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Hello and welcome to my new instructable! By reading this I hope you gain the operational and technical knowledge you need to learn how to drive a standard shift car.

But first let's consider the following scenario...

You are a middle-aged paleobotanist on the island of JURASSIC PARK!! Even though things seem okay at first, some evil fat guy has shut down the power to the electric fences containing all the vicious man eating dinosaurs! You are somewhere near the T-Rex pen enjoying a cool glass of water when the ground starts shaking and the water ripples. You turn around to see a very hungry looking six meter tall Tyrannosaurus Rex coming at you at almost thirty kilometers per hour! Luckily, there's a jeep just a few meters away. After making a quick dash, you hop in the driver's seat and turn the key...but nothing happens! As your eyes turn toward the shifter to confirm that it's in 'park' you see

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EcoMotive (/member/EcoMotive/)

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the unfamiliar 'H' pattern of numbers on top of the shift knob. You realize that this jeep is equipped with a manual transmission...and since you don't know how to drive it you can't even get the engine started. It's too late to learn because the T-Rex has already flipped the jeep over and is proceeding to peel off the roof to gain access to it's next snack. Sadly, you realize that this is what you get for forcing your husband to trade in his '64 Corvette convertible for a minivan because you refused to learn.

Don't be caught in this situation! Read on to find out how you could have escaped from the T-Rex's mighty jaws!

Step 1: Advantages of a Manual Over an Automatic Transmission

(http://cdn.instructables.com/FK5/L2YZ/FSMSZBQ2/FK5L2YZFSMSZBQ2.LARGE.jpg)

Most models of cars sold in North America come with the option of having a manual or automatic transmission. Even though the vast majority of cars in North America are automatics, the manual transmission comes with many advantages.

Initial Cost: Manual transmissions are a lot cheaper than automatics. Choosing

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to buy a manual over an automatic saves you an average of $1000, depending on the make and model of the car.

Higher Gas Mileage: Manual transmissions are lighter and normally have more gears than their automatic counterparts. Also, a manual transmission doesn't have a hydraulic pump, which puts a big load on your engine. This can save you between 5% and 15% at the pump, depending on the make, model, driving conditions and driving style.

Lower Maintenance / Repair Costs: Automatic transmissions need regular fluid changes and are vulnerable to fluid leaks which can be very destructive. Many manual transmissions do not require any regular maintenance whatsoever. Repairs are usually more costly on automatics.

Better Control: With a manual transmission, the driver decides what gear to use. The best gear can be selected for the conditions (eg. low gear for going up steep hills or towing). Under these conditions, automatics often shift too high and end up wasting the engine's power.

Performance: In general, manuals have better acceleration and quarter mile times than automatics.

Fun: Automatics are boring as hell to drive. Manuals are fun as hell to drive!

Just a side note. If you have a manual car and for some reason you battery goes dead and you can't start the engine...just get your buddy to give you a little push and you're good to go! Can't do that in an automatic!

Step 2: Familiarize Yourself With the Car and the Controls

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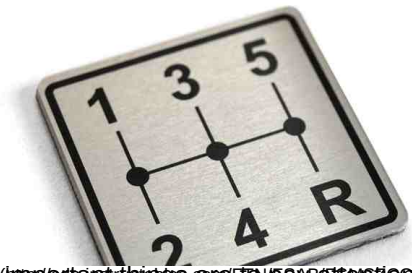
(http://cdn.instructables.com/FTI/5T6C/FSMSZC8J/FTI5T6CFSMSZC8J.LARGE.jpg)

learn how fore attempting to drive a
manual, y all of the other operations of a
car includ signals and windshield wipers.
I guess it' ot safer and easier. You should
also be fa ble to demonstrate good
driving pr



(http://cdn.instructables.com/FON/SAVB/FSMSZC8K/FONSAVBFSMSZC8K.LARGE.jpg)

The most important things are to pay attention and be careful. A car can be a very deadly weapon if not used right and it's not fair if an innocent bystander/motorist has to die today because you were distracted or being reckless.

Three more things:
Never ever ever ever operate a vehicle while under the influence of drugs or alcohol and if you already do I hope the cops find you very soon and nail you to the wall.
Never ever operate a car that has obvious mechanical problems. Look and listen for signs of mechanical defects.
Never use a drive-thru! Get up off your lazy butt and go inside! This saves you lots of gas, lots of clean air and in most cases it saves you time.

Now it's time to take a tour of a standard shift car's driver's seat. I'm only going to make emphasis on the controls directly related to the car's movement. The rest greatly depends on the make and model of the car. Please see the pictures for locations of the controls.

Steering Wheel: Used to alter the direction of the car while in motion. Can be turned clockwise or counter-clockwise to make the car turn right or left, respectively (shouldn't be news).

Tachometer: Provides a readout of the engine speed in revolutions per minute (RPM's). It basically tells you how fast your flywheel is spinning. Located within the center cluster.

Speedometer: Provides a readout of the forward speed of the car in kilometers per hour (KPH). It basically tells you how fast your tires are spinning. Located within the center cluster.

Handbrake: Engages the rear drum brakes without using the master cylinder or hydraulic pressure. Used in case the main brakes fail or to hold the car when parked. Engaged when pulled up or disengaged when pushed back down.

Gas Pedal: The pedal on the farthest right. When pressed in it causes the engine to spin faster and produce more power. Used to accelerate the car. Operated with the right foot.

Brake Pedal: The middle pedal. When pressed in it causes the brake pads/shoes to engage the brake rotors/drums to convert the car's kinetic energy into heat energy. Used to decelerate the car. Operated with the right foot.

Clutch Pedal: The pedal on the farthest left. When pressed in, the clutch disc disengages the flywheel and breaks the connection between the engine and the wheels. When released, the clutch disc re-engages the flywheel and the engine now powers the wheels. Used for short-duration stops and changing gears. Operated with the left foot.

Shift Knob: Used to select the appropriate gear. To select a gear, the knob is moved into the corresponding position of that gear marked on the top of the knob (must be done while the clutch pedal is pressed in). Neutral is selected when the knob is in the center position. The photo shows the shift pattern most commonly found in 5-speed manual transmissions.

By the way, the car shown here is my 2005 Toyota Echo hatchback, which is my absolute favorite car in the world apart from a 2002 Nissan Skyline GTR R-34.

Step 3: What's Going on Under There?

Having an understanding of what is going on inside the engine and transmission while you are using the controls is priceless when learning how to drive. We will look at all of the individual components of the car's powertrain starting with where the power is produced and ending with where it is utilized.

Engine: A device that converts the energy stored in gasoline into mechanical energy and heat. The mechanical energy is used to spin the flywheel and in Canada the heat energy is used to defrost your windshield.

Flywheel: A spinning disc on the outside of your engine that is used to deliver rotational energy to the clutch. It is the output of power from your engine.

Clutch: A disc that it attached on one side to the flywheel and on the other side by the transmission. The attachment of the clutch to the flywheel can be broken or made by pressing in on or releasing the clutch pedal, respectively.

Step 4: Starting Off

The best place to try this is in an empty parking lot with very flat and level ground and plenty of room around the car. You should have somebody who knows how to drive the car bring you to a location like this. When you first sit in the driver's seat the engine should be off with the shift knob in neutral and the handbrake engaged. It's now time....

With your left foot, press the clutch pedal in all the way. Turn the ignition key clockwise all the way to "start" and hold for about one second until the the engine turns over. Release the key. If the shift knob is still in neutral you may release the clutch pedal at this time.

Have a look at the tachometer and take note of the RPM readout. It should be holding steady at around 700 to 1000 RPM, depending on the car.

Use your right foot to press and hold the brake pedal. Grasp the handbrake and pull up slightly while pressing the button with your thumb. When the button goes in, push the handbrake all the way down. Release the brake pedal and check to see if the car rolls. If the car stays put you can leave the pedal alone. If the car rolls you should find another spot.

Use your left foot to press and hold the clutch pedal all the way in.

Use your right hand to move the shift knob from neutral to first gear.

Slowly start to release the clutch pedal. At a certain point you will feel a vibration in the pedal and will see the RPM decrease slightly. This is the friction point where the clutch disc and the flywheel make first contact. The car may also start to creep forward. When you come to this point, don't release the clutch pedal any more.

Press the clutch pedal all the way in again and press the brake pedal to stop the car if necessary. Practice the previous step until you can quickly release the clutch pedal up to the friction point and hold it there. If you stall the engine, you must press the clutch pedal in all the way and turn the key.

Now lets get down to business. It's time to get the car moving up to a significant speed. To get the car moving, you're going to have to give it a little shot of gas. You should aim for an engine speed of about 1500 RPM when you reach the friction point. That means you'll have to press down on the gas pedal while releasing the clutch pedal at the same time.

Press the gas pedal in a TINY BIT while releasing the clutch to the friction point at the same time. This time the car will start moving forward when the friction point is reached. Hold the gas pedal where it is while you slowly release the clutch pedal out all the way.

Once the clutch pedal is out all the way and the car is moving you have just made a mockery of the hardest part of driving a standard shift... Starting off from a dead stop.

Now feel free to drive the car around a little bit. Accelerate a bit until the engine starts to make a lot of noise. As long as your speed stays between 10 and 30 KPH it should be just like driving an automatic (by that I mean you do not have to operate the clutch or change gears).

To come to a complete stop, use the brake pedal to slow down until your speed

reaches zero. Before the car stops, you must press and hold the clutch pedal all the way. Repeat the previous two steps until you can confidently start off from a complete stop.

To park the car, move the shift knob into the neutral position and engage the handbrake by pulling it up all the way.

I actually lied a bit about the hardest part about driving a standard. The hardest part is to start off from a dead stop while rolling backwards down a hill. You have to find the friction point quickly because the whole time you're looking for it you'll be rolling backwards...possibly into the car behind you. Also, a bigger shot of gas is needed while you are releasing the clutch pedal past the friction point. Practice makes perfect...you should probably try this in a safe spot before you attempt it in traffic.

Step 5: Accelerating and Moving Up Through the Gears

If you've mastered the previous step "Starting Off" you would probably have a good chance at escaping from the T-Rex at Jurassic Park (assuming it has a top speed of about 30 KPH which is what most paleontologists say it is). Although if you remained in first gear over the entire pursuit you could run out of fuel long before you're safe. And it's possible that you'd end up blowing the engine. So not knowing how to shift up from first gear is very very bad. So let's see how it's done...

Again it's best to try this in an open, flat area such as an empty parking lot. We'll start the procedure from when the car is parked. The first little bit wont be in any great detail since it's covered in the previous step "Starting Off".

Fasten your seatbelt.

Press in the clutch pedal all the way to the floor and hold.

Turn the key to start the engine.

Press in and hold the brake pedal. Disengage the handbrake.

Move the shift knob from "neutral" to "1"

Move right foot from brake pedal to gas pedal. Press gas pedal a TINY BIT while quickly moving the clutch pedal to the friction point. Slowly release clutch the rest of the way while holding the gas pedal down a TINY BIT.

Once the car gets going, apply more force to the gas pedal to get the car to accelerate.

As the car accelerates, the engine speed (the RPM's on the tachometer) will keep increasing until the engine becomes very loud. This is when you should shift up. The precise time you shift depends on your driving. For good fuel economy you should shift up at about 3000 RPM. For racing you'd wait until the tachometer almost touches the redline before shifting.

When you decide it's time to shift up:

Release the gas pedal.

Press the clutch all the way to the floor and hold.

Move the shift knob from "1" to "2".

Quickly release the clutch to the friction point and slowly release it the rest of the way.

Apply force to the gas pedal to get the car to accelerate.

You may notice that shifting to second caused the engine speed to go down. Now the car can accelerate to even higher speeds without revving the engine too much. When the engine does start to roar however, you follow the same procedure as shifting from first to second. The only difference is you shift from second to third or from third to fourth and so on.

Here are some good "rule of thumb" shift points if you want to get good fuel economy and maximize the life of your car. Again, the exact shift points that are best depend on the make and model of the car.

1st to 2nd - 15 KPH
2nd to 3rd - 30 KPH
3rd to 4th - 50 KPH
4th to 5th - 60 KPH to 100 KPH

The reason the last shift point has a high range is because the fifth gear is what we use as the "holding gear". Whatever our final speed is, we use fourth gear to reach it and then we shift into fifth once we are there. We remain in fifth gear the whole time we cruise at that speed.

Step 6: Decelerating and Moving Down Through the Gears

Now that you are able to obtain high speeds in your standard shift vehicle, you must know how to properly slow it down and stop it. I guess it doesn't make much sense to use a car if all you can do is speed past your destination without actually stopping there.

When driving at a given speed in a given gear, slowing down causes the engine to slow down also. If you slow down too much, the engine speed will eventually drop so low that it will lug and eventually stall out. At this point, you need to increase the engine speed by shifting down into a lower gear.

Here are some general "rule of thumb" shift points when decelerating. Again, the exact shift points that are best depend on the make and model of your car.

5th to 4th - 70 KPH
4th to 3rd - 50 KPH
3rd to 2nd - 30 KPH
A downshift from 2nd to 1st gear is not necessary. You may use 2nd gear to slow all the way to a stop, just remember to shift into 1st before starting off again.

The correct procedure for downshifting:

Press the brake pedal to decelerate to your downshift point.

Press in and hold the clutch pedal all the way to the floor.

Move the shift knob from the current gear to the one below it.

Quickly release the clutch pedal to the friction point and slowly release it the rest of the way.

Continue braking if necessary.

Step 7: Good Driving Practices

Using common sense, being careful and taking the time to check over your car on a regular basis can save you many things such as money, gas, wear and tear, frustration and even lives.

Standard transmission-specific good driving practices:

Don't use the clutch pedal to hold the car on a hill.

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Please be positive and constructive.

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1-40 of 41 Next » (http://www.instructables.com/id/How-to-Drive-a-Manual-Standard-Shift-Transmissio/?&sort=ACTIVE&limit=40&offset=40#DISCUSS)

chaiwad21 (/member/chaiwad21/) 7 months ago Reply (C1MBI2XHS61AI9V)

(/member/chaiwad21/)

okay so my friend also have echo and the gearshifting need to be quick in 1st 2nd 3th and he try driving on his dad (Holden Commodore) the 1st gear go up to 60kph with 2500RPM and 2nd up to 70,80kph with no problem so changing gear with the speedometer is not my option but I prefer changing when the engine is in 2000rpm but if in the hill area might be about 3000rpm but as a car you got..... cheer...

fchow2 (/member/fchow2/) 9 months ago Reply (CIXP46XHPOM38GW)

(/member/fchow2/)

this comment is more about driving experience than driving skills. say when waiting for a gap to turn left, this does not require any drag racing clutch technique. instead, it is 90 percent planning. I generally do a gentle launch going straight before a gap opens up. when after the first car passes by, and only if my foot is completely off of the clutch pedal, I turn the wheel and lay on the gas to go between the gap. in no circumstance would I turn the wheel while still releasing the clutch as there is a good chance to stall in the path of a bus.

EcoMotive (/member/EcoMotive/) (author) fchow2 9 months ago Reply (CKPSUG9HPPSA3CR)

(/member/EcoMotive/)

This is a great technique

whenever the opportunity presents itself but unfortunately it rarely does in moderate to heavy traffic. Even in light traffic whenever one finds oneself in the downtown area or during the winter, the view down the street is impeded by buildings or snow banks, respectively. You really have to edge up into the intersection to see and that leaves very little space for a slow takeoff. Regardless of how often a fast takeoff is necessary if someone is driving a manual through public streets they better know how to do it or they might eventually end up in a heap of twisted metal. It's best to learn right from the first time ever sitting in a manual car by getting on that gas pedal as they release the clutch. Afterwards experience will allow them to drive more gently and economically. At least, that's how it was for me. Thanks again for your comments.


(/member/fchow2/)

fchow2 (/member/fchow2/) 9 months ago Reply (CA3OI2WHPN4LF10)

I agree with adding gas while bringing out the clutch from the friction point, but your instructable said to add gas as the clutch goes the friction point. Those are two different techniques. Also, keeping the rev low is not the same as a slow start. there were many times when I had the clutch at the friction point, wheels rolling, while the car next to me just sat there with its engine revving. besides, keeping your rev low doesn't mean treading lightly on the gas. it means adding as much gas as appropriate while letting out the clutch to keep the engine from revving too high from idle. it is a delicate balance between letting your rev get too high (> 1.2k rpm) and stalling


(/member/EcoMotive/)

EcoMotive (/member/EcoMotive/) (author) fchow2 9 months ago Reply (CMVMMGKHPO2FE8V)

Well then we agree on most points. While I was driving today I was taking note of what I was doing and indeed the tachometer readout was much less than 1500 rpm. It's a lot different actually driving the car than it is to sit on the computer typing out instructions. In fact a good, quick and smooth start requires only about 100-200 rpm over idle. Nevertheless, getting going in a reasonable amount of time does require SOME use of the gas pedal, the specific conditions dictate exactly how much. My Volkswagen Golf is only a

couple of months old and has a diesel engine that can produce more than 250 ft-lbs of torque. Even that car takes forever to get going with the clutch only. If I were turning out into a busy expressway from a side street with the clutch only I'd be asking for someone to smack into me.
As this instructable is aimed at beginners I figured I would write about a good beginner's technique for bringing the clutch through the friction point. Having a little extra rpm's while the clutch is being engaged would be helpful in preventing a stallout. As they get better at clutch control they can ease back on the throttle. Perhaps I shouldn't have assigned a numerical value since it's different for every vehicle.
The car I learned on, and drove for the first two years after I got my license didn't even have a tachometer. I had no idea what the engine speed was I went by the noise of the engine and the feel of the car.


(/member/fchow2/)

fchow2 (/member/fchow2/) 9 months ago Reply (C7WASR8HPLSPAXY)

this is the reason why I don't let any one drive my car except for my wife. you don't need to add gas before the clutch is at the friction point. even then, you need to release the clutch to keep the rev low, close to idle. for a car such as the echo, 1k was enough. anything more than that just unnecessarily wear on the clutch. there were times when I had to use 1.5k of rev to start-when starting on the steepest hill in San Francisco. after 150k miles, I sold my xB, essentially a box shape echo, with the factory' s clutch.


(/member/EcoMotive/)

EcoMotive (/member/EcoMotive/) (author) fchow2 9 months ago Reply (C1RYS4HHPN4L666)

I didn't say anything about applying the gas pedal before reaching the friction point. What I did recomend was feathering the throttle slightly while bringing the clutch out from the friction point. I know you don't HAVE to do this but it gets you going quick enough for heavy city traffic. If you don't do this then good for you but I'm glad I'll never be stuck behind you waiting for you to get going on a green light. My Echo has 175 000 hard driven kilometers. Most of it's use over the last three years was hauling heavy building materials for my house across a city well known for it's

treacherous driving conditions.The factory clutch is still fine. Thank you for your comments.


(/member/TheMrCOOLguy2/)

TheMrCOOLguy2 (/member/TheMrCOOLguy2/) 1 year ago Reply (CU79QTQHK1DFACY)

Check out my intractable!!!


(/member/TheMrCOOLguy2/)

TheMrCOOLguy2 (/member/TheMrCOOLguy2/) 1 year ago Reply (CQV6W07HK1DFACN)

Thank you for your quick answer
Always appreciated
I am now following u


(/member/TheMrCOOLguy2/)

TheMrCOOLguy2 (/member/TheMrCOOLguy2/) 1 year ago Reply (C2YF4YTHK1DF9WO)

Very cool thank you for this
Do u know if it is basically the same thing on a 4 wheeler? :) thank you


(/member/EcoMotive/)

EcoMotive (/member/EcoMotive/) (author) TheMrCOOLguy2 1 year ago Reply (C1ODRRRHK1DFA1F)

Hi, I don't have much experience on 4 wheelers but I think the general idea is the same. The main difference is that you select gears with a foot operated lever. The gears are in a sequential pattern rather than a "H" pattern. The clutch, if any is disengaged by squeezing the lever on the left handlebar. I'm not completely sure about this but I think that's how it goes. Thanks for your question.


(/member/L+M+May/)

L M May (/member/L+M+May/) 1 year ago Reply (CDV9V15HAQ3BGYO)

Thanks for this very informative article. It was very much appreciated by this reader who has never driven a manual in her life!


(/member/zack247/)

zack247 (/member/zack247/) 2 years ago Reply (CUDIU1DH0OIZQP9)

now i just need to drop in a new engine and i can practice driving my mustang :D

my first time driving manual i had no clue on starting from a dead stop. that was about the only place i ever stalled the car too, was starting from a dead stop.

to be honest each time that happened it was a "holy s*** what did i just do" moment, since ive always driven an automatic before. seeing as how ive ony driven manual once, im not going to give up on it though. and since manual cars get better fuel economy, itd probably be better for me to drive anyways :P


(/member/shteef/)

shteef (/member/shteef/) 2 years ago Reply (CUR8ECTH0RWIL1Y)

America is one of very few countries left, were a driving license for an auto allows you to drive a manual. Other inaccuracies in this article are numerous.

Of the majority of vehicles built in the last three years, autos accelerate faster, are more efficient and give better economy. No matter what your opinion is, it is a fact that computers running your gear box have more ability than you do to judge the best gear to be in. Please base your articles on facts not just your clouded opinions. You are correct that autos are generally more expensive than manuals when purchased, although the hold their value better too.


(/member/EcoMotive/)

EcoMotive (/member/EcoMotive/) (author) shteef
2 years ago Reply (COHPZS6H0OIZO0Q)

So even if you are correct about autos in the last three years being quicker and more efficient... does that make every car made between 1908 and 2009 not count anymore? If thats the case, I wonder why sports cars are always manual and minivans are always auto? I wonder why the EPA fuel consumption estimates are always better for manuals than for autos? Please base your comments from an objective point of view and not from the inside of your ass, which is where your head seems to be stuck, in my opinion. Thans for commenting.


(/member/l8nite/)

l8nite (/member/l8nite/) 2 years ago Reply (CMOM6ZAH0AR6V5H)

Nicely written "ible". Personally, if I have to give a "little" gas when starting out then the vehicle must be on an incline, if the vehicle is tuned properly then simply releasing the clutch will allow it to begin moving. I seldom use the clutch for anything besides starting and stopping unless it's to speed shift under hard acceleration and even then it's not always necessary but then I was taught to drive on soft beach sand when I was strong enough to depress the clutch on a 5ton truck and have driven everything from a 3spd to a 21 spd


(/member/EcoMotive/)

EcoMotive (/member/EcoMotive/) (author) l8nite
2 years ago Reply (CINWM33H0OIZAKY)

I agree that releasing the clutch pedal without giving the car some gas will allow it to creep forward. However while in traffic you need to get moving a lot quicker than an idling engine will allow and this is why I say that you need to give the car some gas. Thanks for commenting.


(/member/Kiteman/)

Kiteman (/member/Kiteman/) 2 years ago Reply (CZDVNC9GZSNYU10)

"I guess the first thing you should do when learning a manual transmission is to learn how to drive an automatic transmission. "

Nope.

In the UK, if you learn on an automatic, you are not allowed to drive a manual until you have taken another test.

Learning on a manual gives you a much better feel for the way a car responds in different conditions. Learning an automatic first creates a whole

set of reflexes and responses that simply do not work in a manual car. Even things as simple as braking a manual car with automatic-car reflexes are far harder.

(British breakdown companies around airports are constantly having to deal with US visitors who have hired a manual car and and simply cannot cope because there are too many controls to think about at once - burned-out clutches and gear-boxes, over-heated engines, the works.)


(/member/EcoMotive/)

EcoMotive (/member/EcoMotive/) (author) Kiteman
2 years ago Reply (CF60HI4GZSNYWG5)

Thank you for your comment but I have to strongly disagree.
Regardless of the rules in the UK, you are much better off learning how to drive a manual when you're already framiliar with driving in general. Being able to change your "automatic habits" while in a standard is just part of learning. All cars are different anyways and the ability to get used to changes is required of all drivers.
Can you imagine not being able to cope with all of the controls at once while at the same time driving through a large busy intersection for the first time and not knowing where to go or whether to take or to yield? It's an accident waiting to happen whereas a person who is already familiar with driving in an automatic can at least navigate the intersection safely; the burned out clutch is another story.


(/member/yakeru/)

yakeru (/member/yakeru/) EcoMotive 2 years ago Reply (C70HSCQH006CD4D)

I agree with Kiteman, why start learning on an automatic first, and then forget what you learned to learn everything again on a manual? Managing the gearbox is by far the most complicated thing when learning. Adding a steering wheel and two pedals won't change much. So dont lose time learning on an automatic, start immediatly with a manual. Almost everything has to be done differently on a manual, being perfectly comfortable with the gearbox while being able to manage all the other commands, and the trafic, takes lot's of practice.
Of course the learning curve is not the same, and you must avoid trafic at the beginning.
In France (and probably in whole Europe), everybody learns on a manual, and everybody manage to get its driving licence at age 18, so its feasable :-)


(/member/EcoMotive/)

EcoMotive (/member/EcoMotive/) (author) yakeru
2 years ago Reply (CIMFU74H00R4WOQ)

I don't see what there is to forget about when you go from automatic to manual. I own two cars, one automatic and one manual and both of them I drive on a daily basis. I have no problems driving either. It's more

or less the same thing but you're adding a new task of operating the transmission while driving. It's almost as if by going from automatic to manual you're learning to walk before you run. I'm not saying it's beyond human ability to learn how to drive on a manual first but I think an automatic first makes learning a manual easier because you only have to focus on one new skill at a time, first how to navigate busy streets and intersections and second, how to operate the transmission. Here in North America, the vast majority of cars are automatics, so most young drivers who have to learn on their parent's cars have no choice but to drive an automatic first anyways. Finally, an ideal driver would know how to drive both an automatic and manual, but using your logic it would also be wrong to learn on a manual first and then on an automatic second. Thanks for your comment.


(/member/dtorreilles/)

dtorreilles (/member/dtorreilles/) EcoMotive

2 years ago Reply (CAJZWS8H0A28633)

Yakeru says:
What you say makes sense. But I'm afraid that somebody who is used to an automatic car, in case of emergency, will press on the brakes as hard as he can, and simply forget to shift the gears down or press on the clutch ... and wont stop at all...
When you are used to something and learning something new, it takes lots of time to change your habits.
Moreover, old reflexes often comes back when facing unusual circmstances.
If ou are used to a manual car and you are loocking for the clutch pedal, during one second before you realize that ther is no pedal, while braking, it is not really dangerous.
But when you are used to an automatic, and you forget to change gear while breaking on a manual car, that can be dramatic...
Nothing that you learned on a manual could be dangerous on an automatic, the contrary is not necessarily true...
Thats why I believe that begining with a manual car, to acquire the more complex reflexes immediatly, is ideal, when you have the choice :-)

EcoMotive (/member/EcoMotive/) (author) dtorreilles


(/member/EcoMotive/)

2 years ago Reply (CBMPJKRH0AR6NQB)

When you slam on the brakes in a manual without pressing the clutch pedal or changing gears the engine will stall out but the car will come to a stop just as fast as when you remember press the clutch. It has to be that way; the one and only control needed to stop a car is the brake pedal or else the car wouldn't be legal on the road. Having to restarting motor is another story.
I'm sorry but I just can't see the danger caused by these automatic "habits" that you can "carry over" to a manual. Maybe it's because nether I nor anybody I know that can drive a manual has ever experienced them.
The difference between an automatic and a manual is really small, I mean it really is. It's the same thing as borrowing your friends car and the brakes or the gas pedal might be a bit more touchy or a bit more soft than yours. Or maybe it handles a bit differently... but you get used to it. And no matter what the car is like, the gas pedal makes you go, the brakes make you stop and the steering wheel makes you turn. Your driving instincts will do the rest.
Thanks for commenting.


(/member/Kiteman/)

Kiteman (/member/Kiteman/) EcoMotive 2 years ago Reply (ClO37XFH0DM2LDJ)

Mashing on *just* the brake pedal in a manual car gives you a stopping distance FAR longer than brake+clutch.

British garages around airports are full of cars trashed by American tourists who cannot cope with that extra pedal and the peculiar stick thing poking up through the floor.

(I don't know anybody who died in a plane wreck - does that mean it never happens?)


(/member/armstrod/)

armstrod (/member/armstrod/) Kiteman 2 years ago Reply (CL9TSASH0OJ2AO4)

"Mashing on just the brake pedal in a manual car gives you a stopping distance FAR longer than brake+clutch."

Not true and contradicts the UK's own DSA advice on the matter. In an emergency brake as hard as you can and only clutch at the end to prevent stalling unless your cars manufacturer specifically advises otherwise because of a poor ABS algorythm.

De-clutching means the loss of engine braking, delayed response time, potential destability from the differential disengaging and prevents engine inertia (different force to engine braking) assisting in preventing rear lockup and further destability.

Lack of experience on any form of machinery is of course dangerous, whether ramping up a skill set via less complicated machines is a safer approach than being trained from the outset on the more complicated device is open to debate, the greater issue is more the practice of UK hire companies agreeing to lease manual cars to people who don't hold manual licenses.

Regardless of that, whilst the internet is a great place for expanding theories, when it comes to something like emergency braking procedures in an instructable aimed at learner drivers, I'd suggest presenting unproven personal opinions on the matter as opinions not facts.


(/member/Kiteman/)

Kiteman (/member/Kiteman/) armstrod 2 years ago Reply (CHEHMEOH0OJ5OOQ)

Unproven, except by over a quarter of a century of driving experience, taught to drive by a rally driver, no "proper" accident since my first year driving.


(/member/armstrod)

armstrod (/member/armstrod/) Kiteman 2 years ago Reply (CBWFTS7H0OIZ9P7)

I'm sure the DSA will be very glad to hear from you then. Those multimillion dollar studies they're currently using to prove the best methods are an uneccessary burden on their budget if they could just use 25 years of general driving experience and a rally course as the basis for their emergency driving publications.

I've pointed out that your contradicting official govenment safety advice from your area and described four effects that have been internationally proven and documented, but even better than me repeating myself, seeing as you've been on a rally course what did the instructor say about clutching whilst at threshold grip? If it went anything along the lines of what I used to teach my students (I was a circuit instructor not rally, but there's quite a lot of crossover) it would have gone something like unless your deliberately trying to destabilise your car... dont. That is also the reason why you dont see the BTCC and F1 drivers holding the clutch in whilst downshifting in their braking zone, believe me if just riding the clutch through the braking zone was faster and safer we'd do it.

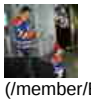
I'm not interested in turning this into yet another debate on the internet, and I believe I've written enough and provided enough reputable sources for someone reading these comments to make an informed decision or investigate further for themselves, so I'm gonna finish up by saying as a widely respected employee and contributor of Instructables, commenting on emergency braking techniques in an instructable aimed at learner drivers, to an audience the majority of whom will be at some point in charge of a car on a public motorway, think very very hard about whether the information your presenting should be worded as your personal opinion or as a proven fact coming from an employee of this website.


(/member/Kiteman/)

Kiteman (/member/Kiteman/) armstrod 2 years ago Reply (CO2CXG0H0OJ5WWM)

I'm not an employee, and that "official advice" does not appear to have reached the people who administer the driving test - if you do not hit the clutch before the brake during the emergency stop test, you can fail your test.

(Are you aware that much of your advice only counts for rear-wheel drive cars? And that most manual cars are front-wheel drive? I didn't think so.)


(/member/EcoMotive/)

EcoMotive (/member/EcoMotive/) (author) Kiteman 2 years ago Reply (C4WT1A6H0DM2LKV)

One more thing is, you don't know the real reason why those cars crashed because you weren't there, you can only speculate. Just because you

assume that they couldn't handle the transmission doesen't make it true. I would guess that some bad local drivers and the sudden change to driving on the "wrong" side of the road and "wrong" side of the car had something to do with at least some of the crashes.


(/member/Kiteman/)

Kiteman (/member/Kiteman/) EcoMotive 2 years ago Reply (CJ0U88EH0DM2MTL)

I didn't say crashed, I said *trashed*, and I do know because I've spoken to the men who make their living fixing the mess - cars driven for a full day in first gear, burning out the gear-box and over-heating the engine are typical.


(/member/EcoMotive/)

EcoMotive (/member/EcoMotive/) (author) Kiteman 2 years ago Reply (COQPS8NH0A2HJTD)

Alright I apoligize I misunderstood you. However, what you're speaking of is a matter of learning on an automatic and then attempting to drive a standard without ever learning on one in the first place. It's a different situation when you learn on an automatic first and then learn on a manual second eventually becoming skilled at operating both types of cars. If every American did that before coming to the UK you would never see another burned out clutch from one of them again.
I'm a Canadian by the way, just in case you thought I was American.


(/member/EcoMotive/)

EcoMotive (/member/EcoMotive/) (author) Kiteman 2 years ago Reply (CUFPTL7H0DM2LIS)

That may be true but once you've learned how to drive the manual you would indeed remember to press in on the clutch like it was second nature, even if you learned on an automatic first. Thats the beauty of learning, it changes your behaviour and allows you to do things you couldn't have before.


(/member/im3733/)

im3733 (/member/im3733/) EcoMotive 2 years ago Reply (CHMZJARH00R4W8H)

I do agree that learning to drive, and becoming familiar with the rules of the road, the flow of traffic, etc. allows you to focus on driving the car specifically, thus somewhat simplifying the learning process. However, if one learns to drive with a standard transmission in an area where traffic

rules aren't as likely to become a problem (i.e. a parking lot), then learning the rules of the road is simplified because you aren't trying to learn how to use the car... I think ultimately it's one of those "6 of one, half-dozen (not baker's dozen) of the other".


(/member/pfred2/)

pfred2 (/member/pfred2/) 2 years ago Reply (CIRLIIBH00673J8)

Manual transmissions are OK unless you've a large motor, or drive in traffic, or bracket race. Then you're much better off with an automatic.


(/member/coolpizzadude/)

coolpizzadude (/member/coolpizzadude/) pfred2 2 years ago Reply (CZLK7A6H006IWUL)

Apparently you've never driven an auto with *"a large motor, or drive in traffic, or bracket race".* I have owned auto and I personally have had nothing but bad luck with them. I think it's ether the car you owned or your driving style that makes you suggest such a thing. I have owned 3 manual cars with over 200k on them (hard city miles) and never once did they have a trans repair. On the other hand I have had two autos with less mileage and blown trans. Oh and both cars were the same make and model.


(/member/sinyami/)

sinyami (/member/sinyami/) 2 years ago Reply (CDK5SF4H006AEOH)

Hi. This is sinyami. Can anybody instruct me on tiptronic cars? How do you shift down if you brake suddenly in an emergency? I just press clutch and shift into neutral to stop a manual from jerking or stalling. What if you are in tiptronic mode in an auto car?


(/member/EcoMotive/)

EcoMotive (/member/EcoMotive/) (author) sinyami 2 years ago Reply (CQ7X7RYH006AF0S)

I've never driven a tiptronic car before but I'm pretty sure most cars have a computer that will override the driver's control and automaticly shift up if the engine revs too high or shift down if the engine starts to lug. Or maybe the computer selects the shift points based on speed; I'm not sure. At any rate, I guess you can still operate the button to shift down while hard braking. Nevertheless, in an emergency the main thing is to bring the car to a stop as quickly as possible, if the engine stalls that's the least of your concerns.


(/member/sinyami/)

sinyami (/member/sinyami/) EcoMotive 2 years ago Reply (CIV3MVVH00R4WP7)

Thanks lancepenney. Already sounds like it lacks the finnesse of a manual. Guess you are right anyway.

knowboddie (/member/knowboddie/) 2 years ago Reply (C6V1HRPH006ADYD)

(/member/knowboddie/)

This is a great instructable! I am a new driver and am trying to familiarize myself with many different vehicles. This is a very helpful guide and i appreciate you posting it.

Phil B (/member/Phil+B/) 2 years ago Reply (CT8QHT2GZQR3T84)

(/member/Phil+B/)

I was raised on a farm. Our tractor used a clutch and manual transmission. I became familiar with using a tractor's clutch at about seven years of age. The use of a clutch in an automobile has a few similarities with using a clutch on a farm tractor, but also some stark differences. My parents always felt my brothers and I (we had no sisters) needed to know how to drive a manual shift transmission in case an accident occurred and one of us was the only person who could drive an injured person to a hospital. It seems that would be a good rationale for everyone knowing how to drive a manual transmission.

In regard to a clutch and manual transmission requiring less maintenance, I would say that depends on the type of springs used in the clutch. Finger springs eventually break off and the clutch needs replacement. In my experience that seems to happen around 75,000 miles, give or take. I had an older car with coil springs in the clutch and the clutch was still fine at 130,000 miles. Most newer cars use the finger springs.

Thank you for your Instructable. It is possible for someone to teach himself how to drive a manual shift transmission. I think it would be a little easier to have someone experienced teach a new driver, though.

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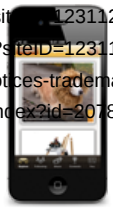

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