

SECTION 1:

GENERAL INFORMATION



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1.2 UNPACKING AND INSPECTING

* UNPACKING THE KIT -

You will be receiving your EXPRESS kit in one (1) shipping container. The container will be marked with which end is up and which end should be opened first. Attached to the crate is a packing slip with instructions on the proper procedures for opening that particular crate. DO NOT OPEN ANY CRATE BEFORE READING THE INSTRUCTIONS.

CAUTION

Improper handling of parts may cause severe structural damage
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* INSPECTING THE KIT -

We are very conscientious to assure that the proper items are shipped in your kit. However, to ensure that you have received the correct materials, we ask that you inventory your kit. We have supplied a shipping list to make this an easy task, so you will be sure of having everything you need. If you do find shortages, you **must** notify Express Aircraft Co. within 30 days of receiving your kit in order for us to make the necessary adjustments.

We have packed your kit very carefully, and it left our shipping department in perfect condition. If you find any damage, you must notify the freight company **immediately**, since they are responsible for any damage. If this does occur, please contact us as well.

1.3 WORK SPACE AND STORAGE

*** WORK AREA -**

Your work area should be well lighted, clean, uncluttered, heated and ventilated. There should be at least one large table to cut on and work with fiberglass. Also necessary is a resin station, which is a small bench for mixing resin. The floor must be hard and relatively flat for placement and leveling of jigs.

When your shop temperature drops below 65°, heating may be required. This is mainly due to the cure time of the resin. After turning on the heat, you must allow adequate time for materials to come up to room temperature before working with them.

*** STORAGE AREA -**

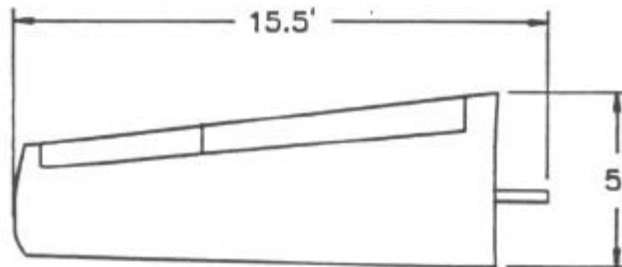
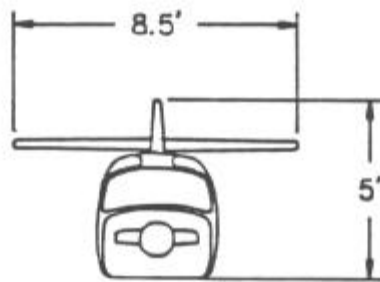
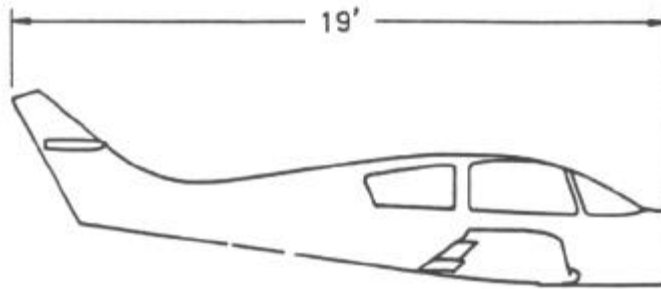
If parts are to be placed on the floor, then all oil, grease and dirt must be removed from the floor to prevent contamination. An alternative is to lay clean carpeting in that area. Resin materials should be stored in a cabinet, and should include a heat source (such as a light bulb) if the temperatures will be below 70°. Fiberglass cloth should also be kept in a clean cabinet or closet with a door, in order to keep it clean and dry.

*** SPACE REQUIREMENTS –**

The following illustration demonstrates the minimum space requirements for working on certain components of the EXPRESS. One of the reasons for construction of the wings first is so they can be hung out of the way against a wall when completed. This also applies to all control surfaces.

Since the EXPRESS is not trailerable after the wings are installed, it will be necessary to install them at an airfield. At that time you will need room for the 31 ft wingspan. If your workspace is limited in length, the engine (and even the rudder) could be installed at that time to allow for the 25 ft overall length. The following illustration shows the maximum overall dimensions.

MINIMUM SPACE REQUIREMENTS



1.4 TOOLS AND SUPPLIES

*** CONSTRUCTION TOOLS REQUIRED –**

- ?? Assorted files
- ?? C-clamps, 4", 4 ea.
- ?? C-clamps, 6", 4 ea.
- ?? Carpenters level, 2'
- ?? Carpenters square, 2'
- ?? Center punch
- ?? Chalk line
- ?? Cleco pliers
- ?? Clecos, 1/8", 20 ea.
- ?? Countersink bit, 100 degree, 1/8"
- ?? Drill bit set, fractional
- ?? Drill bits
- ?? Drill motor, 3/8", rechargeable
- ?? Flashlight
- ?? Gram scale, 500 grams (diet scale ideal)
- ?? Hacksaw
- ?? Hole saws
- ?? Hot glue gun
- ?? Inspection mirror
- ?? Plumb bob
- ?? Pop rivet gun
- ?? Putty knife
- ?? Rotary file
- ?? Saber saw
- ?? Scale, 12" (decimal inches)
- ?? Scale, 6" (decimal inches)
- ?? Scissors
- ?? Socket set, 1/4" drive, 1/4" to 11/16"
- ?? Spring clamps, small and large, 6 ea.
- ?? Tape measure, 12' (decimal / fraction)
- ?? Tube bender
- ?? Tube cutter
- ?? Tube flaring tool
- ?? Vise, 4" or larger
- ?? Wrench set, combination, 1/4" to 11/16", including 11/32"

*** CONSTRUCTION SUPPLIES REQUIRED –**

- ?? Acetone
- ?? Glue sticks
- ?? Masking tape
- ?? Paint brushes, 1” & 2”, disposable
- ?? Plastic syringe, 1-5 cc, without needle
- ?? Wooden tongue depressors

*** SAFETY SUPPLIES REQUIRED –**

- ?? Dust masks
- ?? Eyewash bottle
- ?? Medical gloves, latex
- ?? Safety glasses

*** TOOLS NICE TO HAVE AVAILABLE –**

- ?? Band saw
- ?? Bench grinder
- ?? Dremel hand grinder
- ?? Drill press
- ?? Pliers, safety wire
- ?? Right angle drill attachment
- ?? Screwdriver, power
- ?? Shop vacuum cleaner
- ?? Stanley knife (razor knife)
- ?? Trouble light

1.5 REVISIONS

Revisions to any pages in this manual will be sent to the builder when completed and made available. Upon receiving a revision to this manual, make sure to discard all obsolete pages and insert the new pages.

If a revision changes a part of the airplane that has already been constructed, the aircraft does not need to be changed unless the revision is a mandatory change. Mandatory changes will be identified when the revised pages are sent, and incorporating these changes **is required**. Non-mandatory changes are not required to be completed if the builder has already completed the revised procedure, but discretion should be used to decide if that change should be incorporated.

1.6 F.A.A. REQUIREMENTS

During the construction of a homebuilt aircraft, the FAA requires that certain documents and records be kept. These requirements are detailed in FAA Advisory Circular 20-27C, which is available free of charge from your local FAA office or:

U.S. Department of Transportation
Publications Section 442.32
Washington, D.C. 20590

The following is a brief outline of the major points covered in AC 20-27C:

*** DOCUMENTATION OF CONSTRUCTION –**

The builder must keep copies of all invoices, receipts and shipping documents for materials and kits used in the construction of the aircraft. The FAA Inspector may want to see these documents when inspecting the aircraft prior to issuance of an airworthiness certificate.

The builder must also keep a log of the construction and inspection of the aircraft as it is built. The log should include photographs taken by the builder throughout the construction process, prior to covering, showing methods of construction and workmanship.

The FAA no longer performs inspections during the construction process. Some knowledgeable person, such as an EAA member designated to perform such inspections, should still perform inspections or an FAA certified mechanic. The inspections should be recorded in the construction log. The FAA will perform a final inspection of the aircraft prior to its first flight. In addition to inspecting the aircraft itself, the FAA may want to inspect the above-mentioned documents and records.

If the aircraft passes the inspection and the necessary documents and records are in order, the Inspector will issue an airworthiness certificate and operating limitations for a specific test period and area.

1.7 BUILDER SUPPORT

Because Express Aircraft Company is committed to continually improving the quality of our products, we are always interested in your comments and appreciate your constructive suggestions.

When you call to resolve a technical problem, please have your Assembly Manual at hand and know the procedure number you wish to discuss. This will enable the Builder Support Technician to provide you with better service. He may also need to know your manual version number and/or your kit serial number in order to properly reference the specific procedure for your kit.