

## SHUTTLE SERIES

### RENDEZVOUS AND TRACKING DOCUMENTS

This subseries contains materials related to shuttle rendezvous and tracking operations. The majority of the documents are from 1974 to 1978 and consist of memos and presentations, as well as a number of JSC documents. The provenance of this collection appears to be Duane Mosel of CG5, the Orbit and Rendezvous Planning Section of the Crew Training and Procedures Division, Flight Operations Directorate. The collection has been arranged chronologically. The March 6, 1978 memo from Maxime Faget is of special interest. The Docking and Rendezvous Documents in the Center Series should be used in connection with this collection.

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|                    | MSC-02645 Logic and Equations for the Calculation of Trajectory Opportunities for a Spacecraft n Earth Orbit   | September 14, 1970 |
|                    | Space Shuttle GN&C Equation Document No.7 (Rev.3) Rendezvous Targeting   | July 1973          |
|                    | On-Orbit Targeting Review Meeting Minutes  | March 5, 1974      |
|                    | JSC-07896 Space Shuttle System Baseline Reference Missions - v.3, Mission 3A and Mission 3B, Revision 1  | May 7, 1974        |
|                    | JSC-07896 Space Shuttle System Baseline Reference Missions - v.1, Mission 1, Revision 1  | May 8, 1974        |
|                    | JSC-07896 Space Shuttle System Baseline Reference Missions - v.2, Mission 2, Revision 1  | May 29, 1974       |
|                    | JSC-09395 Functional Capability of the Current Mission- Design-and- Analysis-Subsystem Prototype   | February 7, 1975   |
|                    | JSC-09336 Preliminary Orbiter Functional Software Requirements for Onboard Orbital Maneuver Targeting and Flight Design Support  | February 28, 1975  |
|                    | JSC-07896 Space Shuttle System Baseline Reference Missions - v.2, Mission 2, Revision 2  | August 11, 1975    |
|                    | Rationale for Rendezvous Exercise during OFT   | August 29, 1975    |
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|                    | JSC-09339 Preliminary Detailed Requirements for the Orbital Maneuver Targeting Module for the Orbiter Onboard Computer, Revision 1 * This 302 page document has been scanned | July 11, 1975      |
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|                    | MPAD Proposal for First OFT Rendezvous   | February 12, 1976  |
|                    | Candidate Orbital Maneuver Targeting Software and Associated Crew Interface and Displays   | March 22, 1976     |
|                    | Change in Inertial Line-of-Sight Rate During Rendezvous Radar Operation  | April 8, 1976      |
|                    | Programmer's Guide   | June 1, 1976       |
|                    | JSC-11370 Shuttle Star Tracker Subsystem Operating Program Crew Optical Alignment Sight (COAS) Simulation  | June 18, 1976      |
|                    | Rendezvous Review Meeting (Papers on various topics)   | August 19, 1976    |

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| Impact of Non-Redundant Radar System on Development/Crew Training  | October 1, 1976   |
| Use of a Ground-Based Transponder for On-Orbit Testing of the Rendezvous Radar in a Cooperative Mode   | October 12, 1976  |
| Preliminary Evaluation of the Proposed OFT Rendezvous Verification Profile   | October 20, 1976  |
| New Ideas on P/L Retrieval   | October 28, 1976  |
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| Development of Ku-Band Transponders  | December 17, 1976 |
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| Software Support for Braking to an Offset- Feasibility Study Conceptual Review   | January 21, 1977  |
| JSC-11877 Mission 4 - A Shuttle Performance Assessment Mission   | January 24, 1977  |
| Division of the Nominal Shuttle Rendezvous Profile into Specific Regimes   | January 27, 1977  |
| Comparison of the Hughes Ku-Band Radar Proposal with the Rockwell International Procurement Specifications Relative to Radar Tracking Errors | February 9, 1977  |
| Radar System Self Test Description   | March 21, 1977    |
| Ku-Band System Radar Self Test Status  | April 19, 1977    |
| Special PRCB on Communications and Tracking System   | April 19, 1977    |
| JSC-11446 Preliminary Rendezvous Targeting and Relative Motion Algorithms for FSSR Input, Revision 1   | April 21, 1977    |
| Addition of Radar Antenna Gimbal Angles Model to SES   | April 22, 1977    |
| Rendezvous Profile Summary   | May 10, 1977      |
| Ku-Band Radar Displays   | June 14, 1977     |
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| NASA TM-78668 An Introduction to Shuttle/LDEF Retrieval Operations: The R-Bar Approach Option  | February 1978     |
| Why don't we try a new approach to rendezvous now? (Memo from Maxime Faget)  | March 6, 1978     |
| JSC-13913 Orbiter Payload Proximity Operations SES Postsim Report  | March 1978        |
| Feasibility Assessment for Targeting and Navigation Support  | April 14, 1978    |
| OPS 2 Scrub Issue  | April 25, 1978    |

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| Terminal Phase Rendezvous<br>Propellant Minimization Techniques<br>Post Simulation Report | May 1978           |
| Proximity Operations  | June 9, 1978       |
| JSC-14270 Orbit IMU Alinement   | June 1978          |
| JSC-14393 Orbit Targeting Specialist<br>Function  | August 1978        |
| Orbit Targeting Software Status   | September 13, 1978 |
| Orbit Targeting (3 papers)  | 1978-1979          |
| Orbit Targeting Software History and<br>Status  | February 23, 1979  |
| Supporting Double-Coelliptic<br>Rendezvous with Skylab DKI Software                       | July 31, 1979      |
| JSC-12799 STS-1 Flight Data File<br>Crew Activity Plan (Final)                            | March 2, 1981      |
| Comments on Jeff Hoffman's<br>Rendezvous Memo   | September 16, 1981 |
| SMM Rendezvous Developments   | February 17, 1982  |
| SMRM Rendezvous Profile Baseline  | May 3, 1983        |
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