LOAD PLANNING

Chapter 1 – Homework Assignment

1. Cargo that will fit the usable dimensions of the 463L pallet is considered as _____ cargo.

2. _____ cargo is larger than oversize cargo and can only be airlifted on a C-17 or C-5 aircraft.

3. The primary responsibility of the load planner is to ensure _____and _____ use of the aircraft.

4. The two big “E’s” of load planning are _____ of _____ and _____ of _____.

5. Vehicles are normally _____ into a C-130 or C-17 aircraft to accommodate for ease of offload?

6. Pallets must always go _____ vehicles unless _____ _____ is accomplished.

7. Passengers will not be seated closer than _____ _____ _____ of netted or strapped cargo.

8. _____ copies of the aircraft load plans are required.

9. Most commercial vehicles need _____ review to be airlifted due to their soft suspension and the lack of _____ _____ capability.

10. The addition of _____ _____ and the use of _____ shoring are often required to airlift commercial vehicles.

AIRCRAFT WEIGHT & BALANCE

Chapter 2 – Homework Assignment

1. _____ is the point where an aircraft balances.

2. All Longitudinal distances are measured from the _____.

3. Fuselage stations are measurements in inches from the _____ to a specific point in an aircraft.

4. Obtain a moment by _____ the _____ by the _____.

5. _____ is limited by several factors: aircraft type, planned flight _____ and _____, _____ _____, weather, _____ location , and _____ characteristics.

6. Accurate ACL information can be derived only from _____ operating conditions.

7. The planning ACL for the C-5M is _____.

8. The planning ACL for the C-17 is _____.

9. Pyramid Loading Method. Place the _____ cargo item over the optimum load center of balance. _____ items are placed in front of and in back of the heaviest item.

10. 50-50 Method. _____ of the cargo is placed on either side of the optimum cargo load center of

C-130 CHARACTERISTICS

Chapter 3 – Homework Assignment

1. The C-130 Hercules, designed and built by Lockheed Corp., has a primary mission of _____ - _____ (_____) airlift.

2. The maximum axle weight between FS 337 and FS 682 on the C-130E/H (or between LS 337 and 682 on the C-130J(S), or between LS 537 and 882 on the C-130J-30) is _____.

3. The maximum, single item, axle weight allowed on the ramp of all C-130 aircraft is _____.

4. The maximum cargo weight allowed on the ramp is _____ for the C-130E/H, and _____ for the C-130J.

5. The C-130E/H/J(S) can carry _____ 463L pallets, _____ on the cargo floor and _____ on the cargo ramp.

6. The C-130J-30 can carry _____ 463L pallets, _____ on the cargo floor and _____ on the cargo ramp.

7. The maximum pallet gross weight in pallet position 5 for the C-130E/H/J(S) aircraft (or pallet position 7 for the C-130J-30) is _____.

8. On the C-130, any pallets in the wheel well area (pallet positions three and four on the C-130E/H/J(S), or positions four and five on the C-130J-30) require a _____ aisleway.

9. The aisleway requirement for a pallet placed on the C-130 ramp is _____ inches.

10. The Planning ACL for the C-130E/H/J(S) is _____. The Planning ACL for the C-130J-30 is _____.

C-5 Cargo Dimension Exercise

Will these vehicles fit side-by-side in the C-5?
If yes what is the maximum distance between them?

			YES	***NO***	***Space Between***
1.	**Vehicle #1** H – 120” W – 92”	**Vehicle #2** H – 137” W – 110”	____	____	_____
2.	**Vehicle #1** H – 130” W – 96”	**Vehicle #2** H – 114” W – 96”	____	____	_____
3.	**Vehicle #1** H – 128” W – 100”	**Vehicle #2** H – 120” W - 100	____	____	_____
4.	**Vehicle #1** H – 102” W – 98”	**Vehicle #2** H – 124” W – 101”	____	____	_____
5.	**Vehicle #1** H – 94” W – 112”	**Vehicle #2** H – 90” W – 118”	____	____	_____
6.	**Vehicle #1** H – 130” W – 100”	**Vehicle #2** H – 110” W – 91”	____	____	_____
7.	**Vehicle #1** H – 99” W – 90”	**Vehicle #2** H – 121” W – 100”	____	____	_____
8.	**Vehicle #1** H – 132” W – 98”	**Vehicle #2** H – 126” W – 94”	____	____	_____

C-5 CHARACTERISTICS

Chapter 4 – Homework Assignment

1. The C-5 Galaxy aircraft was designed for the primary mission of _____ - _____ (_____) airlift of _____ cargo.

2. The C-5 is the largest US airlift aircraft. Its size allows it to carry cargo that will not fit into any other aircraft. The cargo compartment is _____ inches long, _____ inches wide and _____ inches high.

3. Fuselage stations 724 to1458 and FS 1518 to FS 1884 are restricted to maximum weights of _____ lbs. in any _____ - _____ length.

4. Restrict cargo between fuselage stations 395 to 517 and FS 1971 to FS 2131 (aircraft ramps) to _____ lbs. maximum weight in any _____ - _____ length.

5. All pallets positioned on the forward and aft ramps of the C-5A/B must have a _____ inch aisleway on the outboard edge of each pallet.

6. Pallet positions 1 and 2 on the C-5 are limited to a pallet weight of _____, and _____ inches in height.

7. Pallet positions 35 and 36 on the C-5 are limited to a pallet weight of _____, and _____ inches in height.

8. Height Restrictions. Items over _____ inches must be inset.

9. The C-5 aircraft can accommodate a maximum of _____ passengers in the troop compartment.

10. The Planning ACL for the C-5A/B is _____. The Planning ACL for the C-5M is _____.

C-17 CHARACHTERISTICS

Chapter 5 – Homework Assignment

1. The C-17 Globemaster III is built by the Boeing Corporation. Its primary mission is the _____ - _____ (_____) airlift of _____ items of cargo to small austere airfields at or near the battle area.

2. The C-17 cargo compartment is _____ inches long, _____ inches wide and cargo may be loaded up to _____ inches high.

3. On the C-17 Globemaster III, fuselage stations 578 through 1074 are restricted to maximum single axle weights of _____ pounds.

4. Axles loaded on the C-17 ramp are restricted to maximum single axle weights of _____ pounds.

5. Axles exceeding _____ up to _____ pounds in compartment E (578-1074) must be _____ loaded (+ or -) _____ inches of aircraft centerline.

6. Axles exceeding _____ up to _____ pounds in compartments D (347-578), F (1074-1165), or G (1165-1403) must be _____ loaded (+ or -) _____ inches of aircraft centerline.

7. The maximum weight of a netted pallet loaded on a C-17 in the logistic rail system is _____ lbs.

8. The C-17 has the capability to carry _____ 463L pallets in the logistics rail system or _____ 463L pallets in the aerial delivery rail system (ADS).

9. The combined total weight of all cargo placed on the C-17 ramp (palletized or axles) will not exceed _____ pounds.

10. The C-17 can carry a maximum of _____ troops using centerline and sidewall seats.

KC-10 CHARACHTERISTICS

Chapter 6 – Homework Assignment

1. The KC-10 Extender is designed for a dual-purpose mission: air _____ and _____ - _____ (_____) airlift.

2. Unlike other aircraft, the KC-10 cargo floor cannot withstand the _____ of floor loading. _____ _____ must be used for ALL cargo loaded on the KC-10.

3. When cargo isn't palletized with nets, 463L pallets must be used as a _____ - _____.

4. Package Dimension Chart. A vehicle loaded on the KC-10 with dimensions of 96 inches wide and 72 inches high can be no longer than _____ inches.

5. Contour Chart. On the KC-10 aircraft, palletized cargo that is 90 inches high and 48 inches wide will fit pallet contour(s) _____.

6. Compartment Weight Chart. On the KC-10, the maximum weight for pallet position 10, when loaded with concentrated cargo, is _____.

7. Uniform Loads Limitation Chart. A uniform area of a pallet that is 85 inches long and weighs 6500 lbs. has a PLF of _____ , and can be loaded into pallet positions _____ thru _____.

8. Concentrated Loads Limitation Chart. The maximum weight for a single piece of cargo with 6 contact points, less than 10 inches of setback, and loaded into pallet position 8 is _____ .

9. The KC-10 has limitations on the _____ - _____ distance between axles. You achieve the maximum allowable weight limit when there are at least _____ inches between axles.

10. Axle Reduction Chart. When two axles are located in pallet position 8 and 9, each weighing 2,420 pounds, the minimum distance between the axles cannot be less than _____ inches.

KC-135 CHARACHTERISTICS

Chapter 7 – Homework Assignment

1. The KC-135 is a dual role, long range, _____ - _____ (_____) aircraft.

2. The normal planning ACL is _____ pounds for the KC-135.

3. The floor in the KC-135 consists of _____ inch plywood panels laid across a structure of supporting beams. A minimum of _____ inch plywood shoring must be used when moving or placing items of cargo that may puncture or damage the cargo floor.

4. Shoring will normally be applied in _____ _____.

5. The maximum gross weight of a single 463L pallet is _____ pounds.

6. The maximum pallet height is _____ inches from the pallet surface. The pallet must be contoured to fit the aircraft for loads exceeding _____ inches in height.

7. Pallets must never cover the main landing gear _____ _____ at F.S. _____.

8. Hazardous liquids, acids, or other material that could _____ posing a threat to the aircraft will be packaged in containers smaller than _____ inches by _____ inches.

9. Hazardous cargo _____ be placed so as to be readily accessible during flight and ___ _____ to the _____ _____ as possible if it can be jettisoned.

10. Lithium batteries classified a hazardous by _____ will not be offered for shipment on the KC-135 unless the shipper provides a _____ ____ fire extinguisher.

COMMERCIAL AIRLIFT

Chapter 8 – Homework Assignment

1. CRAF is a _____ contractual program where _____ _____ agree to augment military airlift during a _____.

2. The final responsibility for load planning commercial aircraft rests with _____ _____ _____. See _____, CRAF Load Planning Guide for general planning guidance.

3. Airframes pledged to the CRAF are activated in _____ progressive stages with each stage providing additional airlift capability.

4. USTRANSCOM CC, with approval of _____, is the activation authority for each stage of the CRAF.

5. For Civil Reserve Air Fleet, once a mission has been assigned, carriers have _____ hours to position Stage I and II aircraft at the ____-_____ location.

6. During activation, the civil carriers retain _____ control of their aircraft while AMC TACC exercises _____ control.

7. The general planning factor for the B-747 Passenger version is _____ seats for peacetime operations or _____ during CRAF activations.

8. The DC-10 freighters have a _____ pallet 463L configuration.

9. Planners need to _____ that, unlike military cargo aircraft, which are _____, civilian airframes _____ widely.

10. The _____ _____ maintains final authority with regard to cargo loads planned for their aircraft.