

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

A3SW  
Revision 16  
Ayres Corporation  
600 S-2D  
S-2R  
S2R-T34  
S2R-T15  
S2R-T11  
S2R-R3S  
S2R-R1340  
  
August 1, 1980

TYPE CERTIFICATE DATA SHEET A3SW

This data sheet which is a part of Type Certificate No. A3SW prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Civil Air Regulations (See NOTE 4).

Type Certificate Holder:           Ayres Corporation  
  P.O. Box 3090  
  Albany, Georgia 31706

I - Model 600 S2D 1 PCLM (Normal Category Only), Approved November 1, 1965

Engine	Pratt & Whitney WASP R1340 AN1 (S3H1 Commercial designation) with carburetor parts list settings 395118-3 or A-18639-7			
Fuel	80/87 minimum grade aviation gasoline			
Engine limits		<u>H.P.</u>	<u>R.P.M.</u>	<u>M.P.</u> <u>IN. H.G.</u> <u>ALT.</u>
	Takeoff (5 min.)	600	2250	36.0 S.L.
	Max. Continuous	550	2200	34.0 S.L.
	Max. Continuous	550	2200	32.5 5000
Propeller and propeller limits	Hamilton Standard, constant speed, 12D40 Hub, 6101-12 blades. Diameter 109 inches maximum, 107 inches minimum. Pitch settings 11.5° low and 27.0° high at 42 inch station			
Airspeed limits	Vne (Never exceed)	159 m.p.h. (138 knots)		
	Vp (Maneuvering)	126 m.p.h. (109 knots)		
	Vno (Max. structural cruising)	126 m.p.h. (109 knots)		
C.G. range	(+22.5) to +29.0)			
Maximum weight	6000 lbs.			
Number of seats	1 (+89.0)			
Maximum cargo load	See weight and balance data			
Fuel capacity	109 gallons (+38.5) (100 gallon usable capacity, one 54.5 gallon tank in each wing, tanks interconnected). See NOTE 1 for data on unusable fuel.			
Oil capacity	11.4 gallons total. 84 lb. at (-13.6) (9 gallons usable)			

Page No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Rev No.	16	13	14	15	15	16	16	16	16	16	16	16	16

Control surface movements	Elevator	Up 27°	Down 17°
	Elevator tab	Up 12°	Down 18°
	Rudder	Left 24°	Right 24°
	Aileron	Up 21°	Down 17°
Serial numbers eligible	600-1311D and subsequent		
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis) must be installed in the aircraft for certification. In addition, the following equipment is required:		
	(a) FAA approved flight manual dated November 1965, Revision C, dated December 8, 1967.		
	(b) 12 Volt Electrical System, Snow Dwg. No. 90111.		
	(c) Operative pre-stall warning system per Snow Dwg. No. 90095.		

II - Model S-2R, 1 PCLM (Normal Category Only), Approved November 2, 1967

Engine	Pratt & Whitney WASP R1340 AN1 (S3H1 or S1H1 Commercial designation) with carburetor parts list settings 395118-3 or A-18639-7. Manifold pressure gage is to be modified per Drawing 60600 when the S1H1 engine is used. (See NOTE 5 for optional engine installation).							
Fuel	80/87 minimum grade aviation gasoline							
Engine limits			<u>S3H1</u>		<u>S1H1</u>			
			M.P.		M.P.			
		<u>H.P.</u>	<u>R.P.M.</u>	<u>IN. H.G.</u>	<u>ALT.</u>	<u>IN. HG.</u>	<u>ALT.</u>	
	Takeoff (5 min.)	600	2250	36.0	S.L.	36.5	S.L.	
	Max. Continuous	550	2200	34.0	S.L.	35.0	S.L.	
	Max. Continuous	550	2200	32.5	5000	33.0	8000	
Propeller and propeller limits	Hamilton Standard, constant speed, 12D40 Hub, 6101-12 blades.							
	Diameter 109 inches maximum, 107 inches minimum.							
	Pitch settings 11.5° low and 27.0° high at 42 inch stations.							
	Alternate settings - 11.5° low and 21.5° high at 42 in. stations.							
	Alternate blades, EAC AG100-2 - Diameter 106 inches (2 percent cutoff permitted).							
	Pitch settings 11.5° inches low and 20° high at 42 inch stations.							
Airspeed limits (CAS)	Vne (Never exceed)	159 m.p.h. (138 knots)						
	Vp (Maneuvering)	126 m.p.h. (109 knots)						
	Vo (Max. structural cruising)	126 m.p.h. (109 knots)						
	Vfe (Flap Extended)	123 m.p.h. (107 knots)						
C.G. range	(+22.5) to (+29.0)							
Maximum weight	6000 lbs.							
Number of seats	1 (+89.0)							
Maximum cargo load	See weight and balance data. Maximum baggage compartment, 60 lbs. (+112).							
	Maximum hopper load, 3336 lbs. (+29.9)							

Fuel capacity	S/N 1380R - 70 gallons (+38.5) (66 gallon usable capacity, one 35 gallon tank in each wing, tanks interconnected). S/N 1416R and subsequent - 106 gallons (38.5) S/N 1416R thru 1418R - (100 gallon usable capacity, one 53 gallon tank in each wing, tanks interconnected) S/N 1419R thru 1499R, S/N 1501R thru 1510R - (98 gallon usable capacity, one 53 gallon tank in each wing, tanks interconnected) S/N 1500R, 1511R and subsequent - (104 gallon usable, one 53 gallon tank in each wing, tanks interconnected) See NOTE 1 for data on unusable fuel.		
Oil capacity	11.4 gallons total (84 lbs. at (-13.6) (9 gallons usable)		
Control surface movements	Elevator	Up $27^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Elevator tab	Up $13^{\circ} \pm 1^{\circ}$	Down $18^{\circ} \pm 1^{\circ}$
	Rudder	Left $24^{\circ} \pm 1^{\circ}$	Right $24^{\circ} \pm 1^{\circ}$
	Aileron	Up $21^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Flaps		Down $26^{\circ} - 30^{\circ}$
Serial numbers eligible	1380R, 1416R thru 4999R		
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis) must be installed in the aircraft for certification. In addition, the following equipment is required:		
	(a) 24 Volt electrical system, Rockwell Dwg. No. 90159 effective 1380R, 1416R through 1590R.		
	(b) 24 Volt Electrical System, Rockwell Dwg. 90326, effective 1591R and subsequent.		
	(c) Operative pre-stall warning system per Rockwell Dwg. 90095, Eff. 1416R through 1440R.		

### III - Model S2R-T34 1 PCLM (Normal Category Only), Approved August 28, 1977

Engine	United Aircraft of Canada PT6A-34AG		
Fuel	Jet A, Jet B, JP-4, JP-5 (If jet fuel is not available, gasoline MIL-G-5572, all grades, may be used for a maximum of 150 hours between overhauls.)		
Oil	UACL PT6 Engine Service Bulletin Number 1001 lists approved brands of oil.		
Engine limits	<u>Takeoff and Max. Cont.</u>	<u>Transient Start/Accel</u>	<u>Reverse Idle</u>
	SHP	750	
	Torque (PSI)	64.5	68.4 Trans (2 sec.)
	ITT (°C)	790	64.5
	Ng (%)	790	1090 Start (2 sec.)
	Np (RPM)	101.5	790
	Oil Press (PSIG)	101.5	102.7 Trans (10 sec.)
	Oil Temp (°C)	2200	2100
	Oil Press (PSIG)	85 to 100	2420 Trans (10 sec.)
	Oil Temp (°C)	85 to 100	85 to 100 40 min.
	Oil Temp (°C)	10 to 99	-40 min. 0 to 99 104 5 min. -40 to 99

The ratings shown on the United Aircraft of Canada PT6A-34AG engine are based on the static sea level standard condition with no external accessory loads and no air bleed.

Propeller and Propeller limits	Hartzell HC-B3TN-3C propellers, constant speed, feathering and reversing: Hub Model HC-B3TN-3C; Blade Model T-10282. Diameter 102.5 inches maximum, 92.5 inches minimum.		
Airspeed limits (CAS)	Vne (Never exceed)	159 m.p.h.	(138 knots)
	Vp (Maneuvering)	126 m.p.h.	(109 knots)
	Vno (Max. structural cruising)	126 m.p.h.	(109 knots)
	Vfe (Flap Extended)	123 m.p.h.	(107 knots)
C.G. range	Forward limit at 6,000 lbs. +26.5 inches aft of datum Forward limit at 4,000 lbs. and below +24.0 inches aft of datum (Straight line variation in the forward limit between 4,000 pounds and 6,000 pounds.)  Aft limit +29.0 inches aft of datum Datum is the leading edge of the wing.		
Maximum weight	6000 lbs.		
Maximum Operating Altitude	12,000 feet		
Number of seats	1 (+89.)		
Maximum cargo load	See weight and balance data. Maximum baggage compartment, 60 lbs. (+112). Maximum Hopper Load, 3336 pounds at (+29.9)		
Fuel capacity	Tank Capacity and usable capacity for aircraft S/N 6000 and Up, same as in Section II for Model S-2R. See NOTE 1 for data on unusable fuel.		
Oil tank capacity	11 quarts - Usable oil tank capacity 6 quarts.		
Control surface movements	Elevator	Up $27^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Elevator tab	Up $13^{\circ} \pm 1^{\circ}$	Down $18^{\circ} \pm 1^{\circ}$
	Rudder	Left $24^{\circ} \pm 1^{\circ}$	Right $24^{\circ} \pm 1^{\circ}$
	Aileron	Up $21^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Flaps		Down $15^{\circ} \pm 1^{\circ}$
Serial numbers eligible	6000 - 6049 and T34-001 and up		
Required equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual. Refer to NOTE 6 for information on required placards for flight and operating instructions and limitations.		

#### IV - Model S2R-T15, 1 PCLM (Normal Category Only), Approved April 3, 1979

Engine	United Aircraft of Canada PT6A-15AG
Fuel	Jet A, Jet B, JP-4, JP-5 (If jet fuel is not available, aviation gasoline MIL-G-5572, all grades, may be used for a maximum of 150 hours between overhauls.)
Oil	UACL PT6 Engine Service Bulletin Number 1001 lists approved brands of oil

Engine limits	<u>Takeoff and Max. Cont.</u>	<u>Transient Start/Accel.</u>	<u>Reverse Idle</u>
SHP	680		
Torque (PSI)	53.0	53.0 (2 sec.)	53.0
ITT (°C)	725	1090 Start (2 sec.)	725
Ng (%)	101.5	102.7 Trans (10 sec.)	101.5
Np (RPM)	2200	2420 Trans (10 sec.)	2100
Oil Press (PSIG)	80 to 100	80 to 100	80 to 100 40 min.
Oil Temp (°C)	10 to 99	-40 min. 99 5 min.	0 to 99 -40 to 99

The ratings shown on the United Aircraft of Canada PT6A-15AG engine are based on the static sea level standard conditions with no external accessory loads and no air bleed.

Propeller and Propeller limits	Hartzell HC-B3TN-3C propeller, constant speed, feathering and reversing: Hub Model HC-B3TN-3C; Blade Model T-10282. Diameter 102.5 inches maximum, 92.5 inches minimum.		
Airspeed limits (CAS)	Vne (Never exceed)	159 m.p.h.	(138 knots)
	Vp (Maneuvering)	126 m.p.h.	(109 knots)
	Vno (Max. structural cruising)	126 m.p.h.	(109 knots)
	Vfe (Flap Extended)	123 m.p.h.	(107 knots)
C.G. range	Forward limit at 6,000 lbs. +26.5 inches aft of datum Forward limit at 4,000 lbs. and below +24.0 inches aft of datum (Straight line variation in the forward limit between 4,000 pounds and 6,000 pounds.)  Aft limit +29.0 inches aft of datum Datum is the leading edge of the wing.		
Maximum weight	6000 lbs.		
Maximum Operating Altitude	12,000 feet		
Number of seats	1 (+89.)		
Maximum cargo load	See weight and balance data. Maximum baggage compartment, 60 pounds at (+112). Maximum Hopper Load, 3336 pounds at (+29.9)		
Fuel capacity	Tank Capacity and usable capacity for aircraft S/N T15-001 and Up, same as in Section II for Model S-2R. See NOTE 1 for data on unusable fuel.		
Oil tank capacity	11 quarts - Usable oil tank capacity 6 quarts.		

Control surface movements	Elevator	Up $27^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Elevator tab	Up $13^{\circ} \pm 1^{\circ}$	Down $18^{\circ} \pm 1^{\circ}$
	Rudder	Left $24^{\circ} \pm 1^{\circ}$	Right $24^{\circ} \pm 1^{\circ}$
	Aileron	Up $21^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Flaps		Down $15^{\circ} \pm 1^{\circ}$
Serial numbers eligible	T15-001 and subsequent		
Required equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual. Refer to NOTE 6 for information on required placards for flight and operating instructions and limitations.		

V - Model S2R-T11, 1 PCLM (Normal Category Only), Approved October 26, 1979

Engine	United Aircraft of Canada PT6A-11AG		
Fuel	Jet A, Jet B, JP-4, JP-5 (If jet fuel is not available, aviation gasoline, MIL-G-5572, all grades, may be used for a maximum of 150 hours between overhauls.)		
Oil	UACL PT6 Engine Service Bulletin Number 1001 lists approved brands of oil.		
Engine limits		<u>Takeoff and Max. Cont.</u>	<u>Transient Start/Accel.</u> <u>Reverse Idle</u>
	SHP	500	
	Torque (PSI)	38.6	48.5 (2 sec.)      38.6
	ITT (°C)	700	1090 Start (2 sec.)      700
	Ng (%)	101.5	102.6 Trans (10 sec.)      101.5
	Np (RPM)	2200	2420 Trans (10 sec.)      2068
	Oil Press (PSIG)	80 to 100	80 to 100      80 to 100 40 min.
	Oil Temp (°C)	10 to 99	-40 min.      0 to 99 -40 to 99
	The ratings shown on the United Aircraft of Canada PT6A-11AG engine are based on the static sea level standard condition with no external accessory loads and no air bleed.		
Propeller and Propeller limits	Hartzell HC-B3TN-3C propellers, constant speed, feathering and reversing: Hub Model HC-B3TN-3C; Blade Model T-10282. Diameter 102.5 inches maximum, 92.5 inches minimum.		
Airspeed limits (CAS)	Vne (Never exceed)	159 m.p.h.	(138 knots)
	Vp (Maneuvering)	126 m.p.h.	(109 knots)
	Vno (Max. structural cruising)	126 m.p.h.	(109 knots)
	Vfe (Flap Extended)	123 m.p.h.	(107 knots)
C.G. range	Forward limit at 6,000 lbs. +26.5 inches aft of datum Forward limit at 4,000 lbs. and below +24.0 inches aft of datum (Straight line variation in the forward limit between 4,000 pounds and 6,000 pounds.)  Aft limit +29.0 inches aft of datum		

	Datum is the leading edge of the wing.		
Maximum weight	6000 lbs.		
Maximum Operating Altitude	12,000 feet		
Number of seats	1 (+89.)		
Maximum cargo load	See weight and balance data. Maximum baggage compartment, 60 pounds at (+112). Maximum Hopper Load, 3336 pounds at (+29.9)		
Fuel capacity	Tank Capacity and usable capacity for aircraft S/N T11-001 and Up, same as in Section II for Model S-2R.		
Oil tank capacity	11 quarts - Usable oil tank capacity 6 quarts.		
Control surface movements	Elevator	Up $27^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Elevator tab	Up $13^{\circ} \pm 1^{\circ}$	Down $18^{\circ} \pm 1^{\circ}$
	Rudder	Left $24^{\circ} \pm 1^{\circ}$	Right $24^{\circ} \pm 1^{\circ}$
	Aileron	Up $21^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Flaps		Down $15^{\circ} \pm 1^{\circ}$
Serial numbers eligible	T11-001 and subsequent		
Required equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual. Refer to NOTE 6 for information on required placards for flight and operating instructions and limitations.		

VI - Model S2R-R3S, 2 PCLM (Normal Category Only), Approved March 28, 1980

Engine	Wsk - "Pezetel" PZL-3S				
Fuel	100/130 Minimum grade aviation gasoline				
Engine limits	Condition	HP	RPM	MP.IN.HG.	ALT. (FT.)
	Takeoff (1 min.)	592	2200	37.0	S.L.
	Max.	542	2050	36.2	S.L.
	Continuous				
Propeller and Propeller limits	One Dowty RotoI, Ltd., Model (C) R, 289/3-110-F/1, Constant Speed, Hydraulic, Non-Feathering, Non-Reversing Pitch Control with Pezetel Governor 0719-812008. Blade Model 660705200, Diameter: 102" $\pm 0.0$ Pitch Setting at .7 Blade Radius Low $12^{\circ} \pm 1/4^{\circ}$ : High $20^{\circ} \pm 1/4^{\circ}$ .				
Airspeed limits (CAS)	Vne (Never exceed)	159 m.p.h.			(138 knots)
	Vp (Maneuvering)	126 m.p.h.			(109 knots)
	Vno (Max. structural cruising)	126 m.p.h.			(109 knots)
	Vfe (Flap Extended)	123 m.p.h.			(107 knots)
C.G. range	(+22.5) to (+30.0) with Elevator Down Spring, P/N 19661-1 installed. (+22.5) to (27.7) without P/N 19661-1 installed				
Maximum weight	6000 lbs.				
Number of seats	1 (+89) 1 (+127 - Forward Facing) or 1 (+111 - Aft Facing)				

Maximum cargo load	See weight and balance data. Maximum baggage compartment, 200 pounds at (+120). Maximum Hopper Load, 3336 pounds at (+29.9)		
Fuel capacity	S/N R3S-009DC and subsequent - (104 gallon usable, one 53 gallon tank in each wing, tanks interconnected). See NOTE 1 for data on unusable fuel.		
Oil capacity	11.4 gallons total (84 lbs. at -13.6) (9.0 gallons usable)		
Control surface movements	Elevator	Up $27^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Elevator tab	Up $8^{\circ} \pm 1^{\circ}$	Down $22^{\circ} \pm 1^{\circ}$
	Rudder	Left $24^{\circ} \pm 1^{\circ}$	Right $24^{\circ} \pm 1^{\circ}$
	Aileron	Up $21^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Flaps		Down $15^{\circ} \pm 1^{\circ}$
Serial numbers eligible	R3S-009DC and subsequent		
Required equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual. Refer to NOTE 6 for information on required placards for flight and operating instructions and limitations.		

VII - Model S2R-R1340, 2 PCLM (Normal Category Only), Approved May 6, 1980

Engine	Pratt & Whitney WASP R1340 AN1 (S3H1 or S1H1 Commercial designation) with carburetor part list setting 395118-3 or A-18639-7. Manifold pressure gage is to be modified per Drawing 60600 when the S1H1 engine is used.					
Fuel	80/87 minimum grade aviation gasoline					
Engine limits			<u>S3H1</u>		<u>S1H1</u>	
			M.P.		M.P.	
		<u>H.P.</u>	<u>R.P.M.</u>	<u>IN. H.G.</u>	<u>ALT.</u>	<u>ALT.</u>
	Takeoff (5 min.)	600	2250	36.0	S.L.	36.5
	Max. Continuous	550	2200	34.0	S.L.	35.0
	Max. Continuous	550	2200	32.5	5000	33.0
Propeller and propeller limits	Hamilton Standard, constant speed, 12D40 Hub, 6101-12 blades. Diameter 109 inches maximum, 107 inches minimum. Pitch settings 11.5° low and 27.0° high at 42 inch stations. Alternate settings - 11.5° low and 21.5° high at 42 in. stations. Alternate blades, EAC AG100-2 - Diameter 106 inches (2 percent cutoff permitted). Pitch settings 11.5° inches low and 20° high at 42 inches.					

Airspeed limits (CAS)	Vne (Never exceed)	159 m.p.h.	(138 knots)
	Vp (Maneuvering)	126 m.p.h.	(109 knots)
	Vno (Max. structural cruising)	126 m.p.h.	(109 knots)
	Vfe (Flap Extended)	123 m.p.h.	(107 knots)
C.G. range	(+22.5) to (+30.0) with Elevator Down Spring, P/N 19661-1 installed. (+22.5) to (27.7) without P/N 19661-1 installed		
Maximum weight	6000 lbs.		
Number of seats	1 (+89.0) 1 (+127 - Forward Facing) or 1 (+111 - Aft Facing)		
Maximum cargo load	See weight and balance data. Maximum baggage compartment, 200 lbs. (+120). Maximum Hopper Load, 3336 lbs. (+29.9)		
Fuel capacity	S/N R1340-001DC and subsequent - (104 gallon usable, one 53 gallon tank in each wing, tanks interconnected). See NOTE 1 for data on unusable fuel.		
Oil capacity	11.4 gallons total (84 lbs. at -13.6) (9.0 gallons usable)		
Control surface movements	Elevator	Up $27^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Elevator tab	Up $8^{\circ} \pm 1^{\circ}$	Down $22^{\circ} \pm 1^{\circ}$
	Rudder	Left $24^{\circ} \pm 1^{\circ}$	Right $24^{\circ} \pm 1^{\circ}$
	Aileron	Up $21^{\circ} \pm 1^{\circ}$	Down $17^{\circ} \pm 1^{\circ}$
	Flaps	Down $15^{\circ} \pm 1^{\circ}$	
Serial numbers eligible	R1340-001DC and subsequent		
Required equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual. Refer to NOTE 6 for information on required placards for flight and operating instructions and limitations.		

#### Data Pertinent to All Models

Certification basis	CAR 3 effective May 15, 1956, with Amendments 3-1 through 3-8. Type Certificate A3SW issued November 1, 1965, revised November 2, 1967, to add Model S-2R. Application for Type Certificate May 10, 1965. Revised August 28, 1978, to add Model S2R-T34; Revised April 3, 1979, to add Model S2R-T15; Revised October 26, 1979, to add Model S2R-T11; Revised March 28, 1980, to add Model S2R-R3S; Revised May 6, 1980 to add Model S2R-R1340; Certification basis CAR 3 with amendments as above, plus FAR 23, effective February 1, 1965, including Amendments 23-1 through 23-16 only as applies to turboprop engine installations on Model S2R-T34, S2R-T15 and S2R-T11, and Special Federal Aviation Regulation SFAR 27, effective January 1, 1975, including Amendment 27-1.
Production basis	Production Certificate Number 580.
Export eligibility	Aircraft will be eligible for issuance of an Export Certificate of Airworthiness subject to compliance with Federal Aviation Regulations Part 21, Subpart L, Sections 21.321 through 21.339. Special requirements of specific foreign countries are contained in Advisory Circular 21-2D.

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 empty weight and the corresponding center of gravity location must include the following unusable fuel:

Model 600 S-2D	54.0 lbs. at (+38.5)
Model S-2R, S/N 1380R	24.0 lbs. at (+38.5)
Model S-2R, S/N 1416R and 1418R	36.0 lbs. at (+38.5)
Model S-2R, S/N 1419R thru 1499R, 1501R thru 1510R	48.0 lbs. at (+38.5)
Model S-2R, S/N 1500R, 1511R thru 4999R	18 lbs. at (+38.5)
Model S-2R, S/N 5000R and subsequent	18 lbs. at (+38.5)
Model S2R-34, S/N 6000 - 6049 and subsequent and T34-001 and subsequent	18 lbs. at (+38.5)
Model S2R-T15, S/N T15-001 and subsequent	18 lbs. at (+38.5)
Model S2R-R3S, S/N R3S-009DC and subsequent	18 lbs. at (+38.5)
Model S2R-T11, S/N T11-001 and subsequent	18 lbs. at (+38.5)
Model S2R-R1340, S/N R1340-001DC and subsequent	18 lbs. at (+38.5)

NOTE 2. The following information on placards pertaining to flight and operating instructions and limitations must be displayed in full view of the pilot:

- (a) This airplane must be operated as a normal category airplane in accordance with the operating limitations stated in the form of placards, and the Airplane Flight Manual.
- (b) No acrobatic maneuvers including spins approved.
- (c) (1) Model 600 S-2D: The operation of this airplane is limited to Day-VFR conditions. Flight into known icing conditions prohibited. (See NOTE 3).
- (2) Model S-2R: The operation of this airplane is limited to Day and Night-VFR conditions. Flight into known icing conditions prohibited.
- (d) Design Maneuvering Speed: 126 m.p.h.  
Maximum Crosswind Velocity: 15 m.p.h.  
Maximum flap-down speed: 123 m.p.h.
- (e) Avoid continuous ground operation between 1280 and 1900 r.p.m.
- (f) When stall warning systems is installed: Stall warning switch must be on in flight. Stall warning is inoperative with generator and battery switches off.
- (g) When stall warning system is installed: Test stall warning light daily before flight by moving lift indicator until light comes on.
- (h) When canopy is installed: No smoking
- (i) Park brake: On, depress pedals and pull lever.  
Off, depress pedals.
- (j) When locking tail wheel is installed: Push stick forward to unlock tail wheel.
- (k) Usable tank capacity (See "Fuel Capacity")

The following placard must be displayed on the wings and adjacent to the fuel filler caps:

"FUEL ( \* ) U. S. GAL. MIN. OCTANE 87  
FUEL TANKS ARE INTERCONNECTED, ALLOW SUFFICIENT TIME FOR FUEL LEVEL TO EQUALIZE BEFORE TOP-OFF OF TANKS. NO AROMATIC FUEL."

- \* 54.5 For 600 S-2D  
 33 for S/N 1380R and  
 53 for all other S-2R.

The following placard must be displayed adjacent to the oil filler cap:

OIL TANK  
 ( \* ) GAL. CAP  
 \*10.9 FOR 600-S-2D  
 9.2 FOR S-2R

- NOTE 3. Model 600 S-2D is eligible for Day and Night-VFR conditions with approved light system, Snow Drawing 90110 and 90132, in which case placard under NOTE 2(c)(2) applies.
- NOTE 4. Refer to Type Certificate Data Sheet Number A4SW for conditions and limitations applicable to the "Restricted Category," Ayres Models 600 S-2D, S-2R, S2R-T34, S2R-T15, S2R-R3S, S2R- T11, and S2R-R1340.
- NOTE 5. Model S-2R, Optional Engine Installation  
 (Only sections different from II are shown)

Engine	Wright R-1300-1B			
Fuel	100/130 minimum grade aviation gasoline			
Engine limits		<u>H.P.</u>	<u>R.P.M.</u>	<u>IN. HG.</u> <u>ALT.</u>
	Takeoff	800	2600	44.0 S.L.
	(5 minute)	800	2600	42.5 3500
	Max. Continuous	700	2400	39.5 S.L.
	Max. Continuous	700	2400	38.0 5000
	Straight line variation between points given			
Propeller and propeller limits	Hamilton Standard, constant speed, 3D40 Hub, (as modified by STC SP148NW) EAC-AG100-OS blade. Diameter 108-5/16 in. max., 106-5/16 in. min. Pitch settings 23° low and 38° high at 42 in. sta. Governor, Hamilton Standard 4M-12-5 or Hamilton Standard, constant speed, 23D40 Hub, 6601A-30S blades.  Diameter 108 in. max., 106 in. min. Pitch setting 24.5° low, 44.5° high at 42 in. sta. Governor, Hamilton Standard 4G10-5			
C. G. range	(±22.5) to (±28.0)			
Control surface movements	Elevator	Up 27° ± 1°	Down 17° ± 1°	
	Elevator tab	Up 8° ± 1°	Down 22° ± 1°	
	Rudder	Left 24° ± 1°	Right 24° ± 1°	
	Aileron	Up 21° ± 1°	Down 17° ± 1°	
	Flaps		Down 18° ± 22°	
Serial numbers eligible	5000R and subsequent			
Certification basis	CAR 3 effective May 15, 1956, with Amendments 3-1 through 3-8. Type Certificate A3SW issued November 1, 1965, revised November 2, 1967, to add Model S-2R. Application for Type Certificate, May 10, 1963. Engine installed per STC SA2969WE.			
Required equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current airplane flight manual. In addition, the following equipment is required:  (1) FAA approved Flight Manual Supplement No. 1.			

(2) 24 Volt Electrical System, Rockwell Drawing 90326.

Weight and balance

See NOTE 1

Placards

Remove the following placards previously installed:

(1) "AVOID CONTINUOUS GROUND OPERATION BETWEEN 1280 AND 1900 r.p.m."

(2) If alternator was installed:

"DO NOT TURN OFF ALTERNATOR IN FLIGHT EXCEPT IN CASE OF EMERGENCY"

"75 AMP MAX." (on left instrument panel)

"C/B - ALT." (on left instrument panel)

(3) At fuel filler caps:

"87 OCTANE"

Add the following placards:

(1) Adjacent to manifold pressure gage:

	<u>H.P.</u>	<u>R.P.M.</u>	<u>IN. HG.</u>	<u>ALT.</u>
Takeoff	800	2600	44.0	S.L.
(1 min.)	800	2600	42.5	3500
Max. Continuous	700	2400	39.5	S.L.
Max. Continuous	700	2400	38.0	5000

Straight line variation between points given

"100/130 MINIMUM GRADE AVIATION GASOLINE"

(2) At auxiliary fuel pump/circuit breaker:

"AUXILIARY FUEL PUMP ON/OFF."

(3) At primer switch:

"PRIMER ON/OFF"

(4) At generator circuit breaker:

"CB GEN"

(5) At fuel filler cap:

"100/130 MINIMUM GRADE AVIATION GASOLINE"

(6) Flaps:

"USE 5° TO 20° FOR TAKE-OFF."

NOTE 6. For the Models S2R-T34 S2R-T15, S2R-T11, S2R-R3S and S2R-R1340, the placards listed in the airplane Flight Manual must be displayed.

NOTE 7. The following models and serial numbers have been or are currently produced by the Ayres Corporation at its Albany, Georgia, facility:

1. Model S2R (600 HP), S/N 1526 up
2. Model S2R (800 HP), S/N 5000
3. Model S2R-T34, S/N 6000 - 6049 and S/N T34-001 up
4. Model S2R-T15, S/N T15-001 up
5. Model S2R-R3S, S/N R3S-009DC up
6. Model S2R-T11, S/N T11-001 up
7. Model S2R-R1340, S/N R1340-001DC up

...END....