



Finding Aid for

**PJ-31-1 INTERMITTENT JET ENGINE RECORDS, 1945-1946**  
**Accession 1907**

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**HISTORICAL NOTE**

In 1945, Ford Motor Company produced a jet engine for the United States Army Air Corps based on drawings of captured German V1 rocket bombs. Ford engineers developed testing protocols, procedures, and preliminary schedules for large-scale production of the early jet engines. The Allied defeat of Germany and Japan ended most war contracts, although Ford staff continued to work on the project until August 1946, when the jet engine program was cancelled.

**SCOPE AND CONTENT NOTE**

The PJ-31-1 Intermittent Jet Engine records consist of three series. The **Correspondence and Manuals series** includes departmental correspondence and a proof copy of the PJ-31-1 Intermittent Jet Engine service manual and parts list. The **Memorandum Reports series** contains numbered technical reports covering the development and design of various assemblies and subassemblies. The **General Program Reports series** includes test reports, calculation summaries, and general technical reports.

**BOX AND FOLDER LISTING**

**Box no.**                      **Description**

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**CORRESPONDENCE AND MANUALS**

**Box 1**

Department Communications, June 1945-July 1946 (5 folders)  
PJ-31-1 Handbook and Parts Catalog, circa 1945

**MEMORANDUM REPORTS**

- #2 Thrust and Specific Fuel Consumption Characteristics, April 3, 1945
- #3 Development and Testing of a Design Yoke, April 12, 1945
- #4 Experimental Testing of High Pressure Nozzles, April 20, 1945
- #5 Engine Thrust Development, May 22, 1945
- #6 Thrust Stand Calibration, May 22, 1945
- #7 Variable Fuel Supply Pressure, June 1, 1945
- #8 Experimental Flapper Valve, June 1, 1945
- #9 Thrust Stand Calibration, June 9, 1945
- #11 Corrugated Stainless Steel Engine, July 5, 1945

## **MEMORANDUM REPORTS (CONT.)**

### **Box 2**

- #13 12 Nozzle Grill Assembly, July 12, 1945
- #14 Rear Mount Expansion Bracket, July 12, 1945
- #15 Report on Replacement of Present Leather Airspeed Cup by Rubber Bellows, July 11, 1945
- #16 Life Tests of Standard and Stainless Steel Flapper Valves, August 10, 1945
- #17 Fuel Metering Curve, August 16, 1945
- #18 Design of Trunion Mount Bushing, August 20, 1945
- #19 Experimental Testing of Flapper Valves with .060 - .080 Opening, September 29, 1945
- #20 Comparison of the Combustion Chamber Pressure and Thrust Output of the Intermittent Jet Engine PJ-31-1

## **GENERAL PROGRAM REPORTS**

- Quick Change Power Plant Installation of One EP-47-D Airplane, May-October, 1945
- Performance Curves, MX544 Jet Engine, June 22, 1945
- Fuel Meter Tests PJ-31-1 Jet Engine, July 5, 1945
- Proposal: Jet Engine Installation on B-26 Airplane for Altitude Testing, July 5, 1945 (2 folders)
- Materials Test, Regulator Diaphragm—MX 544-9034, Fuel Metering Unit, August 8, 1945
- Complete Report & Design of Fuel Flow Unit for Maximum Thrust Control of Pulse Jet Engine, September 12, 1945

### **Box 3**

- Progress Report Engineering Department, MX-Project, September 5, 1945
- PJ-31-1 Engine Installation on AT-23 Airplane, March 27, 1946
- Field Service and Test Kit for PJ-31-1 Jet Engine, June 15, 1946
- MX-544 Project Parts List, undated