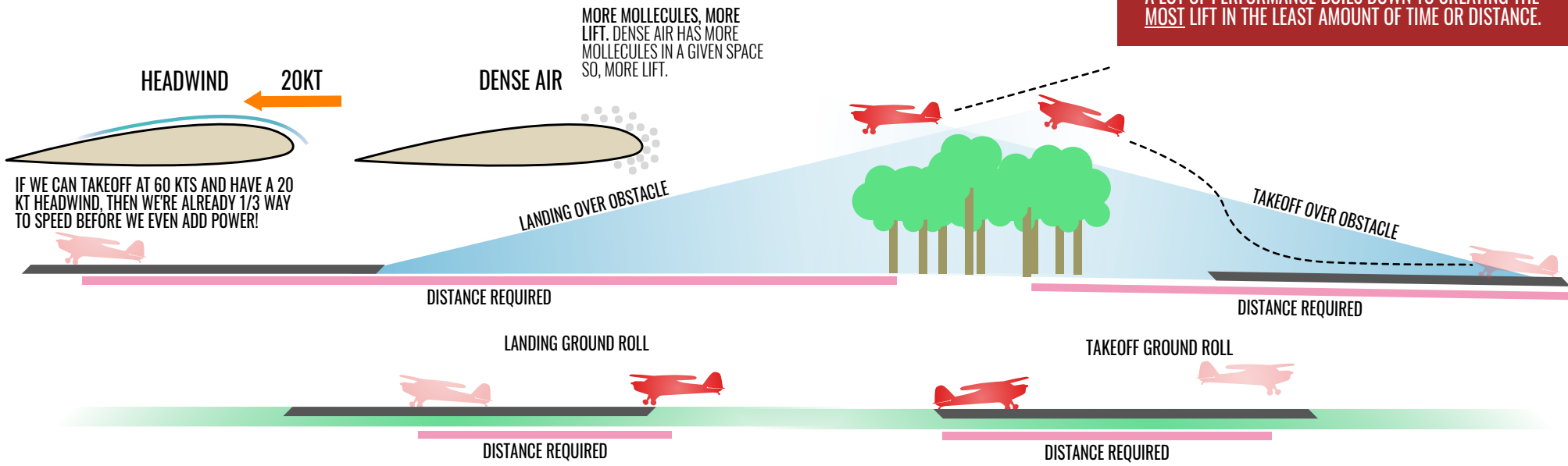


FLIGHT APPRENTICE

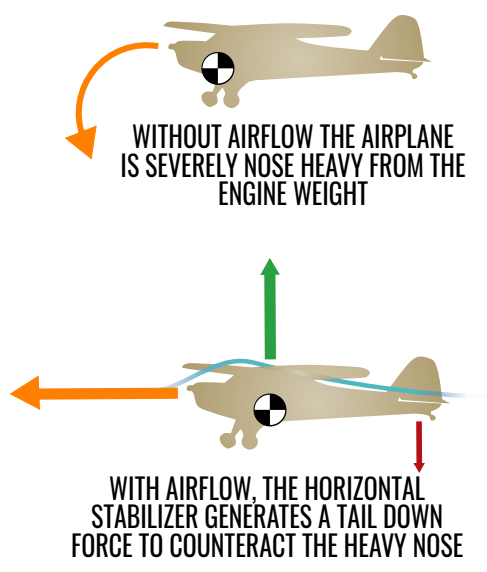
PERFORMANCE

REMEMBER, THE AMOUNT OF LIFT IS DIRECTLY CONNECTED TO THE NUMBER OF AIR MOLECULES PASSING OVER THE WINGS. GENERALLY SPEAKING, MORE AIR, THE MORE LIFT.

A LOT OF PERFORMANCE BOILS DOWN TO CREATING THE MOST LIFT IN THE LEAST AMOUNT OF TIME OR DISTANCE.

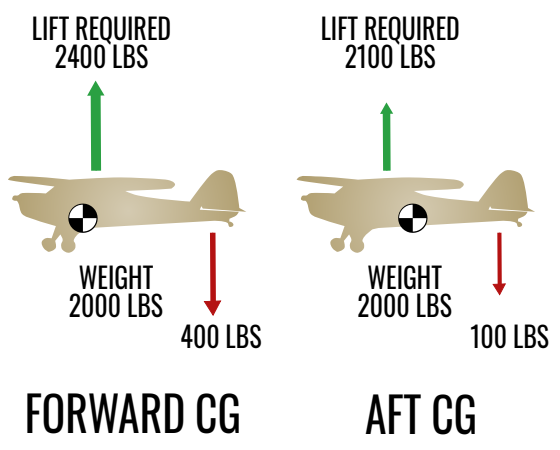


BALANCE AND PERFORMANCE



THIS TAIL DOWN FORCE COUNTERACTS LIFT. IT IS FUNCTIONALLY WEIGHT

THE FURTHER FORWARD THE CG, THE MORE TAIL DOWN FORCE IS REQUIRED TO MAINTAIN STABILITY



BEST TAKEOFF PERFORMANCE

LIGHT AIRCRAFT
STRONG HEADWIND
HIGH AIR DENSITY
CLEAN AIRFRAME
DRY PAVED RUNWAY

BEST CLIMB ANGLE

LIGHT AIRCRAFT
STRONG HEADWIND
HIGH AIR DENSITY
CLEAN AIRFRAME

BEST CRUISE PERFORMANCE

LIGHT AIRCRAFT
STRONG TAILWIND
HIGH AIR DENSITY
CLEAN AIRFRAME

BEST LANDING PERFORMANCE

LIGHT AIRCRAFT
STRONG HEADWIND
HIGH AIR DENSITY
CLEAN AIRFRAME
DRY GRASS RUNWAY

FACTORS THAT DEGRADE PERFORMANCE

1. WEIGHT - A LIGHT AIRPLANE REQUIRES LESS LIFT TO FLY
2. WIND - A HEADWIND REDUCES TAKEOFF AND LANDING DISTANCE
3. AIR DENSITY - COLD, HIGH PRESSURE AIR IS BETTER PERFORMANCE
4. AIRFRAME CONDITION - DIRTY AIRFRAME (ESP. ICE) REDUCES PERF.
5. FIELD CONDITION - ICY, WET, GRASS, DIRT, ETC