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SECRETARY OF THE AIR FORCE

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Flying Operations

C-5 OPERATIONS CONFIGURATION AND MISSION PLANNING

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This publication implements Air Force Policy Directive (AFPD) 11-2, Aircrew Operations, and supports Air Force Instruction (AFI) 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*, and AFMAN 11-202, Vol 3, *Flight Operations*, by establishing specific guidance for the operation of the C-5 aircraft. This is a specialized publication intended for use by Airmen who have graduated from technical training related to this publication. This instruction applies to all commanders, operations supervisors, and aircrew assigned or attached to all flying activities of commands operating C-5 aircraft. This publication applies to the Regular Air Force and the Air Force Reserve. This publication does not apply to the United States Space Force and the Air National Guard. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using the Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication*; route DAF Form 847 from the field through the appropriate functional chain of command. This publication may be supplemented at any level, but all supplements must be routed to the OPR of this publication for coordination prior to certification and approval. The authorities to waive wing/unit level requirements in this publication are identified with a tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See Department of the Air Force Manual (DAFMAN) 90-161, *Publishing Processes and Procedures*, for a description of the authorities associated with the tier numbers. Submit requests for waivers through the chain of command to

the appropriate tier waiver approval authority, or alternately, to the requestor's commander for non-tiered compliance items.

SUMMARY OF CHANGES

This document has been revised and should be completely reviewed. Changes include maneuver load limitations and weight limitation restrictions. Minimum required equipment for programmed depot maintenance (PDM) Input. Added jacking Department of Defense (DD) Form 365-4, *Weight and Balance Clearance Form F Transport/Tactical* procedures and anti-Exposure suit weight, also corrects the Glossary of References and Supporting Information.

Chapter 1

GENERAL INFORMATION

1.1. General. This manual establishes basic configurations, standard equipment, and equipment location aboard the C-5. Included are weight and balance and standard weight and moment data for use in completing DD Form 365-4, *Weight and Balance Clearance Form F Transport/Tactical*.

1.2. Airplane Coding. This manual provides coverage for C-5 and C-5 space canister modified (SCM) airplanes. C-5 SCM airplanes are designated by the letter {S}. Portions of this instruction are designated using these symbols to indicate applicability to the C-5 SCM airplanes. Items not designated as applicable to {S} airplanes are applicable to all C-5 aircraft.

1.3. Roles and Responsibility. Air Force units performing services on the C-5 airplane, e.g., terminal services, support equipment branch, and Aircrew Flight Equipment are responsible for configuring the aircraft with the equipment listed in this manual or as outlined in mission directives. This includes stowage or installation of the equipment according to the configurations in this manual and applicable installation directives. During preflight, aircrew personnel ensure that required mission equipment has been provided and properly serviced, installed, or stowed.

1.4. Standard Configuration Codes. Use the letter codes in **Table 1.1** when referring to C-5 configurations. The number that identifies the configuration capability follows the letter code. Each configuration code is normally indicated in the mission directive.

1.5. Deviations and Waivers. Configurations in this manual may require deviations for specific mission requirements. Specific mission directives identify the basic configuration and any deviations. For example, a Phoenix Banner mission carrying presidential helicopters may require an additional winch. Deviations may require changes to weight and balance calculations.

1.6. Weight and Balance. To standardize equipment quantities and locations, items shown in **Table 2.1** are included in the basic weight of the aircraft and remain on the aircraft except for maintenance and inspection. Equipment in **Table 2.2** is pre-positioned for all local training and operational missions to meet standard configurations listed in **Table 3.1** and is entered in reference 5, 6, or 7 of DD Form 365-4. To standardize equipment quantities and locations for PDM input, equipment shown in **Table 2.3** is pre-positioned per table notes.

1.7. Changes and Supplements. See AFMAN 11-2C-5V3, *C-5 Operations Procedures*.

1.8. References. See AFMAN 11-2C-5V3 and **Attachment 1** of this publication.

Table 1.1. Standard Configuration Codes.

CONFIGURATION CODES	MISSION
C	Cargo
CP	Cargo and Passengers

Chapter 2

CONSOLIDATED EQUIPMENT TABLES

2.1. Scope. All airplanes are configured with the equipment listed in **Table 2.1**. This equipment is included in the aircraft basic weight. Items listed in **Table 2.2** are added only as necessary to attain standard configurations listed in **Table 3.1** and/or comply with mission directives. The equipment listed in **Table 2.3** provides minimum quantities required for PDM input.

2.2. Aircraft Life Sustaining Equipment (ALSE). Configuration guidance can be found in Technical Order (T.O.) 1C-5M-1. Aircraft commander (AC) may request that additional equipment be positioned aboard the aircraft to accommodate aircrew and passenger increases, as required. However, units are required to ensure they do not exceed their total equipment authorizations per applicable allowance standards (AS). **(T-1)**

2.2.1. Emergency equipment inspection dates will be valid for the planned duration of PDM timelines prior to depot input.

2.2.2. Seats and cushions will be fully functional.

Table 2.1. Standard Equipment.

Item	Equipment	Quantity	Location/Remarks
1	Aldis lamp/filters	1	Located according to T.O. 1C-5M-1
2	AIR (Aviation Into-plane Reimbursement) Card	1	Air Force Technical Order (AFTO) Forms 781 binder
3	Cargo winch w/clevis	1	Winch compartment right butt line (RBL) 48 fuselage station (FS) 470/2020. Winch computed in aft compartment.
4	Cargo winch remote control grip assembly	1	Left side cargo compartment, FS 1220
5	Cord, interphone	As required	Located according to T.O. 1C-5M-1
6	Crash Axe	3	Located according to T.O. 1C-5M-1 and T.O.1C-5M-1-2
	{S}	2	
7	Cryogenic vent nozzles	3	Loose equipment stowage container left side of cargo compartment FS 1774 and {S} airplanes FS 684
8	Detent locking tee	8	Container left side of cargo compartment FS 1774 {S} airplanes FS 684
9	Emergency exit light	12	Located according to T.O. 1C-5M-1 and T.O.1C-5M-1-2
	{S}	7	
10	Escape descent reel	24	Located according to T.O. 1C-5M-1
11	Escape rope	8	Located according to T.O. 1C-5M-1 and T.O.1C-5M-1-2
	{S}	3	
12	Escape slide	5	Located according to T.O. 1C-5M-1 and T.O.1C-5M-1-2
	{S}	1	

13	Fire extinguisher	15/17	Located according to T.O. 1C-5M-1 and T.O.1C-5M-1-2 **Note:** Two 1-gallon extinguishers installed in cargo compartment, one on each side just forward of the center wing area on airplanes not equipped with FE 1301
	{S}	10	
14	First aid kit	22	Located according to T.O. 1C-5M-1
	{S}	7	Located according to T.O. 1C-5M-1-2
15	Gloves, aramid	1 pair	Stowage box in forward bunk room
16	Ground personnel restraint kit	1	Stowage box in forward bunk room
17	Kneeling collar	4	Loose equipment stowage container left side of cargo compartment, FS 684
18	Kneeling pad extend pin	1	Loose equipment stowage container left side of cargo compartment, FS 684
19	Ladder, rope (stowed)	1	Stowed under floor of courier compartment FS 962
20	Ladder, utility	1	Stowed as loose equipment in the cargo compartment
21	Life raft, 25-Person	4	Located according to T.O. 1C-5M-1 and T.O.1C-5M-1-2
	{S}	1	
22	Oil, engine (type according to T.O. 1C-5M-1)	72-quart	Stowed as loose equipment in a suitable container in the cargo compartment
23	Oil, hydraulic (type according to T.O. 1C-5M-1)	48-quart	Stowed as loose equipment in a suitable container in the cargo compartment
24	Oven	3	One located in the relief crew and two in the troop compartment galleys
	{S}	1	Located in the relief crew galley
25	Oxygen bottle	16	Located according to T.O. 1C-5M-1 or 1C-M-1-2
	{S}	12	
26	Pallet stops	4	Loose equipment stowage container left and right FS 1774 and {S} airplanes FS 684
27	Pin, landing gear	5	Loose equipment stowage container left side of cargo compartment FS 684
28	Pistol Grip Remote Dispenser Cord	3	Located according to T.O. 1C-5M-1 and T.O.1C-5M-1-2
29	Left and Right Pressure door upper hinge lock block assembly.	2	Loose equipment stowage container right side of cargo compartment FS 1774 and {S} airplanes FS 684
	F- valve safety guard	1	
30	Protective Breathing Equipment (PBE)	8	Located according to T.O. 1C-5M-1 and T.O.1C-5M-1-2
31	Protective covers	33	Located according to T.O. 1C-5M-1
32	Refrigerator	1	Located in the relief crew galley

		2	Located in the troop compartment galley **Note:** {S} airplanes do not contain a troop compartment galley
33	Seat, Flight Engineer Student	1	Installed at flight engineer station
34	Snatch block assembly	3	Right side of cargo compartment, FS 594 /1734 and left side FS 614
35	Strut limiter	1	Loose equipment stowage container left side of cargo compartment FS 684
36	Table, relief crew	1	Installed in relief crew compartment
37	Technical publications	1 set	Stowed according to T.O. 1C-5M-5-1 and 1C-5M-1
38	Tie-down equipment		
	MB-1 chains and devices (10,000-lb capacity)	75ea	Located according to T.O. 1C-5M-9, 1C-5M-9-1, 1C-5M-5-1 or 1C-5M-1-1
	MB-2 chains and devices (25,000-lb capacity)	75ea	
	CGU-1/B straps (5,000-lb capacity)	50	
39	Wheel chocks	4	Stowed as loose equipment in the cargo compartment

Table 2.2. Required Equipment.

Item	Equipment	Quantity	Location/Remarks
1	Aircrew Body Armor (ABA) (see **Note**: 4)	10	Courier compartment baggage area
2	Anti-exposure suit (see **Note:** 7)	As required	Courier compartment baggage area
3	Backpack, Survival (see **Note:** 4)	As required	Courier compartment baggage area
4	Crew comfort items		
	Blankets, large	12	Relief crew bunk area
	Blankets, small	8	Courier compartment baggage area
	Coffee pot w/hot plate	1	Crew galley
	Container, water (5-gallon)	1	Relief crew baggage area
	Hot cup	1	Crew galley
	Pillows, large w/case	6	Relief crew bunk area
	Pillows, small w/case	8	Courier compartment baggage area
5	Emergency Equipment Demo Bag (see **Note:** 9)		
		1	Troop compartment coat closet
	{S}	1	Courier compartment coat closet
6			

	Emergency Passenger Oxygen System (EPOS)(see **Note:** 1)	15	Relief crew and courier compartment
		73	Troop Compartment **Note:** {S} airplanes do not contain a troop compartment
7	Kit, Human Waste Clean-up	1	Troop compartment baggage area
8	Kit, Minimum Survival (MSK) (see **Note:** 6)	1	Forward bunk room stowage box **Note:** {S} airplanes do not contain a troop compartment
9	Kit, Protective Clothing (PCK)	2	Relief crew baggage compartment and troop compartment closet **Note:** {S} airplanes kits are stowed in the relief crew baggage compartment
10	Life preservers – crew and passenger	Only required on overwater flights	
	Life preserver, Adult/Child, (A/C) (see **Note:** 2, 3)	20	Flight deck
		80	Troop compartment **Note:** {S} airplanes do not contain a troop compartment
	Life preserver Unit (LPU), Infant Cot, LPU-6/P (see **Note:** 8)	7	Troop compartment **Note:** {S} airplanes do not contain a troop compartment
11	Mask, 358-1506 Series		
		11	Flight deck
		6	Cargo compartment
		4	Troop compartment **Note:** {S} airplanes do not contain a troop compartment
12	Mask, Speed-On	6	Flight deck bunk rooms
13	Mask, Passenger Oxygen		
		18	Flight Deck
		83	Troop compartment **Note:** {S} airplanes do not contain a troop compartment
14	Passenger comfort items		
	Blankets, small	75	Troop compartment **Note:** {S} airplanes do not contain a troop compartment
	Pillows, small	75	Troop compartment **Note:** {S} airplanes do not contain a troop compartment
	Hot cup	1	Troop galley **Note:** {S} airplanes do not contain a troop galley
	Coffee pot w/hot plate	1	Troop galley **Note:** {S} airplanes do not contain a troop galley

	Container, water (5-gallon)	2	Troop galley **Note:** {S} airplanes do not contain a troop galley
15	Restraint harness, Aircrew, In-flight (Personnel Control Unit PCU-17/P) w/safety lanyard (Harness Belt Unit, HBU-6/P) (18'6")	3	Stowage box in the forward bunk room
16	Shoring Kit, plywood		
	12” X 12” X 1/2"	8	Stowed as loose equipment in the cargo compartment
	12” X 12” X 3/4"	8	
17	Vest, Survival (see **Note:** 4)	10	As Required

Notes:
1. EPOS is the preferred system for passenger smoke and fume protection. As a minimum, one EPOS is required per passenger. **(T-1)** Pre-position additional EPOS for increased scheduled passenger loads **(T-3)**
2. The A/C is the preferred life preserver unit (LPU) for passengers. As a minimum, one A/C is required for each passenger. **(T-1)** Pre-position additional LPUs to meet increased scheduled passenger loads. **(T-3)**
3. Aeromedical Evacuation Crewmember (AECM) and aircrew assigned to aircraft without parachutes may wear the A/C LPU. See AFMAN 11-2AE-V3 Addenda-A, *Aeromedical Evacuation Operations Configuration/Mission Planning*.
4. Survival Vests/Survival Backpacks and ABA are pre-positioned any time required by theater Special Instructions (SPINS). One ABA required for each crewmember. **(T-1)** Survival backpacks maybe used in-lieu of survival vests. **(T-1)**
5. Aircraft technical publications may consist of paper or electronic media.
6. One MSK must be installed in the forward bunk room stowage box for PDM input flights when life rafts are not installed.
7. Operations planners, schedulers, or crew request Anti-Exposure Suits for primary aircrew members on any missions planned to operate above 78 degrees north or below 60 degrees south latitude. If required, suits are be pre-positioned in the courier compartment baggage compartment.
8. The LPU-6/P infant cot is required for infants 18 months of age and younger. **(T-1)** Pre-positionadditional infant cots to meet increased scheduled passenger loads. **(T-3)**
9. One demo kit is installed in the troop compartment coat closet. **(T-3)** {S} airplanes have one kit installed in the courier compartment closet. **(T-3)**

Table 2.3. Minimum Required Equipment for PDM Input.

Item	Equipment	Standard Quantity	PDM Input	Notes
1	Aircrew Body Armor (ABA)	10	0	5
2	Anti-exposure Suit	As Required	0	5
3	Backpack, Survival	2	0	5
4	Crash Axe	3	2	7

5	Emergency Equipment Demo Bag	1	0	5
6	Emergency Exit Light	12	As required	See **Note:** 6
7	Emergency Passenger Oxygen System (EPOS)	88	0	5
8	Escape slide	5	1	3
9	Fire Extinguishers	15/17	16	11
10	First aid kit	22	4	8
11	Gloves, aramid	1	1	11
12	Kit, Minimum Survival (MSK)	0	1	5
13	Kit, Protective Clothing (PCK)	2	0	5
14	Kneeling collar	4	4	11
15	Kneeling pad extend pin	1	1	11
16	Life preserver, Adult/Child, (A/C)	100	0	4
17	Life preserver, Infant Cot, LPU-6/P	7	0	5
18	Life raft, 25-Person	4	As required	See **Note:** 2
19	Mask, 358-1506 Series	21	5	1
20	Mask, Speed-On	6	0	5
21	Oxygen bottle	16	16	11
22	Pallet Stops	4	4	11
23	Pin, landing gear	5	5	11
24	Protective Breathing Equipment (PBE)	8	8	5
25	Restraint Harness, Aircrew, In-Flight, PCU-17/P	3	1	5
26	Seats			
	Head Rest	5	5	9
	Seat Cushions	5	5	9
	Back Cushions	5	5	9
	Seat, Flight Engineer Student	1	0	9
	Three-man seat	1	1	10
	Two-man seat	2	2	10
27	Service Door Safety Gate	2	2	12
28	Strut limiter	1	1	11
29	Tie-down equipment			
	MB-1 chains and devices (10,000-lb capacity)	75	10	11
	MB-2 chains and devices (25,000-lb capacity)	75	10	11
	CGU-1/B straps (5,000-lb capacity)	50	10	11
30	Vest, Survival	10	0	5
31	Wheel chocks	4	4	11
Notes:				

1. One mask for each primary aircrew member is required. Guidance on Mask positions are provided in T.O. 1C-5M-1. Ensure the minimum number of mask-equipped oxygen bottles are available for scanner and loadmaster duties.
2. Life rafts are not required for overwater flights to and from PDM/Depot when route is within power off glide distance to land and an MSK is installed. If required, one life raft is installed on the flight deck. Guidance on lift raft positions is provided in T.O. 1C-5M-1.
3. One escape slide remains installed in the relief crew compartment for PDM.
4. A/C life preservers are not required for overwater flights to and from PDM/Depot when route is within power off glide distance to land. If required, one preserver is installed for each primary aircrew member. **(T-1)**
5. See **Notes:** in **Table 2.2** for further explanation.
6. Required for all operative exits. **(T-1)** Troop compartment lights not required when compartment is unoccupied.
7. A minimum of one crash axe will be available on the flight deck and one available in the troop compartment. **(T-1) Note:** {S} only requires 1 crash axe.
8. Two on the flight station and two in the cargo compartment.
9. Installed in the Flight Station.
10. Installed in the Relief Crew Compartment.
11. See **Table 2.1**
12. One located in relief crew coat closet, and one located in the troop compartment coat closet. {S} only requires 1.

Chapter 3

CONFIGURATION AND REQUIRED EQUIPMENT WEIGHT AND BALANCE DATA

3.1. Scope. This chapter contains basic cargo compartment configuration and weight, location, and moment data for associated required equipment.

3.2. General. Deviations to the basic configurations are authorized only to meet specific mission requirements.

3.3. Legend of Configurations.

3.3.1. CP-1. This configuration offers 36 pallet positions and seats for 73 passengers in the troop compartment. All rollers are up in this configuration.

3.3.2. {S} C-1. This configuration offers 36 pallet positions. All rollers are up in this configuration.

3.3.3. CP-2. This configuration offers a clean cargo compartment floor for floor-loaded cargo and seats for 73 passengers in the troop compartment. All rollers are down in this configuration.

3.3.4. {S} C-2. This configuration offers a clean cargo compartment floor for floor-loaded cargo. All rollers are down in this configuration.

3.3.5. CP-3. This configuration offers a mixed combination of palletized cargo and floor-loaded cargo in the cargo compartment and seats for 73 passengers in the troop compartment. Rollers are positioned as the cargo dictates.

3.3.6. {S} C-3. This configuration offers a mixed combination of palletized cargo and floor-loaded cargo. Rollers are positioned as the cargo dictates.

Table 3.1. CP-1, CP-2, and CP-3 Standard Configuration Quantities.

*Asterisk items are not required for local training missions.							
EQUIPMENT	STATIONS	FLT STA	TP COMP	CGO COMP	TOTAL	WEIGHT	MOM
Reference 5, DD Form 365-4 *(Steward's Equipment*)							
Blankets, large	620	*12	--	--	12	42	0.3
Blankets, small	in seats	*8	*75	--	83	83	1.3
Coffee pot w/hot plate	840/2075	1	*1	--	2	4	--
Expendable supplies	825/2080	1	*1	--	2	20	0.3
Hot cup	840/2075	1	*1	--	2	6	--
Pillows, large	620	*6	--	--	6	12	0.1
Pillows, small	in seats	*8	*75	--	83	42	0.7
Water container, 5-gal (full)	840/2080	1	*2	--	3	150	2.4
				TOTAL		359	5.1

Reference 6, DD Form 365-4 (*Emergency Equipment*)							
Aircrew Body Armor (ABA)	960	10	--	--	10	80	0.8
Backpack, Survival	960	4	--	--	4	88	0.3
Emergency Equipment Demo Bag	2080	--	1	--	1	2.5	0.1
EPOS	718/1725	15	73	--	88	176	2.7
Kit, Human Waste Clean-up	2080	--	--	*1	1	2	0.0
Kit, Protective Clothing (PCK)	825/2080	1	1	--	2	70	1.0
Life preserver, Infant Cot, LPU-6/P	2080	--	*7	--	7	28	0.6
Life preserver, Adult/Child, (A/C)	718/1725	20	80	--	100	150	2.3
Vest, Survival	960	10	--	--	10	100	1.0
				TOTAL		652.5	8.9
Reference 7, DD Form 365-4 (*Extra Equipment*)							
Flares	324/1669/ 1731	--	--	--	180	148	2.2
Shoring kit, plywood	443	--	--	1	1	28	0.1
				TOTAL		176	2.3
Additional Extra Equipment (As Required by Mission Directives)							
Winch (C-5), dual power	470	--	--	1	1	514	2.4
Winch (C-5), electric	470	--	--	1	1	300	1.4
Winch (C-5), hydraulic	470	--	--	1	1	329	1.5

Table 3.2. {S} C-1, C-2, and C-3 Standard Configuration (All Channel Missions) Quantities.

*Asterisk items are not required for local training missions.							
EQUIPMENT	STATIONS	FLT STA	TP COMP	CGO COMP	TOTAL	WEIGHT	MOM
Reference 5, DD Form 365-4 (*Steward's Equipment*)							
Blankets, large	620	*12	--	--	12	42	0.3
Blankets, small	in seats	*8	--	--	8	8	0.0
Coffee pot w/hot plate	840	1	--	--	1	2	0.0

Expendable supplies	825	1	--	--	1	5	0.0
Hot cup	840/2075	1	--	--	1	3	0.0
Pillows, large	620	*6	--	--	6	12	0.1
Pillows, small	in seats	*8	--	--	8	4	0.0
Water container, 5-gal (full)	840	1	--	--	1	50	0.4
				TOTAL		359	5.1
Reference 6, DD Form 365-4 (*Emergency Equipment*)							
Emergency Equipment Demo Bag	940	1	--	--	1	5	0.0
EPOS	718	15	--	--	15	30	0.1
Kit, Human Waste Clean-up	2080	--	--	*1	1	2	0.0
Kit, Protective Clothing (PCK)	825	1	1	--	2	70	1.0
Life preserver, Adult/Child, (A/C)	718	20	--	--	20	30	0.1
				TOTAL		137	1.2
Reference 7, DD Form 365-4 (*Extra Equipment*)							
Flares	324/1669/ 1731	--	--	--	180	148	2.2
Shoring kit, plywood	443	--	--	1	1	28	0.1
				TOTAL		176	2.3
Additional Extra Equipment (As Required by Mission Directives)							
Winch (C-5), Dual power	470	--	--	1	1	514	2.4
Winch (C-5), Electric	470	--	--	1	1	300	1.4
Winch (C-5), Hydraulic	470	--	--	1	1	329	1.5

Chapter 4

LOAD PLANNING

4.1. Scope. This chapter contains information to assist personnel in load planning.

4.2. General. Table 4.1 contains standard weight information. The following factors must be considered during load planning:

4.2.1. The cargo load will be planned so that the center-of-gravity of the loaded airplane falls within specified forward and aft limits. Guidance is provided in T.O. 1C-5M-5-2. Consideration must also be given to offload sequence, airplane limitations, and emergency jettisoning. For fuel efficiency, plan for a zero-fuel center-of-gravity of approximately 38% of mean aerodynamic chord (MAC) or 36% when passengers and baggage are not accounted for. **Note:** Any possible addition of passengers and baggage must be accounted for during planning to prevent the possibility of exceeding aircraft limitations. For example, if a full load of passengers and baggage could be added, initially load planning for a zero-fuel center-of-gravity of 36 percent of MAC would prevent exceeding aircraft center-of-gravity limitations.

4.2.2. Pallets loaded in pallet positions 1, 2, 35, and 36 (forward and aft ramps) will have a 14-inch aisle way, which will extend from the outboard edge of the pallet to the vertical stacking line of the cargo. Guidance can be found in T.O. 1C-5M-9.

4.2.3. No lateral overhang permitted for pallets loaded into the aircraft rail system. Ensure the maximum width of 104 inches of usable area of the pallet is not exceeded. Guidance can be found in T.O. 1C-5M- 9.

4.2.4. The maximum height of cargo for pallet positions 35 and 36 (aft ramp) will not exceed 70 inches measured on the aft side of the pallet. Guidance can be found in T.O. 1C-5M-9.

4.2.5. The weight limit on the forward or aft ramp is 7,500 pounds-per-pallet position. Guidance can be found in T.O. 1C-5M-9.

4.2.6. {S} AFT cargo door configuration prohibits left or right straight in loading of palletized cargo into the logistics rail system. Guidance can be found in T.O. 1C-5M-9-1.

4.2.7. When 20 or more passengers or troops are planned, a pallet position must be left open to accommodate the palletized baggage. **(T-3)** If a pallet is not available, the loadmaster has the option to floor load passenger baggage in the open pallet position.

4.2.8. When a pallet position is not available for baggage, additional seats (more than 20) may be released for passengers that have “Hand-Carried-Only baggage” that does not exceed the following dimensions: Length 21”, Height: 12.5”, Width 13” and the allowable cabin load (ACL) is not exceeded, and cargo configuration is maintained.

4.2.9. Do not place cargo in a position that restricts the use of the flight deck or troop compartment ladders. Guidance is provided in T.O. 1C-5M-1 and T.O 1C-5M-9.

4.3. Planning for the Loading and Placement of Hazardous Cargo. All classes of hazardous materials listed as acceptable for air transportation may be transported on the C-5 airplane. Hazardous cargo that is considered jettisonable must not be positioned forward of non- jettisonable cargo, i.e., vehicles, helicopters, pallet trains, etc., except when weight and location will permit

jettisoning by hand. Hazardous jettisonable cargo must be readily accessible and positioned for emergency jettison. Guidance is provided in T.O 1C-5M-9.

4.4. Personnel Limitation with One Lavatory Inoperative on Airplanes Equipped with a Recirculating Fluid Flush System. The Personnel Limitation Chart (**Figure 4.1**) reflects the number of passengers or troops that one troop compartment lavatory can accommodate and must be considered when determining the number of personnel that can be airlifted with one inoperative lavatory, guidance is provided in T.O. 1C-5M-1.

Table 4.1. Standard Weight Information.

Item	Pounds
Aircrew Body Armor (ABA)	8
Anti-Exposure Suit	8
Backpack, Survival	22
Baggage, crew	50
Baggage, duty	100
Baggage, space-a	70
Blankets, large	3.5
Blankets, small	1
Chain, MB-1	7
Chain, MB-2	20
Coffee pot w/hot plate	2
Crew (each)	200
Device, MB-1 (CGU-4/E)	3.5
Device, MB-2 (CGU-3/E)	6
Emergency Passenger Oxygen System (EPOS)	2
Escape slide	
No. 3R and 3L exit	71.5 each **Note:** {S} airplanes do not contain a troop compartment
No. 4 and 6 exit	71 each **Note:** {S} airplanes do not contain a troop compartment
No. 5 exit	70
Flare	0.8
Fire extinguisher, portable (1 quart)	9
Fire extinguisher, portable (1 gallon)	68
Hot cup	3
Kit, human waste clean-up	2
Kit, protective clothing	35
Life raft	
No. 2 exit	151
No. 3R, 4, and 6 exits	136 **Note:** {S} airplanes do not contain a troop compartment

Life preserver, Adult/Child, (A/C)	1.5
Life preserver, Infant Cot, LPU-6/P	4
Mask, 358-series w/googles	1
Net, side (HCU-7/E)	22
Net, top (HCU-15/C)	21
Oil, engine, (type according to T.O. 1C-5M-1) (one case)	45
Oil, hydraulic, (type according to T.O. 1C-5M-1) (one case)	42
Oxygen bottle, portable	6
Oven	45
Pallet	290
Passenger, duty	210
Passenger, space-a	175
Pillows, large	2
Pillow, small	0.5
Protective Breathing Equipment (PBE)w/storage case	5
Refrigerator	227
Restraint harness, Aircrew, In-flight (PCU-17/P) w/safety lanyard (HBU-6/P) (18'6")	8.3
Sheet, set	5
Shoring	
Plywood, 1/2" x 4' x 8'	43
Plywood, 3/4" x 4' x 8'	64
Planking, 2" x 12" x 12'	72
Shoring kit, plywood	28
Strap, cargo (CGU-1/B)	4
Vest, Survival	10
Water container, 5-gallon (full)	50
Wheel chock (20-inch)	14
Winch (C-5), dual power	514
Winch (C-5), electric	300
Winch (C-5), hydraulic	329
Winch (heavy duty portable)	792

Figure 4.1. Personnel Limitation with One Lavatory Inoperative on Airplanes Equipped with a Recirculating Fluid Flush System.

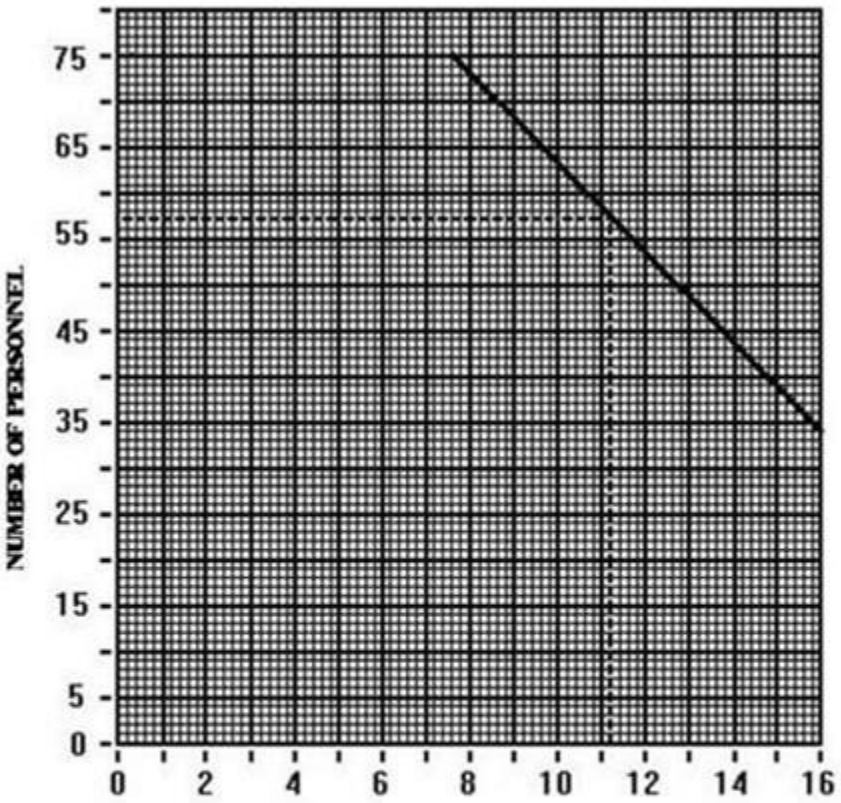


Figure 4.1

EXAMPLE: How many passengers may be airlifted on an 11.2-hour flight? ***SOLUTION***: Enter the graph on the horizontal scale of 11.2 hours. Project a line vertically until it intersects the sloping line and project a line horizontally to the left. At this point is the maximum figure of 57.

NOTES:

1. Two loadmasters must be subtracted from total number determined by chart.
2. Consideration should be given to infants and small children when figuring total personnel aboard.

JAMES C. SLIFE, Lt Gen, USAF
Deputy Chief of Staff, Operations

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure,* 03 May 2022

AFI 11-301V1, *Aircrew Flight Equipment (AFE) Program,* 09 January 2019

AFI 33-322, *Records Management and Information Governance Program,* 23 March 2020

AFMAN 11-202V3, *Flight Operations,* 10 January 2022

AFMAN 11-2C-5V3, *C-5 Operations Procedures,* 20 October 2022

AFMAN 11-301V2, *Management and Configuration Requirements for Aircrew Flight Equipment (AFE),* 13 February 2020

AFMAN 11-2AE-V3 Addenda-A, *Aeromedical Evacuation Operations Configuration/Mission Planning,* 16 June 2020

AFPD 11-2, *Aircrew Operations,* 31 January 2019

DAFI 90-160, *Publications and Forms Management,* 14 April 2022

T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures,* 11 July 2016

T.O. 1C-5M-1, *Flight Manual,* 01 May 2019

T.O. 1C-5M-1-1, *Flight Manual,* Appendix 1, 01 May 2019

T.O. 1C-5M-1-2, *Partial Flight Manual, C-5M (SCM) Airplanes,* 01 April 2016

T.O. 1C-5M-5-1, *Basic Weight Checklist,* 01 June 2017

T.O. 1C-5M-5-2, *Loading Data Manual,* 01 June 2017

T.O. 1C-5M-9, *Loading Instructions Manual,* 01 May 2019

T.O. 1C-5M-9-1, *Partial Loading Instructions Manual, C-5M (SCM) Airplanes,* 01 April 2016

Adopted Forms

DAF Form 847, *Recommendation for Change of Publication,* 22 September 2009

AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document,* 03 July 2017

DD Form 365-3, Chart C, *Basic Weight and Balance Record,* 01 August 1996

DD Form 365-4, *Weight and Balance Clearance Form-F-Transport/Tactical,* 01 August 1996

Abbreviations and Acronyms

ABA—Aircrew Body Armor

AC—Aircraft Commander

A/C—Adult Child

ACL—Allowable Cabin Load

AECM—Aeromedical Evacuation Crew Member

AFE—Aircrew Flight Equipment

AFI—Air Force Instruction

AFTO—Air Force Technical Order

ALSE—Aircrew Life Sustaining Equipment

ARMS—Aviation resource Management Systems

AS—Allowance Standards

CG—Center of Gravity

DAF—Department of the Air Force

DAFMAN—Department of the Air Force Manual

DD—Department of Defense

EPOS—Emergency Passenger Oxygen System

FS—Fuselage Station

GW—Gross Weight

HBU—Harness Belt Unit

LPU—Life Preserver Unit

MAC—Mean Aerodynamic Chord

MSK—Minimum Survival Kit

OPR—Office of Primary Responsibility

PBE—Protective Breathing Equipment

PCK—Protective Clothing Kit

PCU—Personnel Control Unit

PDM—Programmed Depot Maintenance

RBL—Right Butt Line

SCM—Space Canister Modified

SPINS—Special Instructions

T.O.—Technical Order

ZFW—Zero Fuel Weight

ZFWCG—Zero Fuel Weight Center of Gravity

Office Symbols

AMC/A3V—Headquarters Air Mobility Command, Aircrew Standardization and Evaluation

AF/A3T—Headquarters U.S. Air Force, Director of Training and Readiness

Attachment 2

INSTRUCTIONS DD FORM 365-4 (WEIGHT AND BALANCE CLEARANCE FORM F) COMPLIANCE WITH ATTACHMENT IS MANDATORY

A2.1. DD Form 365-4 heading. Enter date, airplane type, departure station, home station of airplane, mission number, serial number, destination station (use station nomenclature, not symbols), and aircraft commander's rank and last name.

A2.2. Limitations. Enter the appropriate weight and center of gravity (CG) limits for the planned mission by utilizing the corresponding sections in the flight manual and loading manual.

A2.2.1. Allowable takeoff gross weight (GW). The maximum takeoff GW is 840,000 pounds. Allowable takeoff GW may be further restricted by critical field length, obstacle clearance, rate of climb, or weight bearing capacity. Verify the allowable takeoff GW with the flight engineer.

A2.2.2. Allowable landing GW. The maximum landing weight is 840,000 pounds. When mission requirements dictate a weight above 635,850 pounds, consult T.O. 1C-5M-1, Section V, weight limitations, and document the associated allowable sink speed in the remarks section.

A2.2.3. Allowable zero fuel weight (ZFW). The maximum ZFW is 686,190 pounds unless nonstandard fuel sequence procedures are used, or aircraft is structurally restricted. Verify the allowable ZFW with the flight engineer.

A2.3. Reference 1. Enter basic weight and moment from certified copy of DD Form 365-3 (Chart C) in the airplane weight and balance handbook.

A2.4. Reference 2. Leave blank.

A2.5. Reference 3. Enter crew number and location. Use T.O. 1C-5M-5-2, Table **2-2**, for crew moment calculations.

A2.6. Reference 4. Enter crew baggage at 50 pounds each. Additional weight should be added per crewmember when mobility bags are carried.

A2.7. Reference 5, 6 and 7 (see **Chapter 3**). Enter weight and moment. Also, indicate configuration used.

A2.8. Reference 8. Enter liquid nitrogen weight and moment. Use FS 1418 for liquid nitrogen moment computations.

A2.9. Reference 9. The total of references 1 through 8.

A2.10. Reference 10. Enter takeoff fuel (ramp fuel minus 3,000 pounds for taxi and takeoff roll). Fuel moments may be computed using the interpolation method or using 14 moments for each 1,000 pounds of fuel over the standard fuel figures in T.O. 1C-5M-5-2.

A2.11. Reference 11. Leave blank.

A2.12. Reference 12. The total of references 9 and 10.

A2.13. Reference 13. Distribution of allowable load:

A2.13.1. Enter 463L pallets with cargo by pallet position or fuselage station.

A2.13.2. Enter vehicles, rolling stock, pallet trains with oversize cargo by CG location. A2.13.3. Enter passengers or troops in the appropriate compartments, see T.O. 1C-5M-5-2, Figure 2-7. Use FS 1675 to compute troop/passenger moments.

A2.14. Reference 14. Enter the ZFW, zero fuel moment, and zero fuel percent of MAC. If the ZFW CG falls outside the ZFW envelope (loading data manual), the cargo load preplan must be adjusted.

A2.15. Reference 15. Subtotals; enter totals from reference 13.

A2.16. Reference 16. Enter the total of references 12 and 15.

A2.17. Reference 17. Enter the takeoff CG in percent of MAC.

A2.18. Reference 18. Enter corrections (when applicable).

A2.19. Reference 19. Enter the total of references 16 and 18. If no corrections, leave blank.

A2.20. Reference 20. Enter the corrected CG in percent of MAC. If no corrections, leave blank.

A2.21. Reference 21. Enter ZFW and moment. (Adjust if corrections are made)

A2.22. Reference 22. Leave blank except for airdrop missions.

A2.23. Reference 23. Enter estimated landing fuel weight and moment. Check computerized flight plan or use 30,000 pounds for first hour of flight and 20,000 pounds per hour for remainder of flight.

A2.24. Reference 24. Enter the total of references 21 and 23. This weight should not exceed the allowable landing GW shown in the limitations block.

A2.25. Reference 25. Enter the estimated landing CG in percent of MAC.

A2.26. Remarks Block. Enter nonstandard fuel sequence information, if applicable, the maneuver load limit (if less than 2.5g), and any aircraft structural weight restrictions.

A2.26.1. Nonstandard fuel sequencing is used when maintenance problems preclude the use of certain fuel tanks. Nonstandard fuel procedures are essentially the same as standard fuel sequencing with the following **Exceptions:**

A2.26.1.1. The flight engineer informs or provides the loadmaster of the conditions requiring this configuration and the fuel weight distribution of individual tanks.

A2.26.1.2. Fuel weight moments are computed using the standard sequence fuel moment tables in T.O. 1C-5M-5-2 and T.O. 1C- 5M-5-2-1.

A2.26.1.3. Special zero fuel weight center of gravity (ZFWCG) restrictions are required when using nonstandard fuel sequencing. Enter ZFWCG limitation in the limitation block. (See T.O. 1C-5M-1, Section V, Nonstandard Fuel Sequence Procedures.).

A2.26.1.4. Weight limitation restriction. Depending on which tanks are empty, the takeoff and fuel allowable gross weight limitations are restricted. The landing limitation will remain at 840,000 pounds, guidance can be provided T.O. 1C-5M-1. Comply with T.O. 1C-5M-1, Section V, nonstandard fuel sequence procedures.

A2.26.1.5. Use the remarks block to record the fuel breakdown of symmetrical tanks, weight and moments, i.e., 1 and 4 main tanks 47,000 pounds @ 758 moments. **Note**: When

calculating moments for fuel, use 14 moments for each 1,000 pounds of fuel over the standard fuel figures contained in T.O. 1C-5M-5-2.

A2.26.2. Maneuver load limitations apply.

A2.26.2.1. When ZFW does not exceed 611,190 pounds and takeoff GW does not exceed 769,000 pounds, no entry required.

A2.26.2.2. When ZFW is between 611,191 pounds and 656,190 pounds or takeoff GW does not exceed 840,000 pounds, enter "maneuver load limit 2.25g."

A2.26.2.3. When ZFW is between to 656,190 pounds, and 686,190 pounds or takeoff GW exceeds 840,000 enter "maneuver load limit 2.0g."

A2.27. Load adjuster number block. Leave blank.

A2.28. Signature block.

Attachment 3

INSTRUCTIONS DD FORM 365-4 (C-5M AIRCRAFT JACKING)COMPLIANCE WITH ATTACHMENT IS MANDATORY

A3.1. DD Form 365-4 Heading. Complete only the following blocks (date, aircraft type, serial no., to and home station).

A3.2. Limitations. Limitations. Enter the appropriate weight and center of gravity (CG) limits for the planned mission by utilizing the corresponding sections in the flight manual and loading manual.

A3.2.1. Allowable Takeoff GW. Enter the maximum aircraft jacking weight. Verify the allowable takeoff GW with maintenance.

A3.2.2. Allowable Landing GW. Leave blank.

A3.2.3. Allowable ZFW. Leave blank.

A3.3. Reference 1. Enter basic weight and moment from certified copy of DD Form 365-3 (Chart C) in the airplane weight and balance handbook.

A3.4. Reference 2. Leave blank.

A3.5. Reference 3. Leave blank.

A3.6. Reference 4. Crew's baggage "n/a" (**Exception**: You may have mobility bags, etc.; in this case account for weight/moment).

A3.7. Reference 5, 6 and 7 (see **Chapter 3**). Enter weight and moment. Also, indicate configuration used.

A3.8. Reference 8. Enter liquid nitrogen weight and moment. Use FS 1418 for liquid nitrogen moment computations

A3.9. Reference 9. The total of references 1 through 8.

A3.10. Reference 10. Takeoff fuel use ramp fuel (do not subtract 3,000 pounds).

A3.11. Reference 11. Leave blank.

A3.12. Reference 12. The total of references 9 and 10.

A3.13. Reference 13. Distribution of Allowable Load:

A3.13.1. Maintenance, in coordination with the loadmaster and Aerial Port/CRW/etc., may request some/all/none of the cargo be removed from the aircraft.

A3.13.2. If total cargo weight is zero, place a diagonal line through reference 13 and enter "Negative Cargo."

A3.14. Reference 14. Leave blank.

A3.15. Reference 15. Subtotals; enter totals from reference 13 if applicable.

A3.16. Reference 16. Enter the total of references 12 and 15.

A3.17. Reference 17. Enter the takeoff CG, convert percent of MAC to a FS.

A3.18. Reference 18, 19, 20, 21, 22, 23, 24 and 25. Leave Blank.

A3.19. Remarks Block. Enter in the following statement: "Complete fuselage jacking Form F or forward fuselage jacking Form F. Maximum jacking weight is XXX, XXX pounds. Aircraft jacking weight verified by Maintenance, MSgt XXXXXX."

A3.19.1. Consult with maintenance/rank/name to determine (verify) maximum jacking weight

A3.20. Enter forward & aft permissible cg takeoff block using:

A3.20.1. Chart 1 complete fuselage jacking with airplane unkneeled contained in T.O. 1C-5M-2-1. (Use keyword search "allowable cg limits" in EFB).

A3.20.2. Chart 2 forward fuselage jacking with airplane unkneeled contained in T.O. 1C-5M-2-1. (Use keyword search "allowable cg limits" in EFB).

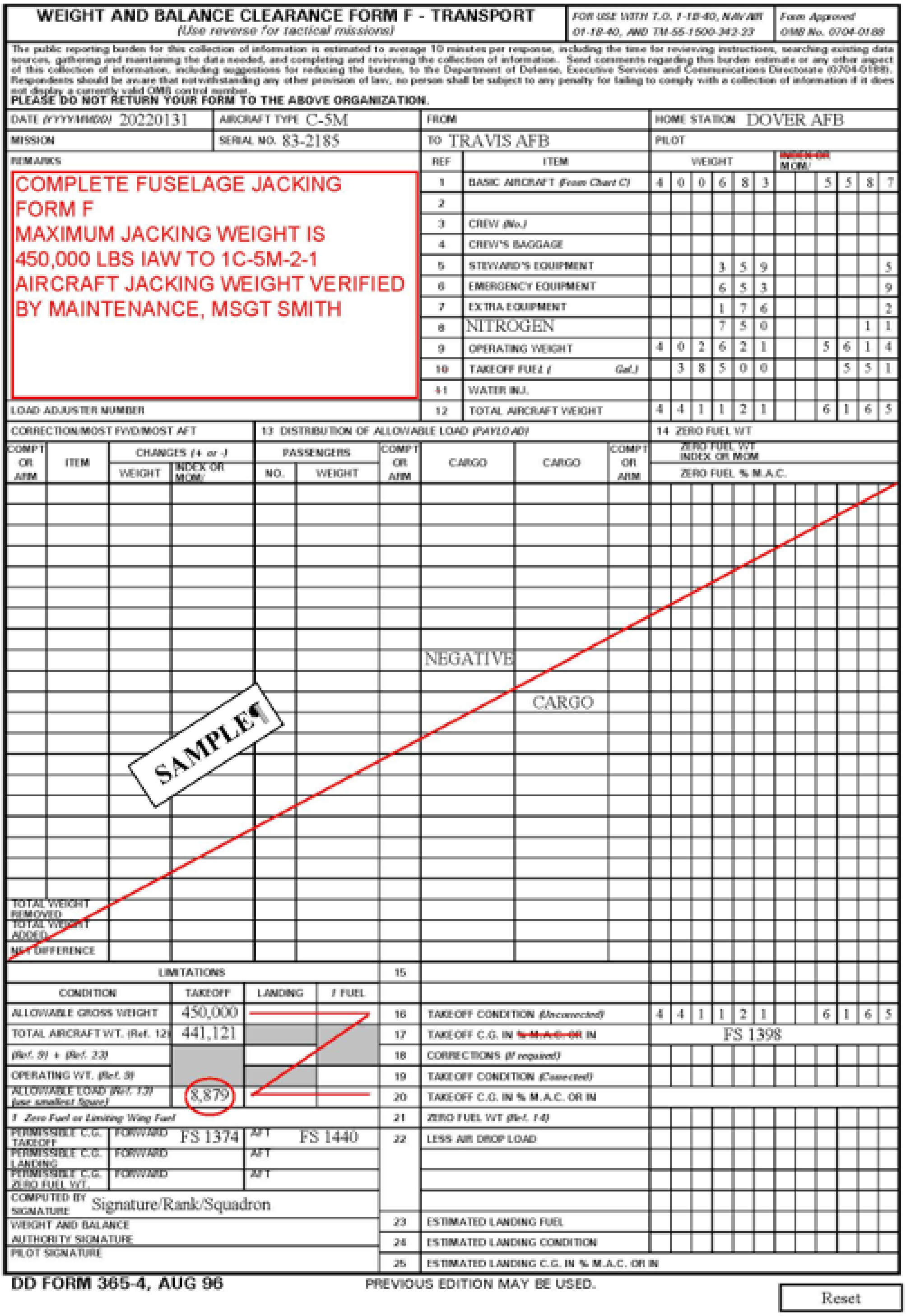
A3.20.3. Use the chart by starting on left-hand side (gross weight – 1000 pounds) to the total aircraft weight you entered in Reference 16. Move right until you meet with the dark-contoured line, then scroll down. This will be your forward fuselage limit. (I.e., complete fuselage jacking with airplane unkneeled at 400,000 pounds would be fs1356) Enter the aft permissible CG limit using the applicable chart contained in T.O. 1C-5M-2-1, which in all cases when within limits will be a constant FS1440.

A3.21. Verify within limits for the jacking operation by comparing actual (reference 17) to permissible cg takeoff blocks forward and aft.

A3.22. All other reference numbers are not required to be completed, to include no requirement to have pilot signature.

A3.23. Complete computed by signature block with signature/rank/unit.

Figure A3.1. Sample Aircraft Jacking Example.



WEIGHT AND BALANCE CLEARANCE FORM F - TRANSPORT
(Use reverse for tactical missions)

FOR USE WITH T.O. 1-1B-40, NAVAIR 01-1B-40, AND TM-55-1500-342-23

Form Approved OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services and Communications Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.

DATE (YYYYMMDD) 20220131	AIRCRAFT TYPE C-5M	FROM	HOME STATION DOVER AFB
MISSION	SERIAL NO. 83-2185	TO TRAVIS AFB	PILOT

REMARKS:
COMPLETE FUSELAGE JACKING
FORM F
MAXIMUM JACKING WEIGHT IS
450,000 LBS IAW TO 1C-5M-2-1
AIRCRAFT JACKING WEIGHT VERIFIED
BY MAINTENANCE, MSGT SMITH

LOAD ADJUSTER NUMBER

REF	ITEM	WEIGHT	~~INDEX OR~~ MOM/
1	BASIC AIRCRAFT (From Chart C)	400683	5587
2			
3	CREW (No.)		
4	CREW'S BAGGAGE		
5	STEWARD'S EQUIPMENT	359	5
6	EMERGENCY EQUIPMENT	653	9
7	EXTRA EQUIPMENT	176	2
8	NITROGEN	750	11
9	OPERATING WEIGHT	402621	5614
10	TAKEOFF FUEL (Gal.)	38500	551
11	WATER INJ.		
12	TOTAL AIRCRAFT WEIGHT	441121	6165

CORRECTION/MOST FWD/MOST AFT — 13 DISTRIBUTION OF ALLOWABLE LOAD (PAYLOAD) — 14 ZERO FUEL WT

COMPT OR ARM	ITEM	CHANGES (+ or -) WEIGHT	INDEX OR MOM/	PASSENGERS NO.	PASSENGERS WEIGHT	COMPT OR ARM	CARGO	CARGO	COMPT OR ARM	ZERO FUEL WT INDEX OR MOM / ZERO FUEL % M.A.C.
							NEGATIVE	CARGO		
TOTAL WEIGHT REMOVED										
TOTAL WEIGHT ADDED										
NET DIFFERENCE										

SAMPLE

LIMITATIONS

CONDITION	TAKEOFF	LANDING	† FUEL
ALLOWABLE GROSS WEIGHT	450,000		
TOTAL AIRCRAFT WT. (Ref. 12)	441,121		
(Ref. 9) + (Ref. 23)			
OPERATING WT. (Ref. 9)			
ALLOWABLE LOAD (Ref. 13) (use smallest figure)	8,879		

† Zero Fuel or Limiting Wing Fuel

PERMISSIBLE C.G. TAKEOFF	FORWARD FS 1374	AFT	FS 1440
PERMISSIBLE C.G. LANDING	FORWARD	AFT	
PERMISSIBLE C.G. ZERO FUEL WT.	FORWARD	AFT	

COMPUTED BY SIGNATURE Signature/Rank/Squadron

WEIGHT AND BALANCE AUTHORITY SIGNATURE

PILOT SIGNATURE

REF	ITEM	VALUE
15		
16	TAKEOFF CONDITION (Uncorrected)	441121 / 6165
17	TAKEOFF C.G. IN ~~% M.A.C. OR~~ IN	FS 1398
18	CORRECTIONS (If required)	
19	TAKEOFF CONDITION (Corrected)	
20	TAKEOFF C.G. IN % M.A.C. OR IN	
21	ZERO FUEL WT (Ref. 14)	
22	LESS AIR DROP LOAD	
23	ESTIMATED LANDING FUEL	
24	ESTIMATED LANDING CONDITION	
25	ESTIMATED LANDING C.G. IN % M.A.C. OR IN	

DD FORM 365-4, AUG 96 PREVIOUS EDITION MAY BE USED.

Reset