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Remington Arms Company Inc.
RESEARCH & DEVELOPMENT TECHNICAL CENTER
315 WEST RING ROAD
ELIZABETHTOWN, KY 42701

allowed to deform around the two fixture pins. Once the magazine box had conformed to this geometry, the applied load increased with the displacement until the welds ultimately failed.

RESULTS:

Table 1 presents the maximum load obtained prior to failure of each of the magazine boxes as tested. This table also included the average, standard deviation, and the average minus three standard deviations for all ten boxes as well as for the last eight boxes tested (after the set-up change was performed).

M710 Magazine Box Weld Shear Test			
Maximum Load		Maximum Load	
Box No.	at Failure (lb.)	Box No.	at Failure (lb.)
1	2,354	6	2,820
2	2,184	7	3,285
3	3,029	8	3,393
4	3,486	9	3,321
5	3,624	10	3,197
3,037	10 Box Average	3,229	8 Box Average
459	10 Box St. Dev.	241	8 Box St. Dev.
1,660	10 Box $\mu-3\sigma$	2,506	8 Box $\mu-3\sigma$

Table 1. Individual testing results of each of the ten magazine boxes evaluated for weld strength.

Figure 4 presents a graph of a typical load / displacement curve for the weld strength testing. This graph has the key characteristics of the weld strength testing labeled directly in the regions of interest. These included the magazine box deformation (when the box deforms around the two fixture pins), the failure of the first of the two welds, and the failure of the second weld. This particular curve is of magazine number 8.

Jan. '01 Trial & Pilot Test - Remington M710 Centerfire Rifle;
R & D Technical Center Project No. 241039; TLW 0300
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