

## Wright Engines -- 1903 to 1940

### Early Engines

Of the engines made prior to 1916 there is little record available. The following facts, however, are known:

#### Original Model (1903)

Type - Horizontal	Bore - 4 in.
Cooling - Water	Stroke - 4 in.
No. of Cylinder - 4	Displacement -
Horsepower - 12 at 1090 r.p.m.	Dry Weight - 170 lbs.

Fuel injection was employed, and ignition was by low tension magneto with make and break.

#### Second Model (1909 on)

Type - In-line	Bore - 4-3/8 in.
Cooling - Water	Stroke - 4 in.
No. Cylinders - 4	Displacement -
Horsepower - 30-35 at 1200 r.p.m.	Dry Weight - 180 lbs.

Fuel Consumption - 4 gallons per hour

Fuel injection employed

#### Third Model (1910)

Type - 90° Vee	Bore - 4-3/8 in.
Cooling - Water	Stroke - 4 ins.
No. Cylinders - 8	Displacement - 240.52 cu. ins.
Horsepower - 60	<i>Dry wt. 180 lbs.</i>

Fuel injection employed

### Model A

The original Hispano-Suiza used throughout the World War as a Training plane engine.

Type - 60° Vee	Bore - 4.724 in.
Cooling - Water	Stroke - 5.118 in.
No. Cylinders - 8	Displacement - 718 cu. in.
Horsepower - 150 at 1540 r.p.m.	Dry Weight - 445 lbs.

### Model B

An experimental four-cylinder, in-line, water-cooled engine rated at 75 horsepower at 1450 r.p.m. This was essentially a Model A cut in two, and weighed 316 lbs.

#### Model C

An experimental eight-cylinder, water-cooled geared "V" type with a rated horsepower of 200, and having a propeller shaft extending the full length of the engine between the Vee, driven by gears on the rear end.

#### Model D

An experimental engine similar to the Model C but with a short propeller shaft driven by gears at the front end. It was designed to carry a 37 m/m semi-automatic cannon in the Vee, firing through the hollow propeller shaft. This was the first cannon engine built by the company.

#### Model E

The second model of the Hispano-Suiza

Type - 60° Vee	Bore - 4.724 in.
Cooling - Water	Stroke - 5.113 in.
No. Cylinders - 8	Displacement - 718 cu. in.
Horsepower - 180 at 1800 r.p.m.	Dry Weight 450 lbs.

#### Model F

An experimental eight-cylinder, water-cooled, Vee type, geared engine rated at 200 horsepower. It was similar to the Model D but had no provision for a cannon.

#### Model H

The third Hispano-Suiza model designed specifically for pursuit planes during the World War. As the "hisso" 300, it was probably one of the greatest of the wartime engines.

Type - 60° Vee	Bore - 5.5
Cooling - Water	Stroke - 5.905
No. Cylinders - 8	Displacement - 1127.5 cu. ins.
Horsepower - 300	Dry Weight - 632 lbs.

#### Model K (1917)

This was an experimental, geared, cannon engine, eight cylinder, water-cooled, Vee type, similar to the Model D, but rated at 300 horsepower. It was unusual in design in that the crankcase was split on the vertical rather than the horizontal center line.

### Model K-2 (1917)

A modified version of the Model K, but with the crankcase split in the conventional manner on the horizontal center line.

### Model A, Lawrence (1916)

The original Lawrence engine which was the ancestor of all Wright air-cooled engines.

Type - Horizontally opposed	Bore - 4.25 ins.
Cooling - Air	Stroke - 5.25 ins.
No. Cylinders - 2	Displacement - 82 cu. ins.
Horsepower - 28 at 1400 rpm	Dry Weight -

### Model N-2 Lawrence

An experimental 2 cylinder engine built for the Navy Department. It developed 40 horsepower and weighed only 79 lbs. The high cost of manufacture and the high operating speed led to its abandonment in favor of the more reliable and easily manufactured Model L.

### Model B Lawrence (1916)

The immediate predecessor of the Model L. Experimental work was carried on with this engine for several years and its power increased from 35 to 60 horsepower.

### Model I (1918)

Designed by Wright-Martin engineers to replace the Model A, this engine incorporated features of both the Models A and B, and was rated at 150 horsepower, with a weight of 470 lbs. It had considerable use as a training engine both during and after the world war.

### Model L-2 Lawrence (1919)

The first air-cooled radial used by the U.S. Army.	
Type - Radial	Bore - 4.25
Cooling - Air	Stroke - 5.25
No. Cylinders - 3	Dry Weight - 140 lbs.
Horsepower - 60 at 1800 rpm	Dry Weight - 140 lbs.

### Model M

An experimental engine similar to the Model H but fitted with the "Liberty" type of steel cylinder construction.

Type 60° Vee	Bore-5.5
Cooling - Water	Stroke - 5.905
No. Cylinders - 8	Displacement - 1127.5
Horsepower - 300 at 1800 rpm	Dry Weight - 528 lbs.

### Model B-2 (1920)

The first Wright Aeronautical Corporation engine, while resembling the Hispano Model B, this engine had heavier cylinder sleeve heads, improved oil pump, valves, cylinder block, ignition, pistons, timing gear, etc. It was rated at 190 horsepower.

### Model D-1 (1920)

A special engine designed for use in dirigibles. *350hp total?*

Type - in-line	Bore - 7 in.
Cooling - Water	Stroke - 8 in.
No. Cylinders - 6	Displacement - 1847.26 cu. ins.
Horsepower - 400 at 1400 rpm	Dry Weight - 1320 lbs.

### Model H-1 (1920) 1727

Rated at 350 horsepower, this was the first high power radial air-cooled engine successfully operated in America.

Type - Radial	Bore - 5-5/8 in.
Cooling - Air	Stroke - 6 1/2 in.
No. Cylinders - 9	Displacement - 1455.72
Horsepower - 350 at 1800 rpm	Dry Weight - 834 lbs.

### Model R Lawrence (1920)

An outgrowth of the Lawrence Model L-2.

Type - Radial	Bore - 4 1/2 in.
Cooling - Air	Stroke - 5 1/2 in.
No. Cylinders - 9	Displacement -
Horsepower - 147 at 1600 rpm	Dry Weight - 410 lbs.

### Model J-1 Lawrence (1920)

This engine was similar to the Model R, and was designed for the U.S. Navy. This was the only engine of its type until 1925 successfully to pass a standard 50-hour endurance run.

Type - Radial	Bore - 4 3/8 in.
Cooling - Air	Stroke - 5 1/2 in.
No. Cylinders - 9	Displacement - 787.23 cu. ins.
Horsepower - 200 at 1800 rpm	Dry Weight - 476 lbs.

### Model H-2 (1920)

A Wright-improved version of the Model R, using heavier cylinder heads and increased compression.

Type 60° Vee	Bore - 5.5 in
Cooling - Water	Stroke - 5.905 in.
No. Cylinders - 8	Displacement - 1127.5 cu. in.
Horsepower - 320 at 1800 rpm	Dry Weight - 620 lbs.

### Model E-3 Alert

A further improvement of the E type with an improved cylinder sleeve pressed into the aluminum jacket, and with a new type of silchrom <sup>44/</sup>

Type - 60° Vee	Bore -
Cooling - Water	Stroke -
No. Cylinders - 8	Displacement -
Horsepower - 215 at 2000 rpm	Dry Weight - 465 lbs.

### Model E-4 Tempest (1922)

The final development of the E type using a headless steel sleeve shrunk into the aluminum head.

Type - 60° Vee	Bore - 4.72 in.
Cooling - Water	Stroke - 5.11 in.
No. Cylinders - 8	Displacement - 718 cu. in.
Horsepower - 200 at 1800 rpm	Dry weight - 480 lbs.

### Model E-4A Tempest (1922)

A high compression model of the "E-4"	
Type - 60° Vee	Bore-4.72
Cooling - Water	Stroke - 5.11
No. Cylinders - 8	Displacement - 718 cu. in.
Horsepower - 240 at 2100 rpm	Dry Weight - 480 lbs.

### Model H-3 (1922)

A further development of the H type engine. In 1922 it was considered to be the lightest and most efficient pursuit engine in the world.

Type - 60° Vee	Bore - 5.5
Cooling - Water	Stroke - 5.905
No. Cylinders - 8	Displacement - 1127.5 ins.
Horsepower - 375 at 2000 rpm	Weight - 624 lbs.

### Model H-3 Superflighter

This was a variation of the H-3, using higher compression and rated at 400 horsepower at 2100 r.p.m.

### Model T Tornado (1922)

Originally designed for use in Navy seaplanes, this engine was destined to become one of the most famous of the Wright line.

Type - 60° Vee	Bore - 5-3/4
Cooling - Water	Stroke - 6 1/2 in.
No. Cylinders - 12	Displacement - 1947.48 cu. in.
Horsepower - 525	Dry Weight. -

### Model T-2 Tornado (1922)

An improvement on the Model T.

Type-60 Vee	Bore - 5-3/4 in.
Cooling - Water	Stroke - 6 1/2 in.
No. Cylinders - 12	Displacement - 1947.48 cu. in.
Horsepower - 600 at 1800 r.p.m.	Dry Weight - 1150 lbs.

### Model T-3 Tornado (1923)

A later improvement on the Model T. Considered to be one of the most remarkably efficient water-cooled engines ever produced. This was also produced in a geared model.

Type - 60° Vee	Bore - 5-3/4 in.
Cooling - Water	Stroke - 6 1/2 in.
No. Cylinders - 12	Displacement - 1947.48 cu. in.
Horsepower - 600 at 1800 rpm	Dry Weight - 1160 lbs.

### Model T-4 Tornado (1923)

Type 60° Vee	Bore -
Cooling - Water	Stroke -
No. Cylinders - 12	Displacement -
Horsepower -	Dry Weight -

### Model J-2 Lawrence (1923)

An improved type of J-1 designed for the Navy. Only two of these engines were built.

Type - Radial	Bore - 4-7/8 in.
Cooling - Air	Stroke - 5 1/2 in.
No. Cylinder - 9	Displacement -
Horsepower - 250 at 1800 rpm	Dry Weight -

#### Model T. Lawrance (1923)

An experimental engine designed for use in radio-controlled torpedo planes.

#### Model L-4 Lawrance, or Wright Gale (1923)

An improved design of the Model L-2.

Type - Radial	Bore- $4\frac{1}{2}$ in.
Cooling - Air	Stroke - $5\frac{1}{2}$ in.
No. Cylinders - 3	Displacement - 223 cu. in.
Horsepower - 60 at 1800 rpm	Dry Weight - 175 lbs.

#### Model J-3 (1923)

This engine was the result of changes made by Wright engineers on the Lawrance Model ~~J~~<sup>J</sup>-1.

Type - Radial	Bore - $4\frac{1}{2}$ in.
Cooling - Air	Stroke - $5\frac{1}{2}$ in.
No. Cylinders - 9	Displacement - 788 Cu. in.
Horsepower - 211 at 1800 rpm	Dry Weight - 475 lbs.

#### Model J-4 Whirlwind (1924)

This engine was developed from the J-3 and incorporated many radical changes.

Type - Radial	Bore - $4\frac{1}{2}$ in.
Cooling - Air	Stroke - $5\frac{1}{2}$ in.
No. Cylinders - 9	Displacement - 787 cu. in.
Horsepower - 215 at 1800 rpm	Dry Weight - 475 lbs.

#### Model J-4A Whirlwind (1924)

A modification of the Model J-4, using thinner cylinder fins.

#### Model J-4B Whirlwind (1925)

A further modification of the Model J-4 improved cooling around the valve parts.

#### Model T-M Typhoon (1925)

This was the model T-3 engine modified for marine use.

Type - 60° Vee	Bore - $5\frac{3}{4}$ in.
Cooling - Water	Stroke - $6\frac{1}{2}$ in.
No. Cylinders - 12	Displacement - 1947.48 cu. in.
Horsepower - 500 at 1900 rpm	Dry Weight - 1850 lbs.

Model J-5 Whirlwind (1925) 1926

A complete redesign of the Whirlwind series.

Type - Radial	Bore - $4\frac{1}{2}$ in.
Cooling - Air	Stroke - $5\frac{1}{2}$ in.
No. Cylinders - 9	Displacement - 788 cu. in.
Horsepower - 200 at 1800 rpm 225 at 2000 rpm	Dry Weight - 510 lbs.

Model E-M Hurricane (1925)

A modification of the Model E-4 for marine use.

Type - $60^\circ$ Vee	Bore - $4\frac{1}{2}$ in.
Cooling - Water	Stroke - $5\frac{1}{8}$ in.
No. Cylinders - 8	Displacement - 625 cu. in.
Horsepower - 200 at 2300 rpm	Dry Weight -

Model E-M Gold Cup (1925)

A special model of the Hurricane.

Type - $60^\circ$ Vee	Bore - $4\frac{1}{2}$ in.
Cooling - Water	Stroke - $5\frac{1}{8}$ in.
No. Cylinders - 8	Displacement -
Horsepower - 240	Dry Weight -

Model R-1200 Simoon (1925) 1926

A new engine of higher power rating than the Whirlwinds, and designed to replace the powerful water-cooled engines. It was equipped with a Moss type supercharger.

Type - Radial	Bore - $5\frac{1}{2}$ in.
Cooling - Air	Stroke - $5\frac{1}{2}$ in.
No. Cylinders - 9	Displacement - 1176 cu. ins.
Horsepower - 350 at 1900 rpm	Dry Weight - 640 lbs.

Model P-1 Cyclone (1925)

The first of the high-power Cyclones.

Type - Radial	Bore - 6 in.
Cooling - Air	Stroke - $6\frac{1}{2}$ in.
No. Cylinders - 9	Displacement - 1654 cu. in.
Horsepower - 400 at 1650 rpm	Dry Weight - 812 lbs.

Model P-2 Cyclone (1925) 1926

An improved and supercharged type of Model P-1.

Type - Radial	Bore - 6 in.
Cooling - Air	Stroke - $6\frac{1}{2}$ in.
No. Cylinders - 9	Displacement - 1654 cu. in.
Horsepower - 450 at 1800 rpm	Dry Weight - 890 lbs.



Model Wright-Morehouse (1926)

A light engine intended for use in small planes.

Type - Horizontally opposed	Bore - 3-3/4 in.
Cooling - Air	Stroke - 3-5/8 in.
No. Cylinders - 2	Displacement - 80 cu. in.
Horsepower - 30 at 2500 rpm	Dry Weight - 89 lbs.

Model Wright-Morehouse (1926)

A "double" version of the original engine with the cylinders superimposed.

Type - Horizontally opposed	Bore - 3-3/4 in.
Cooling - Air	Stroke - 3-5/8 in.
No. Cylinders - 4	Displacement - 160 cu. in.
Horsepower - 60	Dry Weight - 175 lbs.

Model R-1750 Cyclone (1927)

Designed originally for the Navy, this engine was also used by the Army.

Type - Radial	Bore - 6 in.
Cooling - Air	Stroke - 6-7/8 in.
No. Cylinders - 9	Displacement - 1749.5 cu. in.
Horsepower - 525 at 1900 rpm	Dry Weight - 760 lbs.

Model V-1456 (1927)

An experimental engine, not placed in production.

Type-60 Vee inverted	Bore - 4-7/8 in.
Cooling - Air	Stroke - 6-1/2 in.
No. Cylinders - 12	Displacement - 1460 cu. in.
Horsepower - 525 at 2300 rpm	Dry Weight - 925 lbs.

Model Wright Gipsy (1928) H&A

An Americanized version of the British DeHaviland Gipsy.

Type - In-line	Bore - 4 1/2 in.
Cooling - Air	Stroke - 5 in.
No. Cylinders - 4	Displacement - 318 cu. in.
Horsepower - 90-100 at 1900 rpm	Dry Weight - 285 lbs.

Model J-6 R-975 Whirlwind 300 (1928)

The new series J-6 Whirlwind, featuring many improvements.

Type Radial	Bore - 5 in.
Cooling - Air	Stroke - 5 1/2 in.
No. cylinders - 9	Displacement - 971.91 cu. in.
Horsepower - 300 at 2000 rpm	Dry Weight - 485 lbs.

Model J-6 R-760 Whirlwind 225 (1928)

A seven-cylinder version of the Whirlwind.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - $5\frac{1}{2}$ in.
No. cylinders - 7	Displacement - 755.93 cu. in.
Horsepower - 225 at 2000 rpm	Dry Weight - 425 lbs.

Model J-6 R-540 Whirlwind 150 (1928)

A five-cylinder version of the Whirlwind.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - $5\frac{1}{2}$ in.
No. cylinders - 5	Displacement - 539.95 cu. in.
Horsepower - 150 at 1800 rpm	Dry Weight - 370 lbs.

Model Curtiss Conqueror V-1570 (1929)

Designed and built originally by the Curtiss Company; this engine was built by the Wright Aeronautical Corporation after the Curtiss-Wright merger.

Type - 60° Vee	Bore - $5\frac{1}{8}$ in.
Cooling - Liquid (Water or Ethylene Glycol)	Stroke - $6\frac{1}{4}$ in.
No. cylinders - 12	Displacement - 1569 cu. in.
Horsepower - 600 & 2400 rpm	Dry Weight - 835 lbs.

Model Curtiss Conqueror QV 1570 (1929)

A geared type of Curtiss engine manufactured by Wright.

Type 60° Vee	Bore - $5\frac{1}{8}$ in.
Cooling - Liquid	Stroke - $6\frac{1}{4}$ in.
No. cylinders - 12	Displacement - 1569 cu. in.
Horsepower - 600 at 2400 rpm	Dry Weight - 840 lbs.

Model Curtiss Super conqueror SSV-1570 (1929)

A supercharged, geared Curtiss Conqueror manufactured by Wright.

Type 60° Vee	Bore $5\frac{1}{2}$ in.
Cooling - Liquid	Stroke - $6\frac{1}{4}$ in.
No. cylinders - 12	Displacement - 1569 cu. in.
Horsepower - 705 at 2450 rpm	Dry Weight - $\frac{7}{110}$ lbs.

### Model V-1560 (1930)

An improvement on the model V-1456. Only 13 of these engines were made.

Type - 60° Vee Inverted	Bore - 5 in.
Cooling - Air	Stroke - 6-5/8 in.
No. cylinders - 12	Displacement 1560 cu. in.
Horsepower - 600 at 2400 rpm	Dry Weight - 960 lbs.

### Model Whirlwind 240 (1930)

Changes made in the J-6 Whirlwind 225 resulted in the power being increased, to 240 horsepower.

### Model R-975E Whirlwind 330 (1931)

A new model of the Whirlwind 300 resulting from the application of the E cylinder head.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - 5½ in.
No. Cylinders - 9	Displacement - 971.91 cu. in.
Horsepower - 330	Dry Weight - 564 lbs.

### Model R-760E Whirlwind 250 (1931)

A new model of the Whirlwind 225 with the E cylinder head.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - 5½ in.
No. Cylinders - 7	Displacement - 755.93 cu. in.
Horsepower - 250	Dry Weight - 550 lbs.

### Model R-540E Whirlwind 175 (1931)

A new model of the Whirlwind 150 with the E cylinder head.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - 5½ in.
No. cylinders - 5	Displacement - 539.95 cu. in.
Horsepower 175	Dry Weight - 590 lbs.

### Model R-976E 3 Whirlwind 420 (1931)

A modification of the Whirlwind 330 with a new type of head, higher compression and high<sup>er</sup> supercharge.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - 5½ in.
No. cylinders - 9	Displacement - 971.91 cu. in.
Horsepower - 420	Dry Weight - 600 lbs.

Model R-975E1 Whirlwind 365 (1931)

This engine was essentially the same as the R-975E but was equipped with high compression pistons.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - $5\frac{1}{2}$ in.
No. Cylinders - 9	Displacement - 971.91
Horsepower - 365 at 2100 rpm	Dry Weight - 660 lbs.

Model R-760E1 Whirlwind 285 (1931)

This engine was the same as the R-760E, but was equipped with high compression pistons.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - $5\frac{1}{2}$ in.
No. cylinders - 7	Displacement 755.93 cu. in.
Horsepower - 285	Dry Weight - 570lbs.

Model R-1750E cyclone (1931)

This was the final modification of the R-1750 series. Previous minor changes had produced designations A,B,C and D.

Type - Radial	Bore 6 in.
Cooling - Air	Stroke - 6-7/8 in.
No. cylinders - 9	Displacement - 1749.5 cu. in.
Horsepower - 550	Dry Weight - 885 lbs.

Model R-1820 E Cyclone (1931)

Type - Radial	Bore - 6-1/8 in.
Cooling - Air	Stroke - 6-7/8 in.
No. cylinders - 9	Displacement - 1823 cu. in.
Horsepower - 575 at 1900 rpm	Dry Weight - 850 lbs.

Model SGIV-1800 Conqueror (1932)

An experimental, geared, supercharge Conqueror.

Type - 60° Vee	Bore - 5-5/8 in.
Cooling - Water	Stroke - 6 in.
No. cylinders - 12	Displacement - 1822 cu. in.
Horsepower - 1000 at 2400 rpm	Dry Weight - 1320 lbs.

Model R-1820F Cyclone (1933)

An improvement on the R-1820E series.

Type - Radial	Bore - 6-1/8 in.
Cooling - Air	Stroke - 6-7/8 in.
No. Cylinders - 9	Displacement - 1823 cu. in.
Horsepower - 750 at 1950 rpm	Dry Weight - 956 lbs.

Model GR-1820F Cyclone (1933)

A geared model of the R-1820F series.

Type - Radial	Bore - 6-1/8 in.
Cooling - Air	Stroke - 6-7/8 in.
No. Cylinders - 9	Displacement - 1823 cu. in.
Horsepower - 700 at 1950 rpm	Dry Weight - 1052 lbs.

Model E-2120 (1933)

An experimental engine never placed in production.

Type - Radial	Bore - 6-1/8 in.
Cooling - Liquid	Stroke - 6 inches
No. cylinders - 12	Displacement - 2075 cu. in.
Horsepower - 1000 at 2400 rpm	Dry Weight - 1200 lbs.

Model R-1510 Whirlwind (1933)

An experimental double - row engine not released for production.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - 5 1/2 in.
No. cylinders - 14	Displacement - 1512 cu. in.
Horsepower - 600 at 2100 rpm	Dry weight - 1025 lbs.

Model R-1670 Whirlwind (1934)

Another experimental double row Whirlwind.

Type - Radial	Bore - 5 1/4 in.
Cooling - Air	Stroke -
No. Cylinders - 14	Displacement -
Horsepower 800 at 2500 rpm	Dry Weight - 1236 lbs.

Model R-975B3 Whirlwind 440 (1934)

A further improvement on the Model R-965B3, in which the power was increased to 440 horsepower.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - $5\frac{1}{2}$ in.
No. cylinders - 9	Displacement - 971.91 cu.in./
Horsepower - 440	Dry Weight - 600 lbs.

Model R-76CET Whirlwind 235 (1934)

An unsupercharged edition of the Whirlwind 250, intended for use in training planes.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - $5\frac{1}{2}$ in.
No. cylinders - 7	Displacement - 755.93 cu.in.
Horsepower - 235 at 2000 rpm	Dry Weight - 515 lbs.

Model R-1820-F50 Cyclone (1935)

An improvement on the series F Cyclone.

Type - Radial	Bore - 6 $\frac{1}{8}$ in.
Cooling - Air	Stroke - 6 $\frac{7}{8}$ in.
No. cylinders - 9	Displacement - 1820 cu. in.
Horsepower - 890 at 2200 rpm	Dry Weight - 1000 lbs.

Model GR-1820-F50 Cyclone (1935)

An geared model of the F-50 series.

Type - Radial	Bore - 6- $\frac{1}{8}$ in.
Cooling - Air	Stroke - 6- $\frac{7}{8}$ in.
No. cylinders - 9	Displacement - 1820 cu. in.
Horsepower - 875 at 2200 rpm	Dry Weight - 1095 lbs.

Model R-1820-F-60 Cyclone (1935)

An improvement on the F-50 series.

Type - Radial	Bore - 6 $\frac{1}{8}$ in.
Cooling - Air	Stroke - 6 $\frac{7}{8}$ in.
No. Cylinders - 9	Displacement 1820 cu. in.
Horsepower - 900 at 2350 rpm	Dry Weight - 1000 lbs.

### Model GR-1820-F60 Cyclone (1935)

A geared model of the F-60 series

Type - Radial	Bore - 6-1/8 in.
Cooling - Air	Stroke - 6-7/8 in.
No. cylinders - 9	Displacement-1820 cu. in.
Horsepower - 900 at 2350 rpm	Dry Weight - 1000 lbs.

### Model R-760E2 Whirlwind 320 (1935)

A fully supercharged Whirlwind incorporating many features of the Cyclone series.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - 5 3/4 in.
No. Cylinders - 7	Displacement - 755.93 cu. in.
Horsepower - 320	Dry Weight - 570 lbs.

### Model R-975E3 Whirlwind 450 (1935) Final Model

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - 5 3/4 in.
No. Cylinders - 9	Displacement - 971.91 cu. in.
Horsepower - 450	Dry Weight - 675 lbs.

### Model R-1820G Cyclone (1936)

Type - Radial	Bore - 6-1/8 in.
Cooling - Air	Stroke - 6-7/8 in.
No. cylinders - 9	Displacement - 1820 cu. in.
Horsepower - 1000 at 2100 rpm	Dry Weight - 1198 lbs.

### Model GR-1820-G180 Cyclone (1936)

This engine resulted from major improvements in the "F" series.

Type - Radial	Bore - 6-1/8 in.
Cooling - Air	Stroke - 6-7/8 in.
No. Cylinders - 9	Displacement - 1820 cu. in.
Horsepower - 1100 at 2350 rpm	Dry Weight - 1275 lbs.

### Model GR-2600A Cyclone (1937)

The most powerful air-cooled aircraft engine developed up to this time.

Type - Radial	Bore - 6-1/8 in.
Cooling - Air	Stroke - 6-5/16 in.
No. Cylinders - 14	Displacement - 2603 cu. in.
Horsepower - 1600 at 2400 rpm	Dry Weight - 1935 lbs.

Model GR-3350A Cyclone (1939)

The world's most powerful aircraft engine.

Type - Radial	Bore - 6-1 <sup>7</sup> / <sub>8</sub> in.
Cooling - Air	Stroke - 6-5/16 in.
No. Cylinders - 18	Displacement - 3353 cu. in.
Horsepower - 2000	Dry Weight - 2450

Model R-1300 Cybhone (1939)

An experimental engine.

Type - Radial	Bore - 6-1/8 in.
Cooling - Air	Stroke - 6-5/16 in.
No. cylinders - 7	Displacement - 1301 cu. in.
Horsepower - 600 at 2300 rpm	Dry Weight - 875 lbs.

Model GR-1820-G200 Cyclone (1939)

An improvement on the G-100 series.

Type- Radial	Bore - 6-1/8 in.
Cooling - Air	Stroke - 6-7/8 in.
No. cylinders -9	Displacement - 1820 cu. in.
Horsepower - 1200 at 2500 rpm	Dry Weight - 1310 lbs.

Model R-975-B62 Whirlwind (1939)

A special Whirlwind design for use in medium tanks.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - 5 <sup>1</sup> / <sub>2</sub> in.
No. cylinders -9	Displacement - 971.91 cu. in.
Horsepower - 400 at 2448 rpm	Dry Weight - 725 lbs.

Model GR-2600B Cyclone (1940)

An improved edition of the 14-cylinder Cyclone.

Type - Radial	Bore - 6-1/8 in.
Cooling - Air	Stroke - 6-5/16 in.
No. cylinders -14	Displacement - 2603 cu. in.
Horsepower - 1700 at 2500 rpm	Dry Weight - 1965 lbs.

Model Series F Whirlwind (1940)

A fully developed experimental engine not released for production.

Type - Radial	Bore - 5 in.
Cooling - Air	Stroke - 5 <sup>1</sup> / <sub>2</sub> in.
No. cylinders - 9	Displacement - 973 cu. in.
Horsepower - 480 at 2400 rpm	Dry Weight - 735 lbs.



TABLE OF WRIGHT ENGINE DATA - 1903 to 1940 MODELS

YEAR	MODEL	TYPE	HP.	WEIGHT	CYL.	COOLING
1903	1st. Original	In-line	12	170	4	Liquid
1909	2nd.	" "	30-35	180	4	"
1910	3rd	90° V	60	180	8	"
	A. Hispano	60° V	150	445	8	"
	B Hispano	V	75	316	4	"
	C Hispano		200			"
	D Hispano					"
	E Hispano	60° V	180	450	8	"
	F Hispano	V	200			"
	H Hispano	60° V	300	632	8	"
1916	Lawrance A	Horiz. Opposed	28		2	Air
	Lawrance B		60			
1917	Lawrance K		300			
	Lawrance K2					
1918	Lawrance I		150	470		Air
1919	Lawrance L-2	Radial	60	140	3	
	Lawrance M	60°	300	528	8	Liquid
1920	Wright Hisco		190			
	D1	In-Line	400	1320	6	Liquid
	R1	Radial	350	884	9	Air
	Lawrance R	"	147	410	9	"
	Lawrance J1	"	200	476	9	"
	Lawrance H2	60° V	320	620	8	Liquid
	Alert E3	60° V	215	465	8	"
1922	Tempest E4	" "	200	480	8	"
	Tempest E4A	" "	240	480	8	"
	Tempest E3	" "	375	624	8	"
	Superfighter H3	" "	525		12	"
	Tornado T2	" "	600	1150	12	"
1923	Tornado T3	" "	600	1160	12	"
	Tornado T4	" "			12	"
	Lawrance J2	Radial	250		9	Air
	Lawrance T	"				"
	Wright Gale L-4	"	60	175	3	"
	Wright Gale J-3	"	211	475	9	"
	Whirlwind J-4	"	215	475	9	"
1924	Whirlwind J-4A	"	215	475	9	"
1925	Whirlwind J-4B	"	215	475	9	"
	Typhoon T.M.	60° V	500	1850	12	Liquid
(30-1) 1925	Whirlwind J-5	Radial	225	510	9	Air
	Hurricane	60° V	200	628	8	Liquid
	Gold Cup E M	" "	240		8	"
	Simoon R-1200	Radial	350	640	9	Air
	Cyclone P 1	"	400	812	9	"
	Cyclone P 2	"	450	890	9	"
1926	Wright Morehouse	Horiz. Opposed	30	89	2	"
	Wright Morehouse	Horiz. Opposed	60	175	4	"
1927	Cyclone R-1750	Radial	525	760	9	"
	Cyclone L456	60° V	525	925	12	"

YEAR	MODEL	TYPE	HP.	WEIGHT	CYL.	COOLING
1928	Opisy	In-line	90-100	285	4	Air
1928	Whirlwind J-6 R-975	Radial	350	485	9	"
	Whirlwind J-6 R-760	"	225	425	7	"
	Whirlwind J-6 R-540	"	150	370	5	"
1929	Curtiss Conqueror					
	V-1570	60° V	600	835	12	Liquid
	G-1570	" "	600	840	12	"
	Super conqueror SGV					
	1570	" "	705		12	"
1930	V-1560	Inverted	600	960	12	Air
	Whirlwind 240	Radial	240			
1931	Whirlwind R-975E	"	330	564	9	Air
	Whirlwind R-760E	"	250	550	7	"
	Whirlwind R-540E	"	175	590	5	"
	Whirlwind R-976-E3	"	420	600	9	"
	Whirlwind R-975-E1	"	365	600	9	"
	Cyclone R-1750E	"	550	885	9	"
	Whirlwind R-760-E1	"	285	570	7	"
	Cyclone R-1820E	"	575	850	9	"
1932	Conqueror SGIV-1800	60° V	1000	1320	12	Liquid
1933	Cyclone R-1820F	Radial	750	956	9	Air
	Cyclone GR-1820F	"	700	1052	9	"
	R-2120F	"	1000	1200	12	Liquid
	Whirlwind R-1510	"	600	1025	14	Air
1934	Whirlwind R-1670	"	800	1236	14	"
	Whirlwind R-975-E3	"	440	600	9	"
	Whirlwind R-760E2	"	235	515	7	"
1935	Cyclone R-1820F50	"	890	1000	9	"
	Cyclone GR-1820-F50	"	875	1095	9	"
	Cyclone R-1820F60 GR	"	900	1000	9	"
	Whirlwind R-760E2	"	320	570	7	"
	Whirlwind R-975-E3	"	450	675	9	"
1936	Cyclone R-1820G	"	1000	1198	9	"
	Cyclone GR-1820-G100	"	1100	1275	9	"
1937	Cyclone GR-2600A	"	1600	1935	14	"
1939	Cyclone GR-3350A	"	2000	2450	18	"
	Cyclone R-1300	"	600	855	7	"
	Cyclone GR-1820-G200	"	1200	1310	9	"
	Whirlwind R-975E32	"	400	725	9	"
1940	Cyclone GR2600B	"	1700	1965	14	"
	Whirlwind Series F	"	480	735	9	"