

TEMA: 0645 COM-RTC - Aircraft Performance - Chap. 8

COD PREG: PREG20098676 **PREGUNTA:** (Refer to Figure 37) **RPTA:** B

GIVEN:

	WEIGHT	MOMENT
Gyroplane basic weight (oil included)	1,315	154.0
Pilot weight	145	?
Passenger weight	153	?
27 gal fuel	162	?

The CG is located

- OPCION A:** outside the CG envelope; the maximum gross weight is exceeded.
OPCION B: outside the CG envelope; but the maximum gross weight is not exceeded.
OPCION C: within the CG envelope; neither maximum gross weight nor gross-weight moment is exceeded.

PREG20098677 (Refer to Figure 39) **RPTA:** A

GIVEN:

	WEIGHT	ARM (IN)	MOMENT (IN-LBS)
Empty weight.....	1,700	+ 6.0	+10,200
Pilot weight	200	-31.0	?
Oil (8 qt all usable)	?	+ 1.0	?
Fuel (50 gal. all usable)	?	+ 2.0	?
Baggage	30	-31.0	?
TOTALS	?	?	?

If the datum is located at station 0, the CG is located approximately

- OPCION A:** 1.64 inches aft of datum.
OPCION B: 1.64 inches forward of datum
OPCION C: 1.66 inches forward of datum.

PREG20098661 At higher elevation airports the pilot should know that indicated airspeed **RPTA:** A

- OPCION A:** will be unchanged, but groundspeed will be faster.
OPCION B: will be higher, but groundspeed will be unchanged.
OPCION C: should be increased to compensate for the thinner air.

PREG20098662 The performance tables of an aircraft for takeoff and climb are based on **RPTA:** A

- OPCION A:** pressure/density altitude.
OPCION B: cabin altitude
OPCION C: true altitude

PREG20098663 What are the standard temperature and pressure values for sea level? **RPTA:** A

- OPCION A:** 15°C and 29.92" Hg.
OPCION B: 50°F and 1013.2" Hg.

OPCION C: 15°C and 29.92 Mb.

PREG20098664 (Refer to Figure 31). C

If the tower-reported surface wind is 010° at 18 knots, what is the crosswind component for a Rwy 08 landing?

OPCION A: 7 knots.

OPCION B: 15 knots.

OPCION C: 17 knots.

PREG20098665 (Refer to Figure 31). A

The surface wind is 180° at 25 knots. What is the crosswind component for a Rwy 13 landing?

OPCION A: 19 knots.

OPCION B: 21 knots.

OPCION C: 23 knots.

PREG20098667 When computing weight and balance, the empty weight includes the A

weight of the airframe, engine (s), and all items of operating equipment permanently installed. Empty weight also includes

OPCION A: the unusable fuel, full operating fluids, and full oil.

OPCION B: all usable fuel, maximum oil, hydraulic fluid, but does not include the weight of pilot, passengers, or baggage.

OPCION C: all usable fuel and oil, but does not include any radio equipment or instruments that were installed by someone other than the manufacturer.

PREG20098666 (Refer to Figure 31). A

What is the headwind component for a Rwy 13 takeoff if the surface wind is 190° at 15 knots?

OPCION A: 7 knots.

OPCION B: 13 knots.

OPCION C: 15 knots.

PREG20098669 The CG of an aircraft can be determined by which of the following C

methods?

OPCION A: Dividing total arms by total moments.

OPCION B: Multiplying total arms by total weight.

OPCION C: Dividing total moments by total weights.

PREG20098670 The CG of an aircraft may be determined by B

OPCION A: dividing total arms by total moments.

OPCION B: dividing total moments by total weight.

OPCION C: multiplying total weight by total moments.

PREG20098671 GIVEN: B
Weight A: 155 pounds at 45 inches aft of datum
Weight B: 165 pounds at 145 inches aft of datum
Weight C: 95 pounds at 185 inches aft of datum
Based on this information, where would the CG be located aft of datum?

OPCION A: 86.0 inches.
OPCION B: 116.80 inches.
OPCION C: 125.0 inches.

PREG20098672 GIVEN: B
Weight A: 140 pounds at 17 inches aft of datum
Weight B: 120 pounds at 110 inches aft of datum
Weight C: 85 pounds at 210 inches aft of datum
Based on this information, the CG would be located how far aft of datum?

OPCION A: 89.11 inches.
OPCION B: 96.89 inches.
OPCION C: 106.92 inches.

PREG20098673 GIVEN: A
Weight A: 135 pounds at 15 inches aft of datum
Weight B: 205 pounds at 117 inches aft of datum
Weight C: 85 pounds at 195 inches aft of datum
Based on this information, the CG would be located how far aft of datum?

OPCION A: 100.2 inches.
OPCION B: 109.0 inches.
OPCION C: 121.7 inches.

PREG20098674 GIVEN: C
Weight A: 175 pounds at 135 inches aft of datum
Weight B: 135 pounds at 115 inches aft of datum
Weight C: 75 pounds at 85 inches aft of datum
The CG for the combined weights would be located how far aft of datum?

OPCION A: 91.76 inches.
OPCION B: 111.67 inches.
OPCION C: 118.24 inches.

PREG20098668 If all index units are positive when computing weight and balance, the location of the datum would be at the B

OPCION A: centerline of the main wheels.
OPCION B: nose, or out in front of the airplane.
OPCION C: centerline of the nose or tailwheel, depending on the type of airplane.

PREG20098684 (Refer to Figure 41) B
 GIVEN:
 Helicopter gross weight 1,175 lb
 Ambient temperature 95°F
 Determine the in-ground effect hover ceiling.
OPCION A: 5,000 feet.
OPCION B: 5,250 feet.
OPCION C: 6,250 feet.

PREG20098683 (Refer to Figure 41) A
 GIVEN:
 Helicopter gross weight 1,225 lb
 Ambient temperature 77°F
 Determine the in-ground effect hover ceiling.
OPCION A: 6,750 feet.
OPCION B: 7,250 feet.
OPCION C: 8,000 feet.

PREG20098680 A helicopter is loaded in such a manner that the CG is located aft of the C
 aft allowable CG limit. Which is true about this situation?
OPCION A: In case of an autorotation, sufficient aft cyclic control may not be available to flare properly.
OPCION B: This condition would become more hazardous as fuel is consumed, if the main fuel tank is located aft of the rotor mast.
OPCION C: If the helicopter should pitchup due to gusty winds during high-speed flight, there may not be sufficient forward cyclic control available to lower the nose.

PREG20098681 A helicopter is loaded in such a manner that the CG is located forward B
 of the allowable CG limit. Which is true about this situation?
OPCION A: This condition would become less hazardous as fuel is consumed if the main fuel tank is located aft of the rotor mast.
OPCION B: In case of engine failure and the resulting autorotation, sufficient cyclic control may not be available to flare properly to land.
OPCION C: Should the aircraft pitchup during cruise flight due to gusty winds, there may not be enough forward cyclic control available to lower the nose.

PREG20098679 GIVEN: C

	LNG.	LNG.	LAT.	LAT.
	WT	ARM.	MOM.	ARM.
	MOM.	MOM.	MOM.	MOM.
Empty weight	1700	116.1	?	+ 0.2
Fuel (75 gal at 6.8 ppg)	?	110.0	?	---
Oil	12	179.0	?	---
Pilot (right seat)	175	65.0	?	+12.5
Passenger (left seat)	195	104.0	?	-13.3
TOTALS	?	?	?	?

-
- OPCION A:** 109.35" and -.04"
OPCION B: 110.43" and +.02"
OPCION C: 110.83" and -.02"
-

PREG20098682 With respect to using the weight information given in a typical aircraft owner's manual for computing gross weight, it is important toknow that if items have been installed in the aircraft in addition to the original equipment, the A

- OPCION A:** allowable useful load is decreased.
OPCION B: allowable useful load remains unchanged.
OPCION C: maximum allowable gross weight is increased.
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PREG20098685 (Refer to Figure 41) B
GIVEN:
Helicopter gross weight 1,275 lb
Ambient temperature 9°F
Determine the in-ground effect hover ceiling.

- OPCION A:** 6,600 feet.
OPCION B: 7,900 feet.
OPCION C: 8,750 feet
-

PREG20098687 (Refer to Figure 42) A
Departure is planned for a flight from a heliport with a pressure altitude of 3,800 feet. What rate of climb could be expected in this helicopter during departure if the ambient temperature is 70°F?

- OPCION A:** 330 ft/min.
OPCION B: 360 ft/min.
OPCION C: 400 ft/min.
-

PREG20098688 (Refer to Figure 43) B
GIVEN:
Ambient temperature 60°F
Pressure altitude 2,000 ft
What is the rate of climb?

- OPCION A:** 480 ft/min.
OPCION B: 515 ft/min.
OPCION C: 540 ft/min.
-

PREG20098689 (Refer to Figure 43) B
GIVEN:
Ambient temperature 80°F
Pressure altitude 2,500 ft
What is the rate of climb?

- OPCION A:** 350 ft/min.
OPCION B: 395 ft/min.
OPCION C: 420 ft/min.

PREG20098690 (Refer to Figure 44) C
GIVEN:
Ambient temperature 40°F
Pressure altitude 1,000 ft
What is the rate of climb?
OPCION A: 810 ft/min.
OPCION B: 830 ft/min.
OPCION C: 860 ft/min.

PREG20098691 (Refer to Figure 44) A
GIVEN:
Ambient temperature 60°F
Pressure altitude 2,500 ft
What is the rate of climb?
OPCION A: 705 ft/min.
OPCION B: 630 ft/min.
OPCION C: 755 ft/min.

PREG20098692 (Refer to Figures 45 and 46) A
GIVEN:
Pressure altitude 4,000 ft
Ambient temperature 80°F
To clear a 50-foot obstacle, a jump takeoff would require
OPCION A: more distance than a running takeoff.
OPCION B: less distance than a running takeoff.
OPCION C: the same distance as a running takeoff.

PREG20098693 (Refer to Figures 45 and 46) C
GIVEN:
Pressure altitude 4,000 ft
Ambient temperature 80°F
The takeoff distance to clear a 50-foot obstacle is
OPCION A: 1,225 feet for a jump takeoff.
OPCION B: 1,440 feet for a running takeoff.
OPCION C: less for a running takeoff than for a jump takeoff.

PREG20098686 (Refer to Figure 42) B
Departure is planned from a heliport that has a reported pressure altitude of 4,100 feet. What rate of climb could be expected in this helicopter if the ambient temperature is 90°F?
OPCION A: 210 ft/min.
OPCION B: 250 ft/min.
OPCION C: 390 ft/min.

PREG20098678 (Refer to Figure 40.) A

GIVEN:
Basic weight (oil is included) 830 lb
Basic weight moment (1,000/in-lb) 104.8
Pilot weight 175 lb
Passenger weight 160 lb
Fuel 19.2 gal
The CG is located

- OPCION A:** well aft of the aft CG limit.
- OPCION B:** within the CG envelope.
- OPCION C:** forward of the forward CG limit

PREG20098675 (Refer to Figure 37) C

GIVEN:	WEIGHT	MOMENT
Gyroplane basic weight (oil included)	1,315	150.1
Pilot weight	140	?
Passenger weight	150	?
27 gal fuel	162	?

The CG is located

- OPCION A:** outside the CG envelope; the maximum gross weight is exceeded.
- OPCION B:** outside the CG envelope; the maximum gross weight and the gross-weight moment are exceeded.
- OPCION C:** within the CG envelope; neither maximum gross weight nor gross-weight moment is exceeded.