SWITCH IS MERCURY MARINE CONFIDENTIAL.

INTERPRET THIS DRAWING IN ACCORDANCE WITH ASME ‘Y 14.5-2009

MATERIAL SPECIFICATION AND NOTES
1. SWITCH HOUSING IS UV STABLE ACETAL COPOLYMER WITH 12% GLASS FIBER, COLOR: BLACK.
2. SWITCH PLUNGER MATERIAL IS ACETAL COPOLYMER WITH 0% GLASS FIBER, COLOR: LIGHT GRAY.
3. SWITCH IS DATED CODED ON ONE SIDE OF HOUSING PER DELTA DATE CODE SPECIFICATION #1640.
4. SWITCH IS ALSO IDENTIFIED WITH MERCURY MARINE P/N 8M6004559.
5. PLUNGER SEALING O-RING LUBRICANT IS NYE UNIFORL #5132.
6. TERMINAL WIPER INTERFACE IS IN FREE AIR IN THE NORMALLY OPEN CONDITION.
7. WIRE TO BE 18 GA. (37/32) 80°C, PVC INSULATION, CABLE LAY-UP MAY CONSIST OF MORE STRANES OF FINER WIRE PROVIDING TOTAL CROSS SECTIONAL AREA IS NO LARGER.
8. LEAD WIRES CONFORM TO SAE J1128 AND SAE J37B
9. SWITCH MAY BE USED TO SATISFY THE U.S. CODE OF FEDERAL REGULATION TITLE 33, PART 183.701 SUBPART I “START IN GEAR PROTECTION”.
10. ELECTRICAL CONTACTS ARE SILVER ALLOY PLATED.

DURABILITY REQUIREMENT
11. 200,000 ACTUATIONS WITH NO OVIENS OR SHORTS MEASURING GREATER THAN 1.25 VOLTS (FROM OPEN OR SHORT VOLTAGE LEVEL) FOR MORE THAN 20 MILLISECONDS WITH 5.0 VDC ±0.5 REGULATED POWER SUPPLY, 7.5 VDC MAX. ACTUATIONS MADE VIA A CAM AT A MAXIMUM OF A 45° ANGLE RELATIVE TO PLUNGER LINES OF DEPRESSION.
12. SWITCHING RATE SHALL BE ONE ACTUATION CYCLE MAX. PER ONE SECOND WITH A SWITCH OFF TIME OF THREE SECONDS.
13. NO INGRESS OF EXTERNAL CONTAMINANTS ALLOWED.
14. SWITCH AND SEALING LEADS WITHSTAND 10 HP VACUUM WHEN SUBMERGED IN WATER PER DSI “SALT WATER TEST” BEFORE AND AFTER CYCLE TESTING.
15. SWITCHES SHALL BE DISECTED TO VERIFY PLASTIC HAS NOT BEEN DISPLACED FROM THE PLUNGER ONTO THE CONTACTS.
16. A YEARLY AUDIT SHALL CONFIRM THAT THE COMPONENT COMPLIES WITH THE DURABILITY REQUIREMENTS ABOVE.

OPERATING ENVIRONMENT - USAGE INFORMATION, NO TESTING REQUIRED
17. STORAGE TEMPERATURE: -30°C TO 85°C
18. OPERATING TEMPERATURE: 0°C TO 85°C
19. EXPOSURE TO FRESH AND SALT WATER
20. DTS SHIFT ACTUATOR ACTUATES THE SWITCH FROM NEUTRAL TO FORWARD/REVERSE AND FORWARD/REVERSE TO NEUTRAL WITHIN 25 MILISECONDS.
21. ELECTRICAL SWITCHING FROM OPEN TO CLOSED FROM CLOSE TO CLOSE TO OPEN MUST OCCUR WITHIN 1 SECOND AFTER THE PLUNGER IS DEPRESSED/RELEASED WITH THE SWITCH SUBMERGED IN MM SHIFT CAM LUBRICANT (CIMCOOL INC. LF 6.3) AND ACTUATED AT 60 HZ.
THE INTENT OF THIS TEST IS TO DETERMINE IF THE SWITCH CAN HYDRAULICALLY LOCK.