#93

DESCRIPTION OF MANUFACTURE

Field

ITEM: GUN, BROWNING MACHINE, CAL. .30, M1919A4 (FLEX)

VOLUME 1 OF 1

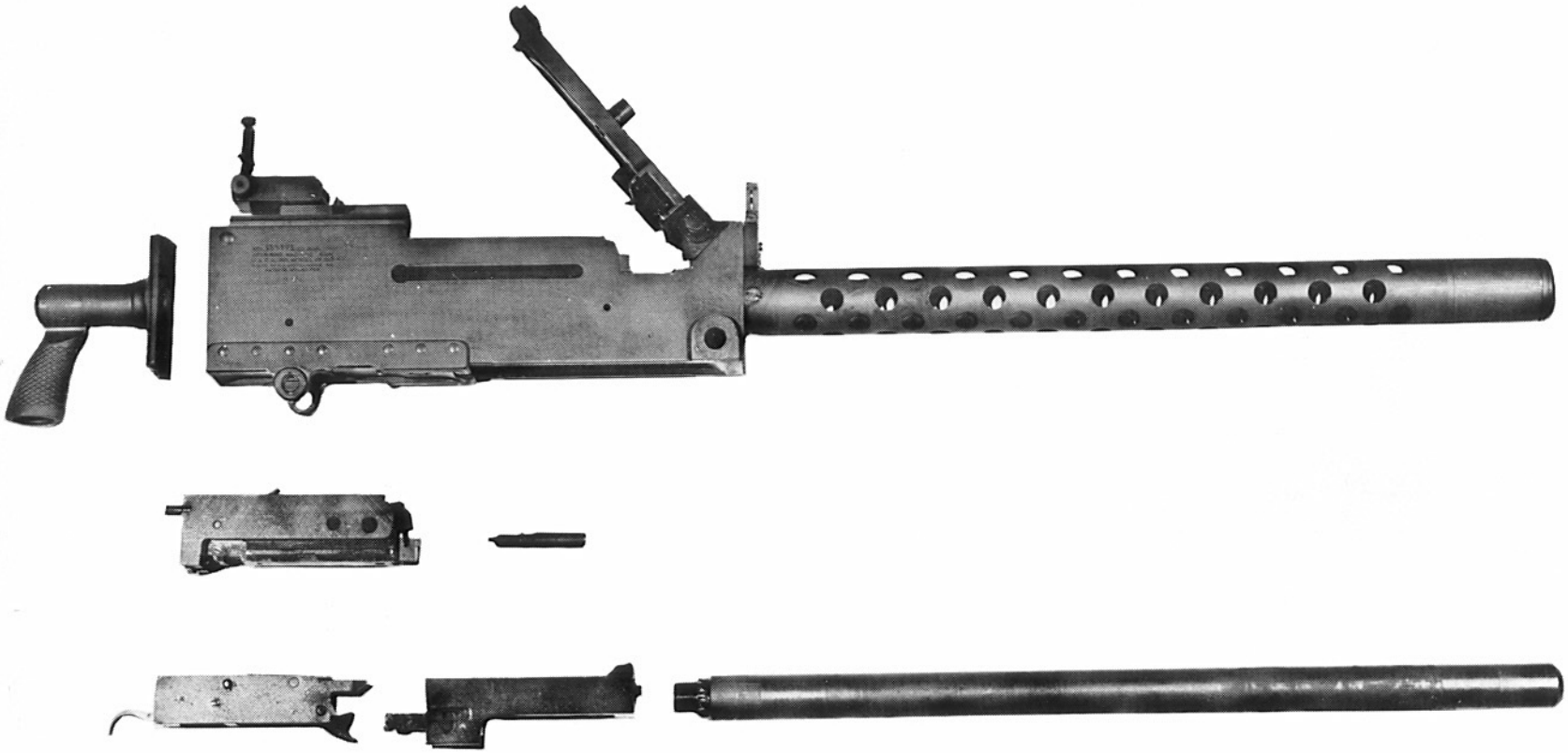
CONTENTS: GENERAL INFORMATION AND COMPLETE SET OF

[redacted] DRAWINGS

DATE NOVEMBER 1949

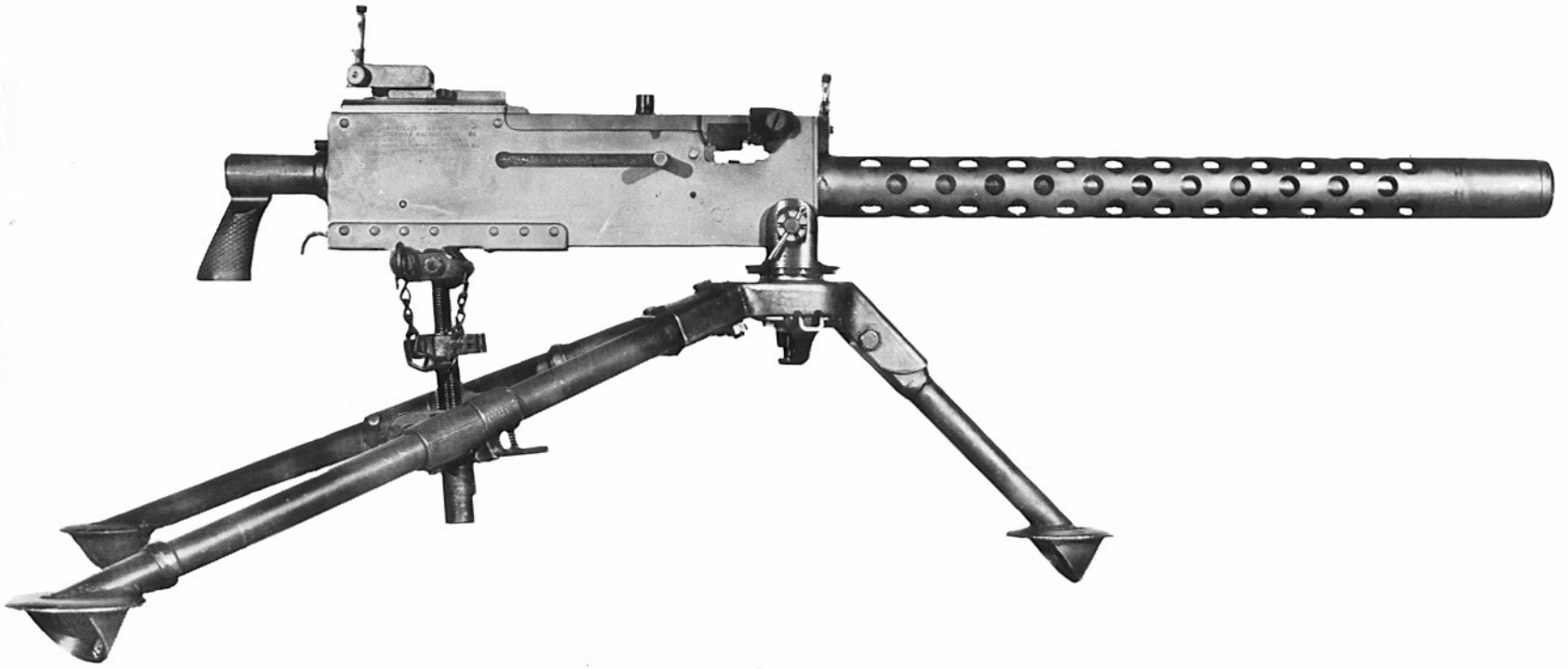
NO. SPOBC—29 AE 26 OCT., 1944

D RIA—6-9-45—600



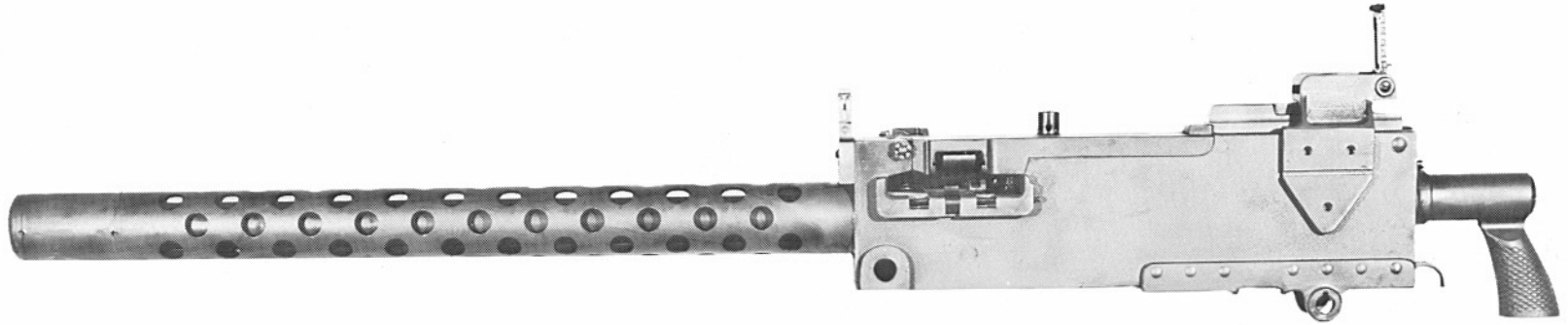
720-10518 May 18, 1944 | ROCK ISLAND ARSENAL | ORDNANCE DEPARTMENT

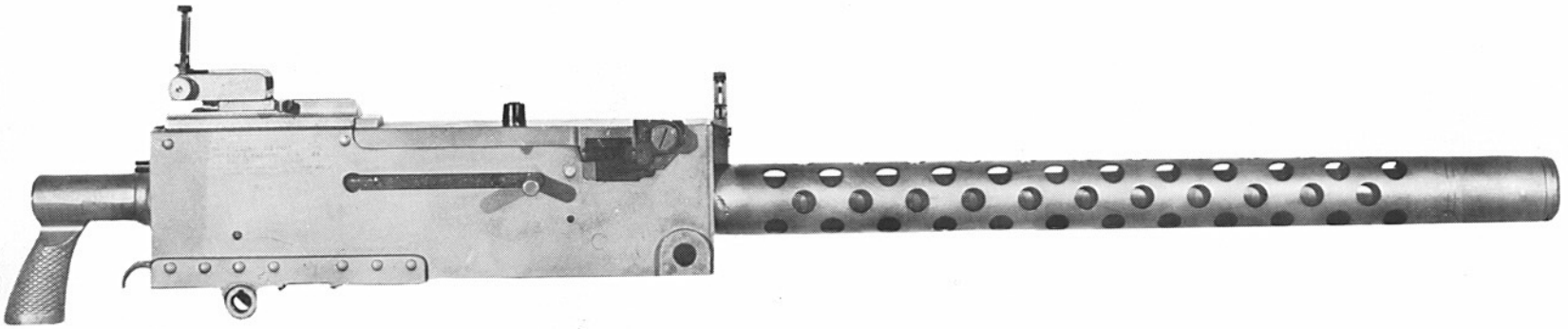
Browning Machine Gun, Cal..30, M1919A4. Flexible, with principal components.



720-10521 May 18, 1944 ROCK ISLAND ARSENAL ORDNANCE DEPARTMENT

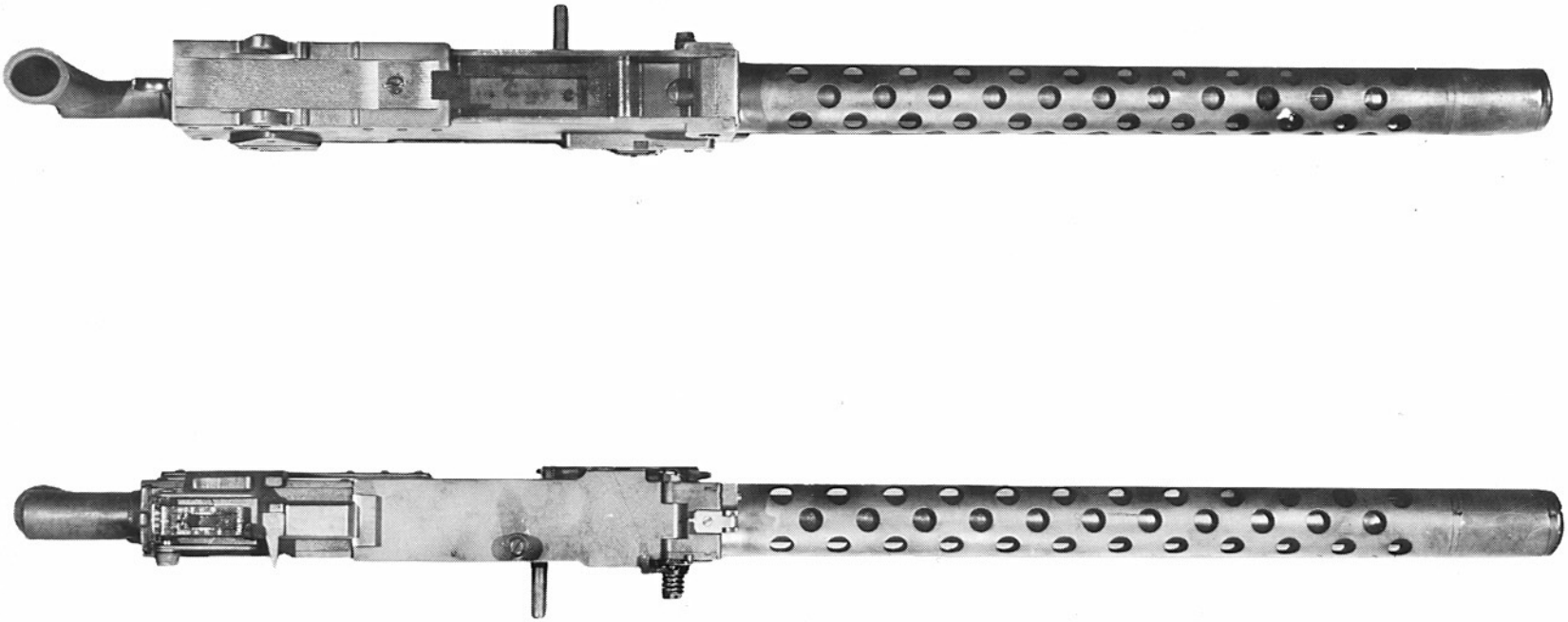
Browning Machine Gun, Cal..30, M1919A4 on Mount, Tripod, Cal..30, M2.





720-10519	May 18, 1944	ROCK ISLAND ARSENAL	ORDNANCE DEPARTMENT

Browning Machine Gun, Cal..30, M1919A4. Right and left side.



720-10520 May 18, 1944 ROCK ISLAND ARSENAL ORDNANCE DEPARTMENT

Browning Machine Gun, Cal..30, M1919A4. Top and bottom.

LINE NUMBER	TITLE	DRAWING NUMBER	DRAWING NUMBER	DRAWING NUMBER	DRAWING NUMBER	DRAWING NUMBER	DRAWING NUMBER	DRAWING NUMBER
1	LIST OF DRAWINGS AND SPECIFICATIONS	51-84-1	D5508476	C64321	B6008809	A5005363	A5186283	BBFX1
2	RIGHT SIDE VIEW	51-84-2	D6508259	C5508452	B6008822	A9374	A5186284	BCLX11
3	PLAN VIEW	51-84-3	D6528106	C5508461	B6008823	A5013154	A5238204	BCLX3
4	LONGITUDINAL SECTION	51-84-4	D6535233	C5508462	B6008824	A5013155	A6008825	BEAX1
5	SECTIONAL VIEWS	51-84-5	D6535234	C5508467	B6017462	A5013157	A6147225	BEAX4
6			D6535236	C5508471	B6017469	A5013157①	A7106092	BFAX1
7	COMBINED LIST OF ALL PARTS, SPARE		D6535392	C5508472	B6017485	A5013162	A7106869	BFDX1
8	PARTS, EQUIPMENT AND TOOLS	C7122999	D6535393	C5545961	B6017494	A5013166	A7106870	URAX6
9		SHEETS 1-15	D6535408	C5545965	B6017497	A5013167	A7110440	
10			D6535410	C5562503	B6017503		A7123315	
11	LIST OF ALTERNATIVE MATERIALS	B6221040	D6535411	C5564132	B6017508	A20498	A7133164	
12		SHEETS 1-17	D6544087	C5564133	B6017509		A7133165	
13			D7116476	C5564137	B6017511	A135255	A7162630	
14	MATERIAL SPECIFICATIONS	B147588		C5564142	B6017513		A7162631	
15		B147588A		C5653469	B6110312		A7162632	
16		B147588B		C7106872	B6131258	A5013249	A7162633	
17		B147588C			B6131317	A5013258	A5013700	
18					B6134059	A5020490	A5020615	
19	PART NUMBER INSTRUCTIONS	B6169913			B6144237	A5020491	A5163397	
20					B6147212	A5020503	A5163358	
21	FINDING DIAGRAMS				B6147214	A5020505		
22					B6147216	A5020509		
23	CASING ASSEMBLY	D6535358			B6147217			
24	FRAME, LOCK, ASSEMBLY	D5509182			B6147224			
25					B6147228	A5020513		
26					B6147229	A5020514		
27	FRAME, LOCK, R.H., ASSEMBLY	C5509180			B6147230	A5020520		
28	FRAME, LOCK, L.H., ASSEMBLY	C5509181			B6147231	A5020522		
29	PIN, FIRING, ASSEMBLY	C5509186			B6212654	A5020527		
30	COVER, BELT FEED, ASSEMBLY	C5509801			B6221301	A5020530		
31	LEAF, REAR SIGHT, ASSEMBLY	C5545964			B6261101	A5020562		
32	COVER, ASSEMBLY	C5564096			B7162248	A5020567		
33	EXTENSION, BARREL, ASSEMBLY	C5564139				A5020570		
34	PLATE, SIDE, L.H., ASSEMBLY	C5564222				A5020577		
35	PLATE, SIDE, R.H., ASSEMBLY	C5564224				A5020581		
36	SIGHT, REAR GROUP, ASSEMBLY	C5564906				A5020589		
37	EXTRACTOR, ASSEMBLY	C5621076				A5020600		
38	PLATE, BACK W/BUFFER, ASSEMBLY	C7100059				A5020601		
39						A5020627		
40						A5020711		
41	CATCH, COVER	B6008757				A5024602		
42	PIVOT, BELT FEED LEVER, GROUP ASSEMBLY	B6110529				A5024603		
43	PLUNGER, BARREL, ASSEMBLY	B6131251				A5024605		
44	PIN, ASSEMBLY	B6131253				A5135051		
45	PIN, BELT FEED PAWL, ASSEMBLY	B6131255				A5135052		
46	SLIDE, FEED, BELT, ASSEMBLY	B6131262				A5135053		
47	SPRING, SEAR, ASSEMBLY	B6131265				A5135057		
48	BLOCK, TRUNNION, ASSEMBLY	B6147093				A5139969		
49	ROD, DRIVING SPRING, ASSEMBLY	B6147222				A5152425		
50	BOLT, ASSEMBLY	B6147299				A5152430		
51	LATCH, ASSEMBLY	B7106949				A5152432		
52	SIGHT, BRACKET, GROUP ASSEMBLY	B7132923				A5152737		
53	POST, FRONT SIGHT, ASSEMBLY	B7162616				A5156881		
54						A5156882		
55						A5156883 ②		
56	PACKING AND MARKING DRAWINGS					A5156884		
57	BOX, PACKING (FOR TWO BMG, CAL. 30, M1919A4 FLEX)	PS-12				A5157374		
58	BOX, PACKING (SPARE BARRELS)	PS-14				A5157434		
59	PACKING INSTRUCTIONS FOR ESSENTIAL					A5159870		
60	EXTRA PARTS	PS-55				A5160461		
61	CLEANING, PRESERVING & PACKAGING					A5160656		
62	FOR SMALL ARMS SPARE PARTS	PS-100				A5162810		
63	BOX, PACKING (FOR ONE BMG, CAL. 30, M1919A4 FLEX)	PS-159				A5170491		

LINE NUMBER	LIST OF SPECIFICATIONS	SPEC NUMBER
1	GUNS, MACHINE, BROWNING, CAL. 30, M1919A4 & M1919A5	52-6-1
2	COMPOUND RUST PREVENTIVE, LIGHT	2-84
3	FIBER, RED, (SHEET)	52-7-11
4	FINISHES, PROTECTIVE, FOR IRON AND STEEL PARTS	57-0-2
5	FORGINGS, LIGHT, DROP AND MISCELLANEOUS	57-105
6	IRON, MALLEABLE, PEARLITIC, CASTINGS	AXS-623
7	MANUFACTURE AND INSPECTION OF SA WEAPONS, & ACC	52-0-1
8	METALS; GENERAL SPECIFICATION FOR INSPECTION OF	QQ-M-151
9	OIL, LUBRICATING, LIGHT	2-27
10	PACKAGING AND PACKING FOR OVERSEAS SHIPMENT,	
11	GENERAL SPECIFICATION	JAN-P-100
12	STANDARD SPECIFICATION FOR MARKING SHIPMENTS	
13	BY CONTRACTORS	100-2
14	STEEL, BARS AND BLANKS (FOR SMALL ARMS GUN BARRELS)	57-107-25
15	STEEL, CARBON AND ALLOY, BARS	QQ-S-671
16	STEEL, CARBON AND ALLOY; PLATE	57-121
17	STEEL, CARBON AND ALLOY; SHEETS AND STRIPS	57-136
18	STEEL, PLATES, SHAPES, SHEETS, STRIPS AND	
19	RECTANGULAR BARS FOR WELDED STRUCTURES	57-114-1
20	STEEL, TOOL, CARBON, ALLOY AND HIGH SPEED	57-108
21	TUBING, ROUND, MECHANICAL AND STRUCTURAL, STEEL,	
22	CARBON AND ALLOY, SEAMLESS, WELDED AND	
23	BRAZED	57-180
24	WIRE, STEEL, SPRING, FOR SMALL ARMS WEAPONS	48-7-1
25		

51-84-1

NOTE

① NOT REQUIRED WHEN ALTERNATIVE METHOD OF MANUFACTURE OF B6144237 IS USED

② ALTERNATIVE METHOD OF MANUFACTURE

SUPERSEDES 51-84-1A W/C 8-19-48

DO NOT INSCRIBE PART NO

GUN, MACHINE, CAL. 30 BROWNING, M1919A4 (FLEXIBLE) LIST OF DRAWINGS & SPECIFICATIONS

SEPTEMBER 30, 1936

CLASS	DIVISION	DRAWING	FILE
	51	84	1

REVISIONS

5-8-19-48
5-8-21-49
5-9-11-50

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± —
FRACTIONAL ± —
ANGULAR ± —

C F I | Z C

DRG. PERTAINS TO

SUBMITTED: W. H. Rice

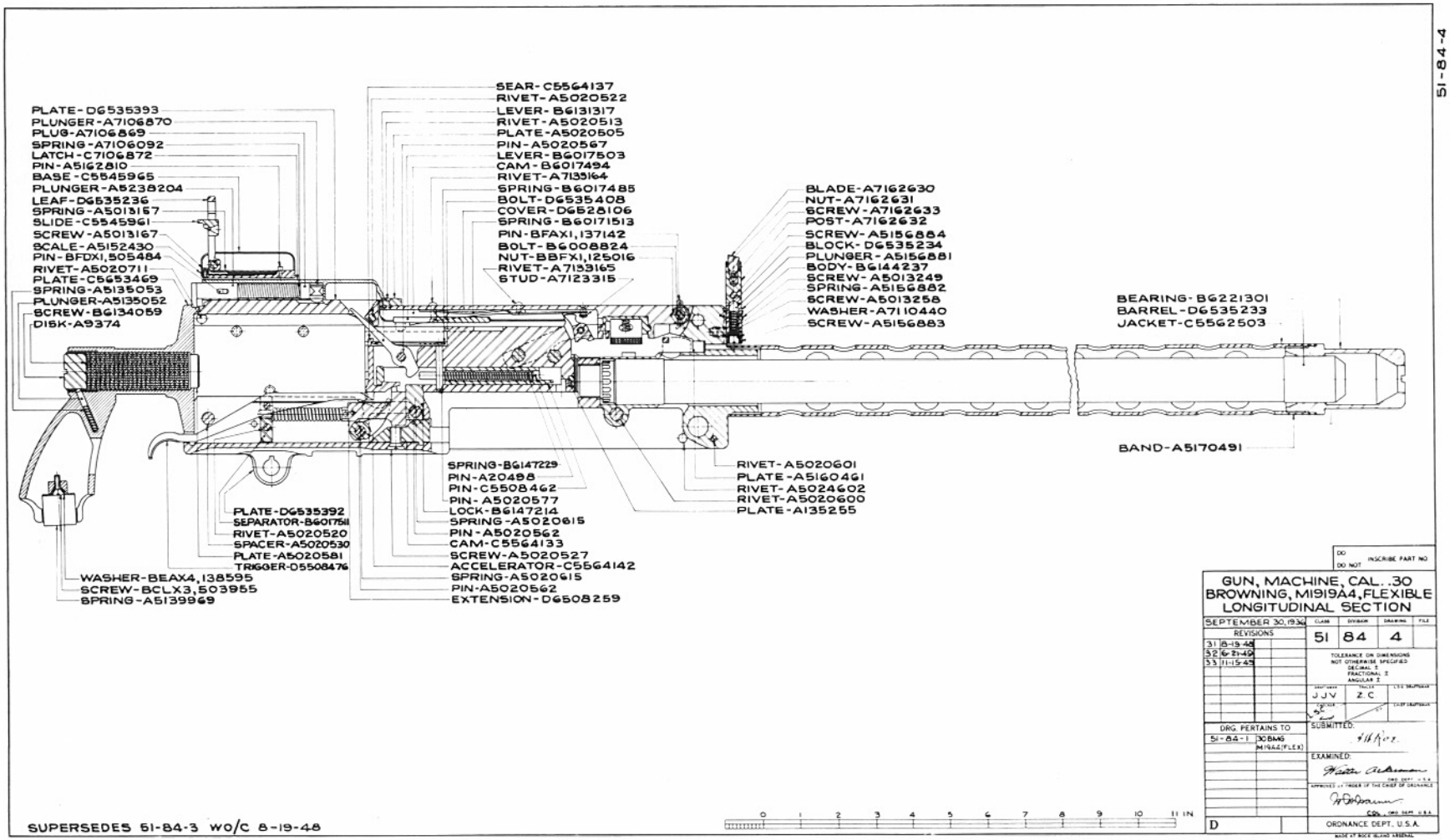
EXAMINED: Walter Ackerman

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

D

ORDNANCE DEPT. U.S.A.

MADE AT ROCK ISLAND ARSENAL



SUPERSEDES 51-84-3 W/C 8-19-48

DO NOT INSCRIBE PART NO.

GUN, MACHINE, CAL. .30 BROWNING, M1919A4, FLEXIBLE LONGITUDINAL SECTION

SEPTEMBER 30, 1936

REVISIONS			CLASS	DIVISION	DRAWING	FILE
51	8-19-48		51	84	4	
52	6-21-49					
53	11-15-49					

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED: DECIMAL ±; FRACTIONAL ±; ANGULAR ±°

DRAFTSMAN: J J V; TRACED: Z. C.; L.D.S. DRAFTSMAN; CHIEF DRAFTSMAN

DRG. PERTAINS TO: 51-84-1 .30 BMG M1944 (FLEX)

SUBMITTED:

EXAMINED:

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

CHIEF, ORD. DEPT. U.S.A.

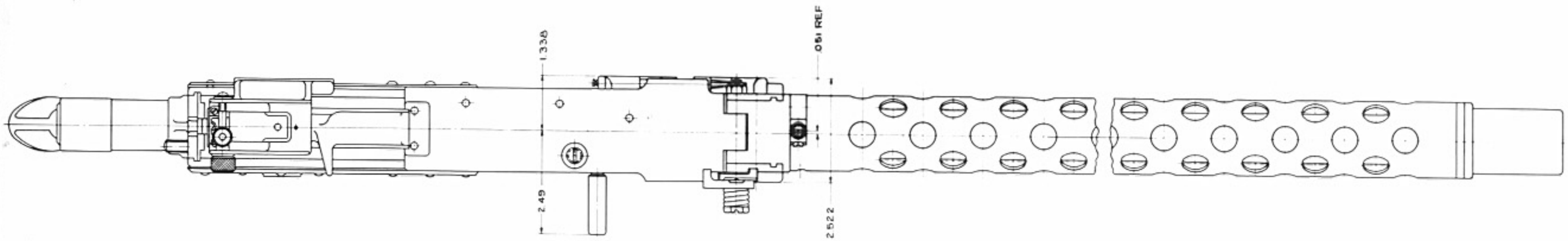
D

ORDNANCE DEPT. U.S.A.

BASE AT ROCK ISLAND ARSENAL

51-84-4

51-84-3



SUPERSEDES 51-84-2 WO/C 8-19-48

0 1 2 3 4 5 6 7 8 9 10 11 IN.

DO NOT INSCRIBE PART NO.

GUN, MACHINE, CAL. .30 BROWNING, M1919A4, FLEXIBLE PLAN VIEW

SEPTEMBER 30, 1934

CLASS	DIVISION	DRAWING	FILE
51	84	3	

REVISIONS

14 8-19-48

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± —
FRACTIONAL ± —
ANGULAR ± —

DRAFTSMAN: C.T.J
TRACER: Z.C.

DRG. PERTAINS TO

51-84-1	.30 BMG M1919A4 (FLEX)

SUBMITTED: [signature]

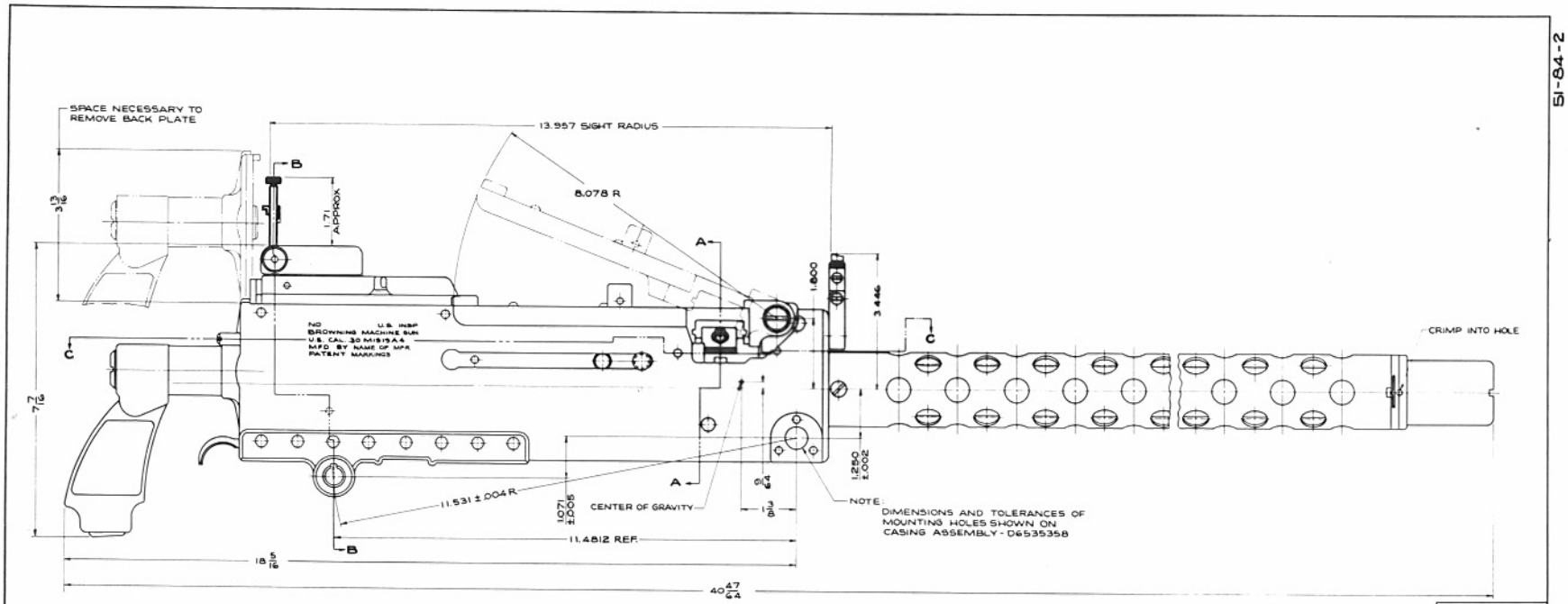
EXAMINED: Walter Ackerman
ORD. DEPT. U.S.A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE
[signature]
COL. ORD. DEPT. U.S.A.

D

ORDNANCE DEPT., U.S.A.

MADE AT ROCK ISLAND ARSENAL



DO NOT INSCRIBE PART NO.

GUN, MACHINE, CAL. .30 BROWNING, M1919A4 FLEXIBLE RIGHT SIDE VIEW

SEPTEMBER 30, 1936

CLASS	DIVISION	DRAWING	FILE
51	84	2	

REVISIONS

22	8-19-48
23	10-21-49

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± ——
FRACTIONAL ± ——
ANGULAR ± ——

DRAFTSMAN: C.F.J. TRACER: Z.C. LAY OUT BY: CHIEF DRAFTSMAN:

DRG. PERTAINS TO 51-84-1 30 BMG M1 RAR (T&E)

SUBMITTED:

EXAMINED:

ORD. DEPT. U.S.A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

COL. ORD. DEPT. U.S.A.

D

ORDNANCE DEPT. U.S.A.

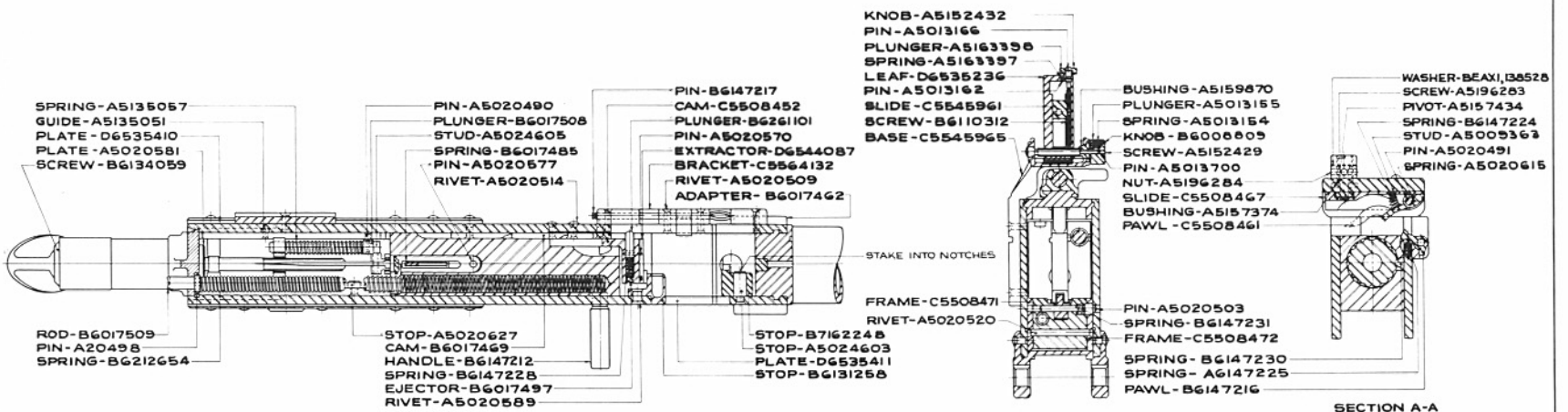
MADE AT ROCK ISLAND ARSENAL

SUPERSEDES 51-84-1 W/O/C 8-19-48

0 1 2 3 4 5 6 7 8 9 10 11 IN.

51-84-2

51-84-5



SUPERSEDES 51-84-4 W/O/C 8-19-48

0 1 2 3 4 5 6 7 8 9 10 11 IN.

DO NOT INSCRIBE PART NO

GUN; MACHINE, CAL. .30 BROWNING, M1919A4 FLEXIBLE SECTIONAL VIEWS

SEPTEMBER 30, 1930

REVISIONS			
19	8-15-45		
20	6-21-49		
21	11-15-49		

CLASS	DIVISION	DRAWING	FILE
51	84	5	

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± —
FRACTIONAL ± —
ANGULAR ± —

DRAFTSMAN	TRACER	CHECKED
P.J.R	Z.C	

DRG. PERTAINS TO 51-84-1 32 MM MACHINE GUN

SUBMITTED: H.H. Arnold

EXAMINED: Walter Anderson, ORD DEPT. U.S.A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

[illegible], ORD DEPT. U.S.A.

D

ORDNANCE DEPT., U.S.A.

A 5020520

HEAT TREATMENT & FINAL FINISH	PHYSICAL PROPERTIES					
	Y. P.		RED.		SCL.	
	T. S.		BR.			
	EL. 2		ROCK			

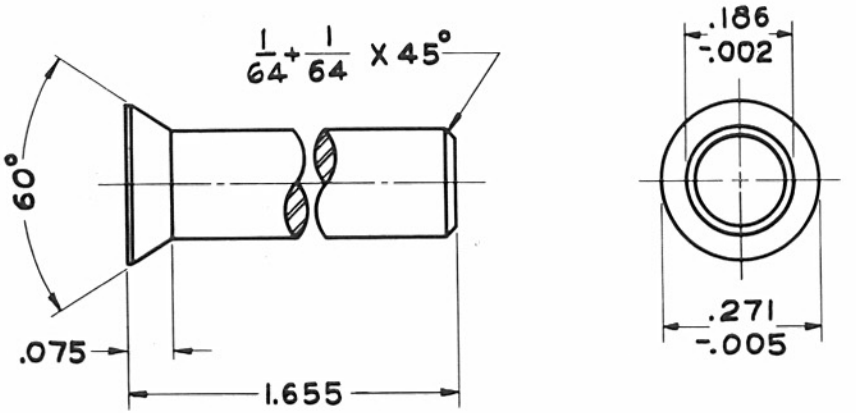
APRIL 4, 1927

REVISIONS

12	5-10-48		

DRG. PERTAINS TO

D5509182	.30 BMG M 17A1 (WC) M 19A4 (FXD) M 19A4 (FLEX) M 19A5 (FXD) M 19A6



INSCRIBE PART NO. DO NOT

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL : .005
FRACTIONAL : —
ANGULAR : 5°

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
W.C.O.	L.R.E.	
CHECKER L.S.C. Cwk.	O.O.	CHIEF DRAFTSMAN

SUBMITTED:
A. M. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

RIVET
STEEL FS X1335
FINISH 125

(5020520

WAS A 20520

SCALE 4/1

A 5020520

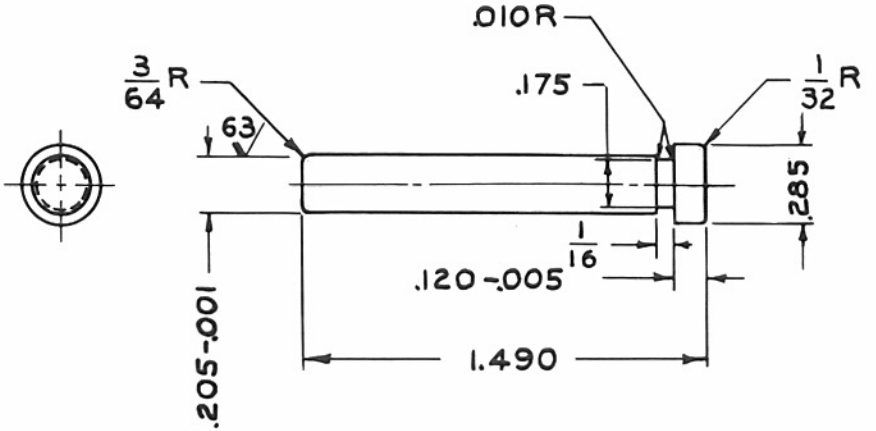
A 5020567

HEAT TREATMENT & FINAL FINISH	PHYSICAL PROPERTIES					
HEAT TREAT TYPE II FINISH, CLASS B	Y. P.		RED.		SCL.	
	T. S.		BR.			
	EL. 2		ROCK	C45-52		

JUNE 1, 1931

REVISIONS

12	6-10-48			



PIN, COCKING LEVER

STEEL FS 4140

(5020567)

FINISH 125, OTHER SURFACES, AS SPECIFIED

WAS A20567

SCALE 2/1

A 5020567

DRG. PERTAINS TO

51-114-4	.30 BMG M19A5 (FXD)
51-125-4	.30 BMG M19A6
51-83-4	.30 BMG M19A4 (FXD)
51-84-4	.30 BMG M19A4 (FLEX)
51-10-45	.30 BMG M17A1 (WC)

INSCRIBE PART NO. DO NOT

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± .005
FRACTIONAL ± 1/64
ANGULAR ± —

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
W.C.O.	A.V.C.	
CHECKER L.S.C. W.R.	O.O.	CHIEF DRAFTSMAN

SUBMITTED:
A. M. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

A 5135057

HEAT TREATMENT & FINAL FINISH	PHYSICAL PROPERTIES					
DRAW AT 450° F TYPE I FINISH, CLASS OSC BAKE ONE HOUR AT 300-350° F	Y. P.		RED.		SCL.	
	T. S.		BR.			
	EL 2		ROCK			

DIAMETER OF WIRE	.047
TOTAL NUMBER OF COILS	24
MINIMUM INSIDE DIAMETER, FREE	.290
OUTSIDE DIAMETER, FREE	.387±.005
MAX. OUTSIDE DIA AT MIN. OPERATING HEIGHT	.402
FREE LENGTH	3.56 APPROX
TYPE OF ENDS	SQ ENDS GROUND
WOUND	R.H.
ASSEMBLED HEIGHT	1.85
LOAD AT ASSEMBLED HEIGHT	13.9±1LB
MINIMUM OPERATING HEIGHT	1.222
LOAD AT MINIMUM OPERATING HEIGHT	19±1LB
LB PER INCH OF SPRING DEFLECTION	8.1 APPROX
SPRING FUNCTIONS OVER ROD	.275
CALCULATED MAXIMUM SOLID HEIGHT	1.128

CAUTION: DO NOT COMPRESS SOLID.

NOTE:
0.5% OF SPRINGS WILL BE FATIGUE TESTED BETWEEN ASSEMBLED HEIGHT AND MINIMUM OPERATING HEIGHT FOR 50,000 CYCLES. THE LOAD AT ASSEMBLED HEIGHT, AFTER TESTING, SHOULD NOT BE LESS THAN 12.5 LB

SPRING, BARREL, PLUNGER (C) 5135057

SPRING STEEL WIRE WD1085 SPECIAL-CLASS A

WAS A135057

A 5135057

JUNE 1, 1931

REVISIONS

18	5-10-48		

DRG. PERTAINS TO

51-83-5	.30 BMG M19A4 (FXD)
51-84-5	.30 BMG M19A4 (FLEX)
51-114-5	.30 BMG M19A5 (FXD)
51-125-5	.30 BMG M19A6

INSCRIBE PART NO. DO NOT

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL : —
FRACTIONAL : —
ANGULAR : —

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
W.L.M.	M.C.	
CHECKER E.M.C. Ewr	00	CHIEF DRAFTSMAN

SUBMITTED:
A. M. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

A 5135057

A5170491

HEAT TREATMENT & FINAL FINISH	PHYSICAL PROPERTIES					
TYPE II FINISH, CLASS B	Y. P.		RED.		SCL.	
	T. S.		BR.			
	EL. 2		ROCK			

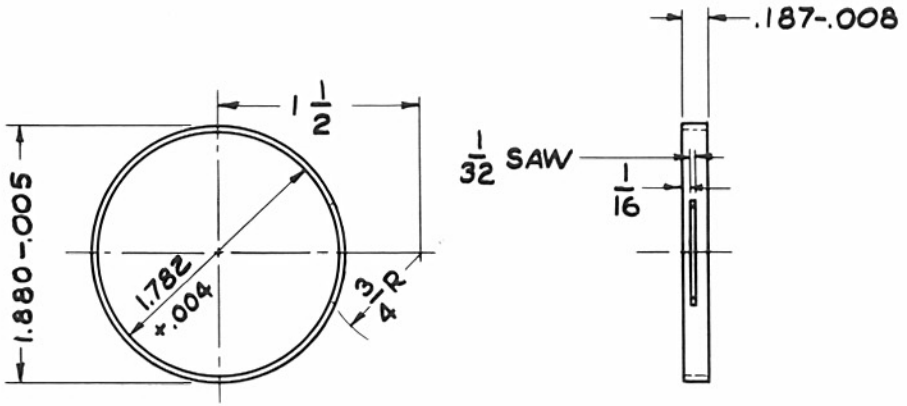
FEB. 17, 1939

REVISIONS

8	5-10-48		

DRG. PERTAINS TO

51-83-4	.30 BMG M19A4 (FXD)
51-84-4	.30 BMG M19A4 (FLEX)
51-114-4	.30 BMG M19A5 (FXD)
51-125-4	.30 BMG M19A6



NOTE:
BREAK ALL SHARP EDGES .010

INSCRIBE PART NO. DO NOT

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± .005
FRACTIONAL ± 1/64
ANGULAR ± —

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
A.W.R.	O.K.	
CHECKED LSC EWR	O.O.	CHIEF DRAFTSMAN

BAND, LOCK, FRONT BARREL BEARING (5) 170491

SEAMLESS STEEL TUBING, WDX 1020

FINISH 125

SUBMITTED:
A.M. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Ackerman
ORD. DEPT., U. S. A.

WAS A 170491

SCALE 1/1

A 5170491

ORDNANCE DEPT., U. S. A.

A 6147225

HEAT TREATMENT & FINAL FINISH	PHYSICAL PROPERTIES					
DRAW AT 450° F. TYPE I FINISH, CLASS OSC BAKE ONE HOUR AT 300-350° F.	Y. P.		RED.		SCL.	
	T. S.		BR.			
	EL. 2		ROCK			

DIAMETER OF WIRE	.023
TOTAL NUMBER OF COILS (APPROX)	13
MINIMUM INSIDE DIAMETER, FREE	.091
MAXIMUM OUTSIDE DIAMETER (SOLID)	.15
FREE LENGTH (APPROX)	.65
TYPE OF ENDS	SQ & GD
WOUND	R.H. OR L.H.
ASSEMBLED HEIGHT	.500
LOAD AT ASSEMBLED HEIGHT	3.25±.50 LB
MINIMUM OPERATING HEIGHT	.360
LOAD AT MINIMUM OPERATING HEIGHT	6.25±.50 LB
MAXIMUM SOLID HEIGHT	.310

NOTE:
.5% OF SPRINGS WILL BE FATIGUE TESTED BETWEEN ASSEMBLED HEIGHT AND MINIMUM OPERATING HEIGHT FOR 25,000 CYCLES. THE LOAD AT ASSEMBLED HEIGHT, AFTER TESTING, SHOULD NOT BE LESS THAN 2. LB

SPRING, BELT HOLDING PAWL

SPRING STEEL WIRE WD1085 SPECIAL - CLASS A

(6147225

WAS B147225

A 6147225

FEBRUARY 1, 1938

REVISIONS

10	5-10-48		

DRG. PERTAINS TO

51-10-45	.30 BMG M17A1 (WC)
51-83-5	.30 BMG M19A4 (FXD)
51-84-5	.30 BMG M19A4 (FLEX)
51-114-5	.30 BMG M19A5 (FXD)
51-125-5	.30 BMG M19A6

DO NOT INSCRIBE PART NO.

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± —
FRACTIONAL ± —
ANGULAR ± —

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
W.L.M.	M. C.	
CHECKER	O.O.	CHIEF DRAFTSMAN

SUBMITTED:
A.M. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

B6017509

HEAT TREATMENT AND FINAL FINISH

HEAT TREAT
TYPE II FINISH, CLASS B

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	C45-52
SCL.	

APRIL 4, 1927

REVISIONS

9	5-10-48			

DRG. PERTAINS TO

B6147222	.30 BMG M17A1 (WC) M19A4 (FXD) M19A4 (FLEX) M19A5 (FXD) M19A6

INSCRIBE PART NO. DO NOT

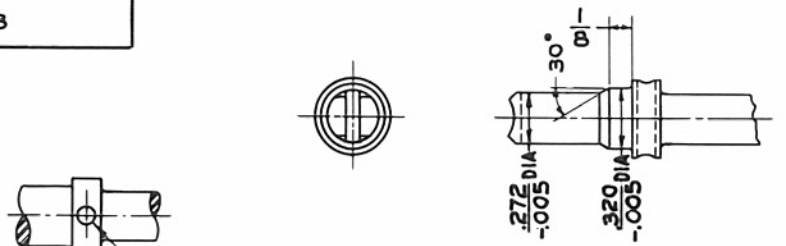
TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± —
FRACTIONAL ± 1/64
ANGULAR ± 5°

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
M. S J.	E. B.	
CHECKED	O.D.	CHIEF DRAFTSMAN

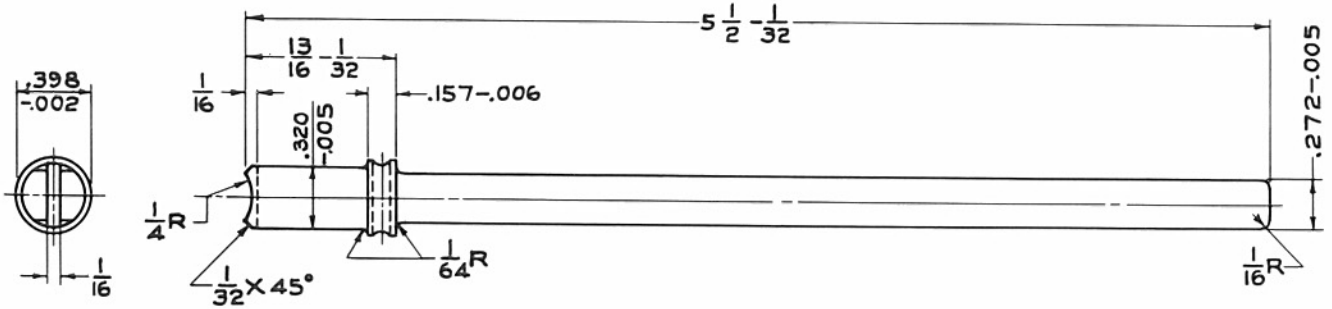
SUBMITTED:
A. H. Roe

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:-
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT U. S. A.



VIEW SHOWING ALTERNATIVE METHOD OF MANUFACTURE



ROD, DRIVING SPRING
STEEL FS 1095
FINISH 125

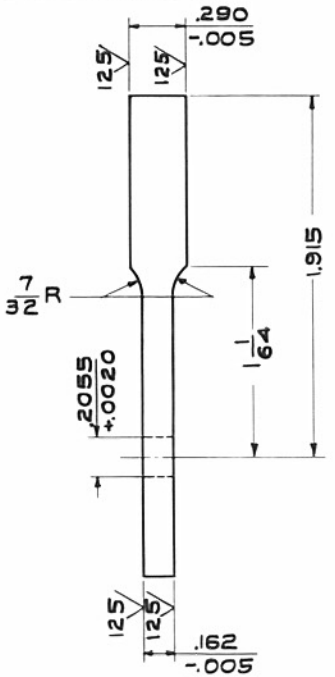
(6)017509

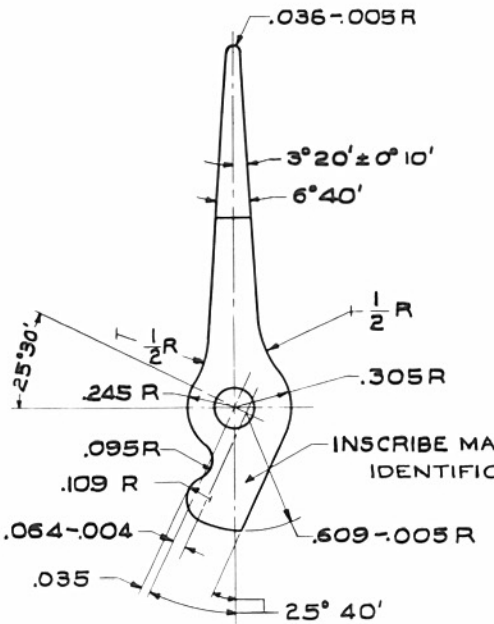
WAS B17509

SCALE 2/1 | B | 6017509

B6131317

HEAT TREATMENT AND FINAL FINISH
HEAT TREAT TYPE II FINISH, CLASS B





LEVER, COCKING

STEEL FS X4340 (6131317)

FINISH 63, OTHER SURFACES, AS SPECIFIED

WAS B131317

SCALE 2/1 | B | 6131317

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	C42-47
SCL.	

JUNE 1, 1931

REVISIONS

19	5-10-48			

DRG. PERTAINS TO

51-10-46	.30 BMG M17A1 (WC)
51-83-4	.30 BMG M19A4 (FXD)
51-84-4	.30 BMG M19A4 (FLEX)
51-114-4	.30 BMG M19A5 (FXD)
51-125-4	.30 BMG M19A6

DO INSCRIBE ~~PART NO.~~

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± .005
FRACTIONAL ± 1/64
ANGULAR ± 0°30'

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
C.S.S.	E.R.G.	
CHECKER	Q.D.	CHIEF DRAFTSMAN

SUBMITTED:
A.H.Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:-
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

B6147212

HEAT TREATMENT AND FINAL FINISH

HEAT TREAT
TYPE II FINISH, CLASS B

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	C29-38
SCL.	--

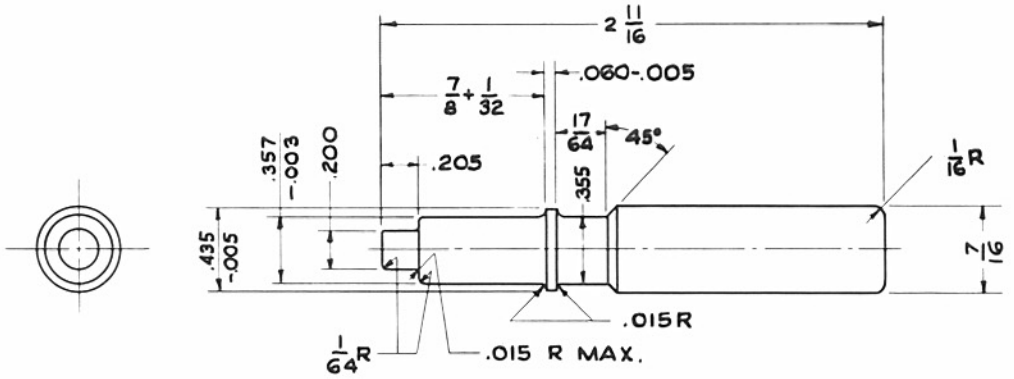
FEBRUARY 1, 1938

REVISIONS

10	5-10-48			

DRG. PERTAINS TO

51-10-45	.30 BMG M17A1 (WC)
51-83-5	.30 BMG M19A4 (FXD)
51-84-5	.30 BMG M19A4 (FLEX)
51-125-5	.30 BMG M19A6



HANDLE, BOLT (6)147212
STEEL F S 1045
FINISH 125

INSCRIBE PART NO.
DO NOT

TOLERANCE ON DIMENSIONS
NOT OTHERWISE SPECIFIED
DECIMAL ± .005
FRACTIONAL ± 1/64
ANGULAR ± 5°

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
W.C.O.	O.K.	
CHECKER		CHIEF DRAFTSMAN
L.S.S. AWR	O.O.	

SUBMITTED:
A. M. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

SCALE 2/1

WAS B147212

B 6147212

B6147214

HEAT TREATMENT AND FINAL FINISH

HEAT TREAT
TYPE II FINISH, CLASS B

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	C52-58
SCL.	

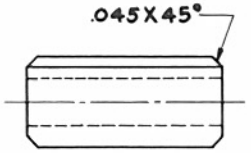
FEB. 1, 1938

REVISIONS

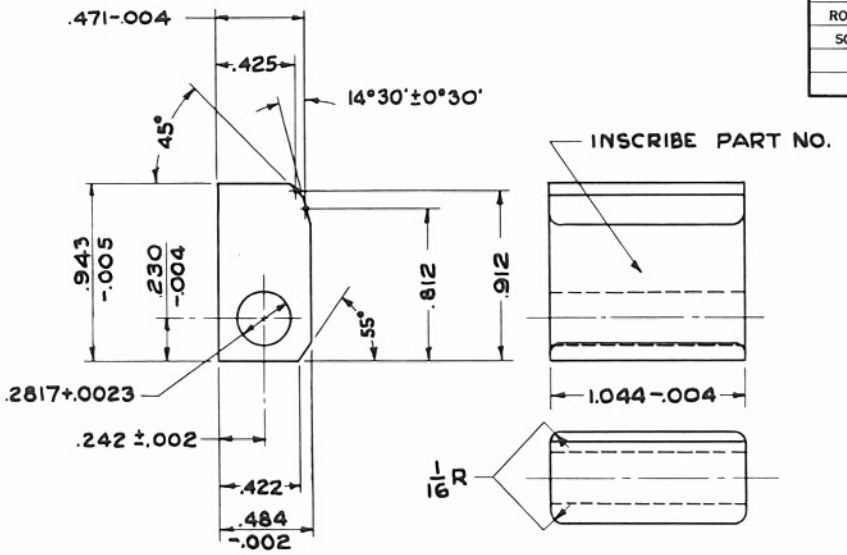
13	5-10-48			

DRG. PERTAINS TO

51-10-45	.30 BMG M17A1 (WC)
51-83-4	.30 BMG M19A4 (FXD)
51-84-4	.30 BMG M19A4 (FLEX)
51-114-4	.30 BMG M19A5 (FXD)
51-125-4	.30 BMG M19A6



ALTERNATIVE METHOD OF MANUFACTURE



LOCK, BREECH (6)147214
STEEL FSX4340
FINISH 63

DO INSCRIBE PART NO.

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± 005
FRACTIONAL ± 1/64
ANGULAR ± 1°

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
W.C.O.	O.K.	
CHECKER	Q.D.	CHIEF DRAFTSMAN

SUBMITTED:
A. M. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:-
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

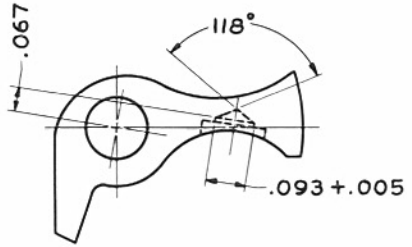
SCALE 2/1

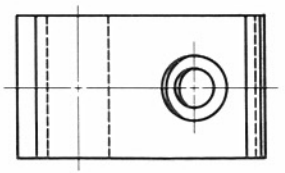
WAS B 147214

B 6147214

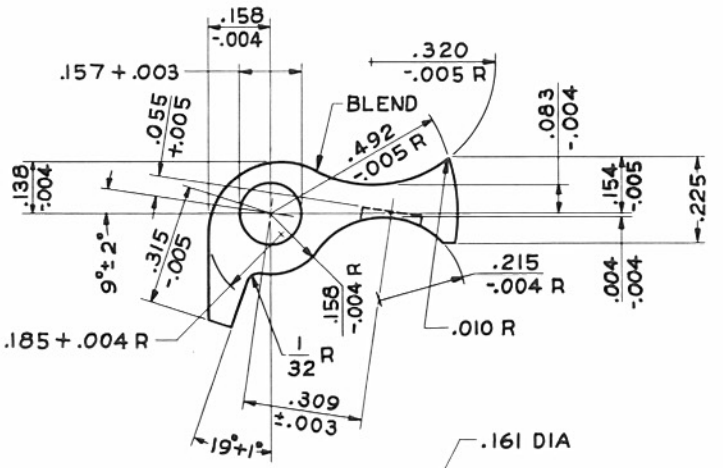
HEAT TREATMENT AND FINAL FINISH

HEAT TREAT
TYPE II FINISH, CLASS B





ALTERNATIVE METHOD OF MANUFACTURE



PAWL, HOLDING, BELT
STEEL FS 4140
FINISH 125

(6)147216

WAS B147216

SCALE 4/1 | B | 6147216

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	C45-52
SCL.	

FEBRUARY 1, 1938

REVISIONS

13	5-10-48			

DRG. PERTAINS TO

51-10-45	.30 BMG M17A1 (WC)
51-83-5	.30 BMG M19A4 (FXD)
51-84-5	.30 BMG M19A4 (FLEX)
51-114-5	.30 BMG M19A5 (FXD)
51-125-5	.30 BMG M19A6

INSCRIBE PART NO. DO NOT

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± .005
FRACTIONAL ± 1/64
ANGULAR ± 1°

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
W.C.O.	L.R.E.	
CHECKER	O.O.	CHIEF DRAFTSMAN

SUBMITTED:
A. H. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:-
Walter Ackerman
ORD. DEPT., U. S. A.

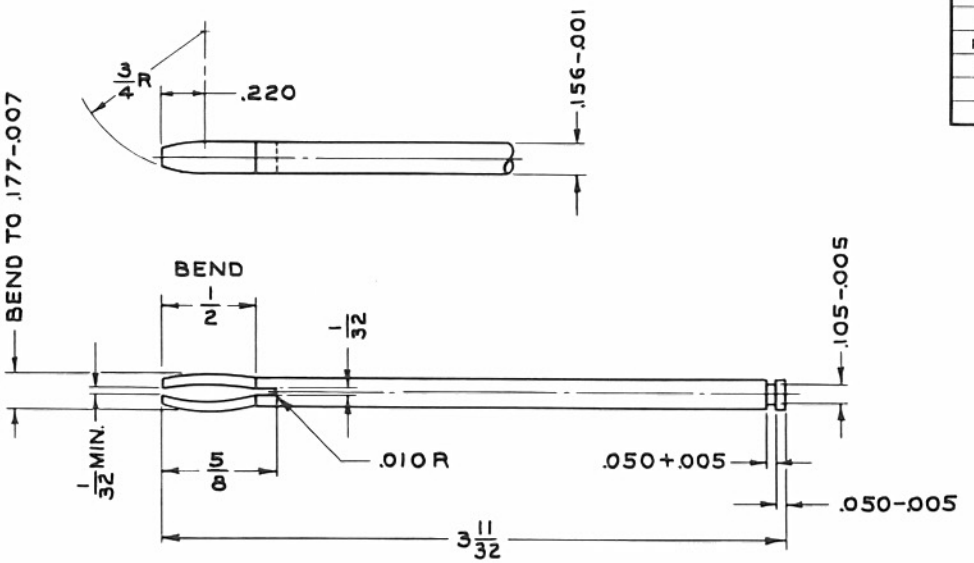
ORDNANCE DEPT., U. S. A.

MADE AT ROCK ISLAND ARSENAL

B6147216

HEAT TREATMENT AND FINAL FINISH

HEAT TREAT
TYPE II FINISH, CLASS B



PIN, BELT HOLDING PAWL, SPLIT

STEEL FS 1095

FINISH 125/V

(6)147217

WAS B147217

SCALE 2/1

B 6147217

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	A71-74
SCL.	

FEBRUARY 1, 1938

REVISIONS

11	5-10-48			

DRG. PERTAINS TO

51-10-45	.30 BMG M17A1(WC)
51-83-5	.30 BMG M19A4(FXD)
51-84-5	.30 BMG M19A4(FLEX)
51-114-5	.30 BMG M19A5(FXD)
51-125-5	.30 BMG M19A6

DO NOT INSCRIBE PART NO.

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL± .005
FRACTIONAL± 1/64
ANGULAR± —

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
W.C.O.	A.V.C.	
CHECKED		CHIEF DRAFTSMAN

SUBMITTED:
A. H. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:-
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

B6147217

HEAT TREATMENT AND FINAL FINISH

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	
SCL.	

FEB. 1, 1938

REVISIONS

4	5-10-48			

DRG. PERTAINS TO

51-10-1	.30 BMG M17A1 (WC)
51-83-1	.30 BMG M19A4 (FXD)
51-84-1	.30 BMG M19A4 (FLEX)
51-114-1	.30 BMG M19A5 (FXD)
51-125-1	.30 BMG M19A6

ROD, DRIVING SPRING, ASSEMBLY (6)147222

DO NOT INSCRIBE PART NO.

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ±—
FRACTIONAL ±—
ANGULAR ±—

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
H.D.J.	E.R.G.	
CHECKER	Q.C.	CHIEF DRAFTSMAN
L.S.S.		

SUBMITTED:
A.H. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:-
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

0 1 IN.

WAS B147222

B 6147222

B6147222

HEAT TREATMENT AND FINAL FINISH
HEAT TREAT TYPE II FINISH, CLASS B

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL 2	
RED	
BR.	
ROCK.	A72-76
SCL.	

FEBRUARY 1, 1938

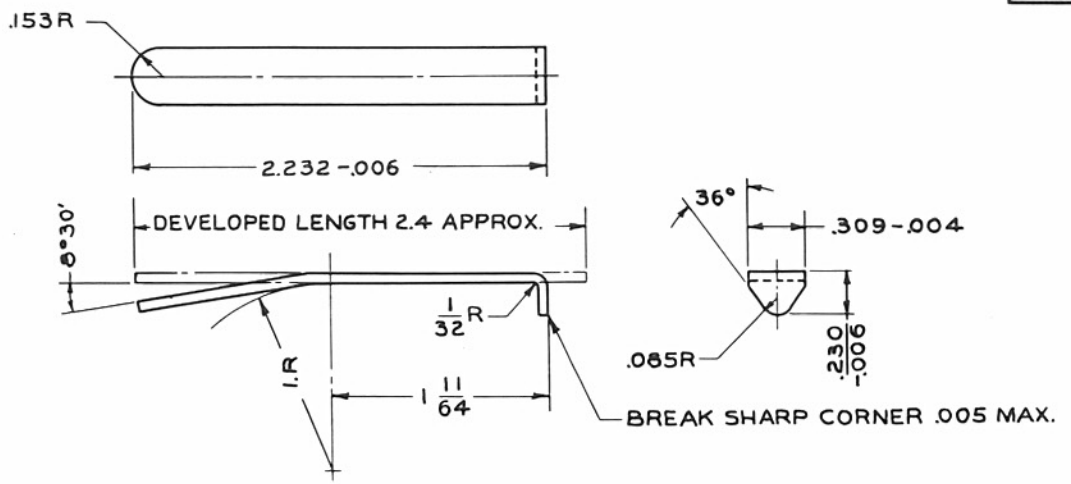
REVISIONS

11	5-10-48		

B6147230

DRG. PERTAINS TO

51-10-45	.30 BMG M17A1 (WC)
51-83-5	.30 BMG M19A4 (FXD)
51-84-5	.30 BMG M19A4 (FLEX)
51-114-5	.30 BMG M19A5 (FXD)
51-125-5	.30 BMG M19A6



SPRING, LOCKING, BARREL (6147230)

SPRING STEEL WD1095
NO. 18 (.0478 U.S. GAGE) THICK

SCALE 2/1

WAS B147230

B 6147230

INSCRIBE PART NO. DO NOT

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± .005
FRACTIONAL ± 1/64
ANGULAR ± 2°

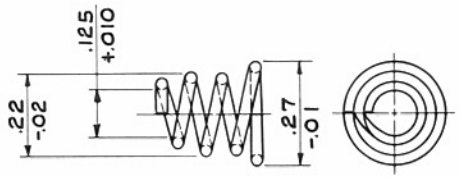
DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
T.J.C.	A.V.C.	
CHECKER L.S.C.	G.D.	CHIEF DRAFTSMAN

SUBMITTED:
A.M. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:-
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

HEAT TREATMENT AND FINAL FINISH
DRAW AT 450°F TYPE I FINISH, CLASS OSC BAKE ONE HOUR AT 300-350°F



PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED.	
BR.	
ROCK	
SCL.	

FEBRUARY 1, 1938

REVISIONS

9	5-10-48			

DIAMETER OF WIRE	.031
TOTAL NUMBER OF COILS	4.
OUTSIDE DIAMETER, FREE	.22 -.02
MAX. OUTSIDE DIA AT MIN. OPERATING HEIGHT	.270
FREE LENGTH	.28 -.02
TYPE OF ENDS	AS SHOWN
WOUND	L.H.
MEAN ASSEMBLED HEIGHT	.242
MIN. LOAD AT MEAN ASSEMBLED HEIGHT	2. LB
MINIMUM OPERATING HEIGHT	.131
MIN. LOAD AT MIN. OPERATING HEIGHT	7.85 LB
LB PER INCH OF SPRING DEFLECTION	52.6
SPRING FUNCTIONS IN HOLE	(LARGE END) .252
SPRING FUNCTIONS OVER ROD	(SMALL END) .135

CAUTION: DO NOT COMPRESS SOLID.

DRG. PERTAINS TO

51-10-45	.30 BMG M17A1 (WC)
51-83-5	.30 BMG M19A4 (FXD)
51-84-5	.30 BMG M19A4 (FLEX)
51-114-5	.30 BMG M19A5 (FXD)
51-125-5	.30 BMG M19A6

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± —
FRACTIONAL ± —
ANGULAR ± —

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
W.L.M.	M.C.	
CHECKER		CHIEF DRAFTSMAN

SUBMITTED:
A.H. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Aickman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

SPRING, TRIGGER PIN

SPRING STEEL WIRE WD1085 SPECIAL - CLASS A

(C) 6147231

WAS B147231

SCALE 4/1

B 6147231

B6147231

HEAT TREATMENT AND FINAL FINISH
DRAW AT 450°F. TYPE I FINISH, CLASS OSC BAKE ONE HOUR AT 300-350°F.

DIAMETER OF WIRE	.045
TOTAL NUMBER OF COILS (ADJUST TO OBTAIN LOAD)	103 APPROX
MINIMUM INSIDE DIAMETER, FREE	.300
OUTSIDE DIAMETER, FREE	.395 ± .004
MAX. OUTSIDE DIA AT MIN. OPERATING HEIGHT	.404
FREE LENGTH	15.875 ± .25
TYPE OF ENDS	ENDS CLOSED AND GROUND SQUARE
WOUND	R.H. OR L.H.
MEAN ASSEMBLED HEIGHT	9.875
LOAD AT MEAN ASSEMBLED HEIGHT	8.2 LB ± .7LB
MINIMUM OPERATING HEIGHT	5.311
LOAD AT MINIMUM OPERATING HEIGHT	14.3LB ± 1LB
LB PER INCH OF SPRING DEFLECTION	1.35
SPRING FUNCTIONS IN HOLE	.408
SPRING FUNCTIONS OVER ROD	.272
SOLID HEIGHT NOT TO EXCEED	4.9

CAUTION: DO NOT COMPRESS SOLID

NOTE:
0.5% OF SPRINGS WILL BE FATIGUE TESTED BETWEEN ASSEMBLED HEIGHT AND MINIMUM OPERATING HEIGHT FOR 50,000 CYCLES. THE LOAD AT ASSEMBLED HEIGHT, AFTER TESTING, SHOULD NOT BE LESS THAN 6.5 LB

SPRING, DRIVING

SPRING STEEL WIRE WD1085 SPECIAL - CLASS A (C) 6212654

WAS B212654

B 6212654

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED.	
BR.	
ROCK	
SCL.	

JANUARY 8, 1942

REVISIONS				
8	5-10-48			

DRG. PERTAINS TO	
51-10-45	.30 BMG M17A1 (WC)
51-83-5	.30 BMG M19A4 (FXD)
51-84-5	.30 BMG M19A4 (FLEX)
51-114-5	.30 BMG M19A5 (FXD)
51-125-5	.30 BMG M19A6

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± –
FRACTIONAL ± –
ANGULAR ± –

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
M.D.I.	M.C.	
CHECKER		CHIEF DRAFTSMAN

SUBMITTED:
A.H. Roe
ORD. DEPT., U. S. A.

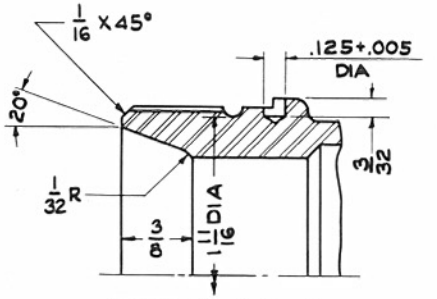
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Augustine
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

B6212654

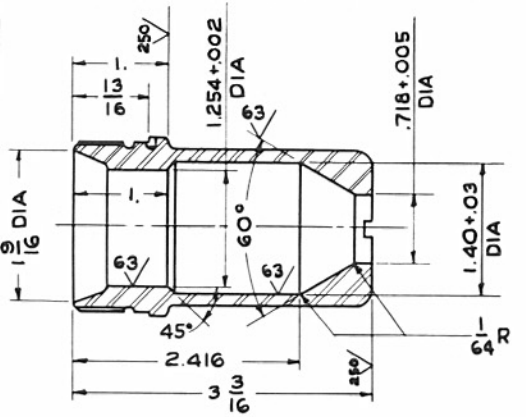
HEAT TREATMENT AND FINAL FINISH

TYPE II FINISH, CLASS B

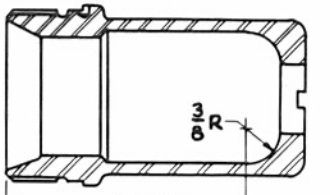


SECTION A-B

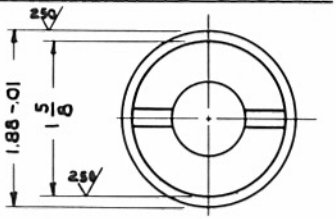
SCALE 2/1

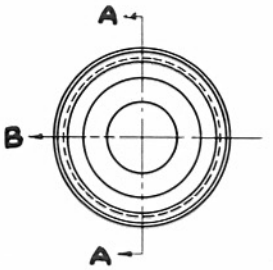


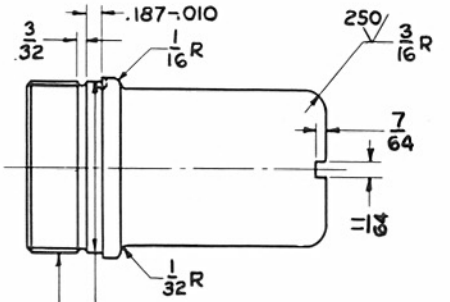
SECTION A-A



ALTERNATIVE DESIGN







1.78-22NS-3		
	MAJOR DIA	1.7800-.0100
	PITCH DIA	1.7505-.0044
	MINOR DIA	1.7242 MAX.

BEARING, BARREL, FRONT

STEEL FSX 1335

6221301

FINISH 125, OTHER SURFACES AS SPECIFIED

SCALE 1/1

WAS B221301

B 6221301

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	
SCL.	

JULY 18, 1942

REVISIONS

8	5-10-48			

DRG. PERTAINS TO

51-83-4	.30 BMG M19A4 (FXD)
51-84-4	.30 BMG M19A4 (FLEX)
51-114-4	.30 BMG M19A5 (FXD)

DO NOT INSCRIBE PART NO.

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± .010
FRACTIONAL ± 1/64
ANGULAR ± 1°

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
R.J.S.	O.K.	
CHECKED	O.O.	CHIEF DRAFTSMAN

SUBMITTED:
A.H. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:-
Walter Ackerman
ORD. DEPT., U. S. A.

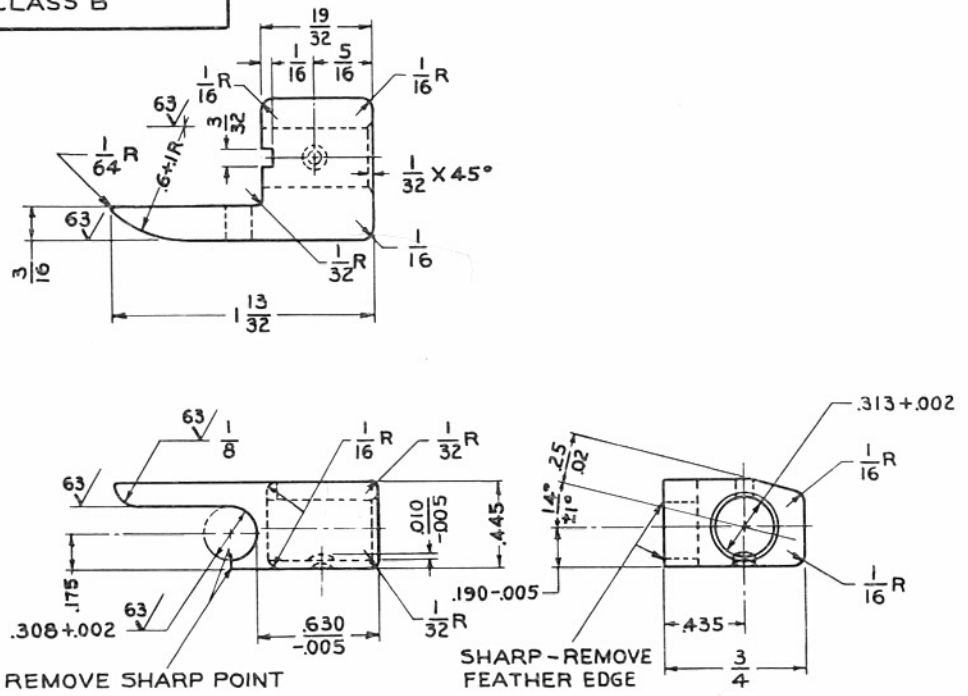
ORDNANCE DEPT., U. S. A.

B6221301

B7162248

HEAT TREATMENT AND FINAL FINISH

CASE HARDEN .010 DEEP APPROX
TYPE II FINISH, CLASS B



STOP, SHORT ROUND

STEEL FS1020 (7)162248

FINISH 125, OTHER SURFACES, AS SPECIFIED

SUPERSEDES B7162248 W O/C 5-10-48

SCALE 2/1

B 7162248

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	
SCL.	

MARCH 6, 1946

REVISIONS

1	5-10-48			

DRG. PERTAINS TO

51-10-45	.30 BMG M17A1 (WC)
51-83-5	.30 BMG M19A4 (FXD)
51-84-5	.30 BMG M19A4 (FLEX)
51-114-5	.30 BMG M19A5 (FXD)
51-125-5	.30 BMG M19A6

INSCRIBE PART NO. DO NOT

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL± .005
FRACTIONAL± 1/64
ANGULAR± 5°

DRAFTSMAN	TRACER	L'D'G DRAFTSMAN
L.E.K.	A.V.C.	
CHECKER	O.O.	CHIEF DRAFTSMAN

SUBMITTED: A. M. Roe
ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

HEAT TREATMENT AND FINAL FINISH

HEAT TREAT
TYPE II FINISH, CLASS B

PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	C47-52
SCL.	

FEBRUARY 1, 1938

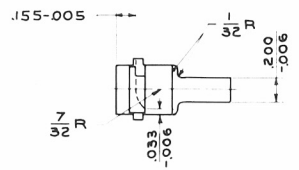
REVISIONS

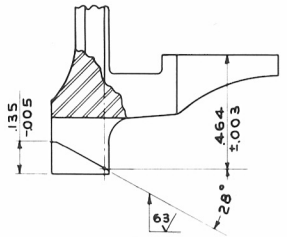
15	5-10-48				

DRG. PERTAINS TO

51-10-46	30 BMG M 17A1 (WC)
51-83-4	30 BMG M 19A4 (FXD)
51-84-4	30 BMG M 19A4 (FLEX)
51-114-4	30 BMG M 19A5 (FXD)
51-125-4	30 BMG M 19A6

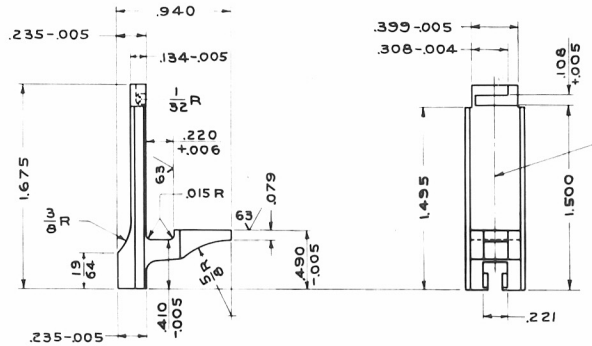
C5564137

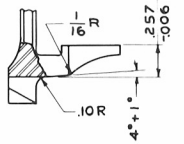


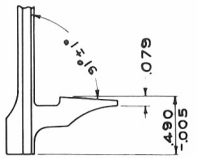


SCALE 4/1

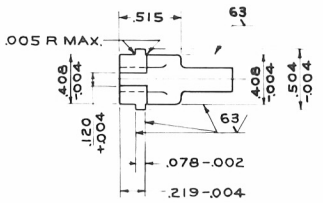
NOTE:
PERMISSIBLE VARIATION OF ANGLE MUST BE WITHIN LIMITS DEFINED BY LOCATING DIMENSIONS.







ALTERNATIVE METHOD OF MANUFACTURE



SEAR
STEEL FS 4140 (5564137

FINISH 125, OTHER SURFACES, AS SPECIFIED

SCALE 2/1

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± .005
FRACTIONAL ± 1/64
ANGULAR ± —

DRAFTSMAN	TRACER	L.O.S DRAFTSMAN
C.S.S.	A.V.C.	
CHECKER S.S.		CHIEF DRAFTSMAN

SUBMITTED:
A. H. Roz

WAS C64137

INSCRIBE PART NO.

C 5564137

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Ackerman
ORD. DEPT. U. S. A.

ORDNANCE DEPT., U. S. A.

MADE AT ROCK ISLAND ARSENAL

HEAT TREATMENT AND FINAL FINISH
HEAT TREAT TYPE II FINISH, CLASS B

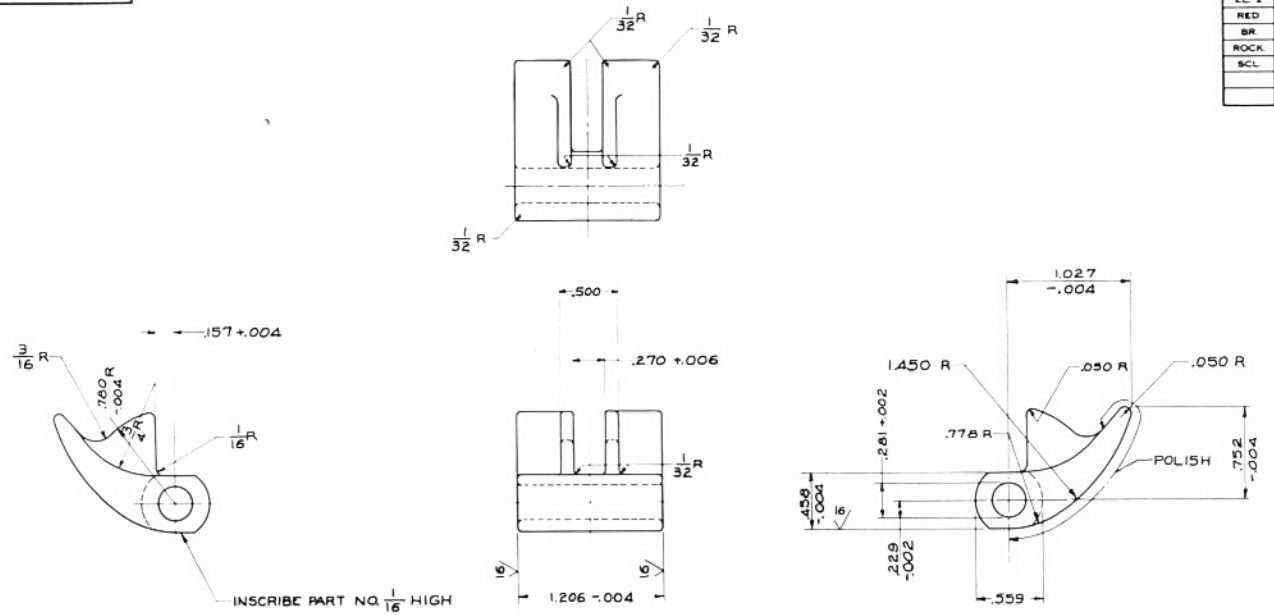
PHYSICAL PROPERTIES	
Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	C45-52
SCL.	

FEB. 1, 1938

REVISIONS			
14	5-10-48		

DRG. PERTAINS TO	
51-10-46	30 BMG M17A1(WC)
51-83-4	30 BMG M19A4 (FXD)
51-84-4	30 BMG M19A4 (FLEX)
51-114-4	30 BMG M19A5 (FXD)
51-125-4	30 BMG M19A6

C5564142



ACCELERATOR (C5564142)

STEEL FS 4340

FINISH 125 √, OTHER SURFACES, AS SPECIFIED

R.I.A. FORGING SHOWN ON DRG. B7101539

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± .005
FRACTIONAL ± 1/64
ANGULAR ± —

DRAFTSMAN	TRACER	U.S.O. DRAFTSMAN
B. J. M.	E. R. G.	
CHECKED		CHIEF DRAFTSMAN

SUBMITTED
A. H. Roe
ORD. DEPT. U. S. A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Ackerman
ORD. DEPT. U. S. A.

ORDNANCE DEPT., U. S. A.
MADE AT ROCK ISLAND ARSENAL

WAS C64142

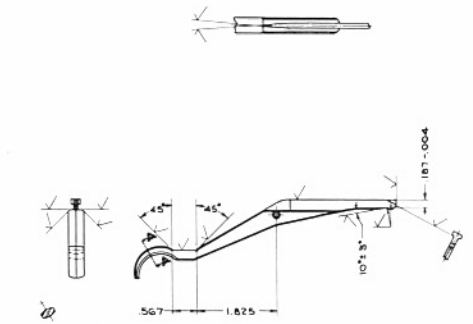
INSCRIBE PART NO. C5564142

SCALE 2/1

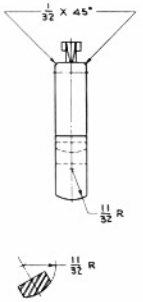
HEAT TREATMENT AND FINAL FINISH
HEAT TREAT 3/8 INCH ON SEAR END
(ROCK. C54-61)
TYPE II FINISH, CLASS B

D5508476

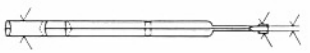
⊕ PERMISSIBLE ANGLE TOLERANCE MUST BE WITHIN LIMITS PRESCRIBED BY LOCATING DIMENSIONS



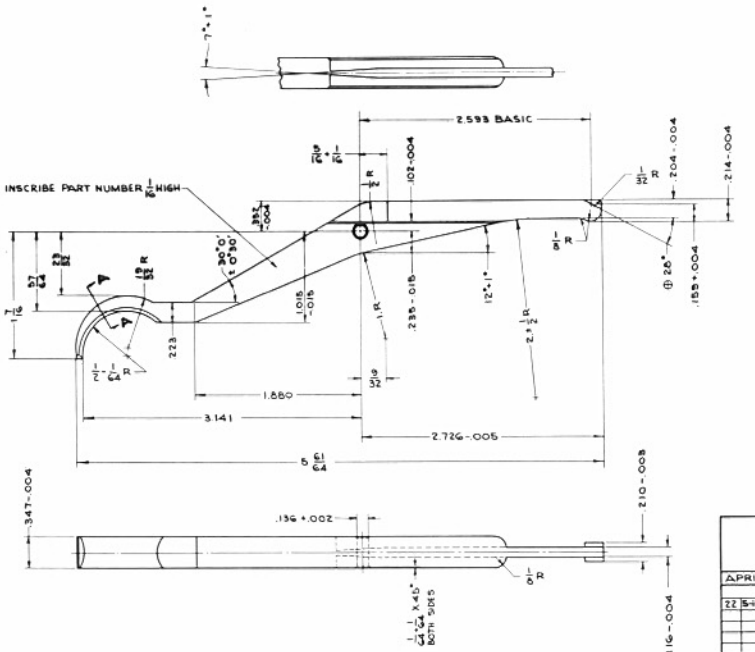
SECTION A-A



SECTION A-A



ALTERNATIVE A
MACHINE FROM COINED FORGING
FINISH √ TO BE 125√
SCALE 1/1



TRIGGER (5508476)
STEEL - FS 4140
FINISH 125√

R.I.A. FORGING SHOWN ON DRG B169971

SUPERSEDES C8476 & C7100010 W/C 5-10-48

SCALE 1/1

DO INSCRIBE PART NO. SEE NOTE

APRIL 4, 1927

REVISIONS
22 5-10-48

DRG. PERTAINS TO
51-10-46
51-83-4
51-84-4
51-114-4
51-125-4

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± .005
FRACTIONAL ± 1/64
ANGULAR ± 5'

M.E.B.

SUBMITTED:

EXAMINED:

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

ORD. DEPT. U.S.A.

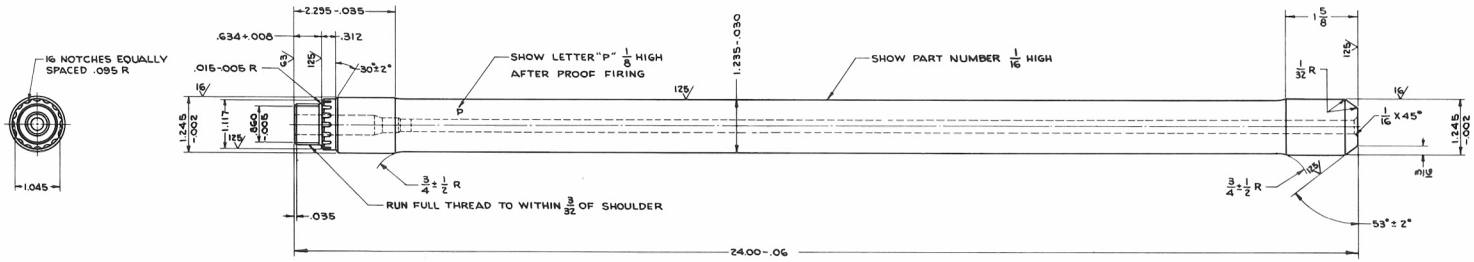
D5508476

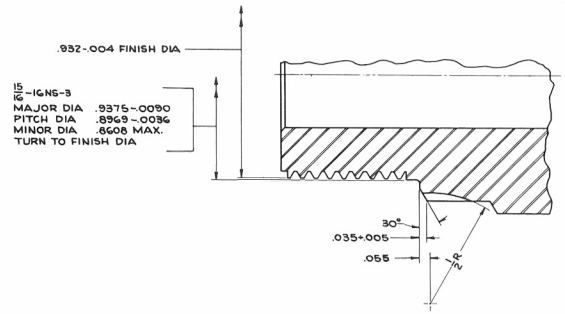
ORDNANCE DEPT., U.S.A.
RIA
BASE OF ROCK ISLAND ARSENAL

HEAT TREATMENT AND FINAL FINISH
TO MEET PHYSICALS AND HARDNESS OF U.S.A. SPEC. 57-107-25 (10-14-46) TYPE II FINISH, CLASS B (EXCEPT BORE)

PHYSICAL PROPERTIES	
Y.P.	
T.S.	
EL. 2	
RED	
BR	
ROCK.	
SCL.	

DG535233





SECTION SHOWING THREADS AND NOTCH CUT
SCALE 5/1

BARREL
STEEL WD 4150 MOD
FINISH 32/, OTHER SURFACES, AS SPECIFIED
G535233

NOTE: FOR CHAMBER AND RIFLING SEE DRAWING CG4321

NOTE:
WHEN CHAMBER AND RIFLING ARE IN ACCORDANCE WITH DRG CG4321, DATED 3-7-42, THIS PART NUMBER SHOULD BE USED.

SCALE 1/1

WAS D35233

DO INSCRIBE PART NO.

SEPTEMBER 30, 1936

REVISIONS				
22	6-10-48			

CLASS	DIVISION	DRAWING	FILE

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
DECIMAL ± .005
FRACTIONAL ± 1/64
ANGULAR ± 5°

DRAFTSMAN: F.B. TRACER: CHIEF DRAFTSMAN:
CHECKED: USE
SUBMITTED: A.H. Roe

DRG. PERTAINS TO	
51-83-4	M1924 (T10)
51-84-4	M1924 (T10)
51-114-4	M1924 (T10)

EXAMINED:
ORD. DEPT. U.S.A.
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
Walter Ackerman
ORD. DEPT. U.S.A.

DG535233

ORDNANCE DEPT., U.S.A.
MADE AT ROCK ISLAND ARSENAL