

OLD STYLE SOUTHWESTERN FIRE DOOR INSTALLATION INSTRUCTIONS

SOUTHWESTERN STEEL ROLLING DOORS 9525 WHITE ROCK TRAIL DALLAS, TEXAS

PLEASE READ COMPLETELY BEFORE INSTALLING DOOR. Specific installation techniques necessarily vary with job conditions, size of door, lifting methods and installation crew preferences. These instructions are intended to inform the experienced installation crew about the general order of installation tasks. We recommend Southwestern Rolling Doors be installed by experienced installers. For installation questions call 800-527-1355 or 214-348-7240. Hours are 7:30 a.m. to 4:00 p.m. CST, weekdays.

NOTE: Door parts are not interchangeable because assembly holes are match-drilled. Part numbers must match for each door.

NOTE: A Southwestern Fire Door has two springs. A main spring counterbalances the door in normal operation. An auxiliary spring closes the door after the fire-release mechanism has been tripped.

GUIDES

Inspect guide channels and correct any handling damage to channels before installing. Refer to guide layout, Figure 1, when positioning guides. Additional dimensions to opening center are shown. Curtain and end lock/wind lock positions are also shown. Final installation will be centered if opening center is used as layout reference. Final horizontal guide to guide separation should be as accurate as possible because deviation affects wind load capacity of door, and large deviation can cause end locks or especially wind locks to drag. Final position of guides should be level with each other and plumb. Raise guides above floor by "Amount to space guides above floor" given on data sheet. Use temporary spacers to help position guides above floor. If floor is not level the low-side guide must be raised higher above floor to compensate. Mark full shape of mounting holes. Near bottom of each marked shape, drill a hole of appropriate size for fastener. Bolt guides in place using a steel washer and a fusible washer under each bolt head. Remove temporary spacers from beneath guides. Inspect to ensure each guide channel "points" toward the other and that brackets are perpendicular to wall (parallel to each other) when trial-bolted to guides. Failure of channels to "point" toward each other may cause curtain to bind. If brackets are not perpendicular to wall then barrel may not be properly positioned later. If correction is required then loosen guide bolts and use shims (not furnished) under guide which will twist guide into correct position when guide bolts are re-tightened.

BARREL AND BRACKETS

Position barrel assembly at bottom of opening with barrel ends oriented correctly.

Refer to Figure 2 to identify barrel ends. NOTE: IF BARREL ENDS ARE REVERSED AUXILIARY SPRING WILL BE MISTAKEN FOR MAIN SPRING AND WILL COLLAPSE WHEN WOUND. Remove tension wheel from each

shaft. Identify brackets, shown in Figure 3, and place them on barrel ends. The hood support bands should be inside each bracket. Leave spacer on each shaft. Raise barrel and brackets into position and bolt brackets to guides. Install a bolt in all pre-drilled mounting holes. Mount the small angle clips on the top bracket bolt, on inside and outside of each bracket. Inside clip will allow later attachment of fire baffle. Outside clip will allow later attachment of upper hood angle.

MAIN TENSION WHEEL AND DRIVE TRAIN

Depending on door model, drive train may consist of 1) hand chain with gears, 2) motor operator with roller chain and sprockets, or 3) nothing. On drive bracket first install main tension wheel and then install drive train components, if any, as shown in Figure 3. The hand chain with gears is furnished in either of two versions: one uses a lock-link chain and sprocket wheel, while the other uses link chain and pocket wheel. The sprocket wheel version has a 1" diameter stub shaft with washers and cotter pin retainer. The pocket wheel version has a 7/8" diameter stub shaft with shaft collar and cotter pin retainer. The chain lock for the pocket wheel version is shipped loose in the parts box, and may be mounted on the guide using bolts in two pre-drilled holes (one through-bolt and one self-tap), or may be mounted on the wall. Gear alignment may be adjusted with washer spacers provided. Install motor operator if this is a motor-operated door. Do not yet install tension wheel on the other, ratchet-side, bracket.

CURTAIN

On each guide install the curtain stop which is the one closer to the wall. Roll curtain onto barrel. This may be accomplished as shown in Figure 4: Position rolled curtain (as shipped) at bottom of opening so that it will uncoil correctly. Using a fork lift or other lifting device, raise rolled curtain up near barrel. Pull top of curtain up between wall and barrel and attach curtain to barrel. When attaching, center curtain between brackets. Roll curtain onto barrel. Use chain hoist or main tension wheel or both. **CAUTION: FOR SAFETY DO NOT USE AN OPERATOR UNDER ELECTRIC POWER TO ROLL CURTAIN ONTO BARREL.** When curtain has been completely rolled around barrel apply enough tension on main tension wheel to maintain curtain wrapped around barrel. Continue to control curtain after applying tension because curtain will tend to roll either up or down with no stable resting point in-between. **CAUTION: SECURE A PAIR OF VISE-GRIPS OR OTHER SUITABLE CLAMPS A FEW INCHES BELOW TOP OF EACH GUIDE TO BLOCK GUIDE CHANNEL. THIS IS TO PREVENT CURTAIN FROM ACCIDENTALLY FALLING.** Feed curtain into guides just past top of guides and install remaining two curtain stops.

MAIN TENSION ADJUSTMENT

Refer to data sheet for "Additional main spring tension after balance at header" figure. Starting with tension adjusted to just hold door in full open position, add number of turns shown. Remove vise-grips from guides and roll curtain down to check door balance. Normally door will tend to open in both full-open and full-closed positions, and will tend to close in half-closed position. Door is at best balance when tendencies to open in full open and full closed positions are equal. **CAUTION: ALWAYS PLACE**

CURTAIN IN FULL OPEN POSITION WHEN ADJUSTING TENSION. To adjust tension, raise curtain to full open position and replace vise-grips near top of guides for safety. Increase or decrease turns on tension wheel as needed. CAUTION: LOSS OF CONTROL OF TENSION WHEEL WILL ALLOW CURTAIN TO FALL, WHICH MAY CAUSE INJURY TO PERSONS OR DAMAGE TO PROPERTY. ALWAYS INSTALL SAFETY CLAMPS ON GUIDES DURING ADJUSTMENT. NOTE: ANY TIME MAIN TENSION IS ADJUSTED THEN PUSH-DOWN SPRING MUST BE RE-ADJUSTED FOLLOWING THE PROCEDURE "PUSH-DOWN SPRING ADJUSTMENT".

AUXILIARY TENSION WHEEL, PUSH-DOWN SPRING ADJUSTMENT

Install auxiliary spring tension wheel (on ratchet side, opposite drive side). Lower curtain to a point a few inches above floor. Cause curtain to touch floor by winding auxiliary spring tension wheel upwards. (At first no tension may be felt. It may take up to 15 complete revolutions for an internal mechanism to engage tension. This is normal.) Make this quick test for correct setting: Raise curtain to approximately 25% open and release. Curtain should re-descend to floor. If curtain stops before reaching floor, add one notch of tension and repeat test. If necessary add tension one notch at a time until test is successful. NOTE: THIS ADJUSTMENT IS AFFECTED BY MAIN TENSION ADJUSTMENT. IF FOR ANY REASON MAIN TENSION IS SUBSEQUENTLY CHANGED THEN PUSH-DOWN SPRING MUST BE RE-ADJUSTED USING THIS PROCEDURE.

SETTING GOVERNOR ESCAPEMENT

Refer to Figure 3 and install ratchet pan assembly on shaft using washer and cotter pin. Note that bronze-surfaced pallet should be on wall side. Raise door to full open position, using greater than normal force, in order to complete winding of auxiliary spring. While holding door open against torque of auxiliary spring, pull bottom of ratchet pan away from wall to the "set" position and keep it in this position by lifting trip rod to horizontal "set" position. Trip rod may be supported temporarily by vise-grip or other means. If ratchet pan will not move far enough to "set" then rotate ratchet wheel to a more favorable position by moving curtain an inch or so up or down. (If moving curtain upward, required for maximum operating height, curtain stops must be temporarily removed.) Operate door as a test to verify that normal operating balance is restored due to auxiliary spring being locked off. Note: May need extra force to initially pull curtain away from full open position.

(FIRE DOOR TEST) Raise door to full open position and drop trip rods to test automatic closing. Reset door as above.

FIRE Baffle AND HOOD

Uncrate fire baffle and hood. Refer to Figure 5. Bolt baffle link chains to fire baffle. Let chain hang loose for now. Position and bolt fire baffle to mounting clips on inner face of bracket. Use fusible washers under bolt heads. Identify angles on hood. The longer angle is the upper hood angle. Using a fork lift or other lifting device, lift hood into position. Using fusible washers under bolt heads, install bolts through slots on upper hood angle and through slots in bracket mounting clips. While hood is still loose, thread baffle link chains through grommets in hood. Push upper hood angle up against wall and tighten bolts at

ends of upper hood angle. Pull baffle chain until fire baffle is snug against hood. Using small "S" hooks provided, attach baffle chain to a fusible link and then attach fusible link to tab on lower hood angle. NOTE: KEEP FUSIBLE LINKS EXPOSED. DO NOT HIDE LINK BEHIND FALSE CEILINGS, OR ALLOW LINK TO TOUCH OTHER OBJECTS. Attach hood to hood bands using sheet metal screws provided. Check to see if fire baffle is still snug against hood. Tighten fire baffle chains if necessary.

DROP-ARM CHAIN

Run another link chain from end of one drop arm, around round supports on top of hood, to end of other drop arm. For manual push-up doors with only one drop arm simply run link chain from end of drop arm up to upper hood angle. Attach link chain to drop arm with a fusible link in between chain and drop arm so that when fusible link melts drop arm will fall free. Connect link chain -- fusible link -- drop arm sequence using small "S" hooks provided. Adjust link chain length to support drop arms in horizontal position. Vise-grips previously supporting drop arms may now be removed.

INSPECTION

Observe overall operation of door. Slight variation in steel barrel diameter may cause one side of curtain to raise higher. This is only a problem of appearance if limited to an inch or two. Correction may be made by placing shim (a piece of wood may be cut to size) between curtain and barrel on low side. If curtain binds in guides verify that guide layout, especially guide separation, is correct; check curtain cut length. Curtain should remain centered. If curtain drifts check if barrel is level, check if there is no more than 1/4 inch total play between brackets and barrel. Curtain stops should not scratch curtain. Bend stops away from curtain if necessary. Nothing should protrude and scratch curtain from door header or from inside hood. On wind lock-equipped doors, if wind locks often engage wind bar (on wider doors or in areas with high winds) then a lubricating grease (not furnished) may be applied on wind bar surface engaged by wind locks. Although doors should not be operated with wind locks engaged, wind bar lubrication will help if this may happen inadvertently from time to time.