INSTRUCTIONS FOR ASSEMBLING
CHUPP CAPTIVE AUTOGIRO
MODEL H

1. Attach the rotor blades (1) to hub (2) with leading edge (3) forward. Rotation must be counter clockwise when viewing it from the top. Insert pins (4) through hinges and hub. Insert hairpin spring (19) into groove as shown to prevent them from coming out due to centrifugal force. Rotor blades are designed to snap out of position when striking an object. Be sure to reposition before attempting to fly again. **Blades must move up and down freely.**

2. Insert Pylon (8) into fuselage slot at (9). Be sure it is pushed into the full depth of slot. Secure with wood screw (10) in position shown. Assemble two Rubber bands over end of fuselage before assembling stabilizer unit.

3. Assemble brace wire (11) through eyelets in fins. Center loop must press fit to fuselage. Gently press clip (12) into fuselage. Locate wire (11) as indicated. Wrap rubber bands (13) over fuselage and brace wire, and pass under stabilizer and over end of fuselage as shown. This assembly must be tight or the wind may blow it off in the air.

4. Assemble two rubber rings over front spar one on each side of center mark. Assemble lateral fin (14) to lateral fin spar (15). Raise spring (16) slightly when inserting metal fitting. Insert cotter key through holes in fitting and spar as shown at (17). Attach this assembled unit to fuselage as shown. Center mark must line up with nose of fuselage. Stretch rubber band over pin in nose as shown. This assembly must be free to move or damage will occur should model strike the ground. This lateral spar must be at 90° to fuselage. Turn model upside down, sight along the fuselage. The front spar must be parallel to the leading edge of stabilizer.

5. Attach cord through eyelet at (18). Don't use a cord with wire, tinsel or any other metal in it.

**ATTENTION!**

Be sure to assemble control arm stop to control arm by inserting large cotter key through either of the two holes marked L & M in control arm stop. Be sure to spread cotter key to prevent it from falling out. Position L should be used when flying in light winds (7 to 10 M.P.H.) and position M for wind velocities above 10 M.P.H.

The Model Autogiro is a scientific model and embodies many of the principles of aerodynamics. Therefore, it is especially instructive to anyone interested in Rotary Wing flying. It should be borne in mind, however, that a model cannot be made light enough to fly and indestructible at the same time. To avoid unnecessary breakage the following rules should be very carefully observed, especially until you are expert at flying it.

Carefully assemble the model according to the accompanying drawing. Make sure that its parts are properly fastened together with rubber bands, cotter keys and pins.

It is very important to select a suitable place to do your flying. A field, play ground, beach or open area should be selected free from trees or other obstacles that would tend to disturb the air flow or that the model might collide. A light or medium steady breeze is preferable for your first flights. Always tow into the wind.

To launch your model, unwind at least 250 to 300 feet of cord, let another person hold the free end, or attach to some obstacle on the ground, then take model down wind until cord is taut. Hold it over your head, with stabilizer in flying position or horizontal to the ground. When rotor is up to take off speed and you feel it begin to lift turn it loose. If the wind velocity is sufficient it will rise very quickly to a point where you may return to the other end of cord when it may be let out further. Remember the higher it goes the
better it flies, so let out all the cord it will take.

A fishing rod and reel is another way to launch and fly the Autogiro.

Be careful not to jerk the model while letting it up, as this tends to spill its lift badly, which keeps it from going up as rapidly as it will if the tow cord is paid out more smoothly. If, while letting it up the model begins to settle, stop letting out cord until you feel it pulling again. If it continues to settle anyway, you should either move up wind or start to wind in the cord before it gets too near the ground. **As with any aircraft, your model Autogiro is a lot safer when up away from the ground.**

There are several methods of getting the model down after a flight. One is to wind the string in until you can reach up and catch hold of fuselage in the same manner in which you launched it. Take hold of it firmly and turn the top side of rotor into the wind, which will slow it up. Then stop the rotor completely by touching the top part of the hub.

If the wind is gusty, the winding in near the ground should be done in a lull between gusts if possible. If the wind is very strong, it is a good idea to move with the wind while bringing the model in, as this tends to decrease the relative wind velocity.

Another way of getting your model down where there are two persons flying, let one person hold the cord while the other one moves along pulling it down until he reaches the model, hold it as previously described. The cord may then be wound in. This is probably the safest method.

When winding your model down, especially if the wind is strong, there is sometimes a tendency for it to ride almost directly over your head. If this occurs, stop winding a moment until it drifts backwards again. Don’t let it get directly over you.

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When winding your model down, especially if the wind is strong, there is sometimes a tendency for it to ride almost directly over your head. If this occurs, stop winding a moment until it drifts backwards again. Don’t let it get directly over you, as it tends to lose some of its stability.

If your model flies with a low side you should adjust it immediately as described on assembly chart.

If an accident does occur, resulting in breakage, the parts can be usually repaired by gluing the broken pieces together. Repairing rotor blades and lateral side fins are the most difficult because their angular setting must be accurate or the model will not fly properly. Spare parts may be ordered directly from the factory, rotor blades should be ordered in sets of three. Please order by number.

Manufactured by UNITED-CARR FASTENER CORP. Cambridge 42, Mass. 9M-10-46, Printed in U.S.A

**DO NOT FLY WHEN RAINING OR WHERE THE CORD MIGHT BECOME WET.**
**DO NOT FLY NEAR HIGH-TENSION WIRES.**
**DO NOT USE A CORD WITH WIRE, TINSEL OR ANY OTHER METAL IN IT.**
BRACKET: .025 ALUMINUM

HORIZONTAL FIN:
3/32 Balsa, held in place to fuselage with rubber bands

OD SUCH AS MAPLE

3/16 Balsa

ROTOR BLADES: ATTACH TO HUB USING HEADED/GROOVED PINS LOCKED IN PLACE WITH HAIRPIN CLIP
VERTICAL FIN: 1/8 BALSA

EYELET

ADHESIVE TAPE USED LIKE MONOCOTE HINGE TO ATTACH VERTICAL FIN

LINK: .035 ALUMINUM RIVETED IN PLACE WITH SOLID HINGE TYPE
LEVER: 1/4 SQUARE SPRUCE OR BASSWOOD

PYLON: 1/4 x 1/2, BASSWOOD OR SPRUCE
BRACKET: .025 ALUMINUM

BRACKET: .040 ALUMINUM

RU TUBULAR NIVET (2)
BRACKET: .015 STEEL RIVETED & SOLDERED TO CLIP

CLIP: .015 STEEL

THRU TUBULAR RIVET

SOLID RIVET THRU UPPER LIP OF CLIP ONLY

150°

NOTE: FINS ARE HEAT SHAPED SPAR WITH COTTER KEYS OR HEX SOCKET TISSUE RIVETS
VERTICAL FIN BRACE:
0.035 MUSIC WIRE, HELD IN PLACE WITH THE SAME RUBBER BANDS FOR HORIZONTAL/VERTICAL FIN ASSY

GENERAL FIN: 1/8 HARDY HARD Balsa BASS WOOD, TISSUE COVERED

HELD TO WEBER PINS

MEDIUM WIND, 10 TO 15 MPH
LIGHT WIND, 7 TO 10 MPH

LINK: .025 ALUMINUM SLOT IS FOR NAIL, HOLE HOLE IS FOR ORB

BLADE GRIP BRACKET: .03 STEEL
HUB: .03 ALUMINUM

BEARING RACE
STEEL (2)

(SHAFT)

BEARING
.025 STEEL

(SHAFT)

BEARING
.025 STEEL

SHAFTE FROM ALUMINUM

LEVER: .04 ALUMINUM,
RIVETED, TO SHAFT

HUB/SHAFT/LEVER ASSEMBLY

BLADE ROOT CLIP:
.005 STEEL
SPAR: SPRUCE OR BASSWOOD, HELD IN PLACE WITH RUBBER BANDS
1/4 BALSA
MODEL WAS GIVEN TO BILL GRAUER OF THE BOEING HELICOPTER CO IN DEC 1996 BY A PHILADELPHIA AREA PHYSICS TEACHER. THE MODEL CAME IN A 3 3/4" DIA x 26" CARDBOARD TUBE. THE TUBE WAS THEN STORED INSIDE A DIETZEN CO. METAL DRAWING CONTAINER. THE MODEL INCLUDING ITS RUBBER BANDS WAS PERFECTLY PRESERVED.

ENTIRE MODEL WAS SEALED USING DOPE; FUSELAGE AND BLADES: RED, REMAINING: YELLOW. ALL METAL PARTS WERE ANODIZED OR PLATED.

ROCK MODELS

CHUPP ROTO-FLYER
CAPTIVE AUTOGIRO
MODEL H

SIZE 31.5 x 40
AUTOGIRO CO. OF AMERICA (CHUPP PATENT #2,181,477)
MANUF. BY UNINITE CO.; A DIV. OF UNITED-CARR
FASTENER CORP. CAMBRIDGE 42, MASS. U.S.A.
SCALE 1/1
LABEL CLAIMS 16 ADDITIONAL PATENS

OWN ROCK 1/26/97
ENGR CHUPP ROTO FLYERS WABAN 63, MASS. 1946?
(OR NEWTONVILLE, MASS)