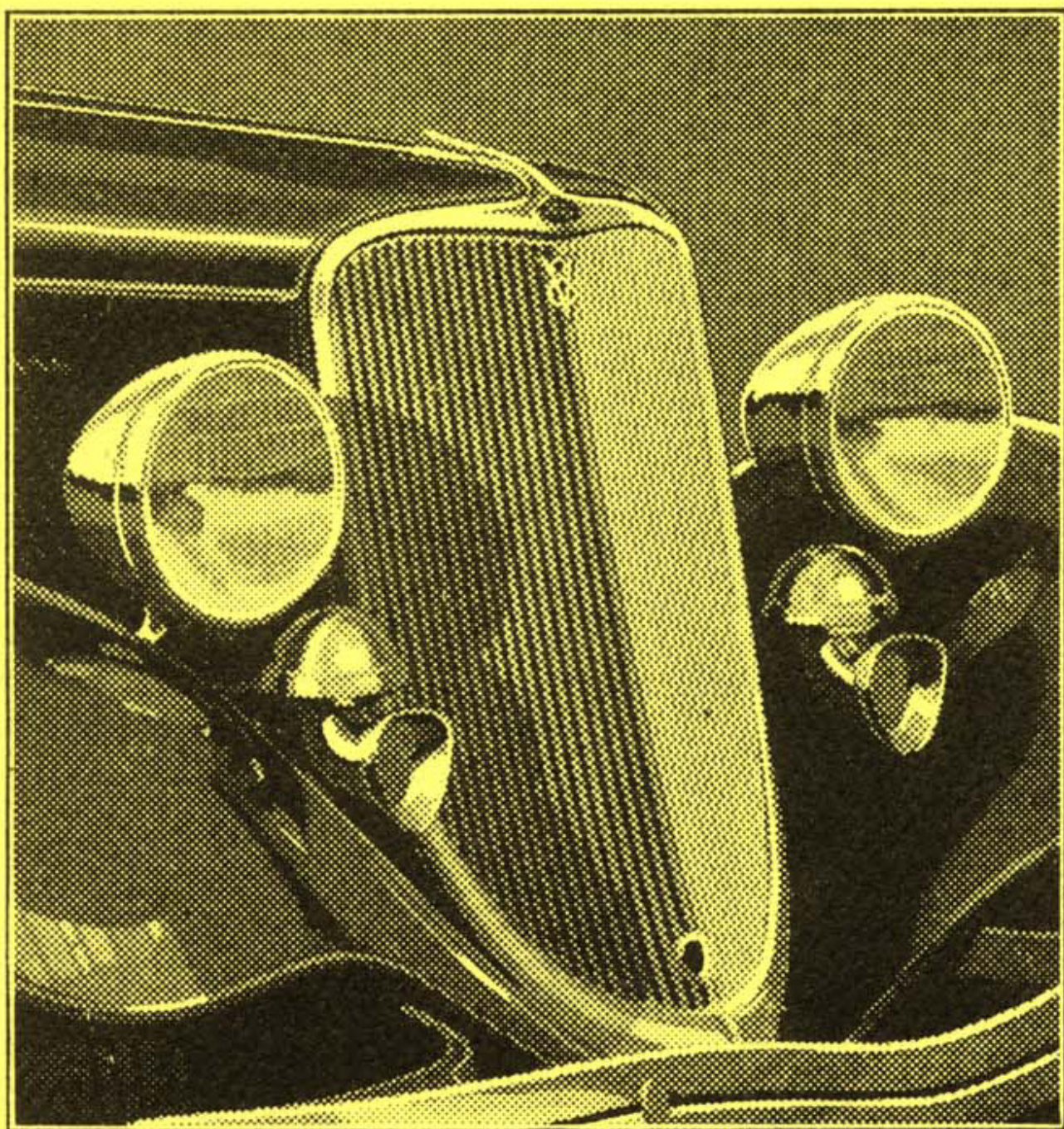


The Story
of the
NEW FORD V-8

WITH 112 INCH WHEELBASE



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To Salesmen:

Details of the New V-8-cylinder Ford with 112-inch wheelbase are given here in the form of a running story. All the principal points of the new car are brought out in a clear and simple manner. This will assist you in presenting the car to prospects.

In talking about the New Ford before a crowd of prospects it is not necessary for you to repeat this word for word, but it is important not to depart from the substance. On the last page there is an outline, which may be detached, and held inconspicuously in your hand to guide you in making your talks.

FORD MOTOR COMPANY.

Introduction

A year ago, Ford brought within the reach of many people a new kind of motoring comfort, convenience, economy and safety by the introduction of the Ford V-8, the first 8-cylinder automobile to sell in the low price field.

Today Ford is offering even better performance, greater comfort and greater economy in the new Ford V-8 with 112-inch wheelbase. This new car is the roomiest and most powerful Ford ever built, and embodies the design and manufacturing experience gained from the production and the actual operation of thousands of V-8 cars in the hands of owners.

This new car is offered with the feeling that as a result of improvements in design and methods of manufacture, a degree of comfort and economy never before available at low price, can be had in the new Ford V-8.

In this new car are incorporated many innovations in design which clearly prove claims made for its improved performance, riding comfort and economy, yet the basic and successful engineering principles which have been applied to the production of more than twenty million Ford cars in the past have been retained.

Appearance

From the radiator to the rear bumper the new Ford V-8 cars with 112-inch wheelbase express the modern mode in motor car building. The slanting radiator and grille, 20° slanting windshield, skirted fenders and the smoothly flowing lines of the hood and body blend with one another. In every detail you see evidence of a carefully planned harmony of line, proportion and direction. Body types are offered in a variety of colors and with several upholstery selections *at no extra cost.*

Comfort

Not only does the increased wheelbase add to riding comfort, but the completely new bodies have been designed to enhance driving convenience. Without increasing the over-all height of the car, in fact with a decrease, headroom has been increased. This has been accomplished by eliminating the conventional type of sills and mounting the body directly upon and outside of the chassis frame and placing the floor on the top edge of the frame. *All bodies of the new Ford V-8 are nearly one foot longer from the engine dash back than formerly.* Half of this is obtained from the lengthened wheelbase and a similar amount by mounting the engine farther forward and extending the dash under the cowl. The seats are located well down *in* the body. *Improved driving vision* is obtained through the use of narrow front body pillars and the increased slant of the windshield, which reduces glare when driving at night. The instruments are located in a group directly in front of the driver, with a large parcel compartment on the right side of the instrument board instead of door pockets. The doors

are from 1 to 3 inches wider (at the belt line, even wider below it) than formerly. The seats both front and rear also are wider. The driver's seat in closed cars has an adjustment range of 4 inches. The windshield is easily adjusted and held in any position by a single screw regulator located above the center of the instrument board. De luxe types are equipped with two horns, cowl lamps and two rear lamps.

Increased Power—"All-aluminum" Cylinder Heads

The engine now develops 75 horsepower at 3800 revolutions per minute, an increase of 10 horsepower over that of the former V-8 engine, giving improved acceleration and car performance. This is obtained through the use of new "all-aluminum" cylinder heads with newly designed combustion chambers. The heads permit the utilization of a higher compression, (the compression ratio now is 6.3 to 1 instead of 5.5 to 1) giving increased power from the same size engine and in turn reducing fuel consumption by obtaining greater efficiency from the fuel mixture.

Improved Cooling

In addition to the greater dissipation of heat obtained from the aluminum cylinder heads, the cooling area of the radiator has been increased (from 374 to 386 square inches). The fan has been located so that it draws air through the top portion of the radiator, where the cooling water is hottest as it circulates from top to bottom. The capacity of the cooling system is 5½ gallons.

Other Engine Improvements

Other improvements include a more convenient location for the crankcase oil level indicator; alterations have been made in the carburetor to meet the requirements of the new cylinder heads; a new steel engine oil pan gives improved protection to the lower part of the engine; mechanical changes in the action of the fuel pump improve its function of supplying fuel to the carburetor under all weather and operating conditions; and a new rear engine mounting. The entire power plant, including engine, clutch and transmission is cushioned in live rubber. The mounting also embodies the exclusive Ford engine radius rods which stabilize and retain the engine in proper position in the chassis. The spark plugs are now 18 m.m. metric standard size and operate at a lower temperature (than the larger size formerly used).

New Frame

One of the most important improvements in the new car is the double-channel X-type double-drop frame. This provides increased rigidity tending to eliminate body weaving, and provides greater driving safety. The frame virtually consists of four channel members. The two which form the X-brace are continued inside of and almost to the ends of the two main channels. The center cross member acts as the mounting for the rear of the engine. The X-braces carry the brake cross-shaft and the parking-brake lever giving an exceptionally rigid mounting for these important chassis parts. The double-drop construction provides a low center of gravity with adequate road clearance.

New Rear Axle

One of the many unseen features of the new Ford V-8 is the new $\frac{3}{4}$ floating rear axle, with straddle-mounted driving pinion. The principle of this construction is the same as that used in Ford trucks, where the driving stresses are unusually severe. The driving pinion or small gear is supported by a double-row taper-roller bearing at its forward end, and by a straight roller bearing of radial type at its inner or rear end. Thus two sets of bearings (actually three bearings) hold the pinion in permanent alignment with the ring or large gear under all driving conditions. The result is extremely quiet axle operation and long wear.

Continuance of Successful Features

When the Ford V-8 was introduced in 1932 several noteworthy features of design were incorporated. One of these is the single-piece casting of both cylinder blocks, the exhaust passages and crankcase. This incidentally is a natural continuance of Ford engineering practice, for some of you may recall that Ford originated the method (now generally accepted) of casting the cylinders and crankcase in a single piece for the Model T car in 1908. This exclusive Ford construction results in an exceptionally rigid and compact engine, assuring permanent bearing alignment and long life. Another noteworthy feature contributing to smooth performance is the basic eight-cylinder design adopted for the Ford engine. The angle between the cylinder blocks is 90° and the 65-pound crankshaft is fully counterbalanced with throws also at 90°. Every aluminum piston and every connecting rod is of uniform weight. The

combination of these principles of design and manufacturing precision results in placing all moving parts in natural balance and produces an inherently smooth running engine. No elaborate engine mounting is used when this combination of engineering principles is utilized in a V-8 engine simply because there is no need for it.

All connecting rods are of the single end type and are interchangeable. The full crankpin bearing area (on each crankthrow) is available for each cylinder (not half the area as in some V-8 engines) by using a new type of floating crankpin bushing, babbitted inside and out which distributes the pressure load from opposing cylinders over the entire surface.

Fuel economy as well as low maintenance cost is further augmented by use of a downdraft carburetor with silencer and the combination of intake manifold with valve chamber cover. All units of the Ford engine which might require adjustment or attention are accessibly located on top or in front of the engine. These include not only the carburetor and fuel pump but also the ignition distributor with automatic spark control, requiring no manual adjustment, and the generator, fan and water pumps.

Among other features which have been responsible for the recognized reliability and economy of Ford automobiles and which have been continued in the new Ford V-8 are, (1) the light overall car weight, with adequate strength attained through the use of quality steels and other materials; (2) the use of transverse cantilever springs; (3) radius rods for both front and rear axles; and (4) the torque tube drive, which in all Ford cars transmits both driving and

braking forces to the frame, requiring the springs only to perform their normal function, that of supporting the weight of the car and passengers and cushioning road shocks. (5) Ford has always been a liberal user of anti-friction roller and ball bearings, of which there are 25 in the new car.

The use of transverse cantilever springs reduces unsprung weight (weight below the springs, such as axles, wheels, etc.), since the heaviest part of the springs (the part nearest their centers) is mounted on the chassis frame. Low unsprung weight contributes materially to the easy riding qualities of Ford cars. Action of the springs is controlled by four Houdaille double-acting shock absorbers, mounted inside the frame channels and connected to the axles by links with rubber insulated ball and socket joints which require no lubrication. A thermostatic control valve within each shock absorber provides automatic adjustment for all *temperature* conditions in addition to the compensating mechanism provided to adjust the absorbers for varying *road surface* conditions.

All wheels are of the welded one-piece steel-spoke type, a distinctive Ford development providing unusual strength and safety. The tires have a larger cross section now being 5.50 x 17 inches in size.

The four-wheel mechanical brakes on Ford cars have an unusually large braking area compared with the weight of the car (186 square inches). As a result they are exceptionally effective and long lived, seldom requiring adjustment. The brakes are fully enclosed.

Ford was first in the low-price field to supply safety-glass in the windshields. This is now used in addition in all windows of de luxe models and is optional at extra cost in the windows of standard closed cars. All-steel construction makes the bodies sturdy and safe.

The Ford transmission with silent helical second-speed gears and silent synchronized gear shifting mechanism is continued also in the new V-8.

Quiet Operation

Special attention has been given to quiet operation of not only the engine but the entire car. The engine is equipped with carburetor intake silencer to quiet the rush of air through it, and the integrally cast exhaust passages and muffler reduce exhaust noise without losing power from back pressure, yet effectively silence the powerful Ford engine. The bodies are insulated from the chassis by rubber cushions and the fenders by anti-squeak material. Sound absorbing material is used to quiet body panels. Many sections of the body are welded into single units for strength and rigidity. The radius rods as well as shock absorber links are rubber insulated. Everything possible has been done to provide for comfort and enjoyment in operating the new Ford V-8.

Words cannot fully describe the performance of the New Ford V-8 with 112-inch wheelbase so you are cordially invited to inspect it and ride in it. We would be pleased to have you fill out the demonstration card before you leave.

CONDENSED OUTLINE

INTRODUCTION

Roomiest and most powerful Ford—112-inch wheelbase.
Result of design and manufacturing studies and service records.
Greater comfort and economy.

APPEARANCE

New lines express modern mode.
Harmony in proportions.

COMFORT

Completely new line of bodies. Longer, wider, lower. More headroom.
Driving convenience.

INCREASED POWER

More horsepower. Aluminum cylinder-heads.
Higher compression. Greater smoothness.
Improved cooling.

OTHER ENGINE IMPROVEMENTS

Carburetor. Fuel pump. Engine mounting.

NEW FRAME

X-type double-channel, double-drop.
Low center of gravity. Adequate road clearance.

NEW REAR AXLE

$\frac{3}{4}$ floating. Straddle-mounted pinion.

CONTINUANCE OF SUCCESSFUL FEATURES

One-piece engine casting.
90° V with 90° crankthrows. Inherent balance.
Connecting rod bearing area.
Non-adjustable valves. Accessibility. Light weight. Transverse cantilever springs.
Radius rods. Transmission.
Wheels and tires. Brakes. Safety glass.

QUIET OPERATION

Intake and exhaust.
Insulated bodies. Fenders. Rubber insulators.

BODY STYLES

Variety of body types.
Invite demonstration.

SUMMARY OF SPECIFICATIONS

ENGINE:

Type.....	90° V-8 with 90° crankthrows
Bore and stroke.....	3 $\frac{1}{8}$ in. x 3 $\frac{3}{4}$ in.
Piston displacement.....	221 cu. in.
S.A.E. rating.....	30 Hp.
Brake Hp.....	75 @ 3800 r.p.m.
Firing order.....	1 5 4 8 6 3 7 2
Offset of cylinders.....	$\frac{3}{16}$ "
Camshaft drive.....	Bakelized fabric with hardened steel crankshaft pinion
Crankshaft diameter, main bearings and crankpins.....	2 in.
Length, main bearings—front.....	1 $\frac{3}{4}$ in.
Center.....	1 $\frac{11}{16}$ in.
Rear.....	2 $\frac{1}{4}$ in.
Length crankpin bearings.....	1 $\frac{15}{16}$ in.
Total projected main bearing area.....	11.38 sq. in.
Total projected connecting rod bearing area.....	15.52 sq. in.
(Note: Above figures are projected and not circumferential bearing areas)	
Ignition.....	Automatic governor with vacuum control
Carburetor type.....	Down draft, with silencer
Pistons.....	Aluminum
Number of rings.....	Three
Piston pin diameter.....	$\frac{3}{4}$ in.
Connecting rod, length.....	7 in.
Big end bearing.....	Full crankpin area

RADIATOR:

Type.....	Tube and fin
Cooling area.....	386 sq. in.

CHASSIS FRAME:

Type.....	X-brace double-channel double-drop
Size, main frame channels.....	Width, 1 $\frac{3}{4}$ in.; depth, 6 in.; thickness, 1/10 in.
Material.....	Pressed carbon steel
Engine mounting.....	Three point rubber-insulated, with engine radius rods

REAR AXLE:

Type.....	$\frac{3}{4}$ floating, straddle mounted pinion
Gear ratio.....	4.11 to 1

BRAKES:

Type.....	Two-shoe mechanical
Brake area.....	186 sq. in.

CLUTCH:

Type.....	Dry plate
Disc diameter.....	9 in.
Facing area.....	75 sq. in.

STEERING GEAR:

Type.....	Semi-reversible hour-glass worm and three-tooth sector
Ratio.....	13 to 1

WHEELS:

Type.....	One-piece welded steel-spoke
Number of spokes.....	32
Tires, size.....	5.50 x 17 in.

TREAD.....Standard

WHEELBASE.....112 inches

CAPACITIES:

Fuel.....	14 gal.
Oil.....	5 qt.
Water.....	5 $\frac{1}{2}$ gal.