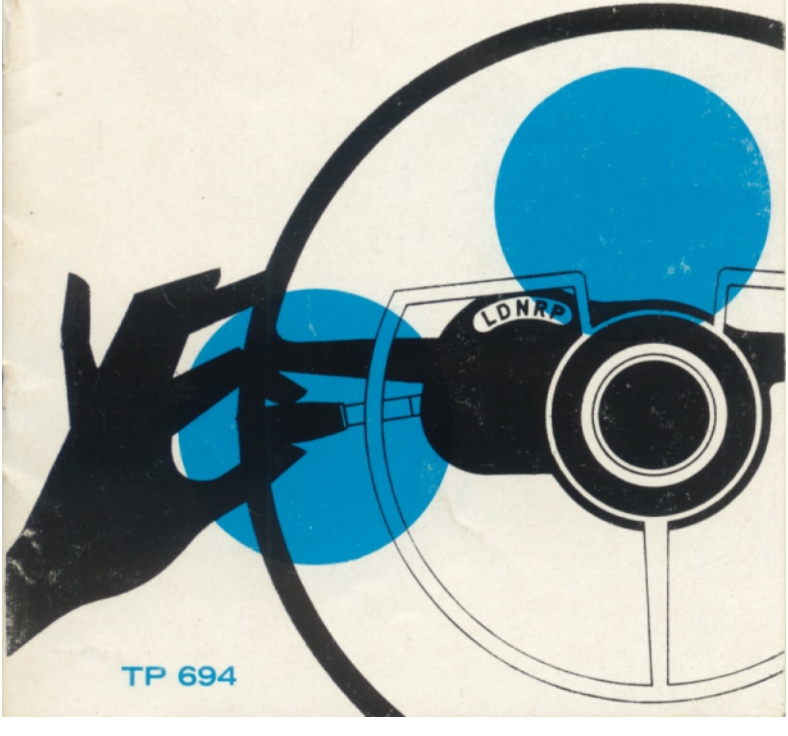
Get to know your MODEL 35 AUTOMATIC TRANSMISSION



TP 694

KNOW YOUR MODEL 35 FULLY AUTOMATIC TRANSMISSION

Starting

To ensure maximum safety your starting control is inoperative when the selector is in any of the driving positions, so that the engine will only start with the selector in 'P' or 'N'. When the engine has started from cold with use of the mixture control, stalling will be avoided if this control is left pulled out just sufficiently to increase the idling speed until the engine has warmed up.

Selecting

The selector can be moved freely between 'N' and 'D'. To prevent inadvertent selection the other positions are protected by gating, necessitating pulling out the knob of the change speed lever.

Always release the accelerator and apply the foot brake or hand brake before selecting the appropriate forward or reverse positions 'D', 'L', or 'R'; this practice will check any undesired 'creep'. The more pronounced thump of engagement under fast-idling conditions (e.g. when using mixture control) is not detrimental to your car or transmission.

Manœuvring

Manœuvre the car out of the garage on its 'creep' merely by releasing the brake pedal. After short practice you will find that use of the left foot on the brake is advantageous during manœuvring. Also use 'creep' when moving off on icy roads.

Drive

Under normal driving conditions use your car at all times with the selection 'D'—fully automatic drive. The transmission then starts in first gear, and automatic up changes to second and third gears occur in accordance with road speed and accelerator position.

Automatic down changes from third to second and first occur with decreasing vehicle speed.

Lock-up

Normally no advantage is gained by selecting 'L' for moving off or low-speed driving because the available ratios (first and second) are the same as those of the 'D' position.

If 'L' is selected from rest or at speeds up to 5 m.p.h. the car will move off in first gear, remaining locked in this gear with maximum engine braking.

When selected at speeds over 5 m.p.h. an immediate down change to second occurs; appropriate engine braking is provided, and again there is no up change.

If speed is then reduced to below 5 m.p.h. the transmission will automatically down-change to

first gear and remain locked in this ratio. Moreover, up to 20 m.p.h. this down change can be obtained by momentarily depressing the accelerator fully ('kick-down').

'L' is provided mainly for engine braking—for example, on long, mountainous descents—or even for ascents when automatic gear changes are not desired—for instance, when towing a caravan. However, to avoid over-revving the engine 'L' should not be selected at a speed higher than 55 m.p.h., except in an emergency.

Take-off

Note how your car will move off smoothly, even if you depress the accelerator briskly; naturally the usual delicacy of accelerator control is necessary on slippery roads or to obtain optimum fuel economy.

Light Throttle

In 'D' maintaining light accelerator pressure provides low-speed up changes.

More Throttle

When using greater accelerator pressure the gear changes occur at higher speeds, yet fully under control in accordance with the amount of pressure applied. The accelerator is provided with a 'detent'; only if depressed past this 'hard spot' will the gear changes occur at maximum speeds. Over-revving the engine is impossible.

Down Changes

Down changes also remain under your control and will only occur when the accelerator is depressed past the detent. The maximum down change speeds available in each range are preset to protect the engine.

Provided road speed is below the maximum fixed by the car manufacturer, fully depressing the accelerator instantly gives a down change to second or first for rapid overtaking or hill-climbing.

The ability to down-change directly from third into first for maximum acceleration is obviously advantageous.

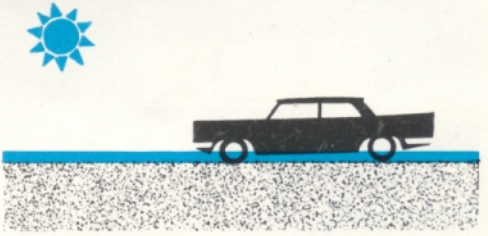
Manual Control

By selecting 'L' from rest first gear can be retained until the selector is moved to 'D', when second will engage. The selector is then quickly moved back to 'L' to retain second until 'D' is again selected for third gear.

NOTE.—There are no objections against use of the transmission in this manner, except that over-revving the engine is possible, with consequent increased wear and tear and fuel consumption.

Stopping

Release the accelerator and apply the foot brake. You need not touch the selector. With 'D' selected the transmission changes down automatically for the subsequent re-start in first gear. Note that on uphill gradients the car can be held stationary on a small throttle opening.



Rocking

From rest, note how your car can be rocked out of sand, mud, or snow by moving the selector lever alternately from 'D' to 'R' whilst maintaining a fast idling speed by using a light throttle opening.

Emergency starts, due to a flat battery, etc., may be made by push- or tow-starting. The car should be allowed to reach a speed of approximately 25 m.p.h. with the selector in 'N'. The ignition should then be switched on, the mixture control set as required, and 'L' selected to enable the engine to be started through the rear wheels. For towing, use a rope of sufficient length and exercise the usual care to avoid colliding with the leading vehicle.

Parking

When you park the car or stop long enough to warrant switching off the engine select 'P' and make sure that the parking pawl has engaged; if you like, apply the hand brake as an additional precaution. If you select 'N' always apply the hand brake.

On a steep gradient, before disengaging 'P' apply the brakes to prevent the car from rolling; note that the disengagement of the parking pawl will be more audible.

Reversing

Note during reversing how the 'creep' of your automatic car facilitates manœuvring in confined spaces. Observe the availability of engine braking in reverse.

Icy Roads

On icy roads your automatic car is easier to drive than any other, provided you apply the usual delicacy of accelerator control demanded by such conditions. 'L' selector position may be used under extreme conditions when desired.

Performance

With your automatic car you can obtain without conscious effort the performance which only a hard driver can achieve with a manual gearbox vehicle. This fact is not readily appreciated because many drivers still tend to judge performance by the rate at which engine noise level rises.

During initial acceleration in all gear ranges the torque converter of the transmission momentarily holds engine revs. to approximately 1,600 r.p.m. (converter stall speed).

At this relatively low speed the engine is producing near-maximum torque, and vivid acceleration without alteration in noise level is achieved by the gradual change of ratio in the converter from 2 : 1 to 1 : 1.

To convince yourself, compare the acceleration of your automatic car with that of vehicles of similar engine size when starting from traffic-lights, etc.

Economy

The transmission incorporates a torque converter which provides unique flexibility, especially at low road speeds. Thus, in top gear effortless performance is available down to 12–14 m.p.h. combined with exceptional fuel economy at these speeds.

Maintenance

Maintaining your automatic transmission only requires A.T. fluid for topping up. Periodic fluid changes are unnecessary and are not recommended.

When operating under high ambient temperatures and on unmetalled roads verify that the slots and screens in the torque converter housing are not obstructed by dust or mud. Also remove mud, which could act as an insulator, from the transmission fluid pan.

Service

The transmission requires no periodic overhauls, but if you notice anything unusual in its behaviour get a competent service station to investigate immediately. Most malfunctions can be instantly remedied by attention to fluid level or external adjustments. In the unlikely event of a breakdown, expert attention will put your car back on the road in the shortest possible time. Contrary to common belief, your automatic transmission is more easily serviced than many other components of the car.

Journey's End

By the end of a trip you will fully appreciate the advantages of automatic transmission. You will

notice that you have saved valuable time and, having been able to concentrate fully on the road and traffic conditions, your driving has been safer. Your car has given optimum performance with the minimum of wear and tear. You personally have saved about 70 per cent. of effort in your driving.

Finally

A few simple don'ts.

Don't select 'P' or 'R' while the car is moving.

Don't select 'D', 'L', or 'R' when the engine is revving at high speed.

Don't select 'L' at speeds above 55 m.p.h. except in an emergency.

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