

PRATT & WHITNEY AIRCRAFT
 Division of United Aircraft Corporation, East Hartford, Conn.

ATC No. — Pending
 90 Octane Fuel



Model — TWIN WASP S1C3-G
 Spec. No. — PW 5054-B
 Date — August 22, 1939
 Revised — December 14, 1939
 Revised — December 27, 1939

TWIN WASP R-1830 ENGINE SPECIFICATION

GUARANTEED DYNAMOMETER PERFORMANCE

Metric				English		
Power Curve No. T-407-M				Power Curve No. T-407		
Power Curve No. T-407-M-C				Power Curve No. T-407-C		
BHP	RPM	ALT. meters		BHP	RPM	ALT. feet
1215	2700		— Normal Take-off Rating —	1200	2700	
1215	2700	1130	— Military (5 Minute) Rating —	1200	2700	3700
1065	2550	2285	— Normal Maximum Rating —	1050	2550	7500
Curve No. T-407-M-F			— Cruising Performance and Fuel Consumption —	Curve No. T-407-F		
710	2325	4570	— Maximum Power and R.P.M. for Cruising —	700	2325	15000

NOTE: Critical altitudes are with standard altitude conditions and are attainable under altitude chamber test conditions.

90 octane	— Fuel Specification: PWA No. 812-A —	90 octane
11.2 grams/BHP/hr	Oil Specification: See P & W Approved List	
6.7 grams/BHP/hr	— Oil Consumption (Max.) — @ Rated Power —	.025 lb/BHP/hr
	— @ Cruising —	.015 lb/BHP/hr

DESCRIPTION AND DIMENSIONS
 (Installation Drawing No. R-33708)

Type — 14 Cylinder Air-Cooled Radial

139.50 mm	— Bore —	5.50 inches
139.50 mm	— Stroke —	5.50 inches
30.00 liters	— Total Displacement —	1830 cu. inches
6.7:1	— Compression Ratio —	6.7:1
7.15:1	— Blower Ratio —	7.15:1
.500, .5625, or .667	— Propeller Gear Ratio —	.500, .5625, or .667
Clockwise	— Prop. Shaft : Rotation (viewed from rear) —	Clockwise
50	— : Spline SAE No. —	50
1219 mm	— Overall Diameter —	48.0 inches
.500 or .666	— Overall Length —	.500 or .666
1548	Approx. Center of Gravity	60.94
	— forward of mounting flange —	12.05
306	— below crankshaft C.L. —	.14
4		
		.5625 Prop. Gear
		61.50 inches
		12.36 inches
		.14 inches

DRY WEIGHT

Including Standard Accessory Equipment

653 kg	— with .500 Reduction Gear —	1440 lb
658 kg	— with .5625 Reduction Gear —	1450 lb
644 kg	— with .667 Reduction Gear —	1420 lb

STANDARD EQUIPMENT

(Included in Engine Dry Weight)

Automatic Valve Gear Lubrication
 Stromberg NA-C12DX Self-Priming Carburetor with Idle Cut-off
 or Chandler-Evans CE-1375DB1 Carburetor
 Carburetor Air Screen
 Two Scintilla SF14L-3 Magnetos, Ignition Wiring, and Spark Plugs
 (Ignition System Completely Radio Shielded)
 Pressure Type Cooling Baffles
 Oil Pumps
 Primer Tubing and Fittings
 Provision for Hamilton Standard "Hydromatic" Feathering Propeller

Accessory Drives for:	<u>Type</u>	<u>Ratio to Crankshaft</u>	<u>Rotation Drive End</u>
Generator or Remote Accessory Gear Box (Round Pad) —	Int. 16 Spline	1.400:1	Clockwise
Starter —	3 Jaw	1.000:1	Clockwise
Fuel Pump (2" Square Pad) —	Int. 11 Spline	.875:1	Counterclockwise
Dual Tachometer —	Air Corps (L.H.)	.500:1	Counterclockwise
	Air Corps (R.H.)	.500:1	Clockwise
Dual Angular Auxiliary (Square Pad) —	*Int. 12 Spline	1.000:1	Clockwise
or Gun Synchronizer (Round Pad) —	Ext. 16 Spline	Prop. Shaft	Clockwise
Vacuum Pump (Square Pad) —	Int. 12 Spline	1.400:1	Clockwise
Constant Speed Propeller Governor —	Int. 12 Spline	.964:1	Clockwise
Provision for Extra Drives:			
Dual Accessory (Square Pad 5" Stud Circle) —	Int. 12 Spline	1.400:1	Counterclockwise

Accessory Drive Covers

NOTE: For details of drives, refer to Installation Drawing No. R-33708
 For torque limitations, refer to Accessory Drives Drawing No. D-26960

* Dual Auxiliary (Int. 12 Spline) type furnished with engine unless otherwise specified.

ADDITIONAL EQUIPMENT FURNISHED WITH ENGINE

(Not included in Engine Dry Weight)

<u>Extra wt. kg</u>		<u>Extra wt. lb</u>
2.27	Thermostatic Oil Temperature Control Valve — with Check Valve —	5.00
6.80	Operator's Manual	15.00
.68	— Tool Kit — — Engine, Plane and Pilot Log Books — Domestic Shipping Box	1.50

SPECIAL P & W EQUIPMENT AVAILABLE

	Stromberg NA-C12D2 Self-Priming Carburetor with Automatic Mixture Control, Cruise Valve and Idle Cut-off	
6.80	— Stromberg PD-12B8 Injection Carburetor with Automatic Mixture Control and Idle Cut-off —	15.00
4.54	— Dual Accessory Drive Housing (one or two extra drives; 1 7/8" Square Pad Adapter Optional) — Cartridge Starter Jaw (12 Tooth Type) Oil Connection Blank Flanges For Engine (Plain Type) and	10.00
.09	— for Oil Temperature Control Valve (Plain or Mounting Type) each —	.20
	(Refer to P & W Accessory Catalogue for extra Equipment and Weights)	

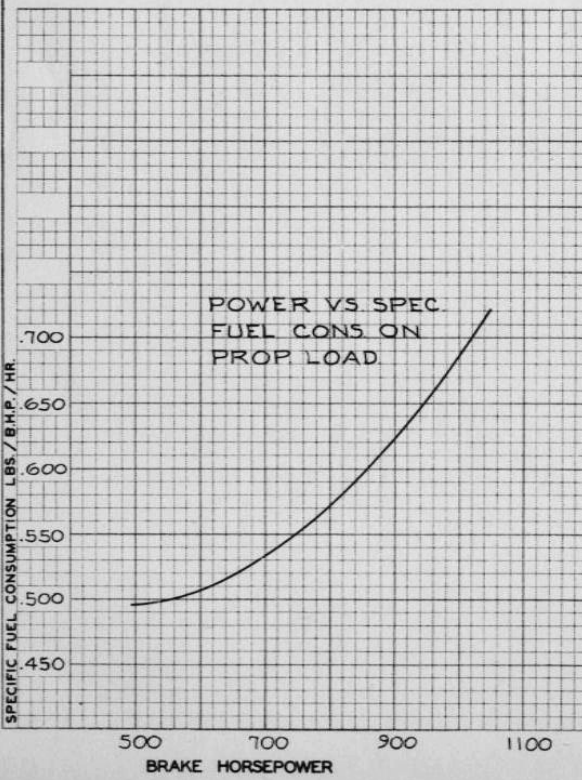
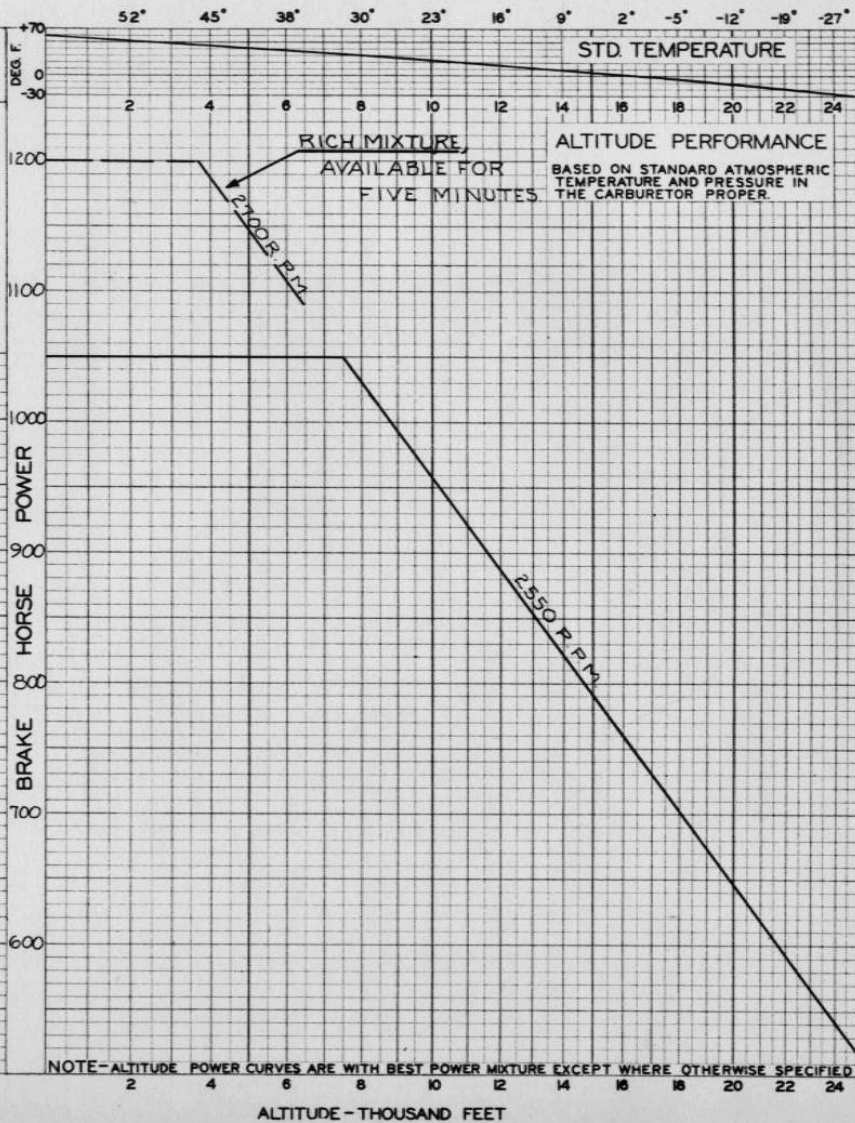
SPECIAL NOTES

The Dynamic Damper used in Pratt & Whitney Engines is licensed under U. S. Patent No. 2103643 issued to F. M. M. B. Salomon

P. & W. TWIN WASP R-1830 SIC3-G ENGINE
GUARANTEED DYNAMOMETER PERFORMANCE
BLOWER 715:1 PISTONS 6.7:1 PROP. $\frac{500}{687}$ FUEL 90 OCTANE
ASTM

MAXIMUM POWER LIMITS

	BHP	R.P.M.
TAKE-OFF	1200	2700
MILITARY	1200	2700
NORMAL	1050	2550



REVISED 9-8-39
12-14-39

DATE 6-29-38

CURVE T-407

PRAATT & WHITNEY AIRCRAFT

TWIN WASP R-1830 SIC3-G

REVISED 12-14-39

P.&W. TWIN WASP R-1830 SIC3-G ENGINE
GUARANTEED DYNAMOMETER PERFORMANCE
BLOWER 7.15:1 PISTONS 6.7:1 PROP. 30" FUEL 90 OCTANE
ASTM

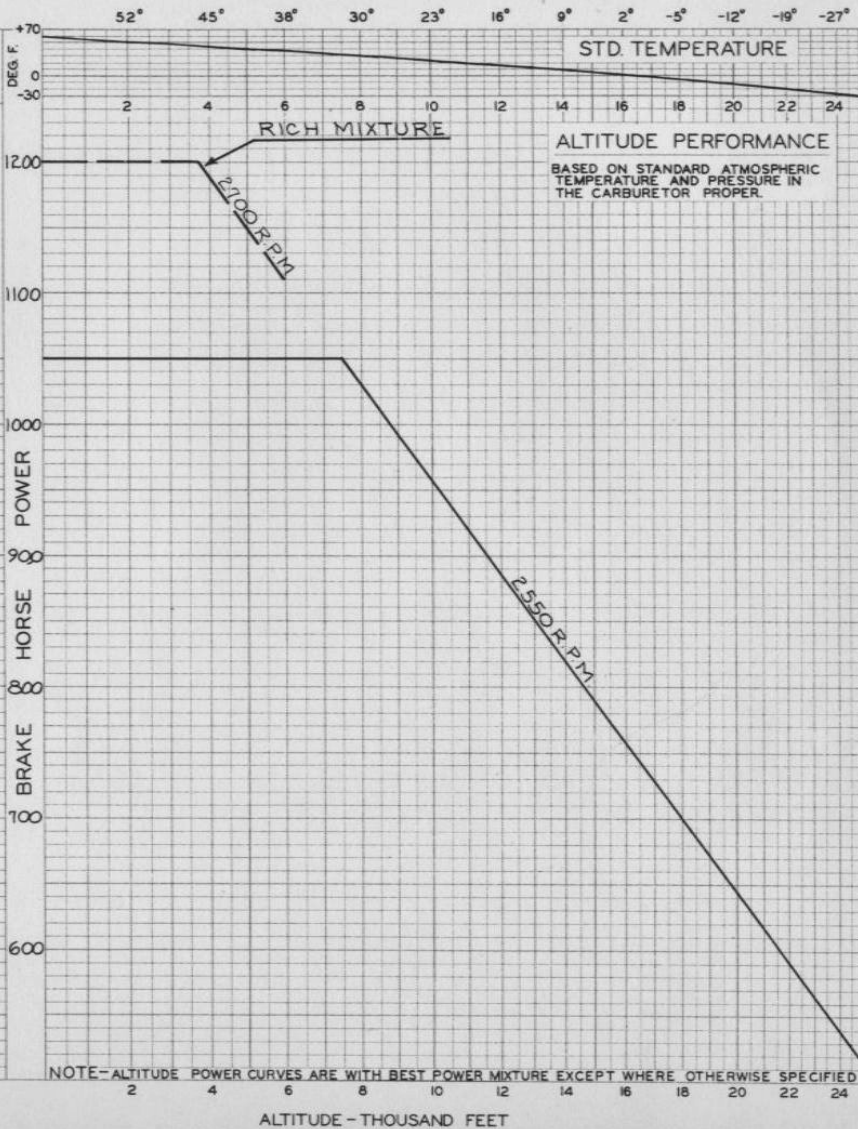
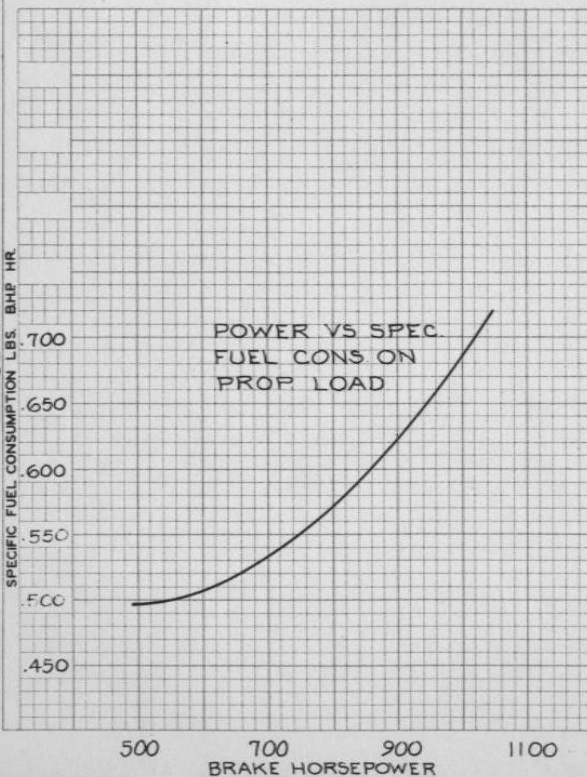
COMMERCIAL POWER LIMITS

	B.H.P.	R.P.M.
TAKE-OFF	1200	2700
NORMAL	1050	2550

CONTINUOUS EMERGENCY OPERATION OF }
MULTI-ENGINE AIRCRAFT (NOT FOR }
MILITARY HIGH SPEED PERFORMANCE)

DATE 10-5-39

CURVE T-407C



NOTE-ALTITUDE POWER CURVES ARE WITH BEST POWER MIXTURE EXCEPT WHERE OTHERWISE SPECIFIED

PRATT & WHITNEY AIRCRAFT

TWIN WASP R-1830 SIC3 G