**WARNING**

Improper heater installation, venting, operation or maintenance may result in severe property damage, personal injury or death. Thoroughly read the manual provided by the manufacturer of the heater before installing or servicing the equipment, and keep it for future reference. These installation instructions pertain only to the mounting of heaters in greenhouses manufactured by Agra Tech, Inc. and are not intended to replace the instructions produced by the heater manufacturer.

**PROPELLER TYPE HEATER HANGER WITH FAN JET**

Heaters may face a fan jet equipped with a convection tube to distribute heat through the house (Fig. 1). Heaters with 2 mounting holes require 1 horizontal (mount) bar. Heaters with 4 mounting holes require 2 horizontal bars. A fan jet can be fed by 1 or 2 heaters as shown.

**BLOWER OR PROPELLER TYPE HEATER HANGER FACING OPPOSITE GABLE**

Blower type heaters do not require a fan jet to distribute heat, and can be hung facing the opposite gable (Fig. 2). Proeller type heaters may also be hung this way if horizontal air flow fans are provided to distribute heat (Fig. 3). Each heater requires 2 horizontal (mount) bars.

**IMPORTANT**

Do not remove structural member of the house to accommodate the installation of heaters. This includes all end bay bracing and truss members.
GENERAL INSTALLATION PROCEDURE

1. DETERMINE A LOCATION FOR THE HEATER(S), FAN JET & SHUTTER. MAKE SURE THAT THE EQUIPMENT WILL HANG CLEAR OF THE HORIZONTAL AND DIAGONAL BRACING IN THE END BAY. DRILL Ø9/16 HOLES IN THE TOP CHORDS AND HANG THE UPPER VERTICAL BARS WITH Ø1/2 x 3 1/2 BOLTS.

2. INSTALL BRACE BANDS ON THE HORIZONTAL BAR(S) AND ATTACH A LOWER VERTICAL BAR TO EACH ONE WITH A Ø3/8 x 1 CARRIAGE BOLT. MAKE SURE THE VERTICAL BARS ARE PARALLEL TO EACH OTHER, THEN DRIVE A #14 SD SCREW THROUGH THE SIDE OF EACH BRACE BAND TO BIND IT IN PLACE ON THE HORIZONTAL BAR.

3. LIFT THE HORIZONTAL BAR(S) AND GUIDE THE LOWER VERTICAL BARS INTO THE OPEN ENDS OF THE UPPER VERTICAL BARS.

4. DETERMINE THE HEIGHT REQUIRED FOR THE HORIZONTAL BAR(S). IF THERE IS AN AGRA TECH CURTAIN IN THE HOUSE, THE HORIZONTAL BAR(S) MUST BE AT LEAST 6" BELOW IT. IT MAY BE NECESSARY TO SHORTEN THE VERTICAL BARS TO ACHIEVE THE REQUIRED MINIMUM CLEARANCE TO GRADE.

5. DRILL A Ø7/16 HOLE THROUGH EACH VERTICAL BAR SLIP CONNECTION AND INSTALL A Ø3/8 x 2 1/2 BOLT TO SUPPORT THE HORIZONTAL BAR AT THE DESIRED HEIGHT.

6. DRILL THE HORIZONTAL BAR(S) FOR THE ALL-THREAD RODS. FOR Ø3/8 RODS, DRILL Ø7/16 HOLES. FOR Ø1/2 RODS, DRILL Ø9/16 HOLES.

7. CUT THE ALL-THREAD RODS TO LENGTH, IF REQUIRED, AND THREAD THEM INTO THE MOUNTING HOLES ON THE HEATER WITH A NUT ON THE ROD JUST ABOVE THE HEATER. TIGHTEN THE NUT AGAINST THE HEATER TO LOCK THE ROD IN PLACE.

8. THREAD ANOTHER NUT ONTO EACH ALL-THREAD ROD ABOUT 6" THEN LIFT THE HEATER INTO PLACE. ADD 2 NUTS TO EACH ROD ABOVE THE HORIZONTAL BAR AND ADJUST THEM TO LEVEL THE HEATER. THE TOP OF THE HEATER MUST BE LEVEL FOR PROPER OPERATION. TIGHTEN THE NUTS BELOW THE HORIZONTAL BAR(S) THEN TIGHTEN THE TWO NUTS ABOVE THE BARS TO LOCK THE ENTIRE ASSEMBLY IN PLACE (FIG. 4)
HEATER ANGLE BRACING INSTALLATION

CUT 1 1/2" x 1 1/2" x 60" SECTIONS OF ANGLE BRACING TO FIT BETWEEN THE ALL-THREAD RODS AND NEARBY TRUSS WEBS. ATTACH THE BRACES TO THE RODS WITH Ø1/4 x 3/8 U-BOLTS AND TO THE WEBS WITH #12 x 1 SD SCREWS (FIG. 5).

NOTE: THE U-BOLTED CONNECTION OF THE ANGLE BRACE TO THE ALL-THREAD ROD WILL REMAIN LOOSE AFTER THE NUTS ARE TIGHTENED.

FIG. 5 - PLAN - HEATER BRACING

SCALE: 1"=1'-0

1 DETAIL - ANGLE BRACE AT TRUSS WEB

SCALE: 1:1

2 DETAIL - ANGLE BRACE AT ALL-THREAD ROD

SCALE: 1:1