

4 Cycle **IRON HORSE**



DEPENDABLE · COMPACT

Johnson

JOHNSON IRON HORSE ENGINES are available in two convenient sizes to develop either $\frac{5}{8}$ or 1.34 horsepower (see power curve on page 4). The **DEPENDABLE IRON HORSE** is widely used to provide power, at low cost, for washing machines, for lawn mowers, for pumping water, for electric generators and for a host of other uses on the farm, in garages, workshops or home.

For almost a quarter of a century **JOHNSON** products have held world-wide recognition for superiority in quality and performance. Iron Horse Four Cycle, air cooled industrial type gasoline engines are designed by the same competent engineering staff, built by the same skilled workmen in the same efficient factory as the famous Sea Horse Outboard Motors. Where dependable engine power is required, the Iron Horse will serve you well.

Mounting dimensions, power curves, illustrations, list of features and complete specifications are given on the following pages.

GASOLINE ENGINES

MANUFACTURED BY

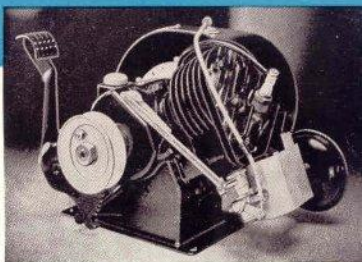
JOHNSON MOTORS - PETERBORO, CANADA

A Division Of

Outboard, Marine & Manufacturing Co. of Canada, Ltd.

WASHING MACHINES * LAWN MOWERS * SMALL AUTOMOBILES FOR THESE... AND MANY OTHERS

This is the Iron Horse with suction-feed carburetor and foot-starting pedal — also available in numerous combinations.

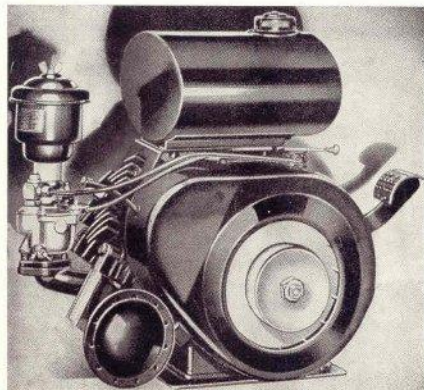


Adaptability

JOHNSON IRON HORSE ENGINES are compact. The angle cylinder permits low height for mounting in close quarters, for keeping center of gravity low.

Beyond that, however, adaptability to numerous installations is made possible by wide variations in equipment. Either rope, foot-pedal or hand-lever starting is available.

The regular gasoline tank (for suction-feed) is one quart capacity, but the user may supply his own tank of special dimensions. A one gallon cast iron tank, also serving as a substantial base, may be had. Where the down-draft float-feed carburetor is used, the overhead tank mounted on the engine or other gravity arrangement may be used. Exhaust outlets also may be modified and a special screen for the air intake to flywheel-fan is available. On some generator-set applications shielding of ignition is required. Shielding can be supplied.



Iron Horse with Down-draft Carburetor and Gravity-Feed Tank

Belt or direct connection drive may be taken from either end of the crankshaft. Iron Horse engines are regularly equipped with V-belt pulleys on each side and these may be had in various sizes.

While an effective dry-type air cleaner can be attached to the suction-feed carburetor intake, the oil-bath type is applicable only to the down-draft float-feed type as illustrated.

TWO SIZES

While other combinations are possible, two power-output engines are available—

1. X-400 series with suction-feed carburetor. Nominal rating $\frac{3}{8}$ h.p. at 1725 r.p.m.
2. X-500 series (larger bore, higher r.p.m.) with down-draft float-feed carburetor. Nominal rating 1.34 hp. at 2400 r.p.m.

SEE TORQUE and POWER CURVES, PAGE 4.

TOMOBILES * LIGHTING PLANTS * WATER PUMPS *
OTHER **P-O-W-E-R** USES

Johnson Features

"JUST ANOTHER ENGINE" cannot be said of the Johnson Iron Horse. These are different and back of every unique design feature there is a sound reason. Besides, years of service by many thousands of engines prove their superiority.

- Four Cycle (of course)
- Compact, symmetrical design
- Sturdy, light weight
- Effective, forced, air cooling
- Mechanically operated valves
- Vacuum sealed crankcase
- Improved "dirt-proof" breather
- Sealed main bearings
- Cylinder detachable
- Ignition stop button
- Metered splash automatic lubrication
- Johnson flywheel magneto
- Quick easy starting
- Mechanical governor (enclosed running in oil)
- Counter-balanced crankshaft
- Either suction-feed or down-draft carburetor
- Integral gear and camshaft
- Anodic treated aluminum piston
- Ample oil capacity
- Two pulleys regular equipment
- Two (horsepower) sizes
- Air cleaners available
- Silchrome exhaust valve
- Simple to adjust and operate
- Exceptional gasoline economy
- Nominal speed—1725 to 2400 r.p.m.
- Minimum vibration
- Large, long-life bearings

Specifications

TYPE — 4 cycle, single cylinder, (30° from horizontal) air cooled.

POWER — (Nominal ratings, see power curves page 4)
X-400 series, suction-feed carburetor $\frac{5}{8}$ hp. 1725 r.p.m.
X-500 series, down-draft carburetor 1.34 hp. 2400 r.p.m.

BORE, STROKE —
X-400 series, $2\frac{1}{8}$ " x $1\frac{3}{8}$ "
X-500 series, $2\frac{1}{4}$ " x $1\frac{3}{8}$ "

STARTING — Optional, foot-pedal, hand-lever or rope.

IGNITION — Johnson built flywheel magneto, enclosed, moisture proof, high tension type.

SPARK PLUG — 14 m.m. Champion, J-8.

CARBURETORS — Adjustable, efficient suction-feed built by Johnson.
Down-draft, float-feed with high and low speed jets and adjustment.

COOLING — Radial fan blades on flywheel force strong air current over cylinder and head directed by shroud.

CRANKCASE — Cast separately. Improved check-valve breather. Oil capacity $\frac{3}{8}$ pint.

CYLINDER — Nickel iron. Separate from crankcase. Ground and honed to mirror finish, close dimensions. Valve guide inserts.

GOVERNOR — Mechanical fly-ball type mounted on crankshaft inside crankcase. Close speed control. Speed adjustment.

BEARINGS — Main journals, steel backed babbit. Protected by oil and dust seals.

CRANKSHAFT — Drop-forged steel, ground to smooth close limits.

VALVES — Steel forgings. Exhaust valve silchrome; intake valve nickel steel.

CONNECTING ROD — Pressure die-cast aluminum alloy.

PISTON — Pressure die-cast aluminum alloy. Anodic treated for hardness and long life. Two compression rings, one oil control ring.

LUBRICATION — Exclusive Johnson design metered splash to all internal parts.

FINISH — Sprayed black enamel.

WEIGHT — Depending on model and equipment, from 32 to 42 pounds.

GASOLINE TANK — Regular with suction-feed carburetor, one quart; overhead for gravity feed, 3 quarts; base-tank available, one gallon.

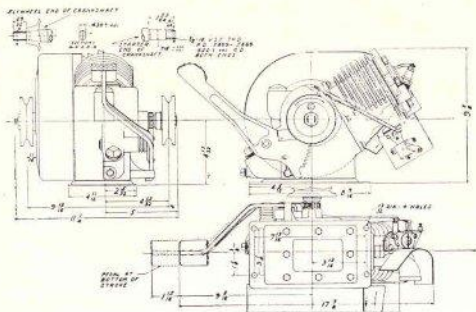
AIR CLEANER — Approved oil bath type standard on X-500 Series. Special dry type standard for X-400 Series. Oil bath type available for X-400 Series when required.

PULLEYS — V-belt type (several sizes) both ends of crankshaft.

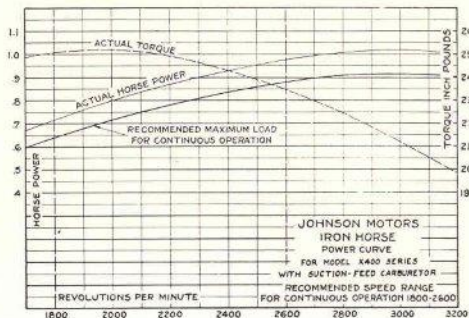
DIRECT MOUNTING — Crankcase available with flange mounting provision when foot-pedal starting not used.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

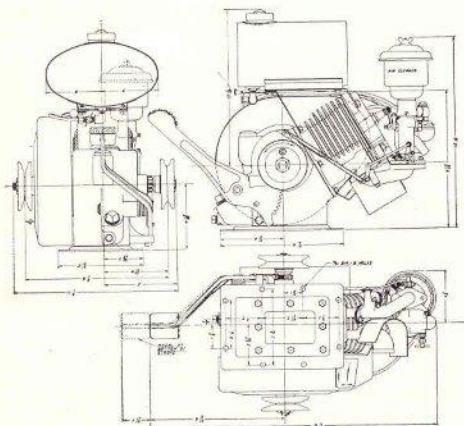
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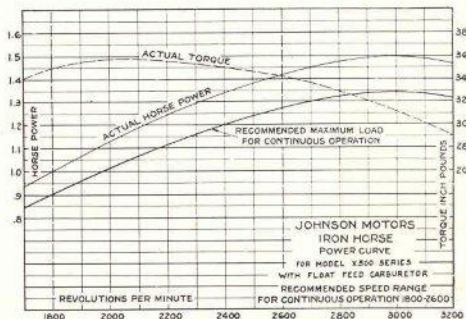
Mounting Dimensions with Suction-
Feed Carburetor.



POWER: X-400 Size with Suction-Feed
Carburetor.



Mounting Dimensions with Float-Feed Carburetor
and Mounted Gravity Tank.



POWER: X-500 Size with Float-
Feed Carburetor.