

WWW.CHROMEHOOVES.NET

WWW.CHROMEHOOVES.NET

Technical Manuals

WWW.CHROMEHOOVES.NET



MASTER ACTIVITIES PLAN

Site Manufacturing



TECHNICAL MANUALS

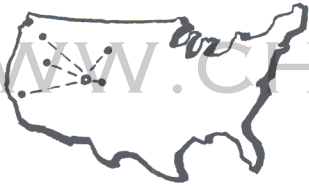
1. The purpose of this section is to acquaint the reader with the types of Technical Manuals applicable to the SM68 missile weapon system. The Technical Manuals described herein are prepared for the Air Force by the Technical Publications Department of the Field Services and Support Division of The Martin Company.

The Technical Manuals are designed primarily for use by Air Force Personnel in maintenance, inspection and operation of the weapon system.

The Technical Manuals must be validated and verified prior to acceptance by the Air Force. Those manuals not previously verified at the Training Facilities Bases will be verified at the Operational Bases.

The Checklist T.O.'s will be used as procedures to conduct acceptance demonstrations during the Activation Exercises.

2. A list of the Field Maintenance Manuals, Operational and Organizational Maintenance Manuals, General Weapon System Manuals, Illustrated Parts Breakdown Manuals and Inspection Requirements Manuals that pertain to the WS 107A-2 weapon system is included in the second portion of this section. The T.O.'s are listed under specific system for which they are applicable.



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

TYPES AND DESCRIPTIONS OF TECHNICAL MANUALS

LIST OF APPLICABLE PUBLICATIONS (LOAPS)

The LOAPS (T.O. 21-SM68-01) is a numerical listing of T.O. numbers with titles of all technical manuals used for administration, operation, and maintenance of the SM68 missile weapon system.

GENERAL MANUAL

The General Manual (T.O. 21-SM68-1) provides a general description of the integrated SM68 missile weapon system and its functions. Inter-relationships of the weapon system subsystems, personnel, ground support equipment, and facilities are described. Theory is confined to brief, general discussions. The manual is written in simple, clear language for personnel requiring a broad rather than a detailed knowledge of the weapon system. Technical terms have been avoided where possible, but those used are defined in the glossary. No operation or maintenance instructions are included in this manual.

LAUNCH OPERATIONS JOB MANUAL

The Launch Operations Job Manual (T.O. 21-SM68-1J-1-1) contains all the procedure instructions for launch readiness monitoring, countdown, and in-flight and post launch operations.

OPERATION AND ORGANIZATIONAL MAINTENANCE MANUALS

The Operation and Organizational Maintenance manuals (commonly referred to as the -2 manuals) contain all information necessary for qualified technicians to operate and maintain the airborne equipment, ground operating equipment (GOE), and ground support equipment (GSE) while these equipments are installed at the launch complex. These manuals are job-oriented and divided into three parts: Job Procedures Manual, Function Manual, and Diagram Manual. The job procedures manuals tell personnel how to operate equipment.



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

and do the organizational level maintenance required for the weapon system. The function manuals provide operating and maintenance personnel with sufficient background information to understand their jobs. The diagram manuals contain data flow and power distribution diagrams to be used with the trouble analysis procedures contained in the job manuals. The diagram manuals support the physical and functional descriptions in the function manuals and supplement the trouble analysis procedures in the job manuals.

FIELD MAINTENANCE MANUALS

Field maintenance manuals contain instructions for repair of airborne equipment, GOE, and GSE. These instructions include troubleshooting within modules or components of a system, bench repair, and modification. Instructions are included for periodic inspection and calibration to insure operational standards for items to be returned to use or storage.

OVERHAUL MANUALS

Overhaul manuals provide complete repair and rebuild instructions for experienced maintenance technicians. They include complete disassembly procedures supported by exploded view illustrations showing individual parts and components indexed in disassembly sequence. Complete cleaning, inspection, repair, and replacement and reassembly instructions are supported by illustrations necessary to clarify the procedures. These manuals also provide test procedures and supporting illustrations for individual assemblies and components, and final test procedures for the completely assembled equipment. When required by the detail specification, a group assembly parts list is included at the end of overhaul manuals.

ILLUSTRATED PARTS BREAKDOWN (IPB) MANUALS

IPB's illustrate, list, and describe all parts necessary for support of each particular end item of equipment, except bulk stock items and parts which lose their identity by being permanently joined to other listed parts.

An IPB consists of a Table of Contents; Section I, Introduction; Section II,



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

Group Assembly Parts List; Section III, Numerical Index; and Section IV, Reference Designation Index (when applicable).

The Introduction contains general information on how to use the manual, a list of vendors and their codes, and an explanation of all source codes used by the procuring activity.

The Group Assembly Parts List itemizes all parts of the equipment in disassembly order. The parts list employs an indention system which permits the determination of the next higher assembly to which a part pertains and all the detail parts which comprise any assembly. Each assembly or sub-assembly listed is illustrated to the degree required to identify its detail parts, including attaching hardware.

The Numerical Index is a tabular listing, in alpha-numerical order, of part numbers contained in Section II. Section III also contains total quantities of parts, location of parts in Section II, all available Federal Stock Numbers, and source codes applied to parts by the procuring activity.

The Reference Designation Index is a tabular listing, in alpha-numerical order, of all reference designation numbers shown in text, schematics, and wiring diagrams contained in Operation and Organizational Maintenance, Field Maintenance, and Overhaul manuals pertaining to equipment covered by the IPB. Section IV also contains location of parts in the Group Assembly Parts List, part numbers, and all available Federal Stock Numbers.

IPB's are used by the procuring activity for requisitioning, storing, issuing, and identifying parts; and also as a reference for assembly and disassembly relationship.

CHECKLISTS

The Checklists are an abridgment of the procedures contained in the operation and organizational maintenance manuals. These abbreviated procedures support the following operations: receipt of the missile at the airfield, unload, convoy, transportation and installation, checkout, exercise, readiness,



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

monitoring, countdown, recycle, post launch, preparation for shipment, and storage. The checklists are prepared in phases. (A phase is a major independent or semi-independent process or function.) Checklists tell what tasks to do, when to do the tasks, the number of and the specific Air Force Specialty Code number of personnel required to do the tasks, and the time required to do the tasks. Checklists do not tell how to perform the work, nor do they support periodic inspections, replacements, calibrations, and unscheduled maintenance.

CHECKLIST SEQUENCE CHARTS

The checklist sequence charts cover the checklist procedures. These charts serve as a guide to squadron maintenance personnel in preparing work schedules. The charts also serve as an aid in controlling work assignments and the sequence in which tasks are accomplished. They provide a ready reference for determining the progress of the operations.

INSPECTION REQUIREMENTS MANUAL

The Inspection and Requirements Manual (T.O. 21-SM68-6-1) indicates, in tabular form, the items of the weapon system complex that must be inspected, the frequency of inspection, the conditions sought, and the time (man-minutes) required to perform the inspection. The manual is orientated to a major area, minor area, system, subsystem, and end-item concept.

INSPECTION WORK CARDS

Inspection work cards outline the minimum inspection requirements for maintenance of the SM68 missile weapon system. Work cards provide a convenient guide to use while performing an inspection. A set of work cards is prepared for each inspection of the Launch Complex or Squadron Maintenance area. Cards within each set are grouped according to the Air Force Specialty Codes of maintenance personnel required to perform the inspection. All inspection items are grouped by work areas to present the most logical sequence for performing the inspection. Each inspection requirement is covered individually.



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

Requirements on each card are confined to items that can be accomplished by maintenance personnel having one Air Force Specialty, or by specialists within a specified work area or convenient combination of work areas. Where practical, the time to accomplish the requirements on any one card is limited to two hours.

INSPECTION SEQUENCE CHARTS

The inspection sequence charts depict a work schedule for accomplishing inspection. They serve as a guide to squadron maintenance personnel in preparing actual work schedules. The charts also serve as a means of controlling the assignment of work during an inspection and as a ready reference for determining the progress of an inspection.

REPLACEMENT AND CALIBRATION SCHEDULE

The Replacement and Calibration Schedule (T.O. SM68-6-4) lists and identifies, in tabular format, all items of the weapon system which must be replaced on a timely basis.

TIME COMPLIANCE TECHNICAL ORDERS (TCTO's)

TCTO's cover precautionary instructions relating to the safety of operation or inspection of equipment, or instructions for accomplishing a one-time change in equipment, or both when applicable. A TCTO may also be prepared to cover a record of one-time changes to equipment. These technical orders are prepared in four types (Immediate Action, Urgent Action, Routine Action, and Record Type) indicating the importance or urgency of accomplishing the work involved.

INTERIM EQUIPMENT PROCEDURES (IEP's)

Interim Equipment Procedures support operation and maintenance of Real Property Installed Equipment (RPIE) during Installation and Checkout activities. IEP's are prepared for each of the six facility systems, and they consist of all available vendor data identified and packaged in a usable manner. The IEP's support the Interim System Procedures by providing operation and maintenance information on individual pieces of RPIE.



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

INTERIM SYSTEM PROCEDURES (ISP's)

Interim System Procedures support operation and maintenance of RPIE systems during installation and checkout activities. ISP's are prepared to support each of the six RPIE systems at each operational base. Each ISP is divided into several parts which cover the operation and maintenance of a system in a particular area. ISP's serve as valid information until they are replaced by Air Force Technical Orders.

INTERIM WORK CARDS (IWC's)

Interim Work Cards support scheduled maintenance activities on RPIE during installation and checkout activities. The work cards are essentially an inspection checklist which specifies what inspections must be performed, the frequency with which they must be performed, and the area where the equipment is located. References are made to specific IEP's and ISP's for detailed information on how the inspections are performed.



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

TECHNICAL MANUALS

T.O. NUMBER

DESCRIPTION

A. WEAPON SYSTEM

- | | |
|--------------------|--|
| 1. 21-SM68-1 | General Weapon System WS 107A-2 |
| 2. 21-SM68-01 | List of Applicable Publications |
| 3. 21-SM68-1J-1-1 | Missile Launch Operation |
| 4. 21-SM68-1FJ-1-2 | Radio-Inertial Guidance Operations |
| 5. 21-SM68-4-2 | Operational System Test Facility |
| 6. 21-SM68-6-1 | Inspection Req. |
| 7. 21-SM68-6-4 | Replacement and Calibration Requirements |
| 8. 21-SM68-06 | Work Unit Code |

B. MISSILE SYSTEM

- | | |
|-------------------|----------------------------|
| 1. 21-SM68-2J-2-1 | Handling |
| 2. 21-SM68-2D-2-1 | Diagrams |
| 3. 21-SM68-3 | Airframe Structural Repair |
| 4. 21-SM68-4-1 | Assembly Complete SM68 |
| 5. 35D3-11-20-2 | Guided Missile Trailers |
| 6. 35D3-11-20-4 | Guided Missile Trailers |

C. ROCKET ENGINE SYSTEM

- | | |
|--------------------|---------------------------|
| 1. 21-SM68-2F-3-1 | Rocket Engine System |
| 2. 21-SM68-2J-3-1 | Rocket Engine System |
| 3. 21-SM68-2D-3-1 | Rocket Engine System |
| 4. 21-SM68-2D-3-2 | Diagram |
| 5. 2K-LR87-2 | XLR87-AJ-3 Rocket Engine |
| 6. 2K-LR87-4 | XLR87-AJ-3 Rocket Engine |
| 7. 2K-LR91-2 | XLR-87-AJ-3 Rocket Engine |
| 8. 2K-LR91-4 | XLR-87-AJ-3 Rocket Engine |
| 9. 31X2-63-4-1 | Engine Alignment Kit |
| 10. 31X2-63-4-4 | Engine Alignment Kit |
| 11. 31X3-10-10-2-2 | Ground Based Components |
| 12. 31X3-10-10-4 | Ground Based Components |
| 13. 33D9-17-25-1 | Thrust Control Test Set |
| 14. 33D9-17-25-4 | Thrust Control Test Set |
| 15. 35A4-2-3-1 | Maintenance Stands |
| 16. 35A4-2-3-4 | Maintenance Stands |
| 17. 35A4-3-7-1 | Work Stand Assembly |
| 18. 35A4-3-7-4 | Work Stand Assembly |



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

T.O. NUMBER	DESCRIPTION
<u>C. ROCKET ENGINE SYSTEM (Cont'd.)</u>	
19. 35A4-5-6-1	Maintenance Stands
20. 35A4-5-6-4	Maintenance Stands
21. 35A4-5-7-1	Maintenance Stands
22. 35A4-5-7-4	Maintenance Stands
23. 35E17-4-1	Decontaminating Unit
24. 35E17-4-4	Decontaminating Unit
<u>D. RE-ENTRY VEHICLE SYSTEM</u>	
1. 21-SM68-2F-5-1	Function
2. 21-SM68-2J-5-1	Handling, Servicing and Repair S & I
3. 31-SM68-2J-5-2	Checkout & Trouble Analysis S & I Area
4. 21-SM68-2J-5-3	Launch Site
5. 21-SM68-4-4	Mark IV
6. 21-SM68-6-3	S & I Area, Series IV
7. 11R1-3-2	Re-Entry Vehicle, Series IV
8. 11N-T-55	Misc. Special Test Equipment
9. 11N-T290-2	T290-TEST SET, includes F28
10. 31X3-10-11-2-2	Ground Based Components
11. 31X3-10-11-4	Ground Based Components
12. 31X3-10-18-2	Ground Based Components
13. 32A20-3-4-4	Separation Mechanism Tools, Mark IV
14. 33D9-64-5-2	Electronic GSE, Operating Equip., Maint. Test Set
15. 33D9-64-5-4	Electronic GSE, Operating Equip., Maint. Test Set
16. 33D9-64-6-2	Test Set, Mark IV
17. 33D9-64-6-4	Test Set, Mark IV
18. 33D9-64-7-2	Impact Detector, Impact Test Set
19. 33D9-64-7-4	Impact Detector, Impact Test Set
20. 33D9-64-8-2	Electronic GSE, Interface Test Set, Series IV
21. 33D9-64-8-4	Electronic GSE, Interface Test Set, Series IV
22. 33D9-64-9-2	Electrical Cable Test Set, Mark IV
23. 33D9-64-9-4	Electrical Cable Test Set, Mark IV
24. 33D9-64-9-3	Electronic Ground Support Equip. A & F Comp. Test Set
25. 33D9-68-7-2	Electrical Cable Test Set
26. 35D3-11-19-1	Mech. GSE - Closed Trailer
27. 35D3-11-19-4	Mech. GSE - Closed Trailer
28. 35D3-29-3-1	Mech. GSE - Positioning Dolly Truck
29. 35D3-29-3-4	Mech. GSE - Positioning Dolly Truck
30. 35D8-10-4-1	Mech. GSE - CRADLE
31. 35D8-10-4-4	Mech. GSE - CRADLE
32. 35D25-7-2-1	Mech. GSE, Tie-Down Puller Assembly



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

T.O. NUMBER	DESCRIPTION
<u>E. RADIO-INERTIAL GUIDANCE COMPUTER SYSTEM</u>	
1. 21-SM68-2F-6-1	Computer and Peripheral Equipment
2. 21-SM68-2J-6-1	Checkout
3. 31-SM68-2J-6-2	Trouble Analysis
4. 21-SM68-2J-6-5	Service and Repair
5. 21-SM68-2D-6-1	Radio Inertial Guidance System Computer Flow Diagrams
6. 21-SM68-2D-6-6-1	Wire Tabulations Part I
7. 21-SM68-2D-6-6-2	Wire Tabulations Part II
8. 21-SM68-2D-6-6-3	Wire Tabulations Part III
9. 21-SM68-2F-6-2	Ground Support Equipment
10. 21-SM68-2J-6-4	Trouble Analysis
11. 21-SM68-2J-6-7	Servicing and Repair
12. 21-SM68-2D-6-3	Equation File A-U
13. 21-SM68-2D-6-4	Equation File V-Z
14. 21-SM68-2D-6-5	Equation File Simulator
15. 21-SM68-2D-6-7	Wire Tabulations
16. 21-SM68-2D-6-8	Wire Tabulations
17. 21-SM68-2D-6-9	Maintenance Tape Recorder
18. 21-SM68-2D-6-10	Command Timing Diagrams
19. 21-SM68-2F-6-3	Power
20. 21-SM68-2J-6-3	Trouble Analysis
21. 21-SM68-2J-6-6	Servicing and Repair, Power
22. 21-SM68-2D-6-2	Schematic and Power Distribution Diagram
23. 21-SM68-2F-6-4	Simulator
24. 21-SM68-2F-6-5	Maintenance Routine Analysis
25. 21-SM68-6-2	Radar Computer, Antenna Protecting and Elevating Set, and Ground Support Equipment
26. 31X7-2-36-4	Console
27. 31X7-2-37-4	Eraser, Magnetic
28. 31X7-3-24-4	Guidance Computer
29. 31X7-3-25-4	Guidance Computer, Control, Computer
30. 31X7-5-19-4	Power Distribution Group
31. 31X7-5-20-4	Power Supply Group
32. 31X7-14-8-4	Converter Digital to Digital
33. 31X7-16-4-4	Radar, Range Computer Digital
34. 31X7-16-7-4	Arithmetic Unit, Computer
35. 31X7-22-6-4	Switching Unit, Simulating Data
36. 31X7-24-5-4	Magnetic Drum, Data Storage
37. 31X7-24-6-4	Cone Memory Unit
38. 31X7-26-3-4	Printer, Digital Data
39. 31X7-29-4-4	Reproducer Group Signal Data
40. 31X7-33-3-4	Data Input Processor-Verifier



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

T.O. NUMBER	DESCRIPTION
E. <u>RADIO-INERTIAL GUIDANCE COMPUTER SYSTEM (Cont'd)</u>	
41. 33D9-6-19-4	Guidance Computer, Test Set, Elect. Power
42. 33D9-14-20-4	G.C., Simulator, Verifier
43. 33D9-38-5-4	G.C., Test Set, Electronic Circuit, Plug in Unit
44. 35C2-2-56-4	Motor Generator Assembly
F. <u>RADIO-INERTIAL GUIDANCE SYSTEM</u>	
1. 21-SM68-2F-7-1-1	Radio-Inertial Guidance System
2. 21-SM68-2F-7-1-2	Radar-Description of System Function, Guidance Conditioning and Status-Command Guidance, Tracking and Monitor Loops
3. 21-SM68-2F-7-1-3	Radar-Description of System Function, Guidance Exercise, Timing and Maintenance
4. 21-SM68-2F-7-1-4	Radar-Description of System Functions Power Loops
5. 21-SM68-2FJ-7-1	Missile Guidance Set and Guided Missile Test Set
6. 21-SM68-2FJ-7-2	Antenna Protecting and Elevating Set
7. 21-SM68-2J-7-1-1	Radar Check List and Trouble Analysis
8. 21-SM68-2J-7-1-2	Handling, Servicing and Repair
9. 21-SM68-4-3	Ground Operating Equipment
10. 21-SM68-6-2	Radar Computer, Antenna Protecting and Elevating Set and Ground Support Equipment
11. 10C1-5-2-1	Camera Group-Motion Picture
12. 12S7-2DKT15-2	Telemetric Data XMTR Set
13. 12S7-2DKT15-4	Telemetric Data XMTR Set
14. 31X7-2-7-2	Antenna Protecting Elevating
15. 31X7-2-7-4	Antenna Protecting Elevating
16. 31X7-2-9-4	Radar, Missile Guidance Console
17. 31X7-2-10-4	Radar, Missile Guidance System Exercise Set
18. 31X7-2-11-4	Radar, Missile Tracking Antenna, Receiver Transmitter
19. 31X7-2-12-2-1	Radar, IF and Servo Units
20. 31X7-2-12-2-2	Radar, RF and Video Units
21. 31X7-2-12-2-3	Radar, DC and Relay Units
22. 31X7-2-12-2-4	Radar, Power Supply and Regulator Units
23. 31X7-2-12-2-5	Radar Transistorized Units
24. 31X7-3-10-4	Radar, Electric Power Plant
25. 31X7-3-11-4	Radar, Antenna Control Group-Radar Position
26. 31X7-5-14-4	Radar, Power Supply Set
27. 31X7-5-15-4	Radar, Power Switchboard



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

T.O. NUMBER	DESCRIPTION
F. <u>RADIO-INERTIAL GUIDANCE SYSTEM (Cont'd.)</u>	
28. 31X7-5-16-4	Radar, Electric Power Plant
29. 31X7-6-7-4	Radar, Missile Guidance System Exercise Set
30. 31X7-8-17-4	Radar, Antenna Group-18KV, Trigger Amplifier and HP Servo
31. 31X7-14-4-4	Radar, Digital Data Converter Group
32. 31X7-14-5-4	Radar, Electric Power Plant
33. 31X7-16-5-4	Radar, Missile Guidance System Exercise Set
34. 31X7-18-4-4	Radar, Antenna Equipment Group Level and Gyro
35. 31X7-19-3-4	Radar, Antenna Control Group Angle Tracking
36. 31X7-22-4-4	Radar, Antenna Selector
37. 31X723-3-4	Radar, Power Supply Set A-Antenna Terminal
38. 31X7-23-4-4	Radar, Power Supply Set B-Antenna Terminal
39. 31X7-24-3-4	Radar, Signal Data Recorder Events
40. 31X7-25-3-4	Radar, Collimation Antenna-Must Group
41. 31X7-27-3-4	Radar, Forget Assembly Orientation
42. 31X7-28-3-4	Radar, Electronic Equipment Maintenance Kit
43. 31X7-34-4-4	Signal Data Recorder Monitor Set-Plotting Board
44. 31X7-35-3-4	Radar Receiving Group
45. 31X7-44-5-4	Radar Command Signals Decoder
46. 31X7-45-8-4	Radar Reference Signal Generator CTU
47. 31XA8-4-3	GOE
48. 33D9-3-48-2-1	Guided Missile Test Set, (GMTS) RF and Video Units
49. 33D9-3-48-2-2	Guided Missile Test Set Power Supply and Regulator
50. 33D9-3-48-2-3	GMTS, Power Supply and Regulator Units
51. 33D9-3-48-2-4	GMTS, Transistorized Units
52. 33D9-3-48-4	GMTS
53. 33D9-6-18-2	Electronic Subassemblies Test Set Console-PS and Regulator
54. 33D9-6-18-4	Electronic Subassemblies Test Set Console-PS and Regulator
55. 33D9-42-4-4	Radar, Test Set Radar-RF
56. 33D9-88-4-2	ESTS-Test Console-DC and Relay Units
57. 33D9-88-4-4	ESTS-Test Console-DC and Relay Units
58. 33D9-98-3-2	ESTS-Test Console-IF and Servo Units
59. 33D9-98-3-4	ESTS-Test Console-IF and Servo Units
60. 33D9-115-2-2	ESTS-Test Set, Test Console-Transistorized Unit
61. 33D-116-2-2	ESTS-Test Set, Test Console-RF and Video Units
62. 33D-116-2-4	ESTS-Test Set, Test Console-RF and Video Units
63. 33D-119-2-2	ESTS-Test Set, Test Console-RF and Video Units



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

T.O. NUMBER	DESCRIPTION
G. <u>LAUNCHER SYSTEM</u>	
1. 21-SM68-2F-8-1	Function
2. 21-SM68-2J-8-1	Operational Checkout and Trouble Analysis
3. 21-SM68-2D-8-1	Diagram
4. 21-SM68-2J-8-2	Handling, Servicing and Repair
5. 21-SM68-2J-8-3	Structural Repair
6. 35M3-2-4-2-1	Hydraulic and Mechanical Equipment
7. 35M3-2-4-2-2	Logic Chassis
8. 35M3-2-4-4	Launcher System
H. <u>HYDRAULIC SYSTEM</u>	
1. 21-SM68-2FJ-9-1	Function & Job
2. 33D9-4-9-1	System Components Test Stand
3. 33D9-4-9-2	System Components Test Stand
4. 33D9-4-9-4	System Components Test Stand
5. 35M2-3-5-2	Hydraulic Pumping Unit
6. 35M2-3-5-4	Hydraulic Pumping Unit
I. <u>ELECTRICAL SYSTEM</u>	
1. 21SM68-2F-10-1	Electrical System
2. 21SM68-2J-10-1	Electrical System
3. 21SM68-2D-10-1	Electrical System
4. 21SM68-2D-10-2	Diagram
5. 31X3-10-12-2	GBC Control-Monitor
6. 31X3-10-12-4	GBC Control Monitor
7. 35C2-2-53-2	Motor Generator
8. 35C2-2-53-4	Motor Generator
9. 35C3-3-37-2	Power Supply-28V DC
10. 35C3-3-36-4	Power Supply-28V DC
11. 35C3-3-37-2	Battery Power Supply
12. 35C3-3-37-4	Battery Power Supply
J. <u>FLIGHT CONTROL SYSTEM</u>	
1. 21-SM68-2F-11-1	Function
2. 21-SM68-2J-11-1	JOB
3. 21-SM68-2D-11-1	Diagram
4. 21-SM68-2D-11-2	Diagram
5. 31X3-10-10-2-1	Ground Based Components
6. 31X3-10-10-4	Ground Based Components



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

T.O. NUMBER	DESCRIPTION
K. <u>PROPELLANT SYSTEM</u>	
1. 21-SM68-2F-12-1	Propellant System Function
2. 21-SM68-2J-12-1	Propellant System Job
3. 21-SM68-2D-12-1	Diagram
4. 21-SM68-2J-12-2	Checkout and Trouble Analysis Facilities Job
5. 21-SM68-2J-12-3	Handling, Servicing and Repair Facilities Job
6. 21-SM68-2D-12-2	Diagram
7. 31X3-10-11-2-1	GBC
8. 31X3-10-11-4	GBC
9. 31XA9-5-1	Pump Power Driven Reciprocating Vacuum
10. 31XA9-5-4	Pump Power Driven Reciprocating Vacuum
11. 31XA17-2-3	Pump Power Driven Reciprocating Vacuum
12. 33D9-2-5-1	Fuel System Components Test Stand
13. 33D9-2-5-4	Fuel System Components Test Stand
14. 33D9-31-10-1	Pneumatic System Components Test Stand
15. 33D9-31-10-4	Pneumatic System Components Test Stand
16. 33D9-104-4-1	Leakage Tester-Recorder
17. 33D9-104-4-4	Leakage Tester-Recorder
18. 33D9-122-2-1	Cryogenic System Components Test Stand
19. 33D9-122-2-4	Cryogenic System Components Test Stand
20. 35E24-3-2-1	Fuel and Liq. Gas Leak Detector
21. 35E24-3-2-4	Fuel and Liq. Gas Leak Detector
22. 35M12-2-2-1	Dew Point Indicator
23. 35M12-2-2-4	Dew Point Indicator
24. 37C2-3-3-1	Squadron Mnt. Area, Gas Storage
25. 37C2-3-3-4	Squadron Mnt. Area, Gas Storage
26. 37L5-5-1	Portable Liq. Dispensing Tank and Pump Unit
27. 37C5-5-2	Portable Liq. Dispensing Tank and Pump Unit
28. 37C5-5-4	Portable Liq. Dispensing Tank and Pump Unit
29. 37C6-6-2	Liq. Fuel/Water Separator
30. 37C6-6-4	Liq. Fuel/Water Separator
L. <u>RANGE SAFETY SYSTEM</u>	
1. 21-SM68-2FJ-13-1	Function - JOB
2. 21-SM68-2D-13-1	Diagram
M. <u>MISSILE AIR CONDITIONING SYSTEM</u>	
1. 21-SM68-2FJ-14-1	Function - JOB
2. 35E9-23-2	Air Conditioner
3. 35E9-23-4	Air Conditioner



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

T.O. NUMBER	DESCRIPTION
N. <u>LAUNCH CONTROL & STATUS SYSTEM</u>	
1. 21-SM68-2F-15-1	Function TF-1
2. 21-SM68-2J-15-1	JOB TF-1
3. 21-SM68-2D-15-1	Diagram TF-1
4. 21-SM68-2F-15-2	Function T-1
5. 21-SM68-2J-15-2	Job T-1
6. 21-SM68-2D-15-2	Diagram T-1
7. 31X3-10-26-2	Console
8. 31X3-10-27-2	Console
O. <u>LAUNCH CONTROL & C/O EQUIPMENT SYSTEM</u>	
1. 21-SM68-2D-16-1	Diagram
2. 21-SM68-2D-16-2	Diagram
3. 31X3-10-10-2-3	Ground Based Chassis Control Monitor Group OA-2441
4. 31X3-10-17-2	Circuits GBC
5. 31X3-10-17-4	Circuits GBC
6. 33D9-123-2-1	Test Stand, Electronic Equipment
7. 33D9-123-2-2	Test Stand, Electronic Equipment
8. 33D9-123-2-4	Test Stand, Electronic Equipment
P. <u>ORDNANCE HANDLING & INSTALLATION</u>	
1. 21-SM68-2FJ-17-1	Function and Job
Q. <u>COMMUNICATIONS SYSTEM</u>	
1. 21-SM68-2F-18-2	Function
2. 21-SM68-2J-18-2	Job
3. 31X1-2-4-2	Strategic Alerting Sound System
4. 31X1-2-4-4	Strategic Alerting Sound System
5. 31X1-2-5-2	Key Telephone System
6. 31X1-2-5-4	Key Telephone System
7. 31X1-6-2-2	Dial Telephone Exchange
8. 31X1-6-2-4	Dial Telephone Exchange
9. 31X1-6-3-1	Explosion Proof and Water Proof Telephone Set
10. 31X1-6-3-4	Explosion Proof and Water Proof Telephone Set
11. 31X1-7-4-2	Sound Recorder Set
12. 31X1-7-4-4	Sound Recorder Set
13. 31X1-7-5-2	Voice Tape Playback Equipment
14. 31X1-7-5-4	Voice Tape Playback Equipment



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

T.O. NUMBER

DESCRIPTION

Q. COMMUNICATIONS SYSTEM (Cont'd)

15. 31X1-8-2-2	Weather Proof Telephone Set
16. 31X1-8-2-4	Weather Proof Telephone Set
17. 31X1-8-2-12	Pedestal Console Telephone Set
18. 31X1-8-2-14	Pedestal Console Telephone Set
19. 31X1-8-2-22	Explosion Proof Telephone Set
20. 31X1-8-2-24	Explosion Proof Telephone Set
21. 31X1-8-3-2	Telephone Set
22. 31X1-8-3-4	Telephone Set
23. 31X1-8-3-12	Telephone Set
24. 31X1-8-3-14	Telephone Set
25. 31X1-9-3-2	Direct Line Switching Equipment
26. 31X1-9-3-4	Direct Line Switching Equipment
27. 31X1-11-3-2	Power and Alarm Equipment
28. 31X1-11-3-4	Power and Alarm Equipment

R. HEATING, VENTILATING AND AIR CONDITIONING SYSTEM (RPIE)

1. 21-SM68-2FJ-20-1	Vol. I	TF-1	
2. 21-SM68-2FJ-20-2	Vol. II	T-1	Sqd. #1
3. 21-SM68-2FJ-20-3	Vol. III	T-1	Sqd. #2
4. 35R-1-141-1	Vol. I	TF-1	
5. 35R-1-141-2	Vol. II	T-1	Sqd. #1
6. 35R-1-141-3	Vol. III	T-1	Sqd. #2
7. 4OW1-2-1	Demineralizer, Type A-1		

S. ELECTRIC POWER GENERATOR & DIST. SYSTEME (RPIE)

1. 21-SM68-2FJ-21-1	Vol. I	TF-1	
2. 21-SM68-2FJ-21-2	Vol. II	Sqd. #1	T-1
3. 21-SM68-2FJ-21-3	Vol. III	Sqd. #2	T-2
4. 35R-1-151-1	Vol. I		TF-1
5. 35R-1-151-2	Vol. II	Sqd. #1	T-1
6. 35R-1-151-3	Fol. III	Sqd. #2	T-1

T. MECHANICAL SYSTEM (RPIE)

1. 21-SM68-2FJ-23-1	Function and Job
2. 21-SM68-2FJ-23-2	Function and Job
3. 21-SM68-2FJ-23-2	Function and Job



MASTER ACTIVITIES PLAN

Site Manufacturing

MARTIN
DENVER

T.O. NUMBER	DESCRIPTION
U. <u>WATER SUPPLY, DISTRIBUTION & WASTE SYSTEM (RPIE)</u>	
1. 21-SM68-2FJ-24-1	Function and Job
2. 21-SM68-2FJ-24-2	Function and Job
3. 21-SM68-2FJ-24-3	Function and Job
V. <u>SENSING, WARNING & BLAST PROTECTION SYSTEM (RPIE)</u>	
1. 21-SM68-2FJ-25-1	Function and Job
2. 21-SM68-2FJ-25-2	Function and Job
3. 21-SM68-2FJ-25-3	Function and Job
W. <u>COMPRESSED AIR SYSTEM</u>	
1. 21-SM68-2FJ-26-1	Function and Job
2. 21-SM68-2FJ-26-2	Function and Job
3. 21-SM68-2FJ-26-3	Function and Job