

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
TSI		(Continued)				Close lox line blanket valve.  Open helium transfer valve and regulate to 3100 PSI.  Open Stage I/II lox tank vent and relief valves.  Close Stage I/II lox pressure regulators.  Open Stage I/II lox fill and drain valves.  Turn on lox vent exhaust blower.  Close lox storage tank vent valve.  Open Stage I/II lox fine load valves.  Open Stage I/II lox rapid load valves.  Open Stage I/II lox topping control valves.	Note  For aluminum tanks regulate to 550 PSI.          Stage I/II lox tank vent and relief valves open.  Stage I/II lox tank vent and relief valves open.  Lox storage tank above minimum level.  Lox storage tank above minimum level.  Lox storage tank above minimum level.

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 5 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES	
TSI		(Continued)		PLPS	052	Open lox transfer pressure valves and regulate to set point 2.	Lox storage tank vent valve closed.	
						Open Stage I/II lox line end valves.	Stage I/II lox tank vent valves and lox fill and drain valves open.	
						Open Stage I/II lox topping line end valves.	Stage I/II lox tank vent valves and lox fill and drain valves open.	
						Close warm helium line valve.		
						Open cold helium line valve.	Nitrogen unloading supply valve closed.	
T-870	072	Apply missile 400 CPS (M)	LS	ES	008	Energize 400 CPS bus to AOE.	400 CPS generator output up to 90 percent of rated voltage.	
						ES	Apply 400 CPS ground power to missile AC bus.	
							Energize missile inverter output transfer.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 6 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-870		(Continued)		ES	072	Relay.  Initiate monitoring for missile AC and DC voltages and air conditioning unit on.	
T-870	076	Transfer gyro monitor (C)	ES	FCS		De-energize 28 VDC gyro standby heaters.  Reset missile programmer and verify reset. Reset verification readout delayed to item 144.	28 VDC and 400 CPS power on missile buses.
T-850	080	Launcher power pack operating (C).	LCS	LS		Provide ready to raise prerequisite.	Launcher power pack operating properly.
T-850				PLPS	052	Energize Stage I lox fill and drain valve heater.	Lox in Stage I umbilical.
T-820				GGs	081	Adjust constants register 6 (manual). Enter meteorological data.	Data from latest measurement.

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 7 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-820	085	Lox loading (C)	PLPS				Lox storage tank fully pressurized, lox rapid load valves open, and lox in Stage I/II umbilicals.
				CCC		LOX LOADING indicator white on LCC.	
T-730				GGG	040	POWER ON pushbutton indicator green on MGC.	GGG in full power on condition.
						Press START GUID X pushbutton indicator on MGC.	POWER ON pushbutton indicator green.
						START GUID X pushbutton indicator white on MGC.	START GUID X pushbutton indicator pressed.
T-700				PLPS	052	Energize Stage II fuel line heater.	Lox in Stage I/II fill lines and umbilicals.
T-700	104	Start hydraulics (M)	LS				
				ES		Start ground hydraulic unit.	400 CPS power present on missile bus.
				GGG	040	MAG RDY indicator white on MGC.	Approximately 5-minute time delay elapsed.
						Press MAG ON pushbutton indicator on MGC (manual).	MAG RDY white.
						MAG ON pushbutton indicator white on MGC.	MAG ON pushbutton indicator pressed.

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 8 of 44)

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TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-700		(Continued)				MAG ON pushbutton indicator green on MGC.	Magnetron power on and missing pulses within tolerance.
T-570				FCS	076	Transfer from standby to operating gyro temperature monitor.	Item 076 received and approximately 5-minute time delay expired.
T-470				PLPS	052	Close Stage I/II lox rapid load valves.  Regulate helium transfer valve to 3000 PSI.	Stage I/II lox tanks 95 percent full.  Stage I/II lox tanks 95 percent full. Note sub-command and prerequisite are for aluminum tanks only.
T-360				GGG	040	START GUID X pushbutton indicator green on MGC.	Guidance exercise complete.
T-281	136	Lox loaded (C)	PLPS				Stage I/II lox tanks 100 percent full and Stage I/II helium tanks at normal pressure.
				CCC		LOX LOADED indicator white on LCC.	
				PLPS	136	Initiate monitoring of Stage I/II lox tanks above 95 percent level.  Close Stage I/II lox fine load valves.	Stage I/II lox tanks 100 percent full.

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 9 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-281		(Continued)				Close Stage I/II lox line end valves. Open Stage I/II lox line vent valves. Throttle Stage I/II lox topping control valves. Provide ready to raise prerequisite.	Stage I/II lox rapid load and lox fine load valves closed.
T-281	144	Check ready to raise (M)	LS	LS PLPS TCS TDB FCS	144	Check item 136 initiated and initiate monitoring for helium tanks and helium accumulators above minimum pressure. Unfreeze target go status. Stop countdown timer clock at first hold position. Start digital hold time indicator. Unfreeze FCS go status.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 10 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-281		(Continued)		RVS		Check gyro spin motors operating. Check programmer reset. Check gyro temperatures. Check engine nulls. Check missile 25 VDC. Unfreeze RVS go status. Check R/V battery temperature (mark 3 R/V only) Check arming and fuzing continuity (mark 3 R/V only). Check R/V fuze setting. Check arming and fuzing safety monitor (mark 4 R/V only). Check warhead safety monitor (mark 4 R/V only).	
				A.S.S.		Initiate monitoring of Stage I/II missile hydraulic reservoir levels.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 11 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-281		(Continued)		S.E.C.E.		Check temperature of Stage I oxidizer bearings.	
				S.E.C.E.	144	Check temperature of Stage II oxidizer bearings.	
						Check temperature of Stage II auxiliary pump oxidizer bearing.	
T-281	152	Check power pack (M)	LS				
				L.C.S.		Check launcher power pack operating properly.	
T-281	163		CP	IMLO		Notify MLO clear to continue launch.	
	164	Report range clearance	IMLO	MLO		Report range go to MLO.	
	165		CP/IMLO	MLO		Verify LES enable.	
	166		MLO			Verify EXERCISE push-button pressed and system in launch mode countdown.	
First hold	167	Initiate raise launcher phase	MLO	PA system		Announce: "Attention all stations, on my mark the raise launcher phase will begin. Mark."	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 12 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
First hold	160	Ready to raise (C)	LS				Launcher power pack operating (item 080), lox loaded (item 136), missile/facility go, first timing sequence completed, and launcher raising enabled from CCC and either launch enabled from LES or exercise enabled.
				CCC		RAISE LAUNCHER indicator green on LCC.	
T-279.9 T-280	179	Start launcher raising.	LC				RAISE LAUNCHER push-button pressed.
				LS		Start second timing sequence.	Ready to raise (item 160).
T-279.9	180	Launcher raising started (C)	LS				Second timing sequence started.
				CCC		RAISE LAUNCHER indicator white on LCC.  Disable ready to raise on other two missiles.  Disable ready to lower on other two missiles.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 13 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-279. 9		(Continued)		PLPS		Open Stage I/II missile fuel storage valves.	Not in exercise mode.
				ECS		Energize gas generator valve pilot valve open solenoid (GGVPV).	
				TCS		Freeze target go status.	
				TDB		Restart countdown timer clock.	
						Stop digital hold time indicator and reset to zero.	
				RVS		Freeze RVS go status.	
				FCS		Freeze FCS go status.	
T-279. 9	182	Fuel storage valves open (C).	PLPS				Fuel storage valves open.
				LS		Enable fuel storage valves opened signal.	
T-279. 9	184	Raise launcher (M)	LS				Second timing sequence started.
				LCS		Fill cable equalizer measuring vessel.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 14 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-279. 9		(Continued)				Insert horizontal crib lock. Close flame deflector water valve.	
T-279. 9				LCS	184	Close engine compartment water valve.	Flame deflector water spray valve closed.
T-279. 9	192	Raise antenna (C)	CCC	GGG	192	RAISE ANT indicator white on MGC. Press ANT RAISE pushbutton indicator on MGC (manual). ANT RAISE pushbutton indicator white on MGC.	Item 180 received. RAISE ANT white lamp on. ANT RAISE pushbutton indicator pressed.
T-250				LCS	184	Insert vertical crib lock. Insert oblique crib locks.	Horizontal crib lock inserted. Horizontal crib lock inserted.
T-250	224	Stop topping (M).	LS	PLPS		Check Stage I/II missile fuel storage valves open. Discontinue	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 15 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-250		(Continued)				monitoring of helium tanks and helium accumulators above minimum pressures.  Open lox storage tank vent valve.  Close lox transfer pressure control valve (S).  Close Stage I/II lox topping line end valves.  Close Stage I/II lox fill and drain valves.  Open Stage I/II lox umbilical drain valves.  Open Stage I/II lox umbilical purge valves.  Open lox return line vent valve.  Open lox drain line vent valve.  Close lox drain blanket valve.	Stage I/II lox line end valves and lox topping line end valves closed.  Stage I/II lox fill and drain valves closed.  Stage I/II lox fill and drain valves closed.  Stage I/II lox fill and drain valves closed.  Stage I/II lox fill and drain valves closed.

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 16 of 44)

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TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-160		(Continued)		PLPS (CONT)		Close Stage I/II lox tank vent valves (two solenoids each vent valve).	Stage I/II lox line end valves and lox topping line end valves closed.
T-160				PLPS	328	Turn off lox vent exhaust blower.  De-energize Stage I/II lox tank vent valve, force close solenoids, and disable force close solenoid control circuit.	Stage I/II lox tank vent and relief valves closed.  Stage I/II lox tank vent and relief valves closed.
T-160				CGS	192	ANT RAISE pushbutton indicator green on MGC.  Initiate level function if required,	Antenna fully raised.  Antenna fully raised and blast detected.
T-100	344	Pressurize Stage II lox tank (M)	LS	PLPS		Open Stage II lox secondary pressure regulator.	
T-100	352	Activate batteries (M)	LS				System not in exercise mode.
T-100				ES	352	Start missile 400 CPS inverter.	

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Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 17 of 37)

T.O. 21M-HCN25A-1-1 (21-SM68-1)

Section III

Changed 17 June 1964 TOCN DEN 18

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TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-100		(Continued)		ES (CONT)		Activate inverter and hydraulic pump batteries.	
T-80	360	Pressurize Stage I lox tank (M)	LS	PLPS		Open Stage I lox secondary pressure regulator.	
				ES		De-energize missile inverter output transfer relay.	Item 352 received.
				TCS		Lock up target selection. Change TARGET SELECTION number from green to white on LCC.	
				FCS		Reset missile programmer.	
T-75	368	Missile tanks pressurized (C)	PLPS	CCC		MISSILE TANKS PRESS'D indicator white on LCC.	Stage I/II fuel, lox, and helium tanks pressurized.
T-62				LCS	304	Insert launcher platform vertical load locks. Turn on launcher platform oil pressure.	Platform fully raised. Platform fully raised.

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 18 of 37)

T.O. 21M-HGN25A-1-1 (21-SM68-1)

Section III

Changed 17 June 1964 TOCN DEN 18

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-62		(Continued)		LCS (CONT)		Extend flame deflector extension.	Platform fully raised.
T-52					304	Insert launcher platform lateral load locks.	Vertical load locks inserted.
T-42					304	Shut off launcher platform drive.	Platform fully raised and load locks inserted.
T-40	432	Launcher up and locked (C)	LCS				Launcher platform fully up and locked.
				LS		Provide ready to launch prerequisite.	
				LCS		Charge umbilical tower accumulator.	
						Open launcher platform water supply valve.	Flame deflector and engine compartment water spray valves closed.
						Pre-fill engine compartment water spray lines.	Launcher platform water supply valve opening.
T-40	436	Launcher raising completed (C)	LS				Item 432 received.
				CCC		Provide launcher lowering prerequisite.	
T-40 (+30 sec.)	440	Check launcher up and locked (M)	LS				

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Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 19 of 37)

T.O. 2 IM-HGM25A-1-1 (21-SM68-1)

Section III

Changed 17 June 1964 TOCN DEN 18

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TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-40		(Continued)		LCS	440	Check item 432 initiated.	
				FCS		Unfreeze FCS go status, Check gyro temperatures. Check gyro spin motors operating. Check programmer reset. Check missile 25 VDC.	
T-40				GGC	192	Provide missile ready prerequisite.	Antenna level function complete (if run).
Second Hold	456	Ready to launch (C)	LS				Launcher up and locked (item 432), missile/facility go, item 548 (GGC operating) not present, second timing sequence completed, and ground guidance go.
				CCC		LAUNCH indicator green on LCC.	
				TDB		Stop countdown timer clock at second hold position. Start digital hold time indicator.	
T-39.9		Check missile tanks pressurized (M)	LS				LAUNCH pushbutton pressed.

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 20 of 37)

T.O. 21M-HGN25A-1-1 (21-SM68-1)

Section III

Changed 17 June 1964 TOCN DEN 18

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-39.9	464	Start firing sequence.	LCC	PLPS		Momentarily monitor for Stage I/II fuel, lox, and helium tanks pressures.	
				LS		Start third timing sequence.	Ready to launch.
T-39.9	472	Firing sequence started (C).	LS	CCC		LAUNCH indicator white on LCC.	Third timing sequence started.
				TCS		Provide target select prerequisite.	
				TDB		Re-start countdown timer clock.	
						Stop digital hold time indicator and reset to zero.	
				ECS		Arm Stage II airborne sequencer.	
				FCS		Freeze FCS go status.	
T-39.9	480	Transfer power (M)	LS	ES		Transfer missile inverter to battery.	Third timing sequence started and system not in exercise mode. Missile inverter battery voltage present.

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Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 21 of 37)

T.O. 21M-HQM25A-1-1 (21-SM68-1)

Section III

Changed 17 June 1964 TOCN DEN 18

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-39.9		(Continued)		ES (CONT)		Transfer Stage II missile hydraulic pump to battery. Remove ground power from missile battery heater control circuits.	Missile hydraulic battery voltage present.
T-39.9	484	Target select (C)	TCS	GCS		Select designated target program for computer. SELECT TARGET push-button indicator green on MGC.	Item 472 received. Target designated by computer,
T-39.9	488	Missile X ready (1, 2, or 3) (C)	CGC				Item 472 received,
T-39.9				GCS	488	SELECT LAUNCHER push-button indicator white on MGC. MISSILE READY indicator white on MGC. Press ACQ MISSILE push-button indicator on MGC (manual). SELECT LAUNCHER push-button indicator green on MGC.	Item 472 received, SELECT TARGET push-button indicator green and SELECT LAUNCHER pushbutton indicator white. MISSILE READY white, ACQ MISSILE pressed and acquisition in progress.

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Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 22 of 37)

F.O. 21M-HGM25A-1-1 (21-SM68-1)

Section III

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES	
T-41	432	Launcher up and locked (C)	LCS				Launcher platform fully up and locked.	
					LS	Provide ready to launch prerequisite.		
					LCS	Charge umbilical tower accumulator. Open water supply valve.		Flame deflector and engine compartment water spray valves closed.
T-41	436	Launcher raising completed (C)	LS				Item 432 received.	
					CCC	Provide launcher lowering prerequisite.		
				174	PMR/MFSO	O&C		REPORT and COMMAND RSOA green.
				175	PMR/MFSO	MLO		Report clear to launch, RANGE green and LAUNCH green.
						<u>WARNING</u> Maximum hold time is 30 SEC on digital hold time clock.		
	440	Check launcher up and locked	LS				T-41 and 30-second time delay elapsed.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 23 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-41		(Continued)		LCS	440	Check item 432 initiated.	
T-41	448	Check missile tanks pressurized (M)	LS	PLPS		Initiate monitoring for Stage I/II fuel, lox and helium tanks and helium accumulators above minimum pressures.	
				FCS		Initiate monitoring of Stage I/II helium tank and accumulator over-pressure switches.	
						Unfreeze FCS go status.	
						Check gyro spin motors operating.	
						Check programmer reset.	
						Check missile 25 VDC.	
T-41				GG5	192	Provide missile ready prerequisite.	Antenna level function complete (if run).
Second Hold	456	Ready to launch (C)	LS				Launcher up and locked (item 432), missile/facility go, item 548 (GG5 operating) not present, second timing sequence completed and ground guidance go.

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 24 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
Second Hold		(Continued)		CCC		LAUNCH indicator green on LCC.	
				TDB		Stop countdown timer clock at second hold position.	
						Start digital hold time indicator.	
T-39.9	464	Start firing sequence.	LCC				Launch PB actuated.
				LS		Start third timing sequence.	Ready to launch.
T-39.9	472	Firing sequence started (C)	LS				Third timing sequence started.
				CCC		LAUNCH indicator white on LCC.	
				TCS		Provide target select prerequisite.	
				TDB		Re-start countdown timer clock.	
					472	Stop digital hold time indicator and reset to zero.	
				ECS		Arm Stage II airborne sequencer.	
				FCS		Freeze FCS go status.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 25 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-39.9	480	Transfer power (M)	LS	ES		Transfer missile inverter to battery. Transfer Stage II missile hydraulic pump to battery. Remove ground power from missile battery heater control circuits.	Third timing sequence started and system not in exercise mode. Missile inverter battery voltage present. Missile hydraulic battery voltage present.
T-39.9	484	Target select (C)	TCS	GGs		Select designated target program for computer. SELECT TARGET pushbutton indicator green on MGC.	Item 472 received. Target designated by computer.
T-39.9	488	Missile X ready (1, 2, or 3) (C)	CCC				Item 472 received.
T-39.9				GGs	488	SELECT LAUNCHER pushbutton indicator white on MGC. MISSILE READY indicator white on MGC.	SELECT TARGET pushbutton indicator green and SELECT LAUNCHER pushbutton indicator white.

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 26 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-39.9				GGG	488	Press ACQ MISSILE push-button indicator on MGC (manual).	MISSILE READY white.
						SELECT LAUNCHER push-button indicator green on MGC.	ACQ MISSILE pressed and acquisition in progress.
						ACQ MISSILE pushbutton indicator white on MGC.	Antenna in position and AFC started.
T-35	504	Bleed Stage I lox tank (M)	LS				Item 472 received.
				PLPS		Open intermittent service pressure regulating valve (FCV 513).	
				ECS		De-energize GGVPV open solenoid.	
						Energize GGVPV close solenoid.	
						Energize (open) Stage I lox tank bleed valve pilot valve (1 and 2) OSBVPV.	
						Energize (open) gas generator oxidizer purge valve (GGOPV).	
						Energize (open) ATPA fuel discharge bleed valve (FDBVAP).	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 27 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-35		(Continued)				Energize (open) gas generator valve fuel bleed valve (GGVFBV).  Remove arm Stage II airborne sequencer signal.  SECE  Check Stage I thrust chamber and gas generator igniter continuities.	
T-35	512	Transfer DC bus (M)	LS	ES		Transfer missile DC buses to inverter battery.  Arm explosive bolt firing circuits.	System not in exercise mode.
T-35	520	Power transferred (C)	A.S.S.	CCC		POWER TRANSFERRED push-button indicator white on LCC.	Power transfer completed.
T-30				LCS	304	Pre-fill engine and spray lines.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 28 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-25	536	Guidance locked on (C)	GGG				Missile acquired in frequency, range, azimuth and elevation.
				CCC		GUIDANCE LOCKED ON indicator white on LCC.	
T-25	544	Enable loop check (C)	CCC				Item 536 received.
				FCS		Prepare for RGS/FCS loop check.	
				CCC		Provide initiate loop.	
				CCC	544	Check prerequisite.	
T-25	548	GGG operating (C)	CCC				Item 536 received.
				LS			Note
							LS monitors item 548 as interlock to prevent generation of enable launcher signal until T+170.
T-25	560	Initiate loop check (C)	CCC				Item 544 received.
				GGG		Initiate guidance commands for loop check.	
T-18	562	Loop check complete (C)	FCS				RGS/FCS loop check completed satisfactorily.
				CCC		LOOP CHECK COMPL indicator white on LCC.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 29 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-18	564	Completed loop check (C)	CCC	GGG		Computer commences guidance program.	Item 564 received.
T-5	568	Shut off missile nitrogen (M)	LS	PLPS		Close Stage I/II missile pneumatic nitrogen supply valves.	Computer commenced guidance program. Item 472 received.
T-5	576	Prepare to fire (M)	LS	LCS		Shut off hydraulic lines to umbilical tower accumulator.	
					576	Check umbilical tower hydraulic accumulator charged and the main water supply valve open. Replace LCS go signal with launcher ready to fire.	
T-5	584	Check power transferred (M)	LS	ES		Check item 520 initiated.	System not in exercise mode.
						Check for AC power transferred.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 30 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-5		(Continued)					
T-1	624	Check loop check complete (M)	LS				
				TCS	624	Unfreeze target go status.	
				CCC		Provide check ready to guide prerequisites.	
				RVS		Unfreeze RVS go status.	
						Check R/V battery temperature (mark 3 R/V only).	
						Check arming and fuzing continuity (mark 3 R/V only).	
						Check R/V fuze setting.	
						Check arming and fuzing safety monitor (mark 4 R/V only).	
						Check warhead safety monitor (mark 4 R/V only).	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 31 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-1		(Continued)		FCS		Unfreeze FCS go status. Check item 600 initiated. Check gyro temperatures. Check gyro spin motors operating. Check engine nulls. Reset missile programmer. Check missile 25 VDC.	
T-1				FCS	624	Reset missile programmer check missile 25 VDC.	
				SECE		Check temperature of Stage I oxidizer bearings. Check temperature of Stage I oxidizer suction. Check temperature of Stage II auxiliary pump oxidizer bearing.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 32 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-1		(Continued)				Check Stage II helium starter bottle above minimum pressure (PGXTAP).	
T-1	632	Check ready to guide (M)	CCC	GGG		Check that computer has commenced guidance program.	Item 624 received.
T-0	640	Firing engines (M)	LS	FCS		Freeze FCS go status.	
						Uncage displacement gyros.	
				RVS		Freeze RVS go status.	
						De-energize re-entry vehicle battery heaters (mark 3 R/V).	
T-0				PLPS	640	Close helium transfer valve.	
						Close warm helium line.	
						De-energize Stage II fuel line heater.	

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 33 of 44)

TIME	REF	ROUTINE COMMAND	SOURCE	DESTINATION	REF	SUB-COMMAND	PREREQUISITES
T-0		(Continued)				Discontinue monitoring of Stage I/II helium tank and accumulator overpressure switches.  Discontinue monitoring of Stage II fuel and lox tanks and Stage I/II helium tanks and helium accumulators above minimum pressures.  Close intermittent service pressure regulating valve (FCV 513).  Discontinue monitoring of Stage I/II lox tanks above 95 percent level.	
				LS		Interrupt energize RGS signal.	
				CCC		Provide completed launch exercise prerequisite.	
T-0				TCS	640	Freeze target go status.	
T-0	648	Fire Stage I engines (M)		ECS		Remove ground supplied power to Stage II TPA heaters.	System not in exercise mode.

Figure 3-34. Launch Countdown System Functions (VAFB) (Sheet 34 of 44)