

OPERATIONS COMMITTEE
(Product Safety Sub-Committee)

MINUTE #3-1971

R.H. Coleman
P.H. Burdett
J.P. McAndrews
E. Sparre
G.M. Calhoun
R.A. Partnoy

J.H. Hodgson
H.B. Harmon
L.J. Boyle
S.M. Alvis
L.L. Presnell
T.J. Sharpe
L. Fox

COPY NO. Book

Bridgeport, Connecticut
October 18, 1971

PRODUCT SAFETY SUB-COMMITTEE
OPERATIONS COMMITTEE
BRIDGEPORT, CONNECTICUT
October 5, 1971

PRESENT:

COMMITTEE

G.M. Calhoun, Chairman
J.P. McAndrews
E. Sparre
R.A. Partnoy
T.J. Sharpe, Secretary

J.G. Williams
H.M. Pierce, Jr.
F.E. Morgan
E.G. Larson
J.H. Lewis, Sr.
L. Fox
S.M. Alvis
L.L. Presnell
G.E. Puckett

The meeting convened at 10:30 a.m.

1REM 0002721-1

1LUN 0003120-1

The Committee heard the attached proposal "Improved Program of Quality Assurance for Critical Components", by the Superintendent of Firearms Product Engineering and Control. Detailed discussions of several points of the proposed program ensued.

COMMITTEE ACTION

The Committee approved the proposed program and directed Ilion Production and Research to implement the procedure.

The next meeting will be held at the call of the Chairman.

The meeting adjourned at 11:45 a.m.

T.J. Sharpe
Secretary

REM 0002722 1

ILUN 0008129 1

IMPROVED PROGRAM OF QUALITY ASSURANCE FOR CRITICAL COMPONENTS

Manufacturing product quality control procedures are in constant evolution. Today we are using an integrated system of self-inspections, machine studies, engineering audits, Research audits, function tests, final product audits, field surveys and analysis of customer returns and complaints to measure finished product quality. An entire quality control system is geared to provide assurance that the firearms manufactured at Ilion perform as designed.

Over the years, through accumulated know-how, we have assigned greater importance to the control of some components or characteristics which we have felt to be critical. These include but are not restricted to characteristics such as headspace, rear engagement, barrel steel integrity, and rifle bore and groove dimensions.

The Production Department is now recommending that Remington, while continuing to maintain the existing quality control system for all components, establish a still more comprehensive procedure to recognize and control critical components and characteristics. This procedure would be based on the criteria set forth in the attached charts.

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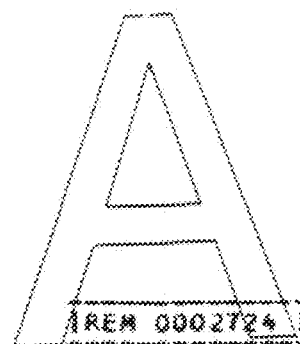
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CHART 1

CRITICAL COMPONENTS ARE:

- COMPONENTS, SUB-ASSEMBLIES OR ASSEMBLIES WHOSE FAILURE CAN CAUSE BODILY HARM.
- COMPONENTS, SUB-ASSEMBLIES OR ASSEMBLIES WHOSE FAILURE CAN CAUSE PROPERTY DAMAGE.

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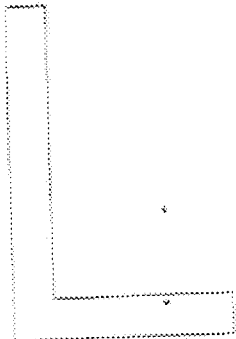
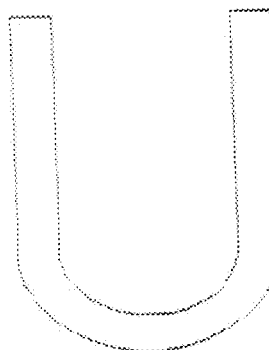
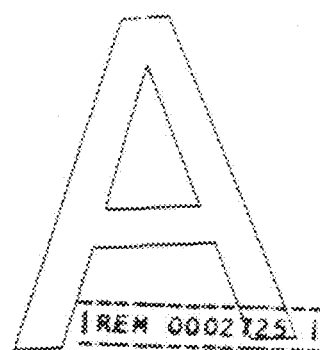
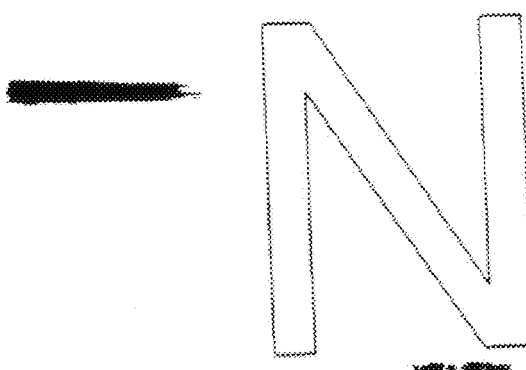


CHART 2

CRITICAL COMPONENT ASSURANCE PROCEDURE



- IDENTIFICATION
- DESIGN
- MANUFACTURING
- MANUFACTURING CONTROL
- COMPONENT TESTING
- CUSTOMER RETURNS



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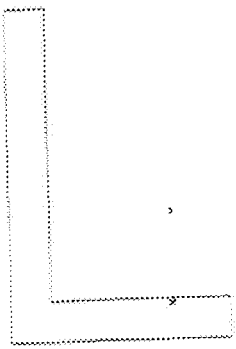
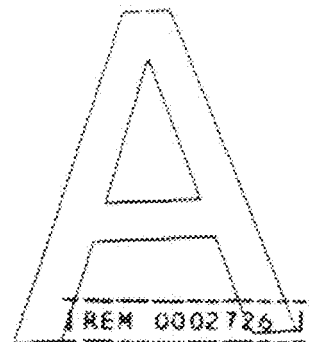
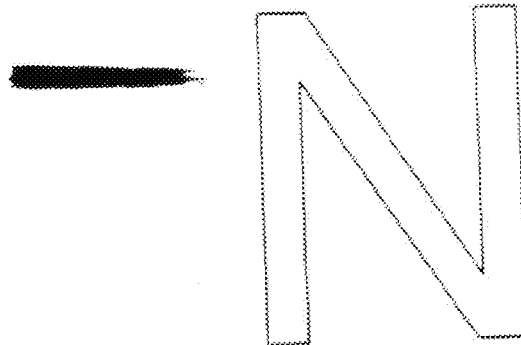
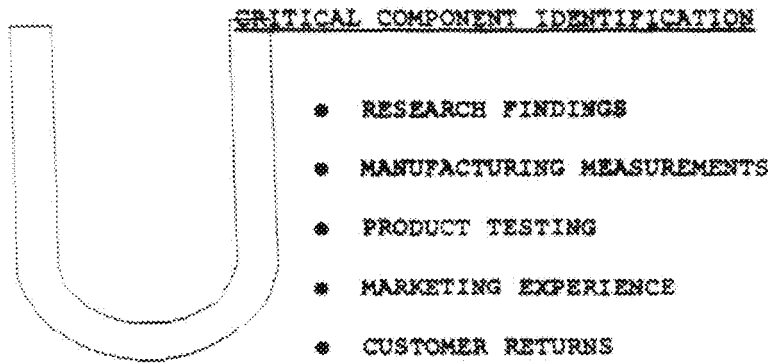


CHART 3



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CHART 4

DESIGN

- RESEARCH PARTS AND ASSEMBLIES TO ESTABLISH DESIGN LEVEL FOR CRITICAL TRAITS OR CHARACTERISTICS WITHIN COMPONENTS OR ASSEMBLIES.
- MEASUREMENT AND ANALYSIS OF STRESS, DENSITY, FATIGUE, ENVIRONMENT, WEAR, DIMENSIONS.
- WHERE POSSIBLE, MEASUREMENTS SHOULD INCLUDE MEAN AND STANDARD DEVIATION.
- DOCUMENT RESEARCH FINDINGS
- DESIGN LEVELS SHOULD BE BASED ON DOCUMENTED RESEARCH FINDINGS AND SHOULD INCLUDE EXPECTED VALUES AND ALLOWABLE VARIANCES.

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MANUFACTURING

- UTILIZE PRIMARY AND SECONDARY MANUFACTURING PROCESSES WHICH INHERENTLY ARE CAPABLE OF YIELDING COMPONENTS AND ASSEMBLIES TO DESIGN MODELS.
- UTILIZE VALID TESTS TO MEASURE ADEQUACY OF CONTROL OF IMPORTANT VARIABLES AS DEFINED BY RESEARCH.
- UTILIZE PERIODIC FINAL PRODUCT TEST TO MEASURE ADEQUACY OF CRITICAL COMPONENTS SUCH AS:

- OVERLOADS OF IMPORTANT TRAITS
- LIFE CYCLE TESTING
- TEST FOR PREDICTABLE MISUSES

[REM 0002728]

[LUN 0008135]

CHART 6

MANUFACTURING CONTROL

- MAINTAIN PROCEDURES FOR OUT OF CONTROL CONDITIONS AND DISPOSITION OF OFF-STANDARD PARTS.
- INTEGRATE FEEDBACK FROM CUSTOMERS, MARKETING AND REDESIGN INTO SYSTEM.

COMPONENT TESTING

- MAINTAIN RECORDS OF THE MEASUREMENTS OF CRITICAL TRAITS.
- ESTABLISH CORRELATION AMONG COMPONENTS, ASSEMBLY AND FINISHED PRODUCT TESTS.

CUSTOMER RETURNS

- CUSTOMER COMPLAINTS AND FIREARMS INCIDENTS INVOLVING SAFETY OR DAMAGE WILL BE COMPARED TO DESIGN AND MANUFACTURING CONTROLS.
- WHERE REQUIRED, DESIGNS OR MANUFACTURING PROCESSES WILL BE MODIFIED ON THE BASIS OF PRODUCT USE DATA.

1REM 0002729 1

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