T E M A: 0160 COMMERCIAL PILOT - (CH. 8) AIRCRAFT PERFORMANCE

COD_PREG:	P R E G U N T A:	RPTA:
5164	Baggage weighing 90 pounds is placed in a normal category airplane's baggage compartment which is placarded at 100 pounds. If this airplane is subjected to a positive load factor of 3.5Gs, the total load of the baggage would be	B
OPCION A:	315 pounds and would be excessive.	
OPCION B:	315 pounds and would not be excessive.	
OPCION C:	350 pounds and would not be excessive.	
5208	At higher elevation airports the pilot should know that indicated airspeed	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.	
5234	The performance tables of an aircraft for takeoff and climb are based on	A
OPCION A:	pressure/density altitude.	
OPCION B:	cabin altitude.	
OPCION C:	true altitude.	
5300	What effect, if any, would a change in ambient temperature or air density have on gas turbine engine performance?	C
OPCION A:	As air density decreases, thrust increases.	
OPCION B:	As temperature increases, thrust increases.	
OPCION C:	As temperature increases, thrust decreases.	
5302	What is the standard temperature at 10,000 feet?	A
OPCION A:	-5°C.	
OPCION B:	-15°C.	
OPCION C:	+5°C.	
5303	What is the standard temperature at 20,000 feet?	C
OPCION A:	-15°C.	
OPCION B:	-20°C.	
OPCION C:	-25°C.	
5305	What are the standard temperature and pressure values for sea level?	A
OPCION A:	15°C and 29.92" Hg.	
OPCION B:	59°F and 1013.2" Hg.	
OPCION C:	15°C and 29.92 Mb.	
5451	Ref Fig. 8 GIVEN: Fuel Quantity ..... 47 gal Power-cruise (lean) ..... 55 percent Approximately how much flight time would be available with a night VFR fuel reserve remaining?	B
OPCION A:	3 hours 8 minutes.	
OPCION B:	3 hours 22 minutes.	
OPCION C:	3 hours 43 minutes.	

5452 Ref. Fig. 8 B

GIVEN:

Fuel Quantity ..... 65 gal
Best power (level flight) ..... 55 percent

Approximately how much flight time would be available with a day VFR fuel reserve remaining?

OPCION A: 4 hours 17 minutes.
OPCION B: 4 hours 30 minutes.
OPCION C: 5 hours 4 minutes.

5453 Ref. Fig. 8 C

Approximately how much fuel would be consumed when climbing at 75 percent power for 7 minutes?

OPCION A: 1.82 gallons.
OPCION B: 1.97 gallons.
OPCION C: 2.15 gallons.

5454 Fig. 8 B

Determine the amount of fuel consumed during takeoff and climb at 70 percent power for 10 minutes.

OPCION A: 2.66 gallons.
OPCION B: 2.88 gallons.
OPCION C: 3.2 gallons.

5455 Ref. Fig. 8 A

With 38 gallons of fuel aboard at cruise power (55 percent), how much flight time is available with night VFR fuel reserve still remaining?

OPCION A: 2 hours 34 minutes.
OPCION B: 2 hours 49 minutes.
OPCION C: 3 hours 18 minutes.

5456 Ref. Fig. 9 C

Using a normal climb, how much fuel would be used from engine start to 12,000 feet pressure altitude?

Aircraft weight ..... 3,800 lb
Airport pressure altitude ..... 4,000 ft
Temperature ..... 26°C

OPCION A: 46 pounds.
OPCION B: 51 pounds.
OPCION C: 58 pounds.

5457 Ref. Fig. 9 C

Using a normal climb, how much fuel would be used from engine start to 10,000 feet pressure altitude?

Aircraft weight ..... 3,500 lb
Airport pressure altitude ..... 4,000 ft
Temperature ..... 21°C

OPCION A: 23 pounds.
OPCION B: 31 pounds.
OPCION C: 35 pounds.

5458 Ref. Fig. 10 C

Using a maximum rate of climb, how much fuel would be used from engine start to 6,000 feet pressure altitude?

Aircraft weight ..... 3,200 lb
Airport pressure altitude ..... 2,000 ft
Temperature ..... 27°C

OPCION A: 10 pounds.
OPCION B: 14 pounds.
OPCION C: 24 pounds.

5459 Ref. Fig. 10 C

Using a maximum rate of climb, how much fuel would be used from engine start to 10,000 feet pressure altitude?

Aircraft weight ..... 3,800 lb
Airport pressure altitude ..... 4,000 ft
Temperature ..... 30°C

OPCION A: 28 pounds.
OPCION B: 35 pounds.
OPCION C: 40 pounds.

5460 Ref. Fig. 11 C

If the cruise altitude is 7,500 feet, using 64 percent power at 2,500 RPM, what would be the range with 48 gallons of usable fuel?

OPCION A: 635 miles.
OPCION B: 645 miles.
OPCION C: 810 miles.

5461 Ref. Fig. 11 B

What would be the endurance at an altitude of 7,500 feet, using 52 percent power?

NOTE: (With 48 gallons fuel-no reserve.)

OPCION A: 6.1 hours.
OPCION B: 7.7 hours.
OPCION C: 8.0 hours.

5462 What would be the approximate true airspeed and fuel consumption per hour at an altitude of 7,500 feet, using 52 percent power? B

OPCION A: 103 MPH TAS, 7.7 GPH.
OPCION B: 105 MPH TAS, 6.2 GPH.
OPCION C: 105 MPH TAS, 6.6 GPH.

5463 Ref Fig. 12 B

GIVEN:

Pressure altitude ..... 18,000 ft
Temperature ..... -21°C
Power ..... 2,400 RPM - 28" MP
Recommended lean mixture usable fuel ..... 425 lb

What is the approximate flight time available under the given conditions? (Allow for VFR day fuel reserve.)

OPCION A: 3 hours 46 minutes.
OPCION B: 4 hours 1 minute.
OPCION C: 4 hours 31 minutes.

5464 Ref. Fig. 12 A

GIVEN:

Pressure altitude ..... 18,000 ft
Temperature ..... -41°C
Power ..... 2,500 RPM - 26" MP
Recommended lean mixture usable fuel ..... 318 lb

What is the approximate flight time available under the given conditions? (Allow for VFR night fuel reserve.)

OPCION A: 2 hours 27 minutes.
OPCION B: 3 hours 12 minutes.
OPCION C: 3 hours 42 minutes.

5465 Ref. Fig. 12 C
GIVEN:

Pressure altitude ..... 18,000 ft
Temperature ..... -1°C
Power ..... 2,200 RPM - 20" MP
Best fuel economy..... 344 lb

What is the approximate flight time available under the given conditions? (Allow for VFR day fuel reserve.)

OPCION A: 4 hours 50 minutes.
OPCION B: 5 hours 20 minutes.
OPCION C: 5 hours 59 minutes.

5482 Ref. Fig. 13 A
GIVEN:

Aircraft weight ..... 3,400 lb
Airport pressure altitude ..... 6,000 ft
Temperature at 6,000 feet ..... 10°C

Using a maximum rate of climb under the given conditions, how much fuel would be used from engine start to a pressure altitude of 16,000 feet?

OPCION A: 43 pounds.
OPCION B: 45 pounds.
OPCION C: 49 pounds.

5483 Ref. Fig. 13 B
GIVEN:

Aircraft weight ..... 4,000 lb
Airport pressure altitude ..... 2,000 ft
Temperature at 2,000 feet ..... 32°C

Using a maximum rate of climb under the given conditions, how much time would be required to climb to a pressure altitude of 8,000 feet?

OPCION A: 7 minutes.
OPCION B: 8.4 minutes.
OPCION C: 11.2 minutes.

5484 Ref. Fig. 14 C
GIVEN:

Aircraft weight ..... 3,700 lb
Airport pressure altitude ..... 4,000 ft
Temperature at 4,000 feet ..... 21°C

Using a normal climb under the given conditions, how much fuel would be used from engine start to a pressure altitude of 12,000 feet?

OPCION A: 30 pounds.
OPCION B: 37 pounds.
OPCION C: 46 pounds.

5485 Ref. Fig. 14 C
GIVEN:

Weight ..... 3,400 lb
Airport pressure altitude ..... 4,000 ft
Temperature at 4,000 feet ..... 14°C

Using a normal climb under the given conditions, how much time would be required to climb to a pressure altitude of 8,000 feet?
OPCION A: 4.8 minutes.
OPCION B: 5 minutes.
OPCION C: 5.5 minutes.

5486 Ref. Fig. 15 B
GIVEN:

Airport pressure altitude ..... 4,000 ft
Airport temperature ..... 12°C
Cruise pressure altitude ..... 9,000 ft
Cruise temperature ..... -4°C

What will be the distance required to climb to cruise altitude under the given conditions?
OPCION A: 6 miles.
OPCION B: 8.5 miles.
OPCION C: 11 miles.

5487 Ref. Fig. 15GIVEN: A

Airport pressure altitude ..... 2,000 ft
Airport temperature ..... 20°C
Cruise pressure altitude ..... 10,000 ft
Cruise temperature ..... 0°C

What will be the fuel, time, and distance required to climb to cruise altitude under the given conditions?
OPCION A: 5 gallons, 9 minutes, 13 NM.
OPCION B: 6 gallons, 11 minutes, 16 NM.
OPCION C: 7 gallons, 12 minutes, 18 NM.

5503 When diverting to an alternate airport because of an emergency, pilots should C
OPCION A: rely upon radio as the primary method of navigation.
OPCION B: climb to a higher altitude because it will be easier to identify checkpoints.
OPCION C: apply rule-of-thumb computations, estimates, and other appropriate shortcuts to divert to the new course as soon as possible.

5614 What effect does an uphill runway slope have on takeoff performance? B
OPCION A: Increases takeoff speed.
OPCION B: Increases takeoff distance.
OPCION C: Decreases takeoff distance.

5615 Ref. Fig. 31 A
Rwy 30 is being used for landing. Which surface wind would exceed the airplane's crosswind capability of 0.2 Vso, if Vso is 60 knots?
OPCION A: 260° at 20 knots.
OPCION B: 275° at 25 knots.
OPCION C: 315° at 35 knots.

5616 Ref. Fig. 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.

5617 Ref. Fig. 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.

5618 Ref. Fig. 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.

5619 Ref. Fig. 32 C
GIVEN:

Temperature ..... 75°F
Pressure Altitude ..... 6,000 ft
Weight ..... 2,900 lb
Headwind ..... 20 kts

To safely take off over a 50-foot obstacle in 1,000 feet, what weight reduction is necessary?
OPCION A: 50 pounds.
OPCION B: 100 pounds.
OPCION C: 300 pounds.

5620 Ref. Fig. 32 A
GIVEN:

Temperature ..... 50°F
Pressure Altitude 2,000
Weight ..... 2,700 lb
Wind ..... Calm

What is the total takeoff distance over a 50-foot obstacle?
OPCION A: 800 feet.
OPCION B: 650 feet.
OPCION C: 1,050 feet.

5621 Ref. Fig. 32 B
GIVEN:

Temperature ..... 100°F
Pressure Altitude ..... 4,000 ft
Weight ..... 3,200 lb
Wind ..... Calm

What is the ground roll required for takeoff over a 50-foot obstacle?
OPCION A: 1,180 feet.
OPCION B: 1,350 feet.
OPCION C: 1,850 feet.

5622 Ref. Fig. 32 C

GIVEN:

Temperature ..... 30°F
Pressure Altitude ..... 6,000 ft
Weight ..... 3,300 lb
Headwind ..... 20 kts

What is the total takeoff distance over a 50-foot obstacle?

OPCION A: 1,100 feet.
OPCION B: 1,300 feet.
OPCION C: 1,500 feet.

5623 Ref. Fig. 33 B

GIVEN:

Weight ..... 4,000 lb
Pressure altitude ..... 5,000 ft
Temperature ..... 30°C

What is the maximum rate of climb under the given conditions?

OPCION A: 665 ft/min.
OPCION B: 702 ft/min.
OPCION C: 774 ft/min.

5624 Ref. Fig. 33 C

GIVEN:

Weight ..... 3,700 lb
Pressure altitude ..... 22,000 ft
Temperature ..... -10°C

What is the maximum rate of climb under the given conditions?

OPCION A: 305 ft/min.
OPCION B: 320 ft/min.
OPCION C: 384 ft/min.

5625 Ref. Fig. 34 B

GIVEN:

Weight ..... 6,000 lb
Temperature ..... +3°C
Power ..... 2,200 RPM - 22" MP
Usable fuel available ..... 465 lb

What is the maximum available flight time under the conditions stated?

OPCION A: 6 hours 27 minutes.
OPCION B: 6 hours 39 minutes.
OPCION C: 6 hours 56 minutes.

5626 Ref. Fig. 34 B
GIVEN:

Pressure altitude ..... 6,000 ft
Temperature ..... -17°C
Power ..... 2,300 RPM - 23" MP
Usable fuel available ..... 370 lb

What is the maximum available flight time under the conditions stated?
OPCION A: 4 hours 20 minutes.
OPCION B: 4 hours 30 minutes.
OPCION C: 4 hours 50 minutes.

5627 Ref. Fig. 34 C
GIVEN:

Pressure altitude ..... 6,000 ft
Temperature ..... +13°C
Power ..... 2,500 RPM - 23" MP
Usable fuel available ..... 460 lb

What is the maximum available flight time under the conditions stated?
OPCION A: 4 hours 58 minutes.
OPCION B: 5 hours 7 minutes.
OPCION C: 5 hours 12 minutes.

5628 Ref. Fig. 35 A
GIVEN:

Temperature ..... 70°F
Pressure Altitude ..... Sea level
Weight ..... 3,400 lb
Headwind ..... 16 kts

Determine the approximate ground roll.
OPCION A: 689 feet.
OPCION B: 716 feet.
OPCION C: 1,275 feet.

5629 Ref. Fig. 35GIVEN: A

Temperature ..... 85°F
Pressure Altitude ..... 6,000 ft
Weight ..... 2,800 lb
Headwind ..... 14 kts

Determine the approximate ground roll.
OPCION A: 742 feet.
OPCION B: 1,280 feet.
OPCION C: 1,480 feet.

5631 Ref. Fig. 35 — A

GIVEN:

Temperature ..... 80°F
Pressure Altitude ..... 4,000 ft
Weight ..... 2,800 lb
Headwind ..... 24 kts

What is the total landing distance over a 50-foot obstacle?

OPCION A: 1,125 feet.
OPCION B: 1,250 feet.
OPCION C: 1,325 feet.

5632 When computing weight and balance, the empty weight includes the weight of the airframe, engine(s), and all items of operating equipment permanently installed. Empty weight also includes — A

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.

5633 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.

5634 The CG of an aircraft can be determined by which of the following methods? — C

OPCION A: Dividing total arms by total moments.
OPCION B: Multiplying total arms by total weights.
OPCION C: Dividing total moments by total weight.

5635 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.

5636 GIVEN: — B

Weight A: 155 pounds at 45 inches aft of datum
Weight B: 165 pounds at 145 inches aft of datum
Weight A: 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: 116.8 inches.
OPCION C: 125.0 inches.

5637 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 fat aft of datum?

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

5638 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 fat aft of datum?
OPCION A: 100.2 inches.
OPCION B: 109.0 inches.
OPCION C: 121.7 inches.

5639 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.

5646 GIVEN: A

Total weight ..... 4,137 lb
CG location station 67.8
Fuel consumption ..... 13.7 GPH
Fuel CG station 68.0

After 1 hour 30 minutes of flight time, the CG would be located at station
OPCION A: 67.79.
OPCION B: 68.79.
OPCION C: 70.78.

5647 An aircraft is loaded with a ramp weight of 3,650 pounds and having a CG of 94.0, approximately how much baggage would have to be moved from the rear baggage area at station 180 to the forward baggage area at station 40 in order to move the CG to 92.0? A
OPCION A: 52.14 pounds.
OPCION B: 62.24 pounds.
OPCION C: 78.14 pounds.

5648 An airplane is loaded to a gross weight of 4,800 pounds, with three pieces of luggage in the rear baggage compartment. The CG is located 98 inches aft of datum, which is 1 inch aft of limits. If luggage which weighs 90 is moved from the rear baggage compartment (145 inches aft of datum) to the front compartment (45 inches aft of datum), what is the new CG? A
OPCION A: 96.13 inches aft of datum.
OPCION B: 95.50 inches aft of datum.
OPCION C: 99.87 inches aft of datum.

5649 GIVEN: A

Total weight ..... 3,037 lb
CG location station 68.8
Fuel consumption ..... 12.7 GPH
Fuel CG station 68.0

After 1 hour 45 minutes of flight time, the CG would be located at station
OPCION A: 68.77.
OPCION B: 68.83.
OPCION C: 69.77.

5650 Ref. Fig. 38 A
GIVEN:

Empty weight (oil is included) ..... 1,271 lb
Empty weight moment (in-lb/1,000) 102.04
Pilot and copilot ..... 400 lb
Rear seat passenger ..... 140 lb
Cargo ..... 100 lb
Fuel ..... 37 gal

Is the airplane loaded within limits?
OPCION A: Yes, the weight and CG is within limits.
OPCION B: No, the weight exceeds the maximum allowable.
OPCION C: No, th weight acceptable, but the CG is aft of the aft limit.

5651 Ref. Fig. 38 A
GIVEN:

Empty weight (oil is included) ..... 1,271 lb
Empty weight moment (in-lb/1,000) 102.04
Pilot and copilot ..... 260 lb
Rear seat passenger ..... 120 lb
Cargo ..... 60 lb
Fuel ..... 37 gal

Under these conditions, the CG is determined to be located
OPCION A: within the CG envelope.
OPCION B: on the forward limit of the CG envelope.
OPCION C: within the shaded area of the CG envelope.

5652 Ref. Fig. 38 A
GIVEN:

Empty weight (oil is included) ..... 1,271 lb
Empty weight moment (in-lb/1,000) 102.04
Pilot and copilot ..... 360 lb
Cargo ..... 340 lb
Fuel ..... 37 gal

Will the CG remain within limits after 30 gallons of fuel has been used in flight?
OPCION A: Yes, the CG will remain within limits.
OPCION B: No, the CG will be located aft of the aft CG limit.
OPCION C: Yes, but the CG will be located in the shaded area of the CG envelope.

5655 Who has the final authority to accept or decline any land and hold short (LAHSO)clearence A
OPCION A: Pilot in command
OPCION B: ATC Tower control
OPCION C: Airplane owner operator

5661 With regard to the technique required for a crosswind correction on takeoff, a pilot should use C
OPCION A: aileron pressure into the wind and initiate the lift-off at a normal airspeed in both tailwheel- and nose-wheel-type airplanes-
OPCION B: right rudder pressure, aileron pressure into the wind, and higher than normal lift-off airspeed in both tricycle- and conventional-gear airplanes.
OPCION C: rudder as required to maintain directional control, aileron pressure into the wind, and higher than normal lift-off airspeed in both conventional- and nosewheel-type airplanes.

5662	When turbulence is encountered during the approach to a landing, what action is recommended and for what primary reason?	A
OPCION A:	Increase the airspeed slightly above normal approach speed to attain more positive control.	
OPCION B:	Decrease the airspeed slightly below normal approach speed to avoid overstressing the airplane.	
OPCION C:	Increase the airspeed slightly above normal approach speed to penetrate the turbulence as quickly as possible.	
5663	A pilot's most immediate and vital concern in the event of complete engine failure after becoming airborne on takeoff is	A
OPCION A:	maintaining a safe airspeed.	
OPCION B:	landing directly into the wind.	
OPCION C:	turning back to the takeoff field.	
5664	Which type of approach and landing is recommended during gusty wind conditions?	A
OPCION A:	A power-on approach and power-on landing.	
OPCION B:	A power-off approach and power-on landing.	
OPCION C:	A power-on approach and power-off landing.	
5665	A proper crosswind landing on a runway requires that, at the moment of touchdown, the	B
OPCION A:	direction of motion of the airplane and its lateral axis be perpendicular to the runway.	
OPCION B:	direction of motion of the airplane and its longitudinal axis be parallel to the runway.	
OPCION C:	downwind wing be lowered sufficiently to eliminate the tendency for the airplane to drift.	