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TO:
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FROM:
Controlling DoD Organization: Springfield
Armory, Springfield, MA.

AUTHORITY

USARRADCOM ltr dtd 17 Aug 1979; USARRADCOM
ltr dtd 17 Aug 1979

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SPRINGFIELD ARMORY

SPRINGFIELD, MASSACHUSETTS

RESEARCH AND DEVELOPMENT



DDO
RECEIVED
MAR 24 1967
A

NOTES ON DEVELOPMENT TYPE MATERIEL

DESCRIPTION OF U. S. RIFLE, CAL. .30,
M1 - T65E1 AMMUNITION.

PROJECT NO. TS2-2015

PREPARED BY SPRINGFIELD ARMORY UNDER THE DIRECTION
OF THE OFFICE, CHIEF OF ORDNANCE

ITEM .30 R M1 DATE 14 FEB 49 SA-NM 11-1036
Revised 6 SEPT 49

Springfield Armory

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DECLASSIFIED AT 12 YEAR
INTERVALS: AND AUTOMATICALLY
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(14) SA-NM-11-1036

/shp

(6) NOTES ON
DEVELOPMENT TYPE MATERIEL
FOR

U.S. RIFLE, CALIBER .30 M1 - T65E1 AMMUNITION

(8) U

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this report.

RESEARCH AND DEVELOPMENT DIVISION

SPRINGFIELD ARMORY 331 450

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(11) 6 SEP 1949

(12) 28p

(16) ORD-TS2-2015

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RIFLE, CALIBER .30, M1 - T65E1 AMMUNITION

A. GENERAL DESCRIPTION:

1. The modifications ~~herein~~ described are for the purpose of adapting U. S. Rifle, Caliber .30 M1 to fire Caliber .30 T65E1 ammunition.

B. DESCRIPTION OF MODIFICATIONS:

1. Barrel S.A. 21261

The exterior appearance and dimensions are the same as the U. S. Rifle, Caliber .30 M1. The interior is chambered and rifled for T65E1 ammunition with .0875 diameter gas-port.

2. Filler-piece S.A. 21807

This component prevents cartridges from moving toward front end of cartridge well. (The T65E1 cartridge is approximately .500 shorter than the Caliber .30 ball cartridge in overall length.)

C. DISASSEMBLY OF BARREL D35448:

1. Remove barrel (D35448 Caliber .30 M1) from receiver as outlined in Section V TM9-1275.

D. ASSEMBLY OF BARREL S.A. 21261:

1. Procedure outlined in Section IV TM9-1275 should be followed to assemble barrel S.A. 21261 (T65E1).

E. DISASSEMBLY OF BULLET GUIDE, FOLLOWER ARM AND OPERATING ROD CATCH ASSEMBLY.

1. Follow procedure outlined in Section II of FM23-5 ((2) Barrel and receiver group (b)).

F. ASSEMBLY OF FILLER-PIECE S.A. 21807:

1. With barrel and receiver group on a smooth surface, sights down and muzzle to the left, place filler-piece S.A. 21807 into receiver cartridge well with curved surface down, flat surface against front surface of receiver and winged section of filler piece against outside edge of receiver.

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2.. Replace bullet guide, follower arm and operating rod catch assembly as outlined in FM 23-5.

3. Assemble rifle as outlined in FM 23-5.

G. CLIP:

Standard loading procedure to be used to load clip.

SUBMITTED:

Carl W. Gilligan

CARL W. GILLIGAN
Ordnance Engineer

CONCURRED:

E. W. Hopkins

E. W. HOPKINS
Head Ordnance Engineer

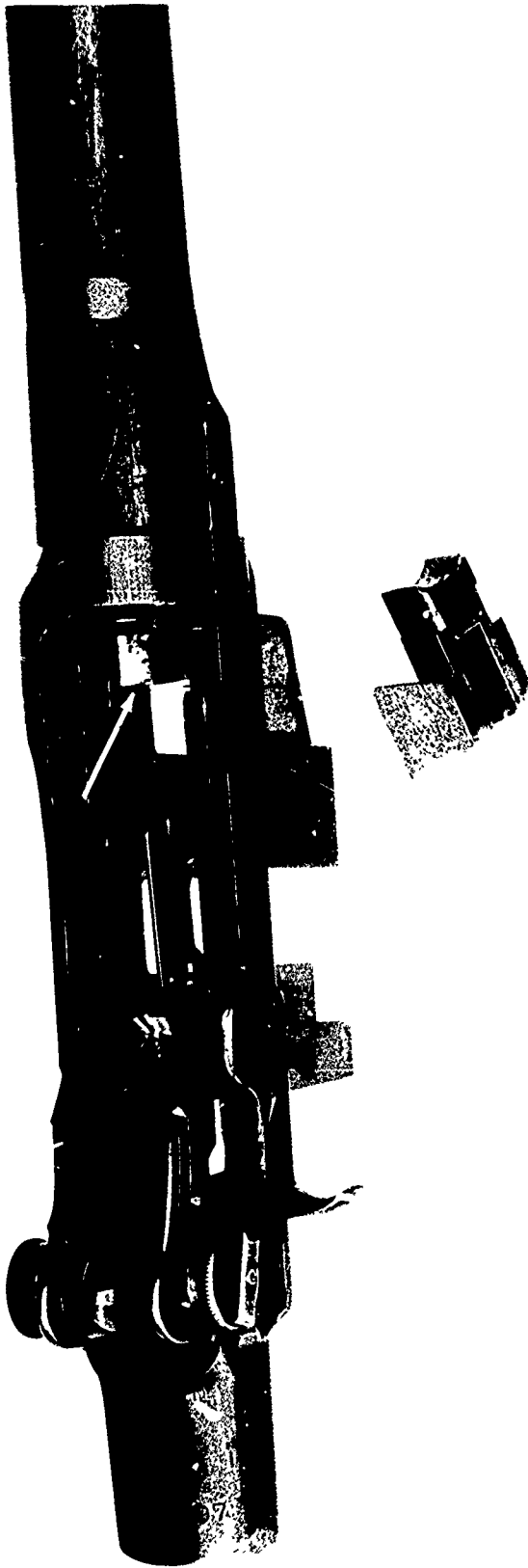
APPROVED:

William W. Holmes

WILLIAM W. HOLMES
Major, Ord Dept

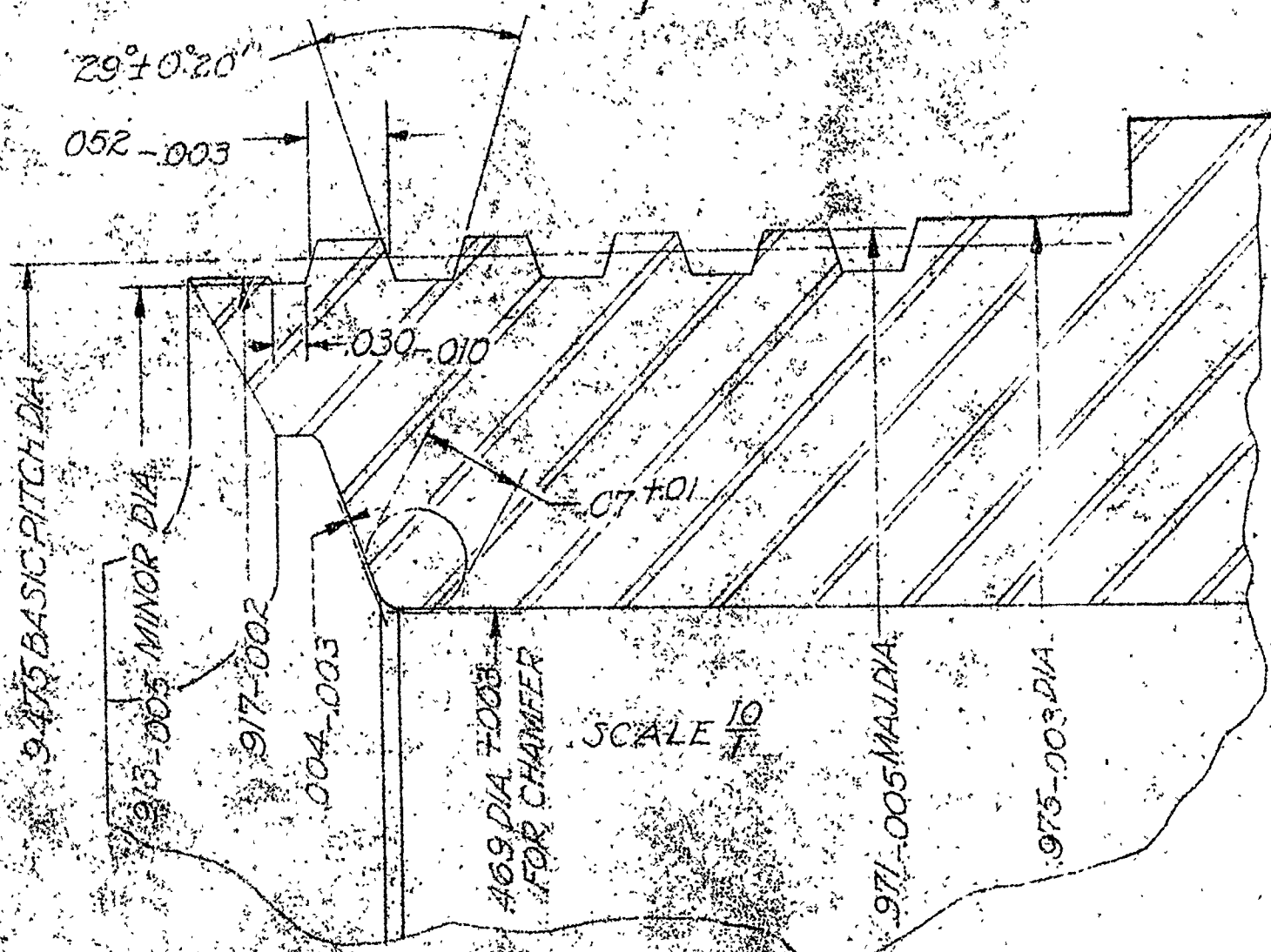
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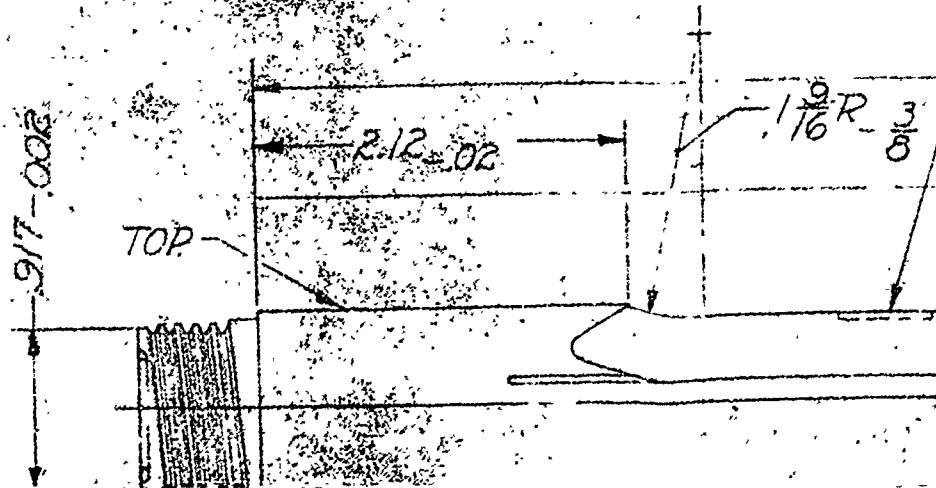
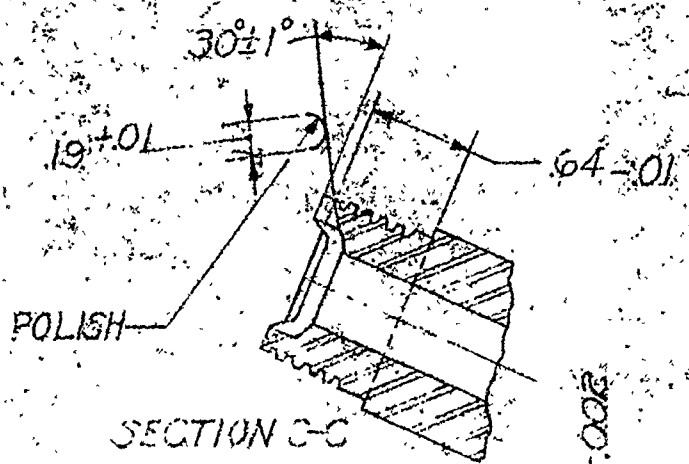


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6783-SA SPRINGFIELD ARMORY - ORDNANCE DEPT. 10 Jan. 1949
RIFLE, M1 CAL..30 (T65E1 CONVERSION)

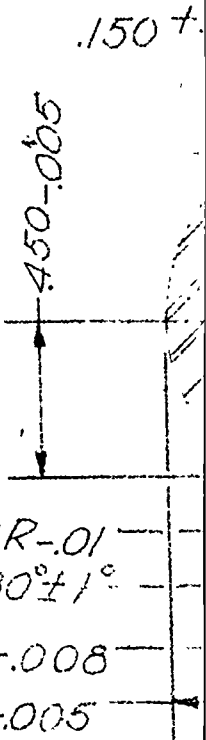
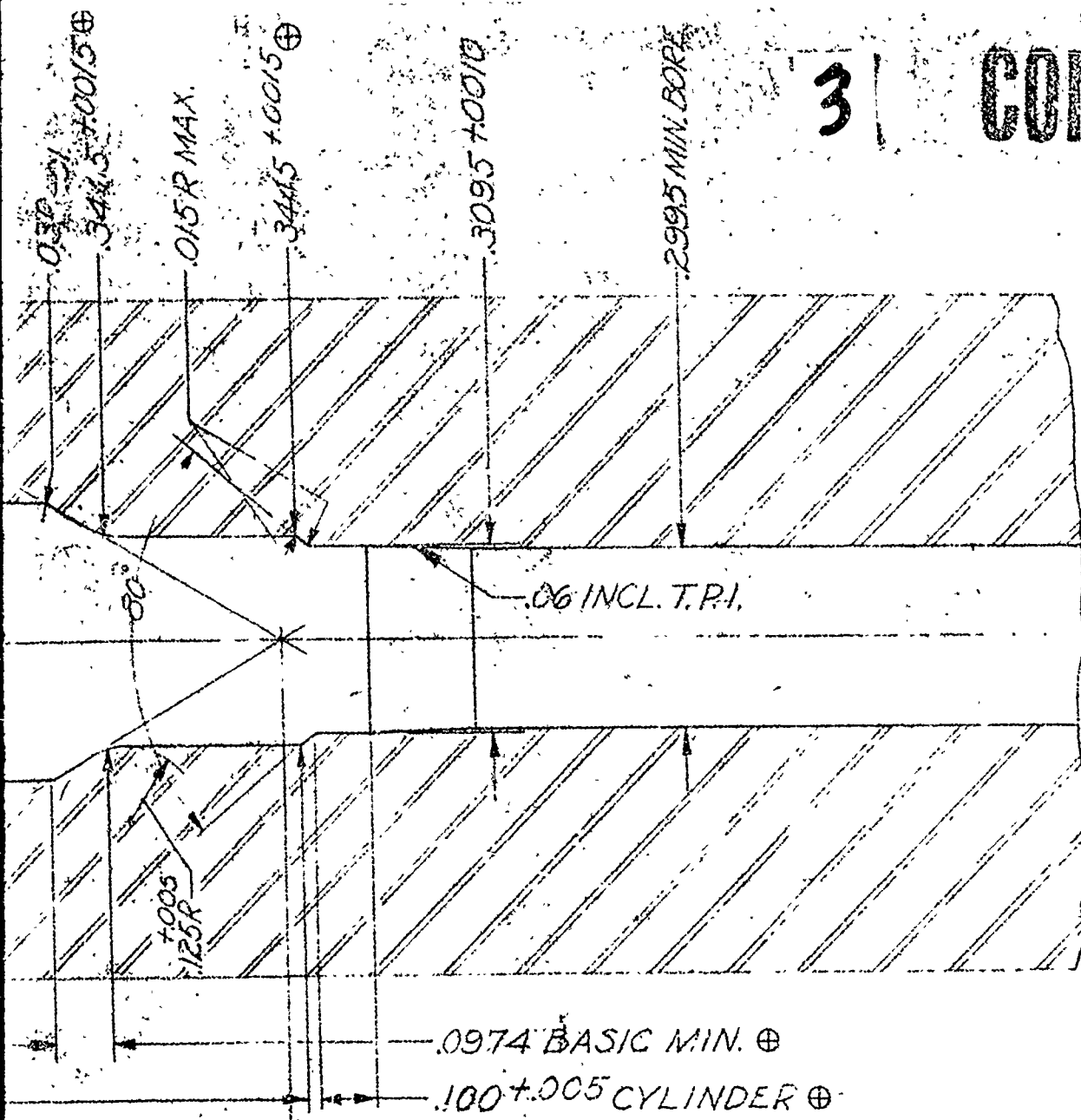


MILL 4 FULL THREADS, 10 PER INCH
 AND IN ALIGNMENT WITH FRC. IT
 END OF BARREL WITHIN 1 MINUTE
 OF ANGLE AND CONCENTRIC WITH
 IN. 00K WITH 9.11 - 0.005 AND 9.17 - 0.002
 DIAMETERS.



3

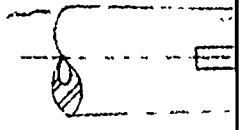
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LINES
SECTION A-A
SCALE $\frac{1}{4}$

FACE

$2 \frac{1}{4} - \frac{1}{8}$



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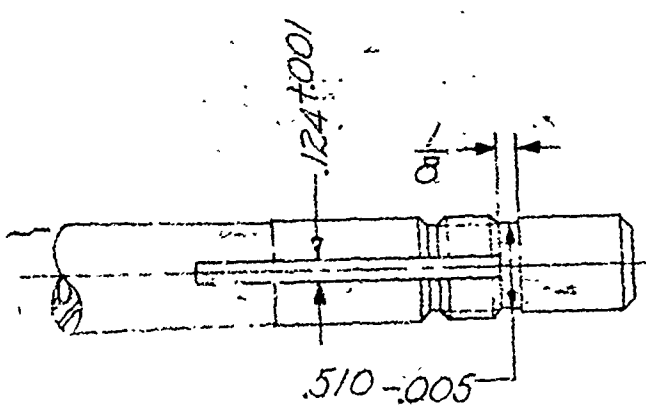
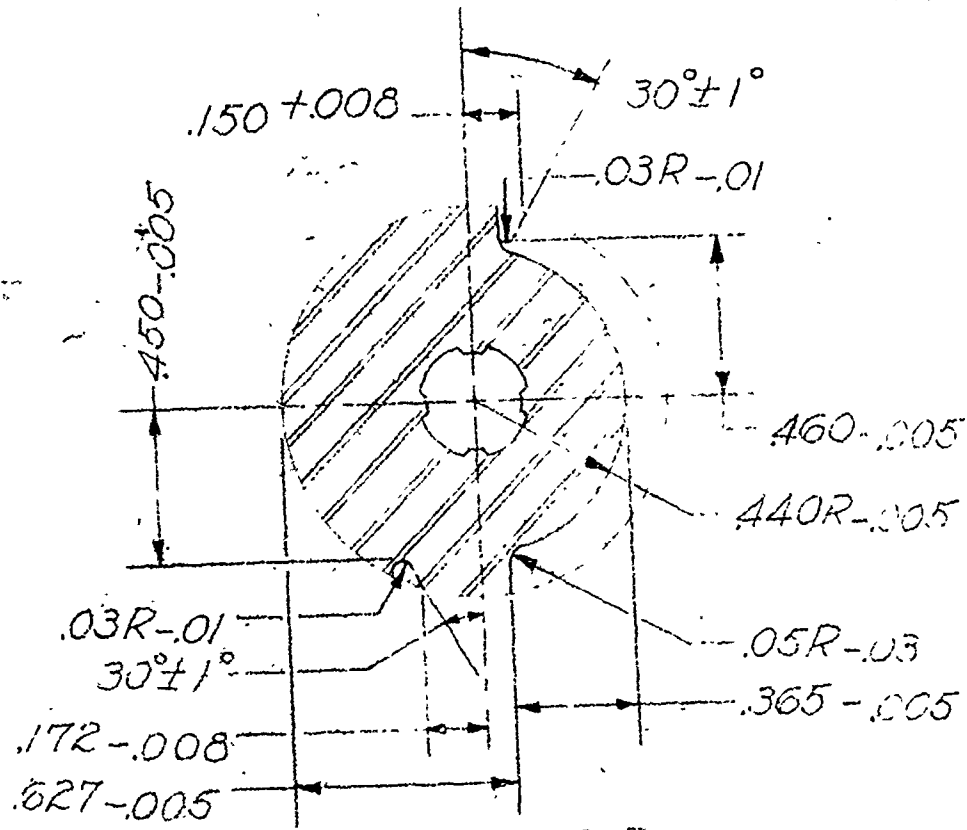
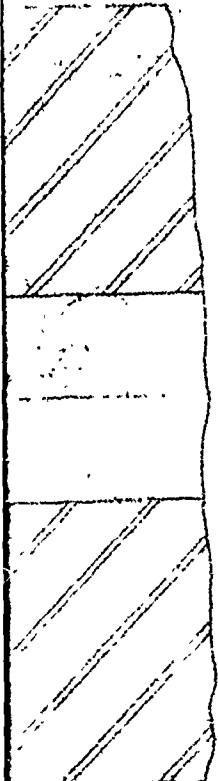
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$.3075 \pm .0020$

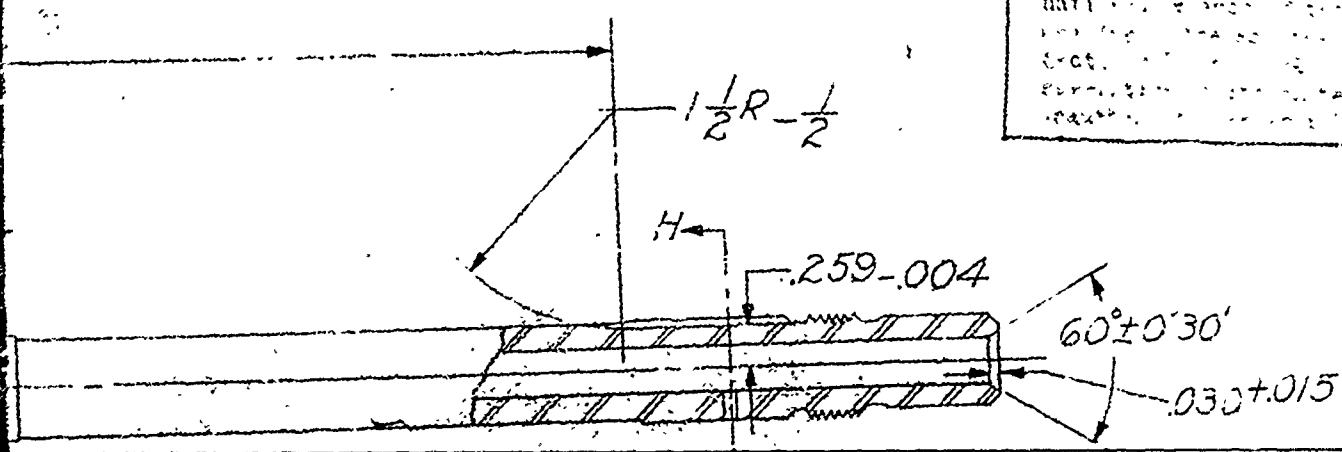
.16

$.2995 \pm .0020$

RIFLING
IN 12 1/2



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5

0.75 ± 0.0020

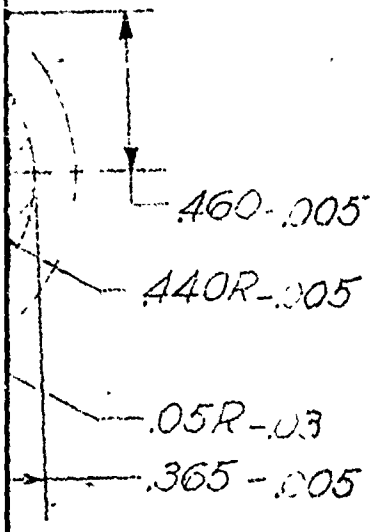
0.167 ± 0.010

0.995 ± 0.0020

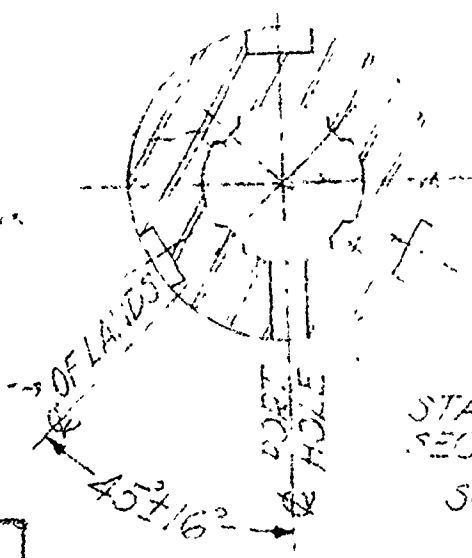
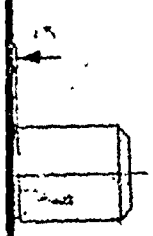
RIFLING 4 GROOVES - 1 TURN
IN 12 INCHES, R.H.
SCALE $\frac{5}{1}$

$30^\circ \pm 1^\circ$

03R-.01



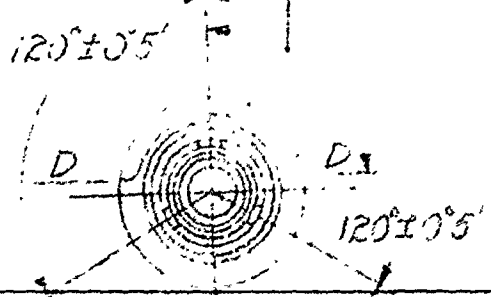
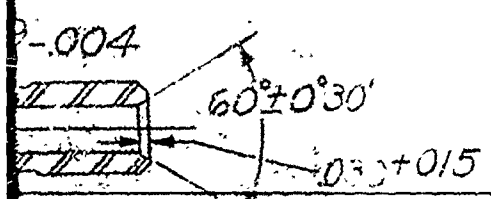
B



STANDARD SECTION H-H
SCALE $\frac{3}{1}$

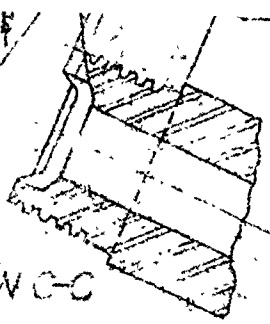
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$90^\circ \pm 0'30''$ GAGE LOCATION FROM SURFACES D-D



POLISH

SECTION C-C



04-01

917-002

TOP

2.12-12

17/16 R-3/8

4. APPROX.

4.575-015

172-04

3/4 R-1/8

B

80-05

B

5.25 GAGE LOCATIO

1100-001

008R-003

Ø OF 15/16 DIA. CUTTER

24 ± 0.15'

110 ± 0.15'

698-004

Ø OF CUTTER

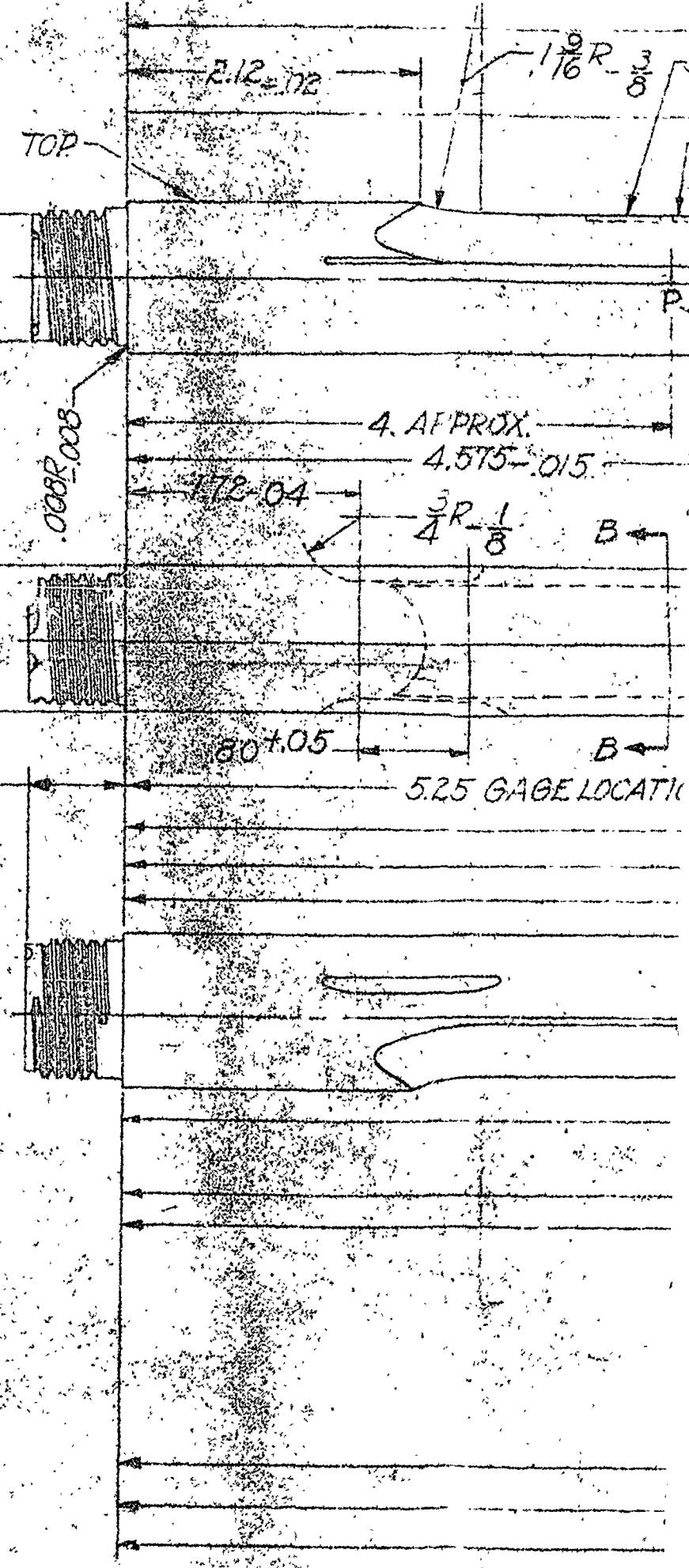
THE THREAD START AND RUNOUT TO BE WITHIN 15° EITHER SIDE OF CENTER.

6



A

A



$\frac{9}{16}R - \frac{3}{8}$ SHOW PART NUMBER $\frac{1}{16}$ HIGH LENGTHWISE

SHOW MANUFACTURER'S IDENTIFICATION $\frac{1}{16}$ HIGH

9.450-.004

$\frac{1}{2}$

P

SHOW THIS $\frac{1}{8}$ LETTER AFTER PROOF FIRING

.061R+.004

.015

1.R $\pm \frac{1}{4}$

.030-.005

.156+.005

B

.803-.005 GAGE SIZE

.726+.002 CYLIND. WITHIN

B

GAGE LOCATION

SHARP CORNE

.22.56-.01

.77-.01

.663-.003

.690-.015

17.92

$21\frac{1}{4} + \frac{1}{16}$

.628-.00

17.4 GAGE LOCATION

21 GAGE LOCATION

7

$21\frac{1}{4} + \frac{1}{16}$

THIS VIEW OPTIONAL FOR W.R.A. ONLY

$21\frac{1}{4} - \frac{1}{8}$

004

APPLY .0003 MIN. CHROMIUM PLAT.
TO THIS SECTION. DO NOT SAND
BLAST OR APPLY PHOSPHATE. F
(DIMENSIONS WITHIN SECTION
ARE APPLICABLE AFTER PLATI

002 CYLINDRICAL TO BE CONCENTRIC
WITHIN .01 OF DIMENSIONS "G" & "J"

SHARP CORNER

{ OR MAY BE RECESSED $\frac{7}{32}$ WIDE AND
NOT MORE THAN .009 DEEP

DIMENSION "E" TO BE CO
.001 WITH DIMENSIONS

23.31 - .01

.01

21.805 - .010

.628 - .005 CYLINDRICAL

"F"

.617 - .010

.635 - .015

1.0 - .1

.6000 - .0

.015 17.925 - .050

22.143 - .006

.628 - .005

.599 - .005

ONLY

8 CONFIDE

.510-.005

100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120

$1\frac{1}{2}R - \frac{1}{2}$

.259-.004

$60^{\circ} \pm 0.30'$

$.03 \pm 0.015$

03 MIN. CHROMIUM PLATING SECTION. DO NOT SAND & APPLY PHOSPHATE FINISH INS WITHIN SECTION "M" (CABLE AFTER PLATING)

$\frac{1}{8}$
"M"

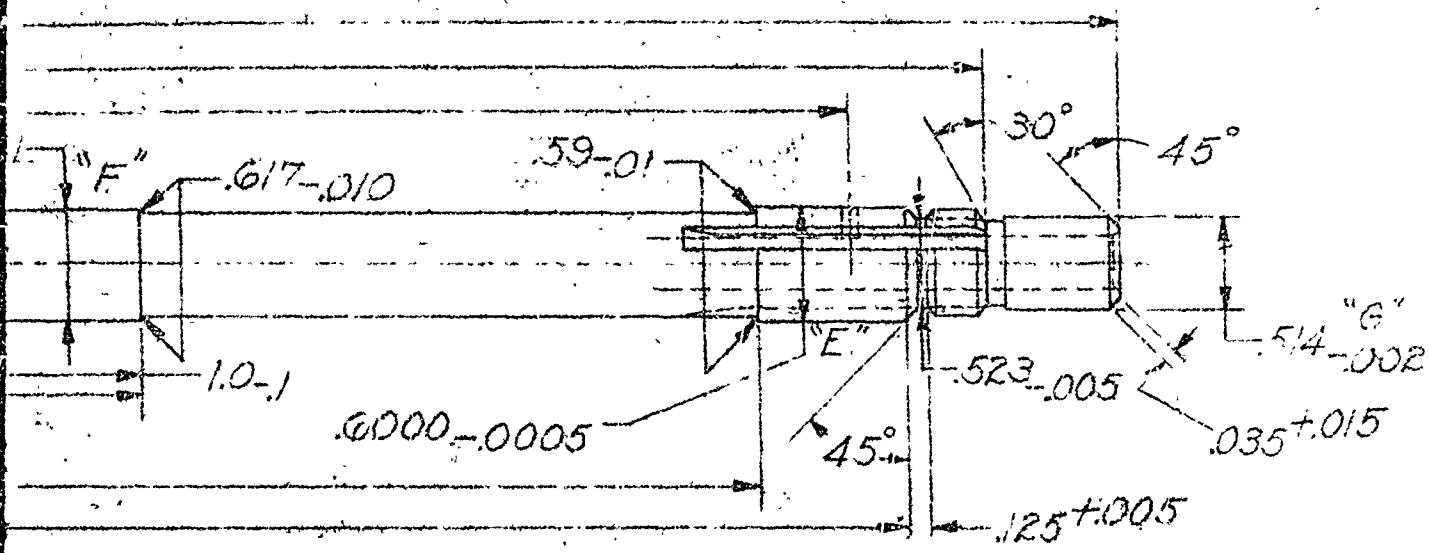
.5613-32 NS

MAJOR DIA. .56
PITCH DIA. .54
MIN. OR DIA. .52

THE .5613-32 FIN. COR WITH DIME

DIMENSION "E" TO BE CONCENTRIC WITHIN .001 WITH DIMENSIONS "F" AND "G"

.0875 DIA. ± 0.0015



NO.	DATE
3	9-9-4
	ALTERNATIVE
	AND ALT.
	SECTION H-1
	176 ± 0.004
	TO PERMIT
	TOOLS ON
	NOTE: 30
	FOR T65.
	TO, NOTE
	FOR T65
	AMMUN

BARREL

FINISH $\{ \}$

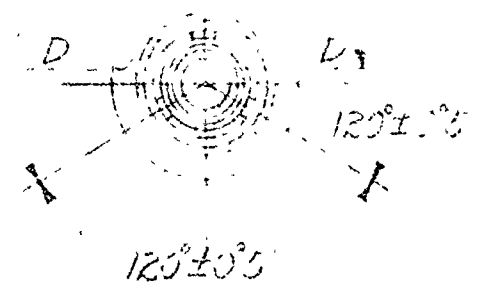
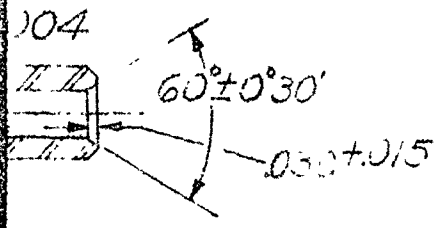
MANUFACTURING COMPONENT

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SCALE $\frac{1}{2}$

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171135
 171135
 171135

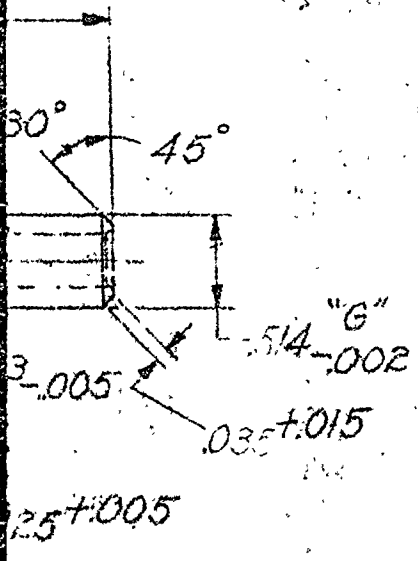


-32 NS — MAJOR DIA. .5613 - .0054
 PITCH DIA. .542 - .003
 MINOR DIA. .5232 MAX.

THE .5613 - 32 THREAD TO BE CONCENTRIC WITH THE BORE WITH DIMENSION "G".

.0875 DIA ± .0015

DWG. PERTAINS TO .30R-MI (T-35)



NO.	DATE	WAS (OR ECD NO.)	DR	CHK	NO.	DATE	WAS (OR ECD NO.)	DR	CHK
3	9-9-49								
ALTERNATIVE RIFLING AND ALTERNATIVE SECTION H-H, REMOVED; .176±.004 OPTIONAL ONLY TO PERMIT UTILIZATION OF TOOLS ON HAND, REMOVED; NOTE: .30R-MI BARREL FOR T65E1 AMMUNITION, TO, NOTE: .30R-MI BARREL FOR T65E1 AND T65E2 AMMUNITION.					1	6-16-49	1.540 BASIC MIN., TO, 1.548 BASIC MIN.; 1.99... TO, 1.984±.005; 1.9575 REF FOR .459 DIA., TO, 1.9450 REF FOR .459 DIA.; .180±.005 CYLINDER, TO, .100±.005 CYLINDER		
					2	8-5-49	1.548 BASIC MIN., TO, .284 BASIC MIN.; 1.984±.005; 1.9575 REF FOR .459 DIA., TO, 1.9450 REF FOR .459 DIA.; .180±.005 CYLINDER, TO, .100±.005 CYLINDER		
									W.K. H.D.C.
									H.D.C.
									H.D.C.

JUNE 23, 1948

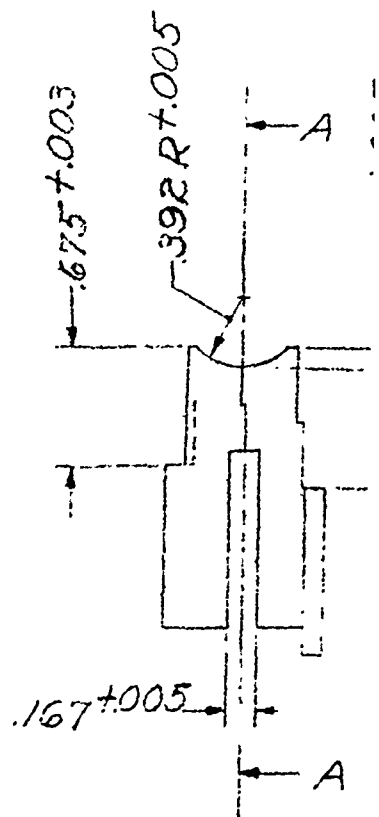
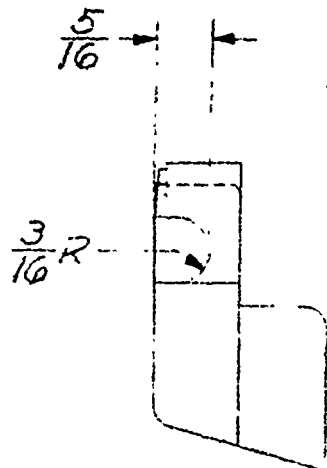
NOTE: .30R-MI BARREL FOR T65E1 AND T65E2 AMMUNITION.

F-1
 NG COMPONENT

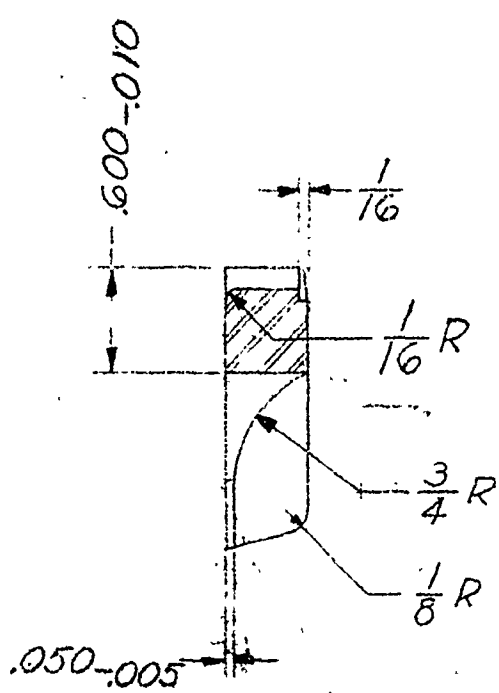
SCALE 1/2

DRAFTSMAN	CHECKER	ENGINEER	HD OR D. ENG.
H.D.C.			
SA 21261			10

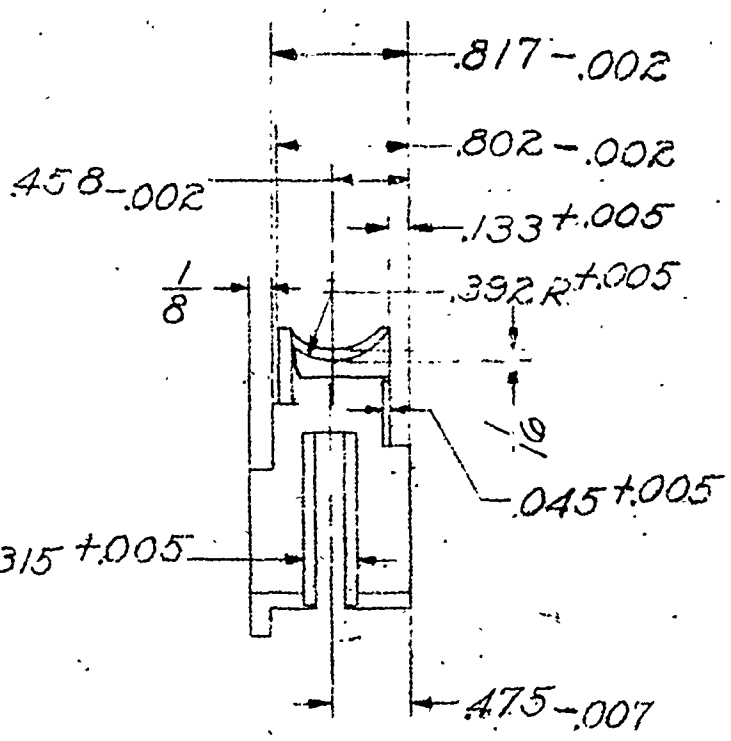
NOTE:-
ORIGINAL DIMENSIONS TAKEN FROM
HAND MADE MODEL.



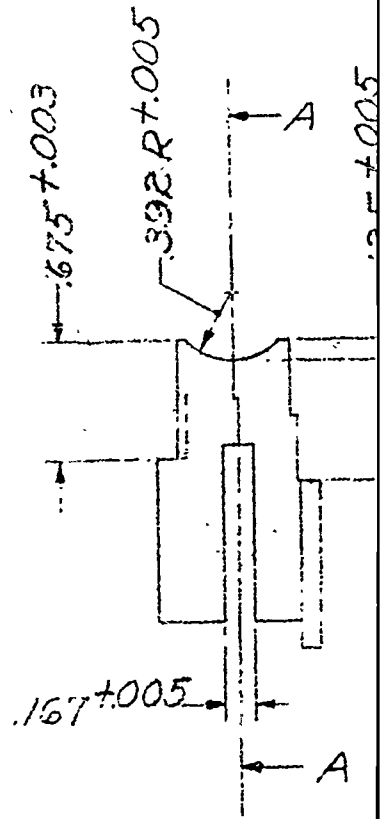
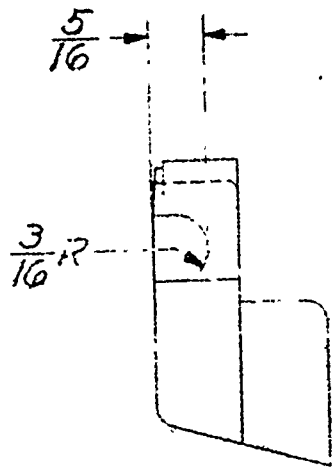
$8 \pm 1^\circ$
 $\frac{1}{16} R$



TO SHARP CORNER
 $.558 \pm .005$

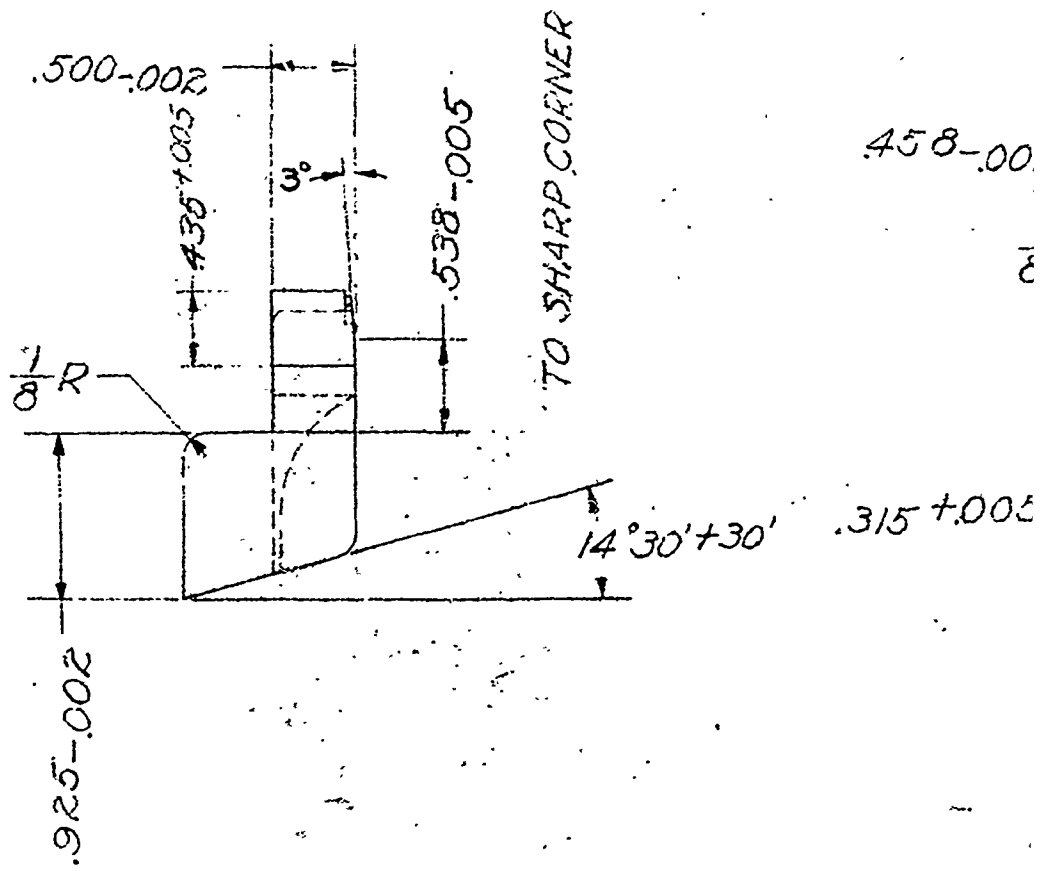
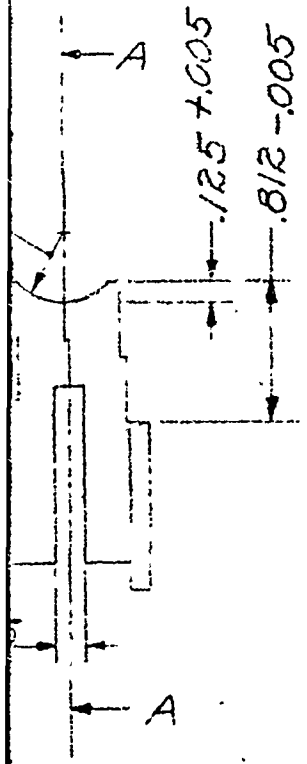
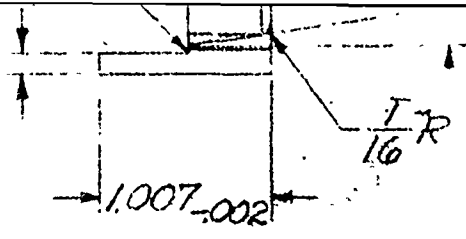


NOTE:-
ORIGINAL DIMENSIONS TAKEN FROM
HAND MADE MODEL.



BREAK SHARP CORNERS.

5



PIECE, FILLER
STEEL - WD 1020

6

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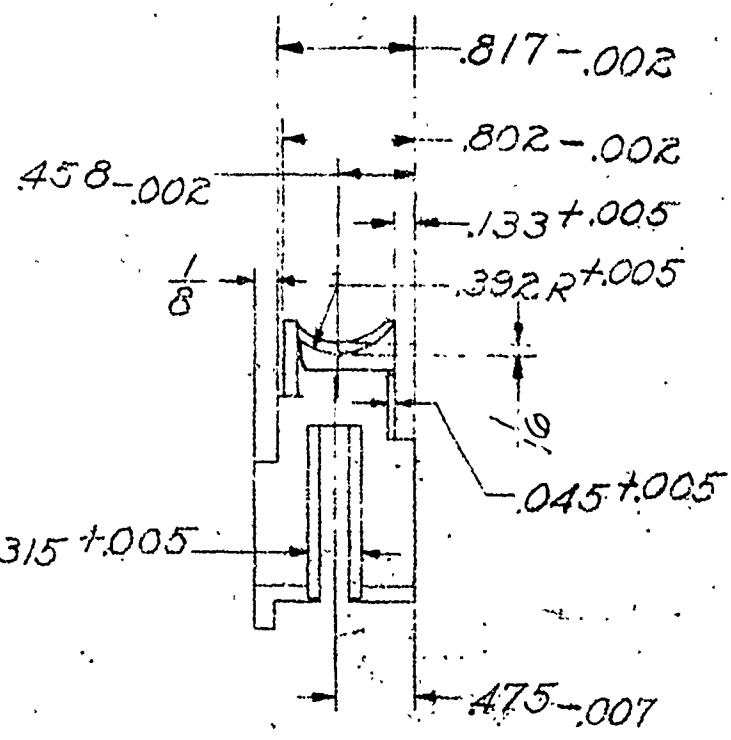
$\frac{1}{16} R$

.050-.005

$\frac{1}{8} R$

SECTION A-A

538-.005
TO SHARP CORNER



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