ORDNANCE FIELD SERVICE

BASE SHOP DATA

Rifle, Auto., Cal. .30, Browning M1918A2

PREPARED UNDER THE DIRECTION OF THE CHIEF OF ORDNANCE

ROCK ISLAND ARSENAL, FEB. 1943
Ordnance Field Service Base Shop Data

Rifle, Auto., Cal. .30, Browning M1918A2

LIST OF CONTENTS

List Of References
General Information
Conversion List Of Tool Drawings

<table>
<thead>
<tr>
<th>Item</th>
<th>B.S.D. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly</td>
<td>2</td>
</tr>
<tr>
<td>Dismantling</td>
<td>1</td>
</tr>
<tr>
<td>Tool Drawings</td>
<td>3</td>
</tr>
</tbody>
</table>

* Replaces List of Contents, Issue of February 1943
**STANDARD NOMENCLATURE LISTS**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Drawings</td>
<td>51-90</td>
</tr>
<tr>
<td>Major Items of Group A</td>
<td>SNL A-1</td>
</tr>
<tr>
<td>Rifle, Automatic, Cal. .30, Browning, M1918, M1918A1, and M1918A2.</td>
<td>SNL A-4</td>
</tr>
<tr>
<td>Tools, Maintenance, for repair of Automatic guns, automatic gun Antiaircraft material, Automatic and Semiautomatic cannon, and Mortars - individual items and parts</td>
<td>SNL A-35</td>
</tr>
<tr>
<td>Small arms, automatic gun, trench Mortar and field artillery sighting equipment and fire control instruments, Major Items</td>
<td>SNL F-1</td>
</tr>
<tr>
<td>Sights, Bore (Small Arms &amp; Field Artillery-Parts)</td>
<td>SNL F-10</td>
</tr>
<tr>
<td>Targets, testing (Small Arms &amp; Field Artillery)</td>
<td>SNL F-12</td>
</tr>
<tr>
<td>Glass, Field, Type EE, 6 power parts &amp; equip.</td>
<td>SNL F-34</td>
</tr>
<tr>
<td>Firing tables and trajectory charts</td>
<td>SNL F-69</td>
</tr>
<tr>
<td>Trucks, Small Arms, repair, M1.</td>
<td>SNL G-72</td>
</tr>
<tr>
<td>Cleaning, preserving and lubricating Materials, special oils, and similar items of issue</td>
<td>SNL K-1</td>
</tr>
<tr>
<td>Soldering, brazing and welding material, gases and related items</td>
<td>SNL K-2</td>
</tr>
<tr>
<td>Targets and target equipment, small arms</td>
<td>SNL L-1</td>
</tr>
<tr>
<td>Measuring, impression, testing and reconditioning outfits</td>
<td>SNL N-9</td>
</tr>
<tr>
<td>Ammunition, rifle and automatic gun</td>
<td>SNL T-1</td>
</tr>
<tr>
<td>Miscellaneous service components of Small Arms ammunition and instruction material for Field Service Account</td>
<td>SNL T-4</td>
</tr>
<tr>
<td>Index to Current SNL</td>
<td>OPSI</td>
</tr>
</tbody>
</table>

**FIELD MANUALS**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinance Field Manual</td>
<td>FM 9-5</td>
</tr>
<tr>
<td>Ordinance Field Maintenance</td>
<td>FM 9-10</td>
</tr>
<tr>
<td>List of Publications for Training</td>
<td>FM 21-6</td>
</tr>
<tr>
<td>Defense Against Chemical Attack</td>
<td>FM 21-40</td>
</tr>
<tr>
<td>Browning Automatic Rifle, Cal..30, M1918A2 with Bipod</td>
<td>FM 23-15</td>
</tr>
<tr>
<td>Browning Automatic Rifle, Cal..30, M1918A2 without Bipod</td>
<td>FM 23-20</td>
</tr>
</tbody>
</table>

**TECHNICAL MANUALS**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaning, Preserving, Lubricating &amp; Welding Materials and Similar Items (Now published as TR1395-A)</td>
<td>TM 9-850</td>
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<td>Browning Automatic Rifle, Cal..30, All types</td>
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<td>Field Glass, Type EE</td>
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</tbody>
</table>

**ORDNANCE FIELD SERVICE BULLETINS**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance of matériel in hands of troops</td>
<td>OFSB 4-1</td>
</tr>
<tr>
<td>Electric &amp; Oxyacetylene Welding</td>
<td>OFSB 5-2</td>
</tr>
</tbody>
</table>
**Ordnance Field Service Base Shop Data**

**Rifle, Auto., Cal. .30, Browning M1918A2**

**CONVERSION LIST OF TOOL DRAWINGS**

<table>
<thead>
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ORDNANCE FIELD SERVICE

BASE SHOP DATA

Rifle, Auto., Cal. .30, Browning M1918A2

PREPARED UNDER THE DIRECTION OF THE CHIEF OF ORDNANCE

ROCK ISLAND ARSENAL, FEB., 1943

B.S.D.-AR.-1

Dismantling 1
REMOVAL OF STOCK REST AND MAGAZINE

1. Pull the Stock Rest (A) From the Bushing in Stock (B), Fig. 1. Press Magazine Release (C) and Remove Magazine (D).

2. Slide Out Base (E), Keeping Thumb Over Bottom of Magazine (D) to Prevent Spring (F) From Flying Out, Fig. 2. Remove Spring (F) and Follower (H).
DISMANTLING OF STOCK REST

3. Loosen lock A and unscrew leg B. Screw lock A off leg B. Drive out pin C and remove stem D.
REMOVAL OF BIPOD

4. Unscrew Flash Hider A, Fig. 1. Remove the Bipod B from the Flash Hider A and the friction washer C from Barrel D.

Dismantling of Bipod

5. Remove Screw F. Slide out Leg E and remove Key G, Fig. 2. Remove Screw H and pull Tube J from Body K.
REMOVAL AND DISMANTLING OF REAR SIGHT

6. Extract screw A and drive rear sight B out of receiver C with a brass bar, Fig. 1.

7. Drive out pin D, Fig. 2. Remove knob F. Unscrew windage screw F. Remove sight leaf G. Pull spring and plunger H from knob F.

8. Extract two screws I and remove windage scale K. Pull out spring L.

9. Tap out pin M, Fig. 3. Remove elevating screw N. Drive out pin O and remove knob Q. Remove spring and plunger R. Lift slide S to top of sight leaf and remove.
Dismantling

Removal of Cylinder Tube and Forearm

10. Cock the gun by retracting operating handle A and returning to forward position. Turn gas cylinder tube retaining pin spring B 180° in clockwise direction. Pull out retaining pin spring B. Slide cylinder tube and forearm C forward and lift up.

11. Remove screw D and screw E. Lift forearm F from gas cylinder tube G. Remove screw H and sling swivel J. Pry open bracket K and remove from tube. Drive out gas cylinder lock L. Unscrew gas cylinder M.
12. **Pull the Trigger, Holding the Piston Rod A to Prevent Piston B from Striking Bracket C. Turn Trigger Guard Retaining Pin Spring D 90° In a Clockwise Direction and Pull Out. Lift Out Trigger Guard Group E. Turn Recoil Spring Guide F 90° to Right or Left and Remove Guide F and Spring G.**
Dismantling of Trigger Guard Group

13. Remove two screws A and left plate B. Remove two screws C and right plate D.


15. Place Screwdriver under Sear spring M and pull upward and to the rear of Trigger Guard. Push out trigger pin N. Remove trigger P and connector Q through top of trigger guard. Push out Sear Pin R. Lift out Sear S and Sear Lever T. Pry up on Sear Carrier U and lift out. Remove C'Recoil Spring V. Pry change lever spring W out of seat and remove from rear of Guard. Pull out Change Lever X.
REMOVAL OF HAMMER, OPERATING HANDLE AND SLIDE

16. Align Hammer Pin A with hole B in Operating Handle and hole in opposite side of receiver. Push out Hammer Pin A. Slide Operating Handle C to rear and out.

17. Slide Hammer D forward and lift out of receiver.

18. Press down on bolt link E allowing slide F to be pulled forward and out.

Dismantling of Operating Handle and Slide

19. Press operating handle plunger G into operating handle H as far as possible. Push out operating handle plunger pin J. Remove plunger G and spring K.

20. Punch out pin L. Unscrew gas piston M from slide N.

FIG. 1

FIG. 2

FIG. 3
REMOVAL OF BOLT GROUP, BOLT GUIDE AND CHANGE LEVER STOP

21) Slide Bolt Group A to rear and lift out. With a screwdriver remove spring B from seat in bolt guide C. Lift spring B from receiver. Bolt guide C can be pulled from outside of receiver.

22) Pry out change lever stop spring retaining pin D and remove change lever stop and spring E.

Dismantling of Bolt Group

23) To dismantle bolt and bolt lock group F, first remove firing pin G. Punch out pin H and remove bolt link J. Place a screwdriver under lip of extractor K and pry outward and to the rear. Remove extractor spring L.
REMOVAL OF BUTT PLATE

24. Extract Screws A and B, Fig. 1, and Remove Butt Plate C from Stock D.

DISMANTLING OF BUTT PLATE

25. Remove Screw E, Fig. 2, Through Hole F. Turn Over Body G and Allow Spring H and Ball I to Fall Into The Hand.

26. Drive Out Pin K. And Separate Body G and Plate L. Remove Screw M and Spring N. Drive Out Pin P And Remove Trap Q.
**DISMANTLING OF BUFFER ASSEMBLY**

27. Unscrew retaining sleeve A, Fig. 1. Remove washer B and draw out spring C. Pull off stock D.

28. Unscrew actuator tube E with tool F, Fig. 2. Slide actuator G out of tube E. Extract spring H, four cones I and four cups K and head assembly L.

29. If it is necessary to remove buffer tube M, unscrew it with a wrench N.
**Dismantling of Swivel**

30. Extract screw A and remove the sling swivel B. Take out the two screws C. Lift the bushing D, out of the stock E.
Dismantling of Barrel

Drive out pin A, using pin punch. Tap front sight bracket B from barrel C. Tap sight D out of bracket E. Remove key F from barrel. Drive out pin G, using a pin punch. Tap bracket H from barrel.

Insert tool H into barrel from receiver end and inspect barrel C for straightness. Check barrel for rust, pits and burrs. If it is necessary to replace the barrel, place barrel C in fixture J. Clamp fixture J in a vise shown by dotted lines. Unscrew receiver K from barrel using wrench L.
ORDNANCE FIELD SERVICE

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Rifle, Auto., Cal. .30, Browning M1918A2

PREPARED UNDER THE DIRECTION OF THE CHIEF OF ORDNANCE

ROCK ISLAND ARSENAL; FEB. 1943
**NOTE:** Clean all parts in solvent solution and dry. Examine each part thoroughly. Replace any part excessively worn or broken. Black-penetrated all metal parts except the bolt and bolt link, the slide and piston rod and pin, the connector sight leaf, tool Dwg. No. hammer and pin, spring and guide, sear pin and carrier, and buffer assembly. Lubricate thoroughly during assembly.

**ASSEMBLY OF RECEIVER TO BARREL**

1. Place barrel (A) in fixture (B), clamp fixture (B) in a vise. Screw receiver (C) on barrel (A) with wrench (D), align location lines at E.

2. Slide bracket (F) in barrel (G) until gas hole (H) is aligned with gas hole in bottom of bracket (F). Tap in pin (J).

3. Insert key (K) in barrel (G). Tap sight (I) in sight base (M). Tap sight base (M) on barrel (G) until pin (N) can be driven through bracket (M) and key (K).
BOLT ASSEMBLY

4. BOLT (D) IS UNSERVICEABLE IF FACE AT (E) IS SET BACK, THAT IS, SHOWS RECESSIVE WEAR, OR IF GAGE 41-G-254-295 ENTERS FIRING PIN HOLE (F). CHECK BOLT FOR EXCESSIVE SIDE PLAY AND LOoseness WITH BOLT LOCK. CHECK THE BOLT LOCK (G) FOR EXCESSIVE LOoseness ON PIN (H) OR RECESSIVE WEAR AT (A).

5. CHECK THE BOLT ASSEMBLY (BOLT AND BOLT LOCK) INSIDE THE TOOL 41-T-3369-40. HOLD BOLT ASSEMBLY FORWARD AGAINST PADDLE (J). SPACE AT (I) SHOULD BE BETWEEN .010" AND .012". SPACE AT (K) SHOULD BE BETWEEN .010" AND .014". NEW OR SERVICEABLE BOLT (D) MAY OFTEN BE FITTED TO OLD BOLT LOCK (F), OR VICE VERSA, TO FORM A SERVICEABLE BOLT ASSEMBLY. BOLT ASSEMBLY IS HELD TOGETHER BY PIN (H) WHICH IS SLIGHTLY PEENED AT BOTH ENDS. ASSEMBLE THE BOLT AND BOLT LOCK SELECTIVELY UNTIL SERVICEABLE COMBINATION IS OBTAINED.

NOTE: IF THE BOLT AND BOLT LOCK COMBINATION IS TOO LONG, GRIND THE OVER-ALL LENGTH AS INSTRUCTED ON NEXT SHEET, IF THE EQUIPMENT IS AVAILABLE.
6. Place pin A in the bolt and bolt lock assembly B as indicated. Insert the assembly B in fixture C.

7. It is important to secure the assembly B, Fig. 2, with the screw D first. Then place plate E on pin A as shown and secure with thumb screw F. Grind off only enough for bolt assembly B to be correct, according to Operation 5.
PLACE BOLT LINK A ON BOLT LOCK B AND INSERT PIN C.

INSERT BOLT D INTO RECEIVER F TOWARD REAR AND SLIDE IT FORWARD, Fig. 1.

PRESS DOWN BOLT LINK F, Fig. 2, AND INSERT OPERATING SLIDE G. SLIDE HAMMER H INTO UNDER SIDE OF OPERATING SLIDE G. PULL SLIDE G FORWARD AND LIFT UP LINK F UNTIL PIN J CAN BE INSERTED THROUGH SLIDE G, HAMMER H AND LINK A.
ASSEMBLING

FIG. 1
Move Operating Slide A to rear to retract bolt. Insert a 1940 gauge (B) in barrel and pull operating slide A forward. The bolt lock (C) will go into position, Fig. 2. Hammer pin (D) should stand at locked position X, Fig. 1. Move slide A to rear to retract bolt (F). Parts should slide easily. Remove gauge (B).

FIG. 2
Insert a 1946 gauge (C) and pull slide forward. Bolt lock (C) should not drop in recess of receiver (H), Fig. 3. Hammer pin (D) should now stand a distance Y (approx. 3/8 inch) rearward of its locked position X, Fig. 1. When the head space is excessive due to worn bolt, bolt lock, or worn recess in receiver, selective fits of any of these parts may be tried in an effort to combine a unit having satisfactory head space. Modified bolt locks which take an adjusting plate may be used—see Fig. 4. They are ground to suit in jig (J), Sheet 3.
1. Insert bushing A into pocket in stock B as indicated. Install screws C. Attach swivel D between lugs with screw E.
14. Place Safety Fixture A in Position in Receiver B as indicated. This will prevent squeezing Receiver B when clamped in vise C.

15. Clamp Receiver in vise as illustrated, and place Gage D in Receiver B.

16. Start Buffer Tube E into Receiver B. Insert Gage F into Buffer Tube E. Tighten Buffer Tube with wrench G until Gage D engages into Gage F as illustrated in Inset H. Tighten Buffer Tube to the tightest possible position at which these gages will align.
**BASE SHOP DATA ISSUE OF 3-5-43**

**ASSEMBLING**

**BUFFER TUBE ASSEMBLY INCLUDING STOCK**

17. Place head assembly A in position so release B is in a vertical position.

18. Insert four cups C, four cones D into buffer tube E as illustrated in Fig. 1. Place spring F into buffer tube E.


20. Place stock K in position. Insert actuator spring L into actuator tube G. Place lock washer M in stock K and secure stock K in position with retaining sleeve N.

*BAR 30 M1932 ASSEMBLY*
ASSEMBLING

ASSEMBLY OF BUTT PLATE

21. INSTALL TRAP A IN PLATE B WITH PIN C. SECURE TRAP SPRING D IN POSITION WITH SCREW E.

22. PLACE BODY F ON PLATE B AND HINGE WITH PIN C. INSERT BALL H AND SPRING J. INSTALL SCREW K, SCREWING IT DOWN UNTIL BODY F PASSES OVER IT FREELY.

23. ATTACH ASSEMBLED PLATE B TO BUTT STOCK L WITH TWO SCREWS M AND N.

Fig. 1

Fig. 2
ASSEMBLING

ASSEMBLY OF BOLT GROUP

24. Place spring A in its seat in extractor B as shown. Insert extractor into bolt C. Lift out so lug on extractor can seat in bolt. Place link D in position and push pin E. Insert firing pin F.

INSTALLATION OF BOLT GROUP, BOLT GUIDE AND CHANGE LEVER STOP

25. Insert bolt guide G in housing. Slide long end of spring H in hole for same, inside of receiver. Pressing against outside of bolt guide G and using screwdriver on spring H, force the small end of spring H in its seat in bolt guide G.

26. Insert change lever stop J as shown. With a sharp instrument, press spring K against wall of receiver until retaining pin L, when inserted, will hold spring in position.

27. Place bolt group M into receiver at the rear. Press out on bolt guide G, allowing bolt group M to drop into bottom of receiver. Slide bolt group M forward.
ASSEMBLY OF SLIDE AND OPERATING HANDLE

28. Try Piston A, Fig. 1, in the Ring Gage B. Open end of gage has 0.494" inch diameter. If Piston enters gage, it is not serviceable. Replace with new Piston.

Screw Piston Rod C into Slide D as far as possible by hand. Unscrew Rod C two complete revolutions and tap in Pin E.

29. Insert Spring F in Operating Handle G, Fig. 2. With countersunk side of hole upward, insert Plunger H, depressing Spring F until Pin J can be inserted.

INSTALLATION OF OPERATING HANDLE, SLIDE AND HAMMER

30. Slide Operating Handle G, Fig. 3, into Receiver to forward position. Insert Slide K from front of receiver, sliding it to rear. Slide Hammer L into Slide K. Pull Slide K forward and align holes M in bolt link with holes in hammer L and hole in receiver. Insert Pin N and push it in until it clears the wall of receiver.
**ASSEMBLING**

**ASSEMBLY OF TRIGGER GUARD GROUP**

31. **INSERT CHANGE LEVER A, PLACE CHANGE LEVER SPRING B IN SLOTS IN GUARD C AND PUSH SPRING FORWARD. PLACE SPRING D ON SEAR CARRIER E AND PLACE IN GUARD C UNTIL HELD BY SPRING B. INSERT LEVER F INTO SEAR G AS INDICATED AND PLACE SEAR G ON CARRIER E.**

32. **PRESS CARRIER FORWARD AND INSTALL PIN H. INSTALL TRIGGER (J) WITH PIN K. SET CONNECTOR L ON TRIGGER AS INDICATED, ENGAGE SIDES OF SEAR SPRING M INTO SLOTS IN GUARD AND PRESS FORWARD AND DOWN.**

33. **SLIDE MAGAZINE RELEASE N IN GUARD C. INSTALL CATCH P WITH PIN Q. INSERT SPRING R AND LOCK S. HOLD SPRING T ON CATCH P AND SLIDE EJECTOR U INTO GUARD OVER SPRING T. DEPRESS LOCK S AND SLIDE EJECTOR U DOWN UNTIL LOCKED.**

34. **INSTALL LEFT PLATE V WITH TWO SCREWS W. INSTALL RIGHT PLATE IN SAME MANNER.**
INSTALLATION OF SPRING, GUIDE AND TRIGGER GUARD GROUP

34 Measure spring T. It should be 15 inches long, free height. Replace if necessary.

35 Insert the spring and guide U through the receiver into the piston rod V. Compress spring T by pushing in guide U until guide can be turned 90° and properly seated.

36 Place trigger guard W into receiver and insert pin X at Y. Turn pin X 90° in a counter-clockwise direction until properly seated.
ASSEMBLING

ASSEMBLY OF FOREARM AND TUBE

37. Place forearm (A) on tube (B) and hold with two screws (C) and (D). Place bracket (E) on tube (B) next to forearm (A). Attach swivel (F) with screw (G). Tool Dwg. No. A77204.

38. Insert plug gage (H) into cylinder (I). If plug enters cylinder, the cylinder is oversize and should be replaced. Screw cylinder (I) into tube (B) with combination tool (K) until shoulder of gas cylinder is about one turn from corresponding shoulder of the gas cylinder tube. Lock cylinder (I) in position with lock (L).

Fig. 1

39. Installation of gas cylinder assembly:

Cock the gun by retracting operating handle (M) and returning it to forward position. Slide gas cylinder assembly (W) over piston rod (P). Being sure male bracket (Q) engages female bracket (R), insert pin (S) and turn spring (T) 180° counter-clockwise until it is seated in receiver.

Fig. 2
ASSEMBLING

ASSEMBLY OF REAR SIGHT

Place slide A, Fig. 1, in position in leaf B and screw elevating screw C into leaf B. Secure elevating screw C with pin D. Drop spring and plunger E into hole F and place knob G on elevating screw C. Align the two holes and tap pin H into position.

41 If a new elevating screw C is used, it will be necessary to place assembled leaf J, Fig. 2, in fixture K and drill a hole in elevating screw C to accommodate pin H.

42 Secure windage scale L, Fig. 3, to base M with two screws N.

Engage spring I in the slot in base M and tap into position with a drift and a hammer.

Fig. 2

Fig. 3
43. Assembly of Rear Sight (cont’d)

Place Leaf Assembly A on Base B, Fig 1. Hold the Leaf A in correct alignment with Base B and screw in Windage Screw C.

44. Place Spring and Plunger D in position in hole E of Knob F. Place Knob F on Windage Screw C. Align the holes in Knob F and Windage Screw C so pin G can be tapped into place.

45. If a new Windage Screw C is used, a hole must be drilled in the Windage Screw to accommodate the Pin G.

46. Place Rear Sight H, Fig. 2, in position in fixture I as illustrated. Pull Lever K around to the right to secure.

ASSEMBLY OF REAR SIGHT TO GUN

47. Engage Rear Sight H, Fig. 3, into keyway I on Receiver M. Tap Rear Sight with a hammer and a brass flatted until correct alignment is acquired. Permitting screw N to be screwed through Sight H into Receiver M.
ASSEMBLING

ASSEMBLY OF BIPOD

48. Slide Leg (A) into Tube (B). Align the keyways in Leg (A) and Tube (B). Insert key (C) into the keyway and apply screw (D), securing Leg (A) in place.

49. Place Tube (B) in position in Body (E) and secure with screw (F).

ASSEMBLY OF BIPOD TO RIFLE

50. Slide friction washer (G) onto barrel (H). Insert flash hider (I) through Bipod (K). Screw flash hider (I) onto barrel (H), securing Bipod (K) in position.
51 Align hole A in stem B and hole C in nut D and tap pin E into place. Screw lock F onto leg G, and screw nut H onto leg G.
ASSEMBLING

ASSEMBLY OF MAGAZINE

52) Insert the follower (A) into tube (B). Compress spring (C) against follower and slide base (D) into bottom of tube (B).

INSTALLATION OF STOCK REST AND MAGAZINE

53) Insert stock rest (E) into bushing in stock (F).

54) Slide magazine (G) into bottom of receiver, as shown.
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Replaces Sheet 20, BSD Unit No.2, Issue of 3-5-43
ORDNANCE FIELD SERVICE

BASE SHOP DATA

Rifle, Automatic, Cal. .30
Browning, M1918A2

PREPARED UNDER THE DIRECTION OF THE CHIEF OF ORDNANCE

ROCK ISLAND ARSENAL - NOV., 1943

Tool Drawings 3
MARKING:
.30 BAR M18, MIBA2 & .30 BM.RM.22
C-9073 GAS PISTON REJECTION RING FOR GAS PISTON (FIELD SERVICE)
A77201 ORD. DEPT. U.S.A.

REVISIONS MARKING:
M-18A2 & .30 A.M. R.R.
C-9073

ORG. NO.

DATE

R.

G.

PISTON COMPONENT

I

PISTON FIELD SERVICE

A7201 ORG.

DEPT. U.S.

A.

SUPERSEDES OLD TRACING 5A-5800 UNDER REVISION DATE OF SEPT. 14, 1938.

PLAIN RING GAGE
AMERICAN GAGE DESIGN STANDARD

HARDEN TO ROCKWELL SCALE C 63 MIN

LAP f9 SURFACES
REMOVE ALL SHARP EDGES .25 A

4.94 - 0.0002

STAMP MARKING

STAMP MARKING

4.94

HARDEN TO ROCKWELL SCALE C 63 MIN

LAP f9 SURFACES
REMOVE ALL SHARP EDGES .25 A

SUPERSEDES OLD TRACING 5A-5800 UNDER REVISION DATE OF SEPT. 14, 1938.
S.E. PLAIN PLUG GAGE
AMERICAN GAGE DESIGN STANDARD
USE GO STD. BLANK

ROCKWELL HARDNESS C63 TO 66

NOT TO SCALE
LAP $f$ SURFACES
REMOVE ALL SHARP EDGES

MARKING:
BRG. AUTO. RIFLE CAL. 30 M1918A2
C-64296 GAS CYLINDER REJECTION PLUG
FOR DIA. OF PISTON HOLE (FIELD SERVICE)
A77204 ORD. DEPT. U.S.A. INS.

REVISIONS

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DRG. PERTAINS TO
B113062-1 GAGE LISTS

S.P. PLAIN PLUG GAGE
AMERICAN GAGE DESIGN STANDARD
USE GO STD. BLANK

ROCKWELL HARDNESS C63 TO 66

NOT TO SCALE
LAP $f$ SURFACES
REMOVE ALL SHARP EDGES

A77204
### LIST OF DRAWINGS

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<td>GAGE, HEADSPACE, CAL. 30</td>
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<tr>
<td>CTI/3B</td>
<td>TOLERANCE DIMENSION PIECEMARK &amp; REVISION SYMBOL TO BE STAMPED HERE.</td>
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<td>CTI/3C</td>
<td>HEADSPACE GAGE CAL. 30</td>
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<tr>
<td>CTI/3D</td>
<td>HEADSPACE LIMIT FOR PRODUCING &quot;L&quot;</td>
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### LIST OF SPECIFICATIONS

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**NOTE:**

- GAGE 1/9A IS FOR USE AS MAX. GAGE IN FINAL INSPECTION OF OVERHAUL RIFLES.
- GAGE 1/9B IS FOR INSPECTION IN THE FIELD AS A HEADSPACE LIMIT FOR SERVICEABLE RIFLES.
- THE FULL SET OF GAGES TO BE USED IN AMMUNITION RIFLE TESTING WHEN HEADSPACING BETWEEN THE PRESCRIBED LIMITS IS DESIRABLE.

**SUPERSEDES OLD TRACING CTI/9 UNDER REVISION DATE OF MAY 8, 1936**
NOTE: DESIGN FROM SPRINGFIELD ARMY DRG 42401

FIXTURE, GRINDING, BOLT BLOCK ASSEMBLY

NOTE: DRAWN FROM SPRINGFIELD ARMY DRG 42401

ABSTRACT INFO DRAWING NO. 5252

ACCESSION NO. 13U-A, ARM. NEW 3087K

ACCESSION NO. 13U-A, ARM. NEW 3087K