

C.G. range	<u>Condition</u>	<u>Max. Weight, lb.</u>	<u>Gear Position</u>	<u>C.G. Range</u>	
	Takeoff	44,900	Down	440.2 - 461.4	
	Takeoff &	43,000	Down	439.2 - 461.4	
	Landing	38,000 & less	Down	436.8 - 461.4	
	Flight	All Weight	Up	432.6 - 461.4	
	(Straight line C.G. variation with weights shown)				
	Effect of retracting landing gear		-75,121 in.-lb. (Item 203(a))		
			-72,636 in.-lb. (Item 203(b))		
Datum	87 inches forward nose of fuselage				
Leveling means	Longitudinal: Left side, fuselage stations 389.5 and 411 at water level 19.75 (Battery hatch area)				
	Lateral: Fuselage station 389.5 at water level 4.76 (Battery hatch area)				
Maximum weights	Takeoff (Antidetonant Power)	44,900 lb.			
	Takeoff (Dry Power)	41,500 lb.			
	Landing (Antidetonant Power)	43,000 lb.			
	Landing (Dry Power)	40,200 lb.			
	Zero-Fuel	Variable between 41,000 and 42,500 lb. See "Airspeed Limits" for zero fuel weights and corresponding Vne and Vno speeds.			
Minimum crew	2 - Pilot and Co-pilot (190)				
Maximum passengers	50 (CAR 4b.43)				
Maximum baggage	<u>Compartment</u>	<u>Station</u>	<u>Max. Capacity (Lb.)</u>	<u>Arm</u>	
	Fwd. Cabin-R.H.	212-243	900	228	
	Fwd. Cabin-R.H.	212-330	1700	273	
	Fwd. Cabin-L.H.	255-290	800	273	
	Fwd. Cabin-L.H.	255-330	2000	293	
	Aft cabin	730-799	600	766	
	Aft belly	536-723	1600	643	
Fuel capacity	1370 gal. (458) (685 gal. in 6 interconnected wing fuel cells in each wing) See NOTE 1(c) for "System Fuel."				
Oil capacity	54 gal. (408) (One 27 gal. tank in each nacelle.) See NOTE 1(c) for "System Oil".				
Control surface movements	Elevator trim tab	10°	Up	20°	Down
	Elevator (flaps 0°)	30°	Up	18°	Down
	Aileron trim tab	12°	Up	12°	Down
	Aileron	30°	Up	15°	Down
	Rudder	25°	Left	25°	Right
	Rudder trim tab	17 1/2°	Left	17 1/2°	Right
	Flaps			45°	Down
Serial Nos. eligible	14101 and up, except U.S. Coast Guard aircraft Nos. 14290 and 14291. (Refer to pertinent ACA Forms 317 or 970 for non-conformity items on Coast Guard Aircraft.)				
Required equipment	In addition to the pertinent required basic equipment specified in CAR 4b, the following items of equipment must be installed: Items 1, 2, 101(a) or (b), 102(a) or (b), 103, 104, 105, 106, 107, 201(a), 202(a), 203(a) or (b), 205(a), 206(a), 301, 302, 303, 304, 401(a) or (b), 402, 404, 501, 502, 503(b).				

Electrical Equipment

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| 301. | 2 Generators (Eclipse-Pioneer 30E02-11B or -11C) | 130 lb. (387) |
| 302. | Battery (Exide 12T-AS11) | 83 lb. (400) |
| 303. | 2 Landing Lights (Grimes G-3800A-6) | 12 lb. (445) |
| 304. | 2 Inverters (Eclipse-Pioneer 1518-1-F) | 73 lb. (375) |

Interior Equipment

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| 401. | One of the following FAA Approved Airplane Flight Manuals. (The Manual may be carried as part of, or bound with, the operator's "Approved Operator's Manual", but <u>must</u> remain in the airplane and <u>must</u> retain its identity as an individual manual.) | |
| | (a) EAL Model 404, Revision 4 dated 9/4/62 | |
| | (b) TWA Model 404, Revision 5 dated 10/15/52 | 7 lb. (167) |
| 402. | Windshield wiper installation (Marquette Motor D1600-1 with Marquette 16-2E6-1/64 Rev. C valve or Alco Motor XW2068-5 or XW2069-2 with valve XW2331-2) | |
| 403. | 2 cabin combustion heaters (Surface Combustion 77A63) | 55 lb. (358) |
| 404. | Oxygen system (Includes both protective and supplemental) | |
| | (a) EAL Maint. Manual (Vol. V) Series 20-2 Page 1. | 53 lb. (332) |
| | (b) TWA Maint. Manual Series 20-2 Page 1. | 100 lb. (302) |

Anti-icing and Deicing Equipment

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| 501. | 4 wing combustion heaters (Surface Combustion (Janitrol) 99A50) | 158 lb. (467) |
| 502. | Carburetor heat anti-icing system
(GLM Dwg. No. 404-5051100 or 404-5051200) | 26 lb. (358) |
| 503. | Alcohol deicing system (including 16 gal. at 7 lb. per gallon)
(EAL Maintenance Manual Vol. V Series 18-2 pages 11 and 13; TWA Maintenance Manual Series 18-2 pages 11 and 13). | 212 lb. (521) |
| | (a) Propeller deicing equipment
Hamilton Standard Boots Model 74467, length 52 inches. | |
| | (b) Carburetor. | |

- NOTE 1. (a) Current weight and balance report including list of equipment included in certificated weight empty, and loading instructions when necessary, must be in each aircraft at the time of original certification and at all times thereafter (except in the case of air carrier operators having an approved weight control system).
- (b) Refer to Martin Engineering Reports "Actual Weight and Balance Model 404 (Airline)" and "Weight and Balance Loading Schedule Model 404 (Airline)" for interior arrangement, equipment list, weight and balance and loading schedule for any particular airplane.
- (c) "System Fuel and Oil" is that amount required to fill both the systems and the tanks up to the tank outlets to the engines, when the airplane is in the level attitude. "System Fuel and Oil" and all hydraulic fluid must be included in the certificated weight empty. (See Item 107 for fuel and oil quantities).
- (d) Fuel and Oil capacities listed do not include any "System Fuel and Oil". Oil tank does include propeller feathering oil (2 gal.).

- NOTE 2. The following placards must be displayed on the instrument panel in full view of the pilot (except as noted in (c), (e) and (f) below):

- (a) "This airplane must be operated in compliance with operating limitations specified in F.A.A. approved airplane operating manual."

- (b) Automatic Propeller Feathering:
"Lights ON for all take-off operations".
- (c) "Emergency gear extension - Do not lower above 130 m.p.h."
(Located inside emergency gear control access door.)
- (d) Landing gear control handle:
"Caution: Lever must return to neutral after each operation".
- (e) Forward Cabin Door:
"This door to be open during all take-offs and landings".
(Located on forward side of cabin inner door at Sta. 330.)
- (f) Forward entrance door restraining bar (EAL only):
"Warning - Bar must not be across doorway during take-off and landing".
(Installed on restraining bar).

NOTE 3. When antidetonant injection is not used for takeoff, the propeller governors must be reset prior to takeoff in order to limit the dry takeoff engine r.p.m. to 2700.

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