

Wabtec Corporation

AEROGate Outlet Gate Systems

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We've Got You Covered...Top and Bottom!

The Most Unique Features of ATP's:

AEROGate





Defining Characteristics:

- ✓ Virtually Leak Proof
 - UHMW-PE Door Seals
 - Reinforced Bolting Flange
- ✓ No Pinion Skipping
 - Bearing Spacers
 - Fixtured Weldments
 - Door Anti-Lift Pegs
 - UniPitch Gear Design
 - Synchronized Door Stops
- ✓ Low Operating Torque
 - Precision Aligned Bearing Tubes
 - Bronze Door Glide Rails
 - Raised Glide Rails
 - Hidden Side Rails
- ✓ User-Friendly
 - Automatic Lock
 - Self Cleaning
 - Smooth Hoppers
 - Simple Security Seal Tab



Manufacturing Characteristics:

- ✓ Precision Part Fixturing
- ✓ CNC Laser Cut Piece Parts
- ✓ Robotically Welded Hoppers
- ✓ CNC Formed Parts
- ✓ Durable Powder coat Finish
- ✓ AAR M1003 Quality Certified



Additional Customized Options:

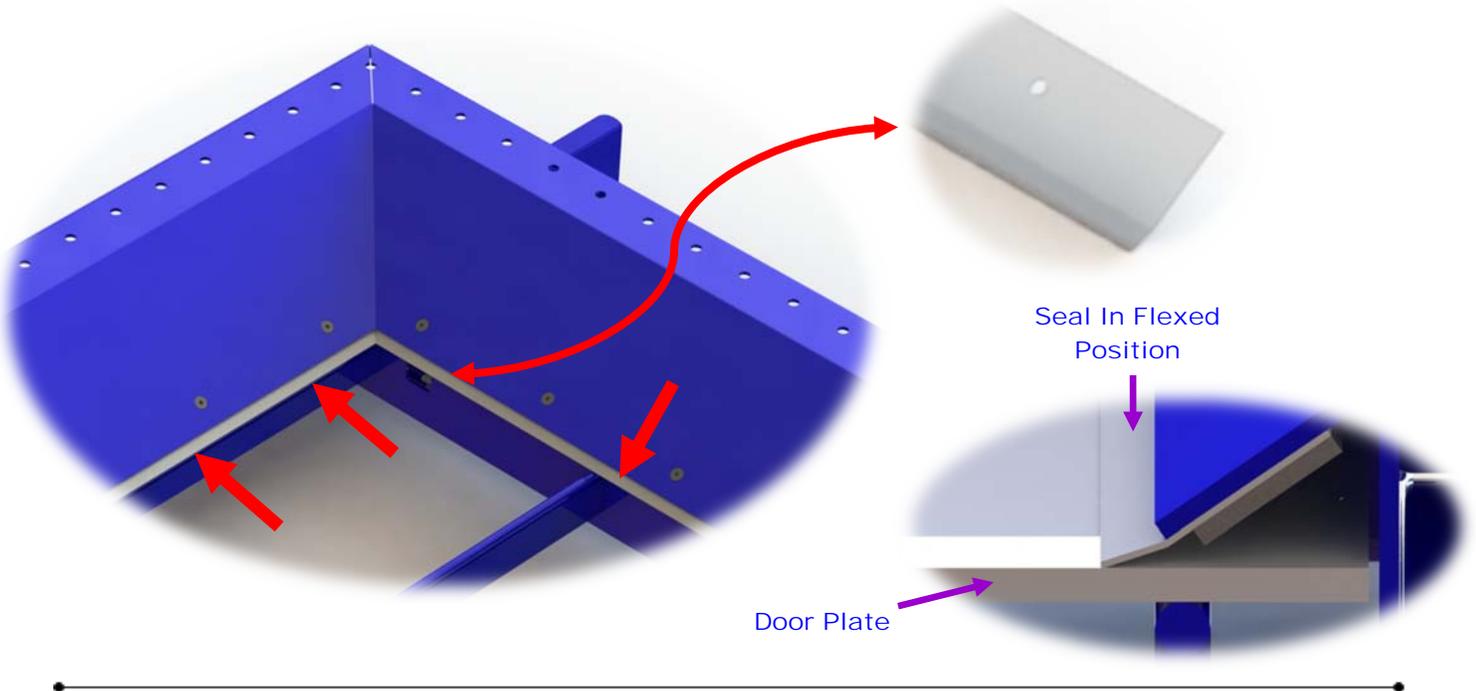
- ✓ Under Door Seals
- ✓ Wide Flange Base
- ✓ Bolted Boot Clip
- ✓ Stainless Steel Hardware
- ✓ Stainless Steel Construction
- ✓ Aluminum Construction
- ✓ Variety of Powder Coat Options

ATP designs gates to address your needs. If you have special design requirements, give us a call and we would be glad to discuss them with you!

✓ Virtually Leak Proof:

➤ UHMW Door Seals

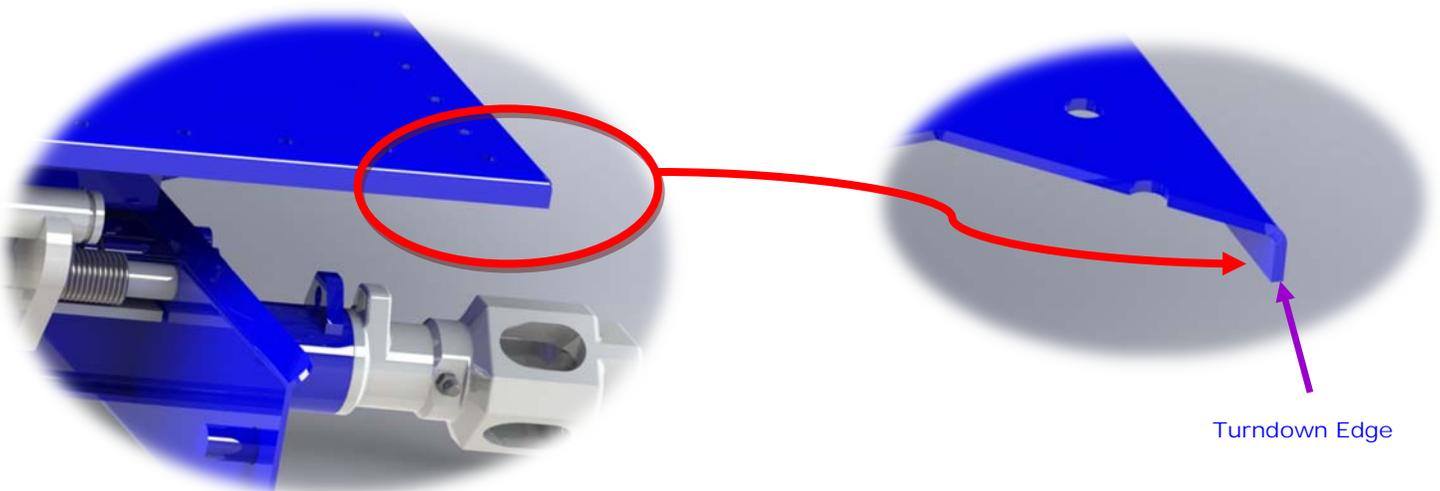
Ultra High Molecular Weight Polyethylene (UHMW-PE) wiper seals create an extremely effective seal against the door plate. UHMW-PE plastic is a non-stick surface, resists most chemicals, and has high abrasion/wear resistant properties. These seals are laser cut from 1/16" UHMW sheet ensuring a precise fit. When the door plate is closed, the seals are forced into a flexed position. This position causes them to maintain constant pressure on the door plate, creating a near watertight seal.



✓ Virtually Leak Proof:

➤ Reinforced Bolting Flange

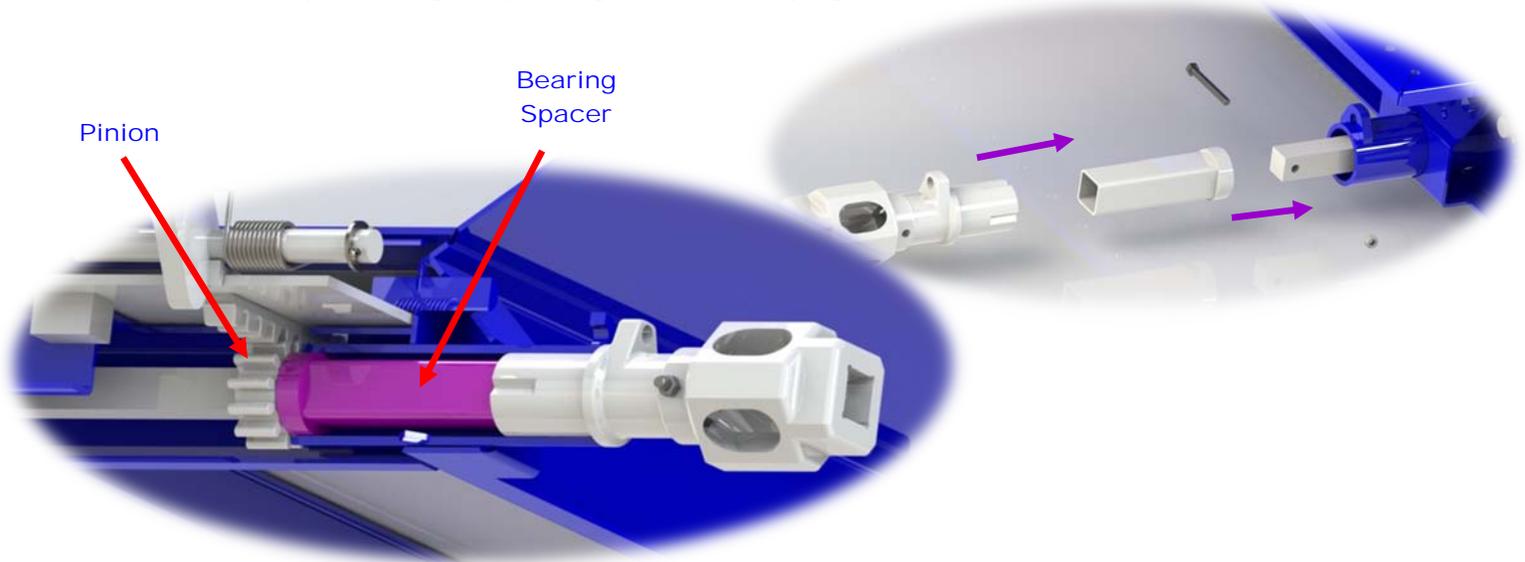
The perimeter edge of each bolting flange has a turndown lip on it. This turndown edge adds superior strength to the gate's bolting flange and creates a flat sealing surface between the car hopper and the gate.



✓ No Pinion Skipping:

➤ Bearing Spacers

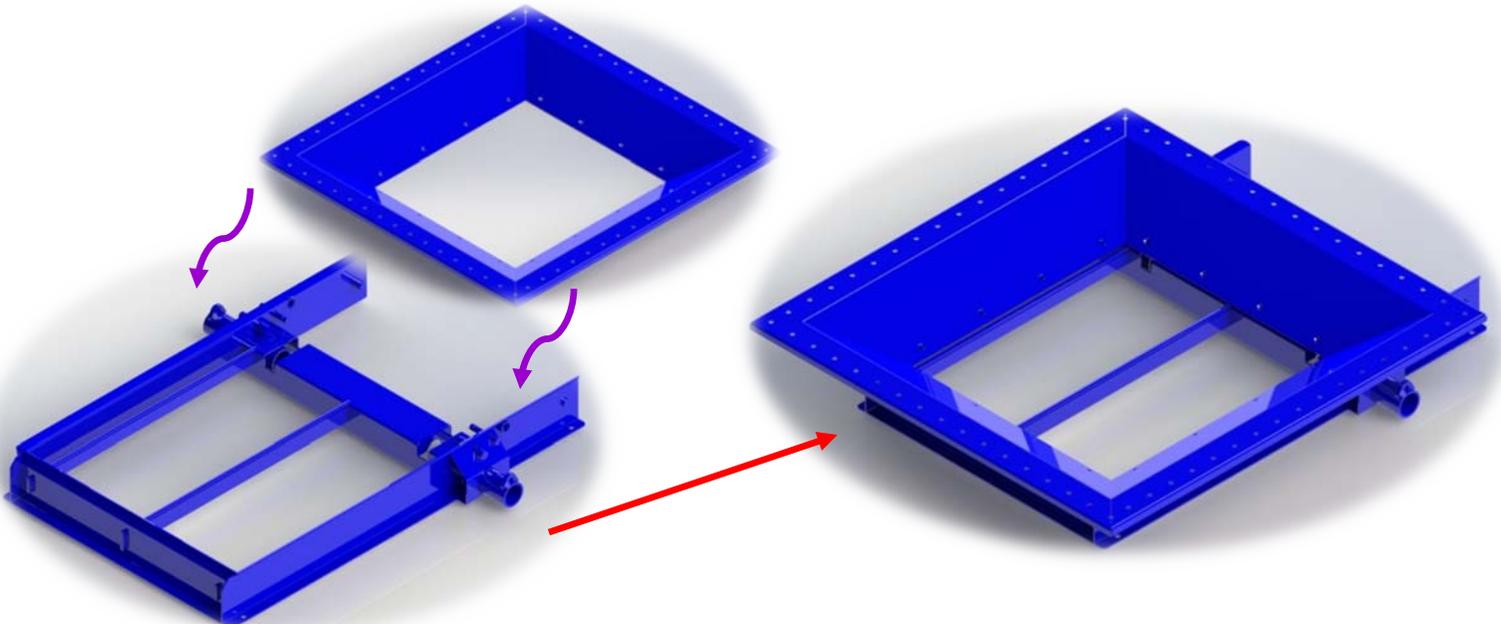
A cast steel bearing, welded to a square spacer tube, creates a bearing spacer located right next to the pinions. This bearing spacer supports the centerline of the operating shaft right next to the pinion gears. When torque is applied to the gate these bearing spacers do not allow the shaft to flex or deform off the desired centerline, preventing the pinion gears from skipping.



✓ No Pinion Skipping:

➤ Stack Weldments

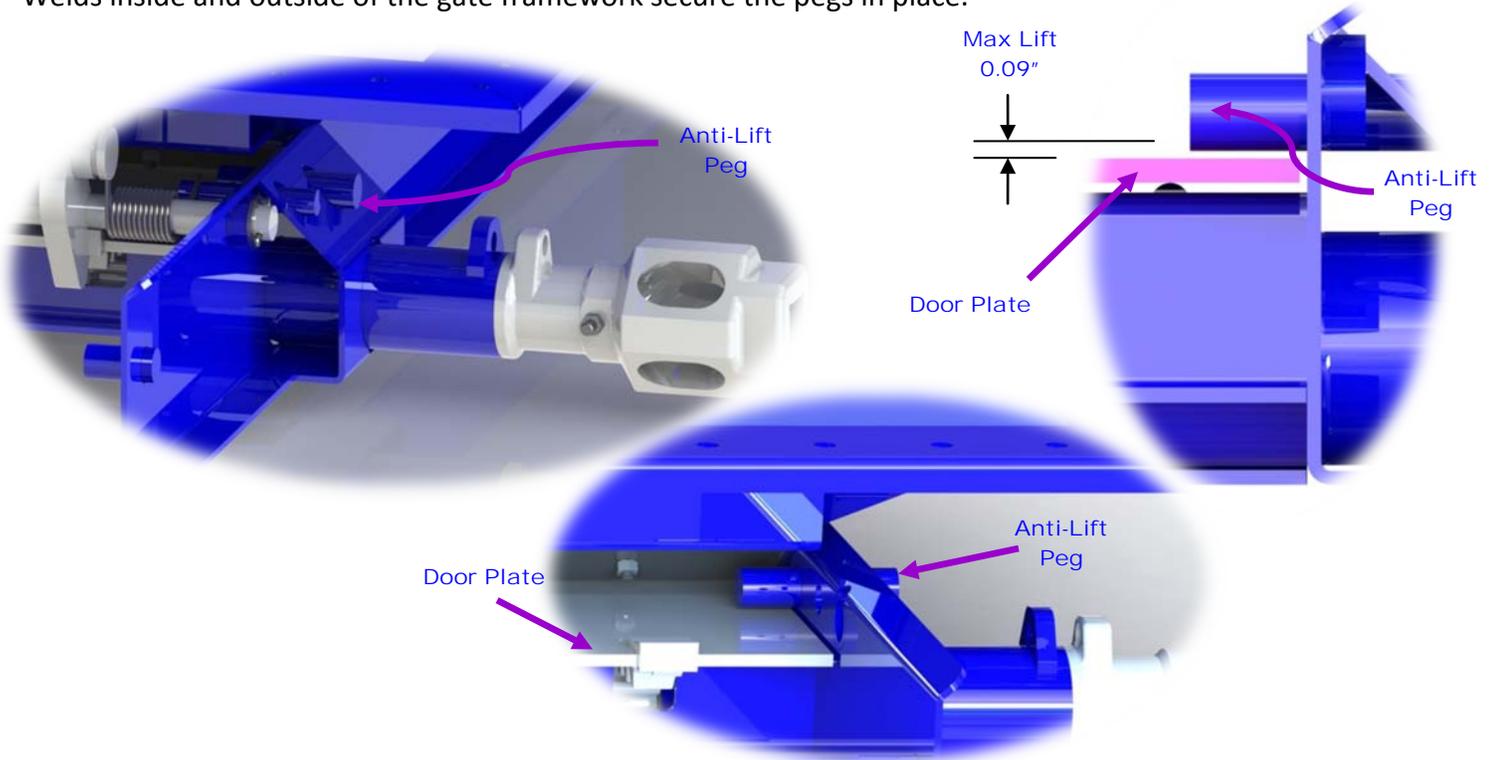
AEROgates are fabricated in layers. Manufacturing the gate in layers allows the smaller sub assemblies of the gate to be assembled using high precision fixturing. When all of the sub assemblies are brought together for the final weldment, they are staged in a fixture that allows ATP to control the critical dimensions that generate proper gate operation.



✓ No Pinion Skipping:

➤ Door Anti-Lift Pegs

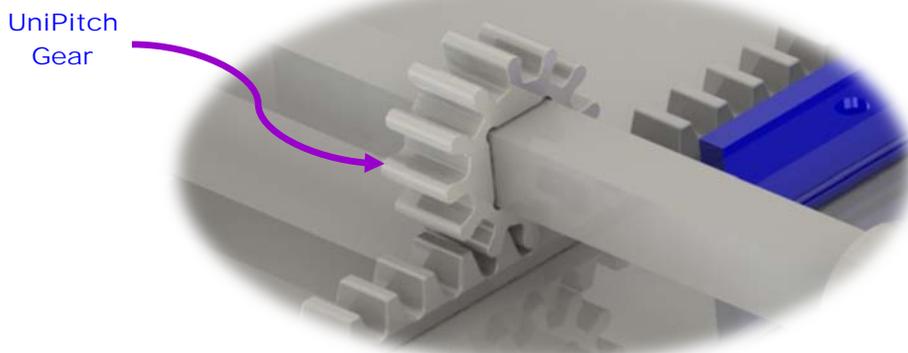
When extreme torque is applied to open a gate, numerous forces are created that tend to lift the doorplate upward. If the door plate moves upward far enough it can cause the pinions to skip in the rack. In order to fix this problem AEROgates utilize strategically located one inch diameter anti-lift pegs, allowing only 0.09" door plate lift. These anti-lift pegs are positioned directly above the pinions and close to the top of the door plate. Welds inside and outside of the gate framework secure the pegs in place.



✓ No Pinion Skipping:

➤ UniPitch Pinion Design

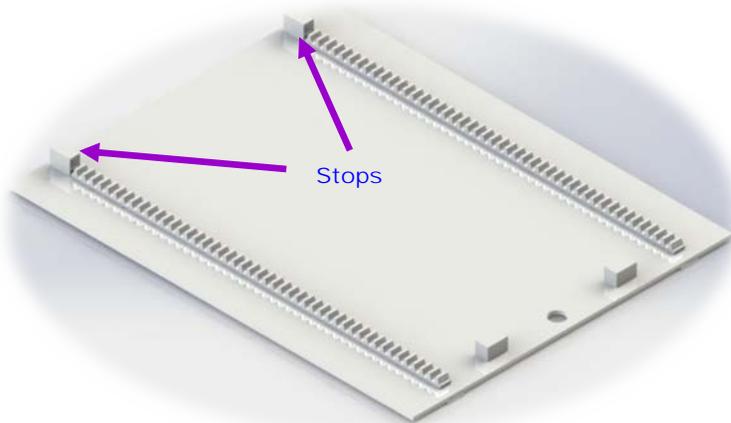
These ATP designed UniPitch pinions run very smoothly. In a traditional rack and pinion, the centerline dimension between the rack and pinion is very critical. If this dimension changes due to load, flex, commodity build up, or manufacturing inaccuracy the rack and pinion design may fail to operate correctly. ATP's UniPitch pinion design allows the pinion to contact the rack at the correct pitch diameter even when the centerline dimension fluctuates, ensuring continuous smooth operation.



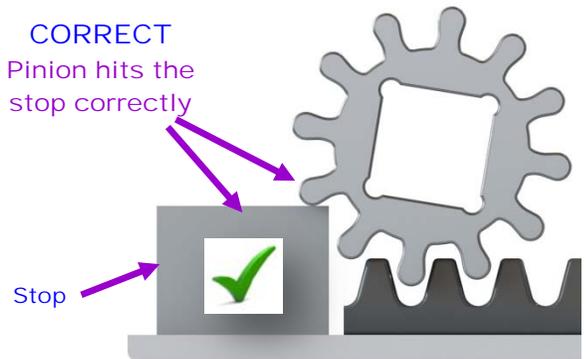
✓ No Pinion Skipping:

➤ Synchronized Door Stops

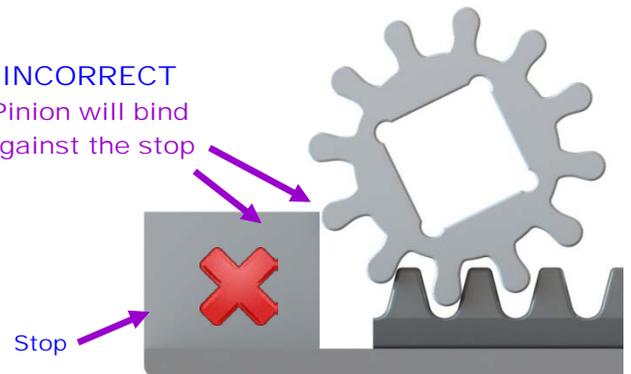
All rack and door stops on AEROgates are precisely fixtured to ensure proper door operation. The door stops at the end of the racks are positioned so the pinions hit the stops at exactly the same location every time, ensuring the pinions do not bind against the stops. These stops are located relative to the last tooth on the rack, not relative to the edge of the door plate. When the pinions hit the correctly positioned stops, the force is transferred to a vertical force in the rack stops, pushing the doorplate upward against the anti-lift pegs. This eliminates the possibility of the pinion wedging between the rack and the stop.



CORRECT
Pinion hits the stop correctly



INCORRECT
Pinion will bind against the stop



✓ Low Operating Torque:

➤ Precision Aligned Bearing Tubes

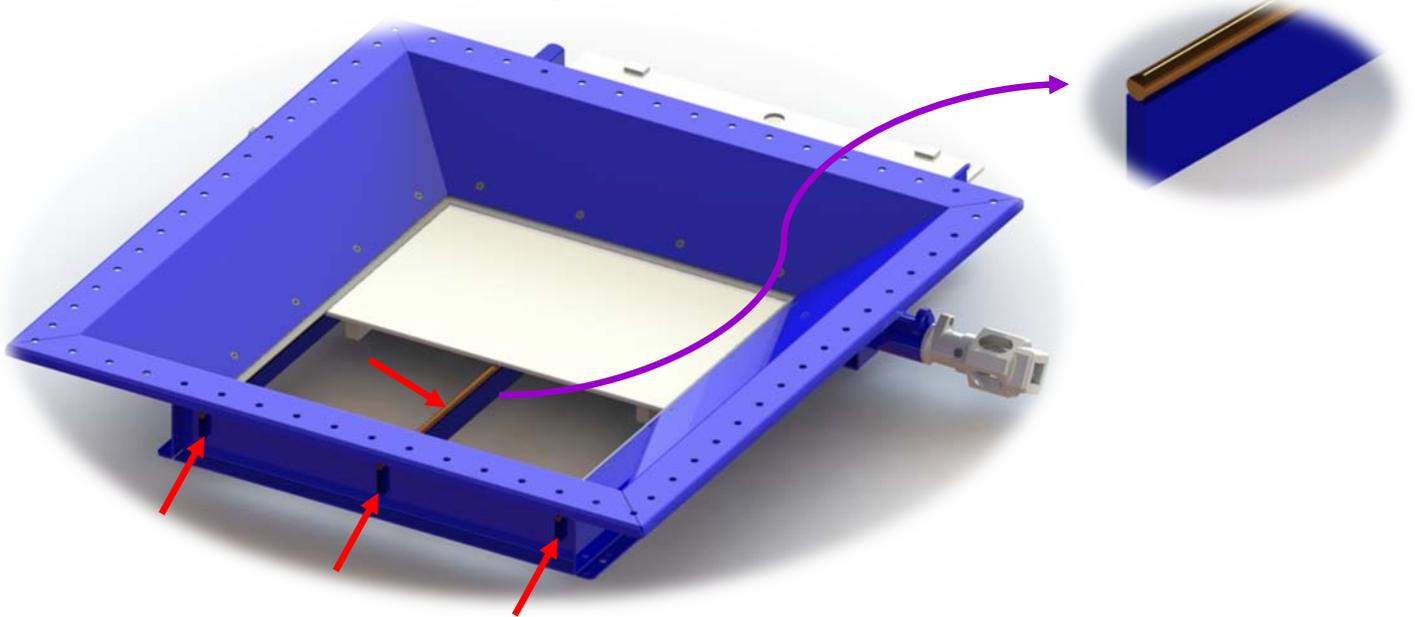
The operating shaft of the gate extends through bearing tubes located on each side of the gate frame. These tubes are precision aligned so the operating shaft does not bind when rotated. The interior surface of these tubes acts as a bearing surface for the bearing spacers that have been previously mentioned.



✓ Low Operating Torque:

➤ Bronze Door Glide Rails

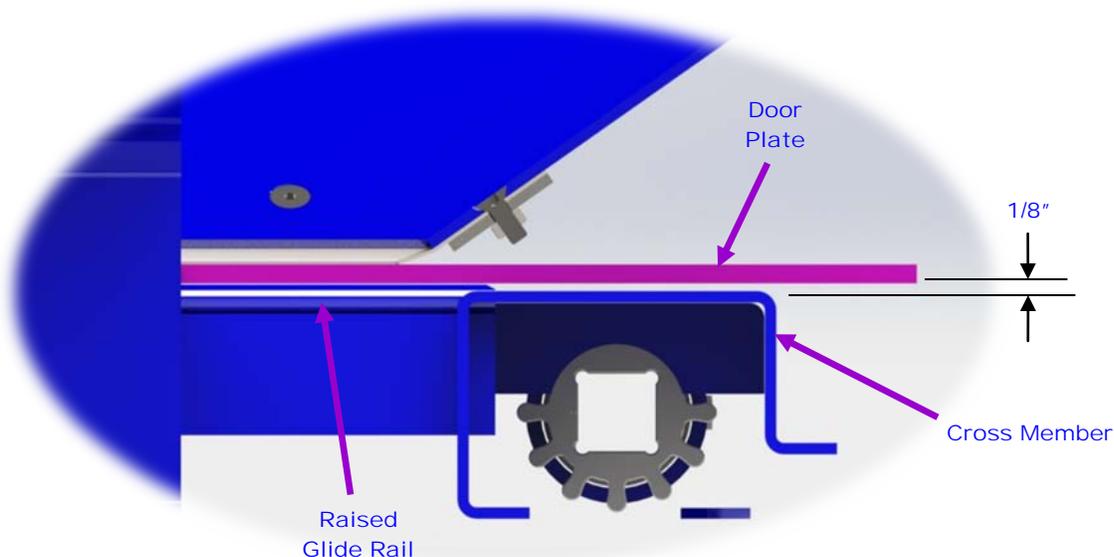
Three steel door support bars have high strength aluminum bronze alloy glide rails welded to the top of them, providing excellent wear resistant properties. These bronze glide rails virtually eliminate any signs of wear on the bottom of the door plate, even after the gate has been cycled thousands of times. These glide rails and steel supports extend through the front and rear frame of the gate and are fully welded outside the commodity area. Also, the rounded top design sheds commodity and improves flow when unloading.



✓ Low Operating Torque:

➤ Raised Rails

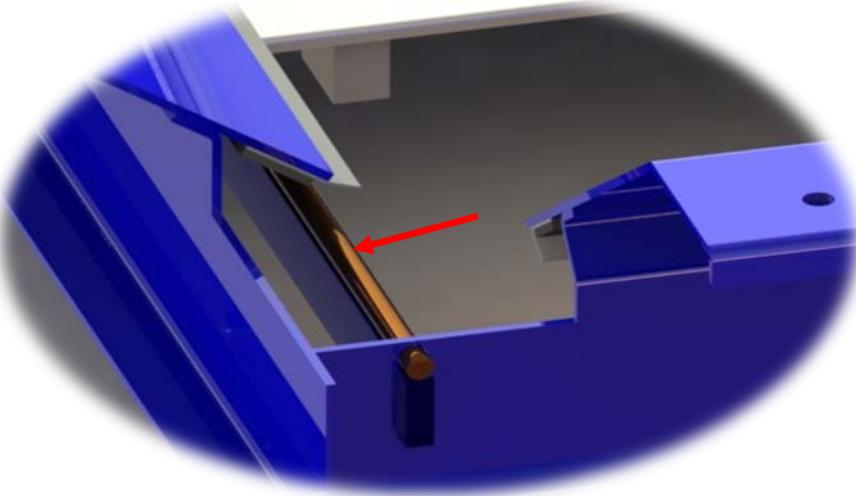
The glide rails are positioned 1/8" higher than the top of the cross member. This clearance prevents the door from dragging on the cross member when the door is opened or closed.



✓ Low Operating Torque:

➤ Hidden Side Rails

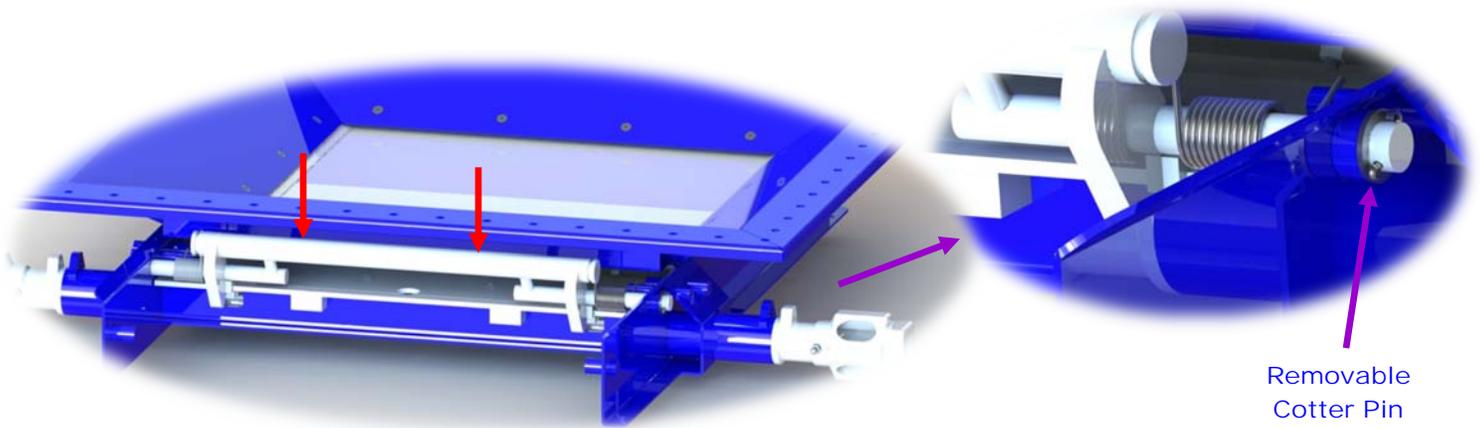
The door guide rails on each side of the gate are tucked under the hopper seals reducing the chance of contact with commodity. Reducing the chance of commodity contact allows the gate door to operate more efficiently, not allowing commodity packing between the door and the guide rail.



✓ User-Friendly:

➤ Simple Automatic Lock

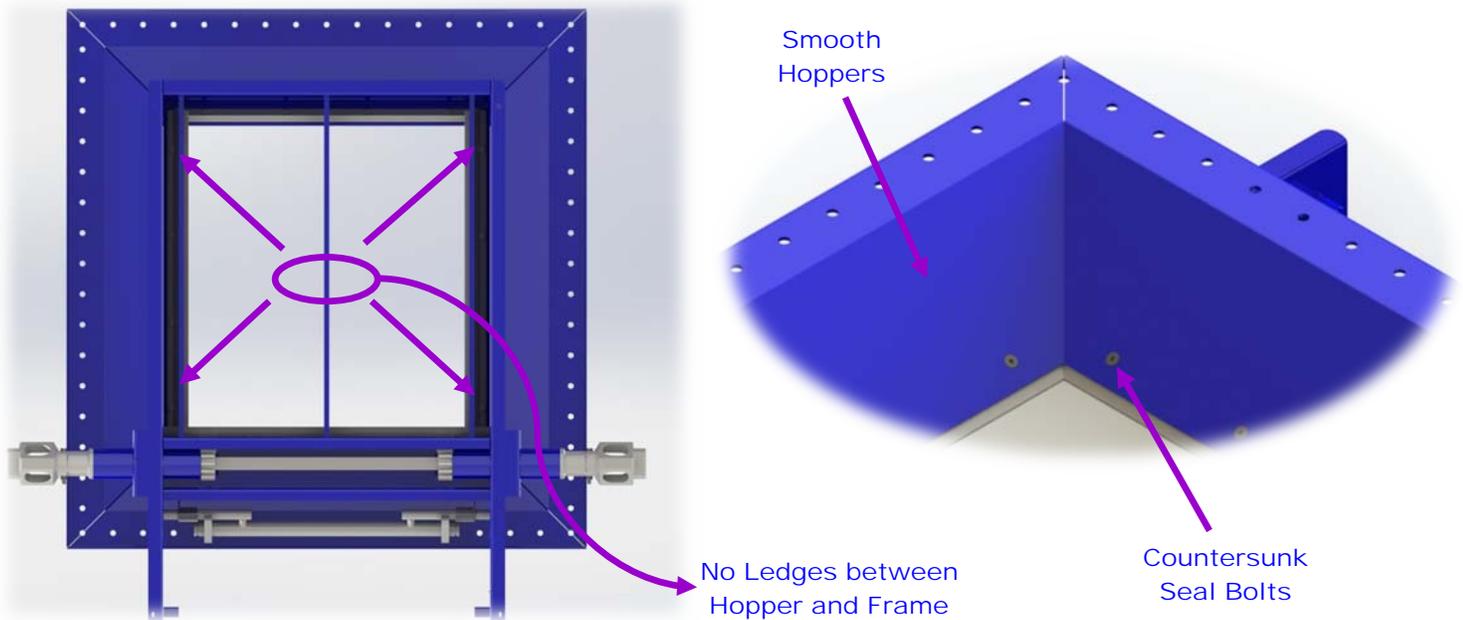
ATP's simple automatic overhead inertia lock is mounted above the door plate to reduce the risk of damage from track debris. This lock style has no operating linkages or release cams allowing it to be extremely safe and user friendly. These locks are mounted in bushings that are welded to each side of the gate frame. Locks are very robust and rarely damaged, but can be simply replaced by removing two stainless steel cotter pins located on each end of the lock.



✓ User-Friendly:

- Self-Cleaning
- Smooth Hoppers

Most AEROgates are self-cleaning and have countersunk seal holder bolts, creating a smooth hopper surface. There are no ledges, pockets, or packing zones in the gate where commodity can accumulate. In the closed position, the door plate has one inch of clearance between itself and the front frame. Also, the round top glide rails do an excellent job of shedding commodity and improving flow.



✓ User-Friendly:

- Simple Security Seal Tabs

Easy access seal tabs located on the sockets and gate frame align when the door is in the closed position. These tabs accommodate both flat and round cable seals and are very strong. If the cable seals are not cut before extreme torque is applied to the gate, no gate damage should occur. If light cable seals are used, they should break, allowing the gate to open. If heavy cable seals are used, and do not break when torque is applied, the gate will not open. In either instance, no gate damage should occur.

