Carrier

# Gas Heating/Electric Cooling, Electric Cooling and Heat Pump Units 3 to 15 Tons Small Rooftop Units Louvered Hail Guard Accessory

# Installation Instructions

Part No. CRLVHLGD004A00, CRLVHLGD011A00-CRLVHLGD016A00, CRLVHLGD020A00-CRLVHLGD022A00, CRLVHLGD023B00, CRLVHLGD024A00, CRLVHLGD032A00, CRLVHLGD045A00-CRLVHLGD051A00

IMPORTANT: Read entire instructions before installing the accessory.

## SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform basic maintenance functions of cleaning coils and filters and replacing filters. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes, including ANSI (American National Standards Institute) Z223.1. Wear safety glasses and work gloves. Use quenching cloth for unbrazing operations. Have fire extinguisher available for all brazing operations.

It is important to recognize safety information. This is the safety-alert symbol ⚠. When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, CAUTION, and NOTE. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices, which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

**⚠ WARNING**

Electrical shock can cause personal injury and death. Shut off all power to this equipment during installation and service. There may be more than one disconnect switch. Tag all disconnect locations to alert others not to restore power until work is completed.

## PACKAGE CONTENTS AND USAGE

**Table 1 — Package Contents**

| QTY | CONTENTS |
|---|---|
| **1** | Outside coil side panel |
| **1** | Outside coil end panel |
| **1** | Control box side panel[a] |
| **10** | Plastic inserts[a] |
| **Varies based on kit** | Screws |

NOTE(S):

a. CRLVHLGD024A00 and 032A00

## GENERAL

Louvered hail guard packages are designed to protect the rooftop unit condenser coil from hail and general contact damage. Excessive damage to rooftop unit outdoor coils can result in diminished performance due to reduced air flow over the heat transfer surfaces.

## Table 2 — Package Usage

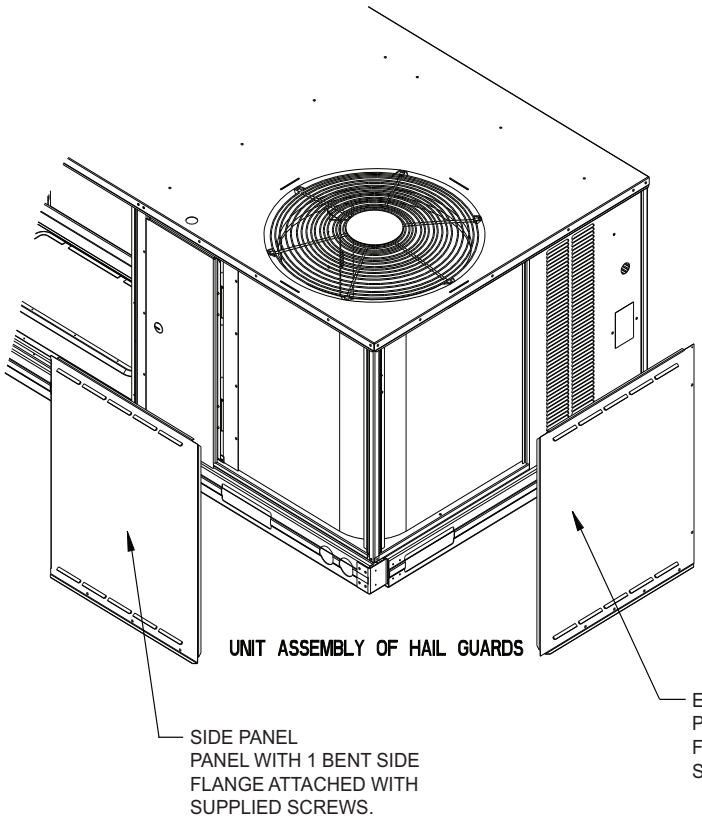
| HAIL GUARD PACKAGE | ROOFTOP UNIT MODEL | | |
|---|---|---|---|
| **CRLVHLGD004A00** | 50TCQ*08-12 | 548J*08-12 | RHS090-120[a] |
| **CRLVHLGD011A00** | 48/50KC**05 (3-Phase)<br>48/50TC**04<br>50TCQA04 | 582J*05/559J*05 (3-Phase)<br>580J*04/558J*04<br>548J*04 | RGS/RAS036[a]<br>RGX/RAX048 (3-Phase)[a]<br>RHS036[a] |
| **CRLVHLGD012A00** | 50HCQ*04<br>48/50KC**04<br>48/50KC**05 (1-Phase)<br>48/50TC**05-06<br>50KCQ*04<br>50TCQA05<br>48LC/50LC**04<br>48/50HC**04 | 549J*04<br>582J*04/559J*04<br>582J*05/559J*05 (1-Phase)<br>580J*05-06/558J*05-06<br>547J*04<br>548J*05<br>581J*04/551J*04 | RGS/RAS048-060[a]<br>RHX036[a]<br>RGX/RAX036[a]<br>RGX/RAX048 (1-Phase)[a]<br>RHS048[a]<br>RGH/RAH036[a]<br>RHH 036[a] |
| **CRLVHLGD013A00** | 50HCQ*05-06<br>48/50KC**06 (1-Phase)<br>50KCQ*05-06<br>48/50TC**07<br>50TCQA07<br>48/50LC**05-06<br>48/50HC**05-06 | 549J*05-06<br>582J*06/559J*06 (1-Phase)<br>547J*05-06<br>580J*07/558J*07<br>548J*07<br>581J*05-06/551J*05-06 | RGS/RAS072[a]<br>RHS072[a]<br>RGX/RAX060 (1-Phase)[a]<br>RGH/RAH048-060[a]<br>RHH048-060<br>RHX048, 060[a] |
| **CRLVHLGD014A00** | 48/50FC*08<br>50HCQ*07<br>48/50TC*A, D08[a]<br>48/50HC**07 | 582K/559K*08<br>549J*07<br>580J*08[a]/558J*08[a]<br>581J*07/551J*07 | RGV/RAV*090<br>RGS/RAS090, 091[a]<br>RGH/RAH072[a]<br>RHH 072[a] |
| **CRLVHLGD015A00** | 48/50TC*A09[a] | 580J*09(A,C)[a]/558J*09(A)[a] | RGS/RAS101[a] |
| **CRLVHLGD016A00** | 48/50FC*12<br>48/50FC*14<br>50HCQ*08-09<br>48/50LC**07<br>48/50TC-D09[a]<br>48/50TC*A,D12[a]<br>48/50TC*D14[a]<br>48/50HC**08-12<br>48/50FCQ*08-12 | 582K/559K*12<br>582K/559K*14<br>549J*08-09<br>580J*09(D,F,K,M)[a]<br>580J*12[a]<br>580J*14 (D,F,K,M)[a]<br>558J*09(D,K)[a]<br>558J*12[a]<br>558J*14(D,K)[a]<br>581J*08-12/551J*08-12<br>547K*08-12 | RGV/RAV*120<br>RGV/RAV*150<br>RGS/RAS102[a]<br>RGS/RAS121,120[a]<br>RGS/RAS150[a]<br>RGH/RAH090 102,120[a]<br>RHH 090-102[a]<br>RHV090,102,120 |
| **CRLVHLGD020B00** | 48/50TC*D08 | 580J*08(D,F)/558J*08D | — |
| **CRLVHLGD021B00** | 48/50TC*D12 | 580J*12(D,F)/558J*12D | — |
| **CRLVHLGD022A00** | 48/50TC*D14 | 580J*14(D,F)/558J*14(D) | — |
| **CRLVHLGD023B00** | 50TCQA06 | 548J*06 | RHS060[a] |
| **CRLVHLGD024A00** | 48/50LC*08<br>50TCQ*14<br>50FCQ*14 | 548J*14<br>547K*14 | RHS150[a]<br>RHV150 |
| **CRLVHLGD032A00** | 48/50FC*16<br>50HCQ*12<br>48/50LC**09-12<br>48/50TC**16[a]<br>48/50HC**14 | 582K/559K*16<br>549J*12[a]<br>580J*16/558J*16[a]<br>581J*14/551J*14 | RGV/RAV*180<br>RGS/RAS180[a]<br>RGH/RAH150[a]<br>RHH120[a] |
| **CRLVHLGD045A00** | 48/50KC**06 (3-Phase) | 582J*06/559J*06 (3-Phase) | RGX/RAX060 (3-Phase)[a] |
| **CRLVHLGD046A00** | 48/50FC**04<br>48/50GC**04<br>50GCQ*04 | 582K*04/559K*04<br>581K*04/551K*04<br>549K*04 | RAV/RGV036<br>RAW/RGW036<br>RHW036 |
| **CRLVHLGD047A00** | 48/50FC**05<br>48/50FC**06<br>50FCQ*05<br>48/50GC**05 | 582K*05/559K*05<br>582K*06/559K*06<br>581K*05/551K*05<br>547K*05 | RAV/RGV048<br>RAV/RGV060<br>RAW/RGW048<br>RHV048 |
| **CRLVHLGD048A00** | 48/50FC**07<br>48/50GC**06<br>50FCQ*06<br>50GCQ*05-06<br>48/50JC**04-06 | 582K*07/559K*07<br>581K*06/551K*06<br>547K*06<br>549K*05-06 | RAV/RGV072<br>RHV060<br>RAW/RGW060<br>RHW048, 060 |
| **CRLVHLGD049A00** | 50FCQ*04 | 547K*04 | RHV036 |
| **CRLVHLGD050A00** | 50FCQ*07 | 547K*07 | RHV072 |
| **CRLVHLGD051A00** | 48/50FC*09 | 582K/559K*09 | RGV/RAV*102,120 |

NOTE(S):

a. Round tube plate fin outdoor coil only.

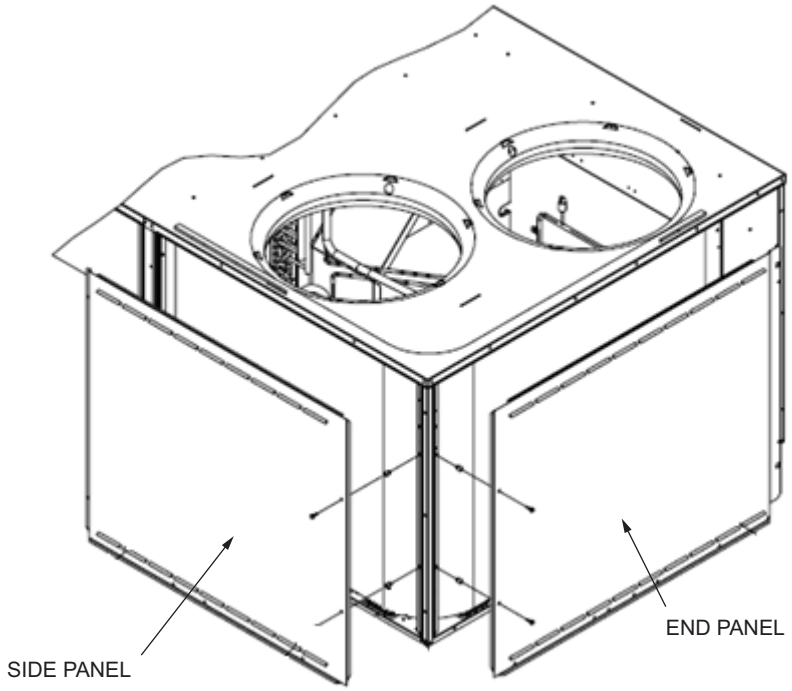
## INSTALLATION (ALL KITS EXCEPT CRLVHLGD024A00 AND 032A00)

1. Verify the correct hail guard part number is provided for the desired rooftop unit size. See Table "Package Usage" on page 2.
2. Remove the screws in the top panel of the rooftop unit above the condenser coil. Save the screws.
3. Remove the screws at the base of the outdoor coil where the hail guard panel will be installed. Save the screws.
4. Align the hail guard panel with the respective section of the outdoor coil and insert the top edge of the panel under the lip of the top panel. (See Fig. 1 and 2.)
5. Re-insert top and bottom screws from Steps 2 and 3 to hold the hail guard in place.
6. Insert side screws from the kit through the holes in the side(s) of the hail guard panels. The provided self tapping screws may be required for these screws.




| PART NUMBER | SIDE PANEL | | | | END PANEL | | | |
|---|---|---|---|---|---|---|---|---|
| | TOP | LEFT | BOTTOM | RIGHT | TOP | LEFT | BOTTOM | RIGHT |
| CRLVHLGD004A00 | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 7 |
| CRLVHLGD011A00 | 0 | 0 | 3 | 2 | 0 | 2 | 5 | 2 |
| CRLVHLGD012A00 | 0 | 0 | 3 | 2 | 0 | 2 | 6 | 3 |
| CRLVHLGD013A00 | 0 | 0 | 3 | 2 | 0 | 2 | 6 | 3 |
| CRLVHLGD014A00 | See Fig. 2 | | | | | | | |
| CRLVHLGD015A00 | | | | | | | | |
| CRLVHLGD016A00 | | | | | | | | |
| CRLVHLGD020A00 | | | | | | | | |
| CRLVHLGD021A00 | | | | | | | | |
| CRLVHLGD022A00 | | | | | | | | |
| CRLVHLGD023B00 | N/A | | | | 0 | 2 | 5 | 2 |
| CRLVHLGD024A00 | See Fig. 3 | | | | | | | |
| CRLVHLGD032A00 | | | | | | | | |
| CRLVHLGD045A00 | 0 | 0 | 3 | 2 | 0 | 2 | 5 | 2 |
| CRLVHLGD046A00 | 0 | 0 | 3 | 2 | 0 | 2 | 5 | 2 |
| CRLVHLGD047A00 | 0 | 0 | 3 | 2 | 0 | 2 | 6 | 2 |
| CRLVHLGD048A00 | 0 | 0 | 3 | 2 | 1 | 2 | 7 | 2 |
| CRLVHLGD049A00 | 0 | 0 | 3 | 2 | 1 | 2 | 7 | 2 |
| CRLVHLGD050A00 | 0 | 0 | 3 | 2 | 1 | 2 | 6 | 2 |

**Fig. 1 — Typical Louvered Hail Guard Screw Installation (3-5 Ton Unit Shown)**




| PART NUMBER | SIDE PANEL | | | | END PANEL | | | |
|---|---|---|---|---|---|---|---|---|
| | TOP | LEFT | BOTTOM | RIGHT | TOP | LEFT | BOTTOM | RIGHT |
| **CRLVHLGD014A00** | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 6 |
| **CRLVHLGD015A00** | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 6 |
| **CRLVHLGD016A00** | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 7 |
| **CRLVHLGD020A00** | 0 | 4 | 4 | 2[a] | 0 | 2[a] | 8 | 2 |
| **CRLVHLGD021A00** | 0 | 6 | 7 | 2[a] | 0 | 2[a] | 7 | 4 |
| **CRLVHLGD022A00** | 0 | 3 | 3 | 2[a] | 0 | 2[a] | 7 | 3 |
| **CRLVHLGD051A00** | 0 | 0 | 3 | 0 | 0 | 0 | 5 | 7 |

NOTE(S):

a. Plastic inserts and 7/8 in. long gasketed screws.

**Fig. 2 — Louvered Hail Guard Screw Installation CRLVHLGD014A00, 015A00, 016A00,020A00, 021A00, 022A00, and 051A00**

## INSTALLATION
## CRLVHLGD024A00, 032A00

1. Verify the correct hail guard part number is provided for the desired rooftop unit size. See Table 2, “Package Usage,” on page 2.
2. The units associated with this hail guard kit are shipped with a center post located on the end of the unit. It should have been removed during unit installation. This post is located approximately 1.5 ft from the left corner post on the end of the unit. Remove this post if it has not been removed already.
3. Insert plastic inserts into both corner posts (6 inserts) and center post (2 inserts) located by the control box as indicated in Fig. 3.
4. Align the hail guard panel with the respective section of the outdoor coil and insert the top edge of the panel under the lip of the top cover.
5. Use the long 7/8 in. gasketed screws to secure the hail guard in the plastic inserts (8 locations). Use the shorter serrated screws to secure the panels to the remaining holes in the vertical direction. Use shorter serrated screws to secure the panels along the bottom of the panels.

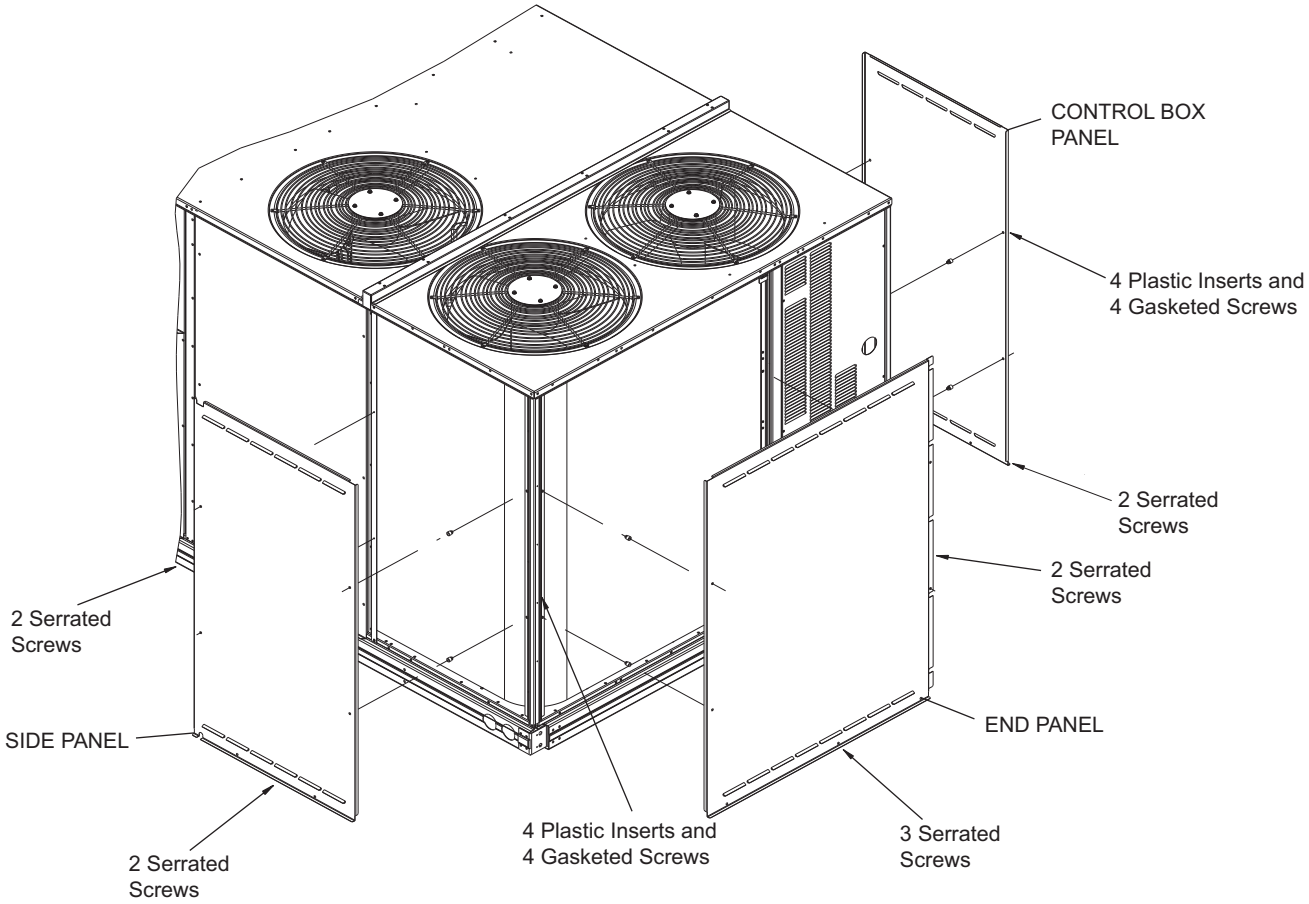



**Fig. 3 — Louvered Hail Guard Installation,CRLVHLGD024A00, 032A00**

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