

# Constructing a Beehive

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It is often more economical for a beekeeper to build his or her own equipment than to purchase commercially-made materials. The personal satisfaction derived from building your own hives can be considered in addition to the monetary savings. Well-constructed and properly maintained bee equipment will last for decades. Usually, additional hive bodies are added during the spring population build-up and the summer honey flows.

The plans illustrated are for eight- and ten-frame hive bodies (supers), top covers, bottom boards, frames and hive stands. The arguments supporting either eight- or ten-frame hive bodies will vary between individual beekeepers. The important point is to use one size, but not both sizes, for individual hives. Full depth (9-5/8") is recommended for at least the brood chamber of a hive, but the beekeeper does have other choices in the depth of hive body to use. The other popular depths are Western (6-5/8") and Shallow (5-3/4"), which have the advantage of being easier to lift when full of honey.

When using ten-frame equipment, use only nine frames per hive body, and likewise, seven frames in eight-frame equipment. This makes frame manipulations much easier, especially the removing of the first frame from a hive body during colony inspections. Also, the bees will draw out the wax cells farther with the additional spacing between frames, which simplifies uncapping when it is time for honey extraction.

The illustrated bottom board is reversible so that either side may be used for the bottom and entrance of the hive. The deeper side (3/4") is recommended during late spring and summer when a larger entrance is needed for the additional bee traffic. The shallow side (3/8") is used during the fall and winter when a smaller opening restricts the entrance of mice and/or robber bees into the hive.

Good quality cedar, pine, redwood, fir or exterior plywood are all suitable materials for construction of hives. One-inch milled lumber (3/4" actual thickness) should be used. Galvanized or aluminum 6d nails are recommended for hive body construction. It should be remembered that the holding power of a nail is in its length, not its diameter or finish.

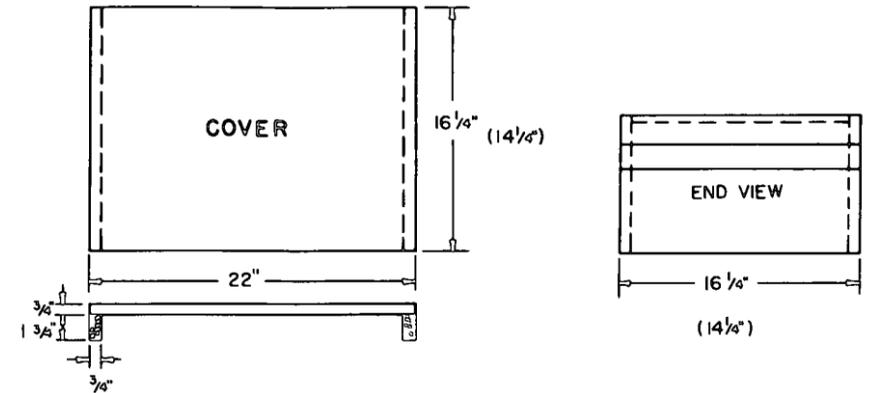
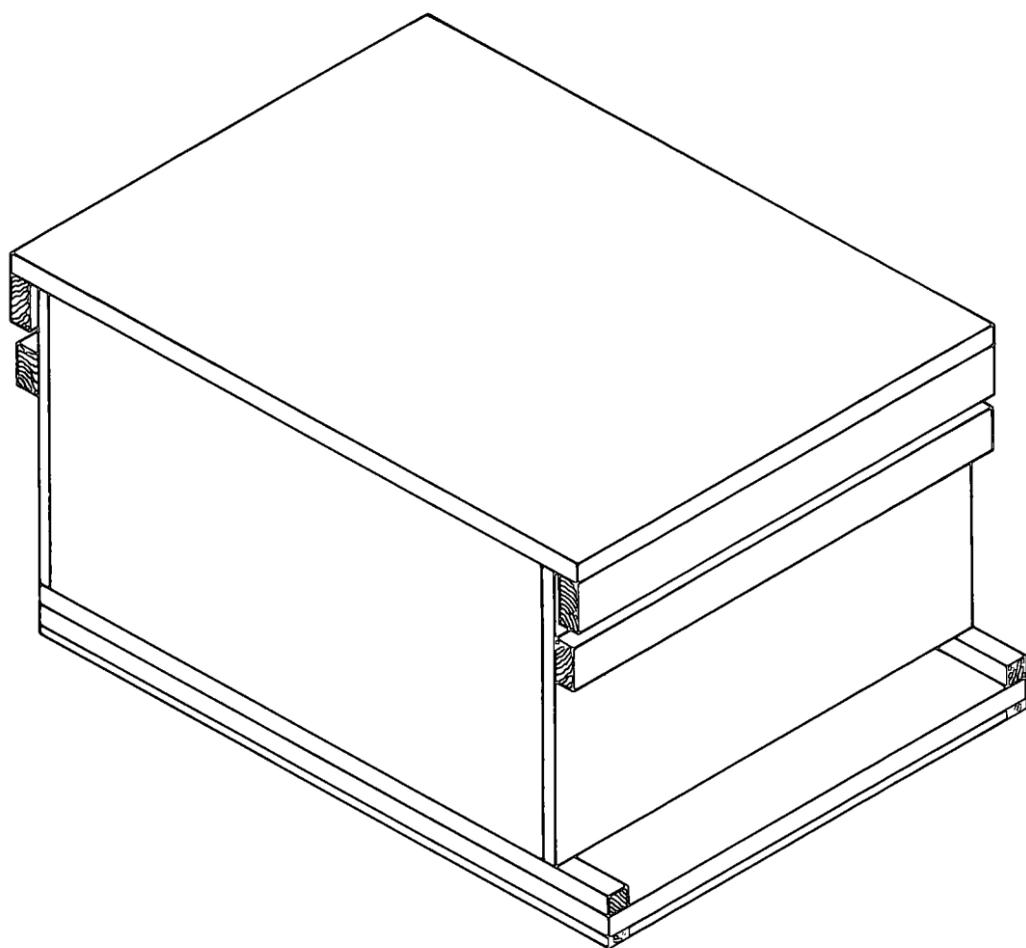
Beehives should be painted on the outside to reduce weathering. *It is not necessary nor is it recommended to paint any interior surface of the hive with which the bees will come in contact.* These interior surfaces will be lacquered by the bees with a thin layer of propolis (bee glue). New bottom boards should be treated with a wood preservative such as creosote or pentachlorophenol. Unpainted hive bodies may also be treated. Allow 24 hours between preservative treatment and placing bees into any such treated equipment.

It is never a good practice to set a hive of bees directly on the ground. Over a period of time this will lead to rotted bottom boards. Damp bottom boards will cause temperature control problems for the bees in the hive. To avoid these conditions, hive stands are recommended. One type of hive stand is illustrated, but anything that keeps a hive away from direct contact with the ground will serve this purpose. The illustrated hive stand creates a dead air space underneath the colonies when two hives are placed side by side. This is a good practice during the winter. In late spring, colonies should be placed approximately 18 inches apart to reduce drifting of bees between colonies.

It has been known for many years that honey bees are able to discriminate between various colors. Using several colors of paint for your hives will assist the bees in locating their own hive and reduce drifting between hives. In addition, different colored hives add aesthetic appeal to your apiary.

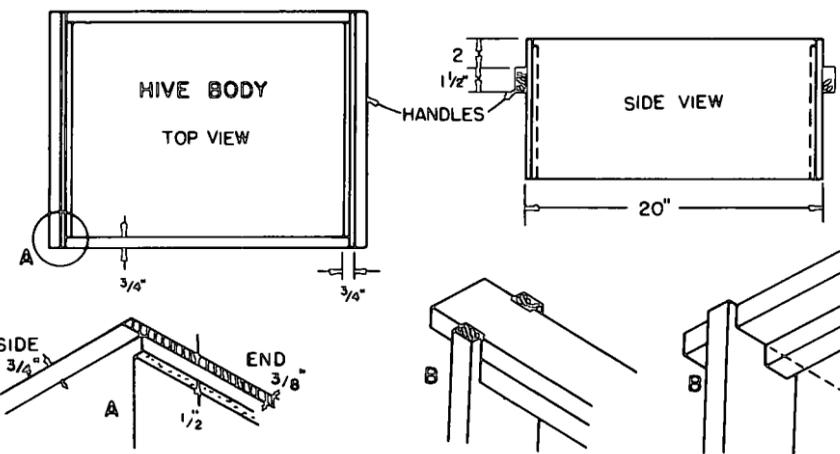


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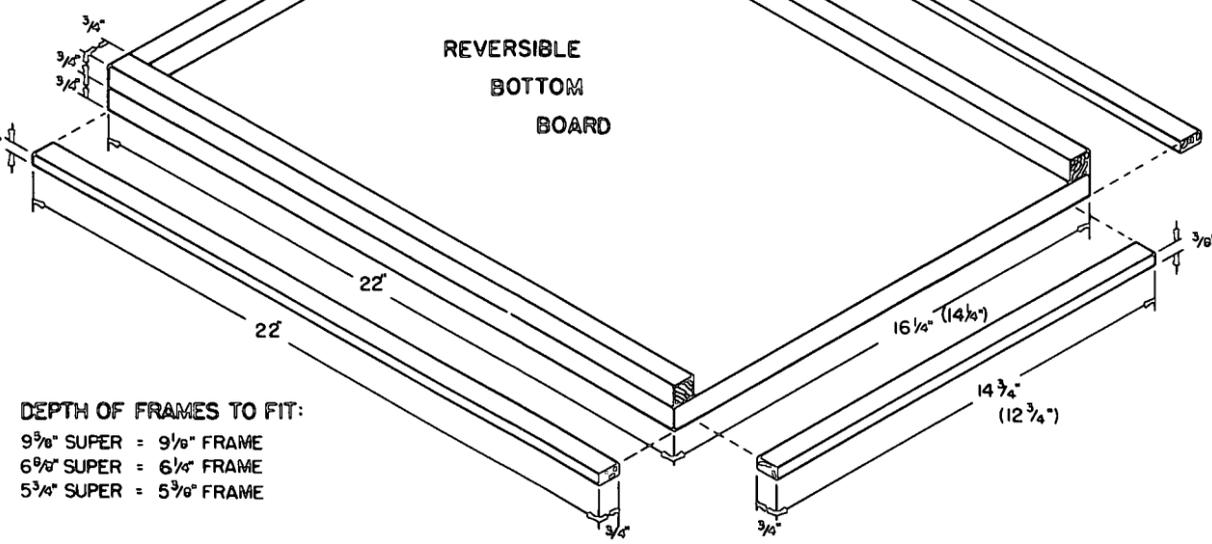
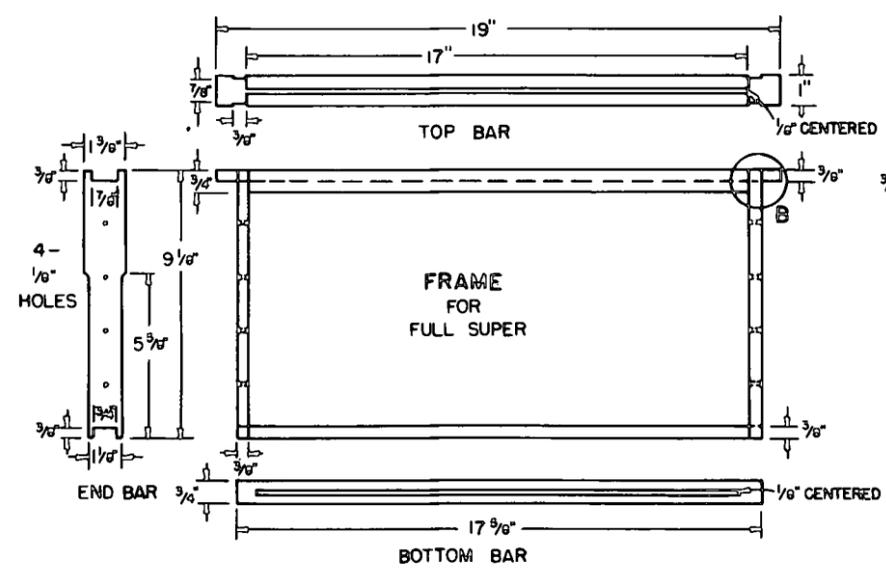
COVER 16 1/4" X 22"	BOTTOM 16 1/4" X 22"	BOTTOM 16 1/4" X 22"	COVER 16 1/4" X 22"
HANDLES 1 1/2" X 16 1/4"		HANDLES 1 1/2" X 16 1/4"	
SIDE 9 5/8" X 19 1/4"	END 9 5/8" X 16 1/4"	END 9 5/8" X 16 1/4"	SIDE 9 5/8" X 19 1/4"
SIDE 9 5/8" X 19 1/4"	END 9 5/8" X 16 1/4"	END 9 5/8" X 16 1/4"	SIDE 9 5/8" X 19 1/4"

CUTTING PLAN FOR PLYWOOD PARTS SHOWING ACTUAL DIMENSIONS. ALLOW FOR SAW KERFS ON SAWN EDGES. (ONE HIVE BODY FROM 4' X 4' PLYWOOD, FULL SUPER.)



- MATERIALS LIST**
- 10'-10" 2" X 6" PINE OR FIR
  - 4' X 4' X 3/4" A-A EXTERIOR PLYWOOD
  - 1 3/4" X 3/4" X 33" PINE OR FIR
  - 1" X 3/4" X 20" PINE OR FIR
  - 3/4" X 3/4" X 60" PINE OR FIR
  - 1 3/8" X 3/8" X 19" PINE OR FIR
  - 3/4" X 3/8" X 80" PINE OR FIR
  - 1 LB. 6d BOX NAILS

ALTERNATE DIMENSIONS FOR AN B-FRAME UNIT ARE IN BRACKETS.



DEPTH OF FRAMES TO FIT:  
 9 5/8" SUPER = 9 1/8" FRAME  
 6 9/8" SUPER = 6 1/4" FRAME  
 5 3/4" SUPER = 5 3/8" FRAME

**DEPTHS FOR HIVES**

- FULL SUPER = 9 5/8"
- THREE-QUARTER SUPER = 6 9/8"
- SHALLOW SUPER = 5 3/4"

