

An Actual Driving Lesson

Learning to drive a manual car



Where are the controls that I might have to use in my driving:

Knowing where the controls are, and being able to locate and use them without looking away from the road is important.

Remember in each vehicle these controls could be in different places:

- Washer and wiper, front and back
- Head lights, high and low beam
- Hand brake
- Demisters, front and back
- Horn
- Hazard lights
- Indicators

How to adjust the seat:

When adjusting the seat in the car:

The clutch pedal located on your left, should be depressed in to the floor and the seat adjusted so the left leg has a slight bend in it (about 15 degrees). **The leg should not be fully extended.**

Push your shoulder into the back of the seat, and put your arms out in front of you at the top of the steering wheel, now adjust the back of the seat so your wrists are on top of the steering wheel rim (not your hand or arm but your wrist).

Most cars now can adjust the height of the steering wheel. Move the steering wheel up or down so you can see the speedo clearly.

How to adjust your mirrors:

The mirrors should be adjusted so when you look into them, you are only moving your eyes not your head.

The centre mirror:

The top of your mirror should run along the top of your back window, you should be able to see the whole back window.

The side mirrors:

On a flat road, you should see road from the middle of the mirror to the bottom of the mirror, and from the middle of the mirror to the top of the mirror you should see houses, trees, sky etc.

The bottom corner near the door of the mirror you should be able to see the back door handle.

STAGE 1

BUILDING A SOLID FOUNDATION

In this part of learning you do it until you get it right. You will do lots of driving and hopefully turn action into habits, fix your mistakes. Repetition after repetition, do the same thing hundreds of times of the correct repetition. (Sounds like fun doesn't it).

Learning the **basic driving skills**

During this stage the focus is on clutch control, gear changes, stopping and starting, acceleration and slowing down and steering (this is the frustrating stage of driving).

Get the licensed driver to drive the car to a clear open road. We need a quiet road with few vehicles - a long straight road is perfect, no intersections.

The safe way to get started

Once a quiet road is found pull over to the side of the road, make the car safe (hand brake on, switch off the car). Change seats so the learner is in the driver's seat and adjust the seat, mirror and steering wheel as demonstrated in that chapter.



What are these pedals on the floor for?

Look down at your feet - you will see three pedals. The one on the left is the **clutch** (in simple terms it basically transmits power from the engine to the wheels). Now that pedal is used by your left leg only - nothing else. The middle pedal is the **brake** (which stops or slows down the car). That pedal is used by the right leg only. The pedal on the right is the **accelerator** (which makes the car gather speed, or give it more power) that is also used by the right leg.

The reason why the right leg is used by those pedals is that you are either braking or accelerating - **you should not be doing both at the same time.** (Stop or go). More important is that your legs hopefully will not get tangled up with each other, if that happens we will be in all sorts of trouble won't we.



Practise gear changes while the engine is off.

While the engine is off let's look at the gear stick and study how we are going to change gears, remember in each car it could be slightly different, your licensed driver will help. It is better to play with them while the engine is off (much safer I think).

Practise going through the gears - first to second, second to third, third to fourth etc. Make sure you've got the clutch in when doing this. Keep practising until you can change all the gears without looking at them. Because when we are driving we should be looking at the road not the gear stick. When you are confident with that, then practise going down the gears. Up the gears, and down the gears.

How to hold the gear stick?

With your little finger to the top, and hand to the right side of the gear knob.

1st to 2nd

3rd back to 2nd

2nd back to 1st

Thumb to the top and hand to the other side of the gear knob.

2nd to 3rd gear

3rd to 4th gear

4th back to 3rd gear

Changing up the gears

When we change gears we do so economically, we are not going for best performance (we are on public roads, not a speedway) this is all about safe driving. (Your licensed driver, I'm sure, would like to get home safely after this practise.)

Again different cars may be different but in most cars when changing up you would change gears about 2000 to 2500 revs (most cars now will have a rev counter, a tachometer). At first keep a check with your gauge to tell you when to change gears, but eventually you will change gears by the sound of the engine without looking at the gauge.

When going up the gears you always start in first and go through each gear.

1st to 2nd, 2nd to 3rd, 3rd to 4th etc. When changing gears get to the correct revs first, then accelerator off with your right foot, then clutch in (it should go down quickly) with your left foot, change to the correct gear then clutch out, (the lower the gear used the slower the clutch pedal is released through the friction point.) Then gently accelerate, one action at a time, but in a smooth flowing action. Pretend you are driving and practise speeding up and changing gears. To ease your stress make the car noise that goes with it. "VT00M VT00M". When you feel comfortable practising **changing up** the gears, and also can change up the gears without looking at the gear stick (we don't want run off the road when we do it for real) we will practise **changing down** the gears.

The common errors to look out for when changing up. If you listen to and feel the car, the car will let you know when something is not right. You just need to understand the car's language.

- Pushing down the clutch too soon before the accelerator is off. The car will rev up; the timing needs to be right. (accelerator off then clutch in)
- Changing up too soon. Make sure the revs are right, 2000 to 2500 rev. The engine will labour if the revs are too low for that gear.
- Bringing the clutch out too fast. The car may jerk around a bit.
- Accelerating too soon before the clutch is out after we selected the correct gear. (Clutch out than accelerate smoothly)

Changing down the gears.

When changing down the gears you can either go down each gear just like changing up the gears or you can do the one shift change that is changing directly into the correct gear. e.g. 4th gear straight into 2nd gear. You simply do that by reaching the correct speed by braking then select the correct gear - it's as simple as that. Some drivers like the feel of changing gears and prefer to change down each gear. *But I myself like to teach the one shift change to save wear and tear on my cars.*

Remember the brake and clutch have no direct link, you may still need to brake while you are already pressing the clutch in to change gears.

To change down, brake to the correct speed and only then put your clutch in, change down into the correct gear then clutch out slowly. The lower the gear slower the clutch comes out. If you don't change at the correct speed you can do damage to the car. Again each car will be different but with most cars you would change down as follows.

4th to 3rd just below 50km

3rd to 2nd just below 40km

2nd to 1st just below 15km

The common errors to look out for when changing down.

- Not braking to the correct speed first. The car will over rev, this can cause damage.
- Clutch coming out too fast. The car will jerk around a bit.
- Selecting the wrong gear. The car will rev up or labour.
- Accelerating before the clutch is out. The car will rev up.

Starting the car, in a manual car.

Make sure you follow this procedure or else the car will more likely to take off without warning. *We don't want any mishaps yet because at this stage we are doing well.*

-**Press the clutch in** (left pedal) with the left leg and hold it down.

-**Make sure the handbrake is fully on.**

Anytime you put your hand brake on always make sure it is fully on, not just partly on. The car may still roll if it is not.

-**Move the gear stick to neutral**

This is the middle position that feels free when moving it from side to side the car is now considered "out of gear".

- **Start the engine with the key**, by turning the key to the right and when the engine revs up let the key go it will automatically spring back; during all of this remember you still got your clutch fully down.

"Congratulations you have now started the car".

Make sure the gear stick is still in neutral and hand brake is on; you can now release the clutch and relax for a minute or two. The car should be idling along (there is no hurry).



“Let’s get the car moving shall we”.

Clutch control is easy to achieve, if you use the right technique and work at it. Some learners may take longer than others to get good clutch control.

I’ve found at this stage, students will pick up good clutch control much quicker if we start off without using the accelerator to get the car moving. We are getting to know the feel of the clutch. Most cars you should be able to do this but if your car won’t allow this, this is fine also, you will skip this part and pick up again we start using the accelerator.

First thing we have to identify what’s called the friction point of the clutch. This is the point when the clutch starts to meet, you can tell by the engine will just start to lose revs, and you should be able to feel the car wanting to go forward. This is the first stage we have to master. When the clutch is fully down to the floor and to the friction point nothing will happen, it’s when you go through the friction point that’s when things will happen. Now remember at this stage we are not getting the car moving, if the car moves then the clutch has come out too far.

- Press the clutch down fully to the floor.
- Make sure the hand brake is off.
- Move the gear stick to 1st gear. (The car is now in gear)
- Slowly, at this stage very slowly lift foot up from the clutch until you hear the engine revs begin to drop, you can also watch the rev counter if you like that will start to drop also. And hold the clutch still. Remember, we are not moving the car at this stage, if the car has moved the clutch is out too far. We are only finding the friction point.
- Clutch back in and relax
- Keep doing this until you can go straight to that point fairly quickly. You may only have to do it a few times or you may have to do it a hundred times it doesn’t matter. The main thing you have to master is finding the friction point. You should instantly recognize the sound of the engine and the feel of the clutch. When you feel confident relax for a few minutes because the next stage all the works begin. Clutch fully in then slowly bring it out until you feel the clutch starts to take.

Now I said this is the most frustrating part of learning to drive; you are going to find out why I said that. Have you got composure again?

We have learnt about the friction of the clutch now we talk about the engagement part of the clutch. That is when the clutch pedal is between the friction point and until it is fully out. This is the hardest part to master. When you feel comfortable with this part we are nearly there.

Two common errors may occur.

- You will bring the clutch out slow, but when you feel the car starts to move automatically you will want to move your clutch out quickly. NOOOOOO!
If you do that that the car will go mad and jump around on you and then stall the engine. As soon as you feel that, immediately put your clutch back in.
- The next error is you will bring your clutch out about 80% of the way slowly and then automatically you want to bring you clutch out quickly. NOOOOOO!
If you do that that you will feel a big kick in the car. We want a smooth take off.

Now we know what things might happen we will try to avoid them. O.K.

Let's do it for real. Remember, we are only working the clutch, nothing else.

Get to the friction point as fast as you like, hold the clutch pedal steady, feel the car moving slowly as you bring the pedal through the engagement of the clutch. You are moving the clutch a centimetre at a time. If the car stalls, slow the clutch down even slower next time. You need to feel the car moving as you take off. Keep doing this until you are happy with yourself.

As soon as you feel the friction point slow the clutch down until you are fully out. Between the friction points and fully out should take about two seconds.

When merging into traffic we will have to move the car faster than that or we are never merging into traffic. So how do we merge into traffic? The car needs extra power - as simple as that.

Just imagine you've got a wheelbarrow full of something heavy (bricks or dirt) - to get the wheelbarrow moving you have to strengthen your muscles up, and give it a big push and when it's moving it becomes easier doesn't it, you've got your momentum going. Same thing with a car. To get the bulk and weight of the car moving it needs extra power; you do that by giving it more accelerator. Makes sense.

Let's take off without the accelerator again, I want to demonstrate something. Bring your clutch to the friction point; now look at your rev counter see what happens when going through the engagement point, the rev counter is dropping, right? It's using up extra power to get the car moving, that's when you need to give it more accelerator to keep the power up to it or else it will stall and then you can take off quicker without stalling the car. Believe me this is the hardest part to master.

Common errors to look out for

Too much accelerator, the car will over rev. That's not good for the engine.

Not enough revs. The car will stall. That's embarrassing.

The clutch comes out too fast, the car will stall.

Let's do this now.

- Get the friction point.
- Bring the rev counter to about 2,000 revs.

- Bring the clutch fully out at the same time keep the rev up to about 2,000 revs with your accelerator. For the first time the clutch and the accelerator works together. This is hard to master.
- Clutch back in.
- Repeat, repeat, repeat as much as it takes to get it right.

You may have to practise that a lot of times before you become comfortable with it.

When you feel comfortable lets go for a drive. Put all our work together that we have practised. Start, stop, up the gears, down the gears. Let's go over it once more.

- Clutch in.
- 1st gear.
- Hand brake off.
- Get the friction point of the clutch.
- Revs up to 2000.
- Bring the clutch out slowly, keeping the revs up.
- When clutch is fully out and at 2,500 rev change into second gear (remember how to hold the gear stick)
- Clutch out, than accelerate
- Repeat until we have gone through the gears.

Now imagine going down the gears. Make sure you are at the right speed before putting the clutch in to change down. You should feel confident now, even though we have only done it in our mind.

We are really doing it for real for the first

(Watch out everybody I'm coming)

- Clutch in.
- 1st gear
- Handbrake off.
- Bring clutch to friction point.
- Check to see if it is safe to merge onto the road (if not wait until it is)
- Revs to 2,000 revs
- Clutch out slowly keeping the revs up
If things feel wrong clutch in quickly and start again.
- Clutch fully out.
- Keeping light on the accelerator bring the revs up to 2,500 revs.
- Accelerator off.
- Clutch in.
- Holding the gear stick correctly change into 2nd gear.
- Clutch out slowly.
If this was not smooth more likely the clutch came out too quickly
- Accelerate to 2,500 revs.
- At 2,500revs accelerator off.
- Clutch in.
- Holding the gear stick correctly change to 3rd gear.

- Clutch out slowly.
- Accelerate to 2,500 revs.
- At 2,500 revs accelerator off.
- Clutch in.
- Holding the gear stick correctly change into 4th gear.
- Clutch out.

We did it for the first time yippee!!!!!!

Calm down! Remember we're driving on the road. Keep our concentration on the road shall we. Let's pull over to the side of the road and start again.

- Check your mirrors for cars behind you.
- Indicate to let other vehicles know what we are doing.
- Brake smoothly and gently.
- When the car slows down to about 40km/h gently move off the road.
We need to get the speed off the car first before moving off the road.
- Clutch in. (Because we are coming to a stop no need to change down the gears)
- Bring the car to a stop (keep your clutch in)
- Select neutral.
- Hand brake on.
- Now release your clutch and relax a bit.

When you are ready let's practice **going down the gears**.

Let's go, show me how you go up the gears, but this time no help from me.

"Well done"

Now we're driving on the road let's go down the gears, make sure before we do this there are no other vehicles around. Only do it if it's safe.

- *Accelerator off.*
- *Brake to about 50km/h.*
- *Clutch in.*
- *Holding the gear stick correctly change into 3rd gear.*
- *Clutch out slowly.*
Lower the gear, slower the clutch comes out.
- *Brake to about 40km/h*
- *Holding the gear stick correctly change into 2nd gear.*
- *Clutch out slowly.*

Now accelerate and go up the gears.

Keep on doing this, up the gears, down the gears, up the gears, down the gears.

Stopping the car where we need it to stop.

While we are on the quiet road let's practise stopping the car where we need the car to stop.

Just imagine we are coming to an intersection with a stop sign. The object is to stop the car close as possible to the stop line without going over the stop line. If we can't do that we are in big trouble, so let's practise this where there are no cars around. What I do is to have an imaginary white line across the road, or better still look at the white guide posts along the side of the road - have an imaginary white line between the white posts. What we've got to do is to stop the car as close as possible, at least within 1

metre of the imaginary line without going over. Can you see why I said start off in the quietest road you can find?

We need to have a smooth stop. Not brake-accelerate-brake situation. Do the bulk of your braking first, then release the pressure on the brake pedals as you get closer. It should feel like you are rolling in. You are only releasing the pressure on the brake, not releasing it fully - if you do that the car will gather speed. It takes practice to know how much pressure to put on the brake pedal and how much pressure to release from the brake pedals.

Common errors to look out for.

Braking too hard, if you do that then you will stop short of your line and you will have to accelerate again to reach the correct position.

Braking too soft, if you do that you will have to brake harder at the end or you finish up in the intersection. That's dangerous. This will be unpleasant for the passengers and dangerous.

Clutch coasting, that's putting your clutch in too soon, letting the car roll for too long, this may cost you demerit points in the driving test.

Forgetting to put your clutch in or putting it in too late. This will cause the car to stall or make the engine labour. We need a smooth stop. Let's do it. When it's safe we will drive off following all the procedures we have learnt.

Right, when you are ready :

- *Have an imaginary line across the road, well ahead of you. Or a tree, or something.*
- *Start to brake*
- *As you get closer to your imaginary line apply more pressure on the brake. If you have misjudged the distance you're coming in too fast.*
Or release the pressure on your brake pedal if you are going to stop short of your imaginary line. We are only working the pressure on the brake pedal not fully releasing the brake pedal, or else the car will gather speed again.
- *Clutch pedal fully in about ten metres before the line.*
- *Bring the car to a stop within 1 metre of that imaginary line but not over it.*
- *Drive off again.*
- *Repeat, repeat, repeat until you have it right and you are happy with yourself.*

Clutch control.

Sometimes going as fast as the idling speed is too fast. What I mean by that is moving in 1st gear without any accelerator is sometimes too fast e.g. doing a parallel reverse park, reversing out of an angle park or driving in heavy traffic. In these situations we need to ride the clutch to make the car go slower. Keep this to the minimum because it's wearing away your clutch faster, but sometimes we have to do this to control the car.

Basically your clutch pedal becomes the accelerator and the accelerator pedal is just to keep the revs up so you do not stall or labour the engine. This how we do it

- *Remember the friction point of the clutch, hold your clutch there*
- *You may need a little accelerator to keep up the revs.*

- Very slowly adjust your clutch pedal to match the speed you need and hold your clutch pedal there.

The more you bring your clutch pedal out the faster the car will go, that is what I meant when I said the clutch will become your accelerator. This will take some practise.

*How's that. Hopefully you will be able to **take control** of your driving. This is the most dangerous part of your driving because you need to stop and start a lot. Always **make sure it's safe** before you do something.*

*I wish you **good luck** and **safe driving**. We still have a long way to go yet. Basic car control may take up to 15 to 20 hours of experience before you are ready for the next stage. At this stage it's only open road driving. Everyone learns at a different pace. Driving instructors can push you a little bit harder because they should have dual controls in their car - you don't. The next stage will be light traffic driving in residential streets.*

Task Requirements	Full Assistance	Some Assistance	No Assistance
Adjust mirrors correctly			
Adjust seat correctly			
Able to identify and operate the car controls			
Start the car safely			
Stop the car safely			
Shut down the car safely			
Good clutch control			
Smooth accelerating			
Able to keep a steady speed			
Smooth braking			
Smooth gear changes			