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Project summary report: large bolted connections

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Project 317

LARGE BOLTED CONNECTIONS

Project Summary Report

by

Robert Kormanik

July 1966

Fritz Engineering Laboratory Report No. 317.3A
PROJECT SUMMARY

1. Records

1.1 Data Books

The basic data from all tests conducted to date is filed in loose-leaf notebooks, 8½ x 11-in. The contents of each book are listed in Appendix A.

1.2 Computer Program Writeups

All information concerning the computer programs used to study bolted or riveted joints are stored in two folders. The first is "Computer Programs Related to Bolted and Riveted Joints" and the second is "Computer Programs Related to Hybrid Bolted Connections", 317.3B. Both folders are maintained by Mr. Kulak in Room 421.

1.3 Record of Tests Conducted

A record is kept of every test conducted including the type of test, testing machine, personnel involved, date of test, and location of specimens. This record is currently being maintained by Mr. Allan in Room 206.

2. Inventory of Specimens and Equipment

2.1 Material Inventory

An inventory of the material of Project 317 is kept by Mr. Kulak. Location and amount of the material available is noted in the notebook.
3. Project Status and Reports

3.1 Project Status

Report 317.4 gives the current active and inactive phases of Project 317 current up to July, 1966.

3.2 Reports

A complete list of the reports completed is given in Report 317.4 current up to July, 1966.

3.3 Extra Copies

The following extra copies of Fritz Laboratory Reports are available from Mr. Kulak. This list also includes Project 288, as some reports are still available.

<table>
<thead>
<tr>
<th>Project 288</th>
<th>Project 317</th>
</tr>
</thead>
<tbody>
<tr>
<td>288.13A</td>
<td>317.2</td>
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<tr>
<td>288.17</td>
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<td>288.19</td>
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<td>288.26</td>
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</tr>
<tr>
<td>288.30</td>
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</tbody>
</table>

4. Photography

4.1 There has been no need to establish a data book for photographs as of this writing.

4.2 Slides

Slides are kept in Photo Book 1. An index is placed in front of the notebook. Dr. Fisher has charge of this book.
5. Recommendations

1. A more reasonable method of determining the coefficients for the bolt equation should be found. The present method of trial and error allows too great a variation in the answers obtained.

2. Two recommendations for further theoretical work are derived from Report 317.3. The first would be to include the behavior of hybrid joints when connected by rivets. The second recommendation would be to include the hybrid A36-A440 and A36-A514 joints when fastened by A490 bolts.

3. Three new sawed sections should be added to the Large Bolted Joints Board located on the floor of Fritz Laboratory. As illustrated on the attached sheet, space has been allotted for the following specimens:

   a. Sawed section of a A514 Steel joint, fastened by A325 Bolts
   b. Sawed section of any Hybrid Bolted Joint, fastened by A325 Bolts
   c. Sawed section of either an A514 Steel Joint fastened by A490 Bolts, or a Hybrid Bolted Joint, fastened by A490 Bolts

   Accompanying photographs should be mounted as done previously.

Attached sketch is also a permanent record of the sawed sections which are mounted.

6. Future Address

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833 Eureka 37
Windber, Pennsylvania
### APPENDIX "A"

### PROJECT 317 - DATA BOOK INDEX

<table>
<thead>
<tr>
<th>Book No.</th>
<th>Book Contains</th>
<th>Is Located</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Slides</td>
<td>403</td>
</tr>
<tr>
<td>2</td>
<td>(Number for photograph book)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>(Number for photograph book)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Shear calibration test of bolts for hybrid bolted connection study</td>
<td>421</td>
</tr>
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