

PROCESS RESEARCH SECTION

MONTHLY REPORT

JUNE 1956

POWDER METALLURGY

The Pyron Corp. submitted a five hundred pound lot of Electrolytic iron powder for approval from which the previously reported impurities had been removed. Tests on this lot are favorable and it can be used in production. At the present time there is no concrete promise by the vendor as to the date when regular production of this powder will be resumed. Production will continue with substitute powders.

Powder metal Triggers are being pressed and Plant testing is progressing satisfactorily. A design change to remove stress raisers in the connector slot will be transmitted as soon as testing is completed. Twenty thousand (20,000) Triggers have been pressed and sintered as of 6-28-56.

Due to reports of rusting on the Spts.-58 Magazine Cap Stud in the field by Sales, a study of plating has been conducted. Corrosion tests on nickel plated powder metal parts have been made with satisfactory results, with more study under way. This change has been added to the model drawings for the orig. Spts.-58 Trigger and Stud.

Powder testing on samples from each 100% can used in production is under way to determine the necessary controls both for lot acceptance and variation information.

A progress report will be submitted next month to A.P.I. on powder metal heat treating per meeting with them on June 7, 1956.

The Battelle project will be reviewed July 20 at Columbus, Ohio.

#### POWDER METAL TOOLING

Coordination with the vendor by a visit to his plant and a visit by the vendor here is resulting in a better understanding of mutual manufacture and use problems which will result in more reliable tools. Additional sets of tools have been received, thus enabling production to produce parts well in advance of assembly schedules.

Tool designs for the M730 Front Sight have been completed and an order placed.

To experimentally evaluate a higher strength part, tools for pressing and coining hammers have been designed and ordered.

#### BARREL PROCESSING

Cast carboide barrel locators to drive barrels during drilling and turning have been tested. The life of these locators is relatively short. The vendor is to revise the insert material and submit additional samples.

#### FIXTURE TUMBLING

A visit was made to the vendor's plant to evaluate the new experimental fixtures developed for deburring and finishing. Spts.-58 Barrels and Receivers. Proposals for improved fixturing anticipate a substantial reduction of processing costs. Experimental units are expected in the Plant by July 1. A review with the Plant will be scheduled early in July.

#### POWDER METAL FINISHING

Powder metal parts have been experimentally finished by the submerged tumbling method at the vendor's plant. Quality of the finish and economics are such that an experimental unit is contemplated in the Production Department.

POWDER METAL FINISHING Continued

Powder metal Triggers and Magazine Cap Studs have been successfully barrel plated with nickel by a vendor. Tests indicate that the plating eliminates field rusting problems.

MODEL 572 COLOR MASTER SERIES

Tests are under way using various materials on polishing belts to determine their effect on white spots and swirl patterns in the final aluminum colored product. Sample processing to date indicates that both problems can be reduced by using a liquid soap on polishing belts and there is some indication that this approach can be applied in current production, thus reducing processing costs.

FIELD MANUAL

Quotes have been received for the binding and printing of a re-issue of the complete Field Repair Manual. Included will be new supplements for the M/740, Spts.-58, 572, and 40X. Fifteen current models will be included plus eight of the more recently discontinued models, for a total of twenty-three model supplements in the new manual.

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