

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

739  
Revision 2  
HOWARD  
DGA-18  
DGA-18K  
  
August 17, 2009

AIRCRAFT SPECIFICATION NO. 739

Holder of Type Certificate: Howard Aircraft Foundation  
P.O. Box 649  
Washington, OK 73093

Type Certificate Holder Record: Jobmaster Co. transferred ownership to Howard Aircraft December 10, 2003.

I -- Model DGA-18, 2 POLM (Approved 3/18/41)

Engine	Warner Scarab Series 50
Fuel	67 minimum octane aviation gasoline
Engine limits	For all operations 2050 rpm (125 hp)
Airspeed limits	Level flight or climb - 135 mph True Ind. Glide or dive - 180 mph True Ind.
Propeller limits	Static rpm at maximum permissible throttle setting - not more than 1850 rpm, not less than 1850 rpm Diameter - not more than 87 in., not less than 84 in.
C.G. range	(+46.7) to (+56.5)
Maximum weight	2050 lbs.
No. seats	2 (one at +45 and one at +97)
Baggage	None
Fuel capacity	31 gallons (tank in fuselage) (+11)
Oil capacity	3-1/2 gallons (-7)
Control surface movement	Elevators Up 38.5 degrees; down 14 degrees Elevator tab Up 9.75 degrees; down 18 degrees Ailerons Up 20 degrees; down 14 degrees Rudder 31 degrees right and left from centerline
Serial Nos. eligible	601 to 629, inclusive, and 631 to 649, inclusive
Required equipment	Items 101(a), 102, 103, 104 and 105

II -- Model DGA-18K, 2 POLM (Approved 4/17/42)

(Same as Model DGA-18 except for engine, aft portion of fuselage, tail surface bracing and other minor differences)

Engine	Kinner R-5 Series 2 (See also Item 202 and NOTE 2)
Fuel	73 minimum octane aviation gasoline
Engine limits	For all operations 1850 rpm (160 hp)
Airspeed limits	Level flight or climb - 140 mph True Ind. Glide or dive - 180 mph True Ind.
Propeller limits	Static rpm at maximum permissible throttle setting - not more than 1720 rpm, not less than 1720 rpm Diameter - not more than 92 in., not less than 89 in.

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C.G. range	(+45.4) to (+53.8)
Maximum weight	2200 lbs.
No. seats	2 (one at +45 and one at +97)
Baggage	None
Fuel capacity	31 gallons (tank in fuselage) (+11)
Oil capacity	3-1/2 gallons (-7)
Control surface movement	Elevators Up 32.5 degrees; down 20.5 degrees Elevator tab Up 0 degrees; down 26 degrees Ailerons Up 22.5 degrees; down 16 degrees Rudder Right 25 degrees; left 22.5 degrees
Serial Nos. eligible	630, 650 and up per NOTE A
Required equipment	Items 101(b), 102, 103, 104 and 105

### III -- Specifications Pertinent to All Models:

Datum	Aft face of firewall
Leveling means	Lugs on top longeron in rear cockpit
Certification basis	Type Certificate No. 739 (CAR 4a)
Production basis	None (See NOTE A)
Export eligibility	Eligible for export as follows, subject to provisions of MOP 2-4: (a) Canada - Landplane – eligible - Skiplane – not eligible. (b) All other countries except Australia, Great Britain and New Zealand.

### EQUIPMENT:

A plus (+) or minus (-) sign preceding the weight of an optional item indicates the net weight change when that item is installed.

		<u>DGA-18</u>	<u>DGA-18K</u>
Propellers and Propeller Accessories			
101. Propeller – wood (fixed pitch with hub)			
	(a) 26 lbs.	(-36)	----
	(b) 34 lbs.	----	(-36)
Engines and Engine Accessories – Fuel and Oil System			
104. Carburetor air heater	12 lbs.	(-19)	(-20)
202. Kinner R-56 engine (See NOTE 2)	+37 lbs.	----	(-25)
Landing Gear and Floats			
102. 7.00-5 wheels (Air Associates) with hydraulic brakes (General 6 in.) and 8.00-5, 4-ply H.D. tires (wheels must be placarded for these tires)	41 lbs.	(+26.5)	(+26.5)
103. Tail wheel (Saginaw No. 6224) and 10 in., 4-ply tire (General 10WB4)	5 lbs.	(+243)	(+231)
201. Optional tail wheel installation (Saginaw No. 6224 wheel and General 10W89 tire)	-2 lbs.	(+243)	----
Electrical Equipment			
105. Battery and box (12V)	(use actual wt)	(+89)	(+89)

## Miscellaneous (not listed above)

202. Elevator bungees – Drawing No. 10-62274  
(for Model DGA-18K with Kinner R-55  
Engine only) (See NOTE 2) Neglect weight

- NOTE A. Each aircraft manufactured after 11/7/44, must, prior to original certification, satisfactorily pass:
- (a) An inspection for workmanship, materials and conformity before any covering, metal priming or finish is applied. All woodwork may be varnished.
  - (b) A final inspection of the completed aircraft.
  - (c) A check of the flight characteristics.
- NOTE 1. Weight and balance report including list of equipment included in certificated weight empty, and loading instructions when necessary, must be submitted for each aircraft with original inspector's report, and each subsequent report covering changes in equipment.
- NOTE 2. Manufacturer's Service Bulletin No. 28, dated 9/27/43, covers the installation of Item 202 which is identical to Kinner R-5 installation with the exception of minor differences in engine cowling. Upon installation of Item 202, the new empty weight C.G. must be determined by actual weighing of the airplane. Then, if the C.G. with pilot flying solo from front seat exceeds a forward C.G. of (+45.4) Item 203 must be installed (see Item (d) below). Section II is applicable with Item 202 installed with the exception of the following:
- (a) Engine Kinner R-56
  - (b) Airspeed limits Glide or dive – 175 mph True Ind.
  - (c) Propeller limits Static rpm at maximum permissible throttle setting – not more than 1760 rpm, not less than 1720 rpm
  - (d) C.G. range (+44.7) (with Item 203 installed to (+53.8))
- NOTE 3. The following placard must be installed on both instrument panels for Model DGA-18:  
“DO NOT OPERATE AIRPLANE WITH LESS THAN 10 GALS. OF FUEL IN THE TANK.”

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