

MITSD/K. A. LARSON



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
MANNED SPACECRAFT CENTER
HOUSTON, TEXAS 77058

RECEIVED

JUN 28 1971

R. A LARSON

REPLY TO
ATTN OF:

FS66-71-61

JUN 10 1971

MEMORANDUM

TO: PA/Apollo Spacecraft Program Office
Attn: PD4/John R. Sevier

FROM: FS/Chief, Flight Support Division

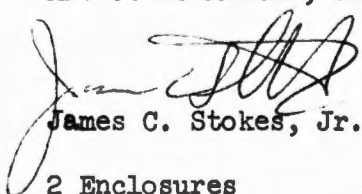
SUBJECT: Flight Readiness Test Apollo 15 (Mission J1) Prelaunch
Erasable Load (LUMINARY 210)

Enclosure 1 to this memorandum consists of the current values for the parameters in the Apollo 15 (mission J1) Prelaunch Erasable Load for the LGC.

A single or double star (* or **) next to a parameter mnemonic denotes that it is also in the Inflight Erasable Load. These parameters would have to be verified or reloaded in order to completely initialize the LGC in orbit. A single star denotes loading by ground uplink; a double star denotes loading by the astronaut via the DSKY. All values for parameters in the Inflight Erasable Load should be consistent with the prelaunch values.

Enclosure 2 is the Inflight Erasable Load in uplink format. All values in the Inflight Erasable Load are consistent with the values in the Prelaunch Erasable Load.

Questions or comments regarding erasable loads should be directed to Mr. J. A. Martin, Jr., extension 2308.


James C. Stokes, Jr.

2 Enclosures

cc:
(See list attached)

FS66/JAMartin:lbh:6/7/71:2308

LGC - ERASABLE LOAD MEMO

CEK/		EB6/	
R. PEARSON		J. W. JURGENSEN	
GAC(BETHPAGE)/		EG(MIT)/	
C. TILLMAN	(3)	T. LAWTON	
IBM(HOUSTON)/		EG2/	
L. CALEY		K. J. COX	
R. N. HARRIS		EG7/	
KSC(LE ENG-62)/		E. M. DICKINSON	
J. S. TADICH		C. T. HACKLER	
KSC(MIT)/		J. F. HANAWAY	
R. GILBERT		FA/	
MIT(SDL)/		S. A. SJCBERG	
M. CRAMER		H. W. TINDALL JR.	
S. H. DRAKE		FC7/	
G. EDMONDS		E. F. KRANZ	
P. G. FELLEMAN		FC4/	
D. FRASER		H. A. LODEN	
M. H. HAMILTON		R. A. THORSON	(2)
D. G. HOAG		FC5/	
A. R. KLUMPF		W. E. LYCHWICK	
R. A. LARSON		J. W. MILL	
B. J. MCCOY		C. B. PARKER	
H. MCCUAT		W. S. PRESLEY	
E. OLSON		J. G. RENICK	
W. OSTANEK		K. W. RUSSEL	
R. SCHUTTE		FC6/	
NASA HQS(BELLCCMM)/		R. A. HOOVER	(3)
W. G. HEFFREN		FM7/	
TRW(HOUSTON)/		C. HUSS	
F. COOPER		J. P. MAYER	
J. GRIGGS		R. E. SIMMS	
W. F. HARWOOD	(2)	FM2/	
J. L. NOFTON		F. V. BENNETT	
G. E. PELING		C. A. GRAVES	
CA/		FM4/	
D. K. SLAYTON		B. J. COCKRELL	
W. J. NORTH		R. T. SAVELY	
CB/		FM5/	
D. R. SCOTT		J. D. YENCHARIS	
J. B. IRWIN		FM6/	
A. J. WARDEN		R. R. REGELBRUGGE	
R. F. GORDEN		FM7/	
CE2/		A. J. BORDANO	
R. W. FORCE		S. P. MANN	
C. D. NELSON		H. J. MILES	
C. K. SEAMAN		FS5/	
CG2/		S. H. HINSON	
W. HINTON		J. R. ROUNDTREE	
C. C. THOMAS		R. B. WILLIAMS	
EA2/		FS6/	
R. A. GARDINER		J. E. WILLIAMS JR.	

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LCC - ERASABLE LOAD MEMO

FS6/

J. R. GARMAN

T. G. PRICE

J. A. MARTIN (5)

C. D. SYKES

J. R. GILBERT

PD/

G. E. MAYNARD

PD7/

R. S. MORTEN

PE/

E. G. MORRIS

PE7/

G. T. LOCKARD

J. VINCZE

FRT E-LOAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
	FLAGWRD3+	0 0077	12000	0		
	FLAGWRD8+	0 0104	06000	0		
	FLGWRD10+	0 0106	00000	0		
**	CHANBKUP+	0 0374	00011	0		
	MASS	+ 0 1243	10102	16	3.670150000D 04 LBS	1.664752037D 04 KG
	MASS	+ 1 1244	00000	2	0.0 LBS	0.0 KG
*	LRWH1	+ 0 1315	13146	0	3.500000000D-01 UNITLESS	3.500000000D-01 UNITLESS
**	LEMMASS	+ 0 1326	10102	16	3.670150000D 04 LBS	1.664752037D 04 KG
**	CSMASS	+ 0 1327	10436	16	3.864080000D 04 LBS	1.752717205D 04 KG
*	E3J22R2M+	0 1347	12160	58	9.204790479D 16 M5/CS2	9.204790479D 16 M5/CS2
*	E32C31RM+	0 1350	03363	80	1.312892560D 23 M6/CS2	1.312892560D 23 M6/CS2
*	ELBIAS	+ 0 1353	00000	-1	0.0 DEG	0.0 REV
*	TOOFW	+ 0 1354	00003	14	3.000000000D 00 UNITLESS	3.000000000D 00 UNITLESS

FRT E-LOAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
*	PBIASX	+ 0	1452 04163	-3	1.65000000CD 00 CM/SEC2	1.6500000C0C-02 PIPS/CS
*	PIPASCFX+	0	1453 60462	-9	-9.40000000CD 02 PPM	-9.4000000C0C-04 PIPS/PIP
*	PBIASY	+ 0	1454 03404	-3	1.37000000CD 00 CM/SEC2	1.37000000CC-02 PIPS/CS
*	PIPASCFY+	0	1455 61721	-9	-8.60000000CD 02 PPM	-8.6000000C0D-04 PIPS/PIP
*	PBIASZ	+ 0	1456 03505	-3	1.420000000D 00 CM/SEC2	1.42000000CC-02 PIPS/CS
*	PIPASCFZ+	0	1457 52672	-9	-1.29000000CD 03 PPM	-1.29000000CC-03 PIPS/PIP
*	NBDX	+ 0	1460 00677	-5	3.50000000CD 00 MERU	8.518666198C-04 G PUL/CS
*	NBDY	+ 0	1461 00046	-5	3.00000000CD-01 MERU	7.301713884C-05 G PUL/CS
*	NBDZ	+ 0	1462 00314	-5	1.600000000D 00 MERU	3.894247405D-04 G PUL/CS
*	ADIA X	+ 0	1463 00150	-6	4.00000000CD 00 MERU/G	9.927568032D-05 GPUL/PIP
*	ADIA Y	+ 0	1464 77713	-6	-2.000000000D 00 MERU/G	-4.963784016D-05 GPUL/PIP
*	ADIA Z	+ 0	1465 00234	-6	6.000000000D 00 MERU/G	1.489135205D-04 GPUL/PIP
*	ACSRAX	+ 0	1466 77543	-6	-6.00000000CD 00 MERU/G	-1.489135205C-04 GPUL/PIP

FRT E-LOAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
*	ADSRAY	+ 0 1467	00116	-6	3.000000000 00 MERU/G	7.445676024C-05 GPUL/PIP
*	ADSRAZ	+ 0 1470	77661	-6	-3.000000000 00 MERU/G	-7.445676024C-05 GPUL/PIP
*	GCOMPSW	+ 0 1477	0000C	14	0.0	UNITLESS 0.0
	TETCSM	+ 0 1570	37777	28	2.684354550D 08 CS	2.684354550D 08 CS
		1571	37777			
	TETLEM	+ 0 1642	37777	28	2.684354550D 08 CS	2.684354550D 08 CS
		1643	37777			
*	X789	+ 0 1700	00000	3	0.0	RADIANS 0.0
		1701	00000			
*	X789	+ 2 1702	00000	3	0.0	RADIANS 0.0
		1703	00000			
*	X789	+ 4 1704	00000	3	0.0	RADIANS 0.0
		1705	00000			

FRT E-LOAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
* TEPHEM	+ 0	1706	00000	42	6.135666667D 02 HR	2.208840000D 08 CS
		1707	32251			
		1710	26040			
* -AYD	+ 0	1711	77777	0	-1.696124673D-05 RADIANS	-1.696124673E-05 RADIANS
		1712	67066			
* AXD	+ 0	1713	00000	0	3.089010716D-05 RADIANS	3.089010716E-05 RADIANS
		1714	20144			
* REFSMMAT+	0	1731	11244	1	5.825612400D-01 UNITLESS	5.825612400E-01 UNITLESS
		1732	12736			
* REFSMMAT+	2	1733	07474	1	4.761850900D-01 UNITLESS	4.761850900E-01 UNITLESS
		1734	35041			
* REFSMMAT+	4	1735	12423	1	6.586882200D-01 UNITLESS	6.586882200E-01 UNITLESS
		1736	37124			

~~FRT E-LOAD APOLLO 15 LUM 210~~

REV	MNEMONIC	ADDR	UCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
*	REFSMMAT+ 6	1737	73772	1	-2.506558100D-01 UNITLESS	-2.506558100D-01 UNITLESS
		1740	64052			
*	REFSMMAT+ 8	1741	65262	1	6.656529500D-01 UNITLESS	6.656529500D-01 UNITLESS
		1742	77044			
*	REFSMMAT+10	1743	13176	1	7.029067100D-01 UNITLESS	7.029067100D-01 UNITLESS
		1744	06616			
*	REFSMMAT+12	1745	14275	1	7.731714500D-01 UNITLESS	7.731714500D-01 UNITLESS
		1746	32203			
*	REFSMMAT+14	1747	66634	1	-5.745902300D-01 UNITLESS	-5.745902300D-01 UNITLESS
		1750	76474			
*	REFSMMAT+16	1751	73551	1	2.684250500D-01 UNITLESS	2.684250500D-01 UNITLESS
		1752	41767			
*	RANGEVAR+ 0	1766	01351	-12	1.11111111D-05 UNITLESS	1.11111111D-05 UNITLESS
		1767	24734			

FRT E-LOAD APCLLO 15 LUM-210

REV	MNEMONIC	ADDR	DCIAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
*	RATEVAR +	0 1770	02354	-12	1.877777778D-05 UNITLESS	1.877777778D-05 UNITLESS
		1771	04761			
*	RVARMIN +	0 1772	00410	12	7.104180875D 02 FT2	6.600000000D 01 M2
*	VVARMIN +	0 1773	00165	-12	1.877764172D-01 FT2/SEC2	1.744500000D-06 M2/CS2
*	WRENDPOS +	0 2000	05750	14	1.000000000D 04 FT	3.048000000D 03 M
*	WRENDVEL +	0 2001	00763	0	1.000000000D 01 FT/SEC	3.048000000D-02 M/CS
*	WSHAFT +	0 2002	17270	-5	1.500000000D 01 MILLIRAD	1.500000000D-02 RADIANS
*	WTRUN +	0 2003	17270	-5	1.500000000D 01 MILLIRAD	1.500000000D-02 RADIANS
*	RMAX +	0 2004	00023	19	2.000000000D 03 FT	6.096000000D 02 M
*	VMAX +	0 2005	00001	7	2.000000000D 00 FT/SEC	6.096000000D-03 M/CS
*	WSURFPCS +	0 2006	00000	14	0.0 FT	0.0 M
*	WSURFVEL +	0 2007	00000	0	0.0 FT/SEC	0.0 M/CS
*	SHAFTVAR +	0 2010	00103	-12	1.000000000D 00 MILLIRAD2	1.000000000D-06 RADIANS2

FRT E-LOAD APCLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
* TRUNVAR	+ 0	2011	00103	-12	1.00000000CD C0 MILIRAD2	1.00000000D-06 RADIANS2
* 504LM	+ 0	2012	77774	0	-2.26855278CD-04 RADIANS	-2.26855278D-04 RADIANS
		2013	51037			
* 504LM	+ 2	2014	00011	0	6.061308086D-04 RADIANS	6.061308086D-04 RADIANS
		2015	35623			
* 504LM	+ 4	2016	77775	0	-1.619607210D-04 RADIANS	-1.619607210D-04 RADIANS
		2017	53053			
* RLS	+ 0	2020	00275	27	5.101198379D 06 FT	1.554845266D-06 M
		2021	31473			
* RLS	+ 2	2022	00014	27	3.25757353CD 05 FT	9.929084118D 04 M
		2023	03666			
* RLS	+ 4	2024	00135	27	2.501253767D-06 FT	7.623821483D 05 M
		2025	02034			

FRT E-LOAD APCLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
* TLAND	+ 0	2026	C4374	28	1.046824861D 02 HR	3.768569500D 07 CS
		2027	04677			
* N26/PRI	+ 0	2371	0000C	14	0.0 MIN	0.0 CS
* N26/2CAD	+ 0	2372	0C00C	0		0.0
		2373	0000C			
* VELBIAS	+ 0	2400	00001	6	2.5C0000C0CD 00 FT/SEC	7.620000000D-03 M/CS
		2401	36331			
* RBRFGX	+ 0	2402	77777	24	-3.118358793D 03 FT	-9.504757600D 02 M
		2403	42227			
* RAPFGX	+ 0	2404	0000C	24	1.585C0000CD 02 FT	4.831080000D 01 M
		2405	01405			
* RBRFGZ	+ 0	2406	77774	24	-1.174144094D-04 FT	-3.578791200D 03 M
		2407	60122			

FRT E-LOAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
*	RAPFGZ	+ 0	2410 77777 2411 77572	24	-2.735539993D 01 FT	-8.337925900C 00 M
*	VBRFGX	+ 0	2412 77766 2413 55311	10	-1.964691600D 02 FT/SEC	-5.988379997D-01 M/CS
*	VAPFGX	+ 0	2414 77777 2415 72367	10	-3.534759843D 00 FT/SEC	-1.077394800C-02 M/CS
*	VBRFGZ	+ 0	2416 77767 2417 73603	10	-1.667599672D 02 FT/SEC	-5.082843800C-01 M/CS
*	VAPFGZ	+ 0	2420 00000 2421 00024	10	2.495050000D-02 FT/SEC	7.604912400C-05 M/CS
*	ABRFGX	+ 0	2422 77772 2423 50265	-4	-7.182481259D-01 FT/SEC2	-2.189220300D-05 M/CS2
*	AAPFGX	+ 0	2424 00000 2425 23567	-4	7.717830052D-02 FT/SEC2	2.352394600C-06 M/CS2

FRT E-LOAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
* ABRFGZ	+ 0	2426	77675	-4	-8.302450459D 00 FT/SEC2	-2.530586900D-04 M/CS2
		2427	65140			
* AAPFGZ	+ 0	2430	77773	-4	-5.896270013D-01 FT/SEC2	-1.797183100D-05 M/CS2
		2431	51173			
* VBRFG*	+ 0	2432	77755	13	-3.001679987D 03 FT/SEC	-9.149120600D 00 M/CS
		2433	66351			
* VAPFG*	+ 0	2434	00000	13	4.491089895D-01 FT/SEC	1.368884200D-03 M/CS
		2435	00055			
* ABRFG*	+ 0	2436	77161	-4	-4.981470144D 01 FT/SEC2	-1.518352100D-03 M/CS2
		2437	77106			
* AAPFG*	+ 0	2440	77743	-4	-3.537762139D 00 FT/SEC2	-1.078309900D-04 M/CS2
		2441	67344			
* JBRFG*	+ 0	2442	77541	-21	-1.512365879D-02 FT/SEC3	-4.609691200D-09 M/CS3
		2443	63456			

FRT E-LOAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
	* JAPFG*	+ 0	2444 00704 2445 04643	-21	4.3173599C8D-02 FT/SEC3	1.3159313C0C-08 M/CS3
	* GAINBRAK+	0	2446 37777 2447 37777	0	9.999999963D-01 UNITLESS	9.999999963D-01 UNITLESS
	* GAINAPPR+	0	2450 0000C 2451 0000C	0	0.0 UNITLESS	0.0 UNITLESS
	* TCGFERAK+	0	2452 00567	-17	3.000000000C 01 SEC	3.000000000C 03 CS
	* TCGIBRAK+	0	2453 25762	17	9.000000000C 02 SEC	9.000000000C 04 CS
	* TCGFAPPR+	0	2454 00113	17	6.000000000C 00 SEC	6.000000000C 02 CS
	* TCGIAPPR+	0	2455 04704	17	2.000000000C 02 SEC	2.000000000C 04 CS
	* VIGN	+ 0	2456 00416 2457 22271	10	5.548182743D 03 FT/SEC	1.691086100C 01 M/CS
	* RIGNX	+ 0	2460 77717 2461 55270	24	-1.632165978D 05 FT	-4.9748419C0C 04 M

FRT E-LOAD APCLLO 15 LUM 210

REV	PNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
	* RIGNZ	+ 0	2462 77062	24	-1.549541371D 06 FT	-4.723002100E 05 M
			2463 70474			
	* KIGNX/B4+	0	2464 77251	4	-3.340000000D-01 UNITLESS	-3.340000000D-01 UNITLESS
			2465 77371			
	* KIGNY/B8+	0	2466 76366	-16	-2.206999985D-07 FT/FT2	-7.240813600D-07 M-1
			2467 60601			
	* KIGNV/B4+	0	2470 71727	18	-4.980000000D-02 SEC	-4.980000000D-04 CS
			2471 57777			
	* LCWCRT	+ 0	2472 04114	14	5.985007886D C3 LBF	2.124377200E 03 DPSTROTP
	* HIGHCRIT+	0	2473 04454	14	6.615008567D C3 LBF	2.347995800D 03 DPSTROTP
	* TAUHZ	+ 0	2474 C7640	11	5.000000000D C0 SEC	5.000000000E 02 CS
	* QHZ	+ 0	2475 14632	0	4.000000000D-01 UNITLESS	4.000000000D-01 UNITLESS
	* AHZLIM	+ 0	2476 00017	-4	1.938979987D C0 FT/SEC2	5.910011000D-05 M/CS2

FRT E-LEAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
*	2LATE466+	0 2477	0000 2500 00226	28	1.500000000D 00 SEC	1.500000000D 02 CS
*	DELQFIX	+ 0 2503	0000 2504 CC75C	24	1.000000000D 02 FT	3.048000000D 01 M
*	LRVMAX	+ 0 2511	01717	7	2.499999967D 03 FT/SEC	7.619999900D 00 M/CS
*	LRVF	+ 0 2512	00116	7	1.999999967D 02 FT/SEC	6.095999900D-01 M/CS
*	LRWVZ	+ 0 2513	11463	0	3.000000000D-01 UNITLESS	3.000000000D-01 UNITLESS
*	LRWVY	+ 0 2514	11463	0	3.000000000D-01 UNITLESS	3.000000000D-01 UNITLESS
*	LRWVX	+ 0 2515	11463	0	3.000000000D-01 UNITLESS	3.000000000D-01 UNITLESS
*	LRWVFZ	+ 0 2516	06315	0	2.000000000D-01 UNITLESS	2.000000000D-01 UNITLESS
*	LRWVFY	+ 0 2517	06315	0	2.000000000D-01 UNITLESS	2.000000000D-01 UNITLESS
*	LRWVFX	+ 0 2520	06315	0	2.000000000D-01 UNITLESS	2.000000000D-01 UNITLESS
*	LRWVFF	+ 0 2521	03146	0	1.000000000D-01 UNITLESS	1.000000000D-01 UNITLESS

FRT E-LOAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
1 *	ABSC0	+ 0 2522	51736	18	-5.930000000D 05 FT	-1.807464000D 05 M
1 *	ABSC1	+ 0 2523	70551	18	-1.960000000D 05 FT	-5.974080000D 04 M
1 *	ABSC2	+ 0 2524	74034	18	-1.060000000D 05 FT	-3.230880000D 04 M
1 *	ABSC3	+ 0 2525	74530	18	-8.940000000D 04 FT	-2.724912000D 04 M
1 *	ABSC4	+ 0 2526	76723	18	-2.920000000D 04 FT	-8.900160000D 03 M
1 *	SLOPE0	+ 0 2527	00005	6	2.096800000D-02 RADIANS	2.096800000D-02 RADIANS
1 *	SLOPE1	+ 0 2530	00000	6	0.0 RADIANS	0.0 RADIANS
1 *	SLOPE2	+ 0 2531	00060	6	1.867470000D-01 RADIANS	1.867470000D-01 RADIANS
1 *	SLOPE3	+ 0 2532	77710	6	-2.147840000D-01 RADIANS	-2.147840000D-01 RADIANS
1 *	SLOPE4	+ 0 2533	00003	6	1.130140000D-02 RADIANS	1.130140000D-02 RADIANS
*	RCDSCALE	+ 0 2534	14370	-7	1.000000000D 00 FT/SEC	3.048000000D-03 M/CS
*	TAURCD	+ 0 2535	11300	9	1.500000000D 00 SEC	1.500000000D 02 CS
			2536		00000	

FRT E-LEAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
* LAG/TAU + 0	2537 07356	0	2540 34075	0	2.33330000CD-01 UNITLESS	2.33330000CD-01 UNITLESS
* MINFORCE+ 0	2541 00001	12	2542 27631	12	9.799999814D 02 LBF	4.359257100D-01 KG M/CS2
* MAXFORCE+ 0	2543 00013	12	2544 06951	12	6.299999961D 03 LBF	2.802379600D 00 KG M/CS2
* J1PARM + 0	2545 07014	23	2546 11451	23	6.041027800D 06 FT	1.841305273D 06 M
* K1PARM + 0	2547 75563	23	2550 52023	23	-3.11375250CD 05 FT/RAD	-5.963193749D 05 M/REV
* J2PARM + 0	2551 07015	23	2552 01363	23	6.04228210CD 06 FT	1.841687584D 06 M
* K2PARM + 0	2553 73350	23	2554 64255	23	-6.22213620CD 05 FT/RAD	-1.191610563D 06 M/REV

FRT E-LOAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
* THETCRIT	+ 0	2555	76343	0	-1.751069600D 01 DEG	-4.864082223D-02 REV
		2556	42146			
* RAMIN	+ 0	2557	03324	24	5.879031490D 06 FT	1.790099998D 06 M
		2560	04500			
* YLIM	+ 0	2561	00016	24	8.200000000D 00 N.MI.	1.518640000D 04 M
		2562	32446			
* ABTRDOT	+ 0	2563	00007	7	1.950000000D 01 FT/SEC	5.943600000D-02 M/CS
		2564	23346			
* CCSTHET1	+ 0	2565	00000	2	0.0	UNITLESS 0.0
		2566	00000			UNITLESS
* CCSTHET2	+ 0	2567	06733	2	8.660254037D-01 UNITLESS	8.660254037D-01 UNITLESS
		2570	07535			
* CLAND	+ 0	2631	00000	24	0.0	FT 0.0
		2632	00000			M

FRT E-LOAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
*	DLAND	+ 2	2633 0000C 2634 00000	24	0.0 FT	0.0 M
*	DLAND	+ 4	2635 00000 2636 00000	24	0.0 FT	0.0 M
*	HIASCENT+	0	3000 C2324	16	1.090000000D C4 LBS	4.944156833D 03 KG
**	ROLLTIME+	0	3001 C512C	14	2.640000000D 01 SEC	2.640000000D 03 CS
**	PITTIME	+ 0	3002 04221	14	2.193000000D 01 SEC	2.193000000D 03 CS
1 *	DKTRAP	+ 0	3003 77000	-3	-3.898620605D-03 REV/SEC	-3.898620605D-03 REV/SEC
*	DKMEGAN+	0	3004 00012	14	1.000000000D 01 UNITLESS	1.000000000D 01 UNITLESS
*	DKKADSN	+ 0	3005 00074	14	6.000000000D 01 UNITLESS	6.000000000D 01 UNITLESS
1 *	LMTRAP	+ 0	3006 77000	-3	-3.898620605D-03 REV/SEC	-3.898620605D-03 REV/SEC
*	LMMEGAN+	0	3007 00000	14	0.0 UNITLESS	0.0 UNITLESS
*	LMKACSN	+ 0	3010 00074	14	6.000000000D 01 UNITLESS	6.000000000D 01 UNITLESS

FRT E-LOAD APOLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
*	DKDB	+ 0 3011	00200	15	2.56CC00000D 02 REV-1	2 5600000C0D 02 REV-1
1 *	IGNAOSQ	+ 0 3012	02571	-2	7.69EC0000CD 00 DEG/SEC2	2.137777778C-02 REV/SEC2
1 *	IGNAOSR	+ 0 3013	00035	-2	1.620C00000D-01 DEG/SEC2	4.5000000C0D-04 REV/SEC2
*	DCWNTORK+	0 3113	00000	5	0.0	JET SEC 0.0 JET SEC
*	DCWNTORK+	1 3114	00000	5	0.0	JET SEC 0.0 JET SEC
*	DCWNTORK+	2 3115	00000	5	0.0	JET SEC 0.0 JET SEC
*	DOWNTORK+	3 3116	00000	5	0.0	JET SEC 0.0 JET SEC
*	DCWNTORK+	4 3117	00000	5	0.0	JET SEC 0.0 JET SEC
*	DOWNTORK+	5 3120	00000	5	0.0	JET SEC 0.0 JET SEC
*	AGSK	+ 0 3371	04225 3372 10400	28	1.00CC00000D 02 HR	3 60000C000C 07 CS
*	AZBIAS	+ 0 3373	00000	-1	0.0	DEG 0.0 REV
*	ATIGINC	+ 0 3400	00001 3401 C3120	28	3.00CC00000D 00 MIN	1.80000C000C 04 CS

FRT E-LOAD APOLLO 15 LUM 210

REV	MNECMNIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
	* PTIGINC	+ 0	3402 00001 3403 03120	28	3.0000000000 00 MIN	1 8000000000 04 CS
1	* ACTAZ	+ 0	3404 65236	-1	-6.0140000000 01 DEG	-1.6705555560 01 REV
1	* ACTAZ	+ 1	3405 77765	-1	-1.1700000000 01 DEG	-3.2500000000 04 REV
1	* ACTAZ	+ 2	3406 12513	-1	5.9884000000 01 DEG	1.6634444450 01 REV
1	* ACTAZ	+ 3	3407 25240	-1	1.1988400000 02 DEG	3.3301111110 01 REV
1	* ACTAZ	+ 4	3410 37767	-1	1.7990200000 02 DEG	4.9972777780 01 REV
1	* ACTAZ	+ 5	3411 52515	-1	-1.2009000000 02 DEG	-3.3358333340 01 REV
1	* ACTEL	+ 0	3412 10006	-1	4.5061000000 01 DEG	1.2516944450 01 REV
1	* ACTEL	+ 1	3413 10006	-1	4.5062000000 01 DEG	1.2517222220 01 REV
1	* ACTEL	+ 2	3414 10007	-1	4.5077000000 01 DEG	1.2521388890 01 REV
1	* ACTEL	+ 3	3415 10010	-1	4.5093000000 01 DEG	1.2525833330 01 REV
1	* ACTEL	+ 4	3416 10010	-1	4.5092000000 01 DEG	1.2525555560 01 REV

FRT E-LOAD APCLLO 15 LUM 210

REV	MNEMONIC	ADDR	OCTAL	SF	ENGINEERING VALUE	VALUE IN AGC UNITS
1 *	ACTEL	+ 5	3417 10CC7	-1	4.507700000D 01 DEG	1 252138889D-01 REV
*	LRHMAX	+ 0	3420 3561C	14	5.000000000D 04 FT	1.524000000D 04 M
*	LRWH	+ 0	3421 1314E	0	3.500000000D-01 UNITLESS	3.500000000D-01 UNITLESS
*	ZCOMTIME+	0	3422 0505C	14	2.600000000D 01 SEC	2.600000000D 03 CS
*	TENDERAK+	0	3423 014C7	17	6.200000000D 01 SEC	6.200000000D 03 CS
*	TENDAPPR+	0	3424 0C22E	17	1.200000000D 01 SEC	1.200000000D 03 CS
*	DELTTFAP+	0	3425 75632	17	-9.000000000D 01 SEC	-9.000000000D 03 CS
*	LEADTIME+	0	3426 77743	17	-2.200000000D 00 SEC	-2.200000000D 02 CS
*	RPCRTIME+	0	3427 014C7	17	6.200000000D 01 SEC	6.200000000D 03 CS
*	RPCRTQSW+	0	3430 57777	1	-1.000000000D 00 UNITLESS	-1.000000000D 00 UNITLESS
*	TNEWA	+ 0	3431 2000C 3432 0000C	28	1.342177280D 08 CS	1 342177280D 08 CS

~~FRT E LOAG APGLLO 15 LUM 210~~

A	B	C	D	E	F	G	H	I	J	K	L	ID	
ID V71	V71	V71	V71	ID V71	V71	V71	V71	ID V71	V71	V71	V71	V71	ID
01	00021	00017	00010	01	00012	00024	00024	01	00015	00024	00023	00016	01
02	01452	01700	01766	02	02020	02400	02422	02	02466	02512	02534	02555	02
03	04163	00000	01351	03	00275	00001	77772	03	76366	00116	14370	76343	03
04	60462	00000	24734	04	31473	36331	50265	04	60601	11463	11300	42146	04
05	03404	00000	02354	05	00014	77777	00000	05	71727	11463	00000	03324	05
06	61721	00000	04761	06	03666	42227	23567	06	57777	11463	07356	04500	06
07	03505	00000	00410	07	00135	00000	77675	07	04114	06315	34075	00016	07
10	52672	00000	00165	10	02034	01405	65140	10	04454	06315	00001	32446	10
11	00677	00000		11	04374	77774	77773	11	07640	06315	27631	00007	11
12	00046	32251		12	04677	60122	51173	12	14632	03146	00013	23346	12
13	00314	26040		13		77777	77755	13	00017	51736	06551	00000	13
14	00150	77777		14		77572	66351	14	00000	70551	07014	00000	14
15	77713	67066		15		77766	00000	15	00226	74034	11451	06733	15
16	00234	00000		16		55311	00055	16		74530	75563	07535	16
17	77543	20144		17		77777	77161	17		76723	52023		17
20	00116			20		72367	77106	20		00005	07015		20
21	77661			21		77767	77743	21		00000	01363		21
22				22		73603	67344	22		00060	73350		22
23				23		00000	77541	23		77710	64255		23
24				24		00024	63456	24		00003			24

FRT E-LOAD APOLLO 15 LUM 210

IC	M V71	N V71	O V71	P V71	Q ID V71	R V72	S V72	
01	00010	00013	00010	00022	01 00015	00023	00017	
02	02631	03003	03113	03400	C2 03420	01347	01315	02
03	00000	77000	00000	00001	03 35610	12160	13146	03
04	00000	00012	00000	03120	04 13146	01350	02371	04
05	00000	00074	00000	00001	C5 05050	03363	00000	05
06	00000	77000	00000	03120	06 01407	01353	02372	06
07	00000	00000	00000	65236	07 00226	00000	00000	07
10	00000	00074	00000	77765	10 75632	01354	02373	10
11		00200		12513	11 77743	00003	00000	11
12		02571		25240	12 01407	01477	03371	12
13		00035		37767	13 57777	00000	04225	13
14				52515	14 20000	02503	03372	14
15				10006	15 00000	00000	10400	15
16				10006	16	02504	03372	16
17				10007	17	00750	00000	17
20				10010	20	02511		20
21				10010	21	01717		21
22				10007	22	03000		22
23					23	02324		23
24					24			24