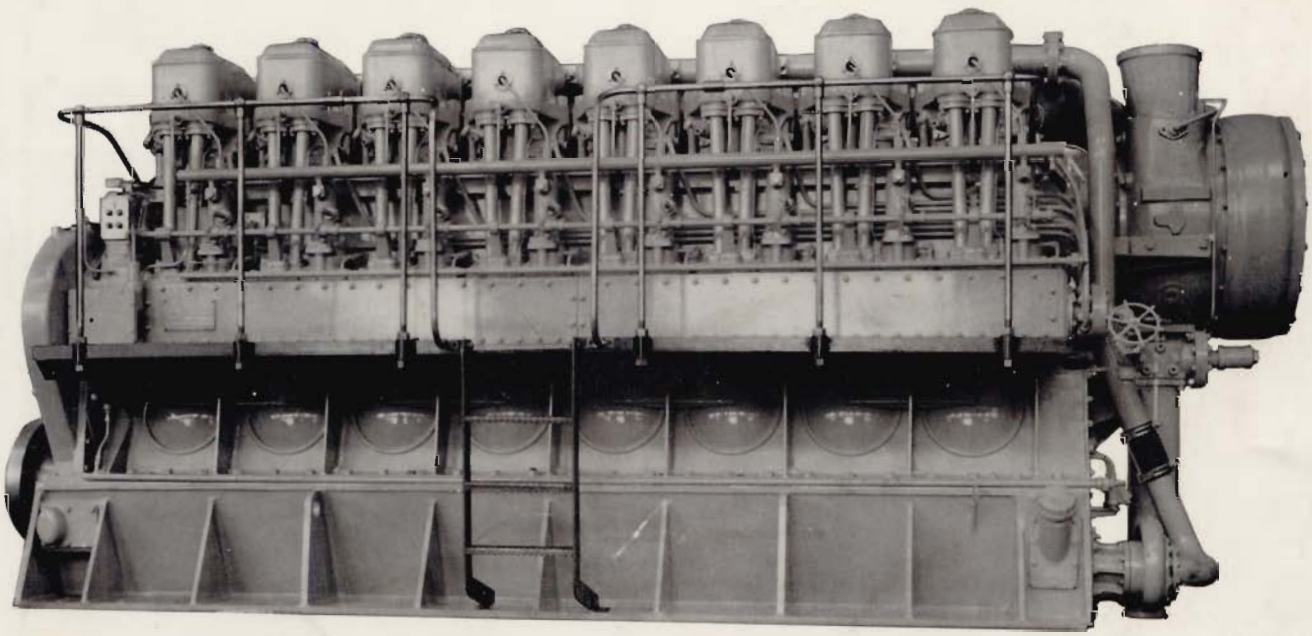
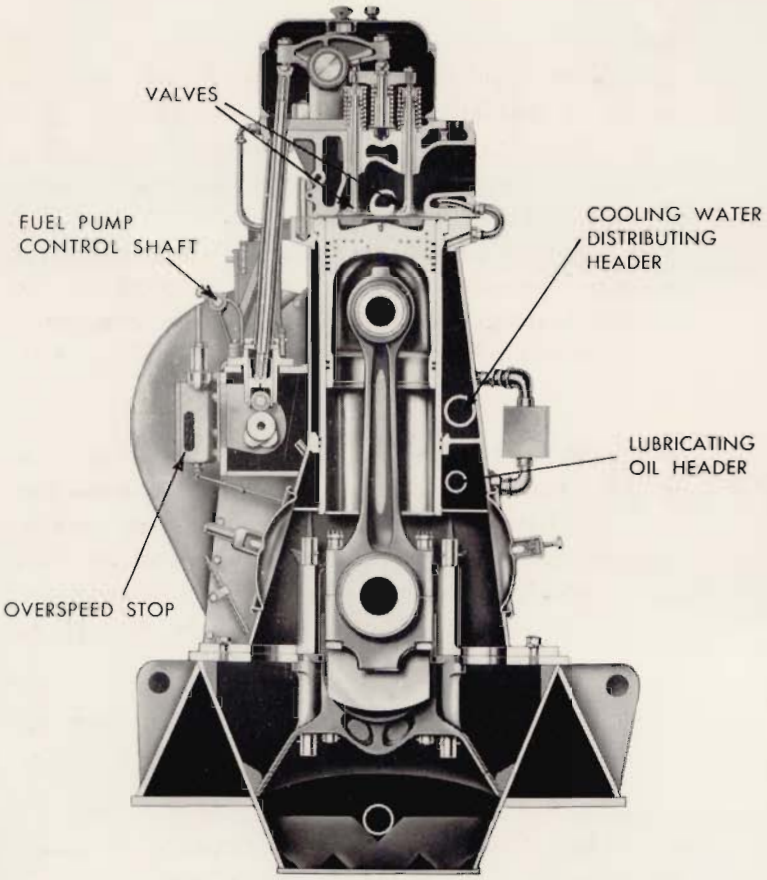
BALDWIN

SERIES 600

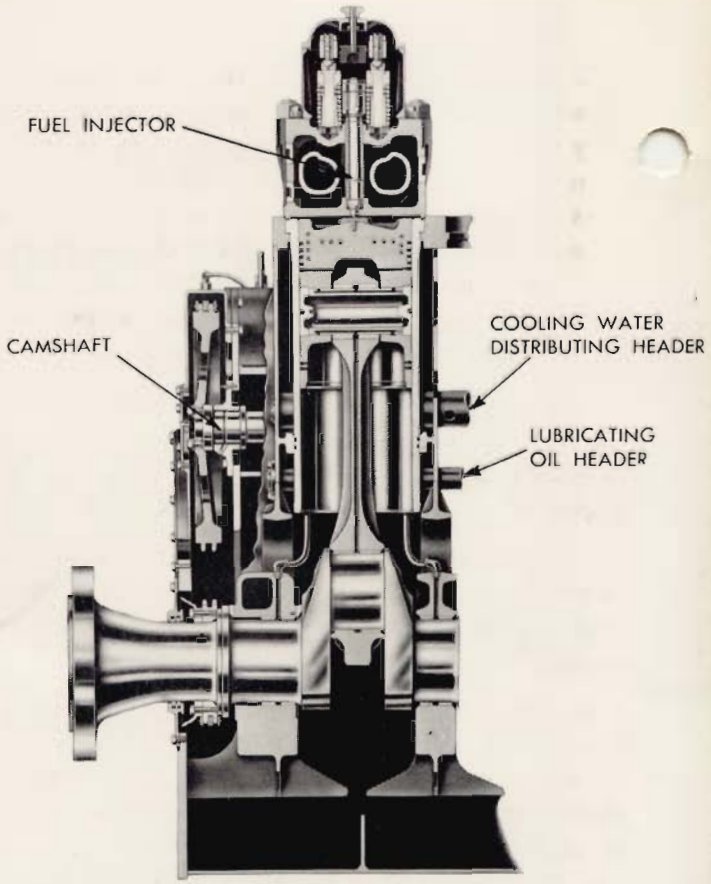
DIESEL AND DUAL FUEL ENGINES



BALDWIN-LIMA-HAMILTON CORPORATION
HAMILTON, OHIO



CROSS SECTION OF SERIES 600 ENGINE



LONGITUDINAL SECTION OF SERIES 600 ENGINE
CYLINDER NO. 1

SPECIFICATIONS

BEDPLATE. Welded steel with heavy transverse webs to support the bearings and maintain proper crankshaft alignment. Bearing caps are secured to the bedplate by internal through bolts.

CRANKSHAFT. Heat treated solid steel forging drilled for pressure lubrication of all bearings.

MAIN BEARING. The crankshaft is supported by precision type bearing shells fitted to the bedplate. Bearings are removable through inspection openings in frame without disturbing crankshaft.

FRAME. Welded steel structure which forms the cylinder housing and upper part of the crankcase. Crankcase relief valves are provided for dual fuel applications.

CYLINDER LINERS. Alloy cast iron and chrome plated. Upper end of each liner is flanged to fit into a counterbore in frame, lower end is provided with rubber rings to seal joint between liner and frame. This arrangement permits expansion and contraction of liner due to temperature changes.

PISTONS. Heat treated aluminum alloy oil cooled by a constant flow of oil passing through a "cast in" steel coil. Each piston is arranged with four compression rings and three lubricating oil control rings, one of latter being located above wrist pin and two below.

CONNECTING RODS. Drop forged, heat treated alloy steel, with interchangeable bearing shells. Connecting rod bolts are heat treated alloy steel. Wrist pin bearing consists of bronze bushing pressed into eye end of connecting rod. Connecting rods are drilled for lubrication of wrist pin bearings.

CYLINDER HEADS. Individual castings of annealed high grade iron, attached to the frame by six heat treated alloy steel studs. Each head is provided with two exhaust valves and two air intake valves. Fuel injector is located in center of head. Valves and actuating mechanism are enclosed by removable aluminum covers.

CAMSHAFT. Camshaft is driven by means of a roller type chain located at flywheel end of engine, is mounted in split type removable bearing shells. Camshaft is made in two sections bolted together. Each section is removable from operating side of engine.

VALVES. Exhaust and inlet valves are made of heat treated alloy steel, each valve being provided with two alloy steel springs. Valves are actuated by rocker arms mounted on brackets attached to cylinder heads. Rocker arms are actuated by hollow push rods socket-mounted in cam followers of the roller type. Valves, rocker arms, and push rods lubricated from the engine pressure system. Gas admission, control, automatic and manual shut-off valves are furnished for dual fuel applications.

GOVERNOR. Hydraulic relay type, gear-driven from camshaft. Governor maintains the proper engine speed by controlling the quantity of fuel delivered by injection pumps.

OVERSPEED STOP. Centrifugal trip type, driven from the camshaft by gears. This device shuts engine down if engine speed exceeds a predetermined maximum speed setting.

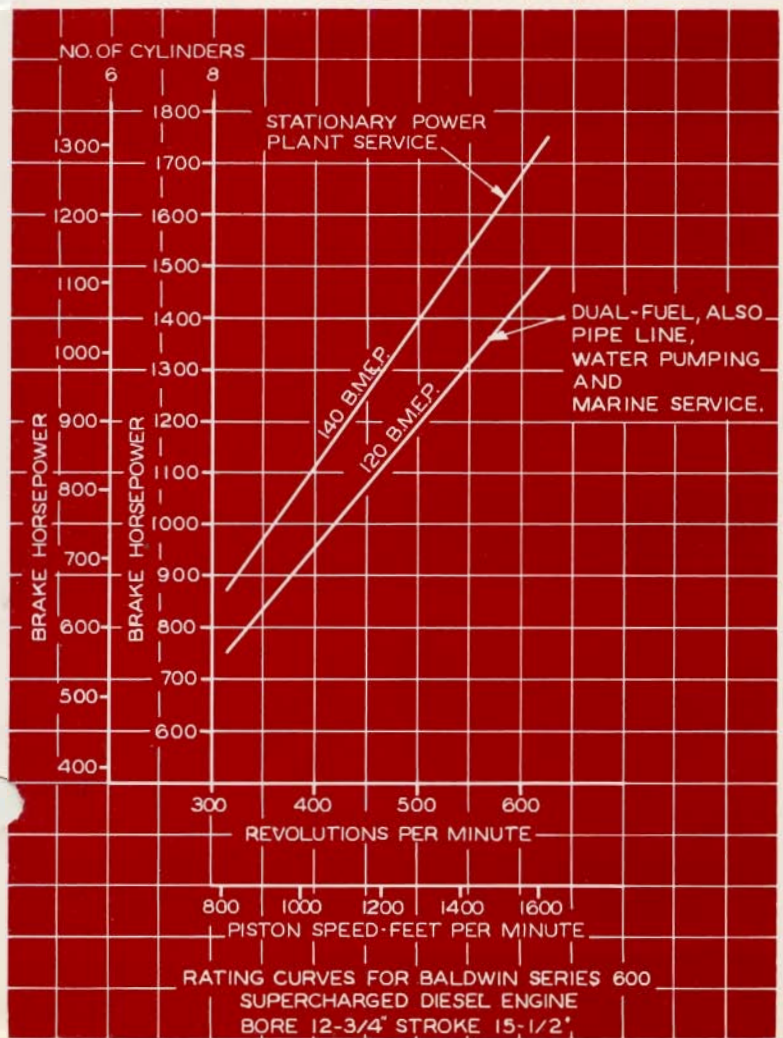
FUEL INJECTION SYSTEM. Mechanical injection type with spring loaded multi-hole type injectors. An individual fuel injection pump is provided for each cylinder. Fuel oil is supplied to injection pumps under pressure by means of small gear type pump driven at free end of engine. Oil passes through strainer and filter before reaching injection pumps.

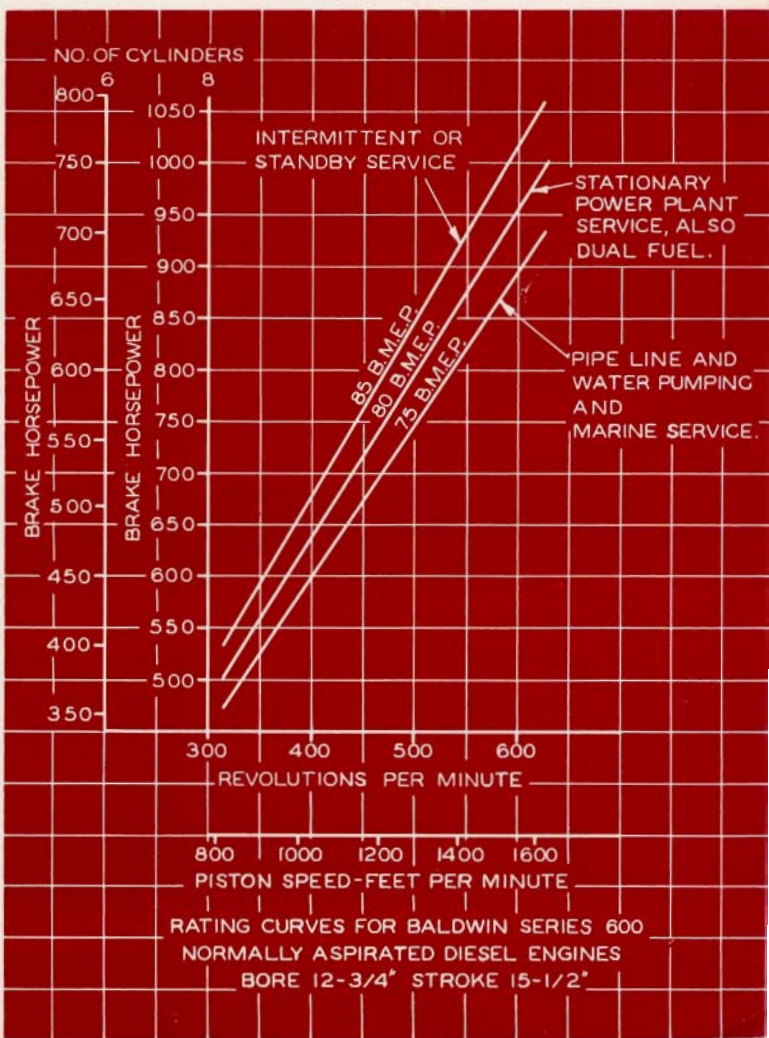
LUBRICATION. Lubricating oil system is of pressure type and oil is circulated by a positive displacement gear pump. Lubricating oil supply is contained in bedplate, from which it is drawn by pump and circulated through oil cooler and metal-edge type strainer. From lubricating oil strainer, the oil is delivered under pressure to main bearings, through drilled passages in crankshaft to crankpin bearings and through centers of the connecting rods to wrist pin bearings and thence to the piston cooling coils.

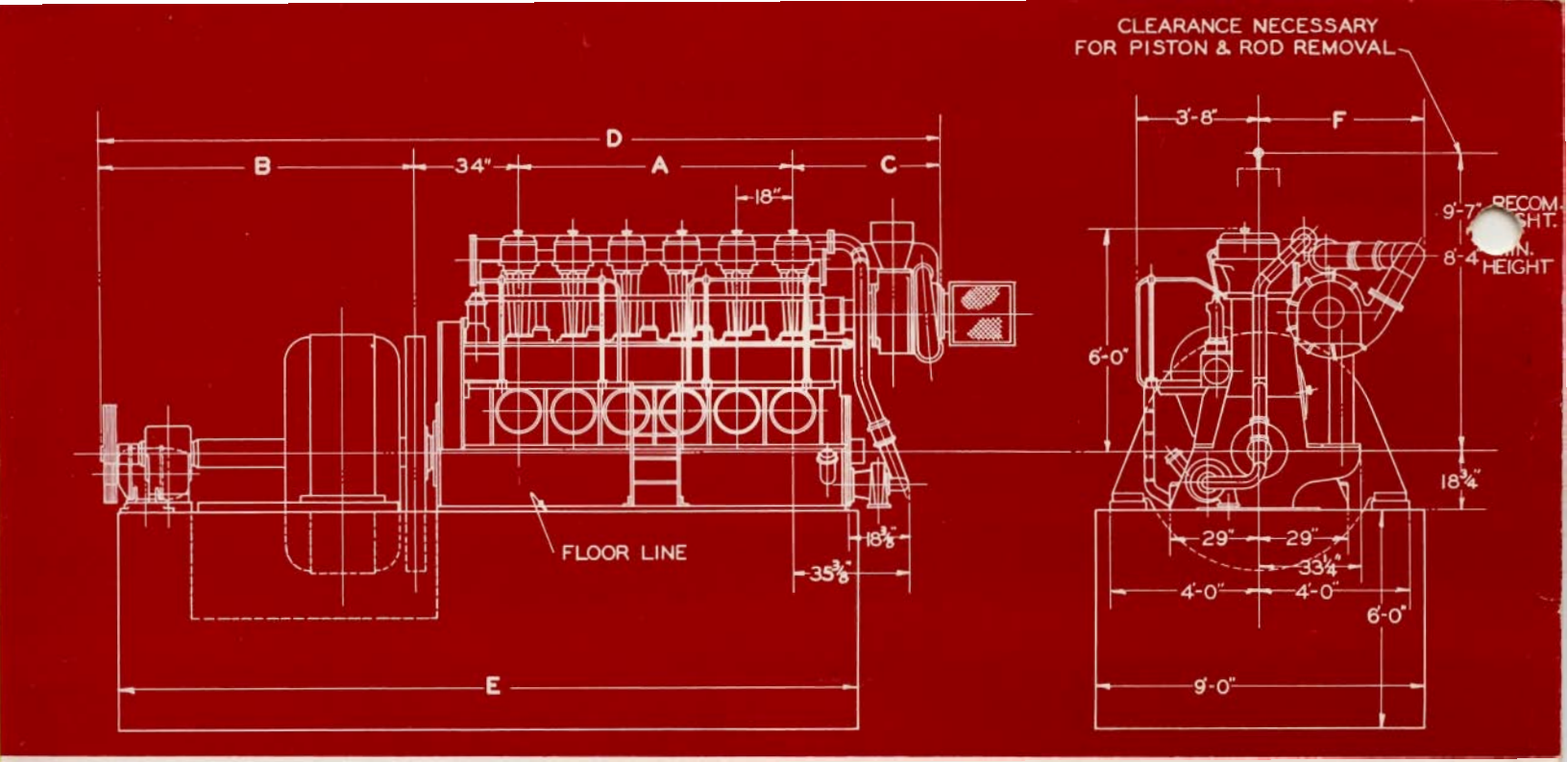
SUPERCHARGER. The engine, when supercharged, is provided with turbo-charger. This is a self-contained unit, comprising a gas turbine and centrifugal blower, mounted on common shaft. Energy in exhaust gas from engine cylinders drives centrifugal blower. Blower supplies all air required by engine cylinders, through air intake manifold at proper pressure.

STARTING. The engine is arranged for air starting. Starting air distributor is driven from free end of camshaft.

DUAL FUEL OPERATION. A gas pressure regulator, special manifold and pneumatically operated air butterfly valve are provided for dual fuel applications.







OVERALL DIMENSIONS OF SERIES 600 ENGINES FOR STATIONARY SERVICE

Normally Aspirated Engines								Supercharged Engines							
No. Cyl.	A	B	C	D	E	F	Found. cu. yds.	No. Cyl.	A	B	C*	D*	E	F	Found. cu. yds.
6	7'-6"	7'-3"	35⅜"	20'- 6⅜"	18'-11"	32"	37	6	7'-6"	7'-7"	3'-10"	21'-9"	19'- 4"	4'-6"	38
8	10'-6"	7'-7"	35⅜"	23'-10⅜"	22'- 3"	32"	43	8	10'-6"	9'-0"	4'- 4"	26'-8"	23'-10"	4'-9"	47

ENGINE DATA — SERIES 600 ENGINES FOR STATIONARY SERVICE

Cycle	B. H. P. Range (Refer to Rating Curves)		Cyls.	Bore Inches	Stroke Inches	R. P. M. Range	Starting System	Application	
	Normally Aspirated	Super-Charged						Stationary	Marine
4	430-825	650-1310	6	12¾	15½	360-625	AIR	YES	YES
4	575-1000	865-1750	8	12¾	15½	360-625	AIR	YES	YES

* NOTE—If turbocharger can be located on the flywheel end of engine, dimensions "C" and "D" will be reduced by 10⅝" for 6 cylinder units and 1'-4⅝" for 8 cylinder units.

All dimensions are preliminary only and are not to be used for construction. Actual generator and exciter dimensions will vary with make and type selected.

Foundation size is for engine with A.C. generator and V-belted exciter.

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This special renewal parts service is mighty important to Baldwin because we appreciate the necessity of keeping your diesel operating smoothly on a year 'round basis. For this reason we have made Baldwin "tested" renewal parts service available to you at every compass point across the nation.

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