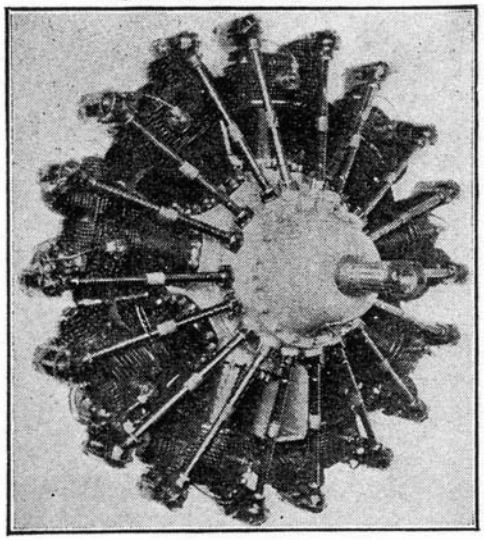
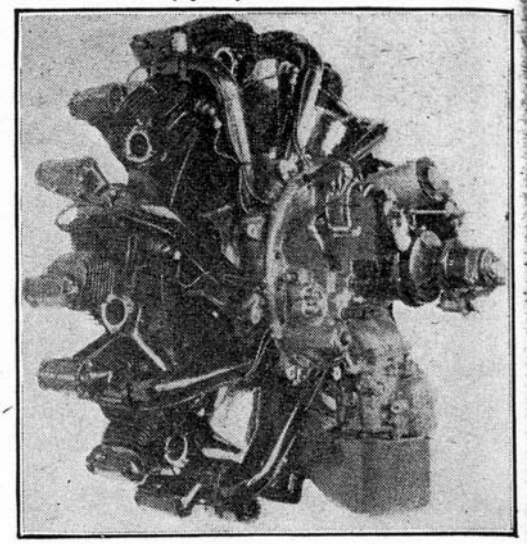
BE IT REAL PLANE OR MODEL PLANE, THERE'S NOTHING MORE IMPORTANT THAN THE POWER PLANT. SO IF YOU WANT YOUR SHIPS TO APPEAR TRULY REALISTIC, YOU SHOULD FIT THEM WITH MINIATURE MOTORS THAT LOOK LIKE THE REAL MCCOY. IN THIS ARTICLE, JOE BATTAGLIA SHOWS YOU HOW TO BUILD A TINY "CYCLONE" THAT'LL PACK 525 D.H.P. (DISPLAY HORSE POWER) INTO YOUR NEXT SOLID MODEL.

When you model fans go into the aircraft engine manufacturing business, this front-quarter view of the real Wright "Cyclone" will come in handy as a guide to your workmanship.



And here's the famed engine from the rear. There's certainly plenty of fine detail work here for you modelers! And say, how about sending us pictures of your finished motor?

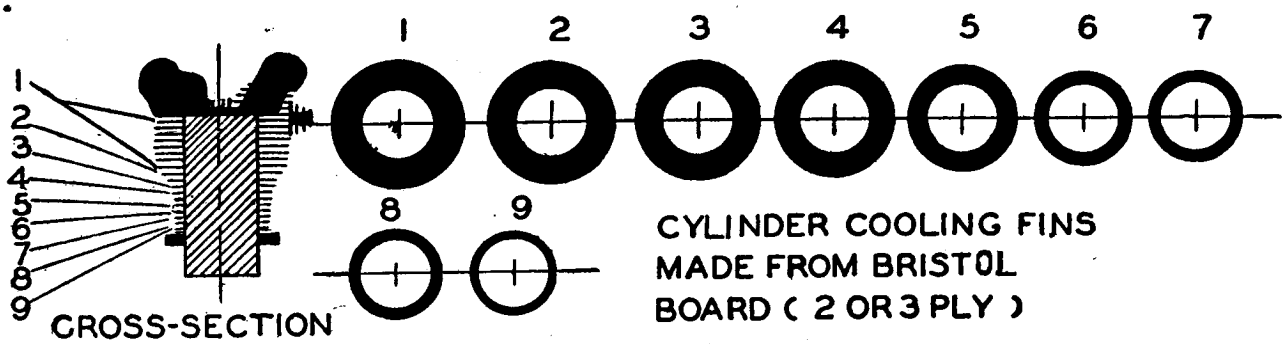


WELL, you scale model fiends, here's a real treat for you—-full instructions for making an accurate model of the 525 h.p. Wright "Cyclone" power plant. This motor is what the Wright people call their Model R-1750E.

So many scale modelers have been looking for some good, practical drawings and information on the better-known aircraft engines, that we've taken it upon ourselves to get it for you. You see, the average model builder turns out a fairly decent craft, but when he attempts to build a realistic engine he's stuck, more often than not.

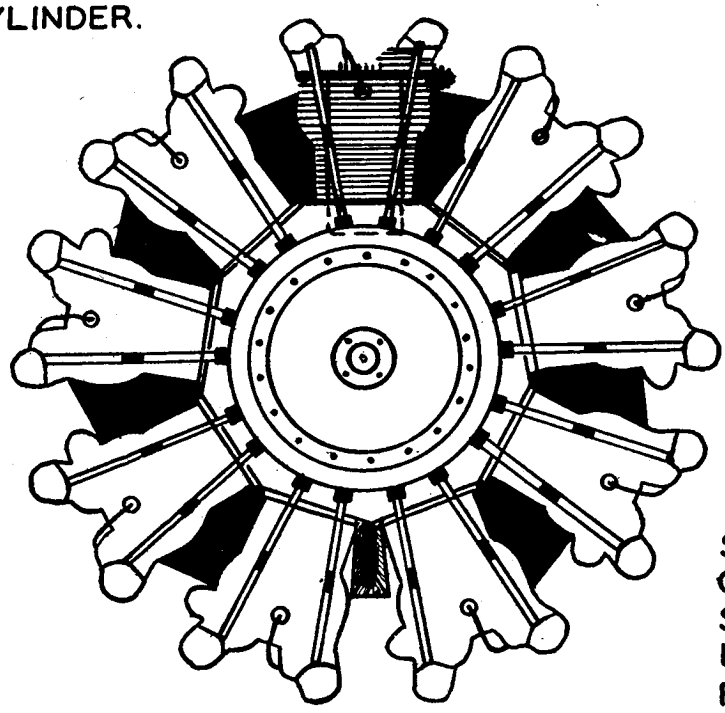
The Wright “Cyclone" we are going to build is drawn full size in the accompanying plan (see next page) so you can tell immediately whether it will fit one of your present solid models. Of course, if you want a different size motor, simply increase or decrease the sizes of materials used in proportion. True-scale engines can be built of almost any material, for the weight factor is negligible in solid scale work. However, the most inexpensive,

MAKE A MODEL "CYCLONE" ENGINE



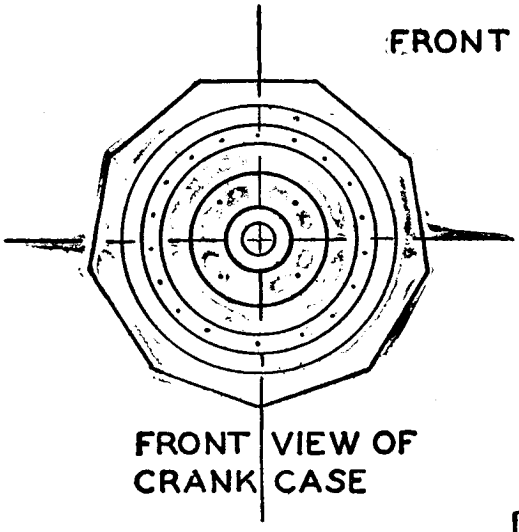
CROSS-SECTION FRONT VIEW OF CYLINDER.

CYLINDER COOLING FINS MADE FROM BRISTOL BOARD (2 OR 3 PLY)

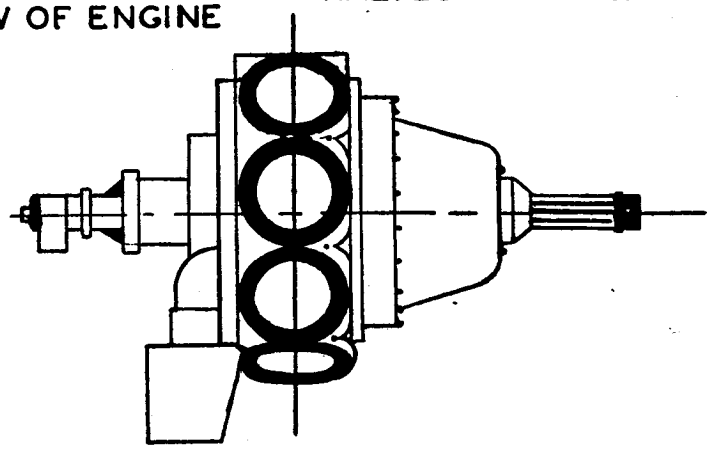


FRONT VIEW OF ENGINE

SIDE VIEW OF CRANKCASE, SHOWING CENTER-LINE JOINING FRONT & REAR HALVES OF CASE.



FRONT VIEW OF CRANK CASE



DRAWN BY
JOE F. BATTAGLIA DEC. 2, 1935.
TYPE OF ENGINE - "CYCLONE" - MODEL. R-1750 E
H.P. 525. SCALE -
MF'T'D. BY WRIGHT AERONAUTICAL CORP.

yet realistic, motor can be constructed from the following "makings":

(1) Birch dowl, " diam.—for cylinder barrels.

(2) Bristol board, either 2 or 3 ply—for cooling' fins.

(3) Balsa, plywood, or cardboard—for cylinder skirts.

(4) White wood or balsa—for cylinder heads.

(5) Birch dowl, 1/16" diam.—for push rods.

(6) Heavy thread or thin wire—for ignition wires.

(7) Metal eyelets or Birch dowl—for spark plugs.

(8) White wood, pattern pine, or balsa—for crankcase.

(9) Aluminum tubing or Birch dowl—for crankshaft,

(10) Bristol board, 2 ply—for baffles.

If the builder should decide to make his engine of metal, aluminum should not be used, because rather expensive equipment is required for soldering with aluminum. The best metal would be brass, copper, or any other metal easily joined by ordinary solder. For the benefit of the average model builder having none too much money to spend, let us assume that the material just listed is to be used.

Take the 3/8" dowl to form the cylinder barrels, cut off nine pieces to the proper lengths, and put them aside. Next, make the cooling fins from Bristol board, as shown, by drawing circles the proper diameters on the stiff paper, making enough of these rings for each cylinder. Then cut them out and color with India ink or black paint. This done, place them aside also.

Now make the cylinder "skirts." These are made similar to the cooling fins, except that they are thicker than the fins and are made from wood or cardboard. Make nine of these and likewise paint them black. The cylinder heads are next. Should they be made from hard wood (which is best for this purpose) cut short lengths from a 7/8" diameter Birch dowl and make irregular "V" shaped cuts at what is to be the top of each head, as shown in the drawings. Then make each piece the proper shape. When these are completed, cement each onto the end of the respective cylinder barrels. When these are dried out thoroughly, slip each cooling fin in place and last of all each cylinder skirt. When you have straightened them all out, place cement at the inner part of each circle and allow them to dry.

MAKE the crankcase next. (NOTE: If you have a lathe, or one is accessible at your high school manual training

department, this operation is decidedly easy; but if you are unable to use a lathe, the crankcase may be formed by using your regular tools.) The crankcase should be made in two halves. Join two pieces of 2" diameter Birch dowl end-to-end and turn the combined pieces to a maximum diameter of 1 13/16". Then turn the pieces to the shape of the side view of the two combined halves of the crankcase (minus the shaft.)

This done, drill a hole through the center from front -to rear.

Now make a template the shape of the front view of' the crankcase (see plan). Next, take the two halves of the crankcase apart at the "case center" and cut and sand the nine faces (according to the template) which are to accommodate the cylinders. Next, drill the holes for the cylinder extensions to fit in, and when through, slip each cylinder in place and cement to the crankcase.

When these are dry, cement the push rods in place. The Ignition wire and sparkplugs are next. The plugs can be made of Birch dowl or brass eyelets; the wire may be heavy thread or wire. Cement them in and allow to dry.

Now make the propeller shaft (of either aluminum tubing or dowl wood.) When through, cut out the Bristol board baffles and place at the rear of the cylinders.

The last piece to be made is the air scoop which is to be fitted at the bottom-center of the crankcase. Make it of Bristol board, creasing it at three points and cementing it on as shown in front view of engine.

The engine is now completed. For any added information, write the author c/o FLYING ACES, 67 W. 44th St.,N.Y.C.