

sure the headspace didn't open up and the feeding plugs still operate. The manual cycle is gone through again and then the additional operation of a completed teardown to examine parts for breakage.

This brings us to the demerit rating system. Any safety item or any component failure that keeps the gun from operating in a normal fashion is 100 demerits. Any other functional item such as a malfunction that does not keep the gun from operating is 50 demerits. The 10 demerit category covers significant visual items that can be repaired or should be repaired. The one (1) demerit category covers cleanliness, minor marks and excess or minimum wood margin.

On the major demerits, we are running slightly ahead of last year. However, 1973 was an unusually good year from the standpoint of major demerit items, about 50% of the previous five year average. This chart (Exhibit 1F), shows a summary of 1974 finished gun audit and gallery performance on the 870, 1100, 700, 742 and 3200. Exhibit 1E shows 1973 performance.

Last year, 1973, there were a total of 24,904 component audits taken. Six hundred nine (609) or 2.4% were found to be out of control and needed adjustment. In the finished gun audits, there were 5,184 taken at an average of 1.5 demerits per unit. There were 368 machine studies taken and 56 special studies. Our last 100 demerit was in 1972 when the slide block came loose in the action bar and the one before that was in January, 1971, when the magazine cap fell off because of poor thread. 83

The next block of our Quality diagram is a measure of our performance as far as the customer is concerned. Two major reports give us information as to how well our product is performing in the hands of the customer. One is the Customer Complaint by Cause data as compiled by the Arms Service section. The other one is the Field Service Reports and Gunsmith Call Reports that come in from our Field Representatives.

This chart, (Exhibit 1G), shows the gross repair results of the last 10 years - on our major models - these are the individual years as the percent of the total guns returned to the guns produced that year. The next to last column shows the average repair costs in the plant, per gun. The last column shows warranty repair costs by gunsmiths.

In January to August of 1973, the customer returns on the Model 1100 were analysed, target guns only, as one of the first steps in starting the 1100 product improvement program. The complaints were divided into three main headings: functional, non-functional and customer error. There were 575 functional complaints compared to 475 non-functional complaints and 165 customer error. Customer error means the gun was returned and we found nothing wrong with it, or it was assembled improperly. It looks like we're about 50-50, half of the guns come back with functional problems or structural problems that prevent the gun from being used, the other half come back for other problems not of a functional nature.

A good measure of overall product performance is the test and target performance data. Exhibits 1H and 1J, are graphs of these characteristics for 1974 to date.