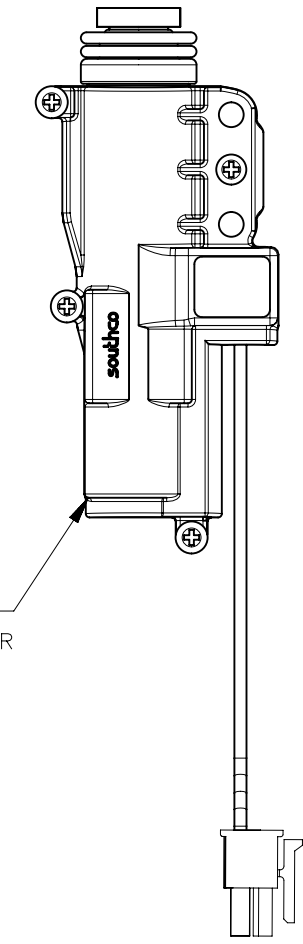
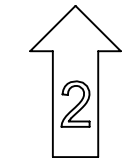


REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
J	19MAY2021	DJG/MLL	PRN: P2021-1391

PERFORMANCE VALUES FOR AC-EM-100-50C1 ACTUATORS AND R4-10-11-501-10 ROTARY LATCH
ALSO SEE J-AC-EM-10-1, J-AC-EM-059-1, AND J-R4-10-11

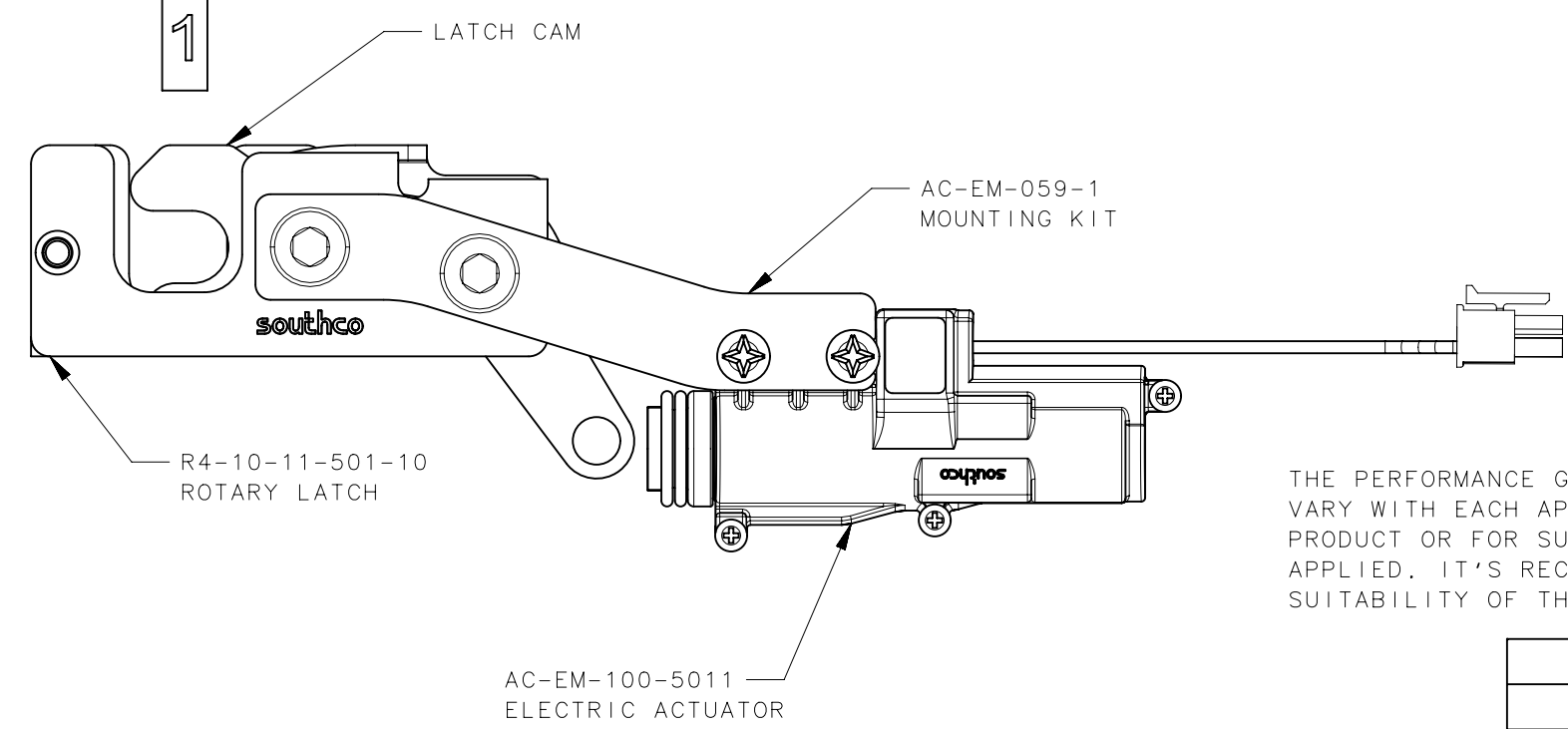
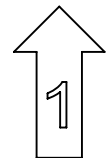
- TESTING PERFORMED ON AC-EM-100-5021 ACTUATOR.
SOME TESTS PERFORMED WITH OPTIONAL R4-10-11-501-10 ROTARY LATCH AND AC-EM-059-1 MOUNTING KIT.
- TENSILE FORCES (DIRECTION 1) ARE APPLIED AT THE NOMINAL LATERAL POSITION OF THE LATCH (ZERO MISALIGNMENT).
- CYCLE LIFE OF AC-EM-100-5021 ACTUATOR WHEN USED WITH R4-10-11-501-10 ROTARY LATCH.
 - CYCLE LIFE: 50,000 CYCLES
 - CYCLE TEMPERATURE PROFILE: 40,000 AT AMBIENT TEMP, 5000 AT -20C, 5,000 AT +60C
 - CYCLE LOAD: 44.5 N (10 lbf) TENSILE FORCE (DIRECTION 1) ON LATCH CAM.
 - SEE TD-R4-10-J FOR R4-10 LATCH CYCLE DATA
- MAXIMUM TENSILE FORCE (DIRECTION 1) ON THE CAM THAT THE R4-10 LATCH CAN RELEASE (OPEN) ELECTRICALLY ONE TIME:
 - 89.0 N (20.0 lbf) AT 4.25 VDC
 - 155.7 N (35.0 lbf) AT 5.00 VDC
 - 200.2 N (45.0 lbf) AT 5.75 VDC
- AVERAGE ULTIMATE TENSILE LOAD (DIRECTION 1) ON THE CAM BEFORE LATCH CAM FAILURE: SEE TD-R4-10-J FOR LATCH STRENGTH DATA
- MAXIMUM CONSTANT LOAD THE ACTUATOR CAN PUSH, WITH 7.5MM TRAVEL, IN DIRECTION 2 WHEN OPERATED ELECTRICALLY ONE TIME (WITHOUT R4-10 LATCH):
 - 24.5 N (5.5 lbf) AT 4.25 VDC
 - 35.6 N (8.0 lbf) AT 5.00 VDC
 - 44.5 N (10.0 lbf) AT 5.75 VDC
- OPERATING TEMPERATURE -20 TO 60 C

DIRECTION 2
ACTUATOR PUSH FORCE
SEE NOTE 6



AC-EM-100-5011
ELECTRIC ACTUATOR

DIRECTION 1
TENSILE FORCES
APPLIED TO CAM
SEE NOTES 3, 4, 5



SOUTHCO PERFORMANCE GUIDELINES

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	THIRD ANGLE PROJECTION	 CONNECT • CREATE • INNOVATE		
	MILLIMETERS [IN]			
	TOLERANCES UNLESS OTHERWISE NOTED	DESCRIPTION ACTUATOR		
	ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.	SIZE A3	SYSTEM NX	DWG NO. TD-AC-EM-10-1
<small>PROPRIETARY ITEM EXCEPT FOR USES EXPRESSLY GRANTED IN WRITING, INFORMATION DISCLOSED HEREON IS CONFIDENTIAL AND ALL RIGHTS, PATENT AND OTHERWISE, ARE RESERVED BY SOUTHCO, INC.</small>	PER ASME Y14.5M-1994	DRAWN BY DJG/KAM	DATE 11JUL2018	SCALE 1:1
			SHEET 1 OF 3	

REF: trAC-33757
trAC-34107

PERFORMANCE VALUES FOR AC-EM-100-10CS ACTUATORS AND R4-10-11-501-10 ROTARY LATCH
 ALSO SEE J-AC-EM-10-1, J-AC-EM-059-1, AND J-R4-10-11

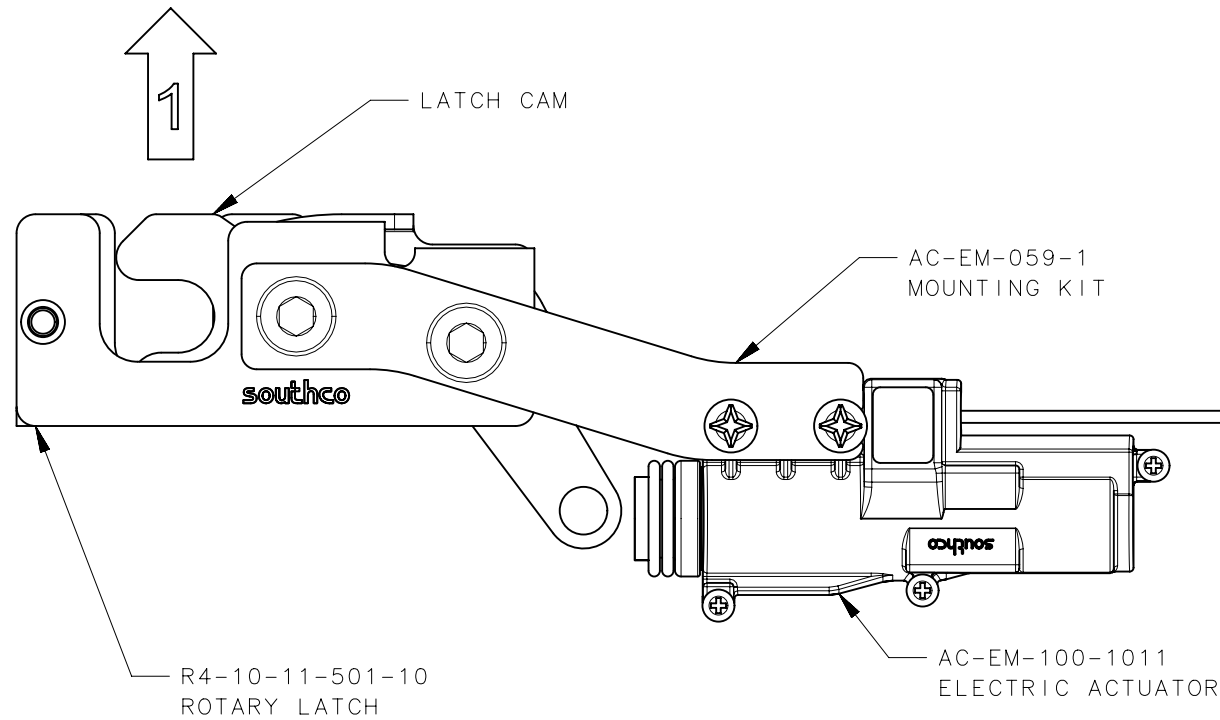
- TESTING PERFORMED ON AC-EM-100-1021 ACTUATOR.
 SOME TESTS PERFORMED WITH OPTIONAL R4-10-11-501-10 ROTARY LATCH AND AC-EM-059-1 MOUNTING KIT.
- TENSILE FORCES (DIRECTION 1) ARE APPLIED AT THE NOMINAL LATERAL POSITION OF THE LATCH (ZERO MISALIGNMENT).
- CYCLE LIFE OF AC-EM-100-1021 ACTUATOR WHEN USED WITH R4-10-11-501-10 ROTARY LATCH.
 - SEE TABLE 2 FOR CYCLE PROFILE
 - SEE TD-R4-10-J FOR R4-10 LATCH CYCLE DATA
- MAXIMUM TENSILE FORCE (DIRECTION 1) ON THE CAM THAT THE R4-10 LATCH CAN RELEASE (OPEN) ELECTRICALLY ONE TIME:
 - 133 N (30 lbf) AT 9 VDC
 - 222 N (50 lbf) AT 12 VDC
 - 311 N (70 lbf) AT 15 VDC
- AVERAGE ULTIMATE TENSILE LOAD (DIRECTION 1) ON THE CAM BEFORE LATCH CAM FAILURE: SEE TD-R4-10-J FOR LATCH STRENGTH DATA
- MAXIMUM CONSTANT LOAD THE ACTUATOR CAN PUSH, WITH 7.5MM TRAVEL, IN DIRECTION 2 WHEN OPERATED ELECTRICALLY ONE TIME (WITHOUT R4-10 LATCH):
 - 40 N (9.0 lbf) AT 9 VDC
 - 53 N (12.0 lbf) AT 12 VDC
 - 65 N (14.5 lbf) AT 15 VDC
- OPERATING TEMPERATURE -20 TO 60 C

REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
J	19MAY2021	DJG/MLL	PRN: P2021-1391

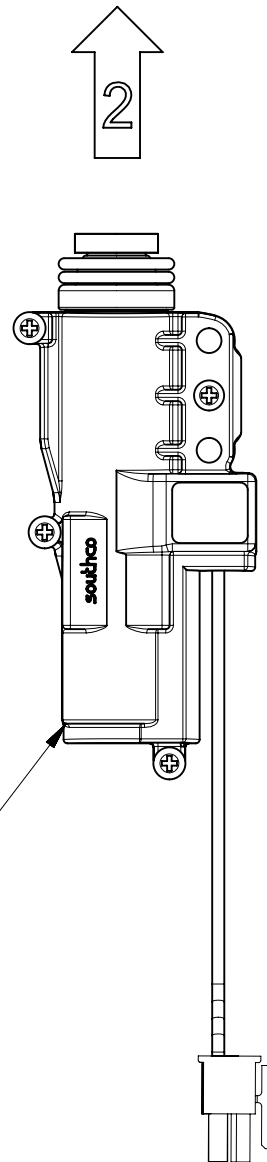
NUMBER OF CYCLES	LOAD	VOLTAGE (VDC)	TEMPERATURE (DEG C)
40,000	44.5 N (10 lbf) TENSILE FORCE (DIRECTION 1) ON LATCH CAM	12	25
5,000		9	25
5,000		15	25
5,000	NONE	9	-20
5,000	NONE	15	-20
5,000	NONE	9	60
5,000	NONE	15	60

TABLE 2 - CYCLE LIFE PROFILE

DIRECTION 1
 TENSILE FORCES
 APPLIED TO CAM
 SEE NOTES 3, 4, 5



DIRECTION 2
 ACTUATOR PUSH FORCE
 SEE NOTE 6



SOUTHCO PERFORMANCE GUIDELINES

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REF: trAC-37480

THIRD ANGLE PROJECTION				 CONNECT • CREATE • INNOVATE		
MILLIMETERS [IN]						
TOLERANCES UNLESS OTHERWISE NOTED	DESCRIPTION ACTUATOR					
ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.	SIZE A3	SYSTEM NX	DWG NO. TD-AC-EM-10-1			
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PERFORMANCE VALUES FOR AC-EM-102-10CS ACTUATORS AND R4-10-11-501-10 ROTARY LATCH
 ALSO SEE J-AC-EM-10-1, J-AC-EM-059-1, AND J-R4-10-11

- TESTING PERFORMED ON AC-EM-102-1043 ACTUATOR.
 SOME TESTS PERFORMED WITH OPTIONAL R4-10-11-501-10 ROTARY LATCH AND AC-EM-059-1 MOUNTING KIT.
- TENSILE FORCES (DIRECTION 1) ARE APPLIED AT THE NOMINAL LATERAL POSITION OF THE LATCH (ZERO MISALIGNMENT).
- CYCLE LIFE OF AC-EM-102-1043 ACTUATOR WHEN USED WITH 2 LB LOAD.
 - SEE TABLE 3 FOR CYCLE PROFILE
- MAXIMUM TENSILE FORCE (DIRECTION 1) ON THE CAM THAT THE R4-10 LATCH CAN RELEASE (OPEN) ELECTRICALLY ONE TIME:
 - 275 N (62 lbf) AT 10.8 VDC
 - 315 N (71 lbf) AT 12.0 VDC
 - 342 N (77 lbf) AT 13.2 VDC
- AVERAGE ULTIMATE TENSILE LOAD (DIRECTION 1) ON THE CAM BEFORE LATCH CAM FAILURE: SEE TD-R4-10-J FOR LATCH STRENGTH DATA
- MAXIMUM CONSTANT LOAD THE ACTUATOR CAN PUSH, WITH 7.5MM TRAVEL, IN DIRECTION 2 WHEN OPERATED ELECTRICALLY ONE TIME (WITHOUT R4-10 LATCH):
 - 42.0 N (9.5 lbf) AT 10.8 VDC
 - 46.5 N (10.5 lbf) AT 12.0 VDC
 - 51.0 N (11.5 lbf) AT 13.2 VDC
- OPERATING TEMPERATURE -40 TO 60 C

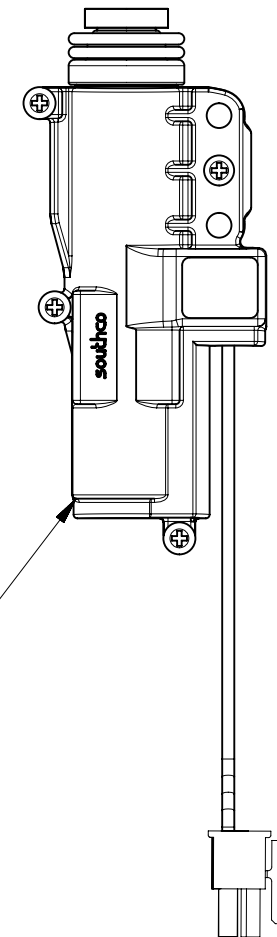
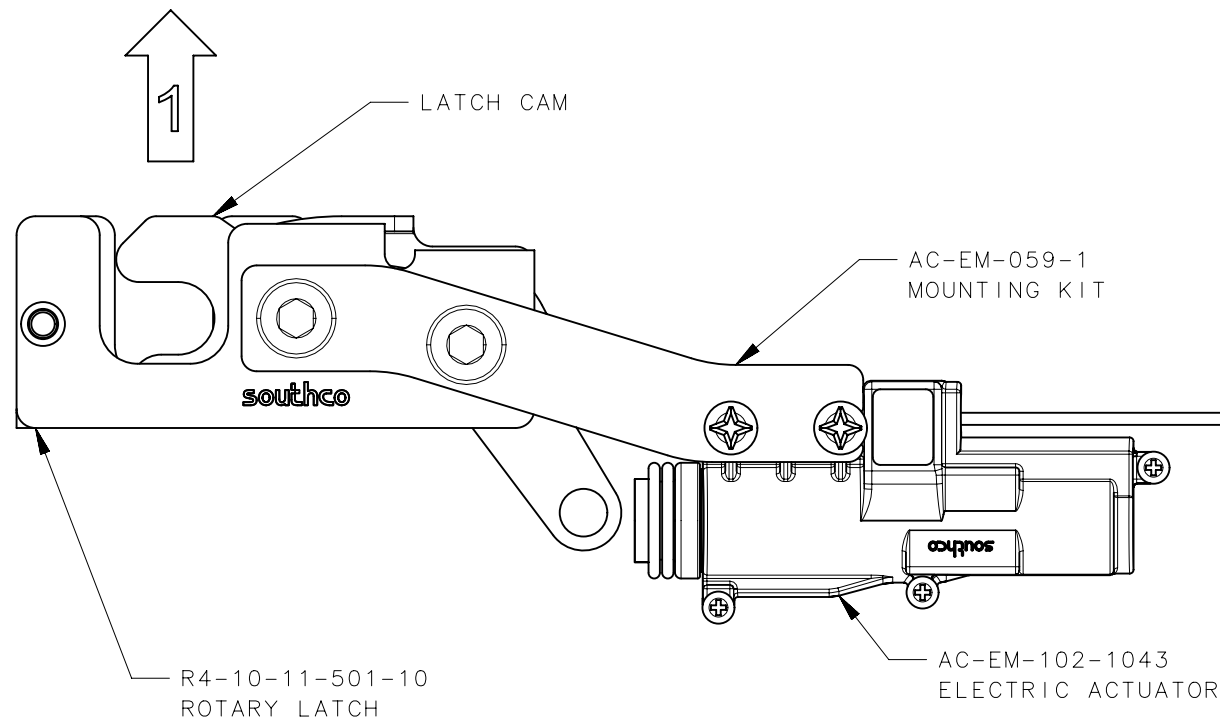
REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
J	19MAY2021	DJG/MLL	PRN: P2021-1391

NUMBER OF CYCLES	LOAD	VOLTAGE (VDC)	TEMPERATURE (DEG C)
40,000	8.9 N (2 lbf) PUSH FORCE (DIRECTION 2) ON ACTUATOR	12	25
5,000		12	-40
5,000		12	60

TABLE 3 - CYCLE LIFE PROFILE

DIRECTION 1
 TENSILE FORCES
 APPLIED TO CAM
 SEE NOTES 4 AND 5

DIRECTION 2
 ACTUATOR PUSH FORCE
 SEE NOTE 6



SOUTHCO PERFORMANCE GUIDELINES

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REF: trAC-43471

THIRD ANGLE PROJECTION			
MILLIMETERS [IN]			
TOLERANCES UNLESS OTHERWISE NOTED	DESCRIPTION ACTUATOR		
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		SCALE 1:2	SHEET 3 OF 3