

Apollo 11 Flightplan

These times are from the AMSO/All missions liftoff/Apollo 11 scenario. Check to see that LTMFD has synchronised GET with AMSO. If not, press ACT and set Auto Configure to AMSO/NASSP and press EXE.

When setting LTMFD up for burns, I like to wait until about 1k seconds before the set time before pressing EXE the first time, and then DV and EXE for the autoburn. I also tend to wait until mission control has sent the burn PAD to the astronauts before actually setting up the burn.

These timings are from the audio from following sound packs:

<https://www.orbiter-forum.com/resources/apollo-11-undocking-to-los-soundpack-amso.241/>

<https://www.orbiter-forum.com/resources/apollo-11-tei-to-ei-soundpack-amso.418/>

<https://www.orbiter-forum.com/resources/apollo-11-post-eoi-soundpack-amso.1572/>

<https://www.orbiter-forum.com/resources/apollo-11-entry-soundpack-amso.3968/>

Many thanks to the author mode1bravo for these.

This flightplan was adapted from the original which comes with the AMSO pack found at

<https://www.acsoft.ch/AMSO/amso.html> along with the sound extension pack

<https://www.acsoft.ch/AMSO/AMSO-ExpSndPack-A11-110.zip>

Many thanks to the developers of this amazing addon.

Everything was planned using Lunar Transfer MFD

<https://www.orbiter-forum.com/resources/lunartransfer-mfd-ltmfd.5501/>

Thanks to jarmonik for this wonderful tool.

Event	GET	AMSO Scenario	Purpose
Earth orbit insertion	00:11:50	4	Insertion into 100nm circular Earth parking orbit
Translunar injection	02:44:15	5	Injection into free-return translunar trajectory with 104km pericyynthion. Adjusted from historic 111km to fit timings. LTMFD TLI mod surface; Tig manual; Tgt Tranquillity; PeT 75:54:28; PeA 104km; TOA 102:35:13; Tig 02:44:15
CSM separation	03:15:00	6	Separate CSM from S-IVB
CSM docking	03:20:00	6	Dock with LM. Use VC (F8) docking window
LM ejection	04:16:50	8	Separate CSM-LM from S-IVB
Midcourse correction #2	26:44:14	9	Midcourse corrections #1 & #3 not required. LTMFD Fst TLCC; Tig manual; PeT as above; PeA as above; TOA as above; Tig 26:44:14
Lunar orbit insertion #1	75:49:51	10	Insert Apollo 11 into 104km x 315km lunar orbit. LTMFD mod advanced; ApA 315km; PeA 104km; TrA -8.50° – adjust to get perfect Tig. The vector will move slightly off during the burn, and there will be a large attitude adjustment at the end of the burn. Be sure to let it finish

Event	GET	AMSO Scenario	Purpose
Lunar orbit insertion #2	80:09:30	11	Change lunar parking orbit to 110km circular orbit. Use AMSO autopilot. Only engage after Ap on last orbit before burn e.g. GET 79:50:00. Use orbit MFD REF moon to see orbit details. Sometimes this burn happens a bit early or late
CSM LM undocking	100:09:50	13	Activate LM before undocking! CTRL-D to undock
Descent orbit insertion	101:36:16	14	Lowers LM orbit to 15km x 111km. Use AMSO autopilot. Engage at GET 101:31:16
LM powered descent initiation	102:35:13	15	3 phased descent to bring LM to surface. Engage at PeT 400 (from orbit MFD).
CM align plane	Initiate at 123:00:00	-	The burn will happen later than this, but if you miss it, the LM ascent will need to be put back by an orbit
LM ascent and Rendezvous	Initiate at 124:00:00	18 19 20 21	AMSO autopilot ascent and rendezvous with CSM. There are many automated steps. Let the autopilot continue until the end. During the second to last phase (station phase), switch to CSM and point towards the LM. When the last phase (Pe-docking) finishes, dock to the LM from within the CSM VC. Remember to return to the LM, press J to transfer crew, then back to the CSM
LM jettison	131:53:05	22	J key, not CTRL-D.
Transearth Injection (TEI)	135:23:41	23	LTMFD TEI; Mod reentry; TIg manual; ReT 195:03:06; ReA 6.03 ⁰ ; TIg 135:23:41
Midcourse correction #5	150:29:54	24	Midcourse corrections #6 & #7 not required. LTMFD TECC; TIg manual; ReT as above; ReA as above; TIg 150:29:54; ACT RCS fore
CM/SM separation	194:50:04	27	CM/SM separation. Prep for reentry
Entry Interface	195:05:??	28	You're on your own with this one. I end up near Hawaii (assuming I survive). The AoA autopilot doesn't seem to come up as an option for me.

These parameters seem to work consistently for me, but YMMV. Edit and share as you like, but please credit the people who did the *actual* hard work – the modders and of course Dr. Martin Schwieger.