

Launch Operation Precautions

March 13, 2018

Location:	Features:	Precautions:
Model Rocket Range Left Bank 1-8, Right Bank 9-16 (A – H)	<ul style="list-style-type: none"> Safety margin of 100' (for A - G model rockets) provides optional flying of H motors from Model Rocket launch rods. Dual banks permit simultaneous launching of one bank while flyers load on another bank with 100' separation for A through H. Allows continuous access to the Model Rocket range while launching High Power (up to single M impulse). 	<ul style="list-style-type: none"> Tripoli/NAR members or Pad Managers must escort and supervise all children and non-Tripoli/NAR flyers whenever they are on the Model Rocket range. Special awareness is required by LCO and pad managers when prepping H motors on any assigned Model Rocket pads. Flyers are allowed onto the High Power range to recover rockets only when the range is open. Entire range is closed during Drag Race away cell launch.
High Power Left Bank 17-24, Right Bank 25-32 (H – L or complex K)	<ul style="list-style-type: none"> Dual banks permit simultaneous launching of High Power (left or right) while flyers load on any other banks. If LCO is launching an L impulse from the H-L pads, either close the Model Rocket range or move the L impulse to launch from the M pads. 	<ul style="list-style-type: none"> Fliers must be a Level-1 or higher to load rockets on the High Power Range. All High Power H-L is closed when launching from <u>any away cells</u>. Entire range is closed during Drag Race away cell launch.
M total installed impulse away cell 33-40 500' (standard away cell up to 10,240 Ns)	<ul style="list-style-type: none"> Permits loading the M total installed impulse away cell while launching Model Rocket or H-L High Power. 	<ul style="list-style-type: none"> Fliers must be a Level-1 or higher to load rockets on the High Power Range. PA system may not be heard by people on the range. All High Power H-L pads are closed during M impulse away cell launch. M total installed impulse away cell is closed when launching from any other away cells.
N total installed impulse away cell 41-42 1000' (multiple motors up to 20,480 Ns)	<ul style="list-style-type: none"> Permits loading of N Total Installed Impulse (Complex M) away cell while launching from any other bank (except Complex O impulse away cell). Requires LCO communication with a remote operator station (FRS ch5.0) at a designated location for the Complex M impulse away cell. Requires FRS on channel 5.0 	<ul style="list-style-type: none"> Fliers must be a Level-1 or higher to load rockets on the High Power Range. PA system may not be heard by people on the range. FRS channel 5.0 is used to communicate with LCO. Entire range is closed during Drag Race away cell launch.
Drag Race away cell (Complex O impulse) 43-48 2000' (multiple motors or rockets up to 20,480 Ns)	<ul style="list-style-type: none"> Permits loading of the Complex O impulse away cell while launching from any other bank (except Complex M). Requires LCO communication with a remote operator station (FRS ch5.0) at a designated location for the Complex O impulse away cell. 	<ul style="list-style-type: none"> Fliers must be a Level-1 or higher to load rockets on the High Power Range. PA system may not be heard by people on the range. FRS channel 5.0 is used to communicate with LCO. Drag Race (Complex O impulse) away cell is closed when launching from the N total installed impulse away cell.

California prohibits flying an N impulse (yet they permit flying a clustered M up to N impulse).

Rocket's Total Installed Impulse, N-s	Motor type	Minimum Clear Distance				Minimum Launch Site Dimensions (diameter or shortest dimension), feet (The larger of 1/2 of the waived altitude or)		Minimum Safe Distance, Commercial Launch				Minimum Safe Distance, Research Launch			
		Regular		Sparky				Non-Complex		Complex		Non-Complex		Complex	
		ft	m	ft	m			ft	m	ft	m	ft	M	ft	m
0.01 to 160.00	A-G*							30	9	30	9	50	15	50	15
160.01 to 320	H	50	15	75	23	1,500	457	100	30	200	61	200	61	250	76
320.1 to 640.00	I	50	15	75	23	1,500	457	100	30	200	61	200	61	250	76
640.01 to 1280.00	J	50	15	75	23	1,500	457	100	30	200	61	200	61	250	76
1,280.01 to 2,560	K	75	23	113	36	1,500	457	200	61	300	91	250	76	350	96
2,560.01 to 5,120	L	100	30	150	45	1,500	457	300	91	500	152	300	91	500	152
5,120.01 to 10,240	M	125	38	200	61	1,500	457	500	152	1,000	305	500	152	1,000	305
10,240.01 to 20,480	N	125	38	200	61	2,000	610	1,000	305	1,500	457	1,000	305	1,500	457
20,480.01 to 40,960	O	125	38	200	61	3,000	915	1,500	457	2,000	610	1,500	457	2,000	610
40,960.01 to 890,000	P-T	125	38	200	61	3,000	915	N/A		N/A		2,000	610	2,500	762

*Distances for certified Model Rocket Motors. High Power 'F' and 'G' Motors (exceeding the limits in the definition of Model Rocket Motor) shall be flown at the 'H' distance.

LDRS XXXVII
TRIPOLI CENTRAL CALIFORNIA

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