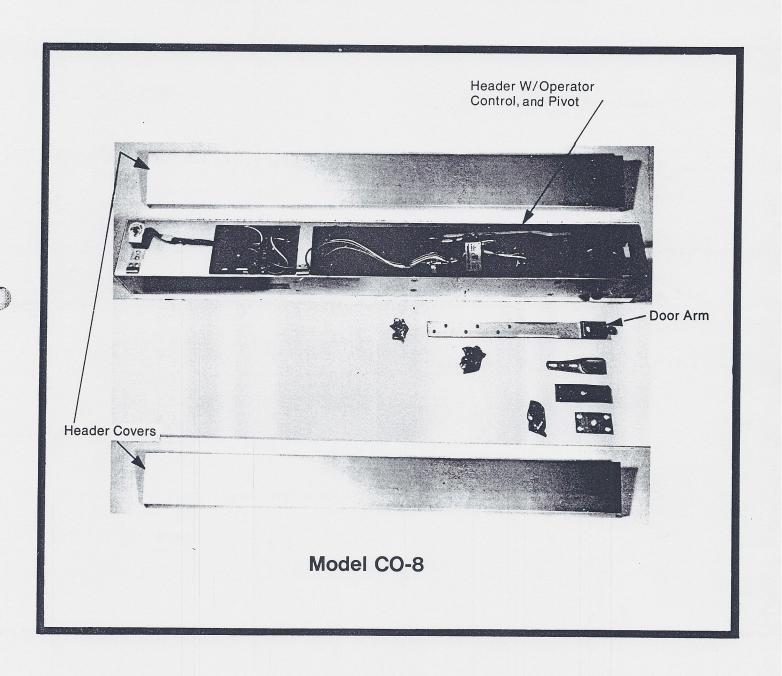
Installation Instructions

Automatic Door Operators 4000 Series (Model CO-8)





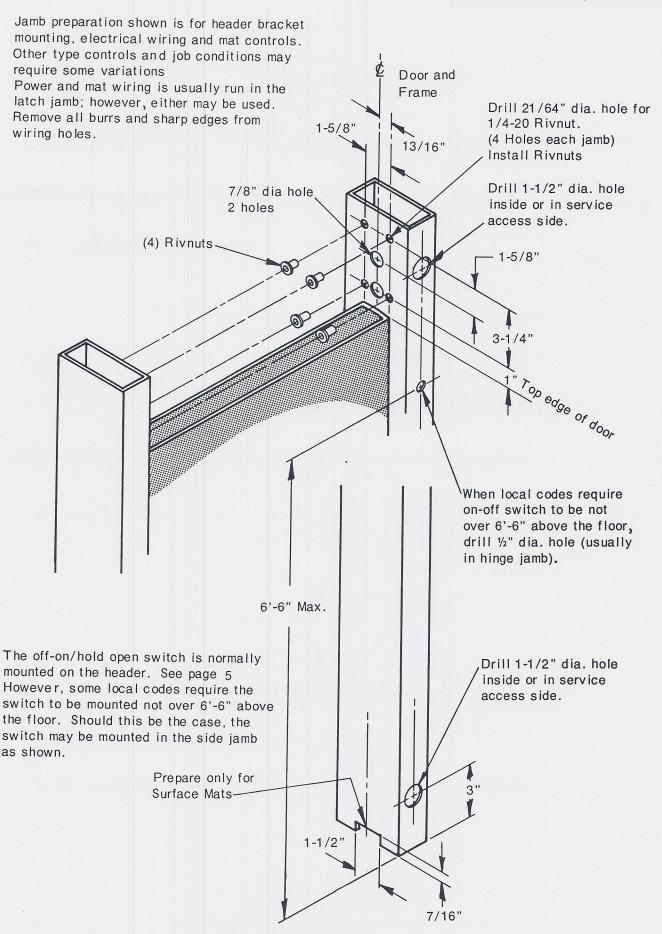
Automatic Door Operators 4000 Series (Model CO-8)

Keana Alondos Corporation

R.O. Box 1071

Montal New Cartin

Jamb Preparation



Electrical Preparation

Preparation of Inside Face of Jamb

Electrical power must be supplied by a three wire grounded system. Power must be brought in through the side jambs. It may be through either jamb and up from the bottom through the floor slab or down from the ceiling.

The jamb preparation shown is for power being brought in by BX from the ceiling. Rigid conduit or Romex may also be used, depending on local codes.

Jamb preparation shown also is for mat control. Other controls and/or job conditions may require some variations.

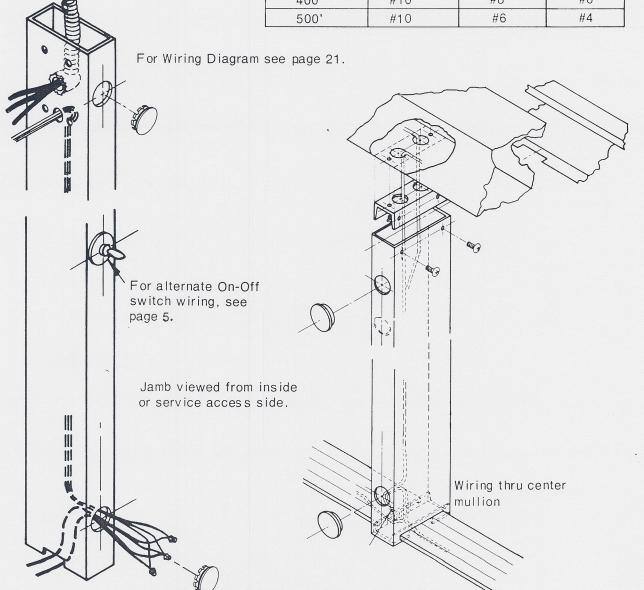
The off-on/hold open switch is usually mounted on the header. See Page 5.

ELECTRICAL POWER SUPPLY

- 1. Single Operator (1 Motor) 115-120 Volt, 60 Hertz, 15 Amp. *
- 2. Dual or Pair of Single Operators (2 Motors) 115-120 Volt, 60 Hertz, 20 Amp. *
- 3. Pair Dual or Four Single Operators (4 Motors) * 115-120 Volt, 60 Hertz, 30 Amp. *

Note: * All are 3-Wire Systems (2-wire w/ ground).
All fuses & circuit breakers to be Slow Blow Type.

RECOMMENDED WIRE SIZE CHART						
Length of Run	Wire Size					
Distance to	Single Oper.	Dual Oper.	Pr. Duals			
Main Panel	ain Panel (1 Motor)		(4 Motors)			
100'	#14	#12	#10			
200'	#12	#10	#8			
300'	300' #12		#6			
400' #10		#8	#6			
500'	#10	#6	#4			



Electrical Preparation

Preparation of Inside Page of Jamb

Electrical power must be supplied by a line wire grounded system. Power stust be prought in through the side lambs. It has be through either jand and up from the belief through the floor stab or down from the ceiling.

The jumb preparation andwhils for power being brought in by BX from the certifing Rigid conduit or Romex may hiso be used, depending on total codes.

pante proporation shows also is for mutcontrol. Crise control and or job continues may require some vertal lons.

The off-on/held open switch is usually mounted on the hedder. See Page 5.



(101014 1) iotaise() atpol

Tractad Volt, 60 Herrs, 15 Amp.

2. Dual et Pair et Single Operators (2 bloi 1 france Vair an Hunty 20 ame 1

3.7 Pain Dugil or Flour Single Operators (A Motors) 115-120 Volt, 60 Hertz, 30 Amp. *

kolet. * Alti ere 3-Wire Systems (2-wire w/ ground)... Alti fuses & circuit breakers to be Stow Blow Type

(\$unt)		



Frame and Header Installation

Erect automatic entrance package in entrance opening to door and frame manufacturers instructions. Check frame to be sure it is square and plumb.

An allowance of 1/8" around the door and 3/16" between threshold and bottom of door should be maintained.

Operator Installation

Mount the end brackets to the side jambs using the "rivnuts" and 1/4-20x3/4" Hex Head Machine screws furnished. (4 per bracket)

Before installing the header, be sure the power leads are long enough to reach the control for hook-up. Also, while installing the header, be careful in routing the wires around the operator

to be sure they will not be interferred with during the operation of the unit, or will not be pinched when the header is bolted in place.

The header may now be slipped over the end brackets and secured in place with 1/4-20x3/4" Flat Head Machine Screws (4 per end).

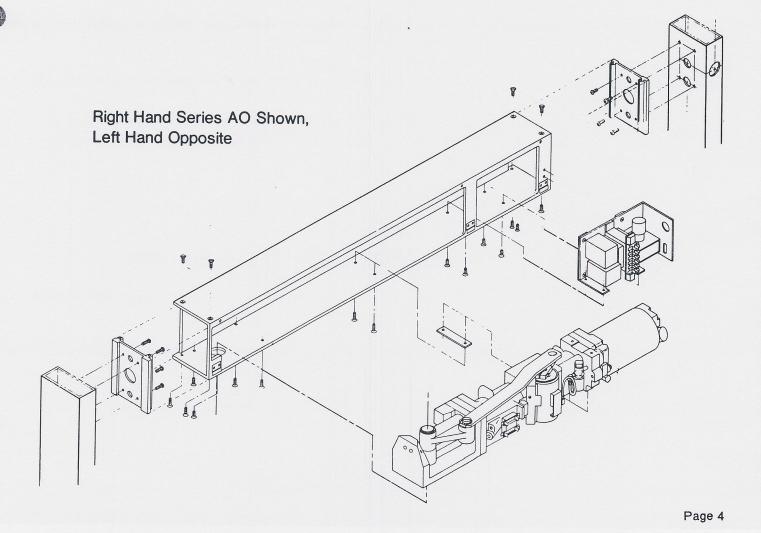
Mounting Operator

If the operator is not already installed in the header tube, it is sometimes easier to mount the operator before the header is installed in the frame.

The operator may be installed in the header as one piece. By holding the operator at an angle, and inserting the pivot end first, the pivot shaft can be

inserted through the hole in the bottom of the header. Rotate the operator and slip into place. Be sure 1/32" shim plate is installed under the motor pump mounting bosses.

The operator assembly is held in place with (6) 1/4-28x3/8" Flat Socket Head Machine Screw.



rame and Header Installation

Theat sutematic entrance package in entrance opening to deer and trans manufacturers instruction Check frame to be sure it is source and plumb

An allowage of t/8" around the door and 5/16 between threshold and heltom of door alrould be maintelned.

Mount the end brackets to the side jambs carrigthe "fivnute" and 1/4-20x3/4" Hax Head Machine

Before installing the header, be sure the power leads are long enough to reach the central for hook-up. Also, while installing the header, be careful in routhed the wires around the operator.

Operator Installation

to be sure they will not be interferred with during the operation of the unit, or will not be during the operation of the boiled in place.

The header may now be stipped over the end."
breakers and secured in place with 1/4-20x3/4"
Fiat Head Machine Screws (4 our end).

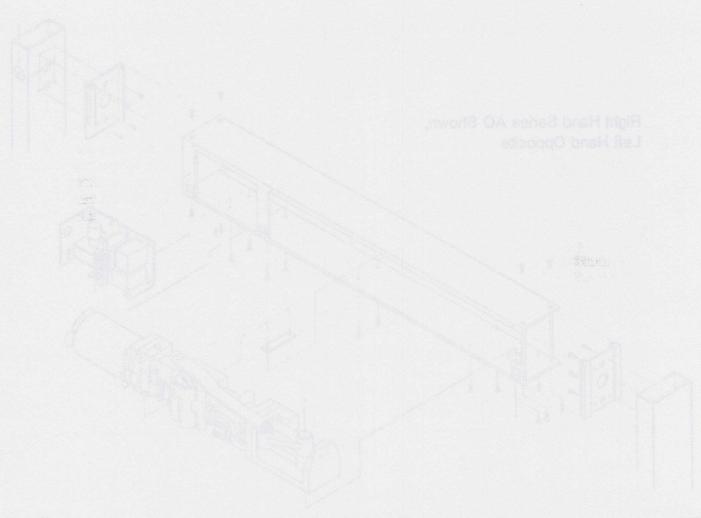
lounting Operator

if the operator is not already installed in the heads tube, it is sometimes easier to mount the operator before the header is installed in the trains.

The operator may be lestelled in the header as one places. By holding the operator at an angle, and to allow that the place and that, the place are the place and that, the place are the place and the place are the place and the place are th

inserted through the hole in the bottom of the header. Rotate the operator and site into place. Be sure 1/32" shim plate is installed under the motor pume mounting posses.

The oparator assembly is held in place with the 988378" Plat Socket Heart Machine Screen



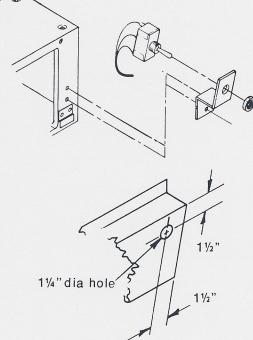
Mounting On-Off/Hold Open Switch

The header tubes are furnished prepared for mounting of the off-on/hold open switch for either side. The switch should always be accessible from the inside of the building only.

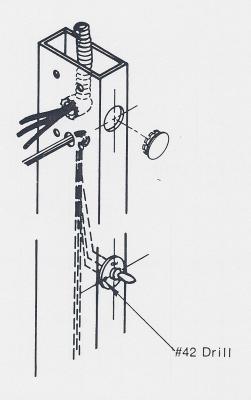
The clearance hole in the cover for the switch must be drilled in the field.

AO Series

1¼" dia. hole Tube prep for "out swing" 1/2" #28 dia -2 Holes 1-7/16" Tube prep for for "in swing" AO Series



This dimension may be 2" when there is no finger guard.



To mount the off-on/hold open switch in the side jamb, remove this switch from the control. Drop the switch down through the 11/2" diameter access hole and fish switch toggle out through the 1/2". diameter hole. Place the tabbed legend washer over the shank of the switch, and secure in place with the lock nut. Using the hole in tabbed washer as a drill guide, drill a number 42 hole in the jamb for the self-tapping screw to lock switch against rotation.

After the switch is mounted, feed the wires back through the 11/2" diameter access hole and into the header, reconnect to the control and power lead in.

viounting On-Off/Hold Open Switch

The header tubes are furnished prepared for no wing. At sementing of the off-on-hald open switch for either side. The switch should always be accessible from the inside of the building only.

The clearance hale in the cover for the switch must be drifted in the cover for the switch must be drifted in the field.

"gniws tuo" tot gets adii T aeros OA

2 Holes

This dimension may be 2" when there is no linger ouerd

To mount the off-on/hold open switch in the side jamb, rainave this switch from the control. Drop the switch down the control. Or open the switch down through the N° diameter access that sudding the through the N° diameter hole. Place the tabbed lagend washers over the shank of the switch, and secure in place with the front nut. Using the hole in tabbed washer as a drift pulde, drift a number of hole in the jamb for the self-tapping screw to lock switch against rotation.

After the switch is mounted, feed the wires back through the 1%" dismeter access hole and late the tend in



Bottom Pivot Preparation

Preparation for Bottom Pivot

Drop plumb bob from center line of pivot shaft on operator to floor. Mark floor. This is center of pivot for pivot plate. Locate and drill all holes into floor. Insert anchor bolts and attach plate to floor.

3/8" Drill 1-1/16" Deep

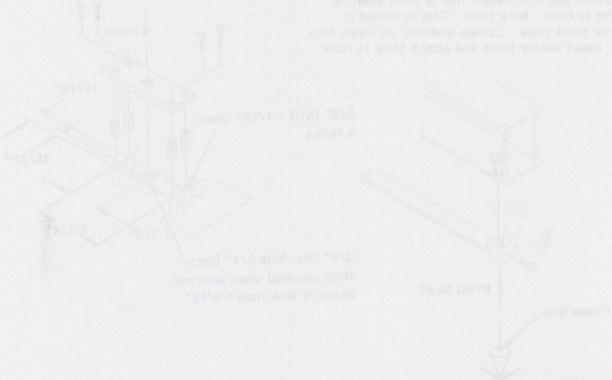
4 Holes

3/4" Dia. hole 3/4" Deep

Hole required when door rail depth is less than 1-9/16"

Threshold Preparation

The threshold furnished in the mat trim kit is one The balance of the threshold should be cut to piece 48" long. The center support leg will have length and drilled and counter sunk on center for been milled off the bottom on one end. Cut off attachment to the floor for surface mounted mats. 61/2" of this end and prepare this short piece to receive the bottom pivot. It is also recommended that this piece of threshold be further supported on the sides by 2 pieces of threshold lead-up. 7/32" Drill thru Cs'k. to 3/8" Dia. 2" Max. 61/2" 1/2" Dia. drill 4 Holes 10" Max. 10" Max. Typ. 15/32" 5/16" Dia. Drill 2" Max. Countersink to 7/16" Dia. 2-1/4" 15/16" 1-1/8" 3-3/4"



Installation of Floor Control Mats

Position mats under threshold and center between jambs. Caution: The distance from the edge of the "exposed" area of the mat to the jamb should never exceed 5 inches.

With the mat lane in position, the mat trim may be placed around the mat and used as a template for drilling the floor anchor screws. Use a ¼" masonary bit and drill through the predrilled holes in the threshold.

Caution: Place the mat lead wires into the wire groove on the end of the mats. Be sure the wires are out of the way before any drilling is performed. Be sure all dirt dust, shavings, etc. has been removed from under the mat trim and threshold before they are secured in place. Also be sure the mat lead wires are run into the side jamb and will not be caught under the center threshold support leg.

Latch Side

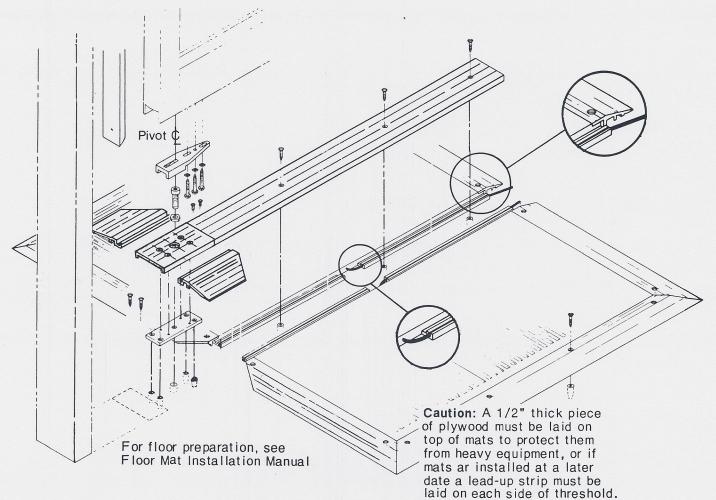


Dimension "X"
should never
exceed 5 inches
max.

Dim. "X"

Dim. "X"

Dimension "X" is the distance from the edge of the exposed area of the mat to the jamb. Dimension "X" should never exceed 5 inches.



installation of Floor Control Mata

Position data under threshold and centur between jambs. Caution: The distance from the edge of the "exposed" area of the most to the jamb should never exceed 5 teches.

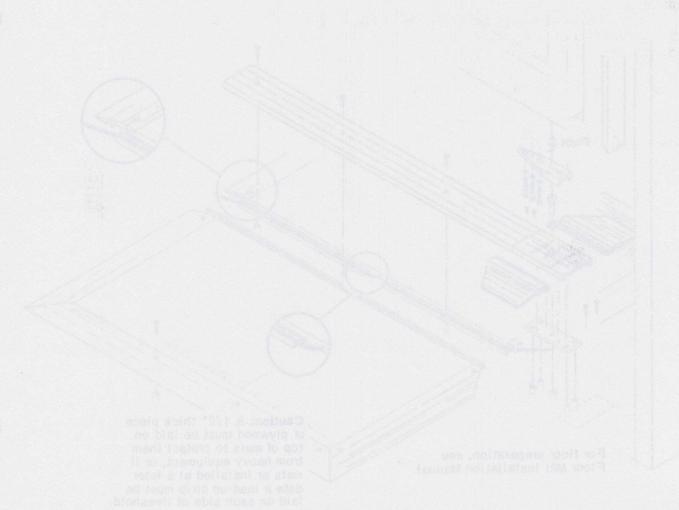
With the mat land in position, the dust time may be placed around the mat and used as a tempiste for drilling the floor anchor conews. Usin a wire masonary bit and drill drough the pradrilled agree in the threshold.

Calabor Piaca the east lead whee into the whe grooms to the part of the nate. Be sure the whree are out of the way before any deliting is performed. Be sure all the leat shavings, etc. has been removed from under the cat true and threshold before they are secured in place. The De sure the mat load wires are run into the elderand and will not be except under the center threshold apport tes.



Dimension "X" is the distance from the edge of the exposed area of the east to the tamb.

Dimension"X" should never exceed 5 inches.

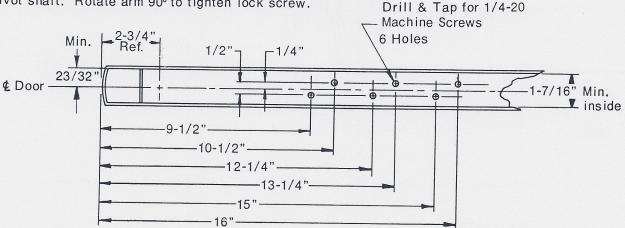


7-2004

Door Preparation

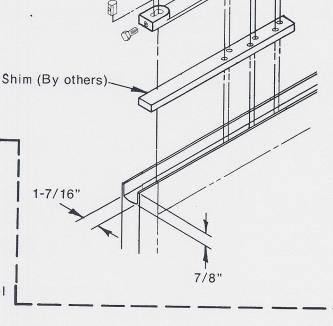
Preparation for Mounting Door Arm for Doors with 1" or 7/8" Deep Top Channel.

Drill and tap for 1/4-20 Machine Screw (6 Holes) as shown below. Cut 7/8" Deep x 1-7/16" wide relief slot in top of Hinge Stile. Mount door arm to operator pivot shaft. Rotate arm 90° to tighten lock screw.



Alternate for Channels Deeper than 1"

For door channels deeper than 1", add filler or shim to make depth of 7/8".



7/8" 1-7/16" 3-1/2"

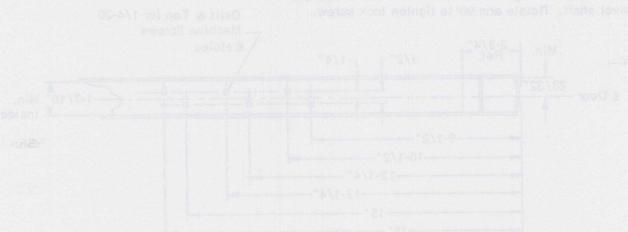
Alternate for 1/4" Deep Channel

For doors with 1/4" deep rib channel install door arm with boss down.

Cut a 7/8" deep x 1-7/16" wide x 3-1/2" long relief slot into top rail for boss. Use same dimensions as above but holes are opposite as arm is turned over. Install onto operator pivot shaft. Use 1/4-20x1/2" long Flat Head Machine Screws to fasten door to arm.

Preparation for Mounting Door Arms for Doors with 1" or 7/8" Doop Top Channet.

Criff and tep for 1/4-20 Machine Screw (6 Hotes) as shown below. Gut 7/8" Deep x 1-7/16" wide relief silot in top of Hinge Stile. Mount door arm to operator pivot shaft. Rotate arm 50" to (ighten lock screw.



Alternate for Channels Deeper than 1"

For door channels deeper high 1", add Hiller or shim to make depth of 7/8".

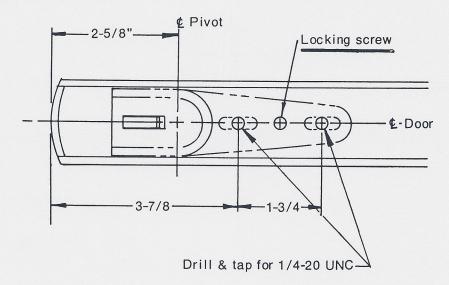


Augmate for 1/4" Deep Channel

refail door arm with boss down.

Out a 7/8" deep x 1-7/16" wide x 3-1/2" tone
glief and into top raff for boss. (tee same
finantions as above but holes are opposite
as arm is tured over linetall onto operator
pivot shaft, itse 1/4-20x1/2" long Fist
lead Machine Screws to testen door to arm

Door Preparation

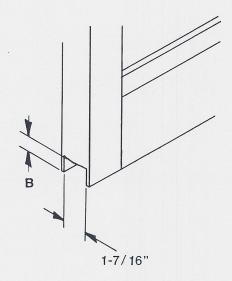


Preparation for Mounting Bottom Pivot

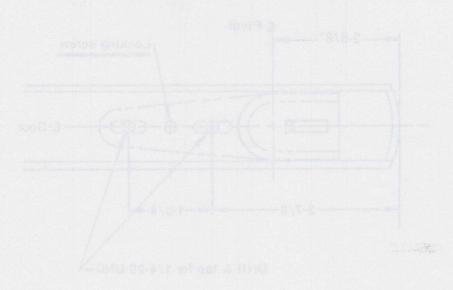
Locate and drill & tap 2 holes for 1/4-20x1/2" long Phillips Round Head Machine screws as shown above. Cut slot in bottom heel of door, dimension "B" being from bottom of door to bottom of channel. Width, 1-7/16" minimum.

The bottom pivot is adjustable to accommodate bottom rails with channel depths from 7/8" minimum to 1-9/16" maximum.

Do not drill and tap for the locking screw until after the door has been hung and final adjustments have been made. After final adjustments, drill and tap for 1/4-20 locking screw.



Door Preparation



Preparation for Mounting Bottom Pivot

Locate and drill & tap 2 holes for ty4-20x1/2" long Phillips Round Head Machine scrows as shown above. Out stot in bottom hast of deer, dissertion "B" being from bottom of deer to beform of channel. Width, 1-7/16" minimum

The bottom pivot in adjustable to accommodate bottom rails with channel depths from 7/8" minimum to 1-9/15" meximum.

Do not drift and tap for the looking screw until after the door tess been hung and tinet adjustments have been made. After that adjustments, drift and tap for tive-20 tooking screw



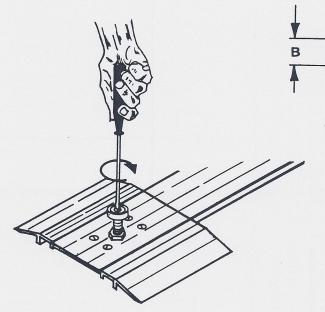
244

Door Installation

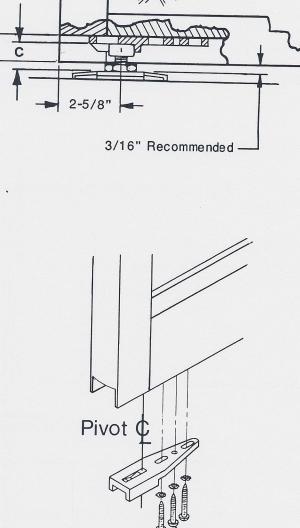
3/16" Bottom Clearance is recommended for proper door

To Set Height of Bottom Pivot

- 1. Measure depth of bottom door channel. This will be dimension "B".
- Subtract 1/16" from dimension "B". This will be dimension "C". Dimension "C" is the distance from the top of the Pivot to the top of the threshold (or finished floor if no threshold).
- 3. Turn Bottom Pivot Shaft up or down as needed to meet "C" dimension. (See Fig. A)
- 4. Lock Bottom Pivot Shaft with 3/4" locknut.



5. Mount bottom pivot bearing plate in bottom rail using (2).1/4-20 x 1/2" Phillips Round Head screws with lockwashers. Set centerline of bearing socket 2-5/8" from heel of door. Tighten screws enough to make final adjustment with door installed in position. Do not drill and tap for locking screw until all final adjustments to the door have been made.



Note:

installation.

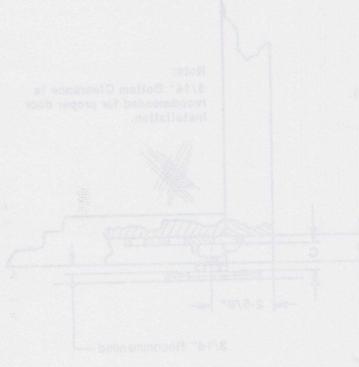
Locking screw

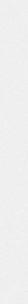
To Set Height of Bottom Rivel

- Measure depth of bottom door channel. This will be dimension "E".
- 2. Subtract 1/18" from dimension "6". This will be dimension "C". Dimension "C" is the distance from the top of the Fiver to the iop of the threshold.
 - Torn Bettern Plyot Shart up or down as needed to meet "O" dimonsion. (See Pig. A)
 - 4. Lock Bottom Pivot Staff with 374" tooknut



S. Hourt bottom givet bearing piete in bottom fail using (2) 1/4-20 x 1/2" Phillips Round Head screws with tootowashers. Set centerline of bearing socket 2-5/8" from heat of thor. Tighten screws emough to make final adjustment with door installed in position. Do not drill and tage far tooking screw until all final adjustments to the door have been eade.



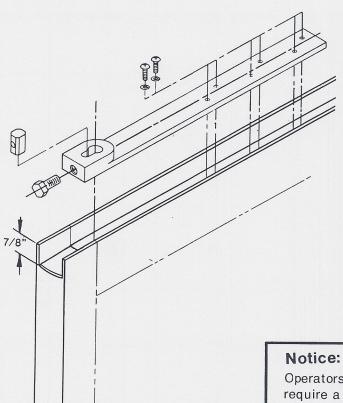


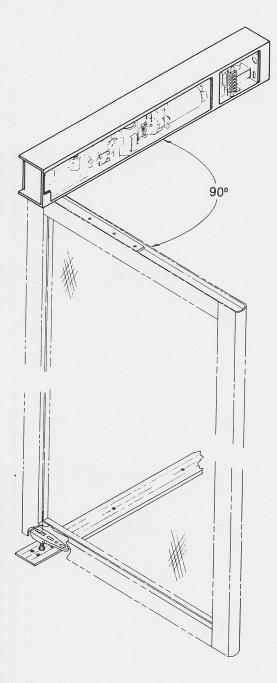
Door Installation

Mount door arm to operator pivot shaft. Be sure drive key is centered in shaft keyway and lock screw is engaged in socket hole in back of the drive key. Tighten lock screw to 65 foot pounds of torque.

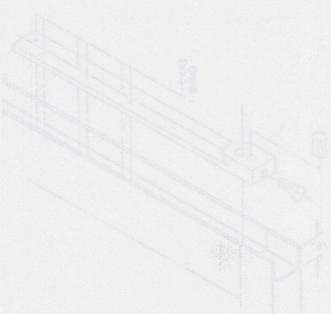
- 2. Switch operator to hold open to rotate door arm to 90%. If no power is present swing out the door arm manually to 90%. Turn Sweep Valve'in', 2-3 turns to hold door open. See Page 19 for valve adjustment.
- 3. Adjust Bottom Pivot in threshold to carry weight of door. No door weight should be carried on top door arm.
- 4. Slide door into position. Temporarily attach door arm. Use 1/4-20x1" long Phillips Round Head Machine Screw to attach door to arm.
- 5. Open Sweep Valve on operator. Check door to be sure it swings freely and does not bind and is square in the frame.
- 6. Remove door. Drill and tap bottom of door for 1/4-20 screw to lock Bottom Pivot Block on door in position.

Reinstall door and set all screws as final.





Operators with regular arms (non-panic) require a door stop on the frame. See page 20.

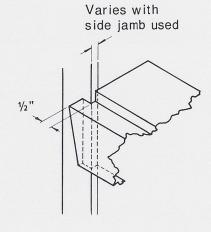


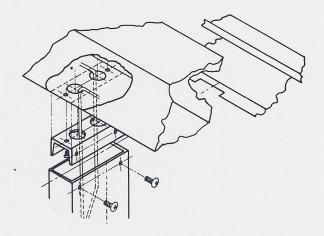
Cover Installation

Matching covers will be furnished for both sides of the header. However, by special order it is possible to obtain a header tube free of all cut outs or screws on one side. In this case only one cover will be required.

Covers are furnished to standard lengths and ends may need to be notched to clear side jambs if no finger guards are furnished or if the covers overlap the side jambs and side jambs are wider than the header tubes.

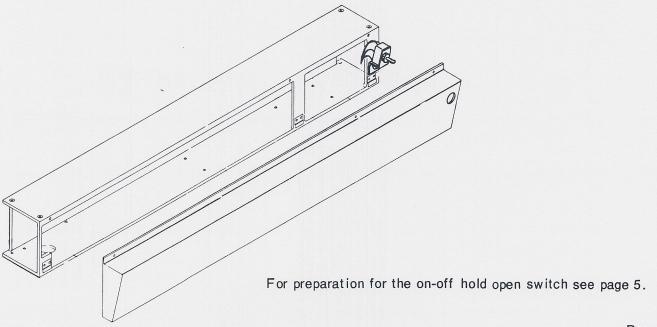
On dual units with center mullion, with the center mullion wider than the header tube the covers may need to be notched to clear the jamb.





Mounting Cover

Insert bottom lip on cover under clips on operator tube. Position cover and fasten cover with self-tapping screws.



Metching covers will be furnished for both sides of the header. However, by special order it is possible to obtain a header tube free of all out outs or sortwa on one side. In this case only one cover will be required.

Covers are furnished to standard lengths and endumay need to be notched to clear side rands if so finger quards are furnished or if the covers overlanthe side rands and ride rands are wider than the header rubes.

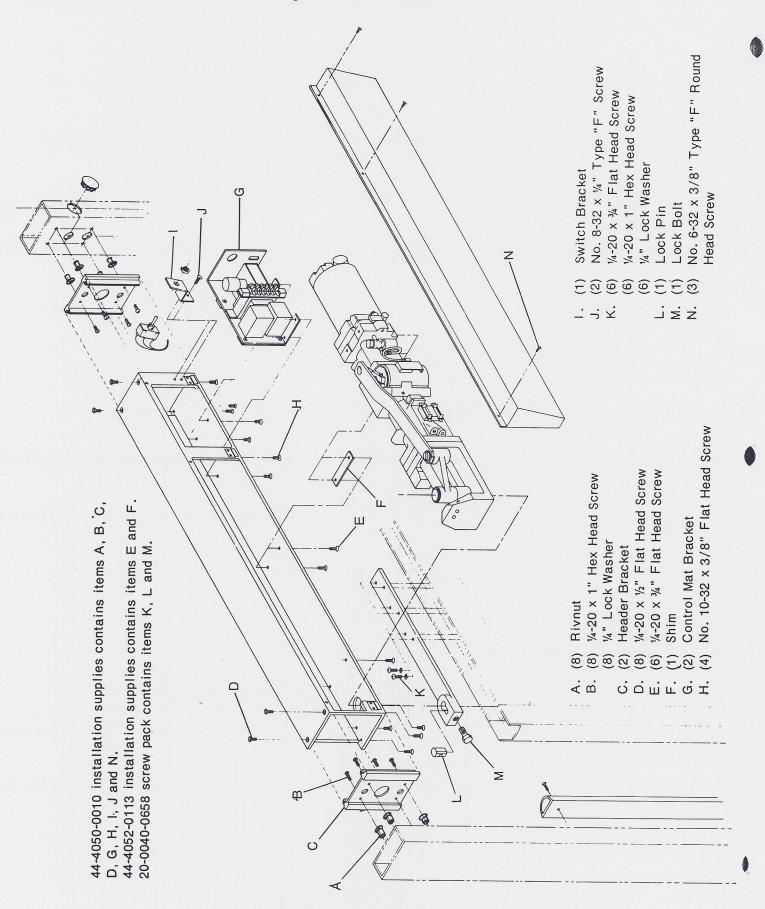
In dust units with center multion, with the center built on wider than the header tube the covers may lead to be necessed to clear the jents.

vove2 palitack

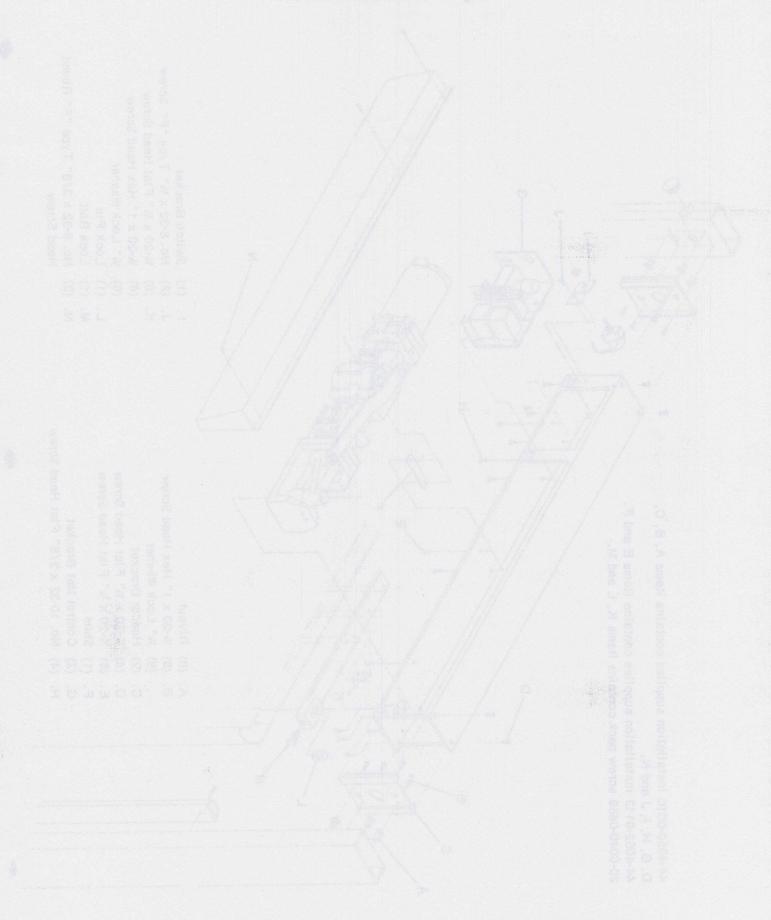
insert kettom lip on cover ender clips on aperatoriuse. Peatitios caver and lasten cover with self-tapoine screws.

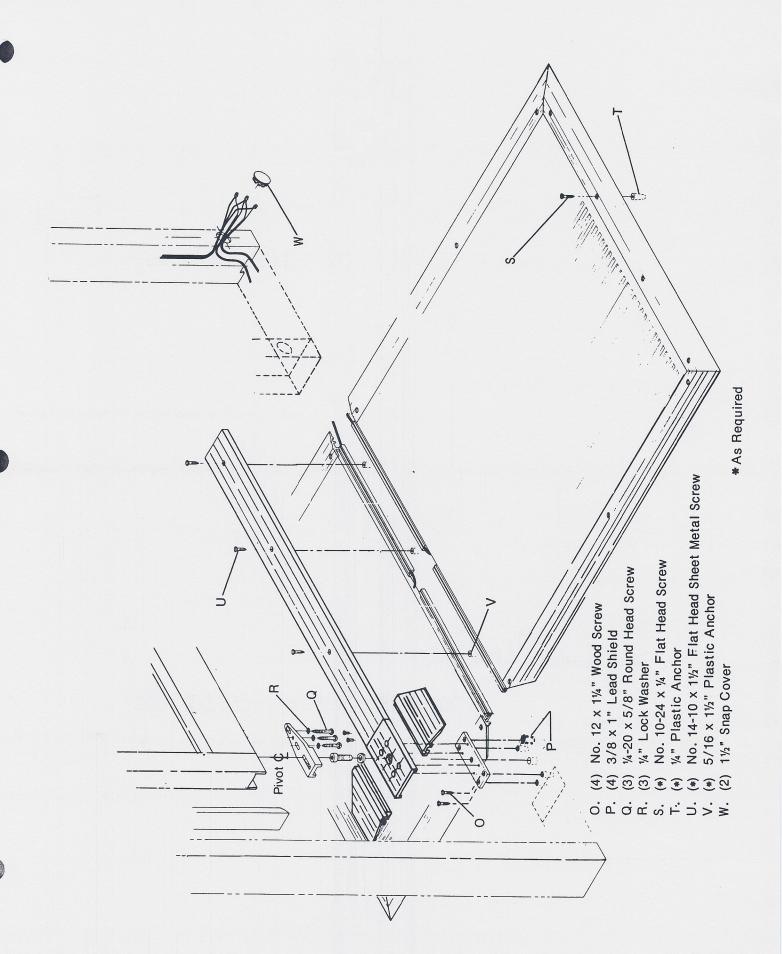
or preparation for the on-off hold open awitch see page 5

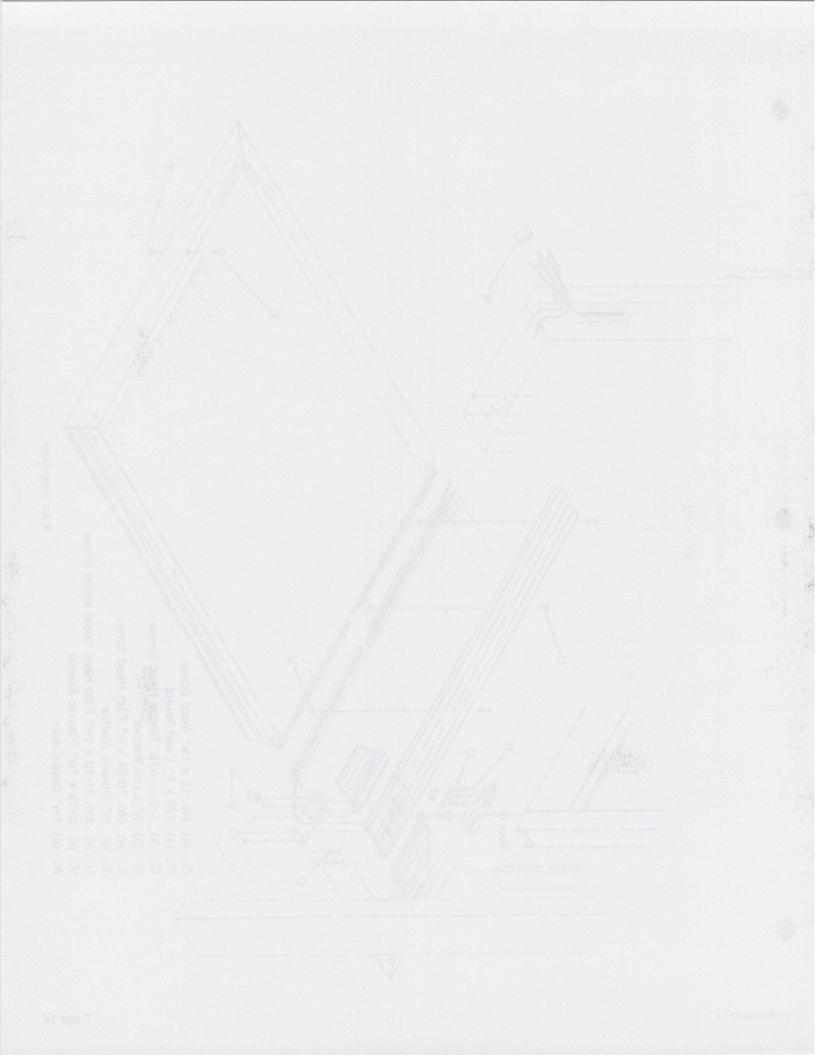
Exploded View of Complete Installation



Exploded View of Complete Installation







Connect #6 & one wire Connect #5 & one wire **Field Wiring Instructions** from Approach Mat & from Approach Mat one from Safety Mat Incoming Power wire from Safety Mat-Connect #4 & one From Approach Mat From Safety Mat Approach Mat Safety Mat 1



Important

Test all operator functions using operation switching devices such as mats, photoelectric, wall switches, and on-off/hold open switch.

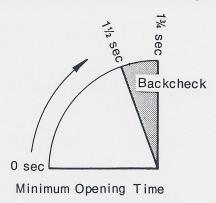
Timing of Door Swing (Opening)

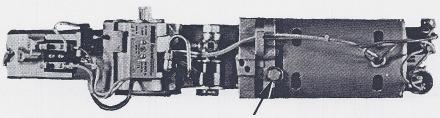
The time of swing of an average size door*, from the monent of start until the door reaches backcheck position shall not be less than 1½ seconds. Full opening to 90° shall not be less than 1¾ seconds.

*Average size door is 36" to 42" and weighs 80lbs. to 150lbs.. Larger and heavier doors should be set to operate slower.

Adjustment and Checkout Speed and Pressure

As the unit warms up to operating temperature, operating speeds will increase therefore the speed must be set slower than normally desired.





Adjustment

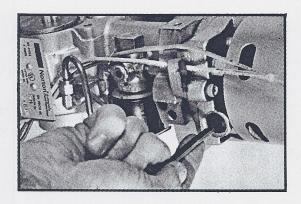
Speed Adjustment

To adjust opening speed, remove ½" hex head cap plug on the pump with a 6 sided box end wrench or socket. Do not use an open end wrench or 12 point wrench.

Using a 3/16" Allen wrench, turn Allen set screw (found under hex cap plug) clockwise to increase speed, counter clockwise to decrease speed.

After the proper speed has been obtained replace cap plug. Tighten, do not overtighten. Be sure that the cap plug does not bottom on the adjustment screw.

Caution: Before increasing the pressure to obtain the desired door speed, be sure the door is not dragging on the threshold, floor or mat or it is not binding on the pivots. Recheck these points.



Caution: Do not overload motor. To check for overloading, block or hold the door in a half open position (approximately 45°). If the motor lopes, jerks, or growls, the speed is to fast. To correct this, reduce speed until the motor runs smoothly.

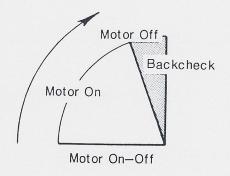


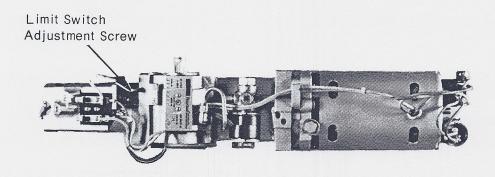


Adjustment and Checkout Limit Switch

Function of Limit Switch

The operation of the motor is to open the door, **Not to hold it open.** The limit switch is to shut off the motor after opening the door into the backcheck position. The actual point of shut off will vary depending on the weight of the door and the degree of backcheck. The heavier the door or the greater the speed, the sooner the motor must be shut off. The door should stop smoothly at 90° of opening.





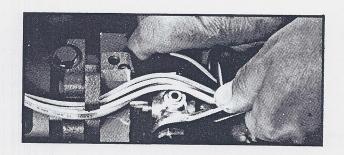
Adjustment

To adjust: Turn the adjustment screw on the limit switch counterclockwise to decrease motor run. To increase the motor run turn it clockwise. It may be necessary to adjust the backcheck when adjusting the limit switch.

Note: Cam follower and limit switch must have free movement before accurate adjustment can be attained.

Caution: With an improper adjustment of the limit switch and an overrun of the motor, the piston of the operator may travel to the end of the cylinder and bottom. This may cause too much pressure against the solenoid valve. Should the door not close, the solenoid valve is locked. Caution: Do not force the door closed. Should the solenoid lock, support the body of the solenoid valve and turn the ¾" brass cap nut counterclockwise not more than 1½ turns. This will permit the pressure in the valve to drop sufficiently to let the door close. Retighten cap nut.

After the door is closed, readjust the limit switch turning the screw counterclockwise to cut off the motor sooner. Also the opening speed must be reduced by turning the speed adjustment screw counterclockwise to slow the opening speed.



Adjustment and Checkout Limit Switch

Function of Unit Switch

The operation of the mater is to open the door, Met to hold it open. The limit switch is to sink off the motor after opening the door into the backsheck position. The actual point of shut off will very depending on the weight of the door and the degree of backsheek. The beavior the door or the greater the speed, the spending the most must be shut off. The door should stop smoothly at 90° of opening.



mentedial

to adjust. Turn the adjustment screw on the limit switch counterchoology as to declease motor run. To increase the adjust auch turn it clockwise. It may be necessary to adjust the backwise when adjusting the limit switch.

Note: Cam follower and limit switch reget have free movement before accurate adjustment can be attained.

Confidence with an improper edingtment of the perior, the first switch and an overun of the perior, the sistent of the explication may have to the colored or may have to the explication and borton. This may have to much measure against the splenoid season waive to hooked. Cantal or of close the editional valve to looked. Should the splenoid took, support the body of the splenoid valve and took the man the measure and the valve to drop sufficiently to in the measure close. This will demaid the measure the the colored to drop authorities to drop authorities of the colored close.

After the door is closed, readjust the limit switch turning the screw counterclockwise to out oil the mater except. Also the opening speed must be reduced by turning the speed an usumont screw counterclockwise to slow the opening speed.



Adjustment and Checkout Backcheck

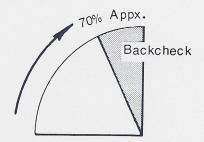
General Information

The Norton operator has a dual backcheck system; backcheck valve ('BC') regulates the cushioning of the door to a smooth stop at 90° opening, and positioning valve ('P') provides two starting positions of backcheck.

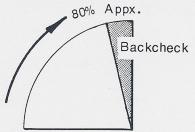
Valve 'BC' is the backcheck cushioning valve. Turning the valve in (clockwise) increases backcheck. Turning the valve out (counterclockwise) decreases backcheck.

Valve 'P' is a two position valve. With valve 'P' turned all the way in (closed) the backcheck range will start at approximately 70° of door opening. With valve 'P' turned out (open) backcheck range will not start until approximately 80° of door opening.

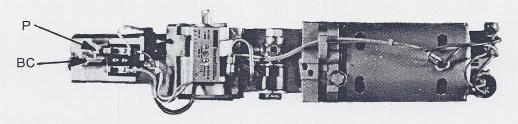
Do Not Force the adjustment valves beyond a seated position. To open 'P' valve, turn adjustment screw counterclockwise until the head is just flush with the surface of the body.



Position 'P' Valve Closed



Position 'P' Valve Open



Adjustment

In the opening cycle, if the door seems to labor as it reaches the start of backcheck, turn the 'BC' adjustment screw 1/8 turn counterclock wise to decrease the backcheck. Repeat the procedure until a smooth operation is attained.

If the door opens too fast and 'bounces' when it reaches the full 90° open position, increase the backcheck by turning the 'BC' adjustment screw clockwise.

Note: It may be necessary to reset the limit switch after making the backcheck adjustments.

Heavier and larger doors require greater backcheck and the limit switch must be set so the motor will shut off sooner.

Adjustment and Chackout Backcheck

nottemental largerall

The Norton operator has a deal betecheck system, backdhed) valve ('BC') requistes the cushioning of the door to a smooth stop at 90° opening, and positioning valve ('P'), provides two starting positions of backdheck.

Valve 'BC' is the backcheck cushioning valve. Turning the valve in (plockwise) increases backcheck. Turning the valve out (counterstockwise) decreases backcheck.

Valva 'P' is a two position valve. With valve 'P' turned all the way in (closed) the backchack range with start at approximately 'T' it door opening. With value 'P' turned out (open) 'Lackchack range will not start until approximately 60 or door opening

Co Not Force the adjustment valves heyond a seated position. To open 'P' valve, but adjustment screw counterstockwise until the head is just flush with the body.



Perition 'P' Valva Closed



Position 1P1 Valve Ones



inemiaulba

In the moning cycle, if the door beams to labor as it necessables start of backcheck, turn the 'BC' adjustment teraw 1/2 turn couldbrolock wise to decisase the packcheck has proceed the procedure until a smooth operation is attained.

If the door opens too fast and 'bounces' when it reaches the full 30° open position, increase the backcheck by lurning the 'BC' editelment screw ofeckwise.
Move it may be necessary to recent the limit switch after making the backcheck adjustments.

The content of the second second require greater professor and the motor will star off sponer.

Adjustment and Checkout Sweep and Latch

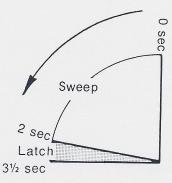
Door Closing Control

The closing speed of the door is controlled by the **Sweep Valve** which controls the major portion of the closing and the **Latch Valve** which controls the final protion to latching of the door.

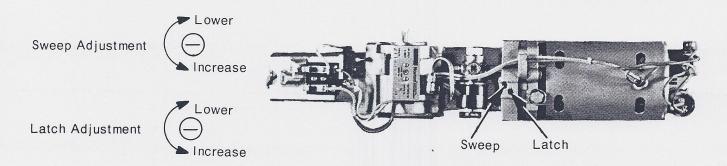
Timing of Door Swing (Closing)

Time required for the sweep speed shall **not** be **less** than 2 seconds and the latch speed (last 12" of door travel) shall **not** be **less** than 1½ seconds.

When you make adjustments to one, you may find it necessary to adjust the other.



Minimum Closing Time



Adjustment

To adjust either the sweep or latch speed, turn the adjustment screw clockwise to lower the speed and counterclockwise to increase the speed. Move the valve 1/8 to 1/4 of a turn at a time. Recheck door operation after each adjustment. Set adjustments so door comes to a smooth stop without bouncing.

Note: The **Latch** adjustment valve is the valve closest to the motor.



and the second of

Top Pivot

The Norton overhead concealed model CO8 automatic operator is available with two styles of top pivot assemblies. The **Regular Arm** which is non-panic and the **Emergency Arm** which has a panic breakaway feature.

Regular Arm

The Regular Arm is intended for doors with outward swing or locations where emergency breakaway is not required. This type of door pivot assembly is set up to provide a preload. In other words, as the door closes, it would swing pass center, and thus requires an external stop on the header or frame to hold the door in the centered position. This preload insures a steady pressure of the door against the stop to keep it from rattling by the buffering of the wind and to hold it in a firm position for locking. Please note: Because of the various types of doors and frames with which the Norton overhead concealed unit can be used, the external door stop must be made by others.

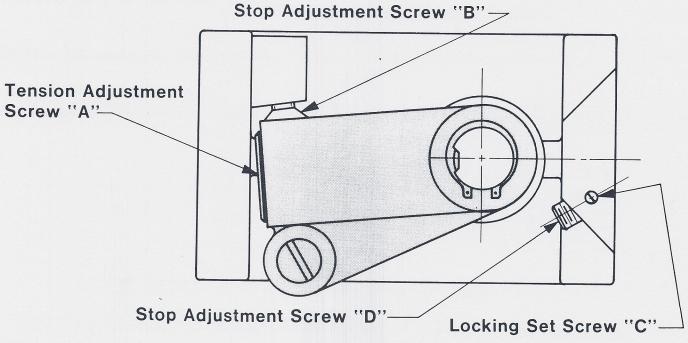
Panic Breakaway Adjustment

Panic Breakaway Pivot Assembly

On door assemblies equipped with the emergency or panic breakaway assembly, the door must be installed free of all external stops. The stop is made a portion of the pivot assembly. See Figure.

The stop is set by the factory prior to shipment. However, after the door arm has been mounted to the top of the door, should you find the door is not perfectly centered in the closed position, the stop may adjusted. For the AO series operators, use adjustment screw "B". If the door does not close all the way, turn the stop screw "in" clockwise. If it closes too far, then back "out" counterclockwise.

For the AR series operators, use stop adjustment screw "D". Stop screw "D" is equipped with a locking set screw "C". Loosen this screw, before making adjustments, and retighten after adjustments have been completed. Again, for adjustments for the door to close further, turn adjustment screw "in" for the door to stop sooner, back "out" the screw.



Panic Breakaway Tension Adjustment

The tension adjustment for the panic breakaway is set before shipment. However, there are variances in the codes as to breakaway tension requirements. To check breakaway, attach a spring scale to the lock style of the door and pull or push, observing the point of breakaway. Should you find it necessary to make a change in the tension, this can be done by turning in or out on adjustment screw "A". To increase, turn "in", to decrease, "out".

The following is a list of some of the local code requirements

Underwriters Laboratory	50 lbs. max.
State of California	40 lbs. max.
New York State	20 lbs. max.
Pennsylvania State	50 lbs. max
NF PA -101	50 lbs. max.
New York City	15 lbs. max.
ВНМА	50 lbs. max.

Panic Breakswey Adjustment

The Yurton overhead concented incide COB eulostofic operator is available with two styles of top plyot assemblies. The Regular Ami which is a non-panic and the Emergency Am which has a panic breaksway teature.

mnA raiuge!

The Requisit Aris to intended for doors with contraint swing or locations where emergently directlesway is not required. This type of door proof assembly is set up to provide a prefect in other words, as the door choses, it would evering peep contact these thus requires an external stan on the header or frame to hold the door in the peasant or the means a steady pressure of the door against the atop to teap if their ratifing by the buttering of the wird and to from this line than position for locking. Precedence the which the storten overhead concerned many which which the storten overhead concerned until set be reade over the exercise of the external door stop must be reade over the exercise.

Panic Breekower Pirot Assembly

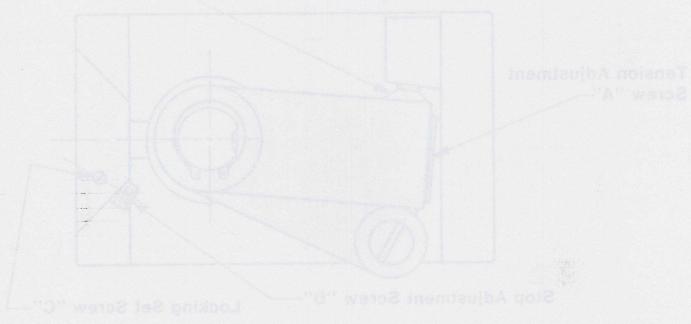
On door assemblies equipped with the emergency of panic irreakaway assembly, the door must be installed free of all external atops. The stop is made a portion of the pivot assembly.

See Figure.

The stop is set by the factory prior to shipment, showever, after the door arm has been inconted to the fac of the door, should you find this door is not perfectly centered in the closed position, the stop may adjusted. For this AD series operators, use adjustment screw "E". If the door does not close all the way, turn the stop screw "in" closes that it closes the fat, then back "out" counterprockwise.

For the AR series operators, use sign adjustment acrow "D", Stop screw "D" is equipped with a locking set screw "C". Locked line screw, before making adjustments, and religibles after adjustments for the door to close further, turn adjustment screw the door to close further, turn adjustment screw "in" for the door to stop scener, back "out" the

Stop Adjustment Screw "B"



Panic Breakeway Tension Adjustment

The tension adjustment for the panic breakway is set before anipment. However, there are variances in the codes as to breaksway tension requirements. To check breaksway, altach a spring scale to the took style of the doc and polit of push, observing the point of breaksway, another you find it necessary to make a change in the tension, this can be done by turning in or out to decrease, turn "in the decrease, turn "in the decrease, "out".

The following is a list of some of the togst code requirements

Wiring Diagram

April 15, 1975 WD-1B

