



## Ross Bentley's High Performance Driving Tips - #19

### SHIFTY TECHNIQUES

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This time around, let's take a look at a couple of the more obscure aspects of driving a standard transmission car – double-clutching and what to do when stopped at a traffic light.

I believe double-clutching is unnecessary in modern cars (anything built in the last 20 to 30 years or so), so if a driver doesn't know how to do it, it's not the end of the driving world. However, there are times when it can be advantageous, so if a driver knows how to double-clutch, he or she shouldn't forget how. In fact, it is worthwhile to practice it every now and then so that you don't forget. I personally like to double-clutch the first few shifts on cold winter mornings when the transmission is a little stiff - more important than making it easier on the tranny, it is a good excuse for me to practice a little-used technique.

What is double-clutching? Basically, it is where a driver depresses and releases the clutch twice for each shift. It can be used for either upshifting or downshifting, but generally only for downshifting. The routine goes like this for a downshift: you are travelling along in fourth gear and begin to slow down for a corner. You depress the clutch pedal, move the shifter into neutral, release the clutch, rev the engine (preferably using the heel-and-toe method), depress the clutch again, move the shifter into third gear, and release the clutch. Your downshift is now complete.

The reason for double-clutching is to more evenly match the RPMs of the gear you are selecting with that of the engine to allow a smoother meshing of the gears. In a non-synchromesh transmission, this is practically mandatory. However, it has been a long time since a production street car was built with one of those. That's why I say it is unnecessary to double-clutch. But, if the syncros in your car's transmission are beginning to wear out, double-clutching can extend their life a little longer and make it easier to get it into gear.

So, double-clutching can reduce wear on the transmission slightly - very slightly. But, it could actually increase wear on the clutch actuating mechanism by doubling its use. Also - and this is the most important reason for *not* double-clutching - the more you do behind the wheel of the car,

the more chance for making a mistake. By single-clutching, and using heel-and-toe on downshifts, you have a better chance of making well-matched, smooth shifts. And that should be the goal of all drivers.

Now a question I'm often asked. When stopped at a traffic light, is it best to put the car in neutral or just keep my foot on the clutch and the car in gear?

This is another one of those situations where there are advantages and disadvantages to both. However, I strongly believe you are much better off to keep the car in gear with your foot on the clutch while waiting at a traffic signal.

First of all, the disadvantage of keeping the car in gear and your foot on the clutch. I have heard of drivers who, as they were unexpectedly rear-ended, had their foot pop off the clutch, allowing the car to drive out into the intersection. If the car was in neutral this couldn't have happened. But, this shouldn't have happened anyway - the driver should have had an eye in the rear-view mirror and noticed the vehicle behind wasn't stopping. Which points out the number one advantage of having the car in gear - being able to react by creeping the car forward or off to the side.

In fact, a driver should keep the car in gear at all times - none of this popping the shifter into neutral and free-wheeling to a stop when approaching a red light. What if you have to make a sudden avoidance manoeuvre when the car is not in gear? You certainly have wiped out any opportunity of using acceleration as an option.

What a driver should be doing is keeping the car in gear just until he or she has to depress the clutch to avoid stalling the engine (downshifting on the approach to the stop is not necessary - but it can be a useful place to practice smooth heel-and-toe shifts). While the driver is coming to a stop, he or she should also be watching the mirror to see if the driver behind is slowing as well (if not, pumping the brakes to flash the brake lights might help alert the following driver). If the driver has come to a complete stop with no one behind, they should continue to

check, with the car in gear, until a vehicle behind has stopped. As well, don't pull up and stop so close to the car in front that you couldn't inch forward and off to the side if necessary - stop at least a car's length behind.

Finally, some people talk about the extra wear and tear on the clutch by keeping your foot on it while stopped. Well, even if you could measure the minimal amount of wear, I don't believe it would be any more than what you would see if you released and then depressed the clutch each time you put the car in neutral at a stop. So, keep it in gear.

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