Manual Versus Automatic

Welcome to this **Perfect Driver** course. Throughout this course, we are going to look at the law, skills, techniques, and ideas to help you become a better, and safer driver.

In this lesson, we'll look at **Manual Versus Automatic cars.**

Manual Versus Automatic

Manual Versus Automatic

Generally speaking (there are some exceptions), a car has either a **manual,** or an **automatic** transmission.

In this lesson, we look at the differences between the two. We also look at some variations.

To obtain your licence, if you wish to drive a manual, you must pass a driver's test in a manual car. Your licence will be marked accordingly if you are licenced to drive manual cars.

Manual Versus Automatic

Manual Transmissions

A manual car is one where the driver is responsible for changing gears. Depending on the make and model of car, a manual car will have anywhere from 4 to 6 forward gears, perhaps more.

Driving a manual means starting in first gear, moving to second gear as speed increases, then to third, and so on. All controlled by the driver.

As well as changing gears as the car gains speed, the driver can also change down gears (from 4th to 3rd, 3rd to 2nd, etc.) to help the car slow down.

Manual Versus Automatic

Manual Transmissions

On the right is an example of a manual gearstick, normally located to the left of the driver so that it can be reached by the driver's left hand.

In this example, the car has five forward gears, 1 through 5, and one reverse gear (R).

The manual gearstick is operated by moving the gearstick into the relevant slot. Most of the time, the pattern of gears is noted on the gearstick, so you can tell where the gear you want to change into is (it can change from car to car).

Not all gearsticks look the same. **Reverse** gear can be placed on the left or the right of the forward gears.

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Manual Transmissions

In a manual car, the driver changes gear as they depress the clutch pedal, located to the left of the brake pedal. Automatic cars do not have this clutch. In the image below, the pedals are **clutch, brake, accelerator.**

Because of this, manual cars are a little trickier to learn to drive.

Most experienced drivers consider driving a manual car to be a pain to drive. Manual enthusiasts consider manual cars to be more responsive and faster. And more fun to drive.

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The C7 Corvette, the 991 Porsche, and some Aston Martin models use a 7-speed transmission. Newer Lexus models use ten speed automatic gearboxes.

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Manual Transmissions

Here are some basics for manual cars:

- Generally speaking, a manual car is started in neutral - no gear is engaged.
- To move, depress the clutch foot peddle, and place the car in 1 (first gear). Slowly release the clutch, and slowly press the acceleration pedal simultaneously.
- As you move, change up or down gears as you accelerate.
- For reverse, place the gearstick in the **R** position (quite often you will have to press the gearstick down, as well as across, to engage reverse gear).
- When the car is parked, it should be placed in **1.** This prevents the car from rolling or being pushed.

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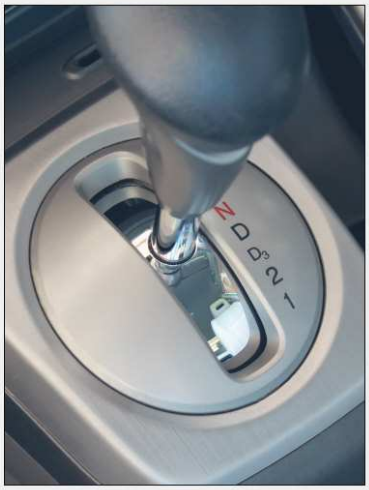
Automatic Transmissions

On the right is an example of an automatic gearstick. Yours may look different - there are visual differences for almost every make and model of car. Yours may in fact look quite different to the one pictured here!

The advantage of the automatic car is that gear changes are automatic. Once you place the car in **D (Drive),** it handles all other gear changes for you (other than **Reverse).** You don't need to touch the gearstick until you come to a stop, and there is no clutch pedal to worry about.



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Automatic Transmissions

Perhaps your gearstick looks a little more like this one.

You can manually move the gearstick up or down forward gears if you wish, as the car is travelling, but this is optional and almost never needed.

Automatic cars generally only have one to three forward gears available (although some have more). But in an automatic, the amount of gears is almost not relevant, as the car itself decides what gear it should be in at any given time.

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Automatic Transmissions

The symbols on the automatic gearstick area stand for:

- **P - Park.** Place the gearstick in **P** when you have parked the car and are leaving it. It cannot be driven in **P.**
- **R - Reverse.** Place the gearstick in **R** if you wish to travel in reverse.
- **N - Neutral.** In **Neutral,** the engine can run, but is not connected to the drive train, so the car will not be moved by the engine. In **N,** the car can still roll.
- **D - Drive.** Place the gearstick in **D** once you have started the car (it will not start if the gearstick is in **D),** and let the car do the rest.
- **2 - Second gear (and possibly 3).** This is a gear lower than **D.** You can change the gearstick to **2** to get a little more grunt, or acceleration, as needed. *May not be available on some cars.*
- **L - First gear.** This is a gear lower than **2.** You can change the gearstick to **L** if required, for some low end moving power. *May not be available on some cars.*

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The automatic transmission was invented in 1921 by Alfred Horner Munro of Regina, Saskatchewan.

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Automatic Transmissions

Your automatic car may have more than **D, 2** and **L** as the forward gears. It may only have **D,** as in the example pictured here (in fact, while some automatics do have several forward gears, not all are accessible directly by the driver). Nor do they need to be.

Many cars have a gear called **OverDrive** - or similar - as the highest gear in the car. It is generally designed for highway travel, and can often be switched on or off manually.

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Automatic Transmissions

Newer cars are tending to display the current gear in the dashboard area for quick viewing.

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Automatic vs Manual

The Differences?

- Automatic cars make up more than 90% of all cars sold today. Some car models are only available as automatics.
- Automatic cars are generally a little more expensive.
- Manual car owners claim they are more fun to drive, more responsive, and more economical.
- Automatic cars are easier to drive, and require much less effort and concentration.

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Semi-automatics, TipTronic, or Sports Mode

Many car manufacturers also provide *sports mode, semi-automatics, manumatics,* or *TipTronic* (the original, developed by **Porsche)** systems in an attempt to bridge the gap between manuals and automatics.

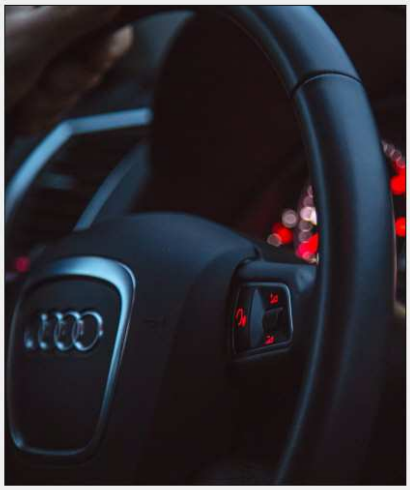
Cars equipped with this transmission can be driven like an automatic, if desired, but optionally can be driven more like a manual.

You can change gears easily, and a clutch is not required. Although it is not quite a manual, it gives the car that more responsive feel that sometimes only a manual car can give. And because it is completely optional, you can still have all the benefits of an automatic car.

Manual Versus Automatic

Steering Wheel Controls

Higher tech cars may have gear changing controls (for automatics, or semi-automatics) located on the steering wheel itself, allowing you to change gears with a flick of a finger.



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Column Shift

Some older cars employed what was known as a **column shift** - where a gear stick was accessible behind the steering wheel. You can see this highlighted in the image on the right.

In essence the same principles applied, it is just the mechanism for changing gears was moved to the steering column from the area between the front driver and passenger area.

This feature allowed some cars to have a large bench front seat that allowed three passengers in the front seat area.

Manual Versus Automatic

In 1980, around 30% of all cars sold were manuals. Nowadays, it is less than 10%.

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The Parking Brake

All cars have a parking brake. This is a hand operated brake, normally situated between the two front seats, in front of the gearstick.

The parking brake is never to be used when the car is in motion. As the name suggests, the parking brake is designed to be used when the car is parked. It will help prevent the car from rolling once parked.

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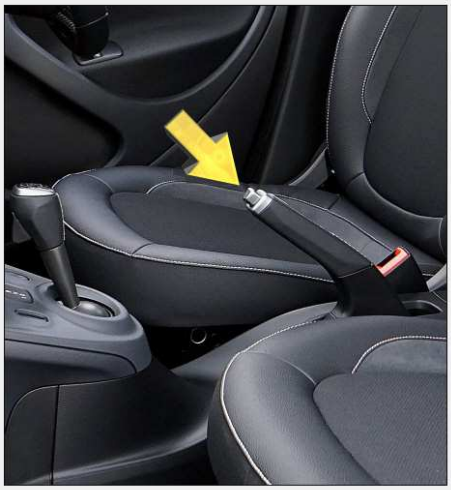
The Parking Brake

A parking brake has a button on its end - indicated in this image.

To use the parking brake, press this button in, and pull the handle up. It does not need to be done aggressively, but with some pressure. Then release the button, and the park brake is activated.

To release the park brake - when you are ready to start driving, hold down this button with your thumb, lift slightly upwards, then release the pressure so that the handle goes down as far as it can. The park brake is then deactivated.



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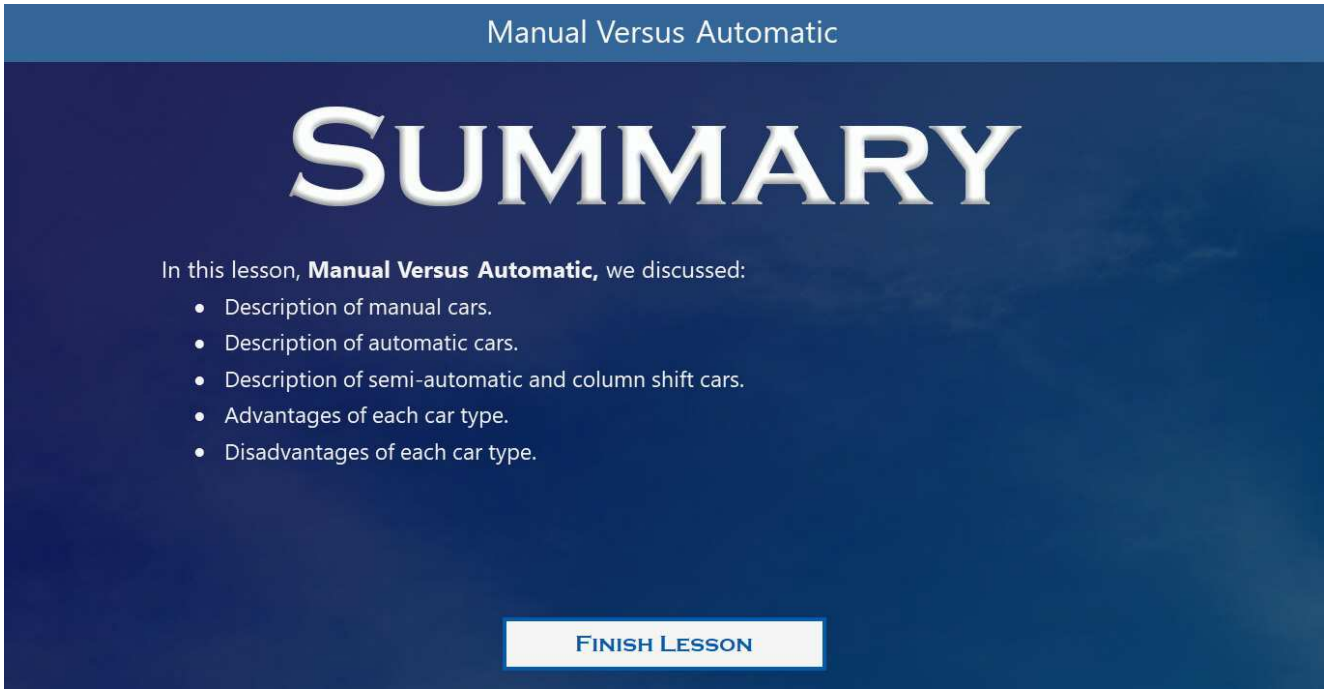
The Parking Brake

If you attempt to drive with the park brake on, you should get a message on your dashboard indicating this fact.

With the park brake on, you may not be able to drive at all, but if you can, it will be very sluggish. And dangerous.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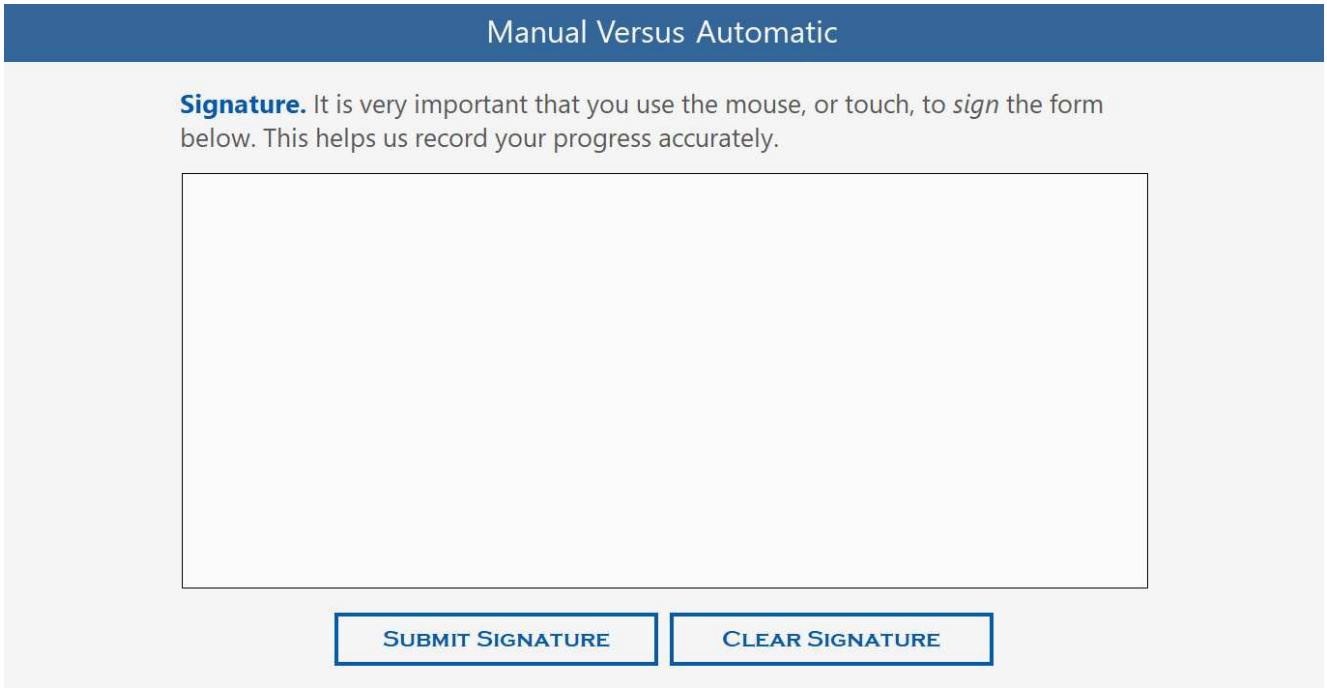
SUMMARY
In this lesson, **Manual Versus Automatic,** we discussed:
• Description of manual cars.
• Description of automatic cars.
• Description of semi-automatic and column shift cars.
• Advantages of each car type.
• Disadvantages of each car type.
FINISH LESSON


Manual Versus Automatic
Signature. It is very important that you use the mouse, or touch, to *sign* the form below. This helps us record your progress accurately.
SUBMIT SIGNATURE
CLEAR SIGNATURE

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