

Installation Instructions

Roof Curb Foundation™ Packaged Rooftop Units 3 to 5 Tons

Model Number: BAYCURB320*
Used With: E/GB*036-060
E/GD*036-060

SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

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1 Warnings, Cautions, and Notices

Read this manual thoroughly before operating or servicing this unit. Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

NOTICE Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

2 WARNING

Proper Field Wiring and Grounding Required!
Failure to follow code could result in death or serious injury. All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

WARNING

Personal Protective Equipment (PPE) Required!
Failure to wear proper PPE for the job being undertaken could result in death or serious injury. Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, MUST follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labeling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.

3 WARNING

Follow EHS Policies!
Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

WARNING

R-454B Flammable A2L Refrigerant!
Failure to use proper equipment or components as described below could result in equipment failure, and possibly fire, which could result in death, serious injury, or equipment damage. The equipment described in this manual uses R-454B refrigerant which is flammable (A2L). Use ONLY R-454B rated service equipment and components. For specific handling concerns with R-454B, contact your local representative.

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4 General Information

- This manual describes the layout and installation procedures required to properly assemble and install the roof curb. Illustrations in Figure 1 are provided for dimensional data regarding roof opening construction.
- Each curb package ships un-assembled, along with the required hardware and gasketing material.
- Roof insulation, cant strips, flashing (if desired), and nails must be furnished by the installing contractor.

Parts List

Table 1. Parts list

Qty	Description
2	Side rails
2	End rails
2	Side curb flanges
1	End curb flange
3	Insulated block-off panels
	Gasketing material
	Sheet metal screws
3	Insulated divider/support panels

Roof Opening

For safety and sound considerations, do not cut out the entire roof deck within the curb area.

5 Roof Support

WARNING

Risk of Roof Collapsing!
Failure to ensure proper structural roof support could cause the roof to collapse, which could result in death or serious injury and property damage. Confirm with a structural engineer that the roof structure is strong enough to support the combined weight of the roofcurb, the unit, and any accessories.

The roof must support the weight of the rooftop unit, accessories, and the curb. Refer to Figure 2 and Table 2 for specific center-of-gravity and corner weight information.

Set units perpendicular or parallel to roof support members. The combined weight of the unit, accessories, and curb should be evenly spaced between a minimum of two supports.

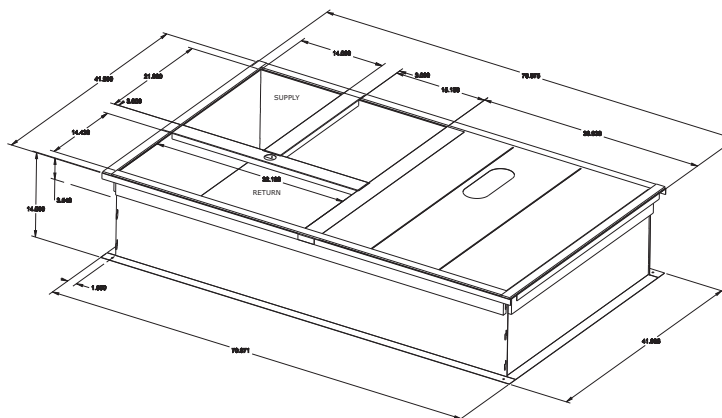
Confirm the position of the curb on the roof support does not interfere with the clearance required for the supply/return ductwork.

6 Clearances

The recommended clearances for single-unit installation are illustrated in Figure 1. Minimum requirements are recommended for unit placement, serviceability, maximum capacity, and peak operating efficiency. Reduction of unit clearances indicated in this illustration, may result in condenser coil starvation, or the recirculation of warm condenser air. Inadequate clearances should be reviewed with a local sales engineer.

Note: Unit weights are maximum valve of horizontal and downflow configuration, with oversized motor and largest heater installed in units.

Figure 1. Roof curb dimensions



7 Figure 2. Center of gravity

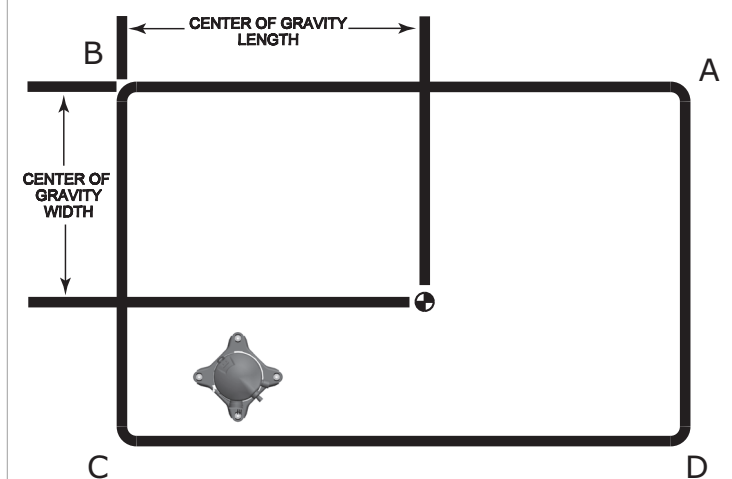


Table 2. Maximum unit and corner weights (lb) and center of gravity dimensions (in.)

Tons	Unit Model No.	Weights ^(a) (b)		Corner Weights				Center of Gravity	
		Shipping	Net	A	B	C	D	Length	Width
3	EB*036 ED*036	523	473	87	98	153	135	41	29
	GB*036 GD*036	574	524	95	111	172	146	42	29
4	EB*048 ED*048	566	516	130	107	155	150	39	28
	GB*048 GD*048	616	566	110	119	175	162	40	29
5	EB*060 ED*060	586	536	112	112	156	156	38	28
	GB*060 GD*060	636	586	120	125	174	168	39	28

(a) Weights are approximate.

(b) Weights do not include additional factory or field installed options/accessories. For option/accessory additional weights, reference the unit Installation, Operation, and Maintenance manual.

Table 3. Curbs weight (net lbs.)

Curb	Weight
BAYCURB320*	98

Installation

Read the entire manual carefully to become familiar with the roof curb installation procedures. If the roof curb will be mounted on a new building, it can be assembled at any convenient location and installed as soon as the roof support members are in place. As a general rule, the curb should be placed directly on the roof support members.

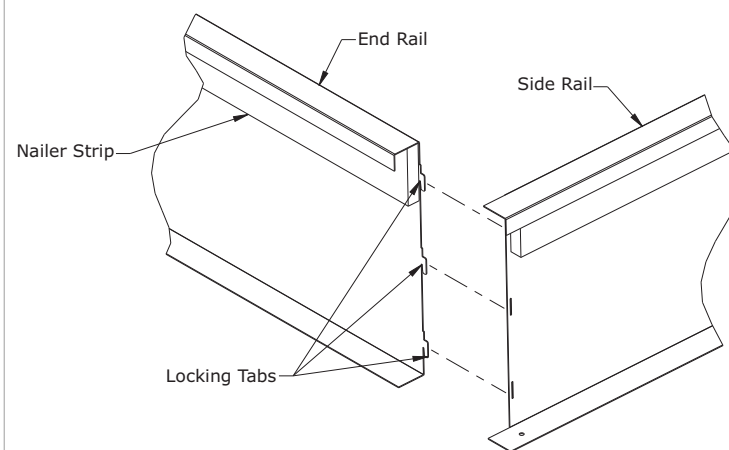
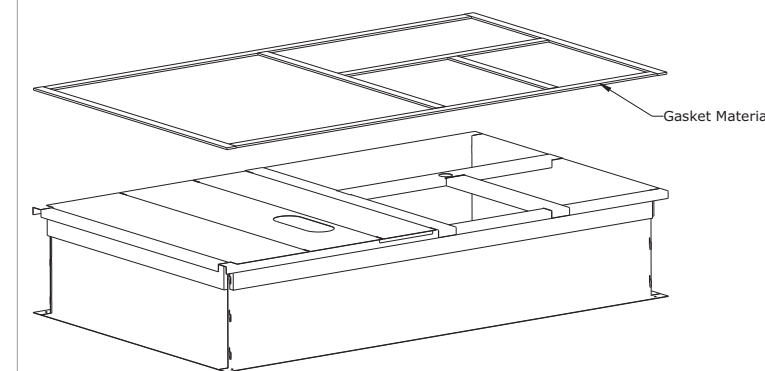
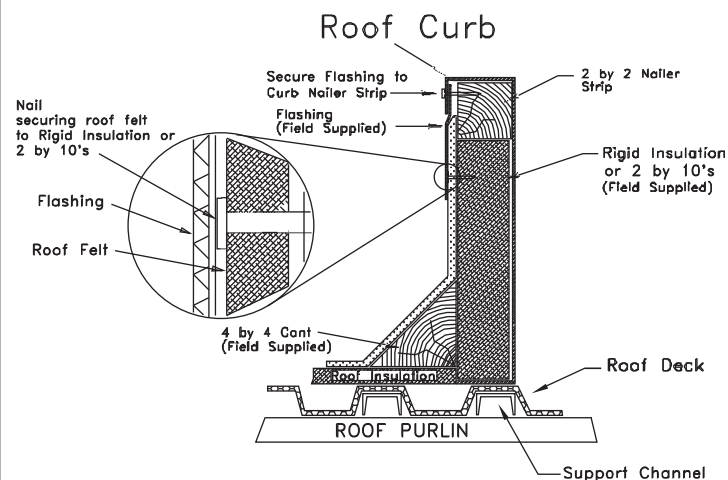
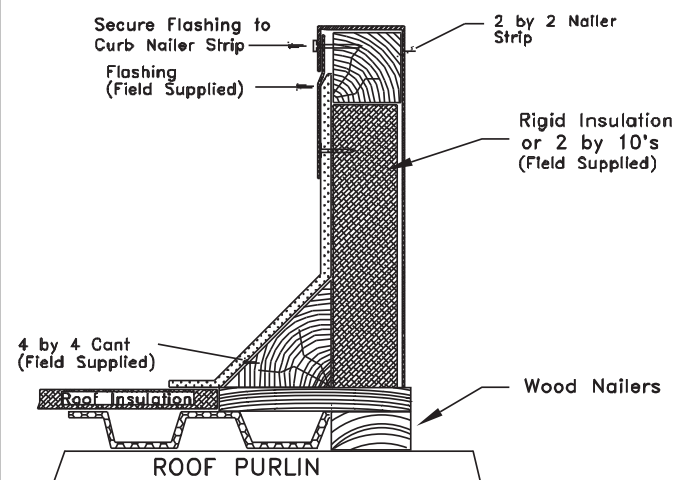
Use tack welding or other suitable fastening method to secure the roof curb in place. The curb can also be mounted on a roof deck. In this case, additional nailing plates must be provided directly below the flanges of the curb to give further support, and to minimize vibration. See [Figure 5](#) and [Figure 6](#).

Curb Installation

- Pre-assemble the curb as shown in [Figure 3](#) and [Figure 4](#).
- Set the curb in the proper position around the roof opening.
- Level the curb to confirm proper flow of condensate from the unit. The maximum pitch of the roof curb down from the access side of the unit (see [Figure 1](#)) is 1/16-inch per foot.
 - To check the flatness of the curb, stretch lines diagonally between opposite corners of the assembled curb.
 - The distance between the lines (at their point of intersection) should not exceed 1/4-inch.
 - If the lines touch, reverse them (place the top line on the bottom and the bottom line on top), and recheck the point of intersection. Shim under the curb as necessary.
- Check the curb assembly for squareness by measuring diagonally between opposite corners of the curb. The distance indicated by these measurements should be the same.
- Fasten the curb to the roof support members, or roof deck. See [Figure 5](#) and [Figure 6](#).
- Bring the roof material up to the curb as shown in [Figure 5](#) and [Figure 6](#). Place a piece of rigid insulation around the curb and fasten it (from the inside), with nails.
- Install cant strips as shown in [Figure 5](#) of either 4-inch by 4-inch wood (cut diagonally in half), or other suitable material. With the cant strips in place, bring the roofing felts up to the top of the curb nailing strips. Push the felts up under the lip of the curb and nail them tightly into position.

Note: Any pipes or electrical conduits which extend through the roof must be flashed with a sleeve and roof flange extending a minimum of 8 inches above the roof surface.

8. The roof curb installation is now complete and ready for ductwork and unit installation.

Figure 3. Curb rail assembly**Figure 4. Installing gasket material****Figure 5. Typical installation on new construction****Figure 6. Typical installation on existing construction****Supply and Return Air Ductwork**

- When flexible duct is not desired, metal or fiberboard duct may be installed.
- The metal of fiberboard duct must conform to all local building codes.
- The duct must be hung from the curb flanges inside the curb walls.

Important: Duct work must be hung from the curb flanges. Do not install over the top edges of the curb.

- When the duct is fabricated, it should be large enough to cover the openings for the return and supply sides of the unit, but the flanges must be narrow enough to slide down inside the curb.

Important: Before setting the unit, for duct work attaching to the curb, confirm this is secure and in place.

- To confirm proper duct construction and installation, SMACNA recommendations should be closely followed.

Note: Field fabricated panels used must be insulated.