

Assembly Instructions for Manual or Motor Operated Type S Wall Shutter

Shutter installation instructions - other side

Single-Panel Motor Operated Shutter (Model S24 through S36 - See Figure 1)

1. These shutter models have two tiebars. Before mounting the shutter motor to the shutter, re-position the shutter motor on the bracket as shown in Figure 3. Mount the motor and bracket to the bottom of the inside face on the rear of the shutter. Holes in the shutter frame are pre-punched. Position the bracket so that it is attached to the shutter frame along both the bottom and the side. Use the two (2) No. 10 nuts and bolts provided to attach the bracket to the shutter frame.

2. With the shutter in the closed position, place a small S-hook in the lower center hole in the left tiebar. Manually rotate the operator arm so that it is pointing up. Cut the chain linkage to the correct length and attach it to the small S-hook. Crimp the S-hook closed. Remove and discard the extra chain from the large S-hook in the operator arm. Also discard the extra S-hook, which is not used.

3. Mount a return spring to the shutter frame using the clamping screw. Align the return spring parallel to the chain linkage. Connect the return spring wire to the upper center hole in the left tiebar. Adjust the tension to hold the shutter blades firmly closed. Discard the extra return spring.

4. Check the voltage on the motor. Connect the wiring and test the shutter's operation. Adjust the linkage if necessary.

Double-Panel Motor Operated Shutter (Model S42 through S60 - See Figure 2)

1. These shutter models consist of two panels divided by a center rail. Mount the motor and bracket assembly to the bottom center of the outside face on the rear of the shutter. Holes in the center rail and the bracket are pre-punched. Position the bracket by aligning the holes in the left side of the bracket with the holes in the center rail. Bolt the bracket to the center rail using the $\frac{1}{4}$ " nuts and bolts provided. NOTE: To avoid interference, the bolts must be inserted with the heads on the inside of the shutter and the hex nuts on the outside (bracket side).

2. With the shutter in the closed position, place a small S-hook in the lower center hole in each of the tiebars just to the left and right of the center rail. Manually rotate the operator arm so that it is pointing up. Cut the chain linkages to the correct length and attach them to the S-hooks. Crimp the S-hooks closed.

3. Connect the return springs to the shutter frame using the clamping screws. Align the return springs parallel to the chain linkages. Connect the return spring wire to the upper center hole in each tiebar. Adjust the tension to hold the shutter blades firmly closed.

4. Check the voltage on the motor. Connect the wiring and test shutter's operation. Adjust the linkage if necessary.

Manual Operated Shutter (Model S24 through S60)

1. Chain linkage and return spring should be mounted as outlined above for motor operation. Refer to figure illustrating linkage for correct shutter model.

2. For manual operation, attach extra link of chain to S-hook at point where operator arm is shown on figure.

3. Attach chain pulley bracket to shutter frame at point where motor and bracket are shown in figure. Thread chain through pulley.

4. Fasten chain anchor on wall below shutter to provide anchor for lower end of chain when shutter is in "open" position.

CAUTION: Do not return damaged or defective parts to American Coolair without prior authorization. If repairs under warranty are claimed, see warranty terms in American Coolair catalog or contact the factory in Jacksonville, Florida.

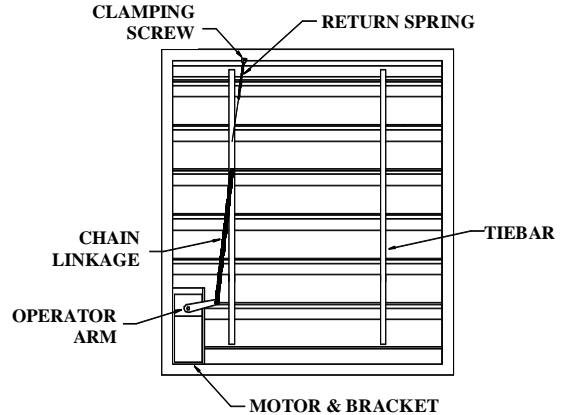


FIGURE 1
S24 THRU S36

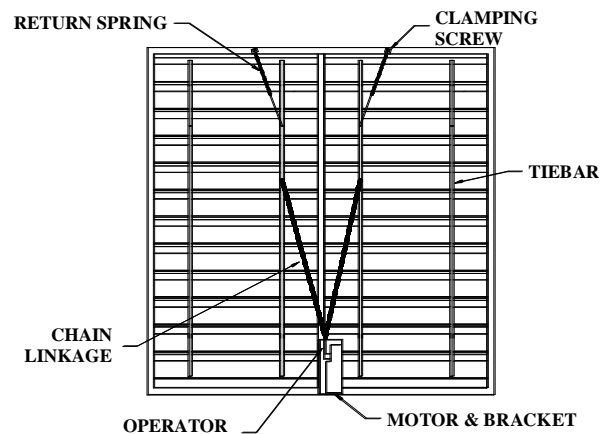


FIGURE 2
S42 THRU S60

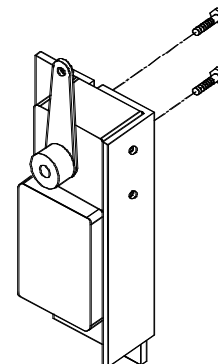


FIGURE 3



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Installation Instructions for Type S Wall Shutter

Assembly instructions - other side

1. Pre-Installation Check of Shutter. Before installation of an American Coolair Type S shutter, a careful check should be made for shipping damage which may affect operation of the unit. Concealed damage to the shutter is a possibility. If damage should be found, file a claim immediately with delivering carrier.

2. Alternate Installation Methods. All shutter models are shipped with flanges detached (but in same carton with shutter). This allows the installer to mount the shutter either to the outside face of the wall opening (See Figure 1) or recessed into the wall opening and flush with the outside wall (See Figure 2). The shutter may also be mounted without the use of flanges if desired (See installation Instruction (f) below).

3. Installation Procedures. *CAUTION:* The Type S shutter is made up of many precision-made parts. For each of them to function properly, care must be exercised in mounting the shutter. Please observe the important installation instructions below.

- a) Do not twist shutter frame or force shutter when attaching to wall opening.
- b) Caulk around edge of flanges and wall to prevent water leakage.
- c) When face mounting to a wall, caulk joint to top flange and shutter frame. See Figure 1 and Detail 1.
- d) When flush mounted, caulk joint of bottom flange and shutter frame - also under weep holes (Recommended bead of caulking along bottom edge of shutter frame before flange is attached). See Figure 2 and Detail 2. After flange is attached, caulk under weep hole to avoid leaking behind flange. Do not block weep holes with caulking.

NOTE: When flush mounted, bottom flange must be behind bent edge of bottom filler strip. See Detail 2. When flush mounting shutter, wall opening should be a minimum of 1/4" larger than shutter frame.

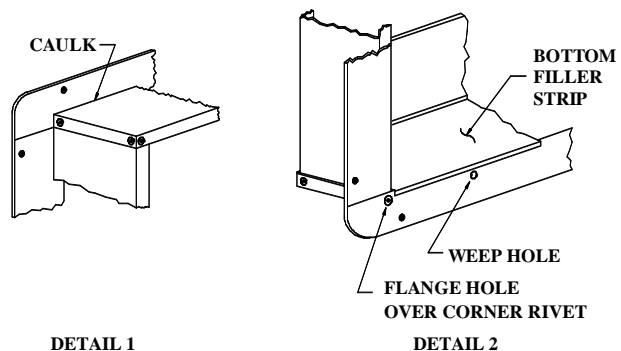
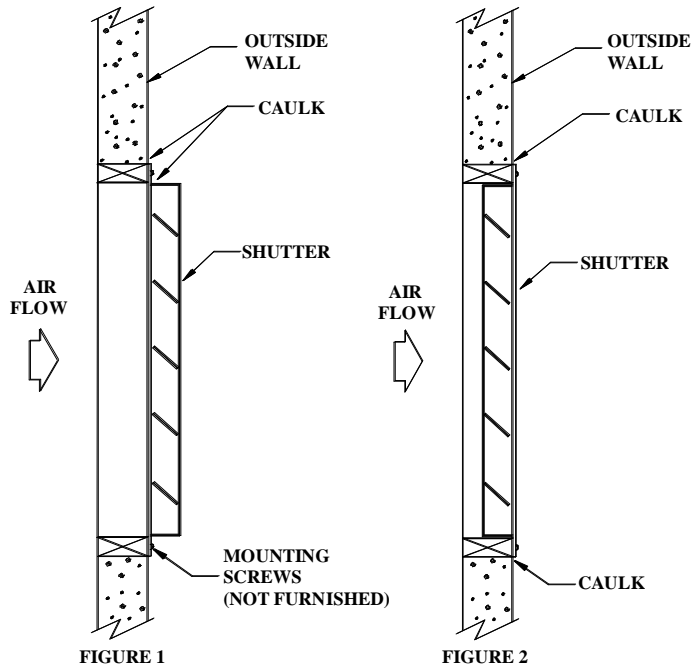
- e) Clean shutter regularly to remove dust and dirt.
- f) If shutter is to be mounted without the use of flanges, **do not attach to wall opening through side of shutter frame.** Use angle clips and holes through which flange is normally attached.
- g) On S42 through S60 shutters, the center flanges (the 2 shortest flanges) need to be mounted to the center frame rail of the shutter in order to minimize air and water leakage. The rear center flange, which has 5 holes, mounts to the tiebar (or blade linkage) side of the shutter. The front center flange, which has 3 holes, mounts on the opposite side of the shutter.

NOTE: When attaching top and bottom flanges to top and bottom frame rails of shutter, make certain that large hole on corner of flange fits over the rivets on corner of shutter frame. See Detail 2.

FAN-SHUTTER SPACING

For improved fan performance and extended fan and shutter life, a space equal to one-half of the propeller diameter between fan and shutter is recommended. If job conditions will not provide recommended space, the following minimums should be observed:

S24-S48	5 inches
S54-S84	7 inches



WARNING

CAUTION

DO NOT INSTALL FAN WITH MOVING PARTS WITHIN 8 FEET OF FLOOR OR GRADE LEVEL WITHOUT A GUARD THAT COMPLIES WITH OSHA REGULATIONS. **DO NOT** USE UNLESS ELECTRICAL WIRING COMPLIES WITH ALL APPLICABLE CODES. **DO NOT** WIRE WITHOUT PROVIDING FOR A POWER SOURCE DISCONNECT AT THE FAN ITSELF. **DO NOT** SERVICE EXCEPT BY A QUALIFIED MAINTENANCE TECHNICIAN AND ONLY AFTER DISCONNECTING THE POWER SOURCE. FAILURE TO OBSERVE THESE PRECAUTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.



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