

APPENDIX

MATERIAL AND HEAT TREATMENT INFORMATION

Parts of the mechanism tested were made of materials and given the heat treatment as shown below:

<u>Name</u>	<u>Drawg. No.</u>	<u>Treatment</u>
Barrel	D-101-Y	Steel - AISI - 4135 Quench from 1600° into oil Draw - 1100° - 1170°F - 2 hours
Barrel Bracket	A-571-X	AISI C-1118 - no heat treatment
Bolt Body	B-250-X	Steel - BE-5620 - Normalized & annealed Quench from 1550 in oil from cyanide, 30 min. Draw 325°F - 1.5 hours
Bolt Head	B-325-X	Steel - BE-5620 Quench from 1550 in oil from cyanide, 30 min. Draw 325°F - 1.5 hours
Bolt Handle	C-125-X	AISI C-1118 - no heat treatment
Bolt Handle Ball	C-751-X	AISI C-1118 - no heat treatment
Bolt Plug	C-121-X	AISI C-1118 - Nitro Blank
Bolt Stop	B-321-X	BE-5620 Quench in oil from cyanide at 1550°F Draw 300° for 1 hour
Bolt Stop Finger	AF-B-6	X-1112 C.D. - no heat treatment
Bolt Stop Pin	A-738-X	#3 Pin Wire Quench in oil from 1450°F (Neutral Salt) Draw 900°F nitro for color & water seal
Ejector	A-27017	#3 Pin Wire Quench in oil from 1450°F (Neutral Salt) Draw 900°F in nitro, air cool
Ejector Pin	A-103-X	#3 Pin Wire Quench in oil from 1450° (Neutral Salt) Draw 300 - 350 for 20 min, water cool
Ejector Washer	A-745-X	BE-5620 - Steel Quench from 1550° in oil. No draw.

Induction brace Bolt Body to Bolt Head and Bolt Handle to Bolt Body and Bolt Handle to Bolt Handle Ball with "FAST FLOW", keeping Bolt Head lugs and cocking cam cool.

APPENDIX

<u>Name</u>	<u>Draw. No.</u>	<u>Treatment</u>
Extractor	B-323-X	AISI C-1095 Steel Strip
A. Original treatment - Quench in oil from 1425/1450 (neutral salt). Draw 600° in Nitro for 20 min. (water cool). This treatment found unsatisfactory. Therefore, the following treatment was subsequently used. B. Quench in nitrate-nitrite salt at 600°F from 1450°F. Hold in salt for 30 minutes. Ra hardness 71-74. (R-30N Scale should be used).		
Firing Pin	B-311-X	Steel AISI C-1137 Quench from 1525 into oil Draw 600°F for 30 min.
Firing Pin Head	B-322-X	AISI C-2116 Quench in oil from 1600°F (Cyanide for 15 min.) Draw 350°F for 1 hour in muffle furnace
Front Sight	177	AISI C-1113 - Nitro Black
Front Sight Ramp	A-245-X	AISI C-1113 - no heat treatment
Follower	C-150-X	AISI C-1020 - no heat treatment
Guard Screw, Rear	A-748-X	AISI C-1118) Quench in water from
Guard Screw, Front	A-749-X	AISI C-1118) cyanide at 1600 - 15 min Draw 900 to Nitro Black
Housing	C-144-X	AISI C-1118 C.R. Strip annealed Quench in oil from 1600°F (cyanide for 15 min.) No draw.
Magazine	C-145-X	AISI C-1020 - no heat treatment
Open Sight Base	A-227-X	AISI C-1118 - Brazed on sight leaf with brass
Plug Screw		AISI C-1113 - Nitro Black
Receiver	D-97-X	SAE 5620 - Steel C.R. Portrate for color Quench from 1550 in oil from cyanide - 15 min. Transfered only 2" of front end in salt
Safety	C-136-X	AISI C-1020 C.R. Quench in oil from 1550 cyanide 10 min. Portrate for color

APPENDIX

<u>Name</u>	<u>Drawg. No.</u>	<u>Treatment</u>
Safety Pin Pivot	A-737-X	AISI C-1113 - no heat treatment
Safety Snap Washer	A-736-X	AISI A-1350 Quench in oil for 1500°F (Cyanide for 10 min.) Draw 800°F for 30 min. in nitre
Sear	C-119-X	AISI C-1118 Quench in oil from 1600°F (Cyanide for 15 min.) No draw
Sear Pin	A-728-X	#3 Pin Wire Quench in oil from 1450 (Neutral Salt) Draw 900°F in nitre 10 min., water cool
Sight Leaf (Open)		AISI A-1350 Quench in oil from 1500°F (Neutral Salt) Draw 800°F for 30 min.
Trigger	C-120-X	AISI C-1118 C.R. Strip Annealed Quench in oil from 1600°F (Cyanide for 15 min.) Pentrate for color
Trigger Guide Plate	B-318-X	Nitre Black - AISI C-1020
Trigger Adjust. Screw	A-743-X	AISI C-1113 - no heat treatment
Trigger Spring Screw	A-735-X	AISI C-1113 - no heat treatment
Trigger Stop Screw	A-742-X	AISI C-1113 - no heat treatment
Trigger Guard	C-147-X	AISI C-1020 - 1/4 hard strip - pentrat for color
Trigger Pin	A-729-X	#3 Pin Wire Quench in oil - 1450°F (Neutral Salt) No draw

The above heat treatment is performed after base has been brazed on. Base is brazed on with high melting brass (1700-1750°).