

REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
E	28MAR2019	SAM/BVH	PRN: P2019-0752

NOTES:

A. MATERIAL AND FINISH:

TOP HOUSING - ALUMINUM  
 BOTTOM HOUSING - DIE CAST ZINC  
 CAM, TRIGGER - SINTERED METAL, STEEL, ZINC PLATED  
 SPRINGS - STAINLESS STEEL, PASSIVATED  
 TRIGGER INTERLOCK LEVER - GLASS FILLED NYLON  
 BISTABLE SPRING RETAINER - DIE CAST ZINC  
 DRIVE CAM - BLACK ACETAL  
 OUTPUT CAM - WHITE ACETAL

B. ELECTRICAL SPECIFICATIONS:

OPERATING VOLTAGE: 12-24 VDC NOMINAL  
 TYPICAL OPERATING CURRENT: LESS THAN 500 mA AT 12 VDC  
 PEAK / STALL OPERATING CURRENT: 1 A MAX (STALL LIMITED TO 1.4 SECONDS)  
 TOTAL STANDBY CURRENT, LOCKED / UNLOCKED: 5 mA  
 CONTROL SIGNAL HIGH (UNLOCK COMMAND): 6 VDC TO OPERATING VOLTAGE, 5.5 mA MAX  
 CONTROL SIGNAL LOW (LATCHED COMMAND): 0 TO 1 VDC (OPEN)  
 LATCH TRANSIT TIME TO RELEASE: 600 MILLISECOND NO LOAD, 1.4 SECOND MAX  
 OPERATING TEMPERATURE RANGE: -20C TO 60C

C. ELECTRICAL CONNECTIONS AND HOOKUP:

A BASIC SWITCH CONTROL ELECTRICAL HOOKUP DIAGRAM IS PROVIDED FOR REFERENCE  
 CONSULT WITH A SOUTHCO REPRESENTATIVE FOR ADDITIONAL ELECTRICAL HOOKUP INFORMATION  
 - CONNECT POWER, GROUND AND CONTROL SIGNAL WIRES TO AN APPROPRIATE DC POWER SUPPLY  
 - A DC POWER SUPPLY CAPABLE OF SUPPLYING 12-14 VDC AT 1 AMP MINIMUM PER LATCH IS RECOMMENDED  
 - POWER MUST BE AVAILABLE TO OPERATE THE LATCH AND MUST REMAIN AVAILABLE DURING THE FULL TRANSIT TIME OF THE LATCH DURING LOCKING OR UNLOCKING.

**CAUTION!** LATCH CAN BE DAMAGED IF WIRED INCORRECTLY, OR IF IMPROPER VOLTAGE IS APPLIED!  
 CONNECTOR PIN ASSIGNMENT: SEE CONNECTOR PINOUT TABLE AND PIN LOCATION DETAILS.  
 STATUS INDICATION: OPEN COLLECTOR OUTPUT, RATING 12-24 VDC, 50 mA MAX LOAD.

D. ELECTRICAL OPERATION:

TO UNLOCK OR RELEASE THE LATCH:  
 PROVIDE THE FOLLOWING CONTROL SIGNAL TO CONNECTOR PIN 3  
 - PROVIDE 12-24 VDC (CONTROL SIGNAL HIGH) FOR A MINIMUM OF 50 MILLISECOND  
 - THE CONTROL SIGNAL CAN REMAIN HIGH INDEFINITELY  
 - THE DELAYED RE-LOCK LATCH WILL STAY UNLOCKED FOR A MINIMUM OF 1 MILLISECOND OR AS LONG AS THE CONTROL SIGNAL IS HIGH.  
 - THE AUTO RE-LOCK LATCH WILL STAY UNLOCKED FOR A MINIMUM OF 1 MILLISECOND AND RE-LOCK IF THE CONTROL SIGNAL REMAINS HIGH.  
 TO LOCK THE DELAYED RE-LOCK LATCH AND TO ENABLE THE AUTO RE-LOCK LATCH FOR A NEW OPENING CYCLE:  
 PROVIDE THE FOLLOWING CONTROL SIGNAL TO CONNECTOR PIN 3  
 - PROVIDE CONTROL SIGNAL LOW FOR 50 MILLISECOND. POWER MUST BE AVAILABLE DURING TRANSIT TO THE LOCKED POSITION.

E. OUTPUT FEEDBACK:

- OPEN COLLECTOR OUTPUT, RATING 12-14VDC, 50 mA MAX LOAD  
**CAUTION!** TO PREVENT DAMAGE TO THE PRODUCT DO NOT EXCEED MAXIMUM LOADS STATED AND FOLLOW WIRING DIRECTIVES.

F. LATCH CONNECTOR:

MANUFACTURER: MOLEX, SERIES: MICRO-FIT 3.0  
 -3.0mm PITCH MICRO-FIT HEADER, DUAL ROW, 6 POSITIONS, MOLEX P/N: 43045-0606 OR EQUIVALENT.  
 MATE CONNECTOR / WIRE HARNESS REQUIRED (NOT SUPPLIED)  
 - CONNECTOR: RECEPTACLE HOUSING, DUAL ROW, 6 POSITION 3mm: MOLEX P/N: 43025-0600  
 - CONTACTS: FEMALE CRIMP TERMINAL (SOCKET) MOLEX P/N 43030-0007

G. MOUNTING:

- MOUNT THE LATCH SECURELY USING TWO (2) SCREWS IN THE MOUNTING HOLES PROVIDED (SCREWS NOT PROVIDED)  
 - MOUNTING CONFIGURATIONS ARE AVAILABLE WITH THREADED OR THROUGH HOLES PER ASSEMBLY PART NUMBER SCHEME OUTLINED ON SHEET 2  
 - SEE SHEET 3 AND SHEET 4 FOR SUGGESTED MOUNTING CONFIGURATIONS AND HARDWARE REQUIREMENTS

H. MECHANICAL OPERATION:

THE LATCH IS PROVIDED WITH A MECHANICAL TRIGGER TO RELEASE THE LATCH.  
 THE MINIMUM TRAVEL REQUIRED TO RELEASE THE LATCH IS SHOWN ON SHEET 2.  
 THE TRIGGER MOVES THROUGH ITS FULL TRAVEL DURING ELECTRICAL OPERATION OF THE LATCH.  
 ACCESSORIES ARE AVAILABLE (SOLD SEPARATELY) FOR REMOTE ACTUATOR CABLE INSTALLATION (SEE DRAWING J-R4-EM-952 FOR MANUAL OVERRIDE BRACKET).

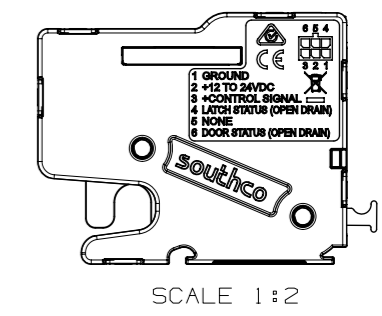
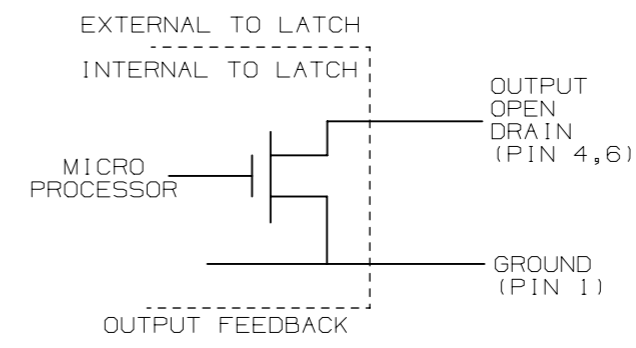
**CAUTION!** TO PREVENT LONG TERM DAMAGE OF ELECTRICAL COMPONENTS IN THE LATCH, DO NOT OBSTRUCT MOTION OF THE TRIGGER DURING ELECTRICAL OPERATION

I. STRIKER ASSEMBLY SOLD SEPARATELY

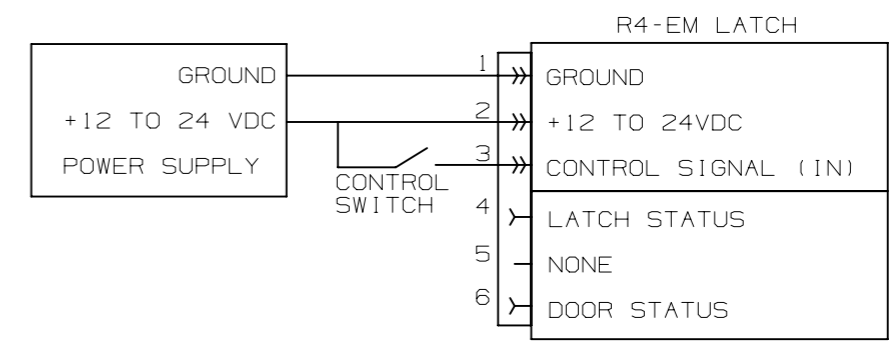
REFER TO J-R4-90-709-20 FOR ADDITIONAL INFORMATION ON STAINLESS STEEL STRIKER AND J-R4-90-804-10 FOR ADDITIONAL INFORMATION ON ZINC DIE CAST STRIKER ASSEMBLY.

J. KICK OUT FORCE UPON UNLOCKING FROM CLOSED POSITION: (5N)  
 HOLDING FORCE UPON UNLOCKING FOR PULL-TO-OPEN LATCH: (15N)

K. PACKAGED IN INDIVIDUAL BOXES. ADD -1 SUFFIX TO PART NUMBER FOR BULK PACKAGED OPTION.



SCALE 1:2



ELECTRICAL HOOKUP (OUTPUT/FEEDBACK)

CONNECTOR PINOUT	
PIN	FUNCTION
1	GROUND (-)
2	POWER (+)
3	CONTROL SIGNAL
4	LATCH STATUS
5	NONE
6	DOOR STATUS

CONNECTOR PINOUT		OUTPUT	
PIN	FUNCTION	OPEN	GROUND
4	LATCH STATUS	LOCKED	UNLOCKED
5	NONE	NOT APPLICABLE	
6	DOOR STATUS	CLOSED	OPEN

SEE SHEET 2 OF 2 FOR LATCH PART NUMBERS AND INSTALLATION INFORMATION

SURFACE AREA N/A mm <sup>2</sup> VOLUME N/A mm <sup>3</sup> PROPRIETARY ITEM <small>EXCEPT FOR USES EXPRESSLY GRANTED IN WRITING, INFORMATION DISCLOSED HEREON IS CONFIDENTIAL AND ALL RIGHTS, PATENT AND OTHERWISE, ARE RESERVED BY SOUTHCO, INC.</small>	THIRD ANGLE PROJECTION	 CONNECT · CREATE · INNOVATE	
	MILLIMETERS [IN]		
	TOLERANCES UNLESS OTHERWISE NOTED	DESCRIPTION ELECTRONIC ACCESS SOLUTION R4-EM 9 SERIES DIE CAST	
	ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.	SIZE A3 SYSTEM NX DWG NO. J-R4-EM-9-2	DRAWN BY BVH/ DATE 06APR2017 SCALE 1:1 SHEET 1 OF 4

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### ASSEMBLY PART NUMBER

R4-EM-TBA5-1SC-P

\*T\* DESIGNATES TRIGGER STYLE  
 9A = AUTO RE-LOCK KICK OUT  
 9D = DELAYED RE-LOCK KICK OUT  
 9P = DELAYED RE-LOCK PULL TO OPEN

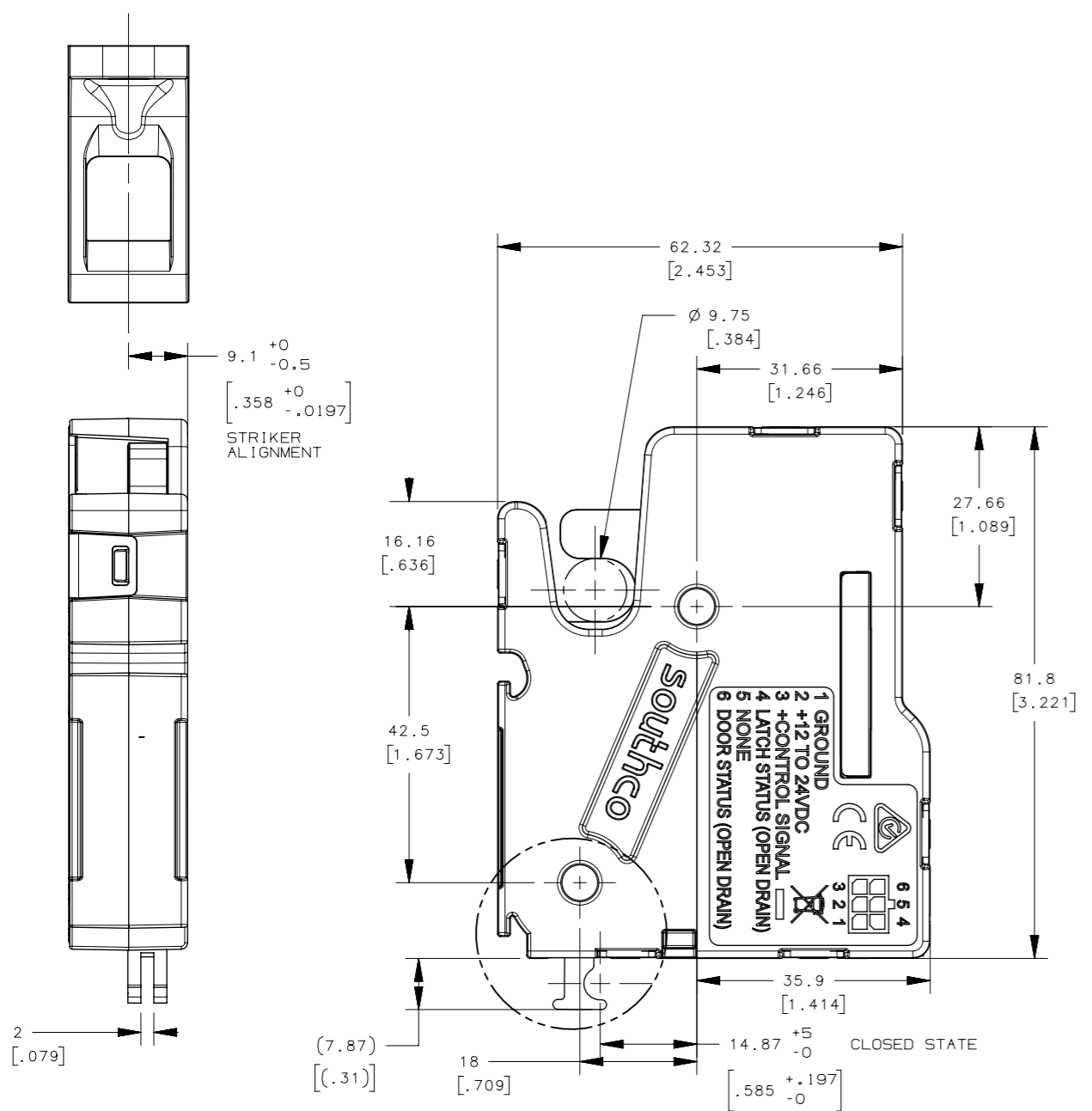
\*B\* DESIGNATES PIVOT PIN TYPE  
 1 = 1/4-20  
 2 = M6  
 3 = 7MM THRU

\*P\* DESIGNATES PACKAGING  
 BLANK = INDIVIDUAL  
 1 = BULK

\*C\* = 0 - NO EXTERNAL CONNECTOR

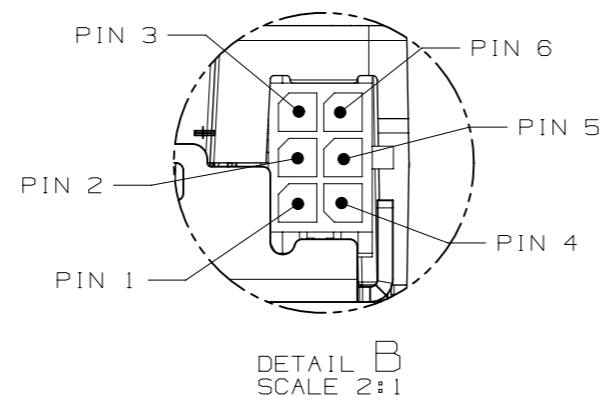
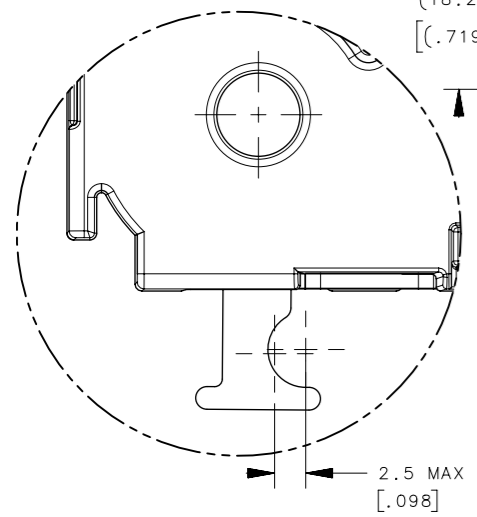
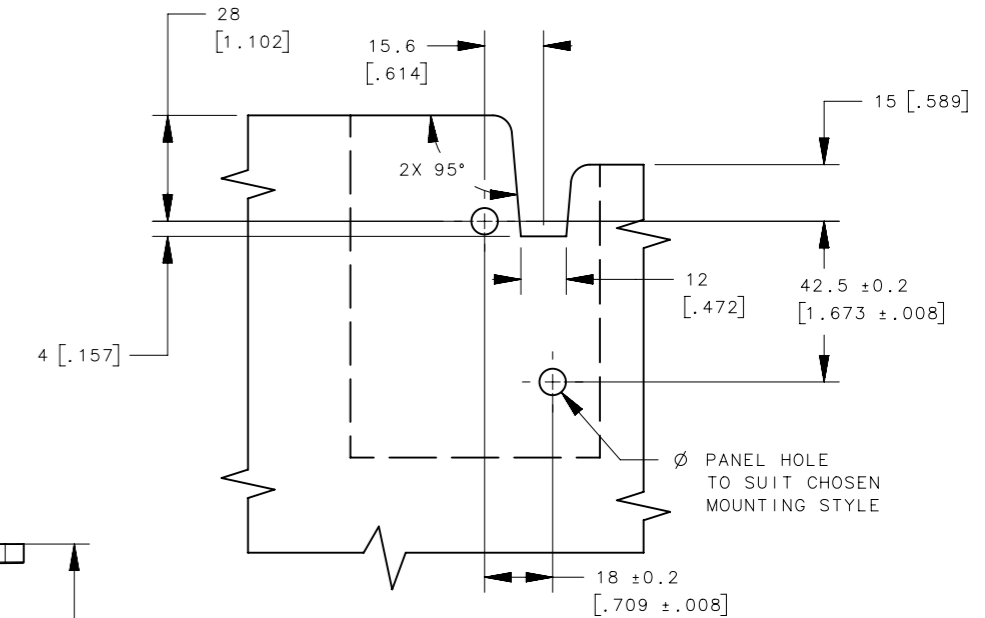
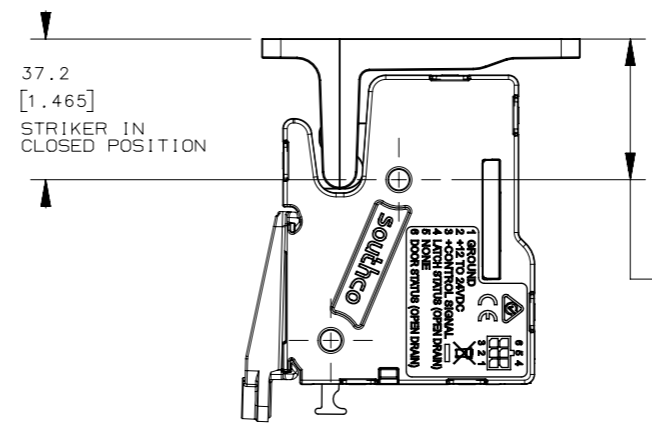
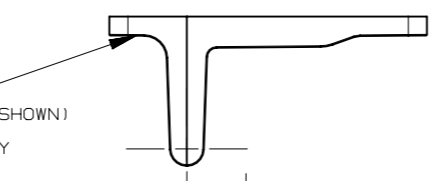
\*S\* DESIGNATES SENSOR OPTIONS  
 5 = DOOR AND TRIGGER SENSOR (STANDARD OUTPUT) EXTENDED HOUSING ONLY (A = BLANK)  
 5A = DOOR AND TRIGGER SENSOR (REVERSED OUTPUT) EXTENDED HOUSING ONLY (A = BLANK)

\*A\* DESIGNATES ALTERNATIVE CONFIGURATIONS  
 BLANK = EXTENDED HOUSING HEIGHT



STRIKER  
 R4-90-709-20 (SHOWN)  
 R4-90-804-10  
 SOLD SEPARATELY

MANUAL OVERRIDE  
 BRACKET  
 R4-EM-952  
 SOLD SEPARATELY

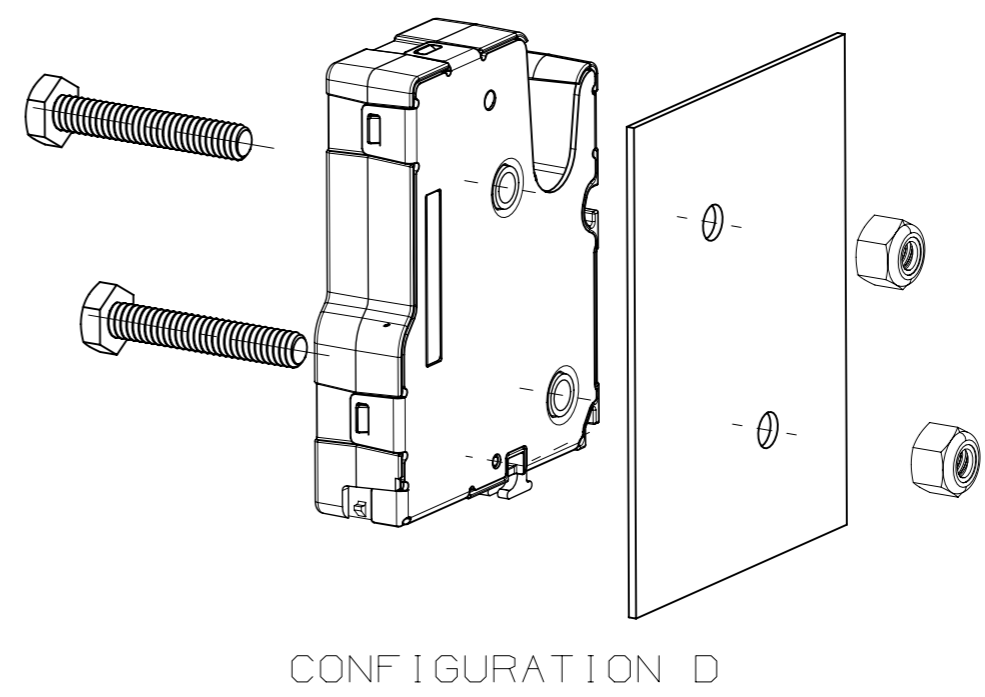
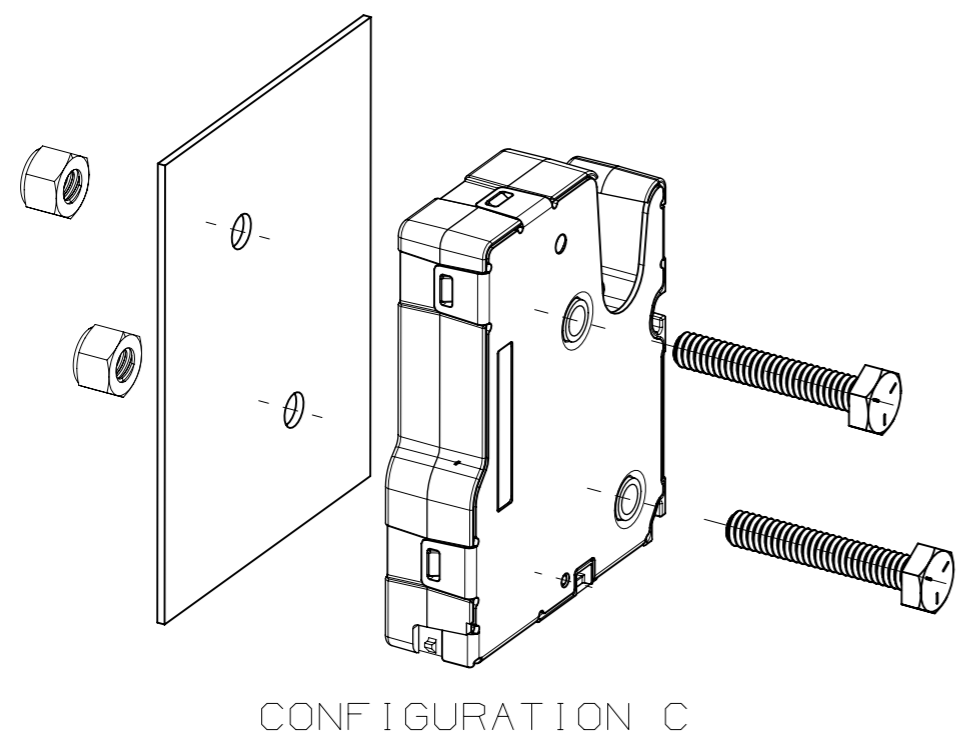
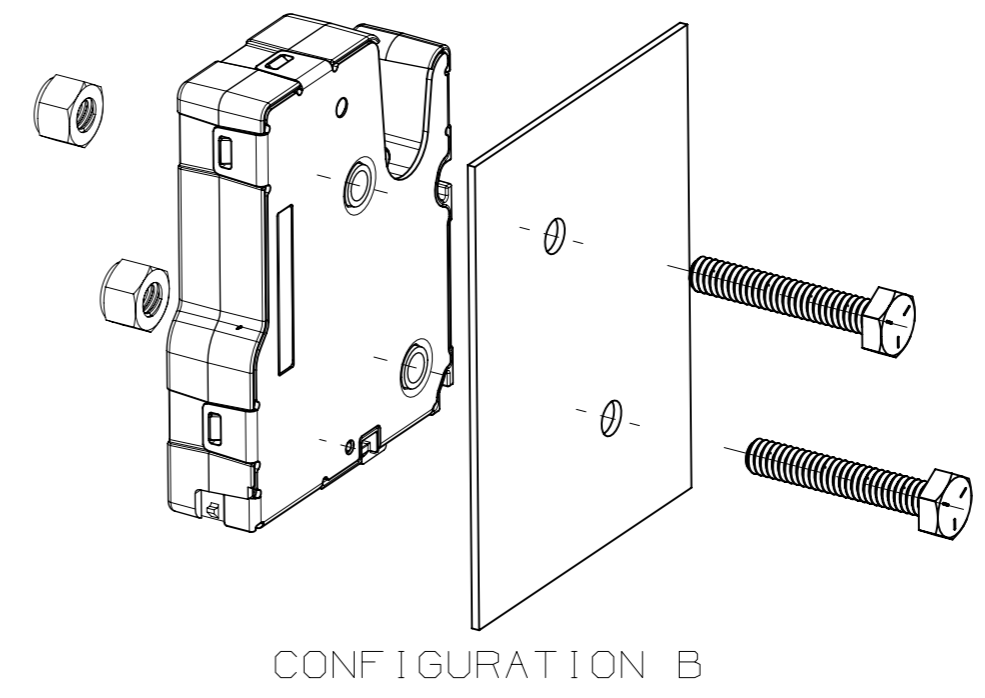
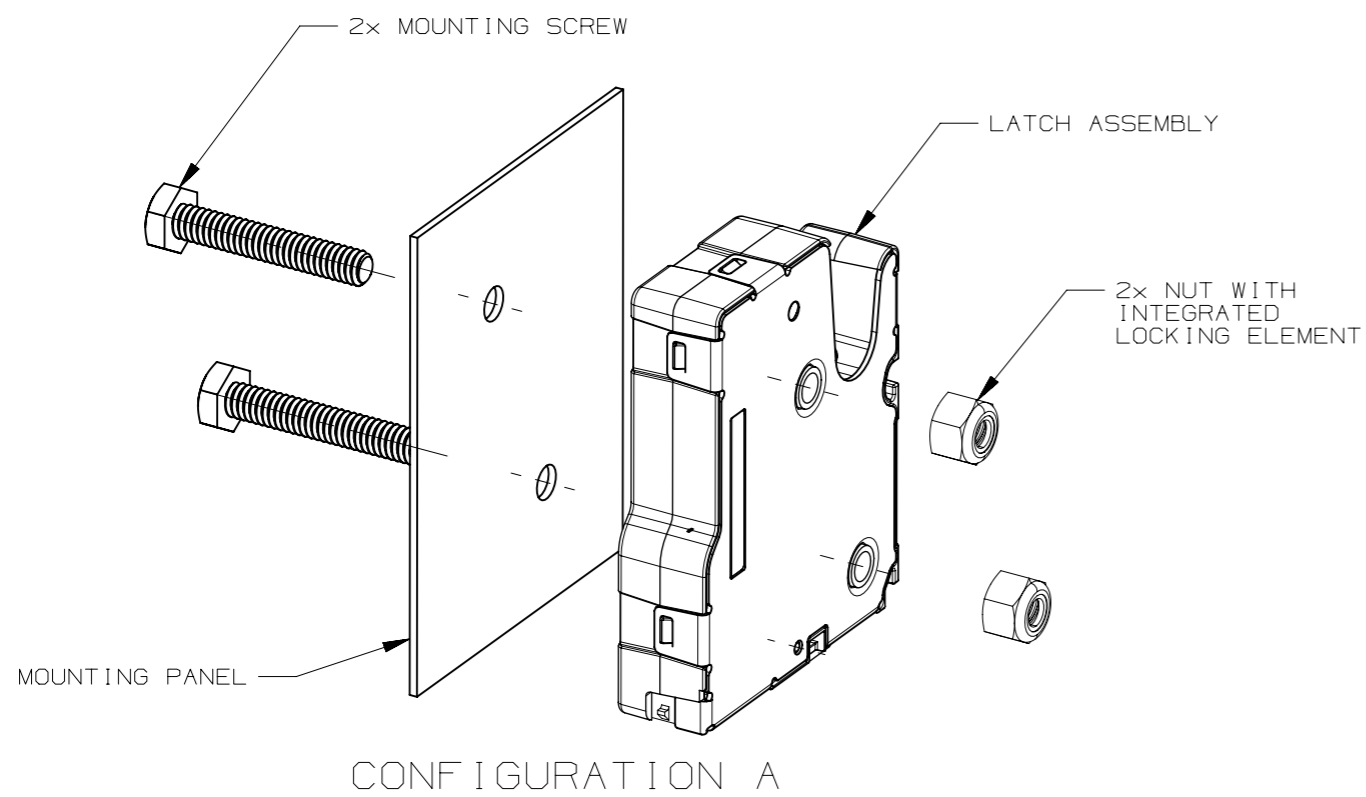


THIRD ANGLE PROJECTION		 CONNECT • CREATE • INNOVATE	
MILLIMETERS [IN]			
SURFACE AREA N/A mm <sup>2</sup>		DESCRIPTION	
VOLUME N/A mm <sup>3</sup>		ELECTRONIC ACCESS SOLUTION R4-EM 9 SERIES DIE CAST	
PROPRIETARY ITEM		SIZE A3	SYSTEM NX
EXCEPT FOR USES EXPRESSLY GRANTED IN WRITING, INFORMATION DISCLOSED HEREON IS CONFIDENTIAL AND ALL RIGHTS, PATENT AND OTHERWISE, ARE RESERVED BY SOUTHCO, INC.		DWG NO. J-R4-EM-9-2	SCALE 1:1
PER ASME Y14.5M-1994		DRAWN BY BVH	DATE 06APR2017
		SHEET 2 OF 4	

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# MOUNTING CONFIGURATION

R4-EM-T1A5-1SC-P



NOTES:

A. MAXIMUM RECOMMENDED FASTENER TORQUE, ALL CONFIGURATIONS: 5.0Nm.

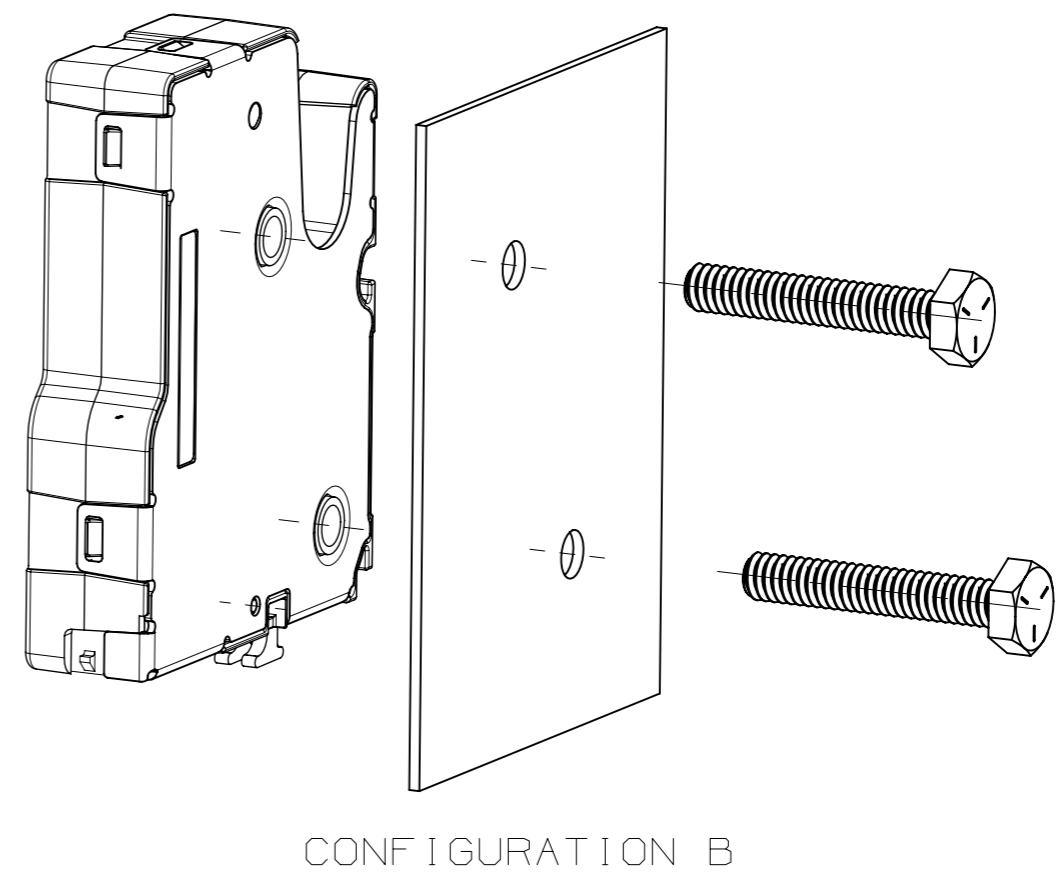
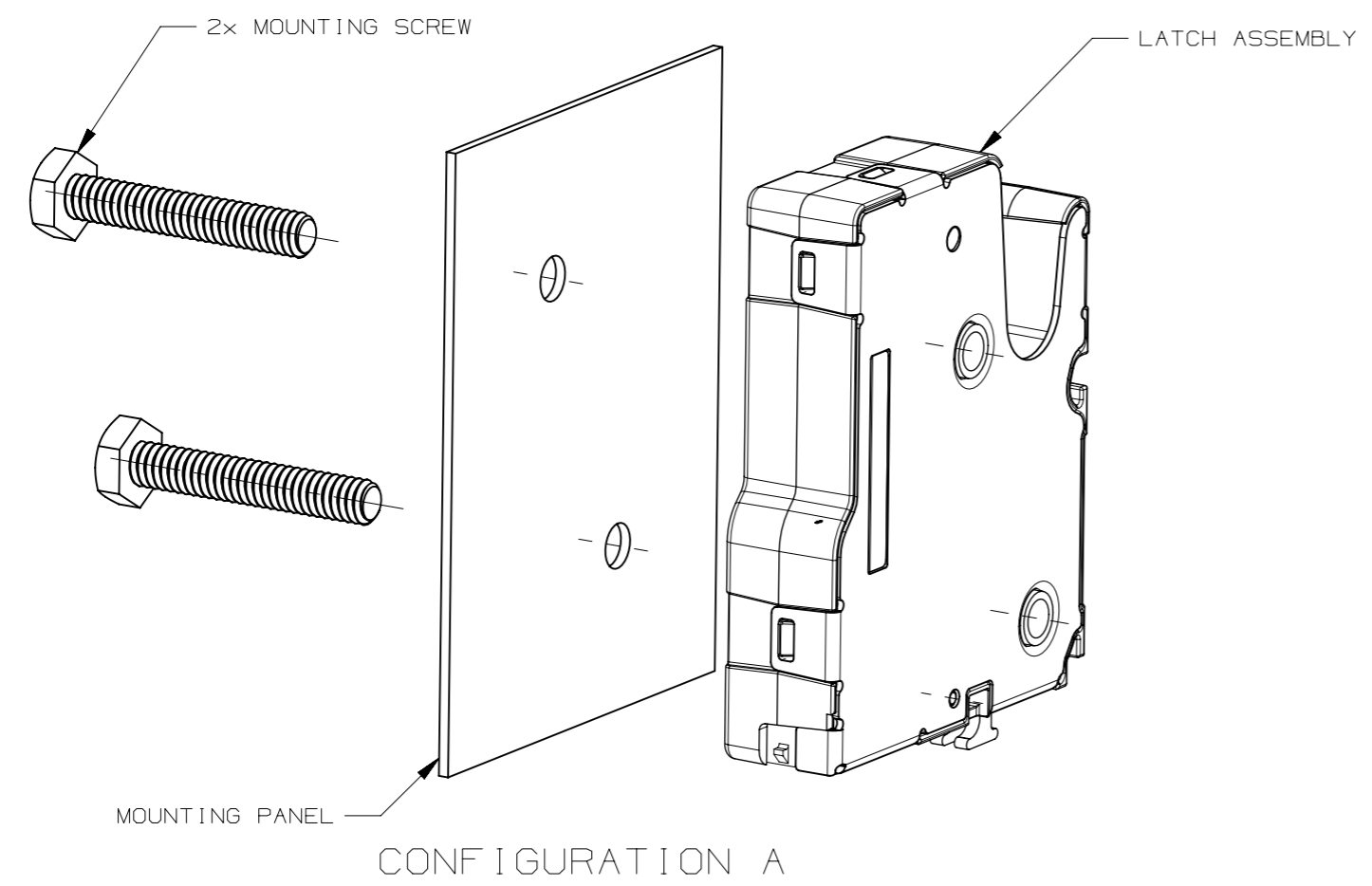
B. CONFIGURATION A AND D: USE OF FLAT WASHERS IS NOT RECOMMENDED. IF REQUIRED BY APPLICATION, DO NOT EXCEED MOUNTING TORQUE OF 4.0Nm.

	THIRD ANGLE PROJECTION	 CONNECT • CREATE • INNOVATE	
	MILLIMETERS [IN]		
SURFACE AREA	TOLERANCES UNLESS OTHERWISE NOTED	DESCRIPTION	
N/Amm <sup>2</sup>	ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.	ELECTRONIC ACCESS SOLUTION	
VOLUME		R4-EM 9-SERIES DIE CAST	
N/Amm <sup>3</sup>	PER ASME Y14.5M-1994	SIZE A3	SYSTEM NX
PROPRIETARY ITEM		DWG NO. J-R4-EM-9-2	
EXCEPT FOR USES EXPRESSLY GRANTED IN WRITING, INFORMATION DISCLOSED HEREON IS CONFIDENTIAL AND ALL RIGHTS, PATENT AND OTHERWISE, ARE RESERVED BY SOUTHCO, INC.		DRAWN BY BVH	DATE 06APR2017
		SCALE 3:4	SHEET 3 OF 4


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# MOUNTING CONFIGURATION

R4-EM-T2A5-1SC-P  
AND  
R4-EM-T3A5-1SC-P



NOTES:  
A. MAXIMUM RECOMMENDED FASTENER TORQUE, ALL CONFIGURATIONS: 5.0Nm.

		THIRD ANGLE PROJECTION	 CONNECT • CREATE • INNOVATE	
		MILLIMETERS [IN]		
SURFACE AREA		TOLERANCES UNLESS OTHERWISE NOTED		DESCRIPTION ELECTRONIC ACCESS SOLUTION R4-EM 9-SERIES DIE CAST
VOLUME		ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.		
PROPRIETARY ITEM		SIZE	SYSTEM	DWG NO.
EXCEPT FOR USES EXPRESSLY GRANTED IN WRITING, INFORMATION DISCLOSED HEREON IS CONFIDENTIAL AND ALL RIGHTS, PATENT AND OTHERWISE, ARE RESERVED BY SOUTHCO, INC.		A3	NX	J-R4-EM-9-2
PER ASME Y14.5M-1994		DRAWN BY	DATE	SCALE
		BVH	07SEP2018	1:1
				SHEET 4 OF 4