

AVIATION



DOOR
ENGINEERING
AND MANUFACTURING

Opening to Your Standards.

TIP-UP CANOPY DOORS ARE BUILT TO ENDURE THE HEAVIEST OF WIND LOADS.

SUPERIOR PERFORMANCE

This door system provides a weather-tight seal and maintains a quick, yet stable motion. Get maximum access for your facility with minimal side room requirements, all with the benefit of long-lasting dependability.

The one piece Tip-Up Canopy door system has multiple wire rope pick-up points attached to the front of the door framing that are run to the counterweight and floor mounted operator assembly. The wire rope provided has a minimum safety factor of 5:1 at each of the pick-up points.

Tip-Up doors arrive to your facility complete including the side tracks, curved top tracks, the operating hardware, pre-wired electrical controls, wire rope pick-up brackets, the automatic sill locks, side and top roller assemblies.

SPEED

Tip-Up Canopy doors clear an opening at a quick rate of speed. This door system is available in up to 130'W x 32'H.

120' x 30' Tip-Up Door = 45 Seconds to Open
75' x 20' Tip-Up Door = 38 Seconds to Open

The high-speed operation of the Tip-Up door minimizes heating and cooling losses and reduces waiting time, increasing productivity and energy efficiency.

VERTICAL MOVEMENT

The opening vertical rise movement is followed by a simultaneous tilting and rising motion to the horizontal full open position, with the bottom portion of the door projecting outside to form a canopy.

FEATURES

- FAST OPERATION
- MAXIMIZES HANGAR BUILDING SPACE
- MANUAL OPERATION CAPABILITIES



TESTIMONIAL:

"Three doors, 14 years and no problems! It just makes sense! The door for North Star Aviation opens on an average of 10 times a day, 365 days a year, and we never have to call for service!"

"IT JUST MAKES SENSE!"

- Mark Smith, President of North Star Aviation

DOOR ENGINEERING AND MANUFACTURING'S **BOTTOM ROLLING DOORS** ARE THE MOST POPULAR AND VALUED HANGAR DOOR SYSTEMS AVAILABLE TODAY!

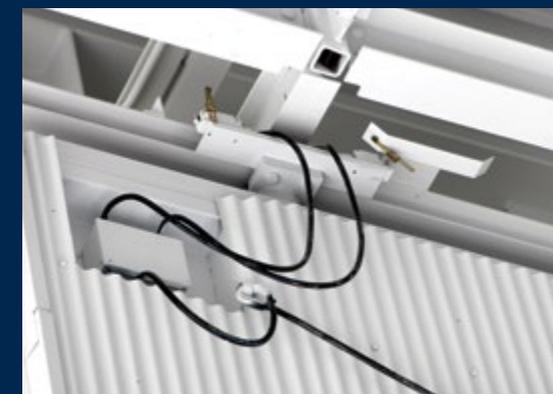
VERSATILITY

Architectural flexibility is once again awarded here as multiple configurations are available. Each door section is bottom rolling and top guided. Configurations include: uni-directional, bi-parting, individually operated, 3-way traveling group and anchored group systems. These options allow you to choose what will best fit your needs. With the Bottom Rolling system, there is also the choice of bumper-pick or cable-reeve opening and closing system.

Bottom Rolling hangar doors are an excellent application for corporate, FBO, charter and airline hangars. By working closely with architects, contractors and owners, we can manufacture a system that meets your specific needs or can retro-fit to meet the needs of an existing structure.

SUPERIOR PERFORMANCE

The Bottom Rolling hangar door system is built to endure massive wind loads and withstand strong weather conditions. The poly foam filled vertical weather seal bulbs offer the tightest, most reliable all-weather protection allowing for long-lasting performance reliability. A stable operating movement is maintained due to the quality of the bottom rails and the top tracks using telescoping top roller assemblies. 3-year standard warranty with an available 5-year optional warranty.



FEATURES:

- Northern and Southern stacking options.
- Vehicle entry doors, remote/radio controls and rough framed openings for personnel doors
- Vision lites
- Built-in operator, Drop-In or Door Driver add-on operators

ADVANCED DESIGN

Bottom Rolling hangar doors are manufactured in sizes up to **500'W x 80'H**. True telescoping top roller assemblies can be fabricated to tolerate almost any header deflection requirements. The factory-installed, dual opposing bulb vertical weather seals provide dramatically superior sealing in comparison to single or dual-flap weather seals. Internal wiring to the powered door section is completed and tested at the factory.

Top guides and quick set bottom rails are shipped in factory-fabricated sub-assemblies including the bottom rail forms on every project. The door sections arrive to the jobsite in pre-assembled sub-sections from the factory to ensure the proper building interface.

The electric motor operators are powered up by the provided draped S/O cord equipped with looped thimbles factory set to fit the cord hanger brackets in the field. The "Quick Disconnect" feature at the motor operator allows manual operation of the hangar door in case of an electrical power outage.

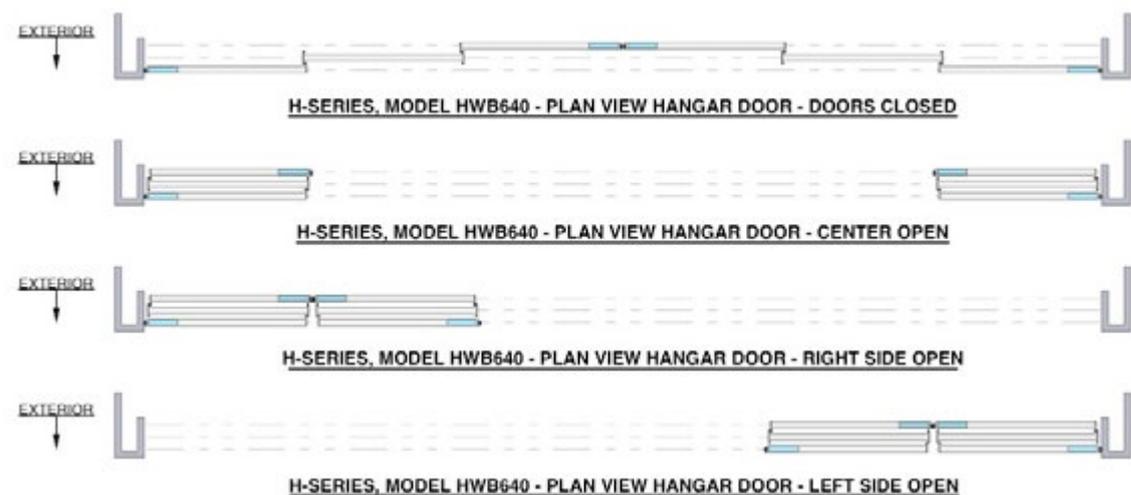


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SMART RAILS SYSTEM

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DOOR ENGINEERING'S SMART RAILS Bottom Rolling Door System provides ultimate flexibility in hangar door design. Perfect for new or retrofit projects, Smart Rails do not require door pocket space because there is no defined stacking point. Operators on the leading and trailing panels of each grouped section allow door sections to stack all left, all right, bi-part from center or partially open allowing smaller aircrafts to enter/exit the hangar without disturbing other aircrafts.



DOOR DRIVER OPERATOR OPTION

DOOR DRIVER OPERATOR IS MANUFACTURED WITH DISENGAGE MECHANISM FOR POWER OUTAGE SITUATIONS.

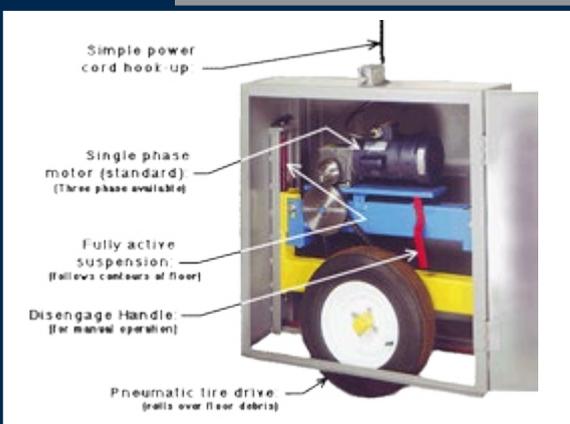
To meet the needs of a wide variety of bottom rolling and top hung door systems as well as a variety of sizes, Door Engineering designed the Door Driver Series. The Door Driver is a self contained, completely enclosed, electrically operated, pneumatic tire driven operator. Factory preset makes installation fast and easy. Simply attach the Door Driver to the bottom of your door, plug it in and push the button.

The fully active suspension system ensures the pneumatic tire provides excellent traction, allowing for 4-inches of vertical travel over debris or irregularities in the floor. It is powerful enough to open even the largest sliding door. The basic system includes 115, 208/230 VAC, 60 Hz, single-phase brake motor, push button station and SO electrical power cord with cord hangers. The enclosure is made from heavy gauge steel for solid construction, then coated with factory applied primer.

41 5/8" wide* by 43 3/4" high x 14 1/2" deep.
The bottom of the operator is located 2 1/4" above the floor.
***Add 2-inches to each side for mounting brackets.**

ADDITIONAL OPTIONS INCLUDE:

- 208/230 or 460 VAC, 60Hz, three phase brake motor with control panel, push button station, magnetic reversing starters, thermal overload protection, control circuit transformer and NEMA 4 enclosure.
- Limit switches and cams.
- Door section bumper pick-up system brackets.



APERTURE DOOR SYSTEMS



APERTURE SYSTEMS ARE A UNIQUE ENHANCEMENT TO AN AIRCRAFT HANGAR AND ARE PERFECT FOR RETRO-FIT PROJECTS.

Door Engineering has developed numerous integrated, pre-engineered components, which are the building blocks for specialty door systems. Aperture door systems commonly consist of a three-part system where part of the plane's fuselage (main body of the aircraft) and tail are exposed on the exterior of the hangar. Door Engineering can provide several, custom fabricated aperture designs to meet your specific project requirements, whether designed for single or multiple fuselage profiles.

VERSATILITY

The Aperture Door system is designed to fit and meet your specific application. Fixed, manual and automatic adjusting panels are available. Flexibility ensures the perfect fit all the time...every time.

ADVANCED DESIGN

Rotating aperture door panels allows up to three different aircraft to use the same hangar facility. The rotating aperture door (counterweighted) adjusts up, down and side to side providing the perfect seal at each fuselage profile. The Closure door seals off the opening when the aperture door is not required.

SUPERIOR PERFORMANCE:

Much like Door Engineering's other products, the aperture door system has a solid reputation and exemplifies excellence. A valuable benefit of this system is that it is power operated. The pressure sensing panels automatically adjust to the fuselage's position. Ease of operation is amazing. The free-floating, counterweighted panels move with the push of a finger. Designed for wind load and energy conservation requirements, this system demonstrates impressive strength. 3-year standard warranty with an available 5-year optional warranty.

Whether your door systems are standard or unique, our technical sales team, skilled designers and certified installers will ensure quality from illustration to installation.





For product sheets, specifications, drawings and design assistance contact a Door Engineering technical product specialist today or visit Door Engineering on the Web at

WWW.DOORENGINEERING.COM

Other Door Systems:

Four-Fold • Top Hung Sliding • Vertical Lift • Craneway • Specialty/Custom

With Door Engineering's years of experience, it's easy to find the door system solution that's right for you!



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