BYRON ORIGINALS INC.

Ida Grove, Iowa, 51445 Ph. 712-364-3165

F-16
OWNER'S MANUAL

- Assembly Instructions
- Parts Lists and Drawings
- Operating Instruction
- Safety Warnings

Byron Originals, Inc. - P.O. Box 279 - Ida Grove, IA 51445 - Ph: (712) 364-3165

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ADDITIONAL ITEMS

Items not included in kits but required

Medium CyA+
CyA Accelerator
Epoxy 5, and 30 or 60 minute
Polyester resin
Radio
Byro-Jet performance package
Retracts or fixed gear
Paint and primer
Black Baron or Econokote
Sandpaper #80, #220, #320 grit
Hot melt glue gun
T-pins
Straight edges
"Y" Connector (ailerons)
Sullivan starter with Magic Wand
Scale military jet pilot
Sanding block(s)
Scissors
X-acto knife
X-acto hot knife
Zona saw
Masking tape
Flat and round files
Solder gun
Tack rag
Drill bit set and drill
#2-56, 4-40 and 8-32 taps
Small clamps
Heat gun
Heat sealing tool
36" Shielded cable (elevator servo)
18" aileron servo extension leads (2)

SAFETY PRECAUTIONS

1. Keep hands away from fan as much as possible.
2. Keep face and body away from path of fan as you start and run engine.
3. To stop engine, cut off fuel supply or follow engine manufacturers' directions. **DON'T** use hands, fingers or any part of body. **DON'T** throw anything into running fan blades.
4. Discard any fan rotor with nicks, scratches, splits or cracks, or **ANY** sign of wear or damage.
5. **NEVER** repair, alter, shave or bend fan blades or shroud. Normal engine vibration can loosen engine bolts. Inspect and retighten if necessary.
6. Use safety glasses when starting or running Byro-Jet Unit.
7. Don't run engine in area of loose gravel or sand; fan may throw such material in face or eyes.
8. **KEEP AWAY FROM FAN:** Loose clothing, shirt sleeves, ties, scarves or loose objects (pencils, screw drives) may fall out of shirt or jacket pockets into fan.
9. Make certain glow plug clip or connector is secure so that it will not pop off or otherwise get into running fan.
10. Never fly your model higher than 400 feet within 3 miles of an airport without notifying the airport operator.
11. Never fly your model in a careless, reckless and/or dangerous manner.
12. Never fly your model in the presence of spectators until you are sure you are able to completely control model. Never fly over top of any spectators.
13. Make a radio equipment ground range check before the first flight of your new model.
14. Make sure that your flying area is safely clear of all utility wires and poles.

NOTE: The attached Warning Decal is to be affixed on bottom of fuselage to the rear of fan opening. Special note should be made of these precautionary measures to prevent bodily injury.

PRE-FLIGHT

1. Develop the habit of checking your models before every flight just as full-scale pilots do before they fly. A few minutes spent now will give you more confidence that everything is O.K. and ready to go.
2. Inspect the model carefully. Inspect the tail surfaces to be sure they are secure. Be sure that the radio is properly mounted. Inspect the pushrods to be sure that the clevises are correctly attached to the control horns as well as at the servo arm.
3. Assembly the wings on the model, aligning carefully so that the wings are centered on the fuselage. Visually check the tail surfaces and check the fan unit for tightness or damage.
4. Be sure that the receiver and transmitter batteries are fresh. More radio failures are caused by defective batteries than any other reason.
5. Check the radio operation. Be sure your frequency is clear before turning on the transmitter. **YOU MUST NOT** turn on your transmitter when someone else is flying or operating their model on that same frequency. Stand behind the model to see that all control surfaces are operating correctly.
6. You are ready to start flying.

BUILDING TIPS

I. The building of this model follows the procedures used in most fiberglass/foam kits and assumes that the modeler has the knowledge of building kits of this caliber.

II. Before starting the actual assembly of the kit, please take the time to familiarize yourself with all of the drawings. Trial fit all parts and sand those that require sanding to insure proper fit.

IMPORTANT NOTE: Use only epoxy, Tite Bond or Sig Bond glue on Byro-Foam parts and mating parts. Model airplane glue and fiberglass resin will attack and destroy Byro-Foam. If you use any product you are unsure of, test them on a scrap of Byro-Foam before using on model. To insure proper bonding of all wood and foam parts, apply glue to both mating parts and press firmly into position. Wipe **ALL** excess glue off. Excessive amounts of glue are not recommended as this will only add unnecessary weight to your model.

While sanding Byro-Foam parts, check to see that all parts mate properly and that the alignment is true. In any manufacturing process, some parts are not perfect. Byro-Foam parts are molded to hold very close tolerances, so that you will receive the very best molded parts possible. Due to a multitude of variables, you may find a slight amount of warpage in some parts. This warpage can usually be eliminated while you are covering and assembling them.

When covering Byro-Foam parts, you should use **EXTREME CAUTION.** Any covering technique involving the use of heat over 150° Fahrenheit may result in damage to Byro-Foam parts.

Aircraft should weigh approximately 13 1/2 to 15 pounds when finished to insure the best performance. In order to achieve this, it is recommended that the wing and all the remaining control surfaces be Econokoted. You may paint over the Econokote by first etching surface of Econokote with acetone and then painted as usual.

REPAIR PROCEDURES

The wings and tail surfaces consist of molded expandable polystyrene which is referred to as Byro-Foam **DO NOT** use model airplane cement or Alpha-Cyanoacrylate adhesives on Byro-Foam as they will melt it! The best adhesive is a quick setting two-part epoxy such as 5-minute epoxy. Broken Byro-Foam can be repaired by applying well-mixed epoxy to the broken edges and holding the parts in position until the epoxy cures. Dents can be filled with a spackling paste, Model Magic Filler or equivalent. Don't use lacquer based paints as the solvents will melt Byro-Foam parts. It is a good idea to try out anything you use first on a molded foam part before using it on the model.

If the model sustains a hard knock on landing, inspect the radio installation carefully. Be sure that the power pack, receiver, and servos are tight in their compartments. A loose servo will cause erratic flight so you must be sure the servos do not move if you wiggle the servo case. Also inspect the whole model to make sure that nothing is broken or has jarred loose.

REPLACEMENT PARTS

Items with designated part numbers may be ordered from the factory. Those parts not marked should be purchased at your local hobby shop. Please note, some components are labeled as sub-assemblies and can only be purchased as such.

FINISHING FIBERGLASS FUSE

The finish applied to any model comprises a substantial portion of the **TOTAL BUILDING TIME**. A fiberglass fuselage does shorten the total building time by providing the final shape, strength and detail. But it **DOES NOT** eliminate "finishing work". The fuse must be sanded, filled and primed prior to the actual painting. Many of the most experienced model builders in the country have stated time and time again in magazine articles that a beautiful paint job is the result of the effort put forth in the preparation of the surface—Not the final coat of paint. The paint will highlight your work, not hide it.

The technique described below is the system we use on all of our models.

1. Sand fiberglass fuse with #220 sandpaper.
2. Fill voids with polyester body putty and sand to match surrounding area.
3. Brush on coat of K & B Super Poxy Primer and Brushing Catalyst. Allow to dry 24 hours.
4. Pin holes are now filled with glazing putty and spackling.
5. Sand entire fuse with #220 sandpaper removing nearly all of the primer, clean detail lines.
6. Spray again using K & B Super Poxy Primer and Primer Catalyst applying it as through it were a finish coat. Allow to dry 24 hours.
7. Sand lightly with #320 sandpaper and remove dust with tach rag.
8. Apply base coat of paint and color of your choice. Trim model as desired.

PAINTING LOW HEAT MYLAR COVERING MATERIAL (Econokote, Solar Film, etc.)

Prepare the covering material for painting by carefully rubbing with 000 grade steel wool. Clean the surface with acetone or thinner on a damp cloth. Use the acetone or thinner sparingly being careful not to allow any spillage on the foam. Spray paint the colors of your choice on the hand rubbed surface. Use two light coats for color coverage.

A.B.S. Parts

1. Sand with #320 sandpaper
2. Prime lightly with K & B Primer/Primer Catalyst.
3. Sand lightly with #320 sandpaper.
4. Spray finish with paint and color of your choice.

INTRODUCTION

As with any kit, always take the time to study **ALL** drawings/diagrams and instructions **BEFORE** beginning assembly. Look at the pictures and examine the contents of the kit. Trial fit all parts prior to an actual glue or glass operation. If a particular procedure seems to be complicated, perform a dry run prior to actual final assembly.

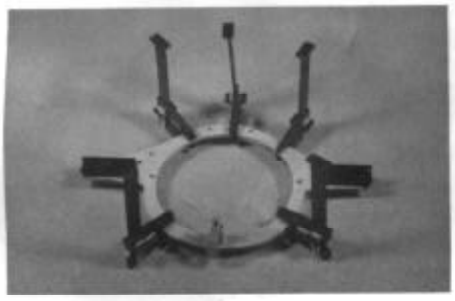
This kit has an order of construction that is to be followed in order to blend all the building steps together. Multiple operations can be started and worked on while waiting for such things as adhesives to cure, etc.

ENGINE FORMER ASSEMBLY

1. Locate the molded fiberglass fuselage bulk item #5930296 and two pre-drilled 1/8" thick plywood die-cut formers bulk item #6030567 (vertical grain) and #6030564 (horizontal grain). From Bag #1, two 3/4" ID x 2 1/2" aluminum spar extrusions item #5930277, two #8-32x1/4" socket head cap screws item #0730075, four #4-40x1/2" flat head bolt item #0730073, four #4-40 hex nuts item #1410009, four #8-32 blind nuts item #1430500 and one pair stamped aluminum gear brackets - left-hand item #5930315 and right-hand item #5931126.

2. Locate the two pre-drilled 1/8" thick ply die-cut engine formers. Note that the grain runs differently on each former. This is done purposely for added strength when the two are laminated together.

3. Referring to the drawings and photos, laminate the two formers together using 60-minute epoxy. Spread an even coat of epoxy on one surface and place the two pieces together, matching up the pre-drilled holes.



Engine formers being held in place via clamp while adhesive cures.

Rear view of engine former with aluminum spar extrusion installed.

Front view of engine former with stamped aluminum gear brackets installed.

Rear view of engine former with four #8-32 blind nuts installed.

4. Hold in alignment by temporarily installing the aluminum extrusions, #4-40 nuts and bolts and stamped gear brackets. Tighten bolts down securely, and use clamps to hold the two ply pieces tightly together. Let epoxy cure. After curing, remove clamps and aluminum gear brackets and spar extensions.

5. Using coarse sandpaper, roughen the backs of the aluminum extrusions and gear brackets for a good glue purchase. Install extrusions and brackets to the former as shown on the drawings. Using a 7/32" diameter drill, clean out the pre-drilled holes of any sealer or epoxy that may have accumulated there. **IMPORTANT: NOTE FORMER ORIENTATION OF FRONT, REAR, TOP AND BOTTOM!!!** Be certain aluminum extrusions are installed on the rear side of the former with the tapped holes in the extrusions facing the bottom. Install the stamped aluminum gear brackets even if you do not plan to use fixed gear. The brackets act as sort of a nut plate for additional strength.

6. Locate the four #8-32 blind nuts and break off two of the spurs on each blind nut. With the single spur towards the outer periphery of the engine former, install the blind nuts from the aluminum spar extrusion side. Glue blind nuts and aluminum extrusions and gear brackets in place using 5-minute epoxy. Put epoxy on the #4-40 nuts and bolts. **DO NOT GET** adhesive in the blind nut threads.

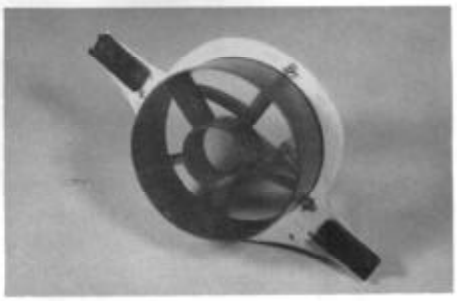
7. Seal entire former with any **good** fuel proof sealer. Clear Polyurethane varnish or thinned epoxy resin works well.

FITTING OF BYRO-JET FAN SHROUD TO ENGINE FORMER

1. If you are using the Byro-Jet power pack, locate the fan shroud, engine mount, three #8-32x1 1/2" socket head cap screws item #0730067 and one #8-32x3/4" socket head cap screw item #0730059.

2. Referring to assembly drawings, note that the fan shroud/engine mount is located on the same side of the engine former as the stamped aluminum gear brackets.

Former view of shroud mounted to engine former.



Rear view of shroud mounted to engine former.

3. Insert the fan shroud into the

engine former from the aluminum gear bracket side and rotate the shroud until the four holes in the shroud align with the pre-drilled holes in the engine former.

4. Put the engine mount in place over the shroud. Align the holes and install the #8-32x1 1/2" socket head cap screws. The #8-32x3/4" socket head cap screw goes into the remaining hole. Tighten down the four bolts snugly.

5. Fit your engine as per the Byro-Jet power package instructions. If fan blade tips should touch the fan shroud on one side or the other, do not shorten or modify the blades as they will wear down evenly when the engine is started.

6. Referring to the drawings, cut two notches in the shroud to allow passage of the two nyrods that run through the two holes in the top of the ply engine former.

7. Remove engine, mount, fan shroud and set to one side for now.

ENGINE FORMER INSTALLATION

1. Locate the two molded wing panels bulk item #5930282 and using a sanding block and #220 grit sandpaper, remove the mold flashing from the wing root.

2. Referring to the assembly drawings, sand the inside of the fuse where the engine former is to be located. Clean sanded area thoroughly with acetone to remove all mold release and foreign residue which would prevent a good glue purchase.

3. Referring to the assembly drawings, put the engine former in place and align wing spar extrusions to the pre-cut slots in the fuse wing root section. Note that the aluminum spar extrusions are to the rear.

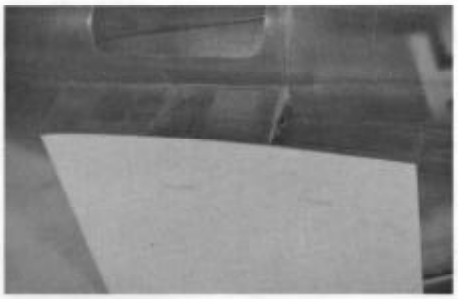
4. With the fuse upside down, slide the wing panel spars into the aluminum spar extrusions.

5. Peering through the translucent fiberglass, locate the hole in the aluminum spar extrusions for the #8-32x1/4" socket head cap screws.

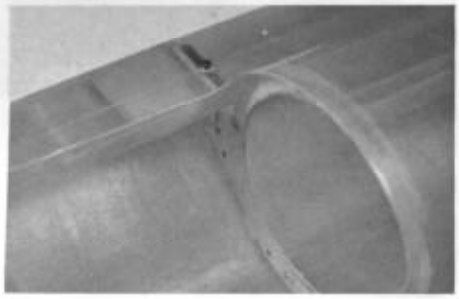
6. Using the awl, plunge a hole at the bolt location and open hole up to 1/4" diameter. Install the #8-32x1/4" socket head cap screws.

7. With the wing panels firmly butted against the fuse wing root, tighten down the socket head cap screws.

8. Align foam wing panel roots



Wing and engine former aligned to fuselage.

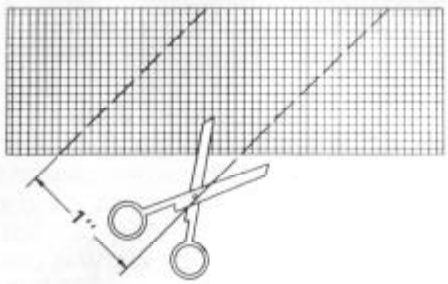


Engine formers tack glued in place.

Engine former glassed in place.

to the fuselage wing roots. Note that at the root end of the wing panel aileron cavity there is a molded line in the fiberglass fuse. Adjust wing panels until aileron cavity roots and lines in the fuse are equidistant for both panels.

9. Tack glue former in place with hot melt glue or 5-minute epoxy. Do not get glue in the blind nut area.



CUT CLOTH 45° TO WEAVE AS SHOWN.

10. Remove wings and using 1" wide 6 oz. fiberglass cloth strips cut on a 45° bias as shown in the sketch, glass the former in place. Again, do not get glass cloth in the blind nut area as you won't be able to seat the fan shroud shoulders evenly to the former. Use either 60-minute epoxy resin or polyester resin. Allow adhesive to cure thoroughly.

WING PANEL ASSEMBLY

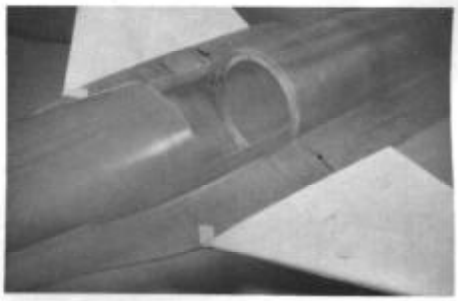
1. Locate the following items: From the 1/32" thick plywood die-cut sheet bulk item #6030076, two wing root covers W-1, two wing tip covers W-2 and two aileron root caps W-3. From Bag #1, two 5/16" x 7/8" x 5 3/4" balsa trailing edge stock item #5930237.

2. Using #220 or #320 grit sandpaper, remove all excess flashing and sand panel smooth. Both wing panels are identical at this stage of construction.

3. Place foam wing panel on flat surface. Using 5-minute epoxy, secure 1/8"x3/8"x24" spruce spar into molded cavity of foam panel. Place weight on foam parts, while epoxy cures, to remove any warp and assure surface will remain flat. After glue has cured, repeat process and glue spar in opposite side of foam panel.

4. Locate the 1/32" thick ply die-cut wing root cover W-1. Place an even coat of epoxy on the foam wing panel root section and install W-1.

5. Slide wing panel into position on the fuselage and tighten down the socket head cap screws. Align W-1 to foam wing root. Leave wing in place until epoxy cures. The purpose of this step is to assure that W-1 is seated evenly on the wing panel root. Be sure the 3/8" diameter hole in the foam wing panel and W-1 are aligned with each other. Identify the panels as to left and right while still attached to the fuse or when removing the panels from the fuse.



Wing panels in place on fuse holding W-1 in place while adhesive cures.

6. After epoxy cures, remove wing panels from the fuse and set fuse to one side.

7. Locate two die-cut 1/32" ply, W-4, and epoxy into the wing panel aileron cavity. Hold in place with masking tape while epoxy cures. **NOTE: using a straight edge, check that trailing edge of wing panel in the aileron cavity is STRAIGHT (NO BOWS OR VALLEYS).** Sand straight using a long sanding block if necessary.

Trailing edge and aileron cavity plywood installed and held in place with tape while adhesive cures.

8. Install the 5/16"x7/8"x5 3/4" balsa trailing edge stock, aileron cavity cover W-3 and wing tip cover W-2 in that order. Hold in place with masking tape.

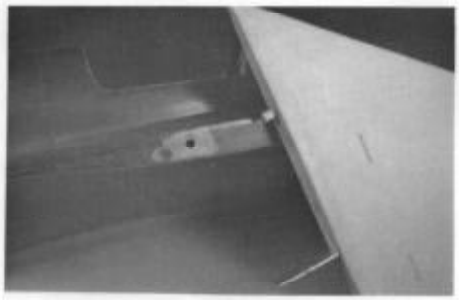
9. After epoxy cures, sand all wood surfaces to match the foam surfaces. Fill the gap between the ply root plate leading edge and foam panel leading edge tip with Model Magic Filler. Fill any other gaps in the same manner also.

WING ALIGNMENT PIN INSTALLATION

1. From Bag #1, locate two 3/8" diameter x 3" long wooden dowels item #5930350 and two 3/32" thick x 1 1/4" diameter plywood disk item #5931321.

2. Locate the two ply disks and drill a 3/8" diameter hole through their centers. Check hole size by using the 3/8" diameter x 3" wooden dowels. Because the dowels are slightly oversize, you will probably have to open up the holes slightly. Fit should be snug but not binding.

3. Using epoxy, glue the 3/8" diameter x 3" wooden dowels into the 3/8" diameter hole in the wing panel root. Be sure dowel is bottomed out in the hole. Dowel should protrude from the wing root approximately 1/2". You may have to open



Wing alignment pin installation.

up the hole in the ply root cover slightly in order to insert the dowel.

4. Using a drill or sharp knife, open up the 3/8" diameter holes at the indents molded in the fuse wing root. Sand inside of fuse at the hole and clean thoroughly with white vinegar.

5. Slide wing panel into position on the fuse. Open up the 3/8" diameter hole in the fuse wing root if necessary for the alignment pin to go through.

6. With wing position and aligned, fit the ply disk to the inside of the fuse wing root and onto the wooden dowel.

7. When satisfied with fit and alignment, glue disk onto fuselage. Be careful not to get adhesive on the dowel.

8. After adhesives cures, remove wing panel and apply a fillet of epoxy around the ply disk edges. Do not get adhesive in the hole.

FITTING OF AILERONS

1. Locate the following bulk items: Two molded foam ailerons item #5930281, one 1/8"x1/8"x36" spruce trailing edge stock item #5931444, from 1/32" thick plywood die-cut sheet item #6030076, two W-5 aileron root caps and two W-6 aileron tip caps. From Bag #1, six Robart nylon hinge points item #2431010 and two 3/16" OD x 5 1/2" brass torque tubes item #5930279.

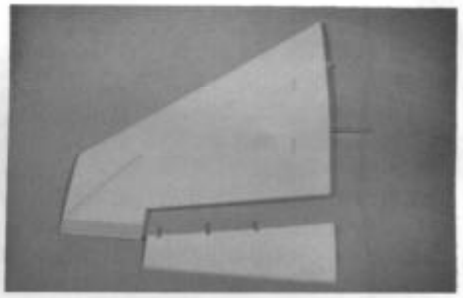
2. Sand aileron surfaces smooth, removing all molding tits, mold lines etc. Be sure leading edge is absolutely straight for if there is a bow there will be a gap between the wing and aileron when aileron is installed. Be careful not to sand a bevel in the trailing edges or ends.

3. Remove W-5 and W-6 aileron end caps from the 1/32" thick ply die-cut sheet and drill 3/16" diameter hole in W-5 as shown on the drawings. Use a paper template for W-5 hole location.

4. Locate the 1/8"x1/8"x36" spruce trailing edge stock. Cut to length and glue to trailing edge of ailerons.

5. Epoxy the 1/32" thick ply W-5 and W-6 end caps to the ailerons. After epoxy cures, temporarily install the 3/16" OD x 5 1/2" brass torque tube. Sand all wood edges to be even with the aileron foam surface.

6. Using the furnished 1/8" diameter awl, plunge holes in the ailerons at the molded indents for the nylon hinge points.



Bottom side of wing panel showing optional stiffener (reference drawings) and aileron.

Top side of wing panel with completed aileron.

7. Draw a hinge centerline from the center of the 3/16" diameter brass tube and molded hole at the root of the foam aileron control surface to the outboard hinge location. Refer to photo and drawings.

8. Using a small round file or X-acto knife, file or cut a round notch from the hinge cavity centerline drawn on the aileron control surface. This will allow the hinge pivot pin to be on the centerline with the 3/16" diameter x 5 1/2" brass torque tube. Refer to drawings.

9. Temporarily install hinges into the ailerons. Be sure hinge joint (pivot) is even with the centerline of the brass torque tube.

10. On both wing panels, draw a centerline along the aileron cavity trailing edge.

11. Put ailerons in position and with a 1/32" gap between aileron tip and wing panel aileron cavity tip, mark locations of the hinges.

12. Using a 1/8" diameter drill, drill hinge pin holes at these locations. Temporarily install ailerons and check the fit, alignment, etc. Remove hinges and brass torque tube and set to one side.

13. If you have purchased the optional drop tanks kit, drawing shows drop tank brackets marked W-10. They should be glued in place at this time, leaving 7/8" of bracket exposed on bottom of wing. Using 1/8" square scrap balsa, fill remainder of opening on the top side of wing. Drop tanks are not used with the Thunderbird paint scheme, but does use the missile rails. Missile kit can now be assembled and the rails fitted to the wings at this time (if you choose to use them).

14. Fill in all dings, holes, etc., sand wing panels and ailerons smooth and cover with a low heat mylar covering.

15. Install the ailerons to the wing panels by first installing the nylon hinge points into the ailerons using 5-minute epoxy. After epoxy cures, place epoxy into the wing panel hinge point holes and put the ailerons in place. Be careful not to get adhesive on the hinge joint. A drop of oil on the hinge pin will eliminate the problem.

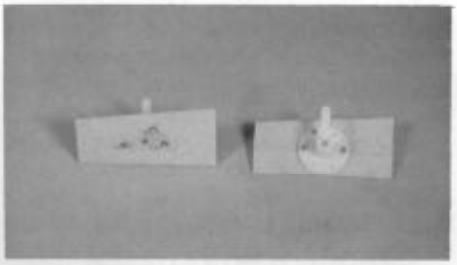
AILERON PLUG-IN LINKAGE INSTALLATION

Wing panels and aileron control surfaces should be finished, covered and the aileron hinges epoxied in place before installing the aileron plug-in linkage.

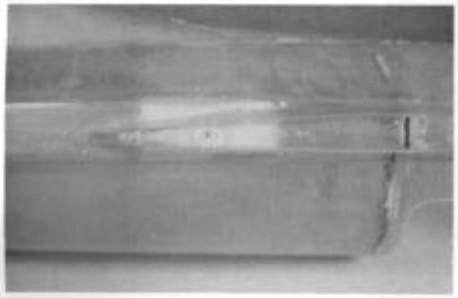
1. Locate the following items: one 1/16"x6"x12 1/2" ply sheet bulk item #6030568. From Bag #1, two delrin 3/16" male plug-in adapters item #5930511, two delrin 3/16" plug-in mounting plates item #5930512, two delrin 3/16" plug-in control arms item #5930513, six #2-56x1/2" pan head bolts item #0730072, eight #2-56 hex nuts item #1430478 and two #2-56 threaded male ball links item #2431073. Locate the aileron linkage bearing mount template.

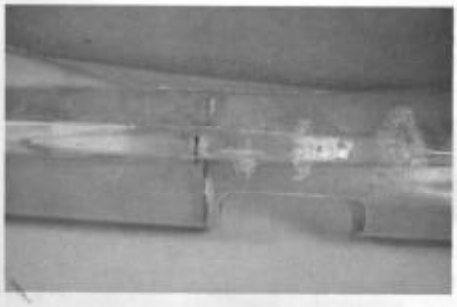
2. Using the template, make two bearing mounts from the 1/16" x6"x12 1/2" plywood sheet.

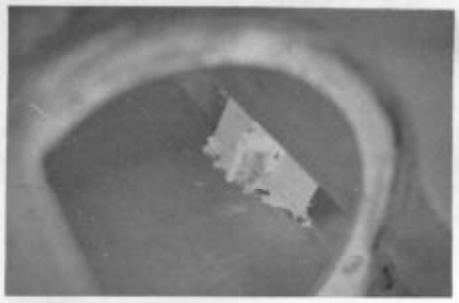
3. Referring to the drawings, install the delrin bearing mounts to the ply mounts with three #2-56x 1/2" pan head bolts and hex nuts in each mount. Make a left and right assembly.



Delrin bearing mounts assembled to the ply bearing mounts. Note left and right.







Delrin bearing and ply mount installed in fuselage.

4. Snap the delrin control arm in position from the locking tab side of each control mount.

5. Locate the two 3/16"x5 1/2" aileron torque tubes and sand a 1/2" gluing area for the delrin male plug-in adapter.

6. Epoxy the brass tube into the delrin male plug-in adapter. After epoxy dries, pin the adapter and brass tube with a piece of 1/16" diameter wire.

7. Temporarily insert the brass torque tube into the aileron and slide the wing panel into position until the aileron plug-in adapter touches the fuse. Make a mark on the fuse wing root where the adapter touches. Remove the wing and open up a hole large enough for the plug-in adapter to go through. **NOTE:** Because the adapter is at an angle, the hole will have to be elongated in order for the wing to fit against the fuse without binding of the aileron torque rod.

8. Put wing in place, tighten the socket head bolt and check for freedom of movement.

9. Referring to photo and drawings, and with the wing attached to the fuselage, put the bearing in place over the plug-in adapter as shown. Check fit and aileron movement. If adapter forces aileron misalignment with the wing, sand either the top or bottom of the ply mount until aileron is aligned or even with the wing. **NOTE** that the control arm is in the upright position.

10. Install the #2-56 threaded male ball link into the outer hole of the delrin control arms. Secure in place with #2-56 hex nuts and Loctite. Refer to drawings.

11. Sand gluing area on the fuselage and clean thoroughly with white vinegar. With wing still in place, epoxy ply mounts in place.

12. After epoxy cures, remove wing and glass the ply mounts in place using 1" strips of 6 oz. fiberglass cloth.

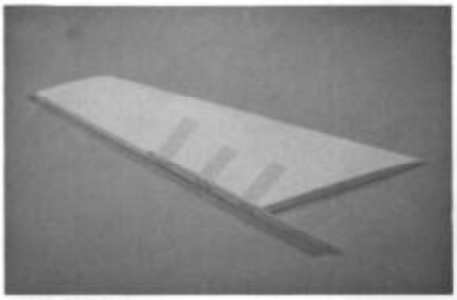
VERTICAL STABILIZER AND RUDDER ASSEMBLY

1. Locate the following bulk items: one molded foam vertical stabilizer item #5930288, one molded foam rudder item #5930289 and from the 1/32" thick ply die-cut sheet item #6030076 remove R-1, R-3 and R-4, rudder and vertical stab caps. Locate the 1/8" thick ply die-cut sheet item #5930267 and remove the vertical stabilizer spar R-2 and vertical stab support F-9. From Bag #2, one 3/32" diameter threaded rudder horn wire item #2431088, one #4-40 bolt on ball link item #2431018, three nylon hinge points item #2431010, one 3/32" ny-

lon clip item #2431087 and two #2x 3/8" slotted pan head sheet metal screw item #0730065. From 1/32" die-cut sheet locate R-5. (1/32" x 5/8"x7/16"x16").

2. Sand excess flashing from edges of all foam parts and sand surface smooth with #220 or #320 grit sandpaper.

3. Using 5-minute epoxy, glue vertical stab spar to the vertical stab as shown on the drawing. Hold in place with masking tape. Be certain spar is aligned with vertical stab. Allow epoxy to cure.



Vertical stab spar glued to vertical stab.

R-5 glued to trailing edge of vertical stab.

4. Glue R-5 to trailing edge of the vertical stab. Hold in place with masking tape.

5. After the epoxy cures, remove masking tape and sand ply edges to be even with foam surfaces.

6. Bevel the top end of R-5 and install ply tip cap R-1 to the vertical stab. Hold in place with masking tape till epoxy cures.

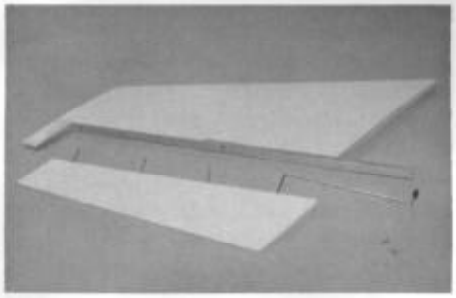
7. Locate the molded foam rudder. You will note that there is a line molded in the rudder approximately 5/8" down from top of rudder. Using a sharp knife or zona saw, remove this top piece and glue it to the vertical stab trailing edge and against the ply tip cap R-1. Refer to drawings for placement.

8. Glue on R-4 as shown. After epoxy cures, sand ply edges to match the foam surface. You may have a couple of gaps to fill in order to achieve a smooth transition from the vertical stab to the glued on foam piece.

9. Using the awl, plunge holes in the rudder leading edge at the hinge mark locations. Do the **TOP THREE HOLES ONLYIII** The bottom hole is to be drilled 3/32" diameter for the rudder control horn. Holes to be perpendicular to the leading edge.

10. Sand top of rudder to be square. Place rudder against the vertical stab to check fit. Be careful not to bevel or angle the top of the rudder. Use a long sanding block and sand the leading edge to assure that it is straight.

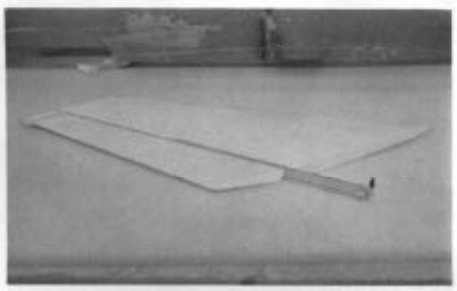
11. Glue ply R-3 to the top of the rudder and after epoxy cures, sand ply edges to match foam surface of the rudder.



Hinges installed in rudder and rudder horn ready to install.

12. Locate the three nylon hinge points and insert them into the rudder. With rudder on its side and the hinge points in the vertical position, slide rudder into place on the vertical stab. With a piece of scrap 1/32" thick piece of ply in between R-3 and R-4 as a spacer to maintain the proper gap, mark hinge locations on the vertical stab trailing edge. Remove rudder and drill 1/8" diameter holes for the hinge points.

13. With hinges in place, but not glued, re-assemble rudder to vertical stab and check fit. You should have a gap at the top of the rudder/stab of approximately 1/32".



Rudder and rudder horn assembled to vertical stab.

14. Locate the 3/32" diameter threaded rudder horn and #4-40 bolt on ball link.

15. Bend and trim the threaded rudder horn as shown on the drawing. Using Loctite, thread the #4-40 bolt on ball link to the rudder horn. Tighten securely.

16. Drill a 3/32" diameter hole in the bottom or last notch in the rudder leading edge and fit the rudder horn into it. You will have to groove the rudder leading edge for the rudder horn leg to fit flush.

17. Temporarily assemble rudder to vertical stab and with the rudder horn leg in the exact center of the vertical stab spar, install the 3/32" nylon clip approximately 1/8" up from bottom of spar. Drill 1/16" diameter holes for the #2x3/8" pan head sheet metal screws.

18. Using a sharp knife or X-acto hot knife, cut out the slot on top of the fuse for the vertical stab spar. Note that there is an indented line on both sides of the fuse showing **approximate** vertical stab spar location and spar angle.

19. Open up **rear** of slot such that the vertical stab/rudder can be installed. Hole needs only to be enlarged sufficiently to allow passage of spar, rudder horn ball link and nylon clip.

20. Put vertical stab/rudder assembly in place an check for interference of rudder ball link with fuselage. If ball link does interfere with fuse, bend the ball link leg down until interference is eliminated.

21. Remove assembly and cover the vertical stab and rudder. Dry fit rudder to stab and make sure there is no gap present. If ok, glue in the hinges and the 3/32" diameter rudder horn to the rudder. After epoxy cures, install rudder to vertical stabilizer.

FLYING STABILIZER ASSEMBLY

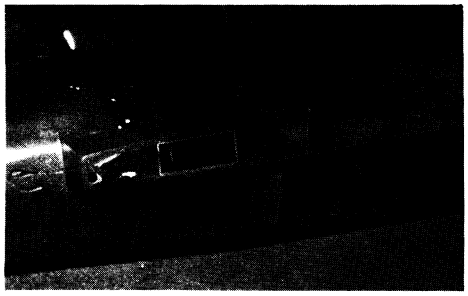
1. Locate the following:
   - One 1/8" die-cut ply former (F-3)
   - One 1/8" die-cut ply former (F-4)
   - Two 1/8" die-cut ply servo tray (F-5)
   - Two ABS elevator hatch covers.
2. Drill 7/32" diameter hole at punch mark location on face of F-3. This hole will be used for routing the nyrod rudder linkage.

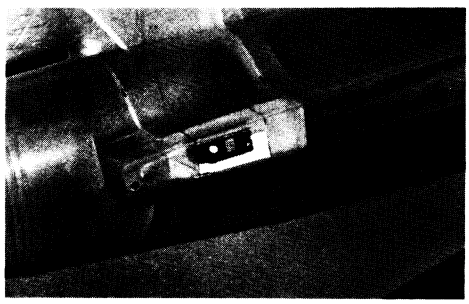
3. Before starting assembly of the wood components inside the tail section of the F-16, take the time to study the assembly drawing. Show is the cut out in the side of the rear shelf area for access to the servo. This drawing clearly shows the entire assembly process.

4. The measurement for placement of F-4 is 8 1/4" ahead of the aft edge of the fiberglass tail pipe. Measure and make marks on the outside of the fuselage at 8 1/4" so as to aid in the proper alignment of F-4. Fit F-4 through firewall former (gently -- it will pass through by bending former slightly) and into position aligned with marks made on outside of fuselage.

5. Place notched end of F-5 into corresponding slot made in F-4 and position servo tray (F-5) parallel to side of fuselage shelf.

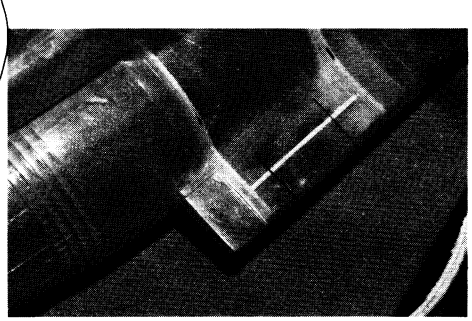
6. Position F-3 inside fuselage against front edge of each F-5. Some sanding of F-3 may be required. **Note:** Former will fit properly only one way.





7. Elevator servo cut out in fuselage shelf should be made with zona saw or hot knife following scribed line detail at each location. ABS cover to be trimmed and snapped into place after servo installation has been completed.

8. After entire plywood has been positioned and tack glued to inside fiberglass surface, cut 1" wide



strips of 6 oz. cloth and glass to inside structure using polyester resin.

FIXED LANDING GEAR INSTALLATION (OPTION)

1. Locate the following items: one two inch diameter ply disk F-10 and servo tray floor/nose wheel support F-11 on the 1/8" thick die-cut sheet item #5930267. From Bag #3, two 5/16" thick x 1"x3 1/4" pine servo tray mount item #5930263. From Fixed Landing Gear Option Bag, two 5/32" diameter x 11 3/8" pre-bent fixed main gear item #5930319, one 5/32" diameter x 17" pre-bent fixed nose gear item #5930320, two 1/16" diameter x 15" fixed main gear brace item #5930321, one 3/16"x3 1/4" x.015" aluminum fixed nose gear spacer item #5930317, one 3/16" x 1 3/4" x .015" aluminum fixed nose gear spacer item #5930316, one .020" diameter x 2' copper wire item #5931301, two 5/32" ID flat nylon washers item #1330065, four 5/32" wheel collar/set screw item #2431070 and one nylon steering arm with #6-32x1/4" socket head set screw item #2431012. From Bag #4, the scale nose gear strut covers.

2. Insert the fixed main gear struts into the stamped aluminum main gear brackets that are attached to the engine former.

3. Referring to the drawings, rotate gear rearward until contact is made with the fiberglass. At this point you will have to cut a notch in the fiberglass in order for the gear leg to lay flat against the engine former.

4. Drill two 1/16" diameter holes on either side of the strut and through the engine former. Secure strut to former with the .020" diameter copper wire and epoxy the wire to the former.

5. It is important that the main gear wheels have a slight toe-in angle. This achieved by bending the axle slightly forward. Check toe-in with wheels temporarily assembled to the axle.

6. On the bottom of the fuselage, measure back 3 1/2" from the leading edge of the air intake and make a mark at the center seam. **Note:** There may or may not be an indent at this location.

7. Locate the 1/8" thick x 2" diameter die-cut ply nose wheel support F-10 and glue it to the inside of the fuse and centered on the mark made in the previous step. Use epoxy and 2 oz. fiberglass cloth. Sand and clean gluing area thoroughly with white vinegar.

8. Locate the 1/8" thick die-cut ply servo tray/nose wheel support F-11. Referring to the drawings install F-11 in the upper portion of the air intake. Top surface of F-11 to fit flush with top surface of opening. You will have to remove part of the fiberglass reinforcing tape to achieve this. Glue in place using epoxy and 2 oz. fiberglass cloth.

9. Drill a 5/32" diameter hole through both the fuse, 2" diameter ply disk F-10 and ply nose wheel support F-11.

10. Assemble nose gear as shown on the drawings. The scale strut covers can now be installed if you wish. Use the 1" brass strut cover extension item #5930585 and 1/2" brass cover extension item #5930586.

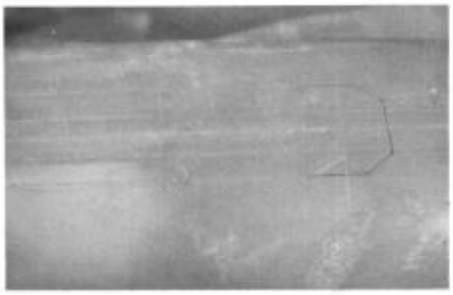
11. Locate one of the 5/16"x1"x 3 1/4" servo tray mounts and referring to the drawings, mount it on the front side of the aluminum tube of nose gear and glue in place with 6 oz. glass cloth and epoxy.

12. Front servo tray mount can be located and secured in place to match servo tray of your choice.

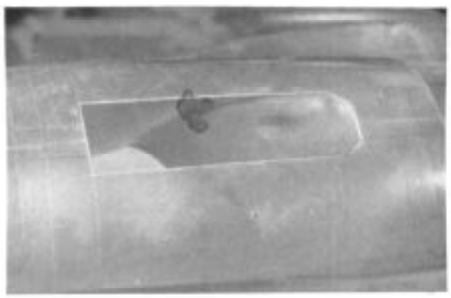
RETRACT GEAR INSTALLATION (OPTION)

1. **NOSE GEAR -** Locate the following items: one 1/8" thick ply die-cut servo tray floor/nose gear support F-11 located on 1/8" thick ply die-cut sheet item #5930267. From Bag #3, one 1/8"x1 1/2"x4 1/4" ply vertical support item #6030167 and two 5/16" x1" x3 1/4" pine servo tray mount item #5930263. Remaining 1/16" x 6" x12 1/2" sheet ply bulk item #6030568. From the Optional Retract Adapter Bag #6030168 or 6030168S, one Dubro right-hand offset horn wire item #2431110, one 3/32" diameter tail wheel steering arm with collar and set screw item

#2431060, one adjustable steel ball link with set screw item #2431111, four #4x3/4" pan head sheet metal screws item #0730066, one 3/16" diameter pre-shaped upper nose gear strut item #5930261 for Rhom-air. (If Spring-air retracts then it is in its retract bag, item #2630182J), one 5/32" diameter pre-shaped lower nose gear strut sleeve item #5930543, one 1/4" x2 1/4" drilled wooden dowel item #5930228, one #2-56 hex nut item #1430478, one #2-56 male ball link item #2431073 one #2-56 threaded brass sleeve connector item #2431016, one #2-56x12" rod threaded one end item #2431024 and two nylon sk ball sockets item #2431020, two 3/16" ID nylon spacers (for Rhom Air only) one 5/32" wheel collar with set screw item #2431070 and two 1/2" x 1 1/8"x1 5/8" pine nose gear blocks item #5930195. From drawings one template sheet for the 1/16" thick ply parts. From bulk items: one 2 1/4" diameter wheel and tire item #2431089.



Nose gear wheel well with extended lines.



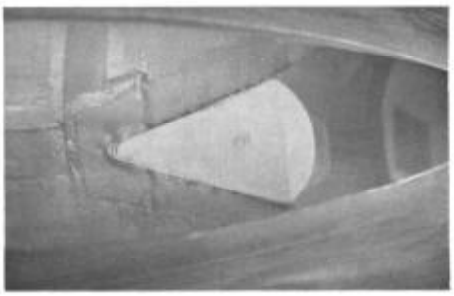
Nose gear wheel well cut out.

2. Turn fuselage upside down and locate indented lines for the nose gear wheel well door cut out. **EXTEND** the aft lines 1" so that the total length of the nose gear well opening is 8 1/2".

3. Using an X-acto hot knife or dremel tool, cut out the wheel well opening by following the indented lines and lines just drawn.

4. Locate the 1/8" thick ply die-cut servo tray/nose wheel support F-11. Drawn a centerline lengthwise along the ply piece. Measure in 1/4" from the wide end and drill a 1/4" diameter hole. Start with a 1/8" diameter drill bit and work your way up to 1/4" in several increments. This will result in a nice round hole.

5. Referring to the drawings, install F-11 in the upper portion of the air intake. Top surface of F-11 to fit flush with top surface of opening. You will have to remove part of the fiberglass reinforcing tape to achieve this. Glue in place using epoxy. After epoxy cures, cut a piece of 6 oz. glass cloth to the space of F-11 that contacts the fuse, and 1" larger all round. Glass cloth in place on top of F-11. Refer to photo.



F-11 glassed in place.

6. Locate the two 1/2"x1 1/8"x 1 5/8" pine nose gear blocks and four #4x3/4" pan head sheet metal screws. Set your nose gear retract unit on the blocks, spot and drill 5/64" diameter pilot holes in the block.

7. Attach the nose gear retract unit to the two blocks. Put the 3/16" diameter upper nose gear strut in place, and with the fuse upside down, put assembly in place on F-11. **NOTE:** If you are using Rhom Air retracts. The nose gear upper strut is located in the retract adapter bag item #6030168. If you are using Spring Air. The upper nose gear strut is with the Spring Air retract bag.

8. Move unit forward on F-11 until the upper nose gear strut distance to the front edge of the wheel well hole is as follows:
SPRING AIR STRUT - 1/32"
RHOM AIR STRUT - 1/8"
Strut should be in center of wheel well and coil spring positioned as shown on the drawings. Glue mounting blocks to F-11. **NOTE:** Rhom Air nose gear strut - use two 3/16" ID nylon spacers between the steering arm and nose gear block. Nose gear is held in place with the furnished "E" clip.

9. Referring to drawings, shorten the upper nose gear strut such that the center of the lower nose gear strut axle will be 4 1/2" from bottom of fuselage when struts are assembled.

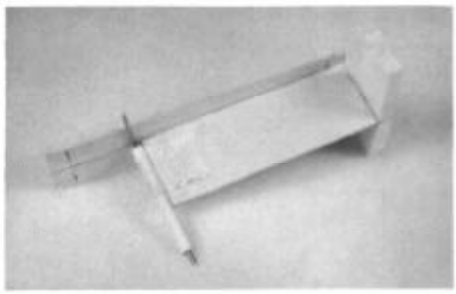
10. Referring to drawings, position the two struts as shown and solder together. Thoroughly clean the struts at the solder area. Use a solder iron of **at least 400 watts.**

11. Put the nose gear strut assembly into the retract unit and with the 2 1/4" diameter wheel temporarily in place, manually retract the gear and check that wheel has sufficient clearance at the rear of the wheel well when retracting into the fuselage. Remove strut assembly and retract unit and place to one side for now.

12. Glass the bottom of F-11 to the fuse using 1" wide strips of 6 oz. fiberglass cloth.

13. Locate the Dubro offset horn, cut off the 5/8" length 90° bend, remove and discard the nylon hinge.

14. Referring to the drawings, assemble the 1/16" thick ply nyrod support plate, 1/8"x1 1/2"x 4 1/4" ply vertical support, 1/4"x2 1/4" drilled wooden dowel, 5/16"x1"x3 1/4" pine servo tray mount and the modified Dubro offset horn wire as shown.



Nose gear steering/support plate assembly.

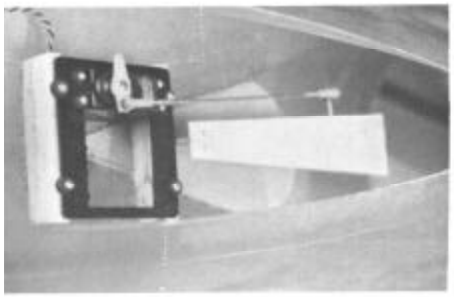
15. Fit your servo tray to the attached pine servo mounting block and to the remaining 5/16" x 1" x 3 1/4" pine servo mounting block. Glass the dowel to the vertical support using a 1" wide strip of 6 oz. fiberglass cloth.

16. Referring to drawings, put assembly in place by inserting the 1/4" diameter dowel through the 1/4" diameter hole in F-11 and align assembly to the centerline. You will

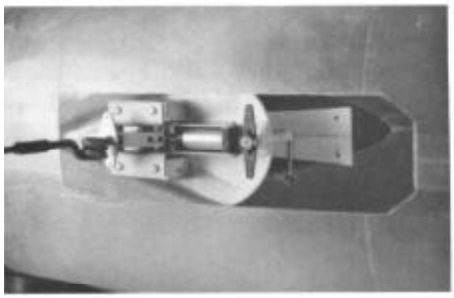
have to chamfer the bottom of the pine servo mounting blocks to allow blocks to fit flush on the fuselage.

17. Remove assembly, sand gluing area and clean thoroughly with acetone. Glue assembly in place using 5-minute epoxy. After epoxy cures, glass the pine servo mounting blocks in place with 1" wide strips of 6 oz. fiberglass cloth.

18. Install the servo tray and rudder servo as shown.



Servo tray, steering arm and linkage installed.



View of nose gear and steering installation.

19. Install the #2-56 threaded male ball link to the innermost hole in the servo arm. Secure in place with a #2-56 hex nut. Use Loctite on the threads. Trim threads if they interfere with the servo case.

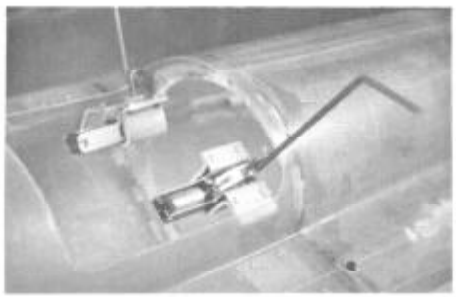
20. Install the adjustable steel ball link with set screw to the upper steering arm.

21. With the rudder servo and upper steering arm in neutral, and referring to the drawings, install the pushrod. Pushrod consists of two nylon sk ball sockets, one #2-56x12" rod threaded one end and one #2-56 threaded brass sleeve connector. Remove nylon ball sockets **BEFORE** soldering the brass sleeve to the rod threaded one end, otherwise you will melt the ball sockets.

22. With servo still in neutral, turn fuselage upside down and install the tailwheel steering arm (lower steering linkage). Nose gear and cable will be installed after painting and final assembly.

23. **MAIN GEAR** - From the retract adapter bag, locate two main gear retract aluminum brackets item #5930280, eight #4-40x1/2" pan head bolts item #0730097, eight #4 flat washers item #1330211, eight #4-40x3/8" pan head bolts item #0730113, two 3/16" wheel collars with set screws item #2431145. Two 3" diameter wheels and bearing trees bulk item #2431090.

24. Referring to drawings, install the main landing gear brackets as shown, using the #4-40x1/2" pan head bolts and #4 washers.



Main gear mounted.

25. Bolt the main gear retracts in place using the #4-40x3/8" pan head bolts.

26. Locate the two 3/16" diameter main gear legs that are included with your retracts. Install gear legs into the retract units. Be certain that gear leg is bottomed out in the retract block. With gear extended, measure from rear edge of auxiliary air inlet hole to the center of gear leg where it goes into the gear block (just below the coil). If the distances are different for the two gears, shim the gear with the **longest** measurement so that it measures the same as the opposite gear. #8 flat washers work well.

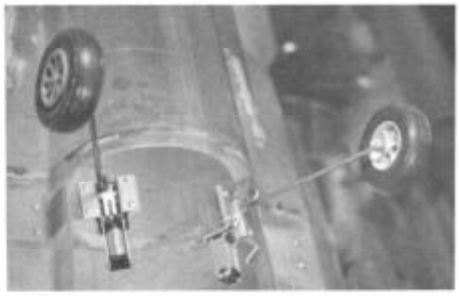
27. With gear in the extended position, measure from the **BOTTOM** of the fuselage along the leg 4 7/16" and make a mark. This is where the bend for the axle is to be made.

Method used to measure main gear leg length for bending the axle.

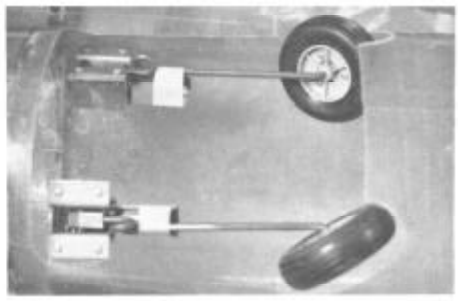
28. Remove gear leg and using the landing gear template, make the bend as shown. Be sure to bend a left and right gear leg!! Coil goes towards the rear.

29. Locate the two 3" diameter wheels and two 3/16" wheel collars with set screws. Using the proper size axle adapters, put wheels and collars in place. Wheel to go onto axle as far as it will go without binding on the axle bend.

30. Mark axle such that when it is cut off, its end will be flush with the wheel collar. Otherwise the wheel cover will not fit onto the wheel.



Main gear extended, wheels installed.



Main gear retracted with cut out in fuselage for wheel clearance.

31. Referring to the drawings and using the main gear fuselage cut out template, mark location of the section of fuselage to be cut out for clearance of the main gear wheels. Put gears in place on the retract units and with a slight toe in of each wheel, manually retract the gear to where the wheels hit the fuselage. Check that the cut out lines just drawn are in the proper place. Readjust lines if necessary.

32. Cut out the fuselage section with an X-acto hot knife or dremel tool. Check gear retraction. Wheels should just clear the fuse. Trim fuse as necessary. The wheels **DO NOT** retract fully into the fuselage. There

will be a portion of the wheel visible when retracted. Remove wheels, retract units and aluminum mounting brackets and place to one side for now.

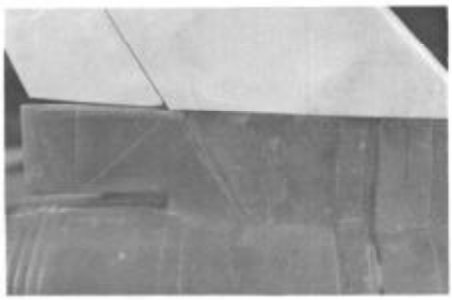
33. The scale gear legs can now be installed at this time. Refer to drawings. **NOTE:** Before cutting the nose gear axle to length, temporarily assemble the scale strut to the nose gear, put nose wheel in place and mark axle for cut off. Remove wheel, scale gear legs and cut axle to length.

VERTICAL STAB/RUDDER INSTALLATION

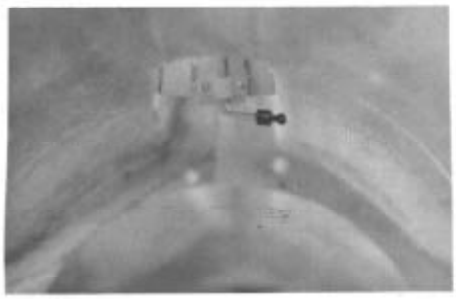
1. Sand fuselage gluing surface and clean well with acetone. Temporarily install vertical stab/rudder assembly and check alignment. Use masking tape to hold in place.

2. When satisfied with perfect alignment, glue vertical stab to fuse using 5-minute epoxy. Hold in alignment with masking tape. Temporarily installing the wings will help alignment measurements.

3. After epoxy cures, remove wings, fit and install vertical stabilizer support F-9 up through rear exhaust opening and against the vertical stabilizer spar. Fiberglass in place.



Vertical stab and rudder assembled to fuse.



View of rudder horn ball link position and F-3 installed.

VENTRAL FIN FABRICATION AND INSTALLATION

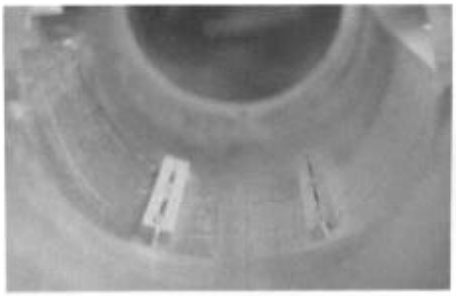
1. Locate the following: one .060" x5"x8" white ABS ventral fin material. From Bag #3, two 1/4"x1/4"x16" balsa item #5930309. From the drawings the full size ventral fin template.

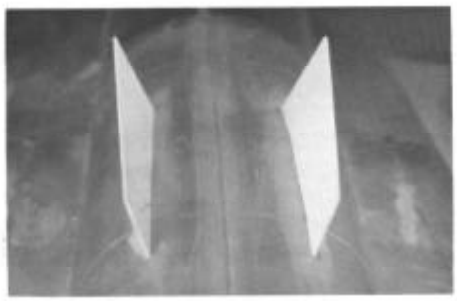
2. Cut out two ventral fins from the ABS material. Locate the ventral fin identification marks on the bottom of the fuselage.

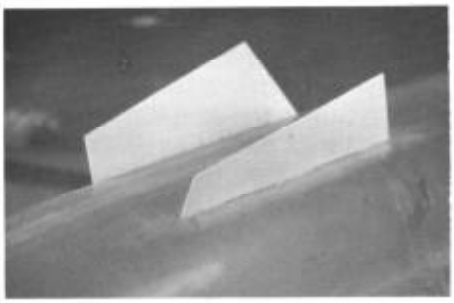
3. Cut slots large enough to receive the ventral fin tabs, sand ventral fin tabs and fuselage gluing area. Clean thoroughly.

4. Cut the two balsa pieces to equal lengths of 7 1/4".

5. Referring to the drawings, glue ventral fins and balsa reinforcing pieces in place.







Ventral fin installation.

FLYING STABILIZER ASSEMBLY

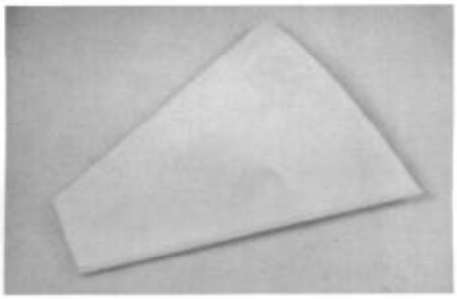
1. Locate the following: two molded foam horizontal stabilizers bulk item #5930287, one 1/8" x 1/8"x36" spruce trailing edge bulk item #5931444 and two 1/32" thick plywood die-cut tip caps S-2 from die-cut sheet item #6030076. From Bag #2, two 1/4" diameter x 7" x.035" aluminum flying stab torque tubes item #5930312.

2. Sand molded foam stabs smooth, removing all parting lines and molding tits. Sand trailing edge square, cut a piece of 1/8" square x 36" spruce trailing edge to length and glue on to trailing edge using 5 minute epoxy.

3. After epoxy cures, sand trailing edge to length and add the 1/32" thick ply die-cut tip caps.

4. Sand spruce and ply pieces to be even with the foam surfaces.

5. Cover and paint the flying stabs.



Flying stab covered and ready for installation.

6. Locate the 1/4" ODx7" torque tubes and deburr the ends. Push the tube into the molded hole in the flying stab until approximately 2 3/4" is protruding. (The hole is 4" deep so you will have to force the tube the remaining 1/4"). Mark the tube at the point where it comes out of the stab. Remove tube and using sandpaper, roughen the end that goes into the stab. Do not go past the mark on the tube as you will screw up the bearing surface. Clean tubes thoroughly with alcohol.

7. Mix a batch of 60 minute epoxy. Put some epoxy in the molded hole and smear a thin even coat on the portion of the tube that goes into the flying stab.

8. Slide the tube into place with a twisting motion and work it in and out to be sure epoxy is spread evenly in the hole and on the torque tube.

FLYING STAB AND WING SHELVES INSTALLATION

1. Locate the following vacuum molded parts: one left flying stab shelf bulk item #5930297, one right flying stab shelf bulk item #5930304, and two wing shelf caps bulk item #5930300. From Bag #2, two flat nylon washers 1/4" ID, 1/2" OD item #1330064.

2. Cut out the flying stab shelves using an X-acto hot knife and fol-

lowing the indented lines. Open up the 1/4" diameter hole for the flying stab torque tube.

3. Referring to the drawings, put the shelf in position and hold in place with masking tape. Slide the appropriate flying stab (with 1/4" ID flat nylon washer) into place and tape stab such that the center of its leading edge is 1/4" up from the bottom of the wing shelf. Trailing edge of ABS shelf and flying stab should be even. You may have to sand the aft end of the fuse shelf also to obtain proper alignment. The ABS shelves are approximately 1/16" oversize in length to allow for any variances caused by shrinking of material. There is a possibility that the hole for the torque tube may have to be dragged in order to install the flying stab.

4. Trim ABS shelf until proper fit is obtained. You will have to remove and reinstall the flying stab several times during this operation.

Flying stab and ABS wing shelf installation.

5. When satisfied with the fit, sand the fiberglass and ABS shelf gluing area. Clean the fiberglass with white vinegar. Glue in place using CyA adhesive or 5 minute epoxy.

6. Locate the two vacuum formed ABS wing shelf caps, cut out along the indented lines and fit in place as shown on the drawings. Have wings in place during the fitting.

7. Sand fuse and shelf caps and glue in place. Trailing edges of shelf caps to align with trailing edge of wings.

FLYING STAB INSTALLATION

1. Locate two 1/4" wheel collars and set screws from Bag #2.

2. Referring to the drawings, slide one of the finished flying stabs into position with aluminum torque rod (spar tube) going through the brass bushing and back in place using 1/4" wheel collar. 1/4" nylon washers may be positioned between stab root cap and fuse wing shelf surface as a spacer to provide for a frictionless fit. Spar tube may have to be bent slightly to improve the fit tolerance between stab root and fuselage.

3. Align stabs so that the center of leading edges are 1/4" up from bottom of wing shelf. The flying stab trailing edges should be aligned with the trailing edges of ABS shelf. Check assembly for freedom of movement.

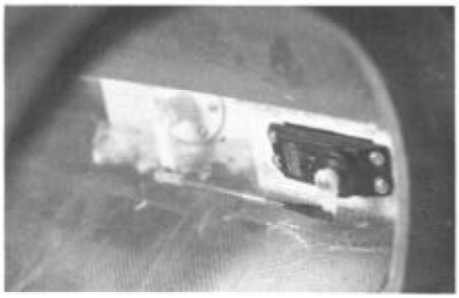
AILERON AND ELEVATOR SERVO INSTALLATION AND RUDDER PUSHROD INSTALLATION

1. AILERON SERVO INSTALLATION - Locate the remaining 1/16" x 6"x 12 1/2" plywood sheet bulk #6030568. From Bag #5, two #2-56x4" rods threaded one end item #2431028, two #2-56 threaded brass sleeve connectors item #2431172, two nylon sk ball socket item #2431020 and two #2-56 threaded steel clevis item #2431030. From the drawings, the aileron servo tray template.

2. Using the template, fabricate two aileron servo trays from the remaining 1/16"x6"x12 1/2" sheet ply. Glue a piece of 1/16"x1/4"x1" scrap ply across the bottom ends of the servo trays for added servo screw purchase. Make a left and right tray.

3. Temporarily mount a servo in one of the trays and referring to the drawings, put servo and tray in its appropriate place. Distance from center of servo wheel to aileron control arm to be approximately 3 3/4". (Aileron control arm to be in the vertical position.) You may have to sand tray edges in order to align the aileron control arm and servo output wheel vertically. A nylon sk ball socket can be temporarily attached to the threaded end of a

Aileron servo installation as viewed from tail pipe end.



Aileron servo and push installation as viewed through the auxiliary air hole and engine former.

#2-56x4" rod threaded one end and then attached to the ball link on the aileron control arm to help in aligning the servo to the aileron control arm.

4. When satisfied with alignment, tack glue servo tray in place. Remove servo and glass tray in place using 1" wide strips of 6 oz. fiberglass cloth.

5. After epoxy cures, screw a #2-56 threaded steel clevis halfway onto the #2-56 threaded brass connector and install onto the servo arm. Screw a nylon ball socket onto the threaded end of the #2-56x4" rod and install the socket onto the aileron control horn ball link.

6. With servo and aileron control horn in their neutral position and the brass connector and 4" rod parallel with each other, mark the rod. Don't forget to allow for the depth of the brass connector.

7. Remove assembly, cut rod to length and solder the threaded rod to the brass sleeve. Don't forget to remove the nylon sk ball socket and clevis prior to soldering.

8. Reinstall pushrod assembly and with your Tx and Rx, check for proper operation. A "Y" servo cable is required. The 7/32" diameter holes in the engine former can be opened up to allow passage of the servo connector. A servo extension cable is required from the "Y" to the Rx.

ELEVATOR SERVO INSTALLATION

The direction of travel of one elevator servo must be reversed in order to obtain proper elevator operation. Servo direction may be changed by reversing the polarity of wire leads to both the pot and motor. A qualified radio repair center can make this change for you if you do not feel comfortable performing this operation.

1. Install elevator servos in 1/8"

die-cut ply trays (F-5) and make up linkages as per drawing. Cut hole in bottom surface of each shelf to allow passage of linkage between servo output arm and ball link of elevator.

2. With elevator in neutral position (leading edge 1/4" above bottom of shelf) actuate elevator each way and measure amount of throw (3/4"-1" up and 3/4" down) at leading edge of stab. **NOTE:** New servo control arm **MAY NEED TO BE** constructed to facilitate the proper amount of throw.

RUDDER PUSHROD INSTALLATION

1. Locate the following bulk items: one 48" long blue outer nyrod item #2030002 and one 48" long yellow inner nyrod item #2030001. From Bag #5, one #2-56x4" rod threaded both ends item #2431066, one #2-56x1 1/2" threaded rod item #2431067, one #2-56 threaded steel clevis item #2431030 and one nylon sk ball socket item #2431020. Locate the 1/16" thick ply nyrod standoff fabricated earlier.

2. Locate the 48" long blue outer nyrod and roughen the entire length using sandpaper. Referring to drawings, slide the nyrod into position but do not glue.

3. Install a #2-56x4" rod threaded both ends into one end of the 48" long yellow inner nyrod. Install a nylon sk ball socket onto the threaded rod.

4. Slide the yellow inner nyrod into the blue outer nyrod from the rudder end and snap the ball socket onto the rudder horn and ball.

5. Hold the pushrod assembly in position and mark the blue outer nyrod at the servo end. Remove the outer nyrod and cut off at the mark.

6. Reinstall the blue outer nyrod over the yellow inner nyrod. Screw a #2-56x1 1/2" threaded rod into the #2-56 threaded steel clevis and attach the clevis to the outer hole in the servo output arm.

7. With the rudder and servo in their neutral positions, lay the threaded rod parallel to the yellow inner nyrod and mark the nyrod. Remember - Approximately one-half of the threaded rod is to screw into the yellow inner nyrod.

8. Remove the yellow inner nyrod. Install the #2-56x1 1/2" threaded rod halfway into the yellow inner nyrod. Reinstall the inner nyrod, place the 1/16" thick ply nyrod standoff over the blue outer nyrod and connect the steel clevis to the servo output arm.

9. Glue the outer nyrod where it goes through the two formers. Referring to the drawings, glue the 1/16" thick ply nyrod standoff to the servo mounting block as shown. Glue the blue nyrod to the ply standoff.

10. Using your Tx and Rx, check rudder for proper operation.

FAN, SHROUD AND ENGINE MOUNT ASSEMBLY AND INSTALLATION

1. All required hardware is included in the BYRO-JET PERFORMACE PACKAGE. Check the enclosed material list when unpacking to be assured that all the necessary hardware is present.

2. Trim any mold flash from fan blades and sand with #320 grit sandpaper or scrape lightly with a knife blade. Be careful not to remove excess material which could result in an unbalanced fan. The fans as received do not require balancing.

3. Install the proper fan bushing in the fan hub to fit your engine crankshaft.

4. Trim the A.B.S. entry cone to fit the front engine housing and silicone to engine housing (not essential to operate).

5. Install fan hub assembly on engine shaft with engine thrust washer and tighten nut. Bolt engine on the mount using four #8-32x1" socket head bolts and lock washers.

6. Position engine and mount assembly on fan shroud and check clearance between fan hub and center of shroud hub.

7. Lay the lexan thrust tube on a flat surface, reach into tube and firmly press down along entire seam line to ensure proper seal.

8. Fold the thrust tube and install through the air outlet opening in tail of fuse. Slide tube forward to engine former until rear outlet of thrust tube contacts fuselage tail opening without collapsing thrust tube.

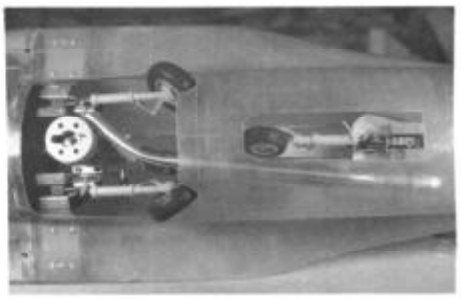
9. Position tube with the seam on top. Bend the aluminum strips on the thrust tube over onto the front side of the plywood engine former.

10. Install fan shroud into engine former and thrust tube. Secure fan shroud to engine former with a #8-32x3/4" socket head bolt and lock washer at the bottom of the engine former.

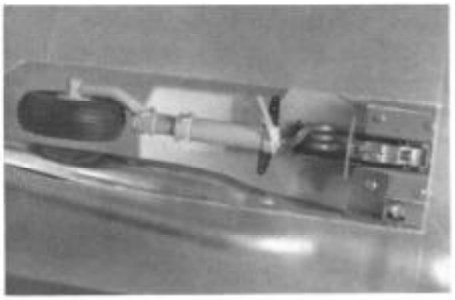
11. When satisfied with the thrust tube fit on fan shroud and in tail outlet without any wrinkles in the thrust tube, use a #2-3/8" pan head sheet metal screw in each aluminum strip on front of the plywood former to secure thrust tube in place.

12. Install engine, mount an fan assembly to fan shroud, using three #8-32x1 1/2" socket head bolts and lock washers.

Offset header an pipe installation.



General view of header and pipe installation.



View of pipe support bracket attached to nose gear support block.

13. Referring to the drawings, bend the exhaust end of the tuned pipe as shown. An easy way to perform the bend is to insert a wooden dowel of a diameter that will just fit into the exhaust end of the tube and up to where the bend is to start. Holding the pipe with one hand and the dowel with the other hand,

place the pipe over your knee at the place where you want to start the bend. Make a slight bend, move the dowel out a bit and make another slight bend. Continue in this manner until the desired bend has been obtained. Bending the pipe in this manner will prevent collapsing of the tube.

14. With the main and nose gear installed and locked in their retracted position, install the tuned pipe, header and coupler. An offset header pipe is required if using the Rossi .90 engine. Adjust pipe length as described in the power pack instructions to suit your particular engine.

15. With pipe and header in place, install the tuned pipe support and clamp at the nose gear mount as shown. The metal support will have to be shortened and a new hole drilled for the mounting screw to accomplish this.

16. Adjust the pipe such that it does not touch any part of the fuselage, landing gear, etc.

FUEL SYSTEM INSTALLATION

1. Locate the following bulk items: one upright Sure Flow fuel tank item #6030205, one upright manifold item #6030202 and one 1/2"x8"x12" foam rubber bulk item #5930054.

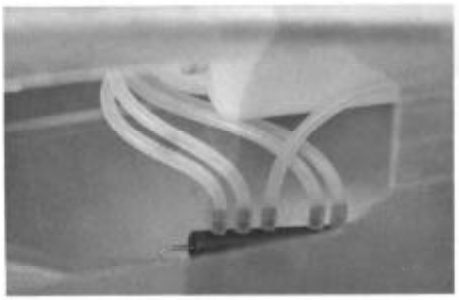
2. Assemble the fuel tank as per the enclosed instruction.

3. Cut a piece of foam rubber to be 1 3/4" wide x 5" long and glue to the top of the 16 oz. fuel tank.

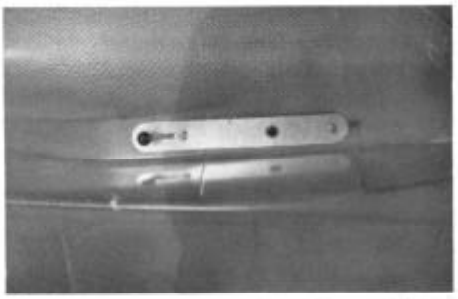
4. After the adhesive cures, glue fuel tank to the fuselage in the position shown on the drawings. Sand and clean fuselage gluing area thoroughly prior to installation.

5. Assemble and install the fuel manifold as per the instruction enclosed with the manifold kit. Refer to the F-16 drawings also.

6. Install the fuel tubing as shown on the drawings.



General views of fuel system installation.



Fuel manifold mounting as viewed from outside of fuselage.

THROTTLE SERVO INSTALLATION

1. From Bag #5, locate the 18" long blue outer nyrod item #5930324 and the 18" long yellow inner nyrod item #5930325, two #2-56x1 1/2" threaded rods item #2431067, one nylon sk ball socket item #2431020, one #2-56 threaded steel clevis item #2431030, one #2-56 threaded male ball link item #2431073 and one #2-56 hex nut item #1430478. Locate the remaining 1/16" thick plywood nyrod support fabricated earlier.

2. Install the #2-56 threaded male ball link onto the engine throttle arm. Secure in place with the #2-56 hex nut and Loctite.

3. With the throttle servo mounted in the tray, and using the Tx and Rx, position the servo output arm in the full forward position (including full forward trim). Place the throttle arm in the full forward position also.

4. Install a #2-56x1 1/2" threaded rod halfway into one end of the 18" yellow inner nyrod and install a nylon sk ball socket onto the threaded rod.

5. With the ball end of the yellow inner nyrod attached to the engine throttle ball link, measure and cut the nyrod at the servo end.

6. Remove the yellow inner rod, install a #2-56x1 1/2" threaded rod halfway into the other end of the yellow inner nyrod and reinstall the yellow inner nyrod onto the throttle ball link.

7. Slide the 18" blue outer nyrod over the yellow inner nyrod, mark its proper length, remove and cut to length.

8. Slide the blue outer nyrod back over the yellow inner nyrod and place the 1/16" thick ply nyrod support over the outer nyrod at the servo end.

9. Install a #2-56 threaded steel clevis onto the threaded rod and connect the clevis to the servo arm. Adjust clevis such that with the servo output arm still in the full forward position, the engine throttle arm is in its full forward position.

10. Glue the 1/16" thick ply nyrod support to the servo tray mounting block and glue the blue outer nyrod to the ply support.

11. Check servo for proper throw and direction. Reverse servo direction if necessary.

RETRACT SERVO INSTALLATION (OPTION)

SPRING AIR -

1. From the Spring Air retract adapter bag item #6030168S, locate one #2-56x4" rod threaded one end item #2431028, one #2-56 threaded steel clevis item #2431030, one Dubro EZ Connector set item #2431196, four #2x3/8" pan head sheet metal screws item #0730065, two 1/2"x1 1/8"x1 5/8" pine blocks item #5930195, four #14 eye hooks item #0730038 and two #64 rubber bands item #2431146. From the Spring Air bag item #2630182, one control valve.

2. Referring to the drawings, install the retract servo as shown.

3. Install the Dubro EZ Connector in the servo output arm outer hole.

4. Cut a piece of 1/16" or 3/32" thick scrap plywood to be 1 1/2" x 1 5/8" and drill a hole in its center

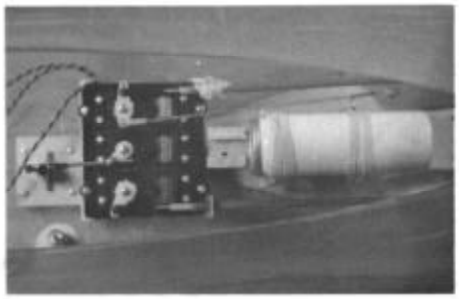
large enough to accommodate the threaded end of the control valve.

5. Locate the two 1/2"x1 1/8" x 1 5/8" pieces of pine and assemble the ply to the pine using the four #2x3/8" slotted pan head sheet metal screws.

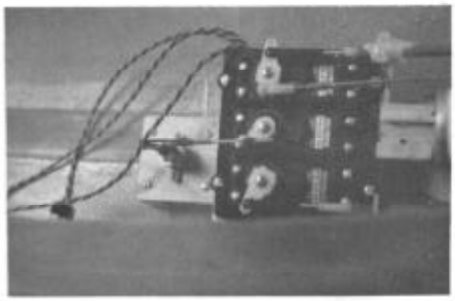
6. Referring to the drawings, mount the control valve to the ply mount. Tighten nut just enough to hold the valve in place.

7. Screw a #2-56 threaded steel clevis halfway onto the threaded end of the four inch rod. Slide rod through the hole in the EZ connector and with the servo in its neutral position, connect the clevis to the hole in the arm of the control valve.

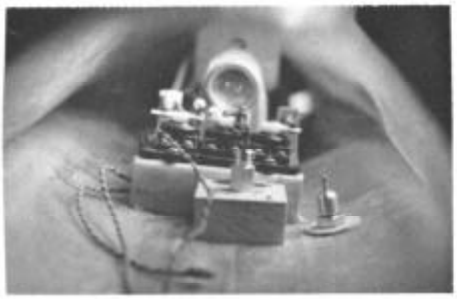
8. Referring to the drawings, align control valve to servo as shown. You will have to shorten the two pine mounting blocks such that the hole



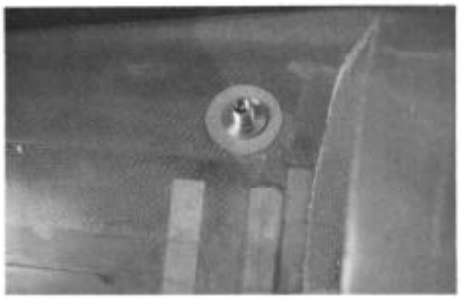
General view of rudder, retract throttle servos and air tank installation.



Close-up view of servo and retract air valve installation.



End view of servo and retract air valve installation showing the air fill valve installed.



Air fill valve installation as viewed from outside the fuselage.

in the control valve arm when in its vertical position is parallel with the connector hole on the servo output arm.

9. Clean the gluing area on the fuselage thoroughly and with control valve/mount assembly aligned properly glue in place.

10. With servo output arm in neutral and control valve arm vertical, shorten the 4" pushrod as necessary.

11. Using the Tx and Rx, cycle the servo. The control valve arm should travel 3/8" left of center and 3/8" right of center to activate the valve.

12. Install air tank as shown on the drawings using four eye hooks and two #64 rubber bands.

13. Referring to the drawings, install the air fill valve and hook up the airline as shown.

RHOM AIR -

1. From the Rhom Air retract adapter bag item #6030168, locate two 1/2"x1 1/8"x1 5/8" pine blocks item #5930195, one 3/64"x6" wire item #5930787, two 1/16" wheel collar with set screw item #2431167, one 2" yellow inner nyrod item #5930788, two #2x3/4" sheet metal screw item #0730005, one air fill valve item #2431095, four #14 screw eye hooks item #0730038, and two #64 rubber bands item #2431146, from the RHOM AIR bag item #2630027, one single spool valve.

2. Cut each pipe block into two equal pieces for a total of four blocks to be a dimension of 1/2" x 13/16"x 1 1/8".

3. Make a "Z" bend in one end of the 3/64"x6" wire and insert the "Z" end into the inside hole of the servo output arm or wheel.

4. Insert the other end of the wire through the hole in the spool valve and using the pine blocks as shims, shim the spool valve until the 3/64" wire is parallel with the servo arm.

5. Glue the blocks together and mount the single spool valve to the blocks using two #2x3/4" sheet metal screws.

6. Referring to the drawings and with the servo in its neutral position align the spool valve to the servo. Glue spool valve/block assembly to fuse. Be sure gluing area of fuse is thoroughly clean.

7. Cut two 3/8" long pieces from the 2" long yellow inner nyrod. Remove the 3/64"x6" wire and slide on a 1/16" wheel collar and one of the 3/8" long nyrod pieces. Put the 3/64" x6" wire back through the spool valve and connect the "Z" end to the servo wheel.

8. Using your Tx and Rx, move the servo wheel counterclockwise to its stop. Adjust spool so that the servo end of the spool valve is flush with the valve body.

9. Slide the 3/8" long yellow inner nyrod piece against the opposite end of the spool valve and the 1/16" wheel collar to be snug against the nyrod piece. Lock wheel collar in place.

10. Move the servo wheel clockwise to its stop. Spool end should be flush with rear of spool valve body.

11. Slide the 3/8" yellow inner nyrod and 1/16" wheel collar in place and tighten down the collar set screw.

12. If the spool end travel results in exposure of the "O" ring, you will have to use a smaller wheel or limit the travel of the servo. Final adjustment can be made during gear retract operational check out.

13. Using a pair of side cutters, cut the 3/64"x6" wire off approximately 1/16" from rear collar.

14. Install air tank as shown on the drawings using four eye hooks and two #64 rubber bands.

15. Referring to the drawings, install the air fill valve and hook up airlines as shown.

Use of Byron Originals air fill valve allows the use of a reasonably priced (under $10.00) foot pump with built-in pressure gauge and is readily available in any auto parts store.

RECEIVER, SWITCH HARNESS AND BATTERY PACK INSTALLATION

1. From Bag #6, locate eight #14 open screw eyes item #0730038 and

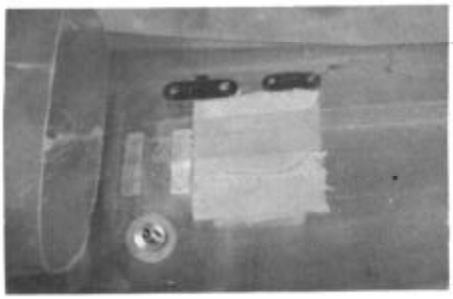
four #64 rubber bands item #2431146. Locate the 36" long blue outer nyrod bulk item #2030021.

2. Mount the receiver on a scrap piece of 3/32" or 1/8" plywood and a piece of 1/2" thick foam rubber. Use four eye hooks and two #64 rubber bands to hold the receiver in place on the plywood.

3. Referring to the drawings, glue the receiver and ply mount in place as shown.

4. Install the switch harness in the area shown on the drawings.

5. Battery will be installed in a similar manner as the receiver when balancing the **COMPLETED** model. You can make up the ply mount now if you wish.



Switch and charger plug installation as viewed from outside of the fuse.

Top view of receiver and switch harness installation.

Receiver installation as viewed from front of fuse.

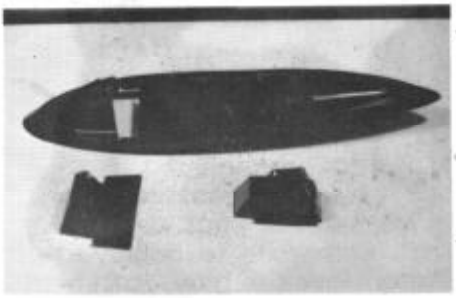
COCKPIT AND CANOPY INSTALLATION

1. From the bulk items locate one ABS vacuum formed cockpit assembly item #6030073 and one clear butyl canopy item #5930306. From Bag #6, locate four #2x3/8" slotted pan head sheet metal screws item #0730065.

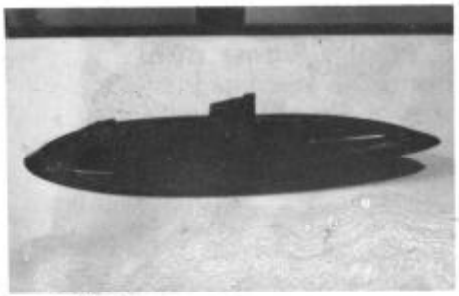
2. Trim the cockpit parts and canopy using the indented lines as a guide.

3. Referring to the drawings, install the instrument panel section and pilots seat. Thin CyA adhesive works well.

4. Tape the black ABS cockpit in place and put the canopy on. While



ABS cockpit ready for assembly.



ABS cockpit assembled.

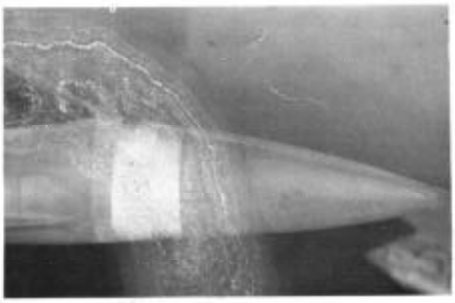
Canopy and cockpit assembly installed on aircraft.

holding the canopy in place, drill four 1/16" diameter holes through the canopy, cockpit and fuselage at the position shown on the drawings. Front holes should be located approximately 1/4" to 5/16" ahead of the instrument panel, and approximately 3/8" behind where the aft end of the cockpit starts. Drill one hole first, then put a #2x3/8" slotted pan head sheet metal screw in the hole. Drill a hole on the opposite side of the canopy and install a screw. Repeat for the remaining two holes.

5. Remove the screws, canopy and cockpit. Glue scrap 3/32" or 1/8" thick x 3/8" x 1/2" at the holes just drilled for added screw purchase. Position the wood pieces so that they do not interfere with the cockpit assembly when it is put in place. Sand and clean the fuselage gluing area thoroughly before installing the ply pieces.

6. After adhesive cures, drill a small pilot hole (less than 1/16" diameter) in the plywood pieces. Put cockpit and canopy in place and install the four #2x3/8" sheet metal screws and check the fit.

7. Remove the screws, canopy and cockpit assembly. Paint the cockpit, add the decal instrument panel and pilot. Glue a piece of 1/16" thick sheet ply the bottom side of the cockpit floor to give additional support for the pilot. The canopy can be glued to the cockpit assembly if you wish. #4-40x3/8" pan head bolts and blind nuts (not furnished) can be used instead of the #2x3/8" sheet metal screws for fastening the canopy to the fuselage.



Nose cone installed. Being held in place with tape while adhesive cures.

FUSELAGE NOSE CONE INSTALLATION

1. Locate the following bulk items: one molded fiberglass fuselage nose cone item #5930298 and one molded foam fuse/nose collar item #5930294.

2. Sand the fiberglass gluing surfaces and clean thoroughly. Put the molded foam collar in place and fit the fiberglass nose cone over the collar and fit it to the fuselage. Check for proper alignment in all directions. Sand if necessary to obtain

the proper fit and alignment.

3. With the collar still in place on the fuse, and with a soft lead pencil, mark the rear outline of the collar onto the fuse. Remove collar, mix a batch of 30 or 60 minute epoxy and place an even coat of epoxy on the fuse here the collar is to go. Push collar into position. While holding collar in place, install the fiberglass nose cone, align, and hold in place with masking tape until epoxy cures. Wipe off all excess epoxy that may have oozed out around the joints.

4. After epoxy cures, remove the tape and fill any gaps present with body putt and sand smooth.

BALANCING AND TRIMMING DATA

Flying Weight, less fuel: Approximately 10 1/2 - 12 lbs.

Center of Gravity: 3 1/2" - 3 3/4" ahead of engine former

Elevator Travel: Approximately 3/4"x1" up and down.

Elevator Leading Edge is 1/4" up from bottom of wing shelf: Trailing edge is even.

Aileron Travel: Approximately 1/2" up and down.

Rudder Travel: Approximately 3/4" left and right.

NOTE: It is recommended the C.G. be 3 1/2" - 3 3/4" ahead of engine former for your first flight. Battery pack can then be repositioned to achieve desired C.G. and preferred flight characteristics.

PAINTING

Spray a coat of primer on all parts to be painted and let cure. Fill pin holes with Model Magic Filler and sand surfaces with #220 grit sandpaper. Re-prime, let cure and sand lightly with #320 grit paper. Apply color coat and trim.

FINISHING MATERIALS GUIDE

GENERAL DYNAMICS THUNDERBIRD

(1) pt. K&B primer and primer catalyst
(1/2) pt. each blue and red
(1) pt. white
(2) pts. glass hardener
(1) qt. K&B thinner
(1) 6' roll white Econokote

USAF (TAC) TWO TONE GRAY CAMO

(1) pt. K&B primer
(1) pt. white
(1/2) pt. black
(1) pt. satin hardener
(1) 6' roll white Econokote

Mix various small amounts of black with white to achieve two different levels of gray. Satin hardener will provide a dull appearing finish.

CAMO

Paint process applied over Econokote involves burnishing surface of Econokote with very fine grade of steel wool; wipe surfaces with cloth wetted with acetone; apply primer followed by final finish.

Perfect paint may be used in place of epoxy as described above to achieve desired results.

FLIGHT PROCEDURES

If this is your first radio controlled plane, do not attempt to fly it yourself on the first flight. Flight instructions and assistance by a local experienced flier is strongly recommended.

1. Due to the clean aerodynamic design, the F-16 will perform similar to most pattern type aircraft. However, one big difference you will recognize will be that the control response and lift will be obtainable only by increasing the air speed, whereas the prop aircraft, control response and lift are developed almost immediately with the addition of power. This is due to the prop blast across the wings and control surfaces.

2. Crosswind takeoffs are to be avoided until you become thoroughly familiar with your F-16.

3. Upon takeoff, model will require very little rudder due to almost torque free power.

4. With elevator in high rate (maximum throw), hold full up elevator during the takeoff roll and as soon as the aircraft rotates and becomes airborne, relax control pressure and establish a rate of climb that is well above stall speed.

5. Climb to a safe altitude (at least three mistakes high), slow the plane down and become familiar with its slow-flight characteristics and control response.

6. Make several landing approaches to get the feel of the model before attempting to land. The fuse and wing design of your F-16 allows it to fly at very low air speeds and makes for docile nose high landings.

STORAGE NOTE: When storing your F-16 it is not advisable to lay it in an inverted position as this could warp the fuselage.

7. Become familiar with engine operation so that reliability is assured.

F-16 MATERIAL LIST

Item No.	Description	Qty.
BULK ITEMS		
6030568	1/16"x6"x12 1/2" plywood sheet (aileron servo tray)	1
5931444	1/8"x1/8"x36" spruce trailing edge stock	2
5930305	.060"x5"x8" white A.B.S. (ventral fin material)	1
2030021	36" blue outer nyrod (antenna sleeve)	1
2030001	48" yellow inner nyrod (rudder pushrod)	1
2030002	48" blue outer nyrod (rudder pushrod)	1
2431090	3" diameter wheel and tire (main gear)	2
2431089	2 1/4" diameter wheel and tire (nose gear)	1
6030205	Upright Sure Flow fuel tank	1
5930054	1/2"x8"x12" foam rubber	1
6030109	Lexan thrust tube assembly (includes aluminum mounting tabs)	1
6030202	fuel manifold	1
DIE-CUT SHEETS		
6030567	1/8" thick die-cut plywood engine former (vertical grain)	1
6030564	1/8" thick die-cut plywood engine former (horizontal grain)	1
6030076	1/32"x9 1/2"x17 1/2" die-cut plywood sheet (W-1, W-2, W-3, W-5, W-6, R-1, R-3, R-4 and S-1)	1
5930267	1/8"x7"x9 7/8" die-cut plywood sheet (R-2, F-9, F-10, F-11)	1
6030187	1/8" thick x 7 1/2"x12" plywood die-cut sheet (F-3)	1
6030664	1/8"x12"x10" ply (elevator servo tray and former)	1
6030665	1/16"x12"x5 1/2" ply (elevator root caps)	1
6030666	1/32"x17"x3 1/2" ply (stab and wing trailing edges)	1
MOLDED FOAM PARTS		
5930282	wing panel with spar	2
5930281	aileron	2
5930288	vertical stabilizer	1
5930289	rudder	1
5930287	flying horizontal stabilizer	2
5930294	fuselage/nose collar	1
FIBERGLASS MOLDED PARTS		
5930296	fuselage	1
	Includes pre-installed plywood retract mounting plates	2
	9/32"x2 3/16" brass elevator bushings	2
5930298	fuselage nose cone	1
ABS VACUUM MOLDED PARTS		
5930300	wing shelf cap	2
5930297	left flying stab shelf	1
5930304	right flying stab shelf	1
6030073	cockpit assembly (sold only as a set)	1
	includes:	
	cockpit floor	1
	backrest	1
	instrument panel	1
5931540	elevator hatch cover	2
BUTYL VACUUM FORMED PARTS		
5930306	canopy, clear butyrate	1
6030561	**ENGINE FORMER/WING AILERON HARDWARE (BAG #1)**	**1**
5930277	3/4" IDx 2 1/2" aluminum spar extrusion	2
0730075	#8-32x1/4" socket head cap screw	2
0730073	#4-40x1/2" flat head bolt (spar extrusion mounting)	4
1410009	#4-40 hex nut (spar extrusion mounting)	4
1430500	#8-32 blind nuts (to be installed on engine former)	4
5930315	left-hand stamped aluminum gear bracket	1
5931126	right-hand stamped aluminum gear bracket	1
5930237	5/16"x7/8"x5 3/4" balsa trailing edge stock	2
5930350	3/8" diameter x 3" long wooden dowel (wing alignment pin)	2
5931320	3/32"x1 1/2" diameter plywood disk (wing alignment pin)	2
2431010	nylon hinge points	6

Item No.	Description	Qty.
5930279	3/16" OD x 5 1/2" brass aileron torque tube	2
5930511	Delrin 3/16" male plug-in adapter	2
5930512	Delrin 3/16" plug-in mounting plate	2
5930513	Delrin 3/16" plug-in control arm	2
	Above three items sold as a set only -- catalog #6030119 "Plug-in Aileron Linkage Set"	
0730072	#2-56x1/2" pan head bolts	6
1430478	#2-56 hex nuts	8
2431073	#2-56 threaded male ball link	2
6030562	**VERTICAL STAB/RUDDER/FLYING STAB HARDWARE (BAG #2)**	**1**
2431088	3/32" diameter threaded rudder horn wire	1
2431018	#4-40 bolt-on ball link	1
2431010	nylon hinge points	3
2431087	3/32" nylon clip	1
0730065	#2x3/8" slotted pan head sheet metal screw	2
5930312	1/4" diameter x 7" x.035" aluminum flying stab torque tube	2
1330064	1/4" ID x 1/2" OD flat nylon washer	6
2431092	1/4" wheel collar	2
2431073	#2-56 ball link	2
1430478	#2-56 hex nut	2
2431067	#2-56x 1 1/2" threaded stud bolt	2
2431020	nylon ball socket	2
2431030	#2-56 threaded clevis	2
6030563	**WOOD (BAG #3)**	**1**
5930263	5/16"x1"x3 1/2" pine servo tray mount	2
5930309	1/4"x1/4"x16" balsa (ventral fin support)	2
5930437	1/8"x3/8"x24" spruce wing spar	4
6030114	**STRUT (BAG #4)**	**1**
	Robart scale strut covers (2 main, 1 nose) set	1
6030565	**CONTROL LINKAGE HARDWARE (BAG #5)**	**1**
2431028	#2-56x4" rod threaded one end (aileron)	2
2431172	#2-56 threaded brass sleeve connector (aileron)	2
2431020	nylon SK ball socket (aileron, rudder and throttle)	4
2431030	#2-56 threaded steel clevis (aileron, rudder and throttle)	4
1430478	#2-56 hex nut (throttle)	1
2431066	#2-56x4" rod threaded both ends (rudder)	1
5930324	18" blue outer nyrod (throttle)	1
5930325	18" yellow inner nyrod	1
2431067	#2-56x1 1/2" threaded rod (rudder and throttle)	3
2431073	#2-56 threaded male ball link (throttle)	1
6030566	**ACCESSORY PARTS (BAG #6)**	**1**
2431044	9/64" ball driver	1
2431052	1/8" awl	1
5930681	12"x24" 6 oz. fiberglass cloth	1
5930284	12"x20" 2 oz. fiberglass cloth	1
0730038	#14 open screw eye (Rx and battery pack hold down)	8
2431146	#64 rubber band (Rx and battery pack hold down)	4
0730065	#2x3/8" pan head sheet metal screw (canopy hold down)	4
DECAL PACKAGE		
4830037	Thunderbird decal sheet	1
6030169	Thunderbird decal parts bag	1
	Includes:	
	brass tube 1/8"x6" (Sidewinder missile bracket)	1
	aluminum tube 5/32"x6" (Sidewinder panel bracket)	1
	3/8"x5/8"x12" balsa (Sidewinder missile material)	2
4830019	General Dynamics/Tactical Air Commander decal sheet	1
	NOTE: Thunderbird and General Dynamics templates included in kit	

Item No.	Description	Qty.
OPTIONS		
6030569	**FIXED LANDING GEAR HARDWARE BAG (OPTION)**	**1**
5930319	5/32" diameter x 11 3/8" pre-bent fixed main gear	2
5930320	5/32" diameter x 17" pre-bent fixed nose gear	1
5930321	1/16" diameter x 15" main gear brace	2
5930317	3/16" x 3 1/4"x.015" aluminum fixed nose gear spacer	1
5930316	3/16"x1 3/4"x.015" aluminum fixed nose gear spacer	1
5931301	.020" diameter x 2' copper wire	1
5930585	1" brass strut cover extension	1
5930586	1/2" brass strut cover extension	1
1330065	5/32" ID flat nylon washer	2
2431070	5/32" wheel collar with set screw	4
2431012	nylon steering arm with #6-32x1/4" socket head set screw	1
2431073	#2-56 threaded male ball link	2
1430478	#2-56 hex nut	2
2431020	nylon SK ball socket	2
2431172	#2-56 threaded brass connector	1
2431028	#2-56x4" rod threaded one end	1
6030168	**RHOM AIR RETRACT ADAPTER BAG (OPTION)**	**1**
2431110	Dubro right-hand offset horn wire (steering link)	1
2431060	3/32" diameter tailwheel steering arm with collar and set screw (lower steering linkage)	1
2431111	adjustable steel ball link with set screw (upper steering linkage)	1
0730066	#4x3/4" pan head sheet metal screw (nose gear block)	4
5930261	3/16" diameter pre-shaped upper nose gear strut	1
5930543	5/32" diameter pre-shaped lower nose gear strut sleeve	1
5930228	1/4" diameter x 2 1/4" drilled wooden dowel (#40 drill) (steering link support)	1
1430478	#2-56 hex nut	1
2431073	#2-56 threaded male ball link	1
2431016	#2-56 threaded brass sleeve connector	1
2431024	#2-56x12" rod threaded one end	1
2431020	nylon SK ball socket	2
5930195	1/2" x 1 1/8" x 1 5/8" pine nose gear and spool valve mounting block	4
5930280	main gear aluminum bracket	2
0730097	#4-40 x1/2" pan head bolt (for aileron mounting brackets)	8
1330211	#4 flat washer	8
0730113	#4-40x3/8" pan head bolt (for landing gear)	8
2431145	3/16" wheel collar with set screw	2
2431070	5/32" wheel collar with set screw	1
0730038	#14 open eye hook (air tank hold down)	4
2431146	#64 rubber band (air tank hold down)	2
2431095	air fill valve	1
5930787	3/64"x6" wire	1
2431167	1/16" wheel collar with set screw	2
5930788	2" yellow nyrod	2
0730005	#2x3/4" wood screw	2
2431139	nylon tie wrap (airline)	6
2431083	blue Loctite	1
2630027	**RHOM AIR 1000BM RETRACTS 3/16" TRI-GEAR (OPTION)**	**1**
	Includes single spool valve, 2 tees, 2 quick disconnects, air tank, airline, and Rhom Air air fill valve	

Item No.	Description	Qty.
6030168S	**SPRING AIR RETRACT ADAPTER BAG (OPTION)**	**1**
2431110	Dubro right-hand offset horn wire (steering link)	1
2431060	3/32" diameter tail wheel steering arm with collar and set screw (lower steering linkage)	1
2431111	adjustable steel ball link with set screw (upper steering linkage)	1
0730066	#4x3/4" pan head sheet metal screw (nose gear block)	4
5930543	5/32" diameter pre-shaped lower nose gear strut	1
5930228	1/4" diameter x 2 1/4" drilled wooden dowel (#40 drill) (steering link support)	1
1430478	#2-56 hex nut	1
2431073	#2-56 threaded male ball link	1
2431016	#2-56 threaded brass sleeve connector	1
2431024	#2-56 x 12" rod threaded one end	1
2431020	nylon SK ball socket	2
5930195	1/2"x1 1/8"x1 5/8" pine nose gear and air valve mounting block	4
5930280	main gear aluminum bracket	2
0730097	#4-40x1/2" pan head bolt (for aileron mounting brackets)	8
1330211	#4 flat washer	8
0730113	#4-40x3/8" pan head bolt (for landing gear)	8
2431145	3/16" wheel collar with set screw	2
2431070	5/32" wheel collar with set screw	1
0730038	#14 open eye hook (air tank hold down)	4
2431146	#64 rubber band (air tank hold down)	2
2431028	#2-56x4" rod threaded one end	1
2431030	#2-56 threaded steel clevis	1
2431196	Dubro EZ connector set	1
0730065	#2x3/8" pan head sheet metal screw	4
2431139	nylon tie wrap (airline)	6
2431083	blue Loctite	1
2630182J	**SPRING AIR 3/16" TRI-GEAR BELLY MOUNT (OPTION)**	**1**
	Includes heavy duty 3/16" struts, air tank and airline, control valve, 1 tee, adjustable steering arm, steering line and one Byron Originals air fill valve	
6130031	**F-16 TANK AND ROCKET OPTION**	
5930291	foam drop tank, left half	2
5930292	foam drop tank, right half	2
5930308	3/32"x9"x16" plywood (drop tank pylon)	1
5930332	.030" A.B.S. vacuum formed fin	2
5930333	.030"x3 1/2"x20" A.B.S. sheet (drop tank fin)	1
6030112	F-16 tank and rocket parts bag	1
	Includes:	
0730046	#6-32x1/4" nylon pan head bolt	4
1430489	#6-32 blind nuts	4
5930264	1/8" ODx6" brass tube	1
5930270	5/32" ODx6" aluminum tube	1
5930295	1/8"x3"x6" plywood (drop tank bracket)	1
6030292	Missile sub-assembly bag (less fins)	1
	Includes:	
5930278	3/8"x5/8"x12" balsa rails	2
5931291	3/4"x3/4"x2 1/2' balsa block	2
5931292	5/8" ODx13 1/2" plastic tube	2

F-16 DIE-CUT SHEETS