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Materials Included

- (1) 20" exhaust shutter fan
- (1) 24" power shutter
- (1) Motor
- (1) Motor mount bracket
- (1) Motor arm
- (4) #8-32 X 3/8" screws
- (3) S-hooks
- (1) Chain
- (2) Return springs
- (1) Line voltage thermostat

Tools Needed

- Measuring tape
- Level
- Drill
- 1/4" & 1/8" drill bits
- 1/4" wrench
- Phillips head screwdriver
- 5/32" Allen wrench or hex key
- Pencil
- 8' ladder

ASSEMBLY INSTRUCTIONS

STEP 1: MOUNTING THE EXHAUST SHUTTER FAN

- 1.1 Frame out a 21" x 21" opening near the peak of the tunnel for the 20" shutter fan.
- 1.2 Insert the shutter fan into the opening from the inside of the tunnel so the shutter louvers are facing outward.
Note: *The shutter louvers should be able to open and close freely.*
- 1.3 Secure the shutter fan to the end wall frame using screws and the pre-drilled holes along the flange (see figure 1).
Note: *Use #14 X 1" Tek screws for attaching to metal end walls, and #12 X 1 1/2" Woodmate screws for attaching to wood.*

Plug the cord into a 115 AC grounded outlet that meets national, regional, and local codes.

Note: *Be sure to create a drip loop with the electrical cord to prevent water from entering the thermostat housing.*



Figure 1: Exhaust shutter fan installed.

STEP 2: MOUNTING THE MOTORIZED POWER SHUTTER

- 2.1 Frame out a 25" x 25" opening near the peak on the opposite end of the tunnel to mount the motorized power shutter. You will need to add one vertical brace that goes from the bottom-center of the shutter frame, down to the top of the door frame. This will be used to mount the motor below the shutter (see figure 2).
- 2.2 Insert the power shutter into the opening from the inside of the tunnel so the shutter louvers are facing outward (see figure 2).
- 2.3 Secure the power shutter to the end wall frame using screws and the pre-drilled holes along the flange.
Note: Use #14 X 1" Tek screws for attaching to metal end walls, and #12 X 1½" Woodmate screws for attaching to wood.
- 2.4 Attach the motor arm to the motor drive shaft by aligning the flat edges with the socket screws and tighten them using a 5/32" Allen wrench or hex key. Manually turn the motor arm so that it is positioned straight up and down (see figure 3).
- 2.5 Locate the horizontal center of your newly installed shutter and make a mark on the wall frame directly below the shutter flange with a pencil.
- 2.6 Measure ¾" to the right of this center line and make another mark. This line will determine the left edge of your motor mount bracket (see figure 4).
- 2.7 Measure 2" down from the bottom edge of the shutter flange and make another mark to determine the position of the top edge of the motor mount bracket (see figure 4).
- 2.8 Line the short side of the motor mount bracket up with these marks and secure it to your structure using #14 X 1" Tek screws or #12 X 1½" Woodmate screws (see figure 4).
- 2.9 Secure the motor to the motor mount bracket using the four #8-32 X 3/8" Phillips head screws provided.



Figure 2: Motorized power shutter installed (outside).



Figure 3: Attaching the motor arm to the motor drive shaft.

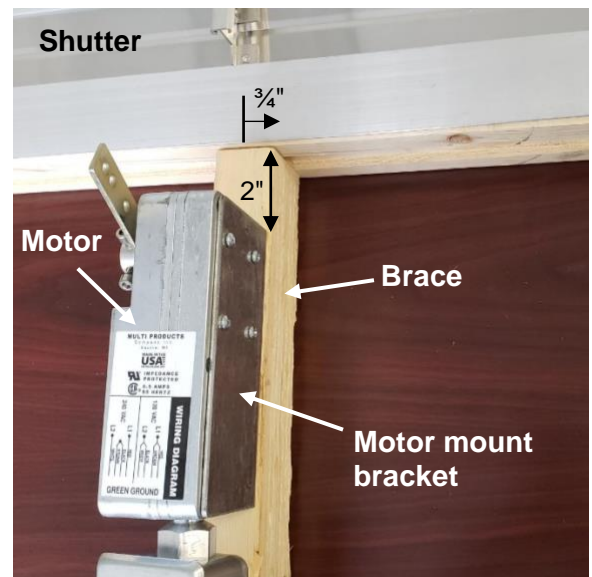


Figure 4: Motor mount bracket and motor installed onto the brace between shutter and door frame.

2.10 Locate the corner on the shutter where the outer flange meets the vertical tie bar. Measure $\frac{1}{2}$ " to the left of this corner and $\frac{1}{4}$ " up from the bottom of the upper shutter flange and make a mark with a pencil. Drill a hole through the shutter flange in this location using a $\frac{1}{8}$ " drill bit (see figure 5).

2.11 Hook one end of the return spring into the hole you just drilled and hook the other end around the hole located by the second louvre from the top (see figure 6).

2.12 Insert an S-hook into the first available hole below the return spring on the tie bar (see figure 6), and attach another S-hook to the motor arm (see figure 7). Trim the excess chain.

Note: Connect the chain between these two S-hooks so that there is just a slight amount of slack.

2.13 Plug the power cord into the grounded outlet on the thermostat cord.

STEP 3: INSTALLING THE THERMOSTAT

3.1 Mount the thermostat onto your tunnel wall using #14 X 1" Tek screws or #12 X 1 $\frac{1}{2}$ " Woodmate screws.

Note: The thermostat should be placed at a convenient height for operation.

3.2 Plug the power cord into the grounded outlet that meets national, regional, and local codes.

Note: Be sure to create a drip loop with the electrical cord, to prevent water from entering the thermostat housing.

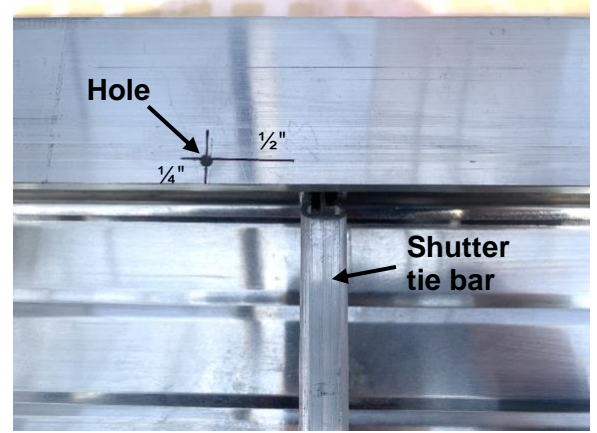


Figure 5: Hole drilled for attaching the return spring.

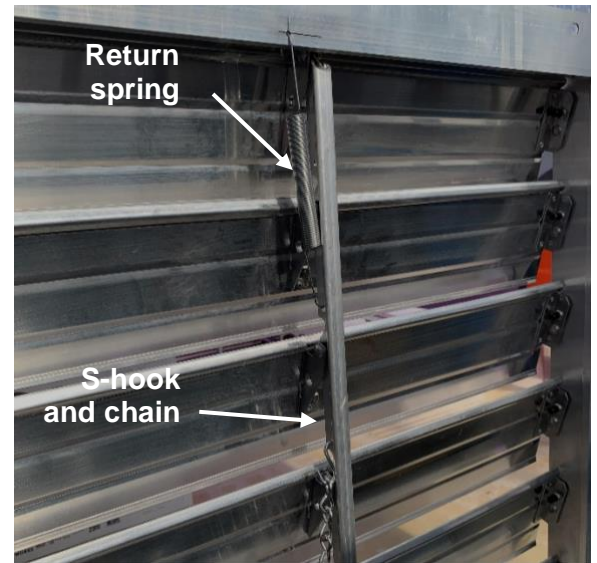


Figure 6: Return spring, S-hook, and chain placement.



Figure 7: Attaching the S-hook and chain to the mounting arm.