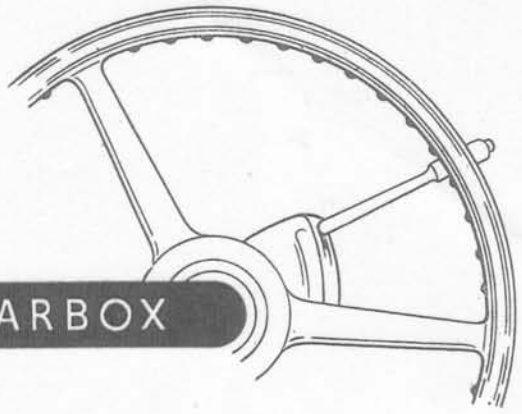
The AUTOMATIC GEARBOX . . .

Driving Instructions



THE AUTOMATIC GEARBOX

The Rolls-Royce Automatic Gearbox is more than just a mechanism which automatically adjusts the gear ratios according to conditions of speed and load. An overriding control is provided which enables the driver to exercise his own judgment and desires in regard to the gear ratios to be selected, and an understanding of what is possible greatly enhances the pleasure to be derived from driving the car.

No automatic mechanism, however good, has the power of anticipation, but the driver can see ahead and he has the means for overriding the automatic mechanism when desired.

If the driver so desires, he can leave everything to the automatic gearbox, and gear changes will occur at the theoretically correct moment in terms of speed and load. Obviously, however, road or traffic conditions may be such that the theoretically correct moment of gear change may be undesirable or may be unexpected or perhaps delayed, and it is for this reason that the overriding control is provided to enable the driver to enforce a gear change as and when desired.

The driver should, therefore, first familiarise himself with the approximate speeds at which the automatic changes occur. These changes are as follows:

	UP CHANGES (m.p.h.)		
	1—2	2—3	3—4
Light throttle ..	6	11	20
Full throttle ..	18	31	65

It will be noted that greater throttle opening causes the changes to be delayed progressively, therefore an up-change can be induced by the driver at any speed within these limits by easing the foot off the throttle pedal at the moment an up-change is desired. With a little practice a driver can, by judicious use of the throttle pedal, permit the automatic mechanism to make completely smooth and unobtrusive changes.

The owner-driver who wishes occasionally to indulge in a very fast get-away will obtain maximum acceleration by allowing the automatic gearbox to make full throttle changes throughout the speed range.

The automatic down-changes at light throttle will normally occur at the following speeds:

4—3	3—2	2—1
14 m.p.h.	8 m.p.h.	4 m.p.h.

The driver should recognise that the down-changes will always occur at approximately these speeds when slowing down, but it will be found that the changes occur quite smoothly, although it is well to remember that as the speed falls to 9 m.p.h. the 3—2 change will occur which involves an appreciable reduction in gear ratio, and the smoothest change will result if the throttle opening is kept to the minimum.

In traffic which enforces for any length of time speeds between 6 and 25 m.p.h., the driver can avoid the continual changes which might occur between ranges 3 and 4 by placing the hand lever in position 3. Similarly, in traffic which enforces an even slower rate of progress, the hand lever should be placed in position 2, which will avoid unnecessary changes to and from the higher ratios.

For normal cruising on the open road the hand lever should be left in position 4, but the driver will discover that the most perfect and smooth gear changes between top and third can be made with extreme ease and rapidity by moving the hand lever between ranges 3 and 4. Completely imperceptible changes can be made if the throttle is at the same time adjusted to suit. The best

changes occur at light throttle openings. The driver is encouraged to make the fullest use of this gear change in exactly the same way that he would with a normal gearbox. Overtaking other traffic can be accomplished at the desired throttle opening with the minimum amount of fuss and with the greatest ease.

For full throttle acceleration in an emergency, the driver can immediately obtain a lower gear by pressing the accelerator pedal hard down onto its stop. Full throttle down-changes are not usually required except in an emergency, and the driver will, in most cases, prefer to make full use of the hand lever.

SECOND SPEED START

It may sometimes be extremely desirable to hold the car indefinitely in 2nd gear as, for instance, when negotiating very slippery surfaces or when mountain climbing. A device has been incorporated which holds the shift valves in 2nd gear whenever the hand lever is placed in range 2. In this position, the car will start from rest in 2nd gear, and will stay in 2nd gear until the hand lever is moved to a higher range. The device is useful also when descending very steep hills and it is desired to use the engine as a brake.

When climbing or negotiating a hairpin in fixed 2nd gear, it is useful to remember that 1st gear is immediately available if suddenly required by operating the kick down valve which is obtained by pressing the throttle pedal as far as it will go. Remember also that it is possible to overrev. the engine in fixed 2nd as in this range there is no safety up-change.

PARKING LOCK

A most efficient lock is provided in the design of the gearbox. This operates when the hand lever is placed in position 'R' and the engine switched off with the car stationary. The car will not move even on the steepest gradients, but naturally it will be essential to apply the brakes firmly when it is desired to start the engine as the engine will not start up until the hand lever is moved to 'N', and no parking lock will then be available.

MANŒUVRING

The fluid coupling and low gear ratios of 1st and Reverse may sometimes make it a little difficult to judge precisely the correct engine revolutions required to move the car a few inches backwards or forwards, and it will be found that manœuvring in confined spaces is more easily accomplished if a little extra load is applied to the fluid coupling by light pressure on the brakes.

COLD STARTING

When starting from cold it should always be remembered that the automatic carburetter system will cause the engine to start up initially at a fairly fast idle speed, and therefore it is essential always to apply the brakes firmly before starting up, and especially when engaging Reverse from cold as the driver then has to pass through the forward gear ratios to obtain Reverse, and the car may move forward if the brake is not applied.

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