

# Launch Operation Precautions

August 14, 2024

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

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.

**LORS XLIII**  
TRIPOLI CENTRAL CALIFORNIA

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