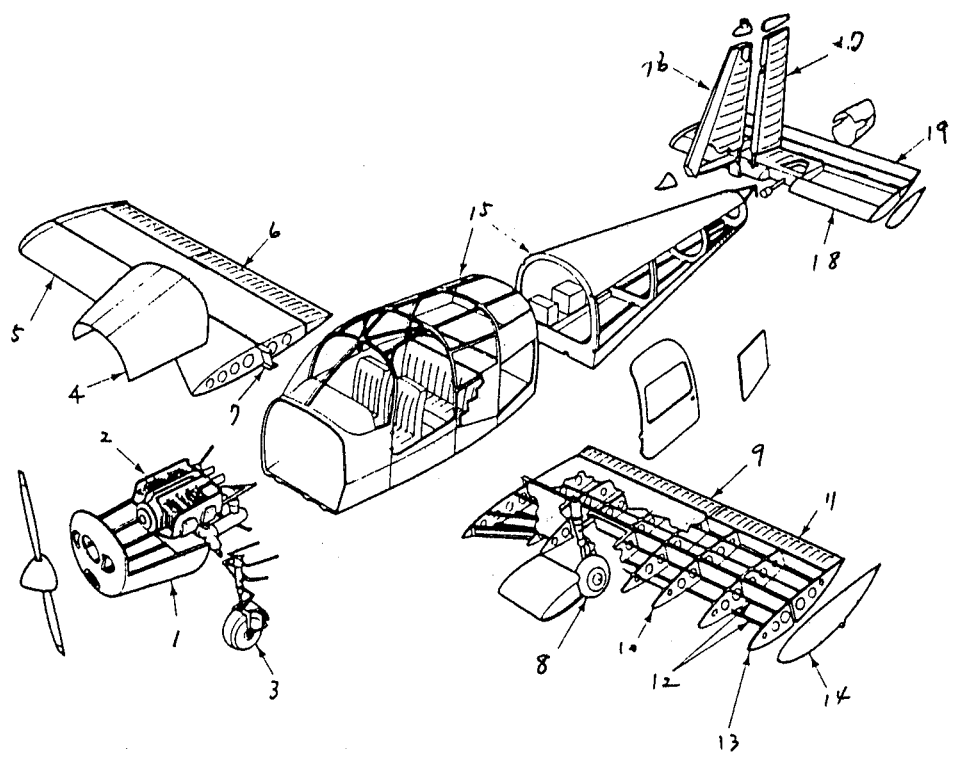


碩士班入學考試  
航空工程概論

1. 繪結構剖面圖說明最常見的四種航空渦輪發動機是那些？列出中英文名稱，並分別比較其優缺點以及其最常見的用途。(25%)
2. (a)一架客機重10000磅，大約是乘客多少人的飛機？(說明你的思考方式)。(5%)  
(b)此客機時速400 miles/h，飛行時機翼平均攻角3度，假設空氣密度為0.0015 slug/cubic ft，請問該飛機機翼面積大約多大？(假設該三維機翼的升力係數為理論二維升力係數的七成)(20%)

3. 請詳細說明下列小飛機解剖圖中，箭頭所指部位之名稱及其用途。(20%)



4.(a) Explain the following technical terms : (15%)

- (1) range and endurance
- (2) rate of climb and rate of descend
- (3) absolute ceiling and service ceiling

(b) What is the stall speed ? Derive the formula of the stall speed with the required parameters. Discuss how this stall speed is closely related with the aviation safety of the aircraft.

5. Please explain the following terminologies : (15%)

- (1) geostationary orbit
- (2) polar orbit
- (3) sun synchronous orbit
- (4) transfer orbit
- (5) chase orbit
- (6) Hohmann transfer procedure