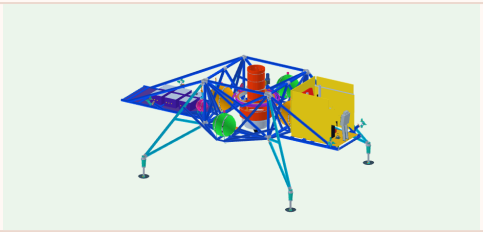
TEXTTOCAD

TEACHING AI TO MAKE THINGS

LLTV R4D.1 · 22 Nov 2026

Speed, headwind and landing

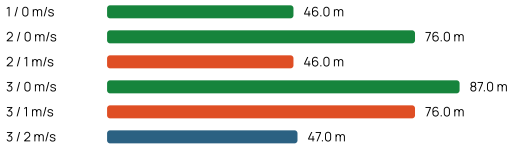
Full modelled loading, 1,768.1 kg. Air and ground speeds are cruise targets. Range is the offset to the landing site. Time is from liftoff to first contact in each branch. Both branches share the same outbound route.



Flight cases

Air target, m/s	Headwind, m/s	Ground target, m/s	Range, m	Normal, s	Go-around, s	3D replay
1	0	1	46.0	76.8	93.8	Normal · Go-around
1	1	0	—	—	—	No forward progress
1	2	−1	—	—	—	No forward progress
2	0	2	76.0	76.8	93.8	Normal · Go-around
2	1	1	46.0	76.8	93.8	Normal · Go-around
2	2	0	—	—	—	No forward progress
3	0	3	87.0	75.8	92.8	Normal · Go-around
3	1	2	76.0	76.8	93.8	Normal · Go-around
3	2	1	47.0	77.7	94.8	Normal · Go-around

Both branches reach the same range to displayed precision. The go-around is above the landing site. A zero or negative target means no forward progress.



Go-around and landing reserve

The go-around is modelled above the same site: 8 s of interrupted descent, 6 s climbing back to 3.5 m center-of-mass height, 3 s to stabilize, then a full descent and landing. First-approach reserve is 120% of that branch's use through shutdown plus 5% of each full liquid load. Pairs are kg in JP / H_2O_2 order.

Air / wind, m/s	First approach, s	At approach	Required with reserve	Added go-around use	Abort clearance, m
1 / 0	68	205.11 / 104.98	20.02 / 102.84	4.09 / 41.98	0.49
2 / 0	68	205.12 / 103.77	20.01 / 102.77	4.08 / 41.95	0.49
2 / 1	68	205.11 / 105.11	20.02 / 102.82	4.09 / 41.96	0.49
3 / 0	67	205.37 / 104.92	20.02 / 102.85	4.09 / 41.98	0.49
3 / 1	68	205.12 / 103.90	20.01 / 102.75	4.08 / 41.93	0.49
3 / 2	69	204.86 / 102.78	20.00 / 102.58	4.08 / 41.85	0.48

Model scope and checks

Wind is steady along the flight line in the free-air portion and blended near the ground. Drag acts at the center of mass with assumed effective CdA of 4.0 m^2 and density of 1.225 kg/m^3. Gusts, aerodynamic moments, obstacles and a horizontal traffic pattern are outside this estimate.

Reserve boundary was bracketed at 1 s. Published trajectories were repeated at a 5 ms integration step. The same R4D.1 CAD and mass ledger were used.

Numbers, checks and SHA-256 · Calculation code