

RAVEN Studio Sprinklers 5.6K Pendent and Horizontal Sidewall Quick Response, Standard and Extended Coverage

General Description

TYCO RAVEN Studio Sprinklers 5.6K Pendent and Horizontal Sidewall (HSW) Quick Response, Standard Coverage for Light and Ordinary Hazard applications and Extended Coverage for Light Hazard applications only, are intended for use in areas as designed per NFPA 13.

The flush design is made aesthetically appealing by concealing the deflector and other operating parts behind the link assembly. The RAVEN Studio Sprinklers, with a heat sensitive solder type release element, are listed as quick response sprinklers.

NOTICE

RAVEN Studio Sprinklers described herein must be installed and maintained in compliance with this document and with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), in addition to the standards of any authorities having jurisdiction. Failure to do so may impair the performance of these devices.

Johnson Controls specifically disclaims any liability for damages or injury (including death) arising out of or caused by manipulation, dismantling, or misuse of RAVEN Studio Sprinklers or the use or attempted use of the RAVEN Studio Sprinklers or any component thereof as an instrument unrelated to its intended function as a fire

IMPORTANT

Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

Always refer to Technical Data Sheet TFP700 for the "INSTALLER WARNING" that provides cautions with respect to handling and installation of sprinkler systems and components. Improper handling and installation can permanently damage a sprinkler system or its components and cause the sprinkler to fail to operate in a fire situation or cause it to operate prematurely.

protection device.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.

Sprinkler Identification Numbers (SINs)

Standard Coverage

TY1281 – Pendent
TY1381 – Horizontal Sidewall

Extended Coverage

TY1282 – Pendent
TY1382 – Horizontal Sidewall

Technical Data

Approvals

UL and C-UL Listed

Maximum Working Pressure

175 psi (12,1 bar)

Thread Connection

Adapter: 1/2 in. NPT x ISO 228 G3/8 in.
Sprinkler: ISO 228 G3/8 in.

Note: Threads per ISO 228 are parallel pipe threads.

Discharge Coefficient

K=5.6 gpm/psi^{1/2} (80,6 lpm/bar^{1/2})

Temperature Rating

165°F (74°C)

Finishes

Sprinkler: White, Grey, or Custom Color

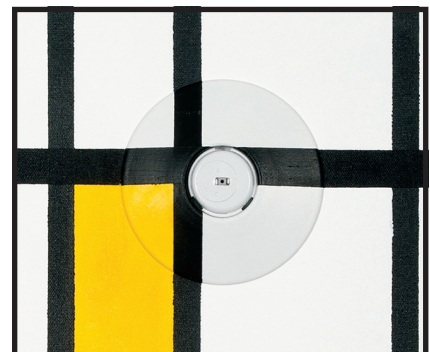
Escutcheon: White, Grey, Chrome, Primed*, Custom Color, or Electropolish**
(Refer to Ordering Procedure for details.)

* Ready to paint-in-place

** Chrome-coated appearance, available for Stainless Steel only

Physical Characteristics

Body Brass
Deflector Assembly Bronze
Sealing Assembly Beryllium Nickel w/TEFLON
Link Assembly Copper
Thread Adapter Brass
Escutcheon Carbon or Stainless Steel



Application	Coverage	SIN	Dust Cap Color	A Inches (mm)
Pendent	Standard	TY1281	Red	1-7/8 (48)
	Extended	TY1282		
Horizontal Sidewall	Standard	TY1381	Green	2-13/16 (56)
	Extended	TY1382		

NOTES:

1. USE LIP OF PAINTED SPRINKLER BODY, NOT BRASS SHOULDER, AS INSTALLATION SURFACE, REF. FIGURES 11 OR 12 AND INSTALLATION PROCEDURE STEPS 8 OR 9

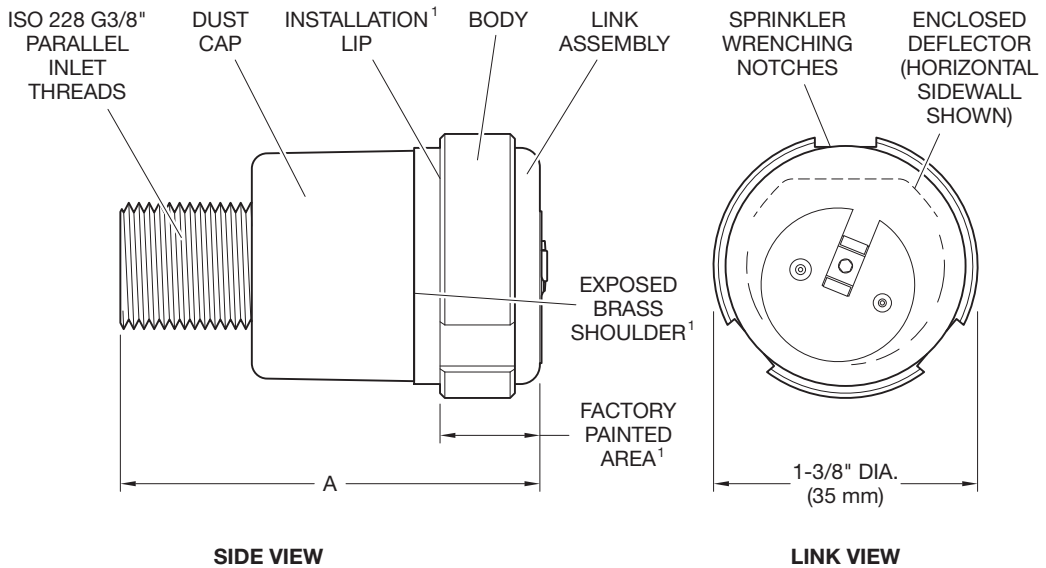
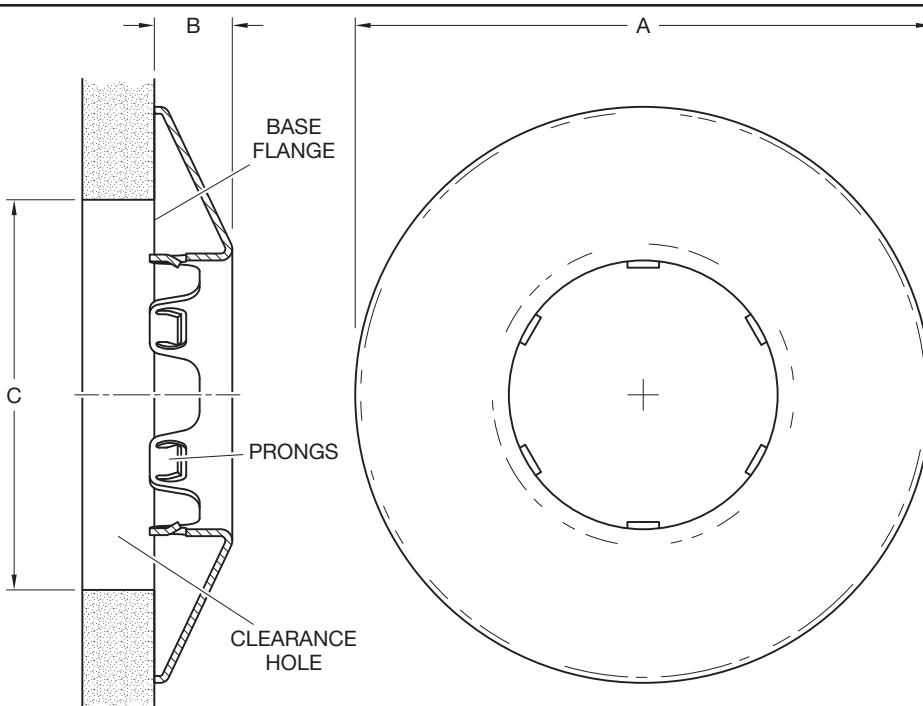
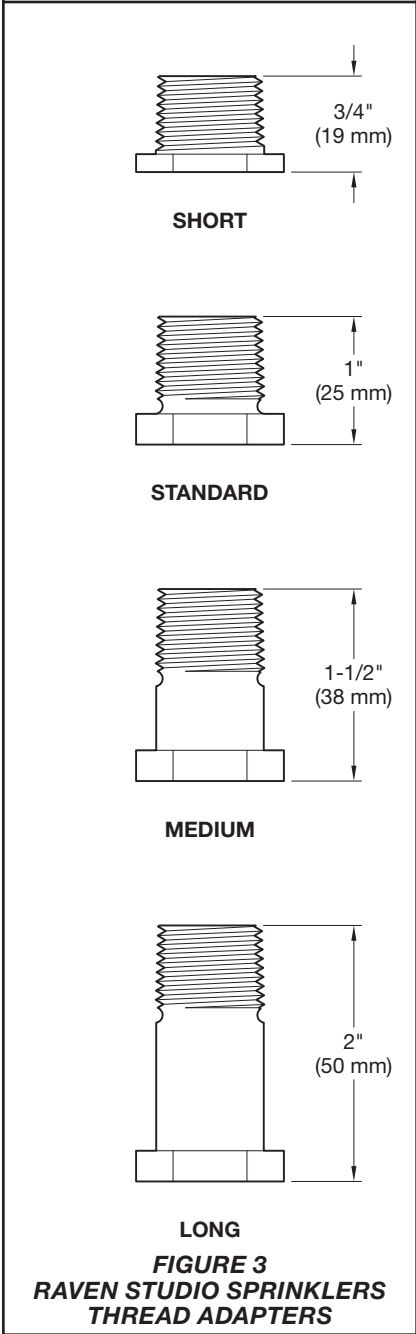
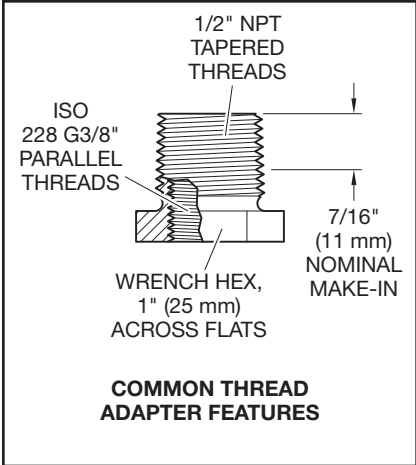


FIGURE 1
RAVEN STUDIO SPRINKLERS
ASSEMBLY



Dimensions Inches (mm)		
Dim.	Escutcheon Style	
	J	K
A Dia.	3 (76)	4 (101)
B	7/16 (11)	
C Dia.	Min.	2 (51)
	Max.	2-1/2 (63)

FIGURE 2
RAVEN STUDIO SPRINKLERS
ESCUTCHEONS



Fitting Type	A Nominal Pipe Size Inches DN	B Outlet Thread ISO 228 Inches	Dimensions Inches (mm)				
			C	D	E	X	Y
90° Elbow	1 DN25	G3/8	1-5/8 (41)	13/16 (21)	13/16 (21)	3/4 (19)	1-3/4 (44)
Tee			1-5/8 (41)	13/16 (21)	N/A	11/16 (17)	1-13/16 (46)

- NOTES:
1. CPVC SPRINKLER ADAPTER FITTINGS WITH ISO 228 G3/8" OUTLET THREADS DESIGNED FOR USE IN LOW-PROFILE, LIMITED-SPACE INSTALLATIONS
 2. INSTALL INLET THREADS OF RAVEN STUDIO SPRINKLER DIRECTLY INTO ISO 228 G3/8" OUTLET THREADS OF CPVC SPRINKLER ADAPTER FITTING; THREAD ADAPTER NOT REQUIRED
 3. APPLY ONLY PERMABOND LH056 SEALANT ON INLET THREADS OF RAVEN STUDIO SPRINKLER WHEN INSTALLING IN CPVC SPRINKLER ADAPTER FITTINGS, REF. FIGURE 10
 4. REFER TO CPVC INSTALLATION HANDBOOK IH-1900 FOR GUIDANCE ON INSTALLING FITTINGS IN CPVC PIPE SYSTEMS

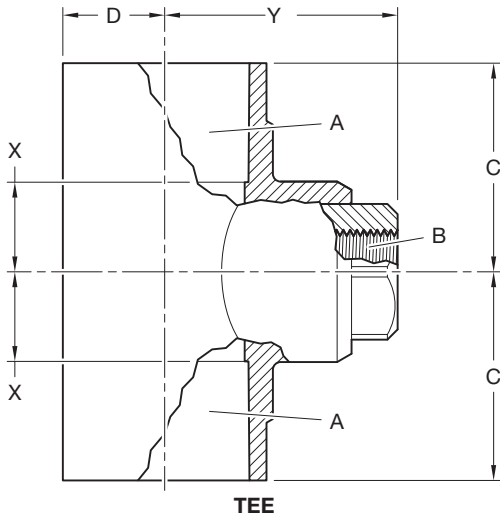
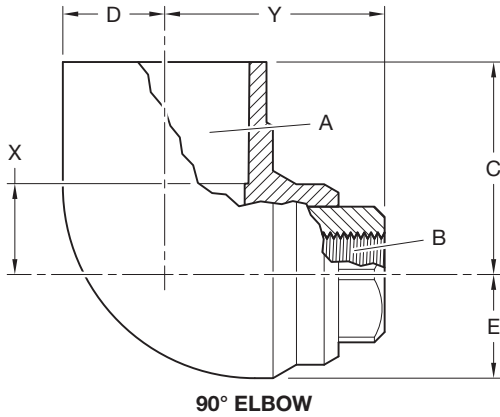


FIGURE 4 RAVEN STUDIO SPRINKLERS CPVC SPRINKLER ADAPTER FITTINGS

Thread Adapter Size	Thread Adapter Length Inches (mm)	A Inches (mm)				B Nominal Inches (mm)
		Pendent		Horizontal Sidewall		
		Min.	Max.	Min.	Max.	
Short	3/4 (19)	1-1/4 (32)	1-3/4 (44)	1-1/2 (38)	2 (51)	5/16 (8)
Standard	1 (25)	1-1/2 (38)	2 (51)	1-3/4 (44)	2-1/4 (57)	9/16 (14)
Medium	1-1/2 (38)	2 (51)	2-1/2 (64)	2-1/4 (57)	2-3/4 (70)	1-1/16 (27)
Long	2 (50)	2-1/2 (64)	3 (64)	2-3/4 (70)	3-1/4 (83)	1-9/16 (40)

NOTES:

1. SPRINKLER FITTING AND WATERWAY CENTERLINE MUST BE PERPENDICULAR TO ESCUTCHEON MOUNTING SURFACE
2. MINIMUM THREAD ENGAGEMENT APPROX. 3/16" (5 mm) = 3 FULL REVOLUTIONS AFTER INITIAL ENGAGEMENT OF SPRINKLER INLET THREADS WITH THREAD ADAPTER OUTLET THREADS
3. THREAD ADAPTER NOT APPLICABLE WHEN INSTALLING SPRINKLER DIRECTLY IN ISO 228 G3/8" OUTLET THREADS OF CPVC SPRINKLER ADAPTER FITTING (REF. FIGURES 4 AND 6)

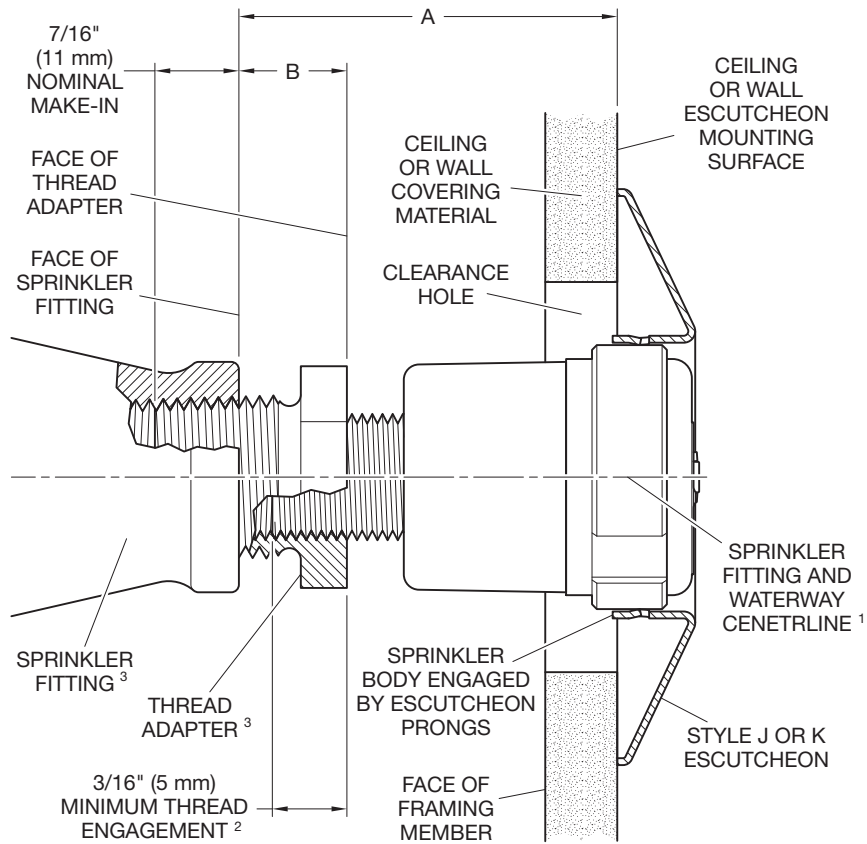


FIGURE 5
RAVEN STUDIO SPRINKLERS
PENDENT AND HORIZONTAL SIDEWALL INSTALLATION CRITERIA

Fitting Type	Fitting Size Inches x ISO 228 Outlet Threads	A Inches (mm)			
		Pendent		Horizontal Sidewall	
		Min.	Max.	Min.	Max.
90° Elbow	1 x G3/8	7/8 (22)	1-1/4 (32)	1-1/8 (29)	1-1/2 (38)
Tee	1 x 1 x G3/8				

NOTES:

1. SPRINKLER FITTING AND WATERWAY CENTERLINE MUST BE PERPENDICULAR TO ESCUTCHEON MOUNTING SURFACE
2. MINIMUM THREAD ENGAGEMENT APPROX. 7/32" (6 mm) = 4 FULL REVOLUTIONS AFTER INITIAL ENGAGEMENT OF SPRINKLER INLET THREADS WITH ADAPTER FITTING OUTLET THREADS

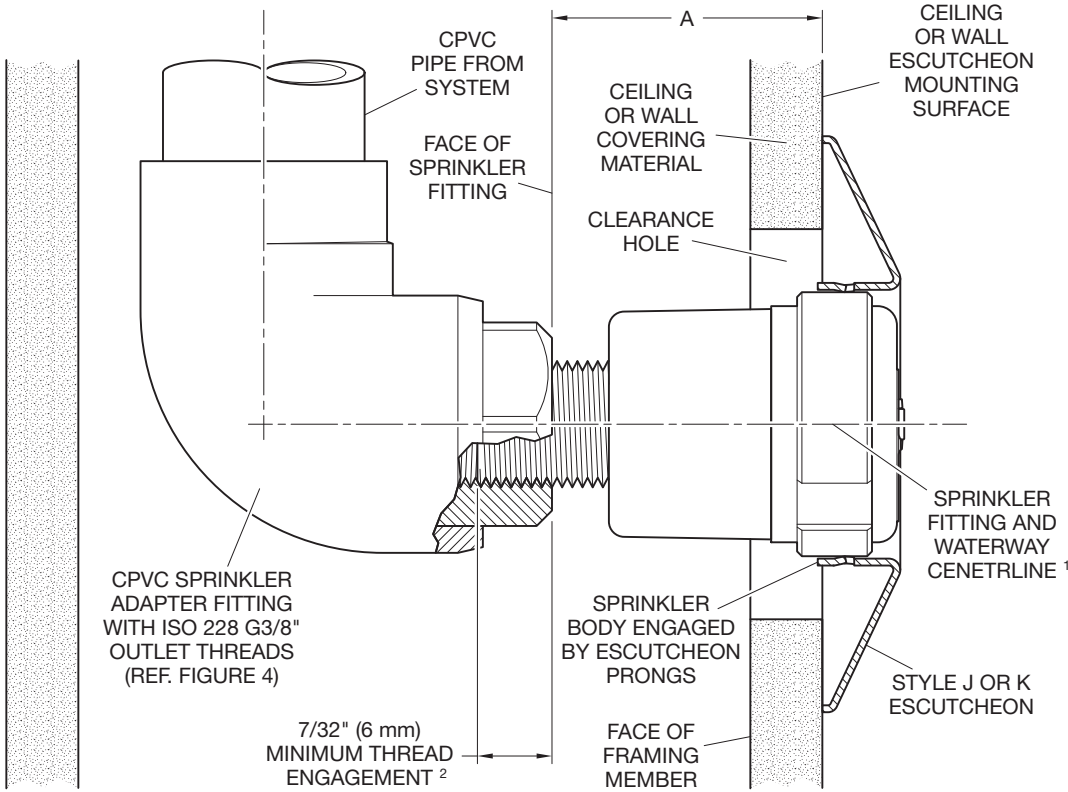
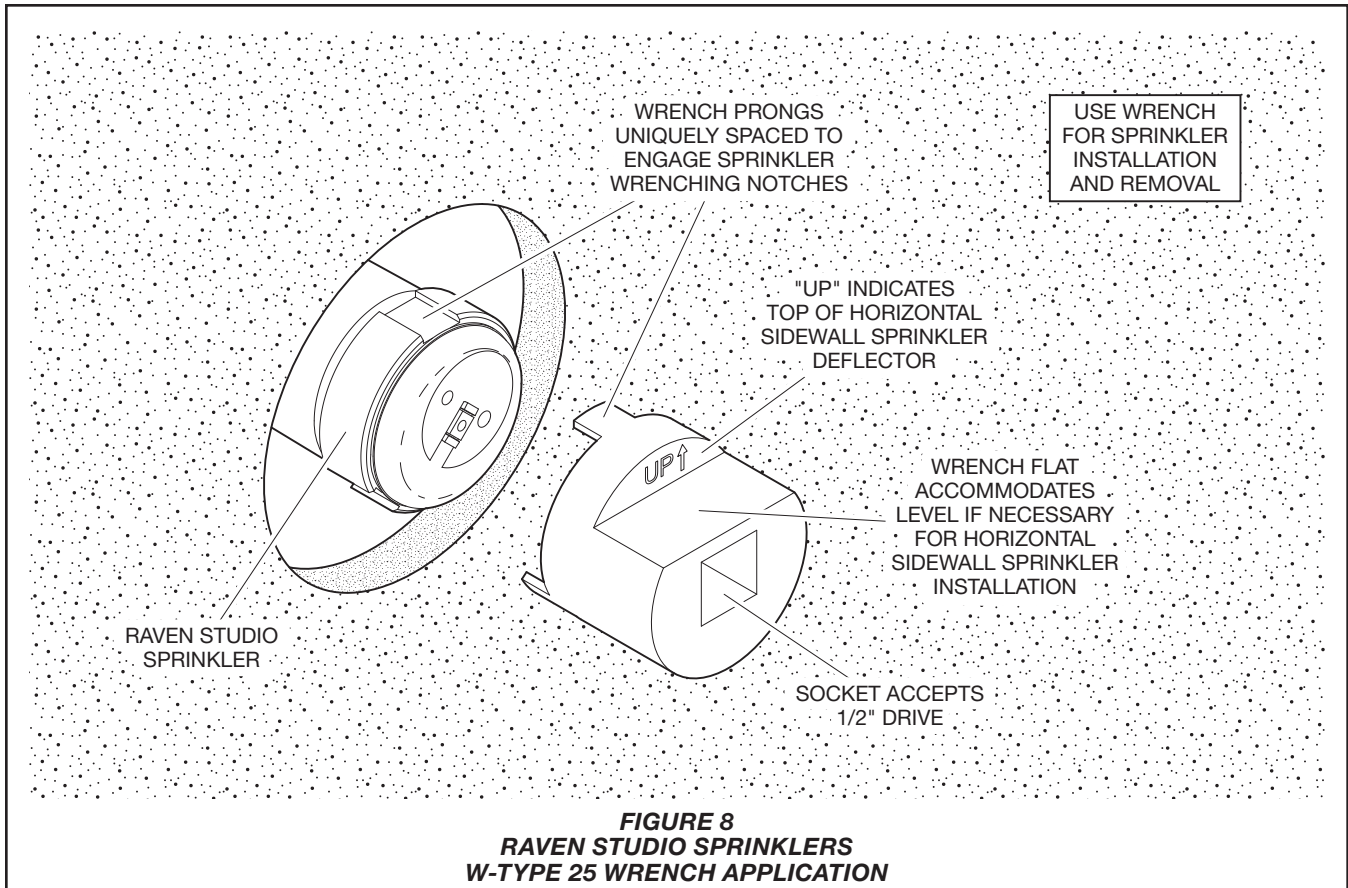
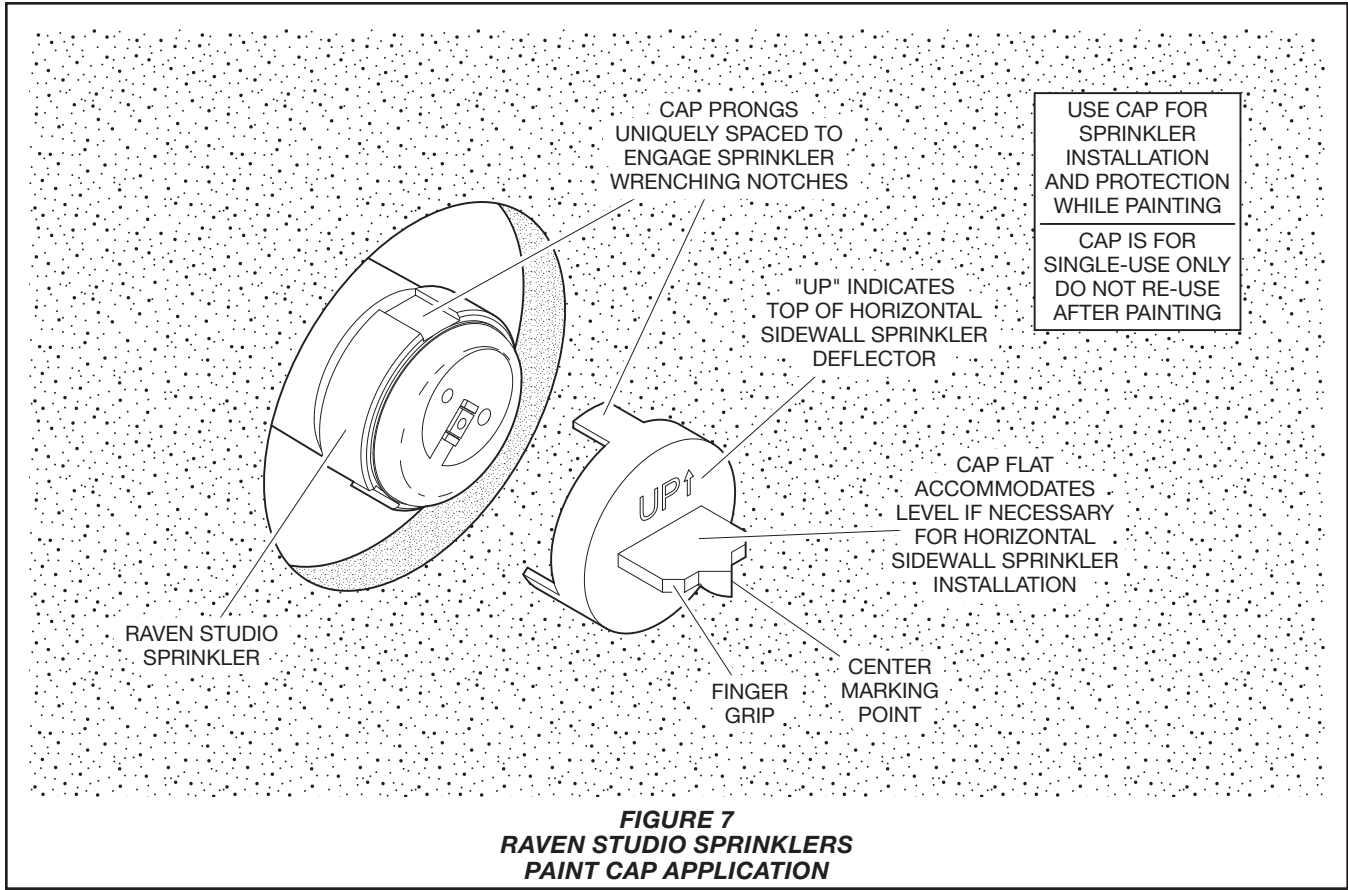
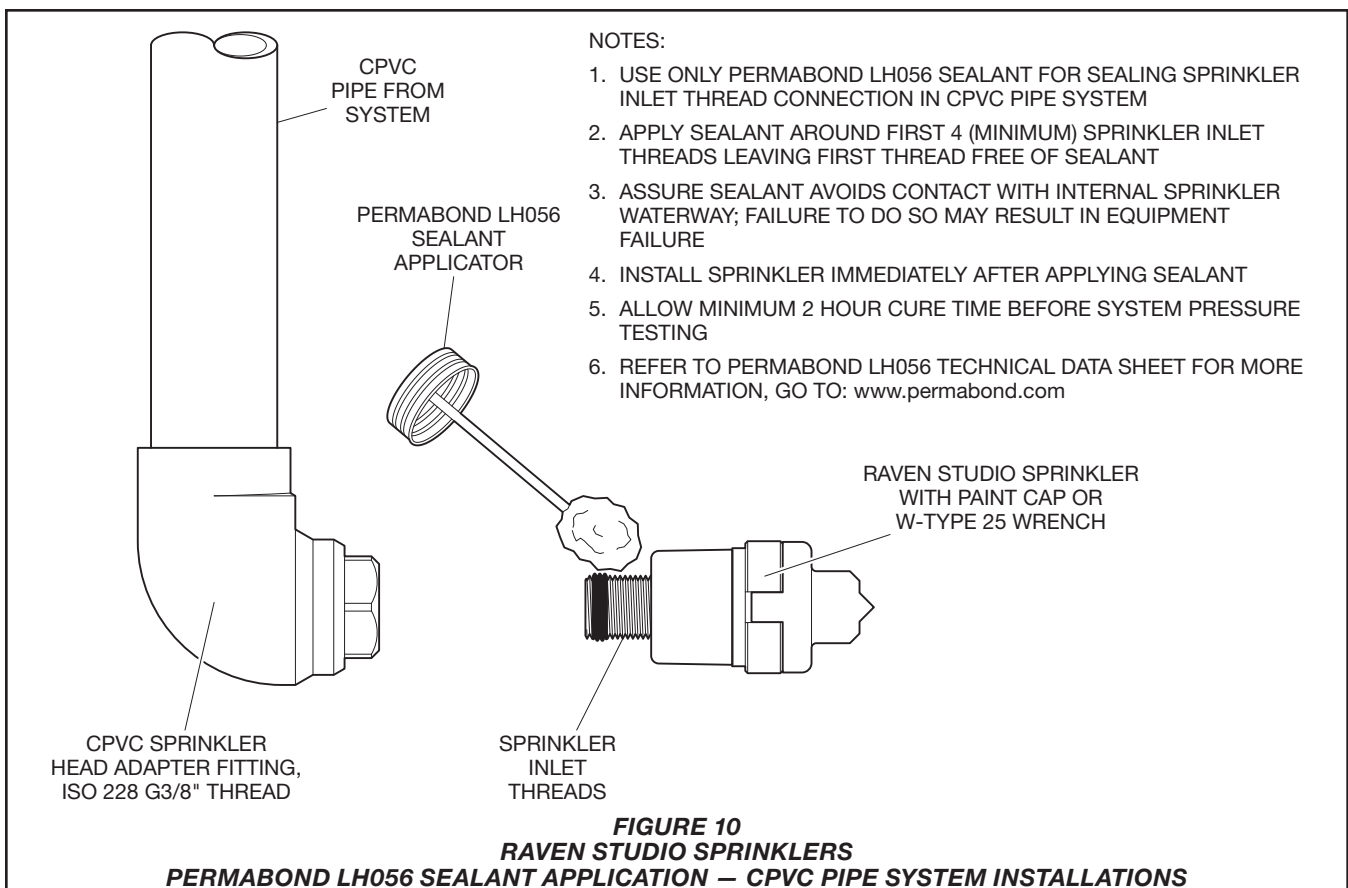
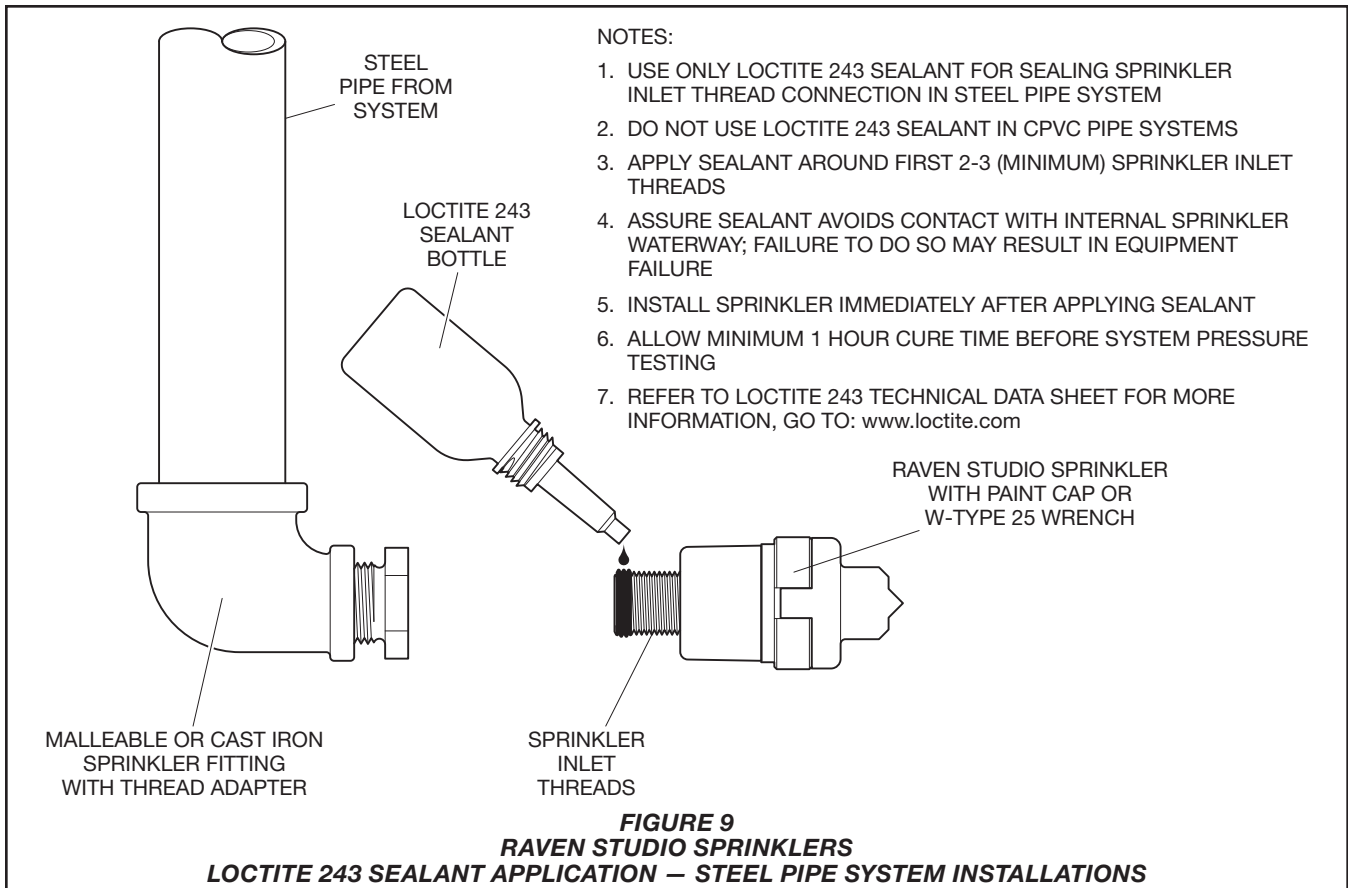


FIGURE 6
RAVEN STUDIO SPRINKLERS
PENDENT AND HORIZONTAL SIDEWALL
LOW-PROFILE CPVC ADAPTER FITTING INSTALLATION CRITERIA





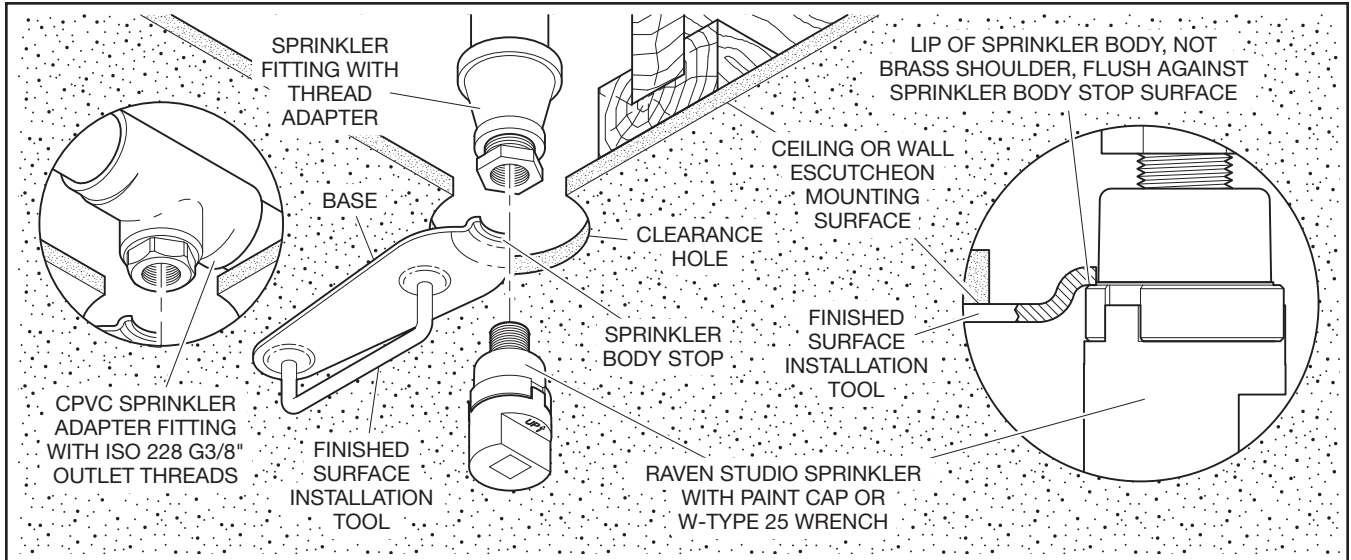


FIGURE 11
RAVEN STUDIO SPRINKLERS
FINISHED SURFACE INSTALLATION TOOL APPLICATION

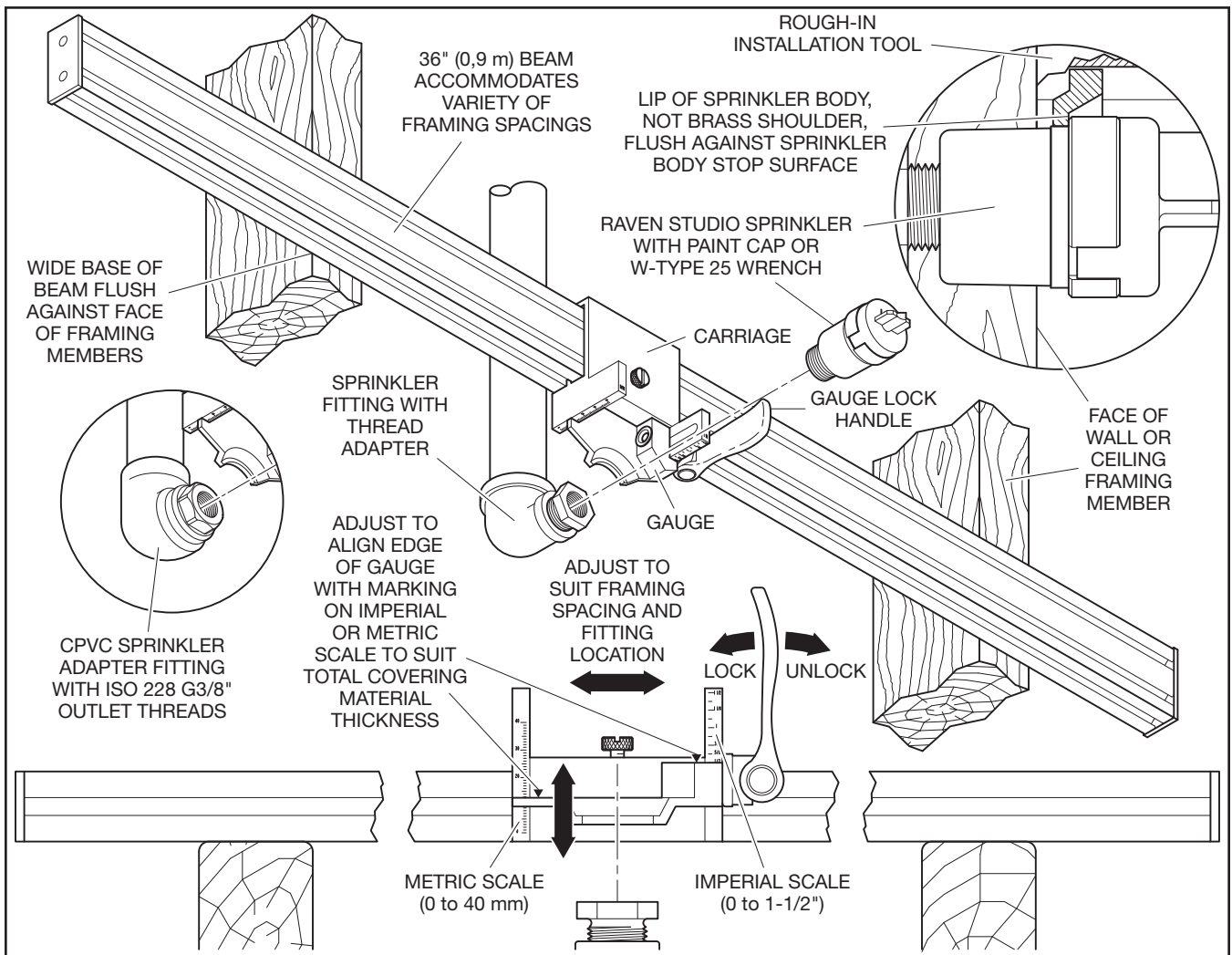


FIGURE 12
RAVEN STUDIO SPRINKLERS
ROUGH-IN INSTALLATION TOOL APPLICATION

NOTES:

1. INSPECT WRENCHING NOTCH POSITIONS AFTER ESCUTCHEON INSTALLATION TO VERIFY PROPER HORIZONTAL SIDEWALL SPRINKLER DEFLECTOR ORIENTATION
2. FARTHEST-SPACED WRENCHING NOTCH LOCATED AT 12 O'CLOCK POSITION INDICATES PROPER DEFLECTOR ORIENTATION

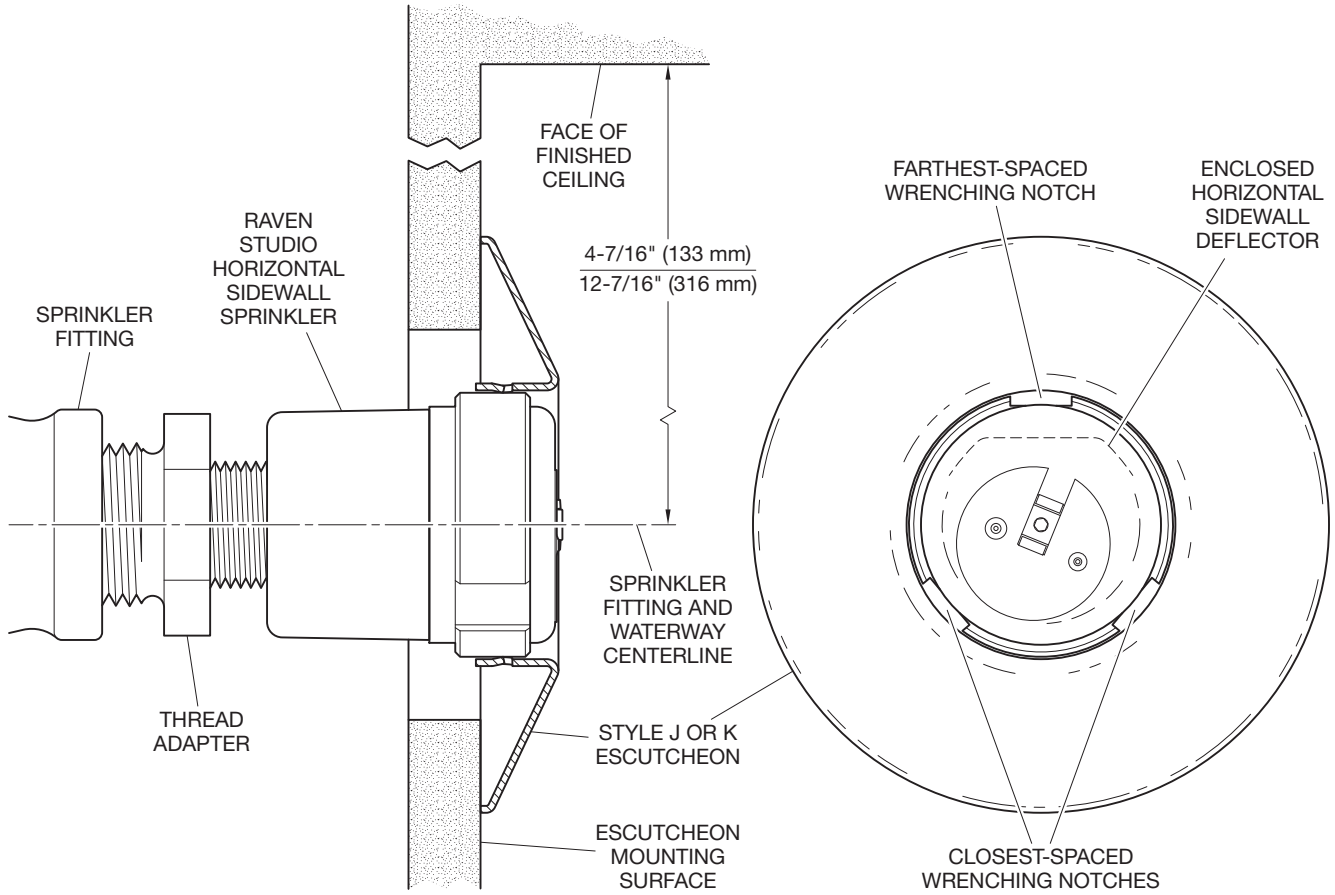


FIGURE 13
RAVEN STUDIO SPRINKLERS
HORIZONTAL SIDEWALL INSTALLATION CRITERIA

NOTES:

1. REFERENCE DIMENSION D = TOTAL CEILING OR WALL COVERING MATERIAL THICKNESS (DRYWALL, PLYWOOD, ETC. PLUS TAPE, PLASTER, ETC.)

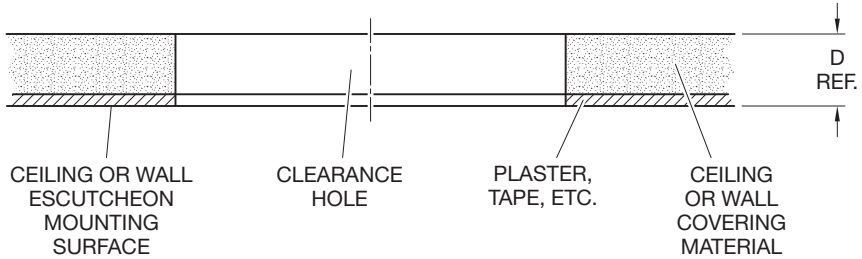


FIGURE 14
RAVEN STUDIO SPRINKLERS
TOTAL CEILING AND WALL COVERING MATERIAL THICKNESS

5.6K Extended Coverage Pendent (TY1282)						
Response Rating	Coverage Area ft x ft (m x m)	Minimum Flow ^(a) gpm (lpm)	Minimum Pressure ^(b) psi (bar)	Deflector-to-Ceiling Distance	Sprinkler Temperature Rating °F (°C)	Minimum Spacing ft (m)
Quick	16 x 16 (4,9 x 4,9)	26 (98)	21.6 (1,49)	Flush Mounted	165 (74)	8 (2,4)
5.6K Extended Coverage Horizontal Sidewall (TY1382)						
Response Rating	Coverage Area ft x ft (m x m)	Minimum Flow ^(a) gpm (lpm)	Minimum Pressure ^(b) psi (bar)	Deflector-to-Ceiling Distance ^(c) Inches (mm)	Sprinkler Temperature Rating °F (°C)	Lateral Minimum Spacing ^(d) ft (m)
Quick	16 x 16 (4,9 x 4,9)	26 (98)	21.6 (1,49)	4 to 12 (100 to 300)	165 (74)	8 (2,4)

Notes:

- a. Requirement is based on minimum flow in gpm (lpm) from each sprinkler.
- b. Indicated residual pressures are based on the nominal K-factor.
- c. Centerline of the sprinkler waterway is located 7/16 inch (11,1 mm) below the deflector (Ref. Figure 15).
- d. Minimum spacing is for lateral distance between sprinklers located along a single wall; otherwise, adjacent sprinklers (i.e., sidewall sprinklers on an adjacent wall, on an opposite wall, or pendent sprinklers) must be located outside of the maximum listed protection area of the extended coverage sidewall sprinkler being utilized.

TABLE A
RAVEN STUDIO SPRINKLERS
UL AND C-UL LISTING EXTENDED COVERAGE AREAS FOR LIGHT HAZARDS AND FLOW RATE CRITERIA

Design Criteria

Standard Coverage Criteria

RAVEN Studio 5.6K Pendent and Horizontal Sidewall Sprinklers (TY1281 and TY1381) are intended for use in light hazard or ordinary hazard applications as defined by NFPA 13, utilizing the density/area method for hydraulically calculated systems, and with fire protection systems designed in accordance with the standard installation rules recognized by the applicable listing or approval agency (e.g., UL Listing is based on NFPA 13 requirements). RAVEN Studio Horizontal Sidewall Sprinklers (TY1381) must be installed with a deflector-to-ceiling distance of 4 to 12 in. (100 to 300 mm). To meet this requirement, the centerline of the sprinkler waterway must be located 4-7/16 to 12-7/16 in. (112,7 to 315,9 mm) below the ceiling (Ref. Figures 13 and 15).

Extended Coverage Criteria

RAVEN Studio 5.6K Pendent and Horizontal Sidewall Sprinklers (TY1282 and TY1382) must be installed in accordance with the flow rate criteria provided in Table A. They must be installed and utilized in light hazard occupancies only under smooth, flat, horizontal ceilings as outlined in the applicable installation standard recognized by the listing or approval agency (e.g., UL Listing is based on NFPA 13 requirements).

RAVEN Extended Coverage, Horizontal Sidewall Sprinklers (TY1382) must be installed with a deflector-to-ceiling distance of 4 to 12 in. (100 to 300 mm). To meet this requirement, the centerline of the sprinkler waterway must be located 4-7/16 to 12-7/16 in. (112,7 to 315,9 mm) below the ceiling (Ref. Figures 13 and 15).

Operation

Water is prevented from flowing from the RAVEN Studio Sprinkler by means of a sealing assembly held in place by operating parts secured by a link assembly. The link assembly is comprised of two link halves soldered together with an eutectic solder that melts when exposed to heat. When the link reaches its rated temperature, the link halves separate and release the operating parts and sealing assembly, allowing the deflector assembly to extend from the body and water to flow from the sprinkler.

Care and Maintenance

TYCO RAVEN Studio Sprinklers 5.6K Pendent and Horizontal Sidewall (HSW) Quick Response, Standard and Extended Coverage must be maintained and serviced in accordance with this section.

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, obtain permission to shut down the affected fire protection system from the proper authorities and notify all personnel who may be affected by this action.

Service inspections should be made on a regular basis to detect possible damage or alterations to the sprinkler and escutcheon. Inspections should include making certain that the escutcheon is held fast to the mounting surface. Damaged or altered sprinklers are to be replaced immediately to avoid personal injury and to prevent use for causing personal injury, as well as to maintain the sprinkler system in

an operative condition.

Sprinklers which are found to be leaking or exhibiting visible signs of corrosion must be replaced.

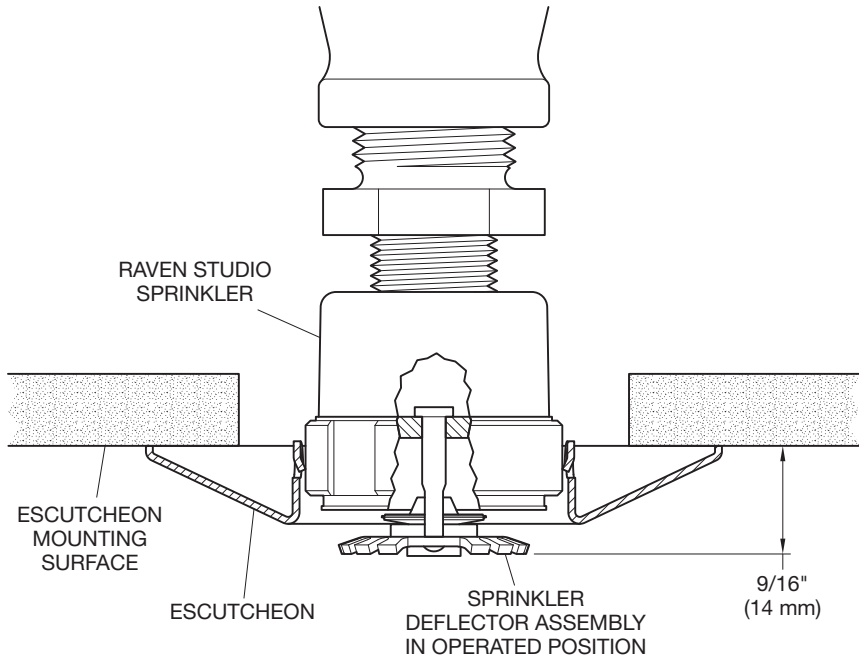
Automatic sprinklers must never be painted, plated, coated, or otherwise altered after leaving the factory. Modified sprinklers must be replaced. Sprinklers that have been exposed to corrosive products of combustion, but have not operated, should be replaced if they cannot be completely cleaned by wiping the sprinkler with a cloth or by brushing it with a soft bristle brush.

Care must be exercised to avoid damage to the sprinklers before, during, and after installation. Sprinklers damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced.

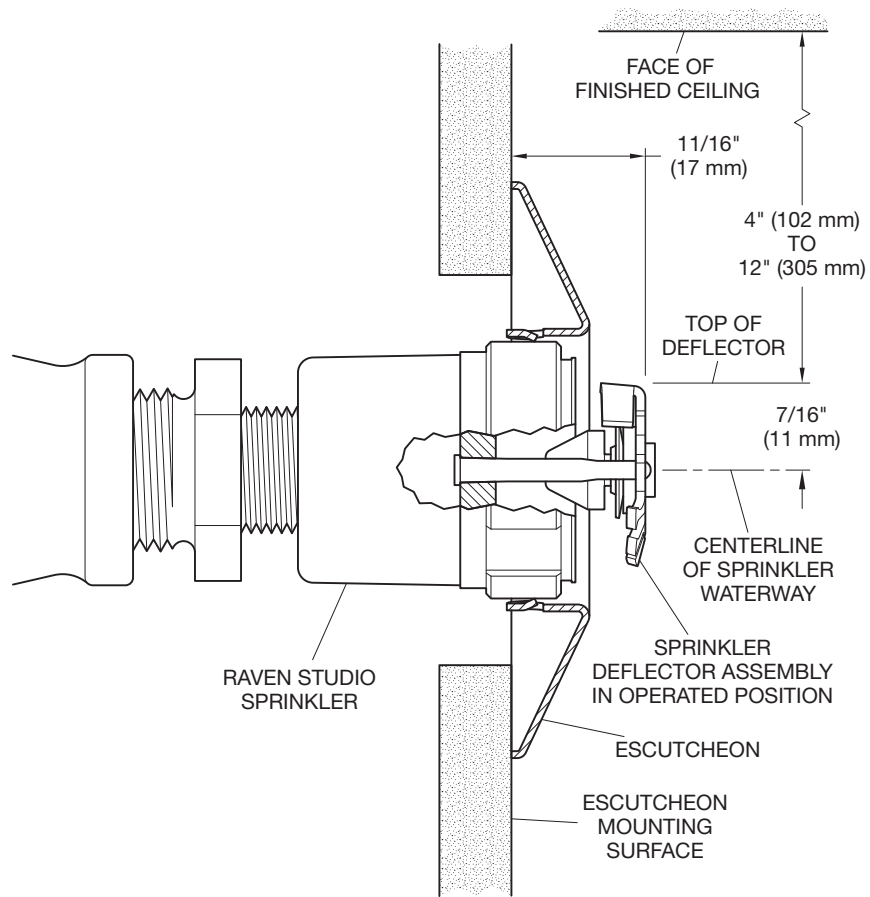
Frequent visual inspections are recommended to be initially performed for sprinklers installed in potentially corrosive atmospheres to verify the integrity of the materials of construction as they may be affected by the corrosive conditions present for a given installation.

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the approval agency and standards of any other authority having jurisdiction. Contact the installing contractor or product manufacturer with any questions.

Sprinklers are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.



PENDENT



HORIZONTAL SIDEWALL

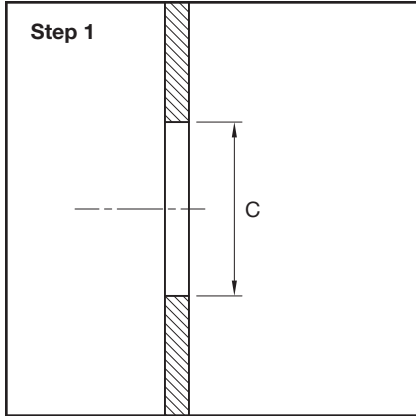
FIGURE 15
RAVEN STUDIO SPRINKLERS
OPERATED CONDITION

Installation

Preferred Method: Finished Surface Procedure

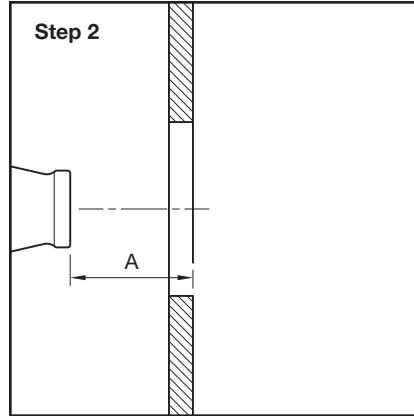
In finished surface construction, TYCO Raven Studio 5.6 K-factor Pendent and Horizontal Sidewall Sprinklers must be installed in accordance with this section.

This procedure describes sprinkler installation in construction where ceiling or wall covering material — drywall, plywood, etc. — has been installed in advance.



Step 1. Cut clearance hole through covering material (Ref. Figure 2, Dim. C).

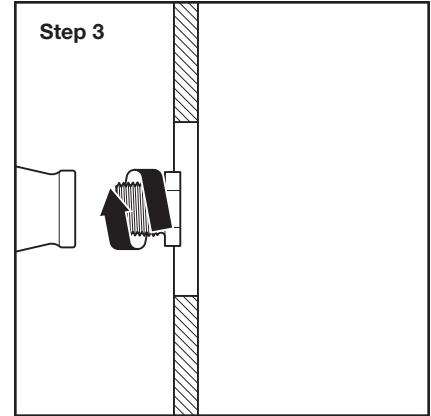
Note: Location of hole centerline determined by design location of sprinkler.



Step 2. Install sprinkler fitting with face located at proper distance from escutcheon mounting surface (Ref. Figures 5 or 6, Dim. A).

Note: Sprinkler fitting centerline must be perpendicular to escutcheon mounting surface.

Note: Fitting outlet: 1/2 in. NPT proceed to Step 3; ISO 228 G3/8 in. proceed to Step 4.

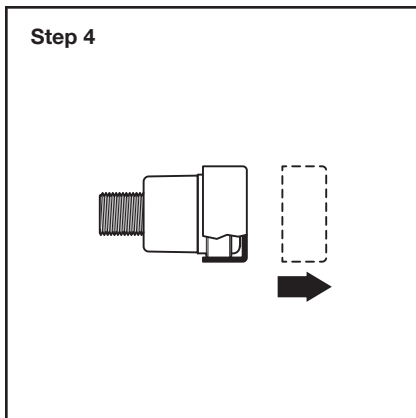


Step 3. Apply TEFLON tape sealant to external threads of thread adapter and install into sprinkler fitting.

A leak-tight 1/2 in. NPT thread adapter joint should be obtained by applying a minimum-to-maximum torque of 7 to 14 lb-ft (9,5 to 19,0 N·m).

NOTICE

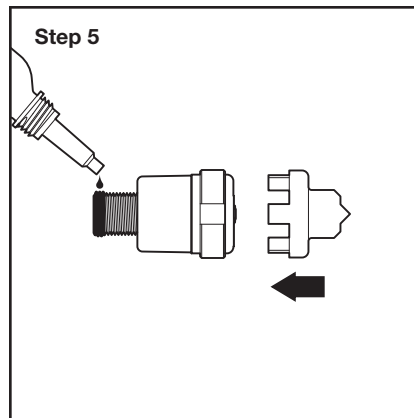
Higher levels of torque will distort the thread adapter and cause leakage or impairment of the sprinkler.



Step 4. Remove shipping cap from sprinkler by pulling away from body along sprinkler centerline.

NOTICE

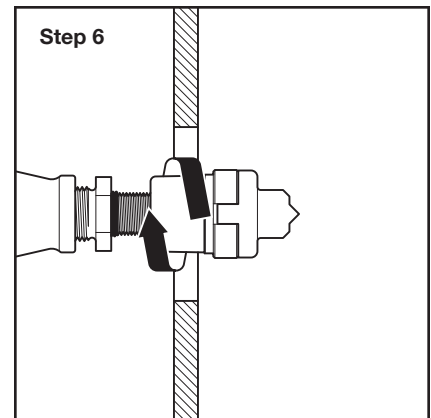
Sprinkler with shipping cap attached to remain in original packaging until ready for installation. To avoid damage to link assembly, do not pull cap away from sprinkler at an angle.



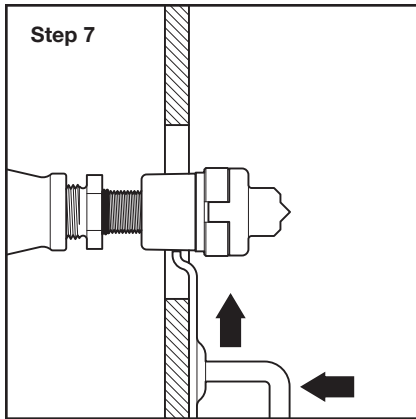
Step 5. Engage sprinkler wrenching notches by paint cap or wrench prongs (Ref. Figures 1, 7 and 8). Apply sealant to sprinkler inlet threads (steel pipe system installations Ref. Figure 9; CPVC pipe system installations Ref. Figure 10).

NOTICE

Assure sealant avoids contact with internal waterway of sprinkler. Failure to do so may result in equipment failure.

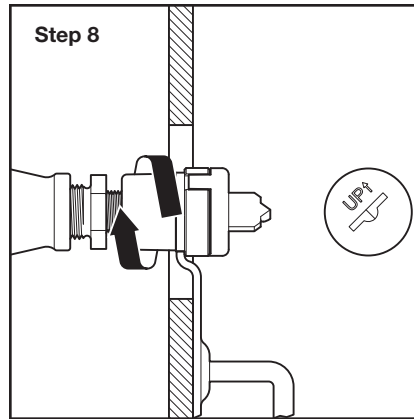


Step 6. Grasping paint cap or wrench, align sprinkler inlet threads with outlet of thread adapter and rotate clockwise to initially engage threads.



Step 7. Place base of finished surface installation tool flush against escutcheon mounting surface, positioning sprinkler body stop against sprinkler dust cap (Ref. Figures 1 and 11). Hold tool in place.

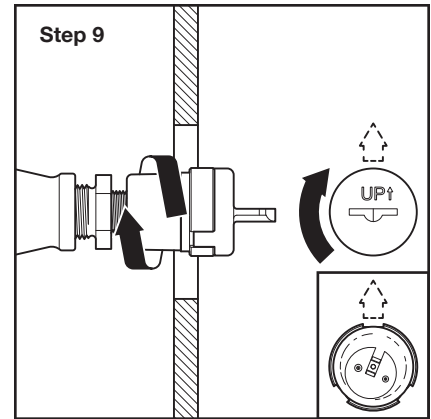
Note: Tool base must be held flush against framing members for proper sprinkler installation.



Step 8. Grasp paint cap or wrench and rotate sprinkler clockwise until painted sprinkler body lip (not brass shoulder) is flush with tool sprinkler body stop (Ref. Figure 11). Remove installation tool.

Note: Proceed to Step 9 for horizontal sidewall sprinkler; proceed to Step 10 for pendent sprinkler.

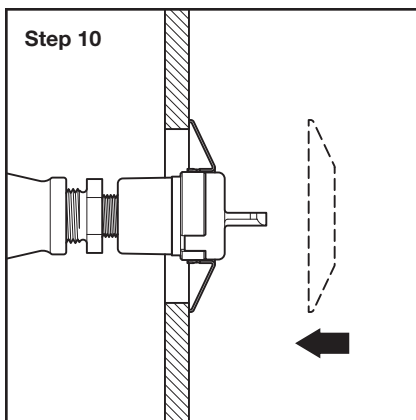
Note: Allow time for sealant to set before proceeding to Step 10: 5 minutes for LOCTITE 243; 30 minutes for PERMABOND LH056.



Step 9. Orientation of paint cap or wrench "UP" indicator arrow must be in the 12 o'clock position (horizontal sidewall sprinkler only). Rotate sprinkler clockwise a maximum 1 full revolution to attain proper orientation. Remove wrench.

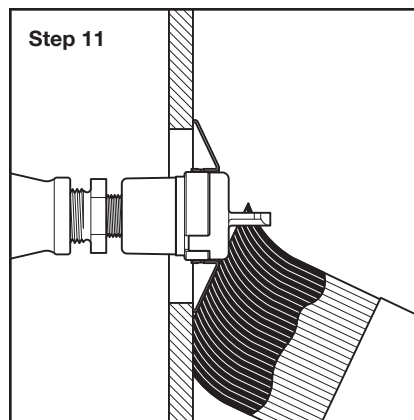
Note: Proper sprinkler orientation may also be verified by observing position of sprinkler wrenching notches (Ref. Figure 13).

Note: Allow time for sealant to set before proceeding to Step 10: 5 minutes for LOCTITE 243; 30 minutes for PERMABOND LH056.



Step 10. Orient escutcheon base flange toward mounting surface, aligning escutcheon centerline with sprinkler centerline. Push escutcheon onto sprinkler, engaging body by prongs, until flange is flush against mounting surface.

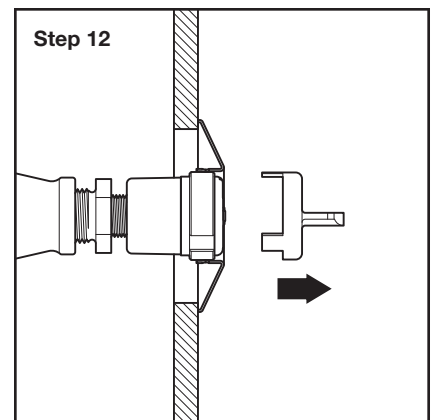
Note: If ceiling or wall painting is not intended, remove paint cap to complete installation; If ceiling or wall painting is intended, proceed to Step 11.



Step 11. Paint ceiling or wall to suit.

Note: Paint cap to remain attached while painting ceiling or wall.

Note: Install primed escutcheon for best painting results (refer to Ordering Procedure).



Step 12. Remove and discard paint cap to complete installation.

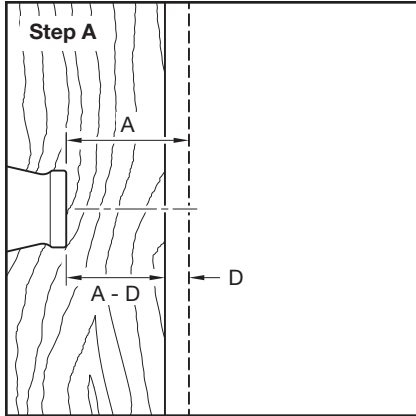
Note: Paint cap is single-use only when painting. Do not re-use after painting.

Installation

Alternate Method: Rough-in Procedure

In rough-in construction, TYCO Raven Studio 5.6 K-factor Pendent and Horizontal Sidewall Sprinklers must be installed in accordance with this section.

This procedure describes sprinkler installation in construction where ceiling or wall covering material — drywall, plywood, etc. — has not been installed in advance.

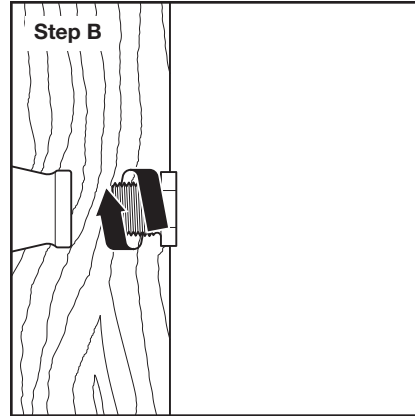


Step A. Determine Dim. D, covering material total thickness (Ref. Figure 14). Subtract Dim. D from Dim. A (Ref. Figures 5 or 6). Install sprinkler fitting, locating face at proper distance from face of framing members using calculated value.

Note: Sprinkler fitting centerline must be perpendicular to escutcheon mounting surface.

Note: Adjust rough-in installation tool depth (Ref. Figure 12) to suit Dim. D.

Note: Fitting outlet: 1/2 in. NPT proceed to Step B; ISO 228 G3/8 in. proceed to Step C.

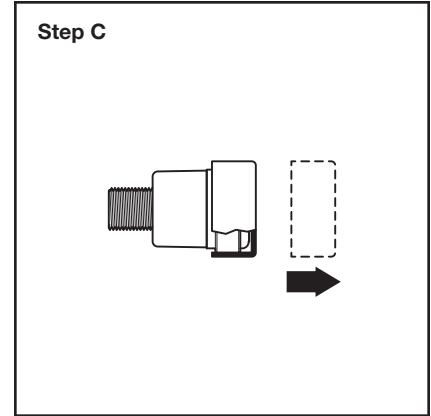


Step B. Apply TEFLON tape sealant to external threads of thread adapter and install into sprinkler fitting.

A leak-tight 1/2 in. NPT thread adapter joint should be obtained by applying a minimum-to-maximum torque of 7 to 14 lb-ft (9,5 to 19,0 N-m).

NOTICE

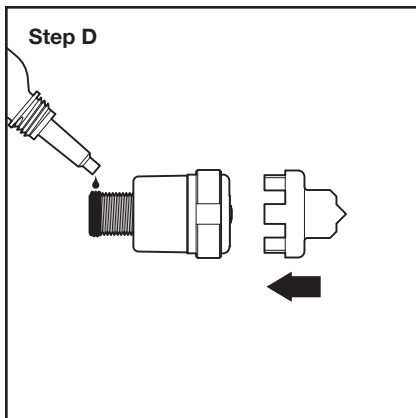
Higher levels of torque will distort the thread adapter and cause leakage or impairment of the sprinkler.



Step C. Remove shipping cap from sprinkler by pulling away from body along sprinkler centerline.

NOTICE

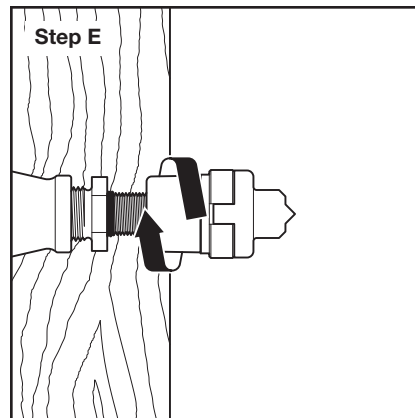
Sprinkler with shipping cap attached to remain in original packaging until ready for installation. To avoid damage to link assembly, do not pull cap away from sprinkler at an angle.



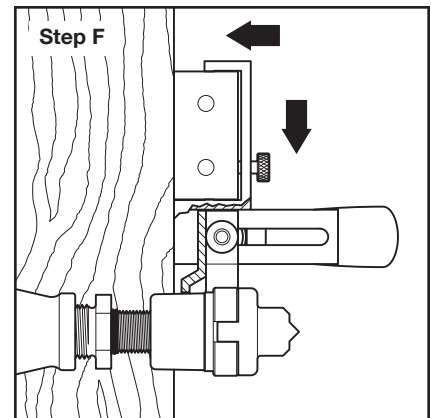
Step D. Engage sprinkler wrenching notches by paint cap or wrench prongs (Ref. Figures 1, 7 and 8). Apply sealant to sprinkler inlet threads (steel pipe system installations Ref. Figure 9; CPVC pipe system installations Ref. Figure 10).

NOTICE

Assure sealant avoids contact with internal waterway of sprinkler. Failure to do so may result in equipment failure.

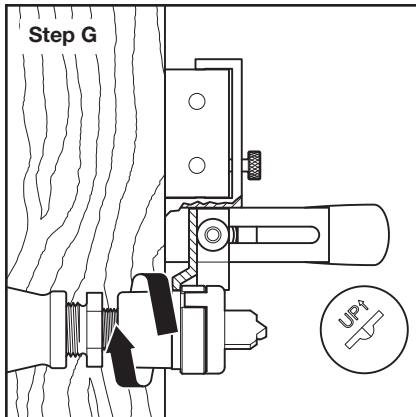


Step E. Grasping paint cap or wrench, align sprinkler threads with thread adapter port and rotate clockwise to initially engage threads.



Step F. Place rough-in installation tool base flush against framing members, positioning sprinkler body stop against sprinkler dust cap (Ref. Figures 1 and 12). Hold tool in place.

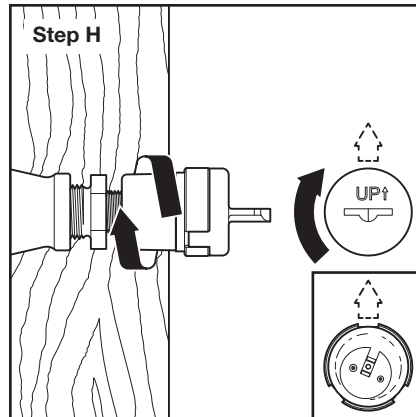
Note: Tool base must be held flush against framing members for proper sprinkler installation.



Step G. Grasp paint cap or wrench and rotate sprinkler clockwise until painted sprinkler body lip (not brass shoulder) is flush with tool sprinkler body stop (Ref. Figure 12). Remove installation tool.

Note: Proceed to Step H for horizontal sidewall sprinkler; proceed to Step J for pendent sprinkler.

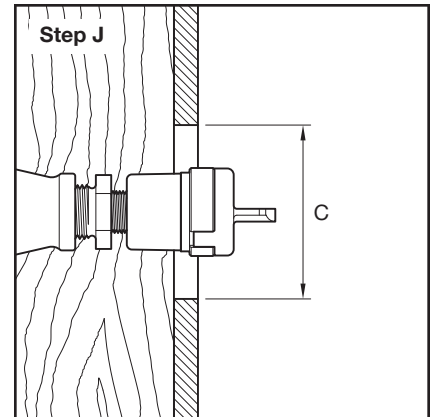
Note: Allow time for sealant to set before proceeding to Step J: 5 minutes for LOCTITE 243; 30 minutes for PERM-ABOND LH056.



Step H. Orientation of paint cap or wrench "UP" indicator arrow must be in the 12 o'clock position (horizontal sidewall sprinkler only). Rotate sprinkler clockwise a maximum 1 full revolution to attain proper orientation. Remove wrench.

Note: Proper sprinkler orientation may also be verified by observing position of sprinkler wrenching notches (Ref. Figure 13).

Note: Allow time for sealant to set before proceeding to Step J: 5 minutes for LOCTITE 243; 30 minutes for PERM-ABOND LH056.

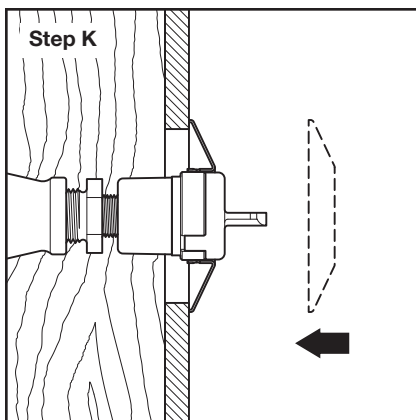


Step J. Hold covering material in its installed position and press against paint cap marking point. Cut clearance hole through covering material (Ref. Figure 2, Dim. C) using resulting mark as center point. Install covering material, assuring sprinkler is centered in clearance hole.

Note: Paint cap to remain attached for marking center point of covering material clearance hole.

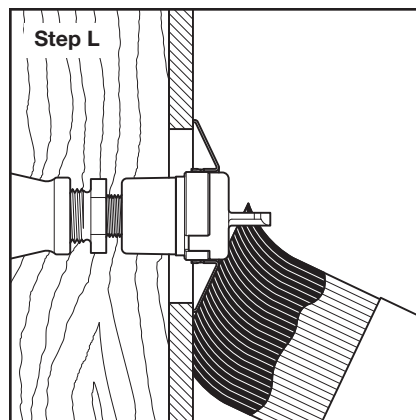
NOTICE

Install only covering material having total thickness used in Step A.



Step K. Orient escutcheon base flange toward mounting surface, aligning escutcheon centerline with sprinkler centerline. Push escutcheon onto sprinkler, engaging body by prongs, until flange is flush against mounting surface.

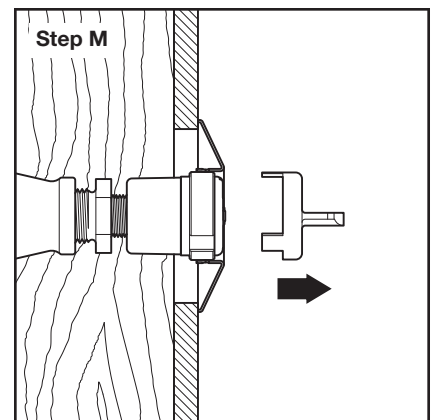
Note: If ceiling or wall painting is not intended, remove paint cap to complete installation; If ceiling or wall painting is intended, proceed to Step L.



Step L. Paint ceiling or wall to suit.

Note: Paint cap to remain attached while painting ceiling or wall.

Note: Install primed escutcheon for best painting results (refer to Ordering Procedure).



Step M. Remove and discard paint cap to complete installation.

Note: Paint cap is single-use only when painting. Do not re-use after painting.

Limited Warranty

For warranty terms and conditions, visit www.tyco-fire.com.

Ordering Procedure

Contact your local distributor for availability. When placing an order, indicate the full product description and Part Number (P/N).

Note: Order all components separately. A complete assembly consists of sprinkler, escutcheon, thread adapter and inlet thread sealant. Order installation tools and accessories as needed.

Sprinklers

Specify: RAVEN Studio 5.6K Sprinkler, (specify) SIN, (specify) coverage, (specify) orientation, (specify) finish, P/N (specify):

Standard Coverage

TY1281 – Pendent

White	50-310-4-165
Grey	50-310-9-165
Custom Color	50-310-X-165

TY1381 – Horizontal Sidewall

White	50-312-4-165
Grey	50-312-9-165
Custom Color	50-312-X-165

Extended Coverage

TY1282 – Pendent

White	50-311-4-165
Grey	50-311-9-165
Custom Color	50-311-X-165

TY1382 – Horizontal Sidewall

White	50-318-4-165
Grey	50-318-9-165
Custom Color	50-313-X-165

Style J Escutcheons (3 Inch Diameter)

Specify: RAVEN Studio Sprinkler Escutcheon, Style J, 3 inch diameter, (specify) material, (specify) finish, P/N (specify):

Carbon Steel

White	56-306-4-010
Grey	56-306-7-010
Chrome	56-306-9-010
Primed White	56-306-0-004
Primed Grey	56-306-0-007
Custom Color	56-306-X-010

Stainless Steel

White	56-307-4-010
Grey	56-307-7-010
Electropolish*	56-307-9-010
Primed White	56-307-0-004
Primed Grey	56-307-0-007
Custom Color	56-307-X-010

* Chrome-coated appearance

Style K Escutcheons (4 Inch Diameter)

Specify: RAVEN Studio Sprinkler Escutcheon, Style K, 4 inch diameter, (specify) material, (specify) finish, P/N (specify):

Carbon Steel

White	56-308-4-010
Grey	56-308-7-010
Chrome	56-308-9-010
Primed White	56-308-0-004
Primed Grey	56-308-0-007
Custom Color	56-308-X-010

Stainless Steel

White	56-309-4-010
Grey	56-309-7-010
Electropolish*	56-309-9-010
Primed White	56-309-0-004
Primed Grey	56-309-0-007
Custom Color	56-309-X-010

* Chrome-coated appearance

Note: Contact Johnson Controls Customer Service at +1-800-558-5236 with any questions related to custom orders.

Thread Adapters

Specify: RAVEN Studio Sprinkler Thread Adapter, Brass, (specify) size, P/N (specify):

Short 3/4 in. (19 mm)	91-310-0-075
Standard 1 in. (25 mm)	91-310-0-100
Medium 1-1/2 in. (38 mm)	91-310-0-150
Long 2 in. (50 mm)	91-310-0-200

CPVC Sprinkler Adapter Fittings

Specify: CPVC Sprinkler Adapter Fitting, (specify type), (specify) size, P/N (specify):

90° Elbow

1 in. x ISO 228 G3/8 in.	82198
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Tee

1 in. x 1 in. x ISO 228 G3/8 in.	82251
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Sprinkler Inlet Thread Sealant

Specify: LOCTITE 243 Thread Sealant, 10 ml Bottle, P/N 91-310-1-243

Specify: PERMABOND LH056 Thread Sealant, 350 ml Container, P/N 33045

Note: PERMABOND LH056 thread sealant has a 12-month shelf life. Purchase of new container recommended for each RAVEN Studio Sprinkler project.

Sprinkler Installation Tools

Specify: RAVEN Studio Installation Tool, (specify type), P/N (specify):

Finished Surface	56-100-0-355
Rough-in	56-100-0-365

Paint Cap

Specify: RAVEN Studio Sprinkler Paint Cap, P/N 56-100-0-354

Sprinkler Wrench

Specify: W-Type 25 Sprinkler Wrench, P/N 56-314-1-001