W-5 4 Req'd 1/16"sht
W-7 1/16" Ply
W-6 1/8" Ply
W-6
W-5
W-4a
W-4
W-4a 1/16"sht
W-4 1/8"sht.
W-3
W-3
1/16" sheet top and bottom
W-3 6 Req'd. 1/16"sht
W-3
W-2
W-1
W-2
W-1 1 Req'd.
W-2 2 Req'd. 1/16"sht
W-8
W-7
W-5
2 Req'd 1/8"sht
W-8 1/4" Sheet
W-9 1/16" Ply
W-10 1/8" Sht
1/8"x1/2"
W-4b
1/16" sht.
Williams 60" bellcrank
W-9
W-10
W-4 1/8"sht.
W-4 1/8"sht
3/16"x 3/8" Spars
1/16"x1/4" Cap strips
1/8"x1/4" Spars
1/16" sheet top and bottom
3/16"x5/8" Reinf.
Annco servo
Cut out in W-1 only
Section through tip
Solid soft balsa tip
Aileron ribs - make 2 from 1/4" sht.- 4 from 1/8"sht 4 from 1/16"sht.

Bonner horn
1/8"x1/4"
1/16" sheet top and bottom
3/16"x9/32"
Reinforce with nylon
Solid soft tips
3/32" Wire
1/16" Ply inlay
1/8" Tubing
Make elevators from 3/8" sheet

Nose block-1/2" sheet

Fill in gaps between cowl blocks and top planking with scrap
Drill holes for fuel lines
Firewall - 1/8" Ply
F-1

F-2
1/8" sheet

F-3
1/8" sheet

F-5
F-6
1/8" sheet
1/8" sheet

1/8"x3/8" Stiffener
F-4 1/8" sheet
Cut lightening holes as shown
1/8"x1/2" Stiffener

F-7
1/8" sheet

F-8a
1/8" sheet

F-8
1/8" sheet

1/2" Soft side pieces
1/2" Sheet
1/4" Sheet
3/16" Dowel
Midwest nylon tubing
3/32" Sheet sides
Hollow to this contour
3-1/2° Right thrust
Power pack
1/8" Ply servo mount platform
1/8" Ply slide and brace
Annco servos
Recv'r
3/32"x1/4" Diagonals (bottom only)
1/8" Dowel
Rudder control horn 1/16" Micarta - epoxy into slot in rudder
2" D. Spinner
1/8" Knock-out plate
1/8" sht. to form box for tank
Triangular filler block top of motor mount to top of side pieces.
1/8" sheet tripler from F-2 forward
Solid soft block
R-4
1/8" sheet core
R-3
1/8"x1/4"
Cut out holes to lighten
R-2
3/16" sq.
Solid soft balsa rudder
R-1

Note: Motor mounts are glued to cowl blocks with white glue. Drill and install blind mounting nuts, then install bottom cowl block. Reinforce with a piece of fiberglass cloth installed in a 'U' position down sides of motor mounts and over top surface of bottom cowl block. Use 3 coats of polyester resin.

Typical section through turtledeck
Air speed
Compass
Altimeter
Turn & bank
Rate of climb
Tachometer
Temperature
Toggle switches
Charging jack
Oil pressure
Instrument panel - use 3/8" and 1/2" Tatone instruments

Windshield frame
Bend from 1/8" alum. tubing-file ends flat to fit notches in fuse.

Fin and rudder sections
All ribs 1/16" sheet except R-1
R-1
R-2
R-3
R-4

1/8"sheet or 1/8"x1/4" planking strips
O.S.Max .19 R/C shown
Slot sides as shown to receive windshield frame
Doubler Side
3/16"sheet cockpit floor
F-3
Instrument panel
Rubber stopper
3/32"sht top and turtledeck sides
F-5
F-6
F-7
F-8a
1/16" Doubler
1/16" Doubler
3/32"x1/4"
Soft balsa fairing
4 oz. tank
Control-aire SH 20 receiver
1/8"x1/4"
1/8"x3/8"
1/8"sheet
1/8"sq.
F-4
Elevator push rod
Rudder push rod
F-8
3/32" Ply
Solid block
1/8"sheet floor for tank comp.
F-1
1/8" Ply
F-2
1/8"x3/8"
1/8" Ply
Washer - solder in place
Bonner tail wheel bracket
1" D.
1/16" Wire
Motor mount (birch or maple)
top
side
Left side shown
NACA 23015
C.G.
1/16" Ply
3/32" Bottom-grain crosswise
Scale: 1 2 3 4 5 6 7
Carb fairing solid soft balsa
1/8"x5/8" Ply
1/8"x3/8" Ply
1/8"sheet
L-1
L-2
Landing gear - 5/32" wire
Landing gear retainer plate. Fasten with sht. metal screws
Position of cockpit floor
1/8"sq.
Cut out for servo in W-1
Annco servo
1/8" Ply strips
Typical wing section
Blind mounting nuts
1/8"x1/4" Strips
1/16" Doubler
1/16" Doubler
1/8"x1/4"
3/32"x1/4"
1/8"sq.
8° Dihedral (not to scale)
1-1/4"
2-1/2" D.
1/8" Ply
1/8"x3/8" on 1/8"x3/4"
1/8"x1/4" on 1/8"x3/4"
Slot for windshield frame
1/8"x3/8"
1/8"sheet
1/16" Ply
1/8" Ply
1/16" Ply
Wing section at aileron
1/16" Micarta horn
Landing gear spreader Shape from 3/16" plywood
True fuselage side templates

THORP T-18 'TIGER'
FLYING SCALE R/C MULTI

SPAN-44 3/8" LENGTH-37 1/2
AREA-410 sq.in. WEIGHT-50 oz.

DESIGNED and DRAWN BY:
R. JESS KRIESER
TRACED BY: CHUCK BEDWELL

THE THORP TIGER

Put a tank in this Tiger and you'll have a going machine! The real Tiger was the pet project of John Thorp, one of the most prolific, famed designers in the airplane industry. The model's designer is equally noted for his many radio-control scale craft.

By R. JESS KRIESSER

In 1963, at the annual fly-in of the Experimental Aircraft Assoc. in Rockford, Ill. amid all of the excitement of this biggest event of the year for amateur aircraft builders, a small, slightly-built man, with hair thinning somewhat around the temples, was calmly at work riveting some pieces of sheet metal together with a hand riveting tool. He was working under the most primitive of conditions, with a few helpers to line up the parts, and using the Pop Rivet tool, which resembles a pair of pliers. Rivets were noiselessly applied, and the man didn't hurry at all. He acted like he really didn't care when he got the job done. But at the end of three days, he had completed a fuselage for a small, low-wing, all-metal aircraft combining high performance on low power with the utmost of simplicity in construction.

The man was John Thorp, and the fuselage was for his T-18 "Tiger", latest of a long series of designs to emerge from his imaginative mind. If the name Thorp isn't completely familiar to you, his designs undoubtedly are, for John has been busy designing (and flying) aircraft for many years. Among his design accomplishments are the Lockheed P2V Neptune, the Lockheed Little Dipper and Big Dipper, the Thorp Skyscooters, all of the aircraft produced by Fletcher Aviation, the Wing Derringer, the Piper Cherokee, and the new Beech Tri-Gear D-18. A skilled pilot with many years flying experience, John Thorp has flown just about every design to come off his drawing board, except for the Neptune.

When John Thorp announced his plans to design a new aircraft for amateur builders, he turned the home-built world upside down, for what he intended to do was virtually unheard of at the time. He planned an all-metal ship for sport flying which would be a high-performance airplane, stressed to 9 G's for aerobatic capability, utilizing the surplus Lycoming 125 hp ground-power unit (selling for a little over $100 at the time). It would feature a quick-disconnecting wing for taking the ship home, with simple construction that could be handled by beginners to aircraft sheet metal work, and it would be cheaper to build than any other type of construction. Ordinarily, such expectations would be taken with tongue-in-cheek, or ignored. But not when announced by John Thorp. Hundreds of would-be builders became interested, and before the first T-18 was ready to fly, more than 150 were under construction.

First to get in the air was the one built by Bill Warwick of Torrance, Calif. For his powerplant, Warwick chose the 180 hp Lycoming 0-360, making his Tiger the most powerful of those built to date. With a span of 20 feet 10 inches, and a length of about 18 feet, the Tiger is a diminutive little 2-place airplane, and with the 180 hp engine, it weighs 903 lbs. empty. With the 125 hp surplus Lycoming, it weighs in about 100 pounds lighter.

Warwick's Tiger is a real hot-rod, and according to reports of those who have flown it, it is about the nearest thing to a P-51 they have handled. Acceleration is so great, that when the throttle is firewalled, the occupants get pushed back against their seats before the throttle even hits the full open position. On climb-out after takeoff, Warwick has to hold his engine down to not more than 2,500 rpm so that the Tiger doesn't exceed the red-line speed on climb-out! Even then, it climbs out nearly at cruising speed, with an effective rate of climb of over 2,000 feet per minute, and that's fully loaded! From a stand-still, *(Continued on page 58)*

Poly-hedraled wings with eight degrees on each side, add turn stability.

Photogenic lines are not spoiled by the small upright .19—with which power the ship is not excessively fast. How about a dummy pilot?