AIR MOVEMENT PRODUCTS

FIRE DAMPERS
INSTALLATION INSTRUCTIONS

ATTACHING FIRE DAMPERS TO SLEEVES

Fire dampers must be attached to sleeves as shown in fig. 1. All four sides of the damper frame must be attached to the sleeve with one row of attachments on each side of the blade channel. Attachments must be spaced a maximum of 6" on centers and a maximum of 2" from corners. A minimum of 4 attachments (2 on each side of the blade channel) per side (16 per damper) are required. One of the methods of attachment shown below must be used.

- Tack or spot welds.
- No. 10 sheet metal screws.
- 1/4" bolts and nuts.
- 3/16" steel pop rivets.

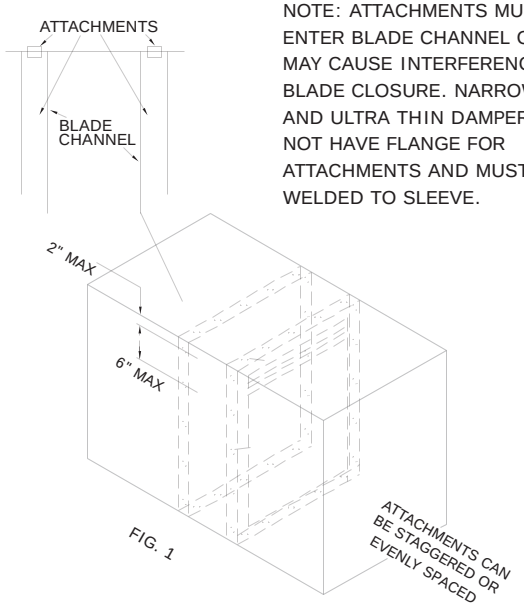


FIG. 1

NOTE: ATTACHMENTS MUST NOT ENTER BLADE CHANNEL OR THEY MAY CAUSE INTERFERENCE WITH BLADE CLOSURE. NARROW LINE AND ULTRA THIN DAMPERS DO NOT HAVE FLANGE FOR ATTACHMENTS AND MUST BE WELDED TO SLEEVE.

SECURING FIRE DAMPER AND SLEEVES TO WALL AND FLOOR OPENINGS

Fire damper and sleeve assemblies must be installed in wall and floor openings using retaining angles on each side of the wall or floor as described below:

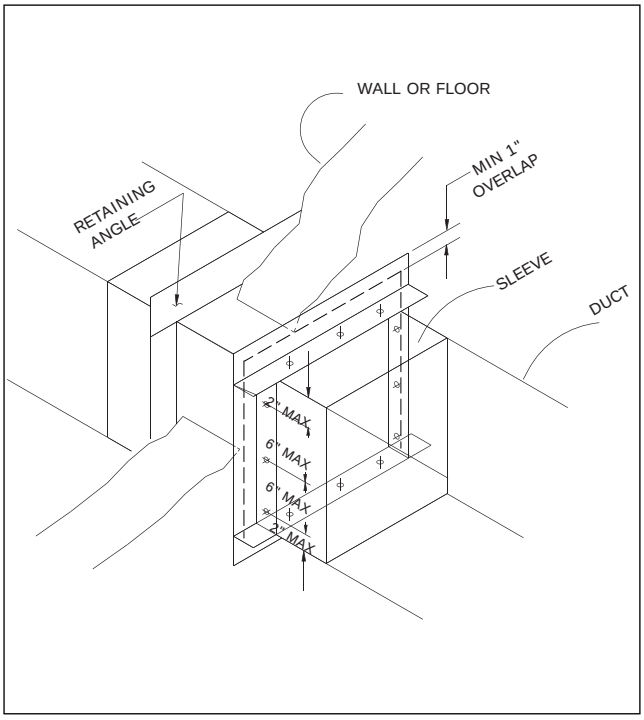
- Retaining angles must be a minimum of 16 gauge steel and have a minimum of 1 1/2" x 1 1/2" legs.

- Retaining angles must be attached to the sleeve using the procedures and methods described hereunder.
The angles must be attached to all 4 sides of the sleeve with butt joints at each corner. A minimum of two attachments are required on each side, top and bottom.
The angles need not be attached to each other at the corners.

- Retaining angles must completely cover the clearance space between the sleeve and the wall/floor opening, plus overlap the wall/floor a minimum of 1". This coverage includes all corners (fig. 2).

- Retaining angles should not be fastened to the wall/ floor material. The angles should only sandwich the wall/ floor and allow for damper/sleeve expansion during periods of intense heat.

- For grille installation, angle legs may be reversed and one leg inserted into the wall/floor opening providing the required clearance is maintained between angle leg fasteners and the wall/opening.



CONNECTING DUCTS TO FIRE DAMPER SLEEVE

- For grille installation, angle legs may be reversed and one leg inserted into the wall / floor opening providing the required clearance is maintained between angle leg fasteners and the wall / opening.

MULTIPLE SECTIONS FIRE DAMPERS

When multiple sections are shipped unassembled, installer shall fasten dampers together.

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ALL STATED SPECIFICATION ARE SUBJECTED TO CHANGE WITHOUT NOTICE OR OBLIGATION.

FIRE DAMPERS
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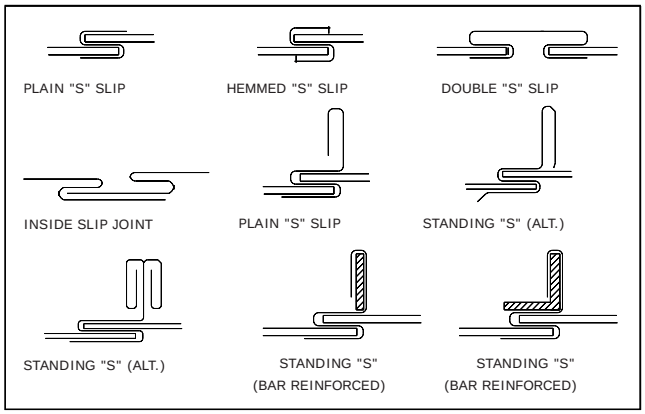
BREAKAWAY CONNECTIONS

Breakaway Style Transverse Joints

-Transverse joints illustrated at right have always been approved as breakaway connections . SMACNA testinghas also approved the following variations as breakaway connections.

-Standing "S" joints can be applied with no. 10 sheet metal screws (through joint and duct) subject to the following limitations: Maximum 2 screws in each side and in bottom joint.

Transverse joints illustrated can be applied as top and bottom joints with Drive Slip - side joints in duct heights up to 20 inches.



Round and Oval Duct Breakaway Connections

Round or flat oval ducts connected to type R, CR or CO damper collars may use no. 10 sheetmetal screws as follows:
Ducts to 22" wide (or dia.) and smaller may use 3 screws.
Ducts larger than 22" wide (or dia.) may use 5 screws.
NOTE: All breakaway connections described may have duct sealantapplied in accordance with SMACNA reccomendations.

Manufactured Flanged System Breakaway

Flanged connection systems manufactured by Ductmate, Ward, and Nexus are approved as breakaway connections when installed as illustrated.

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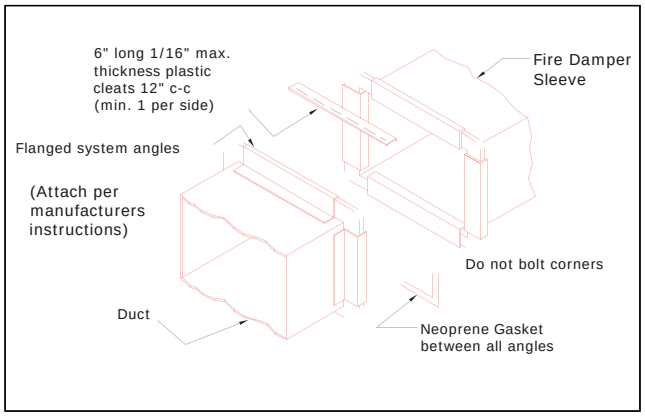
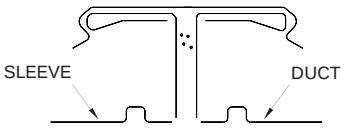
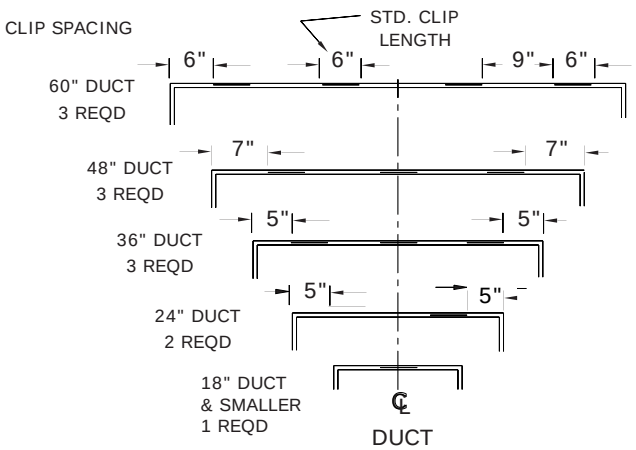


PROPRIETARY FLANGE SYSTEM BREAKAWAY CONNECTIONS (TDC by Lockformer, TDF by Engle)

TDC and TDF systems are approved as breakaway connections when installed as described in the TDC or TDF addendum to the SMACNA Duct construction Standards except the corners may not be bolted. Standard 6" metal clip may be used with spacing as shown in diagram.



TYPICAL TDC/TDF JOINT



FIRE DAMPERS
INSTALLATION INSTRUCTIONS

MOUNTING ANGLES

Secure mounting angles to the sleeve and not to the wall or floor. Mounting angles to frame the four sides of the sleeve on both faces.
When reverse mounting angles are used the size of the opening must be increased to maintain the specified expansion clearance between the angle / fasteners and the opening. Angles shall be a minimum of $1^1/_2$" x $1^1/_2$" x 16 gauge on dampers 36" x 50" and smaller. For dampers greater than 36" x 50", angles to be a minimum of $1^1/_2$" x $1^1/_2$" x 14 ga. Fasten angles to the sleeve using 1/4" dia. bolts and nuts or by welding with beads 1/2" in length, or with No. 10 steel sheet metal screws, or with 3/16" steel rivets. Fasteners or weld beads shall be 8" maximum on centers.

ACCESS

Suitable access must be provided for damper inspection and servicing. Where it is not possible to achieve sufficient size access, it will be necessary to install a removable section of duct.

CAULKING

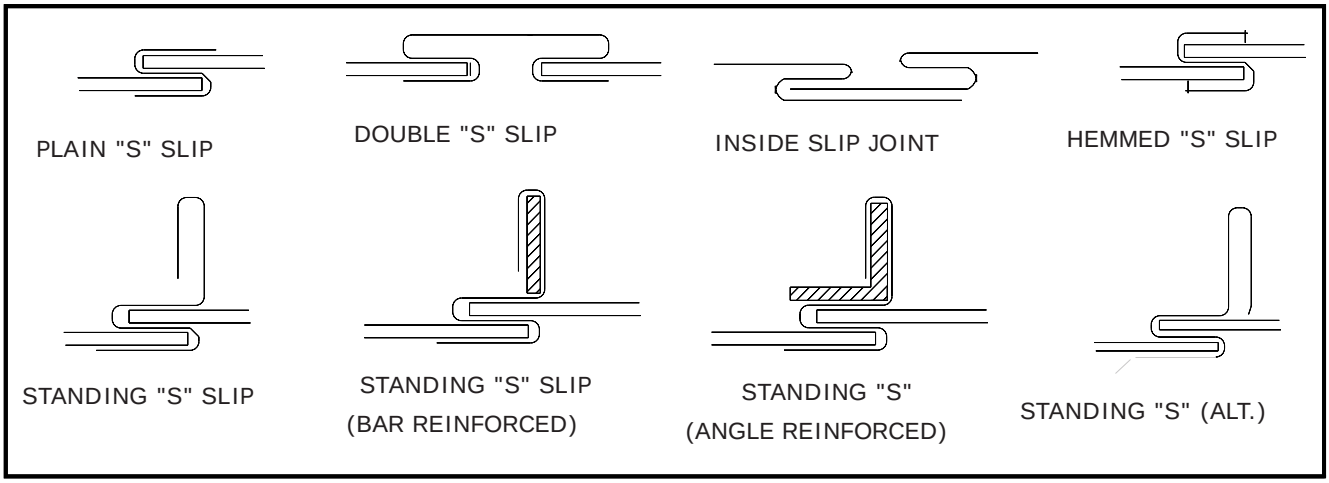
Caulking is allowed between the mounting angles and the damper sleeve, and between the mounting angles and the floor or wall construction. Caulking is not allowed between the damper sleeve and the wall or floor inside the opening. Caulk shall be one of the following:
Dow Corning RTV 732, or a UL approved substitute.

DUCT CONNECTION

The installation of the damper and all duct connections to the damper sleeve shall conform to NFPA-90A and the SMACNA Fire, Smoke and Radiation Damper Installation Guide. All duct connections shall also conform to UL555. Connecting ducts shall not be continuous but shall terminate at the damper sleeve. Duct connections to the sleeve will be either of the breakaway or rigid types, breakaway types are listed below.
The following determines if the connections are to be rigid or breakaway.
For rigid type duct connections, sleeve shall be a minimum of 16 GA on dampers not exceeding 36" wide or 24" high or 24" diameter and 14 ga on larger units. Dampers supplied with thinner sleeves will require a breakaway connection of the following type. Plain "S" slip, double "S" slip shown below. All connections not listed as breakaway shall be considered as rigid. Breakaway joints of the types shown below shall have no more than two No.10 (4.8 mm) diameter sheet metal screws on each side and on the top and bottom located in the center of the slip pocket and shall penetrate both sides of the slip pocket. Breakaway joints of the type shown below are permitted on the top and bottom of horizontal ducts (vertical dampers) with flat slips not exceeding 20 inches (508 mm) in length on the sides.

MAINTENANCE

Dampers shall be maintained in intervals as stated in NFPA-90A, Appendix B, unl ess local codes require more frequent inspections. Check the fuse link, check the stainless steel closure springs where furnished, cycle damper and check for free operation and complete closure, clean with mild detergent or solvent, secure damper open with fusible link.



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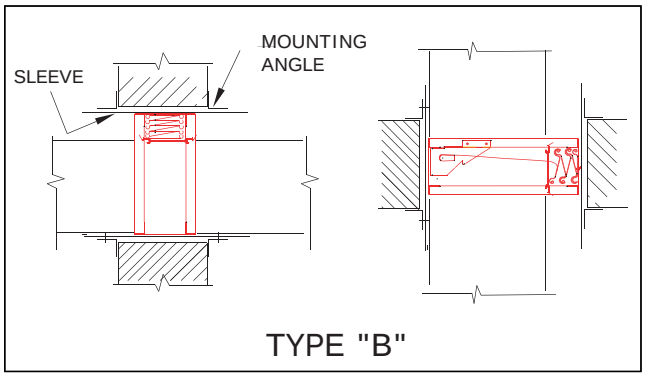
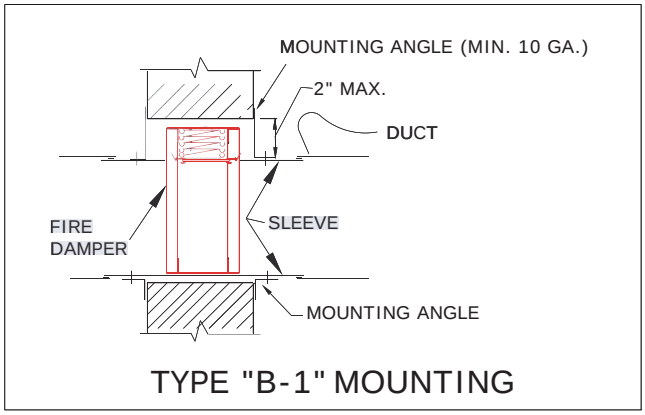
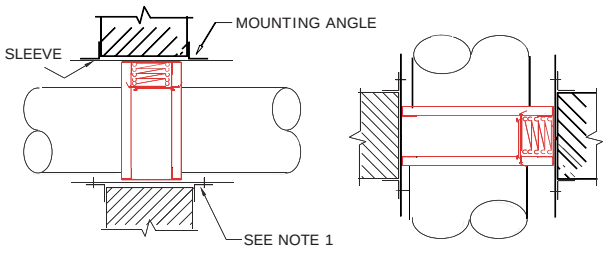


TYPE "B"

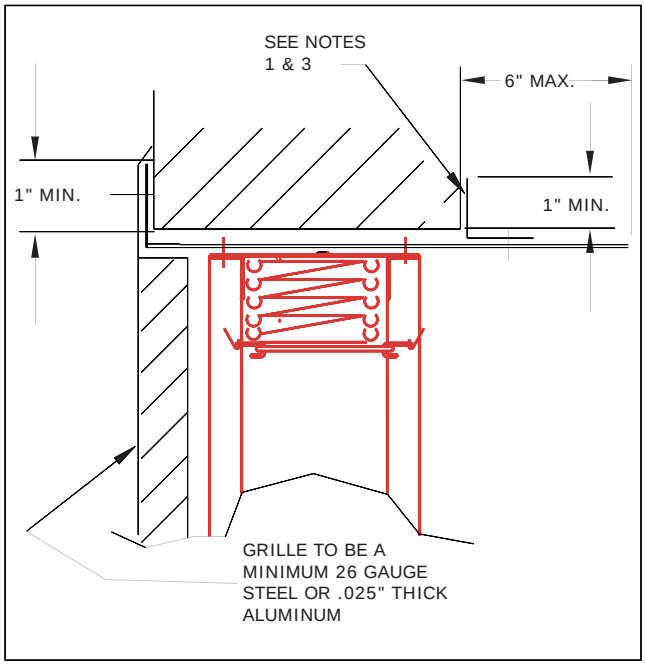


TYPE "B-1" MOUNTING



TYPE "CR"

The factory supplied 22 GA. collar to 18 GA cap The factory supplied 22 GA. collar to 18 GA cap connection under the following conditions:
1. Round unit duct diameters are no larger than 52"
2. Oval duct sizes are no larger than 58" W x 29"H.
3. Duct gauges shall conform to the SMACNA or ASHRAE duct standard.
4. Duct diameters of 22 inches (559 mm) and smaller shall have three (3) No. 10 (4.8 mm) diameter sheet metal screws evenly spaced around the circumference of the duct.
5. Duct diameters greater than 22 inches and up shall have five (5) sheet metal screws evenly spaced around the circumference of the duct.
6. Dampers outside of these restrictions (ie) multiple dampers and special size and application dampers must use a 4" wide drawband connection as shown in the SMACNA Fire, Smoke, and Radiation Damper Installation Guide.



DAMPER BEHIND A GRILLE

1. Perimeter mounting angles to be a minimum of $1^1/_2$ x $1^1/_2$ x 16 GA on dampers 36" x 50" and smaller. For dampers greater than 36" x 50", angles to be a minimum of $1^1/_2$ x $1^1/_2$ x 14 GA.

2. Grille to flange fasteners cannot penetrate fire wall (see note 4).

3. Secure angles to sleeve only, so as to frame the wall opening. Fasten to the sleeve only using the same means as required for fastening the damper to the sleeve.

4. Grille to flange attachment by means of 1/4" dia. pop rivets, #8 sheet metal screws or #8 bolts and nuts. Fasteners to be plated steel or stainless steel, minimum two fasteners per side.

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