

***BALCO INC***

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***INSTALLATION INSTRUCTIONS  
FOR BALCO, INC.  
TYPES CR & CRL  
EXPANSION JOINT COVER SYSTEMS***

# **INSTALLATION INSTRUCTIONS FOR BALCO, INC. CR & CRL SERIES EXPANSION JOINT COVER SYSTEMS**

The following installation instructions are very important. Read them carefully, and be sure you understand them completely before you begin any work.

## **STORAGE & HANDLING**

The expansion joint covers are shipped partially unassembled. Store this product in the horizontal position in a clean, dry location. This is a finished product. Store this product in a protected area.

## **CR- PARTS LISTS**

	<b><u>CR-2</u></b>	<b><u>CR-3</u></b>
A. Subchannel Assembly:		
1. Base Member	CRLB47	CRLB47
2. Anchors	TH316134	TH316134
3. Cover Member	CRLT416	CRLT416
4. Fasteners	FST058S	FST058S
B. Center Plate Support	CRL108	CRL108
C. Anchors	TH14134	TH14134
D. Center Plate Assembly		
1. Base Member	CRH103	CRH103
2. Plate	22 ga. SS	22 ga. SS

## **TOOLS REQUIRED**

This is a list of tools and materials recommended for use in the installation of these joint systems. Tools and materials in this list are not provided by Balco, Inc.

- A. Additional Concrete Drill Bits (for 3/16" anchors and for 1/4" anchors)
- B. Drill Bits for Metal (for 1/4" anchors and for 3/16" anchors)
- C. Electric Drill
- D. Marking Pens (for Concrete and for Metal)
- E. Tape Measure
- F. Level
- G. C-Clamps
- H. Wooden 2X4s (10 feet long)
- I. Sockets for Hex Head Anchors
- J. Phillips and Slotted Screw Driver Bits
- K. Drill Jig for use in the attachment of CRL108<sup>1</sup>
- L. Duct Tape
- M. Grout
- N. Clean Rags

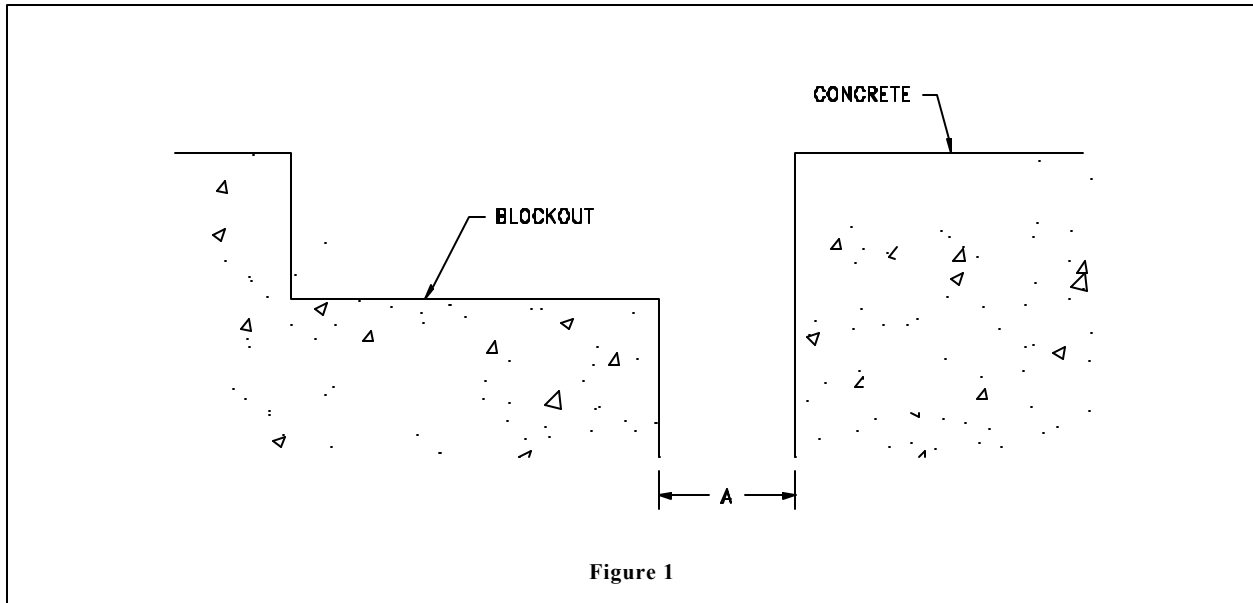
<sup>1</sup> The Drill Jig is fabricated in the field from materials of sufficient strength to support and hold the drill in the proper position during drilling of the anchor holes for the CRL108. Anchors for the CRL108 are installed at a nominal 30° angle to floor's top surface.

## INSTALLATION

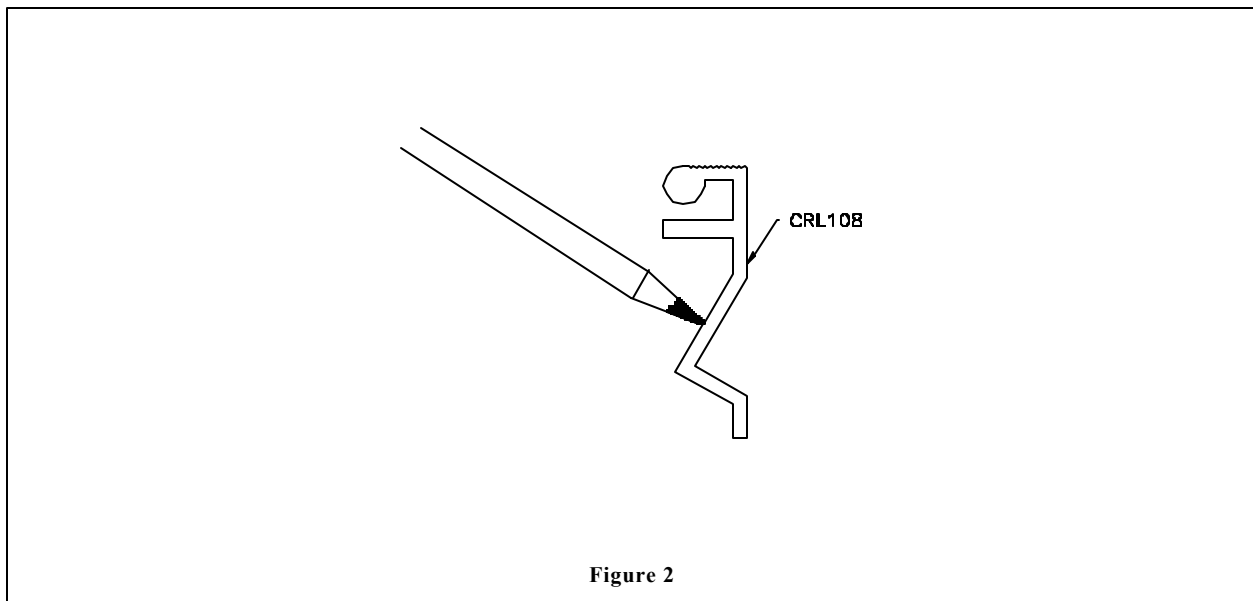
These installation instructions are for use in the installation of expansion joint cover types CR-2, CR-3, CRL-2, and CRL-3. The blockouts may be formed at the time of the initial concrete pour or at a later time by removing material from the slab. Refer to the details for the required depth and width of the blockout. To ensure a good installation, use level and true blockout materials. The joint cover system shall be installed as follows:

**STEP 1.** Review Balco, Inc. approved shop drawings for types and locations.

**STEP 2.** Provide the blockout for Balco, Inc. expansion joint cover system in accordance with the approved shop-drawings (see Figure 1). Inspect the blockout to see that it is flat, level, and clear of all debris. Prepare and clean the blockout as needed. Ensure that the blockout is of adequate width and depth for proper installation of the joint cover system.



**STEP 3.** Select a section of the Center Plate Support (part no. CRL108). If the anchor holes have not been drilled into the Support at the factory, mark the locations for the anchor holes on the Support (see Figure 2). Standard anchor hole spacing is 20" o.c. with an anchor hole a maximum of 3" from each end of the Support.



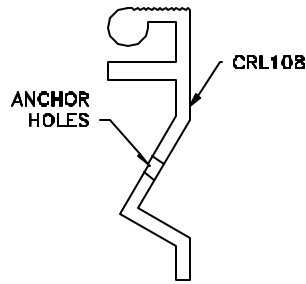


Figure 3

- STEP 4.** Drill the anchor holes into the Center Plate Supports at the locations marked in Step 3 (see Figure 3). Repeat the procedures provided in Step 3 and Step 4 for each section of the Center Plate Support.
- STEP 5.** Select a section of the Subchannel Assembly (see Figure 4), and disassemble the Subchannel Assembly. Ensure that the base member, mating cover member and the screws are kept together, as they will need to be reassembled later.
- STEP 6.** If the anchor holes have not been drilled into the base member at the factory, mark the locations for the anchor holes on the subchannel (see Figure 5). Standard anchor hole spacing is 20" o.c. staggered with an anchor hole a maximum of 3" from each end of the base member. Drill the anchor holes into the base members at the marked locations (see Figure 6). Repeat the procedures given in Step 5 and Step 6 for each section of the Subchannel Assembly.

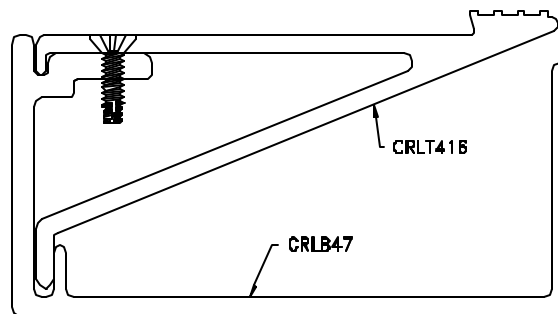


Figure 4

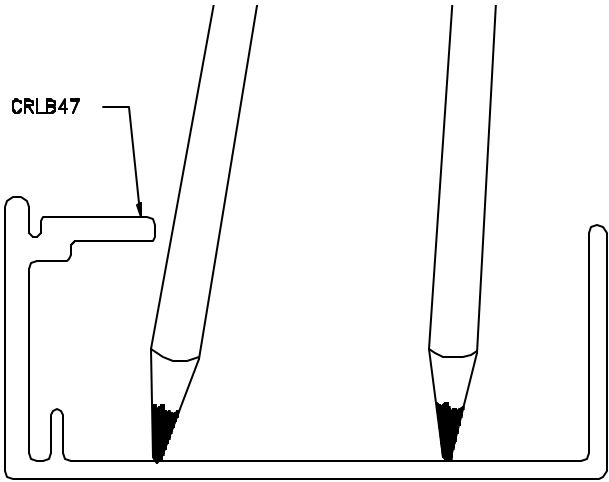


Figure 5

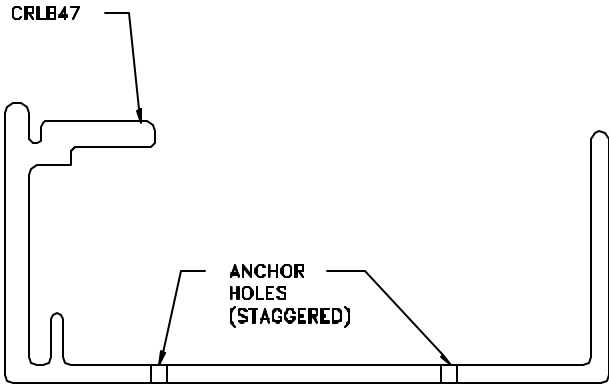


Figure 6

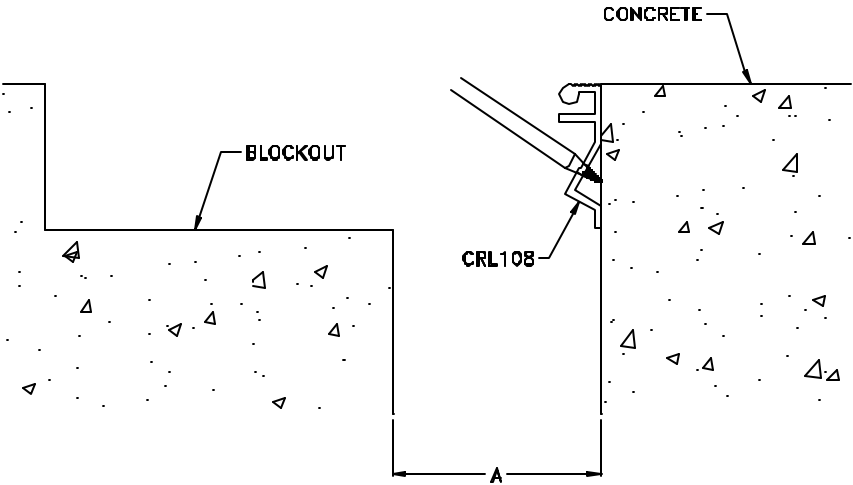


Figure 7

- STEP 7.** If Metaflex "Classic" fire barrier is not to be installed in conjunction with the joint cover system, proceed directly to Step 11. If Metaflex "Classic" fire barrier is provided, select a section of the fire barrier, a section of the Center Plate Support and a section of the Subchannel Assembly base member. Using C-Clamps and the 2X4s, clamp the appropriate fire barrier galvanized retainer and the Subchannel Assembly base member together. Ensure that the end of the retainer and the end of the base member are aligned with one another and that the outside edge of the retainer is aligned with the outside edge of the base member. Using C-Clamps and a 2X4, clamp the appropriate fire barrier galvanized retainer and the Center Plate Support together. Ensure that the end of the retainer and the end of the Support are aligned with one another and that the outside edge of the retainer is aligned with the top edge of the Support.
- STEP 8.** Using the Center Plate Support and the Subchannel Assembly base member as templates, drill the anchor holes into the fire barrier galvanized retainers.
- STEP 9.** Unclamp the 2X4s, the fire barrier and the base members from one another.
- STEP 10.** Repeat the procedures in Step 7 through Step 9 for each section of the fire barrier, splicing the fire barrier as needed. Refer to the appropriate fire barrier installation instructions for splicing procedures.
- STEP 11.** Select a Center Plate Support and place it into its installed position in the joint. Using the Center Plate Support as a template, mark the locations for the anchor holes on the concrete (see Figure 7). Ensure that the Center Plate Support is level, plumb, properly aligned and at the proper elevation.

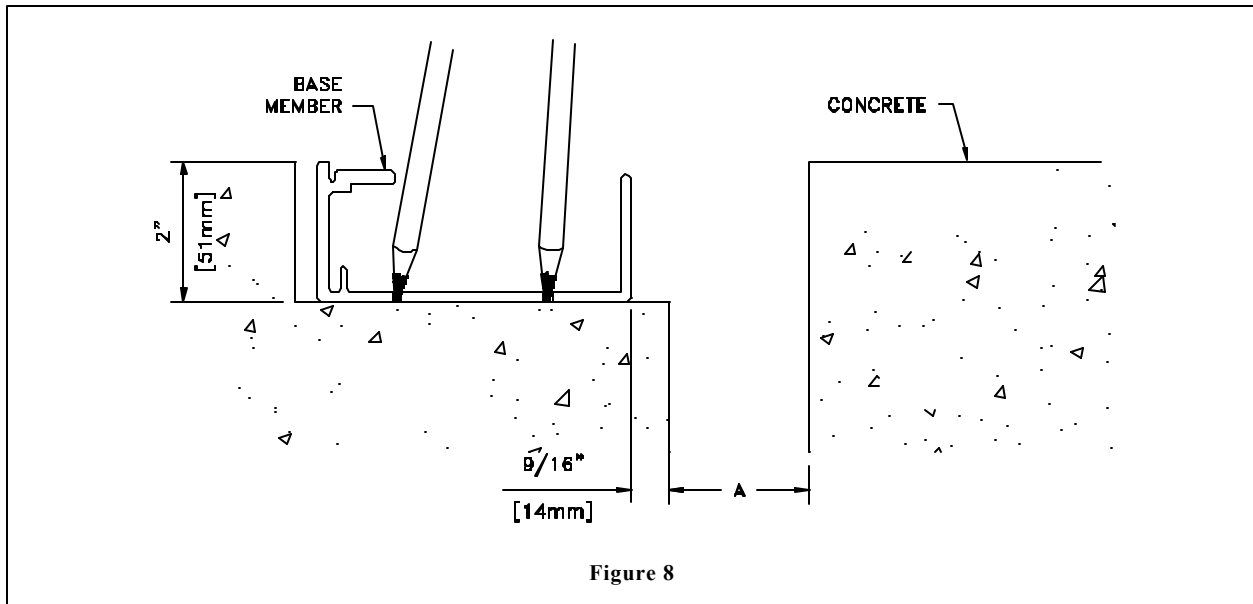
NOTE: A FIELD FABRICATED DRILL JIG IS REQUIRED TO DRILL THE ANCHOR HOLES FOR THE CENTER PLATE SUPPORT. THE JIG MUST HOLD THE DRILL IN POSITION AND PREVENT THE DRILL BIT FROM CHATTERING ALONG THE CONCRETE SURFACE AS THE ANCHOR HOLES ARE DRILLED INTO THE JOINT INTERFACE WALL.

- STEP 12.** Remove the Center Plate Support from its installed position, and using the drill bit for the 1/4" anchors, drill the anchor holes into the concrete slab at the locations marked in Step 16. Drill the anchor holes 1/4" deeper than the length of the anchors. Clean away all refuse from the joint area.

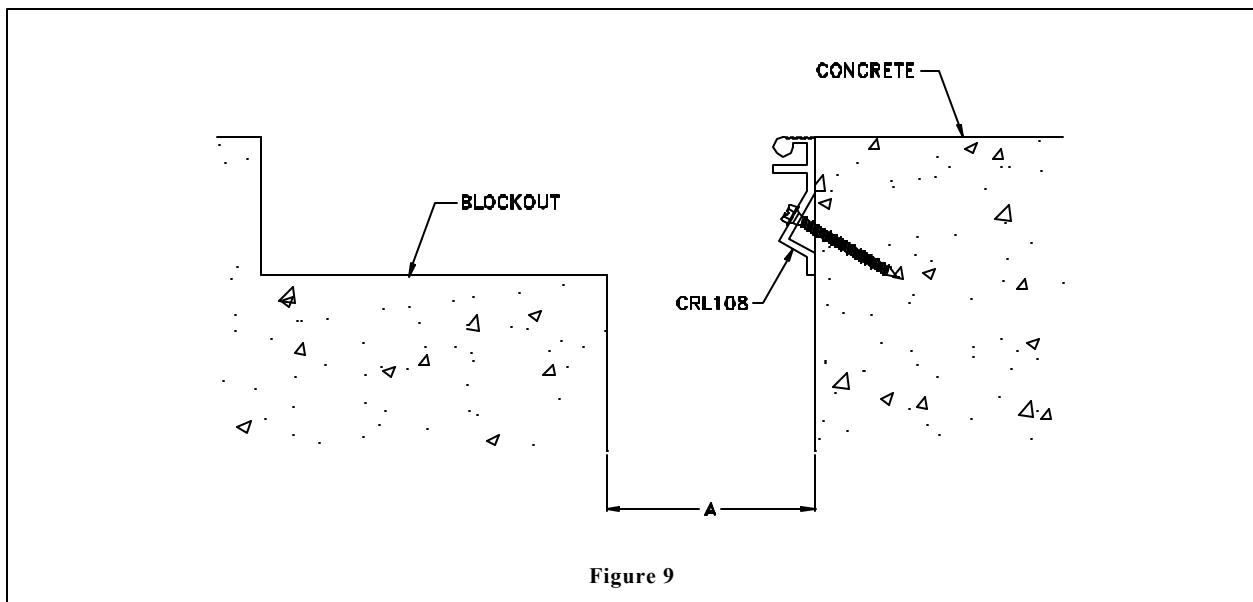
NOTE: OBSERVE NORMAL SAFETY PRECAUTIONS WHEN DRILLING TO AVOID ALL UTILITIES AND RE-BAR.

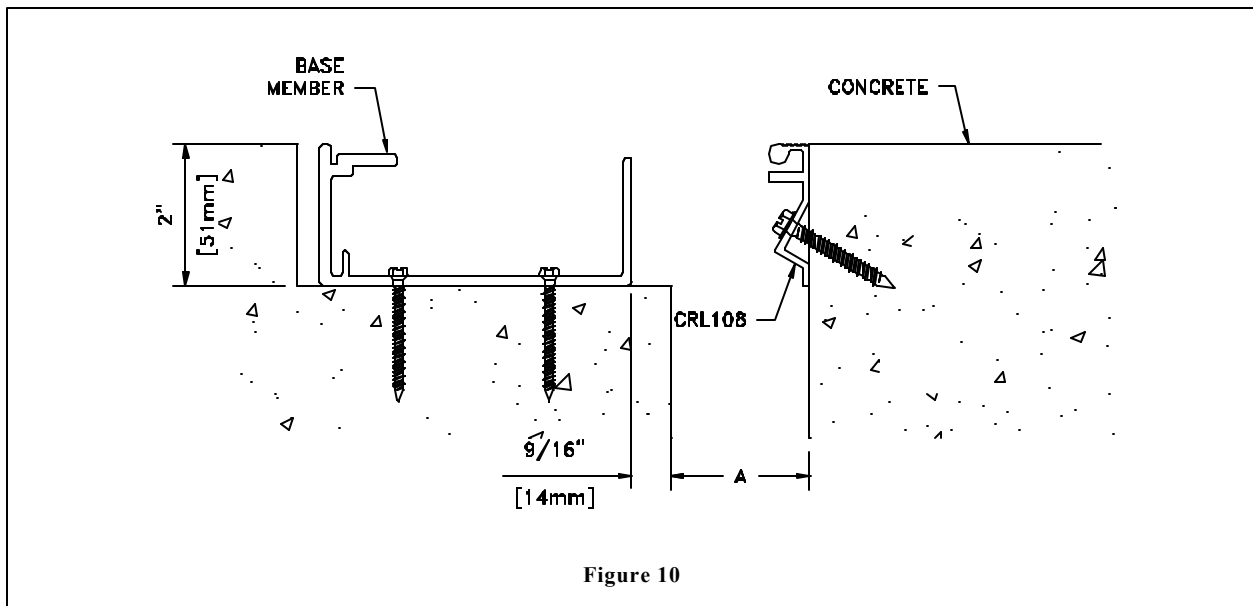
- STEP 13.** Select the corresponding Subchannel Assembly base member. Place the base member into its installed position in the blockout. Using the base member as a template, mark the locations for the anchor holes on the concrete (see Figure 8). Ensure that the base member is level and properly aligned.
- STEP 14.** Remove the Subchannel Assembly base member from its installed position, and using the concrete drill bit for 3/16" anchors, drill the anchor holes into the concrete slab at the locations marked in Step 18. Drill the anchor holes 1/4" deeper than the length of the anchors. Clean away all refuse from the joint area.

NOTE: OBSERVE NORMAL SAFETY PRECAUTIONS WHEN DRILLING TO AVOID ALL UTILITIES AND RE-BAR.

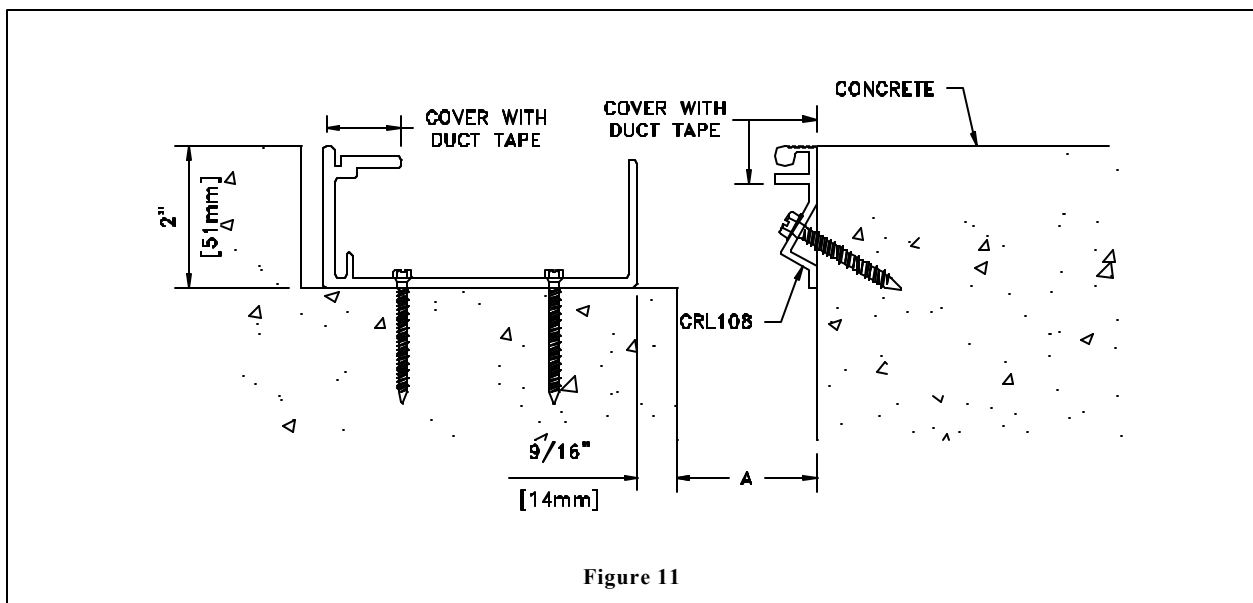


- STEP 15.** If fire barrier is installed in conjunction with the joint cover system, place the fire barrier into its installed position. Ensure that the fire barrier flanges or retainers and package(s) are fitted properly against the joint interface walls. Refer to the appropriate fire barrier type installation instructions for additional instructions regarding the installation of the fire barrier.
- STEP 16.** If water barrier is specified, place it into its installed position. Refer to the installation instructions entitled, "INSTALLATION INSTRUCTIONS FOR BALCO, INC. .045 EPDM WATER BARRIER SYSTEMS" for further instructions concerning optional water barrier installation.
- STEP 17.** Place the Center Plate Support back into its installed position, and using the 1/4" anchors provided by the factory, attach the Center Plate Support to the concrete (see Figure 9). Ensure that the Center Plate Support is level, plumb, properly aligned, and flush with the floor. Ensure that the anchor holes in the Center Plate Support are properly aligned with the anchor holes in the concrete.

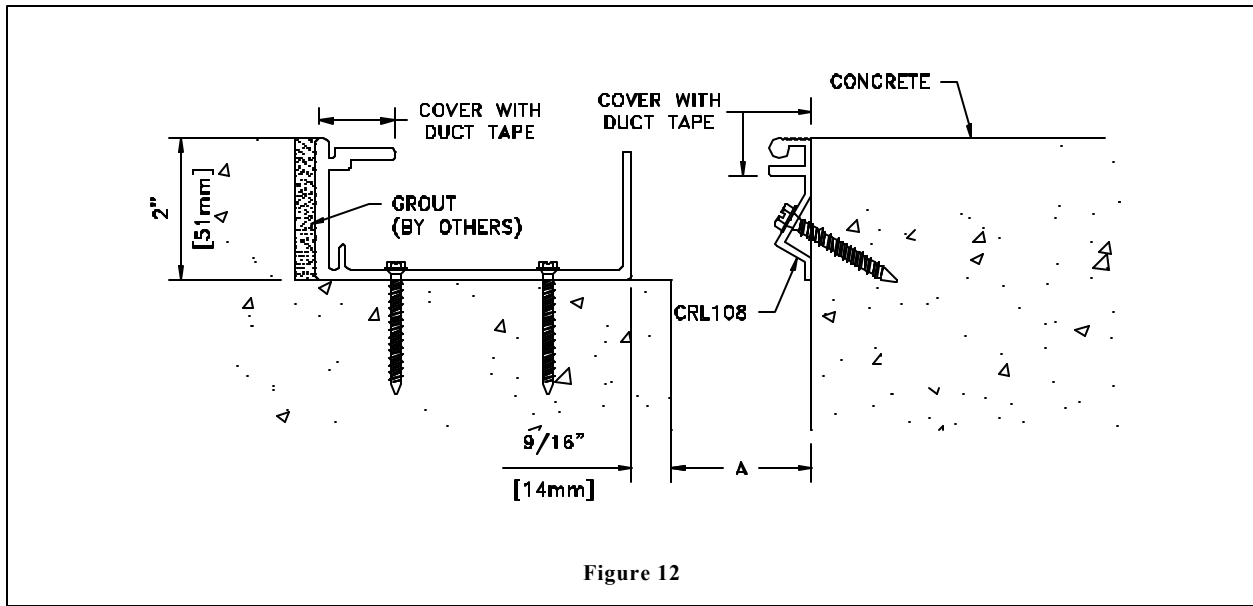




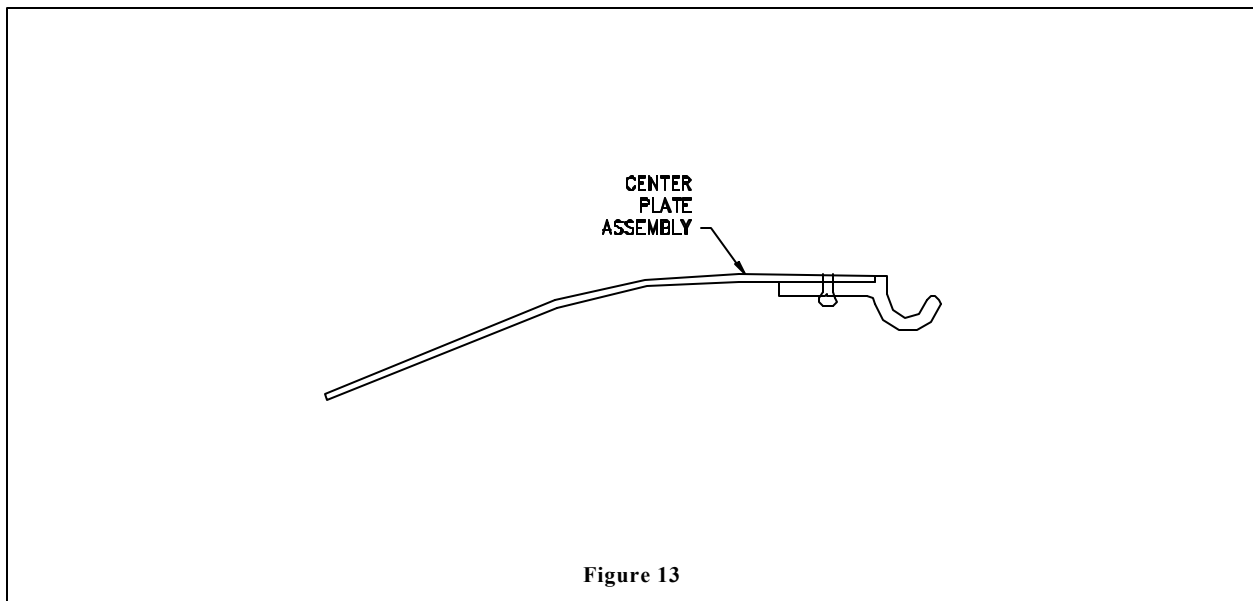
- STEP 18.** Place the Subchannel Assembly base member back into its installed position, and using the 3/16" anchors provided by the factory, attach the Subchannel Assembly base member to the concrete (see Figure 10). Ensure that the Subchannel Assembly base member is level and properly aligned. Ensure that the anchor holes in the Center Plate Support are properly aligned with the anchor holes in the concrete.
- STEP 19.** Cover the mounting bracket on the Subchannel Assembly base members and the channel in the Center Plate Supports with masking tape to protect them during grouting (see Figure 11).
- STEP 20.** Fill the blockout with non-shrink grout (not supplied by Balco, Inc.) (see Figure 12). The grout must be level with the top of the slab. Ensure that the mounting bracket of the Subchannel Assembly base members and the channel of the Center Plate Supports remain clean and clear of any grout. Balco, Inc. recommends using masking tape to protect the mounting bracket and the channel during grouting. Remove the masking tape from the Support and the base member after the grout has cured.







- STEP 21.** Remove all excess grout from the exposed surfaces of the expansion joint cover system before the grout sets up.
- STEP 22.** Select a section of the Center Plate Assembly, and remove the protective film tape from the Stainless Steel plate (see Figure 13).
- STEP 23.** Place the Center Plate Assembly into its installed position so that its hook aligns with the channel in the Center Plate Support (see Figure 14), and rotate the Center Plate downward so that it hooks into the Support and rests on the Subchannel Assembly Base Member.
- STEP 24.** Install the carpet onto the Center Plate Assemblies (see Figure 15).
- STEP 25.** Select the section of the Subchannel Assembly Cover Member that is the designated mate to the Subchannel Assembly Base Member to which it is to be attached, and place the Cover Member into its installed position over the Base Member and the sliding end of the Cover Plate Assembly. Ensure that the Cover Member is level and properly aligned.



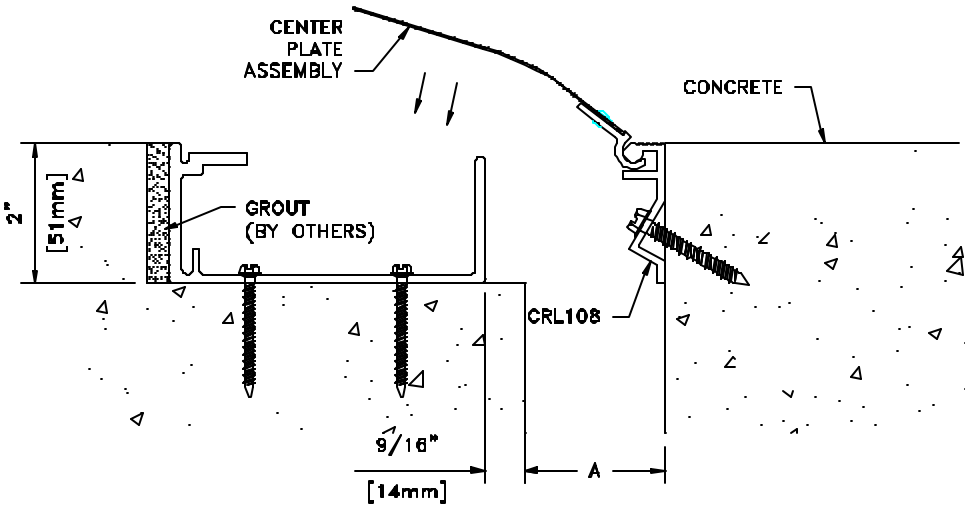


Figure 14

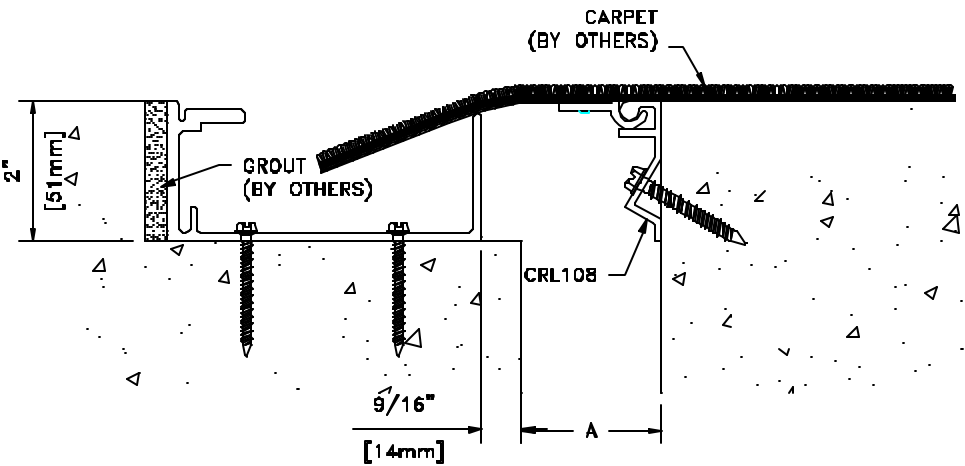


Figure 15

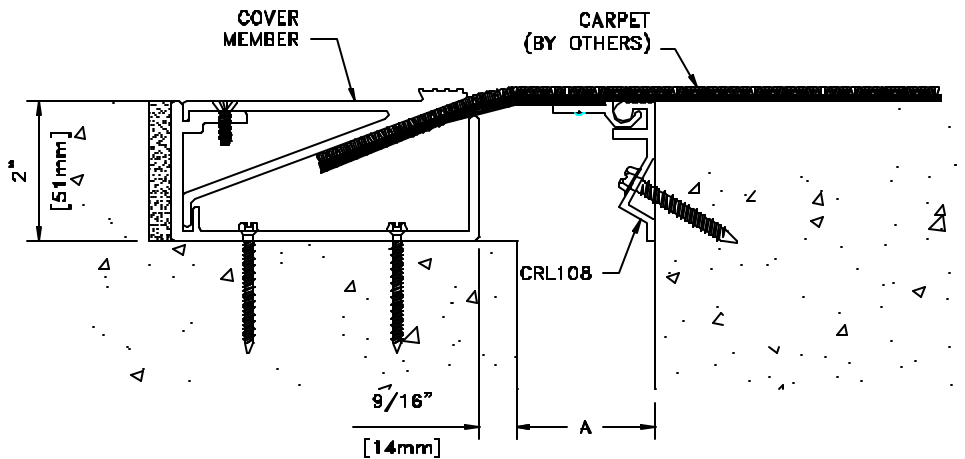
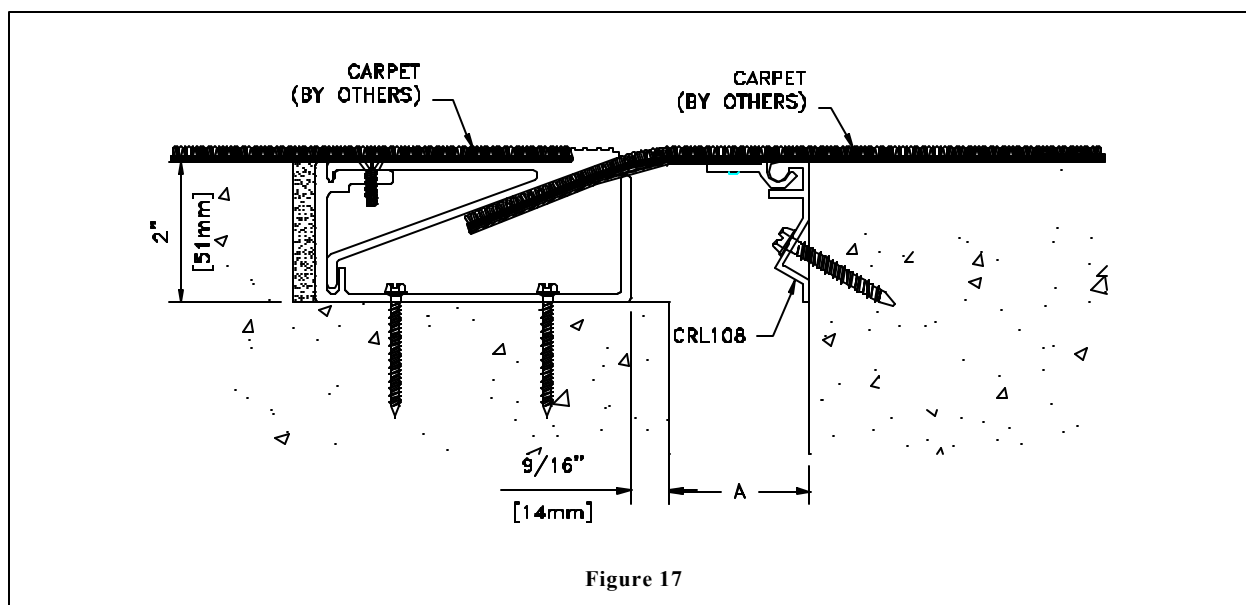


Figure 16



**STEP 26.** Using the fasteners provided by the factory, attach the Cover Member to the Base Member (see Figure 16).

**STEP 27.** Install the floor covering onto the Cover Members (see Figure 17).

## **WARRANTY POLICY**

Balco, Inc. warrants to its purchasers that all products sold by it will be free from manufacturing and material defects. Any defective product will be replaced or repaired free of any charge, provided a claim is brought to our attention, in writing, within the established warranty period following the date of shipment by us and provided our examination shows the product has failed under the terms of this warranty. The established warranty period for exterior joint cover systems (Duraflex™) is five (5) years provided the systems are installed by a Balco Certified Installer. The established warranty period for grids and mats is two (2) years. The established warranty period for all other Balco, Inc. products is one (1) year. Balco, Inc. will not be responsible for installation costs involved in such repair or replacement. Balco, Inc. shall have no obligation under this warranty if owner subjects materials to improper conditions (refer to Balco's installation instructions) This is in lieu of all other warranties, expressed or implied, and is the sole warranty extended by Balco, Inc. Our liability under this warranty is limited to repair or replacement and does not include any responsibility for consequential or other damage of any nature. It is further agreed and understood that the price stated for the seller's products is consideration for the limitation of seller's liability hereunder.

### **REGISTERED TRADEMARKS:**

"VINYLINES" "SAF-T-GLO"  
"METAFLEX" "SAF-TEN BEVEL"  
"SENTRY" "DURAFLEX"  
"ILLUMI-TREAD"

### **BALCO, INC. PATENT NUMBERS:**

5,357,727; 5,782,044; 5,829,216;  
5,832,678; 6,014,848; 6,115,980;  
6,581,347; 6,942,419; 6,955,017;  
6,962,026; 7,104,717; 7,856,781  
SAF-T-GLO patent pending