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J-16

MASTER COUNTDOWN

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MARTIN

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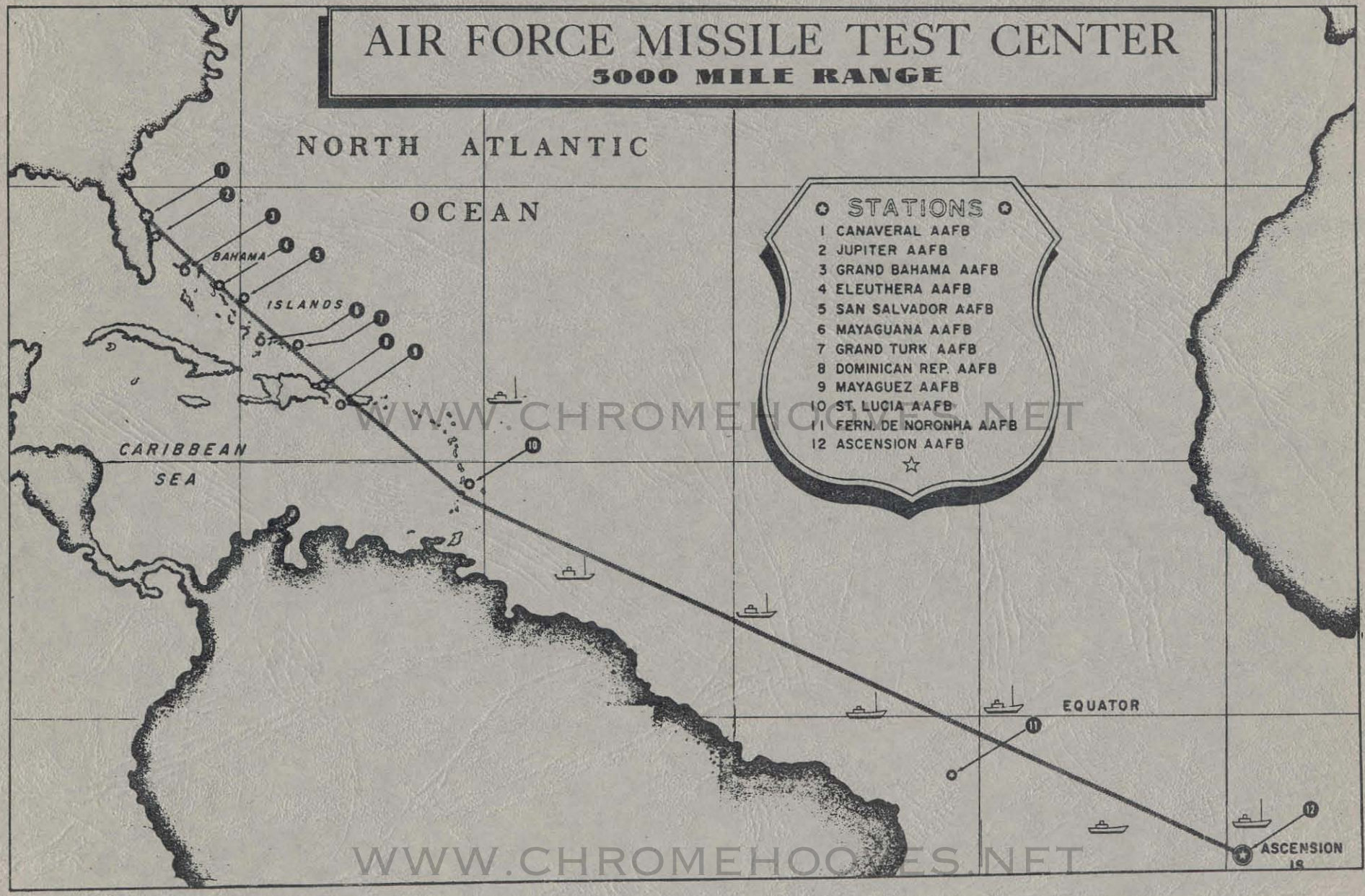

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J-16

APPROVAL			REVISIONS			
	NAME	DATE	SYM	DESCRIPTION	DATE	APP'D
PREPARED BY:	R. Hunter	4-6	J	General Revision	4-6-61	
STAFF ENGINEER:	P. Coyle	4-6				
COMPLEX MGR.:	S. Albrecht	4-6				
PROCEDURES GP.:	J. Miller	4-6				

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MODEL NO.	NUMBER
XSM-68	800-20

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1.0 COUNTDOWN PROCEDURES

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2.0 ABBREVIATIONS

ACC	-	Accessory Systems
BTL	-	Bell Telephone Laboratories
ELEC	-	Complex Electrical and Electronic Systems
F/C	-	Flight Controls System
GE	-	General Electric
GUID	-	Guidance
IB	-	Instrumentation Beacon
INST	-	Instrumentation and Telemetry Systems
MBE	-	Missile-Borne Equipment (BTL)
MECH	-	Complex Mechanical Systems
MSS	-	Missile Safety System
P & P	-	Propellant and Pressurization Systems
PC	-	Pad Control (Stand Supervisor)
PLC	-	Propellant Loading Console
PROP	-	Propulsion Systems
PSO	-	Pad Safety Officer
RSO	-	Range Safety Officer
SRO	-	Superintendent Range Operations
TC	-	Test Conductor
TCC	-	Test Conductor's Console

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3.0 MISSILE OPERATIONS INTERCOMMUNICATION SYSTEM (MOPS) ASSIGNMENT

	NET NUMBER
Test Conductor	1
Flight Controls	2
Instrumentation Net #4	3
Accessory Systems	4
Umbilical - Water - Erector	5
Missile Safety	6
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Superintendent of Range Operations	19
Sequencer	20
BMD/STL	21

NOTE: The test conductor will be in command of Net #1. All personnel involved in work at the missile or stand facilities will monitor Net #1.

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4.0 RANGE SUPPORT ITEMS REQUIRED DURING PRE-COUNT AND F-1 DAY CHECKS

F-1 Day

PAA	-	Food service available 1100 and 1900.
RCA	-	Sequencer and timing available 0700 to 2300, longer by test conductor's request.
PAA	-	Propellant Facilities Preparation complete by 1200.
PAA	-	Missile fueling (215) 1700 or as scheduled with range support.
RANGE	-	RF clearance for Martin telemetry, RV telemetry, Azusa, BTL, Martin command control signal generator, and GE instrumentation beacons as required.
PAA	-	All ordnance items except staging rockets, staging rocket squibs, Stage I engine igniters and initiators available by 1200.
PAA	-	H.P. gas support 0700 thru termination of test.
PAA	-	Water system on standby 1600 to termination of test.
PAA	-	Roving clean up crew available by 0800.

F Day

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PAA	-	Propellant support T-4 1/2 hours.
PAA	-	Food service available T-4 1/2 hours until T-35 minutes.
RANGE	-	Weather report (preliminary) T-4 1/2 hours.
RCA	-	Sequencer and timing available T-6 1/2 hours.
PAA	-	Blockhouse and launch pad cleared of nonessential equipment and vehicles (guard-shack, etc.) by T-3 1/2 hours.
PAA	-	Staging rockets, staging rocket squibs, destruct initiators and Stage I engine igniters available by T-5 1/2 hours.
PAA	-	Pad safety - Start igniter installation T-5 1/2 hours.
SRO	-	Range ready for count T-210.
PAA	-	Pad Safety - Igniter installation complete T-3 1/2 hours.
ALL	-	Start countdown T-210.
RCA	-	MOPS and RCA wireman on standby T-5 1/2 hours.
PAA	-	Fire truck standing by.
PAA	-	Pad service crew available at T-5 1/2 hours.

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5.0 F-DAY PRE-COUNT ACTIVITIES

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RESP	OPERATION	CHECK
	PRE-COUNTDOWN CHECK LIST: The following items will be verified to the test conductor prior to starting the countdown	
PLC	1. Stage I fuel tank filled. Actual weight_____lbs. BLH Flowmeter_____gals.	_____ _____
PLC	2. Stage II fuel tank filled. Actual weight_____lbs. BLH. Flowmeter_____gals.	 _____
PC	3. PAA pad safety and fire trucks standing by.	_____
PAA/Pad Safety	4. Blockhouse and launch pad cleared of nonessential equipment and vehicles.	_____
ORD/PAA	5. Mechanical installation of RATO motors and launch initiators COMPLETED.	_____
TC/PSO	6. Check BTL, PSO, RSO and SRO holdfires prior to T-210 minutes.	_____
TCC	7. Mode switch in XSM-68.	_____
F/C	8. LAUNCH/CST switch in LAUNCH position. Spin motor test COMPLETED.	_____
SRO	9. Verify AMR ready for countdown.	_____
PC	10. Verify work platform removal COMPLETED.	_____

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6.0 COUNTDOWN

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TIME	RESP		OPERATION	CHECK	TIME
T-210	T/C ANNOUNCER	1.	Announce: "We are counting at T-210 minutes. All nonessential personnel clear the launch stand area."		T-210
	TCC	2.	Sequencer ON - Amber warning light ON.	_____	
	ACC	3.	Missile power ON.	_____	
	ACC	4.	Start battery electrical connections.	_____	
	F/C	5.	Apply hydraulics and start engine centering test.	_____	
	MSS/ORD	6.	Start initiator arming test.	_____	
	MECH	7.	Fuel probes retracted.	_____	
	ELEC	8.	Place diesel in override.	_____	
	MSS	9.	Instrumentation beacon ON for warm-up.	_____	
T-205	GUID	1.	Missile-borne equipment ON.	_____	T-205
T-200	F/C	1.	Engine centering test COMPLETED, remove hydraulics.	_____	T-200
	F/C	2.	Start programmer test.	_____	

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TIME	RESP		OPERATION	CHECK	TIME
T-195	MSS	1.	Start Instrumentation beacon landline check.	_____	T-195
	MSS	2.	Airborne Azusa transponder ON for warm-up.	_____	
T-190	PROP	1.	Start pressurization system changeover to helium.	_____	T-190
	PROP	2.	Connect helium ATPA start bottle inlet.	_____	
	GUID	3.	Start guidance open loop checks.	_____	
T-185	MSS	1.	Initiator arming check COMPLETED.	_____	T-185
	F/C	2.	Programmer test COMPLETED.	_____	
	F/C	3.	Hydraulics on missile 1000 psi.	_____	
	INST	4.	Telemetry packages low level units ON for warm-up.	_____	
	GUID	5.	Guidance open loop check COMPLETED.	_____	
	GUID	6.	Start guidance marriage test.	_____	
T-180	PLC	1.	Start lox loading preparation.	_____	T-180
	INST	2.	Start telemetry ground station check and open loop check with range.	_____	
	MSS/SRO	3.	Start Azusa system open loop check with the range.	_____	

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TIME	RESP		OPERATION	CHECK	TIME
T-180 Cont'd	ACC	4.	Battery electrical connections COMPLETED.	_____	T-180 Cont'd
	MSS	5.	Instrumentation beacon landline check COMPLETED; power OFF.	_____	
	AVCO	6.	Turn on beacon.	_____	
	MSS	7.	Turn APS and IPS command receiver power ON.	_____	
T-178	AVCO	1.	Telemetry ON.	_____	T-178
T-175	F/C	1.	Verify flight controls programmer test COMPLETED.	_____	T-175
	PROP	2.	Connect ATPA turbine inlet to helium start bottle.	_____	
	GUID	3.	Guidance marriage test COMPLETED.	_____	
	GUID	4.	MBE power OFF.	_____	
T-170	MSS	1.	Azusa open loop check COMPLETED. Azusa power OFF.	_____	T-170
	MECH	2.	Start setting water and CO_2 nozzles.	_____	
	MSS	3.	Start command receiver open loop checks with range.	_____	
	ELEC/MECH	4.	Start installation of Strobe Light Unit (SLU) door.	_____	
T-165	AVCO	1.	Telemetry and beacon to internal power.	_____	T-165
T-164	AVCO	1.	Telemetry and beacon OFF.	_____	T-164

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TIME	RESP		OPERATION	CHECK	TIME
T-160	PROP	1.	Pressurization changeover to helium COMPLETED.	_____	T-160
	MSS	2.	Command receiver open loop check with range COMPLETED. Command receivers OFF. Power switch safety-wired OFF.	_____	
	INST	3.	Start setting kill and hold limits.	_____	
	AVCO	4.	Range readout of telemetry Link 4 COMPLETED.	_____	
T-150	MECH	1.	Missile whale guns, engine protection water, and CO_2 nozzles set.	_____	T-150
	MECH	2.	Water system preparations COMPLETED.	_____	
	F/C	3.	Start gyro drift and null test.	_____	
	MSS/ORD	4.	Verify nonexplosive primer circuits are OPEN.	_____	
	PROP	5.	Verify ATPA start line connection is COMPLETED.	_____	
	AVCO	6.	Start arming and fusing checks.	_____	

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TIME	RESP		OPERATION	CHECK	TIME
T-145	TC ANNOUNCER	1.	Announce: "Missile area will be cleared in 5 minutes for ordnance electrical connection".	____	T-145
	ELEC	2.	Installation of SLU COMPLETED.	____	
	PC	3.	Flame bucket safety net removed.	____	
T-140	ORD/PAA	1.	Start mechanical installation of RATO ejection squibs.	____	T-140
	TC ANNOUNCER	2.	Announce: "All nonessential personnel clear the launch stand. All personnel not involved in the ordnance installation clear the missile area. Complex is on condition RED. Remove all personal vehicles to the road blocks".	____	
	TC	3.	Red warning light ON (manual).	____	
	INST	4.	Telemetry open loop check with range COMPLETED. Transmitters OFF.	____	
	INST	5.	Setting of kill and hold parameters COMPLETED.	____	
	AVCO	6.	Arming and fusing checks COMPLETED. Level 7 clear of personnel.	____	
T-135	ORD/PAA	1.	Mechanical installation of RATO ejection squibs COMPLETED.	____	T-135
	PROP/PS	2.	Start electrical connection of Stage II engine igniters.	____	

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TIME	RESP		OPERATION	CHECK	TIME
T-135 Cont'd	MECH	3.	Adjust air conditioner for sustainer engine compartment hot air supply.		T-135 Cont'd
	F/C	4.	Gyro drift and null test COMPLETED.	_____	
	F/C	5.	Apply hydraulics at 500 psi, set C-2 on REMOTE.	_____	
	F/C	6.	Level 6 secured and ready for flight.	_____	
T-130	MSS	1.	Missile safety system READY for initiator connection.	_____	T-130
	PROP	2.	Lox loading preparations COMPLETED.	_____	
	MECH	3.	Flame bucket flush ring water ON.	_____	
T-125	PC/PSO	1.	Missile area clear for ordnance electrical connection.	_____	T-125
	ORD/PAA	2.	Start electrical connection of hold down bolts, staging rockets, staging bolts, pyrotechnic squibs and initiators.	_____	

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TIME	RESP		OPERATION	CHECK	TIME
T-125 Cont'd	SRO	3.	Report preliminary range status to test conductor.	_____	T-125 Cont'd
	SRO	4.	Weather report to test conductor.	_____	
	PROP	5.	Electrical connection of engine igniters COMPLETED.	_____	
	MECH	6.	Start securing erector platforms 2,3,5, and 6, and 4th level walkway as ordnance electrical connections are COMPLETED.	_____	
T-95	TC ANNOUNCER	1.	Announce: "Lox loading crew report to south road block."	_____	T-95
	PROP	2.	Propulsion hold fire monitors at station to observe T_{OB}, T_{OS}, and T_{OBAP}.	_____	
	MECH	3.	Verify lox fill probes connected.	_____	
T-91	TCC	1.	Energize sequencer ready relay ON.	_____	T-91
T-90	ORD/PSO	1.	Electrical connections of all ordnance items are COMPLETED. Access doors are secured for flight. Firing box circuit breaker is ON.	_____	T-90
	PSO/MSS	2.	Arm missile safety system console.	_____	
	PSO/MSS	3.	All initiators in a SAFE CONDITION.	_____	
	INST	4.	Zero BLH and record total weight. Weight_____lbs.	_____	

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TIME	RESP		OPERATION	CHECK	TIME
T-90 Cont'd	TC ANNOUNCER	5.	Announce: "Lox loading crew report to test stand".	_____	T-90 Cont'd
T-80	MECH	1.	Verify all platforms and 4th level walk-way are secured and verify restraining cables attached.	_____	T-80
	PS	2.	Test stand is ready for lox loading.	_____	
			Stage I desired weight_____lbs.	_____	
			Stage II desired weight_____lbs.	_____	
	MECH	3.	Turn two 18 and 36 inch water main pumps ON.	_____	
	PLC	4.	Start Stage I and Stage II lox loading.	_____	
T-75	SEQ/TC	1.	Master monitors ON.	_____	T-75
	ELEC	2.	Turn on battery heaters.	_____	
T-70	INST	1.	Start telemetry ambient readout.	_____	T-70
	MSS	2.	Instrumentation beacon power ON.	_____	
T-60	F/C	1.	Start Stage II GO/NO-GO tests.	_____	T-60

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TIME	RESP		OPERATION	CHECK	TIME
T-50	MSS	1.	Start instrumentation beacon open loop check.	_____	T-50
	PC	2.	Verify lens cover removed from SLU at completion of Stage II lox loading.	_____	
	PC	3.	Staging lanyard removed.	_____	
T-45	TC ANNOUNCER	1.	Announce: "All personnel leaving the complex must leave at this time. No one will be allowed to leave the complex area after T-35 minutes."	_____	T-45
	INST	2.	Start landline and airborne instrumentation calibrations.	_____	
	INST	3.	Start telemetry full power open loop check with range.	_____	
T-40	F/C	1.	Stage II GO/NO-GO test COMPLETED.	_____	T-40
	MSS	2.	Instrumentation beacon open loop check COMPLETED.	_____	
T-35	PSO	1.	Set all road blocks.	_____	T-35
	INST	2.	Landline instrumentation calibration COMPLETED.	_____	
	TC	3.	Place firing box condition switch in CHARGE position.	_____	

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TIME	RESP		OPERATION	CHECK	TIME
T-35 Cont'd	PLC	4.	Verify lox loading is COMPLETED and lox topping is in progress.	_____	T-35 Cont'd
	MECH/ PLC	5.	Remove Stage I and Stage II lox probes on Test Conductor's command.	_____	
	MECH	6.	Level 4 platform sections A & B folded.	_____	
	MECH	7.	Erector preparations for lowering COMPLETED.	_____	
	MECH	8.	All pumps on 18 and 36 inch water line ON.	_____	
T-30	PROP	1.	Arm igniters.	_____	T-30
	PROP	2.	Set facility regulators to 3100 $\pm$ 50 psig.	_____	
	PROP	3.	Set N_2 start regulator to 3000 $\pm$ 100 psig.	_____	
	INST	4.	Telemetry full power open loop check with range and ambient checks COMPLETED.	_____	
	PC	5.	Clearance to lower erector.	_____	
	TC	6.	Start lowering erector on Test Conductor's command.	_____	

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TIME	RESP		OPERATION	CHECK	TIME
T-25	PC	1.	Verify umbilical 3D1E lanyard properly attached.	_____	T-25
	PSO	2.	Clear pad of all personnel.	_____	
	PC	3.	Test stand and missile ready for firing. Deck wash nozzles set. All personnel at stand departing for blockhouse.	_____	
	F/C	4.	Hydraulic pressure on Stage I to 3200 psi.	_____	
	F/C	5.	Start flight controls GO/NO-GO checkout.	_____	
	MSS/SRO	6.	Energize AN/FRW-2 range transmitter with carrier only.	_____	
	MECH/PC	7.	Verify erector lowering COMPLETED.	_____	
T-22	AVCO	1.	Beacon ON.	_____	T-22
T-20	GUID	1.	Start missile-borne equipment warm-up.	_____	T-20
	TC	2.	Announce: "Seal the blockhouse, maintain silence, No smoking permitted in blockhouse".	_____	
	P & P	3.	Start helium tank pressurization of 3100 psi.	_____	
	MSS	4.	Azusa airborne transponder power ON.	_____	

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TIME	RESP		OPERATION	CHECK	TIME
T-15	GUID	1.	Guidance station locked on missile.	_____	T-15
	PSO	2.	Safety area cleared.	_____	
	MECH/PS	3.	Blockhouse door sealed.	_____	
	F/C	4.	Flight controls GO/NO-GO test COMPLETED.	_____	
	GUID	5.	Start computer program.	_____	
	AVCO	6.	Telemetry ON.	_____	
T-12	INST	1.	Telemetry power amplifiers ON.	_____	T-12
	MSS/PSO	2.	Release power switch guard on command receiver power and turn power ON.	_____	
	MSS	3.	Verify command receiver ON.	_____	
T-10	GUID	1.	Computer program COMPLETED.	_____	T-10
	MSS	2.	Start fuel shutoff check.	_____	
	MSS	3.	Instrumentation beacon ground station acquisition.	_____	
T-8	P & P	1.	Stage I fuel tank pressurized.	_____	T-8
	SRO	2.	Verify Azusa GO.	_____	
	MSS/SRO	3.	Verify fuel shutoff check COMPLETED.	_____	

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TIME	RESP		OPERATION	CHECK	TIME
T-7	P & P	1.	Stage II fuel tank pressurized.	_____	T-7
	TC	2.	Engine reset.	_____	
T-6	F/C	1.	Hydraulic reservoirs filled.	_____	T-6
	TC ANNOUNCER	2.	Announce: "Holdfire monitors to stations. All personnel switch to Channel 1".	_____	
	TC ANNOUNCER	3.	Start announcing countdown by minutes.	_____	
	SEQ/HF	4.	Auto Hold - Accessory system master monitor ON.	_____	
	ALL	5.	Final status and communication check (Nets):	_____	
			Avco	_____	
			Propulsion Lead	_____	
			Propulsion HF Monitor	_____	
			Flight Controls Lead	_____	
			Flight Controls HF Monitor	_____	
			Missile Safety Lead	_____	
			Instrumentation Lead	_____	
			Mechanical Lead	_____	
			PAA Pad Safety Monitor (Periscope)	_____	
			Visual Observer (Periscope)	_____	
			Accessory System Lead	_____	
			Propellant Loading Console Operator	_____	
			Ground Guidance Station	_____	
			GE Ground Station	_____	
			SRO	_____	
			BMD	_____	

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TIME	RESP		OPERATION	CHECK	TIME
T-5	ELEC	1.	Arm battery actuator key switch.	_____	T-5
T-4'40"	PLC	1.	Open fuel prevalves.	_____	T-4'40"
T-4'20"	SEQ/HF	1.	Auto Hold - Aerojet engine system.	_____	T-4'20"
T-4	INST	1.	Start tape and Bristol recorders.	_____	T-4
T-3'30"	INST	1.	Start pre-flight telemetry calibration.	_____	T-3'30"
T-3'10	SEQ/HF	1.	HF - Propellant valve position check - Stage II	_____	T-3'10"
	INST	2.	Telemetry and landline calibration COMPLETED.	_____	
T-3'08"	SEQ/HF	1	HF - Propellant valve position check - Stage I	_____	T-3'08"
T-2'40"	SEQ	1.	AHT meter No. 4 (countdown AHT).	_____	T-2'40"
	SEQ	2.	Close Stage I and Stage II lox vents.	_____	
	SEQ	3.	Stop topping pump.	_____	
T-2'35"	SEQ	1.	Start AGC recorder.	_____	T-2'35"
T-2'00	SEQ	1.	Start IPS inverter on ground power.	_____	T-2'00"

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TIME	RESP		OPERATION	CHECK	TIME
T-2'00 Cont'd	WATER PANEL	2.	Flame bucket water ON.	_____	T-2'00" Cont'd
	SRO	3.	Range clearance to launch.	_____	
	AVCO	4.	Re-entry telemetry and beacon to internal.	_____	
T-1'45"	SEQ	1.	Activate batteries.	_____	T-1'45"
T-1'40"	SEQ	2.	Pressurize Stage II lox tank	_____	T-1'40"
T-1'23"	SEQ	1.	A/B programmer reset.	_____	T-1'23"
T-1'20"	SEQ	1.	Pressurize Stage I lox tank.	_____	T-1'20"
	SEQ	2.	Transfer APS ac.	_____	
T-1'15"	SEQ	1.	Missile safety prearm signal.	_____	T-1'15"
	SEQ	2.	Transfer IPS ac.	_____	
	SEQ	3.	Depressurize pneumatics Stage II.	_____	
T-1'08"	SEQ	1.	De-energize Stage II valves.	_____	T-1'08"
T-1'05"	SEQ	1.	Missile safety arming signal.	_____	T-1'05"

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TIME	RESP		OPERATION	CHECK	TIME
T-1'05" Cont'd	SEQ	2.	De-pressurize pneumatics Stage I.	_____	T-1'05" Cont'd
T-1'02"	SEQ	1.	Set up lox and fuel under pressure holds Stage II.	_____	T-1'02"
T-1'00"	SEQ	1.	IPS transfer initiate.	_____	T-1'00"
	SEQ	2.	AHT meter No. 2 (IPS).	_____	
T-0'58"	SEQ	1.	De-energize Stage I valves.	_____	T-0'58"
T-0'55"	SEQ/HF	1.	Auto hold - flame bucket water pressure.	_____	T-0'55"
	SEQ	2.	APS transfer initiate.	_____	
	SEQ	3.	AHT meter No. 1 (APS).	_____	
T-0'50.2"	SEQ/HF	1.	Auto hold - Missile safety arming.	_____	T-0'50.2"
T-0'50"	SEQ	1.	Set up lox and fuel under pressure kills - Stage I.	_____	T-0'50"
T-0'40"	SEQ	1.	Opem OSBVAP.	_____	T-0'40"
T-0'41"	SEQ/HF	1.	Auto hold - tank pressure check - Stage II.	_____	T-0'41"
T-0'39"	SEQ/HF	1.	Auto hold - tank pressure check - Stage I.	_____	T-0'39"

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TIME	RESP		OPERATION	CHECK	TIME
T-0'36"	SEQ/HF	1.	Auto hold - PSO firing line.	_____	T-0'36"
T-0'35"	SEQ/ VISUAL OBS	1.	Purge and bleed Stage I.	_____	T-0'35"
T-0'33"	SEQ	1.	Remove group APS and IPS power.	_____	T-0'33"
T-0'32"	SEQ	1.	Signal to BTL at power transfer.	_____	T-0'32"
T-0'30"	SEQ	1.	HPS transfer initiate	_____	T-0'30"
		2.	AHT meter No. 3 (HPS)	_____	
T-0'18"	ELEC	1.	Power transfer complete.	_____	T-0'18"
T-0'10"	TCC	1.	Sequencer recorder switch ON.	_____	T-0'10"
	ANNOUNCER	2.	Start announcing countdown by seconds until T-0.	_____	
T-0'05"	SEQ	1.	Start AGC analog recorder.	_____	T-0'05"
T-0'04"	SEQ	1.	Arm launch panel.	_____	T-0'04"
T-0'03"	SEQ/HF	1.	Auto hold - launch panel armed.	_____	T-0'03"
	SEQ	2.	De-energize Stage II fuel suction line heater.	_____	
T-0'02"	SEQ	1.	Central control block.	_____	T-0'02"
T-0'01"	SEQ	1.	Overvoltage lock-out.	_____	T-0'01"

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6.0 COUNTDOWN

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TIME	RESP		OPERATION	CHECK	TIME
T-0'00"	SEQ	1.	PLC kill preventer	_____	T-0'00"
		2.	$87FS_1$	_____	
T+0'01"	SEQ	1.	Arm firing box.	_____	T+0'01"
	WATER PANEL	2.	Thrust chamber spray ON.	_____	
T+0'01.2"	SEQ/HF	1.	Auto hold - Firing box armed.	_____	T+0'01.2"
TCPS +01.6"	SEQ	1.	Lockout all subsystem kills except engine malfunction monitor.	_____	TCPS +01.6"
	SEQ	2.	Aerojet flight signal.	_____	
TCPS +:01.8"	SEQ	1.	Lockout engine malfunctions.	_____	TCPS +:01.8"
	SEQ	2.	Subsystem holdfire block.	_____	
	SEQ	3.	Close Stage I and Stage II helium inlets.	_____	
TCPS +:02.0"	SEQ	1.	Master uncage.	_____	TCPS +:02.0"
	SEQ	2.	Launch bolt firing signal.	_____	
TCPS +:02.1"	VISUAL OBS.	1.	Missile lift-off.	_____	TCPS +:02.1"
T+0'08"	F/C	1.	Turn off Stage I C-2 hydraulic pump.	_____	T+0'08"

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7.0 RESETTING PROCEDURE

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7.1 GENERAL RESETTING INSTRUCTIONS

7.1.1 Any hold incurred after T-35 seconds will necessitate resetting the count.

7.1.2 Maximum permissible hold time between T-2:40 and T-35 seconds is 60 seconds. Exceeding this time will require resetting the count.

7.1.3 Reset time will be T-5 minutes. If the reset period requires personnel to be sent to the test stand, the Test Stand Emergency Re-entry Checklist (section 7.0) will be followed. The count will not be resumed until the blockhouse is resealed and all items between T-20 minutes and T-5 minutes have been re-verified to the test conductor.

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7.2 PROCEDURE FOR RESETTING THE COUNTDOWN TO T-5'00"

7.2.1 The following operations are required to effect the reset.

7.2.1.1 The missile safety panel operator will disarm the initiators if they have been armed. _____

7.2.1.2 Flight controls. Secure HPS pump if applicable. _____

7.2.1.3 Return to ground power. _____

7.2.1.4 Camera operator will stop cameras if they have been started. _____

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7.2.1.5 The water panel operator will close the flame bucket water supply. _____

7.2.1.6 TCC operator will reset the countdown to T-5'00 by actuating recycle switch. _____

7.2.1.7 Engine reset. _____

7.2.2 At completion of reset, place recycle switch in center position. _____

7.2.3 The TCC operator will actuate the ENGINE SEQUENCER RESET switch on the engine control panel. _____

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8.0 TEST STAND EMERGENCY RE-ENTRY CHECK LIST

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8.1 Prior to leaving blockhouse, verify the following items:

8.1.1 Approval from PAA safety. _____

8.1.2 Emergency team members listed for PAA safety. _____

8.1.3 Missile helium tanks vented to 1500 psig. _____

8.1.4 Missile fuel tanks vented to at least checkout pressure. _____

8.1.5 Missile lox tanks vented to ambient.

8.1.6 Destruct initiator rotors to SAFE (if applicable). _____

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8.1.7 Command receiver OFF and made safe. _____

8.1.8 PSC firing line switch OPEN (if applicable). _____

8.1.9 Lox topping pump stopped (missile operations): lox tank checked for normal pressure. _____

8.2 At arrival at test stand, perform the following operations:

8.2.1 Establish communication with blockhouse. _____

8.2.2 Disarm Stage I igniters. _____

8.2.3 Ensure N_2 start system vented to 1500 psig. _____

8.2.4 Reset deck wash nozzles to vertical. _____

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8.0 TEST STAND EMERGENCY RE-ENTRY CHECK LIST (Cont'd)

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8.2.5 Install lanyard switch S395-1 (if applicable). _____

8.2.6 Install SLU lens cover (if applicable.) _____

8.3 At departure from test stand, perform the following items:

8.3.1 Arm igniters. _____

8.3.2 Reset deck wash nozzles to operational position. _____

8.3.3 Remove lanyard switch S395-1 (if applicable). _____

8.3.4 Remove SLU lens cover (if applicable.) _____

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8.3.5 Set N_2 start system to 3000 $\pm$ 100 psig. _____

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9.0 COUNTDOWN SEQUENCE BAR CHART

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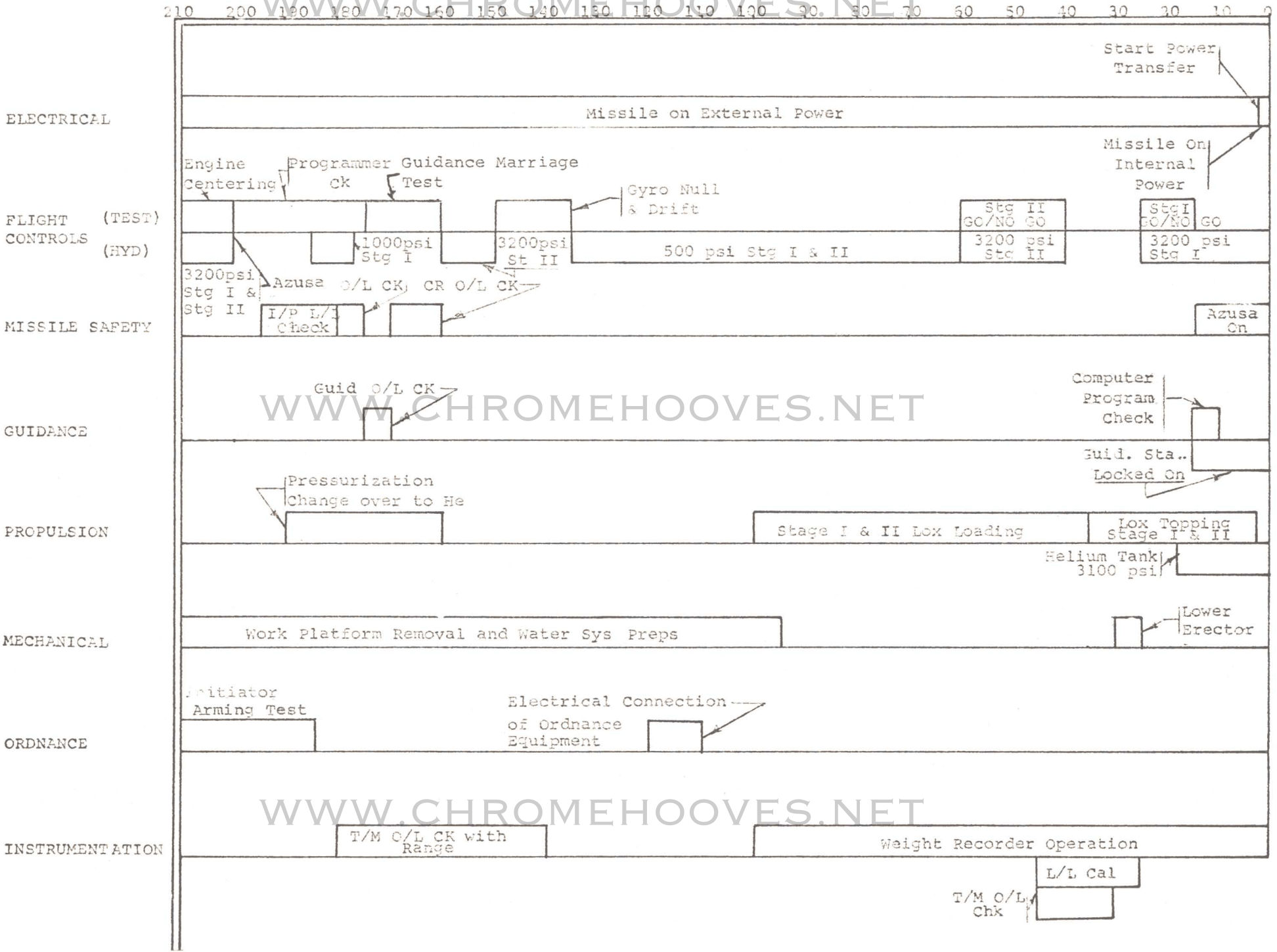

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