

MODELS: Ryan ST-A Special, 1 or 2 PO-CLM

T.C. NUMBER: ATC 681

Engine	Manasco Pirate C4S
Placard limits	Maximum, except take-Off 28.5 in.Hg., 2260 rpm (125 hp). Take-off 1 1 minute (31.0 in.Hg., 2260 rpm (125 hp).
Propeller	Maximum permissible diameter - 106 inches
Placard speeds	Level flight or climb - 123 mph True Ind. Glide or dive - 156 mph True Ind.
Fuel capacity	24 gallons (fuselage tank at 24 gallons) (-10.5)

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Oil capacity 3 gallons (-27)
No. passengers None or 1 (+14.5) (crew 1 or 2 (+14.5, +65)) (See NOTE 6)
Baggage 40 lbs. (single compartment between cockpits) (+31)
Weights Empty Use actual (approximately 1046 lbs. (+6) as 2 POLM with Class I items only)
C.G. limits (+10.5) and (+14.7) (measured horizontally with engine bearers level) (See NOTE 7)
Specification basis Approved Type Certificate No. 681 Serial numbers 121, 141 and up manufactured prior to 7/24/41 eligible. Approval expired as of that date.
Equipment: (Datum is wing leading edge) (* Means net increase)

Class I

101. Wheel streamlines (See NOTE 9) 15 lbs. (+3)
102. 3-inch wheels (Goodyear 3MBA, 3LMBA or 3LMBM) with brakes and 18x8-3 tires (-2)
103. (a) Front seat cushion 3 lbs. (+14.5)
(b) Rear seat cushion 3 lbs. (+65)
104. Wiring for position lights
105. 8-inch streamline tail wheel (+170)
106. Partial span split trailing edge flaps, manually operated
107. Elevator trailing edge tabs, manually operated
108. Oil radiator (G & O No. 326511) 7 lbs. (-26)
109. Propeller - wood (-62)

Class II

201. Carburetor air heater (Ryan Drawing 7-167) 4 lbs. (-41)

Class III

301. Fuel capacity increased 18 gallons - auxiliary fuel tank installed on front seat (eliminates provision for passenger) (See NOTE 2) 18 lbs. (+14.5)
302. (a) Fuel pump, hand wobble (Type D-2) 6 lbs. (-27)
(b) Extra fuel system, etc. 12 lbs.
303. Front cockpit cover 8 lbs. (-6)
304. Parachutes - one or two 29 lbs. each
305. Cockpit enclosure 21 lbs. (+39.5)
306. Starter (a) Electric (Eclipse Y-150) including cables 23 lbs. (-21)
(1) Bonding and shielding 3 lbs.
(2) Booster and solenoid
307. Extra instruments (manifold pressure, bank and turn, climb, altimeter) (+41.5)
308. Dual controls (removable type) 4 lbs. (-8)
309. Battery (Reading 6ARL9) 28 lbs. (+31)
310. Radio receiver (RCA AVR-7 series) 18 lbs. (+31)
311. New type wheel streamlines net decrease 6 lbs. (+3)

NOTE 1. Placard fuel selector valve as follows: "Always take off and land with fuel feeding from reserve."

NOTE 2. When item 301 is installed, installations of items 302(a) and (b) and 303 are required.

NOTE 3: This model same as model ST(ATC-541) except for change in engine and items of equipment

NOTE 4. Deleted 5/26/38.

NOTE 5. Eligible for export, as follows, subject to inspection for equipment specified in Chapter XII of Inspection Handbook (5/26/38):
(a) Canada - Landplane - Skiplane - not eligible.
(b) All other countries except Australia.

NOTE 6. Placard front cockpit, as follows: "When operated as a single place airplane, pilot must occupy rear seat."

NOTE 7. All aircraft also eligible with C.G. limits of (+10.5) and (+16.3) provided an elevator bungee is installed in accordance with Ryan Drawing SK-257, change C, and the elevator cables are adjusted to provide exactly 29 degrees up travel and approximately 26 degrees down travel.

NOTE 8. Item 101 is considered optional equipment which may be installed or removed, subject to inspection and check of C.G. limits.