

Clinton

CLINTON ENGINES CORPORATION

**SERIES
412
LONG LIFE CAST IRON
6 HP**

Model	Starter	PTO Shaft	Net Wt.
412-1004	Rope	Bronze Bearing	65 lbs.
412-1304	Rope	Roller Bearing	65 lbs.
412-1364	Rope	6 to 1 Speed Reducer	78 lbs.

GENERAL SPECIFICATIONS

Bore: 2 $\frac{1}{8}$ inches.

Stroke: 2 $\frac{1}{2}$ inches.

Piston Displacement: 15.5 cubic inches.

Type: Single cylinder, L-Head, air-cooled, 4-cycle.

Air Cooling: Large capacity curved vane blower cast integral with flywheel. Air passes through deep fins to maintain correct operating temperature. Rotating blower screen.

Ignition: Very high voltage at low speed. Built-in flywheel magneto for faster starting. Moisture and dust proof with fully enclosed ignition points.

Spark Plug: 14 mm.

Lubrication: Splash type — oil capacity 2 $\frac{1}{2}$ pints. Automotive type dipstick.

Carburetor: Full float feed with idle and high power mixture adjustment.

Fuel Tank: Five-quart capacity, with gasoline strainer and shut-off valve.

Air Cleaner: Oil bath type.

Governor: Adjustable mechanical type, running in oil.

Governor Control: Adjustable, combined with choke. Provisions for mounting remote control cable.

Cylinder and Crankcase: Shell-molded alloy iron cylinder block and crankcase with large amount of cooling area for efficient operation.

Crankcase Breather: Maintains a vacuum in crankcase and prevents oil leaks.

Cylinder Head: Aluminum alloy, with extra deep cooling fins. Removable.

Main Bearings: Model 412-1000 has replaceable bronze bearings on power take-off and on flywheel end. Models 412-1300 and 412-1360 have high load capacity tapered roller bearings on both power take-off and flywheel ends, with thrust as well as radial load ability. Adjustment provisions for wear.

Crankshaft: High strength ductile iron. Counterweights and cam drive gear integral with shaft.

Connecting Rod: I-Beam, aluminum alloy with extra large bearings.

Piston: Aluminum alloy, extended skirt for longer ring life. Treated surface.

Piston Rings: Two compression and one oil control. Treated surfaces.

Valves: Forged steel. Exhaust valve provided with heat-resistant alloy head.

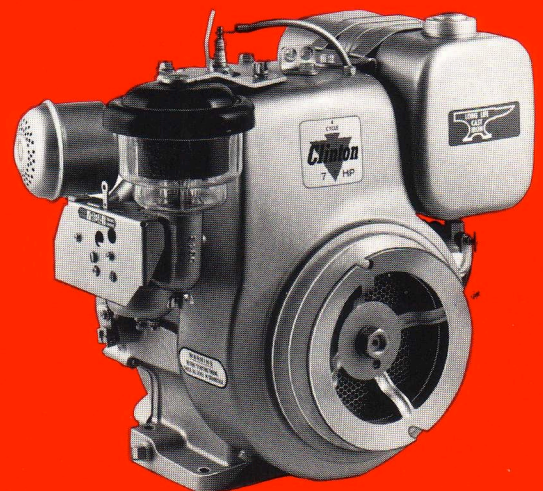
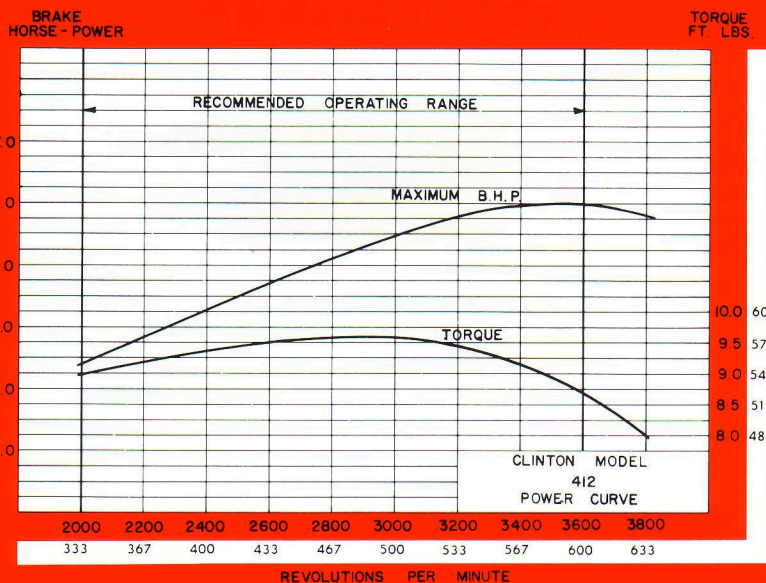
Valve Tappets: Hardened and ground.

Muffler: Efficient, low back-pressure type.

Direction of Rotation: Counterclockwise, viewed from power take-off side.

Gear Reduction: Model 412-1360 only has internal reduction gear, 6 to 1 ratio. Rotation counterclockwise.

Finish: Painted in red heat-resistant enamel. Prime coat finish if specified.



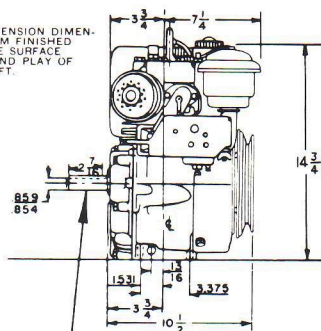
412-1004
412-1304
412-1364

Technical drawing of a mechanical assembly, likely a pump or motor component, showing dimensions in inches. The drawing includes a side view and a cross-sectional view. Key dimensions are labeled:

- Top horizontal dimension: 10.00 DIA
- Top left vertical dimension: .2505
- Top left horizontal dimension: .2487
- Top right vertical dimension: .29
- Top right horizontal dimension: .32
- Left vertical dimension: 4.14
- Bottom left horizontal dimension: 9.5
- Bottom right horizontal dimension: 17.75

[illegible]

NOTE!!
SHAFT EXTENSION DIMENSIONS FROM FINISHED CRANKCASE SURFACE INCLUDE END PLAY OF CRANKSHAFT.



Technical drawing of a shaft with dimensions and tolerances:

- Overall length: $3 \frac{27}{64}$
- Distance from left end to start of first step: $2 \frac{39}{64}$
- Distance from left end to start of second step: $2 \frac{7}{8}$
- Left end diameter: $\frac{0.0000}{+0.0000}$ (with a note $\frac{0.0000}{+0.0000}$ above it)
- First step diameter: $\frac{0.0000}{+0.0000}$
- Second step diameter: $\frac{0.0000}{+0.0000}$
- Third step diameter: $\frac{0.0000}{+0.0000}$
- Right end diameter: $\frac{0.0000}{+0.0000}$

16 UNC 2B TH'D
.65 DEEP
6.50 DIA. B.C.
(4 PLACES)

5.749 DIA.
5.751 TURN

OIL FILL

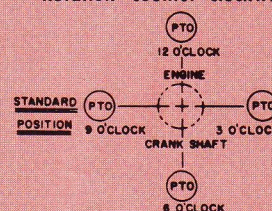
30° 30°
45° 45°

[illegible]

Technical drawing of a piston and crank assembly. Dimensions shown include: 3 3/8, 2 5/8, 12 3/4, and 10.0000 ± .0005 DIA. A vertical centerline is labeled 'CYLINDER CENTERLINE'.

Possible mounting positions of power take off shaft in relation to the engine crankshaft as viewed from the power take off end.

Rotation—counter clockwise.



EXTENSION "A"

EXTENSION "B" (STD.)

Technical drawing of a propeller shaft assembly. The drawing shows a shaft with a central hub and a propeller at the end. Key dimensions and labels include:

- 875 DIA.** (Top left)
- 842** (Top left)
- 2505** (Top left)
- 2487** (Top left)
- WOODRUFF KEYSEAT** (Top left)
- 6118** (Bottom left)
- 6058** (Bottom left)
- 10000 DIA** (Center)
- 5958** (Center)
- 1/2 UNC -2A TH'D** (Bottom center)
- EXTENSION "C"** (Bottom center)
- 849** (Top right)
- 839** (Top right)
- 2 1/8** (Top right)
- 460** (Top right)
- 440** (Top right)
- 5/16** (Top right)
- 17** (Top right)
- 32** (Top right)
- 1.2512 DIA** (Top right)
- 1.2516** (Top right)
- 1/2** (Bottom right)

EXTENSION "C"

Technical drawing of a shaft with a keyway. The drawing includes a front view (left) and a side view (right).

Front View Dimensions:

- Top: $\frac{1}{16} - 24 \text{ UNF} - 2.07 \text{ THD} \frac{3}{8} \text{ DEEP}$
- Left: 1.1814 DIA and 1.1110
- Bottom: 0.725 DIA and 0.715

Side View Dimensions:

- Top: 3.180 and 3.150
- Bottom: 1.13 and 1.15
- Keyway: 0.4375 and 0.45
- Bottom: $2 \times \text{TAPER PER FT}$
- Bottom: 0.25 and 0.26

Extension D:

EXTENSION "D"

EXTENSION "D"

CLINTON POWER DATA

The performance and horsepower ratings shown herein are established in accordance with standard procedures and show the rated Brake Horsepower developed from laboratory test engines.

Unless otherwise specified, the engine speed at no load is set at 2900 RPM plus or minus 100 RPM and the engine idle speed at no load is set at 1200 RPM plus or minus 100 RPM. Complete details of installations requiring operation at other than recommended speeds should be referred to the factory for approval.

The ratings are corrected to Standard Conditions of sea level barometric pressure and 60° Fahrenheit ambient temperature. Engine power will decrease 3.5 per cent for each 1000 feet of elevation above sea level and 1.0 per cent for each 10° F. above 60° F. ambient temperature.

Allow at least 20% of horsepower for safety factor under continuous operation. Clinton Engines Corporation will supply detailed prints upon request. Specifications and Dimensions are subject to change without notice.



CLINTON ENGINES CORPORATION • MAQUOKETA, IOWA

Cable Address: Engines

Reliable service at 12,000 Clinton Service Centers

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