

SINGLE SECTION CAR GATE INSTALLATION GUIDE



THE PEELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES TECHNICAL SUPPORT 1-800-787-5020 ext 275

Guide No. 243-ENSINGLE SECTION CAR GATE INSTALLATION GUIDE

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1. BEFORE STARTING INSTALLATION

- 1) You will require a moving platform
- 2) This is a two person job
- 3) Safety Equipment
 - ➤ Personal Protective Equipment
 - ➤ Workplace Barricades
 - ➤ Fall Protection
- 4) Hoist or Crane
 - ➤ Mounted at top of hoistway
 - ➤ Centered in the doorways
- 5) Tools required
 - ➤ Wrench and Socket set (10mm to 22mm) & (3/8" to 7/8")
 - ➤ Drill Bits, 5/16" & 3/8"
 - ➤ Chain pin extractor (Peelle Part No. 0608)
 - > Open and closed ended wrenches
 - ➤ Measuring Tape
 - ➤ Angle Grinder
 - > Screwdriver Set
 - ➤ Impact Gun with 9/16" socket
- 6) Hardware kits included
 - ➤ Peelle Part No. 060133 Standard gate hardware kit
 - ➤ Peelle Part No. 02321 Counterweight Shoe Hardware

2. JOB NUMBER IDENTIFICATION

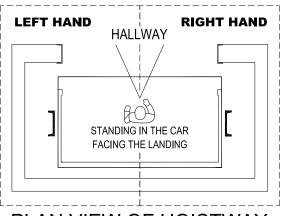
- ➤ Locate the peelle job number on the rails, gate panel and counterweight.
- ➤ Job numbers should match and include the line designation
- **Example:**

104844 GPA

104844 = Job Number GP = Gate Panel A = Front Line (C = Rear Line)

3. HANDING

➤ Instructions shown here are typical for a car gate with a Peelle right hand mounted interlock and retiring cam. For left hand installations opposite configuration will be used.



PLAN VIEW OF HOISTWAY



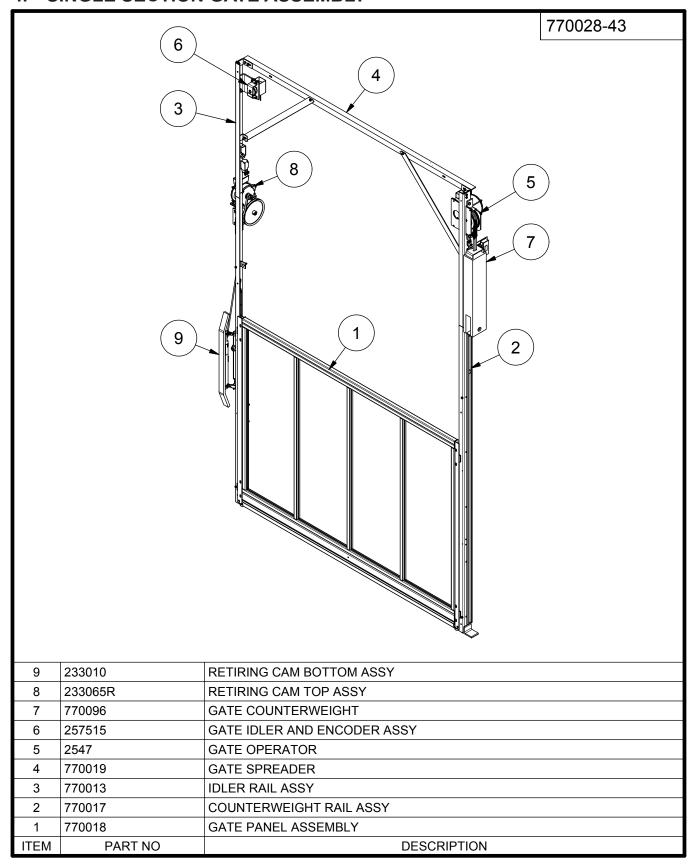
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4. SINGLE SECTION GATE ASSEMBLY





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5. CAR GATE & RETIRING CAM INSTALLATION NOTES

5.1. GENERAL

Install car gates after the landing doors are installed. Car gates are counterweighted with a counterweight traveling on the outside of the gate rails. Refer to the Car Gate Assembly Drawing for a component breakdown. Where the overhead space is limited, the gate is made in two sections.

Overhead/headroom height is the area of a hoistway shaft extending up from the sill of the highest landing to the nearest obstruction above in the hoistway shaft. A two-section (telescopic) car gate is used when over-head space will not allow a single section car gate. The two sections of the car gate are coupled, with the lower panel traveling twice as fast as the upper panel. This enables both sections to reach the open position simultaneously. In rare cases, a differential car gate is used when there is extremely limited vertical overhead height. The two gate sections are the same size. The special differential car gate power operator is designed to achieve simultaneous full open of the gate panels by providing differing speed ratios for each gate panel section (equal height panels).

CAR GATE TYPES (VERTICAL-SLIDE-UP TYPE):

- ➤ Single-section available overhead space.
- ➤ Two-section (Telco) limited overhead space.
- ➤ Two-section (differential) extremely limited overhead space (two sections exactly the same size).

PANEL CONSTRUCTION

- ➤ Wire Mesh
- > Solid Panel

If installing both a front car gate and a rear car gate, make sure they are installed at proper front or rear locations to allow the retiring cams to operate the door interlocks. Do not switch the front and rear gates. The hands (LH & RH) of a retiring cam, gate counterweight and all hardware are as viewed from inside the car looking out. The retiring cam is on one side (either right or left hand) of the gate and the counterweight is on the other side (the other hand).

5.2. CAR GATE RAILS & BRACES

Before installation of the rails, measure the distance from the front of the elevator platform to the car enclosure angles. If not enough space has been provided between the front of the platform and the car enclosure angles, it will be necessary to cut back the cab side walls and relocate the car enclosure angles. Be sure of your measurements before you do any cutting. The car enclosure angles are usually 50mm by 50mm by 5mm [2" x 2" x 3/16"] steel angles and should have holes to attach the gate rails.

Install the gate rails. Bolt them to the platform and to the car enclosure angles. Make sure the rails are plumb and square. Hold the correct distance-between-guides so the car gate will fit. Use "Distance Between Guides" (DBG) dimension located on the Gate Material List (GML).



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After installing both sets of car gate rails, attach the top spreader, brace angle and diagonal brace. The top of the car gate is held in place by two brace angles connected to the elevator cross-head. The distance between the car gate rails must be constantly maintained when the spreader and braces are installed. Bolt braces tightly after gate panel is installed and adjusted.

Check the overhead / headroom space for interference, then run the car up slowly on inspection to the top floor and check overhead / headroom for code clearance of gate rails and braces, and run by.

5.3. CAR GATE PANEL

To install the gate panel, remove the shoes on either side, move the gate into its guide tracks while sliding on the platform. Then reinstall the shoes.

When overhead space is limited and a two-section gate is to be installed, there will be two parallel guide tracks on each gate rail (LH and RH).

5.4. CAR GATE MOTORIZED SHEAVES OR MANUAL SPROCKETS AND IDLER SPROCKETS

Power gate operators have a combination sheave and motor while manual car gates have a double sprocket assembly that bolts into the pre-drilled rail location on the counterweight side. The single sprocket idler assembly is mounted inside the opposite rail.

5.5. CAR GATE COUNTERWEIGHT

The counterweight travels on the outside of the car gate rail. The counterweight requires two supporting chains. Carefully hoist the counterweight to the top of the car. Lower the counterweight into the guide track so that it rests on the temporary support angle near the top of the guide track.

If removed, attach the two counterweight guide shoes with hex-head thread-locker bolts provided. A whole through the rail is provided for bolting the shoe with a socket.

5.6. CAR GATE CHAINS AND CHAIN STUDS

Attach the two counterweight chain-studs 100mm [4"] long to the counterweight. Attach the chains to the chain-studs, short chain to the front stud and long chain to the rear stud. Wrap connecting links and connector clips at each end of the chain with the nylon tie-wraps provided. Wipe any excess oil off the chains.

Loop the short chain over the front of the double sprocket. Loop the long chain over the rear of the double sprocket and then over the idler sprocket. Remove extra links from end of chain and connect the longer chain studs 180mm / 7". long to the loose ends of the chains and then connect these chain studs into their hangers on the gate panel. Secure the master chain connecting links with nylon tie wraps. Each chain stud gets 2 nuts, a lock washer and a cotter pin. Make sure the nuts are almost touching the cotter pin near the bottom of the chain stud. This allows for the easy future chain stretch adjustment.

After attaching the chains to both the counterweight and gate panel, remove the temporary support angle. Manually lift the gate to full open. Have it touch the upper bumper stops. At this position,



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the bottom edge of the gate should be even with or slightly above the car enclosure ceiling. If the gate was not fully open due to the counterweight bottoming out, the chains are too long and must be adjusted at the study or some links must be removed to shorten the chains.

Finally adjust the chain studs with just slightly more tension (less slack) on the long chain to allow for greater long chain stretch. The gate must move smoothly in the guide rails during its entire travel. Adjust the shoes (inward-outward) only if the gate panel is not square in the guide rails or if there is no side-to-side play. With the gate raised 75mm [3"] off the platform, check to see if gate panel hangs level. Adjust the chains to level the gate panel.

The gate panel should balance the counterweight at half-travel position. With the gate at half-travel open, manually push it further open and from the same position push it closed. Weight differential can usually be detected by this method. Add or remove the counterweight flats to achieve balance of the counterweight and the gate panel.

The gate panel must be exactly balanced (at half-travel position) by the counterweight to prevent the gate drifting open when the elevator car is in motion or from drifting closed at an inappropriate time.

5.7. CAR GATE RUBBER BUMPERS

Bumpers are important to reduce noise and reduce gate wear and tear. The gate bottom bumpers can be adjusted by adding flat washers as spacers for proper positioning if the car platform is not level.

5.8. GATE CONTACT

When the car gate is in the closed position the electrical gate contact must also be "made". This is activated by a roller cam attached to the top of the gate counterweight. The counterweight has a small degree of horizontal play. Ensure the gate contact will remain "made" by moving the counterweight back and forth.

Check that the gate contact stops the elevator when the car gate/car door is lifted up 50mm [2"] from its closed position. If there are two car gates on an elevator, the gate contacts usually wired in series. See elevator controller prints.

5.9. RETIRING CAM

Freight door interlocks are designed to be operated by a retiring cam. The retiring cam is mounted on the car. There is a connecting rod between the cam face and the retiring cam motor.

The cam motor is mounted above the car top height. The cam face assembly is mounted on the side of the car, vertically near the door opening centerline. Both have pre-drilled holes in the Peelle car gate rail. Follow the installation drawings when you are installing the retiring cam. The retiring cam face should be mounted to the center of the interlock rollers horizontally and vertically when the car is at each floor. The interlock rollers must be adjusted so that when the cam is extended (by gravity), it unlocks the interlock. The cam must be set to fully unlock the interlock with over-travel.



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The cam face is weighted so that the cam will drop while in the "no power" condition and unlock the door. The doors can be manually opened if the car is at a landing and there is no power to the retiring cam. When the cam motor is energized, it lifts (retires) the cam face to allow the interlock to lock the door.

The cam large pulley should be operated by hand to make sure that it does not bind or hang-up. The V-belt deflection should be set at 13 mm / 1/2". Adjust the motor position to achieve 13 mm / 1/2" deflection.

The effective length of the connecting rod between the crank pulley and the cam face must be adjusted so that the rotation of the crank is limited. To adjust the cam rod length: manually hold the cam face fully up (retired); while held in this position, rotate the crank arm towards the center of the car; tighten the rod nuts with the crank held 90 degrees back (towards the center of the car) from the down direction. When powered the cam motor must then pick the cam rod toward the center of the car. If the direction of the lift is toward the front of the car, reverse the motor rotation by switching any two of the three motor power leads. The cam rod must pick toward the center of the car. The motor must pick up and stall when the cam is retired (picked up) under power. The cam face must drop easily when not under power.

Fixed cams are sometimes used instead of retiring cams with side-opposite-locks. Mechanical door locking must take place as the car travels away from the floor.

After installing the cam(s), run the car up slowly on inspection to check any retiring cam obstacles in the hoistway shaft.

5.10. PULL STRAPS

Pull strap(s) may be provided for each door and gate. Pull straps are mounted on the panel and hang down so that the operator may pull the doors/gates closed. Limiting the length of the straps ensures that they do not become a hazard during operation of the car.



DO NOT TIE KNOTS IN STRAPS OR CREATE LOOPS

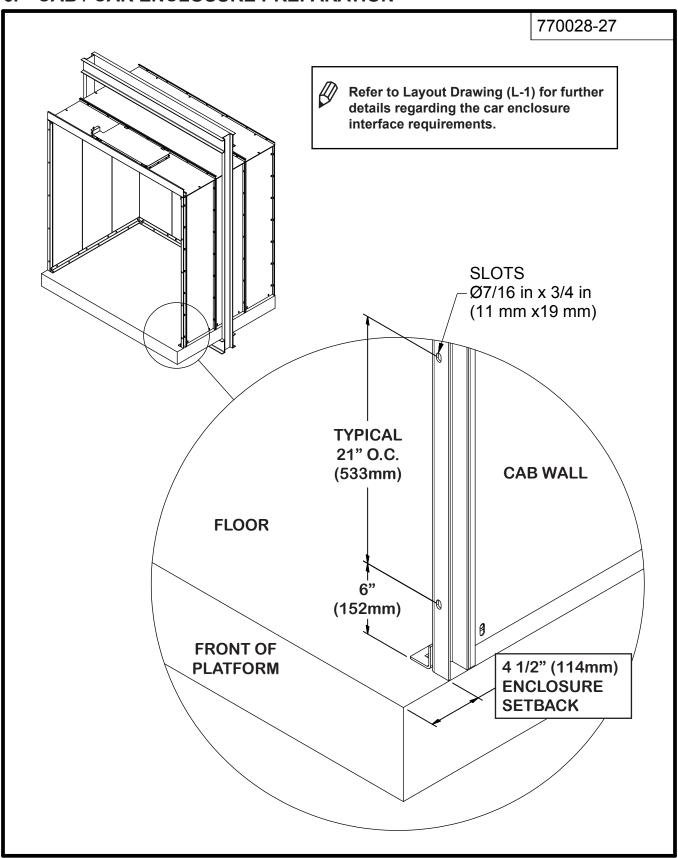
Straps are required for manually operated vertically sliding doors/gates to ensure they can be conveniently closed. Car gates require one pull strap and biparting doors require two straps.

If supplied on power operated doors/gates, the straps will be tucked away behind a clip, and still be accessible in case of a power failure. Where pull straps have been provided on car gates conforming to ASME A17.1/CSA B44, 2008 addenda, a pull strap contact is provided and should be wired in series with door stop button contact to the Peelle door controller.



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CAB / CAR ENCLOSURE PREPARATION

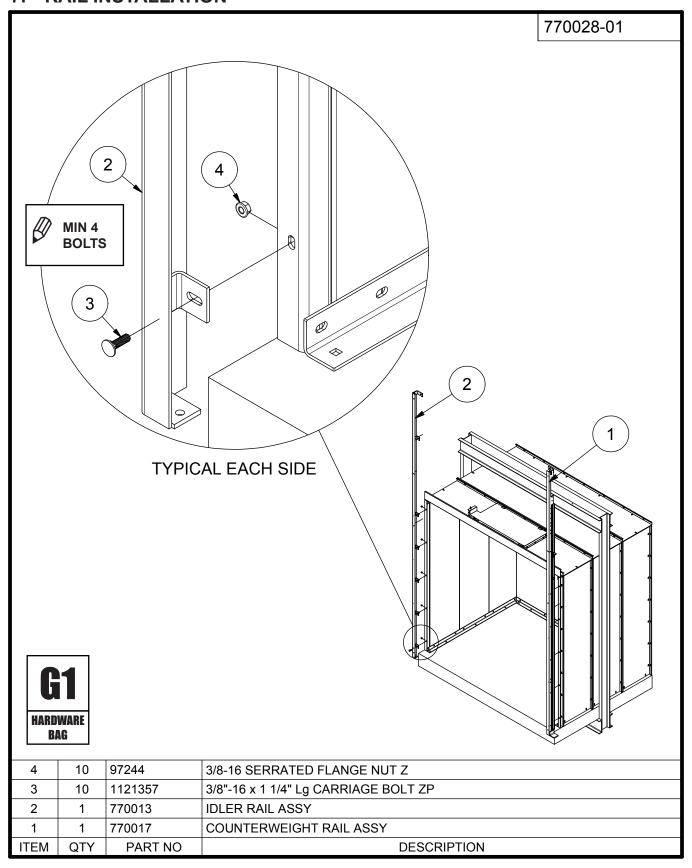




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7. RAIL INSTALLATION

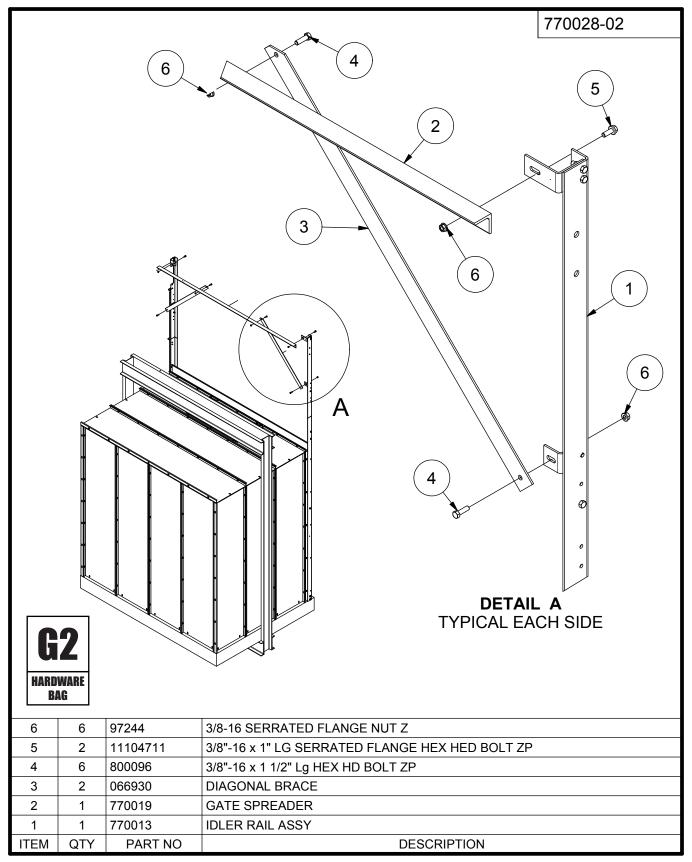




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8. RAIL SPREADER & DIAGONAL BRACE

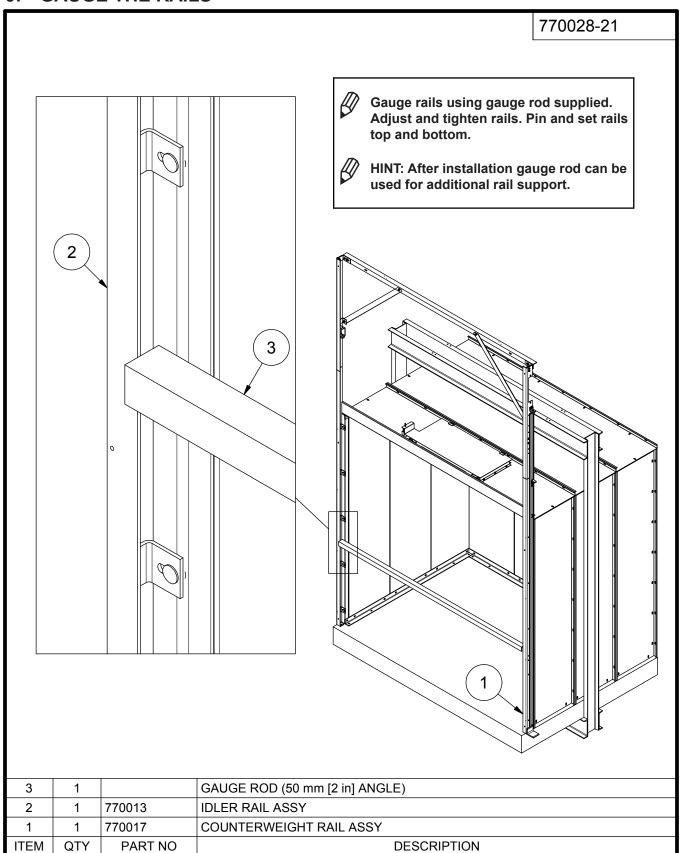




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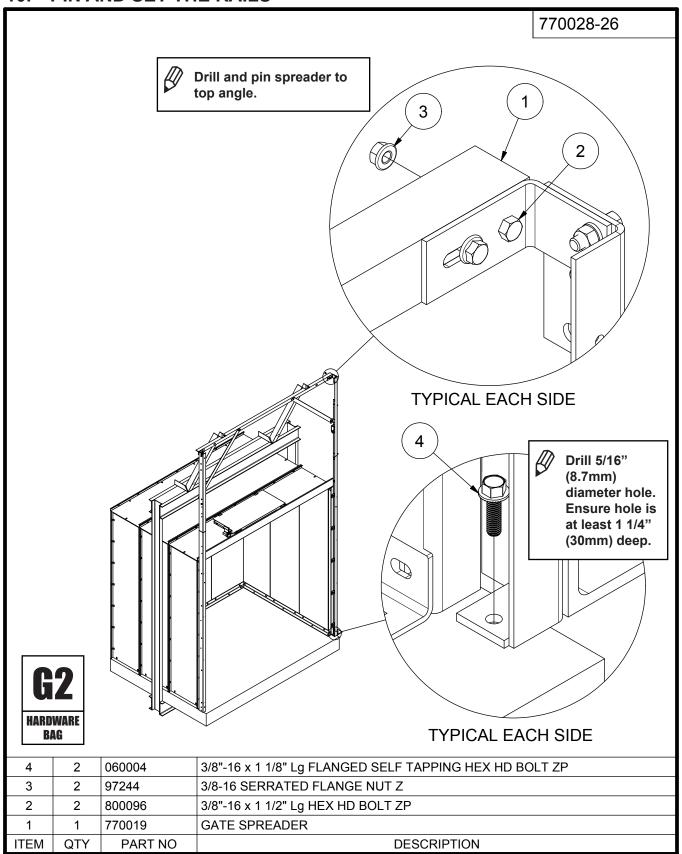
GAUGE THE RAILS





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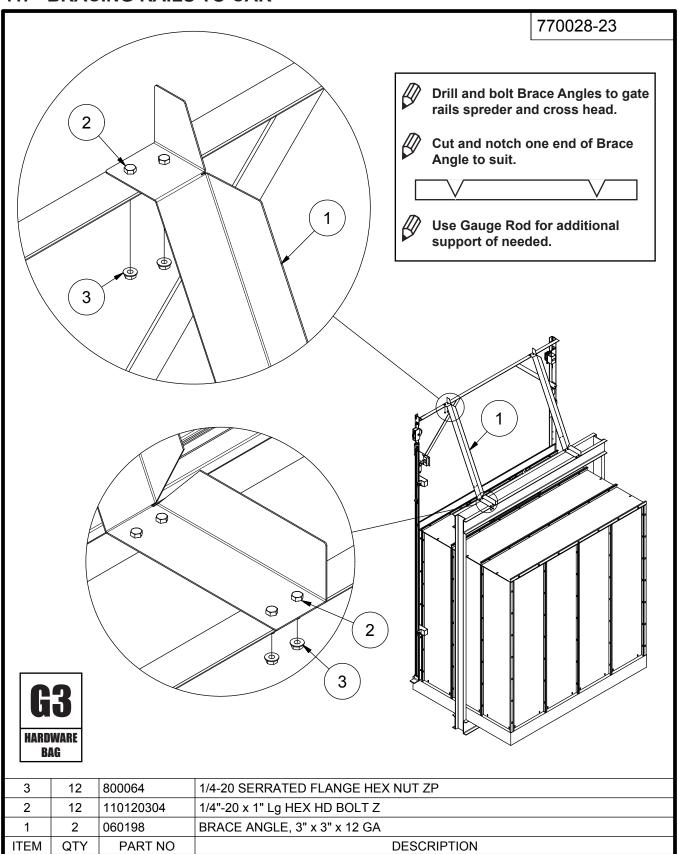
10. PIN AND SET THE RAILS





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11. **BRACING RAILS TO CAR**



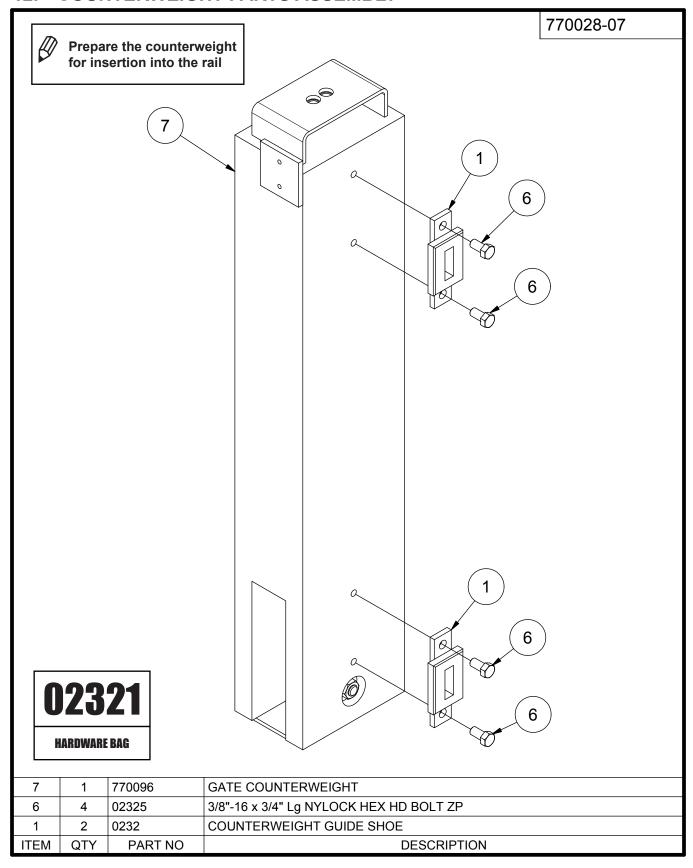


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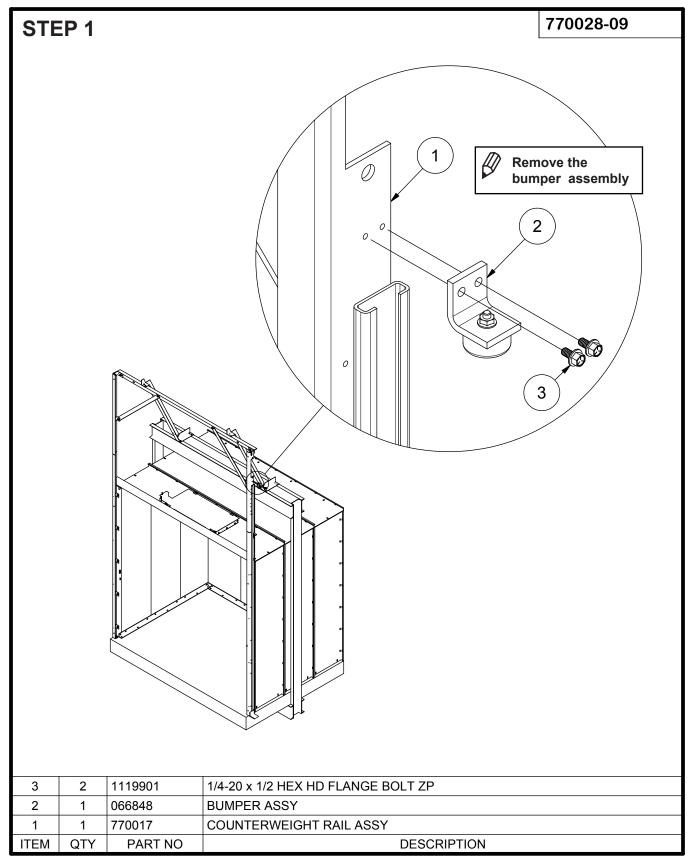
12. COUNTERWEIGHT PARTS ASSEMBLY





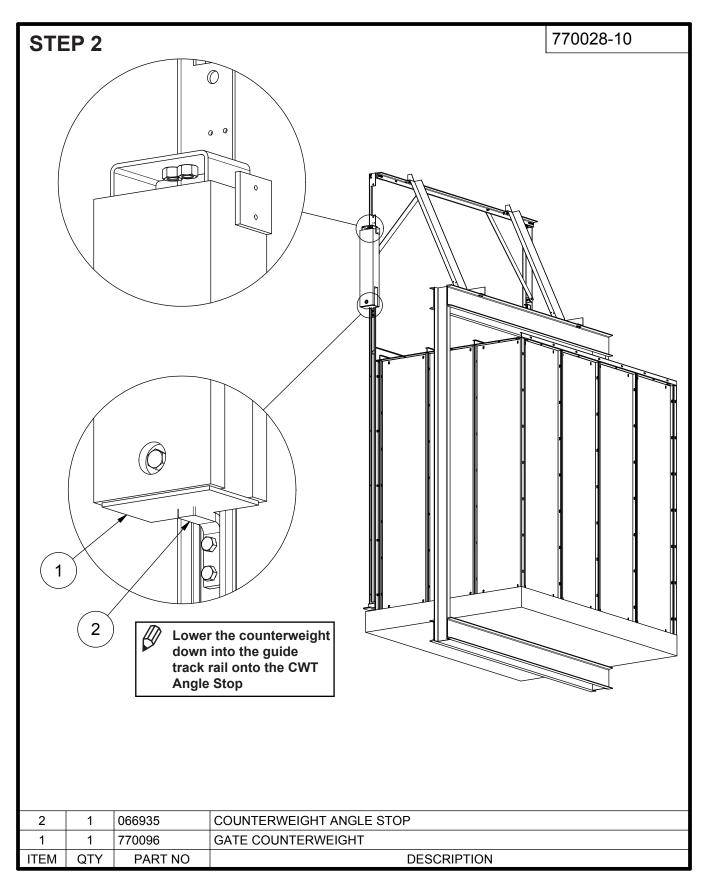
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13. COUNTERWEIGHT INSTALLATION





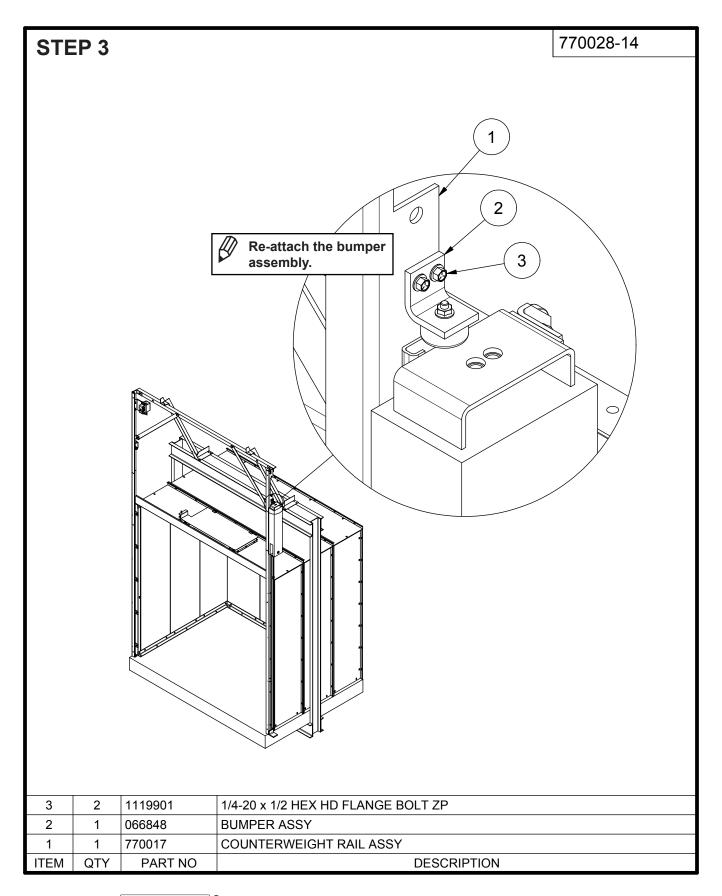
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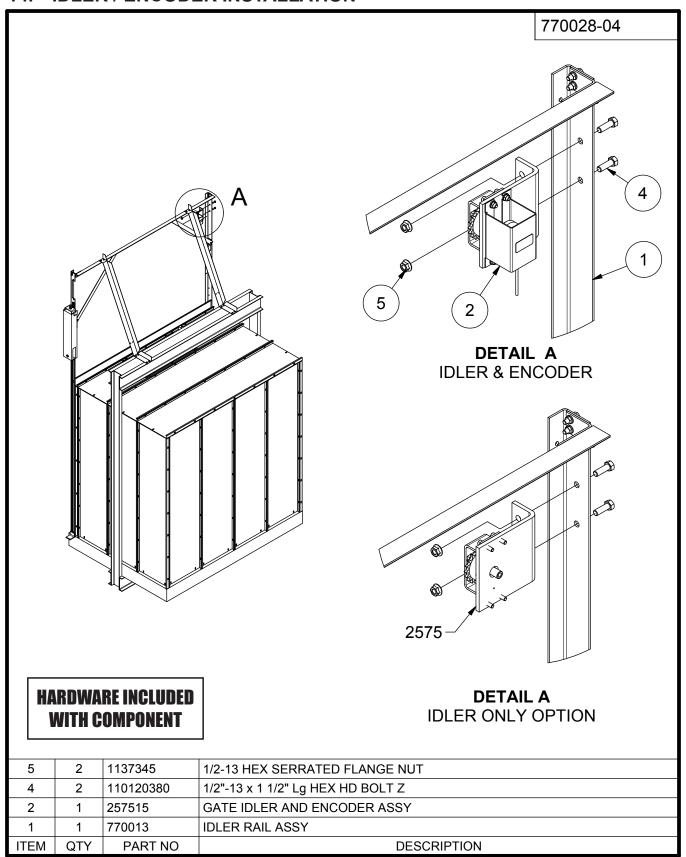




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14. IDLER / ENCODER INSTALLATION



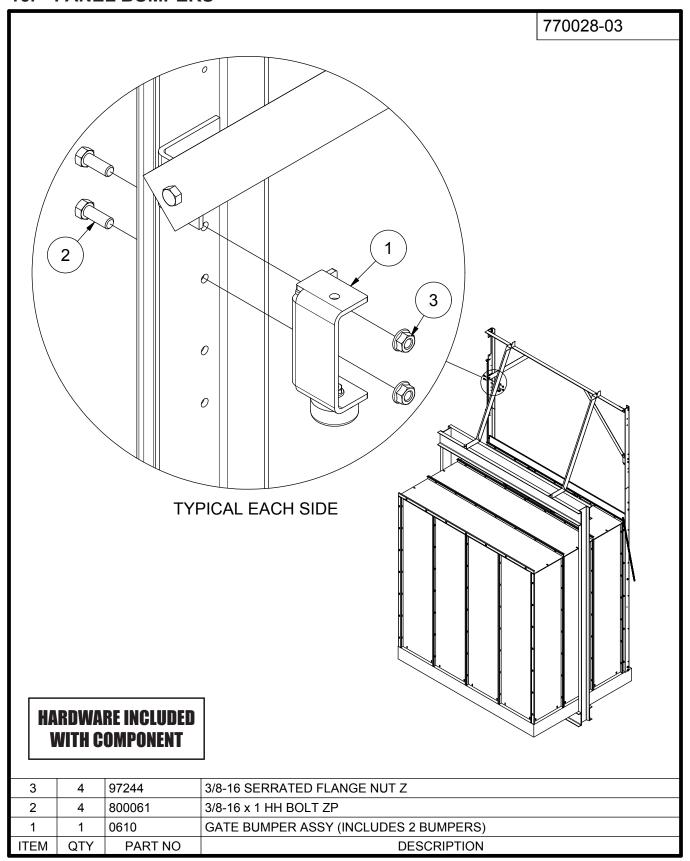


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15. PANEL BUMPERS



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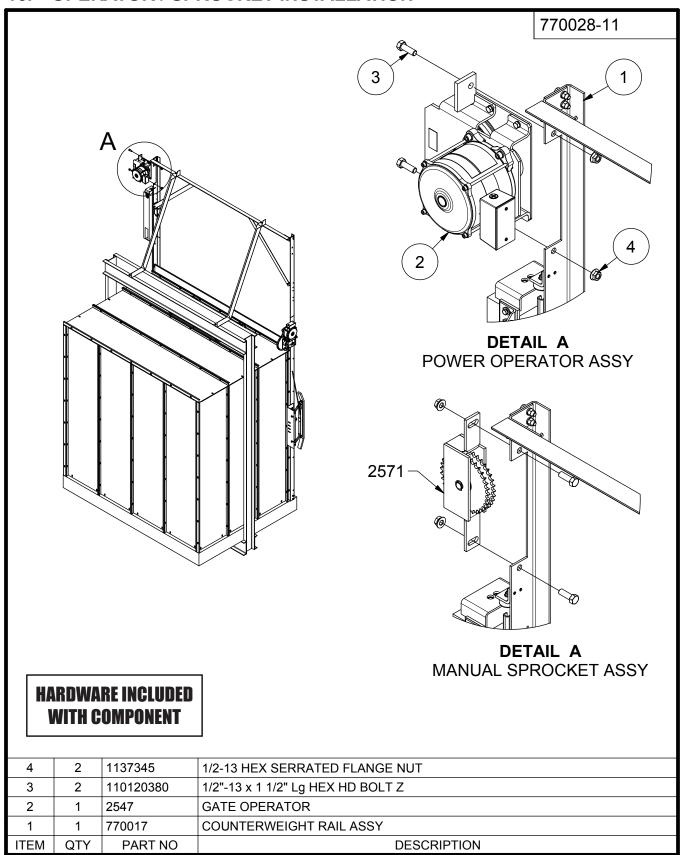


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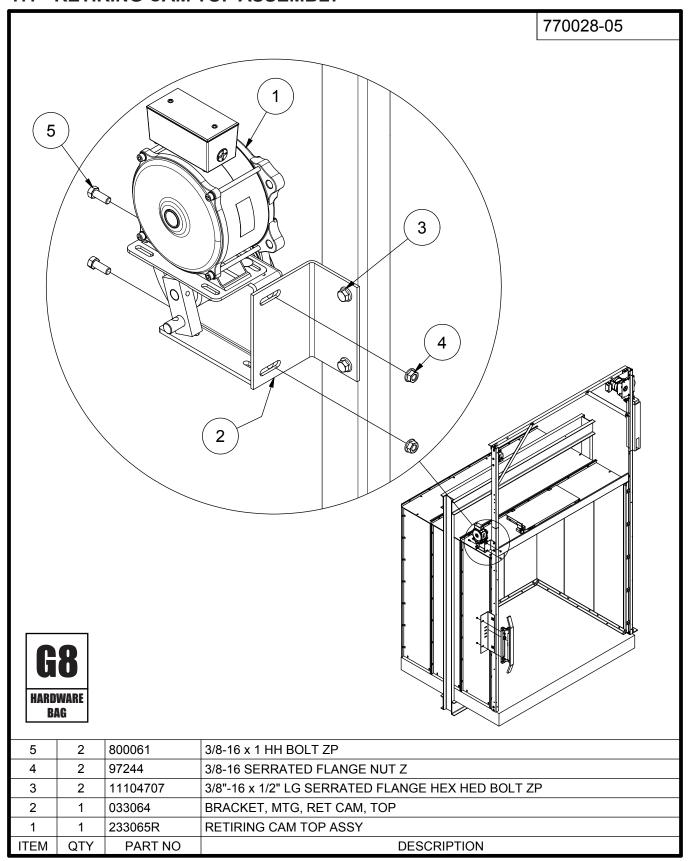
16. OPERATOR / SPROCKET INSTALLATION





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17. RETIRING CAM TOP ASSEMBLY



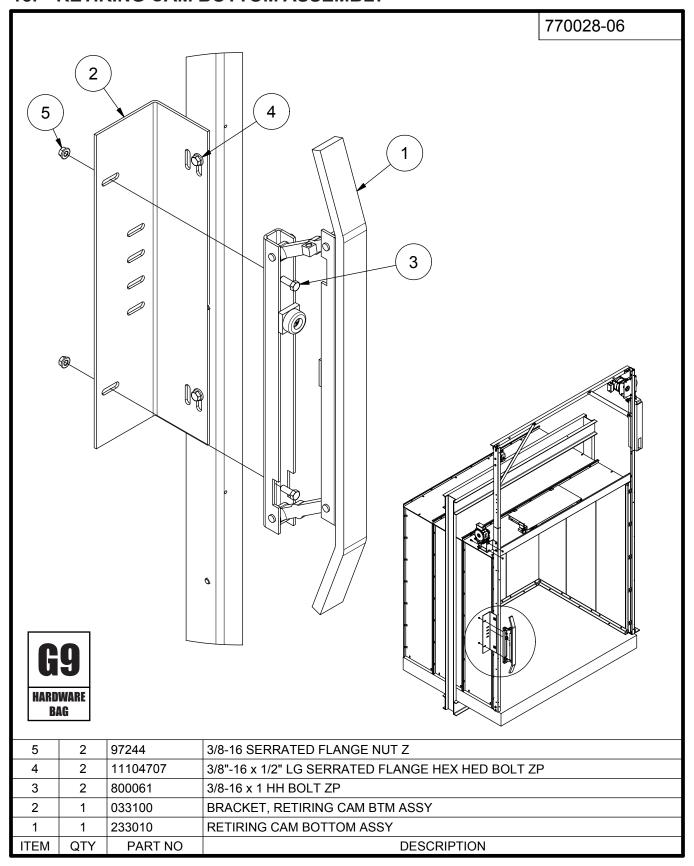


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18. RETIRING CAM BOTTOM ASSEMBLY



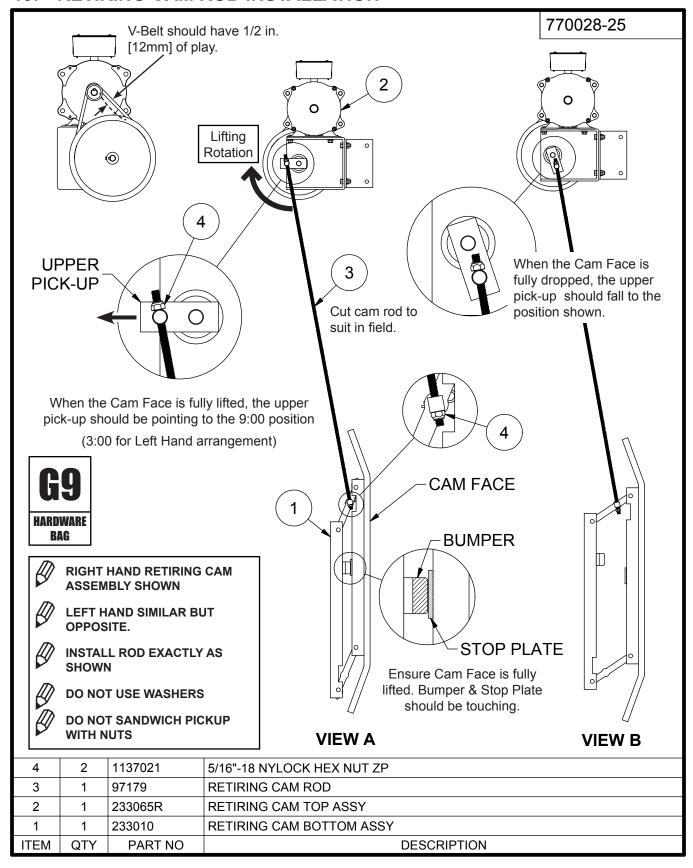


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19. RETIRING CAM ROD INSTALLATION



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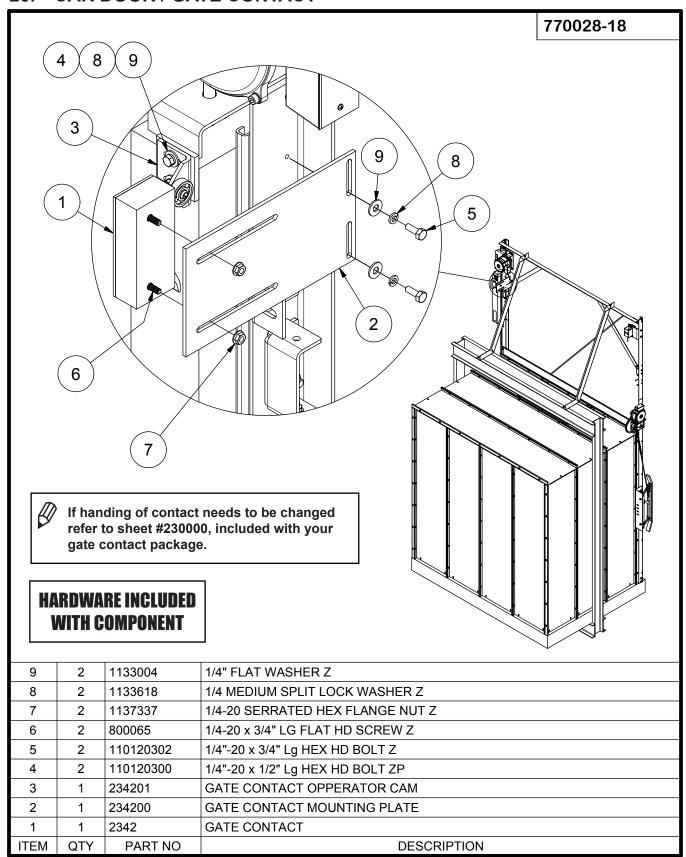


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20. CAR DOOR / GATE CONTACT



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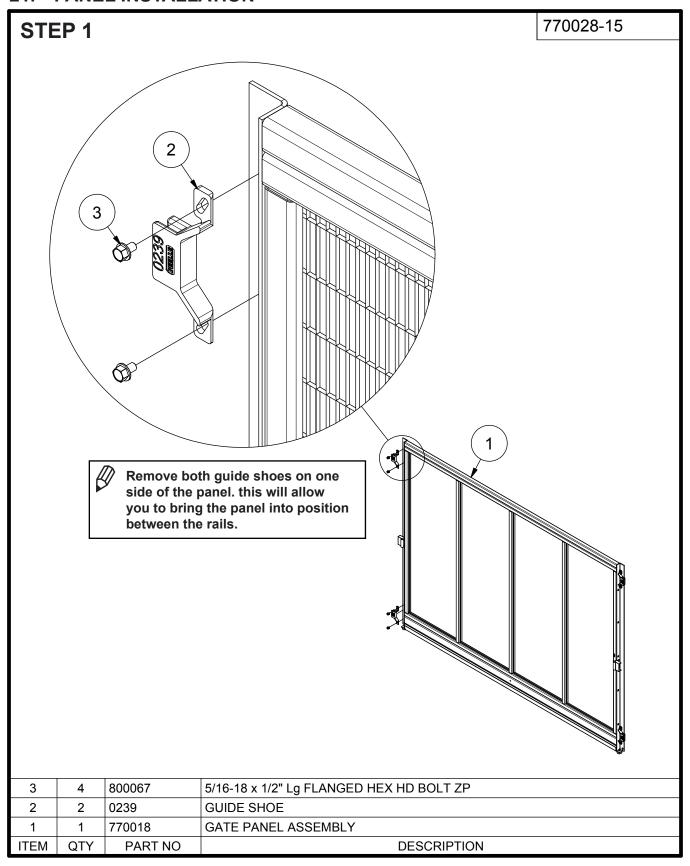
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21. PANEL INSTALLATION

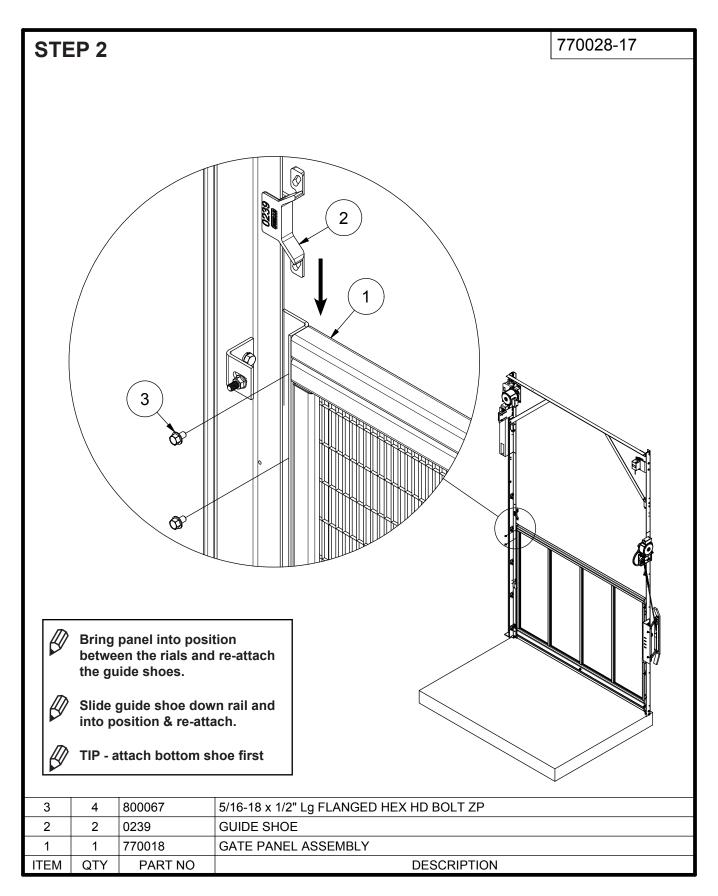




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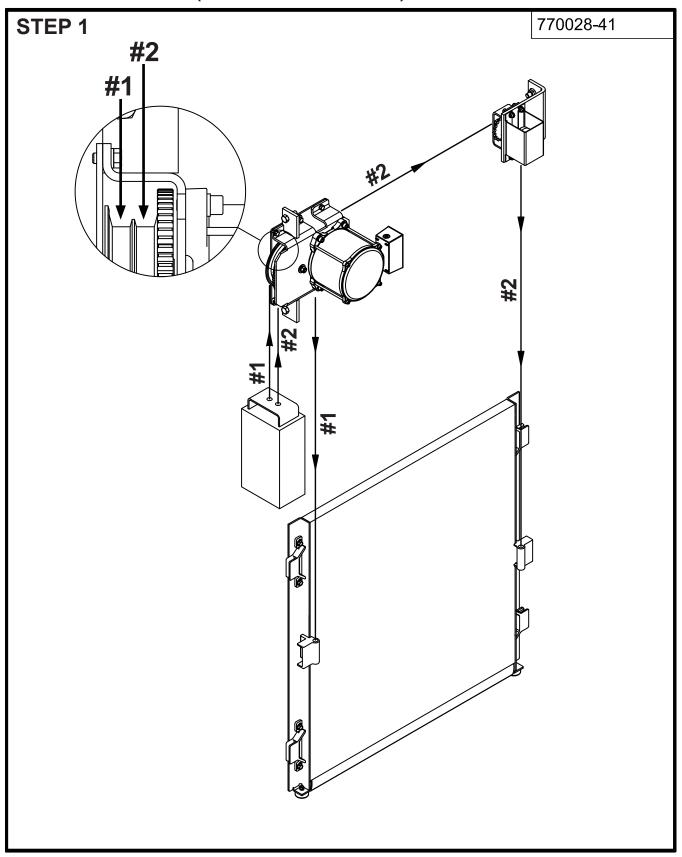


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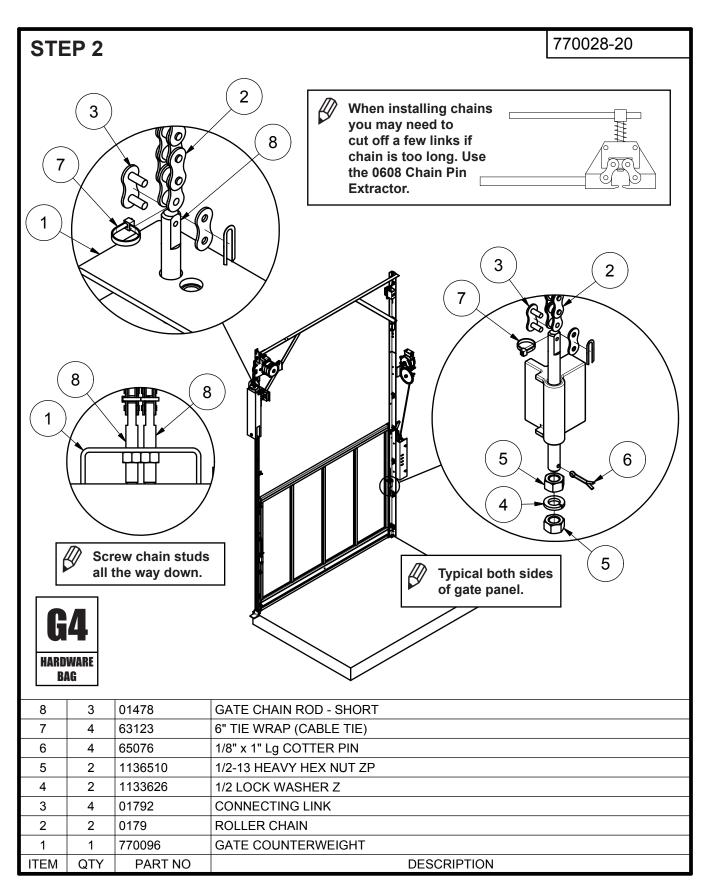
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22. PANEL ROPING (CHAIN INSTALLATION)





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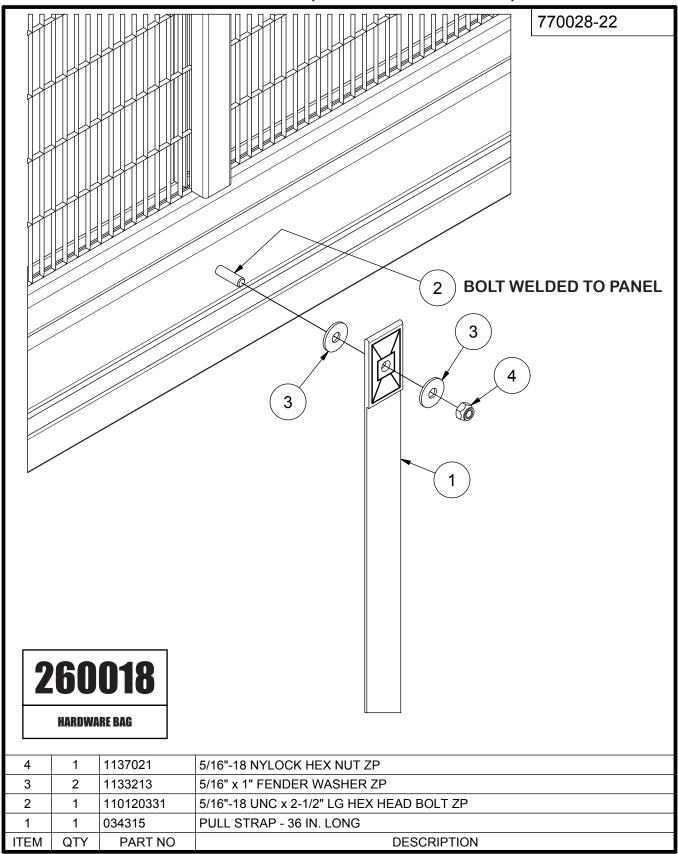
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23. PULL STRAP INSTALLATION (MANUAL OPERATION)



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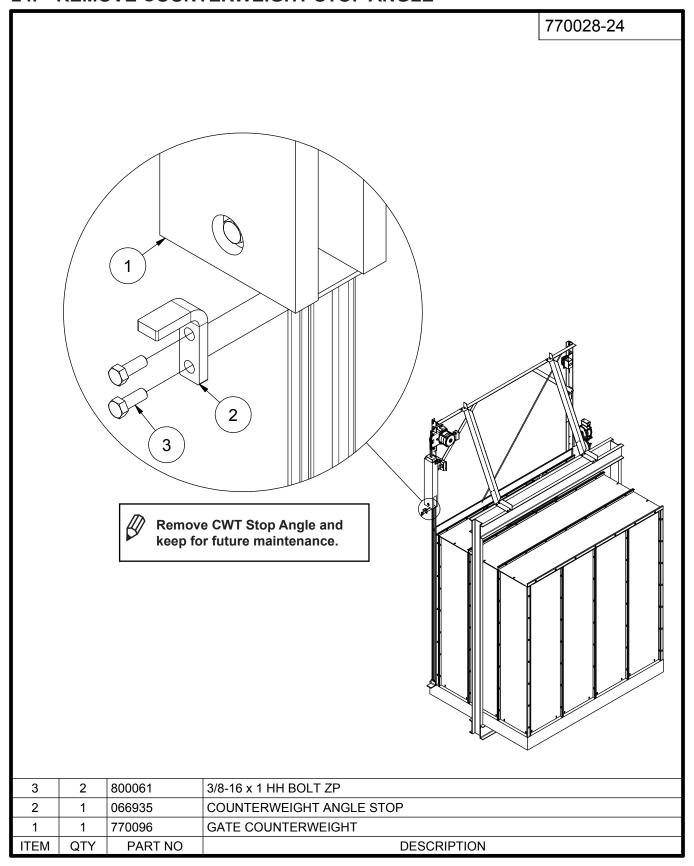


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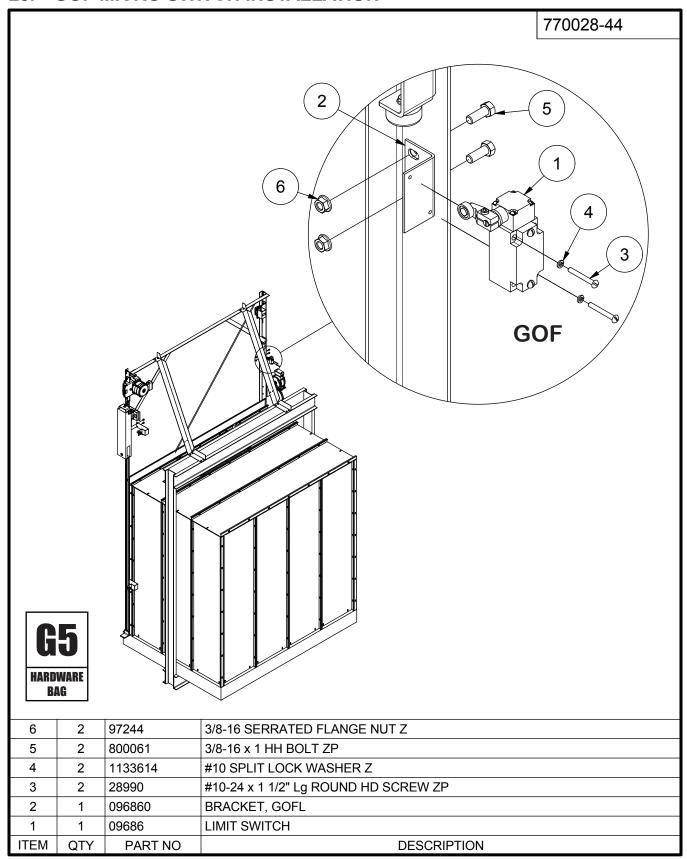
REMOVE COUNTERWEIGHT STOP ANGLE 24.





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25. **GOF MICRO SWITCH INSTALLATION**





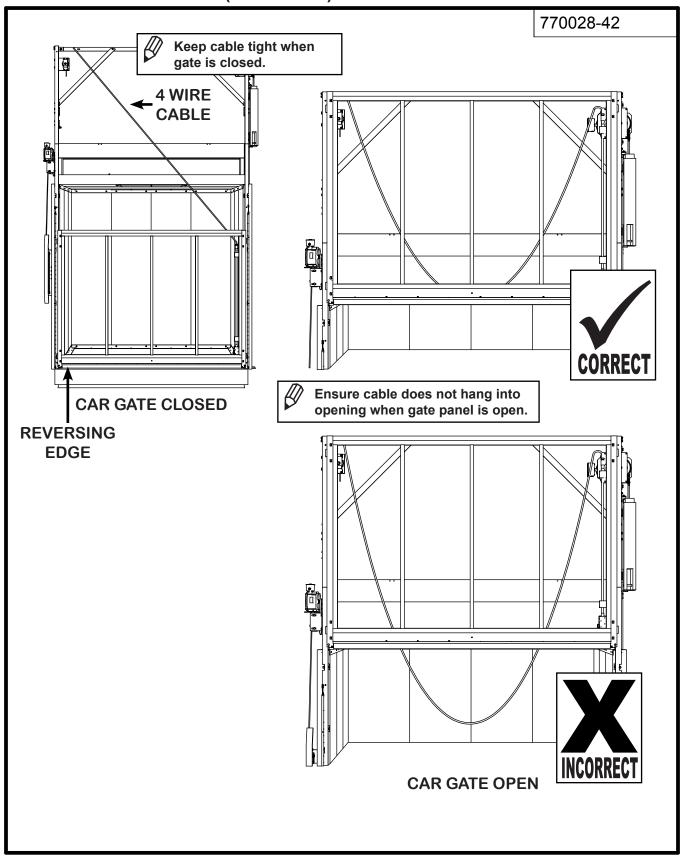
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REVERSING EDGE (OPTIONAL) 26.



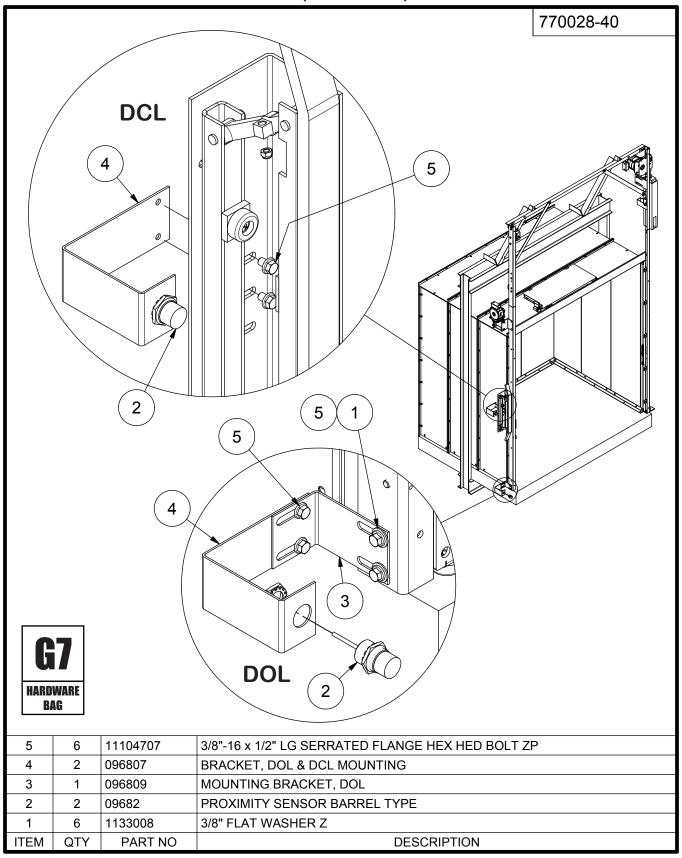


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27. DOOR PROXIMITY SENSOR (OPTIONAL)



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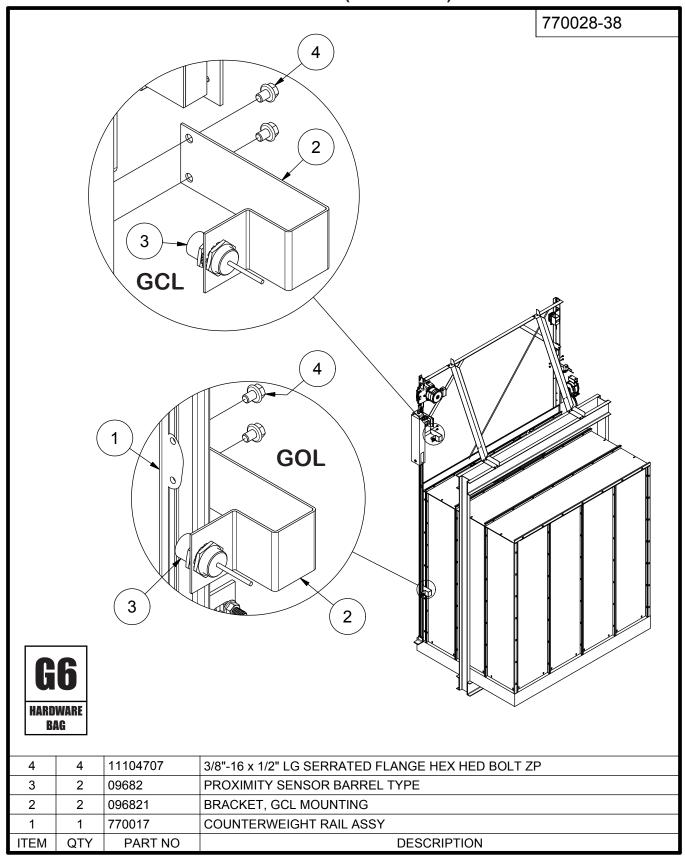
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28. CAR GATE PROXIMITY SENSOR (OPTIONAL)



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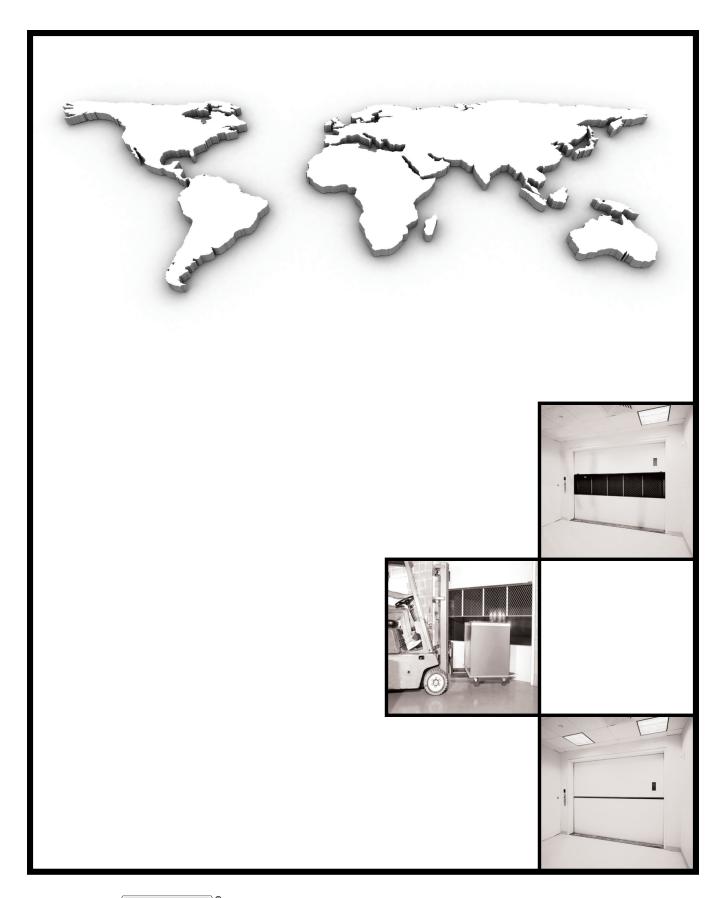


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