DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

H6WE
Revision 1
Aero Resources
(McCulloch)
J-2
December 15, 1973

TYPE CERTIFICATE DATA SHEET NO. H6WE

This data sheet, which is a part of type certificate No. H6WE, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Aero Resources, Inc.
4439 S. Avalon Blvd.
Gardena, CA 90248

I - Model J-2 Gyroplane (Normal Category), approved 6 May 1970

Engine	Lycoming 0-360-A2D
Fuel	100/130 min. Grade aviation gasoline
Engine limits	180 HP, 2700 RPM - For all operations
Propeller and propeller limits	1. Aero Resources/McCulloch Model 6100D fixed pitch wood, Diameter 72 in. ± .125 in. Static rpm: 2300 minimum, 2450 maximum Eligible on S/N 10 and subs with maximum weight of 1500 lbs. 2. Hartzell constant speed (a) Hub HC-C3YR-1RLF with FL7663A-6R blades Diameter: 72 in. Pitch settings at 30 in. sta.: low 10° , high 22.2° Required on S/N 10 & subs when the maximum weight is increased to 1600 lbs., see Note 4.
Rotor Limits	1500 lb. Maximum Weight Flight: 480 RPM Maximum; 300 RPM Minimum Spin Up: 500 RPM Maximum; 400 RPM Minimum 1600 lb. Maximum Weight Flight: 500 RPM Maximum; 300 RPM Minimum Spin Up: 520 RPM Maximum; 400 RPM Minimum
Airspeed limits (IAS)	VNL (Never exceed) 106 MPH (109 MPH CAS) (See FAA Approved Rotorcraft Flight Manual for ground operating limits)

C.G. range	1500 lb. Maximum Weight (See Note 4)

Weight	Forward	Aft
1250 lbs.	74.2 in.	77.7 in.
1386 lbs.	74.2 in.	77.7 in.
1437 lbs.	74.2 in.	- - -
1500 lbs.	74.8 in.	76.3 in.

1600 lb. Maximum Weight (See Note 4)

Weight	Forward	Aft
1250 lbs.	72.5 in.	77.7 in.
1386 lbs.	72.5 in.	77.7 in.
1406 lbs.	72.5 in.	- - -
1460 lbs.	- - -	78.3 in.
1600 lbs.	74.5 in.	76.5 in.

(Straight line variation between points shown).

Lateral C.G.	1500 lb. Maximum Weight 3.5" Left and 1.5" Right of Centerline
	1600 lb. Maximum Weight 3.5" Left and 1.5" Right of Centerline
Maximum weight	1500 lbs. (See NOTE 1) For Maximum Weight increase to 1600 lbs. see NOTE 4.
No. of seats	2 at +54.0 in. to +57 in. (adjustable)
Maximum baggage	95 lbs. at +60 in. (See NOTE 1)
Fuel capacity	Total, 24.2 U.S. Gal.; Usable, 20.0 U.S. Gal. at +87.5 in. (See NOTE 1)
Oil capacity	Total 9 quarts; Usable, 6 quarts at +88.4 in. (See NOTE 1)
Datum	48.0 in. forward of Bulkhead at forward point of seat box web.
Leveling Means	Lateral: Lugs at +48.0 Longitudinal: Lugs on R.H. side of seat between +48.0 and +60.0
Rudder Movement	25° $\pm$1°, right and left
Rotor blade and Control Movements	For rigging information see Manufacturer's Report SA-4 dated 13 April 1973 or later FAA approved revision. Rotor Blade Collective Pitch Angle shall not be less than 3.9° or more than 5°.
Rotor Blade and Damper setting	200 to 230 inch-lbs. of torque to move damper shaft through low load stage
Landing Gear oleo extension	Main: 3.8 $\pm$ .10 in.; Nose: 2.6 $\pm$ .10 in. (measured at empty weight)
Tire pressures	Main and Nose: 48 $\pm$ 4.0 psi.
Altitude Limits	See FAA Approved Rotorcraft Flight Manual
Other operational limitations	See FAA Approved Rotorcraft Flight Manual and NOTE 2.

Serial Nos. Eligible	S/N 10 and up S/N 10 through 96 were manufactured by the McCulloch Aircraft Corp. and are identified by McCulloch identification plate. S/N 97 and subs. will be manufactured by Aero Resources, Inc. and will be identified by Aero Resources identification plate.
Service Life Limits	See Note 3 for list of Life Limited Components
Certification Basis	Model J-2. FAR 27 effective 1 February 1965, Special Conditions No. 27-2-WE-2 issued 23 October 1968, and the following exemption: No. 1084 - FAR 27.65(a)(2) Climb Gradient Type Certification No. H6WE issued 6 May 1970. Date of application 2 November 1966.
Production Basis	None. Prior to original Certification of each Gyroplane, an FAA representative must perform a detailed inspection for workmanship, materials, conformity to approved technical data and a check of flight characteristics.
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (See Certification Basis) must be installed in the gyroplane for certification. All required equipment that must be installed as well as optional equipment installations are listed in the following manufacturer's report: 205R003 "Equipment List"
Service Information	Model J-2 Structural Repair Manual Report J-2-68 is FAA approved. All manufacturer's Service Bulletins and other Service Information, when FAA approved, will carry a statement to that effect.

NOTE 1. Current weight and balance report, including list of equipment included in certificated empty weight and loading instructions, must be provided for each gyroplane at the time of original airworthiness certification and at all times thereafter (except in the case of operators having an approved weight control system). Ballast, when necessary, must be carried in accordance with the loading instructions in the Rotrocraft Flight Manual. The unusable fuel and oil must be included in the empty weight. (Unusable fuel and oil equals sum of drainable and undrainable).

NOTE 2. (a) The following placard must be installed on the Pilot's instrument panel:

"This gyroplane must be operated in compliance with the operating limitations specified in the FAA Approved Rotorcraft Flight Manual."

(b) Additional required placards are specified in the Limitations section of FAA Approved Rotorcraft Flight Manual.

(c) The placards required for export to Canada are specified in the limitations section of FAA Approved Rotorcraft Flight Manual, Report J-2-100 revised July 3, 1973 or later FAA Approved Revision.

NOTE 3. Information essential to the proper maintenance of these gryoplanes is contained in the Manufacturer's Handbooks of Maintenance Instructions which is provided with each gyroplane. These handbooks specify that Service Life limited parts be retired according to the following schedule. These valuse of retirement or service life cannot be increased without approval by Chief, Aircraft Engineering Division, FAA Western Region.

		Service Life Limits Hours Maximum Weight	
Components	Part No.	1500 lbs.	1600 lbs.
Blade Assy. Main Rotor	1500	1220	978 *
Tail Boom Assy. RH	2100	11750	11750
Tail Boom Assy. LH	2125	11750	11750

NOTE 3. (Cont'd)

Components	Part No.	Service Life Limits Hours Maximum Weight 1500 lbs.	1600 lbs.
Trunnion Horizontal Stabilizer	2604	75800	75800
Controlex Assy. (rudder)	2717	300	300
Cable Assy. Cyclic Control (Roll)	27122	1000	1000
Cable Assy. Cyclic Control (Pitch)	27401	1000	1000
Bellcrank Collective Control	2765	20600	20600
Control Rod Assembly (Collective)	2777	37400	37400
Front Spar Assy. (wing)	2801	39300	15347*
Shaft Assy. - Pitch Bearing	6505	5110	2250*
Thrust Bearing (Marlin-Rockwell Corp.)	MRC 210-SZZ-T12	300	300
Tube Assy. "A" frame "U" Frame Assy. LH	2381	1670	1670
Tube Assy. "A" Frame "U" Frame Assy. RH	2382	1670	1670
Stub Shaft	6638	1438	1438

* When the maximum weight is increased from 1500 lbs. to 1600 lbs., the service life limit may be prorated in the following manner:

$$D = A + C - \frac{CA}{B}$$

Where "A" is the actual hours on the component prior to modification
"B" is the service life limit for the component @ 1500 lbs G.W.
"C" is the service life limit for the compinent @ 1600 lbs G.W.
"D" is the revised total prorated service life limit for the component (including the time prior to modification).

NOTE 4. The model J-2 Gyroplane, S/N 10 and up, are eligible for a maximum weight of 1600 pounds when modified in accordance with Aero Resources Service Bulletin No. 18A, dated 28 March 1973 or later FAA approved revision. Rotorcraft Flight Manual, Report J-2-100, dated 30 November 1972 or later FAA approved revision is required.

...END...