Supercarrier Pro

Approach and Landing Equipment and Operations

Approach and Recovery Equipment

Fresnel Lens Optical Landing System (FLOLS)

Long Range Lineup System (LRLS)

Instrument Approach & Communications Equipment

Landing Signal Officer (LSO)

Approach and Recovery Operations

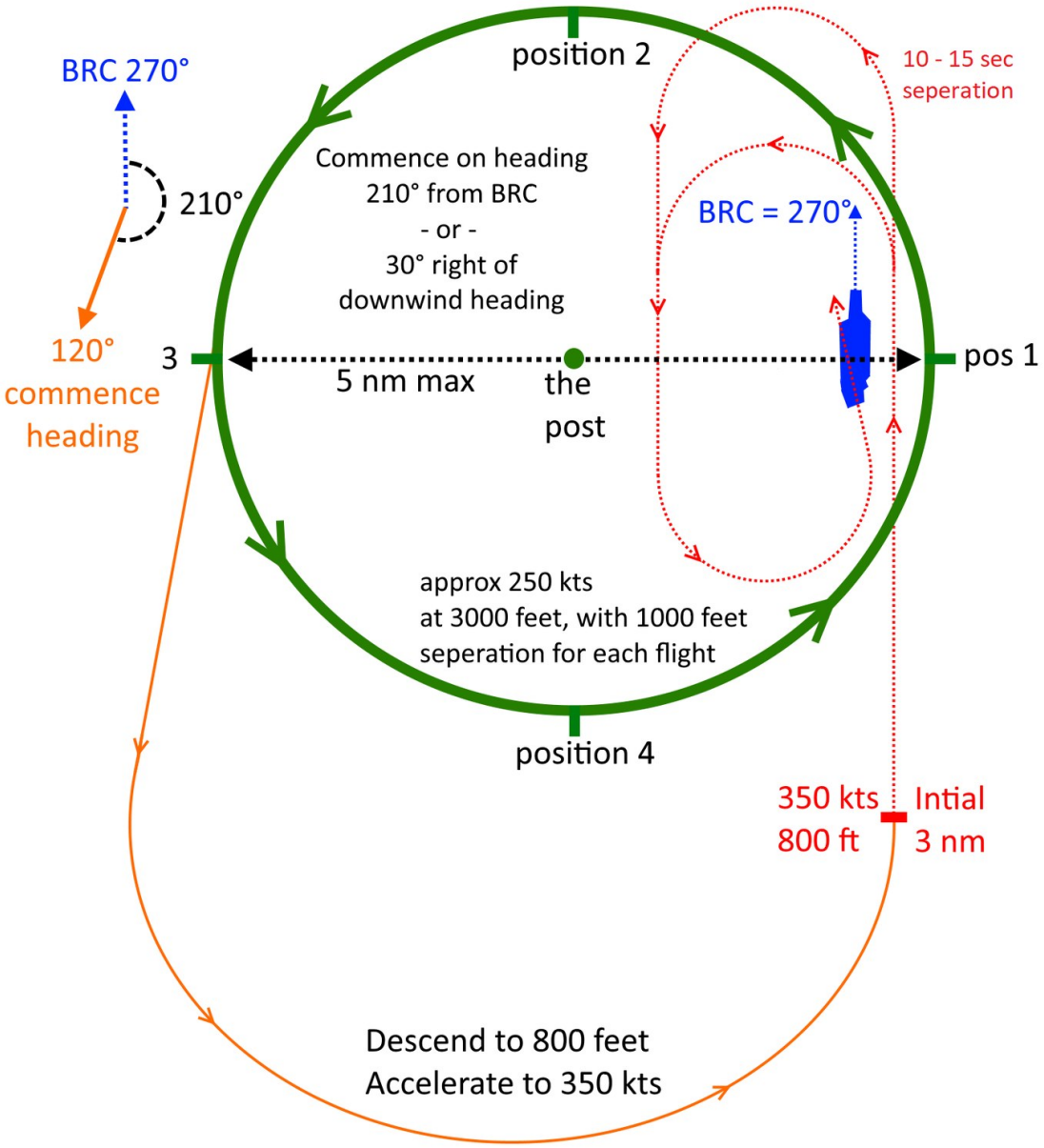
In real-life navy operations, there are multiple cases of recovery operations depending on weather conditions, time of day, formation and traffic. In this guide, we will only go over a "Case I" Recovery Operation.

Detailed explanations on Case II and Case III are available here:
https://en.wikipedia.org/wiki/Modern_United_States_Navy_carrier_air_operations

NATOPS Recovery Operations (Ford Class and Nimitz Class)

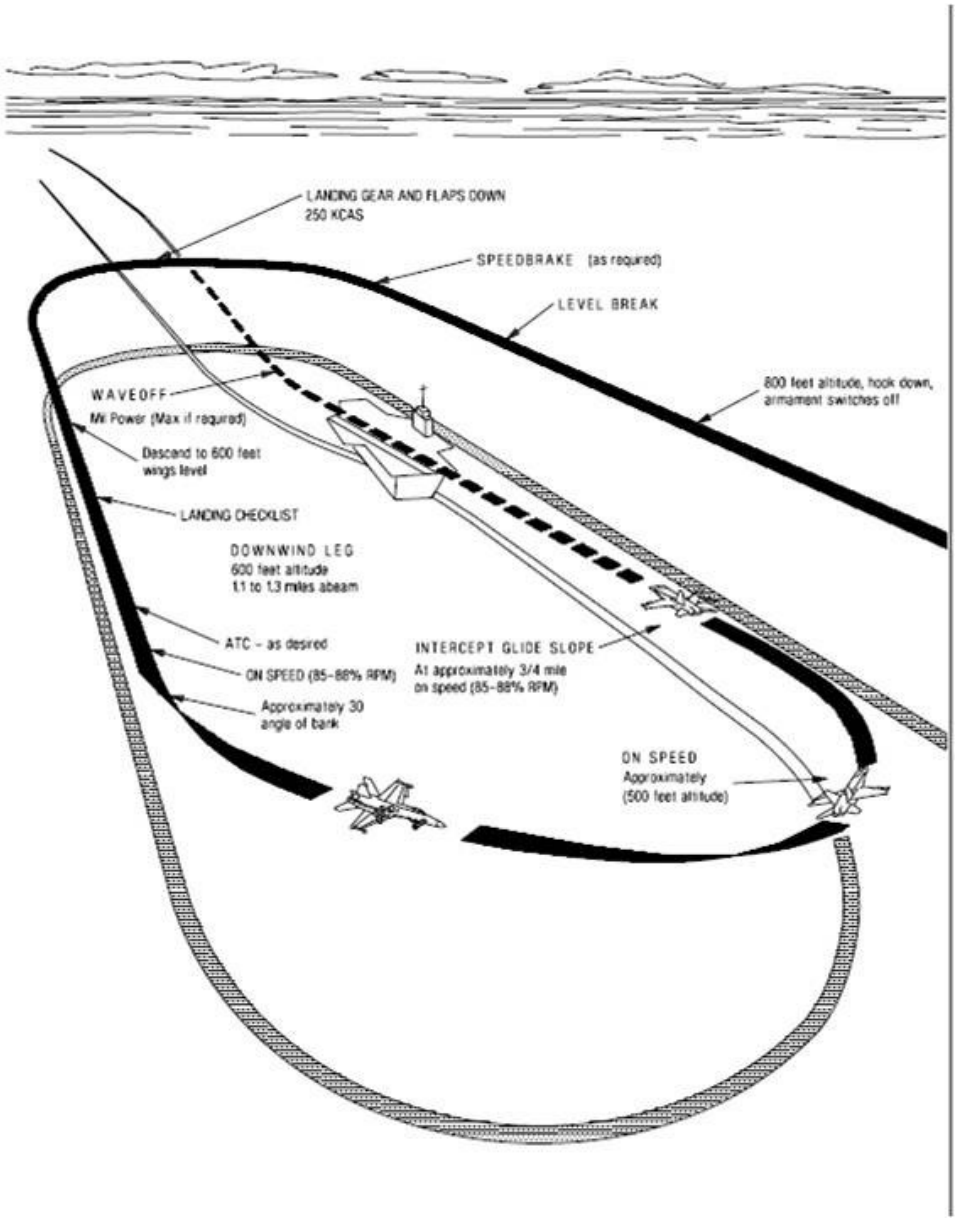
As the Aircraft enters the carrier control area, a 50-nautical-mile radius around the carrier, the aircraft begins preparing for the recovery operation. At 10nm, the aircraft will begin flying the approach as follows:

1. **Prepare for Approach:** Check the weather conditions around you. If you are landing on a static carrier, check the ATIS for wind conditions. If you are landing on a moving carrier, we recommend you align the carrier with the wind using the Miltech Universal Carrier Toolbar
2. **Hold for Traffic on Approach:** form a left-hand circle tangent to the ship's course with the ship in the 3-o'clock position (Green Circle), and a maximum diameter of 5 nautical miles. Minimum holding altitude is 2,000 feet (610 m), with a minimum of 1,000 feet (300 m) vertical separation between holding altitudes.



Case 1 Approach - https://wiki.hoggitworld.com/view/File:Case_1_stack_pattern.png

2. **Break the Deck:** Leave the holding pattern from position 3 (at 9-o'clock from the Carrier). Descend to 800 feet and 350kts before you arrive at the "initial" which is 3 nautical miles (5.6 km; 3.5 mi) astern the ship, paralleling the ship's course. Establish a 60-second separation between other aircraft.
3. **Prepare for Recovery:** Configure the aircraft for landing. Armament switches off, hook down, gear down, flaps and speedbrake as required. Open the Miltech Universal Carrier Toolbar and wait for contact with the LSO. Activate Modern Arrestors (recommended). Turn 180 degrees and position the aircraft flying opposite to the Carrier, along the Port side (downwind Leg).



Case II Approach (Wikipedia)

4. **Prepare for "the Final 90":** The final checkpoint for the pilot is crossing the ship's wake, at which time the aircraft should be approaching final landing heading. Begin turning at approximately 500ft. You must be at roughly 370ft at the end of the turn, and aligned with the centreline.
5. **Follow the Lights:** Your attention must now be focused on keeping proper glideslope, lineup, angle of attack and speed until touchdown. Use the FLOLS and LRLS (we recommend using those on the Supercarrier Toolbar for better visibility) to keep the aircraft aligned.
6. FLOLS: Keep the Ball aligned with green bar.
7. LRLS: Keep solid amber.
8. Angle of Attack: Use your aircraft indicators.
9. Speed: Keep final approach speed (135-140kts on the F/A-18).
10. **Listen to your LSO:** At 0.75nm behind the ship, you enter the "groove". The pilot will automatically report with the LSO with the "BALL" Radiocall. LSO radio calls are automatic and will be heard regardless of which frequency are you on or whether the Supercarrier Toolbar is open or not (unless LSO and Feedback has been deactivated).

11. If at any time the LSO calls for a **Waveoff**, perform a go-around.
12. **Fly the Glideslope:** You will now fly the rest of the approach using the visual indications on the FLOLS and LRLS, and verbal instructions given by the LSO.
13. Line up on landing area centerline is critical because it is only 120 feet in width, and aircraft are often parked within a few feet of either side.
14. Glideslope is also critical as you may miss the cables.
15. Speed is critical as you may come in too fast and the arrestor cables won't brake you in time.
16. And finally, AOA is critical as you may impact the runway with the tailhook first.
17. We recommend you don't look at the runway and instead focus on the other aids. For more information on LSO callouts, Landing Signal Officer (LSO)
18. **Touchdown:** Set power to Full Military Power (MIL) in case a last-minute Waveoff or Bolter occurs, and do not flare - no soft landings on aircraft carriers. If everything goes well, you will catch the wires with the tailhook and the aircraft will come to a full stop. If not, you will either abort the approach and go around (Waveoff) or you will touch down and miss the cables (Bolter).
19. In any of the latter cases, you will re-enter the landing pattern and retry the approach.
20. Time of reaction is critical, especially on a **Bolter -** occurs when the aircraft has not waved off (may have landed correctly) but no cables were caught. Requires that the pilot quickly applies full throttle and performs a go-around.