

Process Header

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Document ID: Forward Rec Scr XP100	Remington Arms Company
Part Name: Forward Receiver Screw XP100	
Product Line: C/F Rifle	Effective Date: 04-Nov-1992-09:00:00
Engineering Group: Rifle	Origination Date: 24-Oct-1992

Process History

Status	Date/Time	Status Set	Responsible User
Submitted	2-NOV-1992	09:21:05.79	G.L.Cioch
Comment:			
Recalled	2-NOV-1992	10:48:33.47	G.L.Cioch
Comment:			

Process Revision Reasons

Date:	Reason For Revision:	Eng Log #:
24-Oct-1992	Retype Entire Process from 283475 - Replaces Old Paper Process - Add Part #97758 - Chg. Description Op.#'s 4, 8, & 12 - Add Op.#16	GLC 293202

Process Approval List

Approved By:	Badge #:	Date:	Designation:
JACKSORA			

Process General Notes

Notes:

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Process Material

Part Number	Qty	Description
97758	1	Forward Receiver Screw - XP100
97765	1	Blank
15447	1	Forward Receiver Screw - XP100
16502	1	Blank

Process Routing

Dept	Oper	Operation Description	Part Numbers
8551	4	Degrease, Carbo-Nitride (Shaker), Oil Quench, Degrease	15447, 97758
8551	8	Lindberg Draw	15447, 97758
9257	12	Inspect for Rockwell Hardness	15447, 97758
8551	16	Black Oxide Color	15447, 97758
		To MRP Crib #29	15447, 97758

Operation Step Detail

Operation: 4

Step

Operation / Step Description

Degrease, Carbo-Nitride (Shaker), Oil Quench, Degrease

Operation Tool Detail

Operation: 4

Tool Number

Tooling Description

Std Carbo-Nitride (Shaker)

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Operation Procedure Notes

Operation: 4

Description

PROCESS RECORD - HEAT TREAT SPECIFICATION

MATERIAL & SPECIFICATION: 4137 or 4037 Alloy Wire

TEMPERATURE: 1625 Degrees F - Front, Center, & Rear Zones

MAXIMUM LOAD: Continuous Load

TIME: Approx. - 40 Min. @ Temp.

QUENCH: Oil

REMARKS: Degrease

INSPECT FOR: File Hard to Insure Proper Quench

HEAT TREAT INSPECTION:

STANDARD PRACTICE NO:

HARDNESS LIMITS:

APPEARANCE OF PARTS: Clean & Free of Oil

Operation Step Detail

Operation: 8

Step

Operation / Step Description

Lindberg Draw

Operation Tool Detail

Operation: 8

Tool Number

Tooling Description

Std

Lindberg Furnace

Std

Basket - 15"x15"x15"Deep with Handle

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Operation Procedure Notes

Operation: 8

Description

PROCESS RECORD - HEAT TREAT SPECIFICATION

MATERIAL & SPECIFICATION: 4137 or 4037 Alloy Wire

TEMPERATURE: 650 - 750 Degrees F

MAXIMUM LOAD: 2000 - Pcs. per Basket

TIME: 1 Hr. @ Temp.

QUENCH: Air Cool

REMARKS:

INSPECT FOR:

HEAT TREAT INSPECTION:

STANDARD PRACTICE NO:

HARDNESS LIMITS:

APPEARANCE OF PARTS: Clean & Free of Oil

Operation Step Detail

Operation: 12

Step

Operation / Step Description

Inspect for Rockwell Hardness

Operation Tool Detail

Operation: 12

Tool Number

Tooling Description

Std

Rockwell Hardness Tester

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Operation Procedure Notes

Operation: 12

Description

PROCESS RECORD - HEAT TREAT SPECIFICATION

MATERIAL & SPECIFICATION: 4137 or 4037 Alloy Wire

TEMPERATURE:

MAXIMUM LOAD:

TIME:

QUENCH:

REMARKS:

INSPECT FOR: Rockwell Hardness

HEAT TREAT INSPECTION:

STANDARD PRACTICE NO:

HARDNESS LIMITS: RC 40-45

APPEARANCE OF PARTS: Clean & Free of Oil

Operation Step Detail

Operation: 16

Step

Operation / Step Description

Black Oxide Color

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Operation Procedure Notes

Operation: 16

Description

SMALL PARTS BLACK OXIDE COLOR

BLACK OXIDE RACK/FIXTURE:

LOAD SIZE:

STEP	PROCESS SEQUENCE	TEMPERATURE	CONCENTRATION	IMERSION TIME
1	Alkaline Clean	212 F	7-9%	3-5 Minutes
2	Cold Water Rinse	Ambient	-----	1 Minute
3	Muriatic Acid	Ambient	15-17%	10-15 Seconds
4	Cold Water Rinse	Ambient	-----	1 Minute
5	Black Oxide #1	290 F	6.5-6.8 lbs/gal	30 Minutes
6	Cold Water Rinse	Ambient	-----	1 Minute
7	Black Oxide #2	300 F	7.0-7.3 lbs/gal	30 Minutes
8	Hot Water Rinse	212 F	-----	1 Minute
9	Braze Color	185 F	1.0-1.3 lbs/gal	30 Minutes
10	Hot Water Rinse	212 F	-----	1 Minute
11	Steelgard	Ambient	15-20%	30 Seconds

NOTE FOR POWDER METAL AND M.I.M. PARTS

- * Increase immersion time on step #3 to 30-45 seconds.
- * Increase immersion time on step #8 to 30 minutes.

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