

PRODUCT TEAM MEETING
LONOKI, AR
SEPTEMBER 17, 2003

- **FINANCIAL REVIEW**
 - Inventory still building due to sales volume under budget
- **MARKET/BUSINESS REVIEW (JHC)**
 - Wal*Mart (\$4m) – Up 6% last week report v. 2002
 - Agency (\$6m) – Chain business is up, dealers down

PRODUCT REVIEW

- **PRIMER**
 - No issues in manufacturing
 - Plastic shotshell anvil – new design in testing
 - Dinol
 - No problems thru 60 days
 - Two misfires @ Hot – 90 days
 - Type I Dinol
 - Drop testing showed some decrease in sensitivity in 2# batch
 - Type II Dinol (Bismuth Oxide)
 - Less costly, more stable, exceptionally low misfire rate v. competition
 - Patent application proceeding
- **SHOTSHELL**
 - Manufacturing – no major issues
 - New Product Development
 - BuckHammer
 - Warehoused product last week – 138m
 - Sabot Issues
 - Q.D. problem creating ring
 - Sabot wall thickness variation
 - Accuracy will improve with new short sabot 2.2-3.6 (3-5 shot groups)
 - Lead Slug Manufacturing
 - Slower process, but more manufacturable (extrude & chop)
 - Slug swaging process established
 - May use 3/4 % lead for slug to improve feeding
 - Will design straight line feed for slugs on Simplex
 - 3" - 1 1/8oz
 - On hold pending sabot change
 - 20 gauge - 1 oz
 - Accuracy = 1.9" @ 100 yards
 - Velocity: 1475 with 2111 ft.lbs.
 - Lightfield: 7/8oz @ 1500 with 1925 ft.lbs.

- Core-Lokt Ultra Bonded Slug
 - Slug collator installed
 - Working with Nypro to alter sabot design to avoid violating Winchester patent
 - First attempt did not work
 - Will use 3 pin orientation – due 10/2 and will require a mold qualification
 - 20m assembled slugs and sabots that don't meet accuracy spec (4.5 – 5.0)

ACTION: MANUFACTURING TO EVALUATE AN INEXPENSIVE WAY TO DISASSEMBLE TO SAVE BONDED BULLETS OR IF NOT QUICKLY DO-ABLE, SCRAP THEM.

- 20 gauge Core Lokt Ultra Bonded Slug
 - EX run (Design Verification) end September
 - 45m sabots with old inserts on hand +15m to be made for combined run
 - Will use hand-assembly for first run
- Hevi-Shot Wad Improvement
 - No advantages to adding ribs
 - Wads slit on loader to improve feeding; under endurance testing to see if improvement actually occurs
 - If improvement occurs, can be used in HPS or Steel
- HMF Buckshot
 - 8 pellet RR last to be converted
 - FLETC requirements to primer waterproof under testing
- HMF Disintegrator Slug – RR
 - Sharp-cornered hex disc design data transferred
 - Round-cornered hex disc to be used when supply of sharp-cornered (75m) is exhausted
- HMF Disintegrator Slug – Full Load
 - Body splits at cold – with sharp-cornered hex disc
 - Round-cornered disc resolves issue
 - Both RR & Full loads will use round-cornered hex disc with November schedule. Running change to RR from sharp to round corner
 - 24-cavity mold due 10/6 for qualification

ACTION: MARKETING TO REVIEW ORDERS WITH I.F. SALES TO DETERMINE IF OLD PRODUCT ORDERS CAN BE CONVERTED TO MEET CONTRACTUAL FLETC REQUIREMENTS.

- HV Slugger – 12 ga & 20 ga
 - Data transfers complete
 - Few feed issues remain
- NXS Slug
 - Rotary cam 3" 28 ga tooling received
 - Rifled UR barrels received in Ilion

- Recoil Management – Shotshell
 - Current products
 - Graphics for dummies still needed
- Sportsman Hi-Speed Extensions
 - 10 ga – 1 3/8 @ 1500 – beginning load development
 - 12 ga – 3" 1 1/4 @ 1400 – no EX required, shot size only
 - Minimal preparation likely for manufacturing
 - Issues
 - Not specified to use Cast Steel Shot
 - Potential cost savings using Ni-Zn caps

ACTION: MARKETING SPEC TO BE WRITTEN THAT CALLS FOR USE OF CAST STEEL SHOT IN SPORTSMAN TO REDUCE COST.

ACTION: MARKETING SPEC TO BE WRITTEN THAT CALLS FOR USE OF NI-ZN CAP IN SPORTSMAN TO REDUCE COST.

ACTION: MANUFACTURING TO TEST NI-ZN CAP MATERIAL ON CAP PRESS TO DETERMINE IF ANY PRODUCTION ISSUES EXIST.

- Nitro-Steel High Velocity Line Extensions
 - All existing loads, shot size changes
 - No production issues except use of shot containers on larger sizes
- HPS Shot
 - Received BB size + others
 - Pakline v. Beads filler
 - No difference in size 6
 - Slightly better patterns with Pakline
 - Pakline easier to manufacture
 - Design Verification – week of 9/15
 - 3" 1 1/4 for marketing samples (1450fps)
 - BB size was 100 f/s slower. No Pakline was thin enough
 - Marketing Features and Benefits
 - 25 to 30% more energy
 - Extends range 5-10 yards
 - Loader: Simplex as with Hevi-Shot
- 3 1/2 Basewad Gas Leakage
 - EX mold due – October – for rounder base wads
 - Tooling on hand to produce .050 deeper gas seal in .250 base wad
- Buckshot Buffer Leakage
 - Patterns
 - New flat disk beads work down in 00 size
 - Other test combinations all exceeded current method on pattern performance
 - Latex seal part of test with current buffer

ACTION: TESTING TO BE DONE TO SEE IF POWER PISTON IS DAMAGED WITH LARGER BEADS (R&D)

- Breech Flash – Gun Club
 - Primed hull with STS primer
 - Change to be evaluated between current and 861 (STS) primer to make decision
 - October production schedule needs to be met

ACTION: MARKETING DECISION TO USE STS METALLICS OR LEAD STS MIX INTO GUN CLUB PRIMER METALLICS

- Grand American
 - Best year in recollection for defects (7 PPM)
- **CENTERFIRE**
 - Manufacturing
 - Slugs (Bonded and Frangible) will stress capacity
 - INS: handloads look promising
 - New Product Development
 - Core-Lokt Ultra
 - T&P complete – 243/100, 7mm/160
 - 308/168 in ballistics
 - 338WM/225 – jackets being made week of 9/8
 - 25-06 and 260
 - Issues
 - 300 RSAUM/180 = high pressure @ hot
 - Premier AccuTip
 - 7mm/150 Temporary Accuracy spec not necessary
 - Premier Varmint Accu-Tip
 - 223/55gr bullets on order from Hornady (non boat tail)
 - Tip color change still open as to change method
 - 6.8 Rem SPC
 - T&P from EX successful except @ Hot
 - Primer leaks, dropped primers
 - Pressure ok
 - Head hardness ok
 - Shell clearance to be changed to make it larger to allow brass to spring back rather than form to chamber
 - New cups to make this design due October 15
 - Next EX run November 1
 - Managed Recoil
 - Hand – loading complete
 - 7mm EX run this month
 - Two new bullets developed and hand loaded
 - Accuracy of 7mm not as good as desired
 - 454 Casull
 - Initial EX run complete
 - Shell splits resolved
 - Harder cups being tried to eliminate head expansion/hard extraction
 - Competitors products appear to be loaded to lower pressure

- Green Match 308
 - Environ-Metal pressed powder jacket (Jacketed Hevi-PM Core)
 - Method infringes on existing plant
 - They don't have a bullet making capability
 - May have to use their powder, process it, then make bullet ourselves
 - Other options:
 - Profiled Blunt Core
 - EcoMass
 - Jacketed Iron-Tin Core
 - PM Tooling received and PM cores made
 - PM cores to be extruded to smaller OD-BASY Remington
 - October EX run
 - UMC 9mm/95 JSP – UK load
 - Developed new bullet design concept
 - Jacket retention an issue
 - Do not want to bond due to bonding machine capacity

ACTION: MARKETING TO PROVIDE DATA FOR SAMPLE TO BE AVAILABLE FOR CUSTOMER (JRF)

- HMF Jacketed Frangible P&R
 - 45 Auto EX run to be worked into schedule
- HMF Disintegrator Conversion
 - Complete: 9mm & 40 SW
 - 45 Auto, 38 Special, 357 Mag – this month
- HMF Jacketed Frangible Rifle
 - No misfires through 150 days using Anaerobic waterproofing
 - Asphalt-based waterproofing started at 120 days
 - No process in place to waterproof 223
 - Can be done if required

ACTION: OFFLINE DETERMINATION OF WHO WILL DEVELOP PROCESS (R&D)

- OTHER
 - Department of Energy – bid product we do not currently load
 - Match Ammo – purchased bullets – 190gr Sierra Matchking
 - Best Groups – 2" + only
 - Further testing of loaded Federal product will be done
 - Lead Shot
 - #4 Field
 - Warehousing

ACTION: MANUFACTURING TO PROVIDE RESPONSE ON WAREHOUSING IN OHL OR LONOKE FOR SALES

*****NEXT PRODUCT TEAM MEETING SCHEDULED
FOR NOVEMBER 19, 2003 IN LONOKE*****