

INSTALLATION INSTRUCTIONS FOR BVG GATES WITH ACF BOLTING PATTERN

NEW CAR:

1. Inspect the hopper car gate flanges for flatness. Car flanges must not be more than 1/8" inch out of flatness. If flatness is out of tolerance by more than 1/8", contact the car owner's engineering department for procedures on straightening.
2. Inspect the hopper car gate flanges to ensure that they are square within 3/32". If flanges are not square, contact the car owner's engineering department for procedures on repairing.
3. Inspect the hopper car gate flanges for cleanliness. The sealing surface of the flanges must be free of dirt, rust, scale or any other foreign material that can compromise the gasket seal. If debris is present, clean the flanges to an acceptable finish.
4. Place the gasket onto the flange of the gate.
5. Utilizing 1/2" bolts that are longer (approx. 5" – 6" long), hang the gate from the outlet by the corners. (**Note:** Longer bolts are for installation only and will be replaced once the gate is bolted up.)
6. Position the gasket holes to be in line with the outlets' bolting holes. Raise the gate closer to the outlet by tightening the corner bolts.
7. Insert the bolts and washers (remembering to replace corner bolts) and tighten the nuts hand tight, leaving enough room to adjust the gasket so the interior edge is as close as possible to the interior radius of the outlet gate without protruding into the load.
8. Bolts should be tightened to the torque specified below. Tighten the bolts in a pattern similar to Figure 1.
 - a. **DO NOT TIGHTEN IN A CONTINUAL FASHION!** This will create an uneven seal.
 - b. Standard Washers and Lock Nut: 30 – 45 ft-lbs.
9. If possible, bolts should be re-torqued 24 hours after installation.
10. After gate installation, ensure that the valve opens and closes completely. On initial installation, the valve may be tight. This is normal and will loosen during normal cycling of the gate valve.
11. Inspect latches, cover and gate valve to ensure that they are properly closed for acceptance of the car for interchange service.

Gate Application w/Angle Stiffener:

1. Inspect the hopper car gate flanges for flatness. Car flanges must not be more than 1/8" inch out of flatness. If flatness is out of tolerance by more than 1/8", contact the car owner's engineering department for procedures on straightening.
2. Inspect the hopper car gate flanges to ensure that they are square within 3/32". If flanges are not square, contact the car owner's engineering department for procedures on repairing.
3. Inspect the hopper car gate flanges for cleanliness. The sealing surface of the flanges must be free of dirt, rust, scale or any other foreign material that can compromise the gasket seal. If debris is present, clean the flanges to an acceptable finish.
4. Place the gasket onto the flange of the gate.
5. Position the Angle Stiffeners, BVG330, on top of the Hopper mounting Flange and align the bolt holes, starting with the second bolt hole on each end of the Hopper mounting flange. See Figure 2 and 3 (**Note:** Two BVG330 Angle Stiffeners must be used per gate).

6. Utilizing ½” bolts that are longer (approx. 5” – 6” long), hang the gate from the outlet by the corners. (**Note:** Longer bolts are for installation only and will be replaced once the gate is bolted up.)
7. Position the gasket holes to be in line with the outlets' bolting holes. Raise the gate closer to the outlet by tightening the corner bolts.
8. Insert the bolts and washers (remembering to replace corner bolts) and tighten the nuts hand tight, leaving enough room to adjust the gasket so the interior edge is as close as possible to the interior radius of the outlet gate without protruding into the load.
9. Bolts should be tightened to the torque specified below. Tighten the bolts in a pattern similar to Figure 1.
 - a. **DO NOT TIGHTEN IN A CONTINUAL FASHION!** This will create an uneven seal.
 - b. Standard Washers and Lock Nut: 30 – 45 ft-lbs.
10. If possible, bolts should be re-torqued 24 hours after installation.
11. After gate installation, ensure that the valve opens and closes completely. On initial installation, the valve may be tight. This is normal and will loosen during normal cycling of the gate valve.
12. Inspect latches, cover and gate valve to ensure that they are properly closed for acceptance of the car for interchange service.

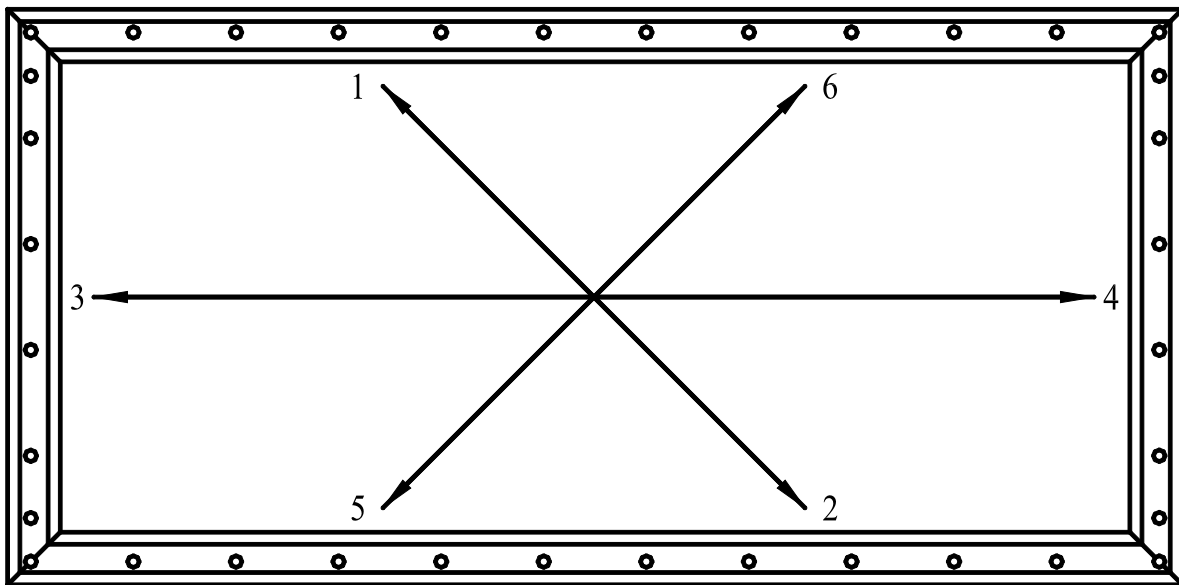


FIGURE 1



FIGURE 2

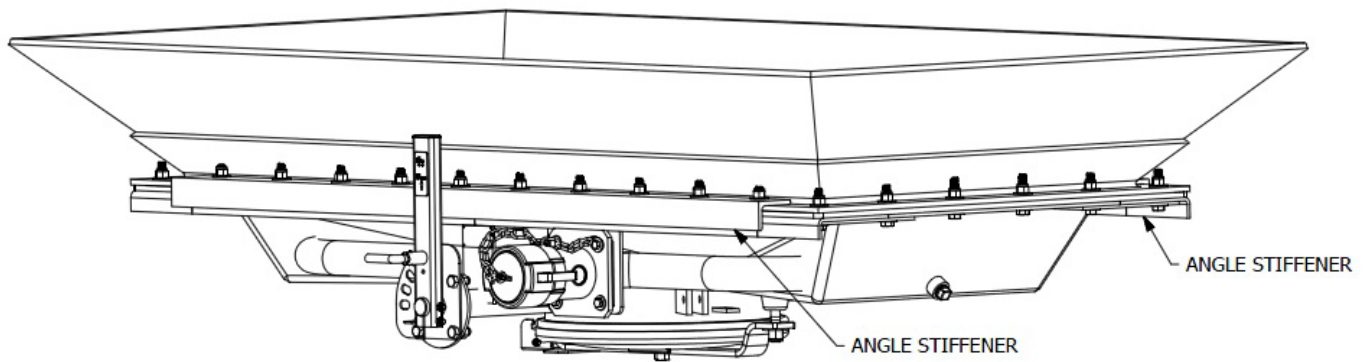


FIGURE 3