

HEAT TREATMENT AND FINAL FINISH

PHYSICAL PROPERTIES		SEPTEMBER 30, 1936	
		REVISIONS	
Y. P.		12	5-10-48
T. S.		13	6-21-49
EL. 2			
RED			
BR.			
ROCK.			
SCL.			

DRG. PERTAINS TO

51-83-1	30 B MG
51-84-1	M 19 A 4 (FXD)
51-114-1	30 B MG
51-114-1	M 19 A 4 (FLEX)
51-125-1	30 B MG
51-125-1	M 19 A 4 (FXD)
51-125-1	30 B MG
51-125-1	M 19 A 4

★PIVOT, ASSEMBLY-BG110529

LEVER-BG017503

SPRING-BG017513

★ COVER, ASSEMBLY-C 5509801

SPRING-BG147224

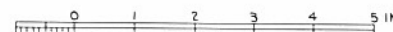
★SLIDE, ASSEMBLY-BG131262

★PIN, ASSEMBLY-BG131255

PAWL-C5508461

COVER, BELT FEED, ASSEMBLY

5564096



WAS C64096

C5564096

★ FINDING DIAGRAM

INSCRIBE PART NO.
DO NOT

TOLERANCE ON DIMENSIONS
NOT OTHERWISE SPECIFIED

DECIMAL : —
FRACTIONAL : —
ANGULAR : —

DESIGNED BY C.F.D. CHECKED BY J.D.B. DRAFTSMAN

SUBMITTED: *J.H. Roe*

APPROVED BY ORDER OF THE CHIEF
OF ORDNANCE: *Walter C. Anderson*

ORDNANCE DEPT., U. S. A.

MADE AT ROCK ISLAND ARSENAL

C5564096

HEAT TREAT
TYPE II FINISH, CLASS B

Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	C43-48
SCL.	

REVISIONS

205-10-48

C5509177	30 BMG M17A1(WC)
C5564096	30 BMG M19A4(FXD) M19A4(FLEX) M19A5(FXD) M19A6

TOLERANCE ON DIMENSIONS
NOT OTHERWISE SPECIFIED
DECIMAL $\pm .005$
FRACTIONAL $\pm 1/64$
ANGULAR $\pm 5^\circ$

DRAFTSMAN F.H.M.	TRACER M.C.	L'D G DRAFTSMAN
CHECKER <i>[Signature]</i>	<i>[Signature]</i> O.O.	CHIEF DRAFTSMAN

SUBMITTED:

ORD. DEPT.. U. S. A

APPROVED BY ORDER OF THE CHIEF
OF ORDNANCE:-

Walter C. Kenna
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

Technical drawing of a mechanical part, likely a propeller hub, showing side and end views with dimensions and tolerances.

Top View (Side View):

- Overall length: 2.665
- Radius: .217-.004R
- Radius: $\frac{1}{4}R$
- Distance from tip to first step: .120
- Distance from tip to second step: .170
- Distance from second step to third step: .395
- Distance from third step to fourth step: .356
- Distance from fourth step to fifth step: .201±.001
- Distance from fifth step to sixth step: .395
- Distance from sixth step to seventh step: .468
- Distance from seventh step to eighth step: .310
- Distance from eighth step to ninth step: .258-.002
- Distance from ninth step to tenth step: .155
- Distance from tenth step to eleventh step: .170
- Distance from eleventh step to twelfth step: .266
- Distance from twelfth step to thirteenth step: .155
- Distance from thirteenth step to fourteenth step: .266
- Distance from fourteenth step to fifteenth step: .155
- Distance from fifteenth step to sixteenth step: .266
- Distance from sixteenth step to seventeenth step: .155
- Distance from seventeenth step to eighteenth step: .266
- Distance from eighteenth step to nineteenth step: .155
- Distance from nineteenth step to twentieth step: .266
- Distance from twentieth step to twenty-first step: .155
- Distance from twenty-first step to twenty-second step: .266
- Distance from twenty-second step to twenty-third step: .155
- Distance from twenty-third step to twenty-fourth step: .266
- Distance from twenty-fourth step to twenty-fifth step: .155
- Distance from twenty-fifth step to twenty-sixth step: .266
- Distance from twenty-sixth step to twenty-seventh step: .155
- Distance from twenty-seventh step to twenty-eighth step: .266
- Distance from twenty-eighth step to twenty-ninth step: .155
- Distance from twenty-ninth step to thirtieth step: .266
- Distance from thirtieth step to thirty-first step: .155
- Distance from thirty-first step to thirty-second step: .266
- Distance from thirty-second step to thirty-third step: .155
- Distance from thirty-third step to thirty-fourth step: .266
- Distance from thirty-fourth step to thirty-fifth step: .155
- Distance from thirty-fifth step to thirty-sixth step: .266
- Distance from thirty-sixth step to thirty-seventh step: .155
- Distance from thirty-seventh step to thirty-eighth step: .266
- Distance from thirty-eighth step to thirty-ninth step: .155
- Distance from thirty-ninth step to fortieth step: .266
- Distance from fortieth step to forty-first step: .155
- Distance from forty-first step to forty-second step: .266
- Distance from forty-second step to forty-third step: .155
- Distance from forty-third step to forty-fourth step: .266
- Distance from forty-fourth step to forty-fifth step: .155
- Distance from forty-fifth step to forty-sixth step: .266
- Distance from forty-sixth step to forty-seventh step: .155
- Distance from forty-seventh step to forty-eighth step: .266
- Distance from forty-eighth step to forty-ninth step: .155
- Distance from forty-ninth step to fiftieth step: .266
- Distance from fiftieth step to fifty-first step: .155
- Distance from fifty-first step to fifty-second step: .266
- Distance from fifty-second step to fifty-third step: .155
- Distance from fifty-third step to fifty-fourth step: .266
- Distance from fifty-fourth step to fifty-fifth step: .155
- Distance from fifty-fifth step to fifty-sixth step: .266
- Distance from fifty-sixth step to fifty-seventh step: .155
- Distance from fifty-seventh step to fifty-eighth step: .266
- Distance from fifty-eighth step to fifty-ninth step: .155
- Distance from fifty-ninth step to sixtieth step: .266
- Distance from sixtieth step to sixty-first step: .155
- Distance from sixty-first step to sixty-second step: .266
- Distance from sixty-second step to sixty-third step: .155
- Distance from sixty-third step to sixty-fourth step: .266
- Distance from sixty-fourth step to sixty-fifth step: .155
- Distance from sixty-fifth step to sixty-sixth step: .266
- Distance from sixty-sixth step to sixty-seventh step: .155
- Distance from sixty-seventh step to sixty-eighth step: .266
- Distance from sixty-eighth step to sixty-ninth step: .155
- Distance from sixty-ninth step to seventieth step: .266
- Distance from seventieth step to seventy-first step: .155
- Distance from seventy-first step to seventy-second step: .266
- Distance from seventy-second step to seventy-third step: .155
- Distance from seventy-third step to seventy-fourth step: .266
- Distance from seventy-fourth step to seventy-fifth step: .155
- Distance from seventy-fifth step to seventy-sixth step: .266
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- Distance from seventy-seventh step to seventy-eighth step: .266
- Distance from seventy-eighth step to seventy-ninth step: .155
- Distance from seventy-ninth step to eightieth step: .266
- Distance from eightieth step to eighty-first step: .155
- Distance from eighty-first step to eighty-second step: .266
- Distance from eighty-second step to eighty-third step: .155
- Distance from eighty-third step to eighty-fourth step: .266
- Distance from eighty-fourth step to eighty-fifth step: .155
- Distance from eighty-fifth step to eighty-sixth step: .266
- Distance from eighty-sixth step to eighty-seventh step: .155
- Distance from eighty-seventh step to eighty-eighth step: .266
- Distance from eighty-eighth step to eighty-ninth step: .155
- Distance from eighty-ninth step to ninetieth step: .266
- Distance from ninetieth step to one hundredth step: .155
- Distance from one hundredth step to one hundred and first step: .266
- Distance from one hundred and first step to one hundred and second step: .155
- Distance from one hundred and second step to one hundred and third step: .266
- Distance from one hundred and third step to one hundred and fourth step: .155
- Distance from one hundred and fourth step to one hundred and fifth step: .266
- Distance from one hundred and fifth step to one hundred and sixth step: .155
- Distance from one hundred and sixth step to one hundred and seventh step: .266
- Distance from one hundred and seventh step to one hundred and eighth step: .155
- Distance from one hundred and eighth step to one hundred and ninth step: .266
- Distance from one hundred and ninth step to one hundred and tenth step: .155
- Distance from one hundred and tenth step to one hundred and eleventh step: .266
- Distance from one hundred and eleventh step to one hundred and twelfth step: .155
- Distance from one hundred and twelfth step to one hundred and thirteenth step: .266
- Distance from one hundred and thirteenth step to one hundred and fourteenth step: .155
- Distance from one hundred and fourteenth step to one hundred and fifteenth step: .266
- Distance from one hundred and fifteenth step to one hundred and sixteenth step: .155
- Distance from one hundred and sixteenth step to one hundred and seventeenth step: .266
- Distance from one hundred and seventeenth step to one hundred and eighteenth step: .155
- Distance from one hundred and eighteenth step to one hundred and nineteenth step: .266
- Distance from one hundred and nineteenth step to one hundred and twentieth step: .155
- Distance from one hundred and twentieth step to one hundred and twenty-first step: .266
- Distance from one hundred and twenty-first step to one hundred and twenty-second step: .155
- Distance from one hundred and twenty-second step to one hundred and twenty-third step: .266
- Distance from one hundred and twenty-third step to one hundred and twenty-fourth step: .155
- Distance from one hundred and twenty-fourth step to one hundred and twenty-fifth step: .266
- Distance from one hundred and twenty-fifth step to one hundred and twenty-sixth step: .155
- Distance from one hundred and twenty-sixth step to one hundred and twenty-seventh step: .266
- Distance from one hundred and twenty-seventh step to one hundred and twenty-eighth step: .155
- Distance from one hundred and twenty-eighth step to one hundred and twenty-ninth step: .266
- Distance from one hundred and twenty-ninth step to one hundred and thirtieth step: .155
- Distance from one hundred and thirtieth step to one hundred and thirty-first step: .266
- Distance from one hundred and thirty-first step to one hundred and thirty-second step: .155
- Distance from one hundred and thirty-second step to one hundred and thirty-third step: .266
- Distance from one hundred and thirty-third step to one hundred and thirty-fourth step: .155
- Distance from one hundred and thirty-fourth step to one hundred and thirty-fifth step: .266
- Distance from one hundred and thirty-fifth step to one hundred and thirty-sixth step: .155
- Distance from one hundred and thirty-sixth step to one hundred and thirty-seventh step: .266
- Distance from one hundred and thirty-seventh step to one hundred and thirty-eighth step: .155
- Distance from one hundred and thirty-eighth step to one hundred and thirty-ninth step: .266
- Distance from one hundred and thirty-ninth step to one hundred and fortieth step: .155
- Distance from one hundred and fortieth step to one hundred and forty-first step: .266
- Distance from one hundred and forty-first step to one hundred and forty-second step: .155
- Distance from one hundred and forty-second step to one hundred and forty-third step: .266
- Distance from one hundred and forty-third step to one hundred and forty-fourth step: .155
- Distance from one hundred and forty-fourth step to one hundred and forty-fifth step: .266
- Distance from one hundred and forty-fifth step to one hundred and forty-sixth step: .155
- Distance from one hundred and forty-sixth step to one hundred and forty-seventh step: .266
- Distance from one hundred and forty-seventh step to one hundred and forty-eighth step: .155
- Distance from one hundred and forty-eighth step to one hundred and forty-ninth step: .266
- Distance from one hundred and forty-ninth step to one hundred and fiftieth step: .155
- Distance from one hundred and fiftieth step to one hundred and fifty-first step: .266
- Distance from one hundred and fifty-first step to one hundred and fifty-second step: .155
- Distance from one hundred and fifty-second step to one hundred and fifty-third step: .266
- Distance from one hundred and fifty-third step to one hundred and fifty-fourth step: .155
- Distance from one hundred and fifty-fourth step to one hundred and fifty-fifth step: .266
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- Distance from one hundred and fifty-ninth step to one hundred and sixtieth step: .155
- Distance from one hundred and sixtieth step to one hundred and sixty-first step: .266
- Distance from one hundred and sixty-first step to one hundred and sixty-second step: .155
- Distance from one hundred and sixty-second step to one hundred and sixty-third step: .266
- Distance from one hundred and sixty-third step to one hundred and sixty-fourth step: .155
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- Distance from one hundred and sixty-seventh step to one hundred and sixty-eighth step: .155
- Distance from one hundred and sixty-eighth step to one hundred and sixty-ninth step: .266
- Distance from one hundred and sixty-ninth step to one hundred and seventieth step: .155
- Distance from one hundred and seventieth step to one hundred and seventy-first step: .266
- Distance from one hundred and seventy-first step to one hundred and seventy-second step: .155
- Distance from one hundred and seventy-second step to one hundred and seventy-third step: .266
- Distance from one hundred and seventy-third step to one hundred and seventy-fourth step: .155
- Distance from one hundred and seventy-fourth step to one hundred and seventy-fifth step: .266
- Distance from one hundred and seventy-fifth step to one hundred and seventy-sixth step: .155
- Distance from one hundred and seventy-sixth step to one hundred and seventy-seventh step: .266
- Distance from one hundred and seventy-se

LEVER, FEED, BELT (6017503
STEEL FS4140
FINISH ☒ TO BE ^{12.5}✓, OTHER SURFACES,
AS SPECIFIED

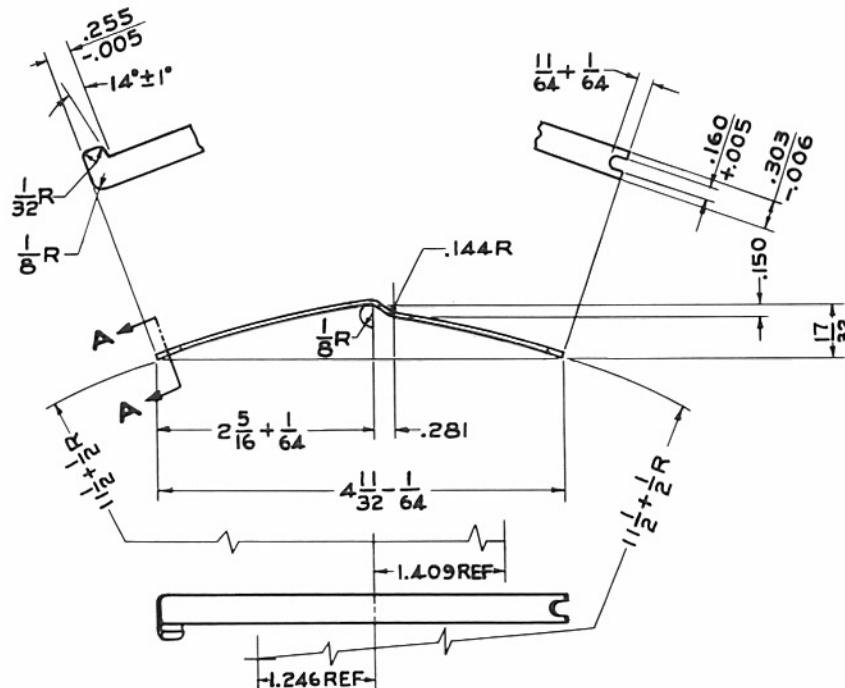
R.I.A. FORGING SHOWN ON DRG A 186415

WAS B17503

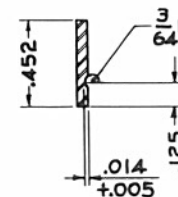
SCALE $\frac{2}{1}$ **B** **6017503**

B6017503

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



DEVELOPED LENGTH = $4\frac{1}{2}$ APPROX



SECTION A-A

SCALE $\frac{2}{1}$

SPRING COVER EXTRACTOR

SPRING STEEL WD1095

NO. 18 (.0478) U.S. GAGE THICK

FINISH $\frac{125}{V}$

6017513

WAS B17513

SCALE $\frac{1}{1}$ B 6017513

PHYSICAL
PROPERTIES

Y. P.	
T. S.	
EL. 2	
RED	
BR.	
ROCK.	A73-76
SCL.	

APRIL 4, 1927.

REVISIONS

15 5-10-48

DRG. PERTAINS TO

C5509177	.30 BMG
	M17A1 (WC)
C5564096	.30 BMG
	M19A4 (FXD)
	M19A4 (FLEX)
	M19A5 (FXD)
	M19A6

INSCRIBE PART NO.
DO NOT

TOLERANCE ON DIMENSIONS
NOT OTHERWISE SPECIFIED
DECIMAL $\pm .005$
FRACTIONAL $\pm \frac{1}{64}$
ANGULAR \pm

DRAWN	TRACED	L.O'S DRAWN
R.W.D.	E.B.	
CHKD	CHKD	CHIEF DRAWER

SUBMITTED:

F.H. Roe

APPROVED BY ORDER OF THE CHIEF
OF ORDNANCE:

Walter Ackerman
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

B6017513

HEAT TREATMENT AND FINAL FINISH

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



DIAMETER OF WIRE _____ .032
TOTAL NUMBER OF COILS _____ 6.
OUTSIDE DIAMETER, FREE _____ .340±.005
MAX. OUTSIDE DIA AT MIN OPERATING HEIGHT _____ .356
FREE LENGTH _____ .78±.03
TYPE OF ENDS _____ AS SHOWN
WOUND _____ R. H.
MEAN ASSEMBLED HEIGHT _____ .4
MIN LOAD AT MEAN ASSEMBLED HEIGHT _____ 3.7LB
MINIMUM OPERATING HEIGHT _____ .238
MIN LOAD AT MIN OPERATING HEIGHT _____ 6.LB±1LB
LB PER INCH OF SPRING DEFLECTION _____ 9.73
SPRING FUNCTIONS IN HOLE _____ .357
SPRING FUNCTIONS OVER ROD _____ .156
CALCULATED MIN SOLID HEIGHT _____ .192

CAUTION: DO NOT COMPRESS SOLID 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 2.5 LB

SPRING, BELT FEED PAWL
SPRING STEEL WIRE WDI085 SPECIAL - CLASS A (6)47224

SCALE $\frac{2}{1}$

WAS B147224

B 614 7224

PHYSICAL
PROPERTIES

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

FEBRUARY 1, 1938

REVISIONS

12	5-10-48		

DRG. PERTAINS TO

C5509177	.30 BMG M17A1 (WC)
C5564096	.30 BMG M19A4 (FXD) M19A4 (FLEX) M19A5 (FXD) M19A6

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

DRAFTSMAN W. L. M.	TRACER M. C.	L'D'G DRAFTSMAN
CHECKER W. L. M.	0.5	CHIEF DRAFTSMAN

SUBMITTED:

A. H. Roe

ORD. DEPT., U. S. A.

APPROVED BY ORDER OF THE CHIEF
OF ORDNANCE:

Walter Anderson

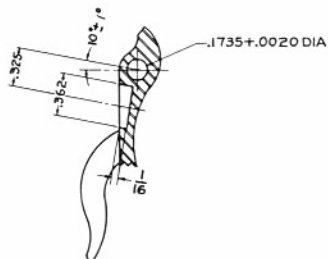
ORD. DEPT., U. S. A.

ORDNANCE DEPT., U. S. A.

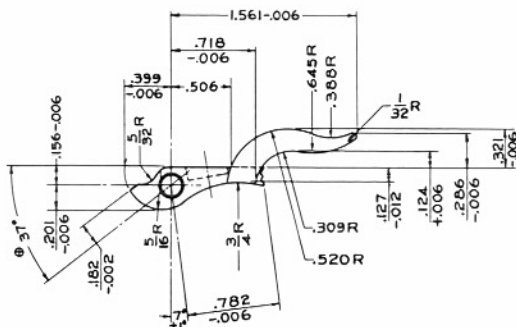
B6147224

HEAT TREATMENT AND FINAL FINISH

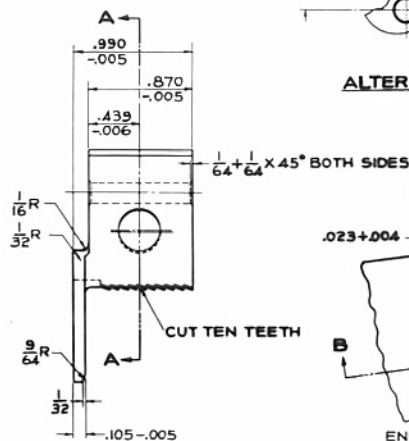
HEAT TREAT
TYPE II FINISH, CLASS B



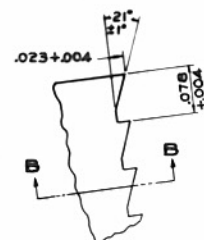
SECTION A-A



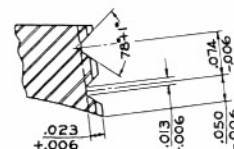
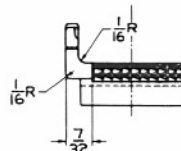
⊕ PERMISSIBLE ANGLE TOLERANCE NOT SPECIFIED, MUST BE WITHIN LIMITS PRESCRIBED BY LOCATING DIMENSIONS.



ALTERNATIVE DESIGN



ENLARGED VIEW OF SERRATIONS
SCALE 10/1



SECTION B-B
SCALE 10/1

PAWL FEED BELT
STEEL F54140
FINISH 125/

5508461

PHYSICAL PROPERTIES		JUNE 1, 1931	
Y. P.	REVISIONS		
T. S.	1B 5-10-48		
EL. 2			
RED			
BR.			
ROCK.	C52-58		
SCL.			

DRG. PERTAINS TO

C5509177	.30 BMG
	M17A1 (WC)
C5564096	.30 BMG
	M19A4 (FDX)
	.30 BMG
	M19A4 (FLEX)
	.30 BMG
	M19A5 (FDX)
	.30 BMG
	M19A8

TOLERANCE ON DIMENSIONS
NOT OTHERWISE SPECIFIED
DECIMAL $\pm .005$
FRACTIONAL $\pm \frac{1}{64}$
ANGULAR $\pm 1^\circ$

DESIGNER	TRACER	CHECKED
P. J. R.	E. B.	

SUBMITTED

A. H. Roe

WAS C8461

DO NOT INSCRIBE PART NO.

APPROVED BY ORDER OF THE CHIEF

OF ORDNANCE:

ORD. DEPT., U. S. A.

NAME AT EACH REVISION

SCALE 2/1 C 5508461

C5508461

HEAT TREATMENT AND FINAL FINISH

PHYSICAL PROPERTIES		SEPTEMBER 30, 1936	
Y. P.		12	5-10-48
T. S.		13	6-21-49
EL. 2			
RED			
BR.			
ROCK.			
SCL.			

DRG. PERTAINS TO

51-83-1	30 B MG
51-84-1	M 19 A 4 (FXD)
51-114-1	M 19 A 4 (FLEX)
51-114-1	30 B MG
51-125-1	M 19 A 5 (FXD)
	30 B MG
	M 19 A 6

★PIVOT, ASSEMBLY-BG110529

LEVER-BG017503

SPRING-BG017513

★ COVER, ASSEMBLY-C 5509801

SPRING-BG147224

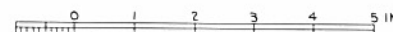
★SLIDE, ASSEMBLY-BG131262

★PIN, ASSEMBLY-BG131255

PAWL-C5508461

COVER, BELT FEED, ASSEMBLY

5564096



WAS C64096

C5564096

★ FINDING DIAGRAM

INSCRIBE PART NO.
DO NOT

TOLERANCE ON DIMENSIONS
NOT OTHERWISE SPECIFIED

DECIMAL : —
FRACTIONAL : —
ANGULAR : —

DESIGNED BY C.F.D. CHECKED BY J.H.R. D.D. DRAFTSMAN

SUBMITTED: J.H.R.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: J.H.R.

ORDNANCE DEPT., U. S. A.

MADE AT ROCK ISLAND ARSENAL

C5564096