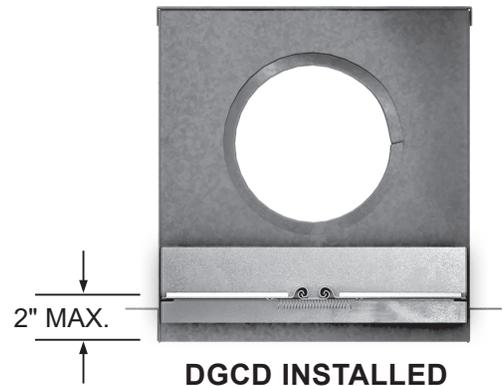
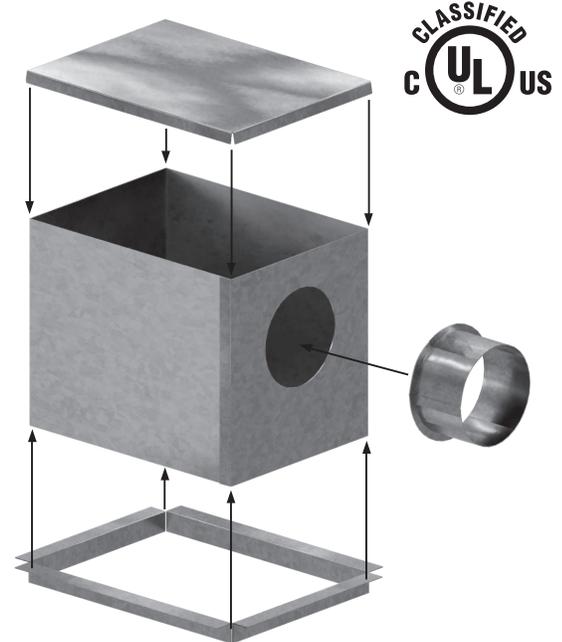
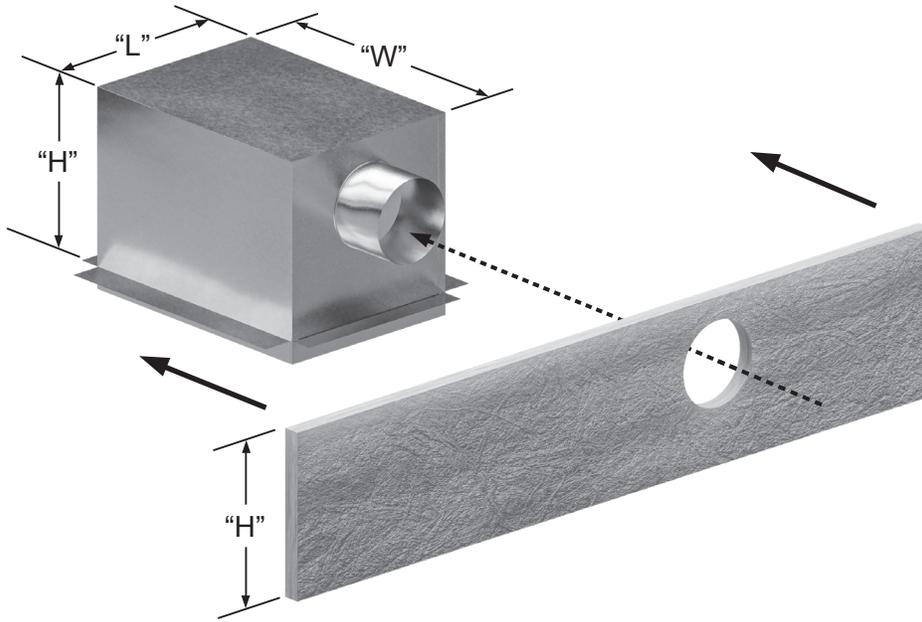




FIELD INSTALLATION INSTRUCTIONS FOR FIELD FABRICATED PLENUM BOX USED IN OPEN-WOOD TRUSS FLOOR/CEILING CONSTRUCTIONS

1. Construct the steel plenum box (28 ga. min. galv. steel) per the figures shown. Plenum box is limited to 16" Wide x 14" Long. The metal plenum box is limited in height by a minimum 4" (102) gap between the top of plenum box and underside of finished ceiling (typically resulting in a 15" tall plenum box limitation).
2. Steel pieces of the plenum box assembly are to be mechanically fastened by spot welds, rivets, screws, or lock formed toggle locks (TALOC die stamp) spaced 3-1/2" (89) on center (max.) on sides with 1/2" (13) overlap seams. The top panel is to be similarly fastened, spaced 5" (127) on center (max.) on each side at 1/2" (13) overlap seam.
3. Sheet rock flanges around the perimeter of the plenum box (28 ga. min. galv. steel) are to be located flush with the topside of sheet rock ceiling, typically 3/4" (19) from bottom edge of plenum box. The flanges also serve as a point to secure sheet metal screws that retain the metal grille below the ceiling surface. Flanges are secured to the plenum box with spot welds, spaced in a staggered pattern 1/2" (13) from ends and then spaced 3" (76) on center.
4. Duct outlet collar (30 ga. min. galv. steel) is a maximum 10" (25) diameter or oval/rectangular with a maximum 78.5 in.2 area. The duct collar is roll formed and riveted, or lock formed (toggle locked –TALOC die stamp) at overlap seam by a minimum of two fasteners. Only one duct collar is allowed and shall be located on one side (not top) of the plenum box. It is recommended that the duct collar be a minimum 4" (102) in length so that it extends beyond the plenum insulation and allows for easier connection to HVAC ducting.
5. Mounting angles (28 ga. min. galv. steel) shall be of construction as required by the manufacturer's damper installation instructions. Boot Rails (in lieu of mounting angles) are formed from 28 ga. min. galv. steel, constructed and installed per the manufacturer's installation instructions. (Refer to L3033 and L3043 instructions)
6. Install the ceiling damper (Model DGCD or MCCD) into the plenum box. The ceiling damper will have product labelling that depicts correct orientation of the damper (Airflow Direction / Top). For DGCD and MCCD models, the damper can be positioned into the plenum box to result in a maximum 2" (51) distance from the sheet rock ceiling surface to the damper blade (damper curtain) when the damper is in a closed position. Lesser distance is allowable, provided the register/grille does not physically inhibit damper closure. The ceiling damper frame is secured to the plenum box with (2 min. per side) spot welds, steel rivets, screws, or lock formed toggle locks (TALOC die stamp) spaced in a staggered pattern 1" (25) from each corner and 5" (127) on center.

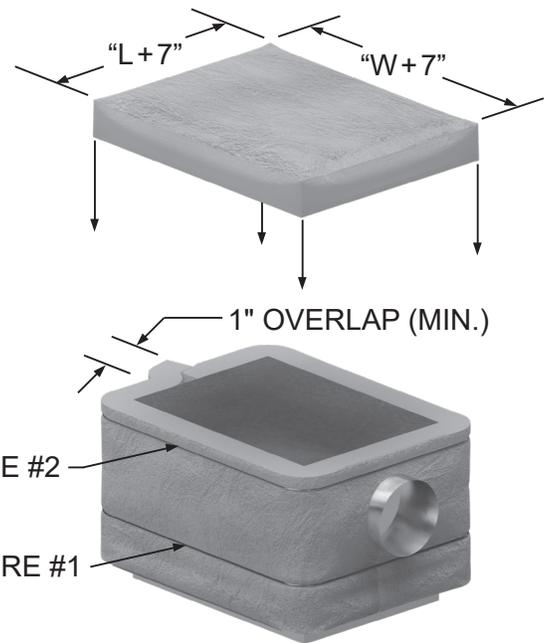




7. Plenum Box Insulation shall be field applied. Insulation is a min. 3-1/2" (89) thick, R-11, UL Classified unfaced, glass fiber insulation. To install, wrap the exterior of the plenum box to cover all four (4) sides and finish the wrap with vertical overlap seam that is 1" (25) min. Secure the insulation wrap to the plenum box with steel tie wire (0.028" thick) near the top and bottom of the plenum box. The insulation wrap must include a round cutout hole to fit tightly against the exterior of the duct outlet collar. Then cut a square or rectangular piece of insulation to finish the top of the plenum box. This layer of insulation may be secured with spray adhesive if necessary.

8. After the previous steps have been completed, cycle the ceiling damper numerous times to confirm there is no impediment to damper function. Then position the damper in a fully open position and install the fusible link provided.

9. Once the damper/plenum assembly has been installed into the ceiling and sheet rock ceiling has been installed, secure appropriately sized grille to underside of ceiling, using sheet metal screws provided with grille.



THESE INSTALLATION INSTRUCTIONS HAVE BEEN EVALUATED BY UL AND COMPLY WITH ALL APPLICABLE REQUIREMENTS OF UL 555C AT THE TIME OF REVIEW.

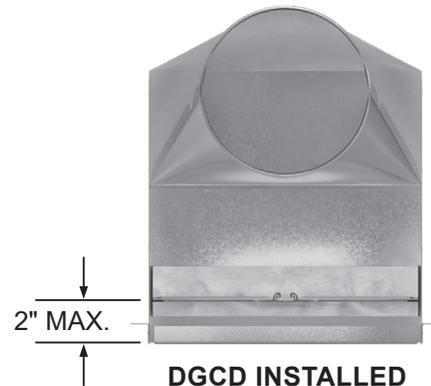
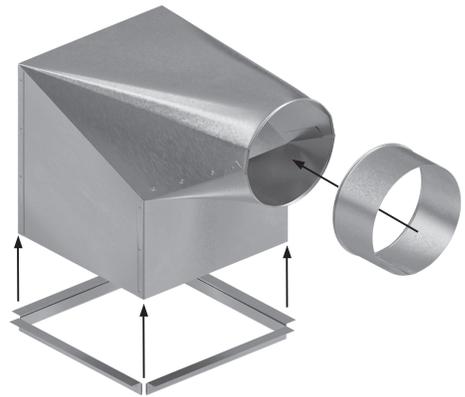
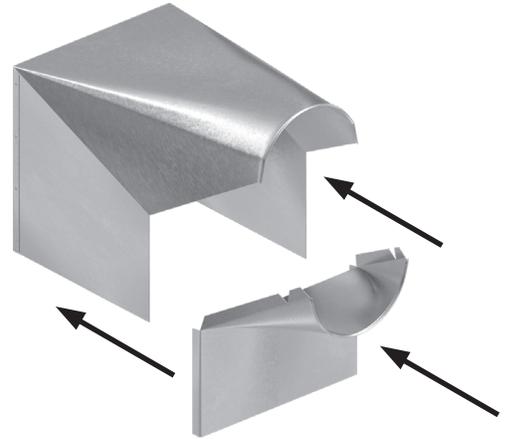
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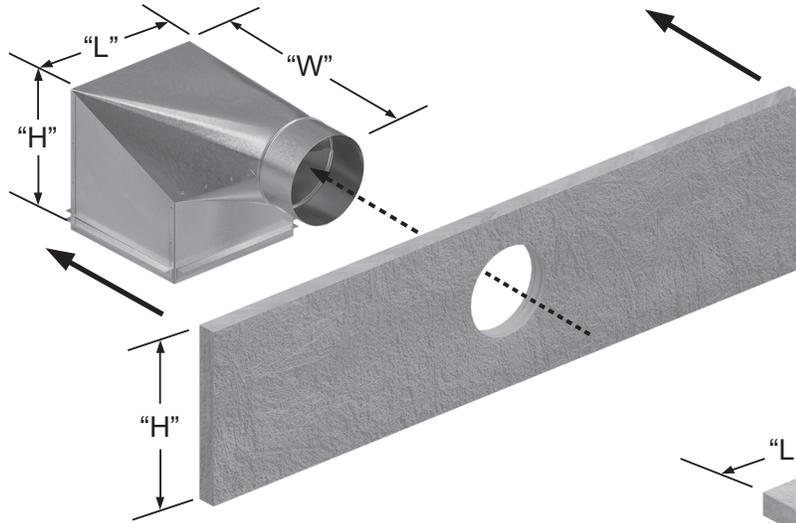
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FIELD INSTALLATION INSTRUCTIONS FOR FIELD FABRICATED INSULATED BOOT USED IN OPEN-WOOD TRUSS FLOOR/CEILING CONSTRUCTIONS

1. Construct the steel damper boot (28 ga. min. galv. steel) per the figures shown. Damper boot base is limited to 16" Wide x 14" Long. **(Max. damper size shall be 16 x 14 inches)**. The metal boot height limitation is 14" above the sheet rock flange.
2. Steel pieces of the boot assembly are to be mechanically fastened by spot welds, rivets, screws, or lock formed toggle locks (TALOC die stamp) spaced 3-1/2" (89) on center (max.) on all sides with 1/2" (13) overlap seams.
3. Sheet rock flanges around the perimeter of the metal boot (28 ga. min. galv. steel) are to be located flush with the topside of sheet rock ceiling, typically 3/4" (19) from bottom edge of metal boot. The flanges also serve as a point to secure sheet metal screws that retain the metal grille below the ceiling surface. Flanges are secured to metal boot with spot welds, spaced in a staggered pattern 1/2" (13) from corners and then spaced 3" (76) on center.
4. Duct outlet collar (30 ga. min. galv. steel) is a maximum 10" (25) diameter or oval/rectangular with a maximum 78.5 in.2 area. The duct collar is roll formed and riveted, or lock formed (toggle locked – TALOC die stamp) at overlap seam by a minimum of two fasteners. It is recommended that the duct collar be a minimum 4" (102) in length so that it extends beyond the boot insulation and allows for easier connection to HVAC ducting. Only one vertically orientated collar per metal boot is permitted. (Refer to images of boot)
5. Mounting angles (28 ga. min. galv. steel) shall be of construction as required by the manufacturer's damper installation instructions. Boot Rails (in lieu of mounting angles) are formed from 28 ga. min. galv. steel, constructed and installed per the manufacturer's installation instructions. (Refer to L3033 and L3043 instructions)
6. Install the ceiling damper (Model DGCD or MCCD) into the metal boot. The ceiling damper will have product labelling that depicts correct orientation of the damper (Airflow Direction / Top). For DGCD and MCCD models, the damper can be positioned into the metal boot to result in a maximum 2" (51) distance from the sheet rock ceiling surface to the damper blade (damper curtain) when the damper is in a closed position. Lesser distance is allowable, provided the register/grille does not physically inhibit damper closure. The ceiling damper frame is secured to the metal boot with (2 min. per side) spot welds, steel rivets, screws, or lock formed toggle locks (TALOC die stamp) spaced in a staggered pattern 1" (25) from each corner and 5" (127) on center.



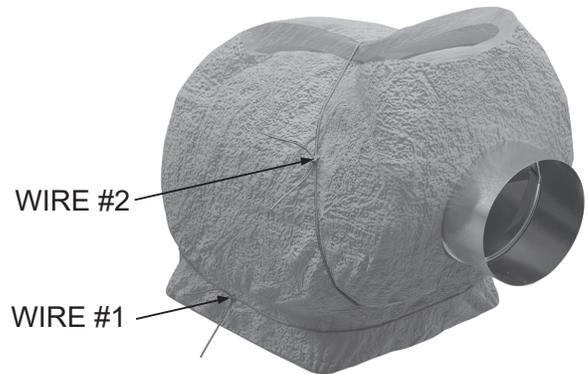
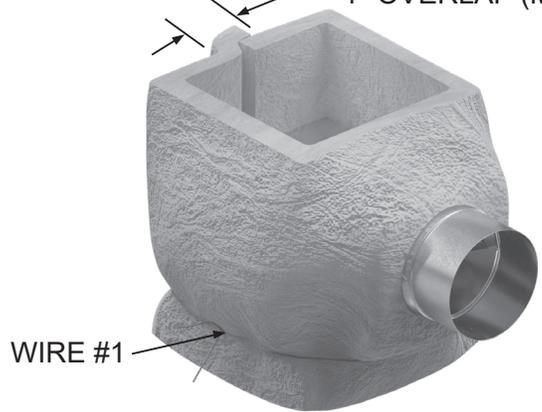
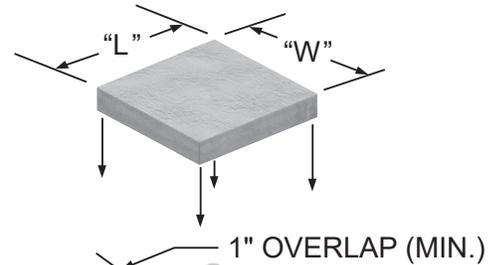


7. Boot Insulation shall be field applied. Insulation is a min. 3-1/2" (89) thick, R-11, UL Classified unfaced, glass fiber insulation. To install, wrap the exterior of the metal boot to cover all four (4) sides and finish the wrap with vertical overlap seam that is 1" (25) min. Secure the insulation wrap to the metal boot with steel tie wire (0.028" thick) just below the round boot collar as shown (WIRE #1). The insulation wrap must include a round cutout hole to fit tightly against the exterior of the duct outlet collar.

8. After wrapping the metal boot with insulation, cut a square or rectangular piece of insulation with a projected top dimension of "L" x "W" as shown. Place the top piece of insulation on to the top of the metal boot. Continue to fold and wrap insulation installed on previous step so that it overlaps the top piece of insulation. Secure with 2nd steel wire tie (0.028" thick) as shown (WIRE #2). The exterior of the metal boot shall be completely covered by the insulation.

9. After the previous steps have been completed, cycle the ceiling damper numerous times to confirm there is no impediment to damper function. Then position the damper in a fully open position and install the fusible link provided.

10. Once the insulated boot/damper assembly has been installed into the ceiling and sheet rock ceiling has been installed, secure appropriately sized grille to underside of ceiling, using sheet metal screws provided with grille.



THESE INSTALLATION INSTRUCTIONS HAVE BEEN EVALUATED BY UL AND COMPLY WITH ALL APPLICABLE REQUIREMENTS OF UL 555C AT THE TIME OF REVIEW.

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