading Edge W-18 which is two pieces. Build a right and left panel from the plans. There is no trailing edge stock used in the wing. Next add the Wing Tips W-11 to each panel. Now sheet the entire bottom of the wing and let dry. Next join the two wing panels by putting them together and add the Center Rib W-1. Block up each tip 2-1/2" and let dry. Now add the Leading Edge W-17, the Landing Gear Blocks W-15 and W-16, the plywood GUSSET for the Landing Gears W-14, and the hardwood Spar W-12. Next drill holes for the Wing Dowels W-24, in W-17 and in W-23 and dry fit. The wing dowels should match the fuselage holes exactly and should not be cemented in until they do.

Trim Servo Mount to fit your servo and cement in place. Install the aileron controls and make sure each end of the nylon rod is fastened to the rib nearest the ends. Now cement in the Aileron Rib W-19, Aileron Leading Edge W-20 and the Wing Trailing Edge W-21 on both panels. Space them so that they can readily be cut apart to form the aileron when dry. Trim the leading edge of the aileron to the shape shown on the plans, either before separation or afterward. When the controls work freely with the servo installed and working, begin to add the top sheeting to the wing structure.

This takes lots of pins and masking tape to accomplish. Set aside to dry overnight making certain that the wing has no warps. When dry cut the ailerons out and attach with strips of Super MonoKote or hinges. Adjust the individual ailerons so that they are even with the wing rib sections. Sand to remove all rough spots and prepare for covering. Cut a hole for the landing gear legs and insert them. They are fastened to the hardwood mounts by three small brass strips, or you may bind them with button thread prior to installing the hardwood blocks. When dry, re-cement the balsa sheeting over the blocks to present a smooth surface.

STABILIZER ASSEMBLY

STEP 3

Begin by attaching the Elevator Horn to the Stabilizer Trailing Edge (S-1) by wrapping it with button thread or epoxy. Then place on the plans with wax paper underneath and add the Leading Edge (S-3), the Ribs, S-5 through S-7, the Tips (S-2) and the Center Section (S-4). The elevator horn should work freely without bind before the elevators are installed. Now shape the elevators to a streamline shape, sand them roughly and install, using hinges or Super MonoKote, with the gap in the hinge line kept to a minimum. On the fuselage, hooking up the elevator horn to the push rods as you do.

RUDDER AND FIN ASSEMBLY

STEP 4

The sheet balsa fin and rudder should be sanded to a streamline shape, then joined with hinges and cemented firmly to VERTICAL FIN PLATFORM F-23. Sand as much of the balsa away to make it light, but yet keep the strength of the balsa intact. The rudder horn should be mounted on the rudder so that the holes for the adjustable links line up with the rudder hinge line. This will provide equal throw to each side. It is wise to provide additional movement, so that the servo motor can drive the surface to the limits of the travel and not be stalled because of a bind in the hinges or a stop in the fuselage.

LANDING GEAR & ENGINE

STEP 5

If you already have mounted the landing gear legs, then install the Landing Gear Cover (W-29) with the brass strips and screws provided in the kit. Next install the wheels using the wheel retainers furnished. Install your choice of a motor, and choose a reliable power plant for this fighter.

RADIO INSTALLATION

STEP 6

No specific radio control installation can be given, however, try to mount all the radio equipment so as to balance the MUSTANG at the balance point shown on the plans. Shift the gear as much as possible, but there are limitations due to former placements, etc., so thereafter add weight to achieve this balance. Before completely covering your MUSTANG, install and hook up all surfaces. Eliminate all binding as this will drain the battery much faster than normal operation, and have a vital influence on the life of this model aircraft.

FINAL ASSEMBLY

STEP 7

Attach the wing to the fuselage by using the nylon screws provided, but tighten just enough to make the wing fit flush with the fuselage ..... no more. Next put on the propellor recommended by the engine manufacturer and add the spinner.
Complete the fuselage and sand again to eliminate all bumps and irregularities. The smoother the finish on your model the more apparent will be the bumps you didn't sand down or the cracks you didn't fill prior to covering.

FINISHING

STEP 8

When you have determined that the wing and stabilizer are joined properly, remove the wing and give the entire structure a coat of clear dope. When dry, sand with 400 grit sand paper and then apply a coat of silk to the entire airplane, even over the balsa parts. Silk will add strength and if carefully applied with thinned dope, will make your model easier to decorate. There are many brightly painted MUSTANGS both in the many Military color schemes and in civil aviation, including the National Air Races participants. Paint the portion under the canopy a dull black, install a dummy pilot and then add the canopy, and antenna, after it has dried.

TEST FLYING

Before proceeding to the field for flight testing, make certain the engine will start readily and can be made to idle slowly enough to taxi. Some adjustments to the carburetor may be necessary to accomplish a slow idle. Be familiar enough with your new engine so that it will cause no trouble at the flying site. Start the engine and throttle back to idle, and taxi the MUSTANG around the immediate area, noting the amount of control necessary to direct the model properly. Also ground test your radio by taxiing the MUSTANG about 500 feet away with the antenna on the transmitter collapsed. All surfaces should respond immediately to the command given ..... but if not ..... DO NOT FLY. Now taxi back to the pit area, lift the model by the wing tips and open the throttle wide open and again check command response. If you find that all surfaces react as directed turn the engine off, wipe it clean and check again the C.G. location with a full tank of fuel. Do not be content to let the model balance more than 1/4" away from the specified C.G. balance point. Add weight to the nose or tail as required.

Now you are ready for the most critical part of the flight. Start the engine, make certain again that you have response on all surfaces and engine to the radio command, taxi the model in the clear area, into the wind, then open the throttle slowly watching the MUSTANG's reaction in the air. It should take off after 220 feet without giving up elevator. Once airborne, let it climb without turning until well above 500 feet, then apply a bit of aileron command, giving some up simultaneously and check for adequate response. You will soon know how well your MUSTANG will fly for the first three minutes airborne are the most revealing.

When ready to land, throttle back and approach the landing spot in the same manner as the real MUSTANG ..... fly downwind, fly base leg and then on final approach.

At this point it is likely that you will over control, and if so, do not hesitate to give it throttle and go around, if you cannot land it at the spot chosen. Now land it properly.

There are a number of Radio Manufacturers that offer a student box that hooks to the instructor's box for training inexperienced pilots. If you are in that category, don't hesitate to use a Student box. This MUSTANG is a joy to behold in the air and a distinct pleasure to fly ..... but fly safely and in consideration of others around you.

KC-1001 DOUGLAS AD-6 SKYRAIDER
WING SPAN 51" LENGTH 39"
ENGINE 40 R/C

KC-1002 NORTH AMERICAN T-6 TEXAN
WING SPAN 54" LENGTH 37"
ENGINE 40 R/C

KC-1003 MUSTANG F-51D
WING SPAN 48" LENGTH 41"
ENGINE 40 R/C

KC-1004 CURTISS P-40 WARHAWK
WING SPAN 51" LENGTH 37"
ENGINE 40 R/C