

RETRACTABLE SCREEN INSTALLATION INSTRUCTIONS

Read through the following instructions completely before beginning installation.

Tools Recommended

- Drills; (standard drill, standard hammer drill or SDS hammer drill – corded or battery operated) with appropriate drill bits.
- Impact drill and drive bits for driving fasteners
- 25' tape measure
- 6' level
- Ladders
- Extension cords
- White rubber (non-marring) mallet
- Stud finder, if securing to wood frame
- Caulking gun and caulk of appropriate color
- Paper towels or rags
- Acetone, lacquer thinner or mineral spirits for cleaning metal surfaces
- Eye protection
- Laser level with plumb and a laser detector for bright sunlight
- Chamfer Bit
- Bar Clamp and wood block

General Procedure Retractable screens are easily installed by following a few simple steps. It is important to note that the screen will look best and perform best when the reel is level, the tracks are parallel and perpendicular to the reel, and the screen is installed so that the tracks are placed the correct distance apart. To achieve the best possible fit, Fenetex screen tracks have been designed to be adjustable. Different track styles are adjusted in different ways and most irregularities can be resolved using this adjustment. Here are the basic steps and approximate time to complete:

- Mount Hood Assembly or Cavity brackets (20 min)
- Mount Tracks (30 min)
- Install Reel and Screen Assembly (5 min)
- Program Motors, Lower Screens (10 min)
- Adjust Screens (20 min)
- Install Cover Plates (5 min)

Take steps necessary to clean and even the surface prior to mounting track or hood assemblies. Use build-out as required to achieve level and aligned surfaces for the screen tracks and hood. Install build-outs as needed to allow the screen to clear obstructions.

Mount the Hood Assembly or Cavity Brackets

General Notes:

- A laser level and a daylight laser detector will make this go faster.
- It will be easier to mount the Hood with the reel removed but it is not necessary.
- If installing build-outs and you plan to build-out vertically behind the track, you must also build-out horizontally behind the hood assembly. Use two pieces of build-out behind the hood, one at the top and another at the bottom.
- Most local building codes require an electrical contractor to install the wiring required for a motorized operator.
- The wire can exit through the back or top of the housing or down the opening in the track.
- **Remove Reel Assembly:** When the size allows, the screen is shipped attached to the reel assembly mounted within the hood assembly. If necessary to mount the hood, remove reel assembly by retracting the idler side and releasing the motor mount retainer spring (You may have one of two idler styles on the reel 1. A spring loaded idler pin that engages a hole in the end-cap. Retract pin with a flathead screwdriver where the square shaft is machined round. 2. A bearing cap that rides on a pin on the end-cap. Retract bearing cap by removing set screw on bearing cap). The reel will come out easily. If you have a CMO motor or a gear drive, the mounting plates must be removed by removing the 4 screws on the 100mm mounting plate. Handle the reel assembly carefully and set aside in a clean and protected space.
- **Mark the height:** On your order sheet, you have selected an overall screen height. Mark this height on the tallest side of the opening - measure the height of your hood and make a parallel line under the first line that corresponds with the height of the hood. These lines represent the top and bottom of where the hood will be mounted. A laser level shot across these lines will indicate exactly where level is on the opposite side of the opening - mark these lines. If you are installing with build-out, install the build-out using the horizontal lines as a guide.
- **Center the hood:** It is important to re-measure the hood and opening. In most cases the hood is centered above the opening, mark one side of the opening that will leave the hood centered - transfer that mark to the top of the opening in the area where the horizontal marks are. You should now have three intersecting lines that show the hood top, the hood bottom and the hood edge.

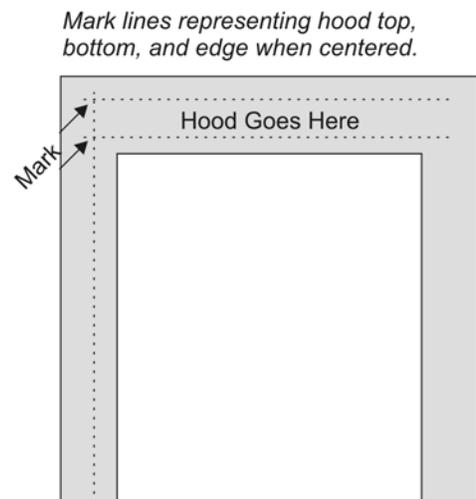


DIAGRAM: N1

- **Cavity Bracket:** If using a Fenetex cavity bracket mounted to a wall, follow the same procedure or, if mounting to the ceiling, shims may be required to adjust the rough level. The Fenetex 6x9 bracket has been designed with an adjustable inner plate that allows further level adjustment
- **Position Motor Mounts:** Your hood assembly shipping is configured based on your order. Should your installation require repositioning motor mounts or reversing the side the motor is on, remove the reel, remove the reel stub axles and switch sides, remove the motor mount and idler bearing if applicable and switch, reinstall reel.

- **Install the hood:** The end cap should be structurally attached to the building. Use brackets, and at least two substantial fasteners such as 5/16 Tapcons in concrete or 5/16 lag bolt in wood to secure the end cap to the building. With two people, align one hood side to the top and bottom lines and loosely attach the hood to the wall to pin the hood in place. The unfastened side can now be raised or lowered to achieve level. Use a laser to double check level across a reference point on the end cap. Don't rely on the hood as a reference for a level. When level, secure the opposite side end cap. Using the level as a guide, secure the hood to the wall.

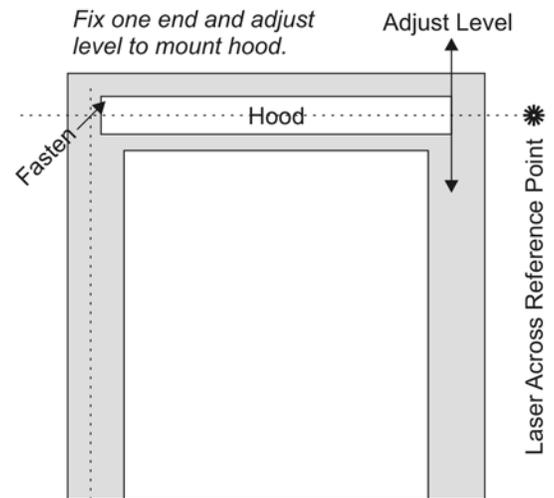


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NOTE: If working short handed, a shop-made support brace (shelf bracket with platform) can be screwed into the wall at the hood bottom line to support the hood while adjusting the opposite side.

NOTE: A simple bracket cut from 2"x2"1/8" aluminum angle or similar may need to be used to support the hood on wide screens.

Mounting the Tracks

General Notes:

- Fasteners should be initially tightened just enough to tack the track in place.
- If installing build-outs, the build-outs must be plumb and securely fastened to the wall before you fasten the track to the build out. Drill the mounting holes for the build-out offset from those in the track.
- If installing screens during construction it is very important to protect the screen grooves from concrete dust and other debris. It is very difficult to clean concrete dust from the inside of the screen grooves. For Insect screen tracks it is recommended to remove the inner track, block and seal the opening with tape. For hurricane tracks it is recommended to seal the opening with tape. Use a top quality long lasting painting

tape. A screen that does not work because it is loaded with concrete dust is not covered under warranty.

INSECT/SHADE SCREENS: Insect/shade screens are attached to the wall face as an face/outside mount or to a column as an jamb/inside mount.

NOTE: The screen portion has been constructed based on an overall width including the tracks. It is important that the tracks are mounted such that they match the ordered screens. Typically this is also the width of the hood and the tracks can be aligned to the hood assembly.

NOTE: The inner and out track are machined together for alignment of the adjusting screws. If any trimming is necessary to the base channel, trim from the bottom while the inner and outer tracks are fastened together.

- **Face/Outside Mount:** Measure the distance from the bottom of the hood to the floor and trim the insect screen base track to fit if needed. Drill mounting holes and chamfer holes for flat head screws where needed in insect screen base track, typically 12" spacing is used, staggering screws to keep base flat. Align the outside edge of the base track to the outside edge of the hood. Fasten the track using the top most hole and tap track into a plumb position, repeat the steps for the opposite side. Measure the overall width at the top, if this dimension matches the ordered screen, fasten the center anchors, measure and continue to the bottom fasteners. The screen base tracks should be at the correct overall width dimension, plumb, parallel and perpendicular to the hood assembly. When the above conditions are met, secure the remaining fasteners and snap the insect screen tracks onto the bases.

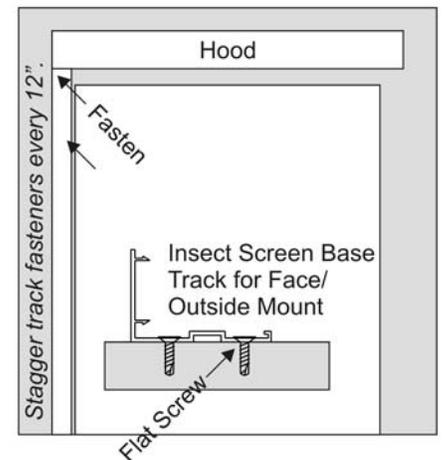


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NOTE: If using a Face/Outside Mount Screen Base Track, the base must be attached to building with flat head screws or the screen track will not snap in place.

NOTE: Because the extrusions are designed to snap together with a strong bond, attaching the insect screen track to base track may be difficult. If this happens, use an appropriate sized "C" or bar clamp to draw the parts together. Use wood blocks to protect the extrusion finish.

Use a clamp to lock insect screen track into base track.

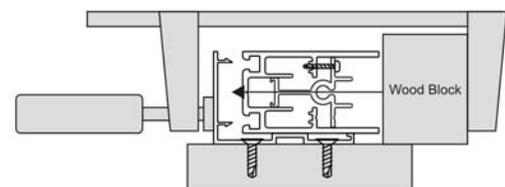


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- **Jamb/Inside Mount with Hood:** If using a hood mounted between the columns, follow the same basic procedure as for face mount tracks.

NOTE: Jamb mount tracks are mounted through the center of the track, a base track is not required. It is necessary to remove the inner track to fasten the outer track to the column.

NOTE: Columns may be out of plumb and require shims to bring track to correct overall width dimensions.

- **Jamb/Inside Mount into Cavity:** Follow same basic procedure as for Jamb/Inside Mount with Hood above. The trimmed height of the tracks will vary depending on the design of the cavity, cavity design must be taken into consideration. If using a 6x9 FENETEX bracket, the outer screen track is normally trimmed to the height between the floor to the bottom of the bracket.

HURRICANE SCREENS: Hurricane screens are attached to the wall face as an outside mount or to a column as an inside mount according to Product Approval and/or NOA documents. Please refer to these documents for installation diagrams and local code compliance in addition to these directions.

NOTE: The screen portion has been constructed based on an overall width, including the tracks. It is important that the tracks are mounted such that they match the ordered screens. Typically this is also the width of the hood and the tracks can be aligned to the hood assembly.

NOTE: If any trimming is necessary to the length of the track, trim from the bottom.

- **Face/Outside Mount:** Measure the distance from the bottom of the hood to the floor and trim the track and cover if needed. Hurricane tracks are pre punched with an obround hole with spacing based on your order, the obround hole allows a small amount of screen tension adjustment. Align the outside edge of the track to the outside edge of the hood. Fasten the track using the top most hole and tap track into a plum position, repeat the steps for the opposite side. Measure the overall width at the top, if this dimension matches the ordered screen, fasten the center anchors, measure and continue to the bottom fasteners. The tracks should be at the correct overall width, plumb, parallel, and perpendicular to the hood assembly. When the above conditions are met, secure the remaining fasteners.
- **Jamb or Inside Mount with Hood:** If using a hood mounted between the columns, follow the same basic procedure as for face mount tracks.

NOTE: Hurricane screens mounted between columns may require angle or build-out per Product Approval or NOA, see these documents for installation diagrams.

NOTE: Columns may be out of plumb and require shims to bring track to correct overall width dimensions.

- **Jamb or Inside Mount into Cavity:** Follow same basic procedure as for Jamb or Inside Mount with Hood, including notes. The trimmed height of the tracks will vary depending on the design of the cavity, cavity design must be taken into consideration

when ordering and installing. If using a 6x9 FENETEX bracket, the track and cover will be cut 6" less than the overall height thus allowing the track to extend 3" into the cavity.

DUAL SCREENS: Dual screens are installed by first installing hurricane screen tracks, then installing the insect screen tracks. Different insect screen tracks are used for face or outside mount and jamb or inside mount. The hurricane track is mounted the same as above.

- **Face or Outside Mount:** Mount hurricane track. The insect screen track is pre-punched with obround holes that allow a small amount of screen tension adjustment. The hurricane track has an alignment groove that corresponds to an alignment groove of the insect screen track, align these grooves and using a TEK screw secure the two tracks together at the top, middle and bottom. and repeat for the opposite side.

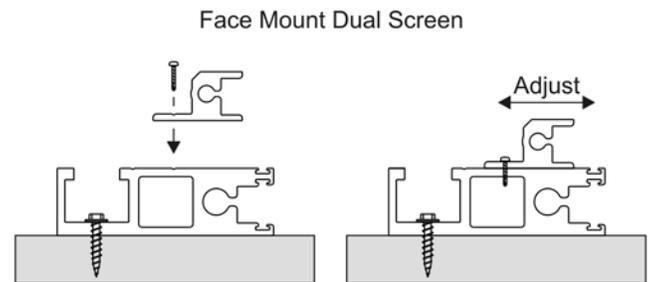


DIAGRAM: N5

- **Jamb or Inside Mount into Cavity:** Mount hurricane track as above. The jamb or inside mount insect screen track is attached to the hurricane track by either the use of an adapter extrusion or is fastened with a TEK screw. The inner screen track must be removed to mount the outer screen track to hurricane track. The tracks must be aligned to their inside edges.

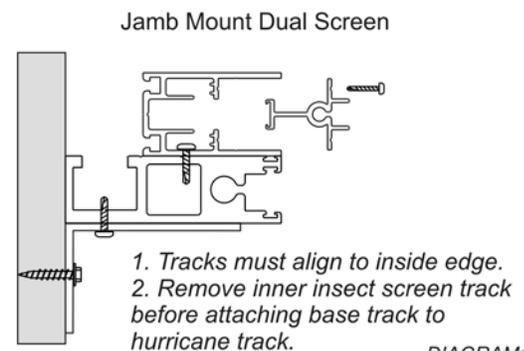


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- **Attaching to Aluminum Roll Shutter for Cavity Mounting:** Depending on the host roll shutter, an end cap mounting plate and track adapter is provided that allows the FENETEX screen to attach to a roll shutter. Prepare the opening for installation of the host shutter. Attach the end cap adapter to the assembled roll shutter end cap. Install the roll shutter per manufacturer's instructions. Attach the FENETEX track adapter to the Fenetex insect screen track, then attach to roll shutter.

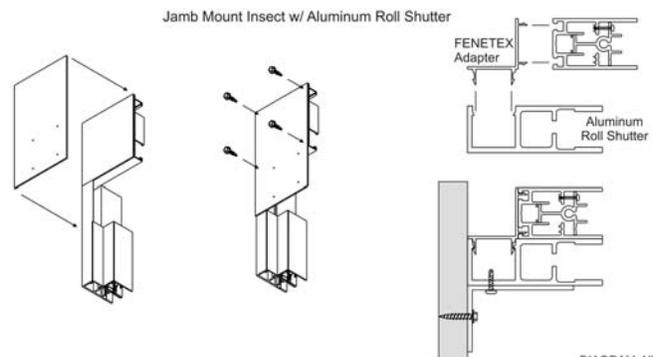


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Install the Reel Assembly: The reel assembly contains the motor or gear, idler, reel, reel stubs, screen and weight bar. Handle this assembly carefully. The reel assembly has been sized and adjusted for its corresponding hood and over all track width. To install, reverse the steps taken to remove. The idler pin is spring loaded; the pin should be positioned to the idler bearing and pushed in while setting the motor into its spring bracket. The assembly snaps into place. If you are installing a CMO motor or a gear drive motor, you will have to screw the mounting brackets in to install the components. Once the reel is locked in place, feed the screen into the tracks. There should be enough slack in the screen to slip the weight bar guides and end retention bead into the screen channel.

NOTE: Dual screen systems are installed hurricane screen first on upper reel.

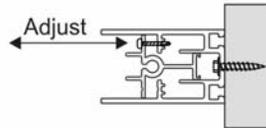
Program Motors, Lower Screens: If motors are being used as an operator, they must now be connected to power. Refer to the motor manufacturer's guide for programming. Initiate programming sequence as required to allow motor to operate in the down direction, lower screens to gauge how they move and simultaneously program the limit settings. CMO motors and gear drives can be lowered manually. At this point in the installation, the concern is to set the limits on the motors correctly. If the screens are binding in the tracks, adjust the tracks inward until they run freely allowing the motor limits to be set. The down limit is set first and the screen should be driven down until the weather seal slightly compresses on the floor. It is preferred that the screen is set so that the weight bar is not resting on the ground but is hanging by the screen; this will give the best look to the finished installation. Adjust the top limit to go as high as practical minimizing the amount of weight bar visible when the screen is up.

NOTE: Once you start programming a motor, you must complete the programming sequence.

Adjusting the Tracks for Screen Tension: *Note: If the assembly does not operate correctly due to the screen being too loose or too tight, adjust the track in or out.*

- **Insect Screen Adjustment:** Insect screens tracks are a two-part system. The outer track is affixed to the building, the inner track moves in and out and has a series of stainless steel springs that are compressed by the adjustment screws. The inner track slides into the outer track and the screws are tightened. On the inside surface of the outer track are two small grooves, these should be aligned to the flange of the inner track for the initial adjustment, when aligned, this is the design to dimension for the screen. Adjust screen tension by turning the screws. Screws should be adjusted evenly for best performance, continue with adjustment until screen runs smoothly.
- **Dual Screen Face Mount Insect Screen Adjustment:** Insect screen track is attached to the hollow cavity in the hurricane track.

Insect Screen Track
Adjust insect screen tension screw with screw driver for face or jamb mount insect screen tracks.



Dual Screen Insect Track
Adjust insect screen tension using obround hole in inner screen track for dual screen face mount tracks.

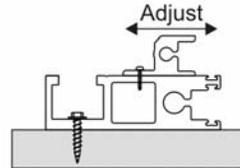


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- **Hurricane Screen Adjustment:** The hurricane track is punched with an obround hole, if the screen is not running smoothly, tap the track in or out to increase or decrease screen tension. It is preferred that the screen be as tight as possible while still operating smoothly. Once the screens are running smoothly, secure the remaining fasteners.

Tuning the Screens: Sometimes it is necessary to fine tune the installed screen. Some of the things that might happen are listed below:

- **Weight Bar Will Not Go Up Evenly:** Generally there are a few things that cause this, troubleshoot the problem by following the steps below.
 - Reels that are not level will have a ripple develop as the screen is rolled up. This ripple will grow causing one side to roll up faster. Recheck reel level and adjust as needed. If the level of the reel is correct, proceed to 2.
 - The screen is mounted slightly askew on the reel or is slightly out of level. Use thin shim stock with double sided tape and place shims on the end of the reel at the low side. The shims will increase the diameter of the reel slightly which will cause the shimmed side to roll-up at the same rate as the other side. If the problem is not corrected, proceed to 3.
 - The screen needs to be removed and reattached to the reel. With the screen fully lowered, place shims under the weight bar to maintain lower limit setting of motor. If an insect screen, remove spline, take out slack, smooth and respline. If a hurricane screen, remove TEK screws, release velcro, take out slack, smooth and reattach. If the screen is still problematic, repeat step 2. If this does not resolve the problem proceed to step 4.
 - There is an issue with the tracks not being perpendicular to the reel. Check the tracks and adjust as necessary. You may have to repeat steps 2 and 3 after correcting the tracks.
- **Screen Will Not Go Down:** Generally there are a few things that cause this, troubleshoot the problem by following the steps below.
 - The screen is too tight. Loosen the screen by adjusting the tracks towards each other.

- The tracks are kinked because the building is not flat. Sight the track edges and look for areas where the track is pulled in, in these areas, back off the fasteners and shim the gap.
- Not enough weight in the weight bar. This normally happens in windy locations, where there simply isn't enough weight to overcome the friction caused by wind-load in the screen. It may be a reality of the installation site that this is not resolvable and the screens will need assistance to be lowered on windy days. Additional weight can be added internally to the weight bar, use 1/2"x1" flat bar in s/s or primed steel.

Finishing the Installation: Once the screen operates correctly, secure all fasteners and test again. Install the track covers and the hood assembly cover and test the screen again.

Fastener Cover Installation

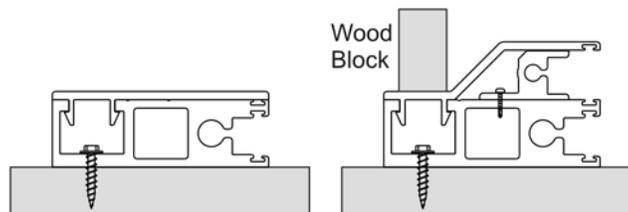


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NOTE: Track covers fit tightly. Use a non-marring mallet to assist with installation. With the dual screen cover, a block of wood cut to fit the flat area will help when installing this cover. Track covers can be removed, carefully pry off to avoid damaging the finish.

NOTE: If screens are installed during construction and left in place, it is critical to completely and thoroughly wrap the rolled-up screen with paper, plastic and shrink-wrap. It is very difficult to clean concrete dust from a screen and often screens will need to be remanufactured if proper steps are not taken to keep them clean. A screen that does not work because it is loaded with concrete dust is not a warranty issue.

• **Caulking:**

- Caulk all edges, use a backer rod to fill large gaps before you apply caulk.
- Caulk both sides of the tracks and around the hood assembly perimeter.
- Clean up the job site and take special care to remove any dust, debris or metal filings.

Optional – Attach the Header

- The header is a structural support attached directly under the hood cover housing and fastened to the side tracks. Fenetex does not normally supply this component unless the item is ordered separately. This support provides additional structural integrity to the housing if the housing is very wide. The header is the same length as the overall box length and is either a

piece of angle or a rectangular tube, depending on the width of the box. The header is pre-drilled for you to attach to the track. The pre-drilled holes line up with the track's center cavity. Once the motor limits are set and the housing front panel is secured in place you are ready to attach the header.

- Place the header directly under the box and up against the track.
- Secure the header to the track using the supplied self-tapping screws.

Details on Installing Manual Operators (including Overrides)

- **Gear with Universal Operator (Outside Installation):** If you have selected a manual or CMO operator, the installer must drill the hole in the hood cover for the universal, the factory does not drill holes in the hoods in case any changes need to be made. The Gear or CMO drive shaft can be aligned to exit the hood in any location; however the normal is to be on the 45 or bottom.
 - Determine the correct location to drill the hole for the drive rod.
 - Using the end cap as hood profile guide, use the drive shaft to turn the gear to align the drive shaft to the hole that will be drilled in the hood cover (fasteners may need to be adjusted, mounting plates may need to be moved).
 - When aligned tighten fasteners and set universal aside for installation after the hood is installed in final steps.
- **Gear with Universal Operator (Inside Installation):** If the operator is manual, or motorized with the override option, and is operated from the inside, drilling the holes for the crank drive rod is critical to a quality installation. Once you have drilled through the wall it is challenging to make changes. With a manual crank design, the system operates from the inside. To accomplish this, a hole for the crank drive rod must be drilled through the wall.
 - Working from the outside, with the gear or motor mounted 2. Using a ¼" drill bit, insert the bit through the opening in the gear and drill a pilot hole through the wall.
 - After drilling the ¼" pilot hole in the correct location, go inside and, using the ¼" pilot hole as a guide, enlarge the hole with a 5/8" drill bit.
 - Cut the drive rod to the appropriate length. Make sure the drive rod can operate the system freely without touching the wall.
 - Secure the universal assembly with the appropriate fasteners.

NOTE: You should have a drop cloth on the inside to catch debris and use a vacuum to collect dust.