

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

1A8 Revision 37 HELIO H-250 (USAF U-10D) H-295 HT-295 (USAF YL-24) H-391 H-391B (USAF L-28A or U-10B) H-395 H-395A H-700 H-800 August 21, 2015
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TYPE CERTIFICATE DATA SHEET NO. 1A8

This data sheet, which is a part of Type Certificate 1A8, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Civil Air Regulations/Federal Aviation Regulations.

Type Certificate Holder (See Note 4 for Holder Record)	Helio Aircraft, LLC 38400 N. Schoolhouse Road, #17 Cave Creek, Arizona 85331
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I.	Model H-391 (USAF YL-24) (Courier), 4 PCL-SM (Normal Category), approved August 5, 1953 Model H-391B (Courier), 4 PCL-SM (Normal Category), approved June 29, 1954
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Model H-391B same as model H-391 except for engine, propeller, semi-monocoque fuselage, minor fuel system changes, minor control system changes, and other miscellaneous minor changes.

Engine	Model H-391 - Lycoming GO-435-C2 Model H-391B - Lycoming GO-435-C2B, GO-435-C2B2, GO-435-C2B2-6
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Fuel	Model H-391 - 91/98 minimum grade aviation gasoline Model H-391B - 80/87 minimum grade aviation gasoline with standard ejector exhaust system
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Engine limits	Takeoff 3400 r.p.m. (260 hp) All other operations 3000 r.p.m. (240 hp)
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Propeller and propeller limits	Model H-391 - Hartzell controllable propeller HC12X20-8C, blades 9333C-0. Diameter: not over 93 in., not under 91 in. Pitch settings at 30 in. Sta: low 14° 15', high 29° 15'
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Placard required: "Continuous ground operation between 1675 and 2150 r.p.m. prohibited."

Propeller governor, Hartzell B-1 or B-3.
Propeller spinner and mount, Hartzell D-164.

Model H-391B -	Hartzell controllable propeller hub HC82X20-1A or HC82X20-1B, blades 10133D. Diameter: not over 101 in., not under 95 in. Pitch settings at 30 in. Sta: Low 13°, high 31° S/N 001 through 081, except 075, as delivered by manufacturer.
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I. Model H-391 (USAF YL-24), Model H-391B (cont'd)																			
	<p>H-391B (cont'd) Placard required: "Avoid continuous operation between 2600 and 2975 r.p.m." If engine is modified to GO-435-C2B2-6, placard may be removed. S/N 082 and up, no placard is required.</p> <p>Propeller governor, Hartzell B-1 or B-3. Propeller spinner, Hartzell C-888 dome with C-807-2 bulkhead.</p>																		
Airspeed Limits	<p><u>LANDPLANE</u></p> <table> <tr> <td>Maneuvering (2800 lbs.)</td> <td>94 m.p.h. (82 knots) CAS</td> </tr> <tr> <td>Maneuvering (3000 lbs.)</td> <td>98 m.p.h. (85 knots) CAS</td> </tr> <tr> <td>Maximum structural cruising</td> <td>150 m.p.h. (134 knots) CAS</td> </tr> <tr> <td>Never exceed</td> <td>189 m.p.h. (164 knots) CAS</td> </tr> <tr> <td>Flaps extended</td> <td>80 m.p.h. (69 knots) CAS</td> </tr> </table> <p><u>FLOATPLANE</u> - with Edo Model 249-2870 floats (H-391B only) S/N 001 through 045, aircraft structural changes required per Helio modifications No. 5A or No. 13. Float installation per Helio modification No. 15. S/N 046 and up, no structural changes required. Float installation per Helio modification No. 15.</p> <table> <tr> <td>Maneuvering</td> <td>94 m.p.h. (82 knots) CAS</td> </tr> <tr> <td>Minimum structural cruising</td> <td>130 m.p.h. (113 knots) CAS</td> </tr> <tr> <td>Never exceed</td> <td>164 m.p.h. (143 knots) CAS</td> </tr> <tr> <td>Flaps extended</td> <td>80 m.p.h. (70 knots) CAS</td> </tr> </table>	Maneuvering (2800 lbs.)	94 m.p.h. (82 knots) CAS	Maneuvering (3000 lbs.)	98 m.p.h. (85 knots) CAS	Maximum structural cruising	150 m.p.h. (134 knots) CAS	Never exceed	189 m.p.h. (164 knots) CAS	Flaps extended	80 m.p.h. (69 knots) CAS	Maneuvering	94 m.p.h. (82 knots) CAS	Minimum structural cruising	130 m.p.h. (113 knots) CAS	Never exceed	164 m.p.h. (143 knots) CAS	Flaps extended	80 m.p.h. (70 knots) CAS
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C.G. Range	<p><u>LANDPLANE</u></p> <p>(+101.3) to (+106.4) at 3000 lbs. (+ 99.9) to (+106.4) at 2800 lbs. (+ 96.5) to (+106.4) at 2200 lbs. or less Straight line variation between points given.</p> <p><u>FLOATPLANE</u></p> <p>(+101.3) to (+106.4) at 3000 lbs. (+ 99.1) to (+106.4) at 2700 lbs.</p> <p><u>SKI INSTALLATION</u></p> <p>Federal installation drawing 11R1241. Federal AWB-3500A main skis and AWT-3500 tailwheel ski including 20 lbs. fixed ballast on tail wheel ski. Eligible with hydraulic conversion on ground and in flight. Weight and balance shall be checked with ski in retracted and extended positions.</p> <p>(+101.3) to (+104.3) at 3000 lbs. (+ 99.9) to (+104.3) at 2800 lbs. (+ 96.5) to (+104.3) at 2200 lbs. or less Straight line variation between points given.</p>																		
Empty Weight C.G. Range	None																		
Maximum Weight	<p><u>LANDPLANE</u> (H-391 and H-391B, S/N 001 through 031) 2800 lbs. (eligible for 3000 lbs. when incorporating Helio modification 21, main landing gear assemblies 391-040-451-12 and -13, and tailwheel assembly 391-040-4101.) H-391B - S/N 032 and up: 3000 lbs.</p> <p><u>FLOATPLANE</u> (H-391B only, S/N 001 through 031) 2800 lbs., when Helio modification No. 21 incorporated. S/N 032 and up: 3000 lbs.</p>																		
No. of Seats	4 (2 at +103.5, 2 at +136. S/N 066 and up eligible for 5th seat at +165)																		

I. Model H-391 (USAF YL-24), Model H-391B (cont'd)	
Maximum Baggage	200 lb. (+163)
Fuel Capacity	<p>Model H-391 - 60 gal. total, 52.5 gal. usable (two 30 gal. tanks in wings at +113)</p> <p>Model H-391B - S/N 001 through 087 (except 075), 61 gal. total, 58.2 gal. usable two 30 gal. tanks in wings at +113. 1 gal. header tank in fuselage)</p> <p>S/N 088 and up, 60.7 gal. total, 58.2 gal. usable (two 30.35 gal. tanks in wing at +113. No header tank)</p> <p>See NOTE 1 for data on system fuel.</p>
Oil Capacity	Model H-391: 12 qt. (+37). Model H-391B: 10 qt. (+37)
Control Surface Movements	<p><u>LANDPLANE</u></p> <p>Stabilator (trailing edge) Up 19° Down 8° from neutral Neutral position is trailing edge down 2.5°.</p> <p>Stabilator trim tab ($\pm 2^\circ$) Up 36° Down 20° Measured from stabilator chord line</p> <p>Stabilator antibalance tab Within $\pm 2^\circ$ of neutral - measured from stabilator chord line</p> <p>Aileron ($\pm 1^\circ$) Up 20° Down 20°</p> <p>Rudder ($\pm 1^\circ$) S/N 001 through 049 Right 30° Left 30° S/N 050 and up Right 30° Left 25°</p> <p>Flaps Down 40°</p> <p><u>FLOATPLANE</u></p> <p>Stabilator (trailing edge) Up 17° Down 8°</p> <p>Anti-balance tab (trailing edge) Within $\pm 2^\circ$ of neutral - measured from stabilator chord line</p> <p>Rudder Right 30° Left 20°</p>
Serial Nos. Eligible	<p>Model H-391 - 1 only</p> <p>Model H-391B - 001 and up</p>
II. Model H-395 (USAF L-28A or U-10B) (Courier), 5 PCL-SM (Normal Category), approved November 17, 1958 Model H-395A (Courier), 5 PCL-SM (Normal Category), approved June 29, 1959	
Engine	<p>Model H-395 - Lycoming GO-480-G1D6</p> <p>Model H-395A - Lycoming GO-435-G2B2-6</p>
Fuel	<p>Model H-395 - 100/130 minimum grade aviation gasoline</p> <p>Model H-395A - 80/87 minimum grade aviation gasoline</p>
Engine Limits	<p>Model H-395 - Takeoff 3400 r.p.m. (295 hp) All other operations 3000 r.p.m. (280 hp)</p> <p>Model H-395A - Takeoff 3400 r.p.m. (260 hp) All other operations 3000 r.p.m. (240 hp)</p>

II. Model H-395 (USAF L-28A or U-10B), Model H-395A (cont'd)

Propeller and propeller limits	Model H-395	<ul style="list-style-type: none"> - Hartzell controllable propeller (S/N 075, 502 through 514, 516 through 530) hub HC-93Z20-1B1, blades 10151C or 10151C-5 Diameter: not over 101 in., not under 95 in. Pitch settings at 30 in. Sta: Low 11.8°, high 30.8° Propeller governor, Hartzell B-3 Propeller spinner, Hartzell 836-15 Hartzell controllable propeller (S/N 531 and up) hub HC-B3Z20-1, blades 10151C or 10151C-5 Diameter: not over 101 in., not under 95 in. Pitch settings at 30 in. Sta: Low 11.8°, high 30.8° Propeller governor, Hartzell B-3 Propeller spinner, Hartzell 836-15
	Model H-395A	<ul style="list-style-type: none"> - (S/N 515, 1002 through 1005) Hartzell controllable propeller, hub HC82X20-1A or HC82X20-1B, blades 10133D Diameter: not over 101 in., not under 95 in. Pitch settings at 30 in. Sta: Low 13°, high 31° Propeller governor, Hartzell B-1 or B-3 Propeller spinner, Hartzell C-888 dome with C-807-2 bulkhead (S/N 1006 and up) Hartzell controllable propeller, hub HC-A2X20-1, blades 10133D Diameter: not over 101 in., not under 95 n. Pitch settings at 30 in. Sta: Low 13°, high 31° Propeller governor, Hartzell B-1 or B-3 Propeller spinner, Hartzell C-888 dome with C-807-2 bulkhead

Airspeed Limits

LANDPLANE

Maneuvering (2800 lbs.)	94 m.p.h. (82 knots) CAS
Maneuvering (3000 lbs.)	98 m.p.h. (85 knots) CAS
Maximum structural cruising	150 m.p.h. (134 knots) CAS
Never exceed	189 m.p.h. (164 knots) CAS
Flaps extended	80 m.p.h. (69 knots) CAS

FLOATPLANE - with Edo Model 249-2870 floats

H-395A (S/N 515, 1002 and up). Float installation per Helio modification no. 31.

Maneuvering	95 m.p.h. (83 knots) CAS
Minimum structural cruising	130 m.p.h. (113 knots) CAS
Never exceed	164 m.p.h. (143 knots) CAS
Flaps extended	80 m.p.h. (70 knots) CAS

C.G. Range

LANDPLANE

(+101.3) to (+106.4) at 3000 lbs.
 (+ 99.9) to (+106.4) at 2800 lbs.
 (+ 96.5) to (+106.4) at 2200 lbs. or less
 Straight line variation between points given.

FLOATPLANE

(+101.3) to (+106.4) at 3000 lbs.
 (+ 99.1) to (+106.4) at 2700 lbs. or less

II. Model H-395 (USAF L-28A or U-10B), Model H-395A (cont'd)

SKI INSTALLATION

Federal installation drawing 11R1241. Federal AWB-3500A main skis and AWT-3500 tailwheel ski including 20 lb. fixed ballast on tailwheel ski. Eligible with hydraulic conversion on ground and in flight. Weight and balance shall be checked with ski in retracted and extended positions.

(+101.4) to (+104.3) at 3000 lbs.
 (+ 99.9) to (+104.3) at 2800 lbs.
 (+ 96.5) to (+104.3) at 2200 lbs.
 Straight line variation between points given.

Empty Wt. C.G. Range

None

Maximum Weight

LANDPLANE
 3000 lbs.

FLOATPLANE (H-395A only)
 3000 lbs.

No. of Seats

5 (2 at +103.5, 2 at +136, 1 at +165)

Maximum Baggage

200 lbs. (+163)

Fuel Capacity

60.7 gal. total, 58.2 gal. usable (two 30.35 gal. tanks in wings at +113).
 (No header tank)
 See NOTE 1 for data on system fuel.

Oil Capacity

10 qt. (+37)

Control Surface Movements

LANDPLANE

Stabilator (trailing edge ($\pm 0^\circ$)) Up 19° Down 8° from neutral
 Neutral position is trailing edge down 2.5° .

Stabilator trim tab ($\pm 2^\circ$) Up 36° Down 20°
 Measured from stabilator chord line

Stabilator anti-balance tab ($\pm 2^\circ$) Within $\pm 2^\circ$ of neutral - measured from stabilator chord line

Aileron ($\pm 1^\circ$) Up 20° Down 20°
 Rudder ($\pm 1^\circ$) Right 30° Left 25°
 Flaps ($\pm 1^\circ$) Down 40°

FLOATPLANE

Stabilator (trailing edge) Up 17° Down 8°

Anti-balance tab (trailing edge) Within $\pm 2^\circ$ of neutral - measured from stabilator chord line

Rudder Right 30° Left 20°

Serial Nos. Eligible

Model H-395 - 075, 502 through 514, 516 and up
 Model H-395A - 515, 1002 and up
 USAF U-10B airplanes are eligible for a civil airworthiness certificate when converted in accordance with Helio Drawing 395-000-050.

III. Model H-250 (Courier), 6 PCL-SM (Normal Category), Approved November 6, 1964

Same as Model H-395 except for powerplant installation, increased gross weight, and minor structural changes.

Engine	Lycoming O-540-A1A5	
Fuel	100/130 minimum grade aviation gasoline	
Engine limits	For all operations, 2575 r.p.m. (250 hp.)	
Propeller and propeller limits	Hartzell controllable propeller, Hub HC-92WK-1D, blades W8847 Diameter: not over 88 in., not under 86 in. Pitch settings at 30 in. Sta: Low $12^\circ \pm .2^\circ$, high $28.5^\circ \pm .5^\circ$ Propeller governor, Hartzell F-6-8 (S/N 2501 through 2520), Hartzell F-6-8L (S/N 2521 and up). Propeller spinner, Hartzell C-2513-3.	
Airspeed limits	Maneuvering	94 m.p.h. (82 knots) CAS
	Maximum structural cruising	150 m.p.h. (134 knots) CAS
	Never exceed	189 m.p.h. (164 knots) CAS
	Flaps extended	80 m.p.h. (69 knots) CAS
C.G. Range	<u>LANDPLANE</u> (+105.0) to (+110.0) at 3400 lbs. (+ 97.5) to (+110.0) at 2150 lbs. or less Straight line variation between points given.	
	<u>FLOATPLANE</u> - with Edo model 582-3430 floats S/N 2501, 2506 and up. Installation per Helio drawing 250-000-015. (+102.5) to (+109.0) at 3400 lbs. (+ 99.4) to (+109.0) at 2900 lbs. (+ 97.6) to (+109.0) at 2460 lbs. or less Straight line variation between points given.	
Empty Wt. C.G. Range	None	
Maximum weight	3400 lbs.	
No. of seats	6 (2 at +103.5, 2 at +136, 2 at +162)	
Maximum baggage	340 lbs. (+162) when 2-passenger aft sling seat is unoccupied	
Fuel capacity standard system	60.7 gal. total, 58.2 gal. usable (two 30.35 gal. tanks in wings at +113)	
Optional auxiliary fuel system	Additional 60 gal. wing installed auxiliary fuel system, Helio P/N 250-080-901 and wing assembly P/N 250-010-050 See NOTE 1 for data on system fuel.	
Oil capacity	12 qt. (+22)	
Control surface movements	Stabilator (trailing edge ($\pm 1^\circ$))	Up 19° Down 10° from neutral Neutral position is trailing edge down 2.5° .
	Stabilator trim tab ($\pm 2^\circ$)	Up 36° Down 20° Measured from stabilator chord line
	Stabilator anti-balance tab	Within $\pm 2^\circ$ of neutral - measured from stabilator chord line
	Aileron ($\pm 1^\circ$)	Up 20° Down 20°
	Rudder ($\pm 1^\circ$)	Right 30° Left 25°
	Flaps ($\pm 1^\circ$)	Down 40°
Serial nos. eligible	2501 and up	

IV. Model H-295 (USAF U10D, (Courier), 6 PCL-SM (Normal Category), approved April 15, 1965

Same as Model H-295 except for engine installation.

Engine	Lycoming GO-480-G1D6 - Slow speed (1.250:1) generator drive or Lycoming GO-480-G1A6 - High speed (2.577:1) generator drive	
Fuel	100/130 minimum grade aviation gasoline	
Engine limits	Takeoff	3400 r.p.m. (295 hp)
	All other operations	3000 r.p.m. (280 hp)
Propeller and propeller limits	Hartzell constant speed propeller, Hub HC-B3Z20-1, blades 10151C Diameter: 96 in. (1 in. reduction permitted) Pitch settings at 30 in. Sta: Low 11.8°, high 30.8° Propeller governor, Hartzell B-3 Propeller spinner, Hartzell 836-15R (supersedes Hartzell 836-15)	
Airspeed limits	Maneuvering	103 m.p.h. (89 knots) CAS
	Maximum structural cruising	160 m.p.h. (140 knots) CAS
	Never exceed	200 m.p.h. (174 knots) CAS
	Flaps extended	80 m.p.h. (69 knots) CAS
C.G. Range	<u>LANDPLANE</u> (+103.8) to (+110.0) at 3400 lbs. (+ 98.9) to (+110.0) at 2760 lbs. (+ 97.0) to +110.0) at 2330 lbs. or less Straight line variation between points given.	
	<u>FLOATPLANE</u> Float installation per Helio drawing 250-000-015 (+102.0) to (+109.0) at 3400 lbs. (+ 98.0) to (+109.0) at 2600 lbs. or less Straight line variation between points given.	
Empty weight C. G. range	None	
Maximum weight	3400 lbs.	
No. of seats	6 (2 at +103.5, 2 at +136, 2 at +162)	
Maximum baggage	340 lbs. (+162) when 2-passenger aft sling seat is unoccupied	
Fuel capacity standard system	60.7 gal., total, 58.2 gal. usable (two 30.35 gal. tanks in wings at +113)	
Optional auxiliary fuel system	Additional 60 gal. wing installed auxiliary fuel system, Helio P/N 250-080-901 and wing assembly P/N 250-010-050 See NOTE 1 for data on system fuel.	
Oil capacity	12 qt. (+37)	
Control surface movements	Stabilator (trailing edge ($\pm 1^\circ$))	Up 19° Down 10° from neutral Neutral position is trailing edge down 2.5°
	Stabilator trim tab ($\pm 2^\circ$)	Up 36° Down 20° Measured from stabilator chord line
	Stabilator anti-balance tab	Within $\pm 2^\circ$ of neutral - measured from stabilator chord line
	Aileron ($\pm 1^\circ$)	Up 20° Down 20°
	Rudder ($\pm 1^\circ$)	Right 30° Left 25°
	Flaps ($+0^\circ, -2^\circ$)	Down 40°
Serial nos. eligible	1201 through 1233, 1278 and up; S/N 1234 through 1277 (USAF 66-14332 through 66-14375) eligible when converted in accordance with Helio drawing 295-000-020.	

V. Model HT-295 (Courier), 6 PCLM (Normal Category), approved December 18, 1973 Tricycle Version of Model H-295

Engine	Lycoming GO-480-G1D6 Lycoming GO-480-G1A6
Fuel	100/130 minimum grade aviation gasoline
Engine limits	Takeoff 3400 r.p.m. (295 hp) All other operations 3000 r.p.m. (280 hp)
Propeller and propeller limits	Hartzell constant speed propeller, Hub HC-B3Z20-1, blades 10151C Diameter: 96 in. (1 in. reduction permitted) Pitch settings at 30 in. sta: Low 11.8°, high 30.8° Propeller governor, Hartzell B-3 Propeller spinner, Hartzell 836-15R (supersedes Hartzell 836-15)
Airspeed Limits	Maneuvering 103 m.p.h. (89 knots) CAS Maximum structural cruising 160 m.p.h. (140 knots) CAS Never exceed 200 m.p.h. (174 knots) CAS Flaps extended 80 m.p.h. (69 knots) CAS
C.G. Range	<u>LANDPLANE</u> (+103.8) to (+110.0) at 3400 lbs. (+ 98.9) to (+110.0) at 2760 lbs. (+ 97.0) to (+110.0) at 2330 lbs. or less Straight line variation between points given
Empty Wt. C.G. Range	None
Maximum weight	3400 lbs.
No. of seats	6 (2 at +103.5, 2 at +136, 2 at +162)
Maximum baggage	340 lbs. (+162) when 2-passenger aft sling seat is unoccupied.
Fuel capacity	60.7 gal. total, 58.2 gal. usable (two 30.35 gal. tanks in wings at +113) See NOTE 1 for data on system fuel.
Oil capacity	12 qt. (+37)
Control surface movements	Stabilator (trailing edge ($\pm 1^\circ$)) Up 19° Down 10° from neutral Neutral position is trailing edge down 2.5° . Stabilator trim tab ($\pm 2^\circ$) Up 36° Down 20° Measured from stabilator chord line Stabilator anti-balance tab Within $\pm 2^\circ$ of neutral - measured from stabilator chord line Aileron ($\pm 1^\circ$) Up 20° Down 20° Rudder ($\pm 1^\circ$) Right 30° Left 25° Flaps ($+0^\circ, -2^\circ$) Down 40°
Serial Nos. eligible	1701 and up

VI. Model H-800 (Courier), 4 PCSM (Normal Category), approved July 19, 1983; 6 PCLM (Normal category), approved September 28, 1983

Same as Model HT-295 except for powerplant installation, increased gross weight, structural changes, and miscellaneous minor changes.

Engine	Lycoming IO-720-A1B										
Fuel	100/100LL minimum grade aviation gasoline										
Engine limits	2650 r.p.m. (400 hp)										
Propeller and propeller limits	Hartzell constant speed propeller, Hub HC-C3YR-1RF, blades F8475R Diameter: 86 in. Pitch settings at 30 in. sta: Low 11.8°, high 30.8° Propeller governor, Hartzell FA-3A Propeller spinner, Hartzell A2295-1										
Airspeed limits (CAS)	<table> <tr> <td>Maneuvering</td> <td>93 knots</td> </tr> <tr> <td>Maximum structural cruising</td> <td>133 knots</td> </tr> <tr> <td>Never exceed</td> <td>168 knots</td> </tr> <tr> <td>Flaps extended - 40°</td> <td>83 knots</td> </tr> <tr> <td>Flaps extended - 15°</td> <td>96 knots</td> </tr> </table>	Maneuvering	93 knots	Maximum structural cruising	133 knots	Never exceed	168 knots	Flaps extended - 40°	83 knots	Flaps extended - 15°	96 knots
Maneuvering	93 knots										
Maximum structural cruising	133 knots										
Never exceed	168 knots										
Flaps extended - 40°	83 knots										
Flaps extended - 15°	96 knots										
C.G. Range	<p><u>LANDPLANE</u> (+102.0) to (+109.0) at 4000 lbs. (max. takeoff weight) (+101.0) to (109.0) at 3800 lbs. (max. landing weight) (+ 98.0) to (+109.0) at 3200 lbs. or less Straight line variation between points given.</p> <p><u>FLOATPLANE</u> Floatplane Model: Edo-Aire 696-3500 (+104.0) to (+110.0) at 3888 lbs. (+101.0) to (+110.0) at 3200 lbs. or less</p> <p>Edo-Aire 582-3430 (+104.0) to (+110.0) at 3800 lbs. (+101.0) to (+110.0) at 3200 lbs. or less</p>										
Empty Weight C.G. Range	None										
Maximum Weight	<p><u>LANDPLANE</u> 4000 lbs. takeoff 3800 lbs. landing</p> <p><u>FLOATPLANE</u> Edo-Aire 696-3500 amphibious Water operations: 3888 lb. takeoff 3800 lb. landing</p> <p>Land operations: 3790 lb. takeoff 3600 lb. landing</p> <p>Edo-Aire 582-3430 3800 lb. takeoff and landing</p>										

 VI. Model H-800 (Courier) (cont'd)

Zero Fuel Weight	3800 lbs.	
No. of Seats	<u>LANDPLANE</u>	
	6 (2 at +103.5, 2 at +136.0, 2 at +162.0)	
	<u>FLOATPLANE</u>	
	696-3500 amphibious	
	4 (2 at +103.5 and 2 at +136.0, restricted to 306 lb. total weight)	
	582-3430	
	4 (2 at +103.5 and 2 at +136.0), restricted to 213 lb. total weight)	
Maximum Baggage	<u>LANDPLANE</u>	
	Total load AFT of pilot's seat - 40 lb. per sq. ft. 10 lb. per sq. ft. in luggage compartment See AFM for loadings.	
	<u>FLOATPLANE</u>	
	40 lb. per sq. ft. rear seat and cargo area Combined loadings rear passenger seats - 218 lb. See AFM for loadings.	
Fuel Capacity	<u>LANDPLANE</u>	
	121.4 gal. total, 120.5 gal. usable (four 30.35 gal. tanks in wing at +113) See NOTE 1 for data on fuel system.	
	<u>FLOATPLANE</u>	
	696-3500 amphibious and 582-3430 floats 60.7 gal. total, 60.2 gal. usable at +113	
Oil Capacity	19 qt. maximum, 17 qt. normal (+37)	
Control Surface Movements	Stabilator	Up 10° Down 21° from neutral
	Leanding edge ($\pm 1^\circ$)	Neutral position is trailing edge down 2.5°.
	Stabilator trim tab ($\pm 2^\circ$)	Up 30° Down 28° Measured from stabilator chord line
	Stabilator anti-balance tab	Within $\pm 2^\circ$ of neutral - measured from stabilator chord line
	Aileron droop	0.87" (± 0.07 ")
	Aileron ($\pm 1^\circ$)	Up 20° Down 20°
	Rudder ($\pm 1^\circ$)	Right 30° Left 25°
Flaps ($\pm 1^\circ$)	Down 40°	
Interceptor retracted position	Below surface of wing, 0.38" to 0.50"	
Serial nos. eligible	H-1 and up	

VII. Model H-700 (Courier), 6 PCLM (Normal Category), approved January 24, 1984

Same as Model HT-295 except for powerplant installation, increased gross weight, structural changes, and miscellaneous minor change.

Engine	Lycoming TIO-540-J2B
Fuel	100/100LL minimum grade aviation gasoline
Engine limits	2575 r.p.m. (350 hp) 49 inches M.P.
Propeller and propeller limits	Hartzell constant speed propeller, Hub HC-E3YR-1RF, blades: F9587A-10 Diameter: 87 in. Pitch settings at 30 in. sta: Low 12.7°, high 31.0° Propeller governor, Hartzell FA-13 Serial No. H-7 through H-10 Hartzell F4-30 Serial No. H-11 and subsequent Service replacement H-7 through H-10 Propeller governor, Hartzell A2295-1
Airspeed limits (CAS)	Maneuvering 93 knots Maximum structural cruising 133 knots Never exceed 168 knots Flaps extended - 40° 83 knots Flaps extended - 15° 96 knots
C.G. Range	<u>LANDPLANE</u> (+101.0) to (+108.5) at 3800 lbs. (+ 98.0) to (+108.5) at 2600 lbs. or less Straight line variation between points given.
Empty Weight C.G. Range	None
Maximum weight	3800 lbs.
No. of seats	<u>LANDPLANE</u> 6 (2 at +103.5, 2 at +136.0, 2 at +162.0)
Maximum Baggage	<u>LANDPLANE</u> Total load AFT of pilot's seat - 40 lb. per sq. ft. 10 lb. per sq. ft. in luggage compartment. See AFM for loadings.
Fuel Capacity	<u>LANDPLANE</u> 121.4 gal. total, 120.5 gal. usable (four 30.35 gal. tanks in wing at +113). See NOTE 1 for data on fuel system.
Oil Capacity	12 qt. maximum, 10 qt. normal (+37)
Control Surface Movements	Stabilator Up 10° Down 21° from neutral Leading edge ($\pm 1^\circ$) Neutral position is trailing edge down 2.5° Stabilator trim tab ($\pm 2^\circ$) Up 30° Down 28° Measured from stabilator chord line Stabilator anti-balance tab Within $\pm 2^\circ$ of neutral - measured from stabilator chord line Aileron droop 0.87" (± 0.07 ") Aileron ($\pm 1^\circ$) Up 20° Down 20° Rudder ($\pm 1^\circ$) Right 30° Left 25° Flaps ($\pm 1^\circ$) Down 40° Interceptor retracted position Below surface of wing, 0.38" to 0.50"
Serial Nos. Eligible	H-1 and up

DATA PERTINENT TO ALL MODELS

Datum	60 in. forward of fuselage station 0. (Sta. 0 is at upper attachment of engine mount to fuselage). For weight and balance purposes, Station 100.25 is the centerline of wing spar (midway between two rows of bolts in wing root fitting on bottom side of wing).
Leveling Means	Model H-391: Plumb line markers at top and bottom of right door frame (fuselage station 60). Models H-250, H-295, H-391B, H-395A, H-700, H-800: Two leveling studs at lower forward corner of right door frame.
Certification Basis	Part 3 of the Civil Air Regulations effective November 1, 1949, as amended to May 16, 1953. Type Certificate No. 1A8 issued August 5, 1953. Application for Type Certificate dated May 1, 1951.
Production Basis	None. Prior to original certification, an FAA representative must perform a detailed inspection for workmanship, materials, and conformity with the approved technical data, a final inspection of the completed aircraft, and a check of the flight characteristics.
Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. The equipment portion of Aircraft Specification 1A8, Revision 18, dated July 7, 1969, or the equipment list provided with each airplane should be used for equipment references on Helio Models H-391, H-391B, H-395, H-395A, H-250, and H-295 (prior to serial number 1458). Refer to the applicable equipment list for Model H-295, serial number 1458 and on, Model H-700, and Model H-800. In addition, the following FAA approved Airplane Flight Manuals and Airplane Flight Manual Supplements are required.</p> <ul style="list-style-type: none"> (a) FAA Approved Airplane Flight Manual dated February 9, 1956 (H-391B, S/N 001 through 031); dated November 3, 1956 (H-391B, S/N 032 and up and for those S/N 001 through 031 modified over Helio Modification 21). (b) FAA Approved Airplane Flight Manual Supplement dated January 24, 1956 (H-391B, H-395, H-395A) required when Federal AWB-3500A main and AWT-3500 tailwheel skis are installed. Federal Installation drawing 11R1241. (c) FAA Approved Airplane Flight Manual Supplement dated July 18, 1956 (H-391B, H-395A) required when EDO Model 249-2870 floats are installed. (d) FAA Approved Airplane Flight Manual dated November 17, 1958 (H-395). (e) FAA Approved Airplane Flight Manual dated June 29, 1959 (H-395A). (f) FAA Approved Airplane Flight Manual Supplement dated January 30, 1961, revised August 20, 1963 (H-391B, H-395, H-395A) required when crosswind gear lock installed. (g) FAA Approved Airplane Flight Manual dated November 6, 1964 (H-250). (h) FAA Approved Airplane Flight Manual Supplement No. 1 dated March 22, 1965, (H-250) required when 60 gal. wing installed auxiliary fuel system, Helio P/N 250-080-901-0 and wing assemblies P/Ns 250-010-050-0 and -1 installed. (i) FAA Approved Airplane Flight Manual Supplement No. 2 dated April 16, 1965 (H-250) required when Edo Model 582-3430 floats installed.

- (j) FAA Approved Airplane Flight Manual dated April 8, 1965 (H-295 and HT-295).
- (k) FAA Approved Airplane Flight Manual Supplement No. 1 dated April 23, 1965 (H-295 and HT-295) required when 60 gal. wing installed auxiliary fuel system, Helio P/N 250-080-901-0 and wing assemblies P/Ns 250-010-050-0 and -1 installed.
- (l) FAA Approved Airplane Flight Manual Supplement No. 2 dated November 24, 1965 (H-295) required when Edo Model 582-3430 floats installed.
- (m) FAA Approved Airplane Flight Manual Supplement No. 3 dated January 19, 1967 (H-295) required when 60 gal. 4 valve wing installed auxiliary fuel system, Helio drawing 295-080-910 and -911, and wing assemblies Helio P/Ns 295-010-050-0 and -1 installed.
- (n) FAA Approved Airplane Flight Manual Supplement No. 4 dated January 19, 1968 (H-295 and HT-295) required when alternate static source, Helio P/N 295-100-900-10 is installed.
- (o) FAA Approved Airplane Flight Manual Supplement No. 5 dated July 26, 1968 (H-295) required when optional electric flaps and trim, Helio P/N 295-052-900-0 is installed.
- (p) FAA Approved Airplane Flight Manual Supplement (No. 5 for H-250, No. 6 for H-295 and HT-295) dated December 10, 1968 (H-250, H-295, H-391B, H-395, H-395A) required for flight with one door removed.
- (q) FAA Approved Airplane Flight Manual Supplement No. 7 dated October 23, 1969 (H-295) required when optional Goodyear iceguard kit no. 320-639 (24V) or No. 320-641 (12V) Helio P/Ns 295-066-901-0 (24V) and 295-066-901-2 (12V).
- (r) FAA Approved Airplane Flight Manual Supplement NO. 8 dated April 13, 1970 (H-295 and HT-295) required when optional AK256 Mitchell stabilizer installed.
- (s) FAA Approved Airplane Flight Manual Supplement No. 8 dated November 15, 1973 (H-295 and HT-295) required for Electric Flap and Pitch Trim Tab.
- (t) FAA Approved Airplane Flight Manual dated July 14, 1983, revised September 27, 1983, or revised January 24, 1984 (H-800 equipped with Edo 696-3500 amphibian floats, 582-3430 floats, or 39-4000 floats).
- (u) FAA Approved Airplane Flight Manual dated September 27, 1983, or revised for 4000 lb. gross weight dated April 11, 1984 (H-800).
- (v) FAA Approved Airplane Flight Manual dated January 18, 1984 (H-700).

NOTE 1.

Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification. The certificated empty weight and corresponding center of gravity location must include unusable fuel of 44 lb. at (+113) for H-391, or unusable fuel of 16 lb. at (+133) for H-391B, S/N 001 through 087. H-391B, H-395, H-395A, unusable fuel of 15 lb. at (+113). H-250, H-295, HT-295, with 120 gal., 4 valve fuel system installed, unusable fuel of 30 lb. at (+113). H-800, 2 tank system unusable fuel of 0.5 gal. at (+113), H-700/H-800, 4 tank system unusable fuel of 0.9 gal. at (+113).

NOTE 2.

The following placards must be displayed:

- A. In full view of the pilot:
- (1) "This airplane must be operated as a normal category airplane in compliance with the operating limitations stated in the form of placards, markings, and manuals."
 - (2) "No acrobatic maneuvers including spins approved."
 - (3) Deleted December 5, 1955.
 - (4) Model H-391: "Continuous ground operation between 1675 and 2150 r.p.m. prohibited." Model H-391B incorporating Lycoming GO-435-C2B or GO-435-C2B2: "Avoid continuous operation between 2600 and 2975 r.p.m." Placard not required when Lycoming GO-435-C2B2-6 installed (S/N 082 and up).
 - (5) "One minute limit for takeoff power, full throttle and 3400 r.p.m." (All models except H-250, H-800, H-700)
 - (6) "See Flight Manual Supplement for airspeed-altimeter error" (H-295 and HT-295) when alternate static source, Helio P/N 295-100-900-10, is installed.
 - (7) "For flight with door removed see aircraft operations limitations with door removed" (H-250, H-295, HT-295, H-391B, H-395, H-395A) when operating with one door removed.
 - (8) "This aircraft is not to be flown into known icing conditions" (H-295 with installation of Goodyear iceguard kits no. 320-639 (24V) or No. 320-641 (12V), Helio P/Ns 295-066-901-0 (24V) and 295-066-901-2 (12V).
 - (9) Models H-700, H-800 "Design maneuvering speed 93 kts."
 - (10) Models H-700, H-800 "Master Switch OFF when A.P.U. is connected."
 - (11) Models H-700, H-800 "Turn Beacon OFF during IFR"
 - (12) Models H-700, H-800 "See AFM for ALTERNATE STATIC SOURCE CALIBRATION"
 - (13) Models H-700, H-800 "No Smoking"
 - (14) Model H-700 "T.I.T. Limit 1550 F"
 - (15) Model H-700 "Do not operate at more than 30" MP below 2400 r.p.m."
- B. On the left forward window sill:
- (1) "Do not open this window above 80 CAS." (Not required on Model H-295, HT-295, H-800, and H-700)
- C. Inside the gascolator box cover (H-391 only):
- (1) "Fuel shut-off valves - rear valve L/H, front valve R/H tank.
To open, turn valves counter-clockwise seven turns or more, and safety."
- D. Deleted.
- E. In proximity of fuel transfer pump switches when auxiliary fuel system is installed:
"Caution: Monitor fuel quantity during auxiliary transfer to avoid overflow.
(Level flight only)."
- F. In vicinity of fuel control valves when 120 gal., 4 valve system is installed:
"Both mains on for takeoff and landing."
"Left auxiliary level flight only."
"Right auxiliary level flight only."
- G. In proximity of Magnavox FM-622A control (when installed).
"Homing operation unreliable above 50 MHZ."

NOTE 3.

Airworthiness Limitations for any mandatory retirement life or mandatory inspection are included in the Maintenance Manual (Instructions for Continued Airworthiness) for each model.

NOTE 4.

Type Certificate Holder Record:

Reissued to Helio Aircraft Company August 1, 1969
 Reissued to Helio Aircraft Limited November 8, 1976
 Reissued to Helio Inc. August 10, 1984
 Reissued to Helio Aircraft, Inc. August 23, 1984
 Reissued to Helio Enterprises, Inc. August 11, 1994
 Reissued to Alliance Aircraft Group, LLC September 18, 1997
 Reissued to Alliance Aircraft Group, LLC dba Helio Aircraft Company April 10, 2001
 Reissued to Helio Aircraft, LLC July 14, 2005

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