

1925

Chevrolet Bros. Mfg. Co.

INCORPORATED

INDIANAPOLIS, IND.

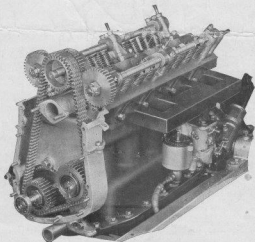


Speed

Power

Durability

Reliability



**16 Overhead
Valves**

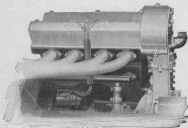
TWO CAMSHAFTS

**THE LATEST
WORD IN
SPEED
EQUIPMENT**

FRONTENAC 16 VALVE HEAD COVERS REMOVED

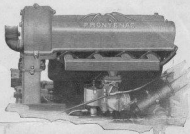
FRONTENAC 16 VALVE RACING HEAD FOR FORDS

DESIGNED AND BUILT BY CHEVROLET BROS., AMERICA'S FOREMOST RACING ENGINEERS
WORLD'S FASTEST OVERHEAD VALVE ATTACHMENT



EXHAUST SIDE

The
Latest
Fronty-Ford
Product



INTAKE SIDE

90 over 150

In designing the new Frontenac 16-Valve Racing Head, two most important objects were kept constantly in mind by its originators, the Chevrolet Brothers. First, to build a cylinder head that would, without doubt, produce more speed than any head ever before built for use on the Ford motor, and second to make that head so simple in operation that the chance of failure of any of the parts used in its construction would be eliminated.

At Indianapolis, Indiana, May 30th, in the International 500-Mile Race, the first Frontenac 16-Valve Head was given its initial tryout. This head went through the entire race and performed perfectly, the car averaging 87 miles per hour for 500 miles of the race. At Winchester, Indiana, on Funk's Motor Speedway, July 4th, the head was given its first trial on dirt tracks and turned the half mile track in 28 seconds, afterward defeating a field of fifteen of the fastest dirt track cars in the world. No mechanical adjustments or changes were necessary at any time.

No attempt was made to cheapen the product or to build to a price, but to produce a cylinder head with the same care, fine material, and workmanship that has made the name "Frontenac" famous the world over. In placing this head on the market, we are offering the finest equipment of its kind possible to produce, and at a price strictly in keeping with the quality of the product.

SPECIFICATIONS.

The cylinder head casting is made of fine grey iron, and when finished is machined practically all over. The water jacketing of this head has been given special attention, so as to evenly distribute water to every point in the casting, eliminating any chance of overheating, pre-ignition, or any other kindred trouble. Water surrounds the entire combustion chamber, valves, and spark plugs.

The valves, 16 in number, 2 intake and 2 exhaust for each cylinder, are located overhead, and seated in the casting at an angle of 30 degrees from the vertical. They are 1 3/8 inches in diameter, with a stem 3/4 inches in diameter. Both intake and exhaust valves are Rich Tungsten steel of the highest quality. Special valve springs are used and each is held in place by a special seat and keeper, which also acts as the valve tappet, upon which the cam strikes, operating the valve. These tappets are held in place by lock nuts. Adjustment between the tappet and cam shaft is simple and positive. Each tappet is hardened and ground. Each valve operates in a removable valve stem guide, which may be easily replaced when they become worn. These stems are 3 1/4 inches long, insuring perfect valve operation and cooling, the length of the valve guides insures long life.

The cam shafts, 2 in number, are mounted overhead on 5 bronze bearings. These cams are our special design, and each shaft is made with the cams integral, and is hollow drilled through the center, with an oil lead to each cam. The entire valve operating mechanism is lubricated by force feed system, oil being fed through the rear cam shaft bearings into the shaft and out of each cam onto the tappets and each cam bearing.

The cam shafts are driven by a special silent high speed chain, 1 1/4 inches wide. This chain runs from a sprocket on a stub shaft, mounted on ball bearings, which takes the position of the old cam shaft, to the upper sprocket, which in turn, drives the 2 cam shaft gears. The upper shaft with sprocket is also mounted on three ball bearings.

Special attention was given to the mounting of the cam shaft upper drive sprocket, which drives the 2 cam shafts. The sprocket and drive gear are placed on one shaft, which is mounted in a bronze casting, on 2 ball bearings, a third ball bearing being mounted in the drive chain housing, acting as an additional aligning support. The mounting for the sprocket shaft is cast integral with the 2 front cam shaft bearings, insuring perfect mesh of the cam gears and alignment of the cam shafts at all times. This front sprocket mounting and cam shaft bearing casting is bolted solid to the front of the head casting.

The chain is kept in proper adjustment and at the proper running tension by a patented automatic adjusting idler. The entire chain drive mechanism is housed in an aluminum housing, and runs in a bath of oil, supplied by surplus oil from the cam shaft feed. Each cam shaft is housed in an oil-tight housing, of aluminum, keeping dirt and dust off from its working parts.

The spark plugs are located in the top of the head, firing the charge in the top and center of the combustion chamber, which is the most efficient position. Pre-ignition and fouling of plugs are absolutely eliminated.

There are 4 intake and 4 exhaust ports, each of which is 1 1/2 inches in diameter. These ports are smooth and straight, and give easy passage for incoming and outgoing gases.

The head is designed to give a compression of 120 pounds.

The entire combustion chamber is machined to prevent carbon deposits and pre-ignition from hot spots.

The water outlet is 2 inches inside diameter and runs through the cam drive chain housing at the top of the head, in the usual place. The cylinder head uses the regular Fronty gasket, and all flanges, (intake and exhaust), take S. A. E. standard gaskets.

Special care was taken in the design of the Frontenac 16-Valve Head to make all operating parts easily and quickly accessible, and to making this equipment so that it may be installed on any standard Ford block, replacing the stock head, or any of the present overhead valve attachments, now on the market, without any mechanical changes or machine work on the block. The heads can be removed from the block, and re-assembled as quickly and easily as any head ever designed.

This equipment will instantly appeal to those who have tried other types and makes of heads now on the market, and who desire to equip their car with the best attachment that brains and money can produce.

TRY THE 16-VALVE FRONTENAC, and you have gone the limit.

We are prepared to furnish special intake manifolds for this head for using either single, two or four carburetors.

The Frontenac 16-Valve Head is built to order only, and each order will receive the personal attention of Mr. A. Chevrolet, both during course of construction, and testing.

Each head is guaranteed against imperfections in material and workmanship.

Cat. No. 201—Price: \$500.00. Positively no orders accepted unless accompanied by a deposit of 25% of the purchase price.