REVISIONS				
ZONE	LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
	A	REDRAWN WITH CHANGE SEE NOR BRI-13005 (93-11-15)	93-12-15	HVH

NOTES:

1. APPLICABLE STANDARDS/SPECIFICATIONS:
   A. DOD-STD-0010GD
   B. ANSI Y14.5M-82.

2. IDENTIFICATION OF THE SUGGESTED SOURCE(S) OF SUPPLY HEREON IS NOT TO BE CONSTRUED AS A GUARANTEE OF PPESENT OR CONTINUED AVAILABILITY AS A SOURCE OF SUPPLY FOR THE ITEM(S).

3. ITEM IDENTIFICATION: APPLY THE FOLLOWING MARKINGS TO CONTAINER IN ACCORDANCE WITH MIL-STD-130.
   19207- ▭▭▭▭▭▭▭▭ ← PART NO. (SEE TABLE I)
   MFR- ▭▭▭▭▭▭▭▭▭▭▭▭
   MANUFACTURER'S CAGE CODE — PART NO. (SEE TABLE I)

(4) IN ACCORDANCE WITH DRAWING 12287273.

(5) ADHESIVE IS BONDED TO ENTIRE ID WITHIN DIMENSIONAL LIMITS AND THE FOLLOWING:
   A. ADHESIVE SHALL BE .015 MIN THICKNESS.
   B. ADHESIVE SHALL BE FREE OF VOIDS OR VISIBLE DELAMINATIONS.
   C. PEEL STRENGTH BETWEEN ADHESIVE AND BOOT SHALL BE 15 LB/INCH WIDTH MIN IN ACCORDANCE WITH ASTM D1876 EXCEPT UNDER "PROCEDURE" APPLY THE LOAD AT A CONSTANT HEAD SPEED OF 2 INCHES/MINUTE.
   D. ADHESIVE MAY PROTRUDE .125 MAX FROM BOOT. TRIMMING OF ADHESIVE IS PERMISSIBLE.

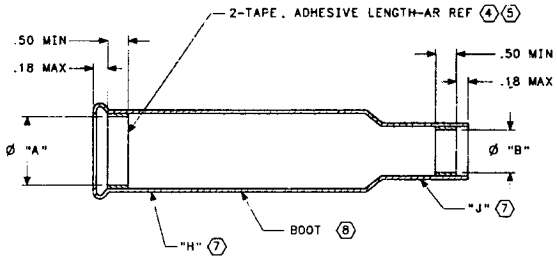
(6) BOOT WILL REDUCE TO AFTER UNRESTRICTED RECOVERY SIZE UPON APPLICATION OF HEAT IN EXCESS OF 347°F FOR 10 MINUTES AND COOLED TO ROOM TEMPERATURE.

(7) MOLD QUOTED PORT IDENTIFICATION IN RAISED CHARACTERS WHERE INDICATED.

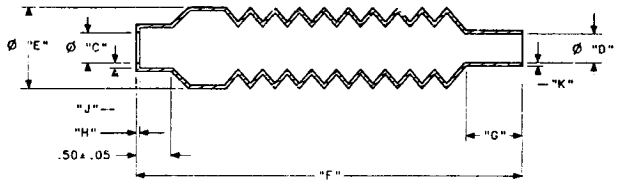
(8) MATERIAL:
   CROSSLINKED, MODIFIED ELASTOMERIC POLYMER BLEND AS FOLLOWS:
   A. COLOR SHALL BE BLACK.
   B. UNLESS OTHERWISE SPECIFIED, ALL MATERIAL TEST SPECIMENS SHALL BE MADE FROM MOLDED SLABS .075+.010 THICK.
   C. SPECIFIC GRAVITY SHALL BE 1.6 MAX IN ACCORDANCE WITH ASTM D792.
   D. SHORE A HARDNESS SHALL BE 85±10 IN ACCORDANCE WITH ASTM D2240.
   E. DIELECTRIC STRENGTH SHALL BE 200 VOLTS/MIL MIN IN ACCORDANCE WITH ASTM D149.
   F. VOLTAGE RESISTIVITY SHALL BE 10^{10} OHM/CM MIN IN ACCORDANCE WITH ASTM D257.
   G. CHEMICAL FLAMMABILITY SHALL BE IN ACCORDANCE WITH ASTM D635 WITH AVERAGE BURN TIME OF 120 SECONDS MAX AND 1.0 INCH MAX.
   H. FUNGUS RESISTANCE RATING SHALL BE 1 MAX IN ACCORDANCE WITH ASTM G21.
   J. TENSILE STRENGTH REQUIREMENTS SHALL BE IN ACCORDANCE WITH ASTM D412 AND THE FOLLOWING:
      1. TENSILE STRENGTH SHALL BE 1500 PSI MIN.
      2. ULTIMATE ELONGATION SHALL BE 300 PERCENT MIN.
      3. TENSILE STRENGTH AT 100 PERCENT ELONGATION SHALL BE 1200 PSI MAX.
      4. TEST SPECIMENS SHALL BE PREPARED WITH DIE D.
   (K) FLUID RESISTANCE SHALL BE IN ACCORDANCE WITH TABLE II AND THE FOLLOWING:
      1. TEST SPECIMENS AND REQUIREMENTS FOR TENSILE STRENGTH AND ELONGATION SHALL BE IN ACCORDANCE WITH ASTM D412 AND DIE D.
      2. PERCENTAGE WEIGHT INCREASE TEST SPECIMENS SHALL BE APPROXIMATLEY 1.00 X 2.00.
      3. SPECIMENS FOR EACH FLUID GROUP SHALL BE SEQUENTIALLY IMMERSED FOR 24 HOURS IN EACH FLUID.
      4. PRIOR TO PROPERTY TESTS, EACH SPECIMEN SHALL BE LIGHTLY WIPED AND AIR DRIED AT ROOM TEMPERATURE FOR 30 TO 60 MINUTES.
   L. ELASTIC MEMORY SHALL BE AS FOLLOWS:
      1. MARK A 1.00 LENGTH (L_0) ON A 1.25 WIDE SPECIMEN AND HEAT FOR 60 SECONDS AT 347°±4°F.
      2. WITHIN 10 SECONDS, STRETCH MARKED LENGTH TO 4.00, COOL TO ROOM TEMPERATURE, AND RELEASE TENSION.
      3. AFTER 24 HOURS AT ROOM TEMPERATURE, MEASURE MARKED LENGTH (L_E) AND HEAT FOR 60 SECONDS AT 347°±4°F.
      4. COOL TO ROOM TEMPERATURE AND MEASURE MARKED LENGTH (L_R).
      5. EXPANSION (E) SHALL BE 200 PERCENT MIN WHERE:
         $E = [(L_E - L_0)/L_0] \times 100$
      6. RETRACTION (R) SHALL BE 90 PERCENT MIN WHERE:
         $R = [(L_E - L_R)/(L_E - L_0)] \times 100$
   M. .25 WIDE SPECIMEN AT -67°±5°F SHALL VISUALLY SHOW NO CRACKS WHEN BENT 360° AROUND A .375 DIA ROD (AT -67°±5°F) WITHIN 10 ± 2 SECONDS.
   N. .25 WIDE SPECIMEN CONDITIONED FOR 4 HOURS AT 392°±9°F IN A CONVECTION OVEN WITH AIR VELOCITY OF 100 TO 200 FT/MINUTE AND COOLED TO ROOM TEMPERATURE SHALL:
      1. VISUALLY SHOW NO CRACKS WHEN BENT 360° AROUND A .375 DIA ROD.
      2. VISUALLY SHOW NO EVIDENCE OF DRIPPING OR FLOWING.
   P. TENSILE STRENGTH REQUIREMENTS SHALL BE IN ACCORDANCE WITH ASTM D412 AND THE FOLLOWING AFTER BEING CONDITIONED FOR 168 HOURS AT 250°±9°F IN A CONVECTION OVEN WITH AIR VELOCITY OF 100 TO 200 FT/MINUTE AND COOLED TO ROOM TEMPERATURE:
      1. TENSILE STRENGTH SHALL BE 1200 PSI MIN.
      2. ELONGATION SHALL BE 250 PERCENT MIN.
      3. TEST SPECIMENS SHALL BE PREPARED WITH DIE D.

TABLE I

PART NUMBER	DIMENSIONS										VENDOR ITEM IDENT NO.	
	Ø A MIN	Ø B MIN	Ø C MAX	Ø D MAX	Ø E MAX	F	G	H±.03	J±.03	K MIN	RAYCHEM CORPORATION	3M
12370930-1	.53	.41	.27	.19	.83	4.75±.48	.69±.07	.06	.05	.013	202C611-51/164	313C722-9-200
12370930-2	.85	.67	.46	.32	1.05	5.25±.53	.78±.08	.06	.05	.018	202C621-51/164	313C732-9-200
12370930-3	1.31	1.03	.69	.50	1.29	5.75±.58	.88±.09	.07	.05	.020	202C632-51/164	313C743-9-200
12370930-4	1.71	1.41	.88	.69	1.49	6.25±.63	1.00±.10	.07	.05	.024	202C642-51/164	313C753-9-200
12370930-5	2.09	1.77	1.10	.88	1.69	6.75±.68	1.12±.11	.07	.08	.024	202C653-51/164	313C764-9-200
12370930-6	2.22	2.22	1.30	.90	2.00	8.00±.80	1.10±.11	.08	.08	.025	202C658-51/164	313C769-9-200
12370930-7	2.22	2.22	1.60	.90	2.45	9.30±.93	1.38±.14	.08	.08	.026	202C663-51/164	313C774-9-200



AS SUPPLIED



AFTER UNRESTRICTED RECOVERY (6)

TABLE II – FLUID RESISTANCE REQUIREMENTS (8K)

PRIMARY FLUID	TEMP (±5°F)	TENSILE STRENGTH (PSI, MIN)	ELONGATION (%)	WEIGHT INCREASE (% MAX)	REMARKS
GASOLINE MIL-G-7056	77	1000	250	25	NOTE A
DIESEL FUEL (DF-A) VV-F-800	122	1000	250	25	NOTE B
LUBE OIL VV-L-800	122	1000	250	25	NOTE C
SYNTHETIC LUBE MIL-L-23699	122	1000	250	15	NOTE D
ARCTIC LUBE MIL-L-46167	122	1000	250	5	NOTE E
SYNTHETIC HYDRAULIC FLUID MIL-H-46170	160	1000	250	10	
BORE CLEANER MIL-C-372	122	1000	250	10	
ELECTROLYTE P/N 19207-10875529	122	1000	250	5	
5% SALT SOLUTION A-A-694 TYPE OPTIONAL	122	1000	250	5	
CLEANING FLUID P-C-437	122	1000	250	5	
DE-ICING FLUID MIL-A-8243	122	1000	250	5	

NOTES: A. GASOLINE / GASOLINE TYPE FUEL. OTHER FUELS IN CATEGORY: JP-4 AND JP-8, MIL-T-5624.
B. DIESEL / KEROSENE FUEL. OTHER FUELS IN CATEGORY: DF-1 AND DF-2 PER FED-STD-VV-F-800; JP-5 PER MIL-T-5624; MARINE FUEL PER MIL-F-16884.
C. PETROLEUM BASE LUBRICATING OIL. OTHER FLUIDS IN CATEGORY: MIL-L-2104, MIL-L-3150.
D. SYNTHETIC BASED LUBRICATING OIL. ANOTHER FLUID IN THIS CATEGORY IS MIL-L-7808.
E. MISCELLANEOUS OR NON-DUPLICATED FLUIDS.

SUGGESTED SOURCE(S) OF SUPPLY

PART NO.	VENDOR ADDRESS	CAGE CODE	PART NO.	ITEM IDENTIFICATION
SEE TABLE I	RAYCHEM CORPORATION 300 CONSTITUTION DRIVE MENLO PARK, CA 94025	06090	SEE TABLE I	19207-(SEE TABLE I) MFR-06090-(SEE TABLE I)
	3M COMPANY ELECTRICAL SPECIALITIES DIV. 6801 RIVER PLACE BLVD. AUSTIN, TX 78726-9000	20999		19207-(SEE TABLE I) MFR-20999-(SEE TABLE I)

DISTRIBUTION STATEMENT A.
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SPECIFICATION CONTROL DRAWING — PART NO. SEE TABLE

PMIC A

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: 2 PLACES ± — 3 PLACES ± —

CONTRACT NUMBER DAAA09-88-C-0840
CONTRACTOR BARNES & REINECKE, INC ELK GROVE VILLAGE, IL 60007
DRAWN BY — DATE (YR-MO-DA) 90-10-10
CHECKED — ENGINEER
DRAWING APPROVAL
DESIGN APPROVAL

DESIGN ACTIVITY: U.S. ARMY TANK-AUTOMOTIVE COMMAND WARREN, MICHIGAN 48397-5000

BOOT

SIZE E — CAGE CODE 19207 — 12370930

SCALE NONE — UNIT WT — SHEET

NEXT ASSY — USED ON — APPLICATION

MATL ENGR

MIDBARSPN

12370930