

TITLE: Trigger Balance Powder Metal XP100

Process Header

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Document ID: Trig Balance PM XP100	Remington Arms Company
Part Name: Trigger Balance Powder Metal XP100	
Product Line: C/F Rifle	Effective Date: 03-Nov-1992-09:00:00
Engineering Group: Rifle	Origination Date: 26-Oct-1992

Process Revision Reasons

Date:	Reason For Revision:	Eng Log #:
26-Oct-1992	Retype Entire Proces from 288899 - Replaces Old Paper Process	GLC 293209

Process Approval List

Approved By:	Badge #:	Date:	Designation:
JacksORA			

Process General Notes

Notes:

Process Material

Part Number	Qty	Description
15470	1	Trigger Balance PM - XP100
16874	1	Blank

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Process Routing

Ppt Oper		Operation Description	Part Numbers
8551	30	Degrease, Carbon-Nitride Harden, Oil Quench, Degrease, Inspect for File Hardness	15470
8551	30A	Degrease, Micro-Carb, Oil Quench, Degrease	15470
8551	35	Lindberg Draw	15470
9257	40	Inspect for Hardness	15470
8579	45	Black Oxide Color	15470
		To MRP Crib #29	15470

Operation Step Detail

Operation: 30

Step

Operation / Step Description

Degrease, Carbon-Nitride Harden, Oil Quench, Degrease, Inspect for File Hardness
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Operation Tool Detail

Operation: 30

Tool Number

Tooling Description

td Shaker - Hearth

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Operation Procedure Notes Operation: 30

Description

PROCESS RECORD - HEAT TREAT SPECIFICATION

MATERIAL & SPECIFICATION: P.M.

TEMPERATURE: 1600 Degrees F - Front Zone
1650 Degrees F - Center & Rear Zones

MAXIMUM LOAD: Continuous

TIME: Speed fro Case Depth of .003 - .008

QUENCH: Oil

REMARKS: Degrease

INSPECT FOR: File Hard

HEAT TREAT INSPECTION:

STANDARD PRACTICE NO:

HARDNESS LIMITS:

APPEARANCE OF PARTS: Clean and Free of Oil

Operation Step Detail Operation: 30A

Step Operation / Step Description

Degrease, Micro-Carb, Oil Quench, Degrease

Operation Tool Detail Operation: 30A

Tool Number Tooling Description

Std Micro-Carb Furnace

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Operation Procedure Notes Operation: 30A

Description

PROCESS RECORD - HEAT TREAT SPECIFICATION

MATERIAL & SPECIFICATION: P.M.

TEMPERATURE: 170 Degrees F - .75 Carbon Pot.

MAXIMUM LOAD: 1000 Pcs. per Basket - 2 Baskets Max.

TIME: 3-1/2 Hours @ Temp.

QUENCH: Oil

REMARKS: Degrease

INSPECT FOR: File Hardness

HEAT TREAT INSPECTION:

STANDARD PRACTICE NO:

HARDNESS LIMITS:

APPEARANCE OF PARTS: Clean & Free of Oil

Operation Step Detail Operation: 35

Step Operation / Step Description

Lindberg Draw

Operation Tool Detail Operation: 35

Tool Number Tooling Description

Std Lindberg Furnace

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Operation Procedure Notes Operation: 35

Description

PROCESS RECORD - HEAT TREAT SPECIFICATION

MATERIAL & SPECIFICATION: P.M.

TEMPERATURE: 350 Degrees F

MAXIMUM LOAD:

TIME: 30 Min.

QUENCH:

REMARKS:

INSPECT FOR:

HEAT TREAT INSPECTION:

STANDARD PRACTICE NO:

HARDNESS LIMITS:

APPEARANCE OF PARTS:

Operation Step Detail Operation: 40

Step Operation / Step Description

Inspect for Hardness

Operation Tool Detail Operation: 40

Tool Number Tooling Description

Std Rockwell Hardness Tester

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Operation Procedure Notes Operation: 40

Description

PROCESS RECORD - HEAT TREAT SPECIFICATION

MATERIAL & SPECIFICATION: P.M.

TEMPERATURE:

MAXIMUM LOAD:

TIME:

QUENCH:

REMARKS:

INSPECT FOR: File Hardness

HEAT TREAT INSPECTION:

STANDARD PRACTICE NO:

HARDNESS LIMITS: File Hard

APPEARANCE OF PARTS:

Operation Step Detail Operation: 45

Step Operation / Step Description

Black Oxide Color

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Operation Procedure Notes Operation: 45

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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