

PIPER PERFORMANCE

PA-28-181

EXAMPLE PROBLEM

PRESSURE ALTITUDE: 2000 FT.
TEMPERATURE: 21° C
WIND: 15KTS HEADWIND
GROSS WEIGHT: 2400 LBS

CONSIDERATIONS

PAY ATTENTION TO THE AIRCRAFT CONDITIONS AND NOTES. THIS CHART IS ONLY VALID FOR FLAPS 0, FULL POWER STATIC TAKEOFF ON A LEVEL, DRY RUNWAY. THIS IS PERFORMANCE FOR TAKEOFF OVER A 50' OBSTACLE. A SEPARATE CHART EXISTS FOR GROUND ROLL DISTANCES.

STUDY TECHNIQUE

FOLLOW ALONG WITH THE PRACTICE PROBLEM FIRST. AFTER YOU FEEL COMFORTABLE WITH HOW THE GRAPH WORKS, DO SOME PRACTICE PROBLEMS ON YOUR OWN. IF YOU ARE FLYING A PIPER, OR ANOTHER AIRPLANE WITH CHARTS LIKE THIS, YOU NEED TO BE VERY FAMILIAR WITH THEM. IF YOU FLY AN AIRPLANE WITHOUT THESE CHARTS, BE FAMILIAR ENOUGH TO COMFORTABLY ANSWER QUESTIONS ON YOUR WRITTEN TEST.

FLIGHT APPRENTICE

0° FLAPS TAKEOFF PERFORMANCE

Pressure Altitude: 2000 ft. FULL THROTTLE BEFORE BRAKE RELEASE
 PAVED, LEVEL, DRY RUNWAY

TAKEOFF SPEEDS — KIAS		
WT.-LBS.	LIFT OFF	50 FT.
2550	53	58
2450	51	57
2350	51	56
2250	50	55
2150	49	
2050	48	

DENSITY ALTITUDE

THIS SECTION CALCULATES OUR DENSITY ALTITUDE. START AT 21 AND GO STRAIGHT UP UNTIL THE 2,000 PA LINE IS REACHED.

REMEMBER THAT TEMPERATURE PLUS PRESSURE ALTITUDE IS DENSITY ALTITUDE. IN THIS CASE, THE DENSITY ALTITUDE IS AROUND 3,000'. FROM THE MARKING, MOVE ACROSS TO THE STD TEMP LINE TO FIND YOUR DENSITY ALTITUDE.

WIND

THIS CORRECTS FOR WIND. WITH TAILWIND, THE MARKET GOES UP, WITH HEADWIND IT GOES DOWN

WEIGHT

THIS SECTION CORRECTS FOR VARIOUS WEIGHTS. AS WEIGHT DECREASES, THE MARKER MOVES DOWN, LOWERING THE FINAL TAKEOFF DISTANCE

4. WIND FACTOR

FROM THE VERTICAL REF. LINE, PROCEED EITHER UP OR DOWN UNTIL REACHING YOUR HEADWIND OR TAILWIND VALUE. IN THIS CASE, WE HAVE 15KTS OF HEADWIND. IF WINDS ARE CALM, CONTINUE DIRECTLY ACROSS

3. WEIGHT CORRECTION FROM THE VERTICAL REFERENCE LINE, PROCEED ALONG THE DIAGONAL LINES UNTIL REACHING YOUR TAKEOFF WEIGHT

