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NRL Launch Requirements 2/28/64

Vehicle 2378

1. First burn injection should be raised to at least 105 NM. A 6 month orbital lifetime with no second burn or ullage is a minimum goal.

2. Nominal orbital altitude remains at 500 NM ±50 NM.

3. Nominal orbital inclination remains at 70° $\pm 2^{\circ}$ prograde.

4. Three D timer separation signals with complete redundancy are required. The interval between signals to be 10 sec. +2, -0 seconds. The interval from lift off to actuation will be supplied at a later date.

5. A 12 inch extension of the barrel section of the 72 inch nose fairing is required. This extension cannot remain with the vehicle.

6. An RF window in the nose fairing similar to previous designs is required. Probable location -- at start of conical section and extending approximately 24 inches forward.

7. Time of day of launch --

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Payload No.	Type	Size	Wt. on Launch Stand	Wt. in Orbit	Separation Velocity	Separation From Vehicle
		in.	lb.	lb$^{\pm 5}$	ft/sec.	miles/day
141	SR 7B	24	98	90	1,040	44.3
142	Greb	24	88	80	1.000	42.6
142GG	Gravity Gradient (Philco)		101	93		
143	Gravity Gradient 2 Axis Stabilization	24 Wide band	108	110	0.700	29.8
144	Gravity Gradient 3 Axis Stabilization	24 Wide band	123	115	0.780	33.3
		TOTAL	$430^{\pm 20}$	$398^{\pm 20}$		

Payload No.	Position Over Horizon	CG Z-Axis	CG 1-3 Axis	CG 2-4 Axis	I_z	I_{1-3}
					Slug-Ft^2	Slug-Ft^2
141	4	on Center Line	$1\frac{1}{2}" \pm\frac{1}{4}"$ Below Antenna Plane		$1.4^{\pm 0.2}$	$1.2^{\pm 0.2}$
142	3	on center line	$1\frac{1}{2} \pm\frac{1}{2}$ below antenna plane		$1.2^{\pm 0.2}$	$1.1^{\pm 0.2}$
142GG			$\frac{1}{2} \pm\frac{1}{2}$ above antenna plane		$1.2^{\pm 0.4}_{\pm 0.2}$	$1.8^{+0.4}_{-0.2}$
143	1	on center line	$\frac{1}{2} \pm 1$ Above Antenna Plane		$1.4^{+0.4}_{-0.2}$	$2.0^{+0.4}_{-0.2}$
144	2	on center line	± 1 on Antenna Plane		$1.8^{+0.4}_{-0.2}$	$2.6^{+0.4}_{-0.2}$

Payload No.	I_{2-4}	Spin Speed	Separation Sequence
	Slug-Ft^2	RPM	Sec.
141	$1.2^{\pm 0.2}$	Pl 141 only 90 RPM (Cold Gas) $^{+5}_{-0}$ @ T +5 Sec.	T Sec.
142	$1.1^{\pm 0.2}_{+0.4}$		T +10 sec.
142GG	$1.8^{-0.2}$		
143	$2.0^{+0.4}_{-0.2}$	45 RPM (Rockets) Respin	T +10 sec.
144	$2.6^{+0.4}_{-0.2}$		T Sec.

Secondary Payloads

No.	Type	Wt. on Vehicle	Wt. in Orbit
	16" Surcal 12 element Passive Reflector	$5\frac{1}{2}^{\pm\frac{1}{2}}$	2#
		$10\frac{1}{2}^{\pm 2}$	8#

414 # $^{\pm 22\frac{1}{2}}$ Total

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