

Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY 69) (NASA DATA SOURCE)
MISSION TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
	DUMPCNT	0333	10000 octal		10000	
	GCOMP SW	1477	0		00000	To inhibit initial P 00 integration
	TETCSM	1570	37777 octal		37777	
	TETLEM	1642	37777 octal		37777	
	X789	1700,1701	0.0 radians	*	00000,00000	
	X789+2	1702,1703	0.0 radiana	*	00000,00000	
	X789+4	1704,1705	0.0 radiana	*	00000,0000	
	AZO	1711,1712	0.7753207269 reva	0	30636,33265	279.1154617°
	RANGEVAR	1770,1771	$0.1111111111 \times 10^{-4}$	-12	01351,24734	
	RATEVAR	1772,1773	1.877777×10^{-5}	-12	02354,04750	
	RVARMIN	1774	66 m^2	12	00410	
	VVARMIN	1775	$0.17445 \times 10^{-5} \text{ m}^2/\text{cs}^2$	-12	00165	

*5 for earth, 3 for moon

Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY 69) - Continued
MISSION TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
	WRENDPOS	2000	3048 m	14	05750	10,000 ft
	WRENDVEL	2001	0.03048 m/cs	0	00763	10 ft/sec
	WSHAFT	2002	0.015 radians	-5	17270	15 m rad
	WTRUN	2003	0.015 radians	-5	17270	15 m rad
	RMAX	2004	609.6 m	19	00023	2000 ft
	VMAX	2005	0.006096 m/cs	7	00001	2 ft/sec
	WSURFPOS	2006	16000 m	14	37200	
	WSURFVEL	2007	0.03 m/cs	0	00754	
	SHAFTVAR	2010	1×10^{-6} rad ²	-12	00103	1 (m rad) ²
	TRUNVAR	2011	1×10^{-6} rad ²	-12	00103	1 (m rad) ²

No. NAS 9-1100
No. 664

Grumman Aircraft Engineering Corporation

LM4/4.5.1-5

LED-54

Volume II LM Data Book
Subsystem Performance Data - GN&C

Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY 69) - Continued
MISSION TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
1	AGSK	2020,2021	32400000 cs	28	03671,21200	90 hr
	TLAND	2400,2401	36304920 cs	28	04247,34030	100.847.hrs GET 100:50:49.20 CET
	TARGRDG	2402,2403	52.37530800 m	24	00000,01506	171.835 ft
	TARGRDG+2	2404,2405	0.0 m	24	00000,00000	0.0 ft
	TARGRDG+4	2406,2407	-3254.836061 m	24	77774,72222	-10678.596 ft.
	TARGVDG	2410,2411	-0.3227100480 m/cs	10	77772,72612	-105.876 ft/sec
	TARGVDG+2	2412,2413	0.0 m/cs	10	00000,00000	0.0 ft/sec
	TARGVDG+4	2414,2415	-0.0031699200 m/cs	10	77777,76300	-1.040 ft/sec
	TARGADG	2416,2417	0.000019022568 m/cs ²	-4	00004,37445	0.6241 ft/sec ²
	TARGADG+2	2420,2421	0.0 m/cs ²	-4	00000,00000	0.0 ft/sec ²

7 No. 664
ite No. NAS 9-1100

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LM4/4.5.1-6

LED-56

Volume II LM Data Book
Subsystem Performance Data - GNSC

Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY 69) - Continued
MISSION TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
-	TARGADG+4	2422,2423	-0.000277502112 m/cs ²	-4	77667,50111	-9.1044 ft/sec ²
-	TTFVDGV	2424,2425	-0.0071323200 m/cs	13	77777,77425	-2.340 ft/sec
-	TTFADGZ	2426,2427	-0.001665012672 m/cs ²	-4	77113,60670	-54.6264 ft/sec ²
-	TTFJDGZ	2430,2431	-0.0459071959x10 ⁻⁶ m/cs ³	-21	74726,64401	-0.15061416 ft/sec ³
-	TARGRDG24	2432,2433	33.85870800 m	24	00000,01036	111.085 ft
-	TARGRDG24+2	2434,2435	0.0 m	24	00000,00000	0.0 ft
-	TARGRDG24+4	2436,2437	-8.166811200 m	24	77777,77574	-26.794 ft
-	TARGVDG24	2440,2441	-0.0152186640 m/cs	10	77777,70152	-4.993 ft/sec
-	TARGVDG24+2	2442,2443	0.0 m/cs	10	00000,00000	0.0 ft/sec
-	TARGVDG24+4	2444,2445	0.0007559040 m/cs	10	00000,00306	0.248 ft/sec

Volume II LM Data Book
Subsystem Performance Data - GN&C

No. NAS 9-1100
o. 664

Grumman Aircraft Engineering Corporation

LM4/4.5.1-7

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Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY 69) - Continued
MISSION TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
-	TARGADG24	2446,2447	$-0.07997952 \times 10^{-4}$ m/cs ²	-4	77775,74720	-0.2624 ft/sec ²
-	TARGADG24+2	2450,2451	0.0 m/cs ²	-4	00000,00000	0.0 ft/sec ²
-	TARGADG24+4	2452,2453	$-0.1560576 \times 10^{-4}$ m/cs ²	-4	77773,75055	-0.5120 ft/sec ²
-	TTFVDGZ24	2454,2455	0.0017007840 m/cs	13	00000,00070	0.558 ft/sec
-	TTFADGZ24	2456,2457	$-0.9363456 \times 10^{-4}$ m/cs	-4	77747,56422	-3.072 ft/sec ²
-	TTFJDGZ24	2460,2461	$+0.004407944448 \times 10^{-6}$ m/cs ³	-21	00227,16454	0.01446176 ft/sec ³
1	DESIGNV	2462,2463	16.90256208 m/cs	10	00416,16071	5545.46 ft/sec
	DESIGNRX	2464,2465	-39782.453328 m	24	77731,44630	-130519.86 ft
	DESIGNRZ	2466,2467	-435893.68752 m	24	77126,52244	-1430097.4 ft
1	DESKIGNX	2470,2471	-0.617631	4	76607,61356	

No. 664
t No. NAS 9-1100

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LM4/4.5.1-8

LED-1

Volume II LM Data Book
Subsystem Performance Data - GN&C

Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY 69) - Continued
MISSION TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
1	DESKIGNY	2472,2473	$-2.4770341207 \times 10^{-6} \text{ m}^{-1}$	-16	72634,51602	$-0.755 \times 10^{-6} \text{ ft/ft}^2$
1	DESKIGNV	2474,2475	-41000 cs	18	72775,57777	-410 sec
-	LOWCRIT	2476	2212.7 DPS throttle pulses	14	04245	5985 lbf
-	HIGHCRIT	2477	2445.7 DPS throttle pulses	14	04616	6615 lbf
1	DELQFIX	2500,2501	60.96 m	24	00000,01717	200 ft
-	C:TBRKPNT	2502	60000 cs	17	16514	600 sec
-	C:ABTVINJ1	2503,2504	17.084040 m/cs	7	04212,30165	5605 ft/sec
-	C:ABTVINJ2	2505,2506	16.794480 m/cs	7	04145,26141	5510 ft/sec
-	ROLLTIME	3001	2743 cs	14	05267	
-	PITTIME	3002	2521 cs	14	04731	

No. NAS 9-1100
o. 664

Grumman Aircraft Engineering Corporation

LM4/4.5.1-9

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Volume II LM Data Book
Subsystem Performance Data - GN&C

Table LM4/4.5.1-2 .F PRELAUNCH ERASABLE LOAD (LUMINARY 69) - Continued
MISSION TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
	DKTRAP	3003	-0.0038888888 rev/sec	-3	77001	
	DKOMEGAN	3004	10	14	00012	
	DKKAOSN	3005	60	14	00074	
	LMTRAP	3006	-0.0038888888 rev/sec	-3	77001	
	LMOMEGAN	3007	0	14	00000	
	LMKAOSN	3010	60	14	00074	
	DKDB	3011	256 rev ⁻¹	15	00200	
	DWNTORK	3113	0 sec	5	00000	
	DWNTORK+1	3114	0 sec	5	00000	
	DWNTORK+2	3115	0 sec	5	00000	

Volume II LM Data Book
Subsystem Performance Data - GN&C

Contract No. NAS 9-1100
Drawing No. 664

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LM4/4.5.1-10

LEI

Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY 69) - Continued
MISSION TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
	DWNTORK+3	3116	0 sec	5	00000	
	DWNTORK+4	3117	0 sec	5	00000	
	DWNTORK+5	3120	0 sec	5	00000	
	ATIGINC	3400,3401	18000 cs	28	00001,03120	3 min
	PTIGINC	3402,3403	18000 cs	28	00001,03120	3 min
	AOTAZ	3404	-0.1666250000 rev	-1	65254	-59.985° (2's comp)
	AOTAZ+1	3405	0.0001138889 rev	-1	00004	0.041°
	AOTAZ+2	3406	0.1668194444 rev	-1	12532	60.055°
	AOTEL	3407	0.1250333333 rev	-1	10001	45.012°
	AOTEL+1	3410	0.1250250000 rev	-1	10001	45.009°

Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY 69) - Continued
MISSION TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
	AOTEL+2	3411	0.1250861111 rev	-1	10003	45.031°
	LRALPHA1	3412	0.0170601852 rev	-1	01057	6°8'30"
	LRBETA1	3413	0.0688695988 rev	-1	04321	24°47'35"
	LRALPHA2	3414	0.0172152778 rev	-1	01064	6°11'51"
	LRBETA2	3415	0.0003472222 rev	-1	00013	0°7'30"
	LRHMAX	3416	15240 m	14	35610	50,000 ft
	LRVMAX	3417	6.096 m/cs	7	01414	2,000 ft/sec
	LRWH	3420	0.35	-1	26315	
1	LRWVZ	3421	0.3	0	11463	
1	LRWVY	3422	0.3	0	11463	

Volume II LM Data Book
Subsystem Performance Data - GN&C

No. NAS 9-1100
0. 664

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LM4/4.5.1-12

LEI

Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY 69) - Continued
MISSION TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
1	LRVX	3423	0.3	0	11463	
1	ZOOMTIME	3424	2600 cs	14	05050	26 sec
1	TENDBRAK	3425	6200 cs	17	01407	62 sec
1	TENDAPPR	3426	1200 cs	17	00226	12 sec
1	RPCRTIME	3427	6200 cs	17	01407	62 sec
1	RPCRTQSW	3430	-0.50	+1	67777	
	FLAGWORD 3	0077	02000 octal		02000	
	FLAGWORD 8	0104	00000 octal		00000	
	FLAGWORD 10	0106	00000 octal		00000	

No. NAS 9-1100
No. 664

Grumman Aircraft Engineering Corporation

LM4/4.5.1-13

Volume II IM Data Book
Subsystem Performance Data - GN&C

Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY 69) - Continued
LAUNCH TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
1	MASS	1244,1245	14121.37374 kg	16	06712,12773	31132.3 lbs
1	LEMMASS	1331	14121.4 kg	16	06712	31132.3 lbs
1	CSMASS	1332	17057.3 kg	16	10250	37605.0 lbs
1	PBIASX	1452		-5	73631	-0.41 cm/sec ²
1	PIPASCFX	1453		-9	70750	-430 ppm
1	PBIASY	1454		-5	01660	+0.18 cm/sec ²
1	PIPASCFY	1455		-9	62171	-840 ppm
1	PBIASZ	1456		-5	77542	-0.03 cm/sec ²
1	PIPASCFZ	1457		-9	67241	-530 ppm
1	NBDX	1460		-5	77150	-3.2 meru

NAS 9-1100
No. 664

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LM4/4.5.1-14

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Volume II LM Data Book
Subsystem Performance Data - GN&C

Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY '69) - Continued
LAUNCH TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
1	NBDY	1461		-5	00277	+1.5 meru
1	NBDZ	1462		-5	77546	-1.2 meru
1	ADIAX	1463		-5	00032	+1.0 meru/g
1	ADIA Y	1464		-5	01010	+20.0 meru/g
1	ADIAZ	1465		-5	76617	-24.0 meru/g
1	ADSRAX	1466		-5	00202	+5.0 meru/g
1	ADSRAY	1467		-5	00064	+2.0 meru/g
1	ADSRAZ	1470		-5	77745	-1.0 meru/g

Part No. NAS 9-1100
7 No. 664

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LM4/4.5.1-15

Volume II LM Data Book
Subsystem Performance Data - GN&C

Table LM4/4.5.1-2 F PRELAUNCH ERASABLE LOAD (LUMINARY 69) - Continued
LAUNCH TAPE

REV	MNEMONIC	ADDRESS	VALUE	SF	OCTAL	REMARKS
1	TEPHEM	1706-1710	2779494000 cs	42	00012,13256 33160	For launch at 16:49:00.00 GMT on May 18, 1969.
1	-AYO	1713,1714	+0.0000358483	0	00000,22627	
1	AXO	1715,1716	+0.0000427226	0	00000,26314	Rev 3 of launch tape May 18; 16:49 GMT
	RFFSMMAT +2	1735,1736	0.67030001	1	12563,03100	
	RFFSMMAT +4	1737,1740	0.05181649	1	00650,17304	
1	504IM	2012,2013	-0.000072073	0	77776,72154	
1	504IM+2	2014,2015	-0.000708096	0	77764,54601	
1	504IM+4	2016,2017	+0.000378963	0	00006,06537	
1	RLS	2022,2023	1588471.994 m	27	00301,34760	Site 2
1	RLS+2	2024,2025	697547.4954 m	27	00125,04627	
1	RLS+4	2026,2027	21616.9998 m	27	00002,24342	
1	HIASCENT	3000	3820.6 kg	16	01673	8422.9 lbs

No. NAS 9-1100

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LM4/4.5.1-16

LE

Volume II LM Data Book
Subsystem Performance Data -GN&C

LM4/4.5.1-2 F Prelaunch Erasable Load (Luminary 69) Continued
Ephemeris Data

LAUNCH DATE May 20

UNIT W

COL NAME	UNITW	UNITW + 2	UNITW + 4
LUM NAME	-AYO	AXO	NOT USED IN LUM
DECIMAL	.0000367904	.0000425228	.9999999984
OCTAL	00000,23224	00000,26227	37777,37777

LUNAR LIBRATION VECTOR (RAD)

SELENOGRAPHIC COORDINATES

	504LM	504LM + 2	504LM + 4
DECIMAL	$-.76581 \times 10^{-4}$	-6.60185×10^{-4}	3.89159×10^{-4}
OCTAL	77776,67662	77765,45676	00006,14020

LANDING SITE VECTOR (METERS) No. 3

SELENOGRAPHIC COORDINATES

	LAT (DEG)	LONG (DEG)	ALT (METERS)
	.35277778	-1.299166667	-1817.
	X (METERS)	Y (METERS)	Z (METERS)
DECIMAL	1735793.486	-39364.99983	10689.99991
OCTAL	00323,34343	77773,46165	00001,11604

Contract No. NAS 9-11100
Primary No. 664

Grumman Aircraft Engineering Corporation

LED-540-54

LM4/4.5.1-16.1

Volume II LM Data Book
Subsystem Performance Data - GN&C

(NASA DATA SOURCE)

LAUNCH DATE May 23

UNIT W

COL NAME	UNITW	UNITW + 2	UNITW + 4
LUM NAME	-AYO	AXO	NOT USED IN LUM
DECIMAL	.000037997	.0000427995	.9999999984
OCTAL	00000,23730	00000,26341	37777,37777

LUNAR LIBRATION VECTOR (RAD)

SELENOGRAPHIC COORDINATES

	504LM	504LM + 2	504LM + 4
DECIMAL	-0.76205×10^{-4}	-5.68073×10^{-4}	3.78724×10^{-4}
OCTAL	77776,70027	77766,66124	00006,06437

LANDING SITE VECTOR (METERS) No. 4

SELENOGRAPHIC COORDINATES

	LAT (DEG)	LONG (DEG)	ALT (METERS)
	-3.64805556	-36.61583333	-2915.
	X (METERS)	Y (METERS)	Z (METERS)
DECIMAL	1389920.488	-1032841.995	-110404.4989
OCTAL	00251,25301	77601,75353	77762,60566

Contract No. NAS 9-1100
Primary No. 664

Grumman Aircraft Engineering Corporation

LED-540-54

Volume II LM Data Book
Subsystem Performance Data - GN&C

(NASA DATA SOURCE)

LM4/4.5.1-16.2

LAUNCH DATE May 24

UNIT W

COL NAME	UNITW	UNITW + 2	UNITW + 4
LUM NAME	-AYO	AXO	NOT USED IN LUM
DECIMAL	.0000382726	.0000428922	.9999999983
OCTAL	00000,24042	00000,26372	37777,37777

LUNAR LIBRATION VECTOR (RAD)

SELENOGRAPHIC COORDINATES

	504LM	504LM + 2	504LM + 4
DECIMAL	$-.73552 \times 10^{-4}$	-5.39437×10^{-4}	3.66755×10^{-4}
OCTAL	77776,71337	77767,45133	00006,00222

LANDING SITE VECTOR (METERS) No. 5

SELENOGRAPHIC COORDINATES

	LAT (DEG)	LONG (DEG)	ALT (METERS)
	1.678055556	-41.89916667	-2314.
	X (METERS)	Y (METERS)	Z (METERS)
DECIMAL	1291420.49	-1158691.496	50828.99988
OCTAL	00235,24471	77562,61670	00006,06432

Contract No. NAS 9-1100
Primary No. 664

Grumman Aircraft Engineering Corporation

LED-540-54

LAUNCH DATE May 25

UNIT W

COL NAME	UNITW	UNITW + 2	UNITW + 4
LUM NAME	-AYO	AXO	NOT USED IN LUM
DECIMAL	.0000384813	.0000429953	.9999999983
OCTAL	00000,24132	00000,26425	37777,37777

LUNAR LIBRATION VECTOR (RAD)

SELENOGRAPHIC COORDINATES

	504LM	504LM + 2	504LM + 4
DECIMAL	$-.70184 \times 10^{-4}$	-5.14999×10^{-4}	3.50572×10^{-4}
OCTAL	77776,73147	77767,61773	00005,27632

LANDING SITE VECTOR (METERS) No. 5

SELENOGRAPHIC COORDINATES

	LAT (DEG)	LONG (DEG)	ALT (METERS)
	1.678055556	-41.89916667	-2314.
	X (METERS)	Y (METERS)	Z (METERS)
DECIMAL	1291420.49	-1158691.496	50828.99988
OCTAL	00235,24471	77562,61670	00006,06432

Contract No. NAS 9-1100
Primary No. 664

Grumman Aircraft Engineering Corporation

LED-540-54

Volume II LM Data Book
Subsystem Performance Data - GN&C

(NASA DATA SOURCE)

5/15/69

LM4/4.5.1-16.4