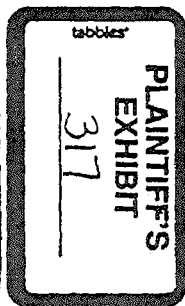
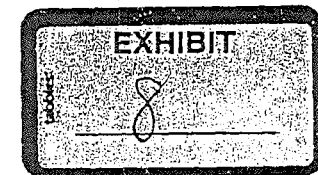


Remington Arms/IAMS Kickoff Meeting M/710 Project



Remington Arms Co. Inc. - Confidential



Elizabethtown, KY
November 3, 1997

11/3/97

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Williams v. Remington

ET00318

Overview

- Purpose
 - Introduce teams
 - Review project and program objectives
- Discuss IAMS approach
- Review design constraints
 - Major components and subsystems
 - Component properties (physical and mechanical)
- Wrap up

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ET00319

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The Teams

- **Remington Arms**

- Jim Ronkainen
- Derek Watkins
- Will James
- Dave Findlay
- Marlin Jiranek

- **IAMS/OSU**

- Dr. Anil Srivastava - IAMS
- Dr. Nuri Akgerman - OSU
ERC/NSM

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Program Objectives

- M/710 Rifle Program Objectives
 - Lower manufacturing costs than current product (at least 30% lower)
 - Build to order production instead of build to stock
- Process Selection Criteria
 - Agile manufacturing for a "build to order" production system for production volumes from 25,000 to 250,000 units annually
 - Low cost, net shape or near net shape parts
 - Reasonable capital equipment costs (total investment <\$2M)
 - Processes that are already in operation in other industries
 - Robust processes

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ET00321

Program Objectives

- Areas of Investigation (suggested but not limited to):
 - investment casting
 - powder metal and metal injection molding technology
 - forging and forming
 - conventional machining
 - electrochemical machining
 - assembly technologies

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Project Milestones

- Submission of proposals and costs are due by September 22, 1997
- Proposals evaluated and the consultant selected by October 17, 1997
- Completion of Nondisclosure Agreement by October 15, 1997
- Completion of Phase I by November 14, 1997
- Final report and invoice submitted to Remington by December 15, 1997

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ET00323

Design Constraints

- Barrel Assembly
 - Barrel - $\sigma_{\text{yield}} = 95 \text{ ksi (min)}$ $\sigma_{\text{ultimate}} = 115 \text{ ksi}$
 - Receiver - $\sigma_{\text{yield}} = 165 \text{ ksi}$ $\sigma_{\text{ultimate}} = 180 \text{ ksi}$
- Bolt Assembly
- Magazine
- Stock
- Trigger Assembly

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