

(A55) CPL直昇機飛航原理

最近更新日期：無；更新題號：無

原始題號:0014962 題組:0 難易度:易

- (A) 1. 空氣之運動影響航空器在____之運動速度。
(A)在地表上空。(B)在空氣中。(C)在轉彎中。

原始題號:0014963 題組:0 難易度:易

- (B) 2. 向上坡面跑道起飛對航空器性能之影響為何?
(A)增加起飛速度。(B)增加起飛距離。(C)縮短起飛距離。

原始題號:0014964 題組:0 難易度:易

- (A) 3. 為避免漏失重要步驟，應經常使用
(A)適當之檢查手冊。(B)空速表標示說明。(C)適航證明。

原始題號:0014965 題組:0 難易度:易

- (A) 4. 爬升性能依據
(A)備用動力或推力。(B)最大升/阻比。(C)巡航動力設定。

原始題號:0014966 題組:0 難易度:易

- (C) 5. 列舉航空器運動四個基本動作
(A)動力、俯仰、傾斜、及配平。(B)推力、升力、轉彎、及滑翔。(C)平直飛行、轉彎、爬升、與下滑。

原始題號:0014967 題組:0 難易度:易

- (B) 6. 翼型失速時，攻角將如何
(A)如重心前移，則攻角增加。(B)不論總重為何，均維持不變。(C)總重增加時，攻角改變。

原始題號:0014968 題組:0 難易度:易

- (A) 7. 造成每次失速的直接原因為
(A)攻角超量。(B)密度高度超量。(C)垂直上升率超量。

原始題號:0014969 題組:0 難易度:易

- (A) 8. 起飛性能最關鍵的狀況為大載重、高高度、高溫度，及____的綜合結果。
(A)不利之風向 (B)跑道週邊的障礙物 (C)動力系

原始題號:0014970 題組:0 難易度:易

- (B) 9. 何為絕對高度?
(A)直接讀自高度表之高度。(B)航空器距離地表之垂直距離。(C)標準海平面以上之高度。

原始題號:0014971 題組:0 難易度:易

- (B) 10. 何為密度高度?
(A)標準海平面以上之高度。(B)修正非標準溫度後之壓力高度。(C)直接讀自高度表之高度。

原始題號:0014972 題組:0 難易度:易

- (A) 11. 密度高度，影響航空器落地性能，定義為
(A)壓力高度與大氣溫度。(B)逆風與落地重量。(C)溼度與煞車磨擦係數。

原始題號:0014973 題組:0 難易度:易

(B) 12. 相較於低密度高度，高密度高度如何及為何影響螺旋槳效率？

(A)因螺旋槳摩擦阻力減小，故效率增加。(B)因螺旋槳在高密度高度所產生的力較低密度高度少，故效率降低。(C)因螺旋槳在較稀薄空氣中需增加動力，故效率降低。

原始題號:0014974 題組:0 難易度:易

(B) 13. 高溼度對航空器性能有何影響？

(A)會提升性能。(B)會降低性能。(C)無影響。

原始題號:0014975 題組:0 難易度:易

(A) 14. 海平面的標準溫度與壓力值為何？

(A)15°C，29.92" Hg。(B)59°C，1013.2毫米巴。(C)59°F，29.92毫米巴。

原始題號:0014976 題組:0 難易度:易

(B) 15. 高密度高度對航空器性能有何影響？

(A)增加航空器性能。(B)減少爬升性能。(C)增加起飛性能。

原始題號:0014977 題組:0 難易度:中

(C) 16. 哪種混合大氣狀況會降低航空器起飛與爬升性能？

(A)低溫、低相對溼度、及低密度高度。(B)高溫、低相對溼度、及低密度高度。(C)高溫、高相對溼度、及高密度高度。

原始題號:0014978 題組:0 難易度:易

(B) 17. 何種因素將會使一特定機場密度高度增加？

(A)大氣壓力上升。(B)周圍溫度上升。(C)相對溼度減低。

原始題號:0014979 題組:0 難易度:易

(A) 18. 航空器平直飛行時，升力、阻力、推力、與重力間之關係為何？

(A)升力等於重力，且推力等於阻力。(B)升力、阻力與重力等於推力。(C)升力與重力，等於推力與阻力。

原始題號:0014980 題組:0 難易度:易

(A) 19. 爬升性能靠

(A)備用動力或推力。(B)最大升/阻比。(C)巡航動力設定。

原始題號:0014981 題組:0 難易度:中

(B) 20. 關於地面效應，飛行員必須注意什麼？

(A)翼尖渦流變大造成離場與到場航空器的機尾亂流問題 (B)誘導阻力變小，故在減速點之任何額外空速將造成浮動。(C)全失速落地時使用水平安定面量，要比無地面效應的全失速落地量少。

原始題號:0014982 題組:0 難易度:易

(B) 21. 一架航空器具有穩定特性，則

(A)難以失速。(B)較易控制。(C)不會旋轉。

原始題號:0014983 題組:0 難易度:易

(A) 22. 最大續航力可藉由最小動力以維持航空器之

(A)穩定、平飛。(B)長距離下降。(C)在其可能之最低指示空速。

原始題號:0014984 題組:0 難易度:中

- (B) 23. 當航程與航務經濟為主要目的時，必須確認航空器將於建議之_____狀況下作業。
(A)特定續航力 (B)長程巡航性能 (C)等值空速

原始題號:0014985 題組:0 難易度:易

- (B) 24. 介於機翼弦線與相對風之夾角稱為
(A)升力角。 (B)攻角。 (C)傾角。

原始題號:0014986 題組:0 難易度:易

- (A) 25. 攻角定義為介於機翼弦線與_____間之夾角。
(A)相對風方向 (B)機翼之俯仰角 (C)旋翼之旋轉面

原始題號:0014987 題組:0 難易度:易

- (C) 26. 哪一個陳述與柏努力定律有關?
(A)每一個作用力都有一個相等且相反之反作用力。 (B)額外的升力是由機翼下表面空氣向下偏離所產生 (C)空氣行經機翼上曲線表面速度較快，造成上表面氣壓較低。

原始題號:0014988 題組:0 難易度:易

- (A) 27. 飛行中作用於航空器的力為
(A)升力、重力、推力與阻力。 (B)升力、重力、引力與推力。 (C)升力、引力、動力與摩擦力。

原始題號:0014989 題組:0 難易度:中

- (B) 28. 哪一個結果產生地面效應現象?
(A)每一個旋翼片的誘導攻角增加。 (B)升力向量變的更水平。 (C)攻角所產生的升力增加。

原始題號:0014990 題組:1 難易度:中

- (C) 29. (參考圖1)飛行於地面效應時應避免之空速範圍是
(如圖A55_Fig1)
(A)25-40哩/時。 (B)25-27哩/時。 (C)40哩/時(含)以上。

題目圖：

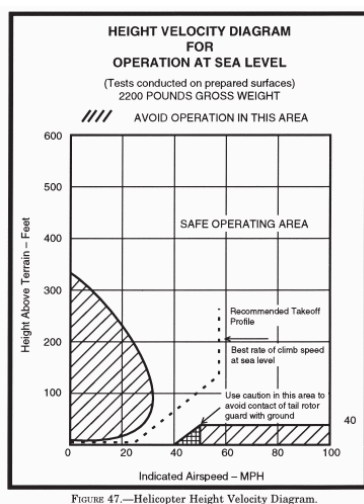
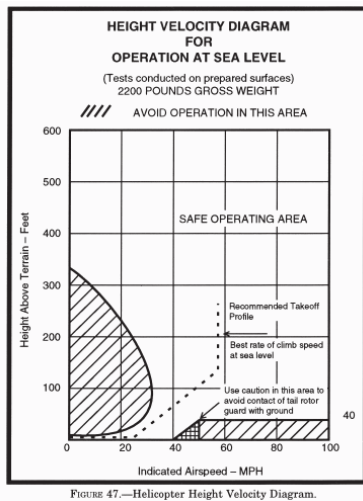


FIGURE 47.—Helicopter Height Velocity Diagram.

原始題號:0014991 題組:2 難易度:中

- (C) 30. (參考圖1)下列哪一種直昇機作業空速/高度狀況之結合應予避免?
(如圖A55_Fig1)
(A)30 MPH/200呎AGL。 (B)50 MPH/300呎AGL。 (C)60 MPH/20呎AGL。

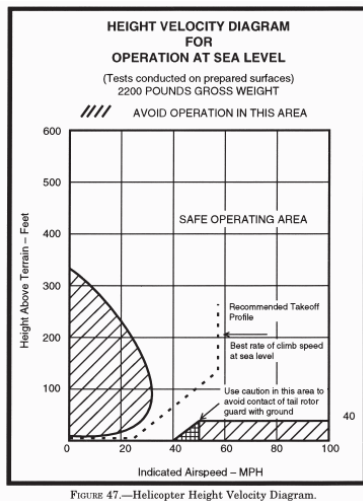
題目圖：



原始題號:0014993 題組:4 難易度:中

- (A) 31. (參考圖1)下列哪一種直昇機作業空速/高度狀況之結合應予避免?
(如圖A55_Fig1)
(A)20 MPH/200呎AGL。 (B)35 MPH/175呎AGL。 (C)40 MPH/75呎AGL。

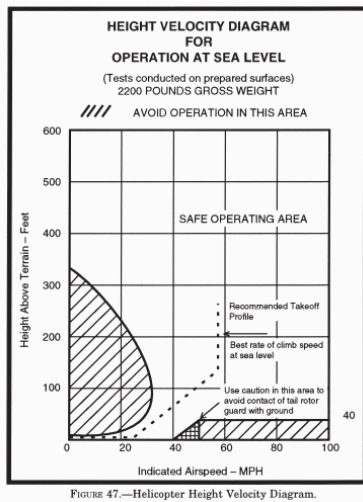
題目圖：



原始題號:0014994 題組:5 難易度:中

- (C) 32. (參考圖1)直昇機最佳爬升率空速為何?
(如圖A55_Fig1)
(A)24 MPH。 (B)40 MPH。 (C)57 MPH。

題目圖：



原始題號:0014995 題組:0 難易度:易

- (A) 33. 在大型航空器後方落地時，應遵守哪一程序以避免渦流。
(A)維持在五邊下滑道之上，直到落地。(B)維持在五邊下滑道之下及一側。(C)維持在五邊下滑道之下，並落在前一機落地點至少2,000呎之後。

原始題號:0014996 題組:0 難易度:易

- (C) 34. 機尾亂流之渦流如何環繞翼尖?
(A)向內、向上、並環繞各個翼尖。(B)向內、向上、及反時針。(C)向外、向上、並環繞各個翼尖。

原始題號:0014997 題組:0 難易度:易

- (C) 35. 翼尖渦流僅在航空器_____時發生。
(A)高空速操作 (B)大載重 (C)產生升力

原始題號:0014998 題組:0 難易度:易

- (C) 36. 最大的渦流強度發生在航空器_____時。
(A)小載重、機身表面不潔及空速大 (B)大載重、機身表面不潔及空速大 (C)大載重、機身表面清潔及空速小

原始題號:0014999 題組:0 難易度:易

- (A) 37. 大型航空器產生之翼尖渦流將
(A)下沉至航空器下方形成亂流。(B)上升進入航線。(C)上升至跑道起飛或下滑道間。

原始題號:0015000 題組:0 難易度:易

- (A) 38. 落地期間需要極注意避免機尾亂流的風為
(A)弱前側風。(B)弱後側風。(C)強頂頭風。

原始題號:0015001 題組:0 難易度:易

- (A) 39. 在大型航空器落地後落地的小型航空器，飛行員應保持在_____以避免機尾亂流。
(A)大型航空器進場下滑道上方，並且落在大型航空器落地點前方。(B)大型航空器進場下滑道下方，並且落在大型航空器落地點後方。(C)大型航空器進場下滑道上方，並且落在大型航空器落地點後方。

原始題號:0015002 題組:0 難易度:易

- (B) 40. 在使用一大型航空器起飛後之跑道離場，飛行員應將航空器_____以避免機尾亂流。
(A)飛在大型航空器起飛航道下方，並選擇順風起飛。(B)飛在大型航空器起飛航道上
方，並選擇逆風起飛。(C)飛在大型航空器起飛航道下方，並選擇逆風起飛。

原始題號:0015003 題組:0 難易度:易

- (C) 41. 若一特定高度之大氣溫度(OAT)比標準溫度高，則密度高度
(A)等於壓力高度。(B)低於壓力高度。(C)高於壓力高度。

原始題號:0015004 題組:1 難易度:中

- (C) 42. (參照圖2)決定這些狀況的密度高度： 高度標撥訂值：29.95，跑道溫度：+81°F，機
場標高：5,250呎MSL。
(如圖A55_Fig2)
(A)4,600呎MSL。(B)5,877呎MSL。(C)8,500呎MSL。

題目圖：

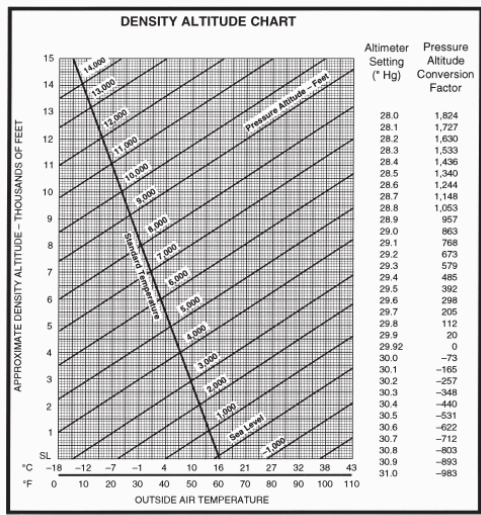


FIGURE 8.—Density Altitude Chart.

原始題號:0015005 題組:2 難易度:中

- (A) 43. (參照圖2)決定機場壓力高度，其機場標高：3,563呎MSL，高度標撥訂值：29.96。
(如圖A55_Fig2)
(A)3,527 呎MSL。 (B)3,556呎MSL。 (C)3,639呎MSL。

題目圖：

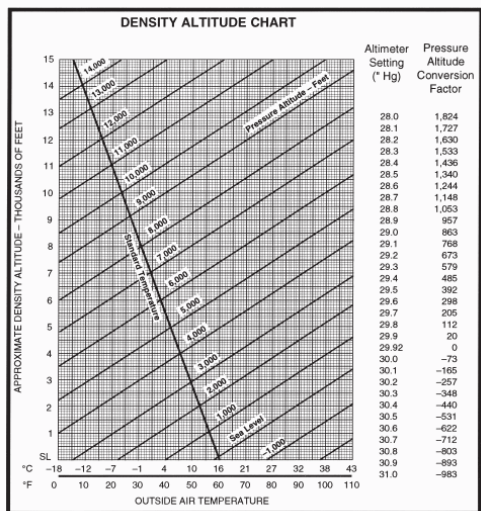


FIGURE 8.—Density Altitude Chart.

原始題號:0015006 題組:3 難易度:中

- (A) 44. (參照圖2)決定這些狀況的密度高度：高度標撥訂值：30.35，跑道溫度：+25°F，機場標高：3,894呎MSL。
(如圖A55_Fig2)
(A)2,000呎MSL。 (B)2,900呎MSL。 (C)3,500呎MSL。

題目圖：

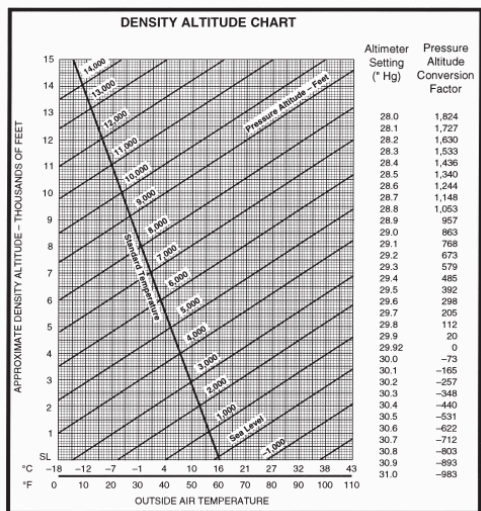
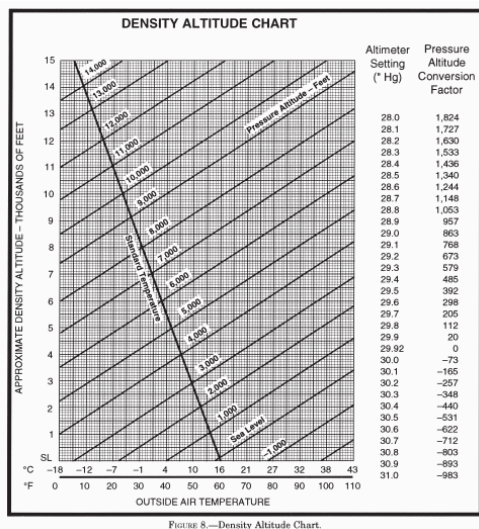


FIGURE 8.—Density Altitude Chart.

原始題號:0015007 題組:4 難易度:中

- (C) 45. (參照圖2)在溫度90°F下降至55°F及壓力高度1,250呎上升至1,750呎時，密度高度變化為何？
(如圖A55_Fig2)
(A)1,700呎上升 (B)1,300呎下降 (C)1,700呎下降

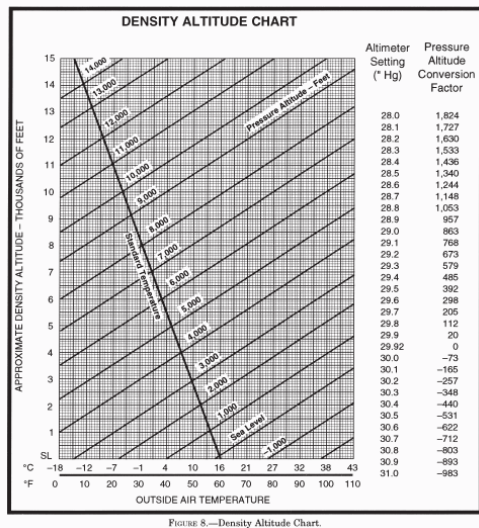
題目圖：



原始題號:0015008 題組:5 難易度:中

- (C) 46. (參照圖2)假設壓力高度維持在5,000呎，溫度自25°F上升至50°F時之密度高度變化為何
(如圖A55_Fig2)
(A)1,200呎上升。 (B)1,400呎上升。 (C)1,650呎上升。

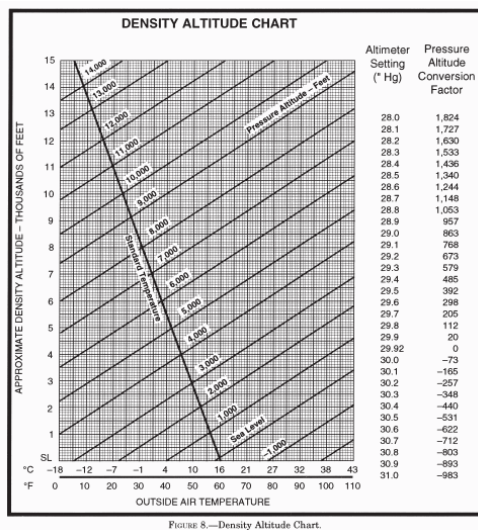
題目圖：



原始題號:0015009 題組:6 難易度:中

- (A) 47. (參照圖2)決定指示高度為1,380呎MSL，高度表撥定值為28.82，及標準溫度之壓力高度。
(如圖A55_Fig2)
(A)2,991呎MSL. (B)2,913呎MSL. (C)3,013呎MSL.

題目圖：



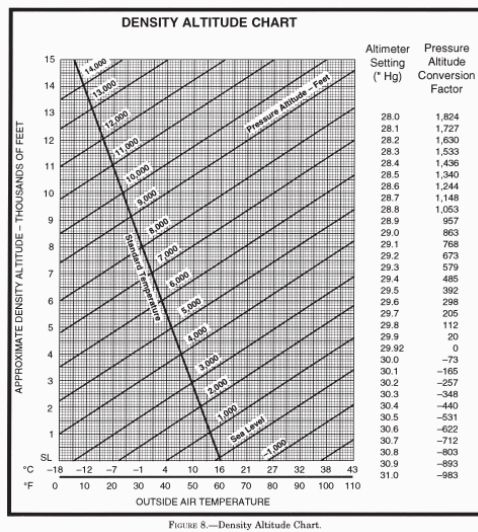
原始題號:0015010 題組:7 難易度:中

(C) 48. (參照圖2)若壓力高度維持於3,000呎MSL，溫度自30°F上升至50°F時，其密度高度之影響為何？

(如圖A55_Fig2)

(A)900呎 增加。 (B)1,100呎增加。 (C)1,300呎增加。

題目圖：



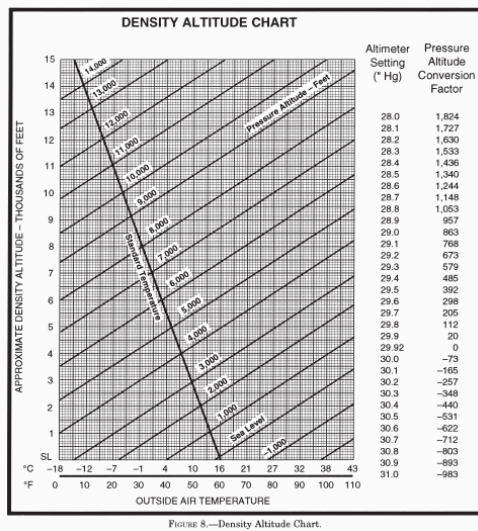
原始題號:0015011 題組:8 難易度:中

(A) 49. (參照圖2)決定一機場之壓力高度，其標高為1,386呎，高度表撥定值為29.97。

(如圖A55_Fig2)

(A)1,341呎MSL。 (B)1,45呎MSL。 (C)1,562呎MSL。

題目圖：



原始題號:0015012 題組:0 難易度:易

(A) 50. 海平面的標準溫度壓力值為何?

(A)15°C與29.92"水銀柱高。(B)59°C與1013.2毫米巴。(C)59°F與29.92毫米巴。

原始題號:0015013 題組:0 難易度:易

(B) 51. 在一特定機場增加密度高度的因素為何?

(A)大氣壓力上升。(B)大氣溫度上升。(C)相對溼度下降。

原始題號:0015014 題組:0 難易度:易

(C) 52. 哪些大氣狀況之混合，將降低航空器起飛與爬升之性能?

(A)低溫、低相對溼度、與低密度高度。(B)高溫、低相對溼度、與低密度高度。(C)高溫、高相對溼度、與高密度高度。

原始題號:0015015 題組:0 難易度:易

(B) 53. 高密度高度對航空器性能有何影響?

(A)增加引擎性能。(B)降低爬升性能。(C)增加起飛性能。

原始題號:0015016 題組:0 難易度:易

(B) 54. 高溼度對航空器性能之影響為何?

(A)增加性能。(B)降低性能。(C)無影響。

原始題號:0015017 題組:0 難易度:易

(B) 55. 相較於低密度高度，高密度高度對螺旋槳效率之影響為何?

(A)由於螺旋槳之磨擦力減少，故效率增加。(B)由於螺旋槳在高密度高度較低密度高度輸出力少，故效率降低。(C)由於螺旋槳在較稀薄空氣中需要增大功率，故效率降低。

原始題號:0015018 題組:1 難易度:中

(B) 56. (參照圖3)壓力高度為1,250呎，逆風8浬，溫度為標準溫度，決定落地滾行概略距離。(如圖A55_Fig3)

(A)275呎。(B)366呎。(C)470呎。

題目圖：

LANDING DISTANCE						FLAPS LOWERED TO 40° - POWER OFF HARD SURFACE RUNWAY - ZERO WIND			
GROSS WEIGHT LB	APPROACH SPEED, IAS, MPH	AT SEA LEVEL & 59°F		AT 2500 FT & 50°F		AT 5000 FT & 41°F		AT 7500 FT & 32°F	
		GROUND ROLL	TOTAL TO CLEAR 50 FT OBS	GROUND ROLL	TOTAL TO CLEAR 50 FT OBS	GROUND ROLL	TOTAL TO CLEAR 50 FT OBS	GROUND ROLL	TOTAL TO CLEAR 50 FT OBS
1600	60	445	1075	470	1135	495	1195	520	1255

NOTES: 1. Decrease the distances shown by 10% for each 4 knots of headwind.
2. Increase the distance by 10% for each 60°F temperature increase above standard.
3. For operation on a dry, grass runway, increase distances (both "ground roll" and "total to clear 50 ft obstacle") by 20% of the "total to clear 50 ft obstacle" figure.

FIGURE 39.—Airplane Landing Distance Table.

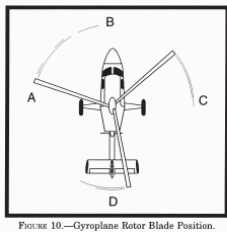
原始題號:0015019 題組:1 難易度:中

(A) 57. (參照圖4)飛行時，用迴旋桿壓力，導致旋翼片之A點變距角增加至最大，則旋翼之旋轉面將傾向

(如圖A55_Fig4)

(A)前。(B)後。(C)左。

題目圖：



原始題號:0015020 題組:0 難易度:易

- (B) 58. 存在於主旋翼之前進旋翼與後退旋翼間之升力差稱作
(A)橫流效應。(B)升力不均。(C)頂位失衡趨勢。

原始題號:0015021 題組:0 難易度:易

- (C) 59. 在固定之空速與高度巡航期間，相較於其他旋翼片，個別旋翼片之作用為
(A)後退旋翼片升力增加。(B)前進旋翼片減少攻角。(C)不同速度、不同攻角、而升力相同。

原始題號:0015022 題組:0 難易度:易

- (A) 60. 旋翼片向上彎曲是由於升力與離心力之結合，稱為
(A)倒錐。(B)旋翼片撲動。(C)慣性。

原始題號:0015023 題組:0 難易度:易

- (B) 61. 當旋翼片撲動向上時，重心移向靠近旋轉軸心，使旋翼片有何趨勢？
(A)減速。(B)加速。(C)旋轉速度穩定。

原始題號:0015024 題組:0 難易度:易

- (C) 62. 滯空期間，直昇機有向右側滑趨勢。為彌補此現象，某些直昇機具有
(A)尾旋翼傾向左。(B)尾旋翼傾向右。(C)主承桿向左調校。

原始題號:0015025 題組:0 難易度:易

- (B) 63. 傳導升力是下列何者之結果？
(A)旋翼效率降低。(B)空速。(C)空速與地速兩者。

原始題號:0015026 題組:0 難易度:易

- (C) 64. 尾旋翼系統之主要功能為
(A)協助完成協調轉彎。(B)向前飛行時維持航向。(C)反制主旋翼之扭力效應。

原始題號:0015027 題組:0 難易度:易

- (B) 65. 若RPM低而歧管壓力高，初期改正動作為何？
(A)增加油門。(B)降低集體變距桿。(C)提高集體變距桿。

原始題號:0015028 題組:0 難易度:易

- (A) 66. 在三片主旋翼片、全關節式直昇機旋翼系統上之阻力銷目的，是在補償
(A)柯氏力效應。(B)倒椎。(C)幾何不平衡。

原始題號:0015029 題組:0 難易度:易

- (B) 67. 高速飛行，特別是在亂流中飛行應予避免，主要是因為可能產生
(A)突然之旋翼面上揚。(B)後退旋翼失速。(C)低頻震動。

原始題號:0015030 題組:0 難易度:易

- (A) 68. 直昇機最大前進速度受限於
(A)後退旋翼失速。(B)旋翼RPM紅線。(C)容積比例。

原始題號:0015031 題組:0 難易度:易

- (C) 69. 直昇機高速向前飛行時，後退旋翼失速較易發生於
(A)低載重與低密度高度。(B)高RPM與低密度高度。(C)亂流中大坡度轉彎。

原始題號:0015032 題組:0 難易度:易

- (B) 70. 地面共振最可能發生於
(A)在地面且共振再主尾旋翼間發展。(B)一連串之撞擊導致旋翼系統失衡。(C)前進旋翼之攻角減小，及後退旋翼之攻角增大兩者混合。

原始題號:0015033 題組:0 難易度:易

- (C) 71. 直昇機平飛巡航時，飛行員遭遇低頻震動(每分鐘100-400循環)。這些震動通常與何有關?
(A)引擎。(B)冷卻風扇。(C)主旋翼。

原始題號:0015034 題組:0 難易度:易

- (A) 72. 可能導致直昇機中頻震動之組件為何?
(A)尾旋翼。(B)主旋翼。(C)引擎。

原始題號:0015035 題組:0 難易度:易

- (C) 73. 避免在高度v. s. 速度曲線圖之陰影區域操作之主要原因是
(A)接近地面之亂流能降低旋翼減震器功能。(B)如引擎失效，在接觸地面前旋翼RPM可能下降。(C)如引擎失效，將無足夠之空速使安全落地。

原始題號:0015036 題組:0 難易度:易

- (B) 74. 地面滑行期間，集體變距用來控制
(A)向前運動。(B)航向。(C)地跡。

原始題號:0015037 題組:0 難易度:易

- (C) 75. 地面滑行期間，迴旋操縱桿用來控制
(A)前進運動。(B)航向。(C)地跡。

原始題號:0015038 題組:0 難易度:易

- (B) 76. 如飛行員遭遇地面共振，且旋翼RPM不足以飛行，則應
(A)油門全開並離地。(B)使用旋翼煞車並儘快停止旋翼轉動。(C)企圖以當時動力起飛。

原始題號:0015039 題組:0 難易度:易

- (B) 77. 靜風狀況下，哪一個飛行操作需要最大動力?
(A)滯空右轉。(B)滯空左轉。(C)無地面效應滯空。

原始題號:0015040 題組:0 難易度:易

- (B) 78. 如飛行員以空速近乎零、近乎垂直進場方式進入閉塞區，可能發生哪種危險狀況?
(A)直昇機接觸地面時，可能發生地面共振。(B)動力下沉狀況。(C)可能發生旋翼片失速震動。

原始題號:0015041 題組:0 難易度:易

- (B) 79. 如落地期間發生反扭力失效，落地前應如何處置以改正機頭左偏現象?
(A)應將空速減至零速，並實施垂直下降落地。(B)在落地前應使用可用之油門將機頭甩向右。(C)應使用滾行落地。

原始題號:0015042 題組:0 難易度:易

(C) 80. 在高溫期間飛行，應使用何種飛行技巧？

(A)飛行全程使用最小之RPM及最大之歧管壓力。(B)滯空左轉期間維持最小之引擎RPM，滯空右轉期間維持最大之引擎RPM。(C)起飛期間，柔和加速向前飛行。

原始題號:0015043 題組:0 難易度:易

(A) 81. 在何種狀況下，直升機飛行員應考慮使用滾行起飛？

(A)當載重或密度高度無法使直昇機在正常高度滯空時。(B)當正常爬升速度建立於10與20呎間時。(C)當額外空速能迅速轉換為高度時。

原始題號:0015044 題組:0 難易度:易

(C) 82. 如於空中發生引擎失效時，飛行員應如何處置？

(A)提集體變距桿時，油門全開。(B)轉彎期間減少迴旋操縱桿向後之壓力。(C)視需要降低集體變距桿，以維持旋翼RPM。

原始題號:0015045 題組:0 難易度:易

(B) 83. 自轉下滑期間應注意事項為何？

(A)通常空速是由集體變距桿控制。(B)通常只用迴旋控制桿控制轉彎。(C)在零空速時，勿使下降率太小。

原始題號:0015046 題組:0 難易度:易

(C) 84. 操作急停之適當動作為

(A)迴旋操縱桿向前，降低集體變距桿。(B)迴旋操縱桿向後，提起集體變距桿。(C)迴旋操縱桿向後，降低集體變距桿。

原始題號:0015047 題組:0 難易度:易

(C) 85. 斜坡地落地程序為何？

(A)下坡邊滑橈接觸地面時，維持集體變距桿不變。(B)直到直昇機之所有重量都落在滑橈前，應維持最低RPM。(C)與斜坡平行時，在降低下坡邊之滑橈前，先緩慢降低上坡邊之滑橈至地面。

原始題號:0015048 題組:0 難易度:易

(B) 86. 斜坡地起飛通常為

(A)迴旋操縱桿向下坡邊方向移動。(B)在直昇機完全離地前，將直昇機帶至水平姿態。(C)直昇機在水平姿態時，將迴旋操縱桿完全向上移動。

原始題號:0015049 題組:0 難易度:易

(B) 87. 閉塞區操作應採取何適當措施？

(A)起飛與落地必須對正風。(B)應在閉塞區上空之飛行路徑選取適當迫降場。(C)應使用大角度進場落至選定之落地點。

原始題號:0015050 題組:0 難易度:中

(A) 88. 於閉塞區起飛時，應採用何種起飛方式為宜？

(A)自滯空正常起飛。(B)垂直起飛。(C)自地面正常起飛。

原始題號:0015051 題組:0 難易度:中

(C) 89. 下列何者為正確之峰頂與山脊線操作？

(A)起飛時獲得高度比獲得空速重要。(B)進場至山脊線之航道通常垂直於山脊。(C)爬升至峰頂或山脊線應在上風邊實施。

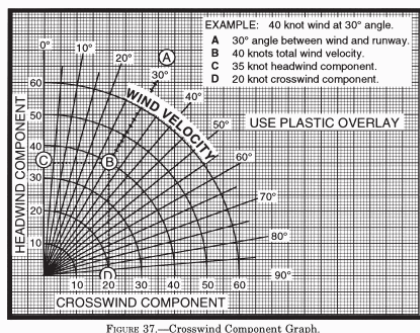
原始題號:0015052 題組:0 難易度:易

- (A) 90. 開始閉塞區或峰頂操作前，飛行員首先應
(A)執行高空偵查。(B)執行低空偵查。(C)環繞目標區，找出亂流區。

原始題號:0015053 題組:1 難易度:中

- (A) 91. (參照圖5)如塔台報告風向風速為220/30，則18跑道落地頂頭風的向量為何？
(如圖A55_Fig5)
(A)19浬。(B)23浬。(C)30浬。

題目圖：



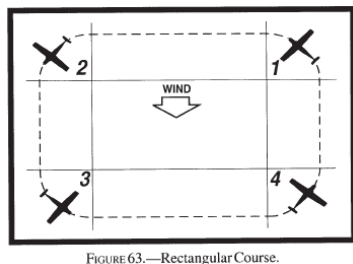
原始題號:0015054 題組:0 難易度:易

- (C) 92. 航空器飛行中的四個幾為何？
(A)航空器動力、俯仰角、傾斜角及配平。(B)啟動、滑行、起飛及落地。(C)平直飛行、轉彎、爬升及下降。

原始題號:0015055 題組:1 難易度:中

- (A) 93. (參照圖6)在飛四方形航線時，航空器何時應轉彎小於90°？
(如圖A55_Fig6)
(A)在第1與第4轉角。(B)在第1與第2轉角。(C)在第2與第4轉角。

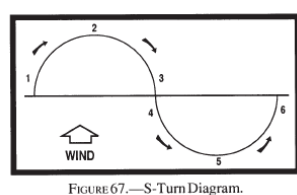
題目圖：



原始題號:0015056 題組:1 難易度:中

- (B) 94. (參照圖7)練習S形轉彎時，需持續順著路做小半圈轉彎，在通過路中心線或參考線時完成，這種情形最可能發生於哪一個轉彎
(如圖A55_Fig7)
(A)1-2-3，因為在最後一次轉彎期間，轉彎坡度減小太快。(B)4-5-6，因為在早期轉彎期間，轉彎坡度增加太快。(C)4-5-6，因為在最後一次轉彎期間，轉彎坡度增加太慢。

題目圖：



原始題號:0015057 題組:0 難易度:易

(B) 95. 地面效應最可能產生何種問題?

(A)落地期間突然接觸地面。(B)在到達建議起飛空速前已離地。(C)即使空速足以實施正常起飛，仍無法使之離地。

原始題號:0015058 題組:0 難易度:易

(A) 96. 哪四種力作用於航空器機身以獲得平衡?

(A)非加速飛行期間。(B)航空器加速時。(C)當航空器停放於地面時。

原始題號:0015059 題組:0 難易度:易

(B) 97. 如航空器有穩定天性，則將

(A)不易失速。(B)較易控制。(C)不會進入螺旋。

原始題號:0015060 題組:0 難易度:易

(A) 98. 控制航空器縱軸穩定因素為何?

(A)重心位置相對於升力中心。(B)水平安定面、方向舵及舵平調整片之效能。(C)推力與升力對重力與阻力之關係。

原始題號:0015061 題組:0 難易度:易

(C) 99. 改變機翼的壓力中心將影響航空器的

(A)升/阻比。(B)升力的量。(C)氣動力平衡與操控力。

原始題號:0015062 題組:0 難易度:易

(A) 100. 航空器載重時將重心置於最後限制位置，將使航空器

(A)在所有空速皆較不穩定。(B)低速時較不穩定，但高速時較穩定。(C)高速時較不穩定，但低速時較穩定。

原始題號:0015063 題組:0 難易度:易

(A) 101. 使航空器轉彎的力為何?

(A)水平升力向量。(B)垂直升力向量。(C)離心力。

原始題號:0015064 題組:0 難易度:易

(A) 102. 進場至失速期間，增加負載因素將使航空器

(A)較高速時失速。(B)有螺旋的趨勢。(C)較難以控制。

原始題號:0015065 題組:0 難易度:易

(B) 103. 如緊急狀況須實施順風落地，則飛行員應預期較快速的

(A)落地空速，較長的滾行距離，及在整個落地滾行權成有較佳的操控性。(B)落地地速，較短的滾行距離，及可能在所望之落地點後方延後落地。(C)落地地速，較短的滾行距離，及可能在所望之落地點前方提早落地。

原始題號:0015066 題組:0 難易度:易

(C) 104. 高度上升時，航空器於特訂構型失速的指示空速將隨

(A)真空速減低而減低。(B)真空速增加而減低。(C)不管高度變化，均維持不變。

原始題號:0015067 題組:0 難易度:易

(C) 105. 攻角在機翼失速角時則

(A)增加，如果重心前移時。(B)隨淨重增加而改變。(C)不論淨重是否改變，均維持不變。

原始題號:0015068 題組:0 難易度:易

(A) 106. 何謂地面效應？

- (A) 航空器機翼氣流場作用於地表的結果。(B) 改變氣流場增加機翼誘導阻力的結果。
(C) 機翼被干擾的氣流場不再支持航空器飛行的結果。

原始題號:0015069 題組:0 難易度:易

(A) 107. 進場落地期間，因地面效應所造成的機身漂浮現象是可以理解的，當

- (A) 高度低於翼展長度時。(B) 高度為翼展長度兩倍時。(C) 高於正常的攻角。

原始題號:0015070 題組:0 難易度:易

(B) 108. 飛行員對地面效應應注意事項為何？

- (A) 離到場航空器的翼尖渦流增加，造成機尾亂流問題。(B) 誘導阻力減少，因此減速時任何額外空速均可認為是漂浮。(C) 實施無地面效應的全失速落地，較全失速落地時需要較少量向上的水平安定面量。

原始題號:0015071 題組:0 難易度:易

(B) 109. 為獲得最大地面距離，應使用空速為

- (A) 最低控制空速 (B) 最佳升/阻空速。(C) 最低下降空速。

原始題號:0015072 題組:1 難易度:中

(B) 110. (參照圖8)下列哪一個偏扭條與傾斜儀指示向右側滑轉彎？

(如圖A55_Fig8)

- (A) 3及6。(B) 2 及 6。(C) 2及 4。

題目圖：

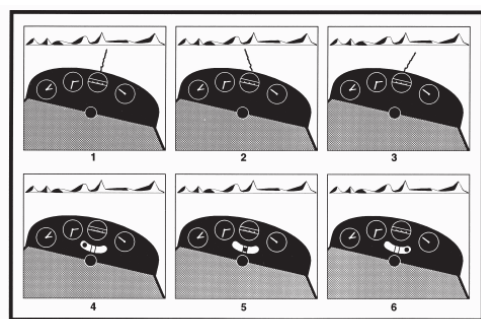


FIGURE 11.—Glider Yaw String

原始題號:0015073 題組:0 難易度:易

(B) 111. 自旋翼啟動前至飛行期間，所有旋翼片的變距角

- (A) 同時至相同的傾角。(B) 同時但至不同的傾角。(C) 在旋轉點某一相同點時角度相同。

原始題號:0015074 題組:0 難易度:易

(B) 112. 如在旋翼啟動期間遭遇地面共振，應採取行動為何？

- (A) 滑行至柔軟地面。(B) 立即實施正常起飛。(C) 關閉油門並緩慢增加集體桿。

原始題號:0015075 題組:0 難易度:易

(B) 113. 致動緊急定位傳送器(ELT)時，將於__頻率發射。

- (A) 118.0及118.8 MHz。(B) 121.5及 243.0 MHz。(C) 123.0及119.0 MHz。

原始題號:0015076 題組:0 難易度:易

(B) 114. 緊急定傳送器(ELT)電池何時應更換(或充電)？

- (A) 在電池生命期過半後。(B) 每年或每100小時檢查時。(C) 每24個曆月。

原始題號:0015077 題組:0 難易度:易

(B) 115. 緊急定傳送器(ELT)何時可實施測試？

(A)任何時間。(B)在每小時的15分與45分。(C)在每小時的第一個5分時。

原始題號:0015078 題組:0 難易度:易

(B) 116. 應使用下列哪一程序確認緊急定傳送器(ELT)未被致動？

(A)落地後關閉緊急定傳送器(ELT)開關。(B)詢問塔台是否收到ELT訊號。(C)引擎關車前，監聽121.5頻率。

原始題號:0015079 題組:0 難易度:易

(B) 117. 旋翼面上揚呈錐形，是由_____組成。

(A)阻力、重量與重力。(B)升力與離心力。(C)重量與離心力。

原始題號:0015080 題組:0 難易度:易

(C) 118. 『傳導趨勢』術語意思為何？

(A)旋翼片旋轉速度增加或減少的趨勢。(B)空速達約15MPH時，旋翼片效能提升。(C)整個直昇機有移向尾旋翼推力方向的趨勢。

原始題號:0015081 題組:0 難易度:易

(C) 119. 平飛時通過旋翼面的不均等升力，是因為空氣通過前進旋翼半面速度與通過後退旋翼半面速度不同所致，稱為

(A)旋翼面上揚呈錐形。(B)旋翼面負載。(C)升力不均。

原始題號:0015082 題組:0 難易度:易

(A) 120. 大多數直昇機在靜風狀況時，下列哪一種飛行作業需要用到動力最多？

(A)左舵轉彎。(B)右舵轉彎。(C)有地面效應滯空。

原始題號:0015083 題組:0 難易度:易

(C) 121. 斜坡地作業程序為何？

(A)使用最大RPM與最大歧管壓力。(B)如斜坡坡度小於 10° ，機身應垂直於斜坡。(C)機身與坡度平行方式作業時，應先將上坡邊滑撬接觸地面，在將下坡邊滑撬落至地面。

原始題號:0015084 題組:0 難易度:易

(C) 122. 計畫實施斜坡地作業時，只能在坡度小於 5° 以下之斜坡地作業，主要原因是

(A) 5° 以上的斜坡地將喪失地面效應。(B) 5° 以上的斜坡地下洗亂流將更嚴重。(C)大多數直昇機設計並未考量在坡度大於 5° 的斜坡地作業。

原始題號:0015085 題組:0 難易度:易

(C) 123. 滯空時，直昇機有向右側滑傾向，本項陳述為

(A)假，直昇機不會側向任何方向。(B)真，飛行員要增加集體變距桿來克服此趨勢。(C)真，大多數直昇機的主承桿或迴旋操縱系統已向左調校，以克服此一趨勢。

原始題號:0015086 題組:0 難易度:易

(A) 124. 旋翼機自平直飛行轉換到 30° 角姿態並維持恆定高度，總升力必然

(A)增加且負載因數將增加。(B)增加且負載因數將減少。(C)維持不變且負載因數將減少。

原始題號:0015087 題組:0 難易度:易

- (A) 125. 滾行落地期間應維持正常RPM，主在確保
(A)在直昇機停止移動前，能有效控制方向。(B)發生緊急狀況時，仍能有足夠升力。(C)縱向與橫向控制，特別是在直昇機大載重或高密度高度狀況時。

原始題號:0015088 題組:0 難易度:易

- (B) 126. 執行閉塞區作業時，高高度偵查主在決定
(A)進場的動力需求。(B)適合落地區域。(C)落地區之坡度量。

原始題號:0015089 題組:0 難易度:易

- (C) 127. 在高速前飛作業時，後退旋翼失速較可能發生於
(A)低總重、高密度高度及平順氣流。(B)高總重、低密度高度及平順氣流。(C)高總重、高密度高度及亂流。

原始題號:0015090 題組:0 難易度:易

- (A) 128. 旋翼機向前飛行速度受限於
(A)升力不均。(B)橫流效應。(C)高頻震動。

原始題號:0015091 題組:0 難易度:易

- (B) 129. 直昇機滯空時，有移向尾旋翼推力方向之趨勢，本項陳述為
(A)真，該運動稱為傳導升力。(B)真，該運動稱為傳導趨勢。(C)假，該運動與尾旋翼推力方向相反，並稱為橫流效應。

(A55) CPL直昇機飛航原理

最近更新日期：無；更新題號：無

原始題號:0014962 題組:0 難易度:易

- (A) 1. Motion of the air affects the speed with which aircraft move
(A)over the Earth's surface. (B)through the air. (C)in a turn.

原始題號:0014963 題組:0 難易度:易

- (B) 2. What effect does an uphill runway slope have on takeoff performance?
(A)Increases takeoff speed. (B)Increases takeoff distance. (C)Decrease takeoff distance.

原始題號:0014964 題組:0 難易度:易

- (A) 3. To avoid missing important steps, always use the
(A)appropriate checklists. (B)placarded airspeeds. (C)airworthiness certificate.

原始題號:0014965 題組:0 難易度:易

- (A) 4. Climb performance depends upon the
(A)reserve power or thrust. (B)maximum L/D ratio. (C)cruise power setting.

原始題號:0014966 題組:0 難易度:易

- (C) 5. Name the four fundamentals involved in maneuvering an aircraft.
(A)Power, pitch, bank, and trim. (B)Thrust, lift, turns, and glides.
(C)Straight-and level flight, turns, climbs, and descents.

原始題號:0014967 題組:0 難易度:易

- (B) 6. The angle of attack at which an airfoil stalls will
(A)increase if the CG is moved forward. (B)remain the same regardless of gross weight. (C)change with an increase in gross weight.

原始題號:0014968 題組:0 難易度:易

- (A) 7. The direct cause of every stall is excessive
(A)angle of attack. (B)density altitude. (C)upward vertical velocity.

原始題號:0014969 題組:0 難易度:易

- (A) 8. The most critical conditions of takeoff performance are the result of some combination of high gross weight, altitude, temperature, and
(A)unfavorable wind. (B)obstacles surrounding the runway. (C)powerplant systems.

原始題號:0014970 題組:0 難易度:易

- (B) 9. What is absolute altitude?
(A)The altitude read directly from the altimeter. (B)The Vertical distance of the aircraft above the surface. (C)The height above the standard datum plane.

原始題號:0014971 題組:0 難易度:易

- (B) 10. What is density altitude?
(A)The height above the standard datum plane. (B)The pressure altitude corrected for nonstandard temperature. (C)The altitude read directly from the altimeter.

原始題號:0014972 題組:0 難易度:易

- (A) 11. Density altitude, and its effect on landing performance, is defined by
(A)pressure altitude and ambient temperature. (B)headwind and landing weight.
(C)humidity and braking friction forces.

原始題號:0014973 題組:0 難易度:易

- (B) 12. What effect does high density altitude, as compared to low density altitude, have on propeller efficiency and why?
(A)Efficiency is increased due to less friction on the propeller blades.
(B)Efficiency is reduced because the propeller exerts less force at high density altitudes than at low density altitudes. (C)Efficiency is reduced due to the increased force of the propeller in the thinner air.

原始題號:0014974 題組:0 難易度:易

- (B) 13. What effect, if any, does high humidity have on aircraft performance?
(A)It increases performance. (B)It decreases performance. (C)It has no effect on performance.

原始題號:0014975 題組:0 難易度:易

- (A) 14. What are the standard temperature and pressure values for sea level?
(A)15°C and 29.92" Hg. (B)59°C and 1013.2 millibars. (C)59°F and 29.92 millibars.

原始題號:0014976 題組:0 難易度:易

- (B) 15. What effect does high density altitude have on aircraft performance?
(A)It increases engine performance. (B)It reduces climb performance. (C)It increases takeoff performance.

原始題號:0014977 題組:0 難易度:中

- (C) 16. Which combination of atmospheric conditions will reduce aircraft takeoff and climb performance?
(A)Low temperature, low relative humidity, and low density altitude. (B)High temperature, low relative humidity, and low density altitude. (C)High temperature, High relative humidity, and High density altitude.

原始題號:0014978 題組:0 難易度:易

- (B) 17. Which factor would tend to increase the density altitude at a given airport?
(A)An increase in barometric pressure. (B)An increase in ambient temperature.
(C)A decrease in relative humidity.

原始題號:0014979 題組:0 難易度:易

- (A) 18. What is the relationship of lift, drag, thrust, and weight when the airplane is in straight-and-level flight?
(A)Lift equals weight and thrust equals drag. (B)Lift, drag, and weight equals thrust. (C)Lift and weight equals thrust and drag.

原始題號:0014980 題組:0 難易度:易

- (A) 19. Climb performance depends upon the
(A)reserve power or thrust. (B)maximum L/D ratio. (C)cruise power setting.

原始題號:0014981 題組:0 難易度:中

- (B) 20. What must a pilot be aware of as a result of ground effect?
(A)Wingtip vortices increase creating wake turbulence problems for arriving and departing aircraft. (B)Induced drag decreases; therefore, any excess speed at the point of flare may cause considerable floating. (C)A full stall landing will require less up elevator deflection than would a full stall when done free of ground effect.

原始題號:0014982 題組:0 難易度:易

- (B) 21. An airplane said to be inherently stable will
(A)be difficult to stall. (B)require less effort to control. (C)not spin.

原始題號:0014983 題組:0 難易度:易

- (A) 22. Maximum endurance is obtained at the point of minimum power to maintain the aircraft
(A)in steady, level flight. (B)in a long range descent. (C)at its slowest possible indicated airspeed.

原始題號:0014984 題組:0 難易度:中

- (B) 23. When range and economy of operation are the principal goals, the point must ensure that the airplane will be operated at the recommended
(A)specific endurance. (B)long-range cruise performance. (C)equivalent airspeed.

原始題號:0014985 題組:0 難易度:易

- (B) 24. The angle between the chord line of an airfoil and the relative wind is known as the angle of
(A)lift. (B)attack. (C)incidence.

原始題號:0014986 題組:0 難易度:易

- (A) 25. Angle of attack is defined as the angle between the chord line of an airfoil and the
(A)direction of the relative wind. (B)pitch angle of an airfoil. (C)rotor plane of rotation.

原始題號:0014987 題組:0 難易度:易

- (C) 26. Which statement relates to Bernoulli's principle?
 (A) For every action there is an equal and opposite reaction. (B) An additional upward force is generated as the lower surface of the wing deflects air downward.
 (C) Air traveling faster over the curved upper surface of an airfoil causes lower pressure on the top surface.

原始題號:0014988 題組:0 難易度:易

- (A) 27. The four forces acting on an airplane in flight are
 (A) lift, weight, thrust, and drag. (B) lift, weight, gravity, and thrust. (C) lift gravity, power, and friction.

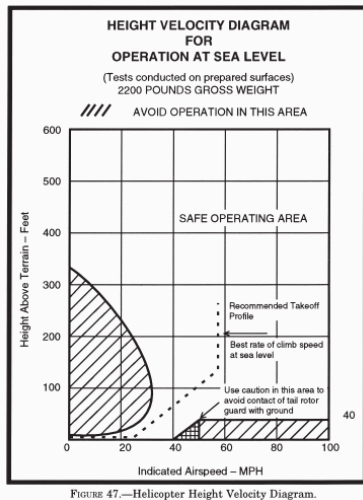
原始題號:0014989 題組:0 難易度:中

- (B) 28. Which is a result of the phenomenon of ground effect?
 (A) The induced angle of attack of each rotor blade is increased. (B) The lift vector becomes more horizontal. (C) The angle of attack generating lift is increased.

原始題號:0014990 題組:1 難易度:中

- (C) 29. (Refer to Figure 1.) The airspeed range to avoid while flying in ground effect is(如圖A55_Fig1)
 (A) 25-40 MPH (B) 25-57 MPH (C) 40 MPH and above.

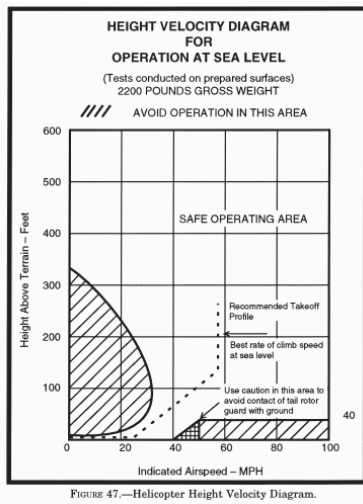
題目圖：



原始題號:0014991 題組:2 難易度:中

- (C) 30. (Refer to Figure 1.) Which airspeed/altitude combination should be avoided during helicopter operations?(如圖A55_Fig1)
 (A) 30 MPH/200 feet AGL. (B) 50 MPH/300 feet AGL. (C) 60 MPH/20 feet AGL.

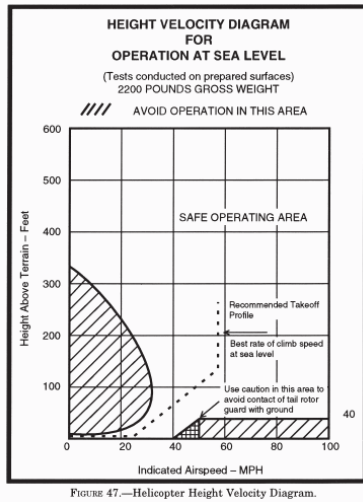
題目圖：



原始題號:0014993 題組:4 難易度:中

- (A) 31. (Refer to Figure 1.) Which airspeed/altitude combination should be avoided during helicopter operations?(如圖A55_Fig1)
- (A)20 MPH/200 feet AGL. (B)35 MPH/175 feet AGL. (C)40 MPH/75 feet AGL.

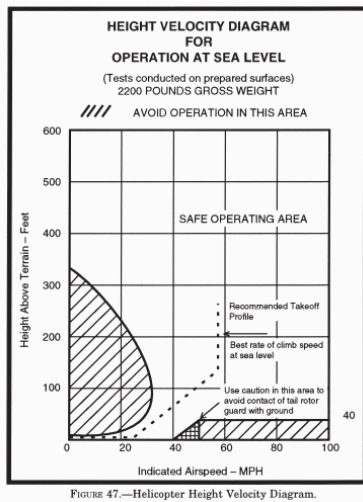
題目圖：



原始題號:0014994 題組:5 難易度:中

- (C) 32. (Refer to Figure 1.) What is the best rate-of-climb speed for the helicopter?(如圖A55_Fig1)
- (A)24 MPH. (B)40 MPH. (C)57 MPH.

題目圖：



原始題號:0014995 題組:0 難易度:易

- (A) 33. When landing behind a large aircraft, which procedure should be followed for vortex avoidance?
(A) Stay above its final approach flightpath all the way to touchdown. (B) Stay below and to one side of its final approach flightpath. (C) Stay well below its final approach flightpath and land at least 2,000 feet behind.

原始題號:0014996 題組:0 難易度:易

- (C) 34. How does the wake turbulence vortex circulate around each wingtip?
(A) Inward, upward, and around each tip. (B) Inward, upward, and counterclockwise
(C) Outward, upward, and around each tip.

原始題號:0014997 題組:0 難易度:易

- (C) 35. Wingtip vortices are created only when an aircraft is
(A) operating at high airspeeds. (B) heavily loaded. (C) developing lift.

原始題號:0014998 題組:0 難易度:易

- (C) 36. The greatest vortex strength occurs when the generating aircraft is
(A) light, dirty, and fast. (B) heavy, dirty, and fast. (C) heavy, clean, and slow.

原始題號:0014999 題組:0 難易度:易

- (A) 37. Wingtip vortices created by large aircraft tend to
(A) sink below the aircraft generating turbulence. (B) rise into the traffic pattern. (C) rise into the takeoff or landing path of a crossing runway.

原始題號:0015000 題組:0 難易度:易

- (A) 38. The wind condition that requires maximum caution when avoiding wake turbulence on landing is a
(A) light, quartering, headwind. (B) light, quartering tailwind. (C) strong headwind.

原始題號:0015001 題組:0 難易度:易

- (A) 39. When landing behind a large aircraft, the pilot should avoid wake turbulence by staying
(A) above the large aircraft's final approach path and landing beyond the large aircraft's touchdown point. (B) below the large aircraft's final approach path and landing before the large aircraft's touchdown point. (C) above the large aircraft's final approach path and landing before the large aircraft's touchdown point.

原始題號:0015002 題組:0 難易度:易

- (B) 40. When departing behind a heavy aircraft, the pilot should avoid wake turbulence by maneuvering the aircraft
(A) below and downwind from the heavy aircraft. (B) above and upwind from the heavy aircraft. (C) below and upwind from the heavy aircraft.

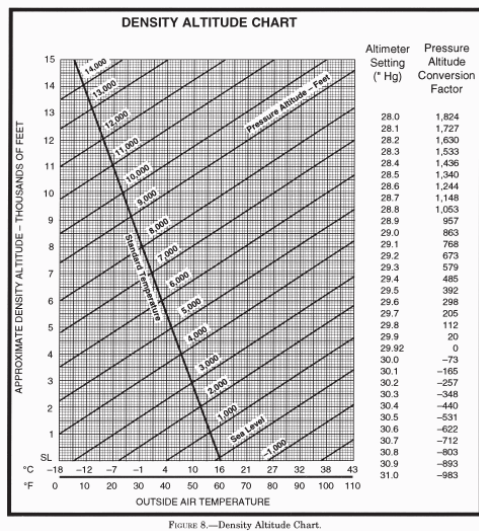
原始題號:0015003 題組:0 難易度:易

- (C) 41. If the outside air temperature (OAT) at a given altitude is warmer than standard, the density altitude is
(A)equal to pressure altitude. (B)lower than pressure altitude. (C)higher than pressure altitude.

原始題號:0015004 題組:1 難易度:中

- (C) 42. (Refer to Figure 2.) Determine the density altitude for these conditions:
Altimeter setting:29.25, Runway temperature:+81°F, Airport elevation:5,250 ft MSL. (如圖A55_Fig2)
(A)4,600 feet MSL. (B)5,877 feet MSL. (C)8,500 feet MSL.

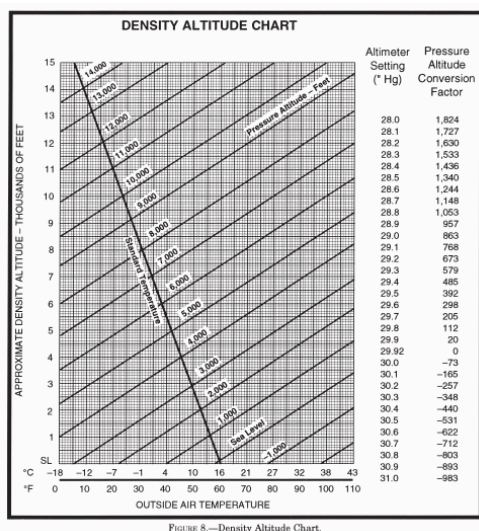
題目圖：



原始題號:0015005 題組:2 難易度:中

- (A) 43. (Refer to Figure 2.) Determine the pressure altitude at an airport that is 3,563 feet MSL with an altimeter setting of 29.96. (如圖A55_Fig2)
(A)3,527 feet MSL. (B)3,556 feet MSL. (C)3,639 feet MSL.

題目圖：



原始題號:0015006 題組:3 難易度:中

- (A) 44. (Refer to Figure 2.) Determine the density altitude for these conditions:
Altimeter setting:30.35, Runway temperature:+25°F, Airport elevation:3,894 ft MSL. (如圖A55_Fig2)
(A)2,000 feet MSL. (B)2,900 feet MSL. (C)3,500 feet MSL.

題目圖：

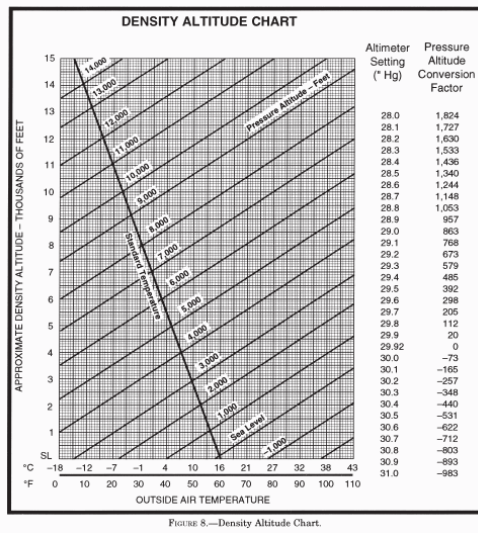


FIGURE 8.—Density Altitude Chart.

原始題號:0015007 題組:4 難易度:中

- (C) 45. (Refer to Figure 2.) What is the effect of a temperature decrease and a pressure altitude increase on the density altitude from 90°F and 1,250 feet pressure altitude to 55°F and 1,750 feet pressure altitude?(如圖A55_Fig2)
- (A)1,700-foot increase. (B)1,300-foot decrease. (C)1,700-foot decrease.

題目圖：

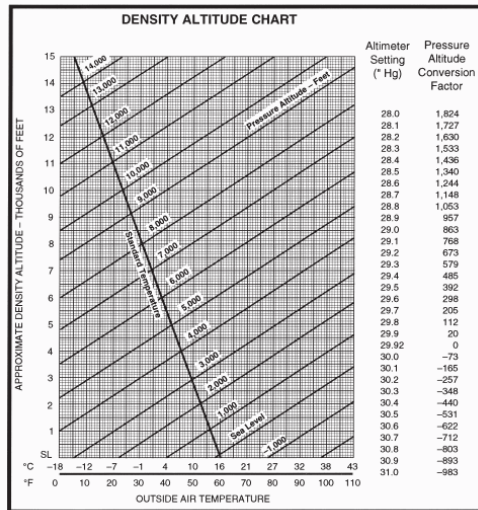
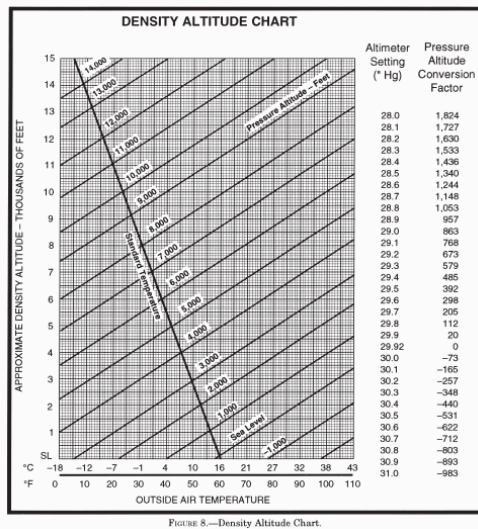


FIGURE 8.—Density Altitude Chart.

原始題號:0015008 題組:5 難易度:中

- (C) 46. (Refer to Figure 2.) What is the effect of a temperature increase from 25 to 50°F on the density altitude if the pressure altitude remains at 5,000 feet?(如圖A55_Fig2)
- (A)1,200-foot increase. (B)1,400-foot increase. (C)1,650-foot increase.

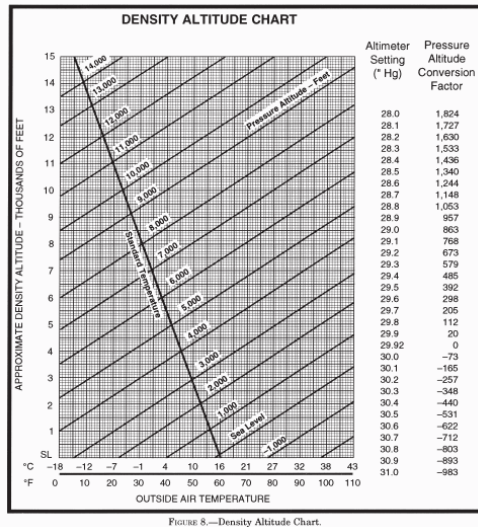
題目圖：



原始題號:0015009 題組:6 難易度:中

- (A) 47. (Refer to Figure 2.) Determine the pressure altitude with an indicated altitude of 1,380 feet MSL with an altimeter setting of 28.22 at standard temperature. (如圖A55_Fig2)
- (A)2,991 feet MSL. (B)2,913 feet MSL. (C)3,013 feet MSL.

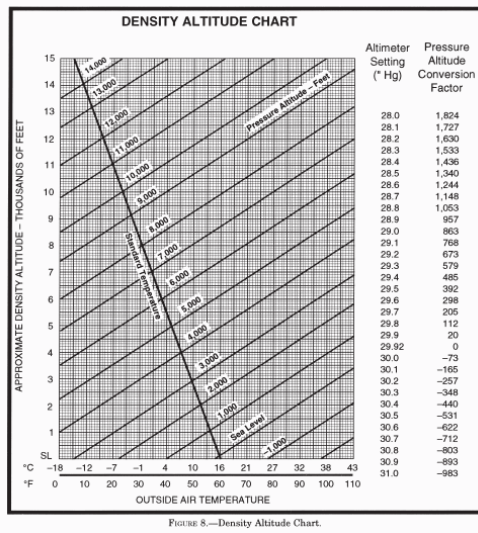
題目圖：



原始題號:0015010 題組:7 難易度:中

- (C) 48. (Refer to Figure 2.) What is the effect of a temperature increase from 30 to 50°F on the density altitude if the pressure altitude remains at 3,000 feet MSL?(如圖A55_Fig2)
- (A)900-foot increase. (B)1,100-foot increase. (C)1,300-foot increase.

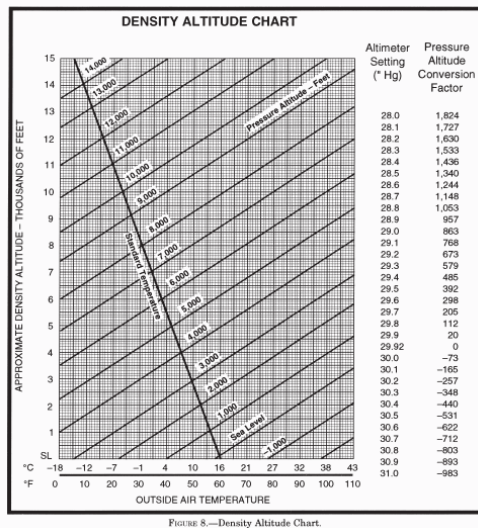
題目圖：



原始題號:0015011 題組:8 難易度:中

- (A) 49. (Refer to Figure 2.) Determine the pressure altitude with an airport that is 1,386 feet MSL with an altimeter setting of 29.97. (如圖A55_Fig2)
 (A)1,341 feet MSL. (B)1,451 feet MSL. (C)1,562 feet MSL.

題目圖：



原始題號:0015012 題組:0 難易度:易

- (A) 50. What are the standard temperature and pressure values for sea level?
 (A)15°C and 29.92" Hg. (B)59°C and 1013.2 millibars. (C)59°F and 29.92 millibars.

原始題號:0015013 題組:0 難易度:易

- (B) 51. Which factor would tend to increase the density altitude at a given airport?
 (A)An increase in barometric pressure. (B)An increase in ambient temperature.
 (C)A decrease in relative humidity.

原始題號:0015014 題組:0 難易度:易

- (C) 52. Which combination of atmospheric condotions will reduce aircraft takeoff and climb performance?
 (A)Low temperature, low relative humidity, and low density altitude. (B)High temperature, low relative humidity, and low density altitude. (C)High temperature, High relative humidity, and High density altitude.

原始題號:0015015 題組:0 難易度:易

- (B) 53. What effect does high density altitude have on aircraft performance?
(A)It increases engine performance. (B)It reduces climb performance. (C)It increase takeoff performance.

原始題號:0015016 題組:0 難易度:易

- (B) 54. What effect, if any, does high humidity have on aircraft performance?
(A)It increases performance. (B)It decreases performance. (C)It has no effect on performance.

原始題號:0015017 題組:0 難易度:易

- (B) 55. What effect does high density altitude, as compared to low density altitude, have on propeller efficiency and why?
(A)Efficiency is increased due to less friction on the propeller blades.
(B)Efficiency is reduced because the propeller exerts less force at high density altitudes than at low density altitudes. (C)Efficiency is reduced due to the increased force of the propeller in the thinner air.

原始題號:0015018 題組:1 難易度:中

- (B) 56. (Refer to Figure 3.) Determine the approximate landing ground roll distance. Pressure altitude: 1,250 ft, Headwind: 8 kts, Temperature: Std. (如圖A55_Fig3)
(A)275 feet. (B)366 feet. (C)470 feet.

題目圖：

GROSS WEIGHT LB		APPROACH SPEED, KAS, MPH		AT SEA LEVEL & 59 °F		AT 2500 FT & 50 °F		AT 5000 FT & 41 °F		AT 7500 FT & 32 °F	
				GROUND ROLL	TOTAL TO CLEAR 50 FT OBS	GROUND ROLL	TOTAL TO CLEAR 50 FT OBS	GROUND ROLL	TOTAL TO CLEAR 50 FT OBS	GROUND ROLL	TOTAL TO CLEAR 50 FT OBS
1600		60		445	1075	470	1135	495	1195	520	1255

NOTES: 1. Decrease the distances shown by 10% for each 4 knots of headwind.
2. Increase the distance by 10% for each 60 °F temperature increase above standard.
3. For operation on a dry, grass runway, increase distances (both "ground roll" and "total to clear 50 ft obstacle") by 20% of the "total to clear 50 ft obstacle" figure.

FIGURE 39.—Airplane Landing Distance Table.

原始題號:0015019 題組:1 難易度:中

- (A) 57. (Refer to Figure 4.) During flight, if cyclic control pressure is applied which results in a maximum increase in pitch angle of the rotor blade at position A, the rotor disc will tilt(如圖A55_Fig4)
(A)forward. (B)aft. (C)left.

題目圖：

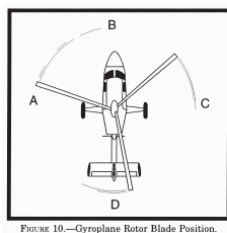


FIGURE 10.—Gyroplane Rotor Blade Position.

原始題號:0015020 題組:0 難易度:易

- (B) 58. The lift differential that exists between the advancing main rotor blade and the retreating main rotor blade is known as
(A)transverse flow effect. (B)dissymmetry of lift. (C)hunting tendency.

原始題號:0015021 題組:0 難易度:易

- (C) 59. During forward cruising flight at constant airspeed and altitude, the individual rotor blades, when compared to each other, are operating
(A)with increased lift on the retreating blade. (B)with a decreasing angle of attack on the advancing blade. (C)at unequal airspeed, unequal angles of attack, and equal lift moment.

原始題號:0015022 題組:0 難易度:易

- (A) 60. The upward bending of the rotor blades resulting from the combined forces of lift and centrifugal force is known as
(A)coning. (B)blade flapping. (C)inertia.

原始題號:0015023 題組:0 難易度:易

- (B) 61. When a blade flaps up, the CG moves closer to its axis of rotation giving that blade a tendency to
(A)decelerate. (B)accelerate. (C)stabilize its rotational velocity.

原始題號:0015024 題組:0 難易度:易

- (C) 62. During a hover, a helicopter tends to drift to the right. To compensate for this, some helicopters have the
(A)tail rotor tilted to the left. (B)tail rotor tilted to the right. (C)rotor mast rigged to the left side.

原始題號:0015025 題組:0 難易度:易

- (B) 63. Translational lift is the result of
(A)decreased rotor efficiency. (B)airspeed. (C)both airspeed and groundspeed.

原始題號:0015026 題組:0 難易度:易

- (C) 64. The primary purpose of the tail rotor system is to
(A)assist in making a coordinated turn. (B)maintain heading during forward flight. (C)counteract the torque effect of the main rotor.

原始題號:0015027 題組:0 難易度:易

- (B) 65. If RPM is low and manifold pressure is high, what initial corrective action should be taken?
(A)Increase the throttle. (B)Lower the collective pitch. (C)Raise the collective pitch.

原始題號:0015028 題組:0 難易度:易

- (A) 66. The purpose of the lead-lag (drag) hinge in a three-bladed, fully articulated helicopter rotor system is to compensate for
(A)Coriolis effect. (B)coning. (C)geometric unbalance.

原始題號:0015029 題組:0 難易度:易

- (B) 67. High airspeeds, particularly in turbulent air, should be avoided primarily because of the possibility of
(A)an abrupt blade pitchup. (B)retreating blade stall. (C)a low-frequency vibration developing.

原始題號:0015030 題組:0 難易度:易

- (A) 68. The maximum forward speed of a helicopter is limited by
(A)retreating blade stall. (B)the rotor RPM red line. (C)solidity ratio.

原始題號:0015031 題組:0 難易度:易

- (C) 69. When operating at high forward airspeeds, retreating blade stalls are more likely to occur under which condition?
(A)Low gross weight and low density altitude. (B)High RPM and low density altitude. (C)Steep turns in turbulent air.

原始題號:0015032 題組:0 難易度:易

- (B) 70. Ground resonance is most likely to develop when
(A)on the ground and harmonic vibrations develop between the main and tail rotors
(B)a series of shocks causes the rotor system to become unbalanced. (C)there is a combination of a decrease in the angle of attack on the advancing blade and an increase in the angle of attack on the retreating blade.

原始題號:0015033 題組:0 難易度:易

- (C) 71. While in level cruising flight in a helicopter, a pilot experiences low-frequency vibrations (100 to 400 cycles per minute). These vibrations are normally associated with the
(A)engine. (B)cooling fan. (C)main rotor.

原始題號:0015034 題組:0 難易度:易

- (A) 72. Select the helicopter component that, if defective, would cause medium-frequency vibrations.
(A)Tail rotor. (B)Main rotor. (C)Engine.

原始題號:0015035 題組:0 難易度:易

- (C) 73. The principal reason the shaded area of a Height vs. Velocity Chart should be avoided is
(A)turbulence near the surface can dephase the blade dampers. (B)rotor RPM may decay before ground contact is made if an engine failure should occur.
(C)insufficient airspeed would be available to ensure a safe landing in case of an engine failure.

原始題號:0015036 題組:0 難易度:易

- (B) 74. During surface taxiing, the collective pitch is used to control
(A)forward movement. (B)heading. (C)ground track.

原始題號:0015037 題組:0 難易度:易

- (C) 75. During surface taxiing, the cyclic pitch stick is used to control
(A)forward movement. (B)heading. (C)ground track.

原始題號:0015038 題組:0 難易度:易

- (B) 76. If the pilot experiences ground resonance, and the rotor RPM is not sufficient for flight,
(A)open the throttle full and liftoff. (B)apply the rotor brake and stop the rotor as soon as possible. (C)attempt to takeoff at that power setting.

原始題號:0015039 題組:0 難易度:易

- (B) 77. With calm wind conditions, which flight operation would require the most power?
(A)A right-hovering turn. (B)A left-hovering turn. (C)Hovering out of ground effect.

原始題號:0015040 題組:0 難易度:易

- (B) 78. If the pilot were to make a near-vertical power approach into a confined area with the airspeed near zero, what hazardous condition may develop?
(A)Ground resonance when ground contact is made. (B)A settling-with-power condition. (C)Blade stall vibration could develop.

原始題號:0015041 題組:0 難易度:易

- (B) 79. If anti-torque failure occurred during the landing touchdown, what could be done to help straighten out left yaw prior to touchdown?
(A)A flare to zero airspeed and a vertical descent to touchdown should be made.
(B)Apply available throttle to help swing the nose to the right just prior to touchdown. (C)A normal running landing should be made.

原始題號:0015042 題組:0 難易度:易

- (C) 80. Which flight technique is recommended for use during hot weather?
(A)Use minimum allowable RPM and maximum allowable manifold pressure during all phases of flight. (B)During hovering flight, maintain minimum engine RPM during left pedal turns, and maximum engine RPM during right pedal turns. (C)During takeoff, accelerate slowly into forward flight.

原始題號:0015043 題組:0 難易度:易

- (A) 81. Under what condition should a helicopter pilot consider using a running takeoff?
(A)When gross weight or density altitude prevents a sustained hover at normal hovering altitude. (B)When a normal climb speed is assured between 10 and 20 feet. (C)When the additional airspeed can be quickly converted to altitude.

原始題號:0015044 題組:0 難易度:易

- (C) 82. What action should the pilot take if engine failure occurs at altitude?
(A)Open the throttle as the collective pitch is raised. (B)Reduce cyclic back stick pressure during turns. (C)Lower the collective pitch control, as necessary to maintain rotor RPM.

原始題號:0015045 題組:0 難易度:易

- (B) 83. Which is a precaution to be observed during an autorotative descent?
(A)Normally, the airspeed is controlled with the collective pitch. (B)Normally, only the cyclic control is used to make turns. (C)Do not allow the rate of descent to get too low at zero airspeed.

原始題號:0015046 題組:0 難易度:易

- (C) 84. The proper action to initiate a quick stop is to apply
(A)forward cyclic and lower the collective pitch. (B)aft cyclic and raise the collective pitch. (C)aft cyclic and lower the collective pitch.

原始題號:0015047 題組:0 難易度:易

- (C) 85. What is the procedure for a slope landing?
(A)When the downslope skid is on the ground, hold the collective pitch at the same position. (B)Minimum RPM shall be held until the full weight of the helicopter is on the skid. (C)When parallel to the slope, slowly lower the upslope skid to the ground prior to lowering the downslope skid.

原始題號:0015048 題組:0 難易度:易

- (B) 86. Takeoff from a slope is normally accomplished by
(A)moving the cyclic in a direction away from the slope. (B)bringing the helicopter to a level attitude before completely leaving the ground. (C)moving the cyclic stick to a full up position as the helicopter nears a level attitude.

原始題號:0015049 題組:0 難易度:易

- (B) 87. Which action would be appropriate for confined area operations?
(A)Takeoffs and landings must be made into the wind. (B)Plan the flightpath over areas suitable for a forced landing. (C)A very steep angle of descent should be used to land on the selected spot.

原始題號:0015050 題組:0 難易度:中

- (A) 88. If possible, when departing a confined area, what type of takeoff is preferred?
(A)A normal takeoff from a hover. (B)A vertical takeoff. (C)A normal takeoff from the surface.

原始題號:0015051 題組:0 難易度:中

- (C) 89. Which is a correct general rule for pinnacle and ridgeline operations?
(A)Gaining altitude on takeoff is more important than gaining airspeed. (B)The approach path to a ridgeline is usually perpendicular to the ridge. (C)A climb to a pinnacle or ridgeline should be performed on the upwind side.

原始題號:0015052 題組:0 難易度:易

- (A) 90. Before beginning a confined area or pinnacle landing, the pilot should first
 (A) execute a high reconnaissance. (B) execute a low reconnaissance. (C) fly around the area to discover areas of turbulence.

原始題號:0015053 題組:1 難易度:中

- (A) 91. (Refer to Figure 5.) What is the headwind component for a landing on Runway 18 if the tower reports the wind as 220° at 30 knots?(如圖A55_Fig5)
 (A) 19 knots. (B) 23 knots. (C) 30 knots.

題目圖：

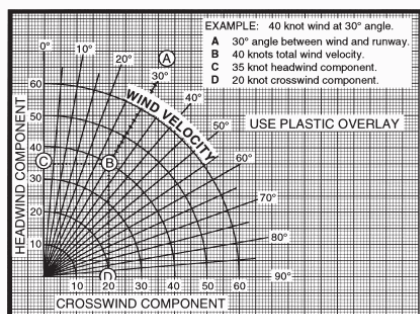


FIGURE 37.—Crosswind Component Graph.

原始題號:0015054 題組:0 難易度:易

- (C) 92. Select the four flight fundamentals involved in maneuvering an aircraft.
 (A) Aircraft power, pitch, bank, and trim. (B) Starting, taxiing, takeoff, and landing. (C) Straight-and level flight, turns, climbs, and descents.

原始題號:0015055 題組:1 難易度:中

- (A) 93. (Refer to Figure 6.) In flying the rectangular course, when would the aircraft be turned less than 90° ?(如圖A55_Fig6)
 (A) Corners 1 and 4. (B) Corners 1 and 2. (C) Corners 2 and 4.

題目圖：

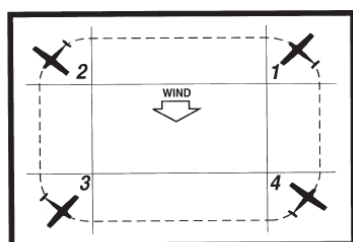
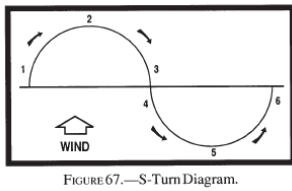


FIGURE 63.—Rectangular Course.

原始題號:0015056 題組:1 難易度:中

- (B) 94. (Refer to Figure 7.) While practicing S-turns, a consistently smaller half-circle is made on one side of the road than on the other, and this turn is not completed before crossing the road or reference line. this would most likely occur in turn.(如圖A55_Fig7)
 (A) 1-2-3 because the bank is decreased too rapidly during the latter part of the turn. (B) 4-5-6 because the bank is increased too rapidly during the early part of the turn. (C) 4-5-6 because the bank is increased too slowly during the latter part of the turn.

題目圖：



原始題號:0015057 題組:0 難易度:易

- (B) 95. Ground effect is most likely to result in which problem?
(A)Setting to the surface abruptly during landing. (B)Becoming airborne before reaching recommended takeoff speed. (C)Inability to get airborne even though airspeed is sufficient for normal takeoff needs.

原始題號:0015058 題組:0 難易度:易

- (A) 96. When are the four forces that act on an airplane in equilibrium?
(A)During unaccelerated flight. (B)When the aircraft is accelerating. (C)When the aircraft is at rest on the ground.

原始題號:0015059 題組:0 難易度:易

- (B) 97. An airplane said to be inherently stable will
(A)be difficult to stall. (B)require less effort to control. (C)not spin.

原始題號:0015060 題組:0 難易度:易

- (A) 98. What determines the longitudinal stability of an airplane?
(A)The location of the CG with respect to the center of lift. (B)The effectiveness of the horizontal stabilizer, rudder, and rudder trim tab. (C)The relationship of thrust and lift to weight and drag.

原始題號:0015061 題組:0 難易度:易

- (C) 99. Changes in the center of pressure of a wing affect the aircraft's
(A)lift/drag ratio. (B)lifting capacity. (C)aerodynamic balance and controllability.

原始題號:0015062 題組:0 難易度:易

- (A) 100. Loading an airplane to the most aft CG will cause the airplane to be
(A)less stable at all speeds. (B)less stable at slow speeds, but more stable at high speeds. (C)less stable at high speeds, but more stable at low speeds.

原始題號:0015063 題組:0 難易度:易

- (A) 101. What force makes an airplane turn?
(A)The horizontal component of lift. (B)The vertical component of lift.
(C)Centrifugal force.

原始題號:0015064 題組:0 難易度:易

- (A) 102. During an approach to a stall, an increased load factor will cause the aircraft to
(A)stall at a higher airspeed. (B)have a tendency to spin. (C)be more difficult to control.

原始題號:0015065 題組:0 難易度:易

- (B) 103. If an emergency situation requires a downwind landing, pilots should expect a faster
(A)airspeed at touchdown, a longer ground roll, and better control throughout the landing roll. (B)groundspeed at touchdown, a longer ground roll, and the likelihood of overshooting the desired touchdown point. (C)groundspeed at touchdown, a shorter ground roll, and the likelihood of undershooting the desired touchdown point.

原始題號:0015066 題組:0 難易度:易

- (C) 104. As altitude increases, the indicated airspeed at which a given airplane stalls in a particular configuration will
(A)decrease as the true airspeed decreases. (B)decrease as the true airspeed increases. (C)remain the same regardless of altitude.

原始題號:0015067 題組:0 難易度:易

- (C) 105. The angle of attack at which an airfoil stalls will
(A)increase if the CG is moved forward. (B)change with an increase in gross weight. (C)remain the same regardless of gross weight.

原始題號:0015068 題組:0 難易度:易

- (A) 106. What is ground effect?
(A)The result of the interference of the surface of the Earth with the airflow patterns about an airplane. (B)The result of an alteration in airflow patterns increasing induced drag about the wings of an airplane. (C)The result of the disruption of the airflow patterns about the wings will no longer support the airplane in flight.

原始題號:0015069 題組:0 難易度:易

- (A) 107. Floating caused by the phenomenon of ground effect will be most realized during an approach to land when at
(A)less than the length of the wingspan above the surface. (B)twice the length of the wingspan above the surface. (C)a higher-than-normal angle of attack.

原始題號:0015070 題組:0 難易度:易

- (B) 108. What must a pilot be aware of as a result of ground effect?
(A)Wingtip vortices increase creating wake turbulence problems for arriving and departing aircraft. (B)Induced drag decreases; therefore, any excess speed at the point of flare may cause considerable floating. (C)A full stall landing will require less up elevator deflection than would a full stall when done free of ground effect.

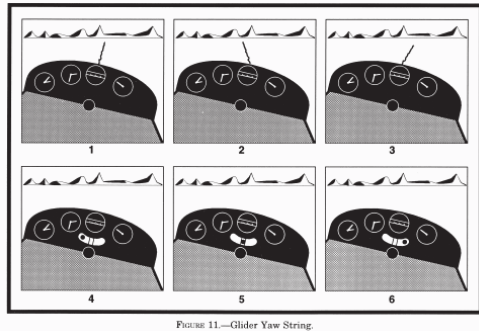
原始題號:0015071 題組:0 難易度:易

- (B) 109. To obtain maximum distance over the ground, the airspeed to use is the
(A)minimum control speed. (B)best lift/drag speed. (C)minimum sink speed.

原始題號:0015072 題組:1 難易度:中

- (B) 110. (Refer to Figure 8.) Which yaw string and inclinometer illustrations indicate a slipping right turn?(如圖A55_Fig8)
(A)3 and 6. (B)2 and 6. (C)2 and 4.

題目圖：



原始題號:0015073 題組:0 難易度:易

- (B) 111. During the transition from pre-rotation to flight, all rotor blades change pitch
(A)simultaneously to the same angle of incidence. (B)simultaneously but to different angles of incidence. (C)to the same degree at the same point in the cycle of rotation.

原始題號:0015074 題組:0 難易度:易

- (B) 112. If ground resonance is experienced during rotor spin-up, what action should you take?
(A)Taxi to a smooth area. (B)Make a normal takeoff immediately. (C)Close the throttle and slowly raise the spin-up lever.

原始題號:0015075 題組:0 難易度:易

- (B) 113. When activated, an emergency locator transmitter (ELT) transmits on
(A)118.0 and 118.8 MHz. (B)121.5 and 243.0 MHz. (C)123.0 and 119.0 MHz.

原始題號:0015076 題組:0 難易度:易

- (B) 114. When must the battery in an emergency locator transmitter (ELT) be replaced (or recharged if the battery is rechargeable)?
(A)After one-half the battery's useful life. (B)During each annual and 100-hour inspection. (C)Every 24 calendar months.

原始題號:0015077 題組:0 難易度:易

- (B) 115. When may an emergency locator transmitter (ELT) be tested?
(A)Anytime. (B)At 15 and 45 minutes past the hour. (C)During the first 5 minutes after the hour.

原始題號:0015078 題組:0 難易度:易

(B) 116. Which procedure is recommended to ensure that the emergency locator transmitter (ELT) has not been activated?

(A)Turn off the aircraft ELT after landing. (B)Ask the airport tower if they are receiving an ELT signal. (C)Monitor 121.5 before engine shutdown.

原始題號:0015079 題組:0 難易度:易

(B) 117. Coning is caused by the combined forces of

(A)drag, weight and gravity. (B)lift and centrifugal force. (C)weight and centrifugal force.

原始題號:0015080 題組:0 難易度:易

(C) 118. What is meant by the term "translating tendency"?

(A)The tendency of the the rotor blade to increase or decrease its rotational velocity. (B)The increase in rotor efficiency as airspeed reaches approximately 15 MPH. (C)The tendency of the entire helicopter to move in the direction of tail rotor thrust.

原始題號:0015081 題組:0 難易度:易

(C) 119. The unequal lift across the rotor disc that occurs in horizontal flight as a result of the difference in velocity of the air over the advancing half of the disc area and the air passing over the retreating half of the disc area is known as

(A)coning. (B)disc loading. (C)dissymmetry of lift.

原始題號:0015082 題組:0 難易度:易

(A) 120. During calm wind conditions, in most helicopters, which of these flight operations would require the most power?

(A)A left-pedal turn. (B)A right-pedal turn. (C)Hovering in ground effect.

原始題號:0015083 題組:0 難易度:易

(C) 121. What is the procedure for a slope landing?

(A)Use maximum RPM and maximum manifold pressure. (B)If the slope is 10° or less, the landing should be made perpendicular to the slope. (C)When parallel to the slope, slowly lower the upslope skid to the ground prior to lowering the downslope skid.

原始題號:0015084 題組:0 難易度:易

(C) 122. When planning slope operations, only slopes of 5° gradient or less should be considered, primarily because

(A)ground effect is lost on slopes of steeper gradient. (B)downwash turbulence is more severe on slopes of steeper gradient. (C)most helicopters are not designed for operations on slopes of steeper gradient.

原始題號:0015085 題組:0 難易度:易

- (C) 123. A helicopter tends to drift to the right when hovering. this statement is
(A>false; helicopters show no tendency to drift a specific direction. (B>true; the pilot applies collective pitch to overcome this tendency. (C>true; the mast or cyclic pitch system of most helicopters is rigged to the left to overcome this tendency.

原始題號:0015086 題組:0 難易度:易

- (A) 124. When a rotorcraft transitions from straight-and-level flight into a 30° bank while maintaining a constant altitude, the total lift force must
(A)increase and the load factor will increase. (B)increase and the load factor will decrease. (C)remain constant and the load factor will decrease.

原始題號:0015087 題組:0 難易度:易

- (A) 125. Normal RPM should be maintained during a running landing primarily to ensure
(A)adequate directional control until the helicopter stops. (B)that sufficient lift is available should an emergency develop. (C)longitudinal and lateral control, especially if the helicopter is heavily loaded or high density altitude conditions exist.

原始題號:0015088 題組:0 難易度:易

- (B) 126. When conducting a confined area-type operation, the primary purpose of the high reconnaissance is to determine the
(A)power requirements for the approach. (B)suitability of the area for landing. (C)amount of slope in the landing area.

原始題號:0015089 題組:0 難易度:易

- (C) 127. When operating at high forward airspeed, retreating blade stall is more likely to occur under conditions of
(A)low gross weight, high density altitude, and smooth air. (B)high gross weight low density altitude, and smooth air. (C)high gross weight, high density altitude, and turbulent air.

原始題號:0015090 題組:0 難易度:易

- (A) 128. The forward speed of a rotorcraft is restricted by
(A)dissymmetry of lift. (B)transverse flow effect. (C)high-frequency vibrations.

原始題號:0015091 題組:0 難易度:易

- (B) 129. When hovering, a helicopter tends to move in the direction of tail rotor thrust. this statement is
(A>true; the movement is called translational lift. (B>true; the movement is called translating tendency. (C>false; the movement is opposite the direction of tail rotor thrust, and is called transverse flow effect.