

INSTRUCTIONS FOR

1/2 A Speed Pan

PREPARATION



If you have not had a great deal of experience at building or flying 1/2 A Proto or 1/2 A Speed planes, the following general information will help you in getting your speed pan ready for use.

PLEASE NOTE
 This pan has been given a protective coating (dichromate) to keep the magnesium from oxidizing. If you want a shiny finish, this coating can be removed by sanding lightly and then buffing. Leave this coating on should you wish to paint the pan, as it is an excellent undercoat.

1/2 A PROTO

What the title means—object of this event is to see how quick the plane will complete 10 laps from a standing start. Elapsed time determines the winner—not top speed. The plane must be built to conform to a set of rules established by the Academy of Model Aeronautics. One of the requirements is that the fuselage must be at least 12 inches long. The Cox 1/2 A Speed Pan fits this rule at a minimum of weight and a maximum of strength.

Drilling and Tapping Fuselage Tie-downs

The engine mounting holes are already drilled and tapped for mounting a Cox Tee Dee .049 (screws included). The fuselage tie-down holes, however, are not drilled and tapped because many modelers might prefer different hole locations and thread sizes.

ILLUSTRATION #1

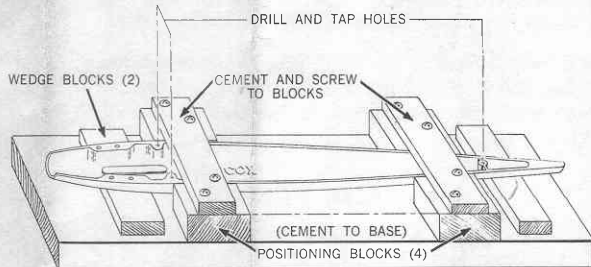


Illustration #1 shows how to make a fixture to hold the pan in position while drilling the tie-down holes. A drill press should be used to assure correct alignment.

Normally, a 2-56 or 3-48 size thread is used for the fuselage tie-downs on 1/2 A planes. Here are the proper size tap drills to use:

- for 2-56 thread use #50 drill (.070 diameter)
- for 3-48 thread use #46 drill (.081 diameter)

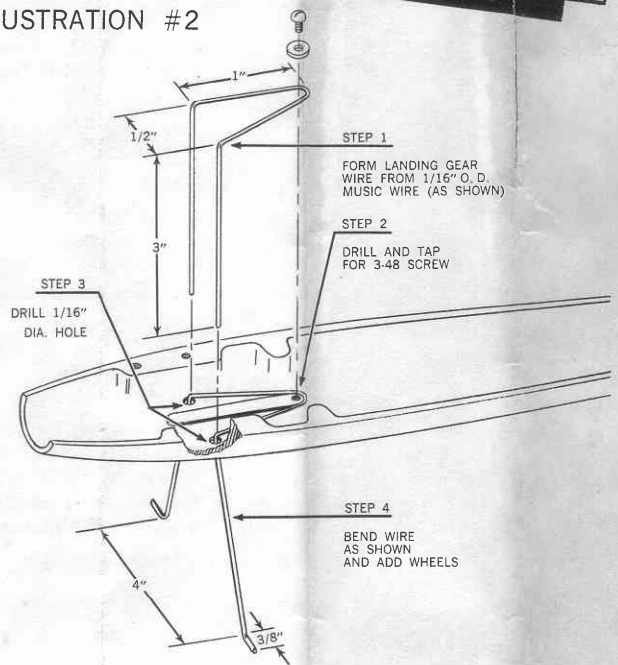
The drills and taps can be purchased at any good hobby shop or hardware store.

Landing Gear Installation

If the engine is mounted in an inverted position, the landing gear assembly should be mounted to the bottom of the fuselage. However, should you prefer to mount the engine in an upright position you will have to make and add a landing gear assembly to the pan itself. There are several ways this can be accomplished. Illustration #2 shows a fairly simple one:

Secure back portion of landing gear wire to inside of speed pan with a 3-48 machine screw and washer. After the screw is installed, file off excess portion of screw that extends beyond the bottom of the pan.

ILLUSTRATION #2

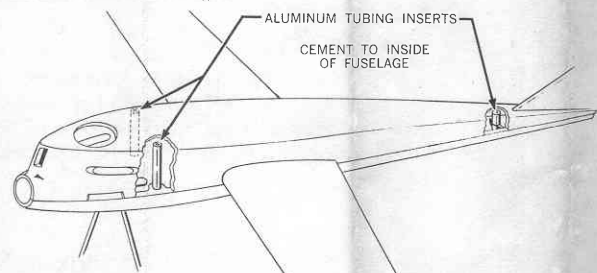


Fuselage Tie-down Reinforcing Tubes

It is recommended that aluminum tubing inserts be cemented in the fuselage where the tie-down screws are located. This prevents the fuselage from being "pulled in" at these locations when the screws are tightened.

See illustration #3 for details:

ILLUSTRATION #3



Fuel Tank

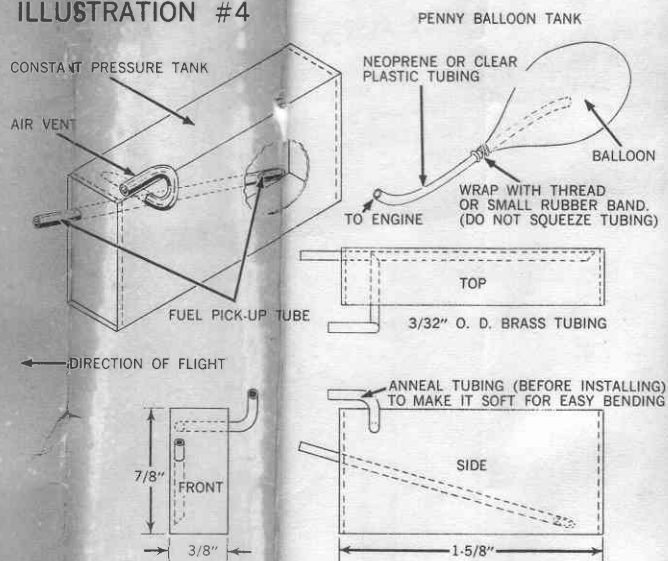
Having a perfectly constructed airplane is not enough in speed flying. A fuel tank that will assure proper "feeding" during each flight is a must. Illustration #4 shows how to make two different kinds of "suction" type tanks:

The simplest is the penny balloon. With this type of tank ALL of the air **MUST** be sucked out of the tank before filling with fuel. Also, the needle valve setting must be set slightly "rich" (or slow) before releasing the plane. See illustration #4.

The constant pressure type tank will allow you to set the engine at peak R.P.M. before releasing the plane. The top of the tank should not be above the needle valve body on the engine. If it is, the engine may run rich while in the air.

Tank capacity should be about 10 c.c. (1/3rd ounce) and made of .008 shim stock.

ILLUSTRATION #4

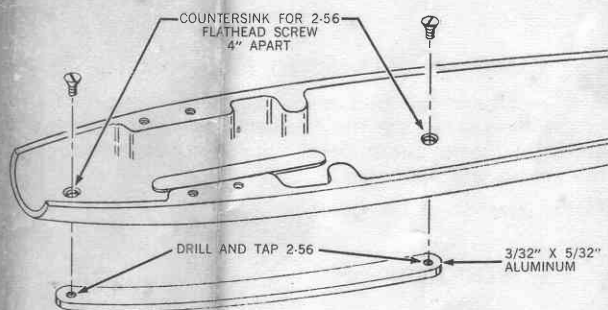


1/2 A SPEED

What it means—in this event the plane is clocked for top speed only. The plane can be built as small as the modeler chooses. No wheels are required as the plane either takes off from a three-wheeled "dolly" or is hand launched. When the engine stops, the plane lands on a skid located on the bottom of the fuselage.

Illustration #5 shows how to make and install this skid:

ILLUSTRATION #5



All of the information contained under the 1/2 A Proto section also applies to 1/2 A Speed—except for the landing gear assembly. For a complete set of rules, send 50¢ to: The Academy of Model Aeronautics, 1239 Vermont Ave., N.W., Washington, D.C. 20005.

Information About the Plane and Engine

Basically, all speed planes are constructed of balsa wood, bass-wood, and various applications of fiber glass and metals. Any good hobby shop has a few speed kits (which include materials and instructions) for you to inspect or purchase.

In addition, several of the model airplane magazines have published plans on both 1/2 A Proto and 1/2 A Speed planes. Listed below are a few of them:

1/2 A PROTO

Magazine	Issue	Plane
American Modeler	Sept/Oct 1964	Lil Pronto
Flying Models	September 1966	Torquette
Model Airplane News	November 1966	Little Proto
Model Airplane News	June 1967	"290" Special
Model Airplane News	July 1967	Betty Viper

1/2 A SPEED

Model Airplane News	December 1964	Li'l Dusty
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Also, Hobby Helpers, 1543 Stillwell Ave., Bronx, New York 10461, has full size plans available on both 1/2 A Proto and 1/2 A Speed planes that have appeared in American Modeler magazine.

The direction (clockwise or counter-clockwise) that you fly your plane is very important. This is especially so for 1/2 A airplanes. The ideal direction is clockwise, as torque of the engine and propeller will tend to bank the plane away from the pilot. This assures a smooth take-off and eliminates the tendency of the plane turning in towards the flyer.

The majority of all flyers seem to fly counter-clockwise. If this is the way you fly and want to continue flying the same way, the torque problem can be solved by using a reverse pitch propeller in conjunction with a left handed crankshaft. This will allow the engine to run in the opposite direction, thereby reversing torque.

A left hand crankshaft is available for the Tee Dee .049 and can be installed in your engine in about 10 minutes.

Several reverse pitch (pusher) propellers are presently available. The best size to start with is a 6-4 or a 5 1/2-4 for the Tee Dee .049. Reverse pitch wooden propellers can also be carved to any desired length and pitch.

CAUTION

Dirt is the biggest enemy your engine has. Try to find a clean asphalt covered area for a flying site. **KEEP FUEL CLEAN.** Always put cap on fuel can tightly when not in use to prevent the fuel from going stale.

Listed below are several Cox products that are recommended for 1/2 A Proto or 1/2 A Speed flying:

Item	Cat. No.	Price
Tee Dee .049 Engine	170	9.98
Tee Dee .049 Left Hand Crankshaft	1715	2.25
Fuel Filter Cap with hose	753-6	.45
Glow Plug Clip with wires	755-6	.50
1/2 A Speed Pan	1750	3.95
Propeller—5 1/2" Dia. x 4" Pitch	861	2/.59

THIMBLE DROME RACING FUEL

1/2 Pint	510-5	.80
Pint	510	1.25
Quart	510-1	2.25

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P.O. Box 476, Santa Ana, California 92702