

**OLDSMOBILE'S**  
**EXCLUSIVE**

# HYDRA-MATIC DRIVE



**NO GEARS TO SHIFT. . . NO CLUTCH TO PRESS!**







"But now in 1940 comes something . . . important. A new mechanism to connect the engine with the car has been in evolution for several years. It takes advanced form in 1940 and will be introduced in one of the cars of the General Motors line. The clutch is eliminated. The changes in ratio, or speeds, are automatic. You simply steer! And the cost is astonishingly low for such an achievement. This device is destined to take the transmission out of the driving technique of the car of tomorrow. You certainly will be intrigued when you see and try this interesting mechanism."

*Alfred P. Sloan*

Chairman  
GENERAL MOTORS CORPORATION

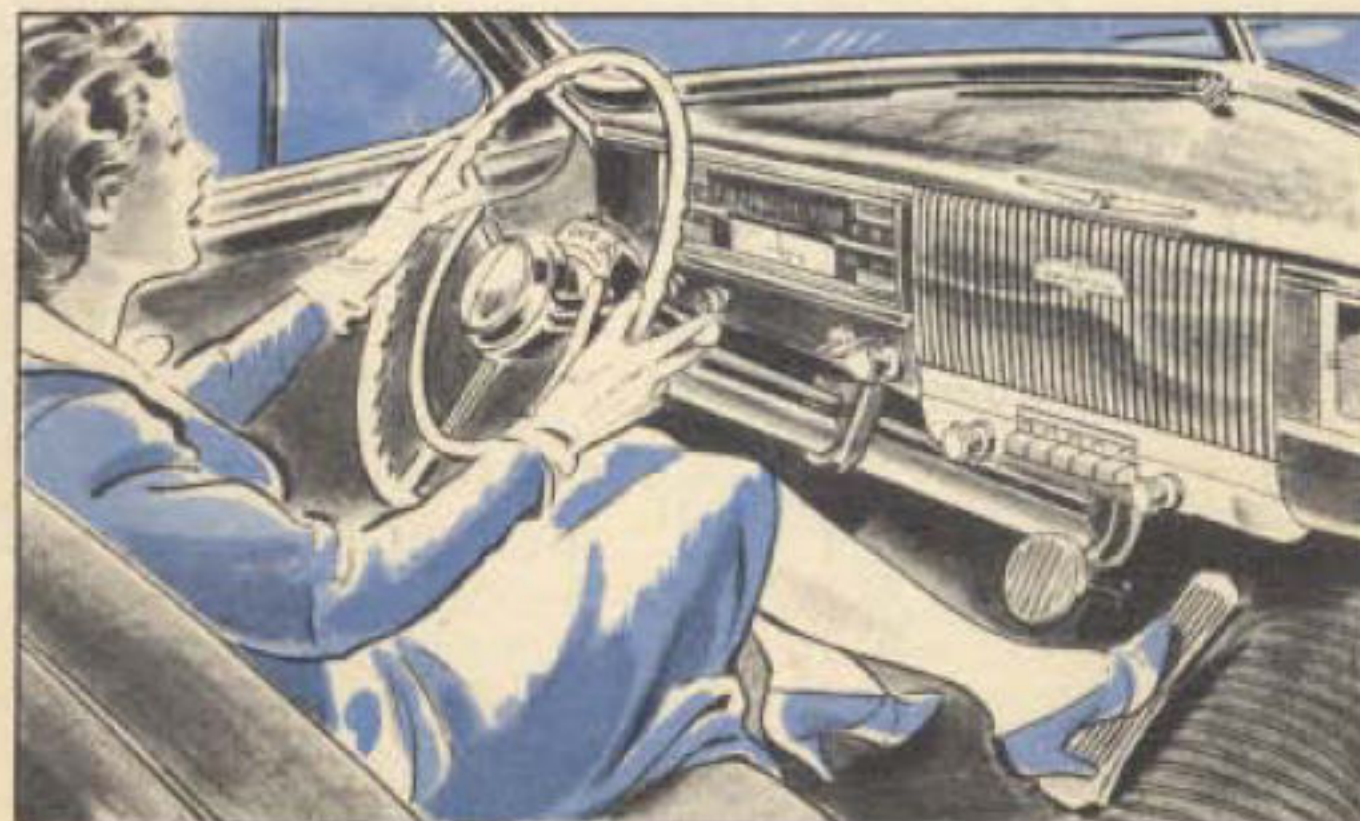
FROM "A Statement by General Motors"

# HYDRA-MATIC DRIVE



*The World's Simplest,  
Easiest Way to Drive*

PUT ASIDE ALL your old ideas of driving before you take the wheel of an Oldsmobile with Hydra-Matic Drive, and prepare yourself for a totally new experience. For Hydra-Matic Drive is not just an improvement on old types of power transmission—not just an advancement over old methods of car control. It is an entirely new development that makes driving so infinitely simple and easy as to be almost unbelievable. There's nothing else like it in the world. No motoring thrill you can possibly imagine can equal the sensation you'll have when once you drive a 1940 Oldsmobile this new, easy, Hydra-Matic way!





# WHAT IS HYDRA-MATIC DRIVE?

WITH few exceptions, motor cars have been driven through sliding gears ever since the introduction of the Panhard and Levassor mechanical sliding gear transmission back in 1894. Improvements have been made, it is true. Shifting has been made easier. But the fact remains that no fundamentally new method of power transmission was available to the public until Oldsmobile stepped into the picture with the Automatic Safety Transmission a few years ago. And that represented the first step toward the development and perfection of Hydra-Matic Drive.

## *A Completely Automatic System of Control*

HYDRA-MATIC Drive is a combination of a high-efficiency liquid coupling and a fully automatic transmission. The principles of Hydra-Matic Drive are well-known and time-tested—but they have never been combined in a motor car drive before. The result is a completely automatic system of car control. Driving effort is reduced to its minimum terms. The car starts and stops as smoothly as a streamlined train. The driver has instantaneous choice between blazing performance and rigid economy. There

is no more mental and physical co-ordination required than there is in pointing your finger. Although Hydra-Matic Drive is entirely new, there is nothing new to learn, because it is so utterly simple to operate. If you had never driven a car in your life, you could learn in a few minutes with Hydra-Matic Drive.



## *There Are No Gears to Shift*

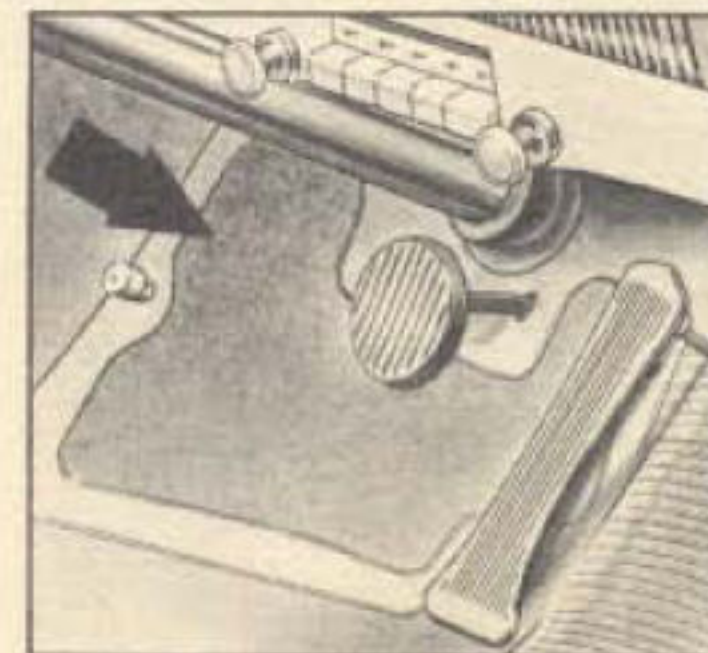


THINK how much more fun you'll get out of driving without the old, tiresome routine of gear-shifting. When you want to stop, you step on the brake pedal. When you want to start again, you step on the gas. With Oldsmobile's exclusive Hydra-Matic Drive, all you do is select the direction. The rest is automatic. There are no sliding gears to mesh—either by hand or through mechanical means. The only thing you have to

operate is a simple little direction lever on the steering wheel—and this does not shift gears, it merely actuates a valve. Just set the direction lever for "Hi" and forget it. You can drive all day—start and stop when you please—without changing the position of the lever in any way. The car selects first, second, third, or fourth speed automatically—choosing whichever is best for the purpose.

## *There is No Clutch to Press*

THE floor of the car seems strangely bare at first, because there is no clutch pedal. The clutch has been completely done away with. The result is complete freedom of action for the left foot, except to dim the lights while driving at night. Yet the car picks up speed from a standing start far more swiftly and smoothly than it ever could with a foot-operated, conventional clutch. Further, there is no clutch facing to wear out—no possibility of clutch noise or chatter. And there are no clutch parts to be replaced. The entire clutch assembly is eliminated. Power is transmitted through the turbine principle—the same method of power application that is used to propel giant ocean liners and to produce the electricity you use in your home.



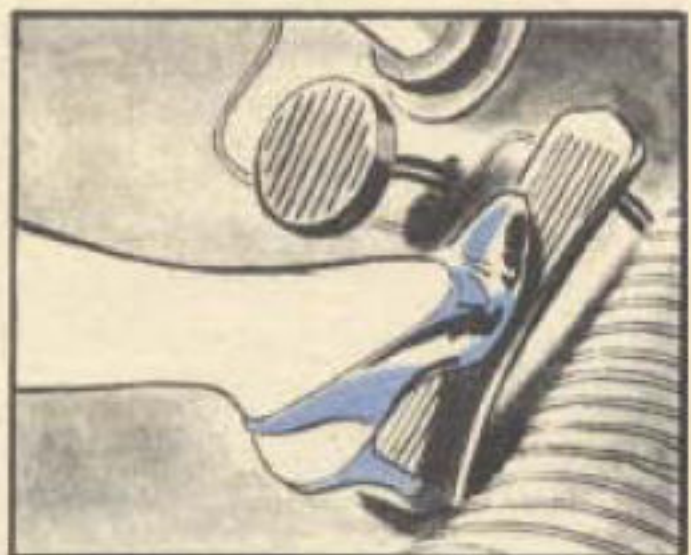


## ALL YOU DO TO DRIVE IS THIS—



### *Steer!*

DRIVING has been reduced to its simplest terms by Oldsmobile's exclusive Hydra-Matic Drive. You still have to steer—as you always will—but all nonessentials have been eliminated. And you can keep both hands on the wheel all the time, for the direction-lever can be controlled by a flick of the finger.



### *Step on It!*

EVERY change in speed is controlled by the accelerator pedal. There is no need to select your speed through sliding gears—no necessity for releasing the accelerator to allow a gear-changer to operate—no slow-up interval while you are using a clutch. You get away like a flash, with power, speed, and pick-up to spare.



### *Stop!*

ONE of the most enjoyable features of Hydra-Matic Drive is its smooth, oil-cushioned deceleration. There is no jerking or bucking when you come to a stop—no clutch to manipulate—no danger of stalling the motor in traffic or on the hills. When you want to stop, just step on the brake and enjoy the smoothest, safest stop you ever knew!

## YOU ELIMINATE HALF THE DRIVING EFFORT

### *Just Select the Direction . . . the Rest Is Automatic*

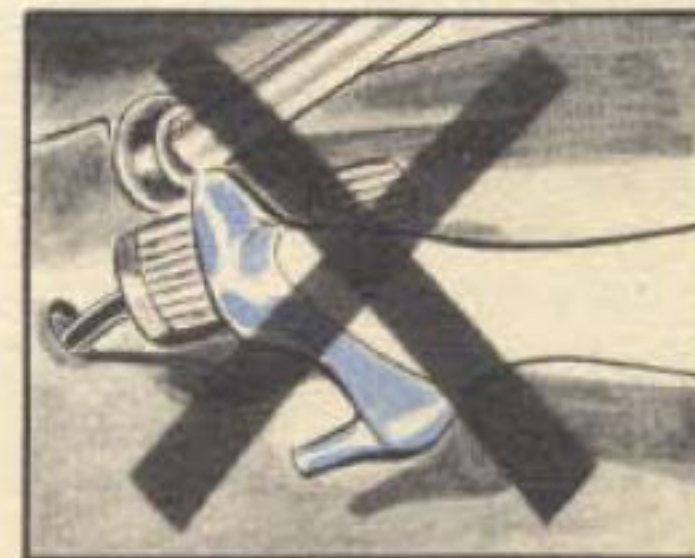


direction (just as you do in walking), guide the car, and apply the brakes. Everything else is automatic!

THERE are five main functions required of the driver of an ordinary car. He must steer. He must shift the gears. He must feed the engine gasoline. He must operate the clutch. He must use the brake. Three of these are absolutely essential to car operation. Hydra-Matic Drive eliminates the other two—shifting and de-clutching. Half the effort of driving is gone. With Hydra-Matic Drive, you select the

### *There's Nothing for Your Left Foot to Do*

DID it ever occur to you that driving a car requires the use of all four members? Both hands and both feet are occupied. But not when you drive an Oldsmobile with Hydra-Matic Drive! Your left foot is entirely free, because there is no clutch to press. And your right hand is released from the effort of shifting gears so that you have safe, two-handed steering all the time.





# TO START YOUR CAR—

## *You Used to*

1. Step on the starter
2. Depress the clutch pedal
3. Shift into low
4. Release the clutch pedal
5. Step on the accelerator
6. Release the accelerator
7. Depress the clutch pedal
8. Shift into second
9. Release the clutch pedal
10. Step on the accelerator
11. Release the accelerator
12. Depress the clutch pedal
13. Shift into high
14. Release the clutch pedal
15. Step on the accelerator

## *Now You*

1. Start the engine
2. Select your direction
3. Step on the gas

ALL THESE  
IRRITATING  
IN-BETWEEN  
STEPS  
HAVE BEEN  
ELIMINATED

THINK OF IT! Twelve out of the fifteen motions ordinarily required to start your car are eliminated by Hydra-Matic Drive, every time you get away from a stop-light. That adds up to thousands of motions in the course of a day's driving. As a result, you can drive farther with less effort—end up the day refreshed and relaxed instead of being worn and tired. And your driving is better, because you can concentrate your energy on the essential requirements of driving.

# HOW TO OPERATE THE HYDRA-MATIC DRIVE CONTROL



THE HYDRA-MATIC DRIVE direction-control lever is conveniently located just below the steering wheel. Only a flick of the finger is required to place it in any of the four optional positions. The lever is in no sense a gear shifter, as all action is automatic. The position farthest to the left is neutral, and should always be used for parking. The next position, to the right, is marked "Hi," and is used for all normal driving. Once



in "Hi," it is not necessary to move the lever for starting, stopping, or accelerating. The third position is marked "Lo." This speed is used only when descending very steep hills, or for exceptionally heavy pulling through mud or sand, when it may be desirable to hold the car in low gear. The fourth position, farthest to the right, is reverse. At night, a soft light illuminates the position in which the lever is set.



## PERFORMANCE IS STEPPED UP TO GLORIOUS NEW HIGHS

### *No Chance to Stall the Engine*



THERE are two common causes of engine stalling in ordinary cars. First, the use of the incorrect gear ratio, thus calling upon the engine for more power than it is capable of delivering at low car speed. Second, too abrupt application of the clutch. Both of these causes are removed by Hydra-Matic Drive. It is impossible to stall the engine.

### *No Jerking or Bucking in Starting*

JERKING or bucking in starting a car is usually the result of improper clutch engagement, or uneven feeding of gasoline in first or second gear. With Oldsmobile's exclusive Hydra-Matic Drive, you step on the accelerator pedal and get smooth, even, sensationally swift acceleration every time.



### *Getaway Is Amazingly Improved*



WITH ordinary, manually operated sliding-gear transmissions, even the most expert driver is bound to lose headway through loss of power while shifting from one speed to another. Hydra-Matic Drive is always in gear. Changes in gear ratio are made instantaneously and automatically, at exactly the right time.

## *You Get a Smooth, Even Flow of Power at All Speeds, Under All Conditions*



ONE of the most astonishing differences between Oldsmobile with Hydra-Matic Drive and ordinary cars is the amazingly smooth, liquid flow of power in both town and country driving. It's a definitely new sensation in motoring performance—an added pleasure you'll never want to be without after you once have tried it.

### *Increased Acceleration Is Instantly Available for Passing Cars or Climbing Hills*

FOR an extra burst of speed, when the car is traveling under 55 miles per hour, step all the way down on the accelerator. A special accelerating speed goes into operation instantly to pass other cars in a jiffy or pick up speed on hills. The car returns to direct drive automatically when you let up on the accelerator or attain a speed of 65 miles per hour.



### *You Can Slow Down to a Crawl on Hills*

WHAT driving experience is more maddening than getting stuck behind a slow-moving truck or a team of horses on a long, steep hill? In most



cars, you have to shift to second, or even low gear, or else the engine is apt to stall. In Oldsmobile, with Hydra-Matic Drive, you simply slow down and follow along—even at speeds as low as 1 mile an hour—until you have a chance to pass with safety. There's no need to shift gears—no chance to stall the engine—no unpleasant jerkiness.



## You Can Creep Along in Crowded Traffic



DRIVING in crowded traffic is irritating enough without the additional annoyances of constant gear-shifting, keeping your foot on the clutch, or having the engine stall. Hydra-Matic Drive ends all these. To start—step on the gas. To stop—step on the brake. In between, creep along as slowly as you have to. The engine won't stall, and you'll have a

smooth, effortless flow of power no matter how slowly you travel.

## *Stops Are Smoother and Steadier with Oldsmobile's Hydra-Matic Drive!*

NOT ONLY is there less danger of skidding during a quick, emergency stop in an Oldsmobile equipped with Hydra-Matic Drive, but every stop you make is smoother, steadier, safer and more comfortable. Because the liquid coupling in the Hydra-Matic Drive acts as an oil cushion, Oldsmobile's super-hydraulic brakes take hold surely and evenly, and you come to a straight-line stop with pneumatic ease, without jerking, jolting, or bucking, and without danger of stalling the engine.



## *You Cruise Smoothly and Quietly Without Annoying Vibration*

IN Hydra-Matic Drive, the engine and the driving mechanism are connected through a cushion of oil. Engine torque reaction, shake, and vibration are completely damped out. Since fourth gear is a direct drive, the propeller shaft revolves at relatively slow speed, still further eliminating vibration. Driving is infinitely smoother and quieter.



## THE HYDRA-MATIC DRIVE GIVES YOU IMPORTANT SAFETY ADVANTAGES

THERE'S an accent on safety these days, in American communities from coast to coast. Oldsmobile has always been in the forefront when it comes to the introduction of new and vital safety features, including Knee-Action Wheels, Turret Top Body by Fisher, Hi-Test Safety Plate Glass and many others. Now Oldsmobile goes still further in bringing you one of the most important contributions to safe driving in the past decade—Hydra-Matic Drive.

## *You Keep Both Hands on the Wheel All the Time*

IT'S axiomatic that two hands are safer to steer with than one. With Oldsmobile's Hydra-Matic Drive, you need never take either hand from the steering wheel while the car is in motion. After you have once selected the direction, everything else is automatic except steering, feeding the gas, and stopping.



## *Special "Lo" Speed for Descending Steep Hills*



ONE of the big factors of safety in mountainous country is the ability to use the compression of the engine as a brake in descending hills. Oldsmobile's Hydra-Matic Drive provides a special "Lo" speed for this purpose. At any car speed below 40 M.P.H., you can flick into "Lo" from "Hi" without taking your hands from the wheel—

no difficult and dangerous declutching and shifting down to second are necessary. Nor do you have the problem of operating a free-wheeling or overdrive device. And when the emergency is over, another flick of the finger puts you back in "Hi" for normal driving.



## You Get Better Traction on Snow and Ice



Two of the chief causes of skidding are improper use of the clutch, which throws the car out of gear with consequent loss of traction, and improper application of power through the rear wheels, by suddenly stepping on or releasing the accelerator. Both of these are eliminated by Hydra-Matic Drive. There is no clutch to press, so the car is con-

stantly in gear. Sudden power shocks to the rear wheels are tempered by the oil cushion of Hydra-Matic Drive's liquid coupling. The danger of driving on wet, slippery, or icy roads is greatly diminished.

## Reverse Gear Lock for Parking on Hills

THE car may be locked in gear while parked on a steep incline by placing the control lever in "R" position. This action locks the transmission mechanically when the motor is shut off, making it impossible for the rear wheels to turn until the motor is started again.



## Driving Is Less Fatiguing

THE thousands of arm and leg movements saved in a day's driving in an Oldsmobile with Hydra-Matic Drive would, in themselves, cut down fatigue tremendously through saving of physical effort alone. But, in addition, all driving is made easier by Hydra-Matic Drive. The car is easier to handle in traffic—cruises more smoothly and quietly on the open road—starts and stops with less effort on the part of the driver.



## THE HYDRA-MATIC DRIVE CUTS OPERATING COSTS!

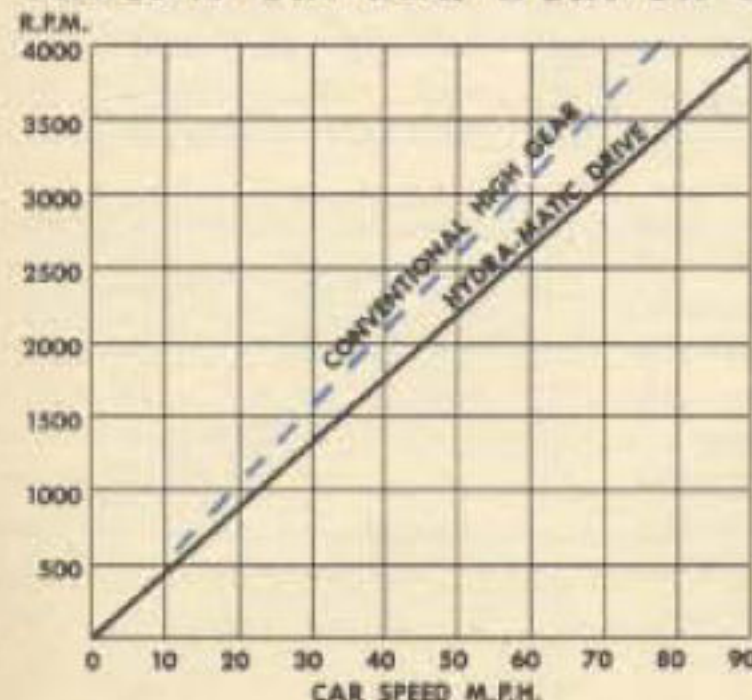
EVEN if it cost more to drive an Oldsmobile equipped with Hydra-Matic Drive, the sensational extra performance, the extra safety and satisfaction and the tremendous saving in driving effort would far outweigh any additional operating cost. But actually, Hydra-Matic Drive saves you money every mile you drive, with measurable savings in gas, oil, tires and maintenance expense.

## Slower Engine Speeds Save Gas and Oil

BECAUSE the number of engine revolutions is reduced approximately 20 per cent at boulevard speeds in the city and at cruising speeds in the country, there is an attendant saving in the consumption of gasoline and oil. Loss of power in starting is also reduced because the car is always in gear and speed changes are made efficiently and automatically.



## Saves Wear and Tear on Tires and Moving Parts

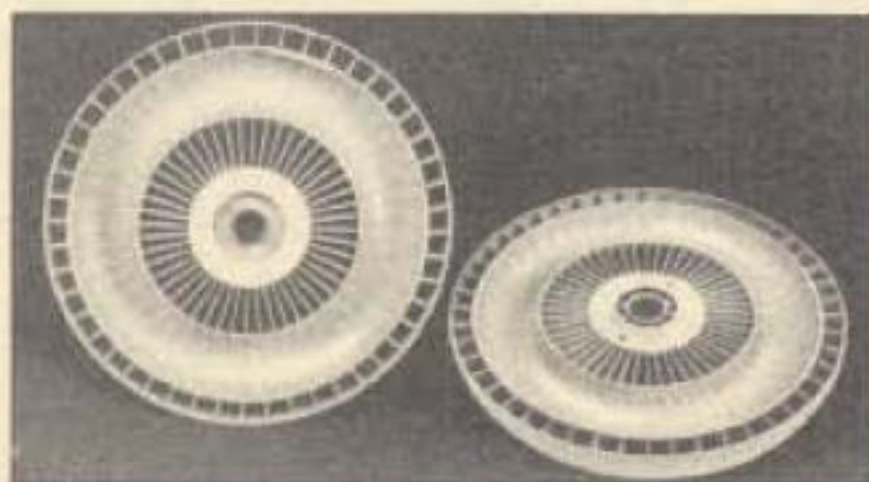
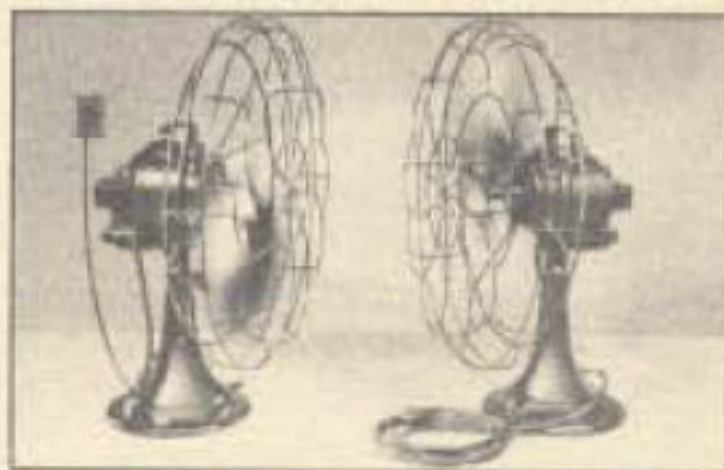


WEAR and tear on bearings, pistons, cylinder walls and all reciprocating parts is materially lessened by slower engine speeds. There are no clutch facings and clutch parts to be replaced. The slow-moving propeller shaft and universal joints are less subject to shock and wear. Smoother starts and stops reduce tire scuffing and result in longer tire life.



## SIMPLE IN CONSTRUCTION —EFFICIENT IN OPERATION!

THE WHOLE HYDRA-MATIC DRIVE mechanism is inherently simple, and employs engineering principles which have been proved through years of practical application. Oldsmobile merely converted these principles to the transmission of power in an automobile. ♦ The principle of the liquid coupling can be illustrated by placing two electric fans so they face each other—one with the power connected and the other so that it will run free. As the speed of the power-driven fan is increased, the power impulse is transmitted through the air. The free-running fan commences to revolve, and gains speed until it is revolving almost as rapidly as the other. The same action



takes place in the liquid coupling, except oil takes the place of air. ♦ Essentially, the liquid coupling is a closed-circuit turbine, consisting of a primary shaft and impeller, and a secondary shaft and runner. The impeller is driven by the engine,

and through the turbine principle, drives the runner, which connects with the rear wheels through the automatic transmission and propeller shaft. ♦ Diagram at right shows the flow of oil through the rotor vanes. There are no fine running clearances or heavily loaded bearings. The entire operating mechanism is simplicity itself. *However, the liquid coupling offers little or no advantage unless it is combined with an automatic transmission.*



## Hydra-Matic Drive Is Warranted for a Full Year

THE OLDSMOBILE DIVISION, General Motors Sales Corporation, warrants each new Hydra-Matic Drive Assembly to be free from defects in material and workmanship under normal use and service for one year after making delivery of new assembly to the original purchaser, provided only Oldsmobile Hydra-Matic Fluid was used in the assembly and the fluid changed at factory recommended intervals of every 5,000 miles or less for the duration of the Warranty period. Providing work is done by an authorized Oldsmobile dealer, the Oldsmobile Division will accept charges for material and labor to replace transmission parts—charges to be based on factory established rates—and will, in addition, accept all transportation charges of returned parts during the above ascribed Warranty period, which upon our examination shall disclose to our satisfaction to have been thus defective.

### Special Fluid for Hydra-Matic Drive

A special lubricant—known as *Oldsmobile Hydra-Matic Drive Fluid*—has been developed for use in Hydra-Matic Drive, and is available at authorized Oldsmobile dealers. It is an all-season lubricant and is equally efficient in summer heat or winter cold. The fluid not only lubricates the transmission effectively, but does not thin or thicken (change its viscosity) for at least 5,000 miles of service. It does not permit the formation of varnish nor prevent the normal operation of transmission parts. When it is remembered that thickening oil is responsible for slow, sluggish gear shifts, and is the first stage toward the forming of varnish, and consequent seizure of parts, the development of *Oldsmobile Hydra-Matic Drive Fluid* is an achievement of major importance. Only this fluid should be used in the Hydra-Matic Drive.

### Why Brake Pedal Location Is Unchanged

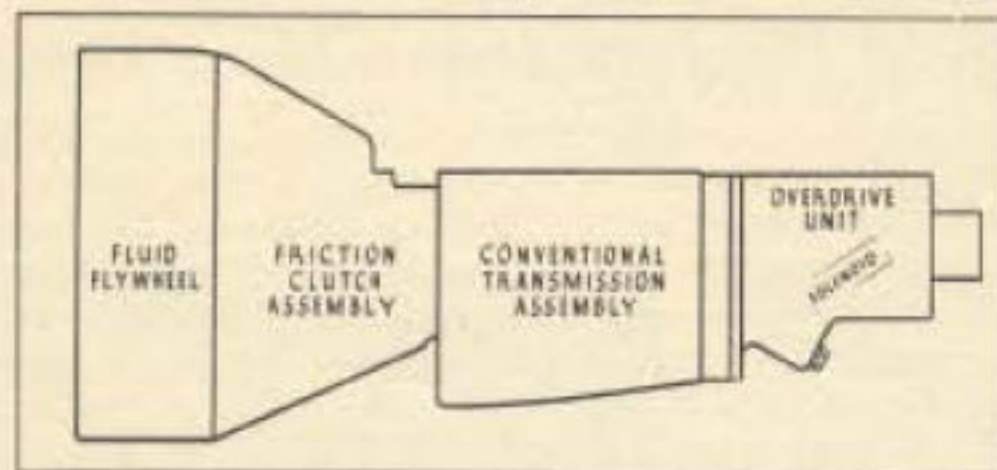
One of the first questions you might ask is "Why not move the brake pedal so that the left foot may operate it?" While this change is perfectly feasible, and has been thoroughly tested by Oldsmobile engineers, it is not considered desirable at the present time, as it would necessitate a change in driving habits. As it stands, there is nothing new to learn in order to operate Hydra-Matic Drive. You do everything exactly as you always have, except that many hand and foot motions are eliminated. There is no possibility of stepping on the brake by mistake, thinking it is the clutch—or of reaching for the brake pedal in an emergency and finding it has been moved from its accustomed position. You can change from a car with Hydra-Matic Drive to a car without it, and back again, without the slightest inconvenience.



## HYDRA-MATIC DRIVE IS MORE THAN JUST A FLUID FLYWHEEL

HYDRA-MATIC Drive does far more for the driver than so-called fluid flywheels which have previously been available. The ordinary fluid flywheel does not do away with the clutch pedal or the conventional clutch—it does not eliminate manual gear-shifting—it does not give you completely automatic operation. In short, ordinary fluid flywheels, while a step forward, do only a part of the job. There is nothing else in the world like Oldsmobile's exclusive Hydra-Matic Drive.

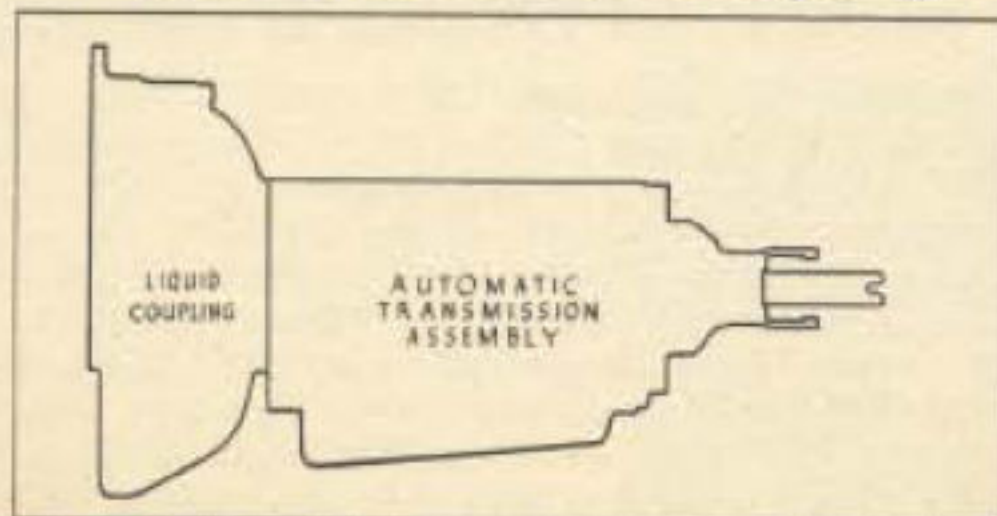
### Typical Fluid Flywheel Coupling



THE drive diagrammed above does not eliminate any unit of the old-fashioned transmission system. It merely super-

imposes two extra accessory units upon the conventional drive—the fluid fly-wheel coupling and an overdrive.

### Hydra-Matic Drive Coupling



OLDSMOBILE's Hydra-Matic Drive is self-contained and requires no extra

attachments. It replaces both the conventional clutch and the transmission.

## Compare Oldsmobile's Hydra-Matic Drive with Ordinary Fluid Couplings by Asking These 10 Important Questions

OLDSMOBILE welcomes comparison of Hydra-Matic Drive with any other type of fluid coupling. The facts speak for themselves. And the facts show that Hydra-Matic Drive is superior in every way—in advanced engineering design—in simplicity—in efficiency of operation—and in value to the driver.

QUESTION	Hydra-Matic Drive	Conventional Fluid Drive
Does It Eliminate the Clutch?	Yes	No
Do Gears Shift Automatically?	Yes	No
What Is the Per Cent of Power Loss Through Slippage at 25 M.P.H.?	1%	12%
What Is the Per Cent of Power Loss Through Slippage at 60 M.P.H.?	1/4 of 1%	5%
Are Propeller Shaft Speeds in the Smooth, Low Range, or the High, Vibration Range?	Low	High
Is the Car in Direct Drive in High Gear?	Yes	No
Does It Eliminate Chipping of Transmission Gear Teeth?	Yes	No
Can You Lock the Car in Gear While Parked?	Yes	No
Does It Eliminate the Conventional Sliding Gear Transmission?	Yes	No
Does It Eliminate Clutch Wear and Clutch Chatter?	Yes	No



## 25 IMPORTANT ADVANTAGES IN CAR OPERATION THAT YOU GET WITH HYDRA-MATIC DRIVE

1. No Gears to Shift
2. No Clutch to Press
3. No Clutch Pedal on Floor
4. No Clutch Parts to Wear Out
5. No Gear Teeth to Chip
6. Faster Getaway
7. Quicker Pick-up for Passing
8. Smoother and Quieter Operation
9. Safer Car Control
10. 15% Better Gas Mileage
11. Reduced Oil Consumption
12. Less Wear on Motor Parts
13. Impossible to Clash Gears in Forward Motion
14. Improved Hill Climbing Ability
15. Impossible to Stall Engine
16. Low Engine Speed in Fourth Gear Cuts Down Vibration
17. No Slackening of Speed Between Shifts
18. Drive Is Always in Gear—No Free Wheeling
19. Saves Half the Driving Effort
20. Eliminates Jerky Starts
21. Damps Out Torque Reaction, Vibration and Engine Shocks
22. Decelerates with Pneumatic Ease
23. Slows Down Propeller Shaft Speeds
24. Gives Better Traction on Slippery Surfaces
25. Makes Anyone a Better Driver

***ANOTHER "FIRST" for GENERAL MOTORS!***