(6) PERSONNEL SYSTEM DESIGN FOR VEHICLE TEST AT THE MISSILE ASSEMBLY BLDG (VAFB).

(Title Unclassified)

Contracts AF 04(647)-563, -800, -677, and -787

SS-M61-12

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Prepared under authority of Sect. I, Tab 5, Par. III B5 of
LMSC-368843-A, and Par. 1.2.6.4.2 of LMSC-369201B

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APPROVED:

R. D. King

R. D. KING, DIRECTOR
SPACE SYSTEMS OPERATIONS

(15) AF 04(647)-563,
AF 04(647)-800

210 120

LOCKHEED AIRCRAFT CORPORATION

MISSILES and SPACE DIVISION

FOREWORD

This report is one of a series describing the personnel requirements for technical functions performed on Agena B vehicles from receipt at VAFB until shipment to the launch complex at Pt. Arguello. It has been prepared in compliance with Section I, Tab 5, Paragraph III B5 of LMSC-368843-A, and Paragraph 1.2.6.4.2 of LMSC-369201B. This report is based on detailed studies of the hardware located in buildings at VAFB assigned to LMSC and an analysis of LMSC personnel required to operate and maintain the equipment and perform engineering and support functions. Revisions to this report will provide updated and more detailed information.

Comments and suggestions may be submitted to Personnel Requirements Section, LMSC Organization 61-93, Sunnyvale, California.

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ILLUSTRATIONS

LIST OF POSITION DESCRIPTIONS

LIST OF POSITION DESCRIPTIONS (Continued)

LIST OF POSITION DESCRIPTIONS (Continued)

SECTION 1
INTRODUCTION

↳ a summary is presented by

This report summarizes the operations with Agena vehicles at VAFB prior to transport to Point Arguello Launch Complex. The technical personnel required (vehicle engineers and technicians and facilities engineers and technicians) are identified. Direct personnel whose duties are not specifically technical and all indirect personnel are excluded, as are personnel assigned to the Discoverer and NASA programs.

System Test Complex 2A is being deactivated and will be replaced by System Test Complex C10. Personnel formerly assigned to Complex 2A will assume similar duties in the new System Test Complex.

SECTION 2
SYSTEMS DESCRIPTION

The personnel information in this report relates to technical personnel directly associated with tests of Agena vehicles at VAFB in LMSC areas other than the Tracking Station.

The areas herein diagrammed consist of Building 8310 (New Missile Assembly Building), Building 8305 (Technical Support Building) and three buildings in the Interim Area (old Missile Assembly Building and three Facilities Office Buildings). The new Missile Assembly Building contains office area for the Operations Manager, Vehicle Systems, Systems Support, and certain indirect personnel. Vehicle test areas are the high-bay vehicle area, payload area, and laboratories. The Technical Support Building provides engineering office space for vehicle systems, launch systems indirect functions, and for certain AMC and 6565th Test Wing personnel. The Interim Area contains facilities, offices, and working area for carpenters, machinists, plumbers, painters, and other facilities technicians.

SECTION 3
JOB SEQUENCE SUMMARY

The following Job Sequence Summary lists operations which must be performed in the Missile Assembly Building (MAB) prior to transporting the vehicle to the launch complex. The various tasks are not called out in exact sequence. The following Job Operations Schedule is representative only and the Job Sequence Summary is presented with only sufficient detail to provide a basis for evaluating the types of personnel activity involved.

MAB JOB SEQUENCE SUMMARY

A. RECEIVING AND INSPECTION

1. Receive

   Offload Agena on to handling dolly.
   Equipment: Handling dolly, overhaul crane, hoisting sling.

2. Inspect

   a. Remove, number, and identify access doors, panels and access covers.
   b. Rotate vehicle for equipment accessibility to facilitate QC inspections.
   c. Inventory of installation equipment by serial number.
   d. Review data accompanying vehicle for subsystems work requirements.

B. SUBSYSTEM B INSPECTION

1. Remove, clean, inspect and reassemble fuel and oxidizer components of the propulsion subsystem.

   Equipment: No AGE required; special hand tools and solvent required only.

C. PAINT AGENA-BOOSTER, ADAPTER (AS REQUIRED)
NOTE: This can be done concurrently with vehicle stay at VAFB but prior to mating.

Equipment: No AGE required. Common paint spray equipment only.

D. ENGINE GIMBAL LUBRICATION

1. Lubricate the four gimbal ring mounting bolts and record.

   Equipment: Lube gun.

E. TANK BULKHEAD LEAK TEST

1. Vent oxidizer and fuel pump seal cavities.
2. Install fuel and ozidizer tank plugs and rotate vehicle until oxidizer vent is at top.
3. Disconnect and plug oxidizer tank vent line. Insert helium probe. Purge tank as required.

4. Cap oxidizer tank vent. Disconnect fuel tank pressurization line. Cap check valve outlet.
5. Connect pressure line with 10-micron filter.
6. Pressurize fuel tank. Monitor at tank outlet.
7. Check for inter-tank bulkhead leakage.
8. Record meter reading at zero hours and every other hour for the first 4 hours and every 5 hours thereafter.
9. Vent fuel tank.
10. Restore vehicle to original configuration after completion of test.

Equipment:

Pressure gages
He leak Detector, Mass Spectrometer
Sampling Probe Kit
10 Micron Filter

F. RADIOMETER SYSTEM LEAK CHECK

1. Prepare system for test by capping, plugging, or taping open ports, plugs, and tube assemblies.
2. Torque all fittings to prescribed values.
3. Connect nitrogen supply. Connect flowrater.
4. Connect theromocouple to nitrogen tank.
5. Check to assure pressurize and vent system. Pressurize to 200-250 psig after clean system is insured.
6. Check joints for leaks and monitor internal leakage. Record pressures and temperatures. Vent system.
7. Remove flowrater and pressurize system downstream of valves. Leak-check all joints.
8. Restore system to operational configuration.

Equipment:

Pressurization manifold (2 types)
Flowrater meter assembly
Simpson Therm-o-meter

G. OXIDIZER PUMP LIP SEAL PRESSURE RELIEF VALVE TEST

1. Prepare AGE equipment and system for test.
2. Connect filtered helium source and apply pressure. Check poppet valve cracking pressure. Reseat valve. Check for leakage.
3. Vent system and remove helium source.
4. Remove cap from inlet port of lip seal regulator. Reinstall assembly in pressurized line.

Equipment:

Pressure gages

Helium source

H. OXIDIZER PUMP LIP SEAL LEAKAGE CHECK (MODEL 8096 ENGINE)

1. Connect pressure gage and regulated helium supply.
2. Remove and seal cavity drain.
3. Remove turbine gear case oil drain cap.
4. Apply and hold required pressure for 3 minutes.
5. Connect flowrater and record leakage.
6. Vent oxidizer pump lip seals.
7. Reinstall AN cap and torque to prescribed values.
8. Disconnect helium source and reinstall original line. Torque to prescribed pounds.

Equipment:

Helium pressurization cart

Flowrater assembly

Pressure gage 0-25 psig

I. INSTALLATION OF HYDRAULIC PUMP DRIVE LINES

1. Install tube assemblies.
2. Install O-ring on UDMH temperature probe. Install probe.
3. Install and adjust position of cross-fitting.
4. Torque temperature probe. Install and torque pressure transducer line.
5. Attach flowmeter, record flowmeter reading.
6. Install tube assembly between flowmeter and fuel fill line.
7. Check for leaks.
8. Restore system to operating configuration.

Equipment:

Flowmeter

Helium pressurization cart

J. LOW PRESSURE HELIUM SYSTEM LEAK TEST

1. Connect helium pressurization console to vehicle at oxidizer and fuel vent QD points and helium fill QD points.
2. Install pressure gages in system to observe propellant tank pressures.
3. Remove AN caps from pump seal cavity and gear case drain point.
4. Connect Simpson Therm-o-meter surface thermocouple to oxidizer tank.
5. Pressurize helium and propellant tank system.
6. Check all items, lines, and fittings listed in test procedure for external leaks using leak detector.
7. After temperature and pressure stabilization observe system leakage rate by observing pressure gauges. Record initial and final pressures and temperatures.
8. Vent propellant tank and sphere pressure.
9. Remove thermocouple.
10. Remove helium pressure manifold from vehicle.
11. Return system to original configuration. Torque AN cap fittings.

Equipment:

Pressurization and tank leak checker

Simpson Therm-o-meter

Helium leak detector

Pressure gages

K. HIGH PRESSURE HELIUM LEAK TEST

1. Set up AGE equipment.
2. Connect thermocouple to helium sphere.
3. Pressurize sphere, check items listed in test procedure for leaks. Correct any excessive leaks detected.
4. Gradually increase pressure to specifications, closing hand valve in helium supply line. Check for leaks and repair as necessary.
5. After temperature and pressure stabilization, observe leakage rate and sphere surface temperature. Record final pressures and temperatures.
6. Return system to operating configuration.

Equipment:

Pressure gage

Pressurization and leak checker

Simpson Therm-o-meter

Helium leak detector

Sampling probe kit

L. TURBINE STARTER SERVICING – DUAL-START

1. Remove starter assembly.
2. Clean and inspect starter assembly.
3. Perform leak check of chambers A and B for leakage past burst disc assemblies and around bellows area.
4. Install retainer assembly for chambers A and B.

NOTE: Loading and bench check performed in EOD area (Explosive Ordnance Area). The starter assembly is then reinstalled at launch pad.

Equipment:

Leak detector

Squib checker

Special gages and wrenches

M. SOLAR ARRAY INSTALLATION

For each array unit perform the following operation:

1. With vehicle in horizontal position, rotate so that solar array No. 1 storage compartment is facing up.
2. Disconnect plugs from control box No. 1.
3. Remove drive assembly No. 1 from quad No. 1.
4. Remove strongback retainer eyebolts on array strongback assembly.
5. Insert latch slides into latch base assemblies.
6. Insert pinpuller pins into latch slides.
7. Install squibs in each pinpuller assembly and make necessary electrical connections.
8. Position solar array shipping container close to quadrant 1 of vehicle and lock casters.
9. Equalize internal-external pressure and remove cover.
10. Insure that protective bar assembly is properly positioned on folder array.
11. Remove array from shipping container.

12. Inspect array and slide into position.
13. Install strongback retainer eyebolts, remove cross members of the protective bar assembly, insert strongback ejection holding pins on ejection springs, and install strongback assembly.
14. Tighten eyebolt jam nut until strongback ejection spring shim and array assembly are in contact.
15. Install safety nuts on eyebolts until light contact is made with eyebolt jam nuts.
16. Verify that storage switch is actuated; and perform continuity checks.
17. Completely remove protective bar assembly.
18. Align drive shaft assembly with gear housing unit, insert drive shaft on drive assembly and secure.
19. Route array cables and connect Control Box No. 1 and voltage limiter box.

Equipment:

Multimeter (Simpson Model 260 or equivalent)

Gloves (nylon white)

Torque wrench (torquometer - TZ12B or equivalent.)

N. SOLAR ARRAY MECHANICAL & ELECTRICAL CHECKOUT TP #132520

1. Install and position solar array on extended checkout fixture. (Observe specified special handling requirements. Special care is observed in making installations.)
2. Connect and position test equipment.
3. Functionally check collector panels (mechanical and electrical operations).
   a. Make required mechanical adjustments.
   b. Activate 500W floodlamps momentarily verify operational requirements.
   c. Employ use of special electronic test equipment to verify operation of solar array panels.
4. Functionally check out sun-sensors.
5. Make required resistance measurements.
6. Check out latch spring tension.
7. Functionally check out extension-rate motor.
8. Record all data as required.
9. Remove solar array from fixture.

Equipment:

Solar array fixture and auxiliary equipment
Sun sensor portable C/O assembly
Simpsom Multimeter, Model 260
Hunter force gage

O. GUIDANCE AND CONTROL INSTALLATION TEST AND GUIDANCE TELEMETER CALIBRATIONS

1. Perform roll gyros test.
   a. Mount IRP on servo table and displace the IRP a specified angle about the input axis and measure the gyro preamplifier output to obtain the attitude scale factor.
2. Roll horizon sensor to roll gyro.
   a. Adjust simulators for a 2^{o} roll error. Place IRP in servo control.
   b. Measure and record table angular rates and determine H/S torquing scale factor.
3. Yaw Gyros Test.
   a. Determine the attitude scale factor by displacing the IRP about the input axis a specified amount and measure gyro preamplifier output.
4. Roll horizon sensor to yaw gyro.
   a. Adjust simulators for a 2^{o} roll error. Place IRP in servo control.
   b. Measure and record table angular rates and determine H/S torquing scale factor.
5. Pitch gyro and reaction wheel.
   a. Determine the attitude scale factor by displacing the IRP about the input axis a specified amount and measure gyro preamplifier output.
6. Pitch horizon sensor to pitch gyro.
   a. Adjust simulators for a 2^{o} pitch error. Place IRP in servo control.
   b. Measure and record table angular rates and determine H/S torquing scale factor.

Equipment:

Horizon sensor simulators

IRP test mount

Velocity meter mounting fixture

Mounting pedestal and surface plate
Hydraulic ground test unit
Pneumatic ground test unit
Gyro testing turn table
SS/D installation console
Vehicle power monitor console
VTVM
Digital voltmeters
Audio frequency oscillator
Impedance bridge
Counters
Oscilloscope
Universal power supply
Dekabox electro measurements
Voltage to frequency converter

P VERIFY ALIGNMENTS

Verify the following alignments:

1. Geometric Axis
2. Retro-rocket
3. Engine outer gimbal
4. IRP
5. Horizon sensor
6. Velocity meter
7. Vehicle engine
8. Engine turbine exhaust duct
9. Guidance and control jet
10. Accelerometer bracket
11. Ullage rocket bracket

Equipment:

Transits
Form blocks
Mirror levels
Theodolite

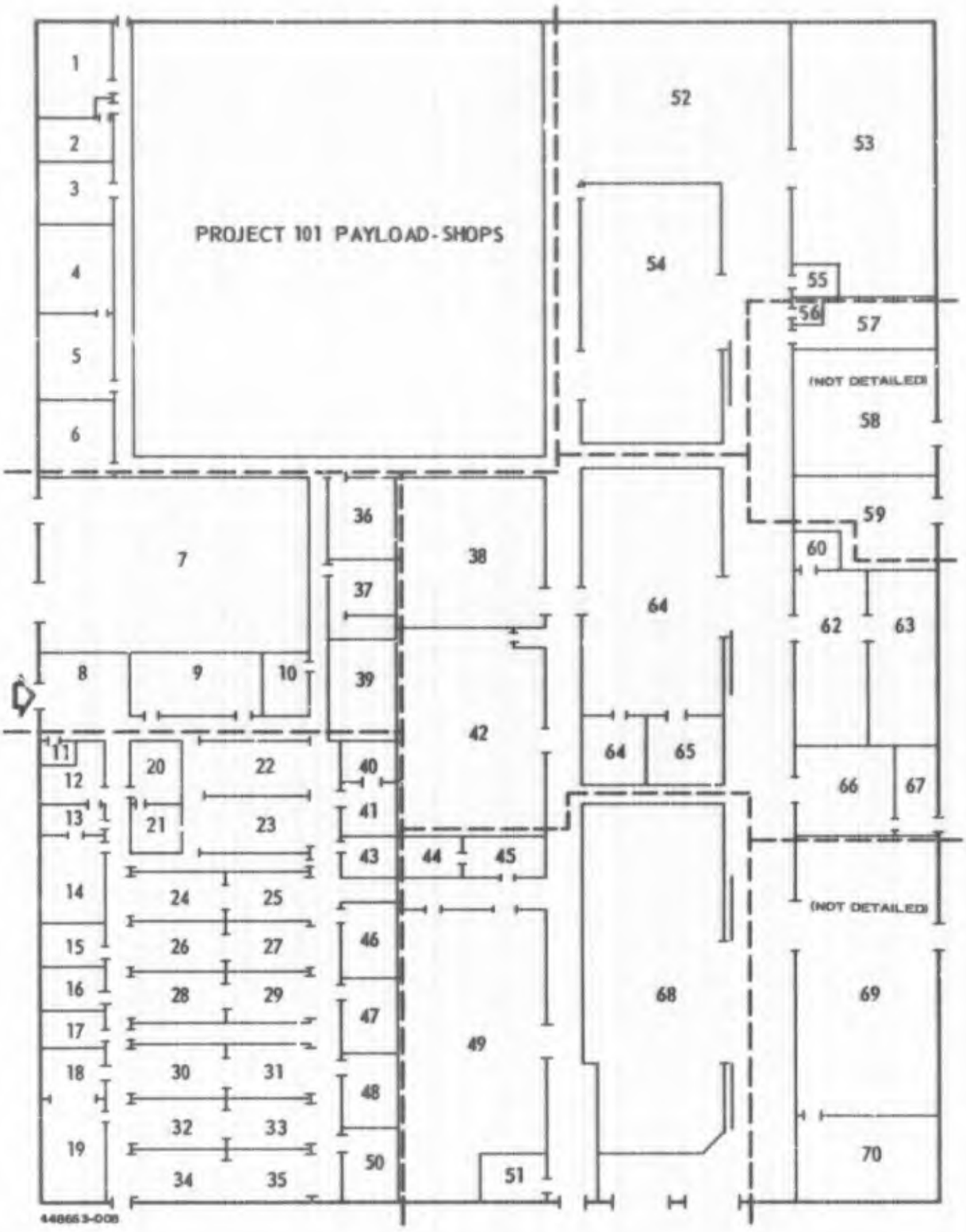
Q. MAB FINAL PREPARATIONS

1. Inspect all subsystems visually
2. Install access plates
3. Place vehicle on a transport for delivery to the launch pad

SECTION 4
POSITION CHARTS

The following charts show locations assigned to the technical positions. Position numbers shown within circles are located on floor plans near the work station of personnel. The accompanying table identifies the functional position titles. The "Subsystem G Payload Engineer" and the "Program 101 Payload Engineer" have their offices in Building 2303 which is approximately one and one half miles from Building 8310 (New Missile Assembly Building); Building 2303 is not shown in the charts.

The Missile Assembly Building floor plan has been divided into five illustrations to provide greater detail of the position surroundings and associated equipments. Three areas are not manned by LMSC engineering or technician personnel. These areas, the lobby, conference room, projection room, mechanical equipment rooms, blueprint crib, and tool crib are not detailed. All rooms or areas, however, are shown and described in Figure IV-1. Any changes in either floor plans or personnel location will be described in subsequent revisions of this report.


PROJECT 101 PAYLOAD-SHOPS
(NOT DETAILED)
(NOT DETAILED)
448663-008

AREA CODE

1. EASTMAN KODAK
2. EASTMAN KODAK
3. EASTMAN KODAK
4. EASTMAN KODAK
5. EASTMAN KODAK
6. EASTMAN KODAK
7. MECHANICAL EQUIPMENT ROOM
8. LOBBY
9. CONFERENCE ROOM
10. PROJECTION ROOM
11. LAVATORY
12. ASSISTANT TO BASE MANAGER
13. SECRETARY
14. BASE MANAGER
15. VVC COMMUNICATIONS
16. BASE ADMINISTRATOR
17. PBX AND PUBLIC ADDRESS
18. KELLOGG COMMUNICATIONS
19. KELLOGG COMMUNICATIONS
20. INDUSTRIAL RELATIONS
21. INDUSTRIAL RELATIONS
22. STATISTICS AND SECURITY
23. MODIFICATION CONTROL
24. INTEGRATED CHECKOUT GROUP
25. INTEGRATED CHECKOUT GROUP
26. RELIABILITY
27. 61-72 STAFF
28. PROJECT 102 ENGINEERS
29. SS/H ENGINEERS
30. SS/C ENGINEERS
31. SS/C ENGINEERS
32. SS/A ENGINEERS
33. SS/D ENGINEERS
34. 61-71 STAFF
35. 61-71 STAFF
36. MENS LAVATORY
37. WOMEN'S LAVATORY AND LOUNGE
38. MIDAS PAYLOAD BENCH CHECKOUT AREA
39. DISCOVERER WORK AREA
40. VAULT
41. MAIL ROOM
42. SS/H TELEMETRY WORK AREA
43. TECHNICAL SUPPORT SECTION SUPERVISOR
44. 61-72 MANAGER
45. 61-72 SECRETARY
46. VEHICLE INTEGRATORS
47. PAYLOAD SECTION SUPERVISOR
48. VEHICLE SUBSYSTEM SECTION SUPERVISOR
49. SS/H COMMAND AND COMMUNICATIONS
50. 61-71 MANAGER
51. 61-72 SECTION SUPERVISORS
52. VERTICAL CHECKOUT STAND
53. SS/A AND B WORK AREA
54. CHECKOUT COMPLEX 10A
55. STORAGE
56. JANITOR'S CLOSET
57. MEN'S LAVATORY
58. BOILER ROOM
59. MECHANICAL EQUIPMENT ROOM
60. SS/C OFFICE
61. DATA AND ANALOG STATION
62. SS/C LABORATORY
63. SS/C LABORATORY
64. DATA AND ANALOG STATION BENCH AREA
65. DATA AND ANALOG STATION BENCH AREA
66. VALVE SHOP
67. VALVE SHOP
68. CHECKOUT COMPLEX 2A AND GUIDANCE COMPLEX
69. TOOL CRIB AND SPARE PARTS
70. BLUEPRINT CONTROL

Figure 4-1 Missile Assembly Building (8310) Areas

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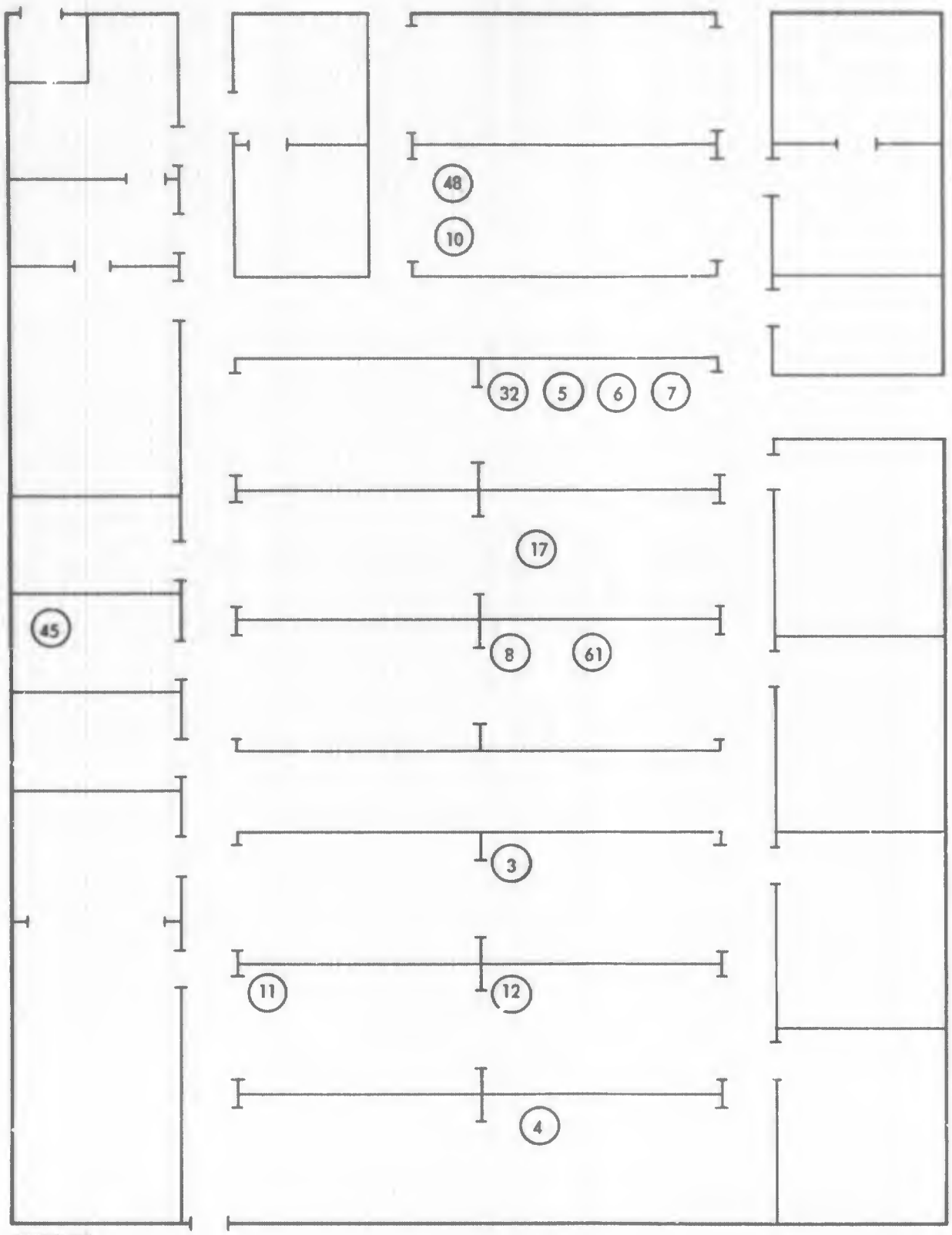

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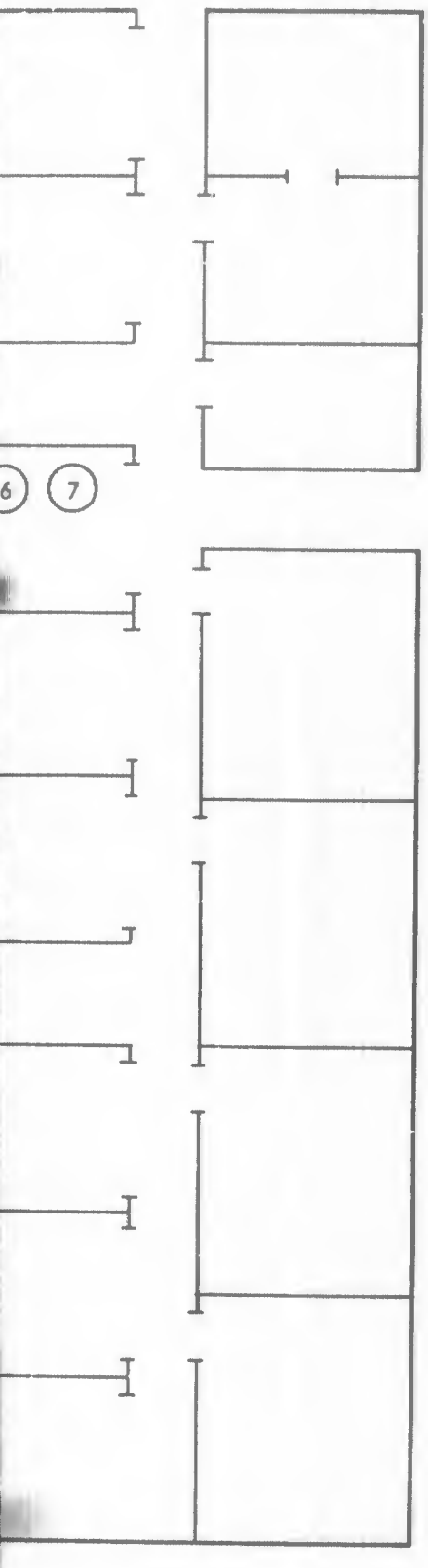
3 SS/C ENGIN
4 VEHICLE IN
5 VEHICLE FL
6 SYSTEM CHE
7 INTEGRATE
8 SS/H COMMA
10 MODIFICAT
11 SS/D ENGIN
12 SS/A ENGIN
17 OPERATION
32 CHECKOUT
45 COMMUNICA
48 DRAFTSMAN
61 SS/H RF CO



PERSONNEL CODE

(3) SS/C ENGINEER
(4) VEHICLE INTEGRATOR
(5) VEHICLE FUNCTION GENERATOR
(6) SYSTEM CHECKOUT COMPLEX TEST CONDUCTOR
(7) INTEGRATED SYSTEMS CHECKOUT GROUP ENGINEER
(8) SS/H COMMAND AND DATA LINK ENGINEER
(10) MODIFICATION CONTROL GROUP ENGINEER
(11) SS/D ENGINEER
(12) SS/A ENGINEER
(17) OPERATIONS PLANNER
(32) CHECKOUT EQUIPMENT GROUP STATION GROUP SUPERVISOR
(45) COMMUNICATIONS CENTER ENGINEER
(48) DRAFTSMAN
(61) SS/H RF COMMAND AND CONTROL ENGINEER

Figure 4-2 MAB Administrative And Engineering Area

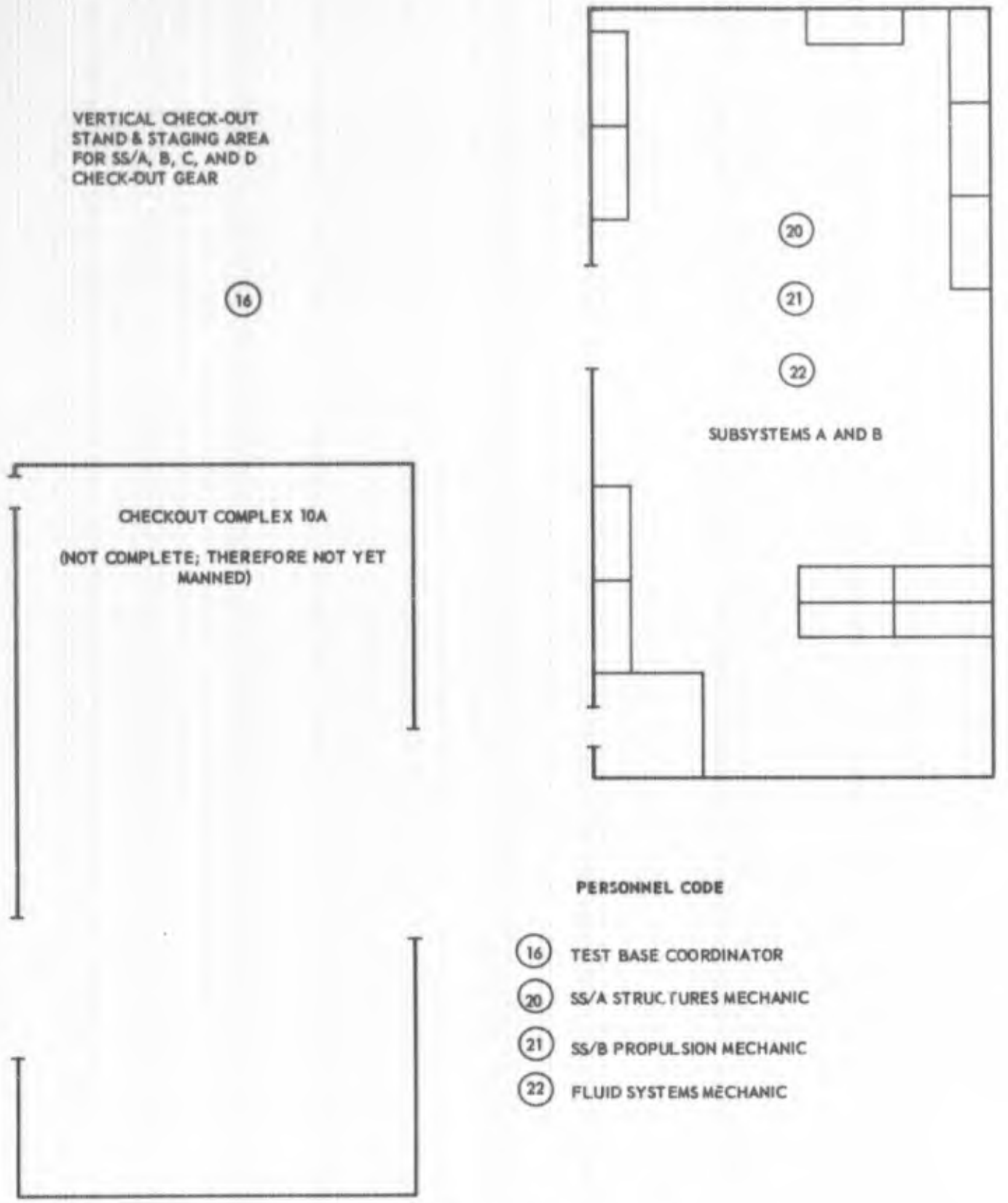
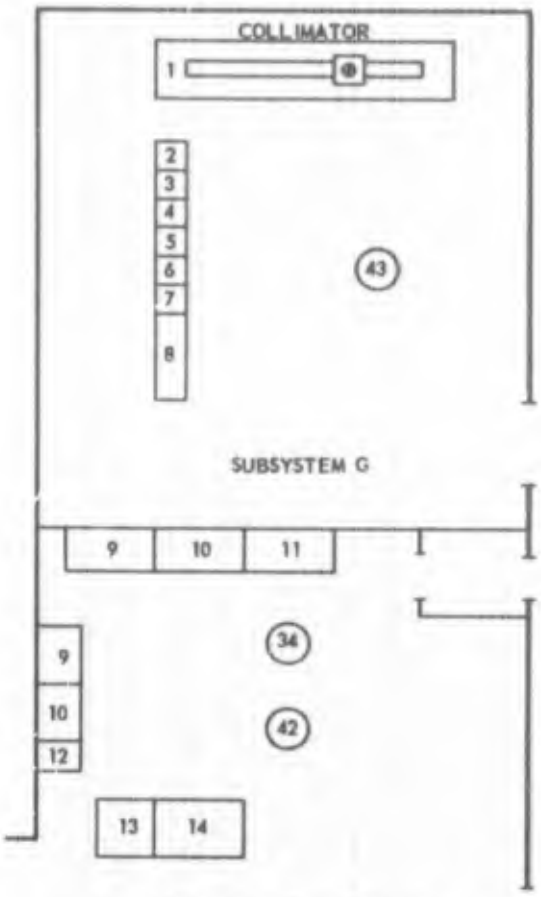
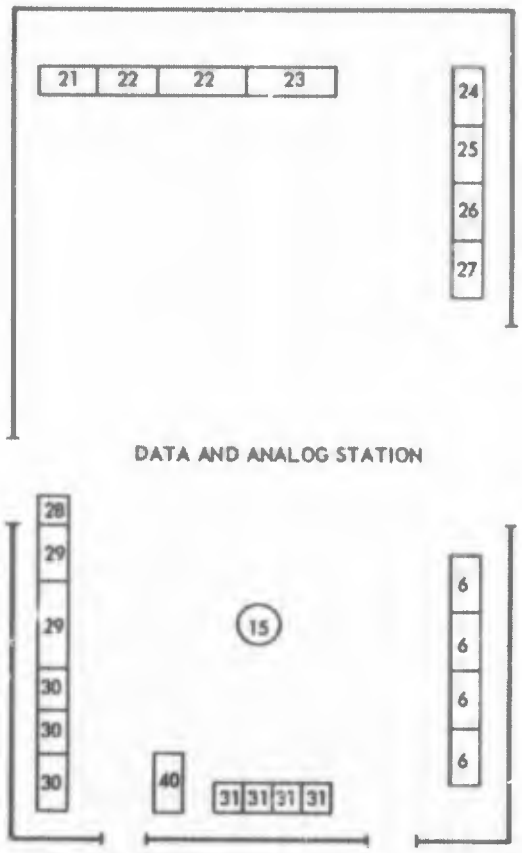
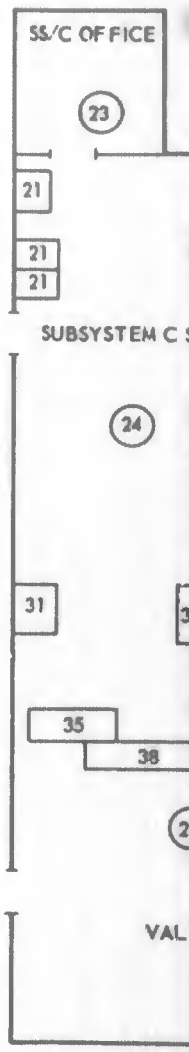


Figure 4-3 Subsystem A and B Shops in MAB

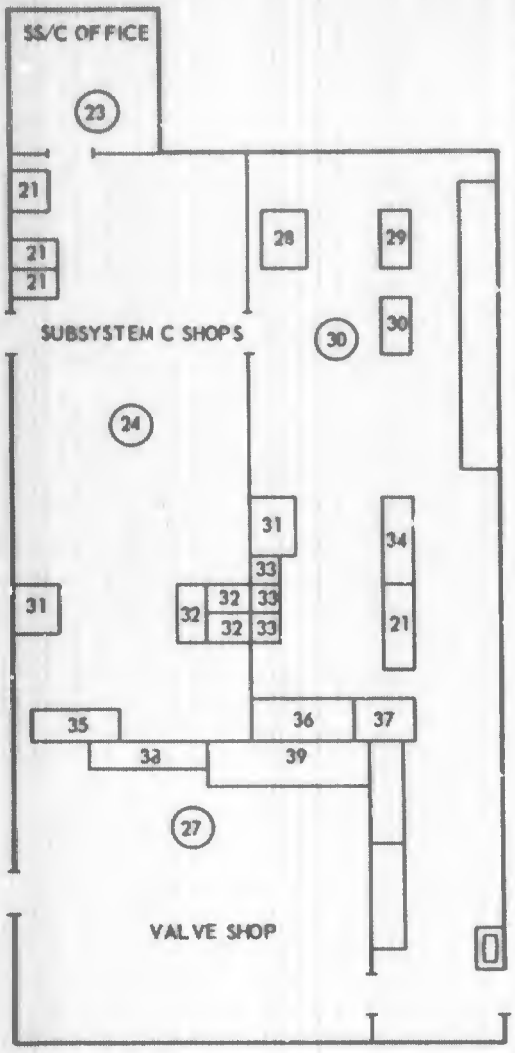






PERSONNEL CODE

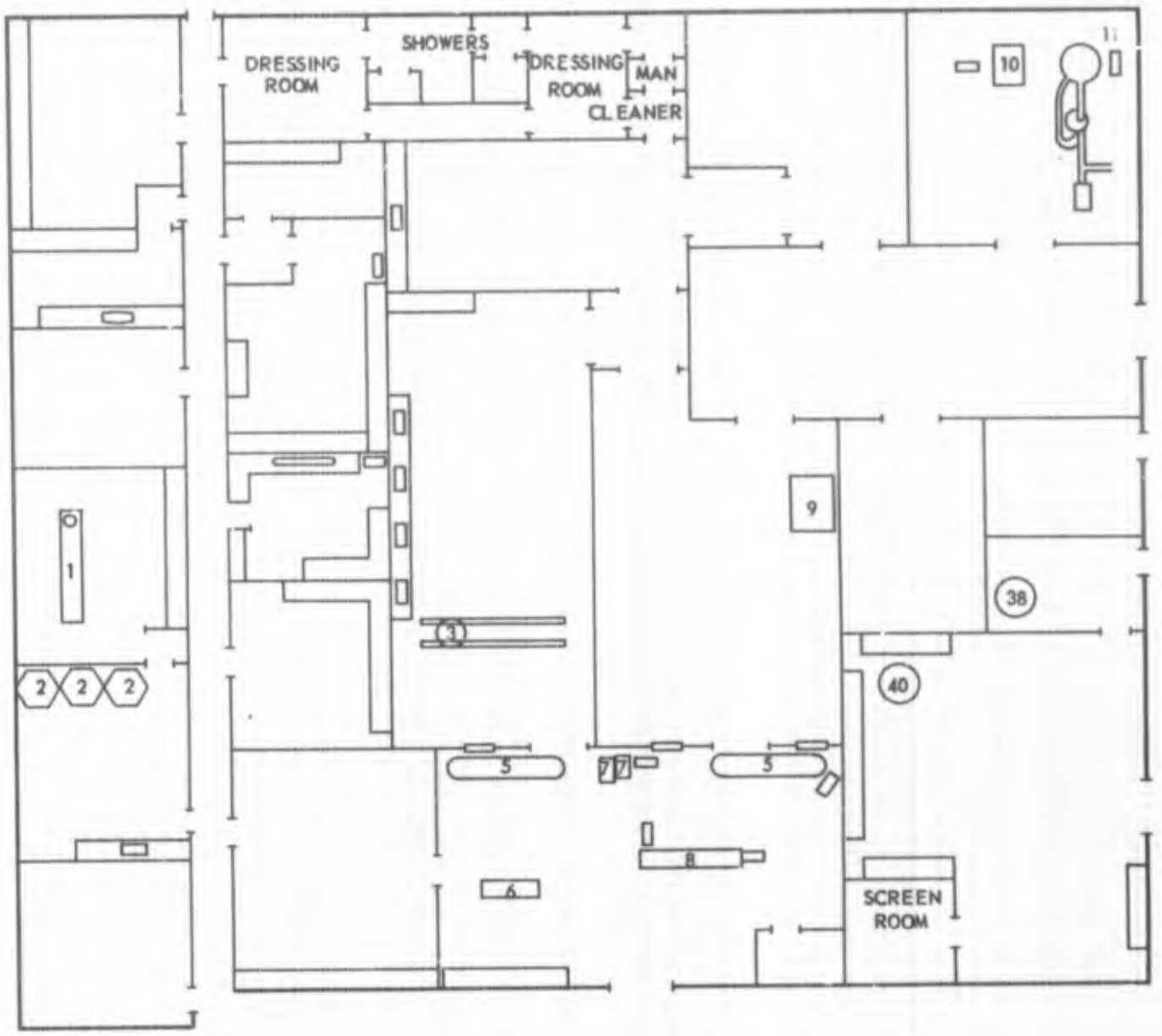
(15) LOCKHEED AUTOMATIC CHECKOUT EQUIPMENT TECHNICIAN
(23) ELECTRICAL GROUP SUPERVISOR (SS/C)
(24) SS/C ELECTRICAL TECHNICIAN
(27) FLUID SYSTEMS MECHANIC
(30) BENCH ELECTRICIAN
(34) INSTRUMENTATION/COMMUNICATION PROJECT 101B, PROGRAM 102, AND SS/G GROUP SUPERVISOR
(41) 101B AND G GROUP INSTRUMENTATION SUPERVISOR
(42) PROJECT 101B AND PROGRAM 201 PAYLOAD TECHNICIAN
(43) SS/G PAYLOAD TECHNICIAN



EQUIPMENT CODE

1	COLLIMATOR	21	POWER CONSOLE
2	TEST RACK	22	VIDEO CONSOLE
3	RADIATION MEASUREMENT ELECTRONICS	23	DISCRIMINATOR CONSOLE
4	MIRROR CONTROL	24	TRI-HELIX CONTROLLER
5	PATCH PANEL	25	PARSONS DECODER
6	CEC RECORDER	26	AUXILIARY SIGNAL CONSOLE
7	COMMUNICATIONS MONITOR	27	TELEMETRY MONITOR
8	POWER SUPPLY METER	28	WALK-IN REFRIGERATOR
9	ROLLING GROUND STATION, TYPE II	29	PAD KIT NO. 1
10	ROLLING POWER STATION	30	PAD KIT, PYROTECHNIC
11	AMR 100 CONSOLE	31	BATTERY CHARGER
12	ROLLING PRESSURIZATION CONSOLE	32	BATTERY CARTS
13	DMX 8/13 CHANNEL	33	SCOPE
14	PAM/FM CHECKOUT CONSOLE	34	POWER CONSOLE MONITOR
15	PAM/FM CHECKOUT CONSOLE (MIDAS T-1)	35	APCU POWER CONSOLE
16	DMX 36 CHANNEL	36	UNIVERSAL POWER CONSOLE
17	AUXILIARY TELEMETRY CHECKOUT	37	SOLAR CHECKOUT
18	DMX 256 CHANNEL	38	TEST PANEL
19	DMX 300 CHANNEL	39	HIGH-PRESSURE TEST CHAMBER
20	AMR 104 106/110 CONSOLE	40	CEC PROCESSOR

Figure 4-4 Subsystem Checkout Areas And Ground Station



PERSONNEL CODE

(38) SS/H COMMAND AND RADAR, AND PROJECT 102 AND SS/J GROUP SUPERVISOR

(40) PROJECT 102 PAYLOAD TECHNICIAN

EQUIPMENT CODE

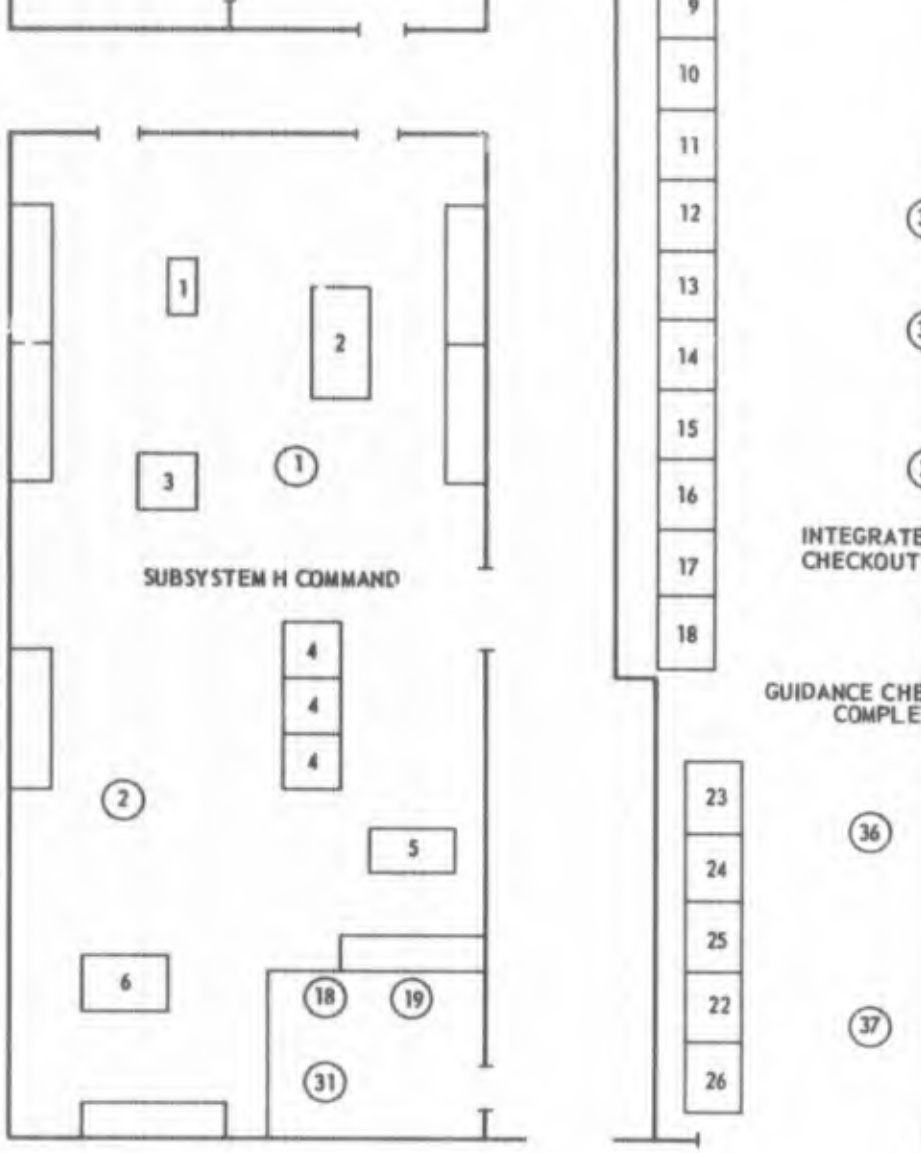
1 SPRAY PROCESSOR
2 CHEMICAL MIX TANKS
3 COLLIMATOR
4 HOIST PAD
5 CONSOLES
6 POWER SUPPLY
7 PROJECT 101A DATA RECEPTION
8 GROUND RECONSTRUCTION ELECTRONICS
9 ALIGNMENT FIXTURE
10 DOLLY
11 PRESSURE TEST CONTROL PANEL

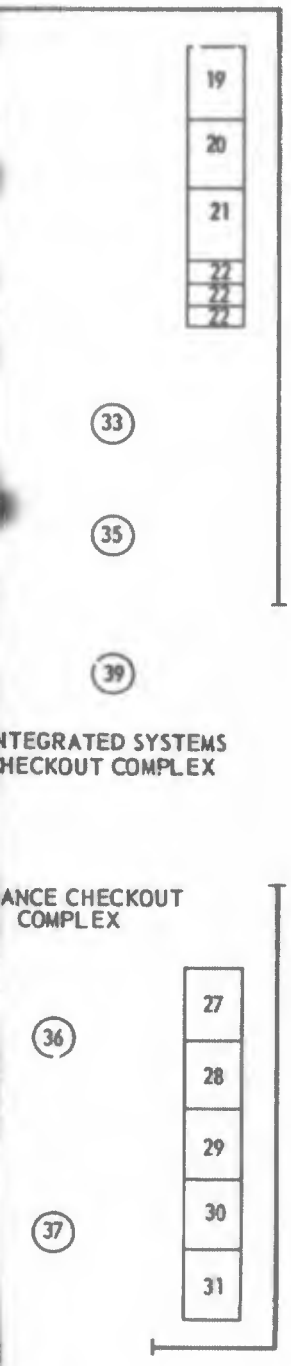
448663-004

Figure 4-5 Project 101 Shops In MAB

PERSONNEL CODE

(1) INSTRUMENTATION ENGINEER
(2) TELEMETRY ENGINEER
(18) ELECTROMECHANICAL SECTION SUPERVISOR
(19) MECHANICAL GROUP SUPERVISOR
(31) ELECTRONICS SECTION SUPERVISOR
(33) INTEGRATED SYSTEMS CHECKOUT TECHNICIAN
(35) INSTRUMENTATION/COMMUNICATION TECHNICIAN
(36) GUIDANCE AND FLIGHT CONTROLS GROUP SUPERVISOR
(37) GUIDANCE AND CONTROLS TECHNICIAN
(39) T/M (ELECTRONIC) TECHNICIAN





EQUIPMENT CODE

1	INTERIM PROGRAMMER CHECKOUT CONSOLE
2	BEACON TRANSPONDER DECODER
3	INTERIM STORAGE UNIT CHECKOUT
4	UHF BENCH CHECKOUT CONSOLE
5	BEACON TRANSPONDER DECODER
6	COMMAND DECODER AND PROGRAMMER
7	AUXILIARY RECORDING AND INDICATING
8	"E" INTERFACE
9	"F" INTERFACE
10	POWER STATION
11	RECORDING UNIT
12	DECOMMUTATOR
13	DISCRIMINATOR
14	TELEMETRY DATA LINK TEST AND MONITOR
15	COMMAND BEACON
16	VIDEO RECORDER
17	PAM TELEMETER
18	UHF TELEMETER AND DATA LINK
19	COMMAND DECODER SEQUENCE PROGRAMMER
20	CONTROL AND INDICATING
21	SIGNAL DISTRIBUTION AND MONITOR
22	SANBORN RECORDER
23	SERVO TABLE
24	AMPLYDINE POWER AND CONTROL CONSOLE
25	GUIDANCE TEST CONTROL CONSOLE
26	CEC RECORDER
27	UNIVERSAL POWER SUPPLY
28	FLIGHT CHECKOUT CONTROL CONSOLE
29	GUIDANCE CHECKOUT CONSOLE
30	GUIDANCE SENSOR CHECKOUT CONSOLE
31	HYDRAULIC TEST STAND

Figure 4-6 Command System, Integrated Systems, And Guidance Checkout Areas In MAB

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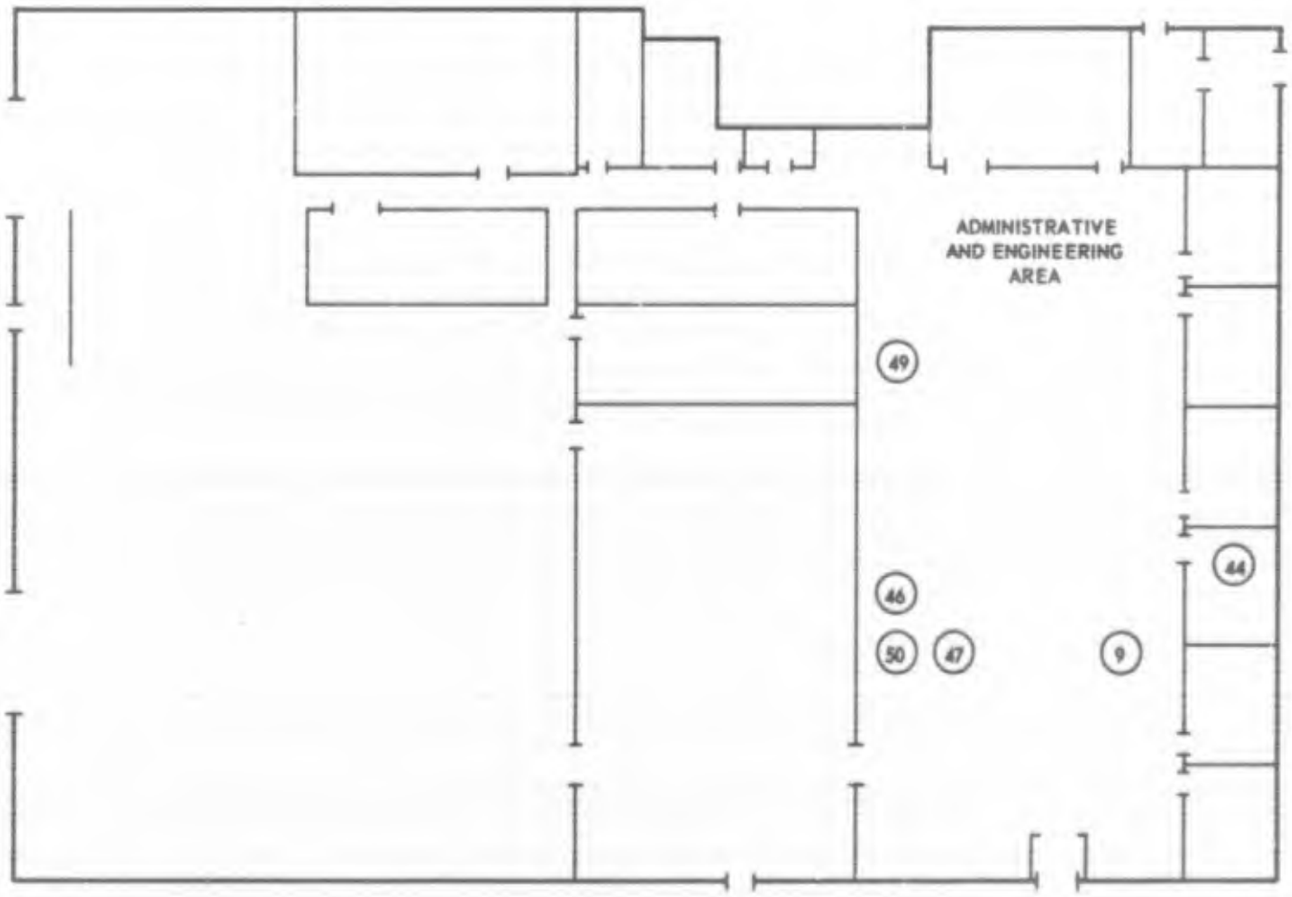

Figure 4-7 Project 102 Technical Support Building (8305)

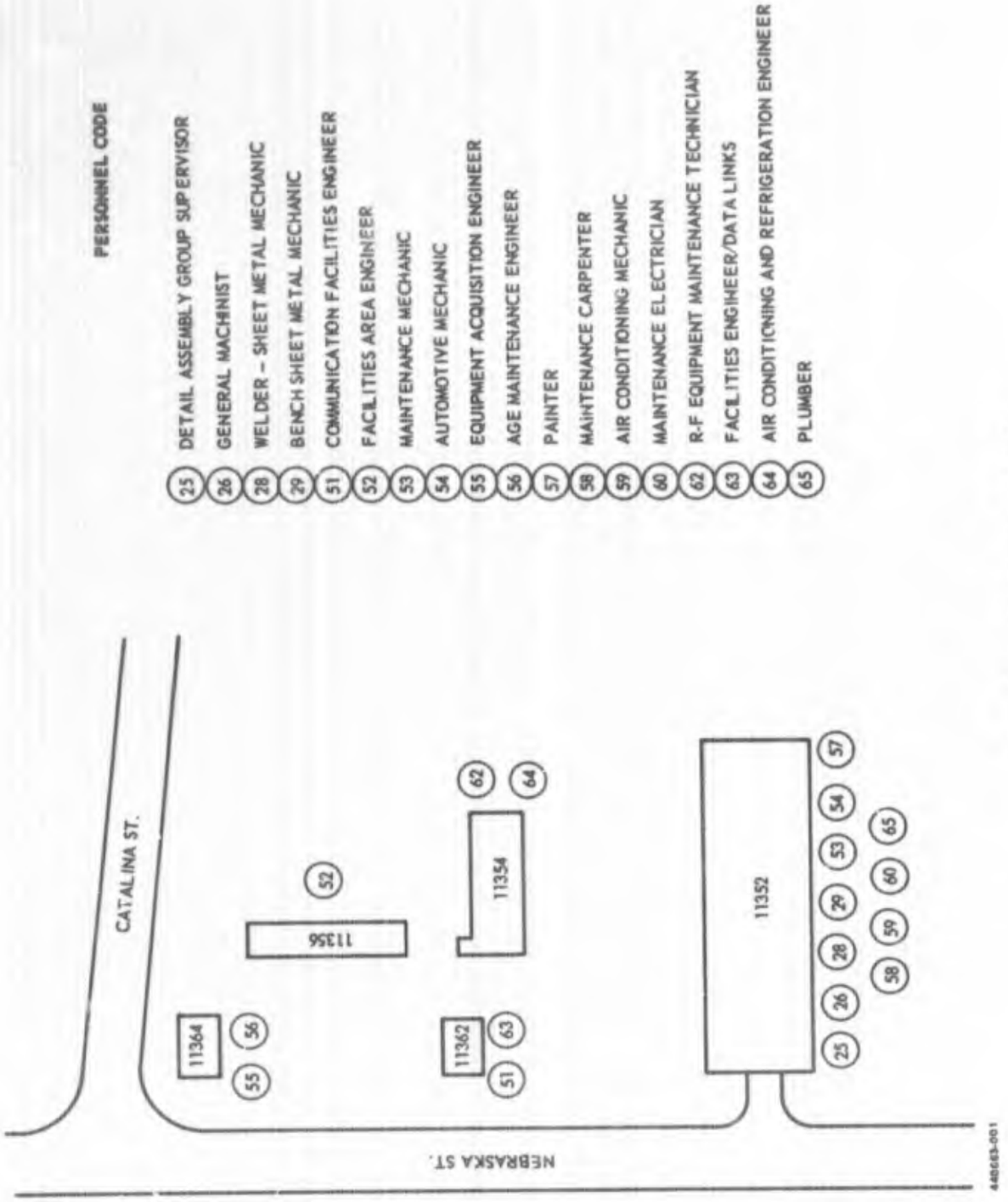

Figure 4-8 Interim Area (Old MAB)

SECTION 5
POSITION DESCRIPTIONS

This section presents a brief description of each position which must be manned in order to perform the modification, maintenance, and testing of Agena B vehicles prior to removal to the launch site.

The duties, environment, and qualifications of each position are summarized in the job descriptions.

Knowledge of security and safety is understood to be a requirement for all positions as is the responsibility of supervision to assist in meeting training needs.

For a description of special payload technicians refer to LMSD-447765, Personnel Requirements for Payload Checkout.

POSITION DESCRIPTION

POS. NO. 1

Position Title: INSTRUMENTATION ENGINEER

General Features:

Position Summary: Review specifications, drawings, instrumentation schedules, and instrument action requirement lists for vehicle telemetry instrumentation and for ground station telemetry. Prepare and monitor the performance of test procedures on vehicle telemetry and ground station instrumentation equipment. Supply technical direction as required during the performance of test procedures. Prepare reports of malfunctions, evaluation, marginal, and erroneous design for instrumentation equipment. Review modifications and proposed design changes that affect instrumentation and data evaluation equipment, and submit recommendations to Payload and Data Systems Section Supervision. Prepare analyses of data from tests and flights. May assist at vehicle launch by operating a console in the Launch Operations Building.

Environment: Works at desk, or Data and Analog Station in the Missile Assembly Building. Works in Missile Assembly Building Shop where instrumentation equipment is given operational readiness tests. Works at console in Launch Operations Building as required. Reports to Vehicle Payload and Data System Section Supervisor through Data System Supervisor.

Qualifications: Requires B. S. degree in electronics. In addition, requires extensive experience in missile and aircraft flight test telemetry instrumentation systems.

POSITION DESCRIPTION

POS. NO. 2

Position Title: TELEMETRY ENGINEER

See Position No. 3-11, LMSD-448258

POSITION DESCRIPTION

POS. NO. 3

Position Title: SS/C ENGINEER

General Features:

Position Summary: Prepare test procedures, trouble-failure reports, and engineering work orders. Monitor and evaluate functional tests. Evaluate auxiliary power system and associated wiring. Maintain liaison to assure compatibility with other systems and AGE. Review all proposed modifications and additions prior to incorporating into vehicle at VAFB. Compile vehicle status evaluation and prepare progress reports. Provide supervision, coordination, and technical direction for functional testing of auxiliary power system. Recommend and initiate design changes, modifications, or additions resulting from analysis of component or system testing.

Environment: Works at a desk in the engineering office area at the Missile Assembly Building. Reports to Vehicle Systems Supervisor through SS/C Group supervisor.

Qualifications: A B. S. degree in electrical engineering or the equivalent in education and experience, plus one year of missile test experience, are mandatory.

POSITION DESCRIPTION

POS. NO. 4

Position Title: VEHICLE INTEGRATOR

General Features:

Position Summary: Assume overall responsibility for a test, modification, and repair of a given vehicle. Work closely with missile engineering design coordinators. Participate in vehicle sell-off and keep close check on DD250 items. Coordinate test plans, TP index, and overall scheduling. Cooperate with STC and other integrators and tracking stations to solve RF interference problems. Outline work load for each shift. Make regular technical reports to management concerning status and needs for assigned vehicle. Conduct meetings for improving personnel performance and giving technical direction to maintenance, operating, and test personnel. Decide which components are to be removed and replaced. Direct ways for continuing missile test in event of malfunctions. Assist in evaluation of tests and system runs to determine launch capability.

Environment: Works at a desk in the engineering office area of the Missile Assembly Building. May be required to perform inspection or attend meetings at any area of Vandenberg and Point Arguello. Reports as staff engineer to the Vehicle Systems Department Manager.

Qualifications: A B. S. in engineering and a minimum of one year of experience in electrical, mechanical, and electronic engineering and missile flight test are mandatory.

POSITION DESCRIPTION

POS. NO. 5

Position Title: VEHICLE FUNCTION GENERATOR

General Features:

Position Summary: Perform system complex checkout verification in coordination with other complex engineers. Maintain vehicle simulators in operational readiness and compatible with latest vehicle configurations. Prepare procedures required for Vehicle Function Generator self checks and complex checkout.

Environment: Works in engineering office area and in system checkout complex of the Missile Assembly Building. Reports to Integrated Systems Checkout Group Engineer.

Qualifications: A B.S. degree in electronics or equivalent combination of education and experience is mandatory. Must have a minimum of one year systems checkout experience, and ability to write technical reports and test procedures clearly and completely.

POSITION DESCRIPTION

POS. NO. 6

Position Title: SYSTEM CHECKOUT COMPLEX TEST CONDUCTOR

General Features:

Position Summary: Maintain checkout complex in state of operational readiness in keeping with vehicle changes. Coordinate all complex modifications with affected design section to assure compatibility. Prepare checkout procedures compatible with latest vehicle configuration. Conduct integrated systems checkout test on vehicles and prepare evaluation reports on test results.

Environment: Works in engineering office area and in the System Checkout Complex of the Missile Assembly Building. Reports to Integrated Systems Checkout Group Engineer.

Qualifications: A B. S. degree in electronics or equivalent combination of education and experience is mandatory. Five years engineering experience including at least one year at systems level is also required. Overall knowledge of the checkout complex and vehicle is mandatory.

POSITION DESCRIPTION

POS. NO. 7

Position Title: INTEGRATED SYSTEMS CHECKOUT GROUP ENGINEER

General Features:

Position Summary: Supervise the conduct of integrated systems test on vehicle in Missile Assembly Building. Prepare Evaluation Reports of the test results. Prepare checkout procedures compatible with the latest vehicle configuration and test objective. Supervise maintenance of the checkout complex in state of operational readiness in accordance with vehicle changes. Coordinate all necessary complex modifications with affected design sections. Perform complex verification checks utilizing Vehicle Function Generator (VFG). Supervise modification of the VFG as necessary to maintain compatibility with the vehicle. Coordinate procedures between the VFG and the systems checkout complex.

Environment: Works at a desk in the engineering office area and in the Checkout Complex of the Missile Assembly Building. Reports to Technical Support Section Supervisor.

Qualifications: A B. S. degree in electronics or equivalent combination of education and experience is mandatory. Five years engineering experience including at least one year at systems level plus ability to guide and supervise technical personnel are also required.

POSITION DESCRIPTION

POS. NO. 8

Position Title: SS/H COMMAND AND DATA LINK ENGINEER

General Features:

Position Summary: Prepare test procedures within limits prescribed by design specifications which ensure technical capability of the subsystem payloads, the RF command receiving and transmitting equipment, and the RF data link equipment. Monitor performance of subsystem test procedures. Prepare Trouble and Failure reports. Evaluate SS/H RF subsystem performance to determine design deficiencies and errors. Review proposed modifications of SS/H RF equipment and design changes or additions prior to their incorporation into the vehicle. Supply technical direction for the maintenance or modification of SS/H RF laboratory test equipment and consoles. Analyze vehicle flight test data pertinent to SS/H RF. Plan and coordinate installation of subsystem test equipment. Man the SS/H Command and Control Console at the Launch Operations Building during prelaunch and launch operations. Also operate Control Consoles in Launch Service Building.

Environment: Works at desk in the engineering office area and in test laboratory of the Missile Assembly Building. During launch and prelaunch operations may work at console in the Launch Operations Building. Reports to SS/H Group Engineer.

Qualifications: A combination of education and experience equivalent to B.S. degree in electronics and two years of missile test experience is mandatory.

POSITION DESCRIPTION

POS. NO. 9

Position Title: SS/B PYROTECHNICS ENGINEER

See Position No. 3-5, LMSD-448258.

POSITION DESCRIPTION

POS. NO. 10

Position Title: MODIFICATION CONTROL GROUP ENGINEER

General Features:

Position Summary: Obtain, control, and distribute all copies of papers authorizing engineering modifications and changes to be incorporated at VAFB. Maintain engineering records on all EJA's and associate engineering information. Provide drafting services for documentation on vehicles and support equipment of Vehicle System Department. Support the reliability program by providing documentation. Monitor entries to the vehicle log-book; coordinate with vehicle engineering group to assure accuracy of the vehicle log-book.

Environment: Works at a desk in the engineering office area. Reports to Technical Support Section Supervisor.

Qualifications: A minimum of four years experience, including field test site experience in electronics system manufacturing or modification control is mandatory. Two years technical education in electronics or mechanics at college level is desirable.

POSITION DESCRIPTION

POS. NO. 11

Position Title: SS/D ENGINEER

General Features:

Position Summary: Provide supervision and technical direction for functional testing of vehicle guidance and control systems. Prepare test procedures, engineering work orders, engineering orders, and Trouble and Failure Reports, and other documentation and reports as required. Provide liaison, coordination, and planning required to assure compatibility of systems and AGE. Review and evaluate all proposed changes, modifications and additions. Recommend and initiate design changes, modifications, and additions to the guidance system as dictated by functional test, system improvement, and malfunction analysis. Write evaluation and work progress reports. Man blockhouse SS/D console, and assist in vehicle launch. Assume responsibility for guidance and control and related test equipment.

Environment: Works at desk in engineering office area, MAB and at the launch pad. Reports to Vehicle Systems Supervisor through SS/A and D Group Supervisor.

Qualifications: Electrical engineering or electronics B.S. degree with one year missile guidance and control experience.

POSITION DESCRIPTION

POS. NO. 12

Position Title: SS/A ENGINEER

General Features:

Position Summary: Edit all SS/A test procedure, assume technical responsibility for weighing of vehicle and alignment of all critical components. Monitor the incorporation of structual modifications and the installing and mounting of all equipment. Write engineering work orders, test procedures, engineering orders, and Trouble and Failure Reports. Insure adequacy of handling equipment. Recommend design changes and modifications to Agena airframe. Make and maintain records and reports to show vehicle status and engineering work progress. Monitor tests performed to demonstrate functional integrity of the airframe components.

Environment: Works primarily at a desk in the engineering office area and in MAB. Reports through SS/A and D Group Supervisor to Vehicle Subsystem Section Supervisor.

Qualifications: Requires a B. S. degree in mechanical engineering with minimum of one additional year experience in aircraft or missile airframe engineering.

POSITION DESCRIPTION

POS. NO. 13

Position Title: SS/G PAYLOAD ENGINEER

General Features:

Position Summary: Develop and write procedures for test, checkout, and maintenance of the SS/G payload for technical guidance of operating and support groups. Prepare reports of design errors, design deficiencies, recurrent malfunctions and propose design changes. Monitor operating and support groups in activities involving the SS/G payload. Prepare Trouble and Failure Reports of payload and payload checkout equipment. Participate in reviews of proposed payload design changes and equipment modification. Maintain technical surveillance of payload subcontractor operations. Evaluate status and test reports from operating and support groups. Delineate and describe operating and equipment problems and recommend solutions. Evaluate data derived from flight tests and forward recommendations to the section supervisor. During prelaunch activity at launch complex, evaluate functional integrity of the SS/G payload and ensure compatibility with other elements of the weapon system. Provide technical guidance to operating and support groups during payload-Agena compatibility tests and during payload-Agena mating. Operate payload console during prelaunch and launch procedures at the Launch Operations Building.

Environment: Works in Payload lab and office area, checkout complex of MAB and at the launch complex. Reports to G Payload Group Engineer.

Qualifications: Should have at least one year field test experience and a degree in electrical engineering or electronics. Infrared and optics knowledge is mandatory.

POSITION DESCRIPTION

POS. NO. 14

Position Title: PROGRAMS 101B and 201 PAYLOAD ENGINEER

General Features:

Position Summary: Develop and write procedures for test, checkout and maintenance of the payload for technical guidance of operating and support groups. Prepare reports of malfunctions, design errors, design deficiencies, and propose design changes. Monitor operating and support groups in activities involving Project 101 payload. Prepare Trouble and Failure Reports of payload and C/O equipment. Participate in reviews of proposed payload design changes and equipment modification. Maintain technical surveillance of payload subcontractor operations. Evaluate status and test reports from operating and support groups. Delineate and describe operating and equipment problems and recommend solutions. Evaluate data derived from flight tests and forward recommendations to the section supervisor. During prelaunch activity at launch complex, evaluate functional integrity of Program 101 payload and assure compatibility of the Program 101 payload with the rest of the weapon system. Provide technical guidance to operating and support groups during payload-Agena compatibility tests and during payload-Agena mating. Operate payload console during prelaunch and launch procedures at the Launch Operations Building.

Environment: Works in Missile Assembly Building at desk and in payload checkout areas. Works on launch pad and Launch Operations Building. May be required to work on Missile Service Tower. Reports to Payload Group Engineer.

Qualifications: Requires bachelor's degree in engineering or physics. Must have broad knowledge of mechanics, electronics, and optics. Must have detailed knowledge of the design and operating characteristics of the SS/E payloads.

POSITION DESCRIPTION

POS. NO. 15

Position Title: LOCKHEED AUTOMATIC CHECKOUT EQUIPMENT TECHNICIAN

General Features:

Position Summary: Troubleshoot, maintain, and modify Lockheed Automatic Checkout Equipment (LACE). Connect LACE to system checkout complexes. Isolate and correct malfunctions occurring within the LACE. Recommend or install modifications as necessary. Perform compatibility checks between LACE and the system checkout complex (SCOC). Prepare programs by patching and card punching. Prove out programs by SCOC operation. Monitor tape and visual readout of LACE self-check, program. Communicate with test conductor on net in event of malfunctions.

Environment: Reports to SCOC Group Supervisor. Works in the LACE and system checkout complexes in the Missile Assembly Building.

Qualifications: Requires extensive knowledge of electronic theory including analog and digital computer circuits. Extensive experience with propulsion, guidance, communications, and telemetry equipment is mandatory. A thorough knowledge of the integrated systems checkout equipment is essential. Must be skilled in the set-up and use of electronic test equipment (oscilloscope, VTVM, signal generators, etc.) and manipulation of electrical repair tools. Must be a certified solderer.

POSITION DESCRIPTION

POS. NO. 16

Position Title: TEST BASE COORDINATOR

See Position No. 3-1, LMSD-448258.

POSITION DESCRIPTION

POS. NO. 17

Position Title: OPERATIONS PLANNER

General Features:

Position Summary: Review engineering work orders, materiel requirements, and other information for applicability to department functions, and distribute to affected groups. Maintain liaison with other departments in order to assure coordination. Initiate action for procurement of parts and materiel. Organize and maintain adequate records to assure close surveillance over stock levels required for smooth work flow. Write reports and interdepartmental communications.

Environment: Work is performed in the Missile Assembly Building and at the launch complex area. Works with all groups in the systems support organization. Also coordinates with other launch base groups and some factory organizations. Reports to Systems Support Department Manager.

Qualifications: Must have good working knowledge of shop methods and practices. A comprehensive knowledge of procurement procedures is essential. Report writing capability mandatory.

POSITION DESCRIPTION

POS. NO. 18

Position Title: ELECTROMECHANICAL SECTION SUPERVISOR

General Features:

Position Summary: Plan, coordinate, and direct all activities of three groups: (1) Mechanical group-vehicle structures; (2) Propulsion and fluid systems; (3) Electrical group-vehicle wiring, electro-mechanical devices, and auxiliary power units; and (4) Detail assembly group-fabrication and repair. Provide for employee training. Assist engineering in conducting special tests and in performing test procedures. Develop methods and shop aids as necessary to improve shop operating procedures. Recommend organizational changes and personnel assignments to improve output or scheduling. Assist the department manager in preparing manpower forecasts, schedules, and equipment and materiel requirements.

Environment: Normally performs duties at desk and in the shop of Missile Assembly Building, but supervisory duties occasionally require trips to the pad or blockhouse area. Reports to Systems Support Department Manager.

Qualifications: A very extensive technical background in sheet metal fabrication, electrical installation and checkout, propulsion systems, fluid and pneumatics systems, air conditioning, pressurization, machine shop operations, and missile modification work is essential. Previous supervisory experience, including budget forecasting is mandatory.

POSITION DESCRIPTION

POS. NO. 19

Position Title: MECHANICAL GROUP SUPERVISOR (SS/A and B)

General Features:

Position Summary: Plan, coordinate, and direct efforts of subordinates. Develop shop methods and procedures as required to provide complete competence in all functions related to the airframe, hydraulic system, pneumatics, air conditioning, and propulsion system including valves, lines, start cans, tanks, engine, turbine exhaust, duct brackets, etc. Evaluate workload and plan group activities to assure full utilization of available manpower. Maintain surveillance of employee activities to assure strict adherence to established shop practices and engineering procedures. Provide assistance in support of other groups as required.

Environment: Duties are generally performed at desk and in the shop of the Missile Assembly Building but may also perform supervision at the Launch Complex, Pads, and Missile Service Tower. Reports to the systems support manager through the supervisor of the electro-mechanical section.

Qualifications: Extensive technical background in aircraft or missile shop practices is required. Must have thorough knowledge of missile structures and repair techniques. Must have good knowledge of rocket engines and detailed knowledge of fuel and oxidizer systems, hydraulic system, pneumatics, air conditioning, and related parts and components. Must be familiar with LMSC rules and regulations. Previous supervisory experience is desirable, but not mandatory.

POSITION DESCRIPTION

POS. NO. 20

Position Title: SS/A STRUCTURES MECHANIC

See Position No. 3-2, LMSD-448258.

POSITION DESCRIPTION

POS. NO. 21

Position Title: SS/B PROPULSION MECHANIC

See Position No. 3-3, LMSD-448258.

POSITION DESCRIPTION

POS. NO. 22

Position Title: FLUID SYSTEMS MECHANIC

General Features:

Position Summary: Test pneumatic, hydraulic, pressurization, and fuel systems for leakage, security, and function. Perform tank pressurization tests, ground line transducer tests, and engine functional and leak checks. Remove, replace, or repair tubing. Fabricate and install tubing assemblies.

Environment: Performs duties in the shop area of the Missile Assembly Building. May work at the launch complex occasionally. Works with structures mechanics and electricans. Reports to the mechanical group Supervisor of the Electro-mechanical Section.

Qualifications: Must be familiar with gauges and other specialized equipment such as leak detectors. Requires basic training in hydraulics and pneumatics. Experience in methods and procedures required to prepare satellite fluid and pneumatic systems for tests or flight purposes is essential.

POSITION DESCRIPTION

POS. NO. 23

Position Title: ELECTRICAL GROUP SUPERVISOR (SS/C)

General Features:

Position Summary: Plan, coordinate, and direct efforts of subordinates. Develop shop methods and procedures as required to provide complete competence in all functions related to performing electrical continuity checks, modifying, assembling, installing vehicle wiring, power supplies, and related components. Includes processing and installation of flight batteries, checkout and installation of pyrotechnic devices, arming and disarming flight vehicle. Also includes modification, checkout, maintenance, and operation of related checkout or support equipment. Evaluate workload and plan group activities to assure full utilization of available manpower. Maintain surveillance of employee activities to assure strict adherence to established shop practices and engineering procedures. Provide assistance in support of other groups as required.

Environment: Duties are generally performed in the Missile Assembly Building, but may also supervise members of his group at the launch complex, pads, and missile service tower. Reports to the systems support manager through the supervisor of the electro-mechanical section.

Qualifications: Extensive technical background in aircraft or missile shop practices is required. Must have thorough knowledge of airborne electrical systems, including power supplies, pyrotechnics, and ground checkout equipment. Must be familiar with LMSC rules and regulations. Previous supervisory experience is desirable, but not mandatory.

POSITION DESCRIPTION

POS. NO. 24

Position Title: SS/C ELECTRICAL TECHNICIAN

General Features:

NOTE: This position is identical to Position No. 34 as described in LMSD-448258, with the following exception:

Environment: Work is generally performed in the Missile Assembly Building, but is not confined to this area. May also work on and around the launch complex at the pads or in the Missile Service Tower. Use all types of common electrical test equipment and tools. Strict adherence to safety regulations while checking high voltages and when working on the Missile Service Tower on the high-lift is mandatory. Work as necessary with other groups, but particularly with SS/B propulsion mechanics. Reports to the shop supervisor under the technical direction of the SS/C electrical engineer.

POSITION DESCRIPTION

POS. NO. 25

Position Title: DETAIL ASSEMBLY GROUP SUPERVISOR

General Features:

Position Summary: Plan, coordinate, and direct the efforts of subordinates. Develop shop methods and procedures as required to assure schedules are met. Maintain competence in all functions related to the fabrication or modification of parts such as sheet metal components and assemblies, welding various metals, machining, fabricating electrical cabling, producing panels, name plates, etc. Also includes certain modification and repair work on checkout and monitoring equipment. Evaluate work load and plan group activities to assure full utilization of available manpower. Maintain surveillance of employee activities to assure strict adherence to established shop practices and engineering procedures. Provide assistance in support of all other groups as necessary. Supervise maintenance, repair and functional test of AGE components in valve lab.

Environment: Performs in the detail assembly shop area of the Missile Assembly Building. Reports to the Systems Support Manager through the supervisor of the Electro-Mechanical Section.

Qualifications: Thorough training and extensive experience in all phases of shop work including machining, sheet metal fabrication, welding, electrical cable fabrication, and flexible and rigid hose and tubing fabrication is essential. Thorough understanding of blueprints, engineering orders, and shop mathematics is mandatory. Must be familiar with company policies, rules, and regulations. Previous supervisory experience is desirable, but not mandatory.

POSITION DESCRIPTION

POS. NO. 26

Position Title. GENERAL MACHINIST

General Features:

Position Summary: Perform machining and metal forming operations, including those requiring the use of lathes, milling machines, jig borers, drill presses, contour sawing and filing machine, and power cut-off saw. Fabricate simple or intricate parts in accordance with sketches, engineering drawings, or verbal instructions using accepted standard shop practices.

Environment: Works in the machine shop of the detail assembly group in the Missile Assembly Building. Works with sheet metal mechanics, welders, electricians, and fluid systems mechanics. Supports all groups as required. Reports to the detail assembly group supervisor.

Qualifications: A complete knowledge of a variety of machine tools is mandatory. Must be able to apply machine shop theory and practices. A thorough understanding of the characteristics of various metals is essential. Ability to interpret complex detail drawings and lay out a logical course of action is mandatory. Must be able to work with incomplete and verbal instructions. Must be familiar with shop mathematics including trigonometry.

POSITION DESCRIPTION

POS. NO. 27

Position Title: FLUID SYSTEMS MECHANIC

General Features:

Position Summary: Cut, bend, flare tubing made of various metals. Install sleeves, nuts, and other couplings. Fabricate flexible hose assemblies. Maintain, modify, hydro-statically check and functionally test couplings, valves, regulators, and other related fluid and pneumatic systems components. Assemble parts to make subsystem or system mockups for test purposes.

Environment: Performs duties in the detail assembly area of the Missile Assembly Building, but work is not confined to this building. May occasionally perform duties at the launch complex. Works with welders, sheet metal mechanics, fluid systems mechanics, electricians, and machinists. Supports other groups as required. Reports to the detail assembly group supervisor.

Qualifications: Must have a complete knowledge of fluid systems practices, specializing in rigid and flexible tubing and hoses, valves, couplings, and regulators. A thorough knowledge of specialized equipment such as pressure gauges and leak detectors. Experience in methods and requirements necessary to tear down, repair, assemble, and test fluid and pneumatic systems components is mandatory.

POSITION DESCRIPTION

POS. NO. 28

Position Title: WELDER – SHEET METAL MECHANIC

General Features:

Position Summary: In accordance with engineering instructions, fabricate weldments composed of aluminum, magnesium, titanium, steel, or stainless steel. Employ oxy-acetylene, metallic arc, and inert arc welding. Perform fabrication, modifications, and technical maintenance on ground handling equipment.

Environment: Performs duties in the detail assembly shop area, but may work in other areas as required. Works with fluid systems mechanics, electricians, machinists, and structures mechanics. Reports to the detail assembly group supervisor.

Qualifications: Must be able to work from complete or incomplete design information and fill in details from practical experience or typical procedures. Knowledge of shop mathematics through trigonometry is essential. Must be qualified to set up and operate various types of basic shop equipment such as drill presses, metal forming equipment, cutting machines, and other related shop aids.

POSITION DESCRIPTION

POS. NO. 29

Position Title: BENCH SHEET METAL MECHANIC

General Features:

Position Summary: Fabricate sheet metal components and assemblies in accordance with finished engineering drawings, sketches, or written information. May be required to produce sheet metal parts without written direction using established shop procedures and standard practices. Fasten parts together by means of rivets, metal screws, or bolts and nuts. Perform modifications on existing parts. Accomplish bench repair and maintenance on checkout, monitoring, and ground handling equipment.

Environment: Works in the detail assembly area of the Missile Assembly Building. May work occasionally at the Launch Complex. Works with machinists, welders, electricians, and Fluid System Mechanics. Supports other groups as required. Reports to the Detail Assembly Group Supervisor.

Qualifications: Ability to work from complete or incomplete design information, filling in details from practical experience, is mandatory. Must be experienced in setting up and operating basic shop equipment such as: drill presses, metal forming equipment, cutting machines, and other related shop devices. Must be familiar with shop mathematics. Must be able to lay out and manufacture templates.

POSITION DESCRIPTION

POS. NO. 30

Position Title: BENCH ELECTRICIAN

General Features:

Position Summary: Lay out, fabricate, and install electrical cabling or wire harnesses. Modify electrical parts and assemblies as required. Calibrate or adjust instruments. Repair electrical parts, circuits, or assemblies. Develop and build up electrical checkout aids and test equipment necessary to prove out satellite electrical systems, or to actuate mechanical or fluid mechanisms for test purposes.

Environment: Performs duties in the Detail Assembly Group Area of the Missile Assembly Building. Works with machinists, welders, sheet metal mechanics, and fluid systems mechanics. Works with other groups as required. Reports to the Detail Assembly Group Supervisor.

Qualifications: Must be capable of applying a complete knowledge of basic and advanced electrical theory to a variety of problems. Experience in satellite electrical systems employing advanced miniaturization is essential. Ability to work from incomplete design information, filling in details from practical and specialized experience, is mandatory.

POSITION DESCRIPTION

PCS. NO. 31

Position Title: ELECTRONICS SECTION SUPERVISOR

General Features:

Position Summary: Plan, coordinate, and direct all activities of seven groups: (1) Guidance and Controls Group; (2) Checkout Equipment Group; (3) SS/H Command and Radar Group; (4) SS/L Aero-Medical and AET Payloads; (5) SS/G; (6) Project 101, (7) Project 102 and Communications and Ground Station. Assist engineering in conducting special tests and in performing test procedures. Develop methods and shop aids as necessary to improve shop operating procedures. Recommend organizational changes and personnel assignments to improve output or scheduling. Assist the Department Manager in preparing manpower forecasts, schedules, and equipment and materiel requirements.

Environment: Normally performs duties in the Missile Assembly Building, but occasionally visits the launch pad and blockhouse areas. Reports to the Department Manager.

Qualifications: A very extensive technical background specializing in electrical and electronics testing and checkout equipment is mandatory. Must have a thorough knowledge of the Agena subsystems, including payloads, and electrical and electronic modification work. Previous supervisory experience including budget forecasting is mandatory.

POSITION DESCRIPTION

POS. NO. 32

Position Title: CHECKOUT EQUIPMENT GROUND STATION GROUP SUPERVISOR

General Features:

Position Summary: Plan, coordinate, and direct the efforts of subordinates. Develop checkout complex operational methods and procedures in the course of supervising work assignments. Orient and train personnel in all functions related to the checkout complex. Assure compliance with all engineering procedures and adherence to established shop practices. Plan workload and schedules to assure smooth work flow. Utilize manpower to achieve maximum efficiency. Supervise the performance of tasks pertinent to preventive and specialized maintenance and modification.

Environment: Performs at the checkout complex in the Missile Assembly Building. Coordinates with supervisors of other groups and assists them as required. Reports to the Department Manager through the electronics section supervisor.

Qualifications: A degree in Electrical or Electronic Engineering or equivalent experience is mandatory. Extensive experience specializing in missile checkout equipment is essential. Must have a complete knowledge of recording and processing test data. Thorough knowledge of integrated systems testing is required. Previous supervisory experience is desirable.

POSITION DESCRIPTION

POS. NO. 33

Position Title: INTEGRATED SYSTEMS CHECKOUT TECHNICIAN

General Features:

Position Summary: Accomplish station setup and checkout. Perform station modifications as required. Accomplish integrated systems tests. Assist in evaluating test results. Isolate troubles within the checkout complex and accomplish repairs. Analyze vehicle discrepancies and recommend solutions.

Environment: Works in the integrated systems checkout complex in the Missile Assembly Building. Works with other integrated systems checkout technicians and engineering personnel. Reports to the Checkout Equipment Group Supervisor and works under the technical direction of the Integrated Systems Checkout Complex Engineer.

Qualifications: Extensive experience in subsystems including: propulsion, electrical, guidance, communications, and telemetry is mandatory. A thorough knowledge of integrated systems checkout equipment is essential. Must be able to isolate and correct malfunctions occurring within the checkout complex and recommend or install modifications as necessary.

POSITION DESCRIPTION

POS. NO. 34

Position Title: INSTRUMENTATION/COMMUNICATION PROJECT 101B, PROGRAM 201, AND SS/G GROUP SUPERVISOR

General Features:

Position Summary: Plan, coordinate, and direct the efforts of subordinates. Supervise the complete checkout, modification, and calibration of all electronic circuitry within the telemetry systems. Develop methods and procedures to improve efficiency of the group in accomplishing work assignments. Monitor all operations within the group to assure conformance to established shop practices and strict adherence to engineering test procedures. Develop improvements in checkout techniques. Evaluate test results and confirm status of vehicle system and checkout equipment.

Environment: Normally performs duties in the instrumentation and communication group area of the Missile Assembly Building. Supervisory duties occasionally required in the launch pad and blockhouse areas. Reports to the department manager through the electronics section supervisor.

Qualifications: Must have a complete knowledge of missile instrumentation/communication systems as well as ground checkout equipment. A thorough understanding of bench procedures and vehicle checkout functions, modification work, calibration, and system evaluation is mandatory. Previous supervisory experience is desirable.

POSITION DESCRIPTION

POS. NO. 35

Position Title: INSTRUMENTATION/COMMUNICATION TECHNICIAN

General Features:

Position Summary: Perform bench checkout on components of the instrumentation/communication system. Accomplish modifications to components or circuitry within the system as required. Perform complete vehicle telemetry calibration and checkout. Perform all instrumentation, data setup, monitoring, and processing of telemetry tests as required. Monitor and assist in all simulated flight and evaluation tests in the course of preparing the vehicle for flight readiness. Perform back-up instrumentation verification support to the the Vandenberg Tracking Station on vehicle flight operations. Record and process instrumentation data in support of systems tests as required.

Environment: Performs in the Instrumentation/Communications Group area of the Missile Assembly Building. Works with electronics technicians and electrical technicians. Assists other groups as required. Reports to the Instrumentation/Communications Group Supervisor.

Qualifications: A thorough knowledge of missile instrumentation/communication systems as well as ground checkout equipment is mandatory. Must have a complete understanding of bench checkout procedures and vehicle test functions, modification work, system evaluation, and calibration. Must be thoroughly schooled in electronics and standard shop practices.

POSITION DESCRIPTION

POS. NO. 36

Position Title: GUIDANCE AND FLIGHT CONTROLS GROUP SUPERVISOR

General Features:

Position Summary: Plan, coordinate, and direct the efforts of subordinates. Supervise the component bench check and vehicle guidance and control system checkout. Supervise modification, calibration, and evaluation as necessary. Develop improvements in guidance and control checkout procedures. Assure that all engineering procedures are followed. Recommend changes or improvements to these engineering procedures as required to improve efficiency and reliability. Develop, install, and supervise preventive maintenance practices.

Environment: Performs duties in the guidance and controls area of the Missile Assembly Building, but may occasionally go to the launch complex. Works with other groups, principally the checkout complex group, Subsystem H group, and the various payload groups. Reports to the department manager through the electronics section supervisor.

Qualifications: Must be thoroughly experienced in missile guidance and control systems as well as related systems. Must be able to isolate trouble. May request deviations in procedures, evaluate status of checkout equipment, and recommend repairs, replacements, or overhaul of both checkout equipment and vehicle guidance and control system components. Previous supervisory experience is desirable but not mandatory.

POSITION DESCRIPTION

POS. NO. 37

Position Title: GUIDANCE AND CONTROLS TECHNICIAN

General Features:

Position Summary: Perform complete test and checkout of all electronic and mechanical equipment and circuitry within the guidance and flight controls system. Accomplish modifications as required. Calibrate and adjust electronic electromechanical, and mechanical components. Modify, test and check out test equipment associated with the guidance and flight controls systems. Operate and maintain consoles and special test equipment used in simulated flight and evaluation tests in the course of preparing the satellite to meet a flight readiness condition.

Environment: Performs duties in the SS/D Guidance and Controls Group area of the Missile Assembly Building. Supports other groups in the Missile Assembly Building and at the launch complex as required. Works with structures mechanics, electronics technicians, and fluid systems mechanics. Reports to the SS/D Guidance and Controls Group Supervisor.

Qualifications: A complete knowledge of electronic research laboratory theory, practice, and procedures as it applies to guidance and flight controls systems is mandatory. Experience in operation of guidance and flight control equipment and in testing and evaluating complete guidance systems and component parts is essential.

POSITION DESCRIPTION

POS. NO. 38

Position Title: SS/H COMMAND AND RADAR, AND PROJECT 102 and SS/J GROUP SUPERVISOR

General Features:

Position Summary: Plan, coordinate, and direct the efforts of SS/H and Project 102 technicians. Supervise the complete checkout, modifications, and calibration of all electronic equipment and circuitry within the Command "H", timer, radar, acquisition beacon, and Project 102 systems, and the associated test equipment. Also supervises the checkout and modification of all airborne equipment used in the fly-by aircraft. Assure that all engineering procedures pertinent to the SS/H Command and Radar, and Project 102 Group are followed. Recommend procedural changes or deviations as necessary to improve efficiency of his group. Develop, install, and supervise preventive maintenance practices. Develop improvements in checkout techniques.

Environment: Performs duties primarily in the SS/H Command and Radar, and Project 102 Group areas in the Missile Assembly Building. Works with other groups as required by test procedures. Reports to the department manager through the electronics section supervisor.

Qualifications: Must have extensive experience with R. F. communications and radar. A thorough knowledge of the elements comprising SS/H and Project 102 is mandatory. Must be able to isolate troubles and recommend solutions. Ability to evaluate the status of the checkout equipment and the vehicle systems is essential. Previous supervisory experience is desirable but not mandatory.

POSITION DESCRIPTION

POS. NO. 39

Position Title: T/M (ELECTRONIC) TECHNICIAN

See Position No. 3-12, LMSD-448258

POSITION DESCRIPTION

POS. NO. 40

Position Title: PROJECT 102 PAYLOAD TECHNICIAN

General Features:

Position Summary: Unload and unpackage payload. Inspect and move payload to checkout fixtures. Operate payload test equipment and monitor payload outputs and performance during test. Perform payload maintenance as required. Remove access covers from payload, remove and replace damaged or malfunctioning components. Operate, test and maintain payload checkout equipment. Prepare reports on the results of payload checkout for use by the Payload Engineer. Assist in satellite-payload mating and compatibility testing.

Environment: Works in receiving and payload test areas of the Missile Assembly Building. Assists in payload mating at the launch pad. Reports to the Electronics Section Supervisor.

Qualifications: Must have broad knowledge of radios and radar transmission and reception. Must have detailed knowledge of the payloads. Requires special training in maintenance and operation of payload test equipment and in handling and repair of the payloads.

POSITION DESCRIPTION

POS. NO. 41

Position Title: 101B AND 201 AND G GROUP INSTRUMENTATION SUPERVISOR

General Features:

Position Summary: Plan, coordinate, and direct efforts of 101B and 201 and G technicians. Supervise the complete static and functional checkout and calibration of the systems and the maintenance and calibration of all associated test and checkout equipment. Monitor extensive payload electronic and electromechanical systems tests, modification work, pyrotechnics, and static and dynamic balancing. Monitor and assist in all simulated flight and evaluation tests. Certify subsystem capability to meet flight readiness condition. Recommend employee training. Develop improvements in test and checkout procedures. Assure that all engineering test procedures and engineering orders are followed. Evaluate checkout status, isolate troubles, and recommend solutions.

Environment: Duties are performed in the payload areas of the Missile Assembly Building and also on the launch pad and in the Missile Service Tower. Occasionally assists in prelaunch operations in the control room of the Launch Operations Building. Reports to the department manager through the Electronics Section Supervisor.

Qualifications: Extensive training and experience in infrared systems, optics, high vacuum pneumatics, and complex electronic systems is mandatory. Must be able to evaluate status of payload and related checkout equipment, isolate troubles, and recommend solutions. Must have thorough understanding of company policies, rules, and regulations. Previous supervisory experience is desirable, but not essential.

POSITION DESCRIPTION

POS. NO. 42

Position Title: PROJECT 101B AND PROGRAM 201 PAYLOAD TECHNICIAN

General Features:

Position Summary: Unload and unpackage payload. Inspect and prepare payload for checkout. Test, disassemble, and perform maintenance on payload. Operate payload test equipment and monitor payload outputs and performance during payload test. Assist in conducting payload-satellite compatibility checks and in installing payload in satellite. Operate, maintain, test, and service payload test equipment. Prepare reports on the results of test and evaluation for use by the Payload Engineer.

Environment: Works in receiving, clean room, and leak test areas of the Missile Assembly Building and in the launch pad area during payload-satellite mating. Reports to the Electronics Section Supervisor.

Qualifications: Must have broad knowledge of the principles of hydraulics, high vacuum pneumatics, electronics, optics, and mechanics. Must have detailed knowledge of maintenance, operation and assembly of mechanical, electronic (including transistors), and optical components. Requires special training in maintenance and operation of payload test and handling equipment including optical test, high vacuum test, and GRE.

POSITION DESCRIPTION

POS. NO. 43

Position Title: SS/G PAYLOAD TECHNICIAN

General Features:

Position Summary: Unload and unpackage SS/G payload. Inspect and prepare payload for checkout. Test, disassemble to the extent necessary for test, and perform maintenance on the payload. Operate payload test equipment and monitor payload output and performance during payload tests. Assist in conducting payload-satellite compatibility checks and in installing payload in the satellite. Operate, maintain, test, and service payload test equipment. Prepare reports on the results of test and evaluation for use by the payload engineer.

Environment: Works in receiving, clean room, and payload test area of the Missile Assembly Building and at the launch pad and launch pad service building during payload-satellite mating, prelaunch checks, and service operations. Reports results of test to SS/G Payload Engineer. Reports to SS/G Group Supervisor.

Qualifications: Must have broad knowledge of electronics and infrared optics. Must have detailed knowledge of maintenance and operation of SS/G payload test and handling equipment.

POSITION DESCRIPTION

POS. NO. 44

Position Title: TECHNICAL ARTIST

General Features:

Position Summary: Prepare technical and engineering sketches and visual aids of missile components and accessories. Prepare all art work for reports produced at VAFB; determine layout, size, and format. Design and make charts and displays.

Environment: Works at drawing board in an area secured to permit production of classified materials. Except for occasional liaison for checking technical content of artwork, all functions are performed in this art illustration area of the Missile Assembly Building. Reports to Group Engineer, Plans, Procedures and Reports Group.

Qualifications: Requires minimum of two years art education and five years experience.

POSITION DESCRIPTION

POS. NO. 45

Position Title: COMMUNICATION CENTER ENGINEER

General Features:

Position Summary: Prepare "Daily Summary" of vehicle and pad activities for distribution to Air Force and LMSC agencies at Sunnyvale, VAFB, and Van Nuys. Maintain vehicle history for inclusion in final launch report. Man communications center with hot line to the launch complex and to the Control Center and the tracking station net. Arrange radiation clearance for LMSC operations. Schedule "fly-bys" for tracking station buy-off. Compile VAFB biweekly report. Schedule and conduct prelaunch communication checks. May operate crypto and teletype as backup to regular operator. Prepare individual vehicle work schedules.

Environment: Works in MAB base communications center and in engineering office areas. Reports to Plans, Procedures, and Reports Group Engineer.

Qualifications: Requires experience in supervision of communications center operation. Must know limitations and capabilities of teletype and crypto equipment. Must be able to operate teletype equipment such as ASR-28, RO-28, etc.

POSITION DESCRIPTION

POS. NO. 46

Position Title: PUBLICATIONS ENGINEER

General Features:

Position Summary: Collect information by telephone, interview, and conference. Collect technical information for preparation of the countdown manual. Organize information into correct sequence of events including procedures for associate and subcontractor personnel and for Air Force agencies. Check and correct countdown procedures. Coordinate typing and printing of the countdown manual. Analyze activities and interfaces involving civilian and military personnel and prepare VAFB Operating Procedures. Revise and republish Countdown Manuals and Procedures. Assist by special assignment in planning, scheduling and technical report writing. Monitor actual countdown, check procedures against countdown manual to produce history of countdown.

Environment: Work station is a desk in the engineering office area. Observes tests in the Missile Assembly Building and at the launch complex. Reports to Group Engineer of Plans, Reports, and Procedures.

Qualifications: A combined technical education and experience of at least three years is mandatory. Two or more years of technical training at college level is desirable.

POSITION DESCRIPTION

POS. NO. 47

Position Title: VALVE LABORATORY ENGINEER (AGE)

General Features:

Position Summary: Write work orders for working on valves. Coordinate with valve laboratory supervision for ordering and maintaining spares and spare parts. Write TPs for testing valves both in MAB and at pad. Write Trouble and Failure Reports; maintain applicable drawings and specifications; monitor disposition of parts and standardization of requirements. Establish work priority and control flow of parts in and out of laboratory. Approve requirements for parts and spares and provide technical direction to technicians.

Environment: Functions in valve laboratory and engineering office area. Occasionally works at pad (Discoverer and PALC 1). Reports to Launch System Department Manager.

Qualifications: B.S. in mechanical engineering is desirable. Five years field experience and technical training in pneumatics is mandatory.

POSITION DESCRIPTION

POS. NO. 48

Position Title: DRAFTSMAN

General Features:

osition Summary: Prepare mechanical and electrical engineering drawings for Agena vehicles, launch control systems, system checkout complex, and all associated equipment, using mechanical drafting tools and instruments and in accordance with LMSC standard drafting practices. Assist modification engineer in maintaining Vehicle Log Books and coordination required in modification control.

Environment: Works at a drafting table in engineering office area. Required to go to any area of VAFB for purpose of coordination with other departments. Reports to Plans, Procedures, and Reports Group Supervisor.

Qualifications: Three years experience in mechanical drafting of engineering drawings is mandatory. Must be familiar with LMSC standard practices. Two years of college-level technical training is desirable.

POSITION DESCRIPTION

POS. NO. 49

Position Title: TEST PROCEDURE COORDINATION ENGINEER

General Features:

Position Summary: Receive test plans, indexes and integrated test procedures from Vehicle Test Engineering in Sunnyvale. Coordinate between VAFB and Sunnyvale to assure availability of required procedures. Edit launch complex procedures for format and for engineering consistency. Assist engineers in preparing proper documentation to change integrated procedures for local use as required. Coordinate all procedures through reproduction, distribution, and required approvals.

Maintain files of procedures, approval sheets of all base-originated procedures, all Engineering Orders written at VAFB to change integrated procedures and status of Engineering Orders.

Provide final test index for post-flight reports and maintain records on status of all procedures, revisions, and changes for immediate reference.

Environment: Works at a desk in the engineering office area. Reports to Plans, Procedures, and Reports Group Supervisor.

Qualifications: A B.S. degree or the equivalent in education and experience in preparation of specifications technical procedures, or manuals are mandatory. One year of experience in technical procedure writing is desirable. Must be able to secure technical information by interview with engineering and management personnel.

POSITION DESCRIPTION

POS. NO. 50

Position Title: INSTALLATION AND TEST PLANNING ENGINEER

General Features:

Position Summary: Determine the detailed AGE for the launch complex. Write master installation and test plan and accompanying schedule from which LMSC installation subcontractor work statements for all AGE are prepared. Coordinate and publish vehicle plan, schedule, and associated procedures. Maintain, up-date, republish as required by changes in preliminary plan. Coordinate the various associate contractor efforts in conjunction with the USAF to assure timely activation of AGE. Determine launch complex AGE modifications required for each series of vehicles. Publish modification plan, and accompanying schedule. Outline validation test procedures used to demonstrate launch complex operational capability to Air Force.

Environment: Works at desk in engineering office area in conjunction with launch pad building personnel and with program coordinator and engineering design personnel at Van Nuys. Reports to Group Engineer, Plans, Procedures, and Reports Group.

Qualifications: A B.S. degree in engineerirg plus five years of flight and environment testing of electronic and electromechanical systems is mandatory.

POSITION DESCRIPTION

POS. NO. 51

Position Title: COMMUNICATION FACILITIES ENGINEER

General Features:

Position Summary: Plan and design new communication installations and alterations to those existing. Prepare layout, detail drawings, and specifications; estimates on material, equipment and labor for projects. Inspect work-in-progress to determine that material and workmanship conform to specifications. Assist in design of alterations to communication consoles and racks, lease lines, direct lines, public address systems, and establishing systems for projected needs.

Environment: Works at a desk in the interim area office building. Functions throughout VAFB. Reports to Facility Engineer, Equipment Communications and Control Section.

Qualifications: Requires a combination of education and experience equivalent to B.S. in electrical engineering and one year field experience. Must know detail drafting, equipment layout, circuit design and communication engineering.

POSITION DESCRIPTION

POS. NO. 52

Position Title: FACILITIES AREA ENGINEER

General Features:

Position Summary: Prepare test procedures for test and operation of C/O and system test support equipment. Direct technical operation and functional testing of support equipment for vehicle and payload handling equipment operation. Monitor maintenance and repair of real property and installed equipment. Prepare design criteria and monitor LMSC performed technical modification of assigned equipment and facilities. Coordinate activities of LMSC/VAFB organizations, SV agencies, Air Force field offices, and associate subcontractors.

Provide criteria for future requirements and space allocations in areas of responsibility, in coordination with VAFB. Procure and design space and equipment.

Environment: Functions throughout VAFB. Reports to Facility Integration Section through Design and Coordination Group.

Qualifications: Must have working knowledge of support equipment (air conditioners of various types, power distribution consoles, vehicle and payload handling dollies, cranes, heating and ventilation systems, and fixed-location gas supplies. Technical education of at least three years and one year experience with related equipment is minimum requirement.

POSITION DESCRIPTION

POS. NO. 53

Position Title: MAINTENANCE MECHANIC

General Features:

Position Summary: Maintain, repair, and install machinery and mechanical equipment. Construct and install special equipment such as test stands and structural supports. Make inspections and perform maintenance or repair as necessary to prevent equipment deterioration and functional breakdowns. Make working sketches, determine material and parts needed, and accomplish simple repairs. Replace broken or worn parts with either new or self-fabricated parts. Dismantle, reassemble, test, and install machines and equipment. Operate normal hand tools, metal-cutting tools, light welding equipment cutting torch, and power-driven wrenches.

Environment: Works indoors and out with ferrous and non-ferrous metals and alloys throughout VAFB area. Uses abrasives, coolants, cutting oil lubricants, machinists hand tools, precision measuring instruments, machine tools, fabrication machines, floor cranes and hoists. Reports to Facilities Maintenance Section Supervisor.

Qualifications: Knowledge of plant maintenance theory and the practice relevant to repair and maintenance. Ability to weld, use precise measuring equipment, ability in arithmetic involving decimals and fractions. Must read blueprints, use hand tools, and have experience in maintenance and repair of machinery.

POSITION DESCRIPTION

POS. NO. 54

Position Title: AUTOMOTIVE MECHANIC

General Features:

Position Summary: Determine general condition of internal combustion engines, including both gasoline and diesel. Analyze malfunctions and determine extent of needed repair by visual and auditory examination and by means of testing equipment. Isolate cause of malfunction by systematic elimination of possible troubles. Examine for faulty adjustment; check for broken or defective electrical system components. Drive vehicle to test operation of components. Test clutches, fuel systems, transmissions, torque converters, and differentials. Check engine and transmission cooling system. Test brake systems and steering gears. Examine and test auxiliary equipment such as power takeoff winches and hydraulic hoisting equipment. Remove and repair engines, including diesel. Remove engine components and replace or repair worn or damaged parts. Remove, repair, and replace steering and transmission assemblies and parts. Assemble and adjust engine and chassis components. Adjust carburetors, timing system, and front wheel toe-in, camber, and casters.

Environment: Works in auto shop on extensive repair jobs. May trouble-shoot and perform minor repairs on the road as necessary to return vehicle to shop. Reports to the Facility Maintenance Section Supervision.

Qualifications: Must have detailed knowledge of operation principles of internal combustion engines. Must know capabilities of common automotive machining processes and automotive repair and test equipment. Must understand auto electrical circuits and hydraulic systems. Minimum of two years experience in auto repair is mandatory.

POSITION DESCRIPTION

POS. NO. 55

Position Title: EQUIPMENT ACQUISITION ENGINEER

General Features:

Position Summary: Receive requests for equipment from all departments at VAFB. Verify the requirement and determine that equipment on hand is being utilized. Get correct nomenclature on equipment desired and evaluate the application of the requested equipment to the intended use. Prepare the formal request and indicate alternate sources or substitute equipment. Justify the request based on the task analysis. List like items on hand and describe the utilization of each. Obtain required approvals (LMSC and USAF).

Environment: Works primarily at a desk in the engineering office area. May be required to go anywhere on the base to inspect and help justify equipment requirements. Reports to Supervisor of Facility Engineering, Communication and Control Equipment Section.

Qualifications: Bachelor of science degree in engineering and design experience with the type of equipment the need and correctness of which he is assigned to evaluate.

POSITION DESCRIPTION

POS. NO. 56

Position Title: AGE MAINTENANCE ENGINEER

General Features:

Position Summary: Plan, organize, and publish instructions to maintain AGE. Investigate and solve service problems. Give technical direction to technicians performing maintenance, repair, and modification of Aerospace Ground Equipment.

Environment: Works in all areas at VAFB and at Point Arguello. Reports to supervisor of Facility Engineering Communications and Control Equipment Section.

Qualifications: B.S. degree in mechanical engineering desirable. A minimum of two years college and three years experience is mandatory. Ability to write clear, effective technical directions is required.

POSITION DESCRIPTION

POS. NO. 57

Position Title: PAINTER

General Features:

Position Summary: Apply paint, lacquer and varnish by brush, roller, and spray, including inside and outside of buildings; equipment; and rolling stock. Apply finish, decorative, and identifying coatings to missiles, assemblies, parts and models where appearance is critical or where very close tolerances must be maintained. Locate, lay out and apply decorative, identifying, and finish coatings, working from specifications, blueprints or engineering work orders. Mix paints to match colors and apply required finishing sequence to various surfaces. Perform all types of touch-up; make free-hand layouts, pounce patterns, stenciling, and markings. Direct the erection of scaffolding and rigging. Trim, strip, and stipple.

Environment: Works in and outside of buildings under LMSC cognizance, and is required to paint from swing stages, ladders, and ground level. May be required to wear safety belt. Reports to supervisor of Facilities Maintenance.

Qualifications: Must be qualified in the use of spray guns and accessory equipment, and know paint shop theory, including decorative and protective functions of paint. Must be able to use shop arithmetic including decimals and fractions, and be able to obtain information from blueprints.

POSITION DESCRIPTION

POS. NO. 58

Position Title: MAINTENANCE CARPENTER

General Features:

Position Summary: Construct or repair wooden buildings. Modify wooden buildings; move or remove partitions. Repair wooden furniture and wooden equipment. Plan sequence of construction operations. Make working sketches of construction, scaffolding, carpentry fixtures, indicating dimensions and fastening detail works from construction blueprints, sketches, and oral instructions. Replace windows, fabricate shipping crates, concrete forms, etc.

Perform finish operation on panels, partitions, floors, windows, counters, and benches. Nail, screw, bolt and glue wooden parts. Operate hand and power woodworking tools to forming shape, and fasten structural components made of wood, micarta, plywood, tenite, and wallboard.

Environment: Works in carpentry shop and in office buildings, shops, and launch areas assigned to LMSC. Works from ladder and scaffolding as required. Reports to Facilities Maintenance Supervisor.

Qualifications: Must be able to read construction blueprints, working sketches, and material lists. Must be skilled with carpentry hand and power tools. Must be able to compute angles using framing square and to use shop and arithmetic, including decimals and fractions.

POSITION DESCRIPTION

POS. NO. 59

Position Title: AIR CONDITIONING MECHANIC

General Features:

Position Summary: Install, maintain, repair, overhaul, and modify refrigeration system, heating equipment and portable and stationary air conditioning and ventilating equipment. Inspect equipment, determine functional status, recommends maintenances and repair procedures to prevent breakdown of heating, ventilating, air conditioning, and refrigerating equipment. Replace crank shafts, bearing, pistons, valves, condensers, thermostats, and other mechanical components of heating, cooling, and ventilating equipment. Charge system with refrigerant; check for leaks; and adjust controls after overhaul operations. Work from blueprints, specifications and manuals. Repare and maintain operational PAD Air Conditioners — mobile and fixed.

Environment: Works in Missile Assembly Building and at launch complexes. Works in confined spaces and at various heights. Works for Facilities Maintenance Supervisor.

Qualifications. A thorough understanding of air conditioning, refrigeration, and heating equipment principles of operation and characteristics is mandatory. Must be able to use mechanics hand- and power-operated tools and to read and interpret into correct procedures, blueprints, detail assembly drawings, specifications, and manuals. Must be able to use shop mathematics including decimals and fractions.

POSITION DESCRIPTION

POS. NO. 60

Position Title: MAINTENANCE ELECTRICIAN

General Features:

Position Summary: Determine routing location, and method of installing wires, conduits, electrical equipment fixtures, and accessories using diagrams, blueprints, or from oral instructions of supervisor. Recommend repair or replacement as necessary. Compute wire gage, power current, and voltage limits. Install, and maintain electrical motors, transformer banks, welding generators, panels, and switchboards. Repair or install high voltage circuits, splices taps, and insulates power circuits. Trouble-shoot hot circuits. Inspect, repair, and maintain overhead crane circuits and motors, control devices, and electrical accessories. Perform, mechanical operations necessary to dismantle, disassemble, repair, or install electrical devices and circuits. Works on specialized and launch support equipment.

Environment: Works on power circuits, power generating and distributing circuits and equipment, and on electrically driven hoisting equipment. Works in missile assembly shops and office areas at the Launch Complex 75-3, and in the shop and office buildings assigned to LMSC use. Reports to Facilities Maintenance Section Supervisor.

Qualifications. Must be able to use electrician's hand tools, shop power tools, electrical handbooks and charts, and electrical measuring equipment, such as voltmeters, wattmeters, and ammeters. Must be able to read facility wiring diagrams and construction blueprints. Must be familiar with local electrical codes and ordinances. Must be able to perform calculation of power, current, voltage, and load. Must have legally required license or certificate.

POSITION DESCRIPTION

POS. NO. 61

Position Title: SS/H R-F COMMAND AND CONTROL ENGINEER

See Position No. 3-16, LMSD-448258.

POSITION DESCRIPTION

POS. NO. 62

Position Title: R-F EQUIPMENT MAINTENANCE TECHNICIAN

See Position No. 3-15, LMSD-448258.

POSITION DESCRIPTION

POS. NO. 63

Position Title: FACILITIES ENGINEER/DATA LINKS

See Position No. 3-14, LMSD-448258.

POSITION DESCRIPTION

POS. NO. 44

Position Title: AIR CONDITIONING AND REFRIGERATION ENGINEER

See Position No. 4-17, LMSD-448258.

POSITION DESCRIPTION

POS. NO. 65

Position Title: PLUMBER

General Features:

Position Summary: Install and check plumbing fixtures, trouble-shoot and repair water and gas plumbing. Operate and maintain butane and propane equipment. Read specifications, blueprints, sketches, and prepare working sketches as required.

Environment: Works anyplace on VAFB where services are required: indoors, outdoors, off scaffoldings, under buildings, etc. Reports to Maintenance Section Supervisor.

Qualifications: Must be capable of setting up and operating big pipe-cutting and threading machines, using plumber's hand tools and measuring instruments. Must use arithmetic and simple algebra.