

## **Pinball Wizard Break Away Rail Kit**

### **Kit Contents**

84-860767-000 (1 Package per lane pair)

2 ea.	84-200808-000	Rail Break Away Bracket
8 ea.	11-054813-009	M5 x 16 mm Button Head Cap Screw

84-860768-000 (1 Package per center)

1 ea.	84-200831-000	Bumper Rail Template
1 ea.	84-200856-000	Template Alignment Pin
1 ea.	11-700121-000	Hacksaw Handle
1 ea.	11-700122-000	Hacksaw Blade

### **Tools (Not Supplied)**

Drill Motor

Screw Driver

3/8" (10 mm) Drill Bit

7/32" (6 mm) Drill Bit

3 mm Allen Wrench

File

E-Clip Installation Tool - Optional (Brunswick Part number 84-200472-000)

### **Installation**

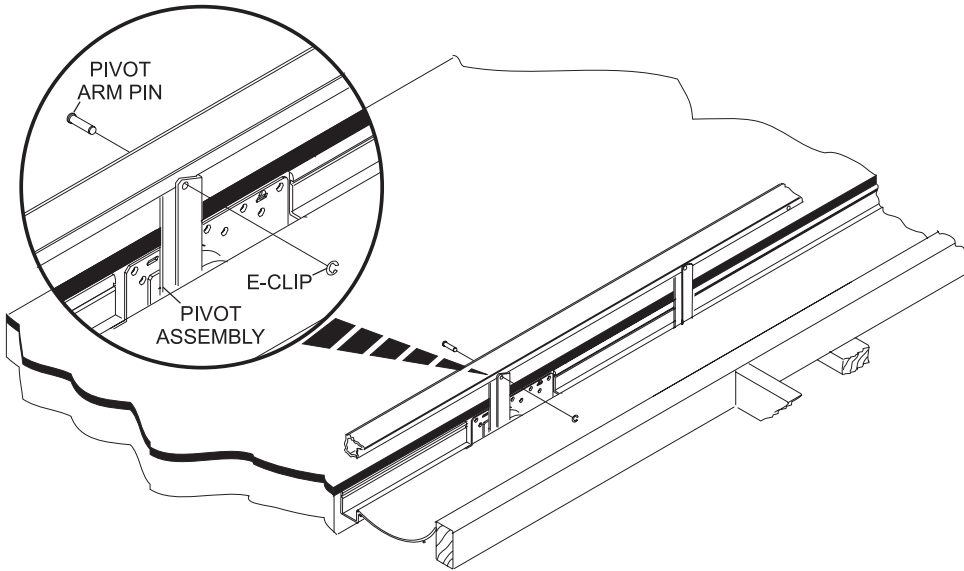
1. Raise the bumpers to their upright position.
2. Remove power from the Bumper Controller Assembly.



***WARNING! Power to Pinball Wizard Bumper Controller Assembly must be removed to prevent external control of the bumpers.***

3. Place blocks under both bumper rails to prevent the bumpers from lowering.

4. For both bumper rails, remove the E-clips and pins that connect the pivot assembly arms to the rails. Refer to *Figure 1*.

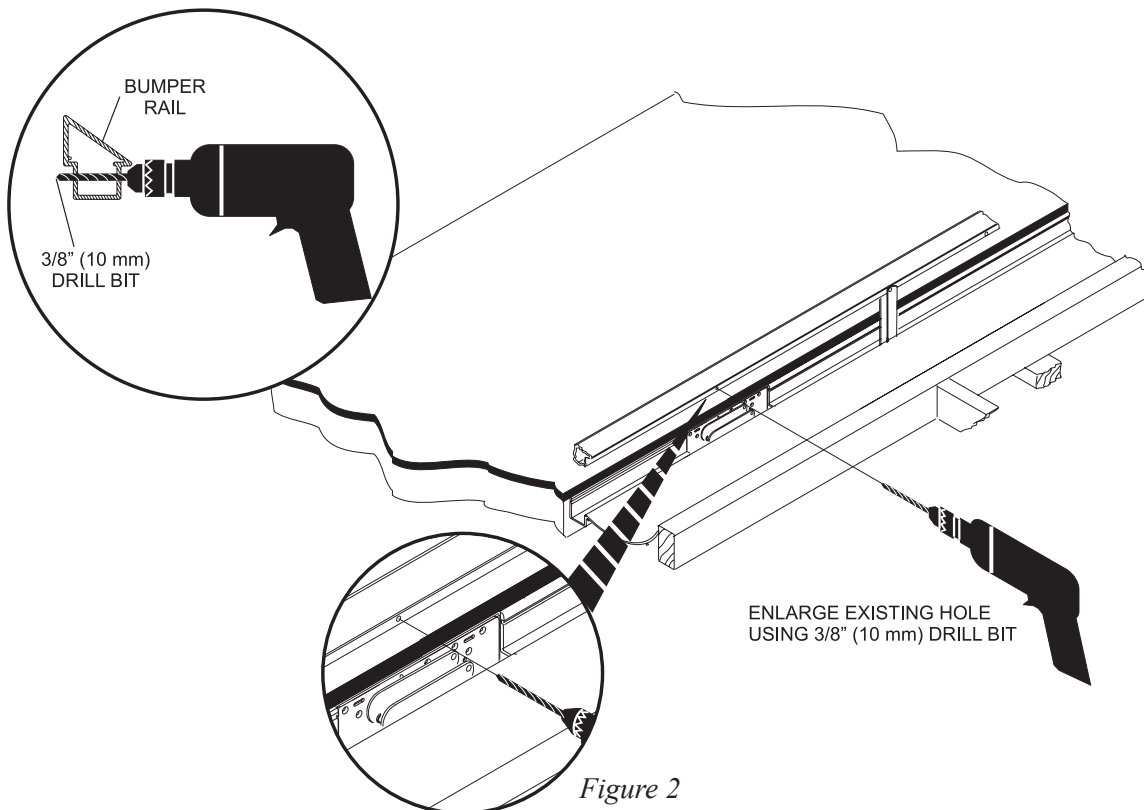


*Figure 1*

5. Carefully lower the pivot assembly arms to disengage them from the rail assemblies.
6. Re-install the pin and E-clip in the pivot assembly arms.

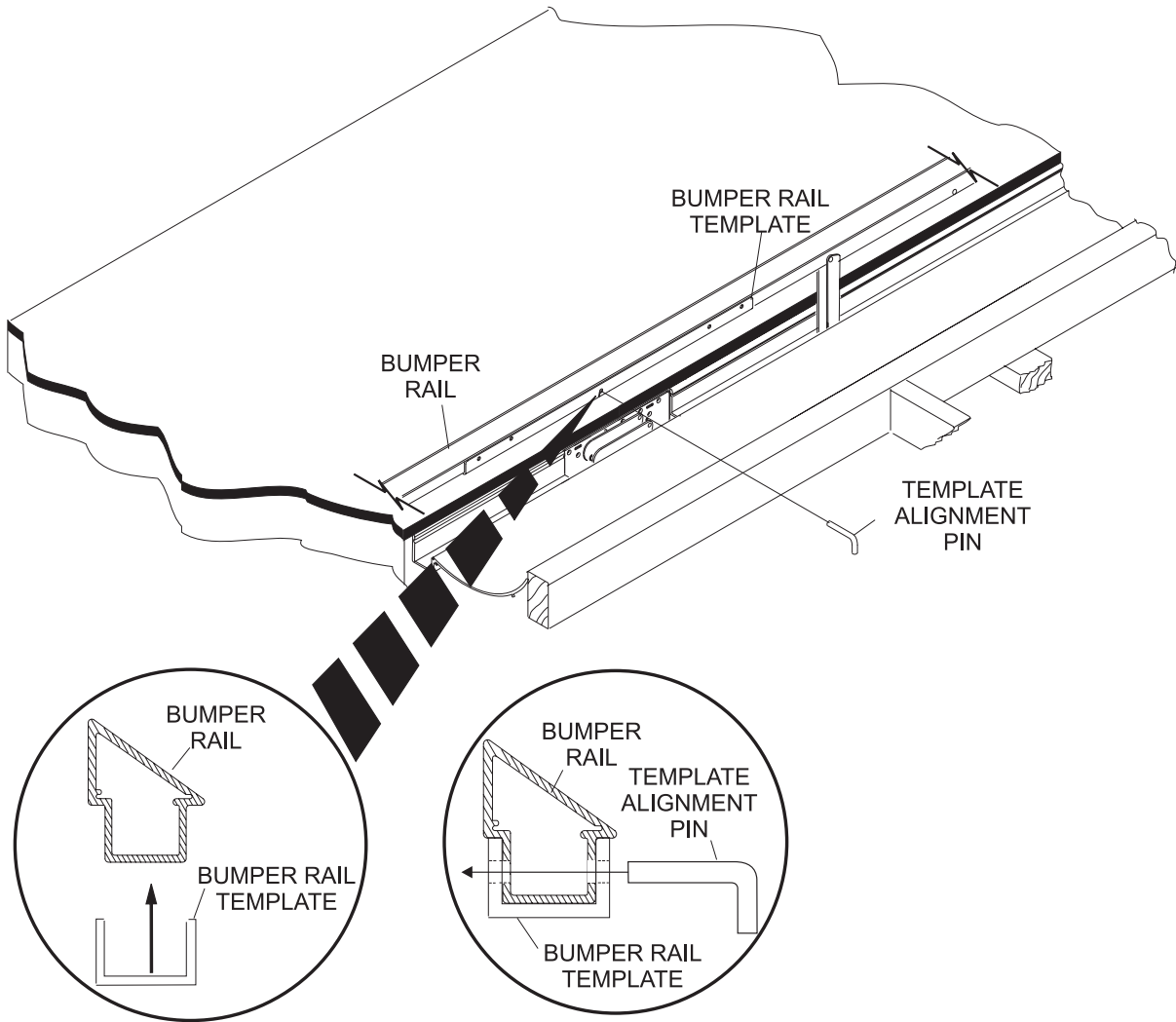
**i** **IMPORTANT:** Install the pin and E-clip with the E-clip on the side of the rail facing away from the lane. Ball damage may occur if the E-clips are installed on the inside of the rails .

7. Using a drill motor with a 3/8" (10 mm) bit, enlarge the holes in each rail where the pivot arm assembly was attached. Refer to *Figure 2*.



*Figure 2*

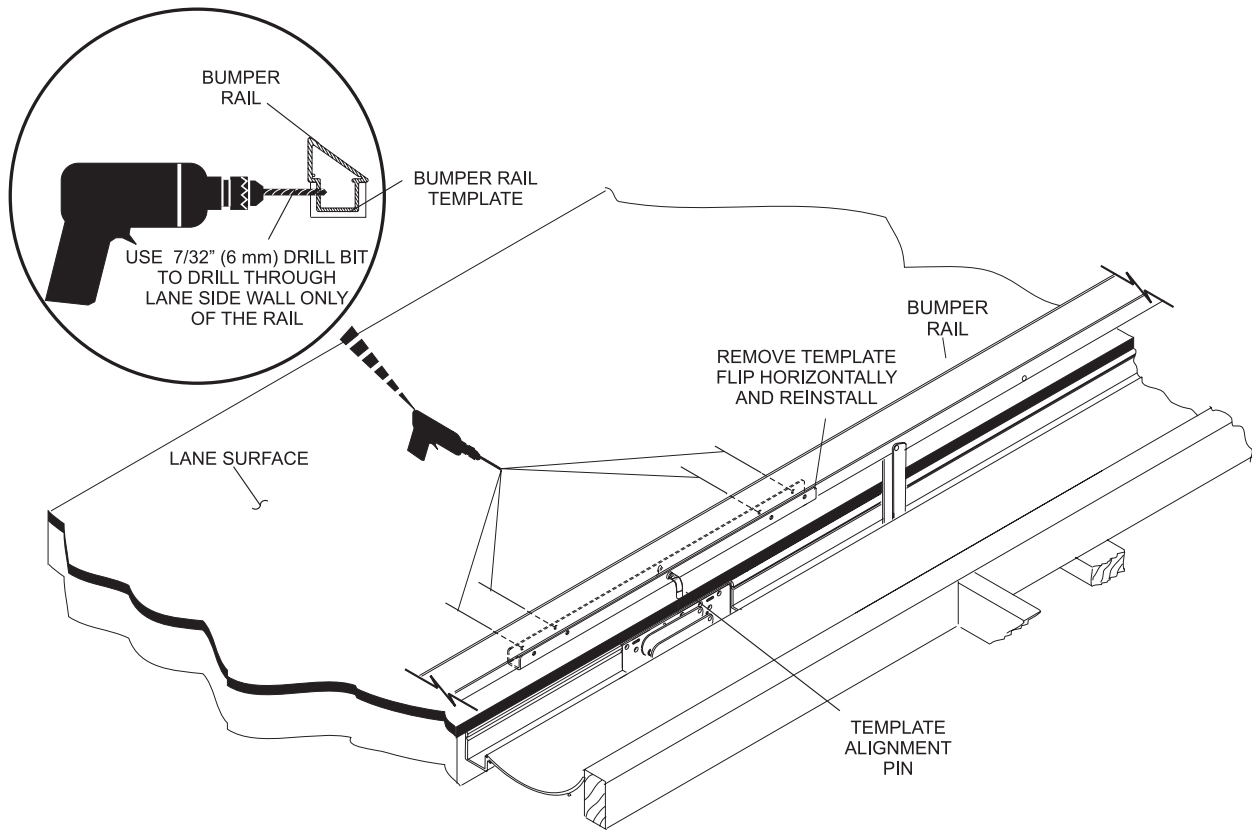
8. Place the supplied Bumper Rail Template (84-200831-000) on the bottom of the bumper rail and insert the Template Alignment Pin (84-200856-000) through the template and the enlarged rail hole. Refer to *Figure 3*.



*Figure 3*

9. Using the holes in bumper rail template, drill 4, 7/32" (6 mm) holes through the inside wall (lane side) of the bumper rail. Drill through the lane side wall of the bumper rail only. Refer to *Figure 4*.

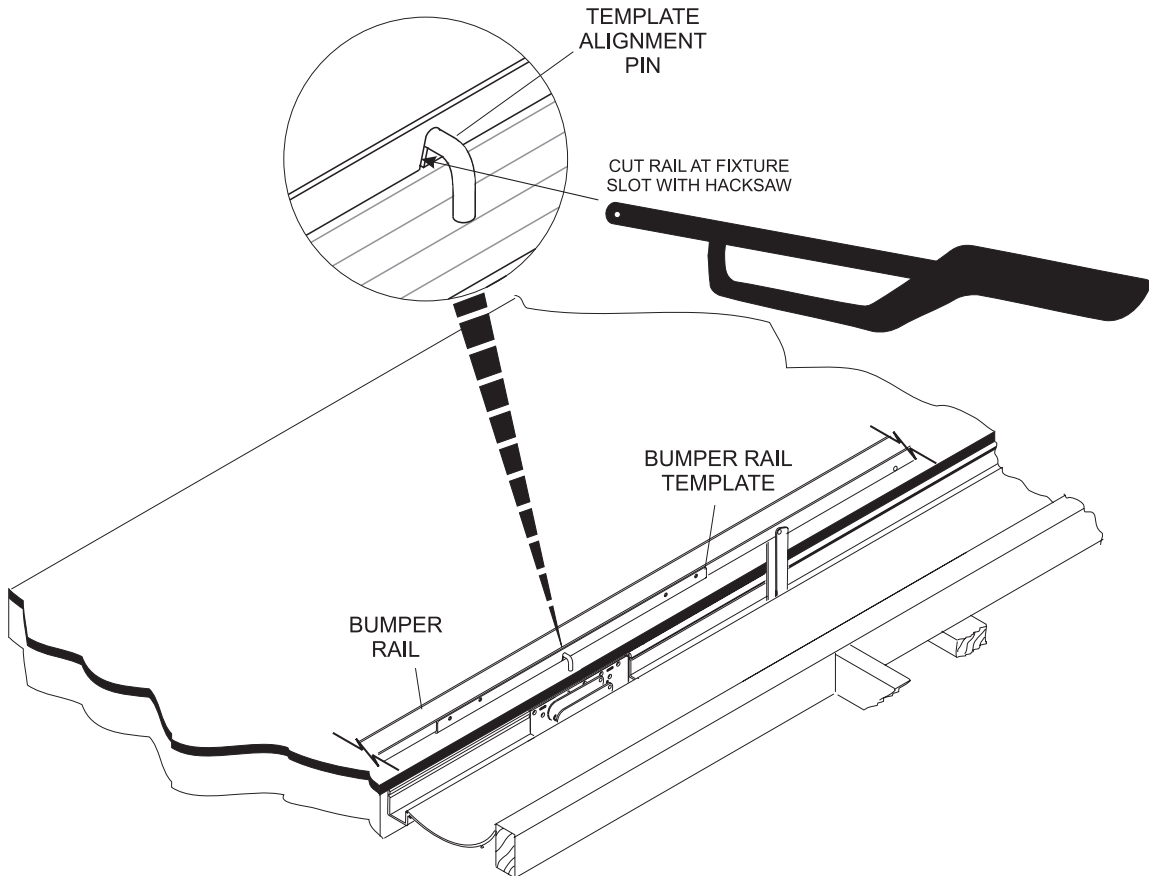
**i** **IMPORTANT: DO NOT DRILL COMPLETELY THROUGH THE BUMPER RAIL.**



*Figure 4*

- Using the supplied Hacksaw (11-700121-000) and the angled slot in the bumper rail template as a guide, make the first of two cuts in the bottom of the bumper rail. Refer to *Figure 5*.

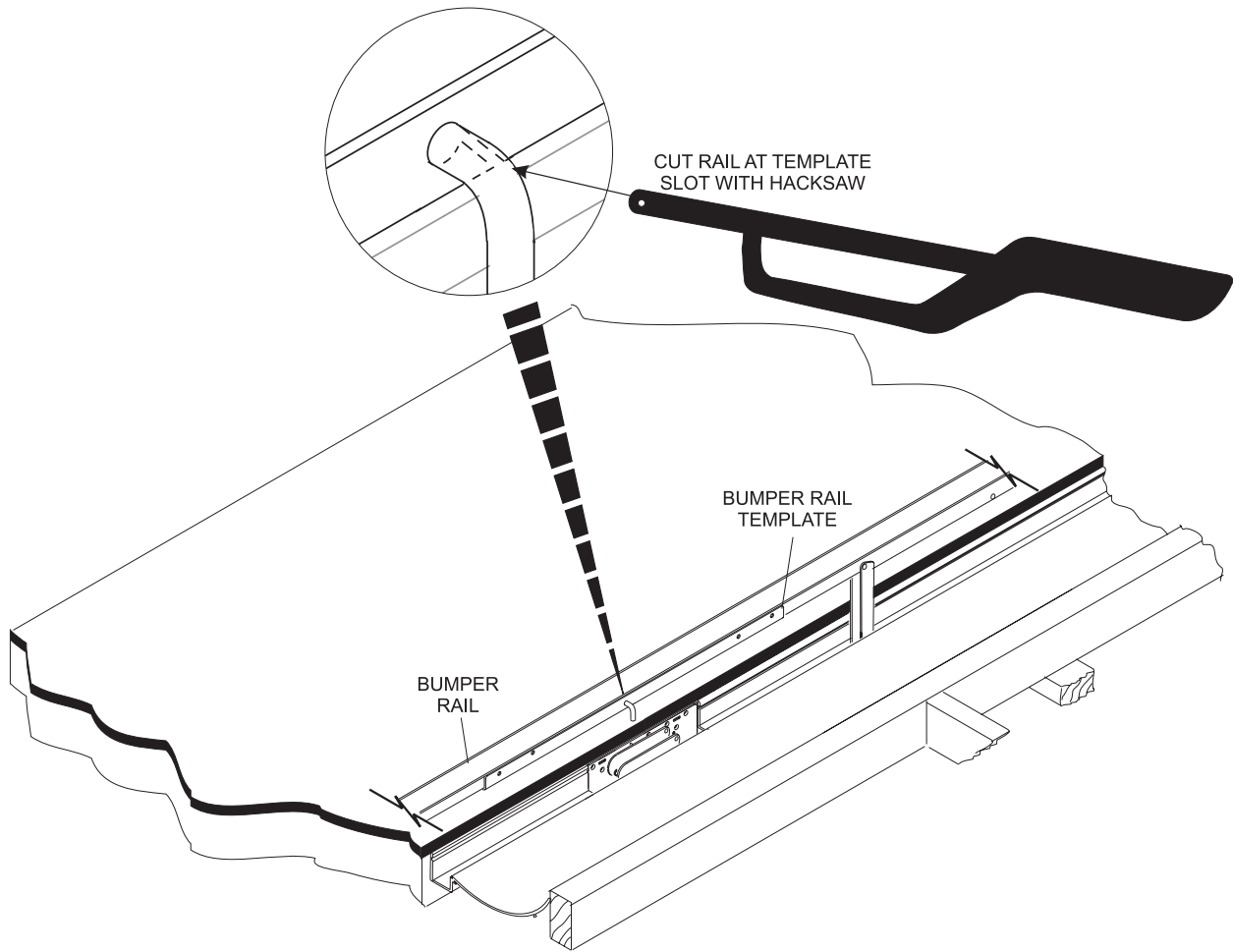
**i** **NOTE:** Do not use a power saw to make this cut. Cutting by hand using the supplied saw will yield higher quality cuts.



*Figure 5*

- Remove the template alignment pin and bumper rail template from the bumper rail, rotate the template 180 degrees horizontally, and reinstall them back onto the bumper rail.

12. Using the supplied hacksaw (11-700121-000) and the angled slot in the bumper rail template as a guide, make a second cut in the bottom of the bumper rail to complete the cutout. The template and pin should fall from the rail once the cut is complete. Refer to *Figure 6*.

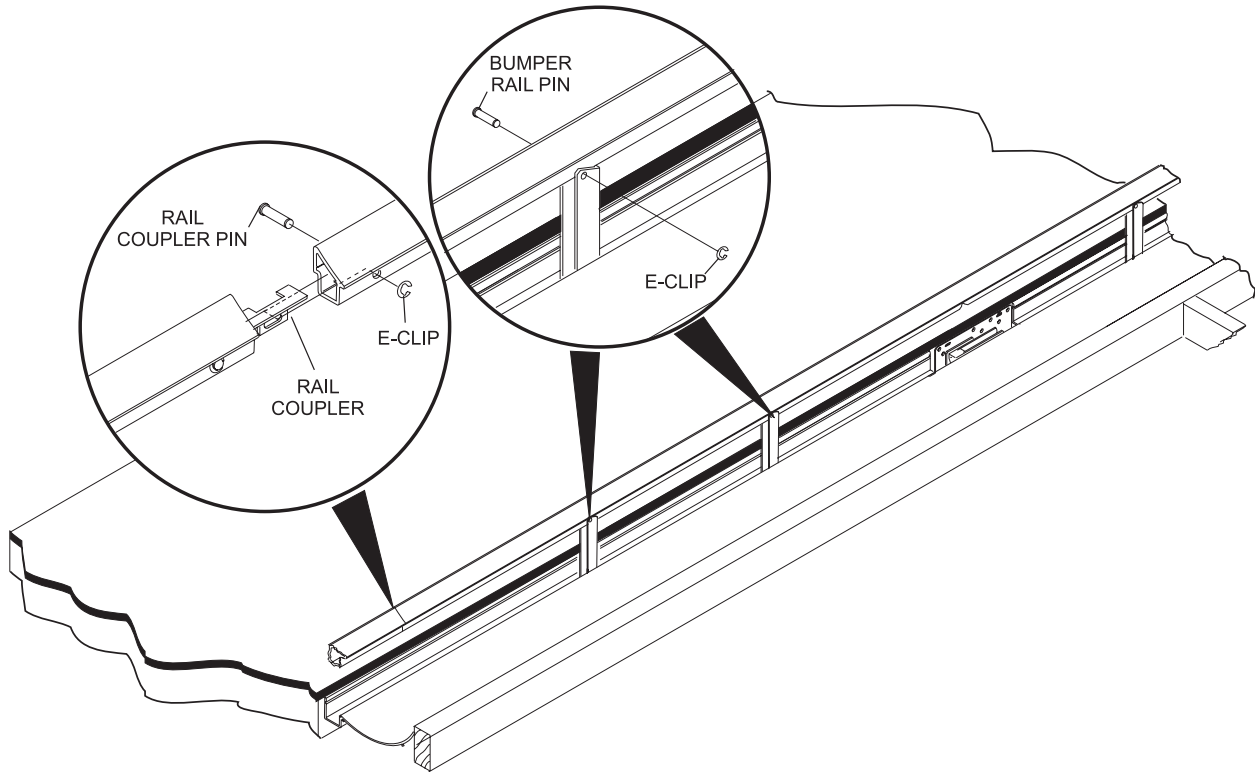


*Figure 6*

**i** **NOTE:** Use a file as needed to smooth any rough edges in the cutout.

13. Remove the top bumper rail pin and E-clip from any upright located between the pivot arm assembly and the closest rail joint. Also remove the rail coupler pin and E-clip for the bumper rail. Refer to *Figure 7*.

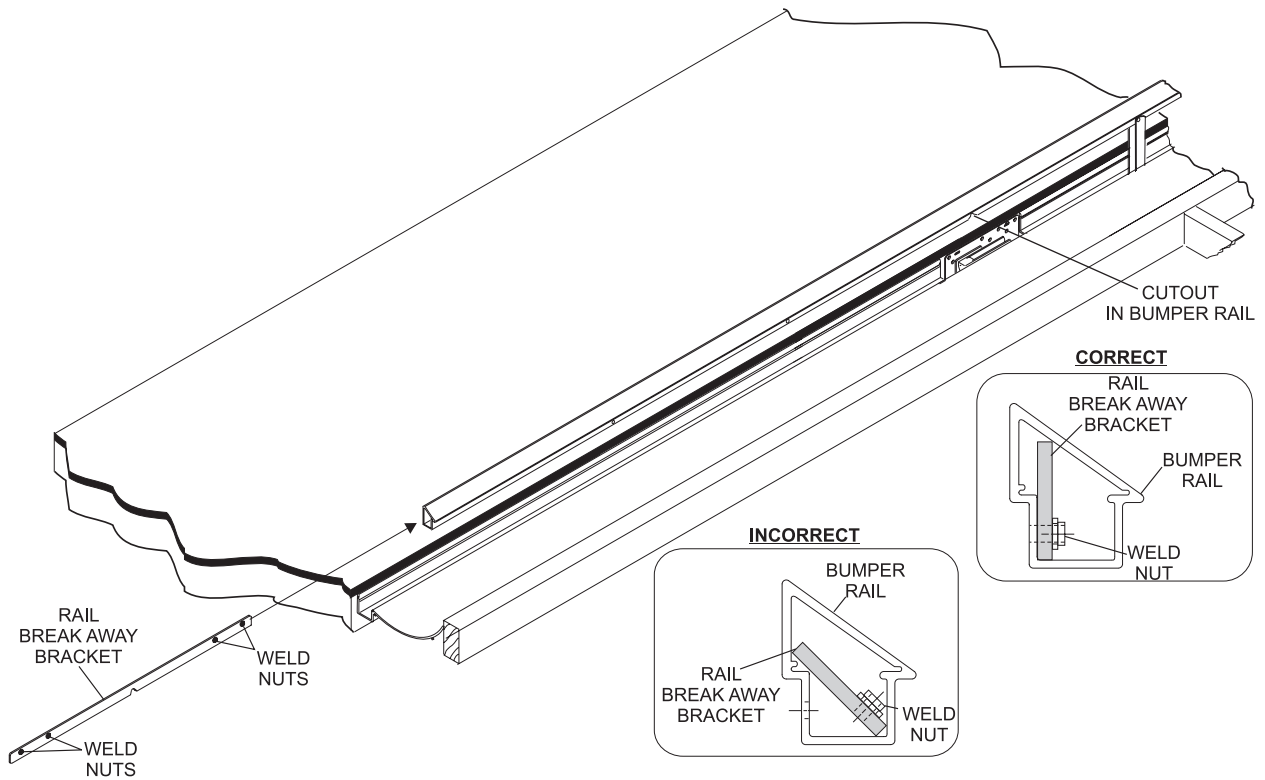
**i** **NOTE:** *The closest bumper rail joint will typically be towards the pinsetter.*



*Figure 7*

14. Separate the bumper rails at the joint. Refer to *Figure 7*.

15. Insert the Rail Break Away Bracket (84-200808-000) into the opening at the end of the bumper rail. Make sure the welded nuts are facing towards the inside of the rail and the notch in the bracket is facing downward. Refer to *Figure 8*.

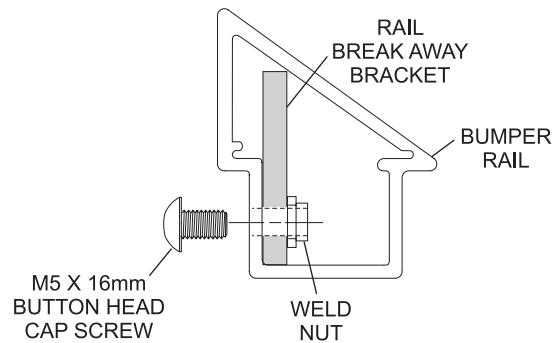


*Figure 8*

16. Slide the Rail Break Away Bracket (84-200808-000) down the bumper rail until the notch in the bracket aligns with cutout of the bumper rail.

**i** **NOTE:** Use of a push stick is helpful to quickly push the bracket into the desired position.

17. Position the Rail Break Away Bracket (84-200808-000) so that it is flush against the inside wall of the bumper rail and the 4 welded nuts on the bracket are aligned with the drilled holes of the bumper rail. Secure the bracket to the bumper rail using the supplied M5 x 16 mm Button Head Cap Screws (11-054813-009). Refer to *Figure 9*.



*Figure 9*

18. Reassemble the separated bumper rails at the rail joint and install the rail coupler pin and E-clip to secure the rails. Reattach the upright(s) disconnected in step 14 to the bumper rail using the rail pin and E-clip.

**i** **IMPORTANT:** *Install the pin and E-clip with the E-clip on the side of the rail facing away from the lane. Ball damage may occur if the E-clips are installed on the inside of the rails*

19. Repeat steps 8 through 18 for the other bumper rail on the lane.
20. Remove the blocks from under the rails and lower the bumpers to their down position. The pivot assembly arms will automatically engage the Rail Break Away Brackets.
21. Reapply power to the Bumper Controller assembly.
22. Operate the bumpers to verify proper operation.
23. Verify each rail disengages properly from the pivot assembly by placing an obstruction under the rail to prevent it from lowering.