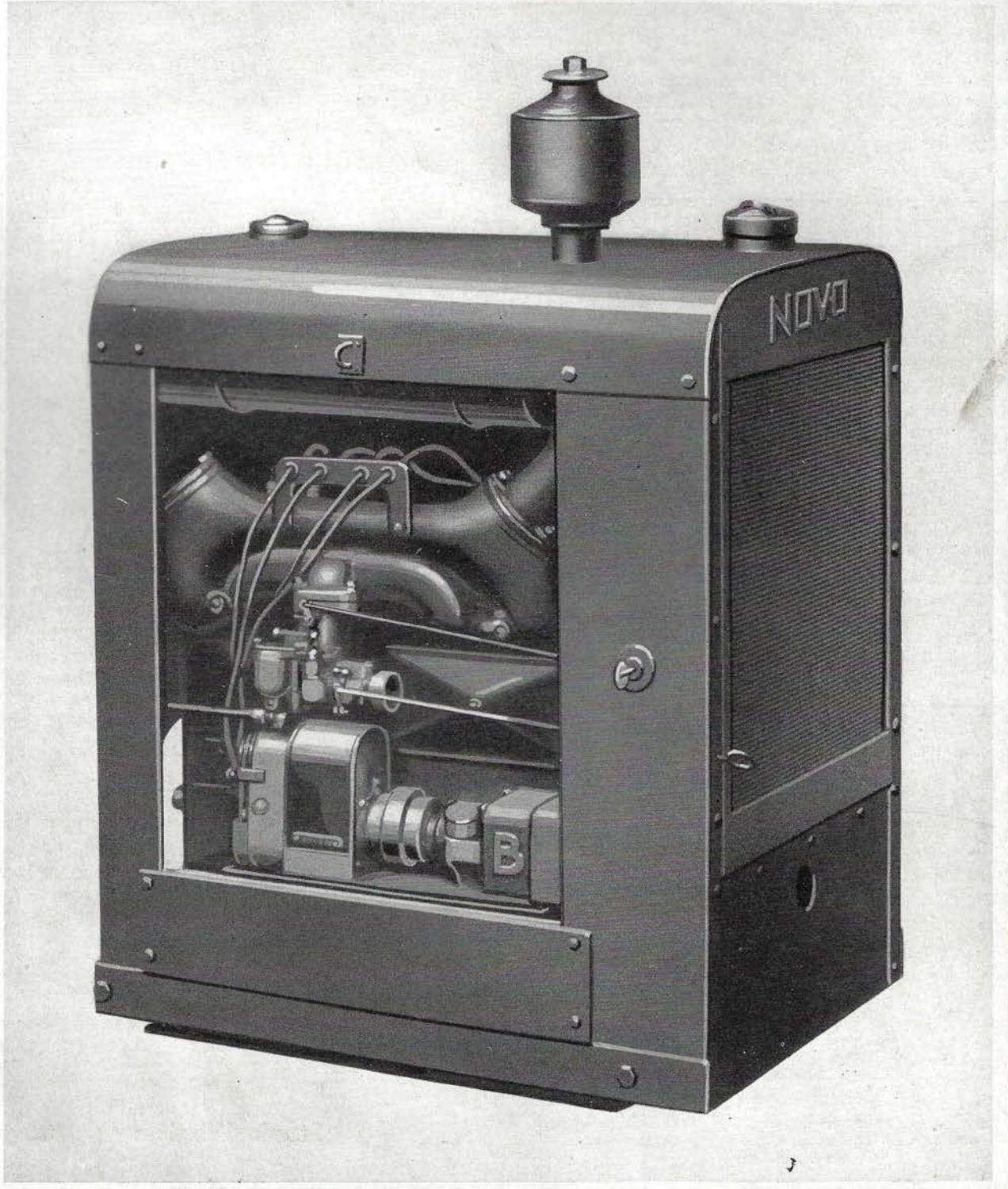


# NOVO

10 to 20 H. P.

## FOUR-CYLINDER GASOLINE ENGINES



Novo Four-Cylinder Engine with House

ENGINE BULLETIN NO. 5

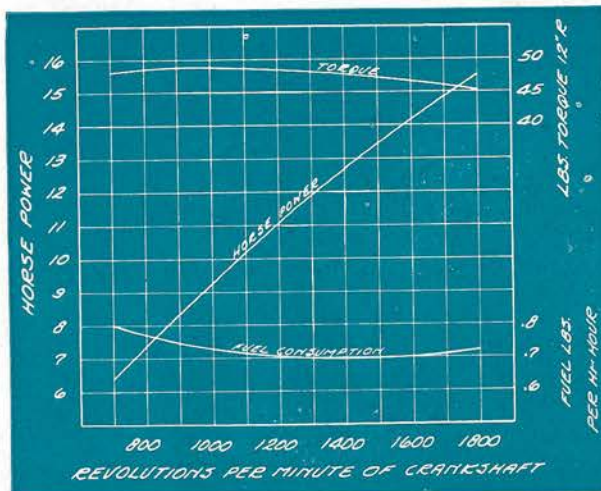
# Four-Cylinder Economical Power

10 to 20 H. P. Novo Rollr Engines

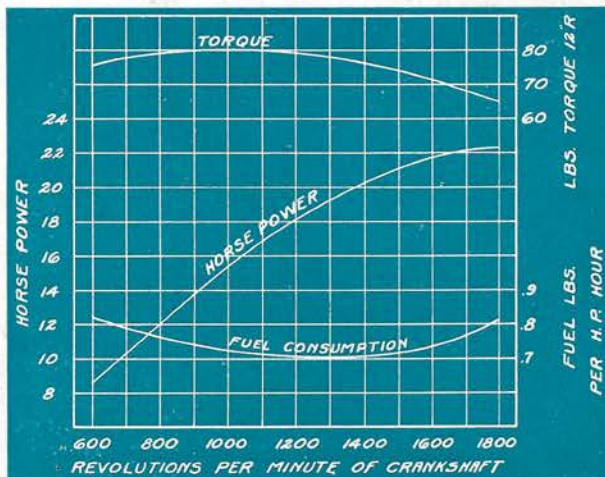
The Novo Four-Cylinder Rollr Engines are L-head type. They have a standard crankshaft speed of 1200 R. P. M. A heavy steel house with lockable doors is provided as standard equipment.

## Anti-Friction Bearings

The crankshaft bearings are all the anti-friction type. Two Timken Roller Bearings are used on the ends and a New Departure Ball Bearing on the center main bearing. The result is long life without adjustment or replacement, simplified lubrication and the elimination of friction.



Performance curves on the NNU 10-14 H. P. four-cylinder engine. Ratings are obtained from a fully equipped engine—all accessories in operation



Performance curves on the HHU 16-20 H. P. four-cylinder engine. Ratings are obtained from a fully equipped engine—all accessories in operation

## Chrome-Nickel Block

The cylinder block contains a high percentage of steel and the proper amount of chromium and nickel to give a close grained metal of high transverse strength and the proper Brinell hardness to withstand strain and wear.

The cylinders are bored, reamed and honed. Each cylinder is held to less than .001 of an inch tolerance.

## Gear Oiler

The gear oiling system is the simplest and most positive lubricating system in use today—there is nothing to break—no pipes to clog. It functions regardless of temperature or condition of the oil.

## Hand Holes

Removable hand hole plates in the engine block make it possible to make all adjustments inside of the crank case (connecting rod bearings, etc.) without dismounting the engine from the unit being driven.

## Magneto, Carburetor and Governor on Either Side

These engines are built with the working parts—as the carburetor, magneto and governor—grouped on either the right or left side (facing the flywheel). The location of these parts is designated "A" and "B" position respectively. This feature allows the customer to have these parts on the side where they will be most easily reached in his particular set-up. B position is standard.

## Throttling Governor

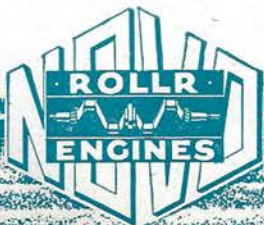
The rated speed is maintained at all loads, within the engine's capacity, by a built-in self-lubricating, throttling governor of rugged construction. The governor is of the fly ball type. It economizes on fuel and requires less attention from the operator.

## Adequate Cooling

The large radiator and roller bearing fan with a V fan belt drive provides ample cooling for full load of operation.

## Standard Engines

Crankshaft drive—"B" position of accessories—equipped with air cleaner and gasoline filter.



## Application

Power applications on which Novo Four-Cylinder Engines have successfully been used cover a wide range. A few are listed below, divided into Industrial and Agricultural.

Air compressors, asphalt distributors, concrete mixers, conveyors, drag line scrapers, electric generators, gas boosters, graders, hoists, lifting magnets, paint sprayers, railway motor cars, road finishers, saw tables, ventilating fans, combine harvesters, dusters, feed grinders, fruit sprayers, hammermill, pumps, tractors, windrow balers, wood saws and well drillers.

## Drives Available

A variety of speed reductions are available, with or without clutch and with either direction of rotation. Right angle drives, transmission and arrangement with pulley for heavy duty drives can be installed.

## Easy Starting

An automatic impulse coupling connected to the high tension magneto insures a hot spark at cranking speed—a quarter right hand turn is sufficient to start the engine. The retarding action of the coupling prevents any chance of kick back.

Gasoline filter and air cleaner are standard on all four-cylinder engines.

## SPECIFICATIONS

	NUU	HHU
Model	NUU	HHU
Horse Power	10-14	16-20
Bore	2 3/4"	3 3/8"
Stroke	4"	4"
R. P. M.	1200—Range 600-1800	
Displacement	95.03 cu. in.	143.1 cu. in.
Fuel Tank Capa'ty, U. S. Gal.	4 Gals.	7 Gals.
Oil capacity	4 Qts.	
Cooling	Radiator and fan	
Valve diameter clear	1 3/16"	
Connecting rod bearings	1 1/2" dia. x 1 1/2" long	
Main bearings—end	Timken Roller Bearings	
Main bearings—center	New Depart. Ball Bearing	
Timing gears	Spur—10 pitch, 3/4" face	
Piston	Special analysis cast iron	
Piston rings per piston	2 compression, 1 oil regulat'g	
Piston ring width	1/8"	
Piston pin	3/4" dia. (full floating type) hardened, ground and lapped	
Ignition	High tension magneto with automatic impulse starter	
Crankshaft	1035 S. A. E. steel heat treated	
Cylinder block	Novite—Chrome nickel content alloy	
Carburetor	Float feed fixed high sp. jet	
Fan diameter	14"	
Clutch	Own make	
Flywheel diameter	11 7/8"	14"
Approx. net weight, lbs.	420	600
Approx. shipping wt., lbs.	510	685
Code:		

Engine with Stub Shaft	NEGAP	NELOY
Engine with Bell Housing	NEGED	NELER
Engine with Bell Housing and Clutch	NEGOK	NEXEY

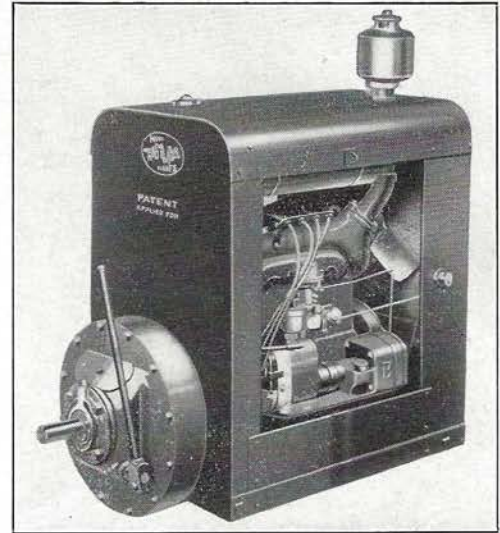
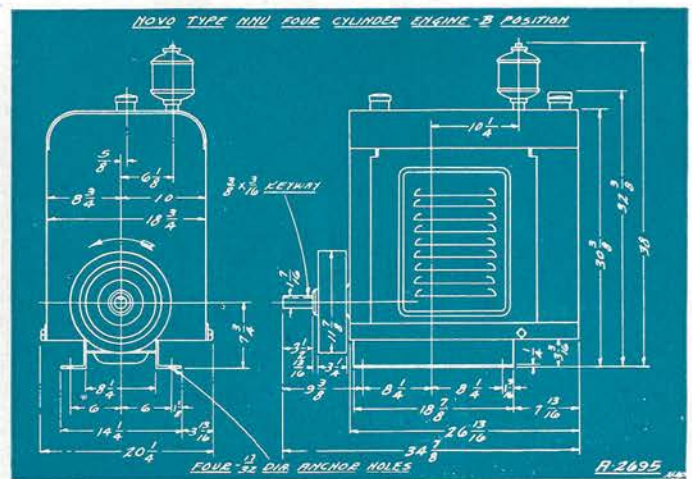
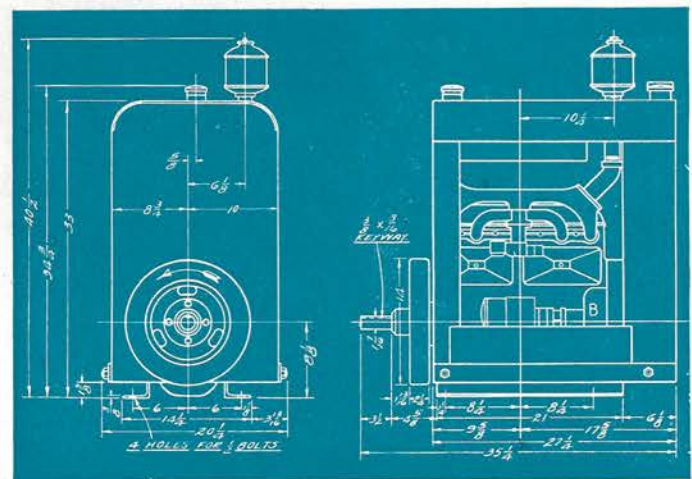


Fig. 1476. Novo Four Cylinder Engine equipped with bell housing and clutch



Dimensions of the NNU 10-14 H. P. 4 cylinder Novo engine, crankshaft drive, B position



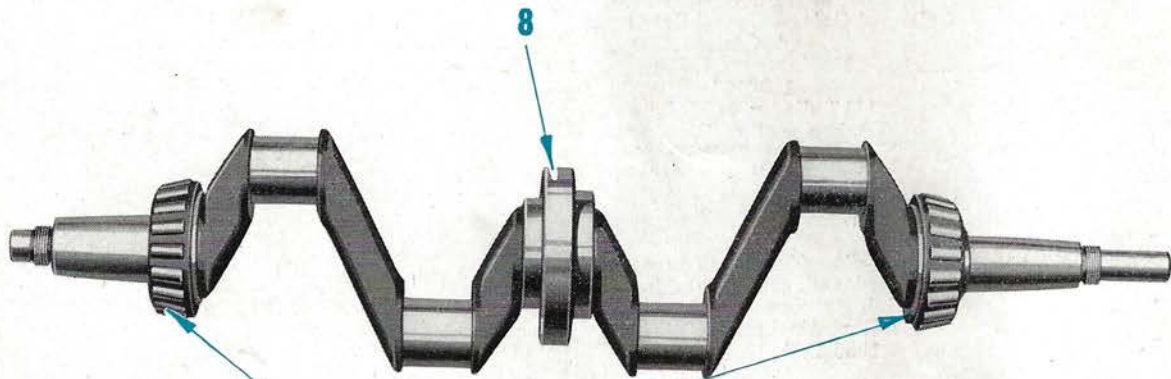
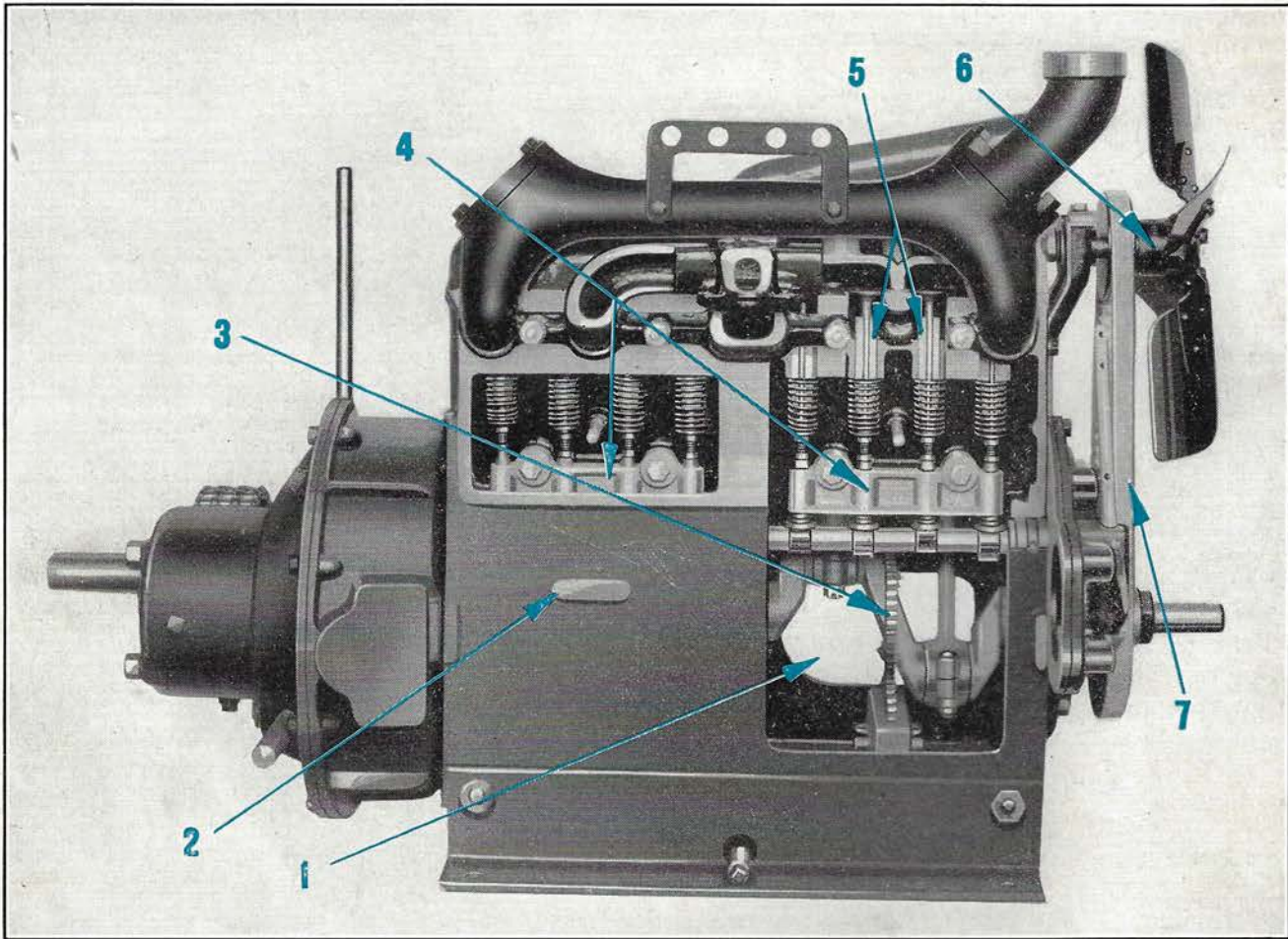
Dimensions of the HHU 16-20 H. P. 4 cylinder engine, crankshaft drive with house, B position



# FEATURES OF 4-CYL. ENGINES

Fig. 1560. Cut-away view of the four-cylinder Novo Rollr Engine with clutch and 2 to 1 right-hand speed reduction

Fig 1550 below. Four-cylinder three main bearing crankshaft using two Roller Bearings and one Ball Bearing



- 1. Hand hole
- 2. Chrome nickel block
- 3. Gear oiling system

- 4. Renewable valve tappet guides
- 5. Renewable valve stem guides
- 6. Roller bearing fan

- 7. V-fan belt
- 8. New Departure ball bearings
- 9. Timken Roller Bearings

**NOVO ENGINE CO.**  
LANSING, MICHIGAN, U. S. A.

