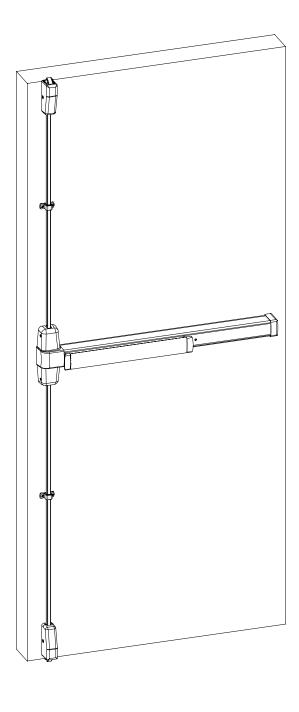


# Maintenance Kit **VON DUPRIN**.



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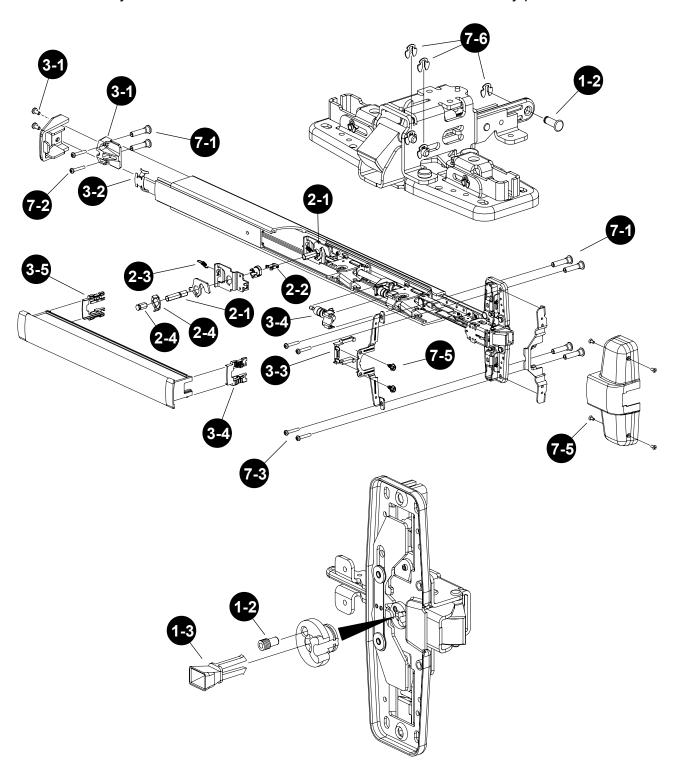
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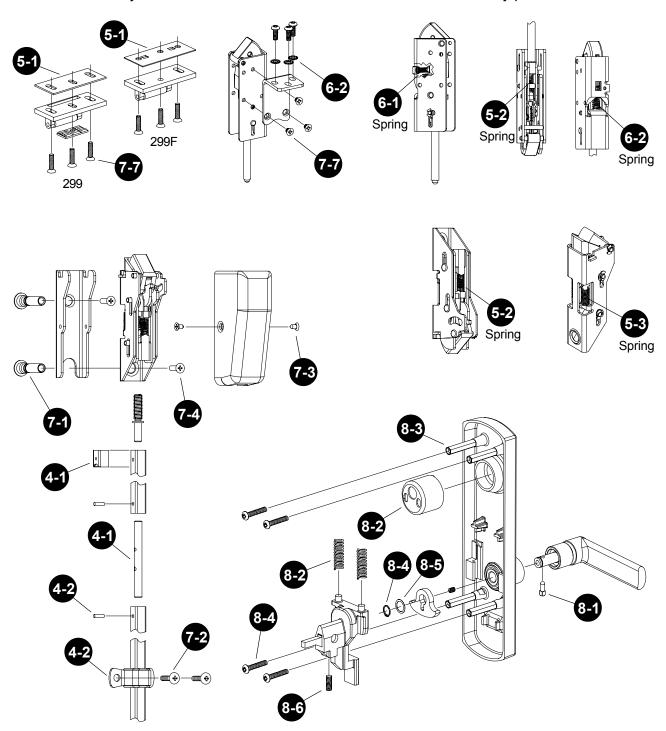
# **Pictorial Index to Parts**

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# **Pictorial Index to Parts (continued)**

The number in each circle below is the page where information on the part is found. Use the "Table of Contents" to find items by part description. Use the "Index by Part Number" in the back of the manual to find items by part number.



Page: 1-1

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#### 1. Center Case Parts

Part Name: NL Drive Screw-98/99 Device Kit Location: Bottom drawer #6

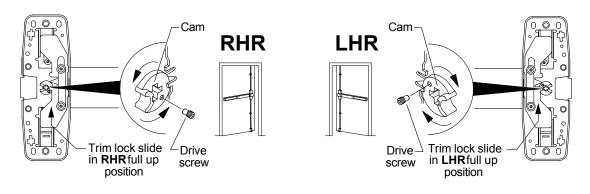
Part Number: 970441-89 unit; 090074-00 bulk, 10/pkg.

**Use:** 98/99 and 22 devices; BE, EO, DT, NL,

and Rigid applications only

**Installation:** Use Phillips head screwdriver to turn cam so trim lock slide is in full up position

for RHR or LHR application. Install drive screw in cam using 5/64" hex wrench.



Part Name: Control Link Pin-Touch Bar Device Kit Location: Top drawer #8

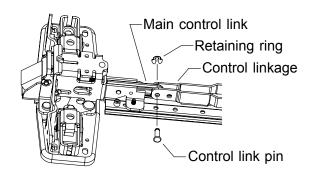
Part Number: 090031-00 bulk, 10/pkg.

Use:

98/99, 33/35, and 22 devices

**Installation:** Align holes of main control link and control linkage. Insert control link pin.

Secure with Truarc retaining ring T5304-18 (090107-00).



#### 1. Center Case Parts

Part Name: Tailpiece Guide Kit Location: Top drawer #18

Part Number: 050156-00 bulk, 10/pkg.

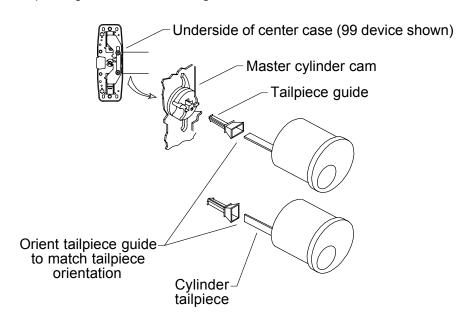
**Use:** 98/99 and 22 device keyed (rim cylinder)

trim applications

Installation: Snap pronged end of tailpiece guide into cross-slot of master cylinder cam on

underside of center case. Guide cylinder tailpiece into funnel portion of

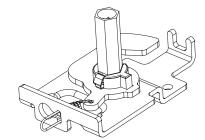
tailpiece guide when installing trim.



Part Name: Hex Dogging Replacement Kit Kit Location: Top compartment

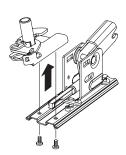
**Part Number: 15-445-00** 

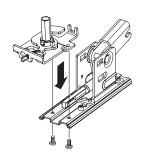
**Use:** To replace existing dogging assemblies



Installation: Remove old dogging assembly, replace with new dogging assembly, and secure

with 2 screws.





Part Name: Hex Dogging Shaft Kit Location: Bottom drawer #5

Part Number: 090040-00 bulk, 2/pkg.

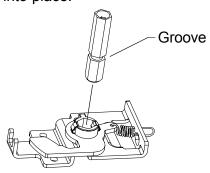
**Use:** 98/99, 33/35, and 22 dogging assemblies

made after Aug. 1997



Installation: Insert end of shaft that is closest to groove into dogging adapter. Push down

until shaft snaps into place.

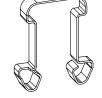


Part Name: Dogging Adapter Spring Kit Location: Bottom drawer #2

Part Number: 090042-00 bulk, 2/pkg.

Use: 98/99, 33/35, and 22 dogging assemblies

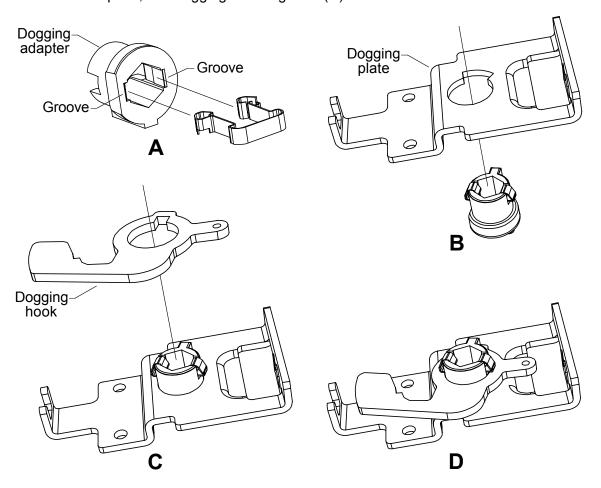
made after Aug. 1997



Installation: Pinch legs of spring together and insert into dogging adapter so legs of spring

align with grooves in dogging adapter (A). Insert dogging adapter with spring through bottom of dogging plate (B). Snap dogging hook over protruding end of dogging adapter and legs of spring (C). Spring holds dogging adapter, dogging

plate, and dogging hook together (D).



Part Name: Dogging Spring Kit Location: Bottom drawer #3

Part Number: 090041-00 bulk, 2/pkg.

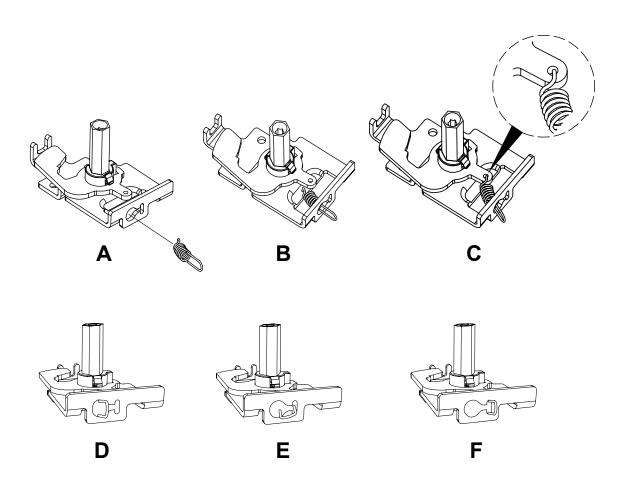
Use: 98/99, 33/35, and 22 dogging assemblies

made after Aug. 1997

**Installation:** Hold loop of spring and insert spring through large hole in end of dogging plate

(A and B). Hook short end of spring into hole in dogging hook from top of dogging hook (C). Slide loop of spring from large hole (D) into smaller hole in

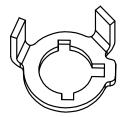
end of dogging plate (E) and align loop vertically (F).



Part Name: Cylinder Dog Actuator Kit Location: Bottom drawer #4

**Part Number:** 090045-00 bulk, 2/pkg.

**Use:** 98/99 and 33/35 cylinder dogging assemblies

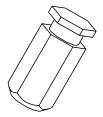


Part Name: CD Dogging Plug Kit Location: Bottom drawer #11

Part Number: 090046-00 bulk, 2/pkg.

**Use:** 98/99 and 33/35 cylinder dogging assemblies

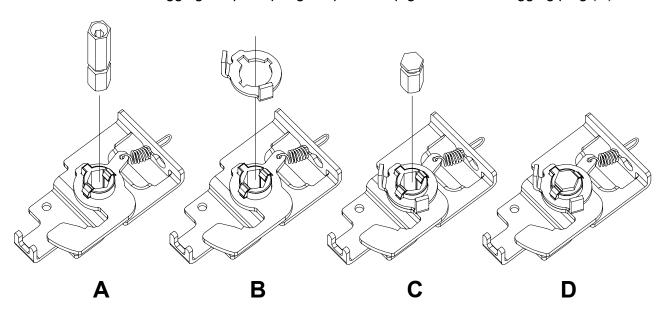
made after Sept. 1997



**Installation:** 1. Pull hex dogging shaft out of dogging adapter (A).

**2.** Snap cylinder dog actuator into place over dogging adapter spring and dogging adapter (B).

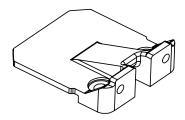
**3.** Insert CD dogging plug into hex hole in dogging adapter (C) and press until dogging adapter spring snaps into top groove of CD dogging plug (D).



Part Name: Mechanism Case Mounting Bracket Kit Location: Top compartment

**Part Number:** 050524-00 (unit)

**Use:** 98/99 and 33/35 devices



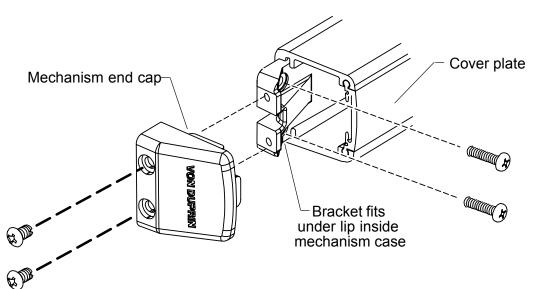
Part Name: End Cap Screw Package Kit Location: Middle 13

**Part Number:** 900597-00 bulk, 2/pkg.

**Use:** 98/99 and 33/35 devices



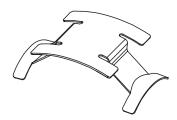
**Installation:** Slide bracket into mechanism case making sure that Face A is flush against cover plate. Secure bracket to door. Attach mechanism end cap to bracket (end cap covers bracket).



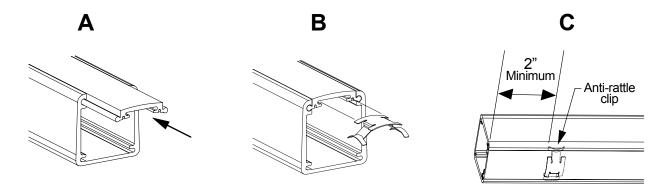
Part Name: Anti-Rattle Spring-33/35/98/99 Kit Location: Top drawer #11

Part Number: 090036-00 bulk, 10/pkg.

**Use:** 98/99 and 33/35 devices



Installation: Without spring, slide cover plate into mechanism case until flush (A and B). Insert front tabs on spring into channel in underside of cover plate (B). Push spring in and make sure rear tabs also engage channel. Continue pushing spring in until vertical tabs on back of spring are flush with end of cover plate (C).



Part Name: Shock Absorber and Holder Assembly Kit Location: Top drawer #17

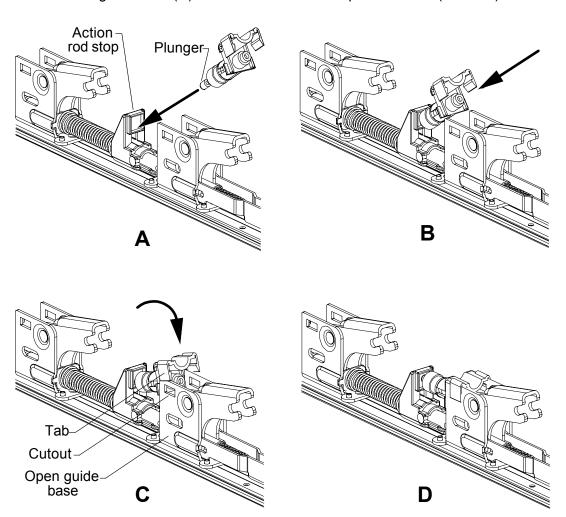
Part Number: 050491-00 unit

**Use:** 98/99 and 33/35 devices

**Installation:** Place tip of plunger against action rod stop (A). Press in until plunger is fully

retracted (B). Rotate shock absorber and holder so tabs slide over top of open

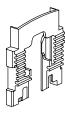
guide base (C). Push down so tabs snap into cutouts (C and D).



Part Name: Pushbar Guide (front) Kit Location: Middle drawer #12

Part Number: 090049-00 bulk, 10/pkg.

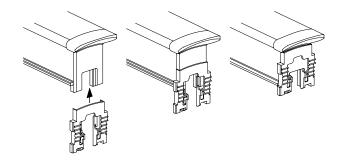
**Use:** 98/99 and 33/35 devices



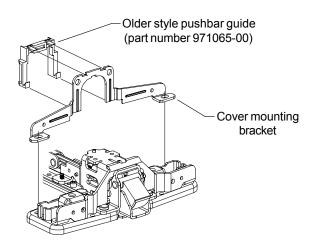
**Installation:** Remove pushbar from mechanism case. Slide pushbar guide onto front of

pushbar. Hold pushbar guide on pushbar and install pushbar on bellcranks.

Slide base plate into mechanism case.



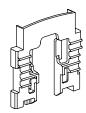
Also replaces older style pushbar guide (part number 971065-00). To replace, slide mechanism case away from center case. Remove cover mounting bracket from center case. Unhook older style pushbar guide from cover mounting bracket and discard. Replace cover mounting bracket. Install new pushbar guide.



Part Name: Pushbar Guide (rear) Kit Location: Middle drawer #12

Part Number: 090049-00 bulk, 10/pkg.

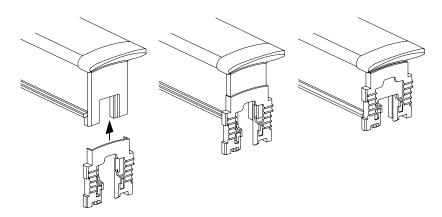
**Use:** 98/99 and 33/35 devices

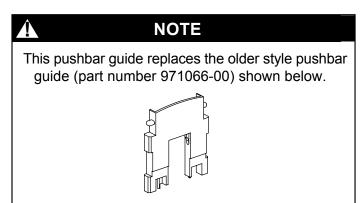


**Installation:** Remove pushbar from mechanism case. Slide guide onto back of pushbar.

Hold guide on pushbar and install pushbar on bellcranks. Slide base plate into

mechanism case.





#### 4. Vertical Rod Parts

Part Name: Rod Extension Connector Kit Location: Top drawer #14

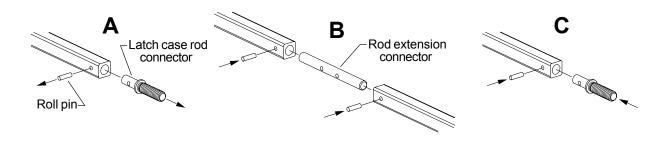
Part Number: 090075-00 bulk, 4/pkg.

**Use:** 98/9927 and 33/3527 devices on doors

taller than 7 feet

**Installation:** Drive out roll pin (963935-89) and remove latch case rod connector from latch

end of existing rod (A). Insert rod extension connector into latch end of existing rod and either end of extension rod and secure with roll pins (B). Insert latch case rod connector into latch end of extension rod and secure with roll pin (C).

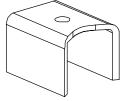


Part Name: Extension Rod Drill Template-2227/98/9927 Kit Location:Top drawer #7

Part Number: 969298-89 unit

**Use:** To locate roll pin hole on 98/9927,

33/3527, and 2227 vertical rods



**Installation:** Slide template on rod until bottom of rod and bottom of template are flush. Drill

1/8" diameter hole through hole in template.

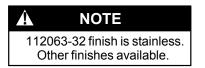
Align bottom of template and bottom of rod before drilling

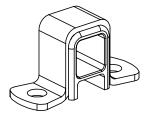
#### 4. Vertical Rod Parts

**Part Name:** 98/9927 Rod Guide Assembly Kit Location: Bottom drawer #14

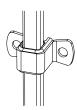
Part Number: 112063-32 unit

98/9927 and 2227 devices made after 1993 Use:





Installation: Slide over rod after rods have been adjusted. Place half way between device center case and latch. Secure to door with screws.



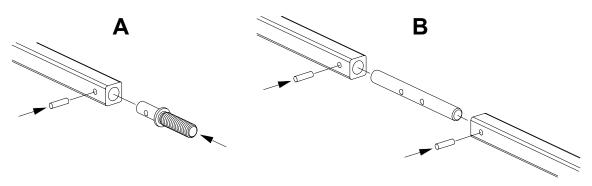
1/8 x 7/16 Roll Pin Part Name: **Kit Location:** Top drawer #10

Part Number: 090054-00 bulk, 10/pkg.

Use: 98/9927 and 33/3527 vertical rods



Installation: Line up holes in rod and latch case rod connector (A) or in rod and rod extension connector (B) and drive roll pin through hole.



### 5. Surface Vertical Latch Parts

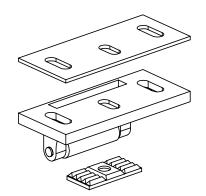
**Part Name:** 299 Strike Shim **Kit Location:** Top drawer #16

Part Number: 970321-89 unit

**Use:** 299 strikes to decrease spacing between

strike and latch

**Installation:** Position shim as shown. Prepare center hole per chart.



Metal Frame

Prep: #25drill and #10-24 tap Screw: 10-24 x 3/4 FPHMS

**Wood Frame** 

Prep: 1/8" pilot drill x 1" deep Screw: 10 x 11/2 FPHWS

Part Name: Shim-264/299F/499F Strike Kit Location: Bottom drawer #15

**Part Number:** 945521-89 unit

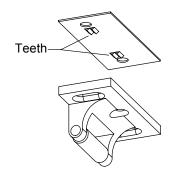
**Use:** 264, 299F, and 499F strikes to decrease

spacing between strike and latch

OF

**Installation:** Position shim with teeth facing strike and closest to strike roller. Mate teeth with

notches in bottom of strike. Prepare center hole per chart.



**Metal Frame** 

Prep: #25drill and #10-24 tap Screw: 10-24 x 3/4 FPHMS

**Wood Frame** 

Prep: 1/8" pilot drill x 1" deep Screw: 10 x 11/2 FPHWS

#### 5. Surface Vertical Latch Parts

Part Name: Bolt Return Spring Kit Location: Bottom drawer #9

Part Number: 090065-00 bulk, 10/pkg.

**Use:** 98/9927/27-F and 2227/27-F top and bottom latches

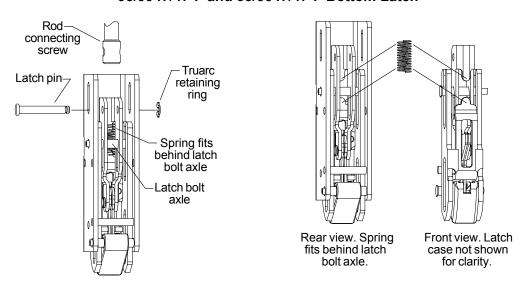
98/9947/47-F and 33/3547/47-F bottom latches



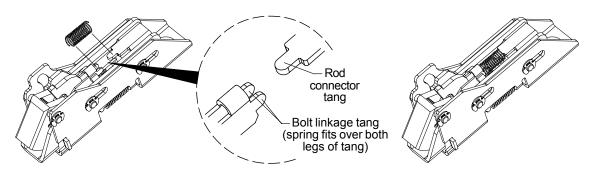
**Installation:** For 98/9947/47-F and 33/3547/47-F latch, remove Truarc retaining ring, latch

pin, and rod connecting screw for accessibility. Replace after installing spring.

#### 98/9947/47-F and 33/3547/47-F Bottom Latch



# 98/9927/27-F and 2227/27-F Top and Bottom Latches (98/9927/27-F Top Latch Shown)



### 5. Surface Vertical Latch Parts

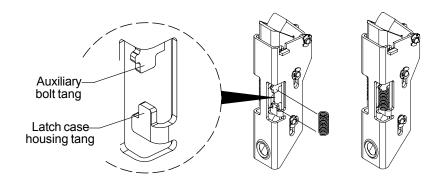
Part Name: 98/9927 Auxiliary Bolt Spring Kit Location: Top drawer #5

Part Number: 090076-00 bulk, 10/pkg.

**Use:** 98/9927 and 2227 top latches

Installation: Place one end of spring over over auxiliary bolt tang. Compress spring and

place free end of spring over latch case housing tang.



### 6. Concealed Vertical Latch Parts

Part Name: Ratchet Lever Spring Kit Location: Middle drawer #7

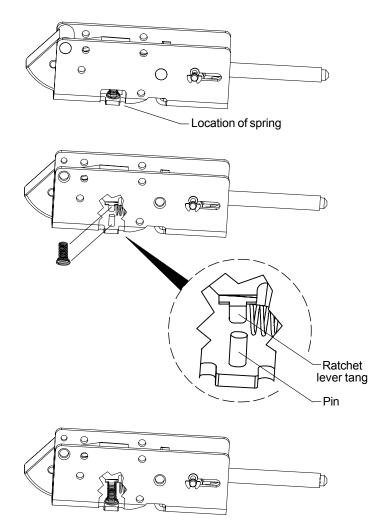
Part Number: 090069-00 bulk, 2/pkg.

**Use:** 98/9947/47-F and 33/3547/47-F top latches



Installation: Place small end of spring over ratchet lever tang. Place large end of spring over

pin in latch case.



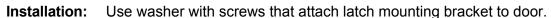
### 6. Concealed Vertical Latch Parts

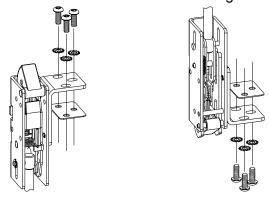
Part Name: #10 External Tooth Lock Washer Kit Location: Top drawer #3

Part Number: PKGSRV.1007 bulk, 10/pkg.

**Use:** To secure 98/9947 and 33/3547

latch mounting bracket



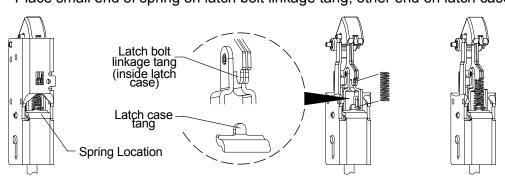


Part Name: Compression Spring-33/3547 Kit Location: Middle drawer #3

Part Number: 090066-00 bulk, 10/pkg.

**Use:** 98/9947 and 33/3547 top latch

**Installation:** Place small end of spring on latch bolt linkage tang, other end on latch case tang.



Latch case shown cut away for clarity

Part Name: 325 Sex Bolt Assembly Kit Location: Top drawer #4

Part Number: 034902-32 bulk, 2/pkg.

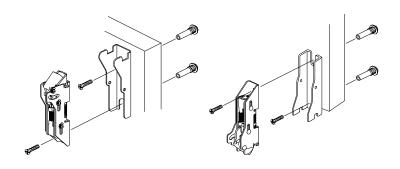
**Use:** For mounting 98/99, 33A/35A, and 22 latches

and latch mounting brackets made after Nov. 1998

**Installation:** Drill mounting holes per template supplied with device, 13/32" diameter

outside, 5/16" diameter inside. Hammer sex bolt through 13/32" diameter hole.

#325 sex bolt takes 1/4-20 thread screw.



Part Name: 425 Sex Bolt Assembly Kit Location: Top drawer #49

**Part Number:** 034302-32 bulk, 2/pkg.

**Use:** For mounting 98/99 and 22 device surface

latches and latch mounting brackets made before Nov. 1998; for mounting 98/99, 33/35, and 22 device end cap brackets and center cases

(EO applications)

**Installation:** Drill mounting holes per template supplied with device, 13/32" diameter

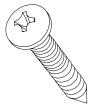
outside, 1/4"diameter inside. Hammer sex bolt through 13/32" diameter hole.

#425 sex bolt takes 10-20 thread screw. (See diagram above)

Part Name: 10-12 x 10-24 x 1 PTHCS Kit Location: Top drawer #13

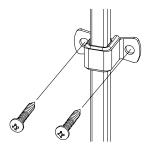
Part Number: 900919-00 bulk, 2/pkg.

Use: 98/9927 and 2227 device rod guide assembly



**Installation:** Use screws to mount 9927 rod guide assembly to door. For wood door, drill

1/8" diameter pilot holes. For metal door, use #25 drill and #10-24 tap.



Part Name: 10-24 x 3/4 PPHMS Kit Location: Middle drawer #2

Part Number: PKGSRV.1015 bulk, 10/pkg.

**Use:** 98/99, 33/35, and 22 device mechanism

case mounting brackets



**Installation:** Use screws to mount 98/99, 33/35, and 22 device mechanism case mounting

brackets to door. For metal door surface mount, prepare door with #25 drill and

#10-24 tap. Screws also can be used with #425 sex bolts on 1 3/4" door.



98/99 and 33/35 device mechanism case bracket

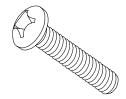


22 device mechanism case bracket

Part Name: 10-24 x 1 PPHMS Kit Location: Middle drawer #9

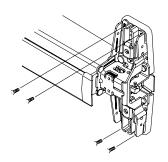
Part Number: PKGSRV.1016 bulk, 20/pkg.

**Use:** 98/99, 33/35, and 22 device center cases



**Installation:** Use screws to mount 98/99, 33/35, and 22 device center cases to 1 3/4"

hollow metal doors. For surface mount, prepare door with #25 drill and #10-24 tap. Also can be used for through-mounting to trim and with #425 sex bolts.



98/9927 center case shown

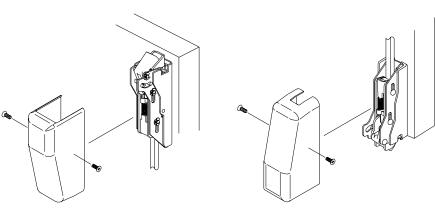
**Part Name:** 8-32 x 1/4 UFPHMS **Kit Location:** Top drawer #6

Part Number: PKGSRV.1018 bulk, 20/pkg.

**Use:** 98/9927 and 33/3527 latch case covers



**Installation:** Place latch case cover over latch case and secure with two screws.



Part Name: 10-24 x 3/4 UFPHMS Kit Location: Top drawer #1

Part Number: PKGSRV.1019 bulk, 10/pkg.

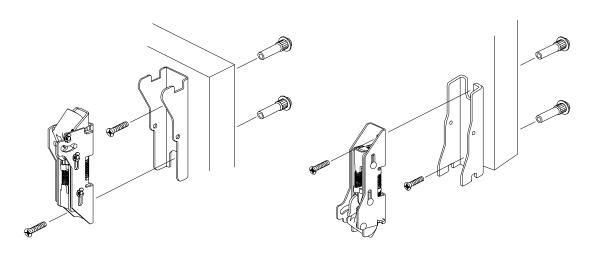
**Use:** 98/9927 and 2227 latches and latch mounting

brackets made before Nov. 1998

**Installation:** Use with #425 sex bolts. Drill mounting holes per template supplied with

device, 13/32" diameter outside, 1/4" diameter inside. Hammer sex bolt

through 13/32" diameter hole.



Part Name: 1/4-20 x 3/4 UFPHMS Kit Location: Bottom drawer #7

Part Number: PKGSRV.1020 bulk, 10/pkg.

**Use:** 98/9927 and 2227 latches and latch mounting

brackets made after Nov. 1998

**Installation:** Use with #425 sex bolts. Drill mounting holes per template supplied with

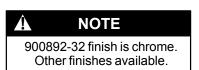
device, 13/32" diameter outside, 1/4" diameter inside. Hammer sex bolt

through 13/32" diameter hole. (See diagram above.)

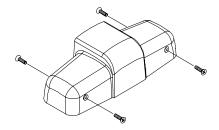
Part Name: 8-18 x 3/8 UFPHSMS Kit Location: Middle drawer #11

**Part Number:** 900892-32 bulk, 4/pkg.

**Use:** 98/99 center case cover



**Installation:** Secure center case cover with four screws.



Part Name: 12-24 Mechanism Case Screw Kit Location: Bottom drawer #12

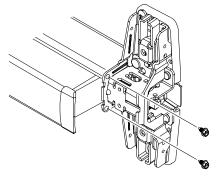
Part Number: 090073-00 bulk, 10/pkg.

**Use:** 98/99 and 33/35 devices; secures center case

cover mounting bracket to mechanism case



**Installation:** Remove two pine tree clips and replace with screws.



98/99 device shown

Part Name: Truarc Retaining Ring T5304-18 Kit Location: Top drawer #2

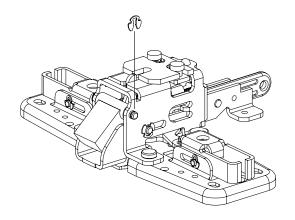
Part Number: 090107-00 bulk, 10/pkg.

**Use:** 98/99 and 22 rim latch bolt axle,

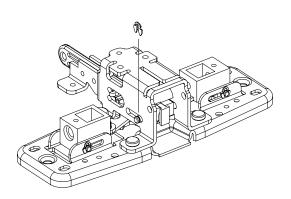
98/9927 and 98/9947 center case,

98/99, 33/35, and 22 main control link to control linkage

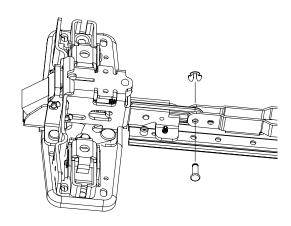
**Installation:** Use flat blade screwdriver to push ring over groove in pin so ring snaps in place.



98/99 and 22 rim latch bolt axle (98/99 shown)



98/9927 and 98/9947 center case



98/99 and 22 main control link to control linkage (98/99 shown)

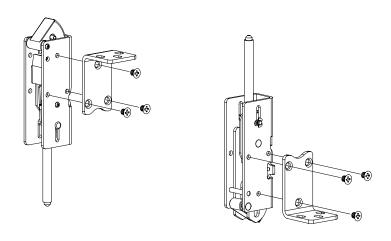
Part Name: 10-32 x 1/4 UFPHMS with Nylock Kit Location: Bottom drawer #1

Part Number: 090059-00 bulk, 6/pkg.

**Use:** 98/9947 and 33/3547 top and bottom

latch mounting brackets

**Installation:** Use screws to secure latch mounting brackets to latches.



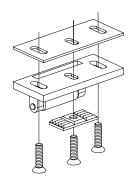
Part Name: 10-24 x 3/4 FPHMS Kit Location: Bottom drawer #8

Part Number: PKGSRV.1023 bulk, 10/pkg.

Use: 299 strike

Installation: Prepare mounting holes per template supplied with device using #25 drill and

#10-24 tap.



Part Name: Shear Pin Kit Location: Middle drawer #10

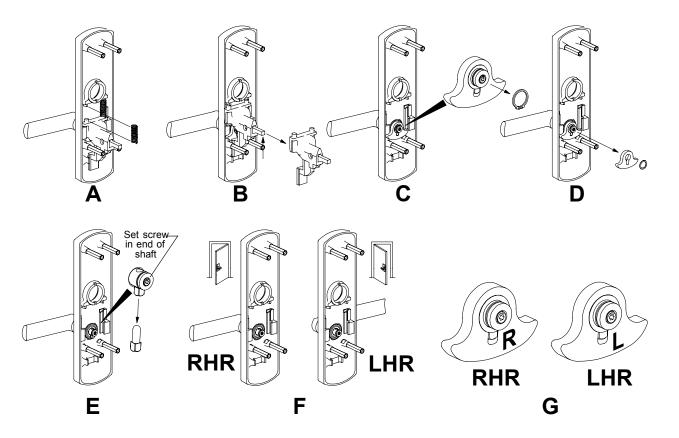
Part Number: PKGSRV.1010 bulk, 50/pkg.

**Use:** 991, 992, and 994 trim made after Jan. 1993



**Installation:** This procedure is for 992L R&V trim. For other trim, see trim instructions.

- 1. Remove trim from door.
- 2. Remove two lift springs (A).
- 3. Push slider up, then pull out (B).
- **4.** Use retaining ring pliers to remove retaining ring (C).
- 5. Remove washer and cam (D).
- **6.** Loosen set screw with 3/32" hex wrench and remove broken shear pin (E).
- 7. Place lever in desired position, RHR or LHR (F).
- 8. Insert new shear pin with head pointed down and tighten shear pin set screw.
- 9. Install cam. "R" faces out for RHR door, "L" faces out for LHR door (G).
- 10. Install washer, retaining ring, slider, and two lift springs.



Part Name: Cylinder Retaining Cup Kit Location: Top drawer #15

**Part Number:** 968201-89 unit

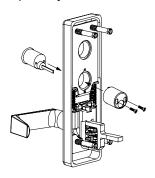
**Use:** 880, 990, 991, 992, and 994 trim with rim cylinders



**Installation:** With trim off door, insert cylinder through trim. Install cylinder retaining cup

over trim so tabs on cylinder retaining cup align with notches on trim. Secure

cylinder retaining cup to cylinder with screws.



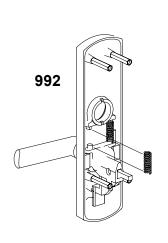
Part Name: 992/994 Lift Spring Kit Location: Bottom drawer #13

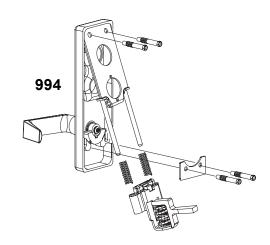
**Part Number:** 971573-00 unit; PKGSRV.1011 bulk, 20/pkg.

**Use:** 992/994 trim



**Installation:** See pictures below for 992 and 994 spring installation.



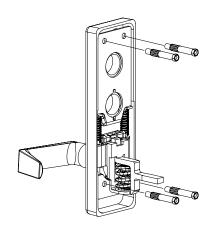


Part Name: Hex Stud-994/996 Trim Kit Location: Top drawer #4

**Part Number:** 971585-89 unit

**Use:** 994 and 996 trim

**Installation:** Screw stud into trim housing. Do not over-tighten.

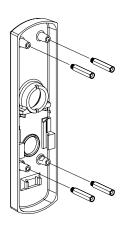


Part Name: 1/4-20 Hex Stud Kit Location: Middle drawer #5

Part Number: 971440-89 unit; PKGSRV.1012 bulk, 10/pkg.

**Use:** 991 and 992 trim made after March 1997

**Installation:** Screw stud into trim housing. Do not over-tighten.



8-4

### 8. Trim Parts

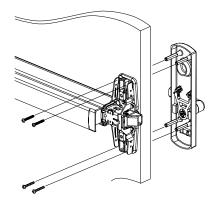
**Kit Location:** Top drawer #12 Part Name: 10-24 x 1 3/8 PPHMS

Part Number: PKGSRV.1022 bulk, 10/pkg.

To mount 991 and 992 trim on 1 3/4" doors Use:



Bolt through device and door to hex studs on trim. Installation:



Truarc Retaining Ring 5160-42 **Part Name:** Kit Location: Middle drawer #6

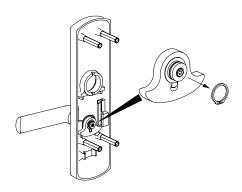
Part Number: 964285-00 unit; PKGSRV.1013 bulk, 10/pkg.

To secure cam on 991 and 992 trim Use:



Use retaining ring pliers to open retaining ring. Slip ring over shaft and Installation:

position ring in groove in shaft.



Part Name: Wave Spring Washer Kit Location: Middle drawer #1

Part Number: 090103-00 bulk, 10/pkg.

**Use:** Used on 992 and 370 series controls to eliminate

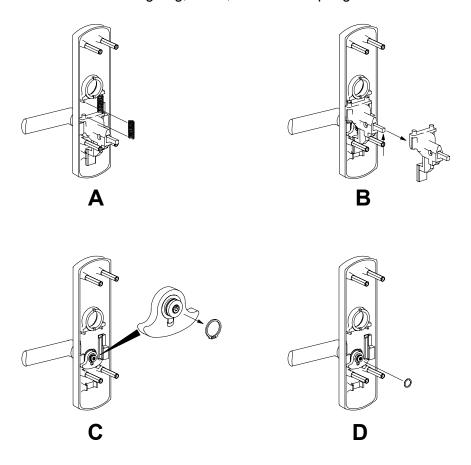
excessive lever movement perpendicular to the

face of the door

**Installation:** This procdure is for 992L R&V trim. For other trim, see trim instructions.

**1.** Remove trim from door.

- 2. Remove two lift springs (A).
- 3. Push slider up, then pull out (B).
- **4.** Use retaining ring pliers to remove retaining ring (C).
- **5.** Replace or install washer (D).
- **6.** Install retaining ring, slider, and two lift springs.



Part Name: 1/4-20 x 5/8 Socket Set Screw Kit Location: Bottom drawer #10

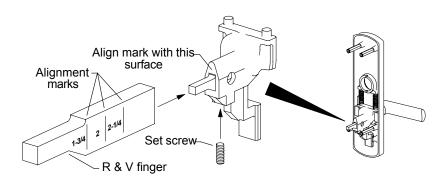
Part Number: 964353-76 unit

Use: 992 trim

Installation: Loosen or remove set screw. Slide the R&V finger in or out to align the mark for

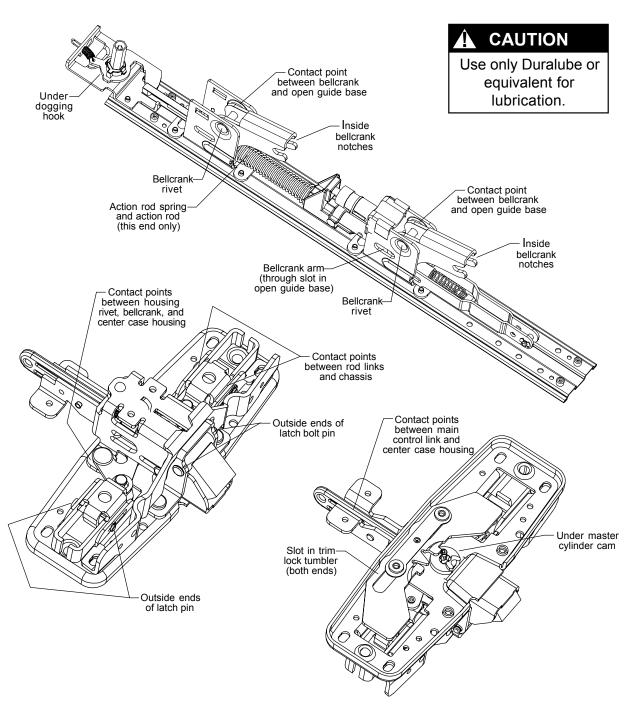
the door thickness with the surface indicated. When aligned, tighten the set

screw with a 1/8" hex wrench.



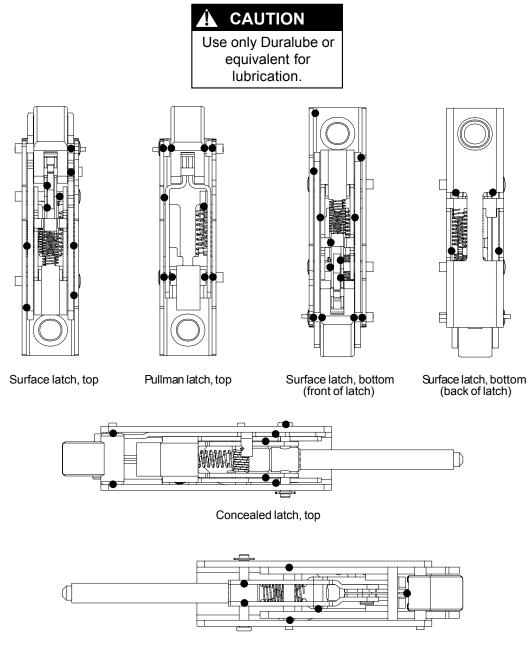
# **Appendix A: Device Lubrication**

Devices are lubricated before delivery. Additional periodic lubrication will increase device life by inhibiting excessive wear of moving parts. Lubricate every four months with Duralube or equivalent. Recommended surfaces for lubrication are shown in the diagrams below. **Lubricate indicated surfaces on both sides of device.** 



# **Appendix B: Latch Lubrication**

Latches are lubricated before delivery. Additional periodic lubrication will increase latch life by inhibiting excessive wear of moving parts. Lubricate every four months with Duralube or equivalent . Recommended surfaces for lubrication are marked with ● in the diagrams below.



Concealed latch, bottom

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090066-00 (bulk)	Compression Spring-33/3547	
090069-00 (bulk)	Ratchet Lever Spring	
090073-00 (bulk)	12-24 Mechanism Case Screw	
090074-00 (bulk)	NL DriveScrew-98/99 Device	
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090076-00 (bulk)	98/9927 AuxiliaryBolt Spring	
090103-00 (bulk)	Wave Spring Washer	
090107-00 (bulk)	Truarc Retaining Ring T5304-18	
112063-32 (unit)	98/9927 Rod Guide Assembly (stainless)	
15-445-00 (unit)	Hex Dogging Replacement Kit	
900892-00 (bulk)	8-18 x 3/8UFPHSMS (chrome)	
900919-00 (bulk)	10-12 x 10-24 x 1 PTHCS	
900597-00 (bulk)	End Cap Mounting Screw	
945521-89 (unit)	Shim-264/299F/499F Strike	
964285-00 (unit)	Truarc Retaining Ring 5160-42	
964353-76 (unit)	1/4-20 x 5/8 Socket Set Screw	
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PKGSRV.1023 (bulk)	10-24 x 3/4 FPHMS	7-7

