

**REMINGTON ARMS COMPANY, INC.**  
**Product Team Meeting Minutes**  
**April 14<sup>th</sup>, 2004 Ilion Based Topics (4:00 p.m.)**  
**April 15<sup>th</sup>, 2004 (7:30 a.m.)**

**Future Meetings**

June 22<sup>nd</sup> – Ilion  
July 21<sup>st</sup>- Madison  
August 25<sup>th</sup>- Ilion  
September 15<sup>th</sup>- Ilion  
November 17<sup>th</sup>- Ilion  
December 15<sup>th</sup>- Elizabethtown

**Future Important Dates**

August 11<sup>th</sup>-21<sup>st</sup> Grand American-Vandalia, OH  
October 14<sup>th</sup>-16<sup>th</sup> Writers Seminar-Orangeburg, SC  
November 6<sup>th</sup>-8<sup>th</sup> Sales Meeting-Greensboro, NC

**Business Review**

Jay Bunting to provide overview of current business environment  
SHOT Show Business Review

**Competitive Product Review**

Beretta 391 Extrema-Fink  
Weatherby Vanguard-Trull

**ILION BASED SHOTGUN PRODUCTS**

**New Shotgun Product**

- Model 332

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

Production Status:

- Guns per day-March PTM reported going to 10 guns per day in April.
- Current plan 8 per day, going to 10 per day by June. By late September, current orders to be covered. 1225 on order, 818 past due orders.
- Shane Naylor's Gun Shooting Open Issue. Position of top lever critical, locking lugs being even. Gun to be shipped to Bob Joy for correction and review.
- Action plan moving forward to address shooting open issue. Work with R&D from a design standpoint. Need to inspect quality of parts and the amount of test shooting.

**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 April PTM.**

**ACTION: S. Perniciaro to contact Serven on GTA ammunition testing to get guns there.**

**Action: Perniciaro to provide plan for capacity on OU market in order to maximize sales position.**

**2004 New Shotgun Product**

- 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. 600 Pieces scheduled for May, 1300 pieces on the books.

**9549 – M1100 Sporting 410/27**

- T&P scheduled for week of March 8<sup>th</sup> Failed T&P, in process of fixing bbl issue, 800 scheduled for June, 1300 on order
- ACTION: Fink to get gun 268 back to J Mroz

**6457 – M870 SPS FR/CL 20 GA**

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

- Waiting on new guide rings Passed T&P, bbls in bbl shop, will be shot with Federal ammunition. Will start testing with Buckhammer.
- ACTION: Fink to follow ammo testing and possible recommendations.
- Barrel incorporates new optimized rifling
- Every 20 gauge except 1100 now has 3' chamber

**ACTION: Manufacturing to advise current T&P status and production date.**

**4455 – M1100 Sporting XBL 28/27**

Schedule concurrent with gun.

**ACTION: Manufacturing to advise current T&P status and production date.**

- May on the 28/27, the 410 has been pushed out until June.

**2005 New Shotgun Product**

2005 New Shotgun Product

OBJECTIVE: New Product Introductions

ACTION: Discussion of prospective new shotgun programs and strategies for 2005.

**M870 EXP .410 slug gun.** Findlay working up quotes for sights. NPP-2004-35

- \$47K for sight tooling
- 10 prototypes being built
- Engineering will continue to develop
- Prototype sights in March 12<sup>th</sup>, week to finish barrels and get into T&P, then order MIM tools to arrive late May. Tentative schedule. Sights received, front sight dove tail too low, new sights in NLT 1<sup>st</sup> week in May. Will compete with CTI parts.

**M332 Sporting DL**

- Engineering-We must figure out shooting open issue
- **ACTION: Fink-Provide clear written NPP with direction**
- OBJECTIVE: Announce Target models on 2005 Spring Gun Program

Over bored barrels an issue. May delay a January 2005 warehouse. Need .037" wall thickness. Make sure warnings on being currently marked on OU barrels. Must have halo products and it is critical from a Marketing standpoint that we figure out how to resolve this.

**M1100 Sporting DL**

- Fink to provide NPP and discuss

Surface finish on internal parts must be much different from where we are at today.

Action: Fink to get Angle Port gun shipped to Findlay.

Jeweled bolt a possibility

NPP to call out specific looks and functionality, engineering to develop processes.

**Spring Shotguns**

- Fink to provide NPP's and discuss
- \$53K in stranded parts/components for deleted items.

## 2006 New Product

### M332 Small Gauge

- Small frame 20 gauge
- Frame to accommodate 16 gauge barrels
- Stock dimensions-trimmed down version of 12 gauge
- 26" and 28" Barrels
- Steve Perniciaro and Dave Findlay have drawings
- Need to examine ways to build low volume items efficiently
- Investment cast-brings some new issues and solves others
- Have to improve cost, efficiency and quality
- OBJECTIVE: To announce 20 gauge M332 on 2006 Spring Gun Program
- Brad Howard presented current design at March 2004 PTM. Status and timelines to meet August 2005 announcement
- Parts out for prototyping. Ilion to assist with assembly. Guns assembled mid-May.

### 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-10

Findlay presented prototype of proposed new rib design to bring our POI in line with SAAMI.

- Tooling & Gauging to be complete by June 2004
- T&P Scheduled September 2004 for 870/1187

Will run current barrels vent ribs with smaller front bead. Smaller front bead raised POI 6". This may resolve issue and would be more desirable than converting to a new rib taper.

#### 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.

- (10) 12 gauge barrels in test with new design
- Objective to reduce 3" & 3 1/2" terminal velocities and improve function
- Testing to be completed by 2.15.04
- MIM gas cylinder prototype-10 weeks and \$15K
- 30 piece 12 gauge machined sample to transmit April 30, 2004

**ACTION: Report on test status**

- Range of 350 Max and 150 Min. Still testing different gas cylinder designs.
- By 3.30.04 start MIM Gas Cylinder

MIM Gas Cylinder made no statistical difference in terminal bolt velocities.

Surface finish on internal moving parts. Concern expressed that finish is not comparable to where finish was at 20 years ago.

Action bars, hammers, gas cylinders and check barrel alignment.

- 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**  
 Corrective action date-  
 New Tube Identification-Need some sort of symbol or marking to differentiate new tubes from older tubes.
  - Complete shooting of 12/20/28 gauge extended Briley tubes by end of February
  - Old fixed skeet was "bow tie" configuration all others tapered to .5" flat; why?  
**ACTION: Pursue making tubes meet SAAMI specs. Gain an understanding of old fixed choke dimensions and performance. Get hardcopy of specs to J. Fink and J. Bunting**
  - Better to error on the side of tighter constrictions
  - Engineering to start with 410/28/20 to get choke tubes patterning to spec.

Findlay to provide chart with proposal for all gauges.

Per Jay Bunting-Stop all transmittals until further review.

- Surface Finishes on Internal Components  
 OBJECTIVE: Product enhancement
- Marketing to provide direction on acceptable finishes/changes. Images of a M1100 Sporting .410 breech bolt were supplied. With the exception of tool marks in the locking block, the top of the bolt was within current manufacturing levels of acceptability. However, in the eyes of Marketing the level of finish was not acceptable based on quality of finish of competing guns.

### **ILION BASED GENERAL TOPICS**

- New Product Timelines  
 Review of timelines for BOD presentation  
**ACTION: Marketing to revise dates for Diaz, PM's and Engineering to sign off on.**
- Elimination of ISS on common fire control and Model 700, Model 7  
**ACTION: Establish final plan forward for ISS.**  
**ACTION: Ilion to confirm that all bolt guns will have Mayfield cable lock in place and ISS off for phase in Q4.**  
**ACTION: Ilion & E-Town to confirm that Regal lock is in place for all other firearms except M332 for same time frame.**  
**ACTION: Ilion or E-Town needs to identify a CA DOJ lock for M332 to implement ASAP.**  
**ACTION: Direction from Marketing is that we will be CA DOJ compliant and ISS free for all Remington firearms for the catalog year 2005.**  
 Fluted firing pin end of April  
 Regal currently making locks  
 Critical that transition completed by end of 2004  
 Common fire control transition to start June/July

- R3 Pad on Wood Stocks  
 OBJECTIVE: Product enhancement  
 ACTION: Ilion needs to provide Marketing with a timeline for implementation by Model and by date implemented.  
 ACTION: Marketing feels that the pad is too "sticky" for target guns. Need to stay with current sporting pads on these models.  
 Will be 4-6 weeks before we see samples on long stocks. Need to send representative to S&K. Need commitment from S&K. Marketing needs to confirm list with planning. Must make sure RAMACs are coded/flagged that are inactive in certain categories.
- Styrofoam Insert in Gun Boxes  
 OBJECTIVE: Product enhancement  
 ACTION: Update team on progress.  
 ACTION: Need to work within current dimensions except for rifle to accommodate 26" barreled rifles. Get impacted items e-mailed to Trull, Preston, Evans, Kilts.  
 Can higher density foam be implemented short term?
- Dimensional Audit  
 OBJECTIVE: Quality Control  
 Action: Shoemaker to update team on progress to conduct dimensional audit on catalog sku's.  
 Using T&P data when available. Will pull some guns out of warehouse and some will be measured as production is run. Need data to Marketing NLT August 2004.
- Rutland Plywood 870 Exp stock
  - Adds \$0.75 in cost per gun
  - Reduces scrap rate
  - Should be economic calculation
 ACTION: Per last meeting, Ilion was going to analyze cost savings from a scrap reduction perspective to determine if the savings here offset the additional cost of \$0.75 per gun. Consensus at last meeting was that Marketing did not have an issue with doing this, but there would be no Marketing advantage or ability to get a price increase as a result. This would be justified purely from a plant economics standpoint if at all.  
 Need economic evaluation. Possibly try one or more skus.

## ***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: Ilion to provide update on production status
- Model Seven Synthetic Stock  
 OBJECTIVE: New Product  
 ACTION: Ilion to provide update on production status  
 Should see samples of stocks by 4.22 or sooner. Should investigate a second supplier.

- Model 700 204 Ruger  
 OBJECTIVE: New Product  
*NPP-2004-36, 37,38 RAMACS 6196 (LV SF), 7467 (VLS), 7527 (ADL SYN)*  
*Current on order status is 3,585 pieces (1376- ADL, 1224-VLS, 985- LV SF)*  
 ACTION: Test and Production Status from Ilion last meeting notes showed that we should be production capable by end of March.  
 T&P complete. Will build ADL May 19<sup>th</sup> 125 per day/June, VLS in June, and LVSS in July  
 Total 7601 on order

### 2005 Prospective Ilion New Rifle Programs

#### 2005 New Products

- **Model 700 Synthetic Stock Redesign Status**

- Need sample stocks by Sept. 30, 2004

**ACTION:** Need to have a concise, focused discussion on quotes received thus far and risk assessment from Legal after review of Hogue patent.

Quote-\$570K for LA/SA/HB

Would have to come out of capital budget; unbudgeted for.

LH stock could be build for an additional \$40K

Design is modular design.

Total cost per stock \$13.54

Need quote from ORC

Need to schedule meeting to look at options in Etown 4.22

Hogue patent-Patent on over mold. Will have to work with Hogue directly. Will meet with them at NRA.

May be worthwhile for Hogue to quote.

- **M700 LV-Custom Foam Stock**
- \$30 savings v. Bell & Carlson
- Pillar bedded, steel reinforced
- Weight currently with in ounces of B&C stock, can change weight

**ACTION:** Communicate desire to pursue to purchasing

Prototype due in 4/15/04, assuming everything looks good, will start die work immediately.

- **Model 700 Special Purpose Synthetic**— Follows M700 Synthetic Stock Project
  - Must compete with Tikka and Vanguard

**ACTION:** Trull to evaluate

- **Model 700 "Super Stainless"**— Follows M700 Synthetic Stock Project & Coatings work by Ilion

- High-end Stainless offering. Must offer improved hardness & corrosion resistance over regular stainless.

- Will incorporate rubber over molded panels in fore end and grip.

**ACTION:** Trull approved color sample sent to Madison by Engineering provided we can match trigger guard/Floorplate and bolt plug. Need to have a breakdown this meeting of a. Cost b. Properties c. Technical "jargon" to use to develop a marketable name for the process and what the features/benefits are. Discuss running progressive salt spray test on the M700 with this coating, as well as the Ruger M77 Stainless, Winchester M70 Stainless, and Browning A-Bolt Stainless for marketing purposes.

\$20-\$25 for bbl and bolt assembly. Getting floor plate to match may be an issue due to powder quote. Will investigate powder quote to match. Get investment cast steel trigger plate quote,

same machining operation on cast version. Look at current BDL stainless offerings, 18M for conservative quote.

- Update to Varmint Line – Review/discuss new concepts. Review McMillan stock designs
  - H.S. has submitted to Trull a restyled varmint stock. Will feature two front studs, some reshaping of fore end. Sample received is of Desert Tan which will be used on the blued VS gun. H.S. is resubmitting a different color that will make the stainless gun more appealing to the eye.
  - VS SF to feature blacked flutes like EtronX
  - VS to add fluting to barrel (same w/ LH)
  - VLS to use proposed new laminate stock from Accurate Innovations pending Engineering's review to be complete by 4/15/04.

Action: Engineering to provide update on new laminate stock with bedding block

Action: Need to make sure that purchasing/planning understands that the line is being revamped and to address orders for stocks accordingly. This applies to all new Spring guns and Spring gun deletions.

Tan with white web on blued gun and adding flutes

Black with green web on stainless gun with black flutes

- Model 700 Classic  
ACTION: 2005 M700 Classic will be .308 Win.
- Accurate Innovations stock shot on par with current VLS stock.
- Model 700ML Plans  
ACTION: Discontinue line for 2005. Finished goods inventory has been liquidated. Need to assess stranded WIP inventory for write off.  
ACTION: Perniciaro to advise of guns built with Green Mountain barrels. We have a home for some of them.  
ACTION: Price Green Mountain barrel guns appropriately for WIP guns. Contact Trull when ready to advise D Evans.

#### Ilion Engineering Topics – Rifles

- **Improved Chamber Finish Program**  
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: Starting by end of March on Stainless models per last meeting. Engineering to confirm.  
Added process and changed some tooling. Has been implemented on all bolt actions. Surface finish running below 20. 7400's machined burnished and at the same level.
- **M700 Firecontrol Project**  
OBJECTIVE: Product enhancement to improve trigger pull weights and feel to improve competitive position in Marketplace  
Action: Ilion to advise of status and timeline.  
DAT testing complete by 8/1/04

## Ilion Quality Issues – Rifles

- **Bolt-Action Rifle “Lays Left” Issue**  
OBJECTIVE: Quality Issue  
Action: Engineering and Quality to provide a brief overview of implementation of corrective action on issues uncovered by team.
- **Process in place to make sure barrels are straight.**  
Eliminated 2/3's of issue by squaring receiver with new CNC  
H&S Precision to build to our print; barrel channel and action screws  
Team in place for barrel making
- **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 Accutrigger offerings.  
Action: M700/7 Trigger Pull- Set pull at final assembly to 4 ½ to 5 ½ pounds. Ilion engineering to report on implementation at final assembly.  
Action: D. Diaz to evaluate fluted firing pin and report status at next meeting.
- **Model 7400 Improvement Project**  
OBJECTIVE: Quality Issue  
ACTION: Trull to update team on comments and commitments from IWA  
ACTION: Ilion to update on status and implementation dates. MUST HAPPEN FOR WINTER PROGRAM!  
ACTION: Discuss Model number change and strategy for regular catalog line. Model 7500 Woodmaster?  
Need new model name, sku, etc.  
Change to straight comb.

## **R&D TOPICS**

### E-Town Development Topics

- **Model 597 Performance Improvement**  
OBJECTIVE: Performance Improvement of 597  
Action: EET on 10 round box was positive. Marketing approved taller box bottom on 10 round box. Diaz to provide update on DAT and target production date.  
15 rounds per gun, 20 ammunition types. Overall malfunction rate of 1.3% would be lower however Federal has a GL that is .050” shorter than SAAMI. Must get tooling in for boxes sooner than 11 weeks quoted. R&D to transmit drawings.
- **17 Hornady Mach 2 Project**  
OBJECTIVE: New Product  
Action: Discuss M504 strategy and M597 strategy for this new cartridge. Need to have shippable product in the warehouse in September this year.  
Action: Marketing needs confirmation on M504 product for intro at rep principles meeting.  
Action: Diaz to advise on ammo for testing from Eley & Hornady. Critical to have both types for M597 development.

Ammunition availability an issue. Eley committed to 8-10M rounds by July. Need 25M-30M rounds for 597 development. CCI/Hornady ammunition not available.

#### Model 332 Small Gauge

OBJECTIVE: New Product

Action: Diaz to update on design status.

- Prototype 1-2 guns
- Drawings out for quote on parts
- Ilion to supply barrels
- Introduction date August 2005
- Marketing to provide NPP with 26, 28 and 30 inch barrels
- Beretta currently smallest frame in market, Remington design smaller yet
- Design eliminates curved bottom barrel
- Add use as many parts as possible from 12 gauge
- Development schedule set up for 8/05 warehouse position

ACTION: S. Perniciaro to check/evaluate to report on "straight" bottom barrel on 12 gauge. Report at next meeting.

- Quickest route to market from Remington standpoint machining.
- Casting-overall appearance and lines more flexible in S. Perniciaro opinion.
- Frame to be machined identical to 12 gauge
- M7615-16.5" bbl, Wilson ghost ring rear sight, adapted to accept AR15 mag box  
OBJECTIVE: New LE product  
ACTION: Diaz to give brief update on test status.  
10 guns built and ready to get into test, another 10 next week. Testing resources an issue due to the volume of projects in the test lab.
- C.A.R. (Centerfire Autoloading Rifle)  
OBJECTIVE: New product  
Action: Discuss concept and timing  
Concepts to review by 4/22/04
- N.B.A.R. (New Bolt-Action Rifle)  
OBJECTIVE: New Product (Long term)  
Action: Discuss strategy & timing  
Product boarded

### **MAYFIELD BASED RIFLE PRODUCTS**

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

- Model 504  
OBJECTIVE: New Product  
Action: Golemboski to advise of production status.  
Moving along well.
- Model 710 Magnum  
OBJECTIVE: New Product  
Action: Review status of 7mm Rem Mag now that .300 Win Mag has been released.  
30-40 enroute to E'town for testing  
7mm Rem Mag should be three week test, guns should be in warehouse in May.

#### **2005/2006 New Rifle Product – Mayfield**

- Model 504-T LS HB  
OBJECTIVE: New Product  
**NPP-2005-03 RAMAC's TBD**  
Line Extensions to M504 line in 22LR and 17HMR target versions.  
**Action: Diaz to update on status. Update on chamber dimensions for match chamber strategy. Update on stock from Trull Eley EPS Match Chamber being installed since Eley ammunition is being used to qualify. There are multiple match chamber drawings.**
- Model 710 Steel Receiver  
OBJECTIVE: Product Enhancement  
Early 2004 indicators suggest that "sprucing up" the line in 2005 will be needed.  
• **Action: Need to make sure we are grounded for introduction for 2005. Will need new RAMAC's. 10 guns built, will be testing by first of May**
- Model 710 Short Action  
OBJECTIVE: New Product  
**Action: Likely a 2006 product. Project is under review at E-Town. Diaz to provide update. Stock and Mag box changes will be necessary.**