Car Gate - P Style
Installation Instructions

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CAR GATE - P Style

Idler Sprocket & Geared Limit Switch
Combination Chain
Gate Drive Unit
Gate Contact
Gate Counterweight Rod
Cable Chain
Gate Guides

Single Section Gate Panel
Reversing Edge
Cross Angle

Car Gate
Left Hand Drive Unit and Counterweight Shown
**Check Car Enclosure Set Back** - Insure that the Car Enclosure is properly SET BACK from the edge of the Platform and that the Wainscot Mounting Angle is the proper size and contains the proper mounting holes.

**Single Section Gate Plan View**

- **Min Set Back = 3-1/2" (90mm)**

- **Wainscot Angle must have a 2" (51mm) return and maximum thickness of 1/4" (6mm)**

**IMPORTANT!**

If your actual CAR SET BACK does not meet the required MINIMUM SET BACK, stop and call Courion immediately at (800) 533-5760 or (314) 533-5700.

**2-Section Gate Plan View**

- **Min Set Back = 5-1/2" (140mm)**

**Car Wainscot Angle**

**Edge of Platform**
1. WAINSCOT FLOOR BRACKET

Using the Wainscot Floor Bracket as a template, drill a 13/32" hole in the Wainscot Angle.

Do NOT fasten the Wainscot Floor Bracket to the Car Platform at this time.
Attach the **GATE GUIDES** to the Car Enclosure Wainscot Angle.

- (1 pr) Gate Guides (Left and Right Hand)
- (1) Gate Guide Hardware Kit (Part #94-000070)

**Tighten** the two (2) Hex Nuts and two (2) Flat Washers between the Car Wainscot Angle and Gate Guide. **Hand tighten** the Hex Nut and Lock Washer on the outside of the Gate Guide.

**Gate Guide Hole Pattern** (Typical)

<table>
<thead>
<tr>
<th>Hole Size (diameter)</th>
<th>First Hole from Platform</th>
<th>Distance on Center</th>
<th>From Outside Edge</th>
</tr>
</thead>
<tbody>
<tr>
<td>13/32 (10mm)</td>
<td>3” (76mm)</td>
<td>18” (457mm)</td>
<td>7/16” (11mm)</td>
</tr>
</tbody>
</table>

If you did not purchase the Car Enclosure from Courion, you may have to drill the Gate Guide mounting holes in the Car Wainscot Angle. With the Gate Guide resting on the Car Platform, use the Gate Guide as a template to mark and drill the necessary mounting holes.
3. Attach the **CROSS ANGLE** to the Car Gate Guides.

(1) Cross Angle (Length varies by Job)
(1) Bracing Hardware Kit (Part #94-000090)

- The Gate Drive Plate faces upward and is located on the counterweight side of the Car Gate.

- Hand tighten the fasteners

- 3/8-16 x 1-1/4" Carriage Bolts, Lock Washers, and Hex Nuts.
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4. KNEE BRACES

Hand tighten the fasteners

3/8-16 x 1” Hex Head Bolts, Lock Washers, and Hex Nuts.
5 Adjust the Gate Guides to the proper horizontal distance between guides (D.B.G.) and plumb the Guides.

Using a tape measure and level, plumb and adjust the GATE GUIDES to the proper horizontal distance as shown on COURION DRAWING PO-310-71C.

When Gate Guides are plumb and true, tighten all Car Gate Guide, Cross Angle, and Knee Brace fasteners.
6. Fasten each WAINSCOT FLOOR BRACKET to the Car Platform.

(1) Wainscot Floor Bracket Hardware Kit #100 (Part#94-000100)
7 Mount the **IDLER SPROCKET** and **GEARED LIMIT SWITCH** to the Cross Angle on the side OPPOSITE the Gate Drive Unit Mounting Plate.

(1) Geared Limit Switch Retro Fit Kit (Part #07-611000) or Gate iSENSOR with iSENSOR Retro Fit Kit

(1) Gate Idler Sheave (Wide Gates Only) - mounts in center of Cross Angle.

**HAND TIGHTEN AT THIS TIME**

3/8-16x1-1/4" HHCS, Lock Washers, and Hex Nuts.

Do NOT engage the iSENSOR or Geared Limit Switch Gears with the Idler Sprocket Gear at this time.

5/16-18x1" Carriage Bolts, Lock Washers, and Hex Nuts.

**NEXT GENERATION NOTE**

If you have Courion’s NEXT GENERATION System, your shipment will contain a Gate iSENSOR rather than a Geared Limit Switch. The Gate iSENSOR mounts exactly like the Geared Limit Switch.
8. Mount the **GATE DRIVE UNIT** to the Gate Drive Mounting Plate on the Cross Angle.

(1) Gate Drive Unit
(1) Gate Drive Hardware Kit #20 (Part#94-000020)

The Gate Drive Unit mounts on the Counterweight Side of the Car Gate.

3/8-16 x 1" Carriage Bolts, Lock Washers, Flat Washers, and Hex Nuts.

Left Hand Shown

Hand tighten the fasteners
9. Fit the CAR GATE PANEL between the Gate Guides and attach the GATE SHOES in place.

(1) Car Gate Panel
(1) Car Gate Shoes

2-SECTION GATE - Prop the "SLOW" Panel (Upper Gate Panel) up with the wood props supplied by Courion. Install the "FAST" Panel (Lower Gate Panel with Reversing Edge) resting on the Platform.
10. Using the Counterweight Gauge Stick, prop the COUNTERWEIGHT ROD, COUNTERWEIGHT SHOES and COUNTERWEIGHTS at the FULL CLOSE position.

(1) Counterweight Rod Assembly
(2) Counterweight Guide Shoes
(*) Counterweights (amount varies by job)

It is important that the correct amount of Counterweights be stacked in the proper order. Please refer to Drawing PO-436-8 for job specific information.

Let the Counterweight Assembly rest on the Counterweight Gauge Stick when finished.
11. Attach the COUNTERWEIGHT CHAIN HITCH to the Counterweight Rod.

(1) Counterweight Chain Hitch
2-SECTION GATE ONLY - Feed the LEAF CHAIN from the Dead End Hitch on Top of the Lower Gate Panel, AROUND the Idler Sheave on the Upper Gate Panel and UP to the Gate Guide Hitch at the Top of the Gate Guide. Attach with #41 Chain Links

(1) Leaf Chain (AL-422 Chain) with Chain Bolt

Adjust the Leaf Chain length with the Chain Bolt to bring chain to tension.
Feed the **COMBINATION CHAIN** from the Car Gate Hitch OVER the IDLER SPOCKET, ACROSS the CAR TOP, UNDER the DRIVE UNIT IDLER SHEAVE, and OVER the GATE DRIVE Inbound Traction Sheave

1. Combination Chain (#6 & #40 Chain)

Do NOT attach Chain to the Counterweight Chain Hitch at this time.
14. Feed the **CABLE CHAIN** OVER the GATE DRIVE Outside Traction Sheave and down to the Car Gate Hitch

(1) Cable Chain (#6 Leaf Chain)

**Do NOT attach Chain to the Counterweight Chain Hitch at this time.**
Attach the **10" CHAIN BOLTS** to each Chain and the Car Gate Hitch on both sides of the Car Gate Panel.

(2) 5/8" Chain Bolts (Part #07-199600)
(1) Gate Chain Hardware Kit (Part #07-199611)
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With the Counterweight and the Car Gate Panel in the FULL CLOSE position, cut the Gate Chains to proper length and attach to the Counterweight Chain Hitch.

(1) Gate Chain Hardware Kit (Part #07-199611)

When the Gate Panel is at FULL CLOSE, the top of the Gate Contact Cam on the Counterweight Assembly should be located approximately 3-3/4" below the Gate Drive Mounting Plate.
17. Properly align the INBOARD TRACTION SHEAVE of the GATE DRIVE UNIT with the centerline of the IDLER SPROCKET and tighten both into place.

The Inboard Traction Sheave on the Gate Drive must be directly in line with the centerline of the Idler Sprocket or the Gate Chain may not function properly during Gate operation.

18. Remove the Counterweight Prop. Car Gate should now operate manually. Adjust the GATE CHAIN BOLTS to insure the Car Gate Panel is level. Adjust the GATE GUIDE SHOES so there is approximately 1/8" (4mm) side-to-side play in between the Guide Rails. When done, the Gate Panel should move smoothly and easily within the Guides.
The purpose of the Compensation Chain is to "compensate" for the weight transfer as Car Gate moves from FULL OPEN to FULL CLOSE.

19. Attach the **COMPENSATION CHAIN** to the Compensation Chain Plate on the Gate Guide and the underside of the Counterweight stack.

(1) Compensation Chain
Install the WEIGHT STOP GUIDE, CROSS ANGLE BRACKET, GATE CONTACT MOUNTING BRACKET, GATE CONTACT CAM, and GATE CONTACT to the Gate Guide on the Gate Counterweight side of the hoistway.

(1) Gate Contact
(1) Gate Contact Hardware Kit #150 (Part #94-000150)

A - Attach the Weight Stop Guide to the Gate Guide.
B - Attach the Cross Angle Bracket and Gate Contact Mounting Bracket to the Gate Guide.
C - Attach the Gate Contact Cam to the Contact Cam Arm.
D - Attach the Gate Contact to the Gate Contact Mounting Bracket.
E - Adjust the Position of the Gate Contact to insure proper actuation when the Gate is at FULL CLOSE.
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D

E
For Immediate Help Call 1-314-533-5700

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21 Install an electrical junction box on the Gate Cross Angle for the **REVERSING EDGE** Drop Cord. Be sure the location does not interfere with operation of the Car Gate. Connect the provided Reversing Edge Cable from the junction box to the Reversing Edge Switch. You may need to cut the cable length to suit your installation. Use the cable clips provided on the Car Gate Panel to restrict movement of the Reversing Edge Cable.

22 Install suitable bracing between the Gate CROSS ANGLE and the Elevator Cross-head to stabilize the Gate Guides.

*Cross Angle Bracing - required to be cut to length*

23 Attach the **WEB STRAPS** to the Gate Panel

*Web Straps*
If you have a GEARED LIMIT SWITCH, please make the following adjustments.

With the Gate Panel positioned in its 1/2 Open position and the Geared Limit Switch NOT engaged with the Idler Sprocket -

1. Rotate the CAM GEAR on the Geared Limit Switch until the arrow points to the roller actuator on the Limit Switch.

2. Move the Geared Limit Switch forward so that the CAM GEAR engages the Idler Sprocket Gear. Tighten all bolts.

3. Set the Geared Limit Switch Cams to actuate the Limit Switch when the Car Gate is about 13" (330mm) from FULL OPEN and FULL CLOSE.

Further adjustments will be done after the Gate System is under power.

NEXT GENERATION NOTE

If you have a Gate iSENSOR, please proceed to the iLEARN System Manual for final setup and adjustment.
If You Have Courion’s NEXT GENERATION Equipment, mount the Gate iDRIVE VFD Control to the top of the Car Enclosure.

(1) Gate iDRIVE VFD Control - Front Gate
(1) Gate iDRIVE VFD Control - Rear Gate (when applicable)

**IMPORTANT!**

The Gate iDRIVE VFD Control must be mounted in close proximity to the Gate iSENSOR and CARE Light Curtain so that their respective cables can reach the necessary connection points on the Gate iDRIVE.

If You Have Courion’s CARE Light Curtain, please proceed to the CARE Light Curtain Installation Manual.

(1pr) CARE Light Curtain System