

Merge 1.5 - Recessed Linear with Emergency Battery Backup

1.1



MERGE



GENERAL PRODUCT INFORMATION:

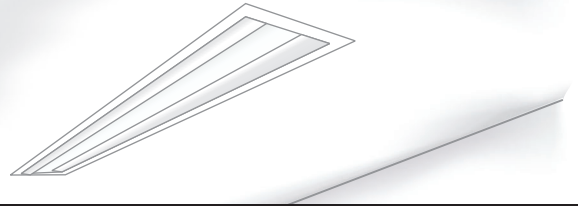
This product is suitable for dry locations.

Maximum run length per branch circuit power feed is 80ft.

Maximum run length for low-voltage busbar is 40ft; both ends may be energized for a total of 80ft.

Maximum loading of the low-voltage busbar is 240W (20 AMPS).

This instruction shows a typical installation.



MINIMUM OF 2X4 CONSTRUCTION

NOTE: Due to the complexity of this fixture, assistance is recommended for installation.

CAUTION - RISK OF FIRE

This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and the hazards involved.

Use minimum 90°C supply conductors.

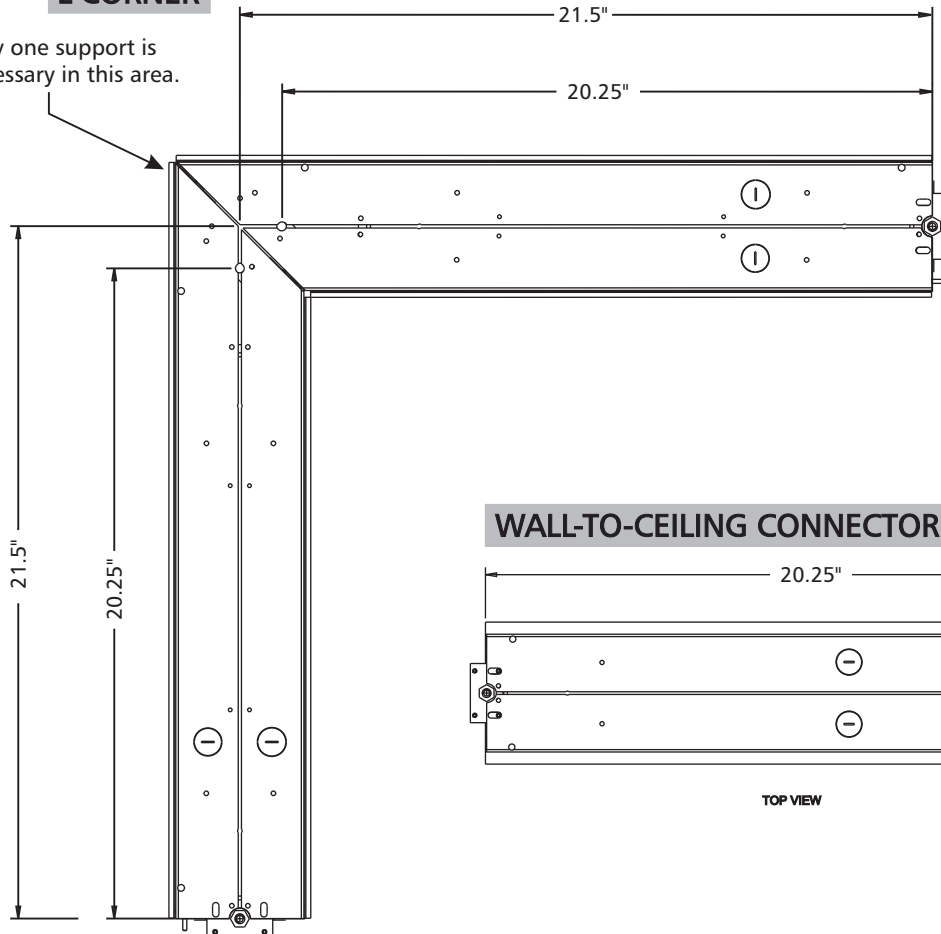
SAVE THESE INSTRUCTIONS!

1A

MOUNTING HOLE LOCATIONS

L-CORNER

Only one support is necessary in this area.

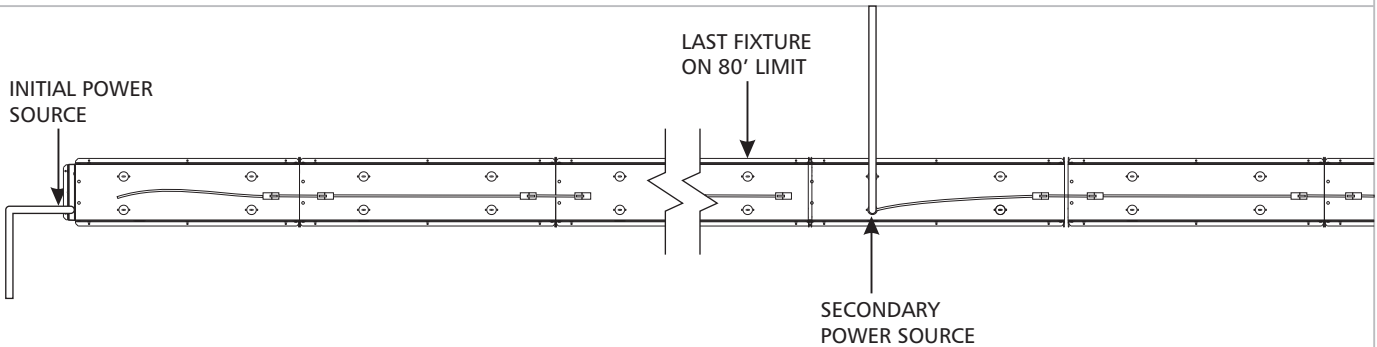
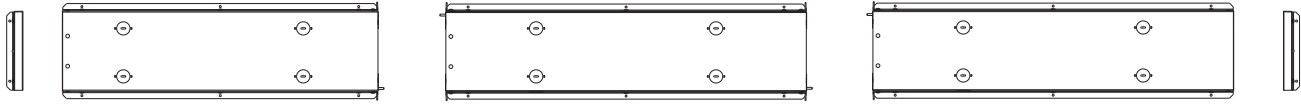


- 1 Install threaded rod or tie wire on the centerline of the fixture at the seam between fixtures, at the ends of the run, or using the provided diagrams where necessary. Do not let the threaded rods extend more than 1" into the fixture.

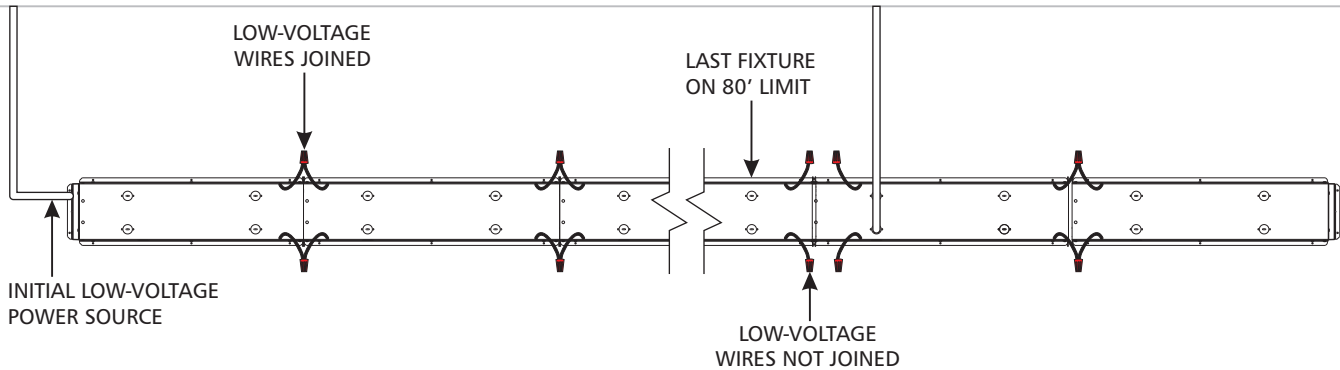
Identify the Fixtures and Configuration (Continuous run installations only)

2A

You will receive only one kind of Merge 1.5 linear fixture. Though it can be purchased in various lengths, it can be used anywhere in a run of fixtures. Endcaps are mounted at the ends of a run to complete the installation.



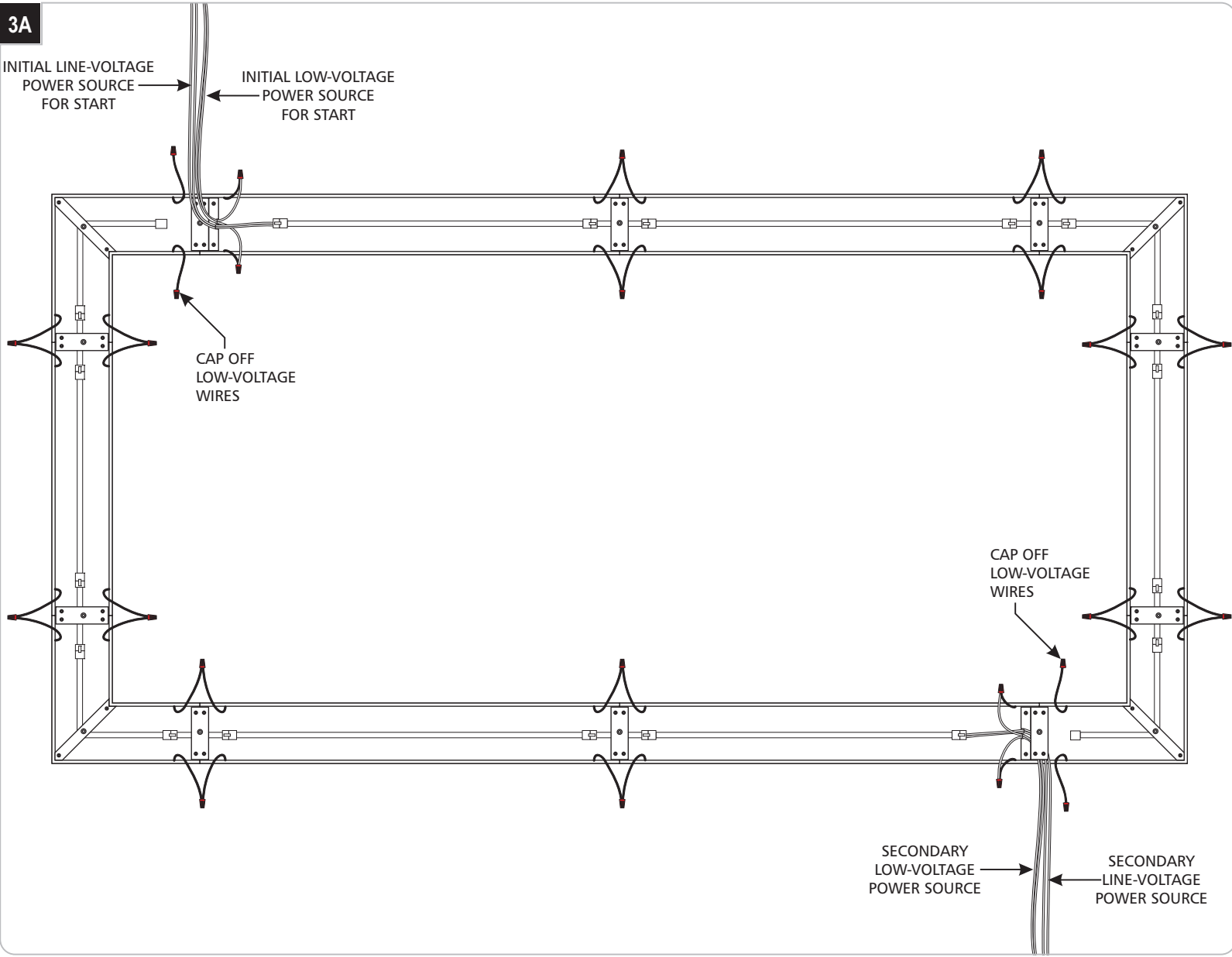
The line-voltage section of the fixture run will be powered at the start of the run, then interconnected with jumper cables to a maximum of 80'. For a longer run, sections may be isolated by simply not using a jumper. A secondary power source would then be spliced to the wiring harness and connected to the fixture using one of the provided knockout locations.



The low-voltage section of the fixture run can be powered at any point along the run, then interconnected with jumper wires to a maximum of 40'. Sections of the run may be isolated by simply not connecting the low-voltage wires and the isolated sections can be powered by additional transformers.

Enclosed Runs

3A



For an enclosed run, if the total run length is more than 80', multiple line-voltage power supplies must be used.

If the total run length is more than 40', multiple transformers and low-voltage power supplies must be used. Cap of the low-voltage wires at the end of the run. Do not close the loop inside the run.

INSTALLATION OPTIONS:

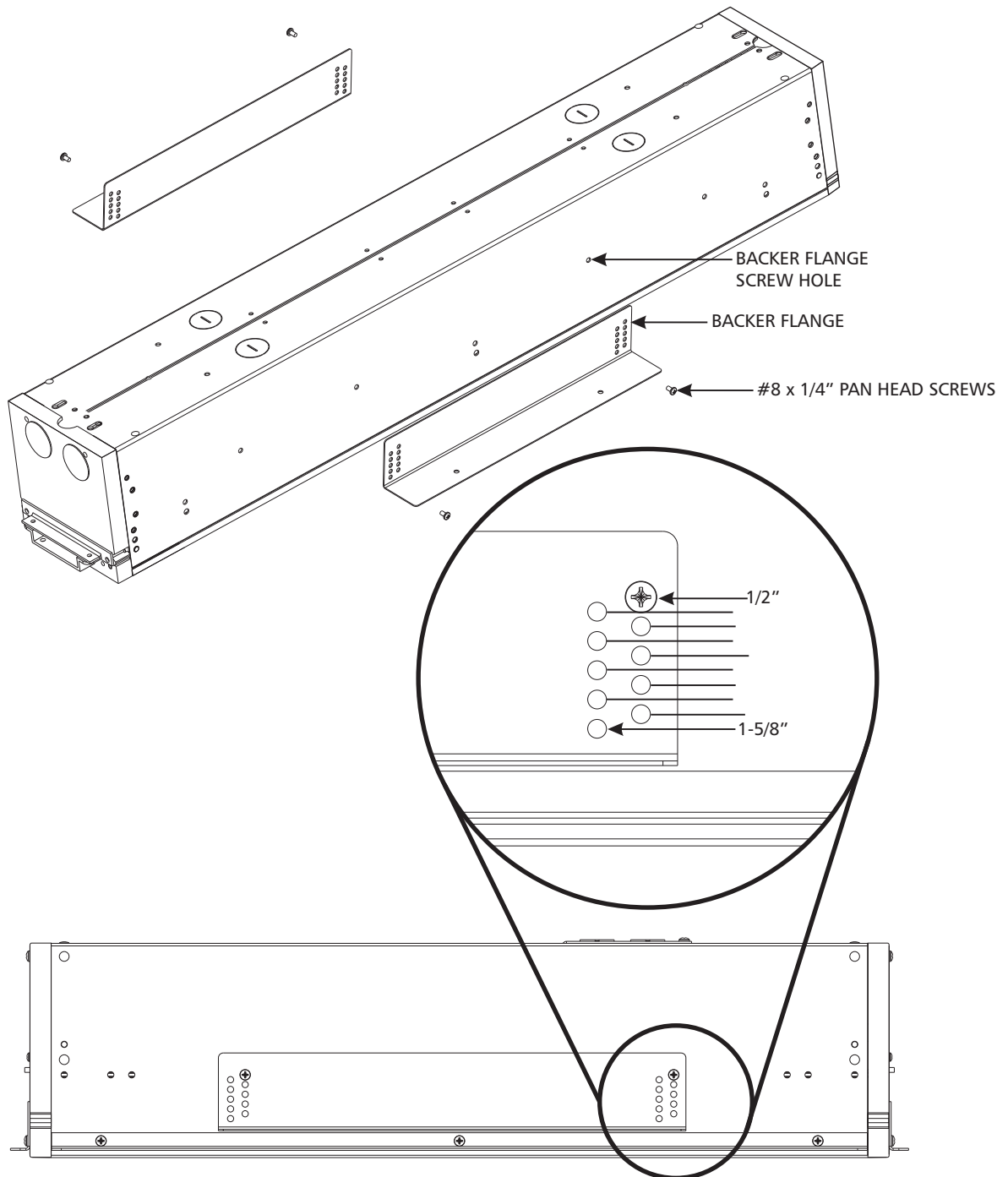
For Flangeless install - see section 4

For Flanged install - see section 5

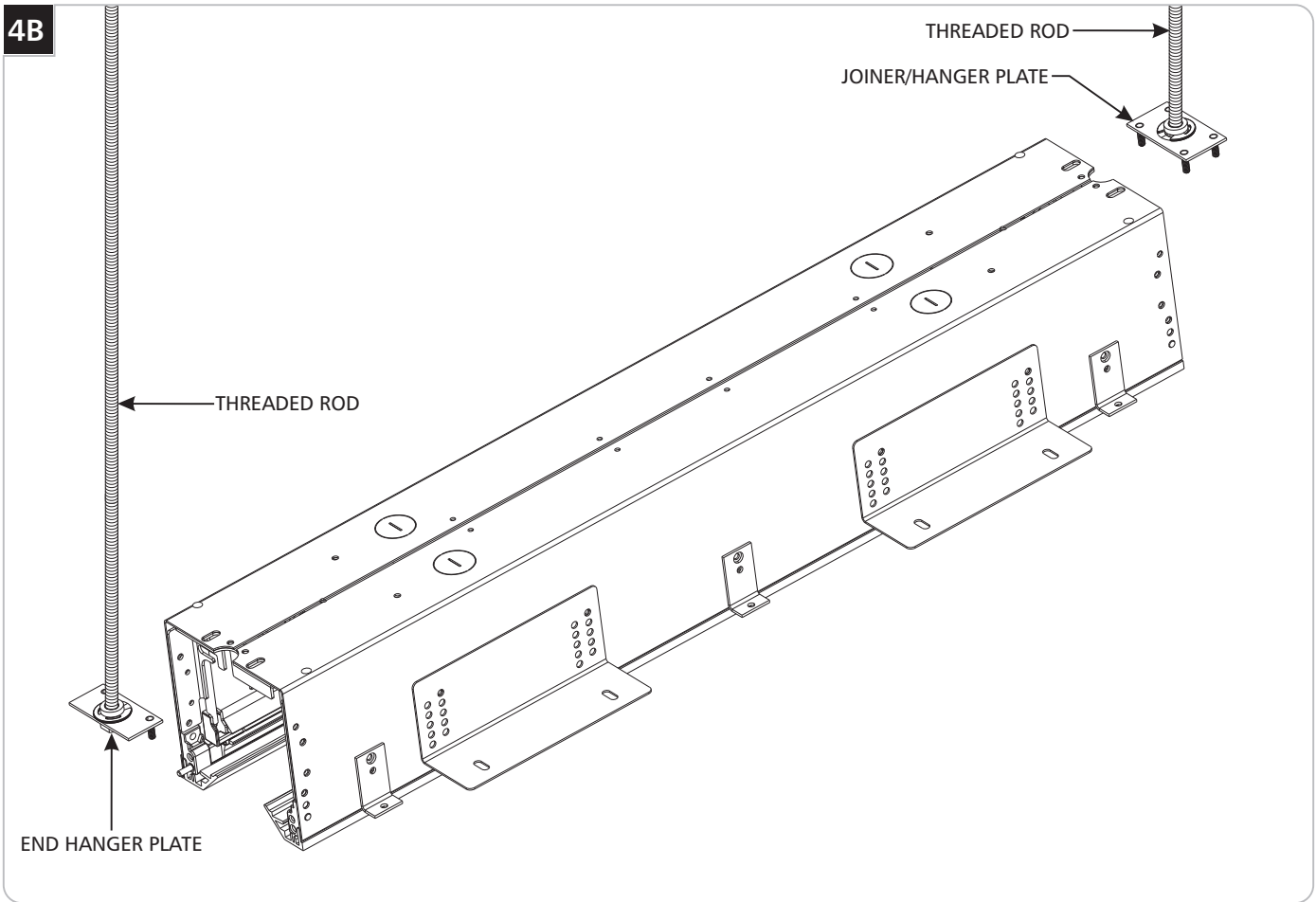
For Grid install - see section 6

Install Each Fixture (Flangeless)

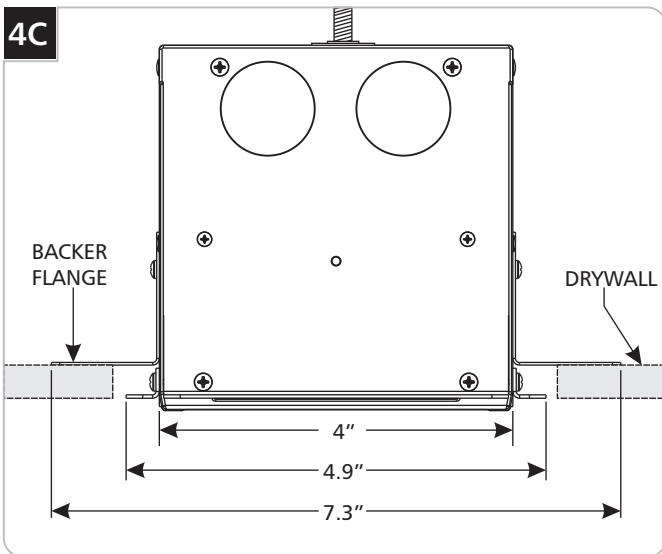
4A



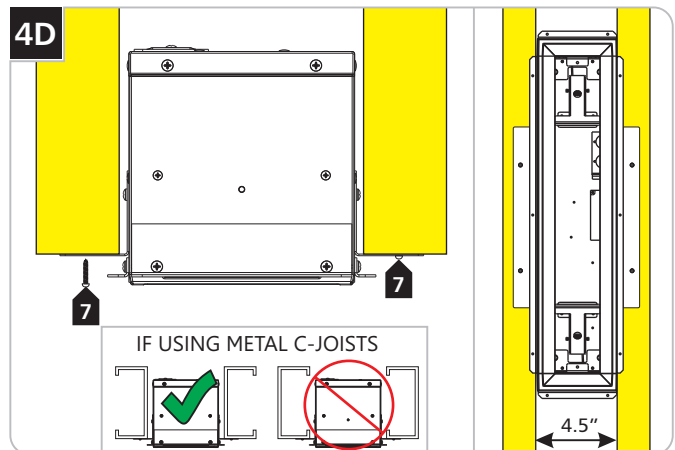
- 1 Set the height of the backer flange according to the finished ceiling thickness (maximum 1-5/8" ceiling thickness): install the flange at the appropriate height using the #8 x 1/4" pan head screws. The holes are spaced 1/8" apart.



- 2** Mount a joiner/hanger plate on each length of threaded rod at the seams between the fixtures.
- 3** Mount an end hanger plate (shipped with the endcaps) on the threaded rods at each end of the run. **NOTE:** This plate will have 2 threaded studs rather than 4.
- 4** Hang the fixtures from #8 nuts on the studs. Do not tighten the nuts until after the fixtures have been aligned.



- 5** Use the hanger plates to properly support the fixture using the threaded rods in accordance with local code. Install the fixture(s) so that the backer flanges are aligned with the top surface of the drywall.

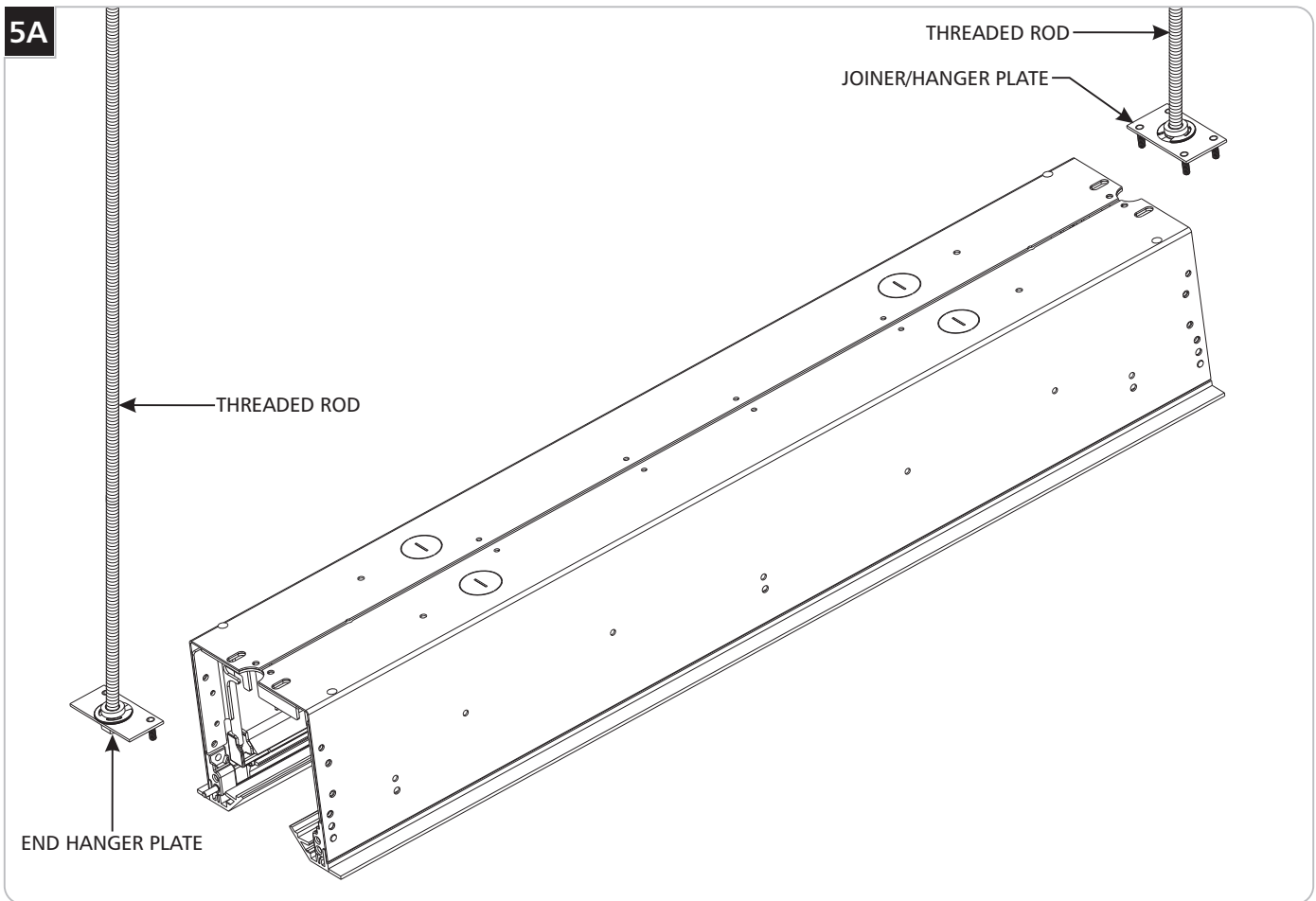


This option uses framing rather than hanger plates to support the fixture. This option is recommended for wall installations and 2" X 4" construction.

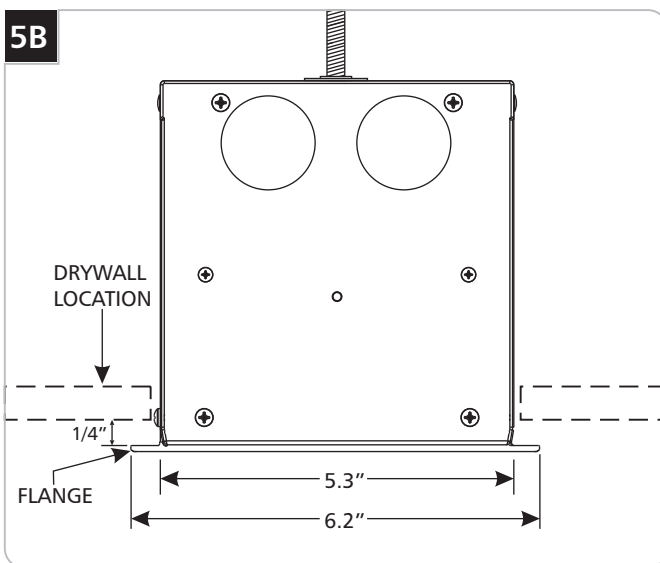
NOTE: There is little opportunity for adjustment once the fixtures are mounted, so use this option only when necessary.

- 6** Install the framing to create 4.5" of clearance needed for the fixture.
- 7** Using wood screws, secure the fixture into the joists by screwing through the backer flanges.

Install Each Fixture (Flanged)

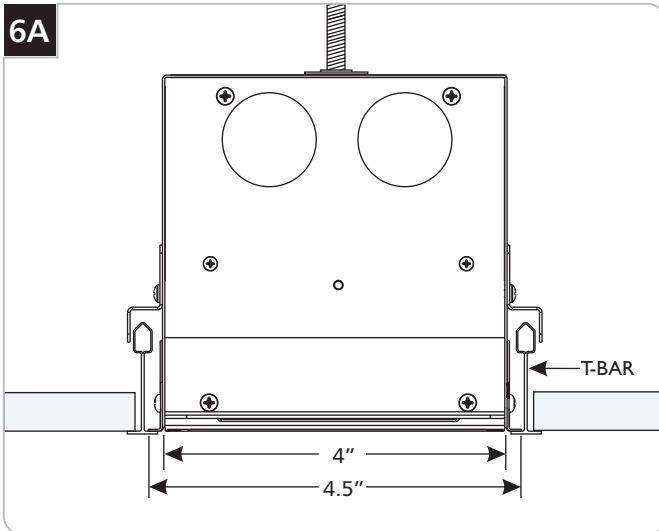


- 1 Mount a joiner/hanger plate on each length of threaded rod at the seams between the fixtures.
- 2 Mount an end hanger plate (shipped with the endcaps) on the threaded rods at each end of the run. **NOTE:** This plate will have 2 threaded studs rather than 4.
- 3 Hang the fixtures from #8 nuts on the studs. Do not tighten the nuts until after the fixtures have been aligned.

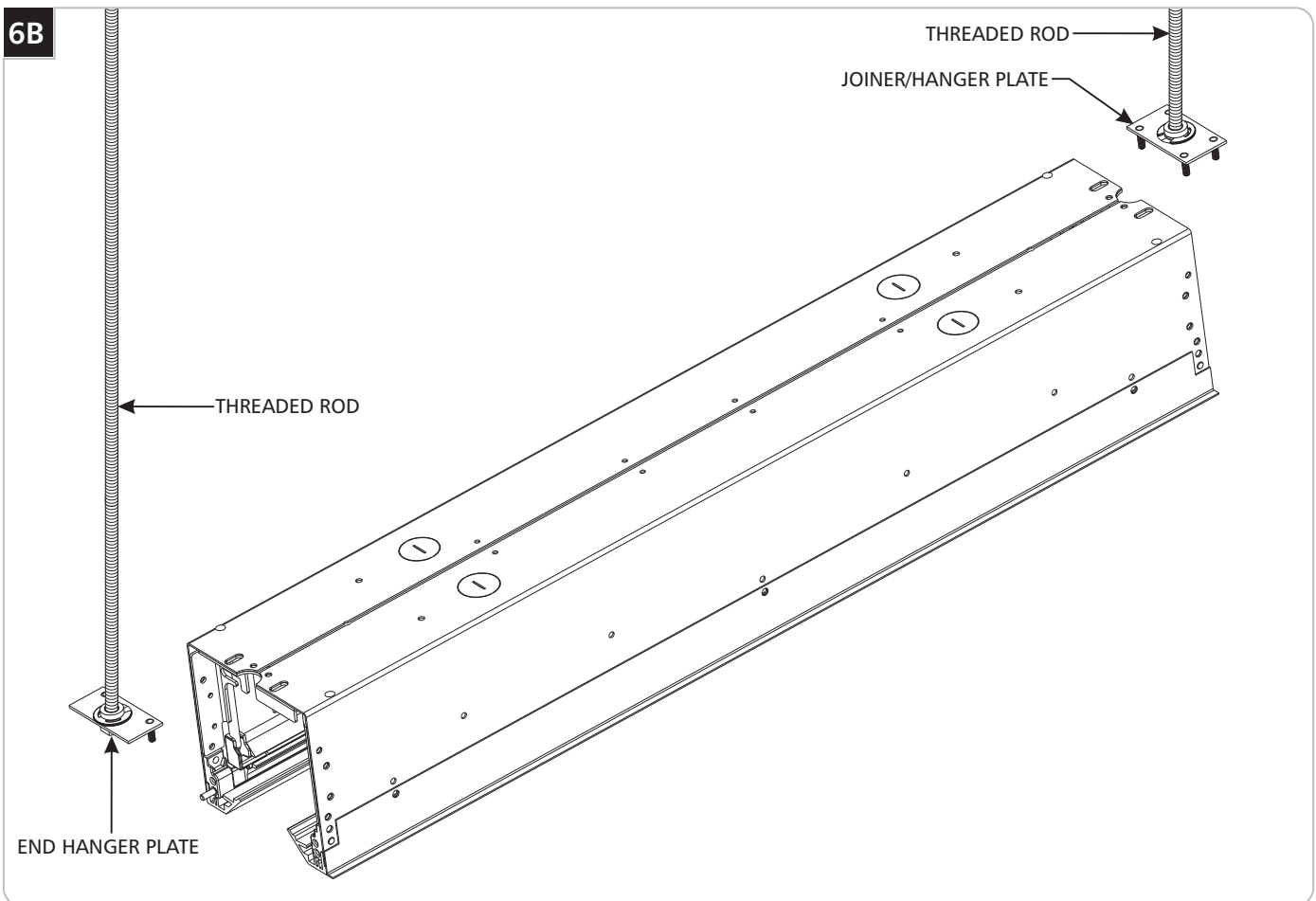


- 4 Use the hanger plates to properly support the fixture using threaded rod in accordance with local code. Install the fixture(s) 1/4" lower than the drywall ceiling plane.

Install Each Fixture (Grid)

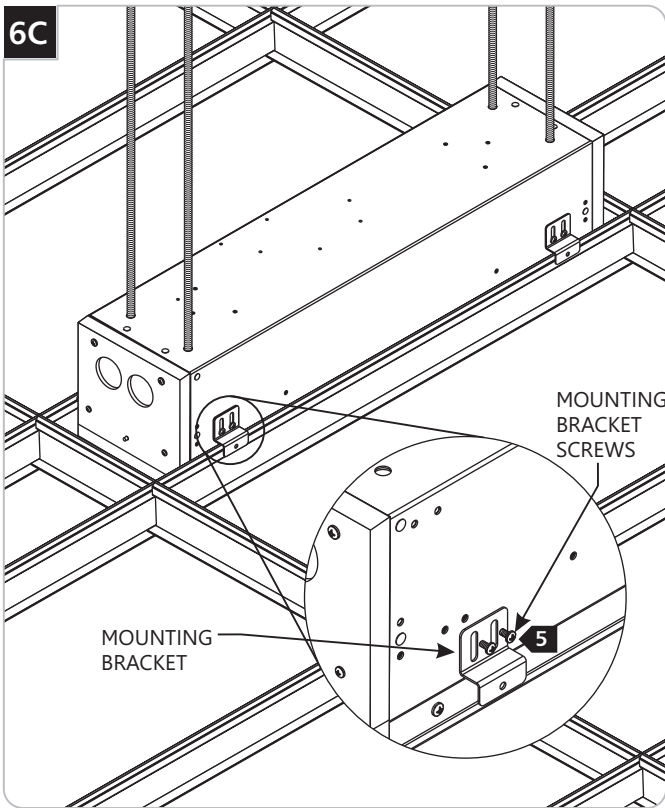


- 1 Build a 4.5" on-center grid to accommodate the fixture(s).

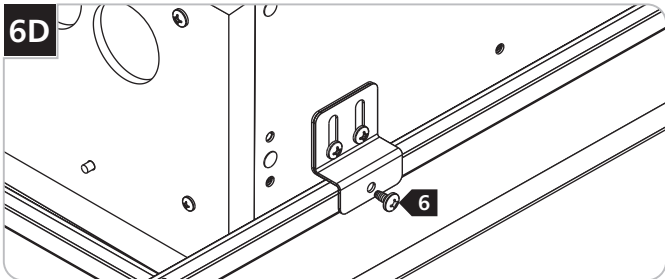


- 2 Mount a joiner/hanger plate on each length of threaded rod at the seams between the fixtures.
- 3 Mount an end hanger plate (shipped with the endcaps) on the threaded rods at each end of the run. **NOTE:** This plate will have 2 threaded studs rather than 4.
- 4 Hang the fixtures from #8 nuts on the studs. Do not tighten the nuts until after the fixtures have been aligned.

6C



5 Install two grid mounting brackets to each end of the fixture using the provided bracket screws (8' models require two brackets in the center of the fixture as well).



6 To further secure the fixture or per local code, use the screws slots on the sides of the brackets to secure the fixture to the T-bar.

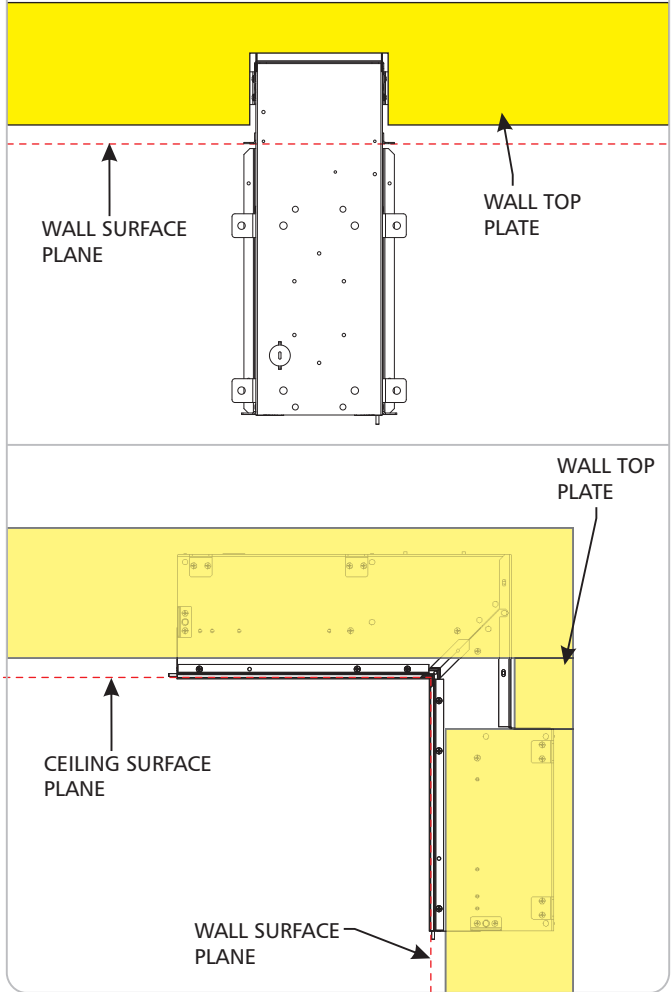
NOTE: One of the fixture in a lay-in run will be 44" long rather than the standard 48". The 44" fixture may be installed anywhere in the run.

Install Wall-to-Ceiling Connector

NOTE: If installing a continuous wall to ceiling connector, start the continuous fixture run installation with the connector.

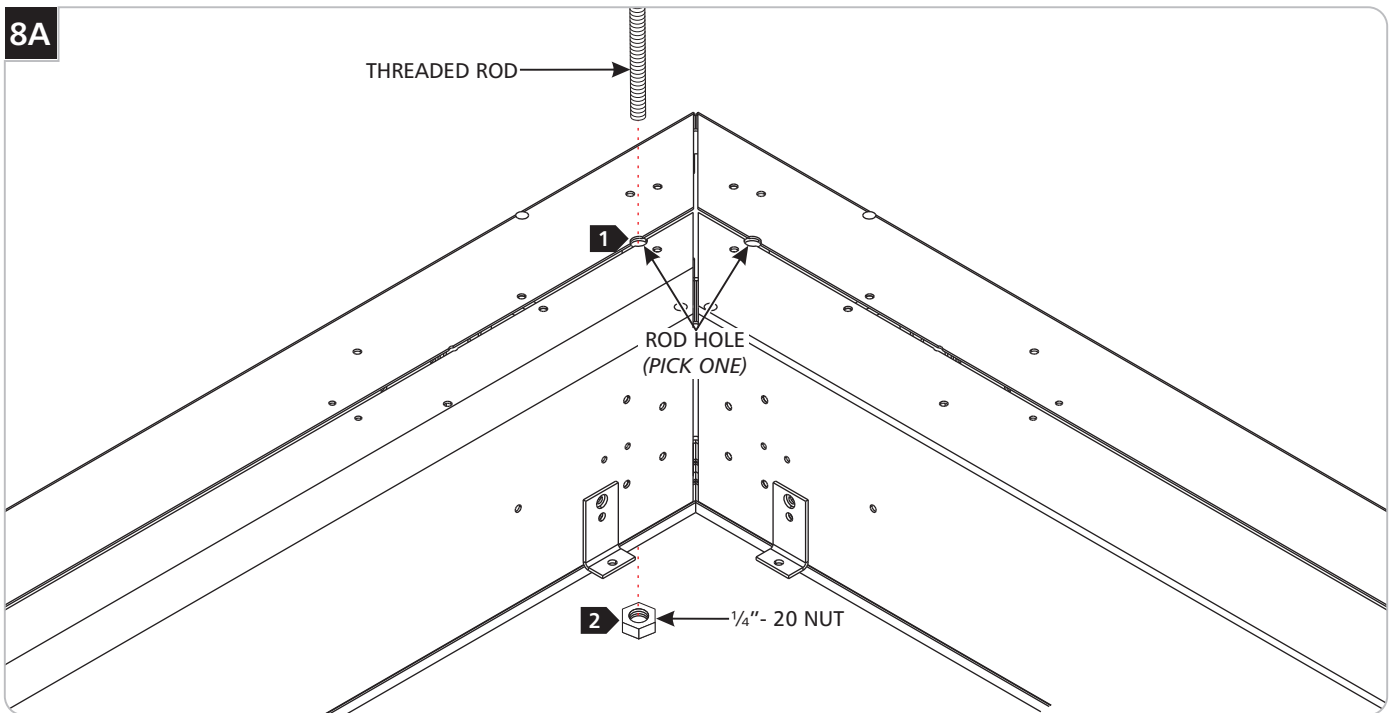
If not installing a wall to ceiling connector, skip to the next step.

7A



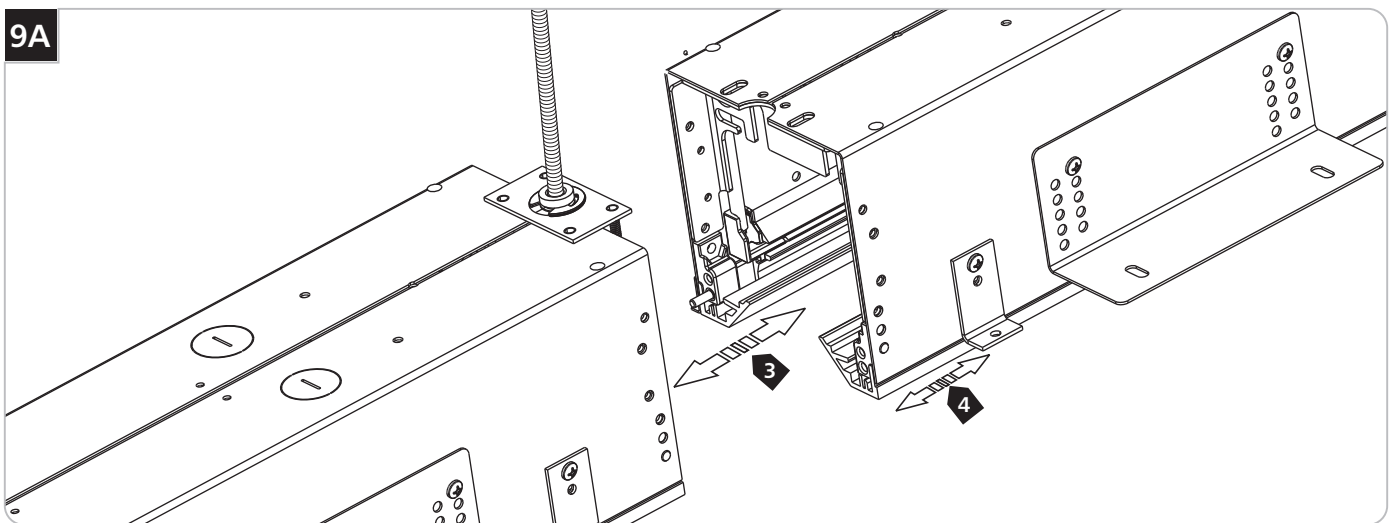
1 To create clearance for the ceiling to wall connector, the wall top plate must be modified, following guidelines in accordance with local building code, to accommodate the fixture's depth.

Install a Corner Connector



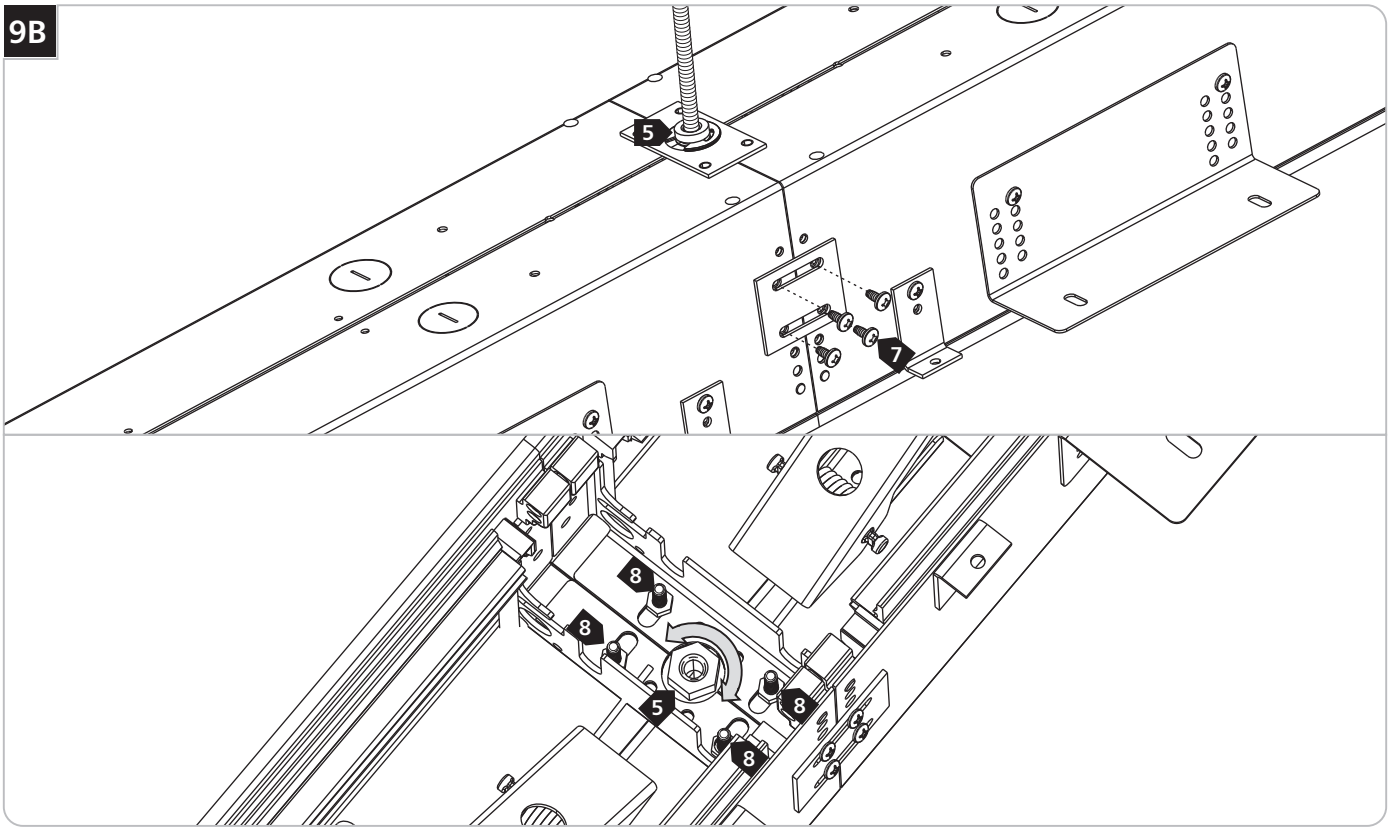
- 1** For the 3rd suspension point on a corner, put the treaded rod through **one** of the 2 holes on the top side of the corner piece.
- 2** Thread a 1/4"-20 nut onto the rod to support the fixture. Adjust as necessary

Connect the Fixtures



- 1** Install the first fixture using one of the methods described in the previous section.
- 2** Hang the next fixture from the hanger/joiner plate using the #8 nuts to support the fixture. Do not tighten the nuts until the fixtures are aligned.
- 3** Using the alignment pins as a guide, slide the fixtures together and touch the rails together to avoid creating visible seams.
- 4** The rails can be gently slid along the axis of the fixture if necessary to put the fixtures in alignment while avoiding visible gaps.

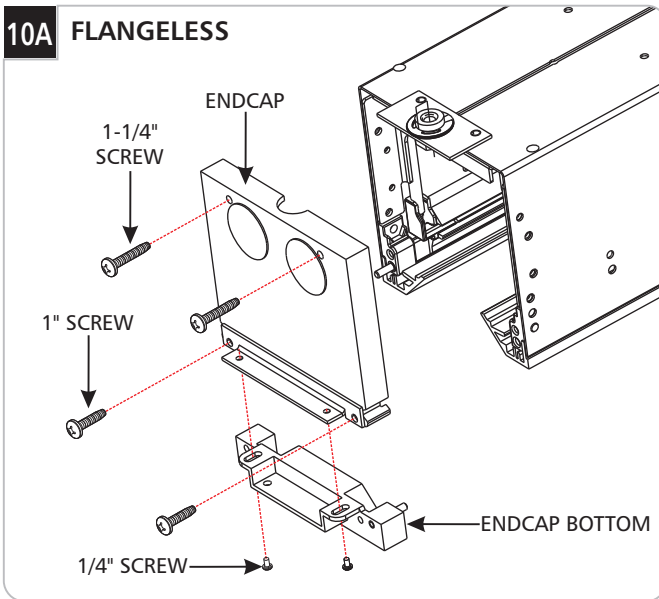
9B



- 5 Turn the nut on the hanger plates to raise and lower the fixtures to align them vertically.
- 6 If available, use a laser line to align the fixtures in the plane of the ceiling.
- 7 When the units are aligned with no visible seams, use the provided screws to join the fixtures together with the joiner plates on each side.
- 8 Also tighten the #8 nuts on the hanger plates inside.
- 9 Repeat steps 3 and 4 for the remaining fixtures.

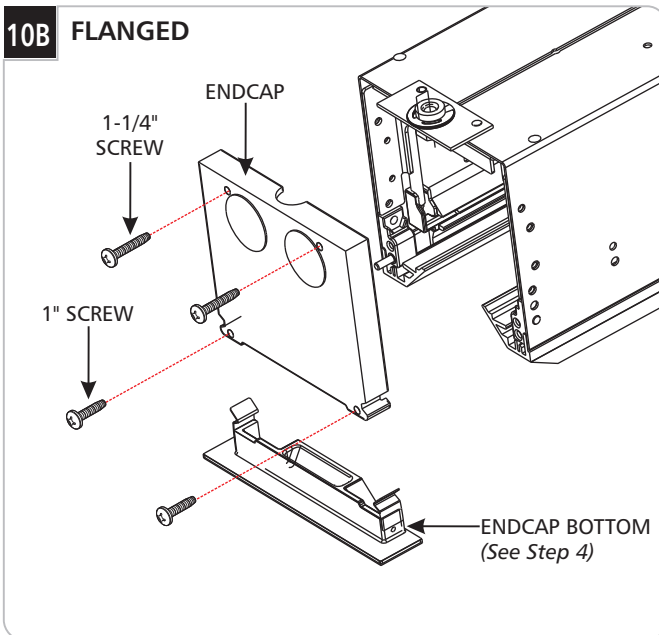
Install the Endcaps

10A FLANGELESS



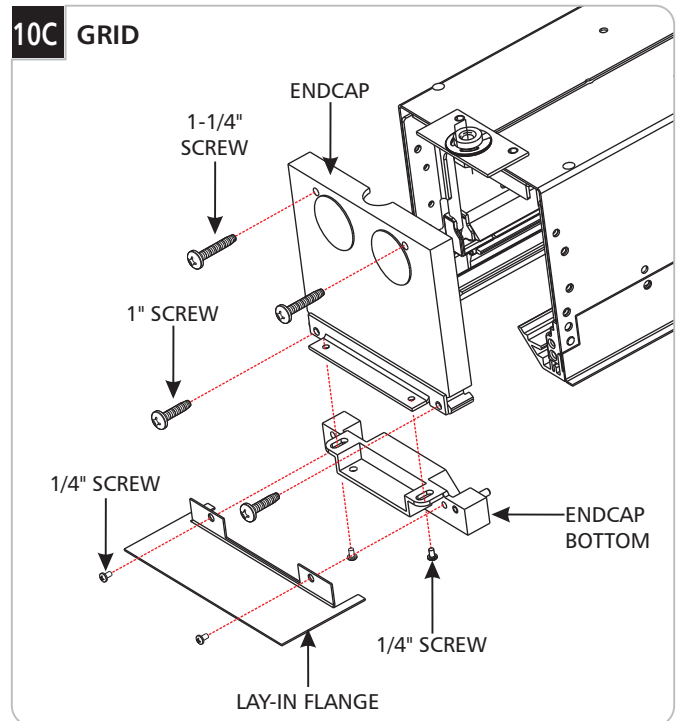
- 1 Mount the endcap and its bracket using two 1-1/4" screws and two 1" screws.
- 2 Attach the endcap bottom using two 1/4" screws. Mount the endcap bottom snug against the rails on the fixture to avoid creating visible seams

10B FLANGED



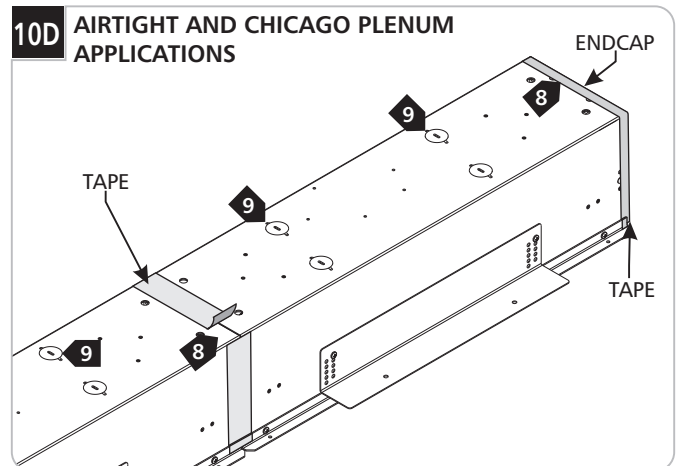
- 3 Mount the endcap and its bracket using two 1-1/4" screws and two 1" screws.
- 4 Keep the endcap bottom in a safe place and snap it in after the drywall is installed.

10C GRID



- 5 Mount the endcap and its bracket using two 1-1/4" screws and two 1" screws.
- 6 Attach the endcap bottom using two 1/4" screws. Mount the endcap bottom snug against the rails on the fixture to avoid creating visible seams
- 7 Attach the lay-in flange using two 1/4" screws.

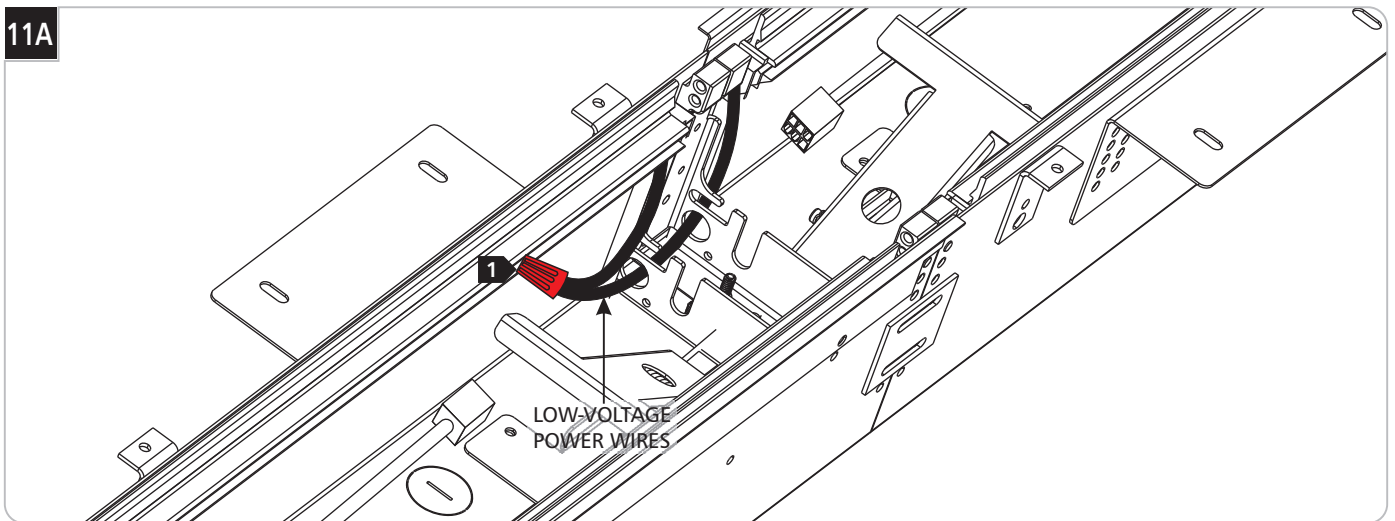
10D AIRTIGHT AND CHICAGO PLENUM APPLICATIONS



- 8 For airtight and Chicago Plenum applications, use the tape provided to seal the seams between the fixtures and at the endcaps.
- 9 Tape any unused knockouts and conduit fittings.
- 10 Tape the opening in the endcaps, if present.
- 11 Use the screws provided to fill in any unused holes.

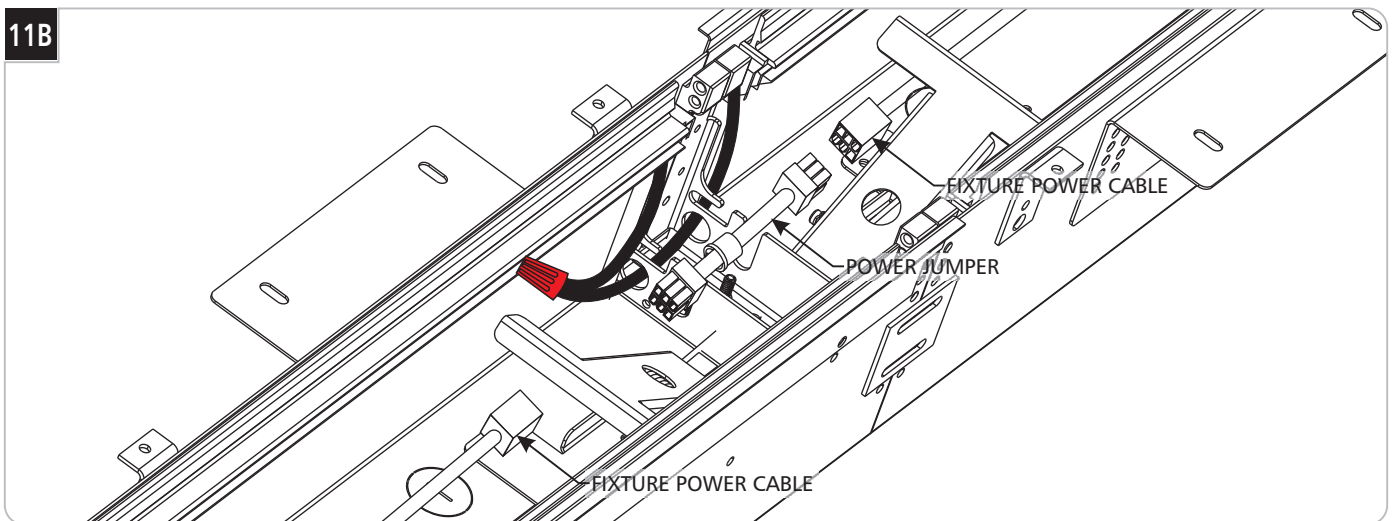
Electrically Connect the Fixtures

11A



- 1 Connect the low-voltage power wires together. Pass the wires through the holes in the frame so they won't interfere with the installation of the reflector later.

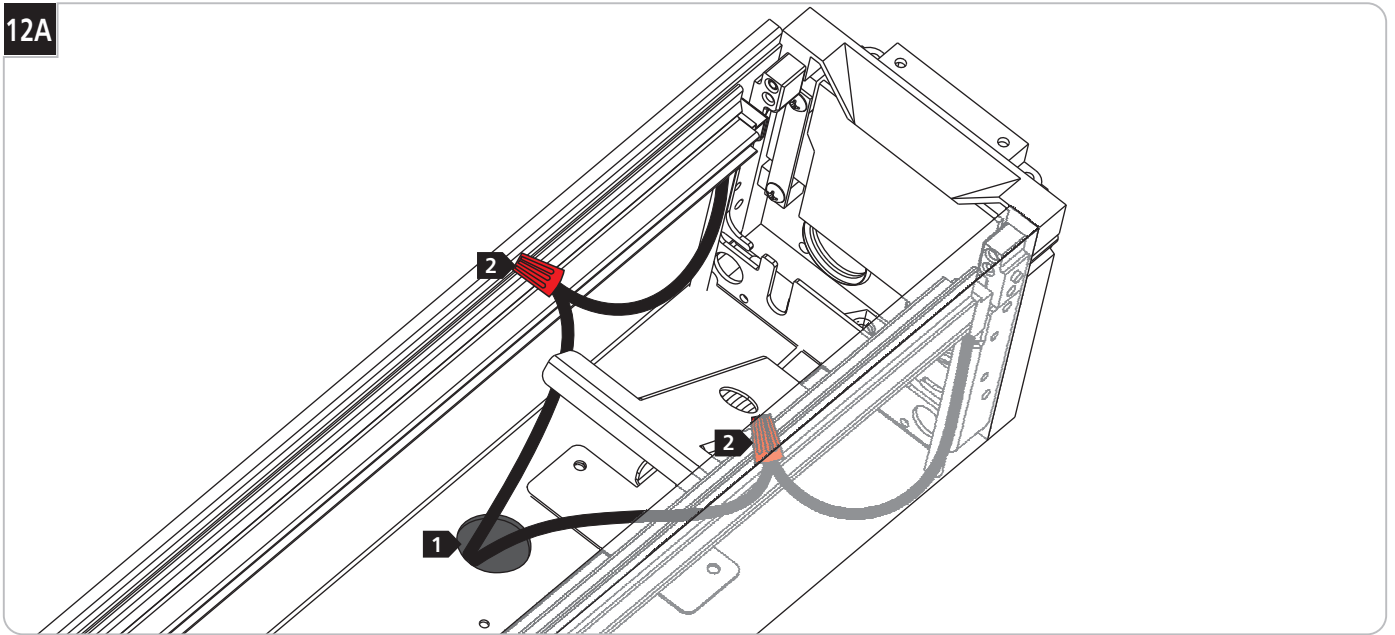
11B



- 2 Use the power jumpers to connect the fixture power cables together. Keep the jumpers tucked into the notches in the frame so they won't interfere with the installation of the reflectors later.

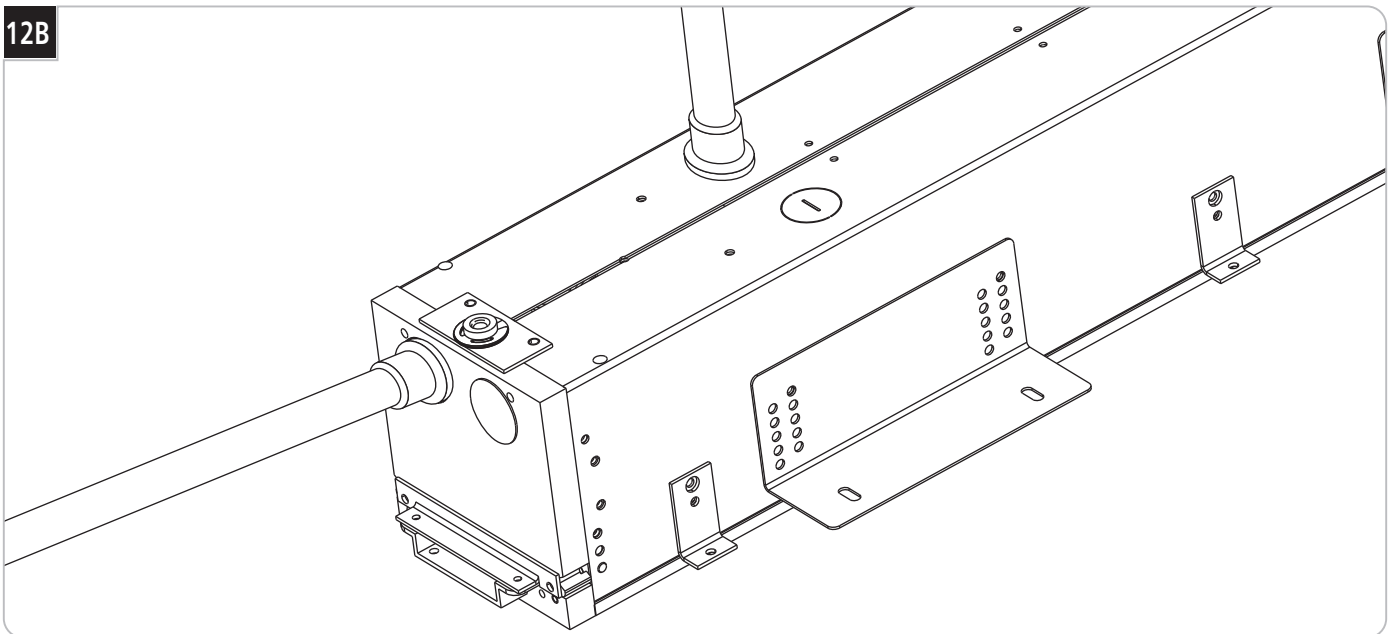
Power the Fixture

12A



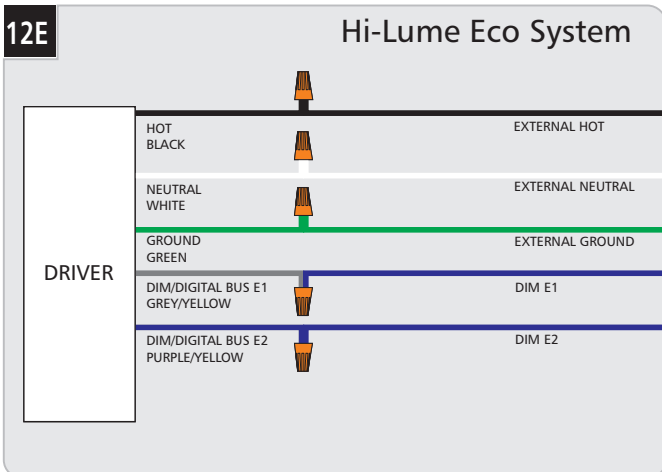
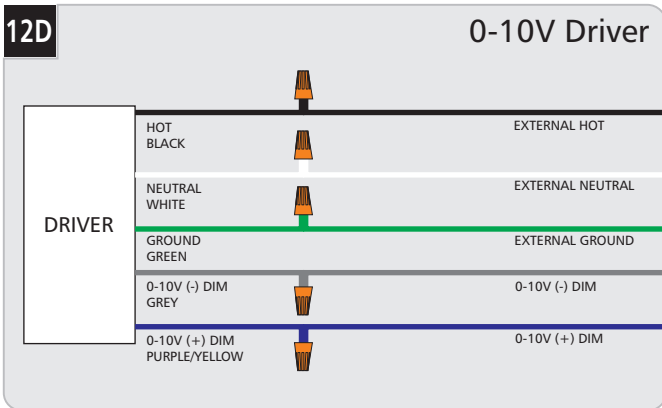
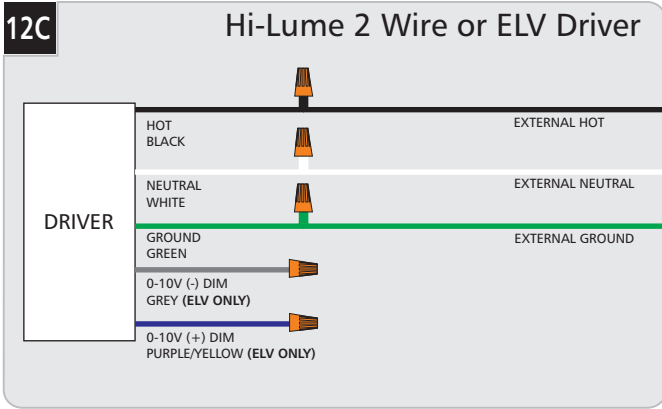
- 1 If using the low-voltage feature, follow the instructions on the remote transformer to install and power the transformer, then run the low-voltage power lines to the fixture.
- 2 Connect the fixture's low-voltage wires to the wires from the transformer.

12B

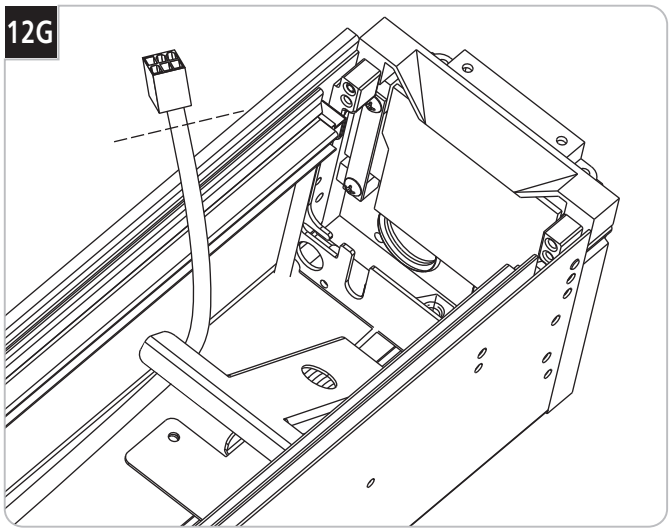
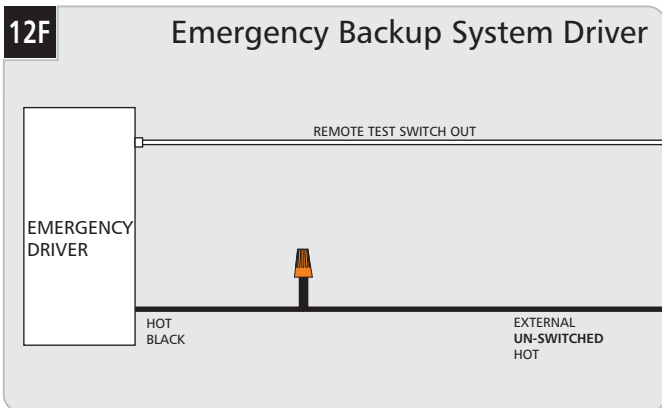


- 3 Install the conduit to the knock-outs provided in the endcaps or along the body of the fixture itself.
- 4 Run the main power and control lines into the fixture using the wiring diagrams on the following page according to the driver included with the fixture.

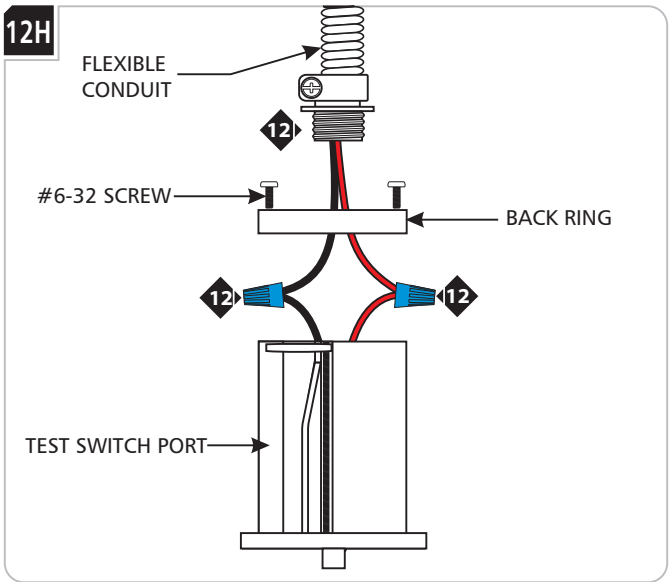
NOTE FOR CONTINUOUS FIXTURE RUNS: if connecting power anywhere other than the start of the run: splice the power and control wires into the fixture cord and properly connect the color coded wires with wire nuts.



NOTE: an additional un-switched external hot line will also be required for the emergency backup system as shown in diagram below.



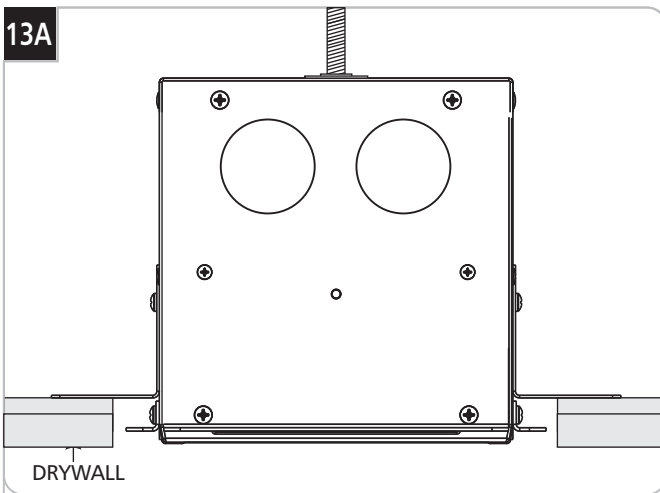
- 5** Cut off the white, 6-port connector from the free end of the main power cable.
- 6** Strip the wires and connect to the incoming power and control wires.



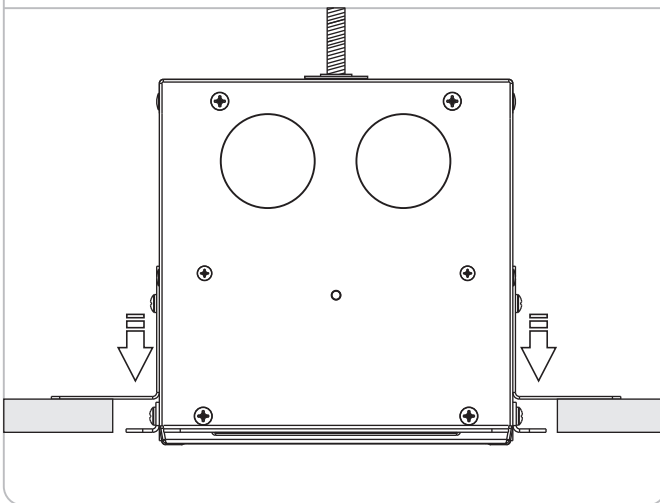
- 11** Unscrew the #6-32 screws to open the test switch port.
- 12** Disconnect the wires.
- 13** Unscrew the back ring from the flexible conduit.
- 14** Replace the back ring onto the port so the end of the wing screws are properly placed in the two blind holes.
- 15** Replace and tighten the #6-32 screws to secure the back ring onto the test switch port.
- 16** Keep the test switch port assembly in a safe place while the drywall is being installed.

Install the Drywall (flangeless)

13A

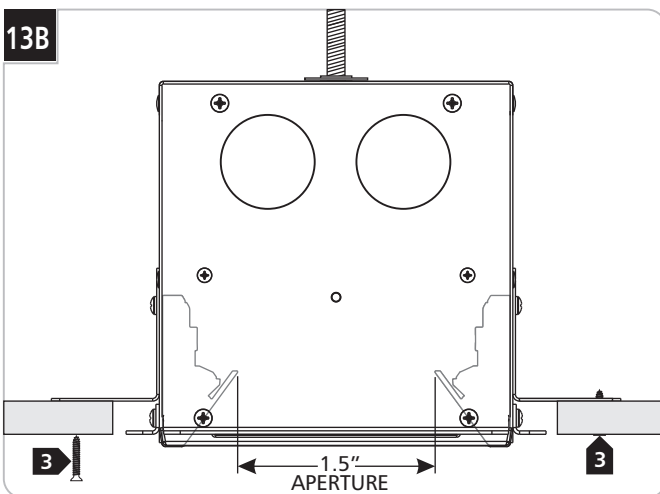


- 1 Install drywall up to the fixture housing(s).



- 2 If necessary, adjust the fixture height so that the backer flange makes contact to drywall surface.

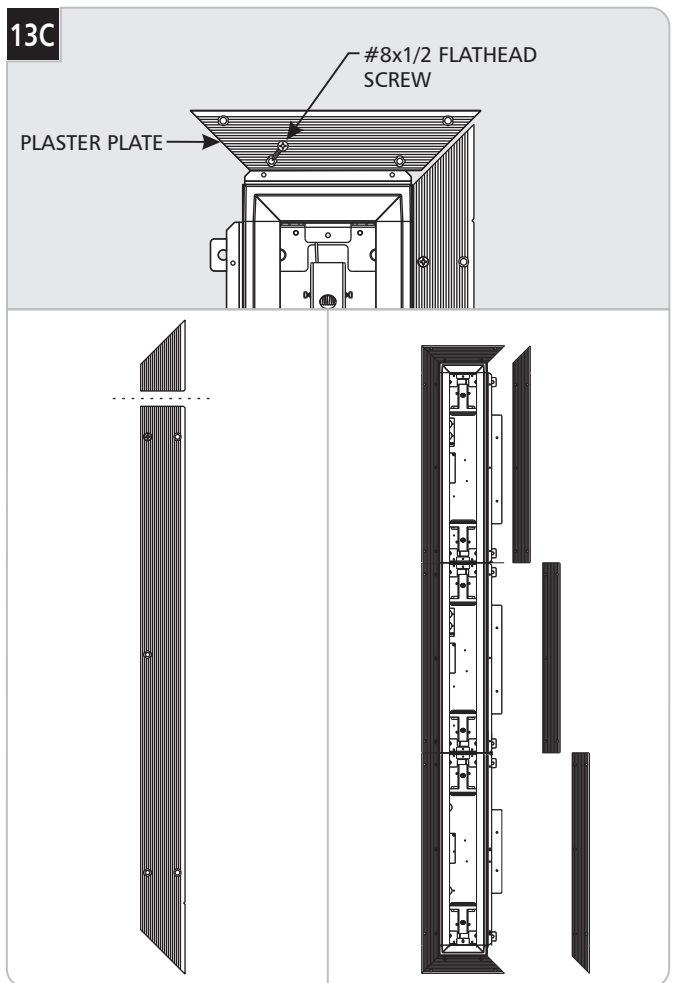
13B



- 3 Secure the drywall to the backer flange by either drilling a pilot hole and screwing in sheet metal screws or use self-drilling sheet metal screws.

WARNING: Fixture aperture width should not be less than 1.5". If the fixture is compressed during installation, the reflector will be difficult to install.

13C

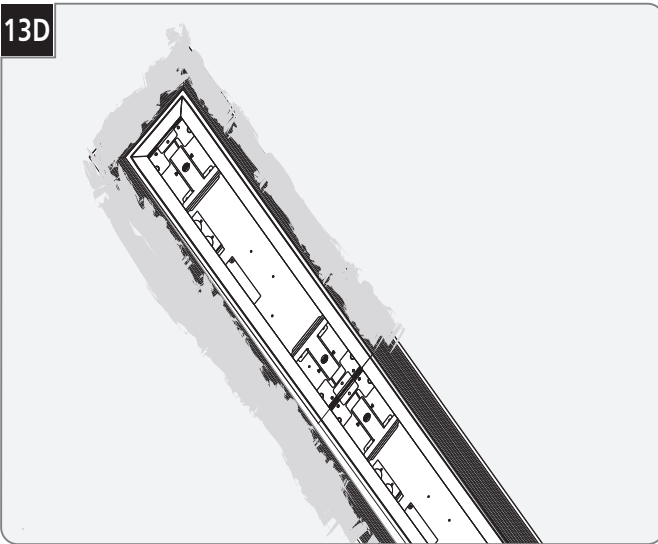


- 4 Secure the plaster plates to fixture(s) using the supplied #8x1/2 flat head screws:

Start with the ends to use the mitered pieces.

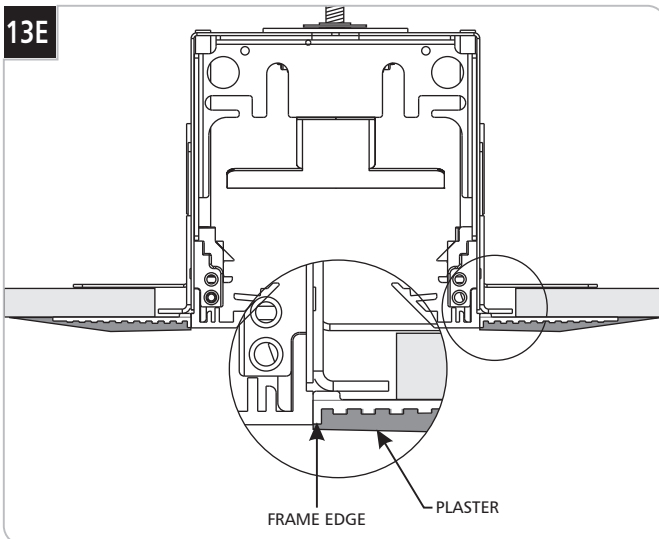
For intermediate sections, evenly trim the mitered ends off the long plaster plates so they are roughly in line with the fixture seams.

13D



5 Properly plaster onto the plaster flange and drywall.

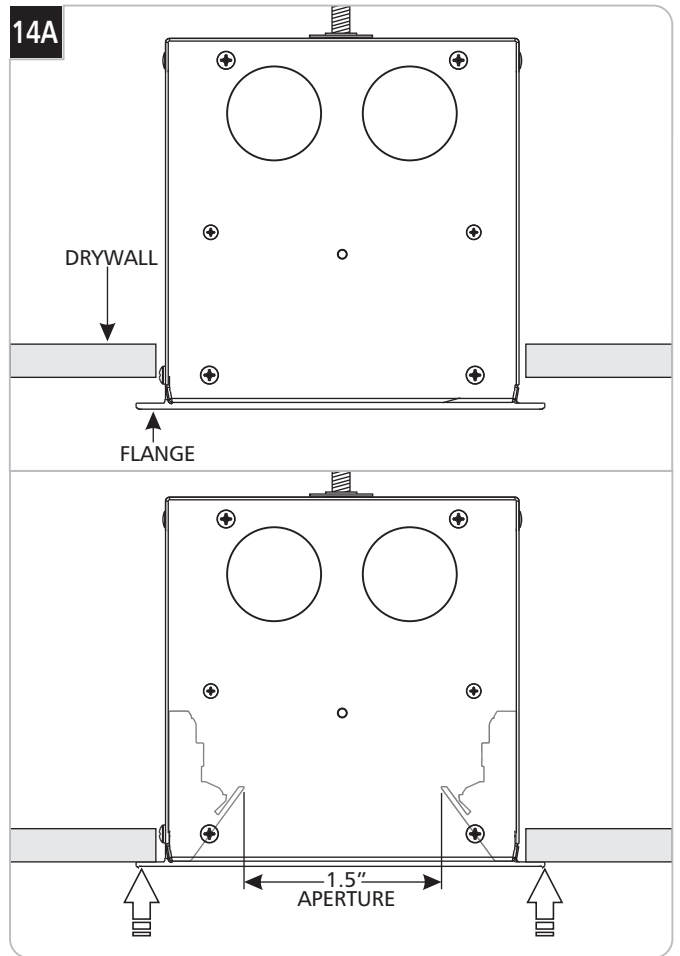
13E



6 Plaster up to the frame edge for a seamless appearance.

Install the Drywall (flanged)

14A



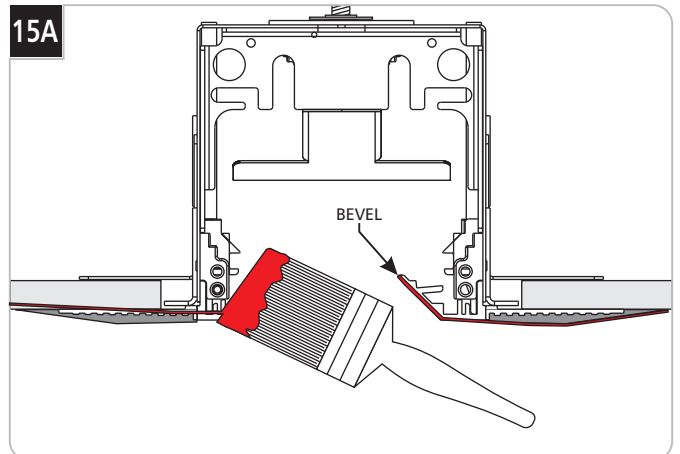
1 Install drywall up to the fixture housing(s).

2 Adjust the fixtures height so that the fixture flange is just snug to the drywall surface. **DO NOT OVER TIGHTEN.**

WARNING: Fixture aperture width should not be less than 1.5". If the fixture is compressed during installation, the reflector will be difficult to install.

Painting the Bevel (optional)

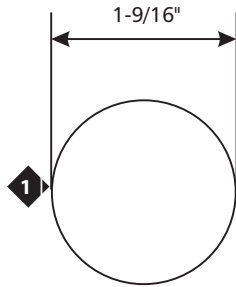
15A



1 The fixture bevel may be painted to match the ceiling color. **Take caution not to over paint!** This will result in damaging the LEDs.

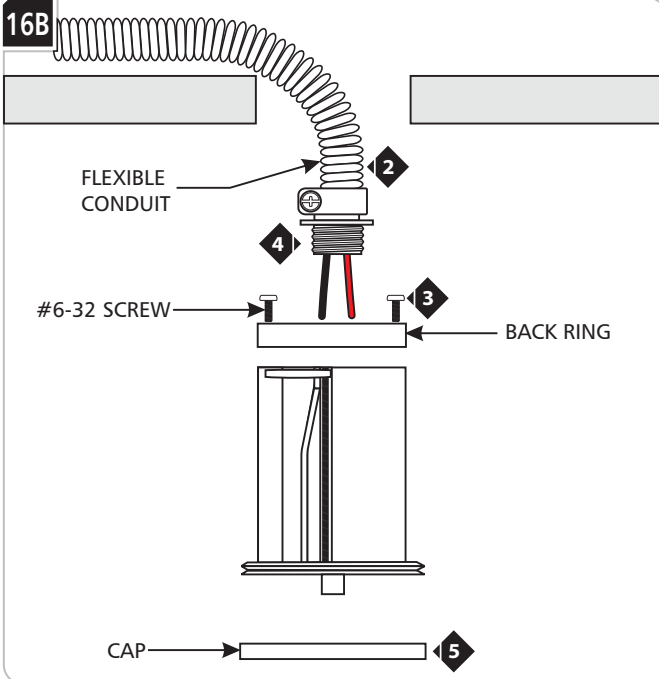
Install Remote Test Switch

16A



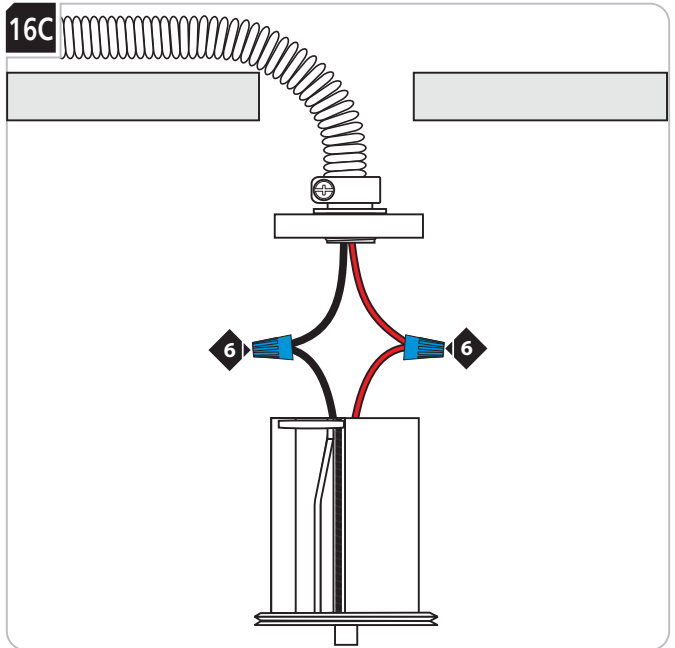
- 1 Use a 1-9/16" hole saw to cut out the ceiling or wall where the test switch will be installed.

16B



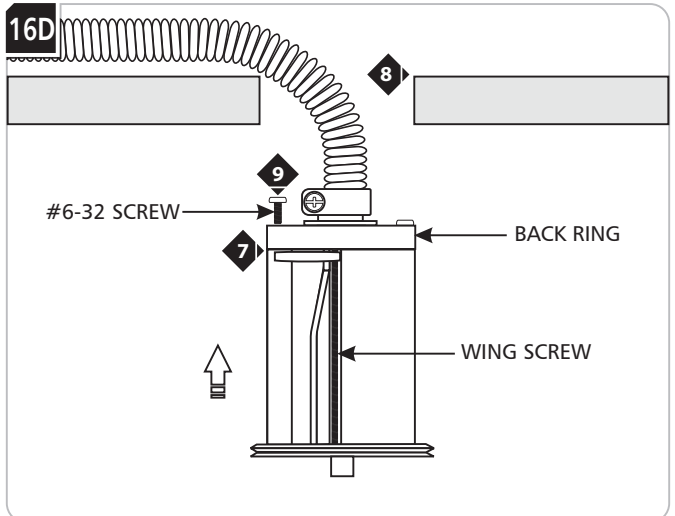
- 2 Bring the flexible conduit out of the 1-9/16" hole.
 3 Unscrew the #6-32 screws and remove the back ring.
 4 Screw the back ring (from the face with two holes) to the flexible conduit.
 5 Unscrew the cap from the test switch port.

16C

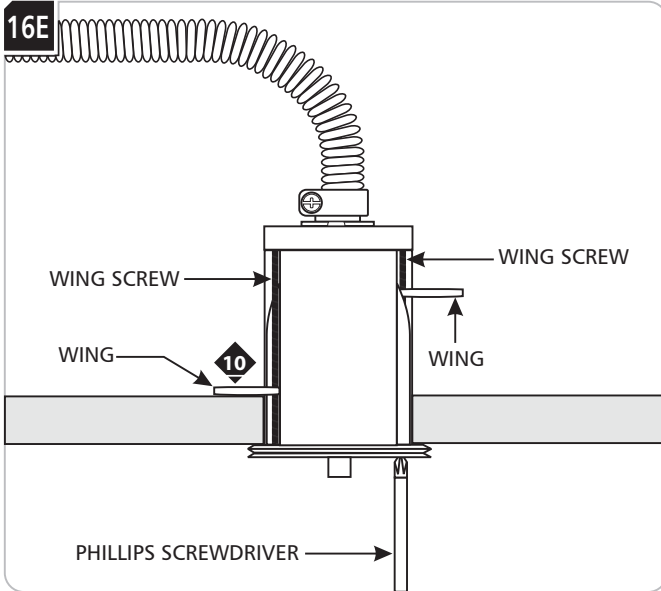


- 6 Connect the red and black wires in the test switch port to the same color wire in the flexible conduit using wire nuts.

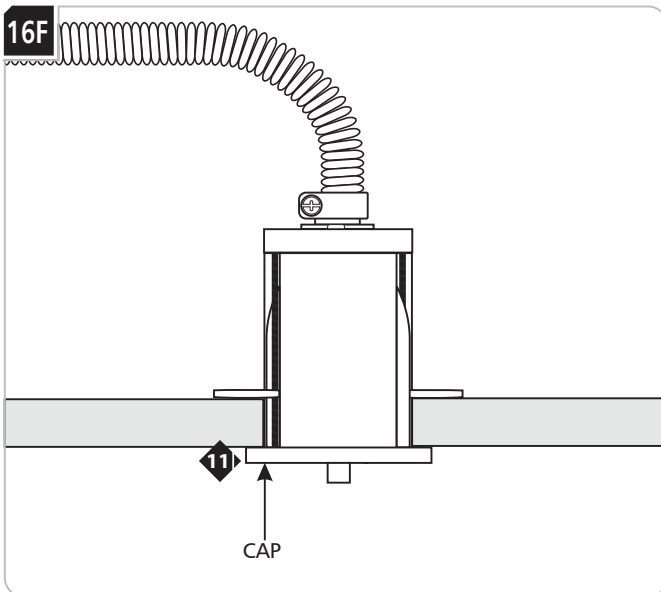
16D



- 7 Replace the back ring onto the test switch port so the end of the wing screws are properly placed in the two blind holes.
 8 Replace and tighten the #6-32 set screws to secure the back ring onto the test switch port.
 9 Push the test switch port completely into the hole.



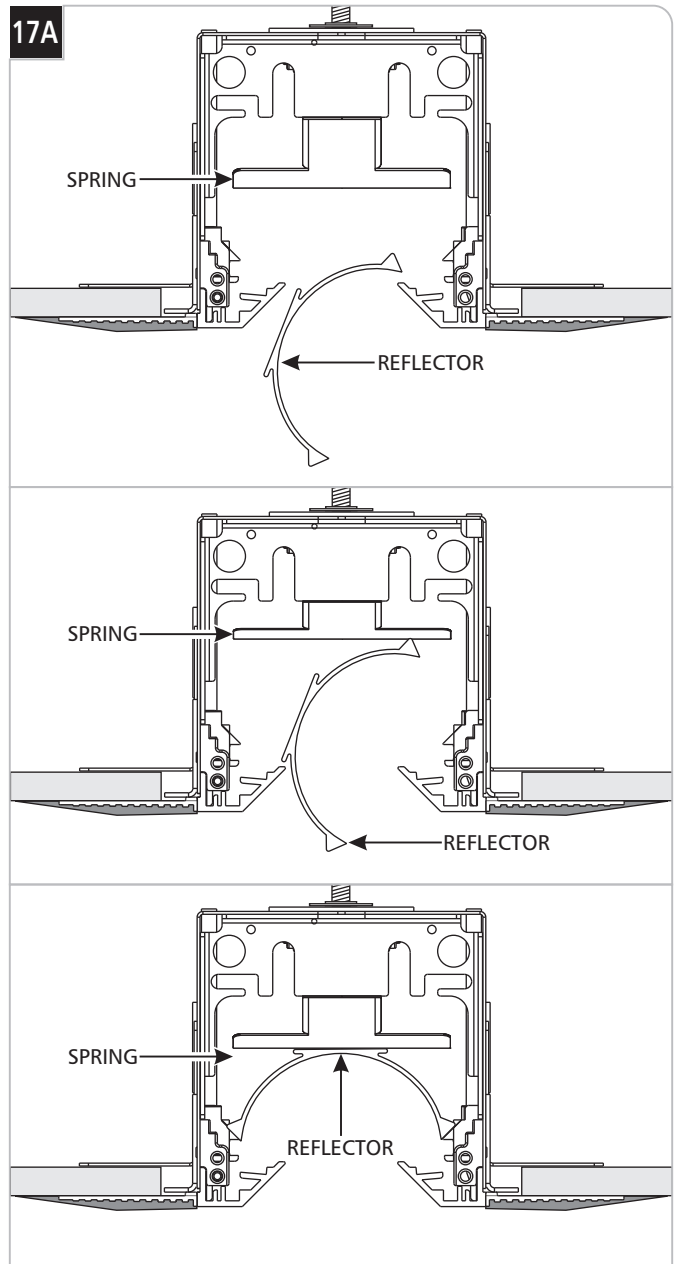
10 Tighten the two phillips screws (an electric screwdriver will help) until the wings secure the test switch port into the hole.



11 Replace and tighten the cap.

Install the Reflector

NOTE: If your fixture consists of corner connectors, the corner reflectors should be installed prior to the linear fixtures.



- 1** Install the reflector by tilting it and inserting it into the fixture.
- 2** Continue pushing the reflector in. Some resistance will be felt by the spring loader which will also level it with the ceiling.
- 3** Let the spring push the reflector down to rest evenly in the fixture. If necessary, use the provided pull hook to reposition the reflector inside the fixture.
- 4** Make sure the reflector is centered in the fixture. An improperly inserted reflector can damage the LEDs.
- 5** Repeat for the remaining reflectors.

Notes



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