

1965 FIREARMS LINES (Cont'd.)XR Series Rim Fire Rifles (Cont'd.)

The receiver assembly strength of the Model 511 is inadequate for the new design. The breech has a wide extractor to allow for rotation of the Model 514 bolt face as the action is locked up. The area of the extractor slot acts as a "relief valve" and allows loads greater than 28,000 pounds pressure to rupture and blow through, thus limiting the stress. This is undesirable for the shooter's safety. However, it has apparently not been a major source of shooter injury in view of the low injury claim rate. This is probably accounted for by the very low frequency of over-pressure loads and by the location of the extractor slot away from the shooter.

Two other limitations in the Model 514 are the mechanism by which the barrel is attached to the receiver, and the strength of the bolt handle. Both will fail at about 36,000 pounds pressure. This does not usually happen due to the "relief valve action" of the extractor slot.

However, any new rim fire line will have a non-rotating bolt face to accommodate clip feed (as well as tubular and single shot). This will permit using a narrow extractor slot, giving more shell support, and reducing the shooter hazard of the wide extractor slot. Chamber pressure will be able to build up to 35,000 pounds with the narrow slot before the "relief valve action" occurs and the barrel to receiver attachment or the bolt handle would fail. Despite a 24,000 pound pressure maximum specification on rim fire ammunition, Research's experience to date with returned rim fire rifles that failed from over pressure indicates pressures as high as 85,000 pounds have been encountered.

The timing on the new design approach indicates starting release of design to the Plant in early July. Though it is still the desire for the new design to be introduced with the 1965 firearms line, there is now much more work involved to accomplish this. Research plans to display an appearance sample at the April meeting.

Model 600 Carbine - Caliber 35 Remington Magnum

Research displayed several samples of alternative laminated stocks. They also discussed product cost and earnings for alternative features and selling prices. Sales and Research will cooperatively select and recommend one alternative for Committee approval at the April meeting.