AUTOMATIC TRANSMISSION

32 A vehicle with automatic transmission has no clutch pedal. It has instead a system that senses the need for changes to higher or lower gears and makes such changes for itself. The transmission senses and selects the gear according to the road speed and load on the engine, thus a driver does not have to worry about the repeated decisions and movements involved in normal gear changing. This makes the physical job of driving much easier and it also allows a driver more time to concentrate on what is happening on the road.

33 Generally, an automatic transmission changes to a higher gear as road speed rises and to a lower one as it falls. It also takes into account the load on the engine so that (for example) it changes down, if necessary, for uphill work. However, there are times when you need a low gear although your speed is constant and the engine load is light – such as when you are going down a long steep hill, the automatic transmission will not necessarily choose the right gear in these situations, thus you need to know how to use the particular types of controls fitted to your car to your best advantage.

SELECTION AND CONTROL OF DRIVE

34 Most automatics have a small selector lever, and there is usually one position or setting which corresponds to neutral on an ordinary gearbox (one type, dealt with later, is an exception.) With the engine running, the selector can be moved between driving and reversing positions.

35 There are four positions that are basic to most types of automatics; they are often labelled 'P' for Park, 'R' for Reverse, 'N' for Neutral and 'D' for Drive and arranged in that order.

36 Having started the engine with the selector at P (Park), then with the lever moved to D (Drive), you need only release the brakes and press the accelerator pedal for the car to move forward. The car will then continue moving, changing gears as necessary, as long as there is enough pressure on the accelerator pedal. When there is insufficient pressure on the accelerator pedal, the car will slow down, change down and eventually stop (except downhill).

37 Also, because an automatic transmission is sensitive to both speed and load on the engine, heavy acceleration delays upward gear changes until the car has built up more speed. This is because hard acceleration on a flat road can put as much load on the engine as climbing a steep hill. The automatic mechanism measures the load and then changes gear accordingly. With most automatics, the lower the speed, the smoother the gear changes.