

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

A-746  
Revision 7  
Karl M. Gabriel  
(Army L-2, L-2C) DC-65(Army L-  
2E) DF-65 (Army L-2D) DL-65  
(Army L-2A, -2B, -2M) DCO-65  
April 23, 2021

AIRCRAFT SPECIFICATION NO. A-746

Type Certificate Holder: Karl M. Gabriel  
31406 S. 855 PR SE  
Kennewick, Washington 99338-1237

Type Certificate Holder Record Taylorcraft Incorporated transferred A-746 to Robert J. Kuhlow on March 21, 1972.

Marianne Kuhlow assumed ownership on December 7, 2001.

Marianne Kuhlow transferred A-746 to Arizona Aerospace Foundation on May 27, 2003.

Arizona Aerospace Foundation dba Pima Air and Space Museum transferred to Karl M. Gabriel on April 23, 2021

I - Model DC-65 (Army L-2, L-2C), 2 PCLM Approved 25 November  
1941. (Army L-2 same as DC-65 except for overhead window in cabin.)

Engine Continental A-65-8 (See item 308 for optional engines)  
Fuel 73 min. octane aviation gasoline  
Engine limits For all operations, 2300 rpm (65 hp)

Airspeed limits Level flight or climb 110 mph ( 96 knot)  
(True Ind.) Glide or dive 140 mph (122 knot)

Propeller limits Static r.p.m. at maximum permissible throttle setting:  
Not over 2210, not under 2040.  
No additional tolerance permitted.  
Diameter - not over 72 in.; not under 70 in.

C.G. range (+11.8) to (+19.5)

Empty weight C.G. range (+12.6) to (+16.7)

Maximum weight 1250 lb.

No. seats 2 (+11) and (+40). Placard required: "SOLO FROM FRONT SEAT ONLY."  
(See NOTE 3 for swivel type seats).

Maximum baggage 20 lb. (+60)

Fuel capacity 14 gal. total (2 gal. fuselage tank (-18) and two 6 gal. wing tanks (+23))

Oil capacity 4 qt. (-38)

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Control surface movements	Elevator	28°	Up	28°	Down
	Elevator trim tab	41°	Up	41°	Down
	Aileron	28°	Up	21°	Down
	Rudder	25°	Right	25°	Left

Serial Nos. eligible 4002 and up and all AAF No. Use mfg. no. if available.

Required equipment Items 101, 102, 103, 104 and 105

## II - Model DF-65 (Army L-2E), 2 PCLM Approved 25 November 1941.

(Same as DC-65 except for engine installation)

Engine	Franklin 4AC-176-B2 (See Item 308 for optional engines)				
Fuel	73 min. octane aviation gasoline				
Engine limits	For all operations, 2200 rpm (65 hp)				
Airspeed limits	Level flight or climb	110 mph ( 96 knot)			
(True Ind.)	Glide or dive	140 mph (122 knot)			
Propeller limits	Static r.p.m. at maximum permissible throttle setting:				
	(1) With 4AC-176-B2 engine -	not over 2170			
		not under 2050			
	(2) With 4AC-176-BA2 engine -	not over 2315			
		not under 2150.			
	No additional tolerance permitted.				
	Diameter - not over 72 in.; not under 70 in.				
C.G. range	(+11.8) to (+19.5)				
Empty weight C.G. range	(+12.9) to (+16.8)				
	If empty weight C.G. falls within this range, it is unnecessary to check critical forward and aft C.G. positions. Range is not valid for non-standard arrangements.)				
Maximum weight	1250 lb.				
No. seats	2 (+11) and (+40). Placard required: "SOLO FROM FRONT SEAT ONLY." (See NOTE 3 for swivel type seats).				
Maximum baggage	20 lb. (+60)				
Fuel capacity	14 gal. total (2 gal. fuselage tank (-18) and two 6 gal. wing tanks (+23))				
Oil capacity	5 qt. (-45)				
Control surface movements	Elevator	28°	Up	28°	Down
	Elevator trim tab	41°	Up	41°	Down
	Aileron	28°	Up	21°	Down
	Rudder	25°	Right	25°	Left
Serial Nos. eligible	4002 and up and all AAF No. Use mfg. no. if available. 4001 eligible at 1200 lb. maximum weight.				
Required equipment	Items 101, 102, 103, 104 and 105				

III - Model DL-65), 2 PCLM Approved 25 November 1941.

(Same as DC-65 except for engine installation)

Engine	Lycoming O-145-B2 (See Item 308 for optional engines)			
Fuel	73 min. octane aviation gasoline			
Engine limits	For all operations, 2550 rpm (65 hp)			
Airspeed limits (True Ind.)	Level flight or climb	110 mph ( 96 knots)		
	Glide or dive	140 mph (122 knots)		
Propeller limits	Static r.p.m. at maximum permissible throttle setting:			
	Not over 2315, not under 2100.			
	No additional tolerance permitted.			
	Diameter - not over 70 in.; not under 68 in.			
C.G. range	(+11.8) to (+19.5)			
Empty weight C.G. range	(+12.9) to (+16.8)			
	If empty weight C.G. falls within this range, it is unnecessary to check critical forward and aft C.G. positions. Range is not valid for non-standard arrangements.			
Maximum weight	1250 lb.			
No. seats	2 (+11) and (+40). Placard required: "SOLO FROM FRONT SEAT ONLY." (See NOTE 3 for swivel type seats).			
Maximum baggage	20 lb. (+60)			
Fuel capacity	14 gal. total (2 gal. fuselage tank (-18) and two 6 gal. wing tanks (+23))			
Oil capacity	5 qt. (-45)			
Control surface movements	Elevator	28°	Up	28° Down
	Elevator trim tab	41°	Up	41° Down
	Aileron	28°	Up	21° Down
	Rudder	25°	Right	25° Left
Serial Nos. eligible	4002 and up			
Required equipment	Items 101, 102, 103, 104 and 105			

IV - Model DCO-65 (Army L-2A, L-2B AND L-2M), 2 PCLM Approved 24 February 1942

(Same as DC-65 except for rear view transparent cabin enclosure, revised cockpit arrangement, and revised fuselage, and landing gear structure. Army L-2M is same as model DCO-65 except for revised rear transparent enclosure, revised instrument panel, revised 6 gal. wing tank, closed cowl, revised engine installation, spoiler installation, and operating limits as noted below:)

Engine	Continental A-65-8.			
Fuel	73 min. octane aviation gasoline			
Engine limits	For all operations, 2300 rpm (65 hp)			
Airspeed limits (True Ind.)	Level flight or climb	110 m.p.h. ( 96 knot)		
	Glide or dive	140 m.p.h. (122 knot)		
	Spoilers extended (L-2M)	90 m.p.h. ( 78 knot)		

Propeller limits	Static r.p.m. at maximum permissible throttle setting: (DCO-65, L-2A, L-2B) Not over 2350, not under 2000. (L-2M) not over 2325, not under 2135. No additional tolerance permitted. Diameter - not over 72 in.; not under 70 in.				
Center of gravity (C.G.) range	(DCO-65, L-2A, L-2B) (+12.3) to (+19.3) (L-2M) (+12.3) to (+17.56)				
Empty weight C.G. range	(DCO-65, L-2A, L-2B) (+13.2) to (+17.1) (L-2M) (+13.2) to (+15.3) If empty weight C.G. falls within this range, it is unnecessary to check critical forward and aft C.G. positions. Ranges are not valid for non-standard arrangements.				
Maximum weight	(DCO-65, L-2A, L-23) 1300 lb. (L-2M) 1325 lb.				
No. of seats	2 (+11) and (+37). Placard required: "SOLO FROM FRONT SEAT." (See NOTE 3 for swivel type rear seats).				
Maximum baggage	(DCO-65, L-2A, L-2B) 20 lb. (+59) (L-2M) None.				
Fuel capacity	14 gal. total (2 gal. fuselage tank (-18) and two 6 gal. wing tanks (+23)); (L-2M) (+24)				
Oil capacity	4 qt. (-38)				
Control surface movements	Elevator	28°	Up	28°	Down
	Elevator trim tab	41°	Up	41°	Down
	Aileron	28°	Up	21°	Down
	Rudder	25°	Right	25°	Left
	Spoilers (L-2M)	50°	Up	0°	Left
Serial Nos. eligible	(DCO-65, L-2A, L-2B) 4002 and up and all AAF No. Use Mfg. No. if available. (L-2M) 5166 and up				
Required equipment	(DCO-65, L-2A, L-2B) Items 101, 102, 103, 104 and 105 (L-2M) Items 101, 102, 302 (e) and 304.				
<b><u>Specifications Pertinent to all Models</u></b>					
Datum	Leading edge of wing				
Leveling means	3/8 in. above top of stabilizer L.E. and top of stabilizer rear beam at fuselage.				
Certification basis	Type Certificate No. 746 (CAR 4a)				
Production basis	None. Prior to original certification a CAA representative must perform a detailed inspection for workmanship, materials, and conformity with the approved technical data, and a check of the flight characteristics.				
Export eligibility	Eligible for export to all countries subject to the provisions of Advisory Circular 21-2.				
Equipment:	A plus (+) or minus (-) sign preceding the weight of an item indicates net weight change when that item is installed.				

Propeller and Propeller Accessories

1. Propeller - Hartzell ground adjustable, hub HA-12U, blades 7414 to 6814 or 7214 to 6814M. 18 lb. (-58)  
Eligible at diameter and static r.p.m. limits shown above for fixed pitch wood propellers.
2. Propeller - McCauley Model 1A90 with following limits: 21 lb. (-58)  
Static r.p.m. at maximum permissible throttle setting:  
Not over 2250, not under 2070  
Diameter: Not over 74 in., not under 72.5 in.  
(Eligible on DCO-65 model only.)
101. Propeller - wood (fixed or adjustable pitch) 11 lb. (-58)

Engines and Engine Accessories - Fuel and Oil System

No aircraft of these models shall be eligible for original certification with single ignition engines after August 1, 1941. In addition, no aircraft of these models shall be eligible for recertification with single ignition engines unless such aircraft were either previously certificated with single ignition engines or were originally certificated prior to August 1, 1941.

102. Carburetor air heater 1 lb. (-51)
105. Muffler (No. D-A624) 6 lb. (-36)
106. Carburetor air intake & filter (Continental A-5810) (MODELS DCO-65 & DC-65 only) 3 lb. (-49)
107. Carburetor air scoop & filter (Skinner Purifiers, Inc. model S-300A scoop & F-300A filter) 3 lb. (-47)  
(Model DCO-65 (L-2 Series) only) (Filter must be installed on airscoop at all times.)
108. AC air filter 1529265 (Aircooled Motors Dwg. SK-534-4) (Model DF-65 only) 1 lb. (-41)
308. Engines
  - A. Model DC-65 (Continental - Per Engine Specification No. 205)
    - (1) A-65-7 -11 lb. (-34)
    - (2) A-65-9 +3 lb. (-34)
  - B. Model DL-65 (Lycoming - Per Engine Specification No. 210)
    - (1) 0-145-B1 -11 lb. (-45)
  - C. Model DF-65 (Franklin - Per Engine Specification No. 221)
    - (1) 4AC-176-BA2 Neglect weight increase
    - Engine limits - For all operations, 2300 r.p.m. (65 hp)
110. Oil Filter, Fram PB-5, Weight includes 1 quart of oil 4 lb. (-30)
  - (a) (DC-65 and DCO-65)  
Kit No. 510, Fram Installation Drawing No. 61544
  - (b) (DL-65) Kit No. 520, Fram Installation Drawing 61550
  - (c) (DF-65) Kit No. 501, Fram Installation Drawing 61564

Landing Gear and Floats

103. 6.00-6 wheels (Shinn 6C4) with 6.00-6 2-ply tires 22 lb. (+0)
104. Tailskid - Spring 5 lb. (+190)
302. Tail wheel (+198)
  - (a) Omitted
  - (b) 6x2.00 steerable (Aircraft Associates) +3 lb.
  - (c) 6x2.00 full swiveling (Taylorcraft) +3 lb.
  - (d) 6x2.00 steerable (Lake State Products 5-40-31) +4 lb.
  - (e) 6x2.00 steerable (Taylorcraft) +4 lb.
  - (f) 6x2.00 steerable (Scott Model TA-8B) +4 lb.
303. Parking brake 3 lb. (-13)

304. 6.00-6 wheels (Shinn 6C4HB) with brakes +6 lb. (0)
307. 6.00-6 4-ply tires Neglect with increase
313. Skis (Eligible on any airplane of these models provided the propeller installation meets the minimum 9 in. ground clearance. The maximum weight for the skiplane will be the same as for the corresponding landplane of that shown in parenthesis after each ski model, whichever is less) Use actual weight change
- (a) Federal SC-1 (Maximum 1400 lb.)
  - (b) Heath 725 or 725A (Maximum 1450 lb.)
  - (c) Air Transport 1224-580-1 (Maximum 1220 lb.)
  - (d) Jacobsen (formerly Escanaba) EAS-100 (Maximum 1200 lb.)
  - (e) Federal A-1500 (Max. 1500 lb.) Federal Installation Dwg. 11R232
  - (f) Federal A-1500A (Max. 1500 lb.) Federal Installation Dwg. 11R232
  - (g) Federal A-1850 (Max. 1850 lb.) Federal Installation Dwg. 11R232
  - (h) Federal A-2000 (Max. 2000 lb.) Federal Installation Dwg. 11R232
  - (i) Federal A-2000A (Max. 2000 lb.) Federal Installation Dwg. 11R232
  - (j) Federal CA1850-6 (Max. 1850 lb.) Federal Installation Dwg. 11R232

#### Electrical Equipment

301. Position lights (Grimes B) 2 lb. (+24)
305. Battery
- (a) 6 volt Willard SYR-7-3 (10 A.H.) with box 9 lb. (-30)
  - (b) 6 volt Reading 333LD (33 A.H.) 14 lb. (-25)
  - (c) 12 volt Willard SYR-7-6 (10 A.M) with box 16 lb. (-25)
  - (d) 6 volt Reading 324L (24 A.H.) with box 12 lb. (-24)
311. Generator, wind driven
- (a) 6 volt General Armature Co. 10 lb. (0)
  - (b) 12 volt Lear No. 1030-A10 lb. (+5)
  - (c) 6 volt Champion Model W612-6V with rotor brake 10 lb. (+1)
  - (d) 6 volt Champion Model W612B 9 lb. (0)

#### Interior Equipment

306. Cabin heater Neglect weight increase
309. Taylorcraft compass (Carwell) 2 lb.
401. (a) Cabin heater (Surface Combustion Inc. Model AAV-15N-12 fuel burning heater) 5 lb. (-37)
- (b) Duct for above heater installation 2 lb. (+20)  
(Model DCO-65 (L-2 Series) only)
402. (a) Cabin heater (Stewart Warner Model No. 24809) 10 lb. (-32)
- (b) Duct for above heater installation 2 lb. (+5)  
(Model DCO-65 (L-2 Series) only)

#### NOTES

- NOTE 1. 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).
- NOTE 2. Placard required, "SOLO FROM FRONT SEAT ONLY."
- NOTE 3. The swivel type rear seats with folding backs on all Taylorcraft L-2 series aircraft must be permanently fastened so that there is no possibility of interference with the rear control stick. The back should be bolted or welded in place and the seat should be permanently locked in the forward facing position.

NOTE 4. The following parts from TG-6 gliders can be used directly on Taylorcraft D series aircraft. The replacement of such complete component parts is considered a minor repair in accordance with Cam 18.3006:

1. Tail surfaces except the fin.
2. Landing gear tires and wheels
3. Tail wheels.
4. Wings. Wings with the spoiler installation should be used only on the model Army L-2M. The spoiler installation should be removed and a suitable covering placed over the upper surface opening on wings for use in other Model D series airplanes.
5. Certain parts and assemblies of the control system from (and including) the middle occupant aft.
6. Wing struts.
7. Instruments, same as or equivalent to those used on powered aircraft.

The fuselage primary structure of the TG-6 glider aft of the firewall station can be used on Taylorcraft D series airplanes; however, the use of such parts entails a major repair and must be handled as such in accordance with CAM 18.

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