

**REMINGTON ARMS COMPANY, INC.**  
**Product Team Meeting Minutes**  
**December 11th, 2003 Ilion Meeting (7:30 a.m.)**

**Future Meetings**

Jan. 15<sup>th</sup> – E-Town (2100 Field Review on 14<sup>th</sup>)  
Feb. 24<sup>th</sup> – Ilion  
March 24<sup>th</sup> – Ilion

**Future Important Dates**

Feb 12-15, 2004	SHOT Show (Las Vegas, NV)
Feb. 28 <sup>th</sup>	Customer Early Order Qualification Period Ends
March 11 <sup>th</sup>	Planning Meeting – Madison
March 31 <sup>st</sup>	Target Rev. 1 Forecast

**Business Review**

Jay Bunting to provide overview of current business environment

**ILION BASED SHOTGUN PRODUCTS**

**2002 New Shotgun Product**

• **Model 332**

**OBJECTIVE:** Establish a legitimate presence in the O/U market

**ACTION:** Ilion to report on progress of velocity and quality improvement initiatives (Greater throughput, bring engraving in house, wood quality, etc) and production levels to date. Quality concerns that were on the last agenda that Trull would like a report on status of are:

- Bluing salt bleedout around the monoblock/barrel interface and vent rib posts.
- Rust coming out of edge of barrel at breech and between the barrels at the monoblock.
- Loosening of forends when shot 25-50 rounds.
- Side rib seam still inconsistent at braze.
- Wood still too dark.
- Failure to fire on top barrel.
- **NEW ISSUE SINCE LAST MEETING:** Shane Naylor's gun began shooting open at 3k rounds. It is the understanding of Marketing that Ilion responded that this was typical of what we would see on guns built to print.

**ACTION:** Need clarification of how we took guns to 10k rounds in T&P endurance test without shooting open, but we can expect current production guns to begin shooting open around 3k rounds.

General discussion around bluing salt bleed out relating to M332 and all other black oxide product. Short-term solutions require using Loc-tite to better seal off joints to prevent salts from penetrating in the first place. Also using an ultrasonic cleaner on M332 monoblock to aid in salt removal. Long term fix is to install a "No Bleed" oil bath as last stage of color process. This will require \$50-\$60k in capital and requires a 2-week period for installation. Earliest this could be implemented would be the July shutdown.

**ACTION:** Engineering to prepare CAR for Cahan to review and submit to corporate. Team concurs that this is an effort which needs to be pursued.

Fore end loosening has hopefully been corrected through Assembly further tightening fore ends prior to pack.

**ACTION: Trull to review with Evans to see if any repairs or calls have been received regarding this issue.**

Cosmetic issues identified above should be corrected.

**ACTION: Trull to order 5 new guns from OHL to review for cosmetics**

Shoot open issue identified above has been reviewed by Engineering. There was nothing found with Naylor's gun that should have attributed to the gun shooting open after 3k rounds. The gun was ported, but effects of porting are not believed to have contributed to increased wear. Team agreed that guns provided to Lonoke Gun Club should reveal whether or not we have a broad concern with guns that have seen a great number of rounds to shoot open. Also to determine if shooters are seeing other issues that we may not be aware of. Team also agreed that we should send 5 guns that have had the barrels ported to Lonoke for further data collection.

**ACTION: Perniciaro to contact Billy Crutchfield at Lonoke to discuss performance of current guns on hand at Lonoke and to arrange to have ported guns delivered to Lonoke for use. Steve to update Team at January MTG.**

### 2004 New Shotgun Product

- Barrel Porting

OBJECTIVE: Invigorate the XBL business with something new that can be pitched as a special barrel program. Target date for announcement is November Sales Meeting. Catalog barrels to be ported: Target, Turkey and Deer. First RAMAC to develop is 4624 (10 years of overstock).

**ACTION: Where does this project stand from Ilion's perspective?**

**ACTION: Remove from agenda. Trull and McCanna will pursue independent of Ilion if attractive from a Sales perspective.**

- General New Product Discussion

OBJECTIVE: Ship new product on time

**ACTION: Ilion to provide status of any 2004 new shotgun products that have not been released in production yet. From my notes, these products are:**

- **9583 – M1100 Sporting 28/27**

T&P scheduled for Feb. Production May.

**ACTION: 2 samples needed by end of January for SHOT Show display.**

- **9549 – M1100 Sporting 410/27**

Scheduled same as 28 GA, however Trull has requested that we make 3 samples for a writer hunt from our existing M1100 410 bore in stock at OHL.

**ACTION: Perniciaro/Findlay/Skinner/Mroz to arrange to have guns brought back from OHL and the barrels sent to Briley to have tubes installed. Will need to have Sporting Wood and non-embellished (hopefully marked Sporting 410). Samples need to be ready by 1/15/03.**

**ACTION: 2 additional samples with correct barrel length need to be ready by end of January for SHOT Show displays**

- **6457 – M870 SPS FR/CL 20 GA**

T&P scheduled to begin 2/6 with production in April.

**ACTION: 2 samples needed for SHOT by end of January.**

- **4455 – M1100 Sporting XBL 28/27**

Schedule concurrent with gun.

## **2005 New Shotgun Product**

- 2005 New Shotgun Product  
OBJECTIVE: New Product  
ACTION: Discussion of prospective new shotgun programs and strategies for 2005.  
M870 EXP .410 slug gun. Findlay working up quotes for sights.  
ACTION: Trull to issue NPP by end of December.  
M870 "mini" Youth  
ACTION: Mroz to confirm POI by 12/15 on 2 samples.  
ACTION: Trull to issue NPP (Express version will be exclusive run for Gander)

## **Ilion Quality – Shotguns**

- Shotgun POI  
OBJECTIVE: Conformance to SAAMI spec  
ACTION: Ilion to provide status of this project. Priority of shotguns in which to incorporate these changes first:
  1. All 1100 Target, 1100 Classic Field and Synthetic
  2. 11-87 Premier and SP/SPS
  3. 870 Wingmaster and SPS
  4. 870 Express
  5. SP-10Findlay presented prototype of proposed new rib design to bring our POI in line with SAAMI.  
ACTION: Ilion to test in January and report on results of testing at next months PTM.
- 11-87 Super Mag  
OBJECTIVE: Determine necessary changes to make this product to the performance requirements as originally specified.  
Action: Engineering to provide update on design recommendations and timeline for implementation. What testing needs to be done and when can we expect to make the transition in production?  
Findlay presented new gas collar design to give a better seal.  
ACTION: Will test next month to coincide with POI testing. Report at next PTM.
- Choke Tube Constriction/Patterning Concerns  
OBJECTIVE: Conformance to SAAMI spec/product enhancement.  
Testing with the M1100 Tournament Skeet 20 GA showed that we had a problem with the extended choke tubes patterning too tight. This has sparked discussion of a full scale audit of all of our 12 and 20 GA choke tubes to verify patterns are correct. Findlay has proposed drawing changes that will be confirmed through a test plan.  
ACTION: Review test results at January PTM.

## **ILION BASED GENERAL TOPICS**

- Elimination of ISS on common fire control and Model 700, Model 7  
ACTION: A schedule for phase in was due from Ilion on 9/30. No schedule has been received to date. Ilion needs to insure that this schedule is buttoned up prior to this meeting. We will review the schedule on the 11<sup>th</sup>.  
Continue to review progress at subsequent PTM discussions.
- 3" Chambers in 20 ga deer barrels (NPP 2003-78)  
OBJECTIVE: Uniformity across 20 gauge slug offerings.  
ACTION: Update on manufacturing plan and timeline. Can we roll 1100 FR 20 GA as a Magnum gun without changing the RAMAC?  
Ilion confirmed that the M1100 20GA Magnum has a different action sleeve configuration than the non-magnum counterpart.  
ACTION: Trull & Mroz to resolve M1100 situation by 12/17

- R3 Pad on Wood Stocks  
 OBJECTIVE: Product enhancement  
**Action: Ilion to advise of roll out status for premium guns.**  
 Sims is all set with respect to pads. Norbides due to S&K by mid January. Updating drawing packages will be the long lead item. Expecting to begin prototyping by end of January/early February. March 1<sup>st</sup> expect to have checkering programming complete in plant.  
**Action: Will begin implementation across line by Q2 2004.**
- Styrofoam Insert in Gun Boxes  
 OBJECTIVE: Product enhancement  
**Action: Perniciaro to advise of what progress Dan Shumway and Purchasing have made with respect to contacting current and prospective vendors to address this issue per discussions at last PTM. Trull recommends that we take a look at what Thompson Center is doing from a foam insert perspective on the Omega product.**  
 Shumway has identified new material based on looking at the T/C product. Team agrees that the insert needs to fit within current packaging parameters. Shumway is meeting with foam vendor week of 12/15/03.  
**ACTION: Engineering will provide team with update at next PTM.**
- Salt Bleed Out  
 OBJECTIVE: Quality Improvement  
**We continue to see bluing salt bleed out all too frequently on both our shotguns and our rifles. Other manufacturers do not appear to have the same degree of problems with this issue.**  
**ACTION: How do we get our hands around this problem and resolve it once and for all?**  
 See M332 notes.

## **ILION BASED RIFLE PRODUCTS**

### **2004 New Rifles**

- Model 700 CDL (Classic Deluxe)  
**NPP-2004-24 RAMACS(7007,7015,7011,7017,7047,7049,7051,7053)**  
 OBJECTIVE: New Product  
**Action: Engineering should have samples to show at this meeting. Need to insure that we are process capable for early Q1 production.**  
 Trull reviewed unfinished sample at PTM. Dimensions felt good.  
 Marketing samples are due by 12/19/03.  
 Planning projects quantities available for shipment by February 2004.  
**ACTION: Engineering to forward Marketing samples to Trull as soon as they are available.**
- Model 700 BDL SYN DEJ#8 (New Decorating Process)  
**NPP-2003-88 RAMAC 27507**  
 OBJECTIVE: New Product  
**Action: Ilion to advise on test status of initial samples and to confirm that this vendor is capable of delivering a quality product on time and at agreed upon pricing.**  
 Preproduction quantities of new stock are on order.
- Model Seven Synthetic Stock  
 OBJECTIVE: New Product  
**Action: Ilion to advise of production status off new tool. Another item we must insure Q1 production.**  
 ORC is running test shots now for dimensional correctness. Mold texturing will follow.  
**ACTION: Marketing must have samples by January 26<sup>th</sup> at latest for SHOT Show.**

- Model 700 204 Ruger

OBJECTIVE: New Product

Discussed with Engineering and Planning the projected timeline for delivering this new product in as expeditious a fashion as possible. Planning has begun driving independent demand for long lead time items (stocks). Engineering has ordered tooling and components to handload. Marketing agreed to drop .243 Win and 7mm-08 Rem M700 LV SF show specials to allow resources to focus on .204 Ruger. Bottomline is that if all goes to plan, we will deliver product to the warehouse by mid to late May.

**ACTION: Will review progress as we find results and at next PTM.**

#### **2005 Prospective Ilion New Rifle Programs**

- 2005 New Products

OBJECTIVE: New Product

**Action: Trull to lead group in discussion about prospective new product concepts for 2005.**

Discussion centered around the following:

1. New synthetic stock for M700 – R&D to run this program. Diaz will act as mediator between E-Town and Ilion. All were in agreement that we can't have another M7 scenario on our hands.
2. M700 SPS DM – Findlay spoke on concept of incorporating .223 Rem and Ultra Mags into our DM system. Bottomline is that the climb does not appear to be worth the view. Will pursue with standard calibers.

#### **Ilion Engineering Topics – Rifles**

- Alternative Metal Finish for Stainless Rifles

OBJECTIVE: Product Enhancement

**Action: Report on cost and properties of various options for coatings were due on 9/30. No report has been presented to date. Ilion should be prepared to advise of status.**

No additional work had been done to date. Engineering is going to proceed with samples of e-nickel Teflon and a boron ceramic coating.

**ACTION: Engineering should be prepared to report on costs for both processes and address potential means for incorporating into production at the next PTM.**

- Roller Burnish for Rifle Chambers

OBJECTIVE: Product Enhancement

Engineering reported at last meeting that this process is being held up due to chamber eccentricity issues. Bulk of problem appears to rest with current CF heading process at Ilion.

**Action: Engineering to advise on progress of implementing this process on CF rifles. Have eccentricity and processing concerns been corrected? Are we still on track to implement in February of 2004?**

Implementing on a gradual basis now. Will continue to monitor at subsequent meetings.

#### **Ilion Quality Issues – Rifles**

- Bolt-Action Rifle "Lays Left" Issue

OBJECTIVE: Quality Issue

**Action: Engineering & Quality to discuss progress since last meeting.**

Scott Weese addressed team with findings by the "barrel lays left" team. Findings were very encouraging with the product benefiting from the results of the finding near term.

**ACTION: Engineering to continue to work together with Quality and Production to implement corrective actions. Will continue to review at subsequent meetings.**

- **Model 700/Seven Trigger Pull Weights**

OBJECTIVE: Quality Issue

Sales and Marketing are receiving a great deal of feed back from customers and consumers that we are losing sales at a devastating level to the Savage Accutigger offerings.

**Action: Ilion and R&D to collectively advise of test status of the fluted firing pin design, ISS removal, and how and when we can expect to see trigger pull weights to return to a reasonable level. Today, they are excessive. Also review Mayfield's ability to address this issue on the M710 and how that could translate into an improvement for the M700. Also review status of bolt-action maintenance review program.**

Ongoing discussion on how to improve processes. Will continue to review at subsequent meetings.

- **Model 40-X Triggers in Varmint/Police Rifles**

OBJECTIVE: Product enhancement

**Action: Test rifles are on hand at E-Town. R&D to advise of status of testing on this topic. Testing was scheduled to be complete in December.**

Test results indicate that results of using the M40-X trigger does not yield results significantly different than current fire control.

- **Centerfire Rifle Chamber Specs – Ilion reamers as compared to SAAMI**

OBJECTIVE: Quality Issue

**Action: Perniciaro/Diaz to advise if proposals will be made to SAAMI to add freebore to cartridge drawings determined to be an issue from last meeting.**

No discussion at this meeting.

**ACTION: Will review at next PTM prior to SAAMI Meeting.**

- **Model 7400 Improvement Project**

OBJECTIVE: Quality Issue

Findlay reviewed plan for M7400 improvement process to gas system, action bars, barrel lug, action bar sleeve, and barrel extension. Current testing showed significant improvement in performance on 22" and 20" barrel lengths. 18" Barrel testing will take place in January, with endurance testing in February. Team discussed perhaps giving the new iteration a new Model designation.

**ACTION: Will review January test results at next PTM.**

- **Bolt-Action Rifle Torque Settings at Final Assembly**

OBJECTIVE: Quality Issue

Trull has requested that assembly change their process to use torque wrenches to assemble M700 & M7 actions to the stock at correct torque specifications to insure that product is consistent going to the consumer.

**ACTION: Engineering advised that processes were being changed to reflect this. Will review results at next PTM.**

## **R&D TOPICS**

### **E-Town Development Topics**

- **Model 597 Performance Improvement**  
OBJECTIVE: Performance Improvement of 597  
**Action: Diaz to advise of redesign efforts.**  
Diaz indicated a plan to modify one of the M597 mag box mold cavities at AFT to test a design which narrows the stack in the mag box.  
**ACTION: Diaz to advise Trull of results as soon as results are available. Will plan for implementation at January PTM.**
- **Model 7600 223 Rem**  
OBJECTIVE: New Product  
**Action: Diaz to update on DAT status. Guns were received from Ilion. Advise of anticipated completion date.**  
Final modifications are being made to DAT guns now. Anticipate completion of test in January.  
**Action: Update at next PTM.**
- **Remington Mohawk 22 Program**  
OBJECTIVE: New Product  
**Action: Diaz to advise of status on low cost design status.**  
**Action: Findlay to search for drawing packages from old M511, M512, M513, & M514 and send to Diaz for review by Jan. 15<sup>th</sup>.**
- **Sourced Muzzleloader Design**  
OBJECTIVE: New Product  
**Action: Diaz to discuss options for pursuing a sourced break-action muzzleloader design. This is a critical juncture for Remington's presence in the black powder market. In-line muzzleloaders are no longer in favor with the consumer. They are perceived as difficult to maintain and use. Either we bring to market a low-cost item, or we will likely exit the category.**  
Project was not discussed in detail at this meeting. Trull will follow up with Diaz off line prior to next PTM.

## **MAYFIELD BASED RIFLE PRODUCTS**

### **2004 New Rifle Product – Mayfield**

- **Model 504**  
OBJECTIVE: New Product  
**Action: Golemboski to advise of production status.**  
Product has been formally released from T&P. Transmittal is taking place now. First 65 guns to Gander Mtn. and Writer's sample guns have shipped from Mayfield. Production build is ramping up now.
- **Model 710 Magnum**  
OBJECTIVE: New Product  
**Action: Review status of DAT/T&P and build plan.**  
Working to get T&P guns of .300 Win Mag to E-Town now. Will review status weekly.