

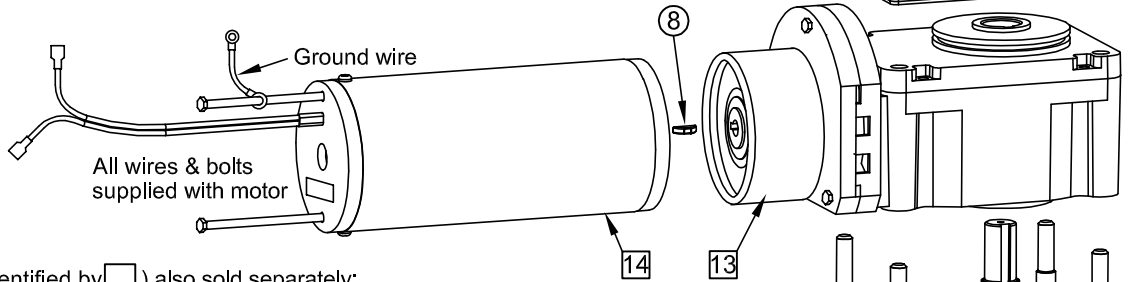
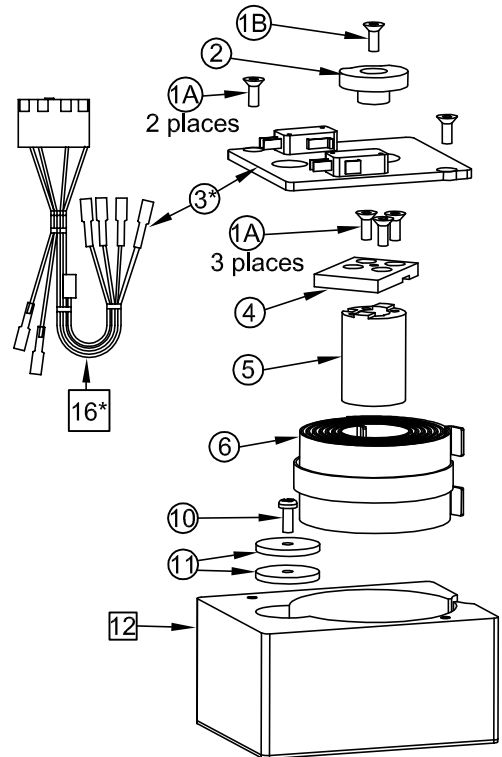
DETEX AO19 Distributor Push Style Motor/Gearbox Repair Manual

Drawing: 105412

When refurbishing a used Motor/Gearbox, replacing all wearable components will ultimately save time in the future. Distributor rebuild kit (p/n 105412) includes all replaceable components, screws and keys. Additional parts such as spring housings, motors, mounting bolts can be ordered separately as needed.

Service Parts Kit #105412 contents:

ITEM	QTY	P/N	DESCRIPTION
①A	5	12407-2	10-32 x 1/2" FH Allen Head screw
①B	1	12407-3	10-32 x 3/4" FH Allen Head screw
②	1	12607	Black Plastic Cam
③	1	104708	Micro-Switch Plate with Switches and Harness (*Harness also sold separately, see below)
④	1	12604	Stop Plate
⑤	1	12606	Spring Arbor
⑥	1	12603	Clock Spring
⑦	2	12611	3/16 x 3/16 x 1" Shaft Key
⑧	1	12612	1/8 x 1/2 Woodruff Motor Key
⑨	1	12605-1	Gearbox Shaft (Push)
⑩	1	12403-1	10-32 x 1/2" Phillips Panhead Screw
⑪	2	12783	Flat Washer Round Stop



Parts below (identified by) also sold separately:

<input type="checkbox"/> 12	1	12602	Spring Casting
<input type="checkbox"/> 13	1	12601	Gearbox
<input type="checkbox"/> 14	1	12600	1/8 HP Motor
<input type="checkbox"/> 15	4	12610	MFM Bolt
<input type="checkbox"/> 16	1	104706	Microswitch Harness Subassy

**For device installation
 videos, scan code below
 or go to detex.com**

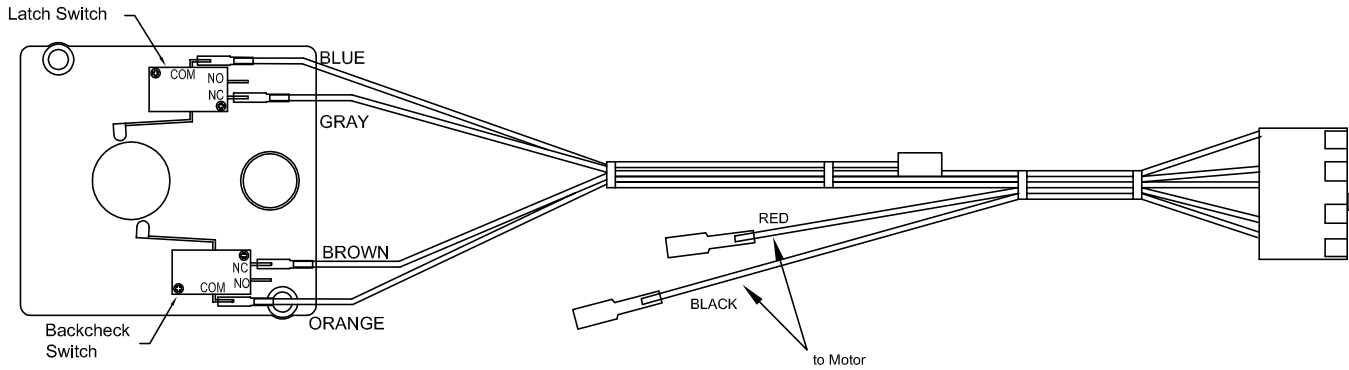


Owner's Copy

TOOLS REQUIRED:

Safety glasses Needle nose pliers
1/8" Allen wrench 5/16" nut driver
Slotted screwdriver #2 Phillips screwdriver
Hammer #3 Phillips screwdriver

SWITCH HARNESS CONNECTION:



WIRE COLOR	POSITION
BLUE	Latch Switch COM
GRAY	Latch Switch N C
BROWN	Backcheck Switch N C
ORANGE	Backcheck Switch COM

NOTES:

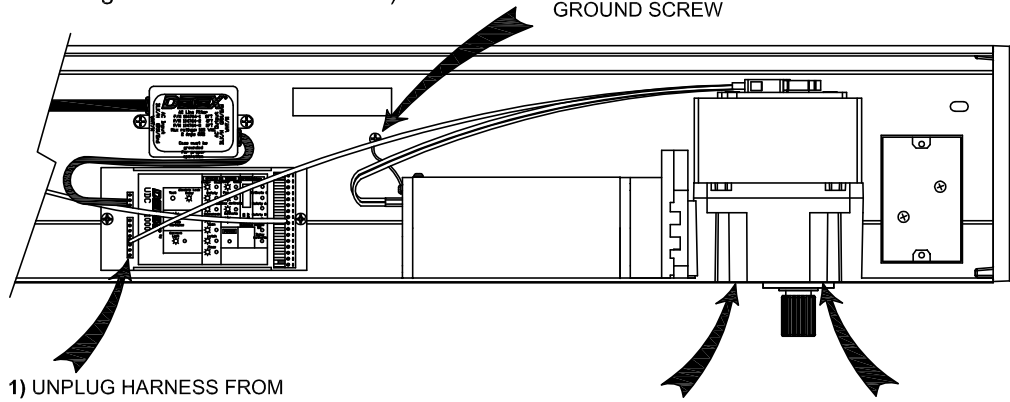
1. SEE PAGE 7 FOR CLOCK SPRING (12603), SPRING ARBOR (12606) & CAM (12607) POSITIONING.
2. PLUG THE DISCONNECTS ON THE MOTOR INTO THE WIRING HARNESS DISCONNECTS AS FOLLOWS:
FOR LH PUSH OR LH PULL - RED TO RED & BLACK TO BLACK
FOR RH PUSH OR RH PULL - RED TO BLACK & BLACK TO RED
3. CONNECT THE MICROSWITCH HARNESS TO THE SWITCH PLATE AS SHOWN IN VIEW & TABLE ABOVE.

GEAR MOTOR REMOVAL:

(Must remove push/pull arm for gear motor to be removed)

2) REMOVE MOTOR GROUND SCREW

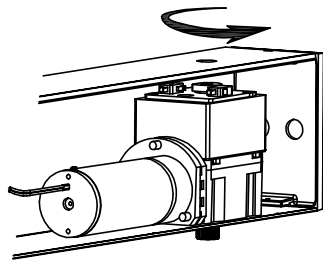
RH unit shown in all views. LH similar.



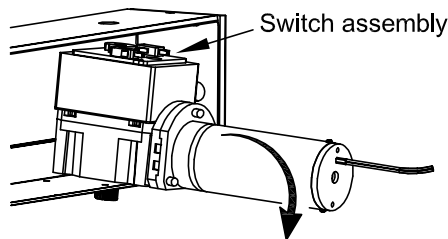
1) UNPLUG HARNESS FROM CONTROL BOARD

3) REMOVE FOUR 1/4-20 GEARBOX MOUNTING SCREWS

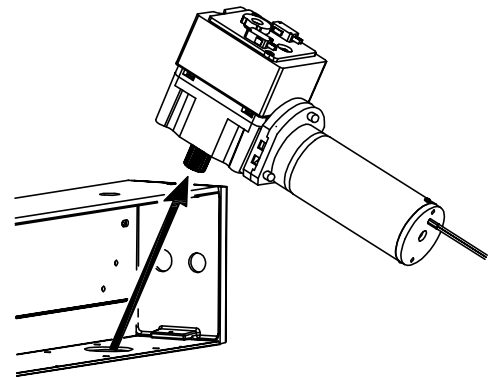
(views for reference only, component appearance & position may vary slightly)



Rotate motor/gearbox out of enclosure



Rotate motor/gearbox down being careful not to let switch assembly hit enclosure

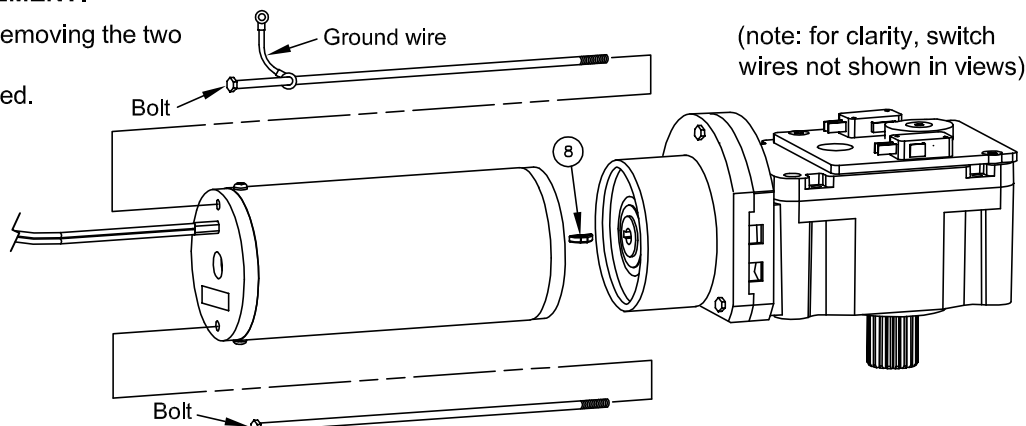


Pull motor/gearbox clear of enclosure

(note: for clarity, switch wires not shown in views)

MOTOR SHAFT KEY REPLACEMENT:

Separate motor from gearbox by removing the two bolts as shown at right. Some gentle prying may be required.



(note: for clarity, switch wires not shown in views)

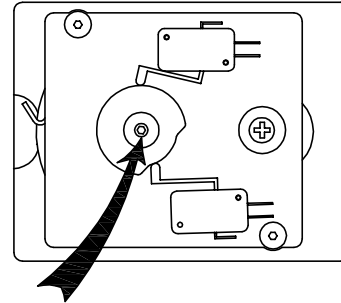
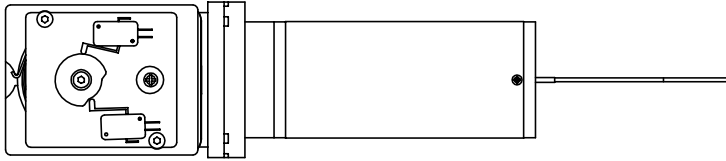
Examine motor shaft for excessive wear in key slot. Replace motor if necessary.

Replace 1/8" Woodruff key. Apply a light grease to shaft to inhibit rust. Reassemble motor to gearbox.

Pay close attention to key when aligning. Key may push out. When assembled, use power arm to rotate gearbox and be sure motor rotates. If motor 'locks up' or does not rotate, separate motor & reinsert key and reassemble motor to gearbox. Retest.

CAM REPLACEMENT:

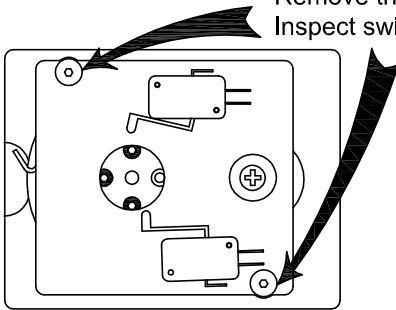
Position the unit with the motor to the right as shown below



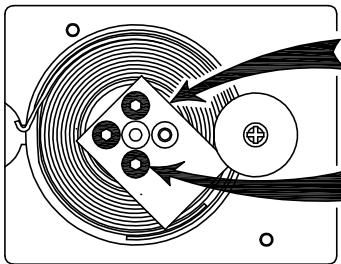
Mark Cam position. If no parts are broken this will aid in the reassembly process.
Remove the 1/8" 10-32 Allen head Cam screw.
Remove the Cam and replace if damaged or modified.

**MICROSWITCH PLATE AND HARNESS REPLACEMENT:
(Cam must be removed before plate removal)**

Remove the two 1/8" 10-32 Allen head mounting screws and lift off the Microswitch plate.
Inspect switches and replace assembly if necessary.



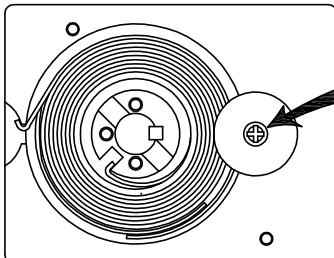
SQUARE STOP REPLACEMENT:



Note plate orientation and screw placement.
RH unit shown

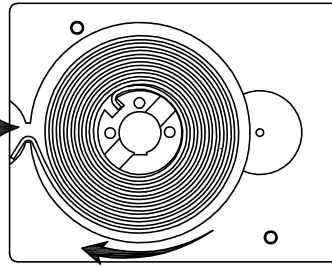
Remove the three 10-32 Allen head mounting screws and remove the Square Stop Plate.
Inspect for damage and replace if necessary.

ROUND STOP REPLACEMENT:



Remove the 10-32 screw and two Round Stops.
Inspect and replace if damaged.

Note CLOCK SPRING orientation BEFORE removing

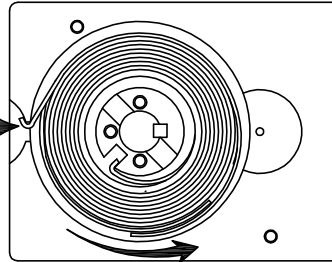


LH unit shown

CLOCK SPRING REPLACEMENT:

RH unit shown

Note CLOCK SPRING orientation BEFORE removing

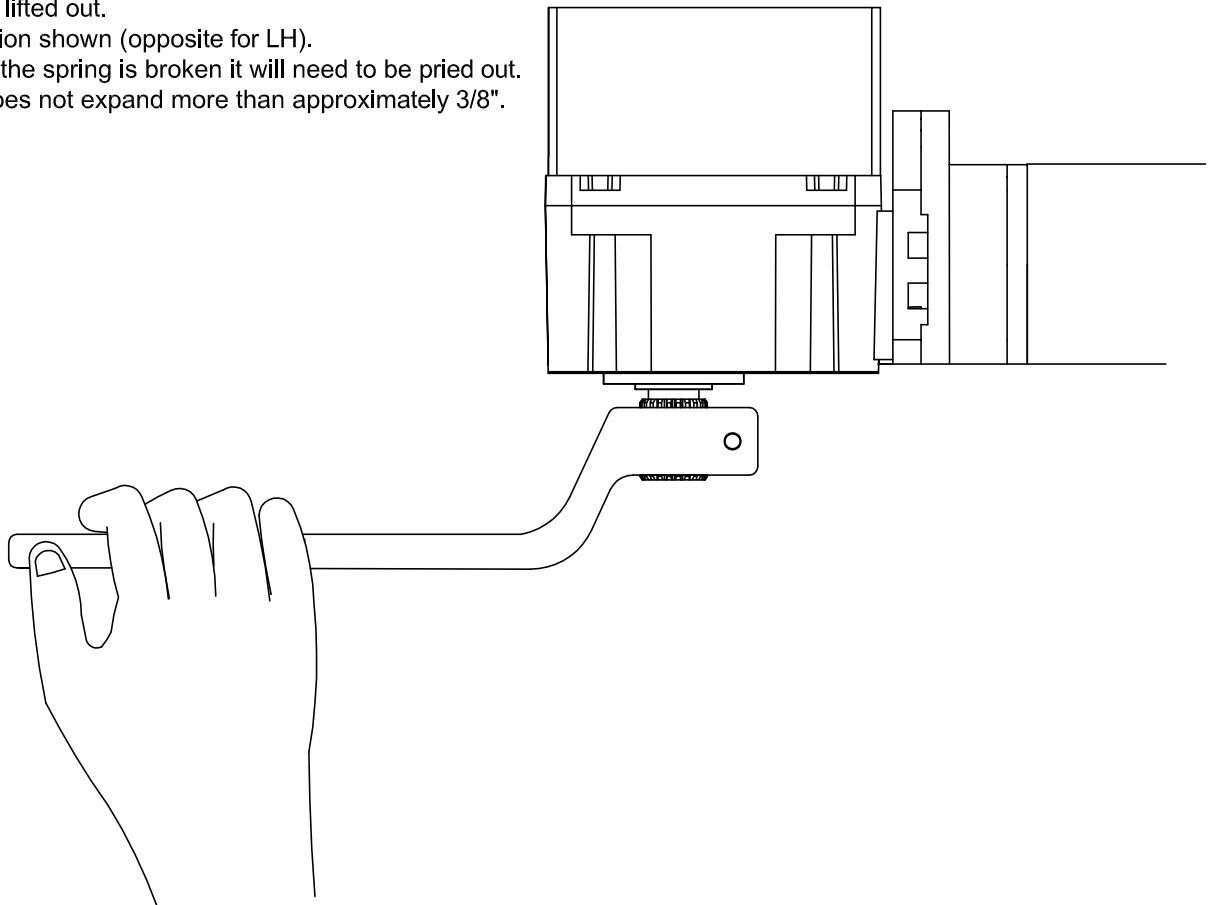


RH unit shown

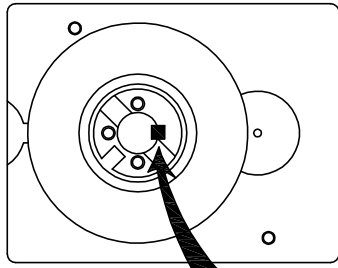
Reattach the operator arm to unwind the Clock Spring until it can be lifted out.

Turn in direction shown (opposite for LH).

CAUTION: If the spring is broken it will need to be pried out. The spring does not expand more than approximately 3/8".



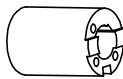
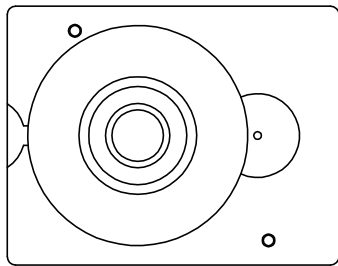
SHAFT AND ARBOR REPLACEMENT:



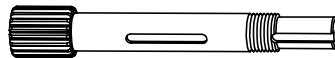
Remove Key



To replace the shaft, turn unit upside down.
Tap the top on a hard surface or carefully tap the SPLINED end of the shaft with a flat face hammer until the key from the Arbor and the Shaft can be removed.
If this fails, drill with 1/8" drill bit, insert an easy-out (a small screw may work) and pull key out.



Unscrew Arbor from Shaft.
Inspect keyway and screw holes for damage.
Replace if necessary.



Drop Shaft out from the splined end.
Inspect for straightness.
Inspect the keyway for wear.
Replace if necessary

REASSEMBLY:

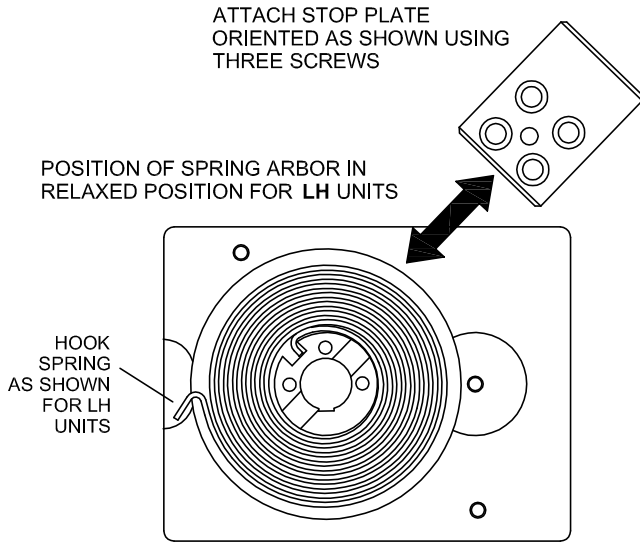
Rub a small amount of oil on the new Shaft to inhibit rust.
Install new shaft key and reinsert new Shaft into gearbox.
Screw Arbor down until it bottoms out and reverse until the new key can be inserted.
Review HANDING DIAGRAM (see page 7) to determine the correct Spring & Arbor position and drop in new spring.
Rotate the shaft using the operator arm to tighten the spring.
Rotate about 1/2 turn.
The spring grips must seat into the spring housing.
Allow spring to slowly unwind.

Refer to HANDING DIAGRAM for proper placement of Square Stop and install the three screws.
Replace Round Stops and Switch Plate.

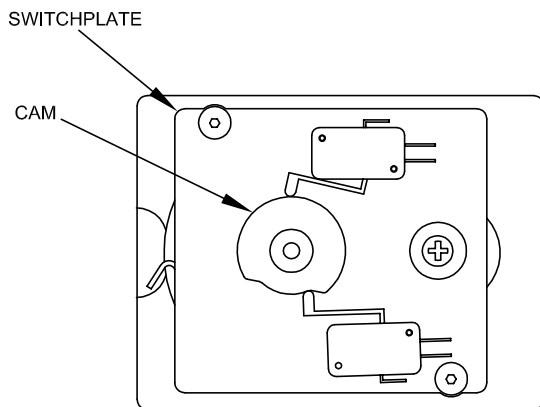
Refer to HANDING DIAGRAM for the Cam setting.
Final adjustment to Cam can be made after unit has been reinstalled and attached to the door leaf.

NOTES FOR ASSEMBLING SPRING, ARBOR AND CAM:

FOR LH UNITS

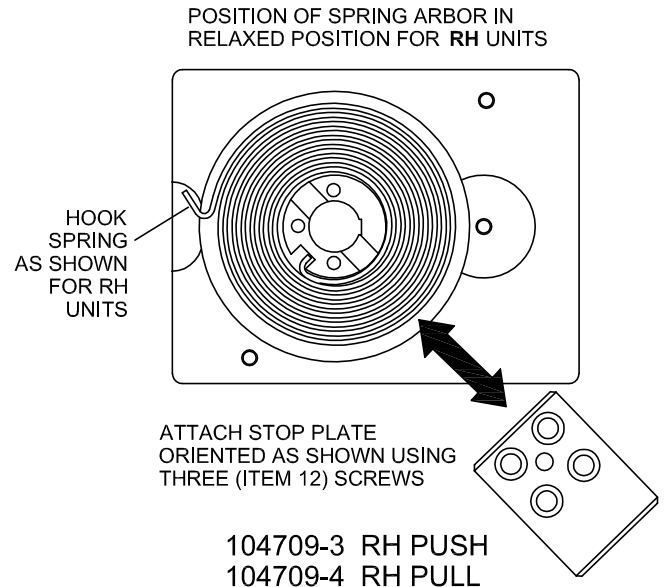


104709-1 LH PUSH
104709-2 LH PULL

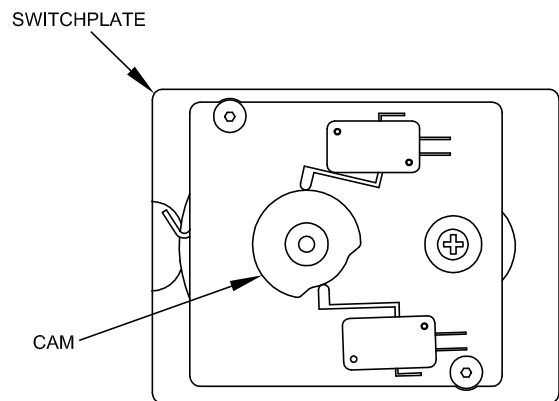


CAM ORIENTATION
IN FULL OPEN
POSITION
104709-1 LH PUSH
104709-2 LH PULL

FOR RH UNITS



104709-3 RH PUSH
104709-4 RH PULL



CAM ORIENTATION
IN FULL OPEN
POSITION
104709-3 RH PUSH
104709-4 RH PULL