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SUGGESTION #12230

An investigation was made relative to your suggestion on a new method of riveting extractors in the bolt head of the M/600-700, XP-100 Bolt Action Rifles. Your proposal recommended a shorter rivet and a ball point type sledge punch. This method would eliminate filing the rivet. It would also avoid removing the browning on the present bolt head and area of the rivet.

Since the proposal involved a very critical area of the gun's fire control and function capabilities, it was forwarded to the Research Division for analysis. Their findings and recommendations were as a result of examining and checking the two sample bolt assemblies sent with the suggestion. The analysis was as follows:

"Original design concept was to have a bolt head with countersunk rivet hole on outside and ironed hole on inside, dimensioned such that after rivet operation there would be no material sticking above O.D. of bolt head. This would leave no material for grinding or filing after assembly of extractor.

It is felt that using a ball joint type punch and shorter rivet, it would not give as much or leave as much material to form as large a head as required to hold the extractor in place. This would allow for a weaker joint. Checking the present operation the punch being used was not the same as shown on the part print.

If a shorter rivet is required to fill the countersunk rivet hole without flash, this should be done. If this is not possible, then tightening tolerances would help but cost of manufacture would increase. If tolerances cannot be tightened and flash is the problem, then the ball point punch and short rivet is not the answer as weak joints would ensue.

The countersunk hole on the two small calibers could probably be increased if this would help, but there is not enough material on these magnum calibers to allow for deeper countersink."

A review of the analysis was also covered by the Plant Process Engineering Section, as follows:

"I concur - in order to have sufficient strength to insure rivet not loosening, outside rivet head must fill countersink. In order to insure that this is accomplished properly, rivet initially must be longer than