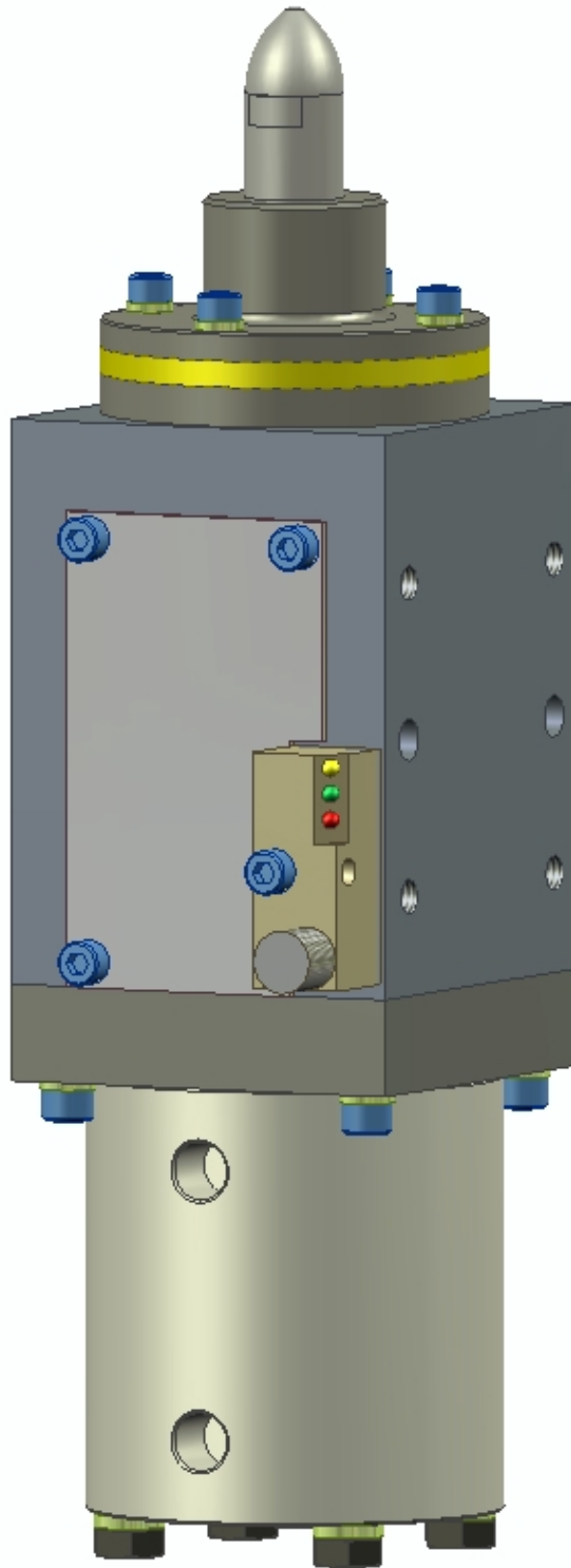
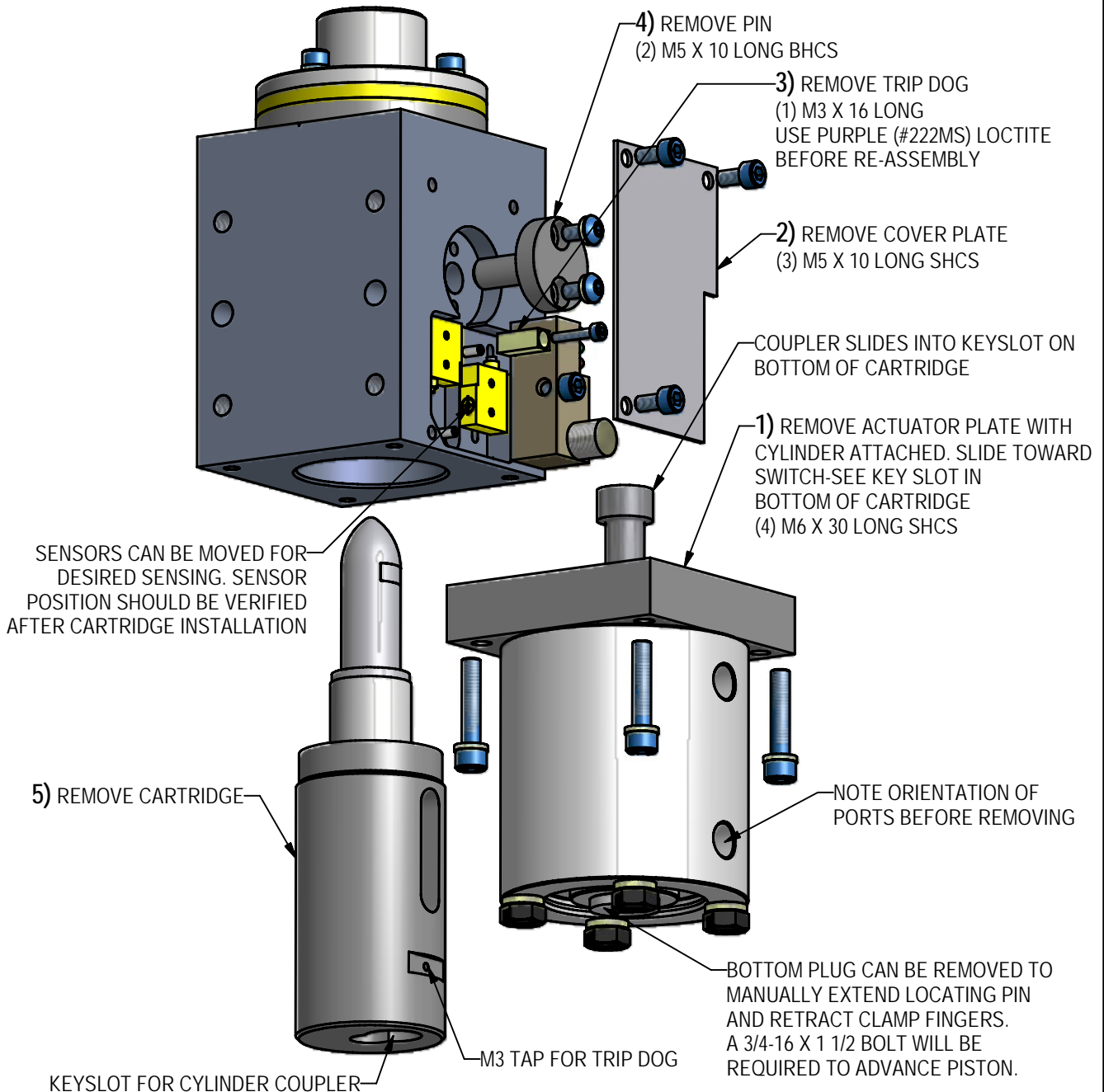


Pin Clamp Maintenance Manual



PIN CLAMP EXPLODED VIEW

(WITH EMBEDDED SWITCH)



PIN CLAMP CARTRIDGE REMOVE AND REPLACE:

BEFORE REMOVAL, PIN MUST BE IN THE EXTENDED POSITION AND CLAMP FINGERS BELOW FLUSH. MAINTAINING AIR ON THE CYLINDER HELPS OPERATION ESPECIALLY WITH A SPRING RETRACT CYLINDER. IF AIR CANNOT BE MAINTAINED, REMOVAL OF THE BOTTOM PLUG MAY BE REQUIRED TO KEEP PISTON ADVANCED. SEE CALLOUT AT BOTTOM PLUG.

REMOVE COMPONENTS PER STEPS 1-5.

WHEN INSTALLING A NEW CARTRIDGE, MAKE SURE THE FINGERS ARE FLUSH TO THE PIN AND THE SLOT IS ORIENTATED AS SHOWN.

REINSTALL COMPONENTS IN REVERSE ORDER. BEFORE INSTALLING THE CYLINDER ASSEMBLY, MAKE SURE CARTRIDGE MOVES FREELY UP & DOWN AND THE FINGERS EXTEND AND RETRACT PROPERLY. LEAVING THE CARTRIDGE IN THE RETRACTED POSITION WILL MAKE IT EASIER TO LINE UP THE CYLINDER TO THE KEYSLOT WHEN RE-ATTACHING.

TOOLS REQUIRED

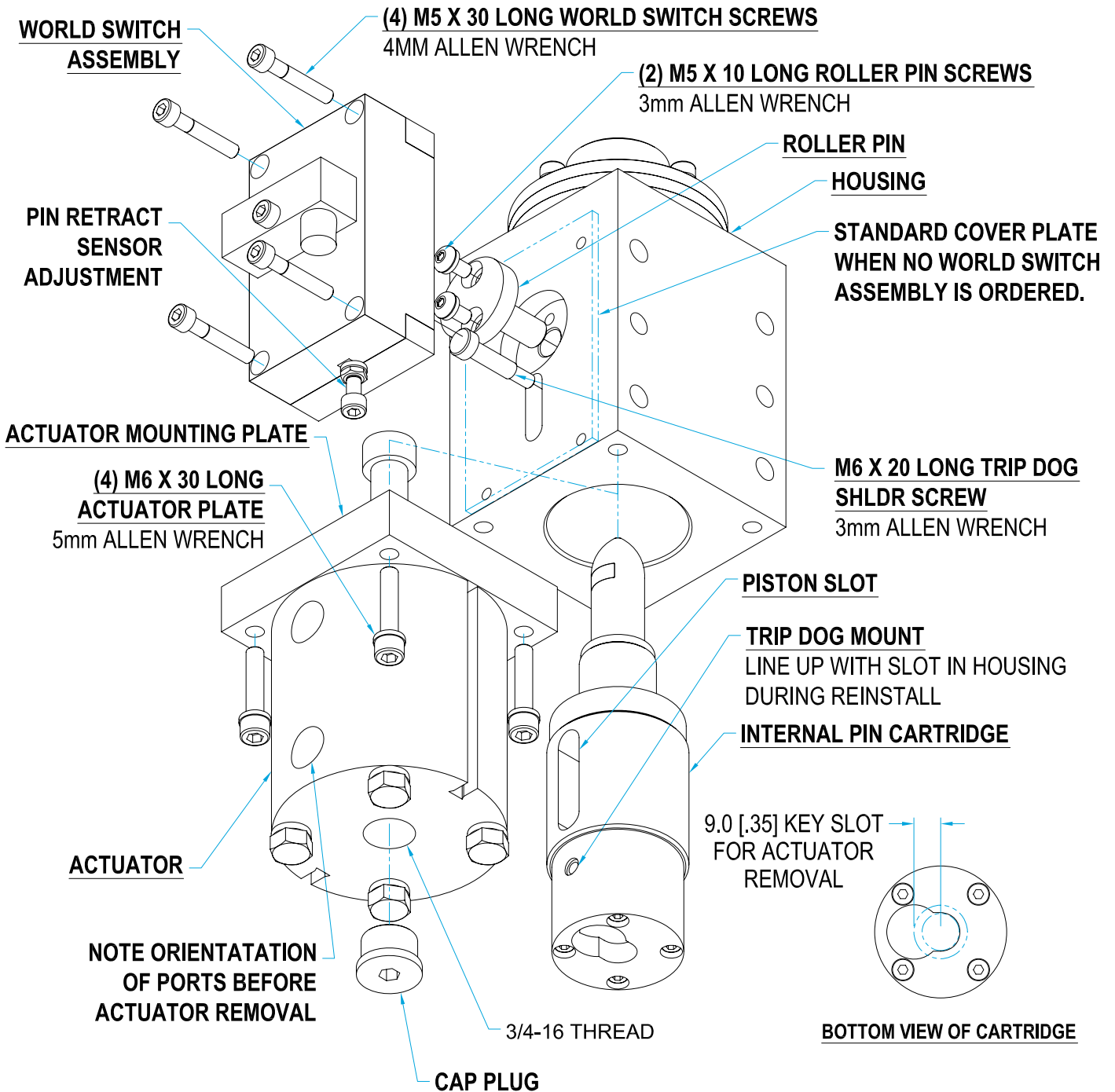
2 1/2mm, 3mm, 4mm, 5mm
HEX KEY WRENCHES
NEEDLE NOSE PLIERS
PURPLE LOCTITE #222MS

(DO NOT SCALE DRAWING)

WELKER
ENGINEERED PRODUCTS
248-528-2020 www.e-welker.com

PIN CLAMP EXPLODED VIEW

(FOR BOLT ON SWITCH ASSEMBLY ONLY)



SEE SHEET 3 FOR INSTRUCTIONS OF COMPLETE CARTRIDGE REMOVAL AND REPLACEMENT

MUST BE REMOVED ($\frac{5}{16}$ " ALLEN WRENCH)
TO EXTEND PISTON DUE TO AIR LOSS OR POWER DOWN.

USE A $\frac{3}{4}$ -16 X $1\frac{1}{2}$ LONG SHCS ($\frac{5}{8}$ " ALLEN WRENCH)
TO THREAD INTO CAP TO EXTEND PISTON AND PIN CARTRIDGE UNTIL PIN IS FULLY EXTENDED AND CLAMP FINGERS ARE FLUSH WITH PIN. THIS ALSO RELIEVES THE SPRING PRESSURE ON ACTUATORS WITH SPRING ASSIST.

CARTRIDGE REMOVE & REPLACE (FOR BOLT ON SWITCH ASSEMBLIES ONLY)

(REFER TO EXPLODED VIEW SHEET 2 FOR PICTORIAL)

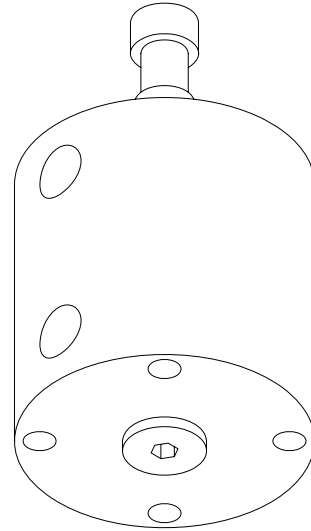
1. BEFORE REMOVAL, PIN MUST BE IN THE EXTENDED POSITION AND CLAMP FINGERS AT OR BELOW FLUSH OF PIN. FOR EASE OF ASSEMBLY, REMOVE ENTIRE PIN CLAMP FROM ANY MOUNTING SURFACE AND PLACE ON A TABLE HORIZONTALLY. THE UNIT MAY STAY MOUNTED IF THERE IS AT LEAST 8" OF CLEARANCE AT THE REAR OF THE UNIT TO REMOVE ACTUATOR & REPLACE CARTRIDGE. THERE MUST ALSO BE AT LEAST 4" OF CLEARANCE ON THE SWITCH SIDE. THE UNIT SHOULD REMAIN MOUNTED TO AVOID REVALIDATION OF THE PART REST SURFACE.
2. AIR MUST BE TURNED OFF. IN MOST CASES, AIR LINES MAY NOT HAVE TO BE REMOVED FROM ACTUATOR.
3. THE CAP PLUG AT REAR OF ACTUATOR MUST BE REMOVED ($\frac{5}{16}$ " ALLEN WRENCH) TO EXTEND PISTON DUE TO AIR LOSS OR POWER DOWN. USE A $\frac{3}{4}$ -16 X $1\frac{1}{2}$ LONG SHCS TO THREAD INTO CAP TO EXTEND PISTON AND PIN CARTRIDGE UNTIL PIN IS FULLY EXTENDED AND CLAMP FINGERS ARE FLUSH WITH PIN. THIS ALSO RELIEVES THE SPRING PRESSURE ON ACTUATORS WITH SPRING ASSIST.
4. IF UNIT HAS A WORLD SWITCH ASSEMBLY, REMOVE THE (4) SHCS. REMOVE ENTIRE WORLD SWITCH ASSEMBLY, NOTE ITS ORIENTATION AND SET ASIDE. REMOVE THE M6 TRIP DOG AND SET ASIDE.
5. IF THERE IS NO SWITCH ASSEMBLY, THEN REMOVE THE STANDARD COVER PLATE. THIS WILL EXPOSE THE ROLLER PIN. SOME UNITS HAVE (2) COVER PLATES THAT WILL NEED TO BE REMOVED BECAUSE THEY HAVE A SECOND ROLLER PIN. MOST UNITS ONLY HAVE (1) ROLLER PIN.
6. REMOVE (2) ROLLER PIN BHCS WITH LOCKWASHERS AND THEN REMOVE THE ROLLER PIN(S) WITH NEEDLE NOSE PLIERS.
7. REMOVE (4) M6 ACTUATOR MOUNTING PLATE SHCS. WITH LOCATING PIN AT FULL EXTEND AND CLAMP FINGERS FLUSH, THE ENTIRE CARTRIDGE AND ACTUATOR CAN NOW BE REMOVED FROM THE BOTTOM OF THE UNIT (NOTE PORT POSITION BEFORE REMOVING). ACTUATOR HAS A COUPLER MOUNTED ON THE ROD END AND IS SLID INTO A KEY SLOT LOCATED ON THE BOTTOM OF THE CARTRIDGE (SEE BOTTOM VIEW OF CARTRIDGE). THE CARTRIDGE CAN NOW BE SLID OFF COUPLER AND DISCARDED.
8. THE NEW CARTRIDGE CAN NOW BE INSTALLED INTO HOUSING MAKING SURE THE TRIP DOG MOUNT LINES UP WITH THE SLOT IN THE HOUSING AND SLOT ON CARTRIDGE PISTON LINES UP WITH ROLLER PIN HOLE.
9. REINSTALL THE ROLLER PIN IN HOLE. SLIGHT ROTATION OF THE CARTRIDGE MAY BE NECESSARY FOR ROLLER TO FIND THE CARTRIDGE SLOT AND SLIGHT MOVEMENT UP AND DOWN MAY BE NECESSARY TO ALLOW THE ROLLER HEAD TO FULLY SEAT BELOW THE HOUSING COUNTERBORE. REINSTALL ROLLER PIN BHCS WITH LOCKWASHERS. THE SECOND ROLLER PIN (IF PRESENT) CANNOT BE REINSTALLED AND MUST BE DISCARDED. MANUALLY PUSH CARTRIDGE UP AND DOWN TO ENSURE FINGER OPERATION AND FLUSHNESS.
10. RETRACT CARTRIDGE TO MORE EASILY ALIGN ACTUATOR COUPLER WITH BOTTOM OF CARTRIDGE. INSERT COUPLER IN CARTRIDGE KEY SLOT AND PUSH ACTUATOR AND CARTRIDGE TO EXTENDED POSITION TO MATE ACTUATOR PLATE TO HOUSING. ASSURE PORTS ARE IN THEIR CORRECT POSITION. REINSTALL THE (4) M6 ACTUATOR MOUNTING PLATE SHCS.
11. LOOSEN $\frac{3}{4}$ -16 BOLT ABOUT $\frac{1}{2}$ ". PUSH CARTRIDGE TO RETRACT AGAINST BOLT. TIGHTEN BOLT AGAIN TO RESEAT CATRIDGE UP IN EXTENDED POSITION. RECHECK CLAMP FINGER FLUSHNESS. FINGERS MUST BE FLUSH OR JUST BELOW. IF NOT, REPEAT RETRACTING AND EXTENDING THE CARTRIDGE 2 MORE TIMES. IF FINGERS REMAIN BEYOND FLUSH, CONTACT WELKER FOR PROCEDURE TO TUNE IN FINGERS TO CORRECT FLUSHNESS.
12. REINSTALL TRIP DOG SCREW INTO MOUNT THRU HOUSING SLOT. BLUE LOCTITE **MUST** BE USED. REINSTALL WORLD SWITCH ASSEMBLY MAKING SURE NO SENSOR WIRES OR SENSORS INTERFERE WITH TRIP DOG SCREW. WIRES MUST ALSO BE POSITIONED BELOW 2mm GUIDE RODS.
13. IF THERE IS NO WORLD SWITCH ASSEMBLY, RE-INSTALL STANDARD COVER PLATE OVER ROLLER PIN. IF UNIT HAS (2) COVER PLATES, RE-INSTALL BOTH.
14. REMOVE $\frac{3}{4}$ -16 BOLT AND REINSTALL CAP PLUG.
15. PIN CLAMP IS FINISHED AND CAN BE REMOUNTED TO ITS BRACKET. IF AIR FITTINGS WERE REMOVED FROM ACTUATOR, USE TEFLON TAPE WHEN REINSTALLING. VERIFY OPERATION AND FLUSHNESS OF CLAMP FINGERS. AT FULL EXTEND, CLAMP FINGERS SHOULD BE AT FLUSH OR ABOUT .001" BELOW FLUSH. IF THEY ARE ABOVE FLUSH OR TOO FAR BELOW FLUSH, PLEASE CONTACT WELKER. FINALLY, VERIFY SWITCH OPERATION.

TOOLS REQUIRED

3mm, 4mm, 5mm, $\frac{5}{16}$, $\frac{5}{8}$ ALLEN WRENCHES
 $\frac{3}{4}$ -16 X $1\frac{1}{2}$ LONG SHCS (NOT SUPPLIED)
NEEDLE NOSE PLIERS
BLUE LOCTITE

SPARE PARTS

DESCRIPTION	ACTUATOR PART NUMBER		
	40mm BORE	50mm BORE	63mm BORE
	T	C	M
A DOUBLE ACTING (STD)	WCN-2108-19 W/COUPLER	WCN-2094-19 W/COUPLER	WCN-2091-19 W/COUPLER
B DOUBLE ACTING WITH SPRING ASSIST	WCN-2111 W/COUPLER	WCN-2093 W/COUPLER	WCN-2090 W/COUPLER
C DOUBLE ACTING - DOUBLE ROD	WCN-2110-19 W/COUPLER	WCN-2104-19 W/COUPLER	WCN-2102-19 W/COUPLER
D DOUBLE ACTING - DOUBLE ROD WITH SPRING ASSIST	WCN-2113 W/COUPLER	WCN-2103 W/COUPLER	WCN-2101 W/COUPLER
E DOUBLE ACTING WITH LINEAR TRANSDUCER (SEE SHT 7)	WCN-2109-19 W/COUPLER	WCN-2100-19 W/COUPLER	WCN-2098-19 W/COUPLER
F DOUBLE ACTING WITH LINEAR TRANSDUCER AND SPRING ASSIST (SEE SHT 7)	WCN-2112 W/COUPLER	WCN-2099 W/COUPLER	WCN-2097 W/COUPLER
G ELECTRIC DC STEPPER	CP-IE233-2-13470 PROFILE 8 (C & M SERIES) PROFILE 10 (T SERIES)		

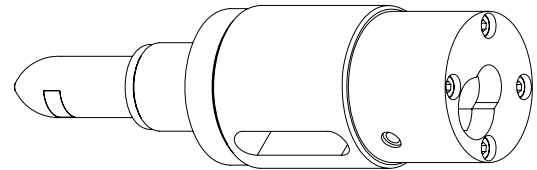


PIN CLAMP CARTRIDGE:

"SERIES" -CRT-"PIN DIAMETER"-"PIN TYPE"-"OPTION LENGTH (STD OR LONG)"

eg: C-CRT-16.00-A-STD, M-CRT-40.00-B-LONG

NOTE: BACKUPS MUST BE ORDERED SEPARATELY.
FOR ELECTRIC ACTUATOR CARTRIDGE, ADD SUFFIX
"-G" AT THE END OF THE PART NO.
SEE SHEET 3 FOR PIN DIAMETER & TYPE.



PIN TYPE **A** SHOWN WITH 0° ORIENTATION
FOR OTHER PIN TYPES & FINGER
ORIENTATIONS, SEE SHEET 3
SEE SHEETS 9 & 10 FOR REMOVAL &
REPLACEMENT OF CARTRIDGE

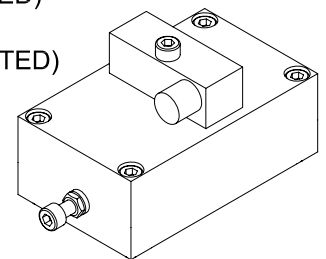
WORLD SWITCH ASSEMBLY (FOR BOLT ON ASSY ONLY):

PCW-SW "SWITCH ASSY OPTION"-A38F-B7V (SENSOR S01 OPTION **E** PIN EXTENDED)

PCW-SW "SWITCH ASSY OPTION"-B7V-A38F (SENSOR S01 OPTION **R** PIN RETRACTED)

eg: PCW-SWA-A38F-B7V (DC TURCK WITH SENSOR S01
AT PIN EXTENDED POSITION)
SEE SHEET 5 FOR ALL SWITCH ASSY OPTIONS.

**TO ORDER THE SWITCH ONLY FOR PIN CLAMPS WITH THE EMBEDDED SWITCH,
ORDER "SW<LETTER>" USING SWITCH LETTER SHOWN ON SHEET 5**



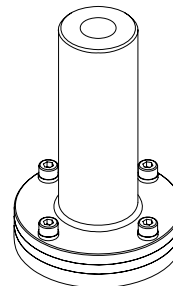
BACKUP:

"SERIES" E06C - "PIN DIAMETER" - "BACKUP
DIAMETER" - "BACKUP DISTANCE LETTER" - "OPTION"

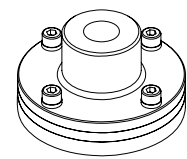
(ALL BACKUPS INCLUDE A BACKUP, BACKUP RING WITH SEAL,
SPACER & HARDWARE)

eg: CE06C-16.00-035-K-A

SEE SHEET 6 OF CATALOG FOR ALL BACKUP OPTIONS.



OPTIONS **B** AND **D**
LONG BACKUP



OPTIONS **A** AND **C**
STANDARD BACKUP

SWITCH OPTIONS

C **2** **5** **0** **0** **A** **A** **A** **R** **D** **0** **3** **5** **K** **A**

WORLD SWITCH ASSY

SENSOR POSITION

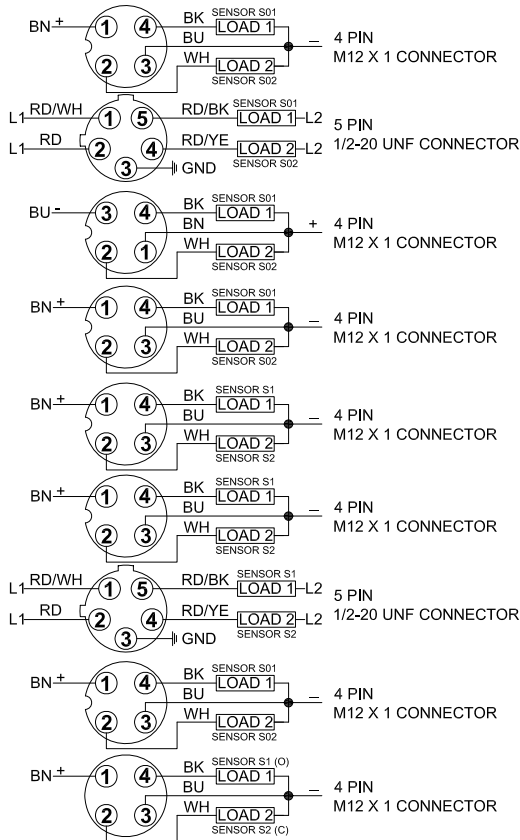
USE "SW<LETTER>" THEN "A-J" FOR EMBEDDED SWITCH, ie. "SWD".

WORLD SWITCH OPTIONS

DESCRIPTION

- 0** NONE
- A** *DC TURCK 4-PIN (PNP)
#Ni2-Q6.5-AP6-0.1-FS 4.4x3/S304
- B** AC/DC TURCK 5-PIN (N.O.)
#Ni2-Q6.5-ADZ32-0.1-FSB 5.4x4/S304
- C** DC TURCK 4-PIN (NPN)
#Ni2-Q6.5-AN6-0.1-FS 4.4x3/S304
- D** *DC PEPPERL & FUCHS 4-PIN (PNP)
#NBN2-F581-100S6-E8-V1
- E** DC BALLUFF 4-PIN (PNP)
#BES-Z02KR2-PSC20F-P100-S04-V
- F** DC ALLEN-BRADLEY 4-PIN (PNP)
#871D-MW2GP100A-D4
- G** AC/DC ALLEN-BRADLEY 5-PIN(N.O.)
#871D-JW2G100A-R5
- H** *DC TURCK 4-PIN (PNP)
#Ni2-Q6.5-AP6-0.1-BDS-2AP6X3-H1141/S34
- J** DC EFECTOR 4-PIN (PNP)
#IN 5374

* STANDARD SWITCH PRICING. OTHER SWITCHES MAY REQUIRE A PRICE PREMIUM.



SENSOR POSITION

- 0** NONE
- E** Sensor 01-Unclamped (Pin Extended, Load/Unload Position) Sensor 02-Clamped
- R** Sensor 01-Clamped (Pin Retracted) Sensor 02-Unclamped (Load/Unload Position)

Note: Sensor 01 displays an amber LED. Sensor 02 displays a red LED.