

6/12/2006

1

### ***Agenda***

- ☐ Project Design Objectives
- ☐ Safety Pivoted Link Design Highlights
- ☐ How the Trigger Assembly Works
- ☐ Specification Comparison
- ☐ Design Acceptance Testing Key Activities

Remington/Case Design Co.

MAE Trigger Assembly Review

June 20, 2006

6/12/2006

2

### *Project Design Objectives*

#### ☐ Design Requirements (Must Have)

- ✓ Positive return of trigger to at least 75% of full engagement when safety is in SAFE position
- ✓ Safety must not return to SAFE position if return to 75% of full engagement is not possible
- ✓ Block trigger when safety is in SAFE position
- ✓ Fit into a M/700 and M/7 action

Remington Game Design

M/7 Trigger Assembly Owner

June 20, 2006

6/12/2006

3

### ***Project Design Objectives (cont'd)***

#### ☐ **Optional Features (Nice to Have)**

- ✓ Block both trigger and sear in SAFE position
- ✓ Corrosion resistant construction
- ✓ No or minimal lubrication required
- ✓ Tamper resistant
- ✓ Same or fewer parts than the current trigger assembly
- ✓ Improved performance characteristics
- ✓ Design portable to the M/710

Remington/Arms Development

M/710 Trigger Assembly Project

June 20, 2006

4

6/12/2006

4

### *Safety Pivoted Link Design Highlights*

#### □ Features

- ✓ Balanced trigger
- ✓ Sear lifted and trigger blocked
- ✓ Trigger blocking controlled in both directions by safety
- ✓ Sear stays in housing when disassembled from action (no additional parts required)
- ✓ Factory adjustment of engagement, trigger pull, and blocker
- ✓ Excessive trigger force causes safety engagement to increase
- ✓ Tamper evident
- ✓ LH trigger assembly only requires 4 different parts than RH

Remington Arms Company

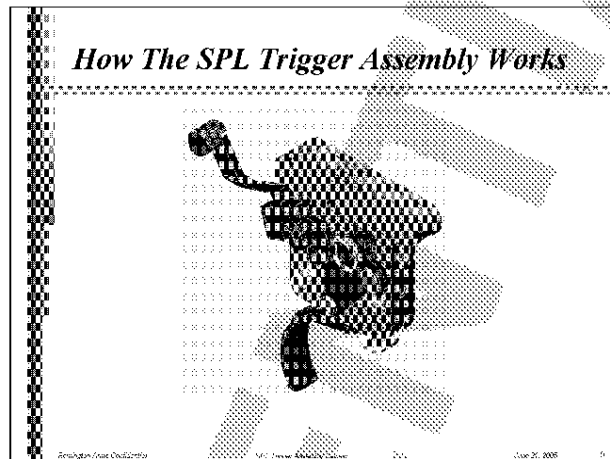
PTC - Trigger Assembly

June 21, 2005

1

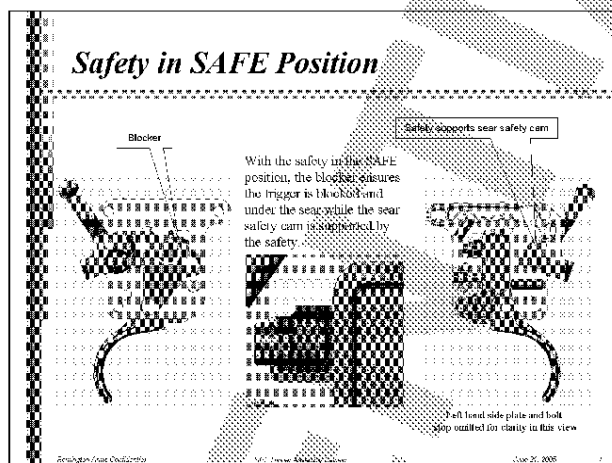
6/12/2006

5



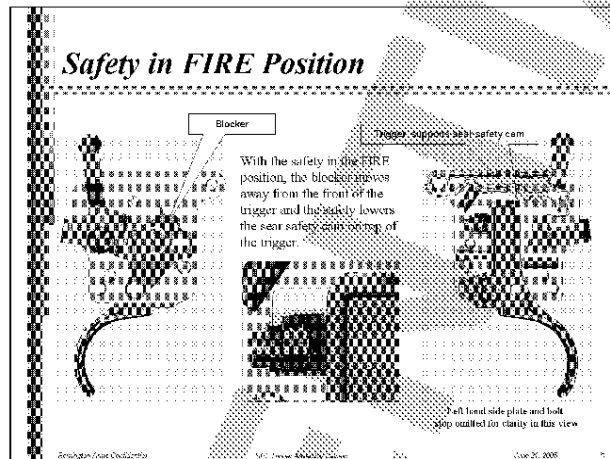
6/12/2006

6



6/12/2006

7



6/12/2006

8



**Trigger Assembly - Fired**

**Blocker**

When the trigger is pulled back the safety in the PTRF position the trigger rotates from beneath the rear safety can and allows it to drop, releasing the trigger pin. Forward motion of the trigger is resisted by the blocker.

**Trigger** - The trigger supports rear safety can; rear safety can falls gun fires

**Left hand side plate and bolt stop** qualified for clarity in this view

Reisington Game Outdoors  
 M107 Trigger Assembly - Owner  
 June 2008

9

### Trigger Assembly Design Comparison

Attribute	Current	SPL
Trigger return?	No	Yes
Connector?	Yes	No
Engagement adjustment?	Yes	Yes
Trigger pull force adjustment?	Yes	Yes
Overtravel adjustment?	Yes	No
Safety detent system?	Balanced Spring/Notes	Torsion Spring
Integral trigger housing spacers?	No	Yes
Sear safety cam retained in housing?	No	Yes
Corrosion resistant?	Some models	All models

Remington/Smith-DesCombe

MAE Trigger Assembly Design

June 20, 2006

30

6/12/2006

10

### Key DAT Activities

- ❑ **Component / Assembly Build and Inspection**
  - ✓ Extensive Component Dimensional Inspection - 28K Dimensions Checked
  - ✓ LARGE Sample size -> 60 trigger assemblies
  - ✓ Repetitive Tracking of Trigger Pul. Engagement and Blocker Adjustments
- ❑ **Full breadth of M700 and Seven product lines**
  - ✓ 57 guns // 24 SKUs // 10 calibers plus ML
- ❑ **Jar, Drop, Rotation, and Slam Sensitivity**
  - ✓ 840 SAAMI Jar/Drop/Rotation Drops Completed
  - ✓ Over 1000 Extended Jar/Drop/Rotation Drops Completed
  - ✓ Slam Test Completed
- ❑ **Endurance Testing:**
  - ✓ 53 guns = 500 mds // 24 Guns = 1K mds // 4 guns = 2K mds
  - ✓ 42500 total endurance rounds fired
  - ✓ Dry Cycle (3 Firecontrols thru 30K cycles each)
- ❑ **Extensive environmental testing**
  - ✓ -20°F through +120°F including Thermal Cycling
  - ✓ Dust and Debris
  - ✓ Corrosion

Remington Game Design

M700 Trigger Assembly Review

June 20, 2006

11

6/12/2006

11