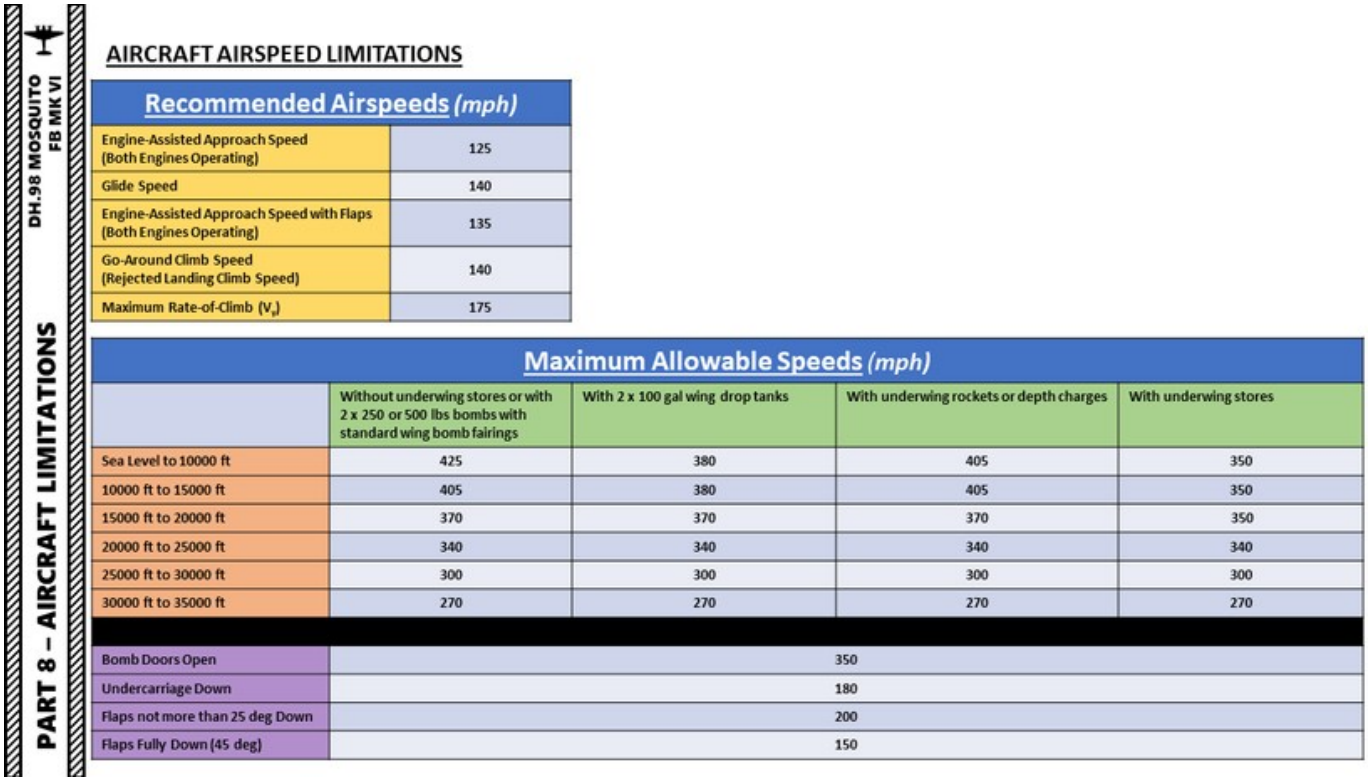
OCT 18, 2021 AT 6:01 AM

Unlocked

Secret Documents #102: Mosquito Guide - Aircraft Limitations & Aerodynamics

Hi folks!

This is a smaller segment regarding speed limitations of the aircraft.



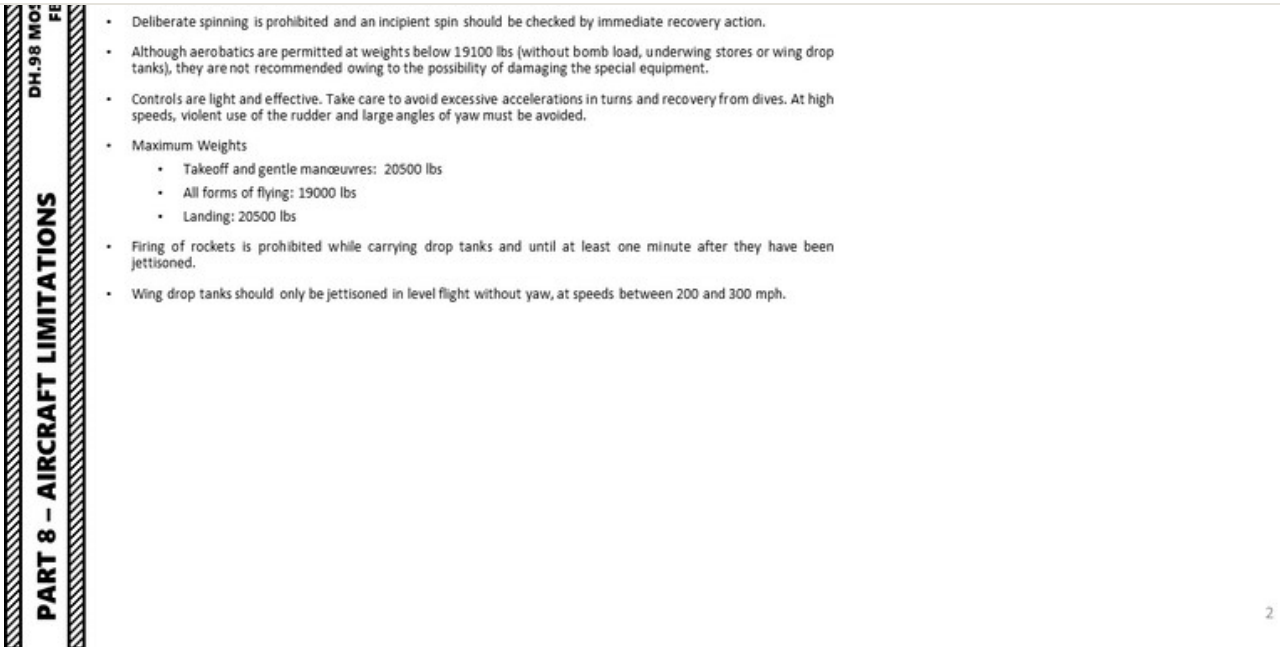
DH.98 MOSQUITO FB MK VI

PART 8 – AIRCRAFT LIMITATIONS

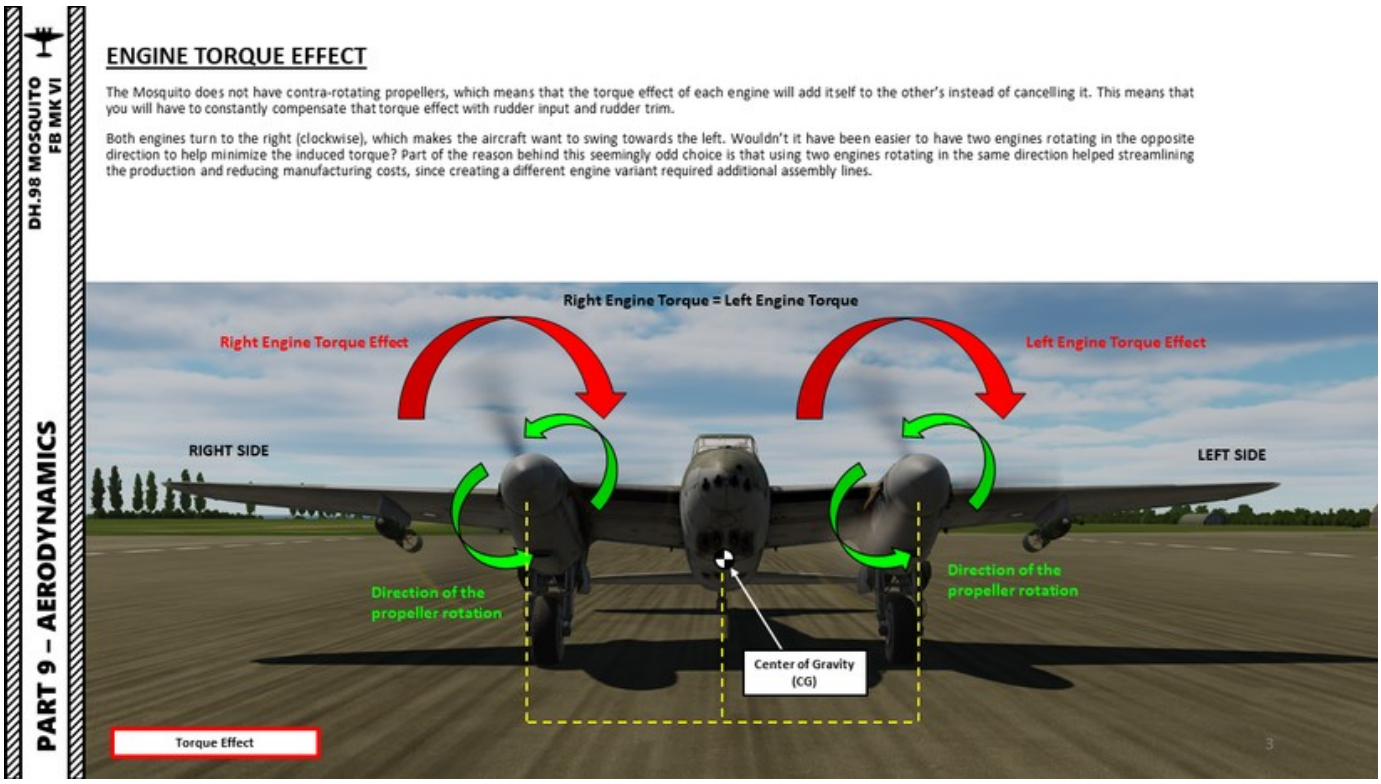
AIRCRAFT AIRSPEED LIMITATIONS

Recommended Airspeeds (mph)	
Engine-Assisted Approach Speed (Both Engines Operating)	125
Glide Speed	140
Engine-Assisted Approach Speed with Flaps (Both Engines Operating)	135
Go-Around Climb Speed (Rejected Landing Climb Speed)	140
Maximum Rate-of-Climb (V_y)	175

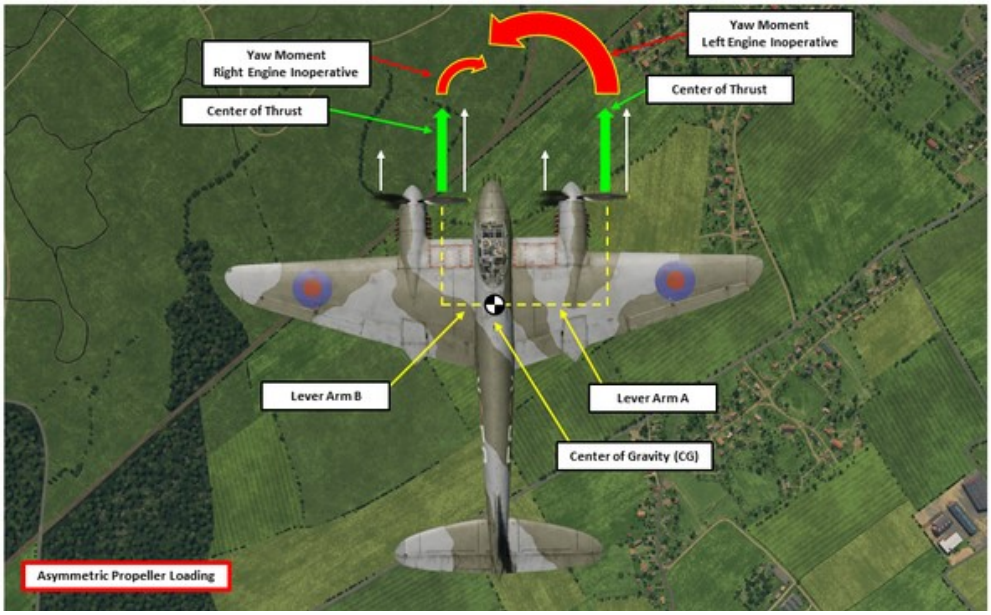
Maximum Allowable Speeds (mph)				
	Without underwing stores or with 2 x 250 or 500 lbs bombs with standard wing bomb fairings	With 2 x 100 gal wing drop tanks	With underwing rockets or depth charges	With underwing stores
Sea Level to 10000 ft	425	380	405	350
10000 ft to 15000 ft	405	380	405	350
15000 ft to 20000 ft	370	370	370	350
20000 ft to 25000 ft	340	340	340	340
25000 ft to 30000 ft	300	300	300	300
30000 ft to 35000 ft	270	270	270	270
Bomb Doors Open	350			
Undercarriage Down	180			
Flaps not more than 25 deg Down	200			
Flaps Fully Down (45 deg)	150			



For fun, I added a few pages on the physics of flying a twin-engine propeller aircraft. Pretty arrows and stuff.



right engine is greater than the corresponding one of the left engine (see figure below). The effects of asymmetric propeller loading are most pronounced when engines are operating at a high power setting and the airplane is flown at high angles of attack (low speeds).

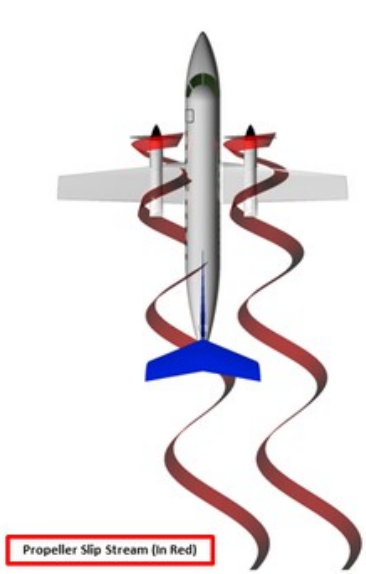


4

PROPELLER SLIPSTREAM EFFECT

Propeller slipstream refers to the accelerated airflow present in the wake of the propellers. As a spinning propeller produces thrust, it also imparts a spin and a lateral displacement to the airflow behind it - referred to as slipstream "swirl" or "spiraling".

If the propellers rotate clockwise (when viewed from the rear), the wake from the left propeller is displaced inboard with the result that the flow immerses the aft portion of the fuselage and tail in slipstream, as illustrated in figure below.



5