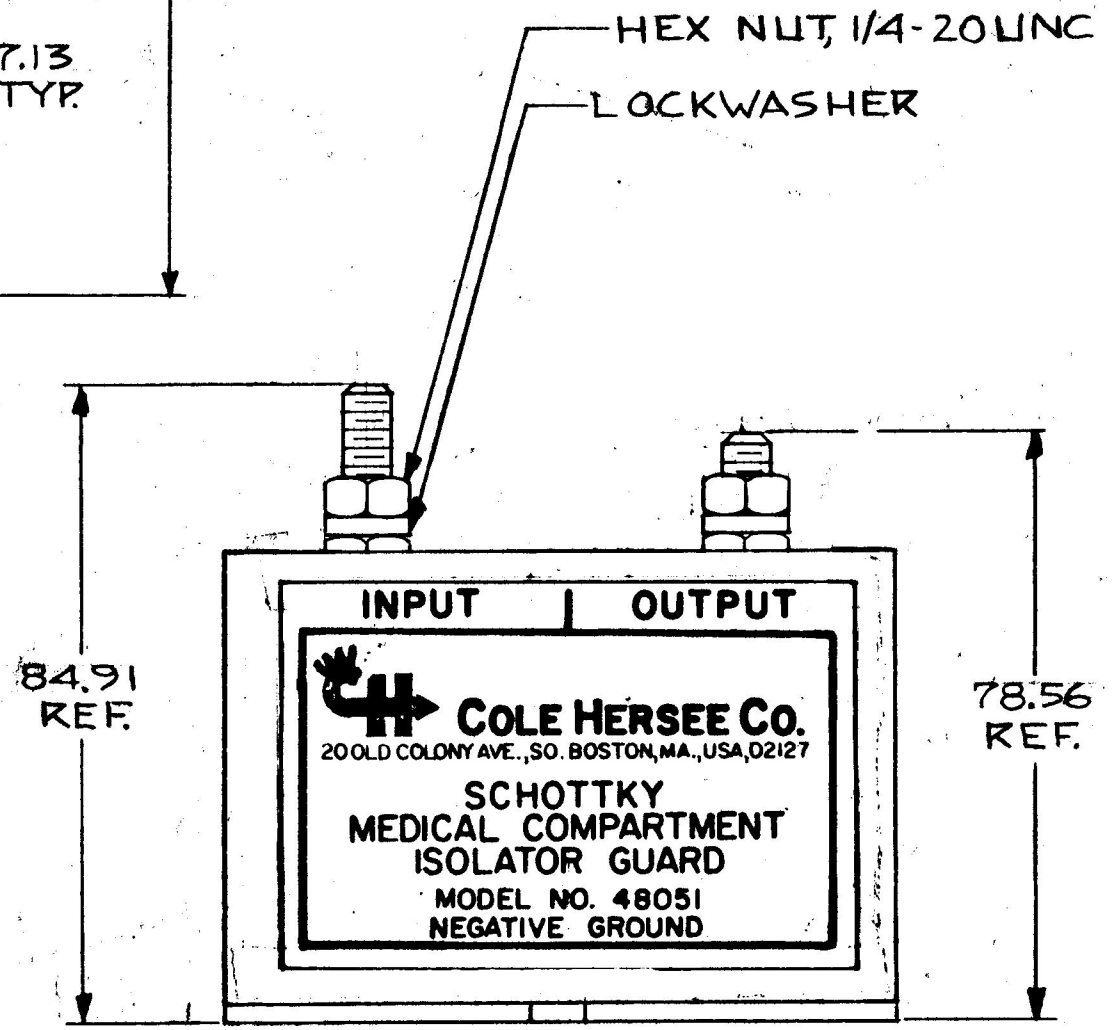
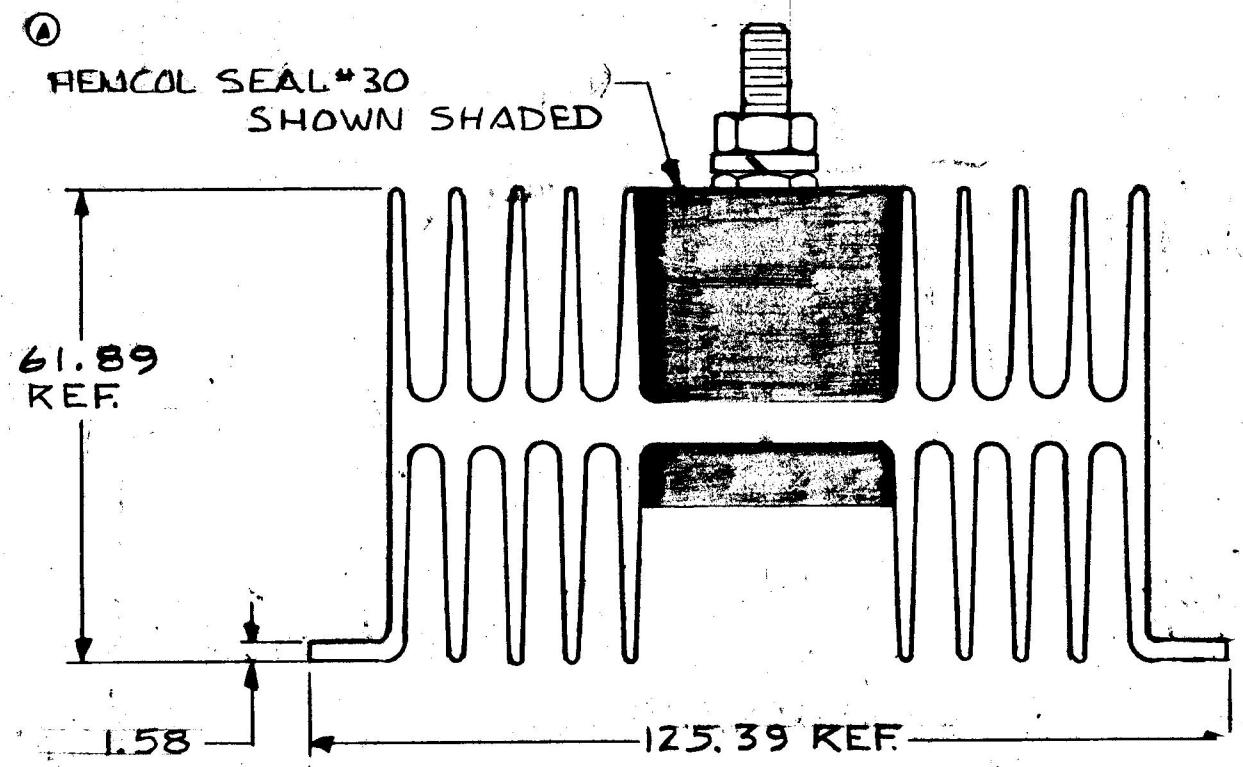
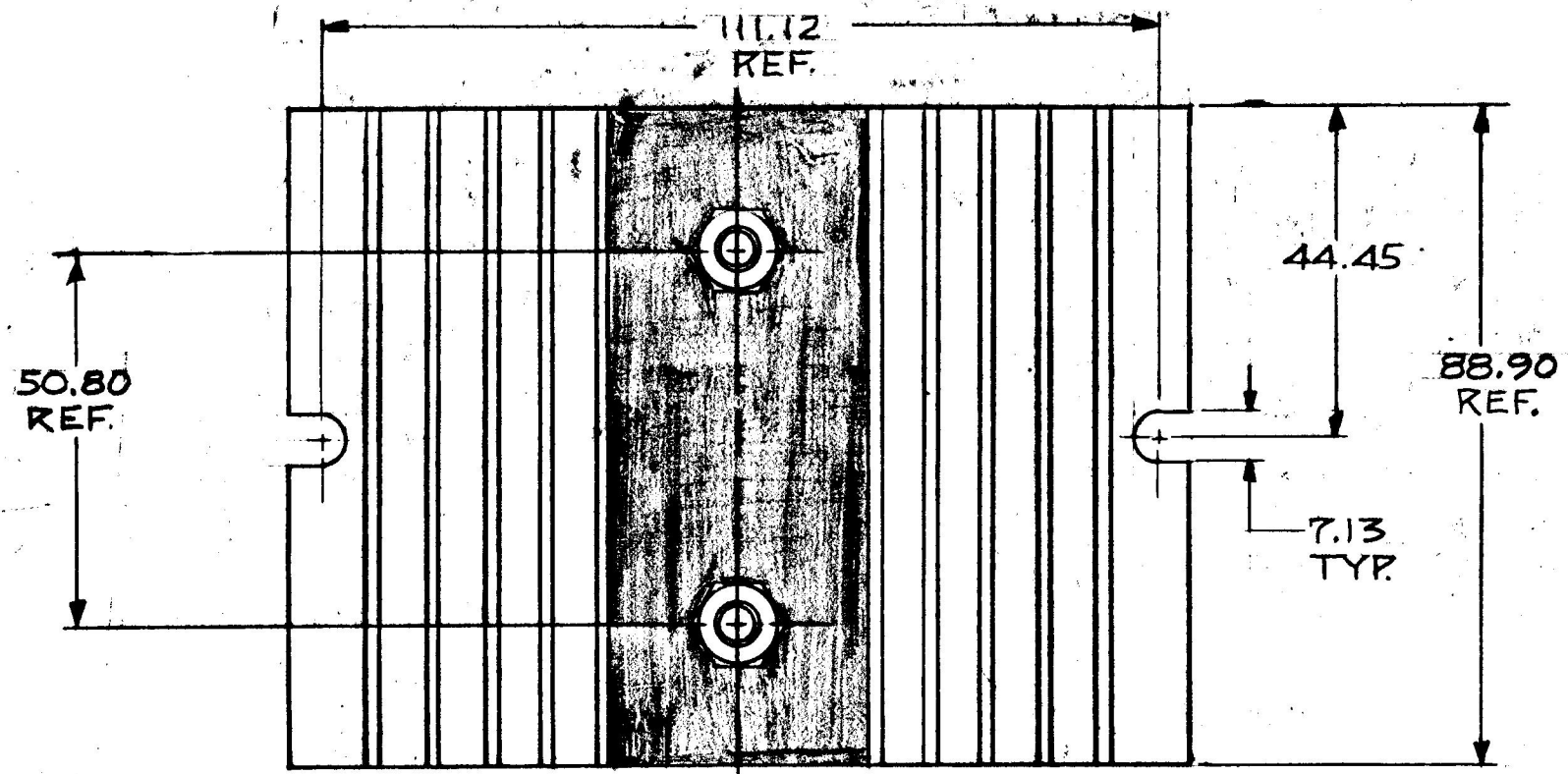


MM IN
 7.13 281
 17.92 312
 44.45 1.750
 50.80 2.000
 61.89 2.437
 78.56 3.093
 84.91 3.343
 88.91 3.500
 125.39 4.937
 1.58 .062
 111.12 4.375



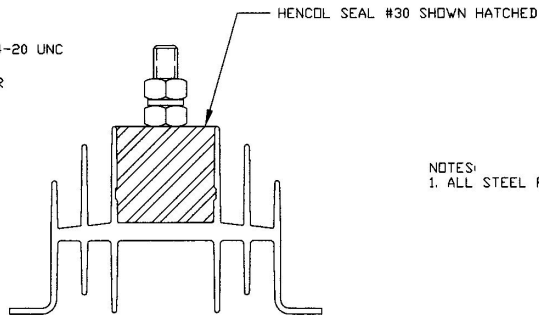
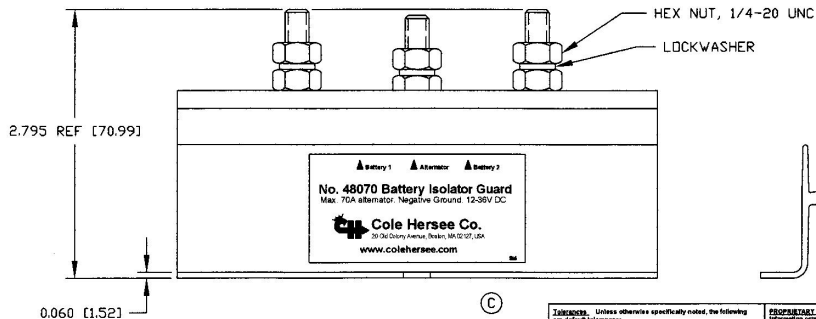
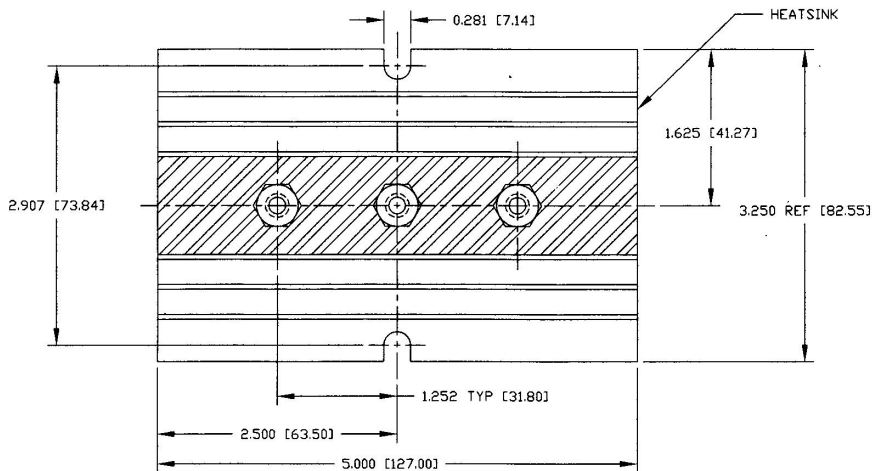
NOTE
 ALL STEEL PARTS PLATED

DO NOT SCALE

LET.	WAS	DATE	BY	LET.	WAS	DATE	BY	MATERIAL	DRAWN	CHECKED	APPR'D.	SCALE	DATE DRAWN
									DPS	RJA		1:1	7-27-81
				B	ECN 25623	8/17/94	IF	FINISH	Cole Hersee Co. 20 OLD COLONY AVENUE, SOUTH BOSTON, MA, U.S.A. 02127				DATE BLUEPRINT
				A	REVISED NOTE	4/30/84	ups	TOLERANCES					SCHOTTKY ISOLATOR GUARD 75 AMPS
					LSM	3/21/82	MF	DECIMAL ±.010 METRIC ±.25					

METRIC

COLE-HERSEE CO.
 EX 1938Z



NOTES:
1. ALL STEEL PARTS PLATED

Revision Control Record

Rev.	Description of Change	ECN No.	Date
B	NEW LABEL	01273	5/16/01
C	BATTERY 2 WAS BATTERY 1	03626	11/18/03

TOLERANCES: Unless otherwise specifically noted, the following are default tolerances:
 • 2-place Decimal Dimensions $\pm .02"$
 • 3-place Decimal Dimensions $\pm .005"$
 • Angular Dimensions ± 0.5 Deg.
 • Holes: Refer to equivalent English Dimensional Tolerance Table - NOTE: All tolerances are Minus/Conclusive, unless otherwise specifically noted.

Dimensional Limits: All dimensions are expressed in inches except those shown in brackets (xxx) as expressed in millimeters.
DMC - on the **Technical CD** - Min-Tolerance Reference Dimension, shown for distribution purposes only.

PROPRIETARY INFORMATION: This Engineering Drawing, and the information contained herein, is proprietary to Cole Hersee Company and may not be disclosed, re-produced, or in any other way transferred or communicated to any other party without the express written consent of an authorized representative of Cole Hersee Company.

DESIGN CONTROL: It is the responsibility of the individual using/relaying this drawing to ensure that the stated design revision level agrees with the revision level of the Controlled Document (Master Drawing). This is a NON-CONTROLLED DOCUMENT unless otherwise specifically noted.

DO NOT SCALE: Dimensional variations may occur during printing/ reproduction.

Basic Characteristics...

- Critical Characteristic, relating to Safety and/or Regulatory Compliance
- Significant Characteristic relating to Process Control (SPC)
- Key Characteristic(s) relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer
- Note that the Identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions & tolerances must be met.

Used On: **Scale: 1:1**

Drawn By: **DPS** Date Drawn: **1/27/83**

Responsible Engineer: **N/A** Pg. 1 of 1

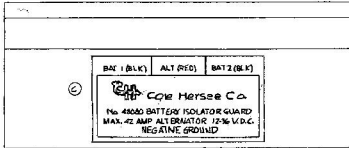
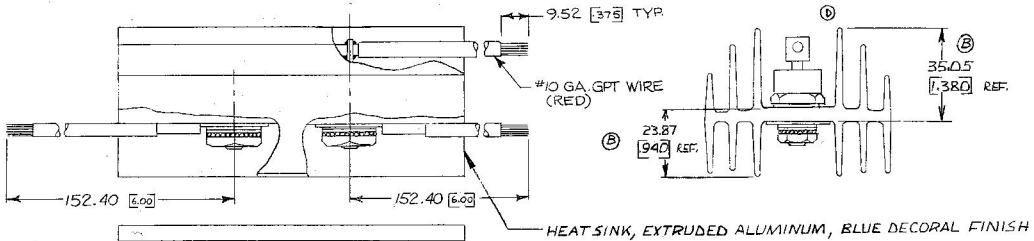
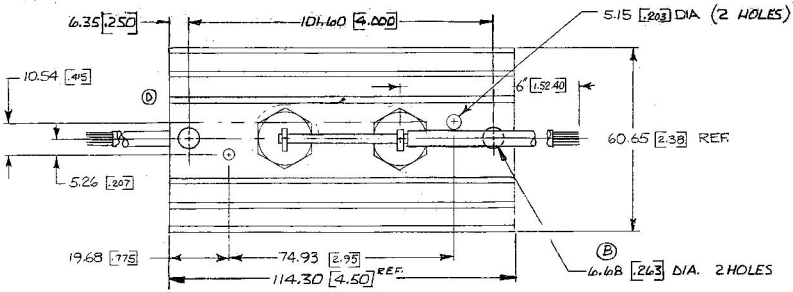
Cole Hersee Co.
 20 Old Colony Ave., South Boston, MA 02107
 Phone: 617-268-2100 Web: www.colehersee.com

Description: 70 AMP BATTERY ISOLATOR GUARD

Drawing Part No.: 48070

Current Rev.: C

48080



DIMENSIONS: MILLIMETERS [INCHES]

Confidential Property of Cole Hersee

42 AMP @ 12-36 VDC

DO NOT SCALE

LET	WAS	DATE	BY	LET	WAS	DATE	BY	MATERIAL	DESN	CHECKED	APPROV'D	SCALE	DATE DRAWN
								FINISH	C.S.	1/18/76		1:1	9-19-75
				D	ECN 02133	3/2/82	ML	FINISH					
				C	REV LABEL	2/28/83	PS	FINISH					
				B	REV 2/1/83	12/3/83	ES						
				A	REDRAWN	1/1/84	ES	TOLERANCES: FRACTIONAL ± .01 DECIMAL ± .01					

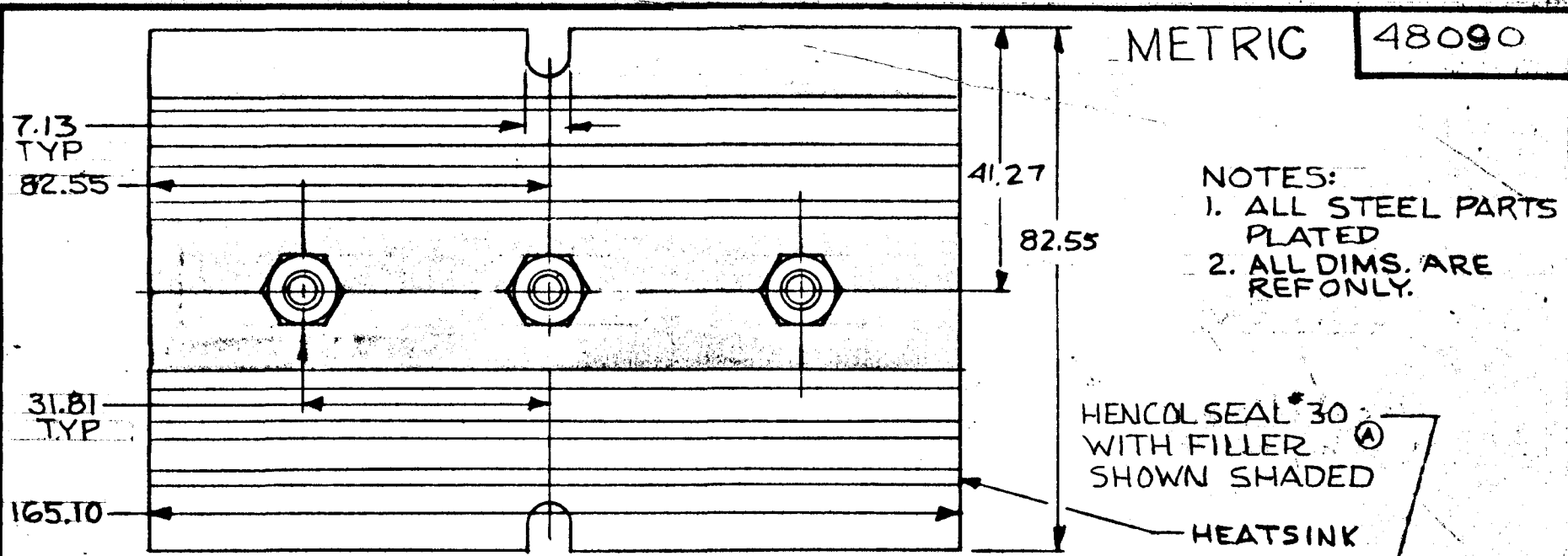
COLE-HERSEE COMPANY
BOSTON, MASS. 0227, U.S.A.

BATTERY ISOLATOR GUARD
42 AMP

DATE BLUEPRINT
48080

EX-17312

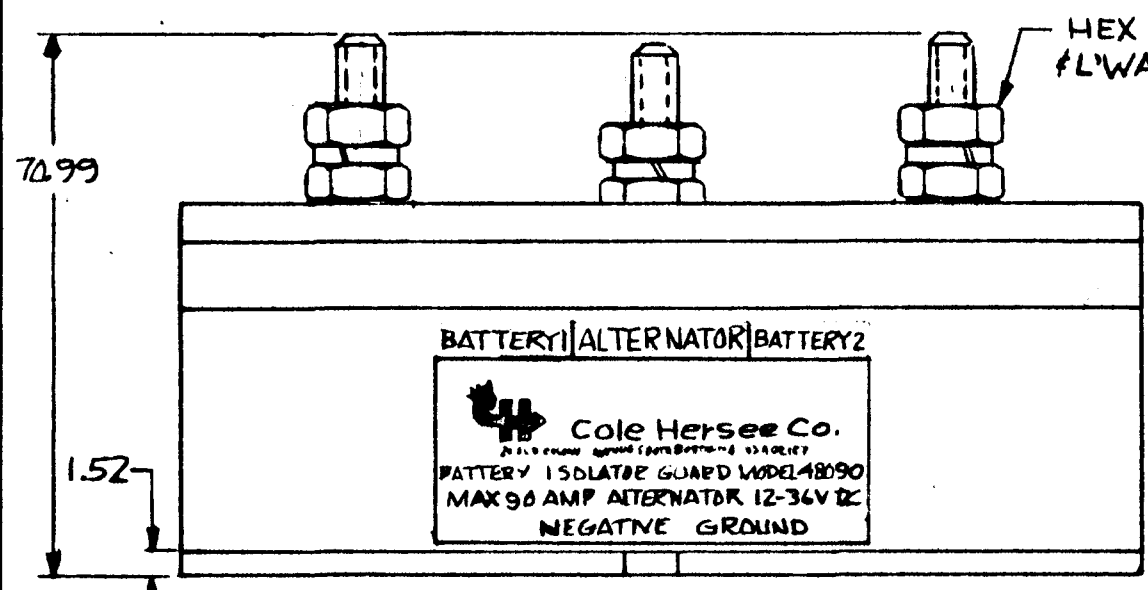
MM IN
 1.52 .060
 7.13 .281
 31.81 1.252
 41.27 1.625
 82.55 3.250
 70.99 2.795
 87.55 3.250
 165.10 6.500



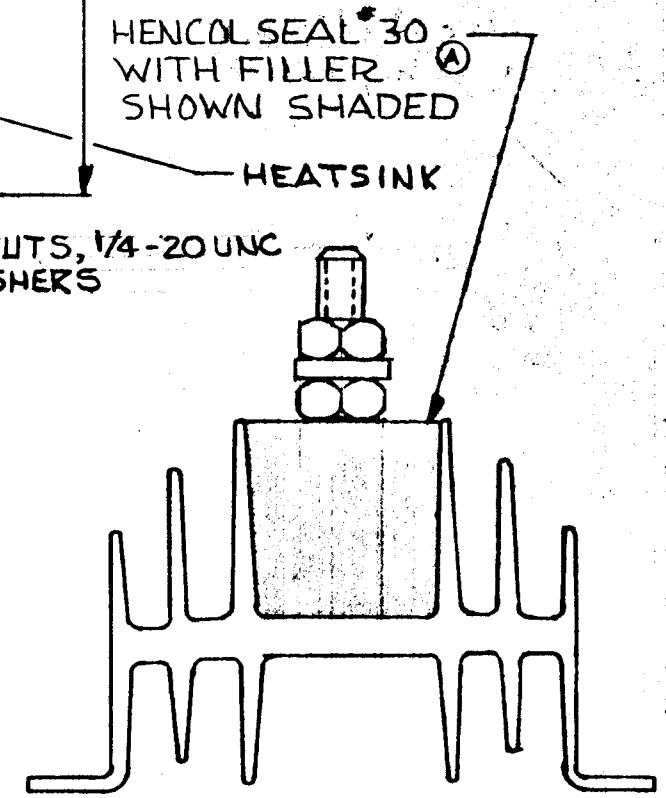
METRIC 48090

- NOTES:
 1. ALL STEEL PARTS PLATED
 2. ALL DIMS. ARE REF ONLY.

EX 20328



HEX NUTS, 1/4-20 UNC
 FL WASHERS

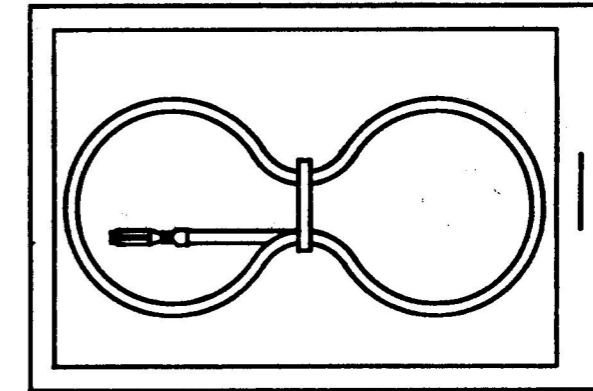
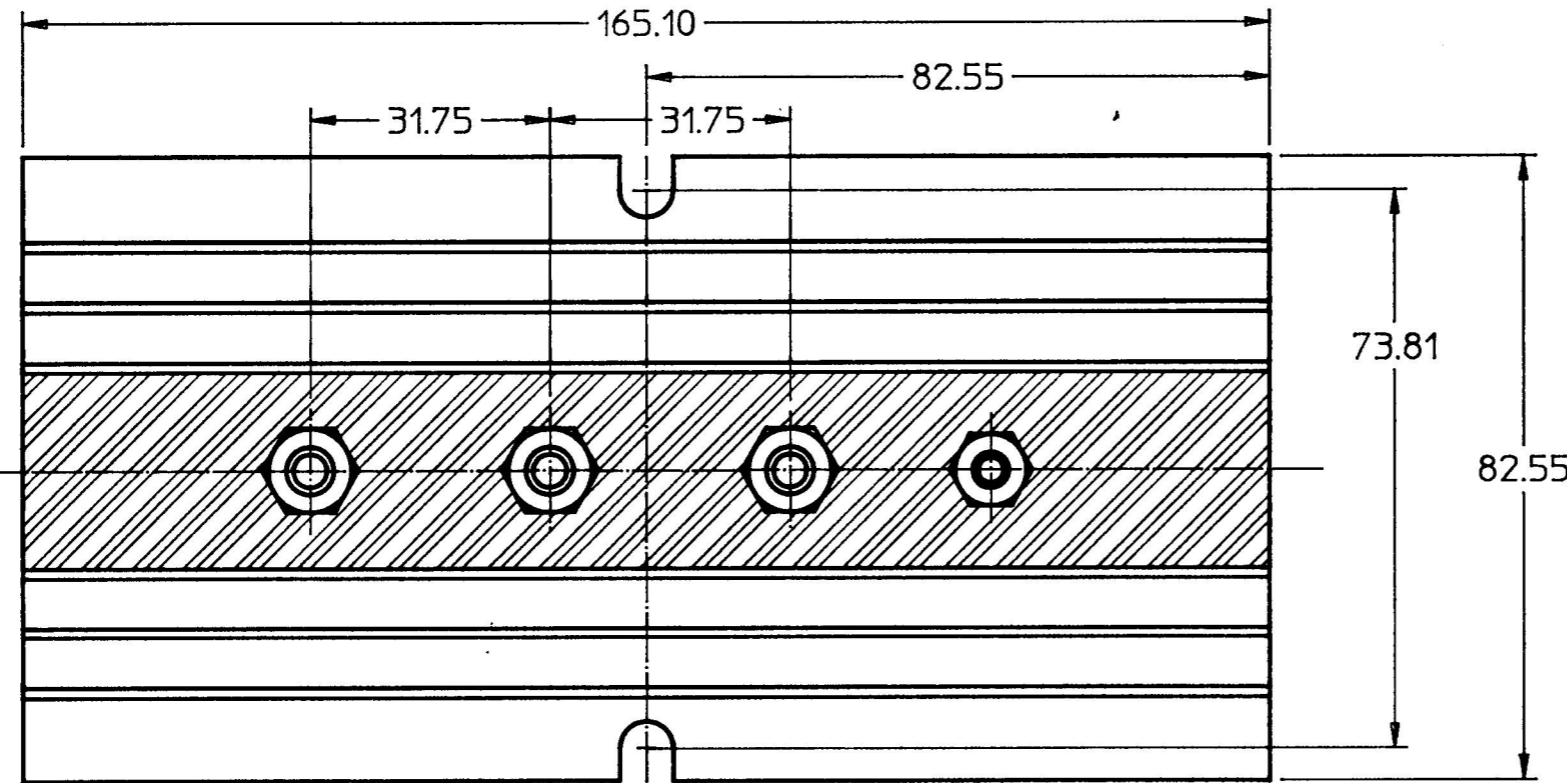


DO NOT SCALE

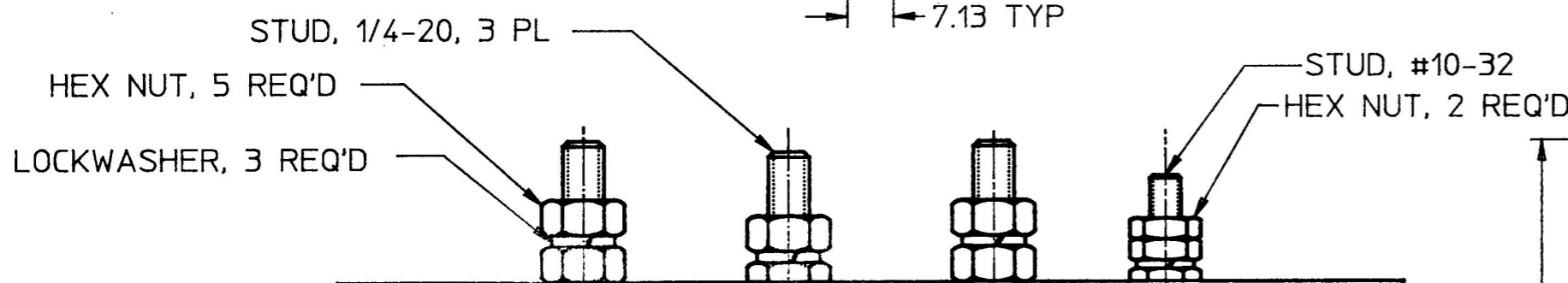
LET.	WAS	DATE	BY	LET	WAS	DATE	BY	MATERIAL	DRAWN	CHECKED	APPR'D	SCALE	DATE DRAWN
									DP	RF		1:1	9/13/83
								FINISH	 Cole Hersee Co. <small>20 OLD COLONY AVENUE SOUTH BOSTON MA U.S.A. 02127</small>				DATE BLUEPRINT
								TOLERANCES					90 AMP BATTERY ISOLATOR GUARD
				A	REV. NOTE	4/27/84	DP	DECIMAL ±					
					ISSUED	3/9/84	RF	METRIC ±					

CH-188(4-78)

MM	IN
1.52	0.060
7.13	0.281
31.75	1.250
72.14	2.840
73.81	2.906
82.55	3.250
165.10	6.500
1828.80	72.000
1 mm ²	16 ga

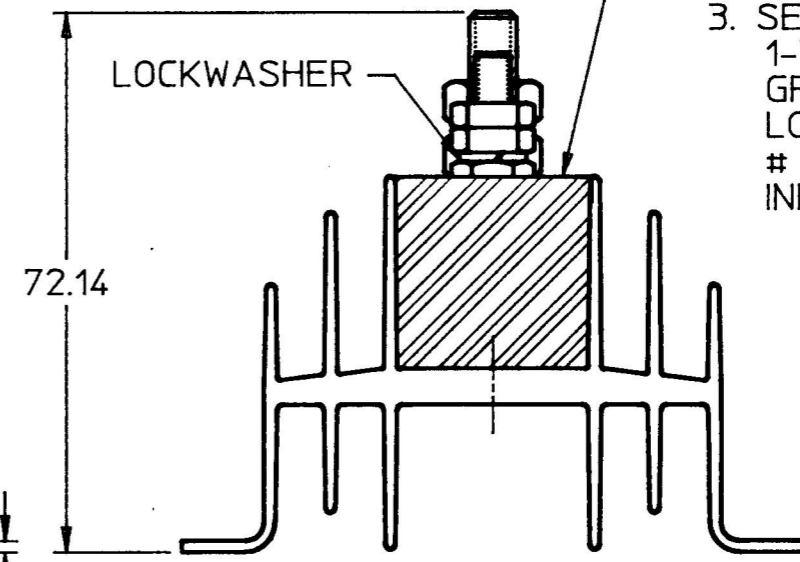
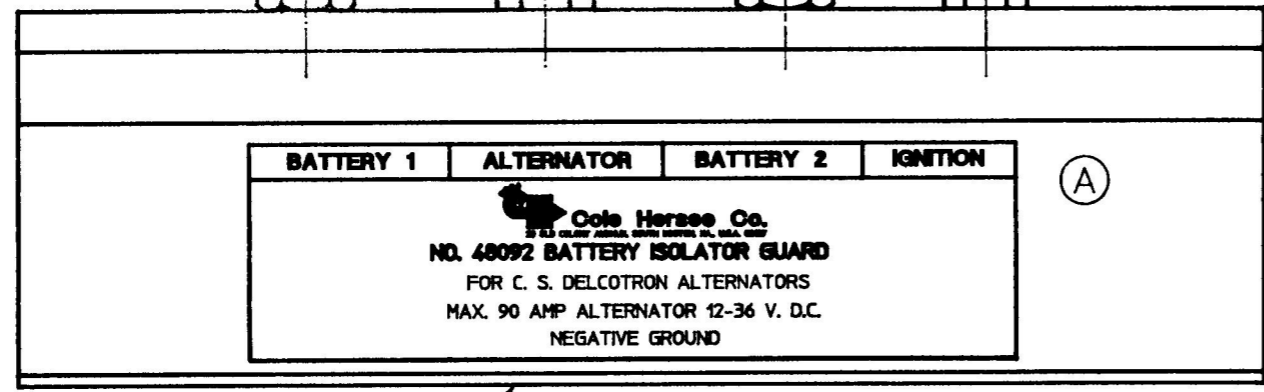


BAGGED PARTS
 SCALE 1:2
 NOTE 3
 SHIPPED LOOSE



HENCOL SEAL #30
 SHOWN HATCHED

- NOTES:
 1. ALL STEEL PARTS PLATED
 2. ALL DIM'S REF. ONLY
 3. SEALED POLY BAG WITH,
 1-WIRE LEAD, 1.0mm²,
 GPT, YELLOW, 1828.80
 LONG WITH PACKARD TERM.
 # 12015824 ATTACHED AND
 INFORMATION SHEET.



HEATSINK, BLUE

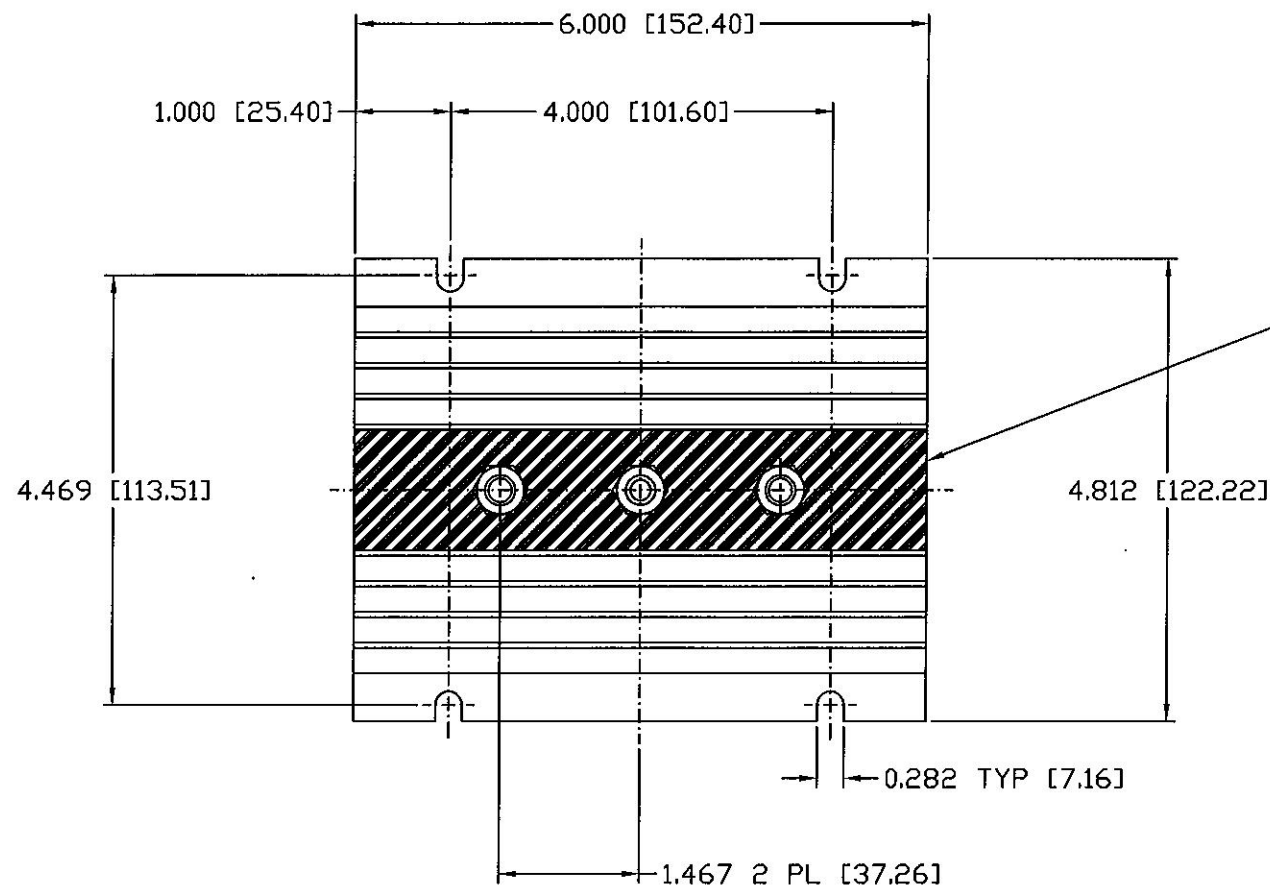
DO NOT SCALE
CAD GENERATED

METRIC

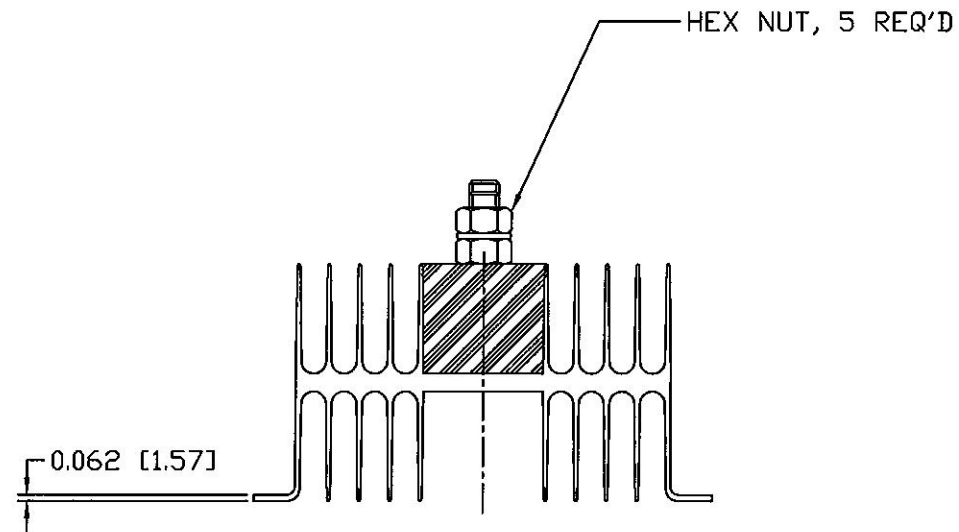
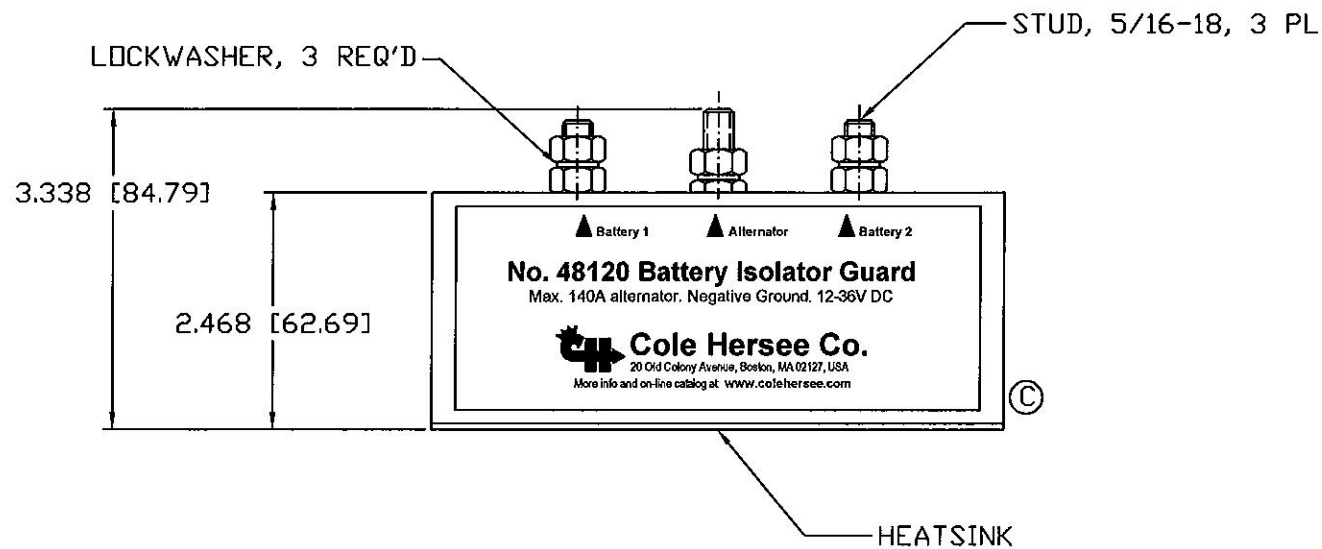
LET.	WAS	DATE	BY	LET.	WAS	DATE	BY	MATERIAL	DRAWN	CHK	APVD	SCALE	EX22440	DATE DRAWN
									DPS			1:1		9/30/88
								FINISH						DATE BLUEPRINTED
				A	ECN 24092	7/27/89	JP	TOLERANCES DECIMAL ± ANGLE ±	Cole Hersee Co. 20 OLD COLONY AVENUE SOUTH BOSTON MA, U.S.A. 02127					
					ISSUED				BATTERY ISOLATOR GUARD FOR C S DELTRON ALTERATOR				48092	

Revision Control Record

Rev.	Description of Change	ECN No.	Date
C	NEW LABEL	01274	05/15/01
D	CHANGED 120 TO 140 AMP	10236	06/02/10



HENCOL SEAL #30
 SHOWN HATCHED



NOTES:
 1. ALL STEEL PARTS PLATED
 2. ALL DIMENSIONS REFERENCE ONLY

Tolerances Unless otherwise specifically noted, the following are default tolerances:
 * 2-place Decimal Dimensions +/- .02"
 * 3-place Decimal Dimensions +/- .005"
 * Angular Dimensions +/- 1.0 Deg.
 * Metric: Refer to equivalent English Dimension Tolerance
 >>> NOTE: All tolerances are Non-Cumulative. <<<

Dimensional Units All dimensions are expressed in inches except those shown in brackets (xxx) are expressed in millimeters

"REF." or an Asterisk (*) = Non-Toleranced Reference Dimension, shown for clarification purposes only.

Used On or Ref.: Scale: **1:2**

PROPRIETARY INFORMATION This Engineering Drawing, and the information contained herein, is proprietary to Cole Hersee Company and may not be disclosed, re-produced, or in any other way transferred or communicated to any other party without the express written consent of an authorized representative of Cole Hersee Company.

DESIGN CONTROL It is the responsibility of the individual using/ referencing this drawing to assure that the noted design revision level agrees with the revision level of the Controlled Document (Master Drawing). This is a NON-CONTROLLED DOCUMENT unless otherwise specifically noted.

DO NOT SCALE - Dimensional variation may occur during printing/ reproduction.

Drawn By: **DPS** Date Drawn: **1/28/83**

Key for Special Characteristics:

CC Critical Characteristic, relating to Safety and/or Regulatory Compliance

X Significant Characteristic relating to Process Control (SPC)

CD Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer

(Note that the identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions & tolerances must be met.)

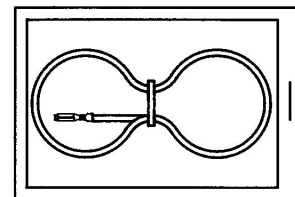
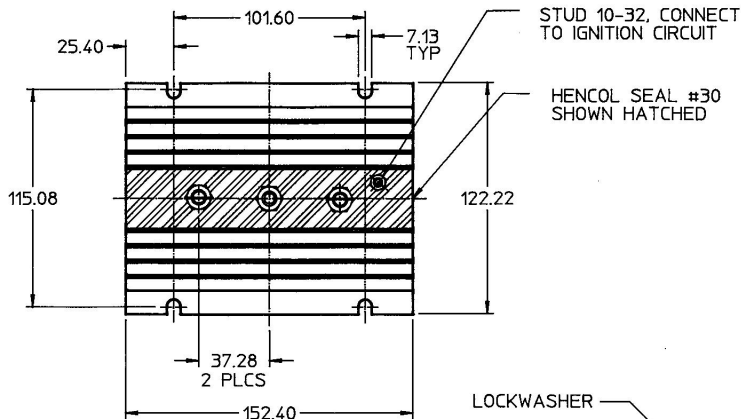
Responsible Engineer: **N/A** Pg. 1 of 1

Cole Hersee Co.
 20 Old Colony Ave., South Boston, MA, 02127
 Phn: 617-268-2100 Web: www.colehersee.com

Description: **140 AMP BATTERY ISOLATOR GUARD**

Drawing / Part No.: **48120** Current Rev.: **D**

MM	IN
1.58	0.062
7.13	0.281
25.40	1.000
37.28	1.467
62.68	2.467
84.78	3.338
101.60	4.000
115.08	4.531
122.22	4.812
152.40	6.000
1828.80	72.000
1.0 mm ²	16 ga



BAGGED PARTS

SCALE 1:2
NOTE 3

SHIPPED LOOSE

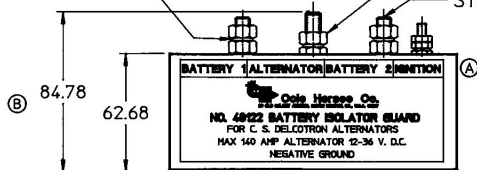
LOCKWASHER, 3 REQD

HEX NUT, 5 REQD

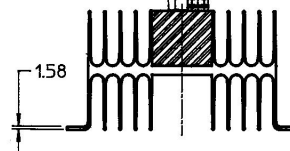
STUD, 5/16-18, 3 PL

LOCKWASHER

HEX NUT, 10-32, 2 REQD



HEATSINK, BLUE



NOTES:

1. ALL STEEL PARTS PLATED
2. ALL DIM'S REFERENCE ONLY
3. BAGGED PARTS INCLUDE 1-WIRE LEAD, 1.0 mm² GPT YELLOW, 1828.80 LONG WITH PACKARD TERMINAL #12015824 ATTACHED AND INFORMATION SHEET.

Confidential Property of Cole Hersee

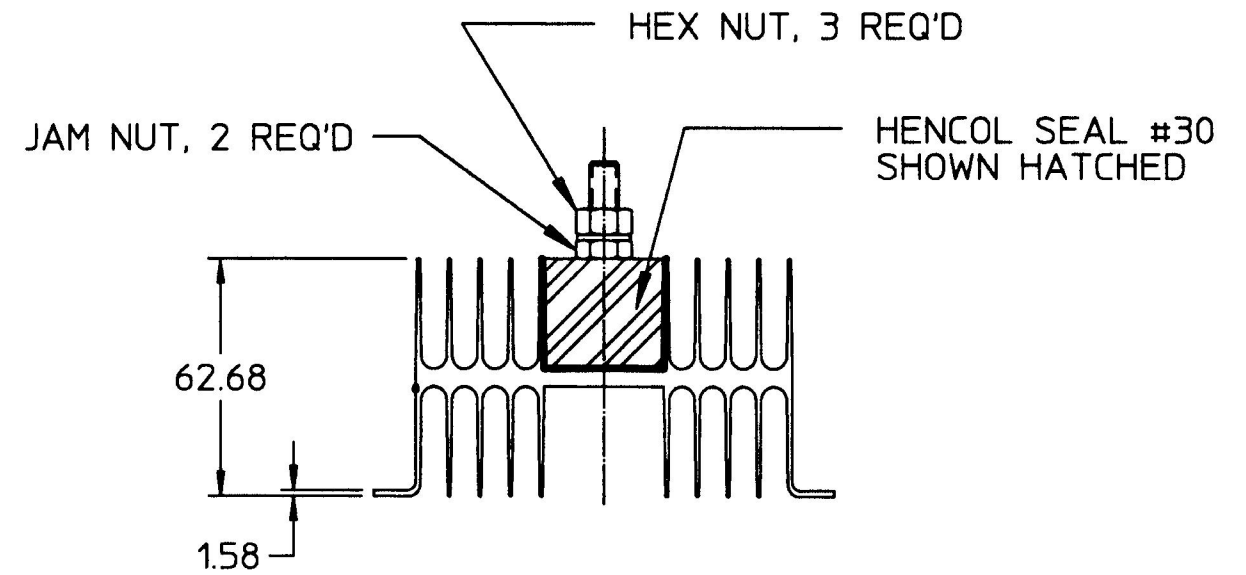
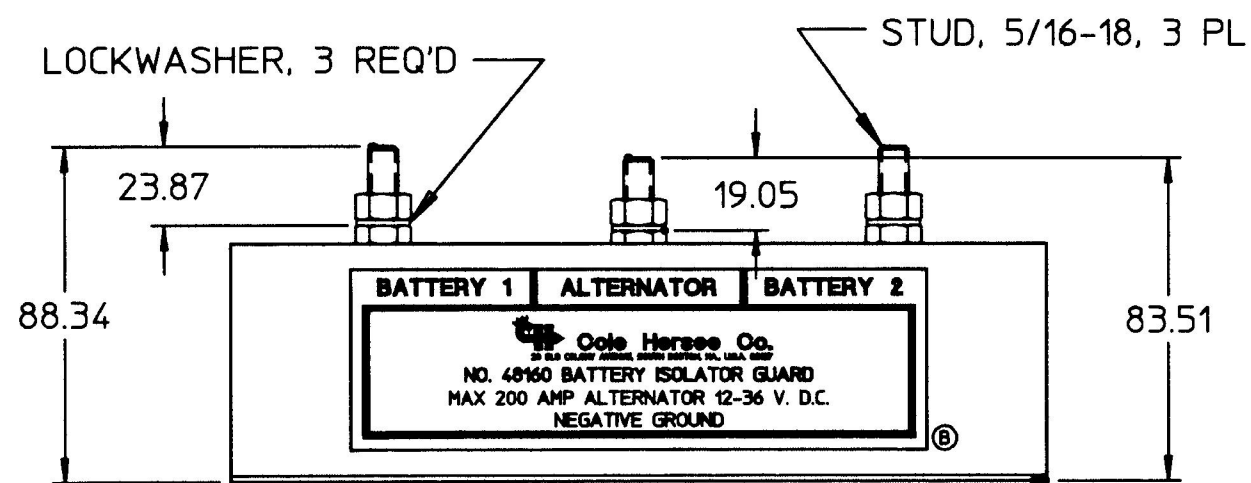
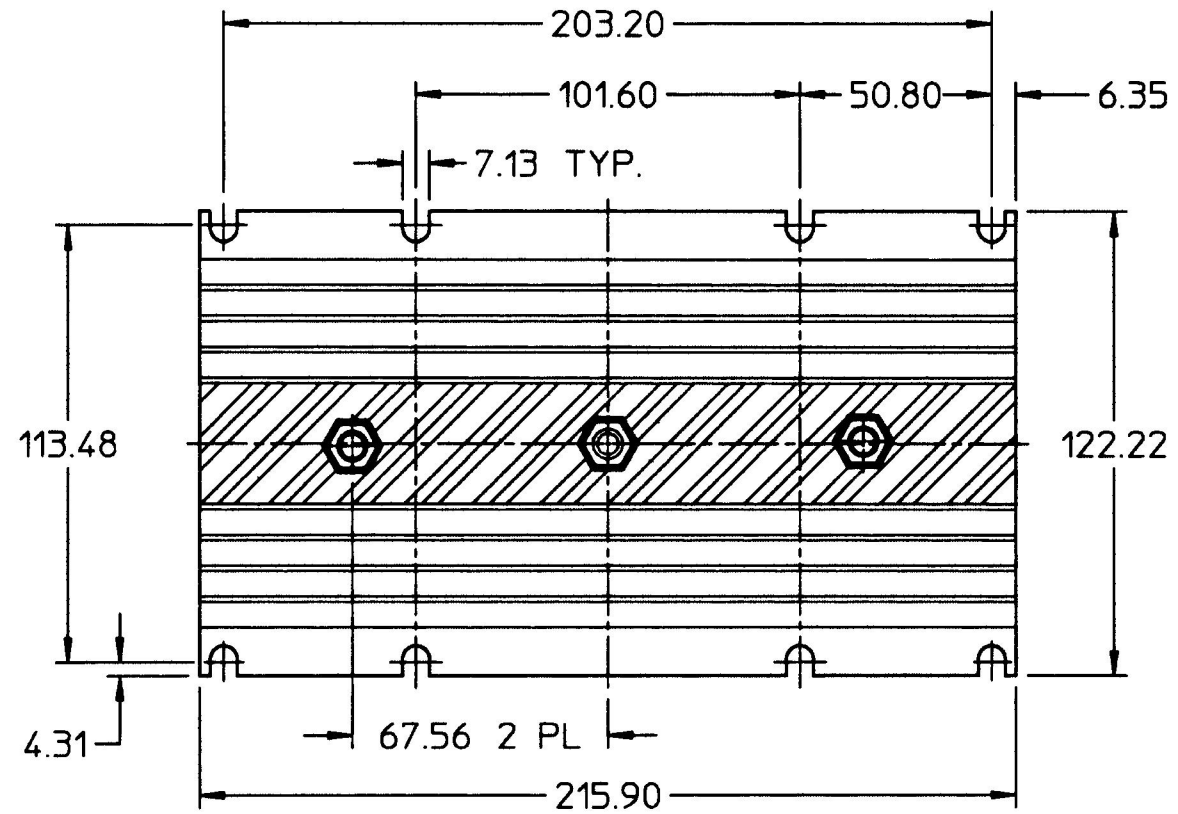
METRIC

DO NOT SCALE

LET.	WAS	DATE	BY	LET.	WAS	DATE	BY	MATERIAL	DRWN	CHK	APVD	SCALE	EX222439	EX222627	DATE DRAWN
												1:2			10/5/88
				B	87.48	12/29/93	BL	FINISH							DATE BLUEPRINTED
				A	ECN 24012	7/22/89	JP	TOLERANCES DECIMAL & ANGLE &							
					ISSUED	2/2/89	AF								


Cole Hersee Co.
20 OLD COLONY AVENUE, BOSTON, MA, U.S.A., 02127
BATTERY ISOLATOR GUARD
FOR C S DELTRON ALTERNATOR

MM	IN
1.58	0.062
4.31	0.170
6.35	0.250
7.13	0.281
19.05	0.750
23.87	0.940
50.80	2.000
62.68	2.467
67.56	2.660
83.51	3.288
88.34	3.478
101.60	4.000
113.48	4.468
122.22	4.812
203.20	8.000
215.90	8.500



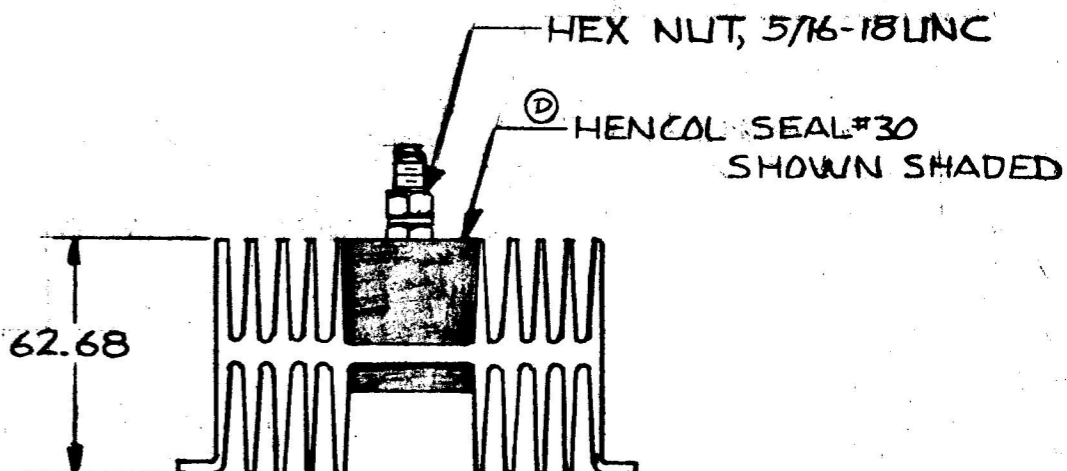
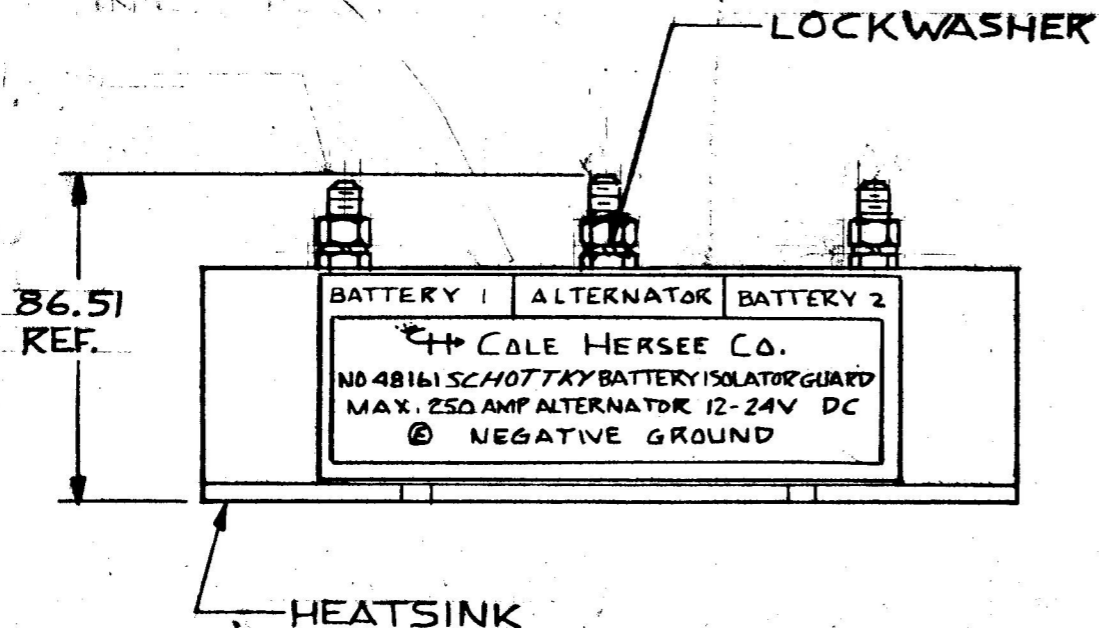
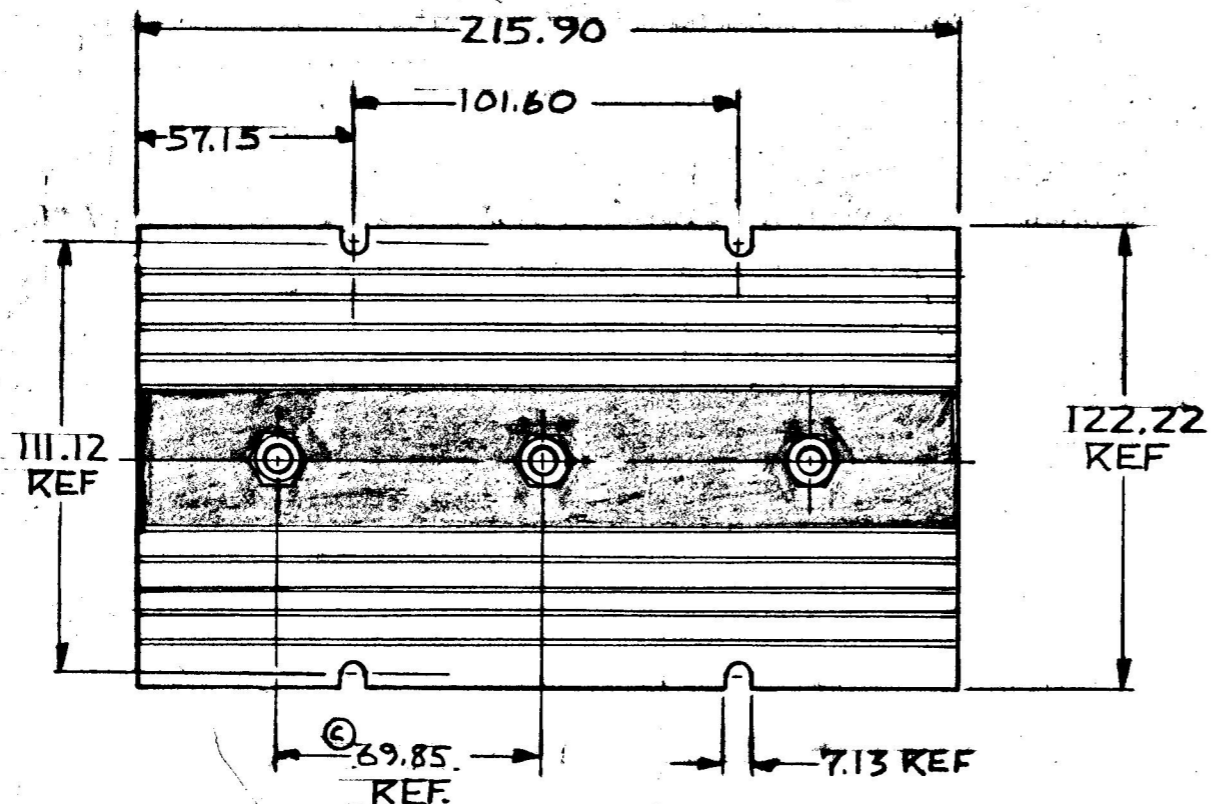
- NOTES:
 1. ALL STEEL PARTS PLATED
 2. ALL DIM'S REF. ONLY

DO NOT SCALE

LET.	WAS	DATE	BY	LET.	WAS	DATE	BY	MATERIAL	DRAWN	CHK	APVD	SCALE	EX22999	DATE DRAWN	
								N/A	LIZ	KY	N/A	1:2		3/10/89	
				B	ECN #00155	02/02/00	MA	FINISH N/A	 Cole Hersee Co. 20 OLD COLONY AVENUE, BOSTON, MA., U.S.A. 02127					DATE BLUEPRINTED	
				A	ECN 24503 48160-01	8/10/90	RO	TOLERANCES DECIMAL ± N/A ANGLE ± N/A						BATTERY ISOLATOR GUARD FOR C S DELTRON ALTERNATOR	(A)
					ISSUED	3/31/89	AF							48160	

MM 17
 7.13 281
 57.12 2.29
 62.68 2.468
 86.51 3.406
 101.60 4.000
 122.22 4.812
 215.90 8.500
 69.85 2.750
 111.42 4.375

COLE-HERSEE CO.
 EX19679



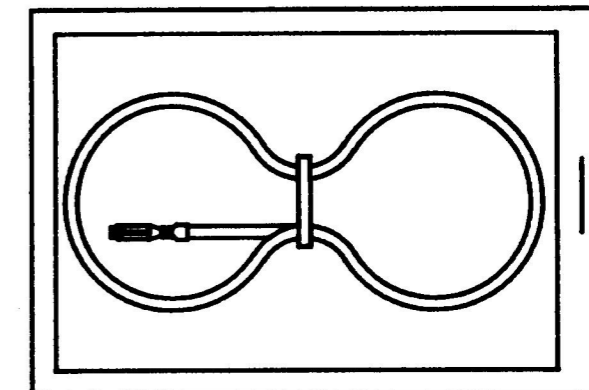
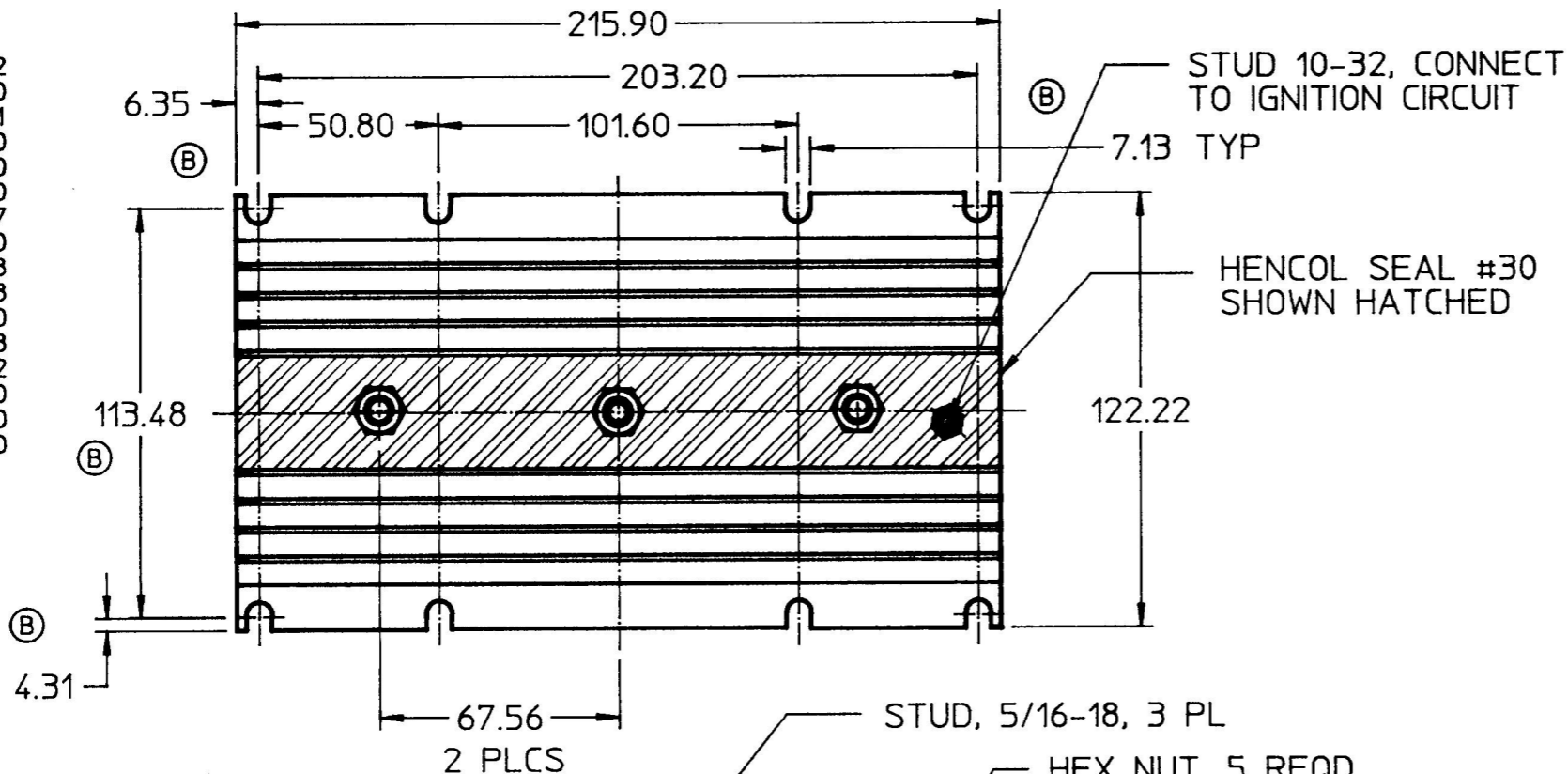
NOTE:
 ALL STEEL PARTS PLATED

METRIC

DO NOT SCALE

LET.	WAS	DATE	BY	LET.	WAS	DATE	BY	MATERIAL	DRAWN	CHECKED	APPRVD.	SCALE	DATE DRAWN	
				E	ECN 23988	3-31-89	JK		PS	RA		1/2:1	8-21-81	
				D	REVISED NOTE	1/30/81	PS	FINISH					DATE BLUEPRINT	
				C	34.92	9-22-82	PS							
					ISSUED	3-17-82	RJA	TOLERANCES						
				B	REVISED & REDRAWN	3-3-82	PS	DECIMAL ±.010 METRIC ±.25						
										Cole Hersee Co. <small>20 OLD COLONY AVENUE, SOUTH BOSTON, MA. U.S.A. 02127</small>		160 AMP SCHOTTKY BATTERY ISOLATOR GUARD		48161

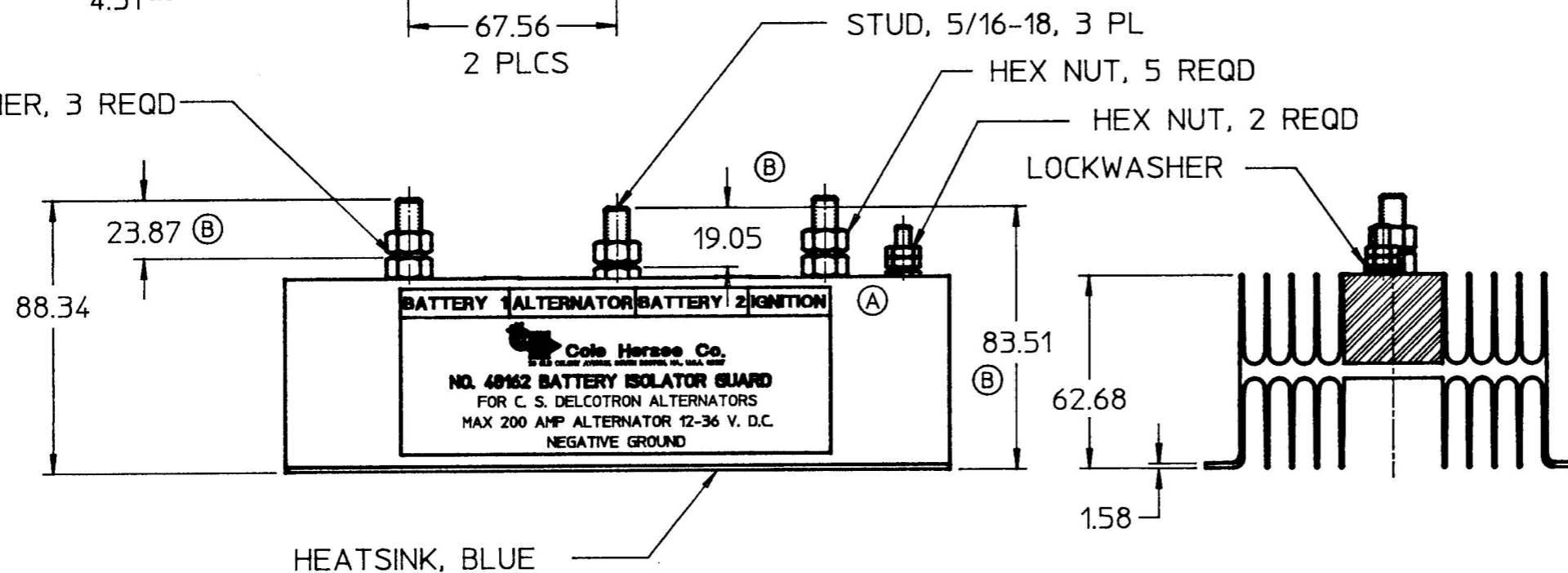
MM	IN
1.58	0.062
4.31	0.170
7.13	0.281
19.05	0.750
23.87	0.940
50.80	2.000
62.68	2.467
67.56	2.660
83.51	3.288
88.34	3.478
101.60	4.000
113.48	4.468
122.22	4.812
203.20	8.000
215.90	8.500
1828.80	72.000
1.0 mm ²	16 ga



BAGGED PARTS

SCALE 1:2
NOTE 3
(SHIPPED LOOSE)

LOCKWASHER, 3 REQD



NOTES:
1. ALL STEEL PARTS PLATED
2. ALL DIM'S REFERENCE ONLY
3. BAGGED PARTS INCLUDE 1-WIRE LEAD, 1.0 mm² GPT YELLOW, 1828.80 LONG WITH PACKARD TERMINAL #12015824 ATTACHED AND INFORMATION SHEET.

DO NOT SCALE
CAD GENERATED

METRIC

LET.	WAS	DATE	BY	LET.	WAS	DATE	BY	MATERIAL	DRAWN	CHK	APVD	SCALE	EX22440	DATE DRAWN
									DPS	JP		1:2		10/5/88
				B	ECN 24800	3/20/91	RO	FINISH						DATE BLUEPRINTED
				A	ECN 24012	7/27/89	JP	TOLERANCES DECIMAL ± ANGLE ±						
					ISSUED									

Cole Hersee Co.
BATTERY ISOLATOR GUARD
FOR C S DELTRON ALTERNATOR

48162