

There are some good things that have come out of the lockdowns in Victoria. Maybe not many, but there have been some. Speaking solely from my perspective there have been at least two which have been of benefit to you, the members of CCOCA.

The first is the creation of this email-only secondary magazine, 'démarrreur', which I hope you have been enjoying.

But the second is that there has been trawling through my collection of motoring ephemera that clutters the shelves of the bookcases in the spare room.

I rush to let you know that nothing has actually been thrown out as a result of this 'trawl', I just have a better knowledge of what is squirreled away there.

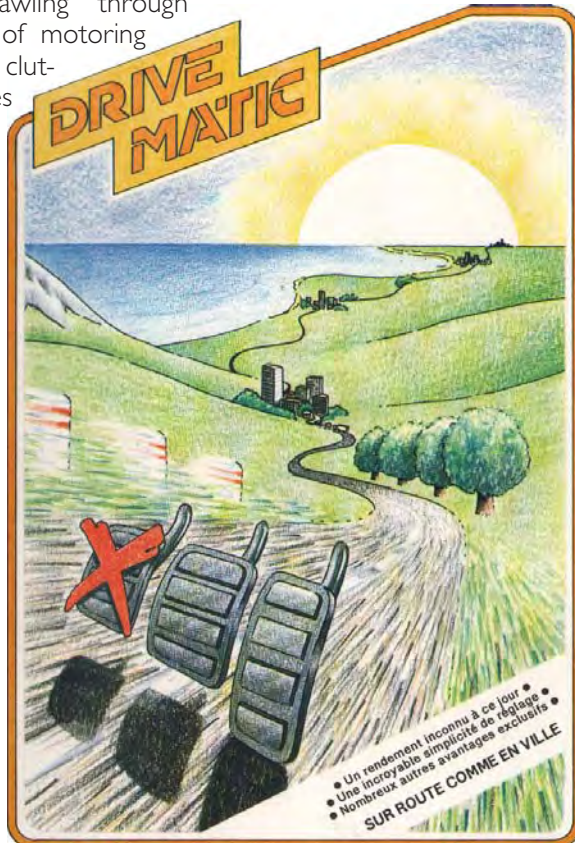
One such is a brochure for DriveMatic which dates from about 1988. I guess I picked it up at Retromobile

or the Paris Motor Show, with a view to installing DriveMatic in my Traction Avant.

In putting this feature together I discovered that Legrand, who make the unit still exist and still make and sell the DriveMatic conversion. They are still based in Sèvres near Paris and claim to have been in business for over fifty years.

Here is how they explained it in the English-language section of the brochure.

A Pneumatic servomotor with central diaphragm uses the vacuum supplied by the motor to act on the vehicle's factory-installed clutch, without having to make the slightest change to the clutch. The clutch is disengaged through entry of the vacuum into a half-enclosure with suction of the diaphragm, whenever the driver takes



DriveMatic

hold of the gear shift lever and at each stop.

The precision mechanism of the new design controls the active clutch-engagement phase by continuous, precision closing of the return of ambient air into the previously evacuated half-enclosure. Owing to an airflow of which the ratio can vary from one to 500, it is possible to slave clutch engagement to acceleration with extreme smoothness or maximum quickness, and the clutch withstands the most highly exceptional requirements of the way in which the vehicle is driven. The simplicity of this mechanism and the reliability of its manufacture guarantee dependable, longlasting operation.

An electronic relay ensures the keeping of the engine brake. The various additional, indispensable parts are designed or selected according to rigorous criteria for quality and accuracy backed by our many years of experience :

- A vacuum tank

- A main electrovalve, actuating each time the system operates
- A contact knob on the gear shift lever
- A neutral position contact switch
- A main switch for instant return to conventional drive

These parts are carefully arranged: only the switch and the contact knob on the gear shift lever are exposed on the driver's side.

TECHNICAL AND PRACTICAL DATA

Adjustment: quite simple [through display of a marker and use of a screw]

Power consumption during clutch release: less than 2amps

Vehicle: unchanged

Fuel consumption: unchanged

Engine: unchanged

Factory installed clutch: unchanged.

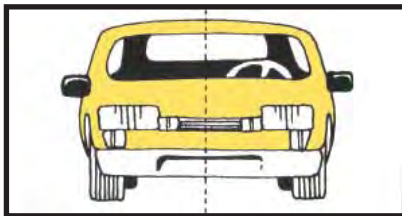
Number of gear ratios: unchanged.

Weight: approximately 13kg

Guarantee: One year

2 CARS IN 1

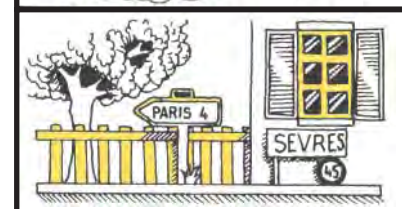
A single switch allows switching from conventional driving to automatic driving at the discretion of the drivers and depending on the circumstances.



- 2 REDUCED FATIGUE
The DRIVE•MATIC eliminates the main fatigue of driving the use of the clutch pedal.



- 3 VEHICLE PRESERVED INTACT
The DRIVE•MATIC automatic clutch is added to the original engine-clutch-free gear assembly, without modifying these components. It can be installed on any new or used car.



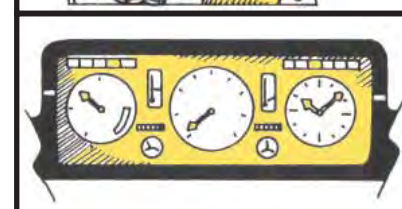
- 4 FEATURES OF THE EQUIPPED VEHICLE

Power, top speed, acceleration are unchanged. The use of the gear lever depends exclusively on the wishes of the driver [easy double clutch].

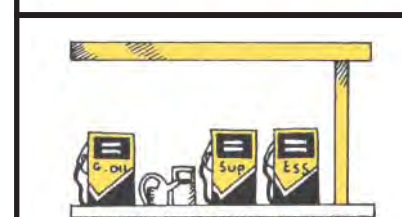


- 5 URBAN DRIVING or SPORT DRIVING

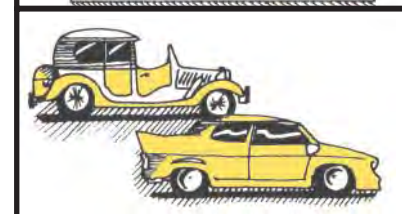
The DRIVE•MATIC offers both possibilities with the same convenience.



- 6 FUEL CONSUMPTION
You save up to 2litres compared with an automatic gearbox.



- 7 LASTS A LIFETIME
The fitted vehicle is not subject to any additional wear. The same DRIVE•MATIC can equip several consecutive vehicles.



Drive•Matic



COST PRICE

The DRIVE•MATIC allows the choice of an economical vehicle and the cost can be amortized on several vehicles, even of different types



CHANGE OF CAR

The DRIVE•MATIC allows for the resale of an original restored car, and it can be reused as often as desired.



ANTI-IMMOBILIZATION AUTOMATION

Conventional driving is still possible. If the battery is discharged, it can be started by pushing the car.



CARAVANING

Towing capacity identical to conventional driving, without overheating.



ENGINE BRAKING

When slowing down, the DRIVE•MATIC varies the clutch speed according to the gear ratio engaged.



PARKING

A gear engaged DRIVE•MATIC completes the parking brake.

Tailor-Made Driving

When we talk about an automatic gearbox, all opinions are divided: purchase price and fuel consumption higher than a manual gearbox, the relative sluggishness of performance times and sporty driving is a thing of the past, all these serve to discredit an automatic gearbox. The only advantage of the automatic gearbox lies in the driveability it provides,

especially in town, by eliminating disengagement and clutch, demanding and repetitive manoeuvres in a traffic jam. Despite this drawback, the manual gearbox still retains 97% of followers in France because of its driving characteristics that only a Latin mind can appreciate. The ideal would therefore be to be able to have a mechanical gearbox with a conventional or an automatic [reversible] clutch depending on the terrain and conditions. Or maybe even an assisted clutch. This is the conclusion reached by Etablissements Legrand, which offers the Drive•Matic and Control•Matic release devices, which we tested on a Peugeot 305SR.

The Drive•Matic offers the possibility of having a fully automatic and at the same time a classic clutch as standard. Switching from one to the other is done with a switch on the dashboard. The choice is yours: automatic or manual. The car totally retains its characteristics and does not need to be tested again by the registration authorities.

No modification is made to the clutch mechanism. The principle of operation would take too long to explain here in detail; just know that it is the engine vacuum, first stored in a cylinder, then released by a solenoid valve itself controlled by the contact ball of the gear lever, which acts on a membrane inside a closed hemisphere, similar to a brake

booster, and pulls a cable connected to the clutch pedal. It is obviously possible to simply remove the pedal for those who no longer want a conventional clutch.

Disengagement of the unit is ensured by re-establishing atmospheric pressure in the servo through two light discs which control the progressiveness according to the acceleration requested. The assembly is monitored by an electronic computer which decides, among other things, the clutch release moment when stopping, in relation to the gear engaged.

From the driving position no change appears except for the contact ball of the gear lever. Once the engine is running, all you have to do is take the gear lever in your hand and shift into first gear. The left pedal digs in on its own and you have to exert very light pressure on the accelerator for the clutch and pedal to return very quickly just to the point where the disc licks on the chain ring. Then the clutch end speed is proportional to the depression of the accelerator. The change of intermediate gears is just as simple and that without noise, without skidding, and without jerks. The left foot remains at rest and the driving pleasure is undeniable, especially in the city. Flipping the switch back makes you realize how tiring it is for the left leg to have to exert 12 to 25kg of pressure

on a clutch pedal every 200m, or so. On winding mountain roads, the Drive•Matic knows how to perform well under normal driving conditions, but it is obvious that such a device is not suitable for competitive driving. Except for these extreme conditions, the Drive•Matic provides all the advantages of a classic clutch, engine brake, double de-clutch, double pedaling with a very respectable speed of response since Legrand establishments commonly equip R5 Alpine, Golf GTi and even Porsche turbo.

But regardless of driving pleasure, we compared the performance of our 305SR station wagon with and without Drive•Matic and went to the Kléber circuit in Miramas. The weather conditions were very good and we did the standing 400m in 18.9sec with the classic clutch and 19.4sec with the Drive•Matic. The 1,000m is covered in 35.8sec and 36.5sec respectively. So 0.5sec over 400m and 0.7sec over 1,000m. This in itself is negligible for the user given the extreme conditions in which we tested the car. From a fuel consumption point of view and regardless of the formula chosen, there was no difference: 6.9L/100km on an economy route.

This article was first published in L'Auto-Journal in 1988 and re-printed in the Drive•Matic brochure owned by the Editor.