RIDING THEORY BOOKLET

OFFICIAL HANDBOOK

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RIDING SKILL

RIDING UNDER VARIOUS ROAD CONDITIONS

DEFENSIVE RIDING

GENERAL KNOWLEDGE

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INTRODUCTION

INTRODUCTION TO RIDING A MOTORCYCLE

Riding a motorcycle can be great fun and is enjoyed by people of all ages. However, riding on the road means accepting responsibility for yourself and showing due care and consideration for all other road users. Compared with driving other vehicles, riding a motorcycle puts you at greater risk from other road users. Safe riding calls for total awareness of what other road users are doing and the ability to "communicate" with them. The correct attitude towards riding will make the road a safer and more pleasant place for pedestrians and motorists alike.

During the initial stages of learning. It is essential that learner riders cultivate the right qualities and learn the right techniques. Mistakes which are repeated will become habits which cannot be easily corrected.

TRAFFIC ACCIDENTS

1. As compared to driving a car, motorcycle riding requires greater skills and control. A motorcyclist is also less visible on the road, and is more prone to sustaining injuries in accidents, due to the lack of protection provided by an outer shell.

2. Riding is a chain process involving perception, judgement and reaction. Since most accidents are due to poor perception and poor judgement on the part of riders, accidents can thus be easily avoided if riders were to anticipate and react in the proper manner. Proper planning and observation (perception), correct analysis and decisions (judgement of varying road traffic situations) are therefore essential if you were to avoid accidents.

CLASSES OF DRIVING LICENCES

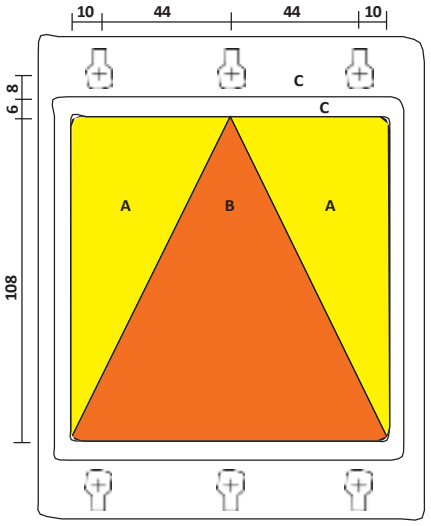
3. The following table is the categorisation of petrol and electric motorcycles with existing Class 2B, 2A and 2 categories under the law.

Licence Class	Categorisation for Petrol Motorcycles	Categorisation for Electric Motorcycles	Existing Driving Licensing Requirements
Class 2B	Below 200cc.	Below 15kW	Pass the Basic Theory Test, Riding Theory Test and Class 2B practical driving test.
Class 2A	Between 200cc and 400cc.	Between 15kW to 25kW.	Possess a valid Class 2B licence for at least one year, and pass the Class 2A practical driving test.
Class 2	Above 400cc.	Above 25kW.	Possess a valid Class 2A licence for at least one year, and pass the Class 2 practical driving test.

'NEW' DRIVERS

4. New drivers are motorists who hold a new class of driving licence for less than one year from the date of grant of licence. They shall be under probation for one year from the date of grant of the new driving licence to them.

5. During the one year probation period, all new Class 2B, Class 3/3A and Class 3C/3CA drivers are required to display a distinguishing mark (i.e. Probation Plate) at the front and rear of their vehicles when driving or riding.



In the case of a Class 2B motor vehicle, the Probation Plate should be displayed:

(a) directly above or below the headlamp; and

(b) directly above or below the rear licence plate.

6. A newly qualified rider of class 2B who did not display 'Probation' plate for the first time will have to pay a fine. Repeat offenders with at least 2 offences of failing to display the Probation Plate during their one year probation period will have their licence revoked. A new rider who accumulates 13 demerit points within a year of obtaining his licence will also have his/her new driving licence revoked.

TEST OF COMPETENCE TO DRIVE

7. An applicant for a new class of licence must pass the test of competence to drive, which includes the theory and/ or practical riding tests:

(a) **BASIC THEORY TEST (BTT)**

The Basic Theory Test (BTT) is designed to test your knowledge of the traffic rules, traffic regulations, traffic signs and signals as well as general road safety. The testing curriculum for BTT is broadly covered in the handbook titled "The Official Handbook - Basic Theory of Driving" and all learner drivers and riders must obtain a pass for BTT before they can proceed to take the advanced theory test i.e. the Final Theory Test (FTT) or the Riding Theory Test (RTT).

(b) **RIDING THEORY TEST (RTT)**

After passing the BTT, you must pass your RTT before you can take the Practical Riding Test. The RTT aims to test your knowledge on riding safety and proper techniques of riding, as well as your interaction with other road users whilst riding on the roads. After passing the RTT, you are required to pass the Practical Riding Test within one year. If you do not pass the Practical Riding Test within this period, you would have to retake and pass your RTT again before you can apply for another Practical Riding Test.

(c) **MOTORCYCLE PRACTICAL RIDING TEST**

(i) **TEST APPOINTMENT**

To take the practical test, you have to make an appointment for the test in advance. Upon payment of a test fee you will be given a receipt showing the time and date of your practical test and the centre where the test will be conducted. On the day of your test, hand over your valid provisional driving licence to the person-in charge at the reception counter for practical tests.

A. Valid provisional driving licence.

You must also bring along your original Identity Card for identification purposes. If you are a foreigner you must produce your original valid work permit/S-Pass/employment pass. You cannot make an appointment for the test if you have accumulated 13 or more demerit points for traffic offences. Even though you have registered for the test, you will not be allowed to sit for it if you have 13 or more demerit points. Photocopy or photo image of the Identity Card or work permit/S-Pass/employment pass is not acceptable.

(ii) **PRACTICAL RIDING TEST**

The Practical Riding Test will be conducted by a Driving Examiner appointed by the Traffic Police. The practical test consists of two parts. The first part is a test of your riding skills and is conducted on a driving circuit. The second part is a test of your ability to interact safely with other road users and how you comply with and observe traffic rules and regulations. The practical test is conducted on the roads.

During the test, the examiner will assess your performance with a Tablet PC or checklist. All possible riding errors are shown on the Tablet PC or checklist. If the learner commits any serious mistakes, he/ she fails the test immediately. For less serious mistakes, he/she will accumulate penalty points ranging from 2 to 10 for each mistake. A learner who accumulates penalty points in excess of a predetermined number of points fails the test. Whether or not you succeed in your practical test, the test report or checklist used for the test will be given to you at the end of the test so that you can learn from and correct your mistakes. For identification purpose, learner riders are not allowed to wear a full-face helmet during the practical riding test.

8. In order to book and take a theory or practical riding test, an applicant must fulfil the following eligibility requirements at the date of booking or date of taking his/her test:

(a) He/She has not accumulated more than 12 demerit points. Even if he/she has registered for the test, he/she will not be allowed to sit for it with 13 or more demerit points;
(b) He/She is not under suspension or Court disqualification or is not within the period of one year from the date of revocation of his/her driving licence;
(c) He/She is not under police investigation; and
(d) He/She has not committed 2 or more offences of failing to display a distinguishing mark (i.e. Probation Plate) during his/her period of probation as a new driver for his/her other new class of driving licence.

PROVISIONAL DRIVING LICENCE (PDL)

9. After passing your BTT, you may apply for a Provisional Driving Licence (PDL) to start learning to ride on the roads with the driving school instructors. A PDL is valid for 2 years from the date of grant and can be renewed subsequently every 2 years.

10. To apply for a PDL, an applicant must fulfil the following eligibility requirements at the date of the application:

(a) He/She has not accumulated 13 or more demerit points;
(b) He/She has passed his/her BTT;
(c) He/She must be able to read at a distance of 25 metres (with the aid of glasses, if worn) a series of 6 letters and figures in white on a black background of the same size and arrangement as those prescribed for the identification mark of a motor vehicle; and
(d) He/She must be able to distinguish the colours red, amber and green from a distance of 25 metres.

SYSTEMATIC LEARNING

11. The learning progress differs from person to person. Therefore, the number of training hours needed before one develops the right skills and attitude differs greatly from one individual to another. Learner riders should adopt a systematic planned approach. They must be able to go through the lessons systematically to suit their own development in the course of learning. The main causes of accidents amongst young and new motorcycles are lack of experience and judgment. They should practice regularly and consistently as there are no short cuts to becoming a competent and careful rider.

HUMAN SENSES AND JUDGEMENT

HUMAN FACTORS OF RIDING RELATING TO MOTORCYCLE ACCIDENTS

12. Some of the human factors identified as relating to motorcycle accidents as well as the types of traffic accidents in which motorcyclists are involve includes perception, judgement and reaction associated with riding, reaction time, eyesight and field of vision, judgement of distance and speed, and the discrepancies caused by fatigue, alcohol and drugs.

RIDER PHYSICAL AND MENTAL CONDITIONS

13. Your physical and mental condition can affect your riding. These conditions are:
    (a) Your vision,
    (b) Your physical health,
    (c) Your mental state,
    (d) Consumption of alcohol and drugs.

    Eighty percent (80%) of information perceived while riding comes through the rider's eyes. It is therefore important that you make optimal use of your eyes when riding. Do not fix your eyes on a particular object for longer than necessary. Keep moving your eyes about every two seconds or so. As the vehicle speed increases, your field of vision would be reduced.

    Tiredness, giddiness and being unwell can affect your concentration on the road. If you feel unwell or tired, do not ride. Anger, worry and stress can also reduce concentration and may lead to rash or careless riding on the road.

ALCOHOL AND DRUGS

14. Consumption of alcohol and certain types of drugs affect your judgement, concentration, reaction time and loss proper control of the vehicle. Some drugs even when taken medicinally may cause drowsiness. If so, do not drive. If you are on medication, check with your doctor whether the prescribed medicine you are taking will affect your riding ability.

15. Alcohol even when consumed in a small quantity, can impair your riding judgement and makes you less safe on the roads. Drinking alcohol and riding is a deadly mix, for your safety and other road users, IF YOU DRINK, DON'T DRIVE. If you intend to drive after attending a function, you should avoid drinking alcohol. If you consume alcohol, you should go home by public transport.

16. The prescribed legal limit for blood alcohol content is 80 milligrammes (mg) of alcohol per 100 millilitres (ml) of blood while that for breath is 35 microgrammes (ug) of alcohol per 100 millilitres (ml) of breath.

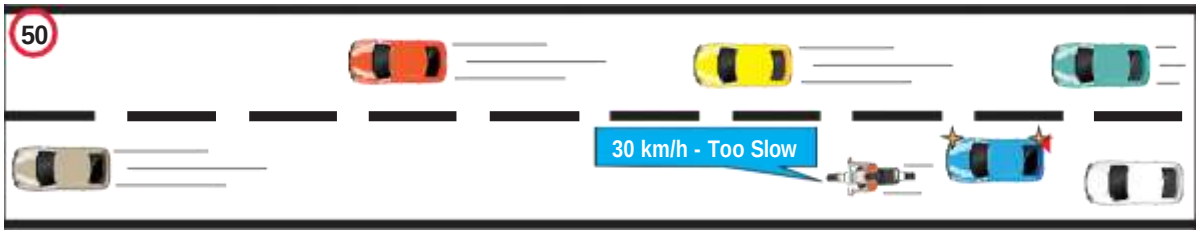
17. It is an offence for a person to drive or attempt to drive a vehicle while under the influence of alcohol/drugs. If a driver is suspected to be under the influence of alcohol, he/she will be required to undergo a breath analyser test.

18. A person with a BAC (Blood Alcohol Concentration) exceeding 80mg per 100ml of blood is presumed incapable of controlling his/her vehicle properly. Any person caught driving with blood or breath alcohol content which exceeds the prescribed limit will be charged in court for drink driving. If you failed to have a proper control of your vehicle, you could be charged for drink driving even though your blood alcohol content is below the legal limit. The penalty for a repeat drink driving offender is fine, disqualification and a mandatory jail sentence.

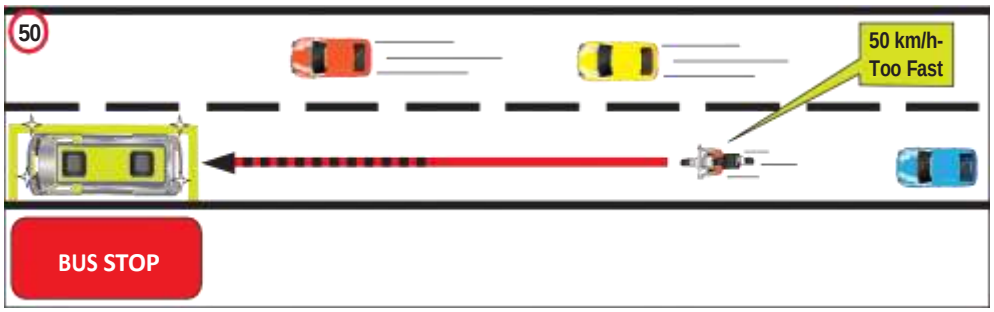
JUDGEMENT OF SPEED AND DISTANCE

19. Safe riding requires good judgement of your travelling speed and distance as well as that of other road users. The following are some examples.

a) Poor speed regulation might cause other vehicles to overtake dangerously.



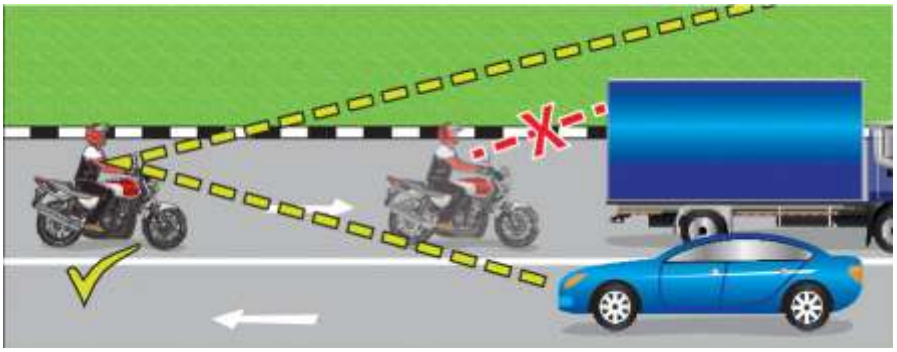
b) Not be able to react in time to avoid an accident should the bus pull out if speed is too fast.



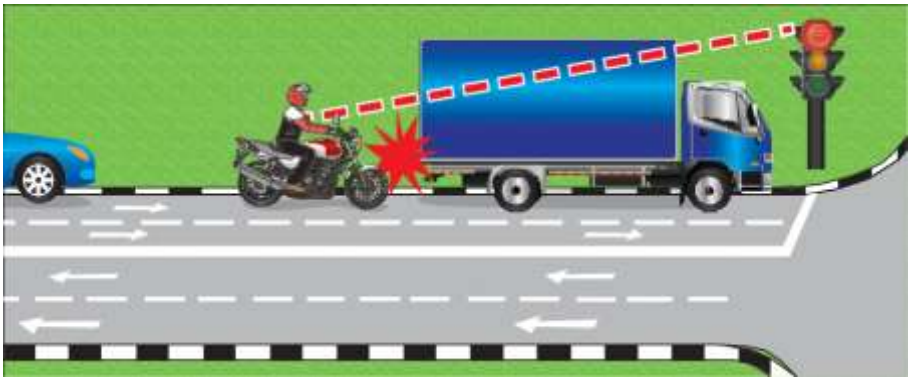
General rule: Regulate your speed according to the traffic condition when it is safe. Reduce speed and apply caution when encountering hazards.

DANGERS OF TAILGATING

20. Do not tailgate. If you follow the vehicle in front too closely, your field of vision will be blocked by the vehicle in front due to your position.



21. Should the vehicle in front stop suddenly or should goods fall off the large vehicle, an accident is unavoidable as you do not have enough reaction time and distance to brake.



REACTION TIME AFFECTS STOPPING DISTANCE

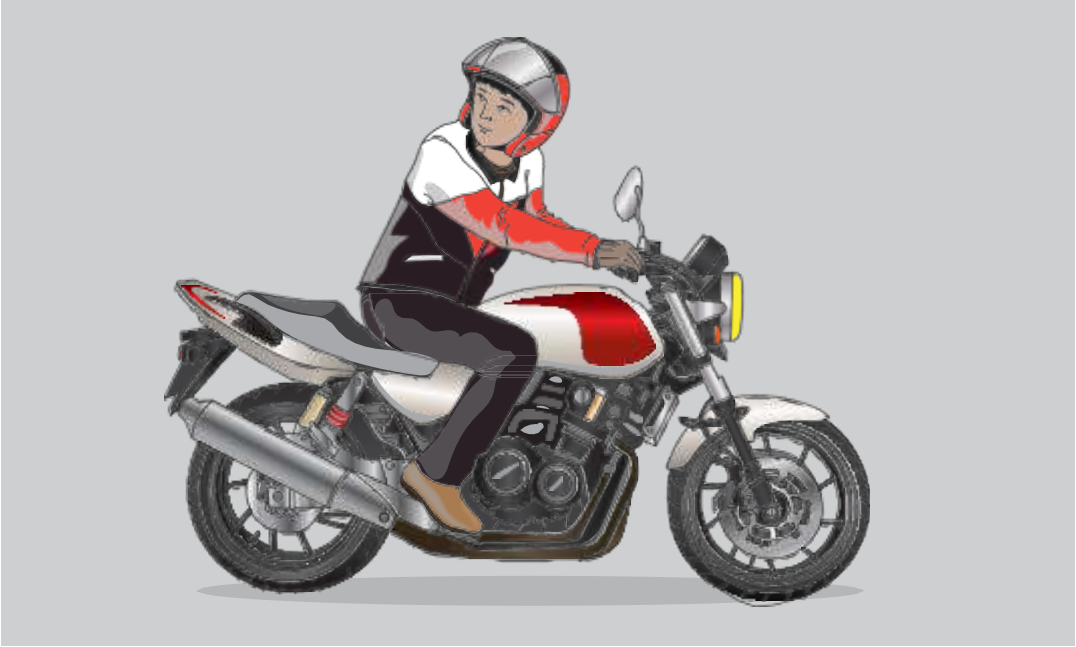
22. When in an emergency, you need to react quickly to stop the vehicle in the shortest possible distance without losing control of the vehicle. Remember, the vehicle will not stop instantly when you hit the brakes. Reaction time increases if a rider is tired or if he/she has consumed alcohol.

MIRRORS AND BLIND SPOTS

23. Mirrors should be checked before moving off, slowing down, stopping, changing lane, overtaking and making any turns. You should also cultivate the habit of checking the mirrors every 5 to 10 seconds while riding.

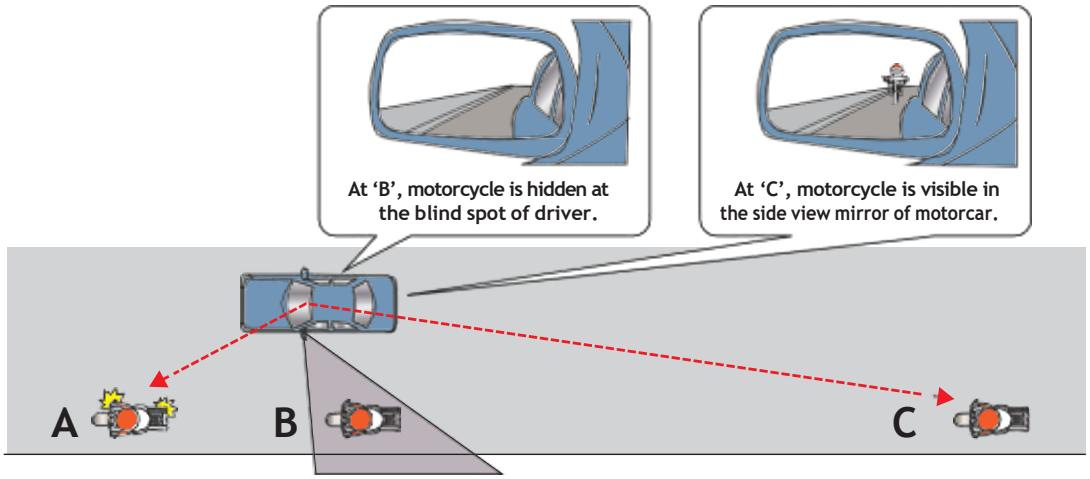
24. The areas on the right and left of your vehicle which cannot be viewed in your mirrors are known as "blind spots". You have to turn your head and look over your shoulder to the left or the right to check for traffic in the "blind spots" before changing lane, overtaking, turning and stopping.

Turn your head and look over your shoulder to the left or the right to check your "blind spots"

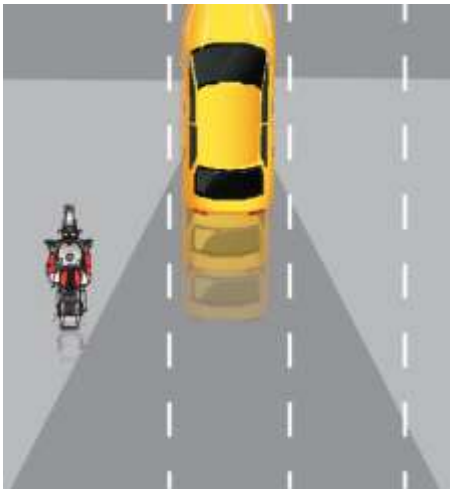


BLIND SPOTS OF OTHER VEHICLES

25. Do not stay in the 'blind spot' of other vehicles. If you have no choice because of traffic conditions, keep out of the 'blind spot' as soon as you can and be prepared for any change in direction of other vehicles in whose 'blind spot' you might be riding in.



MOTORCYCLE BLIND SPOTS



CAR BLIND SPOTS

You must avoid riding in the blind spots of others as drivers may not see you

HEAVY VEHICLE BLIND SPOTS

Heavy vehicles have a bigger "blind spots" areas.
These blind spots are on the sides, in the rear, and in the front of the heavy vehicle.

NATURAL FORCES

26. The purpose of this section is to explain, in an elementary manner, how the Natural Forces are generated when riding a motorcycle, and the effects they have on the moving vehicle and its pillion.

FRICTION

27. Friction is the resistance produced by two objects rubbing against each other. This resistance, or gripping force, varies with the nature of the surfaces of the objects.

Friction between the tyres and the road helps the rider stay on the road. Friction also enables the motorcycle to slow down or stop a moving motorcycle.

It is therefore important to recognise the conditions which reduce friction and the precautions required.

TYRE CONDITIONS AFFECTS BRAKING EFFECTIVENESS

28. Uneven tyre pressure among the tyres may have profound effect on the vehicle when the rider applies hard braking. The different amount of friction produced under different wheels will result in different braking effects. This might cause serious consequences in an event of emergency.

The depth of tyre treads and the tread patterns also determine the amount of friction produced. The deeper the tread, the more the friction. The law stipulates that using a tyre with its tread depth lesser than 1.6mm is an offence.

RIDING ON WET ROAD SURFACE

29. Wet roads reduce friction. This is particularly true during the first 20-30 minutes of rain because grease, oils, mud or dirt accumulated on the road will mix with water to form a very slippery emulsion.

Riders should allow greater stopping distance and should not turn sharply.

When it rains a thin film of water forms on the road surface. If a motorcycle is travelling fast or the tyres have so little treads, the water cannot be squeezed out from underneath, a wedge of water will form in front and under the tyres. The wheels then lose grip and slides on the water's surface. This is called aquaplaning (hydroplaning). The result is loss of steering control.

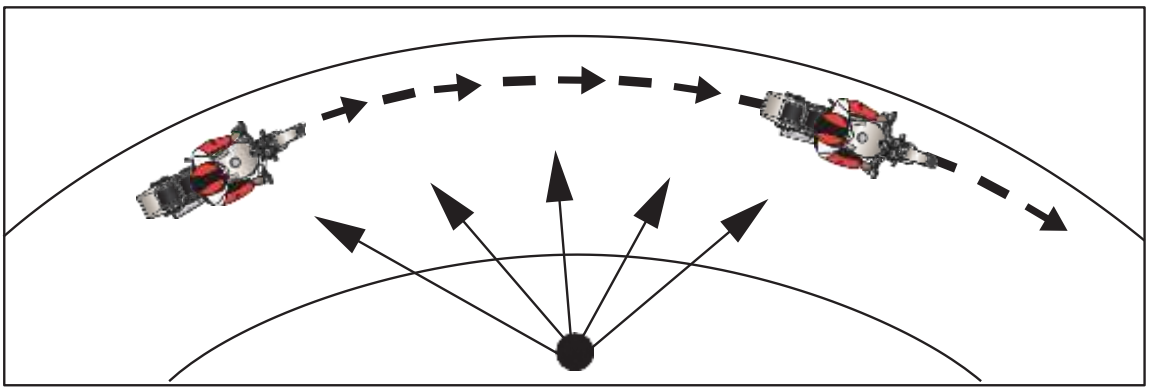
If a motorcycle begins to aquaplane, the steering feels extremely light. Slow down gently by decelerating. DO NOT BRAKE. Continue slowing until the steering feels normal.

CENTRIFUGAL FORCE

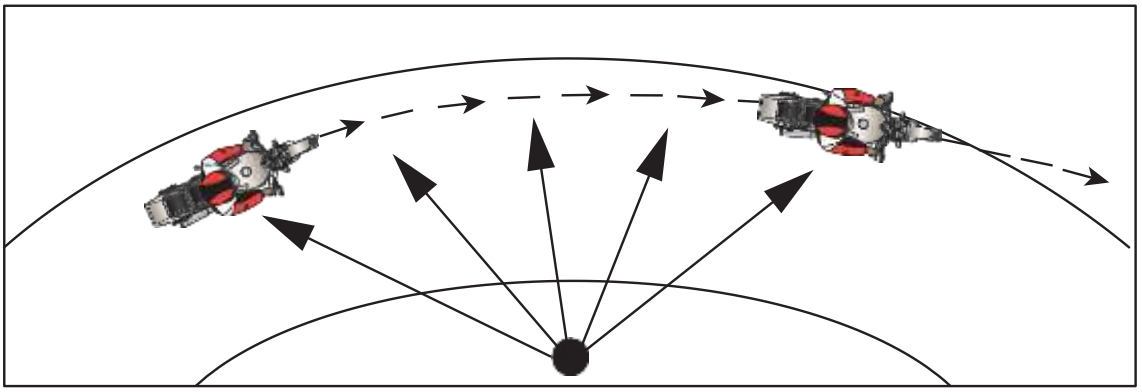
30. When negotiating a curve or corner, an outward pulling (pushing) force will be generated and unless the tyres retain sufficient grip (friction) on the road, the rider will be unable to maintain his selected course. The force acting on a cornering vehicle is known as the Centrifugal Force. The centrifugal force affects all vehicles.

Centrifugal force increases with the speed of the motorcycle and the sharpness of the curve. If it becomes greater than the resistance of the frictional grip between the tyres and the road, the motorcycle will slide off the road.

So, always reduce to a safe speed and shift to a lower gear when rounding a curve, particularly on a sharp curve. Lower speed will reduce the centrifugal force while a lower gear will provide a better grip on the road.



AT LOW SPEED, Friction Counters Centrifugal Force



AT HIGH SPEED, Centrifugal Force Overcomes Friction

CENTRE OF GRAVITY

31. The centre of gravity of a motorcycle is the centre point of the entire weight of the vehicle. The stability of it depends largely on the distance between the centre of gravity and the ground.

The lower the centre of gravity, the more stable the vehicle will be. However, additional weights raise the centre or gravity. So be careful when rounding a curve or corner when a vehicle is loaded.

Should a vehicle with a load (high centre or gravity) be ridden into a bend at high speed, or be required to make an emergency stop, one of the following will take place:

a. If the friction between the tyres and the road is lost due to excessive speed, skidding will result;
b. If the speed is high enough and the fiction is not lost, the vehicle will turn over.

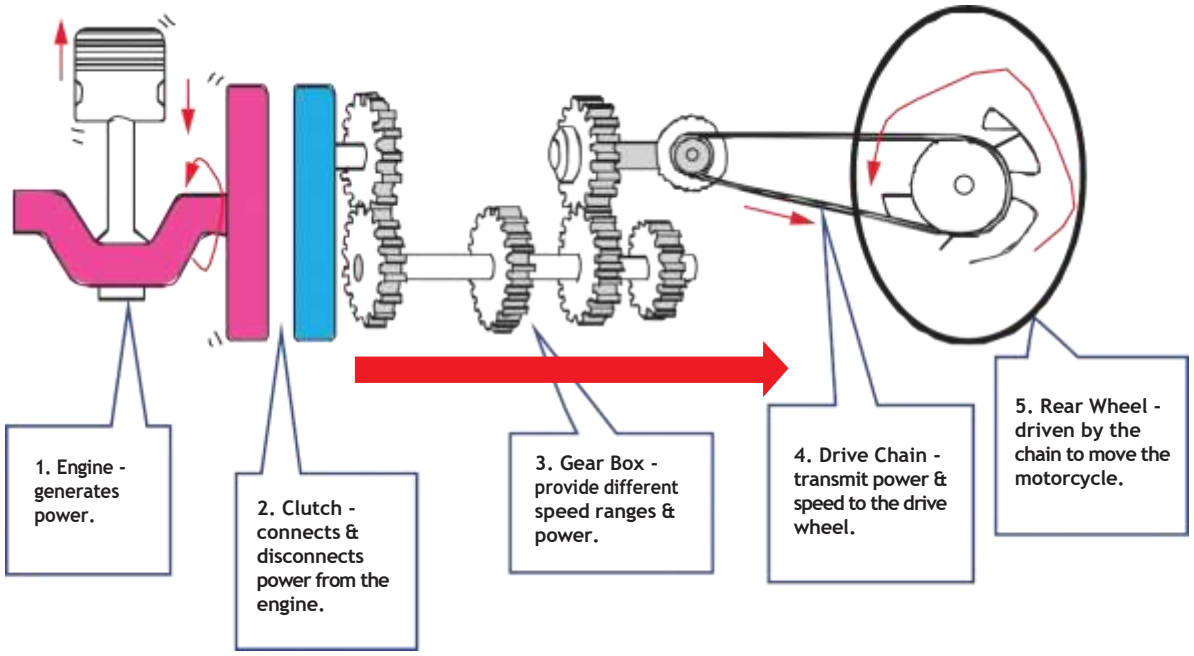
BASIC STRUCTURE OF MOTORCYCLE AND VEHICLE MAINTENANCE

INTRODUCTION

32. The overall structure and function of most modern manual transmission motorcycles includes a gasoline engine, which converts the reciprocating motion of pistons into rotary motion, just like the engine in a motorcar. A transmission system transmits this motion to the back wheel. As the back wheel turns, it pushes the motorcycle forward. Turning manoeuvres are made via the handlebars and by leaning the bike to one side or the other. Two hand levers enable the rider to operate the clutch and the front brake, while two foot pedals are used to change gears and control the rear brake.

POWER

33. A motorcycle needs a constant supply of power to move it forward. This power is generated by the engine and transmitted to the drive wheel to move the motorcycle through a series of mechanical components as shown below.



ENGINE

34. Most motorcycle engines operate on what is known as the 4-stroke cycle (the induction, compression, power and exhaust strokes) internal combustion engine.

INDUCTION STROKE

The piston moves down from its top position and create a partial vacuum in the cylinder. With the inlet valve opened, petrol and air mixture are drawn into the cylinder. This downward movement is known as the Induction Stroke.

COMPRESSION STROKE

At the end of the induction stroke the piston is now at the bottom position with both the inlet and exhaust valves closed. The piston starts to move up and the mixture is being compressed.

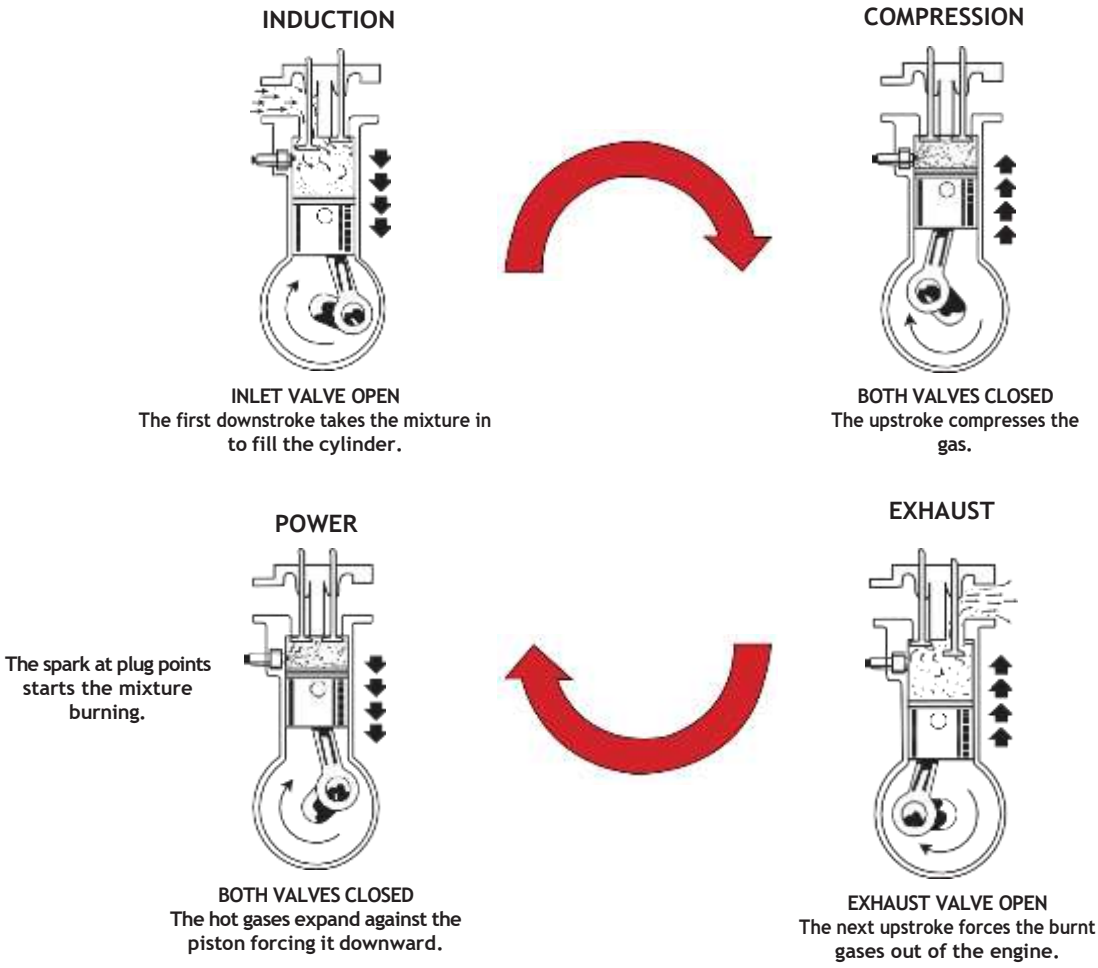
POWER STROKE

At the end of the compression stroke the piston is at its top position again with both valves still closed. The compressed mixture is now ignited by an electric spark produced by the spark plug. Combustion takes place and the high pressure forces the piston downward. This is known as the Power Stroke.

EXHAUST STROKE

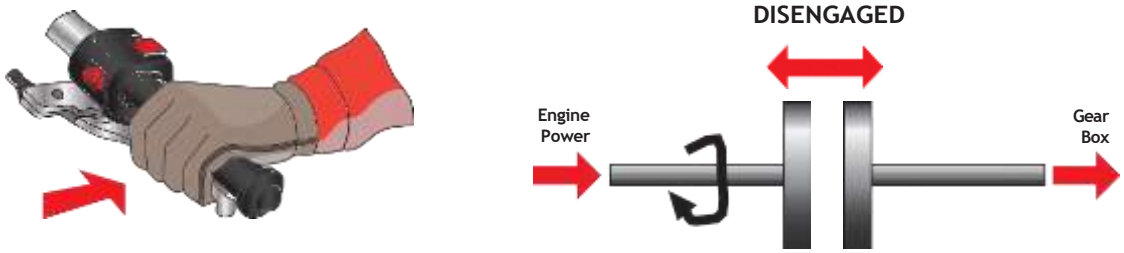
At the end of the power stroke the piston is at its bottom position with the exhaust valve opened. The upward movement of the piston pushes the burnt gas out from the cylinder through the exhaust port. This is the Exhaust Stroke.

At the end of this stroke the piston returns to its top position and the exhaust valve closes. The engine is then ready to continue the next cycle. Engine oil is used to lubricate the moving parts in the engine.

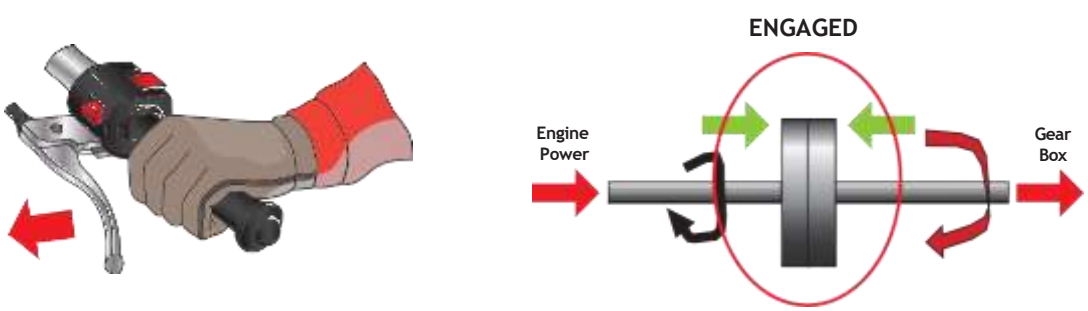


CLUTCH

35. The clutch lever is used to engage and disengage the clutch. When the clutch lever is fully pulled in, the clutch is disengaged. Engine power is not transmitted to the gear-box.

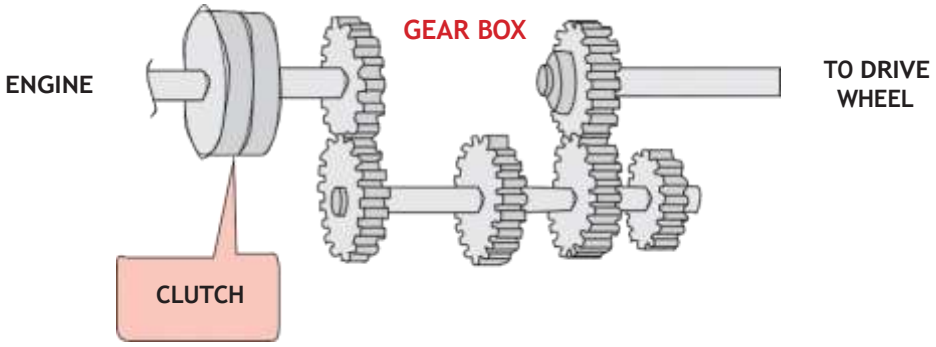


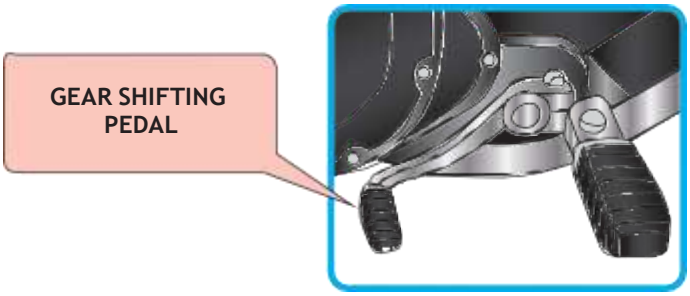
36. When the clutch lever is fully released, the clutch is engaged. Engine power is transmitted to the gear-box.



GEAR BOX

37. The gear box contains a set of gears of various speed range and torque to enable the rider to regulate the motorcycle speed for different road and traffic conditions. When shifting gears, a rider uses the clutch to disconnect the transmission from the shaft, selects the gear by lifting or pressing the gear shift pedal with your left foot. Once the new gear is selected, the rider uses the clutch to re-establish the connection.





DRIVE CHAIN & REAR WHEEL

38. Drive chain systems are the most common amongst modern motorcycles. In this system, a sprocket mounted to the output shaft (i.e., the countershaft in the gear box) is connected to a rear sprocket attached to the rear wheel of the motorcycle by a metal chain. When the transmission turns the smaller front sprocket, power is transmitted along the chain to the larger rear sprocket, which then turns the rear wheel. Drive chain requires periodic replacements. Beware that a wrongly adjusted drive chain can cause an accident.

BRAKING SYSTEM

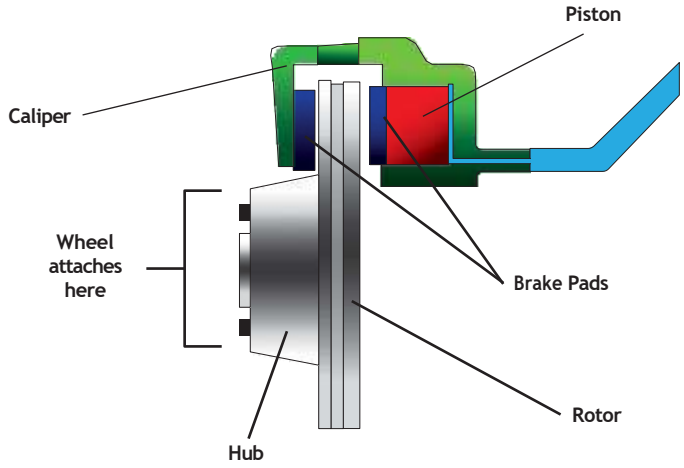
39. Drum brakes were common until the 1970s, most motorcycles today use disc brakes which consist of a steel braking disc, which is connected to the wheel and clamped between two brake pads.

The front and rear wheels on a motorcycle each have a brake. For manual transmission motorcycle, the rider activates the front brake with a hand lever on the right grip, the rear brake with the right foot pedal. The first thing you must test when riding a motorcycle is the effectiveness of the brakes.

When the rider operates one of the brakes, hydraulic pressure is applied, acting through the brake lining, causes the brake pads to squeeze against the disc on both sides. Friction causes the disc and the attached wheel to slow down or stop. Brake pads needs to be replaced periodically because the surfaces wear off after repeated use.

Compared to drum brakes, the disc brakes dissipate heat more quickly thus making disc brakes less prone to fading.

HOW A DISC BRAKE WORKS



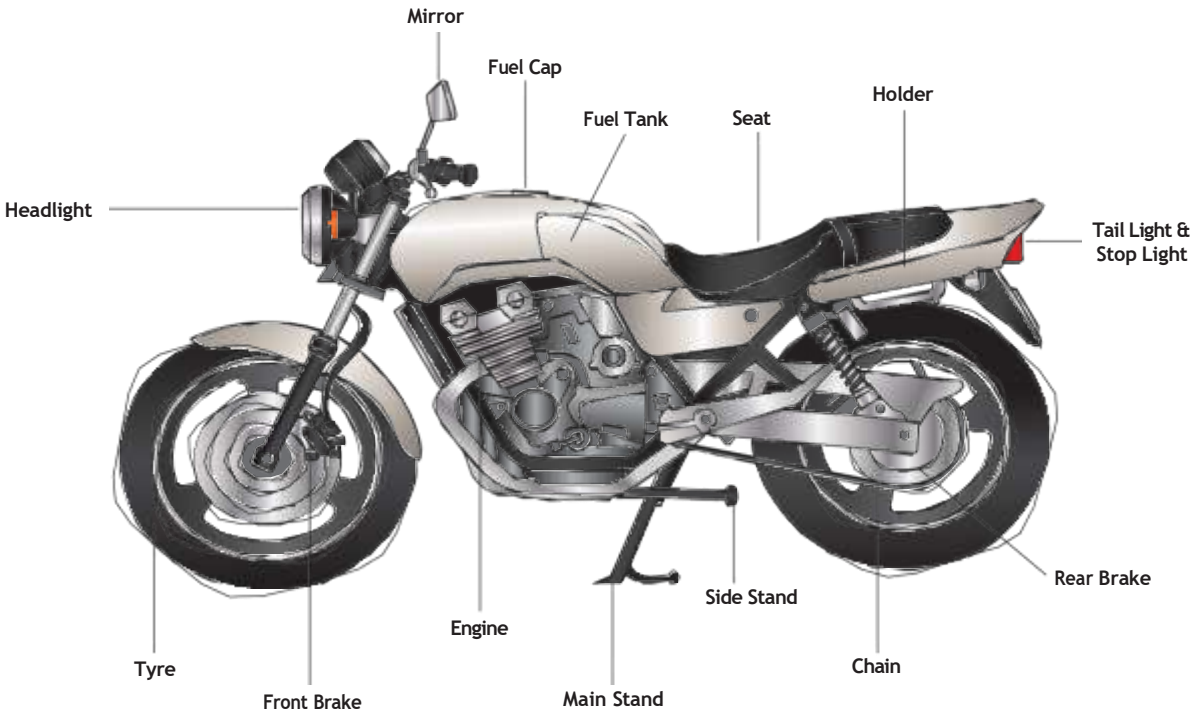
TYRES

40. It is essential for motorcyclist to ensure and check their tyres for correct air pressure. Too much or little pressure may result in poor stability and may lead to accidents. Riding with under-inflated tyres can affect braking. If your motorcycle front tyre punctures, you should stop and push the motorcycle to the side of the road. When your motorcycle feels heavy and difficult to balance vehicle riding, you should check the tyres. It is illegal to ride if the tyres are damaged or worn out.

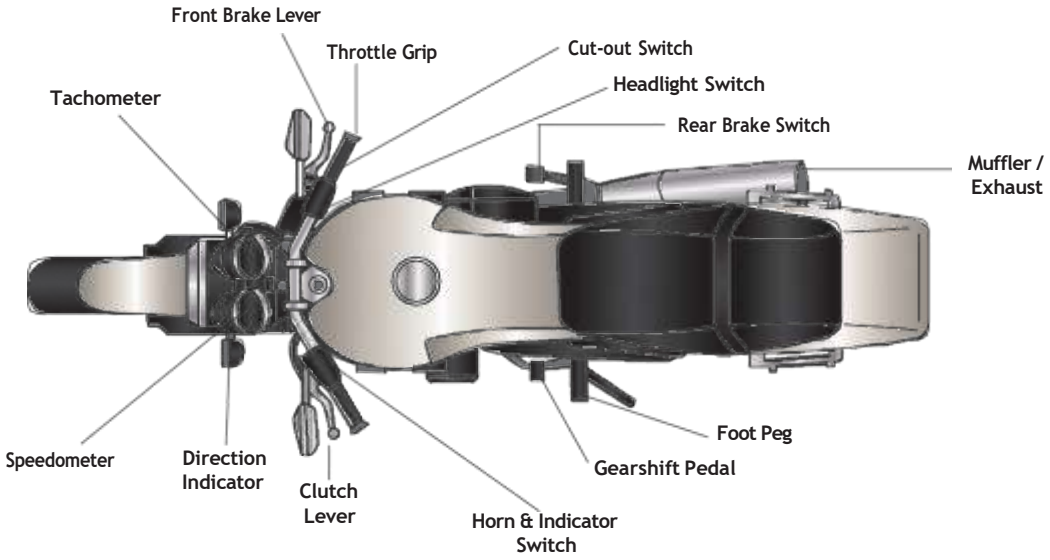
Tyres come in a variety of designs to match the needs of different road conditions. Some tyres are made of harder rubber which usually provide less grip but last longer. Softer tyres deliver better gripping power but wearsout faster.

PRINCIPAL PARTS OF A MANUAL TRANSMISSION MOTORCYCLE:

41. **SIDE VIEW OF MOTORCYCLE:**



TOP VIEW OF MOTORCYCLE:

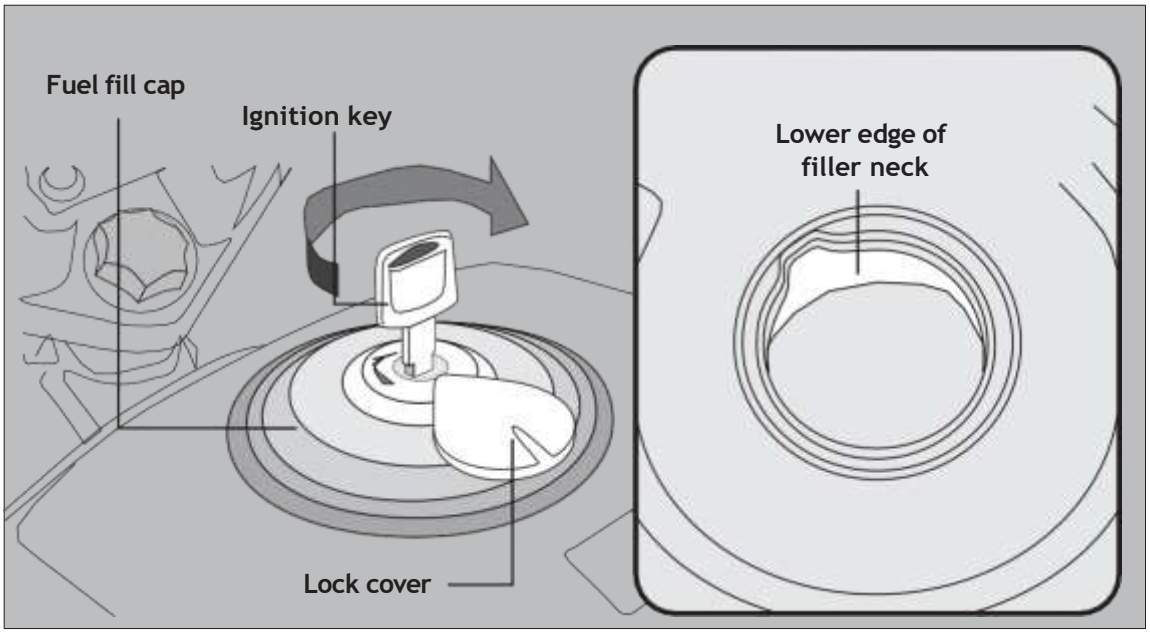


MOTOCYCLE MAINTENANCE (WEEKLY CHECKS)

42. Carry out a weekly check on your motorcycle to ensure a safe, trouble free and enjoyable ride each time you take to the road. Spotting vehicle defects can prevent an accident. Pay close attention to the following: -

FUEL

Ensure sufficient petrol. The fuel tank should be refilled as soon as possible once the low fuel indicator is on.

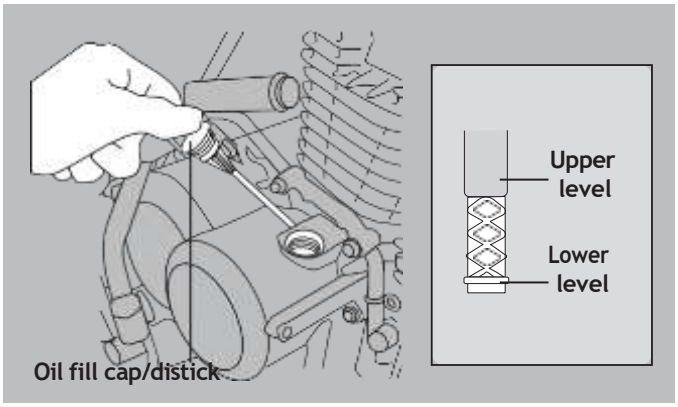


ENGINE OIL

Ensure there is sufficient engine oil. Checks should be done with a cold engine and the motorcycle parked on a flat surface for accuracy.

How to check level of motorcycle engine oil

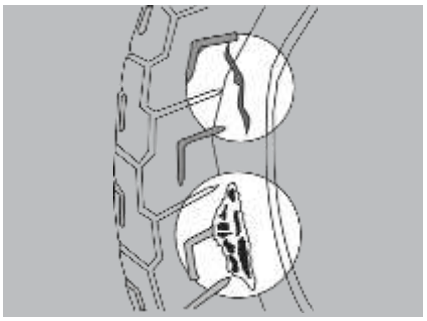
a) Position the motorcycle upright.
b) Remove the dipstick and wipe the oil with a clean cloth.
c) Insert the dipstick without screwing it in, remove it and check the oil level.
d) If the oil level is below or near the lower level line on the dipstick, remove the oil filler cap and add the recommended engine oil to the upper level line through the oil filler hole.



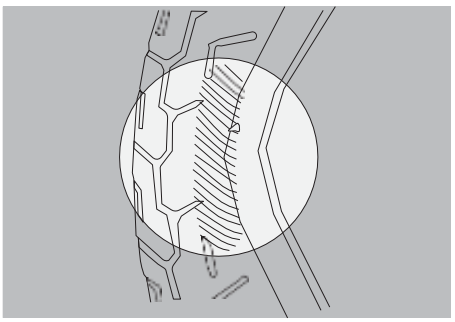
TYRES

Check the tyres for air pressure (under/over inflation), inspecting for damage, abnormal wear and tread depth (treads with a depth of less than 1.6 mm should be replaced).

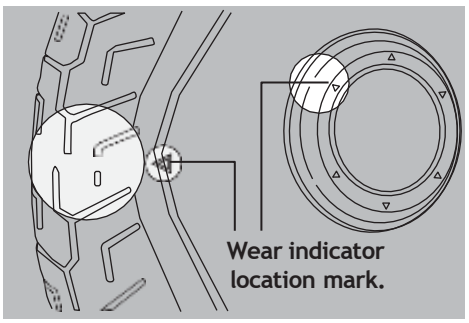
INSPECTING FOR DAMAGE



INSPECTING FOR ABNORMAL WEAR

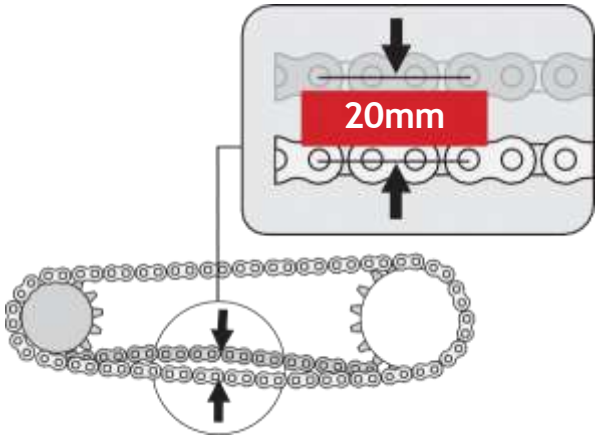


INSPECTING TREAD DEPTH



CHAIN

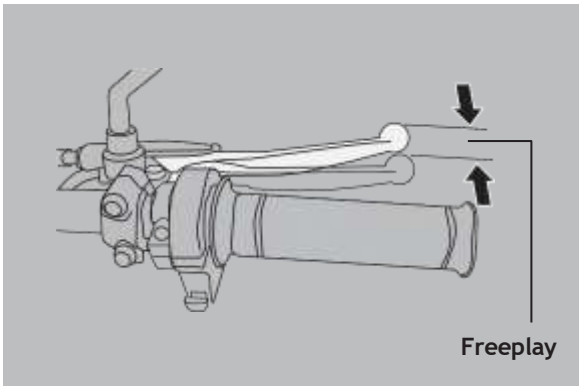
Check the tension. It should not be too tight or too loose. Find the midway point of the chain between the front and rear sprockets. Push up on the bottom of the chain and note the distance between the full-slack (lower) position and the no-slack (upper) position on the bottom. The proper amount of slack is about 20mm.



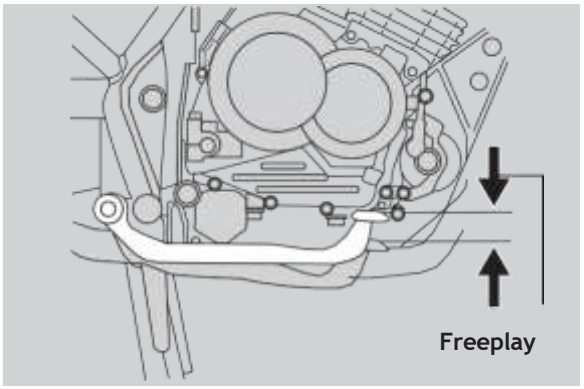
BRAKES

Operate the front and rear brakes to ensure these are working well. Oil all linkages and check that brake fluid is sufficient. Free-play for front brake lever and rear brake pedal should be 15-20mm.

INSPECTING FRONT BRAKE LEVER.



INSPECTING REAR BRAKE PEDAL

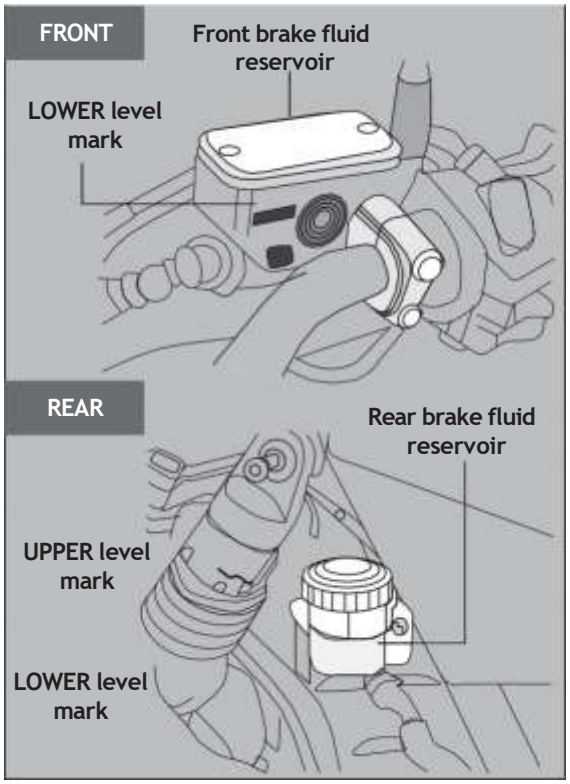


How to check Brake Fluid:

1. Place your motorcycle in an upright position

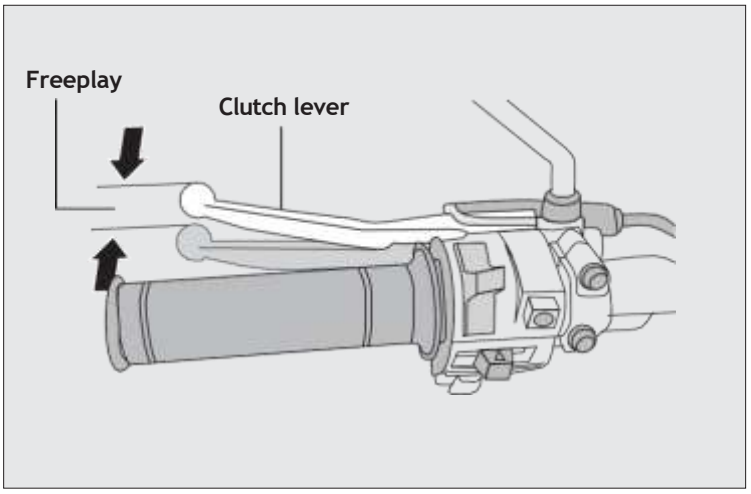
2. Check that the brake fluid reservoir is horizontal and that the fluid level is:

- ✓ Above the LOWER level mark for the Front brake fluid reservoir.
- ✓ Between the LOWER and UPPER level marks for the Rear brake fluid reservoir.



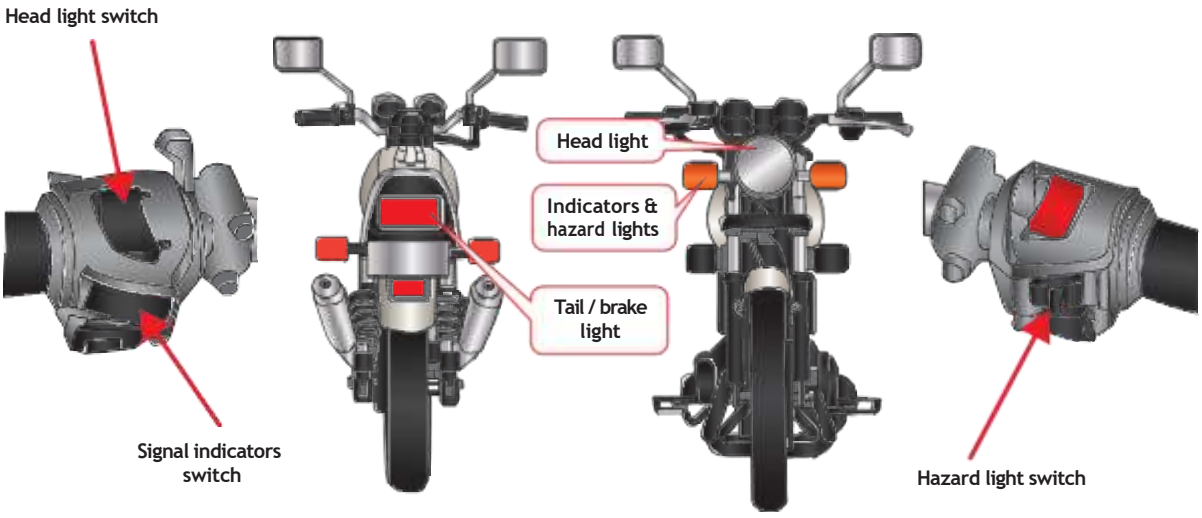
CLUTCH

Ensure the free-play of the clutch lever is between 10-20 mm. Pull in the clutch lever fully to check if gear changing can be done smoothly. Adjustments need to be made at regular periods.



LIGHTS

Lights, indicators & hazard light - Turn them on to check that all are working properly. Replace any fused bulb. Clean all lamp covers. Do not ride if any of your motorcycle's headlamps, tail lamps and direction indicators are not working.



ILLEGAL MODIFICATION

43. A modification refers to replacing, adding or removing a vehicle's components or systems, such that the vehicle is different from the original manufacturer's specifications. Before making any modifications to your vehicle, check if they comply with LTA's guidelines.

The LTA's guidelines for vehicle modifications ensure that road safety, vehicle exhaust gas and noise emissions standards are not compromised. This is to help protect the environment against air pollution for the benefit of vehicle owners, road users and our environment. For example an illegally modified or removing the motorcycle catalytic converter will not reduce exhaust emission.

To avoid committing an offence, do not carry out unauthorised modifications to your vehicle. Otherwise, you may be fined up to $2,000 or face up to 6 months' imprisonment.

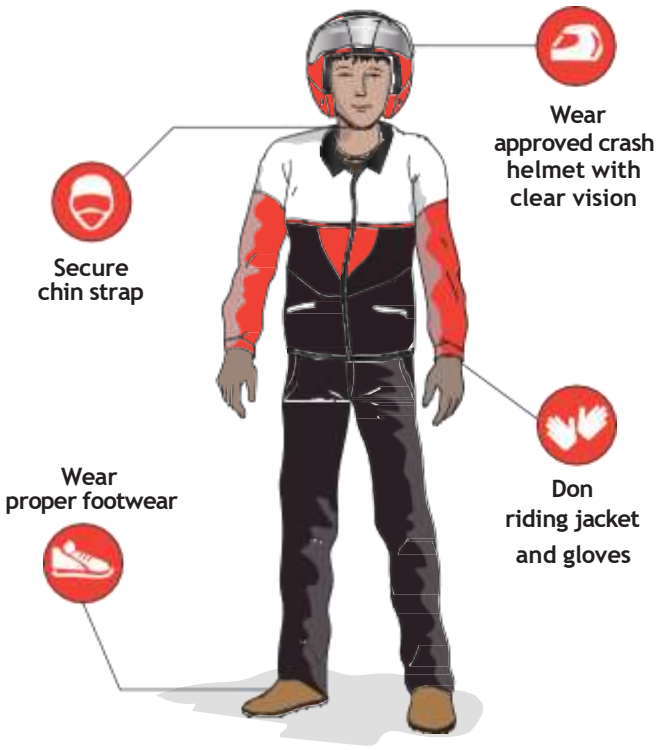
RIDING WEAR AND PROTECTIVE CLOTHING

44. Traffic accidents can happen in a split second, leaving road users with very little time to react. Unlike four-wheeled vehicles, which offer a range of protective features for riders and pillions during an accident, motorcycles are also more exposed. Putting on riding protective gears such as a riding jacket, gloves and boots will reduce the injuries when involved in an accident.

45. This is why motorcyclists involved in traffic accidents suffer higher injuries ranging from abrasions to serious bodily trauma, with most injuries sustained on the chest area (where the vital organs are) as well as the upper and lower limbs.

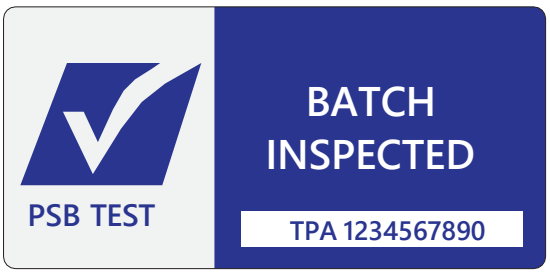
46. Before you begin to ride, you should protect yourself from injury by wearing protective clothing. Your riding gear and clothing should fit comfortably and not restrict movement. Preferably, the material should be of light/ bright colours and able to resist tearing easily. When riding a motorcycle, you should wear full protective clothing at all times.

Gear Up Before you Ride



SAFETY HELMET

47. Under Road Traffic Act (RTA), it is a legal requirement for every motorcyclist and pillion rider to wear an approved safety riding helmet when riding a motorcycle on the road. (member of male Sikh religion who wear a turban are exempted). The helmet should be of an approved type (sample of PSB approved sticker).



When purchasing a new helmet ensure that it is an approved type and fit comfortably. When putting on a helmet, the strap should be properly fastened under the chin. A loose helmet is not only uncomfortable, it could also come off in an accident. It would be illegal to ride with a helmet on when the helmet is not fastened correctly. An approved helmet and proper wear can protect from injury or minimizes injuries to the head. To be seen more easily when riding in the dark, you should wear a white helmet and reflective clothing.

VISORS AND GOGGLES

48. A Visor and Goggles are vital to protect your eyes from wind, rain, road dirt etc. It is important that your visor or goggles is always clean in order to have a clear view of the road ahead. Unclean or badly scratched visor or goggles can distort your view and cause glare from sunlight or dazzle from lights of oncoming vehicles at night. Hence when your visor becomes badly scratched, you should replace a new one.

LONG SLEEVES/JACKET AND TROUSERS

49. Clothing used for riding should be bright in colour so that you can be easily seen. Avoid wearing baggy trousers or flared at the bottom, as it may interfere with the operation of the controls.

GLOVES

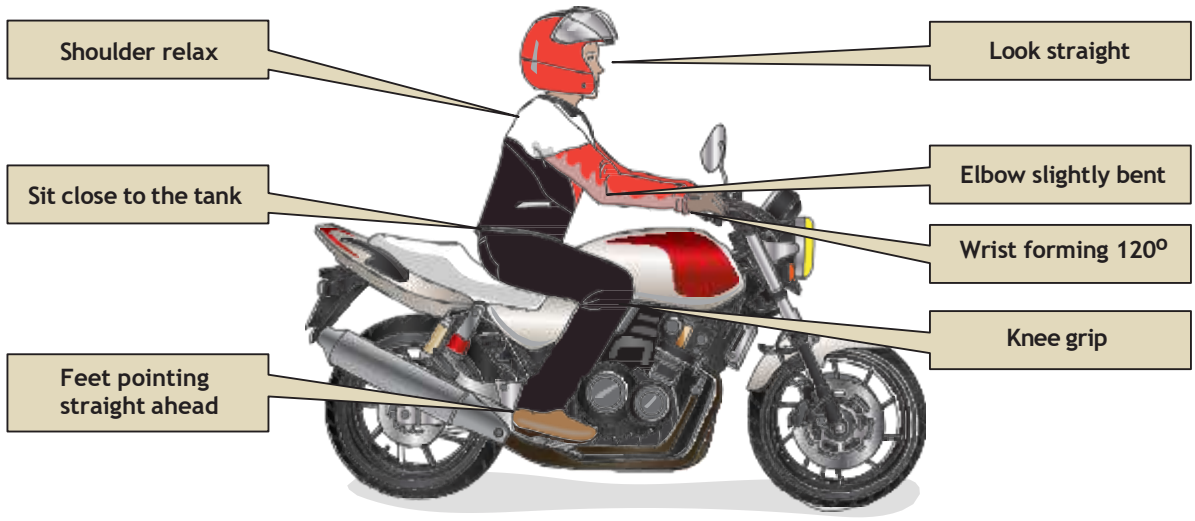
50. A motorcyclist is encouraged to wear gloves. It should be worn to maintain a firm grip on the handlebar. Gloves protect your hands in the event of a fall and provide additional comfort to your grip.

FOOTWEAR

51. It is important to wear good boots or footwear when you ride a motorcycle. Ensure that they are comfortable and you are able to operate the foot controls easily. Good boots or footwear protect your feet from cold and wet weather. It also gives protection to your feet in the event of a fall from your motorcycle or involved in an accident. Do not wear sandals or slippers as it may result in your feet being caught between the gear lever. These do not protect your feet as well. If possible, try avoid shoes with lace as a loose shoelace may cause danger which may interfere with the foot control of the motorcycle.

ADOPT A GOOD RIDING POSTURE

52. A correct riding posture will ensure.
    - ✓ Quick operation of controls
    - ✓ A good sense of balance.
    - ✓ Collection of accurate visual information and
    - ✓ Less fatigue.



(i) Eyes – Look far and wide ahead for traffic conditions. Looking at the front wheel when riding will upset your balance.
(ii) Shoulders – Relax your shoulders
(iii) Elbows – Bend them slightly about 120° and relax your arms
(iv) Hands/Wrists – Grip handlebar gently with hands forming an angle of approximately 120° at the arms.
(v) Hips/Buttock – Sit close to the fuel tank for your arms to have a comfortable reach to the handlebar.
(vi) Knees – Grip fuel tank lightly for stability
(vii) Feet – Rest the arches of both feet on the footrests with toes pointing straight ahead, covering both the gear lever and brake pedal. This reduces reaction time when applying the brakes.

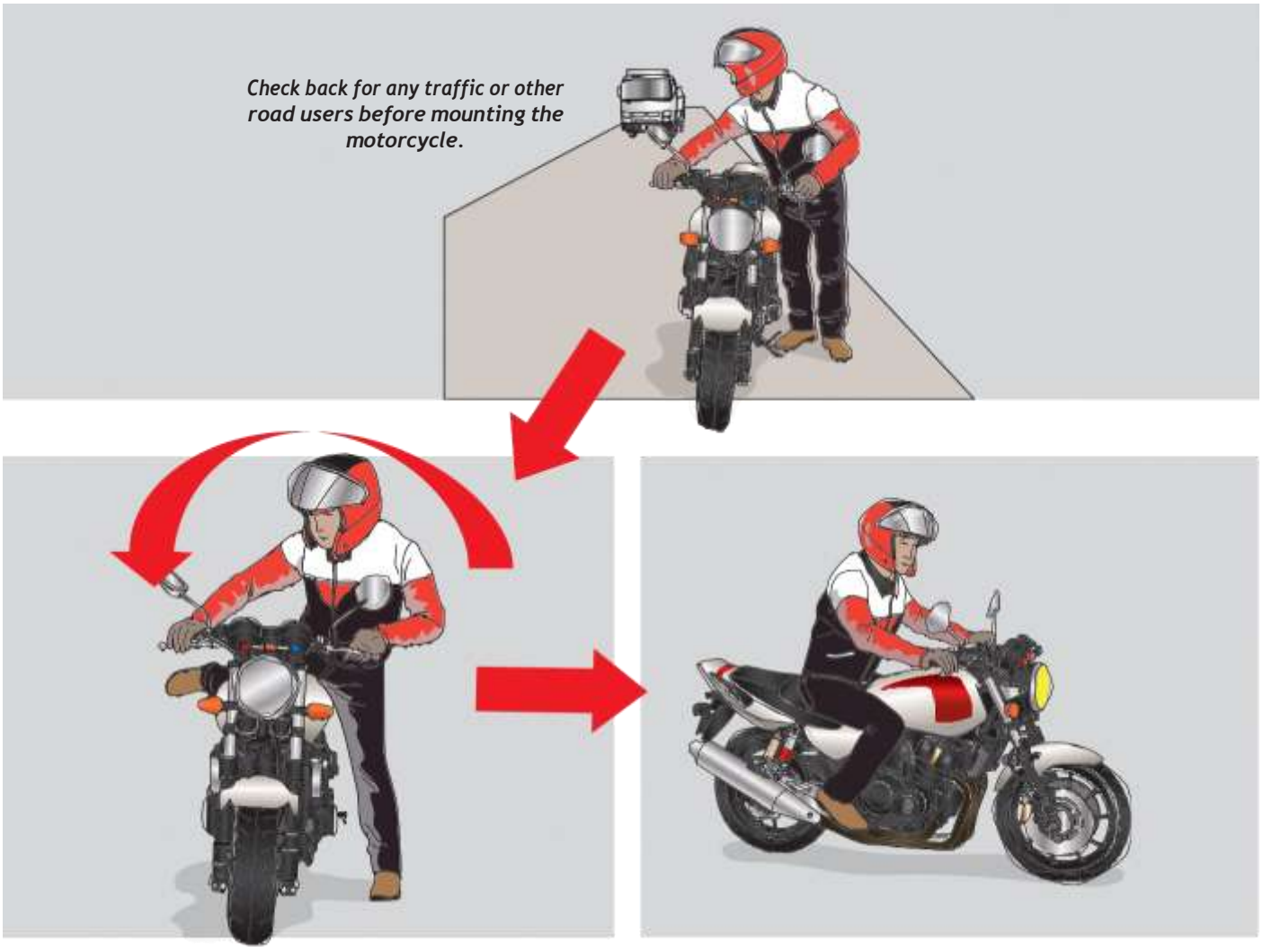
GETTING ON AND OFF THE MOTORCYCLE

53. The following procedures show you how to get on and off the motorcycle safely.

MOUNTING THE MOTORCYCLE

54. Before mounting on the motorcycle, look behind to see if it is safe to do so.

Grip the front brake lever, straighten the handle bar, and keep the motorcycle in an upright position



Check back for any traffic or other road users before mounting the motorcycle.

DISMOUNTING THE MOTORCYCLE

55. When dismounting the motorcycle note that your left foot is supporting the motorcycle. Remember to keep the motorcycle in an upright position or the motorcycle may fall while dismounting. Apply the front and rear brakes, check back for any oncoming traffic or other road users.

With the front brake applied, maintain the motorcycle in an upright position and dismount. Apply the motorcycle main stand or side stand procedure.

MOTORCYCLE MAIN STAND AND SIDE STAND

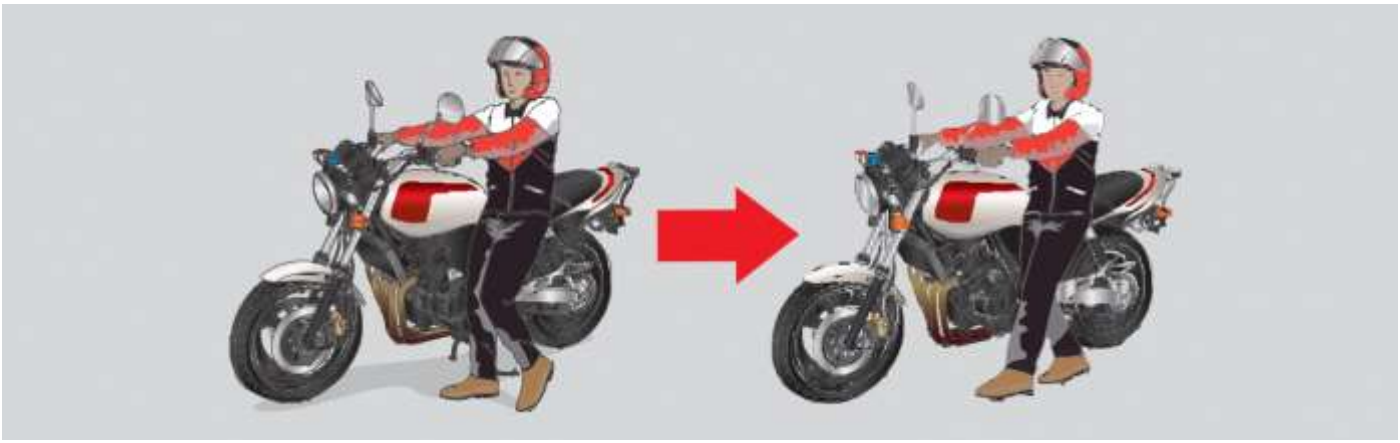
56. Motorcycles use stands to support themselves and to remain upright whilst parked by using either a main stand or side stand. Some models of motorcycles have both types available.

57. Motorcycle main stands supports the motorcycle weight by itself. Parking on main stand make it easy to clean and lubricate the chain and allows you to fit your bike in a narrow space such as within parking lots markings.

58. Motorcycle side stands are used most frequently due to being quicker and easier to use than the main stand. Side stands rely on the motorcycle leaning to the side and using its own weight to form a stable and reliable stand.

LOWERING THE MOTORCYCLE FROM THE MAIN STAND SAFELY

59. Start by standing to the left of the motorcycle, take hold of the handlebar with both hands and straighten the wheel. Position your body facing to the front and as close to the motorcycle as possible. Keep your back straight and your head up, push the motorcycle forward. It will be easier if you use your body momentum to push the motorcycle forward as shown in picture below. Once the motorcycle is lowered from the stand, apply the front brake to prevent it from rolling forward and lean the motorcycle slightly towards you.



RAISING THE MOTORCYCLE USING THE MAIN STAND SAFELY

60. The “lever” of the main stand gives plenty of leverage to push down on which will lift the heavy machine onto the main stand. Bigger motorcycles have big levers to push down on. Smaller motorcycles tend to have smaller levers.

Take hold of the left handlebar grip with your left hand. Straighten the front wheel, put your right foot on the centre stand “lever”, and push down until the stand touches the ground and hold it there. With your right hand, grip the horizontal frame under the seat and pull the motorcycle backward to rest on the main stand (Some motorcycles often have a special handle to make lifting the motorcycle easier).

RELEASING THE MOTORCYCLE WITH SIDE STAND

61. First, look around the motorcycle and make sure that there are no obstacles around the motorcycle. Start by standing to the left of the motorcycle, take hold of the handlebar with both hands and straighten the handlebar. Position your body facing to the front and as close to the motorcycle as possible. Lift the motorcycle to upright position, apply the front brake to prevent it from rolling. Use your right foot to guide the side stand towards the rear.

SETTING THE MOTORCYCLE WITH SIDE STAND

62. Hold of the handlebar with both hands and apply the front brake to prevent it from rolling. Position your body facing to the front and as close to the motorcycle as possible. Maintain the motorcycle in an upright position. Use your right foot to push the side stand from the closed position down fully till the side stand can no longer move.

Slowly lean the motorcycle towards you and let the side stand touch the ground.

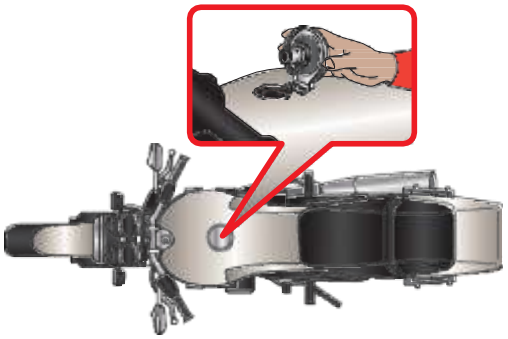
Turn the handlebar all the way to the left, release the front brake.

MOTORCYCLE PRE-RIDING CHECKS

63. Motorcycle pre-riding checks only takes a few minutes and should be done before every ride to prevent problems. This will reduce the chances of a breakdown whilst riding on the road and minimises emergency situation that can resulted in an accident. It is a quick and easy procedure to check the critical components and should be done as routine and automatic as checking the weather forecast before heading out. The best source of information on how a motorcycle should be inspected and maintained is the motorcycle manufacture's official manual. Below are the common pre-riding checks:

FUEL

64. Make sure there is enough fuel for the whole journey. Ensure that the fuel valve is turned on.



TYRES

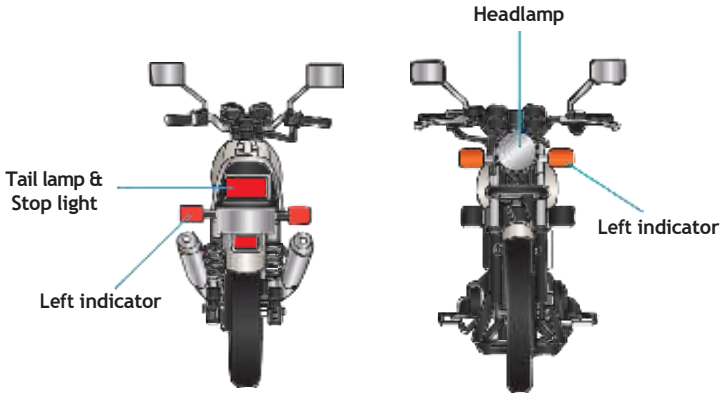
65. Checks for punctured, under inflated, damaged or worn out tyres (treads with a depth of less than 1.6 mm).

CONTROLS

66. Operate the throttle, clutch, front and rear brakes to ensure these are all working properly.

LIGHTS

67. Turn on the following lights to check that all are working;
- ✓ Head lamp
- ✓ Hazard warning light
- ✓ Turn signals
- ✓ Tail lamp
- ✓ Brake lamp



HORN

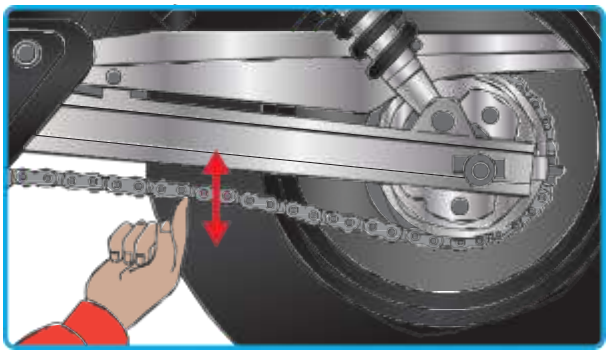
68. Press the horn button lightly to ensure it is working.

ENGINE OIL

69. Check that the engine oil is between the high and low levels. If it is low, top up with new engine oil to required level.

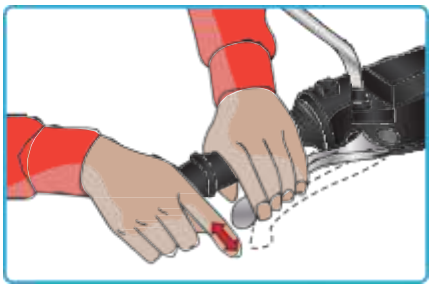
CHAIN

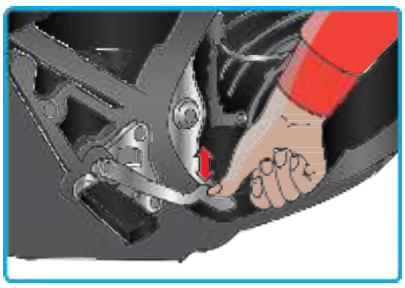
70. Check whether there is too much slack in the drive chain. It is unsafe to ride with a loose chain as it could slip out of the drive gear and get entangled with the rear wheel and cause you to fall off your motorcycle. A loose drive chain of a motorcycle could cause the rear wheel to lock. The slack in the chain should not be more than 20mm.



BRAKES

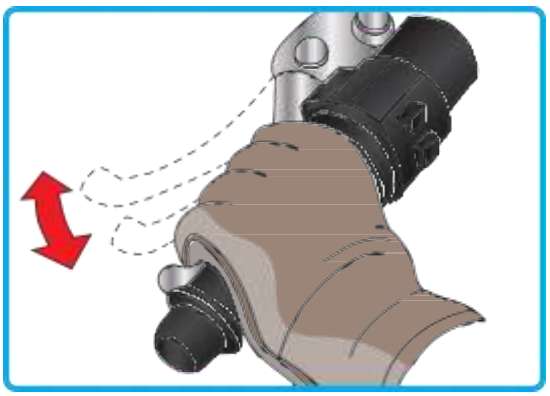
71. Before riding, test both front and rear brakes to ensure these are working properly. Brake fluid's level in the reservoir should be checked. A low level of brake fluid may cause an accident. Check whether the free play of both the front brake lever and rear brake pedal is within 15 - 20mm.





CLUTCH

72. Check the free play of the clutch lever. It should be between 10 - 20mm. Too much or insufficient free play will make changing of gears difficult. If your throttle gets stuck while riding in the traffic, you should immediately pull in the clutch lever, turn off the engine and apply the brakes.



MIRROR

73. Adjust the mirrors until the tip of your shoulder can be seen in the lower edge of the mirror. Do not adjust the mirror while the motorcycle is on the main stand.

PLANNING OF ROUTE

74. Before setting off you should:
    a) Plan your route before setting out;
    b) Avoid congested roads when travelling;
    c) Avoid peak hour riding when most roads are congested;
    d) Give yourself plenty of time for each journey;
    e) You will be less anxious and more patient when riding;
    f) Turn on the smartphone/radio for announcements of accidents, jams, etc. And follow instructions so as to avoid such roads;
    g) Refer to the electronic signs boards for traffic information and react accordingly.

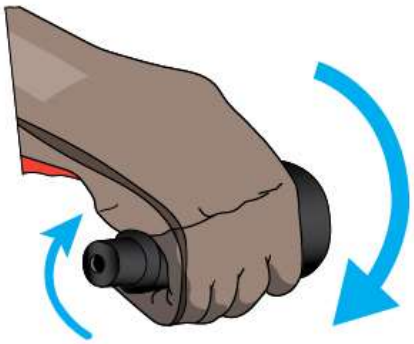
BASIC MOTORCYCLE CONTROLS

75. Hands and feet are used to operate and control a motorcycle. You must know the location and operation of the primary controls and be smooth and precise when using them. The controls and equipment described here are for motorcycles with a manual transmission. (Some motorcycles with an electric motor and/or automatic transmission may have slight difference in their controls.)

THROTTLE GRIP

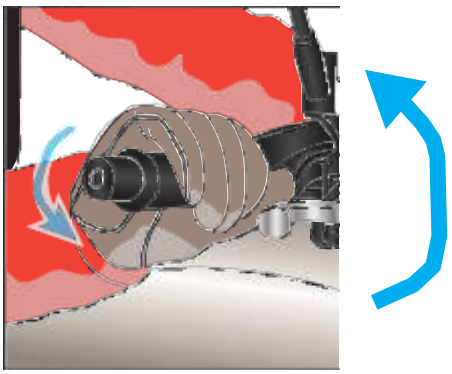
76. The throttle which rotates to control engine speed is used for accelerating and deceleration. To increase engine speed twist it towards you. To decrease engine speed twist it away from you. The throttle recoil back to the idle position when release.

"Throttle Off"



(i) Hold firmly the central part of the grip with your right hand using all your fingers.
(ii) The engine revolution decreases (Deceleration)
(iii) When changing gears, turn off the throttle briskly.

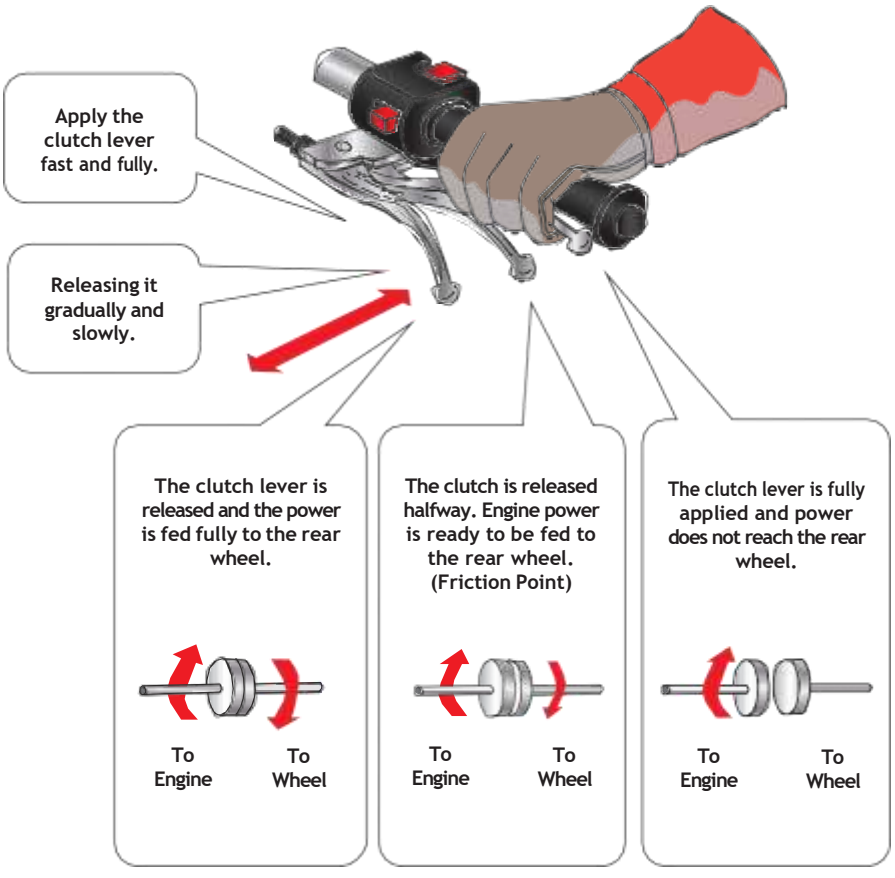
"Throttle On"



(i) Hold firmly the central part of the grip with your right hand using all your fingers.
(ii) The engine revolution increases (Acceleration)
(iii) Turn on the throttle gradually by twisting it towards you.

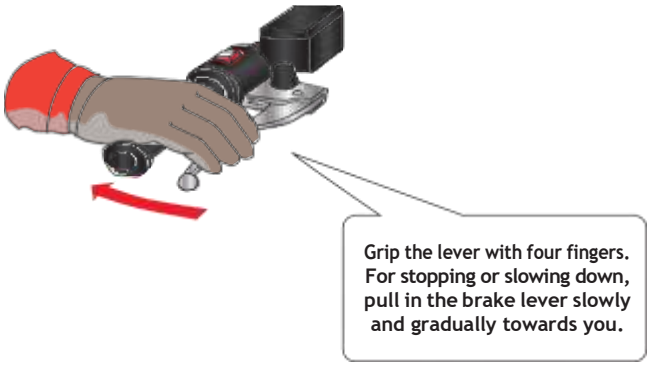
CLUTCH LEVER

77. The function is to connect and disconnect the engine power to the rear wheel and to change gear. It is operated with the fingers of the left hand. The clutch mechanism connects power from the engine to the rear wheel. The lever is squeezed in to disconnect and eased out to connect. When the clutch lever is pulled in, there is no engine power going to the rear wheel. Scooters and some motorcycles do not have a clutch lever because they have an automatic transmission.



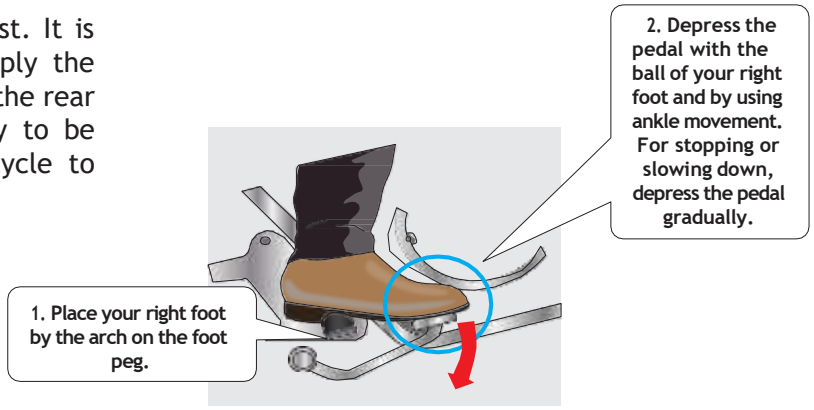
FRONT BRAKE LEVER

78. Located in front of the right handgrip and to operate it, use the right-hand fingers. Pull the lever gently to operate the front brake. Do not apply sudden braking as this may cause the motorcycle to wobble and fall.



REAR BRAKE PEDAL

79. Located in front of the right foot rest. It is operated using the right foot to apply the rear brake of the wheel. If you apply the rear brake hard, the rear wheel is likely to be locked. This may cause the motorcycle to skid and fall.



Note: Some motorcycles (automatic transmission/electric) have the rear brake pedal on the left and front brake lever on the right of the handle bar. Make sure you are completely familiar with the motorcycle before riding. Be sure to review the official motorcycle manual of the respective motorcycle.

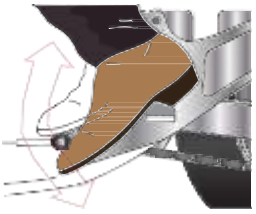
GEARSHIFT PEDAL FOR MANUAL TRANSMISSION

80. Located on the left side of the motorcycle in front of the left footrest. It is operated with the left foot to change gear. Lift up firmly and release to go to a higher gear; press down firmly and release to go to a lower gear. It shifts one gear with each lift or press. When released, the pedal returns to its centre position for the next shift.

Neutral is between 1st and 2nd gear and is selected by either a half -lift from 1st gear or a half press from 2nd gear. Tap lightly to set to neutral.

Use lower gear (1st gear), when you are moving off, going uphill or accelerating.

Higher gears (4th and 5th gears) to be used at higher speeds. Most scooters and some motorcycles do not have a gearshift lever because they have an automatic transmission.



N . Neutral
The machine is not in gear and will not move when you accelerate because the power from the engine is not transmitted to the wheels.

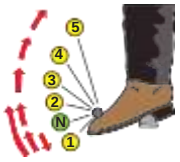
1 1st Gear
The lowest speed range (0km/h to 20km/h) and is used for moving a vehicle from stationary position, riding on steep slopes and at a very low speed.

2 2nd Gear
Has a slightly higher speed range (15km/h to 35km/h) than the 1st gear. It is used for travelling at low speed, negotiating sharp corners and riding on low gradient slopes.

3 3rd Gear
Has a moderate speed range of 30km/h to 45km/h. It is used for negotiating bends and riding on low gradient slopes.

4 ... 4th Gear
Has the highest speed range of 40km/h and upwards. It is used for cruising.

5 ... 5th Gear
Known as 'overdrive'. It is used when the vehicle is cruising above 70km/h.

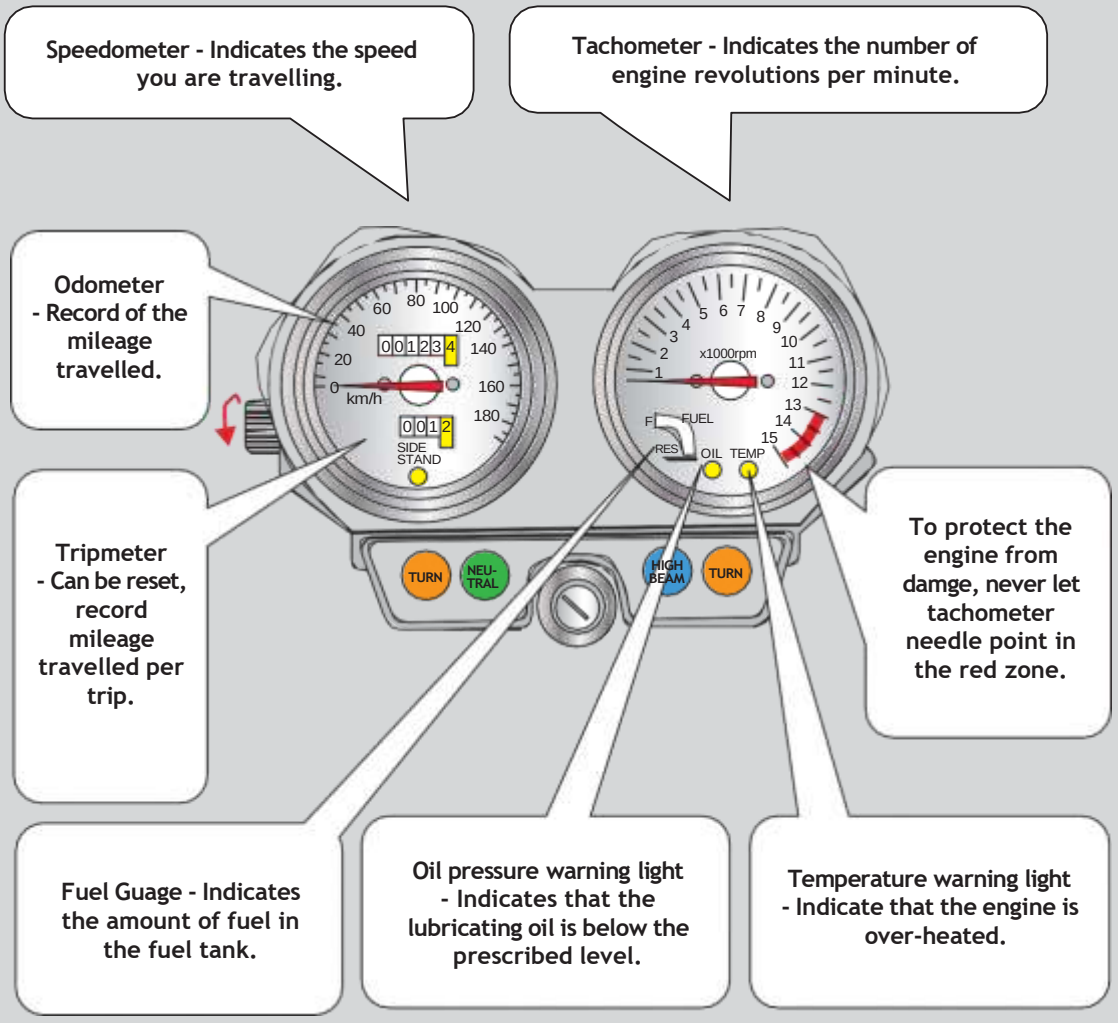


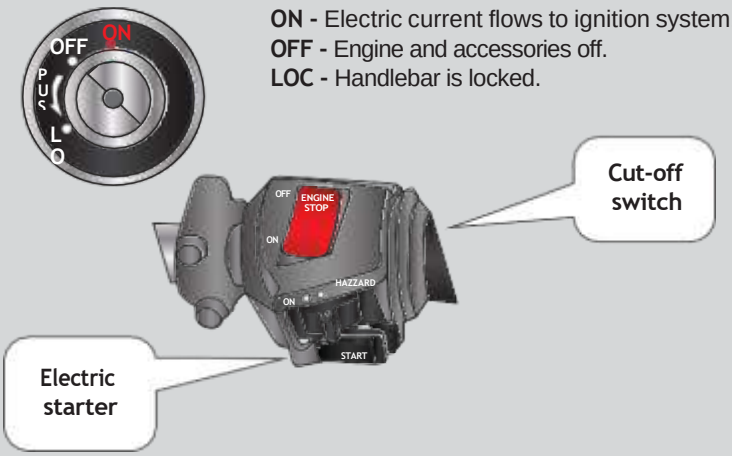
Changing up into a higher gear.
By using the toe of the foot to lift up the pedal from 1st gear to 2nd gear bypassing the neutral gear. See arrows in the diagram.

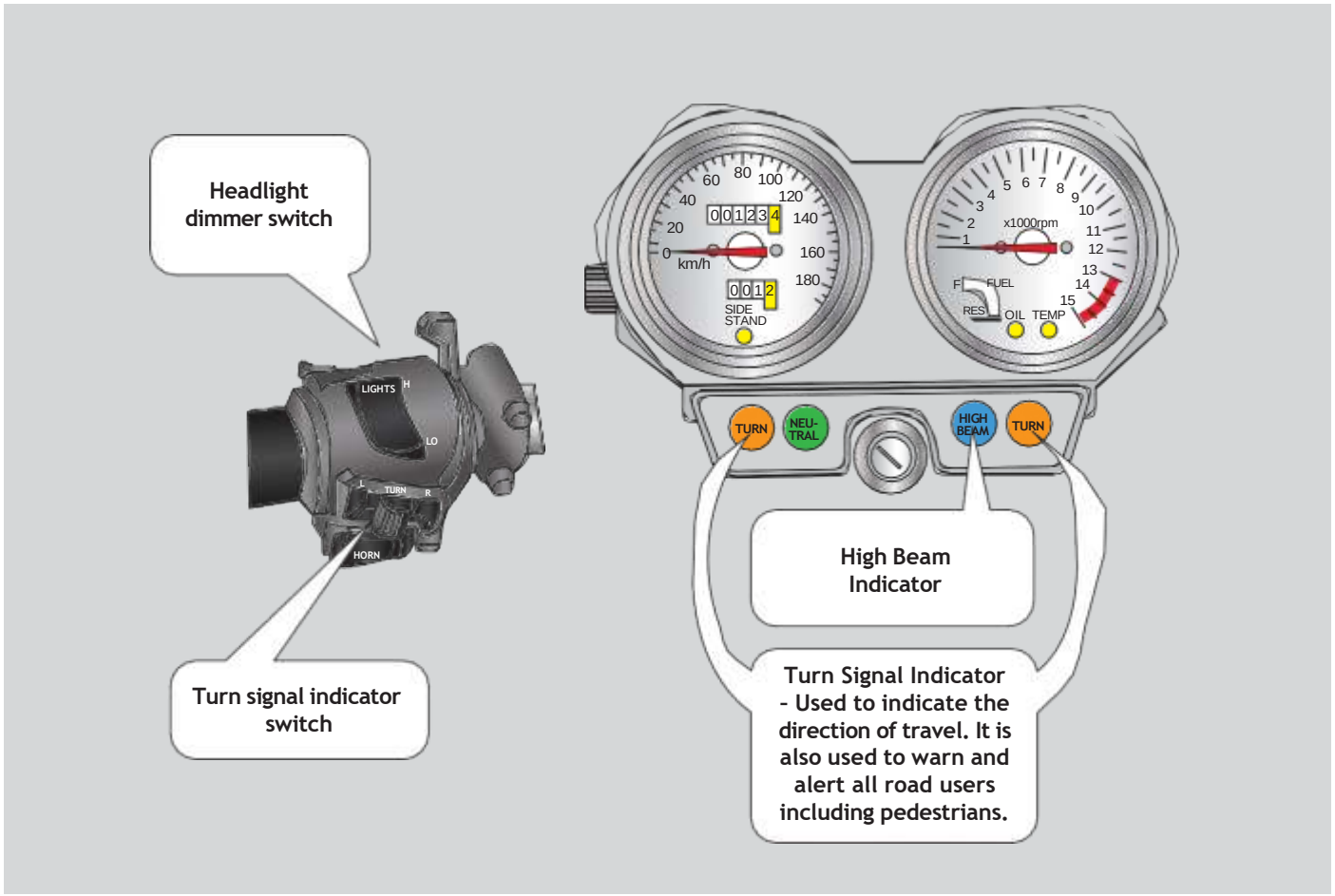
Changing down to lower gear.
Depress the pedal down with the toe of the left foot. See arrows in the diagram.

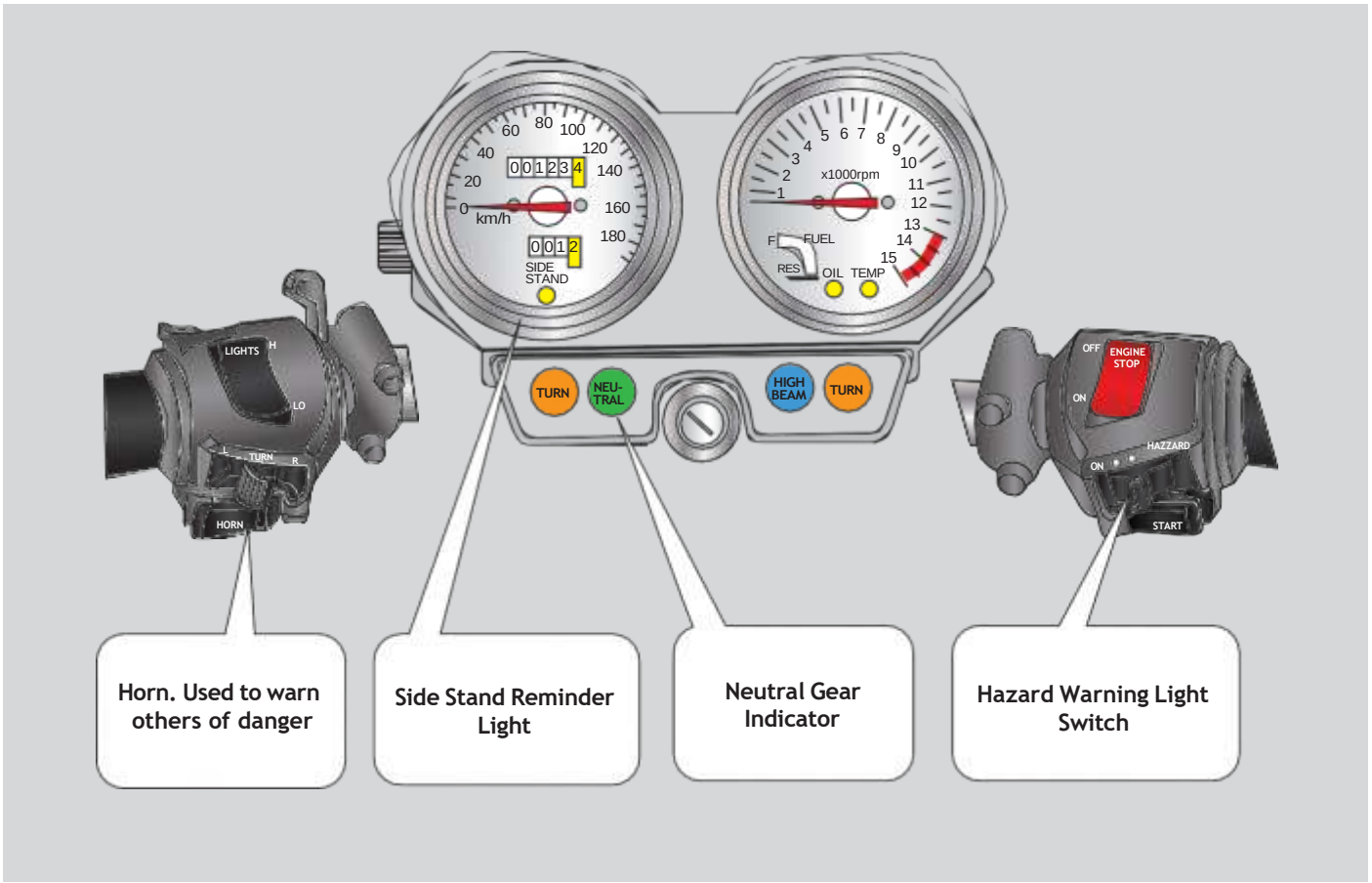
SWITCHES AND INSTRUMENTS

81. The location and operation of the other controls may vary for different models of motorcycles. The best source of information is the motorcycle's official instruction manual.






Headlight dimmer switch
LIGHTS
H
LO
L
TURN
R
HORN
Turn signal indicator switch
km/h
SIDE STAND
x1000rpm
FUEL
F
RES
OIL
TEMP
TURN
NEU-TRAL
HIGH BEAM
TURN
High Beam Indicator
Turn Signal Indicator - Used to indicate the direction of travel. It is also used to warn and alert all road users including pedestrians.


LIGHTS
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FUEL
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RES
OIL
TEMP
TURN
NEU-TRAL
HIGH BEAM
TURN
OFF
ENGINE STOP
ON
HAZZARD
ON
START
Horn. Used to warn others of danger
Side Stand Reminder Light
Neutral Gear Indicator
Hazard Warning Light Switch

LIFTING UP A MOTORCYCLE THAT HAD FALLEN ON ITS SIDE

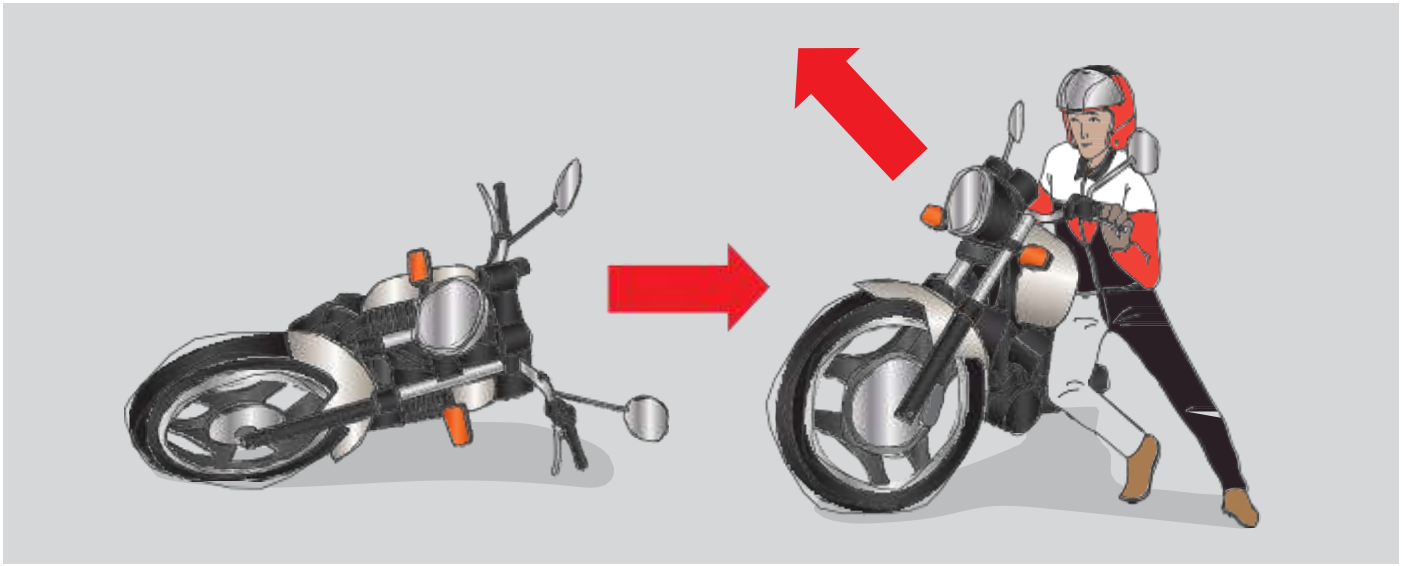
82. The following procedure show you how to lift up a fallen motorcycle that had fallen on its side.

ENSURE THE IGNITION KEY IS OFF

83. Ensure the ignition switch is turned off as it is dangerous if you accidentally press the start button.

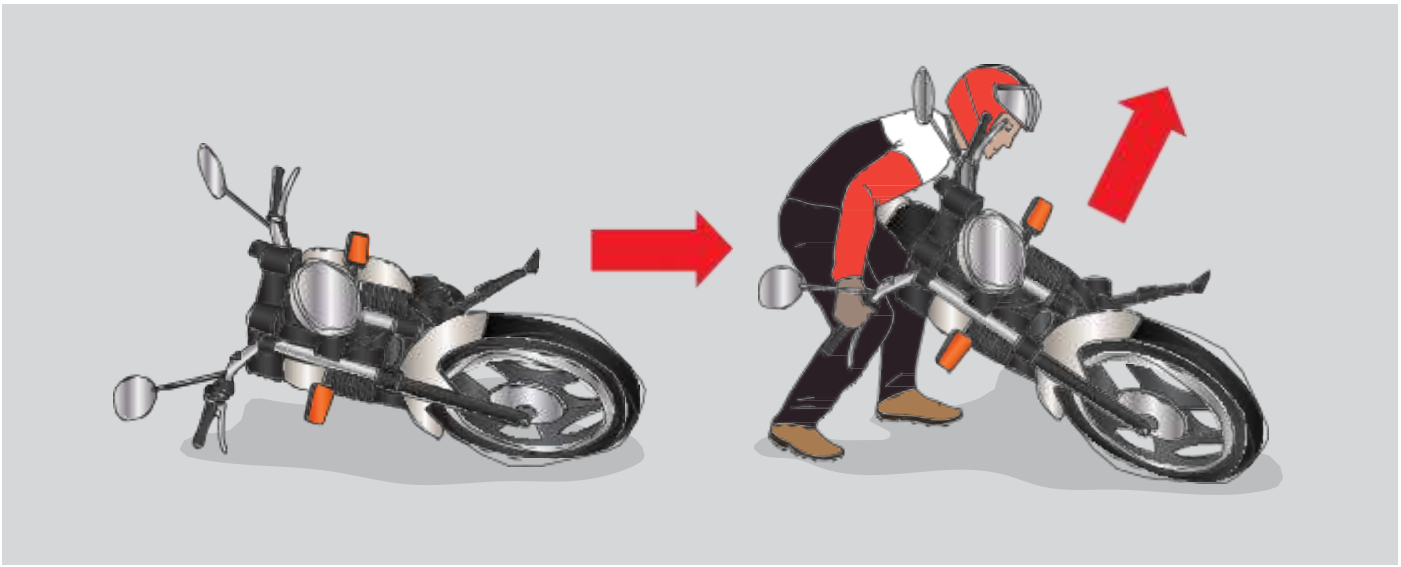
MOTORCYCLE IS LYING ON ITS LEFT

84. Hold handlebar with both hands and turn handlebar to the right. Apply the front brake and lift the motorcycle up in one movement. Use your right thigh and waist to support the motorcycle.



MOTORCYCLE IS LYING ON ITS RIGHT

85. Extend the side stand fully and turn handlebar to the left. Apply the front brake and lift the motorcycle up in one movement. Use your left thigh and waist to support the motorcycle.



HOW TO PUSH AND MANOEUVRE THE MOTORCYCLE

86. The following shows you how to push and manoeuvre a motorcycle safely.

KEEPING THE MOTORCYCLE UPRIGHT

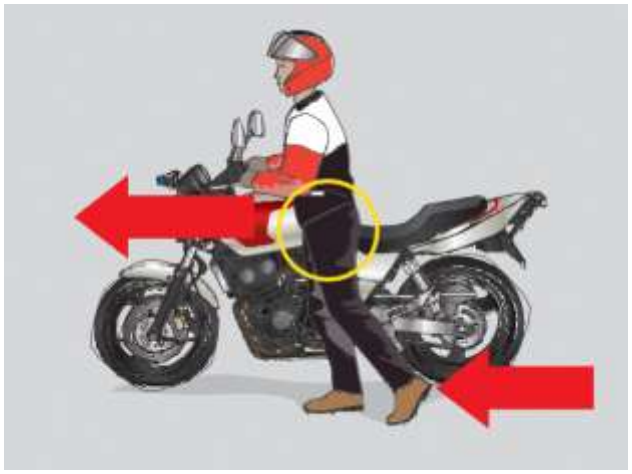
87. Hold the front brake firmly and try to keep the motorcycle body upright and vertical to the ground.

i. Maintaining in an upright position would mean you do not have to put in much strength.

ii. To prevent the motorcycle from falling off the right you can lean the motorcycle body towards body.

PUSHING THE MOTORCYCLE FORWARD

88. When you move forward lean the motorcycle slightly closer to your body. Apply pressure on your waist and push it using your weight. It's easy to lose balance if you look down, so always look towards the direction you want to go. Apply front brake to slow down and stop motorcycle.



PUSHING THE MOTORCYCLE BACKWARDS

89. Steer the handlebar with your left hand and put your right hand against the seat. Look towards the back and push motorcycle backwards. Twist your hips and point your legs in the direction of where you are moving towards and not sideways. Keep the motorcycle upright and close to you.

PUSHING IN LEFT TURN DIRECTION

90. Use your right hand more than your left hand. It is easy to stabilise by leaning the motorcycle to the left and supporting it by putting your waist against the petrol tank or seat.

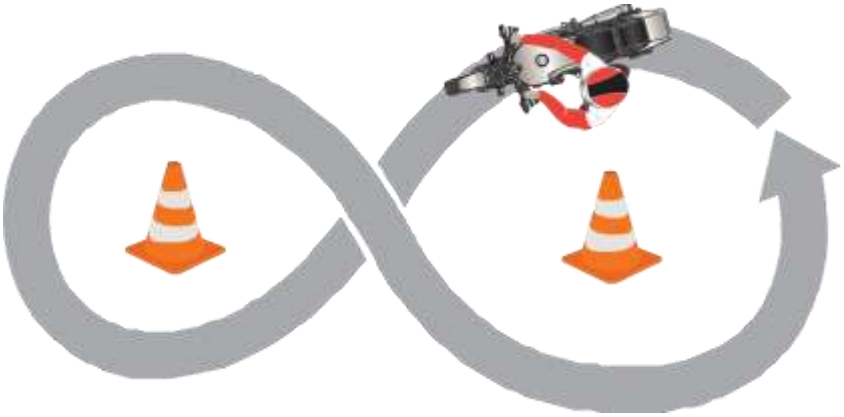
PUSHING IN A RIGHT TURN DIRECTION

91. Use your left hand more than your right hand. If you keep the motorcycle in an upright position it will prevent the motorcycle to fall to the right. Unlike turning left, it is difficult to support with your waist, so be careful. Sudden braking will risk the motorcycle to be unstable and cause it to fall.

PUSHING THE MOTORCYCLE ALONG A FIGURE OF EIGHT

92. Pushing the motorcycle along a figure 8 allows you to practice the changing of the posture smoothly from right to left and left to right. Always look in the direction you want to as this will ensure that have a better control of the motorcycle when pushing it.

Note: Pushing along a figure of eight is compulsory for Traffic Police Class 2 practical test only.



SPEED CHANGING OPERATIONS

SPEED RANGE

93. This chart shows the suitable speed range of each gear as follows:

Gear \ Speed range	0-20 km/h	15-35 km/h	25-45 km/h	35-50 km/h	Above 50km/h
5th					
4th					
3rd					
2nd					
1st					

1st gear	The 1st gear is engaged when moving off from a stationary position. The 1st gear will generate the lowest speed and is the most powerful gear. Use it within the speed range of 0 to 20 km/h
2nd gear	The 2nd gear is engaged to increase the vehicle speed of the motorcycle. The 2nd gear may also be used to apply the engine braking when turning on tight corner or sharp bends, making right or left turns at intersections and moving down steep slopes. When merging with surrounding cars traveling along major roads, quick acceleration may be performed using the 2nd gear to increase the speed of the motorcycle. Use within the speed range of 15 to 35 km/h.
3rd gear	The 3rd gear is engaged to increase the speed of the motorcycle further. It is also used when negotiating moderate corners or bends and can be used as an engine braking when moving down a moderate slope. It may also be used when accelerating during overtaking. Use within the speed range of 25 to 45 km/h.
4th gear	The 4th gear is engaged when increasing the speed further than 3rd gear. Use it on a long straight road when you are traveling at a speed that allows you to get into the flow. Use within the speed range of 35 to 50 km/h.
5th gear	The 5th gear is engaged for running the motorcycle at the highest speed such as on expressways. There are some motorcycles which provide 6th gear and it is usually found on higher capacity motorcycles. However, if the vehicle is not moving at the appropriate speed according to the gear ratio there will be knocking effect and it may cause an adverse effect on the engine. Use it in the speed range of 50 km/h or more.

SHIFTING GEAR ACCORDING TO THE SPEED AND ROAD CONDITION

94. At any time if traffic does not permit you to accelerate to the required speed in order to change up to the next higher gear, you should control the throttle grip and adjust your speed to suit the traffic conditions. You should only change when condition permits.

WHEN TO CHANGE TO A HIGHER GEAR

95. If the lower gear is selected when the speed is above the appropriate range, the engine will operate in a harsh manner. It is necessary to change to a next higher gear.

Types of acceleration:

a. **Rapid Acceleration** – It is used when the situation allows you to pick up speed
b. **Gradual Acceleration** – It is applied when the situation does not allow you to pick up speed.

WHEN TO CHANGE TO A LOWER GEAR

96. When the speed of the motorcycle is reduced and is below the speed range of a particular gear, vibration will occur. Therefore, it is necessary to change down to a next lower gear.

3 common scenarios where you must lower the gear:

a. Before coming to a stop – Apply gradual braking, change to a lower gear to slow down before stopping. This is to maximise your engine braking and to stop effectively.

b. Before entering a corner release the throttle to reduce the speed of the motorcycle. You should shift down to the appropriate lower gear (eg. The 3rd or 2nd gears) and apply the engine braking together with the front and rear brakes accordingly. However, if you shift down the gear too early before entering the corner, the engine braking will cause you not to be at the appropriate speed and may cause the motorcycle to jerk, so be mindful and use the front and rear brakes first.

c. Going uphill or downhill – When going up a slope, the speed tends to decrease. Unless you change to a low speed gear the motorcycle may not be able to climb up and the engine may stall. You should start to accelerate a little more just before going up the slope. When going down, you will need to use a lower gear for the engine braking to work well. When your motorcycle engine stalls while moving off on a slope, you should immediately step on the foot brake pedal.

GEAR SHIFTING

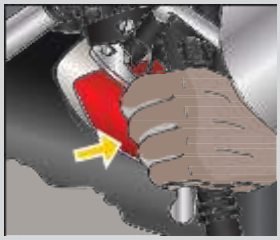
97. When you start riding and continue to accelerate, the engine speed will increase. Although it depends on the acceleration situation, the standard practice is to change to a higher gear when rotation speed is around 3,000 to 4,000 rpm. Once you get used to it, you will not have to look at the speedometer every time because you can estimate the rpm by the engine sound.

GEAR SELECTION

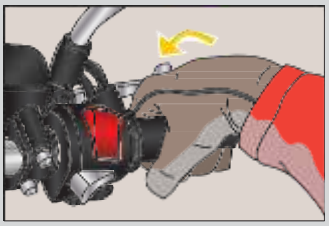
98. The following procedures show you how to change to higher and lower gears effectively.

CHANGING TO HIGHER GEARS

Step 1: Pull in the clutch fully

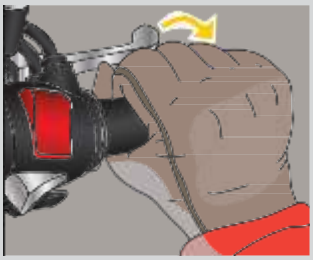


Step 2: Close the throttle

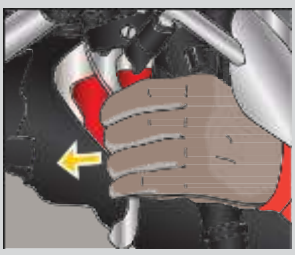


Step 3: To shift to a higher gear, lift up the gear shift pedal once

Step 4: Open the throttle gradually and pick up speed before shifting to a higher gear.

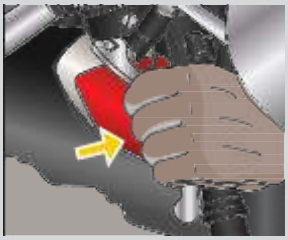


Step 5: Release the clutch gradually and fully

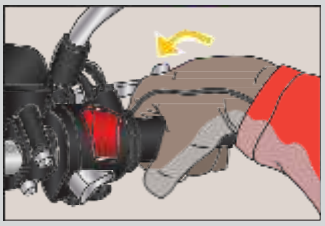


CHANGING TO LOWER GEARS

Step 1: Pull in the clutch fully

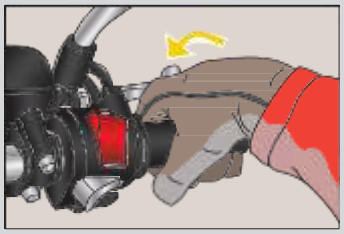


Step 2: Close the throttle



Step 3: To shift to to a lower gear, depress the gear shift pedal down once

Step 4: When shifting to lower gear maintain the closed throttle to trigger the engine brake when slowing down. Use your front and rear brakes to help you slow down.



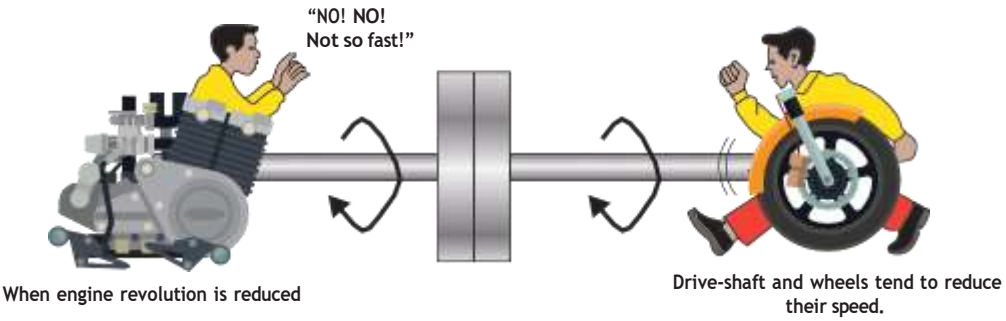
Step 5: Release the clutch gradually and fully

BRAKING TECHNIQUE

99. One of the most important skill for safe riding is correct braking technique. As the learner rider begins to ride in higher speed, he should be equipped with good braking skills in order to reduce the speed or stop the motorcycle completely at various road conditions.

ENGINE BRAKING

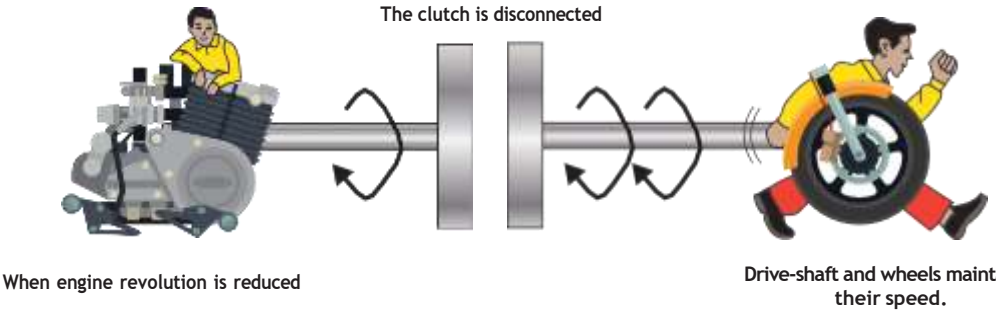
100. When your machine is in motion, the throttle is closed, the gear engaged and without pulling in the clutch lever, there will be reduction in engine revolution, resulting in a braking effect on the wheels which is known as 'engine braking'.



Engine braking plays a very important role;

i. When you need to slow down in wet or slippery road conditions
ii. When you are going down a long and steep slope. OR
iii. When you want to reduce the speed while riding at high speed.

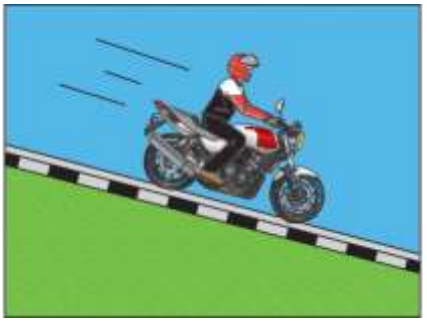
101. The engine brake will no longer be effective when the clutch lever is pulled in. The effect of pulling in the clutch lever too early will cause 'free-wheeling' to the motorcycle; stopping distance will also be longer and dangerous especially when traveling at high speed.



102. The lower the gear, the more effective the engine brake. This is especially useful when riding down a hill where there is a need to control the speed of descent of your vehicle.

a. Use the 3rd gear when the slope is gradual.

b. Use the 2nd gear when the slope is steep.



c. Use the 1st gear and the footbrake together when the slope is short and steep.

103. The advantages of applying the engine-brake going downhill are:
   i. More effective braking when done together with the front and rear brakes;
   ii. The vehicle is unlikely to skid when braking;
   iii. The main cause of 'brake fade' is the brakes overheating. Use engine brake to overcome 'brake fade' when braking down a long steep slope.

CORRECT BRAKING TECHNIQUE

104. When stopping is necessary, you must first consider the speed of the motorcycle and the available distance ahead;
   i. Use engine braking.
   ii. Use both front and rear brake early.
   iii. Gradually increase the pressure of the initial stage if the speed is fast.
   iv. Do not use the brakes and pull in the clutch together immediately after releasing the throttle grip.
   v. Pull in the clutch lever fully before engine starts to knock.
   vi. Change down to 1st gear.
   vii. Release pressure when the machine comes to a stop and place your left foot on the ground.
   viii. Make sure the front wheel stops before the target line.

On a wet surface, the stopping distance of a motorcycle will increase to about twice the distance of that on a dry road. This is because there is less friction on a wet road. Avoid sudden and hard braking as this will cause the wheel to skid, causing the motorcycle to fall.

If the wheels skidded accidentally, quickly release the brakes and apply intermittent braking technique until the motorcycle comes to a stop. However, it is important that you ride at a lower speed to avoid any mishap under such dangerous circumstances.

EMERGENCY BRAKING

105. Emergency braking is to stop the motorcycle in the shortest possible time to prevent a collision. Do not apply the front and rear brakes too hard instantly as it may cause the wheels to lock. If the wheels are locked, this may cause the motorcycle to skid. If the wheels lock and the motorcycle slides forward, release and re-apply the brake repeatedly to stop the motorcycle.

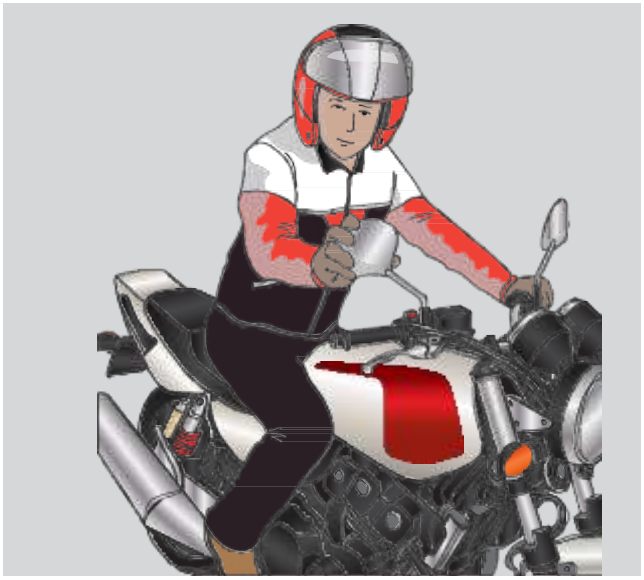
The correct technique is to apply the brakes hard without locking the wheels. The correct technique is as follows;
   a) Keep your body straight, look straight ahead, elbows straighten, grip fuel tank tightly with both knees and holding the handlebar firmly with both hands.
   b) Close the throttle to make use of engine brake.
   c) Apply the front brake and rear brakes effectively to prevent losing control of the motorcycle.
   d) As the motorcycle is about to come to a complete stop, pull in the clutch lever fully to prevent the engine from stalling.

MOVING OFF SAFELY AND PRECAUTIONS TO TAKE

106. The following procedure shows you how to move off safely.

MIRROR ADJUSTMENT

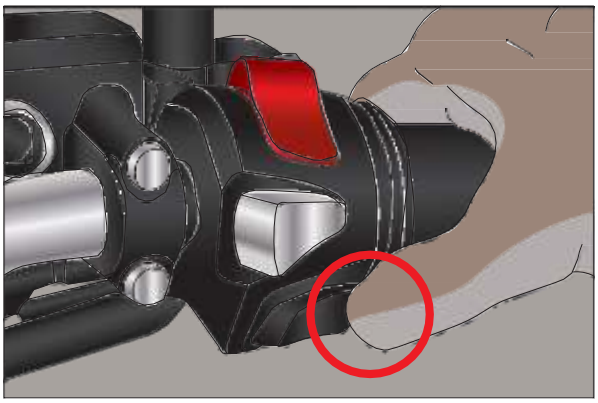
107. While seated on the motorcycle, adjust the angle of the mirror so that you can easily see the back while seated on the motorcycle.

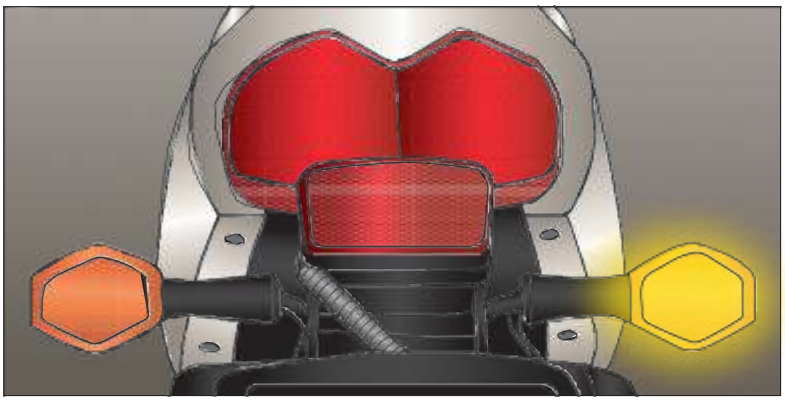


STARTING THE ENGINE

108. When the ignition switch is turned to the 'on' position, all the indicator lamps lights up. Check that the gear is not engaged by visually observing the green lighting of the neutral lamp displayed as Neutral "N".

Check that the red switch 'engine stop' is in the 'run' position. Start the engine by pressing the starter button.



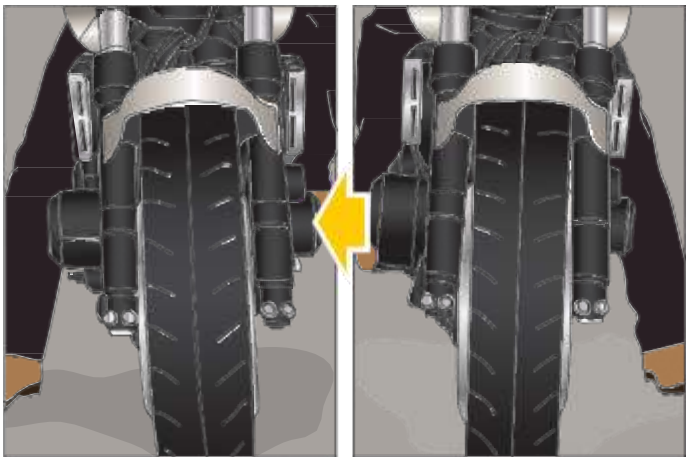


SIGNAL RIGHT

109. When the engine starts, signal right to indicate your intention to move off from the kerbside.

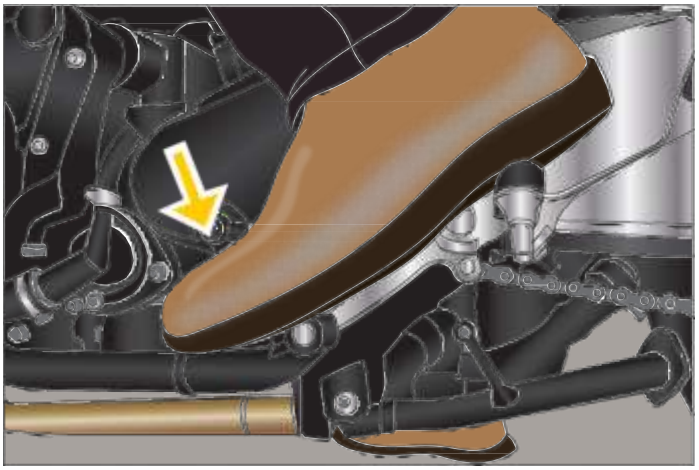
CHANGE LEGS POSITION

110. Release your right foot from the right foot rest to the ground and put your left foot on the left foot rest. Be sure to hold the front brake to prevent accidental movement. Check safety before putting the foot down.



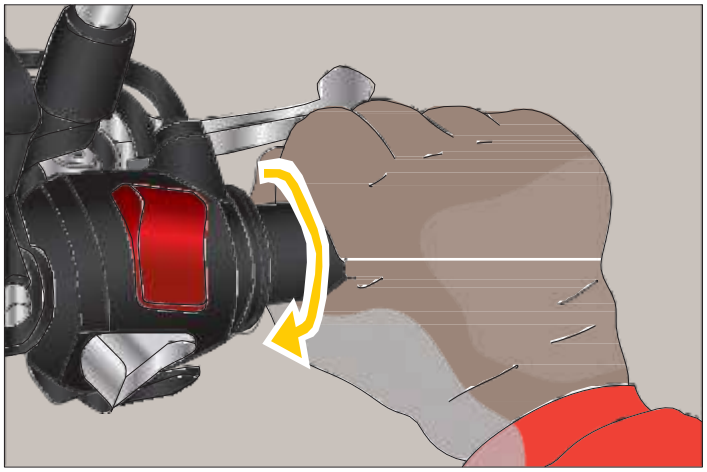
PULL IN THE CLUTCH LEVER AND ENGAGE TO 1ST GEAR

111. When you pull in the clutch lever and depress the gear shift pedal, the gear switches from neutral to first gear. The 'N' green indicator light will go off when the first gear is engaged. Lower your left foot to the ground and place your right foot on the right foot rest.



OPEN THROTTLE

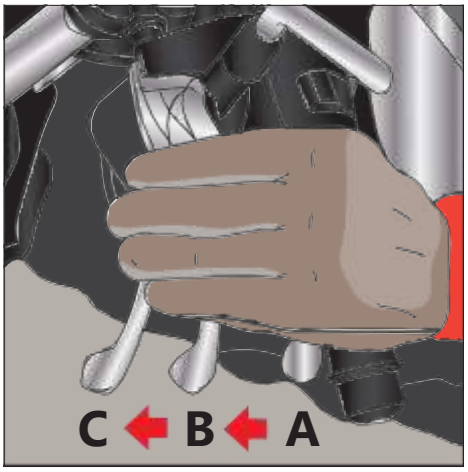
112. Turn the throttle slightly. Maintain the standard rotation speed between 2,000 rpm to 3,000 rpm. Be careful as the engine will stall if the rotation speed is low.



ATTAINING THE BITING POINT

113. Release the clutch lever slowly from position 'A' to position 'B' (refer to picture) while maintaining the throttle, the engine revolution will start to drop slightly. This position is the biting point (half-clutch). While keeping the engine running, release the rear brakes and gradually release the clutch lever to position 'C'. Beware that continuously using the 'Half-clutch' technique for long period of time will cause the clutch linings to wear out faster.

Note: A sudden release of the clutch lever will cause the engine to stall.



CHECK SAFETY BEFORE MOVING OFF

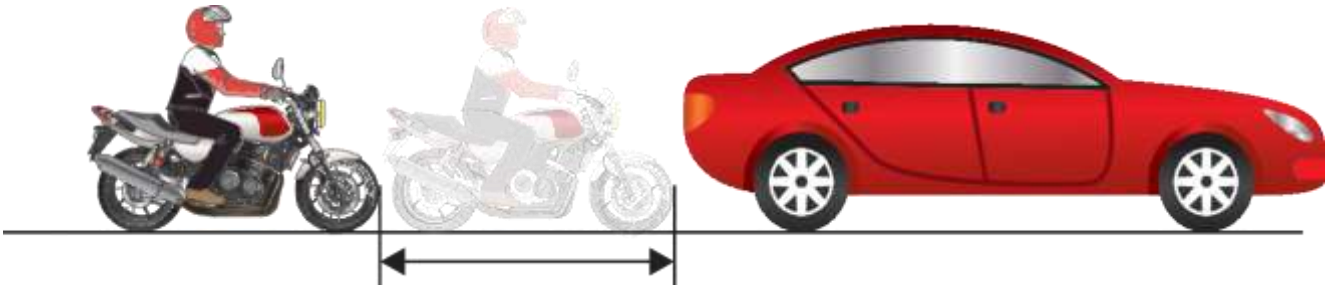
114. Check for safety before moving off, look out for any approaching vehicles or other road users. Slowly release the clutch lever gradually and release your brakes and maintain your throttle to move off.

STOPPING SAFELY AND PRECAUTIONS TO TAKE

115. The following shows you how to stop your vehicle safely.

STOPPING BEHIND OTHER VEHICLES

116. Always stop about a motorcycle length away from the stationary vehicle in front

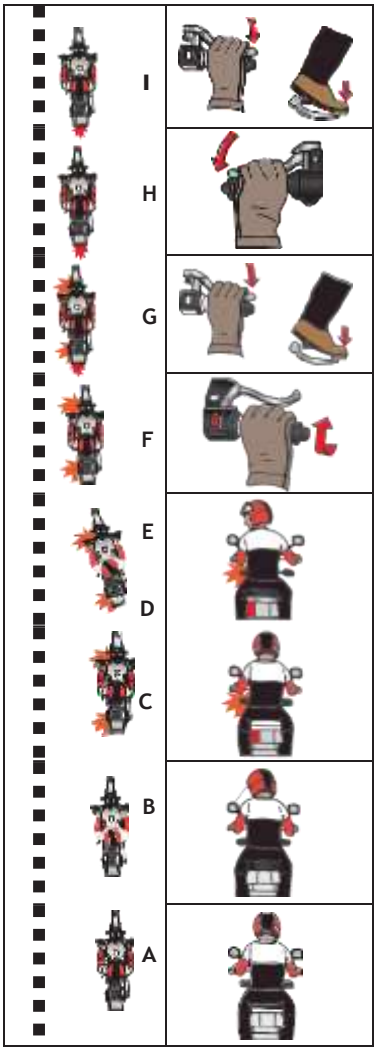


STOPPING AT THE SIDE OF THE ROAD

117. When intending to stop, know the speed of your motorcycle and the distance you have ahead.

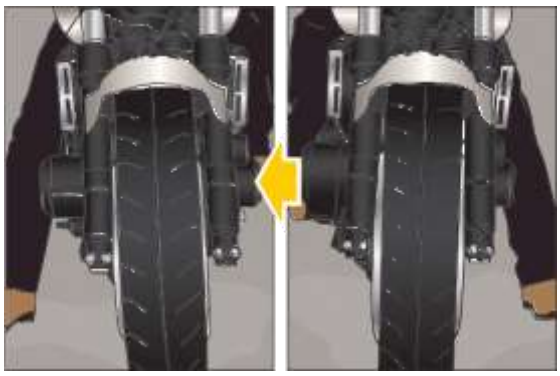
Take the following steps whenever you want to stop your motorcycle.

A. Check the road ahead.
B. Check side mirrors for traffic behind.
C. Turn on the left signal.
D. Look over your left shoulder to check 'blind spot'.
E. Move to the left of the road. Close the throttle.
G. Apply both front and rear brakes smoothly.
H. Pull in the clutch lever fully as the motorcycle is about to stop and hold on to it.
I. Continue braking until the motorcycle comes to a complete stop.



CHANGING THE LEG POSITION

118. After the motorcycle has come to a complete stop, change your leg positions by releasing your right foot from the rear brake pedal, then lower your right foot to the ground and put your left foot on the foot peg. Check safety before putting the foot down.

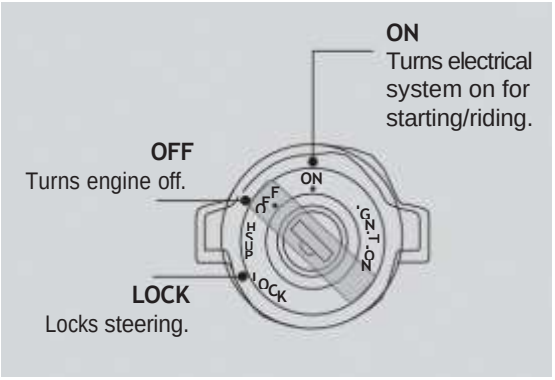


SET TO NEUTRAL 'N' GEAR

119. Step on the gearshift pedal lightly and put the gear in neutral position. Tap the gear lever lightly or you may select gear 1 instead.

SWITCH OFF THE ENGINE

120. Switch off the engine before dismounting.



CHECK SAFETY

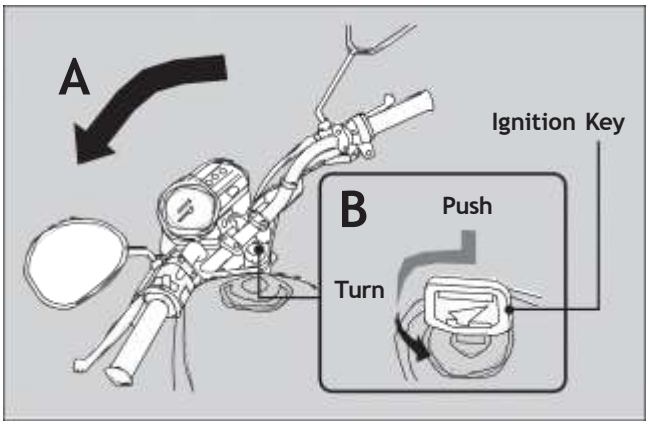
121. Apply front and rear brakes and check if there are any danger in the surrounding area. Be sure to check your back for any on-coming traffic or road users.

DISMOUNT THE MOTORCYCLE

122. With the front brake applied, dismount to the left and set the main stand or side stand.

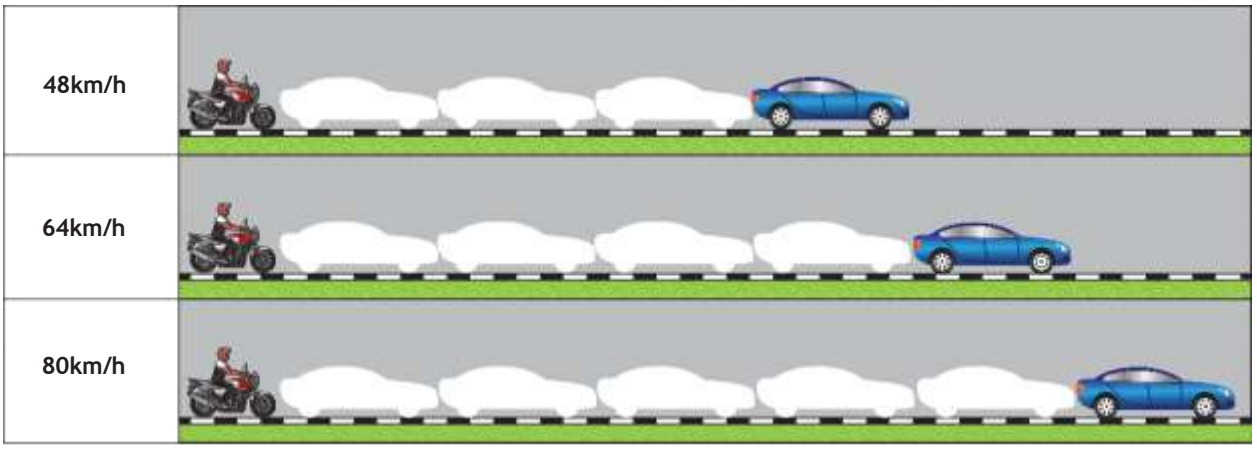
STEERING LOCK

123. Lock the steering when parking to help prevent theft.
   a. Turn the handlebar all the way to the left.
   b. Push the key down, and turn the ignition switch to the LOCK position. Jiggle the handlebar if the lock is difficult to engage.
   c. Remove the key



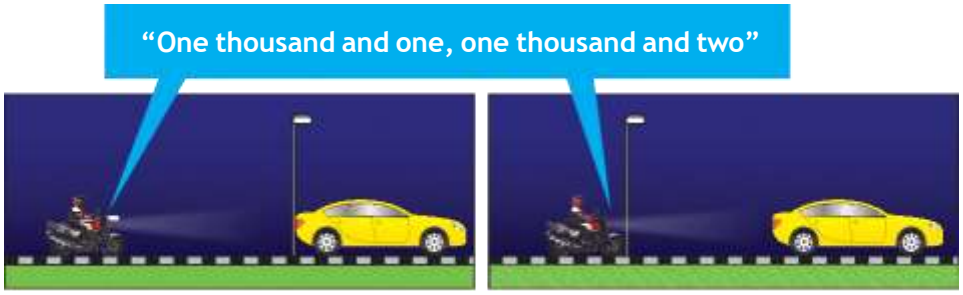
SPEED REGULATION AND SAFE FOLLOWING DISTANCE

124. To be able to stop with an appropriate space between your vehicle and the vehicle in front, you must allow at least one car length for every 16km/h of your speed



THE TWO-SECOND RULE

125. A simple way to ensure a safe gap between you and the vehicle in front is to use "two-second rule". As the vehicle in front of you passes a stationary object such as a lamp post on the side of the road, start counting to yourself "one-thousand -and-one, one-thousand-and-two. This will take two seconds. If you reach the same spot before you finish these eight words, you are following too closely and it is necessary to slow down. This rule will keep you at a safe following distance and will apply to all types of vehicles at any speed under good weather condition.



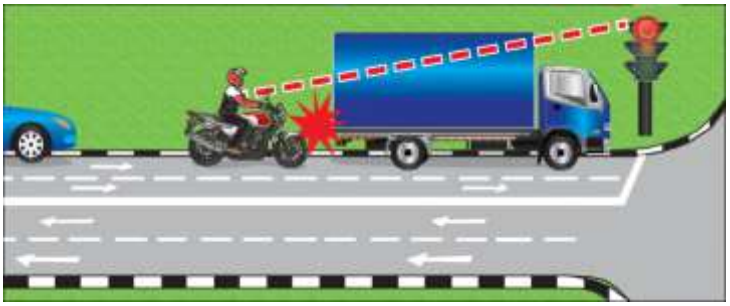
(Vehicle 'A' does not pass the lamp post before counting "one-thousand-and-one, one-thousand-and-two". Thus vehicle 'A' is at a safe following distance from vehicle 'B')

FOUR-SECOND RULE

126. Increase the following distance to 4 seconds when;
   a. Being tail-gated
   b. The driver ahead is tail-gating another vehicle

c. When riding behind a large/heavy vehicle
d. When riding under adverse conditions e.g. wet and slippery road, at night, visibility is poor or motorcycle is heavily loaded.
e. When physically and mentally worn-out

If you are following behind another vehicle, especially a large vehicle, keep a safe distance. You will not be able to see the traffic lights if you are too close behind a large vehicle.

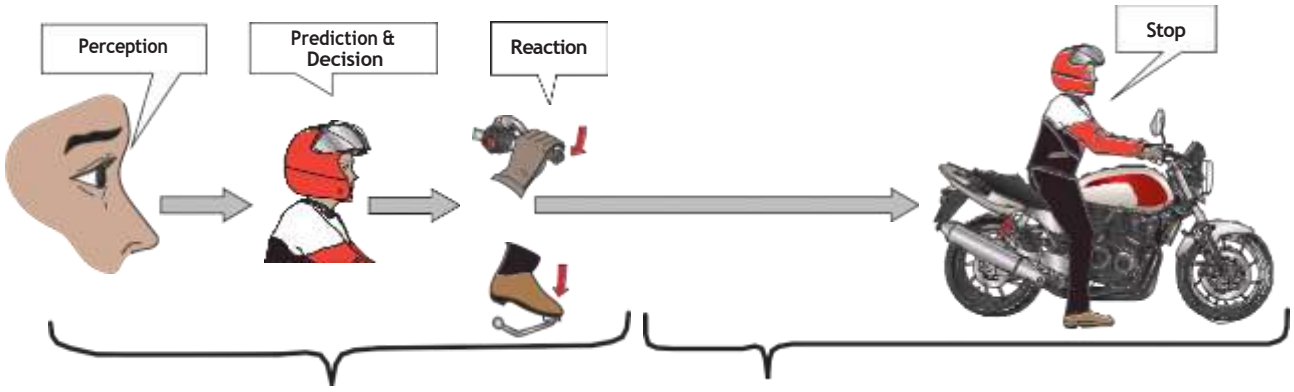


(a) It may result in a rear-end collision.

(b)You may 'beat' the red light inadvertently.

STOPPING DISTANCE

127. The Stopping Distance of a vehicle is made up of two components; ie, Reaction Distance and Braking Distance. The braking distance will also increase when the road is wet, or if the tyre treads are worn, or when the vehicle is fully loaded.

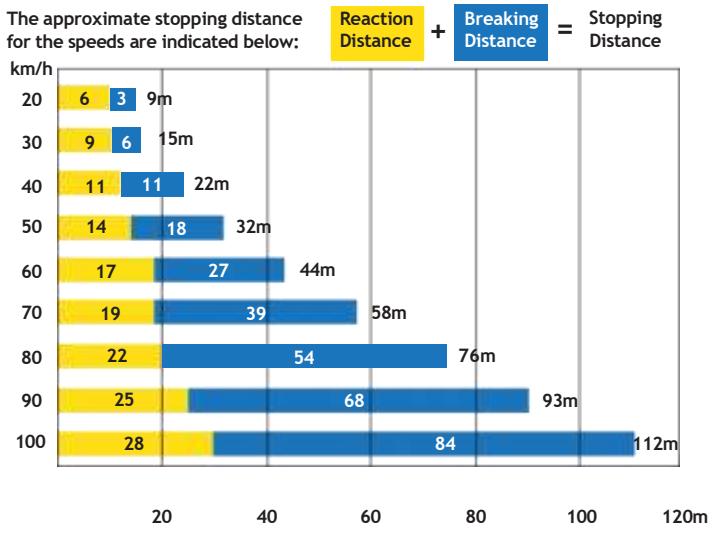


REACTION DISTANCE

128. Reaction distance is the distance travelled between the moment a rider sees an emergency situation and the moment he places his foot on the brake pedal. The average rider takes 3/4 of a second to react. This distance varies with the speed of the vehicle. The higher the speed, the longer the reaction distance.

BRAKING DISTANCE

129. Braking distance is the distance required between the moment a rider applies the brakes and the moment the vehicle comes to a stop. This distance will, of course, varies with the speed of the vehicle as well as the conditions of the road surface. The higher the speed, the longer the braking distance. On a wet road surface, the braking distance may be double that on a good dry road.

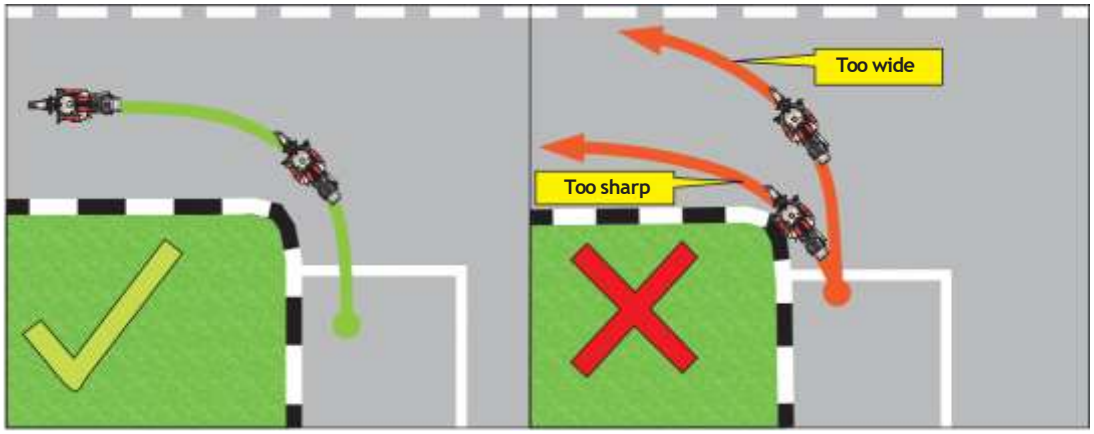


WAYS OF MAKING A LEFT TURN

130. The following shows how to manoeuvre a left turn and the safety precautions to be taken.

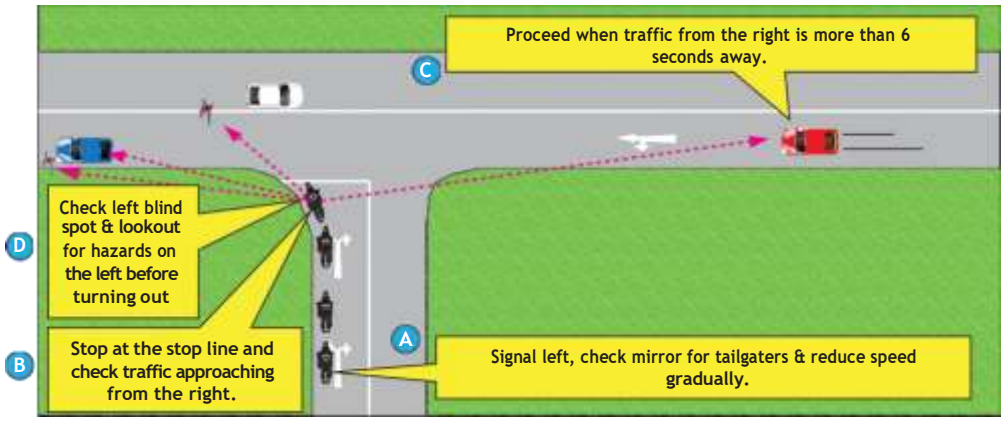
PROPER LEFT TURNING

131. Proper control of the clutch and throttle is important to turn to your intended path and prevent you from wide or sharp turning.



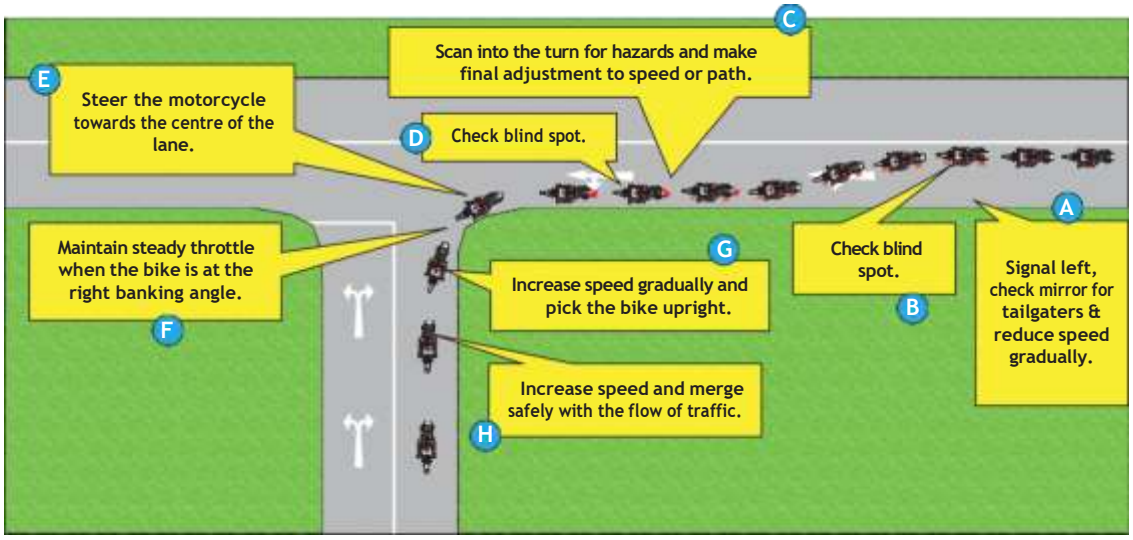
TURNING LEFT (MINOR TO MAJOR ROAD)

132. Safety procedures for turning left from minor to major road.



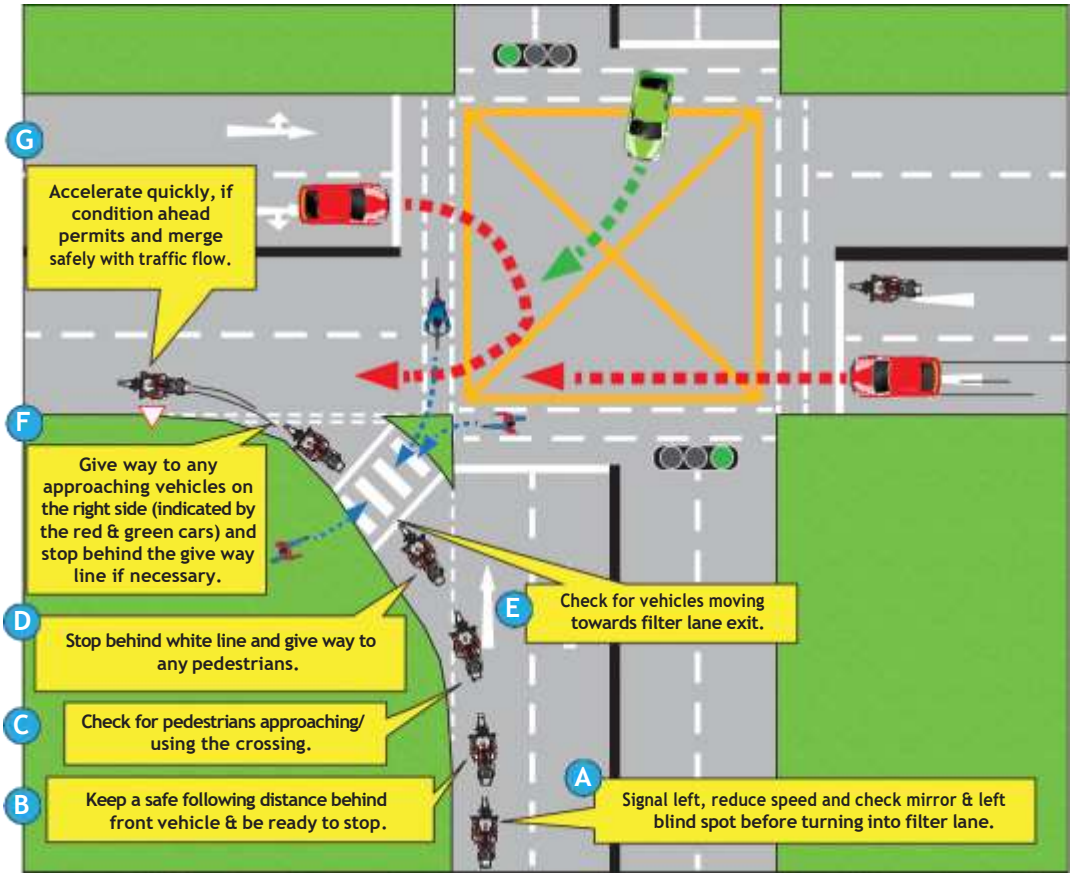
TURNING LEFT (MAJOR TO MINOR ROAD)

133. Safety procedures for turning left from major to minor road.



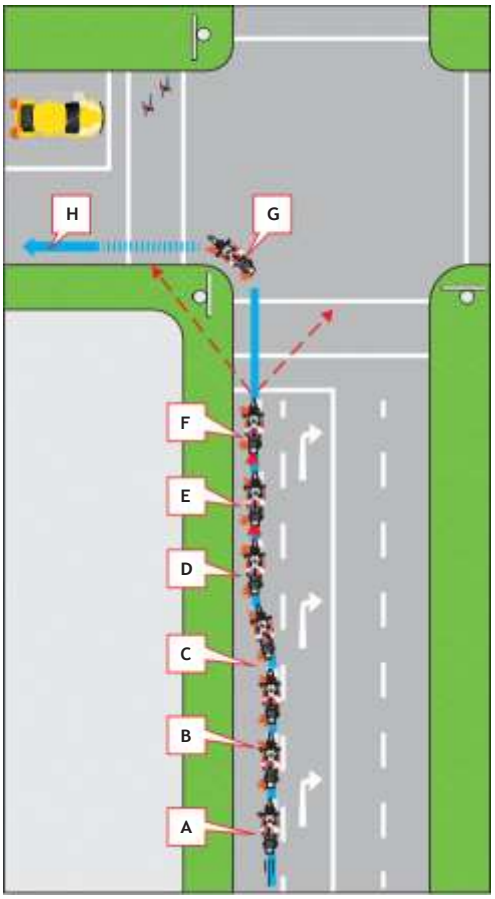
TURNING LEFT (FILTER LANE)

134. Safety procedures for turning left at a filter lane.



TURNING LEFT (TRAFFIC LIGHT JUNCTION)

135. Safety procedures for turning left at a traffic light junction.



A. Monitor the front and rear for vehicles and other road users
B. Signal your intention at least 3 seconds before the turn
C. Check left blind spot
D. Keep to left side of lane
E. Slow down. Change down to appropriate gear
F. Check whether traffic light allows to proceed, otherwise stop behind the stop line
G. Check traffic from right, left and ahead to confirm safety before turning. Keep a look-out for pedestrians. Stop and give way to any pedestrians.
H. Turn to the nearest left lane, accelerate and at the same time look far ahead the traffic situation

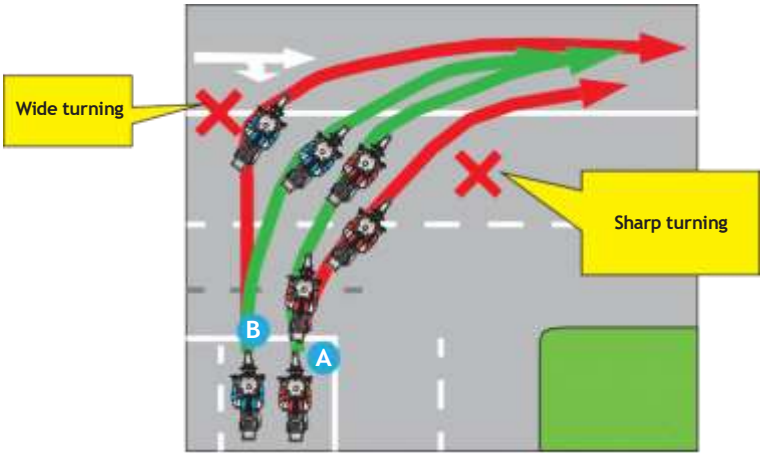
Note: A turn signal that keeps flashing after a turn is very likely to confuse other drivers and cause them to turn into your path.

WAYS OF MAKING A RIGHT TURN

136. The following shows how to manoeuvre a right turn and the safety precautions to be taken.

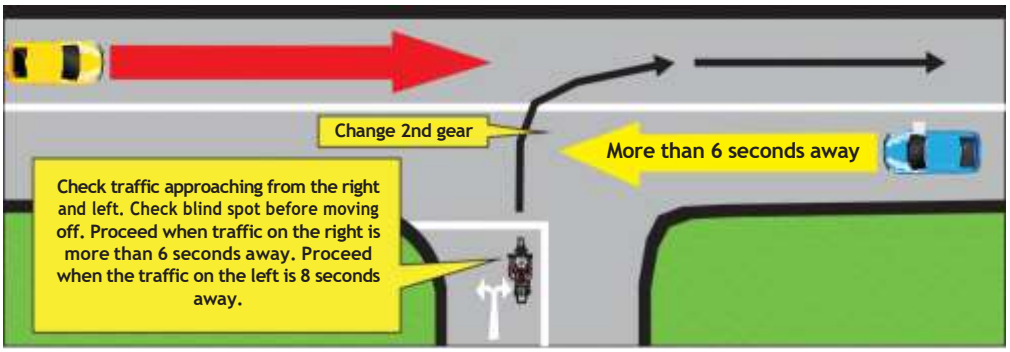
PROPER RIGHT TURNING

137. Proper control of the clutch and throttle is important to turn to your intended path and prevent you from wide or sharp turning. Grip the petrol tank with your knees for better control at low speed.



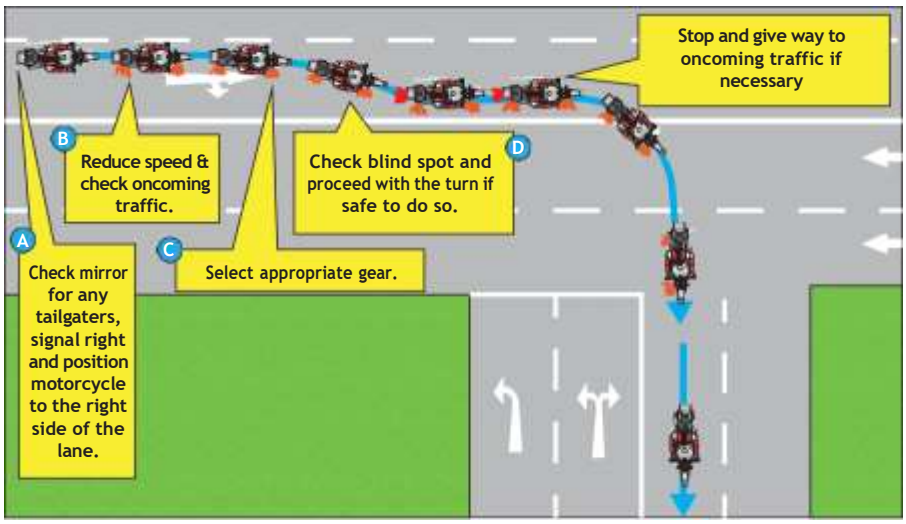
TURNING RIGHT (MINOR TO MAJOR ROAD)

138. Safety procedures for turning right from minor to major road.



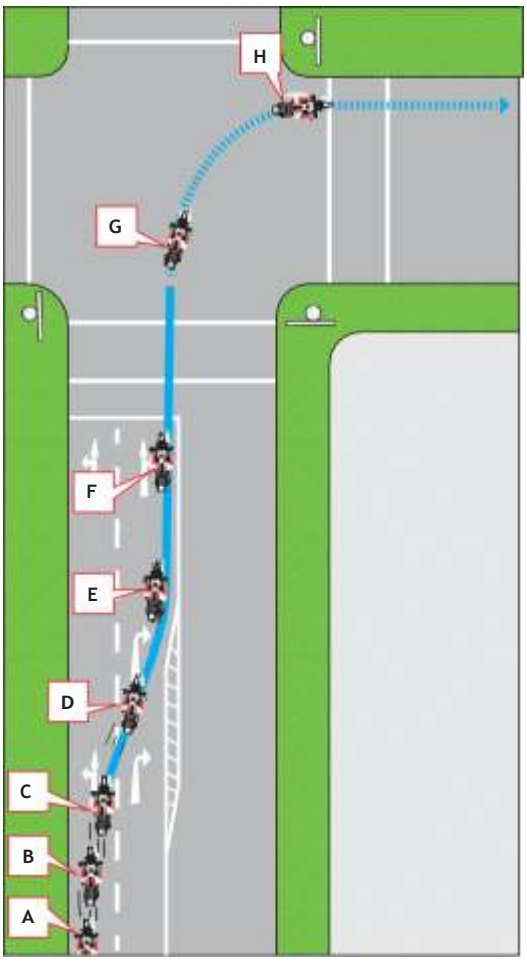
TURNING RIGHT (MAJOR TO MINOR ROAD)

139. Safety procedures and positioning for turning right from minor to major road.



TURNING RIGHT (TRAFFIC LIGHT JUNCTION)

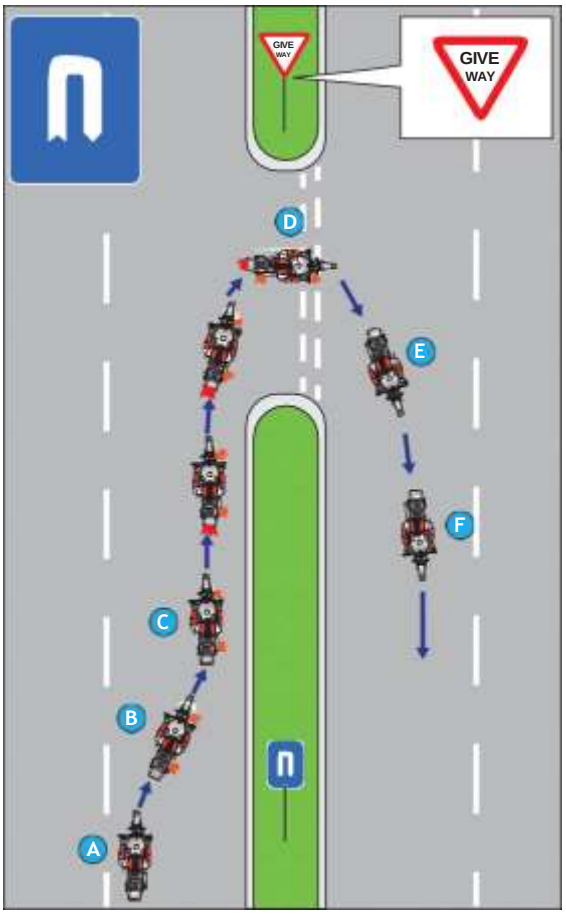
140. Safety procedures and positioning for turning right at a traffic light junction.



A. Monitor the situation in front and rear
B. Switch on signal.
C. Check right blind spot.
D. Form up correctly by changing to the outer right lane when safe.
E. Slow down and change to the appropriate gear.
F. Check oncoming traffic and traffic light status, proceed if safe otherwise stop behind the stop line.
G. Move up slowly towards centre of junction or lane pocket, if your view is blocked by opposite right turning vehicles (stationary/moving) do not proceed until the green arrow signal appears. Check and ensure that there are no pedestrians crossing and move to the correct lane.
H. Turn to the nearest right lane, accelerate and at the same time look far ahead the traffic situation.

MAKING A U-TURN

141. You are not allowed to make a U-turn at any junction, intersection or any opening in a road divider unless there is a U-turn sign permitting you to do so. To execute a smooth U-turn requires good positioning, speed control and safety procedures



A. Check front and rear for traffic and adjust speed according to the space available in front.
B. Switch on right signal, check blind spot and move to the right and ride along the right outer lane.
C. Reduce speed and change to lower gear.
D. Stop behind the stop line in the centre of exit if there is a stop line. Make sure you do not interrupt the flow of traffic when moving off. Check blind spot before proceeding to turn when safe to do so.
E. Turn properly to your intended path.
F. Increase speed and keep left when safe to do so.

WHEN AND HOW TO CHANGE LANE

142. The following explains general road behaviour and fundamentals of lane changing.

ROAD HOGGING

143. Road-Hogging is driving at an unreasonably slow speed on the road especially on the right-hand or along the centre of the road. Road-Hogging hinders the flow of traffic behind and may cause other vehicles to pass dangerously on the left. Motorists who travel at a slow speed should keep to the left side of the road; this applies especially to small capacity motorcycles, goods vehicles and lorries. You should only use the right-hand lane when overtaking or when you are about to turn right or make a U-turn.

THE KEEP LEFT RULE

144. When driving along two-way streets, keep well to the left and as near as practicable to the boundary of the road, except when you intend to overtake or turn right. Do not hog the middle of the road. This applies to dual- carriageways as well.

You must not cross the centre line at bends, near the crest of a rise or anywhere else where you cannot clearly see the road ahead.

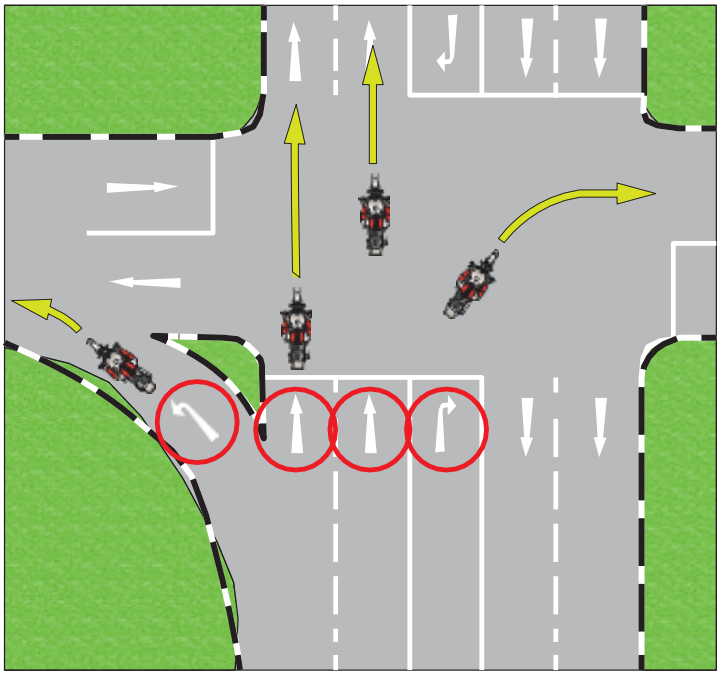
Sometimes your path of travel may be obstructed by road works, parked vehicles etc. In such circumstances, to avoid the obstruction, take extra care to ensure that your intended path is safe and clear before you move to the right. You may cross the centre line if the roads are narrow.

LANE DISCIPLINE

145. You must obey the directions indicated by arrows marked in the lanes. See illustration on the right. You must not change lanes suddenly as you may inconvenience or endanger other motorists. When changing lanes, give sufficient warning of your intention. Always signal at least 3 seconds in advance. Failure to do so could cause an accident.

Well before you reach a junction, make sure that you get into the correct lane for whichever direction you wish to take.

In traffic hold-ups, do not "jump the queue". Trying to get ahead of others by squeezing between lanes and overtaking recklessly is courting disaster. Always be patient and have consideration for other road users.



EMERGENCY VEHICLES

146. Ambulances ferry the sick and injured to hospitals. Fire Engines help put out fires, and Police Vehicles carry police personnel whose presence is much needed in an emergency. Obstructing the passage of any such vehicle could mean the difference between life and death for someone. If you encounter any of them on the road with sirens and/or seeing the flashing beacon lights, give way by pulling in to the left or right side of the road depending on the circumstances.

DO

(a) Pull to the nearest edge of the roadway and come to a complete stop if necessary, until all emergency vehicles have passed.
(b) Be alert to the approach of an emergency vehicle.
(c) Switch on your direction signal when pulling off the road. This sends a message to the emergency vehicle operator that the driver is aware of his/her presence.

DO NOT

(a Block any intersection (even when attempting to give way to an emergency vehicle), as it is dangerous.
(b) Follow closely behind an emergency vehicle responding to an emergency.
(c) Stop on a bridge, curve or crest of a hill; instead, switch on your directional signal and proceed forward until you can safely pull over and come to a complete stop.
(d) Slam on your brakes or stop directly in front of an emergency vehicle.

CHANGING LANES

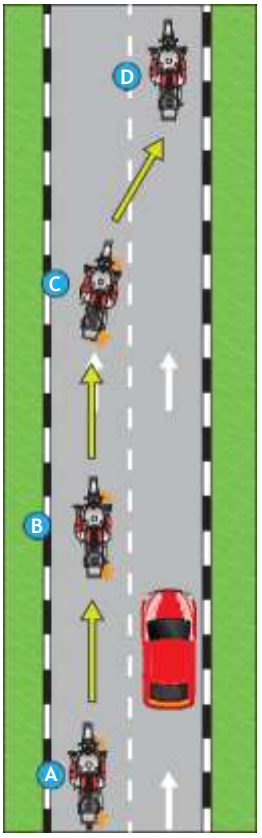
147. The most difficult aspect of changing lanes is the estimation of speed and distance of vehicles approaching from behind. As such riders will have to ensure the situation with regular glances at the side mirror. To change lanes safely, this is what you should do:

At (A)
(i) Check mirrors;
(ii) Signal your intention for at least 3 seconds;
(iii) Check blind spots.

At (B)
(i) Adjust your speed;
(ii) You may have to slow down or speed up depending on the traffic situation behind you.

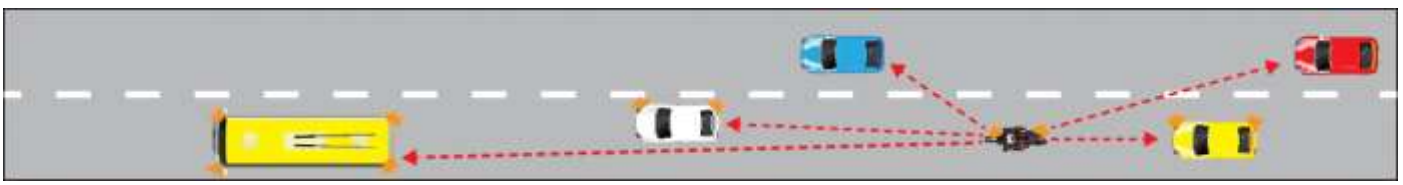
At (C)
(i) When it is safe, accelerate smoothly and steer gently into the lane intended without interrupting the flow to traffic.

At (D)
(i) Cancel your signal and resume your normal speed.



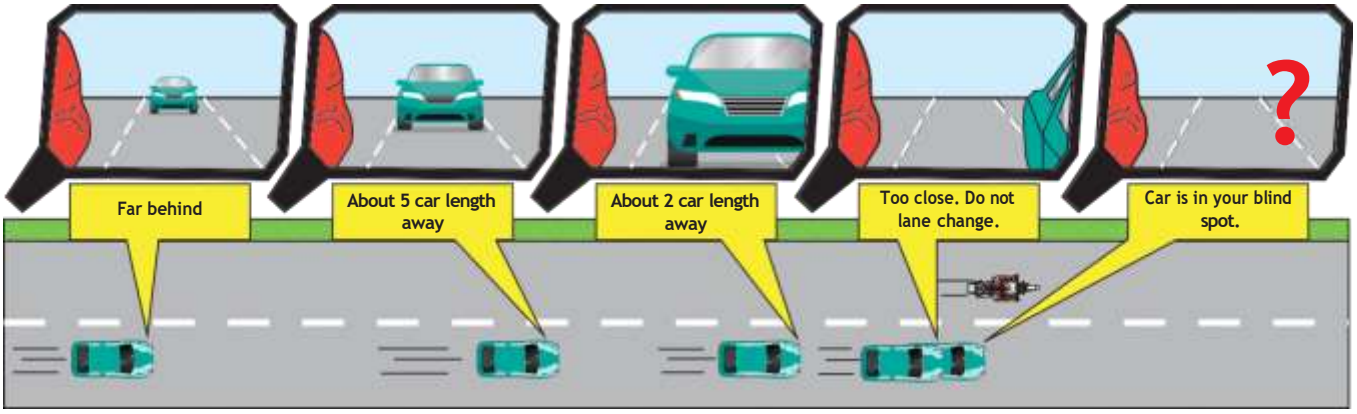
JUDGEMENT OF SPEED AND DISTANCE OF FRONT AND REAR VEHICLES

148. Sound judgement of prevailing traffic and road conditions are crucial for safe lane change. New rider may have problem judging accurately the speed and distance of surrounding vehicles initially.



READING OF THE MIRROR

149. The distance of the vehicle behind you is determined by the size of image in the mirror. Adopt quick glances when check the mirrors, looking into the mirror for too long will distract your attention off the road.



Knowing the distance of the rear vehicle is not enough to ensure safe lane changing. Knowing the speed the rear vehicle is travelling is also critical. Speed of vehicle behind you can be roughly estimated by the rate of change in size of image in the mirror.

a) Constant size – the rear vehicle is travelling at the same speed as you
b) Size is becoming bigger – the rear vehicle is travelling at a faster speed than you
c) Size is becoming smaller – the rear vehicle is travelling at a slower speed than you

SPEED REGULATION

150. Lane changing is a challenging manoeuvre and it can be unsafe if not done safely. It can endanger the safety of other road users as well as disrupt flow of traffic.

Lane changing should be done for the following reasons:

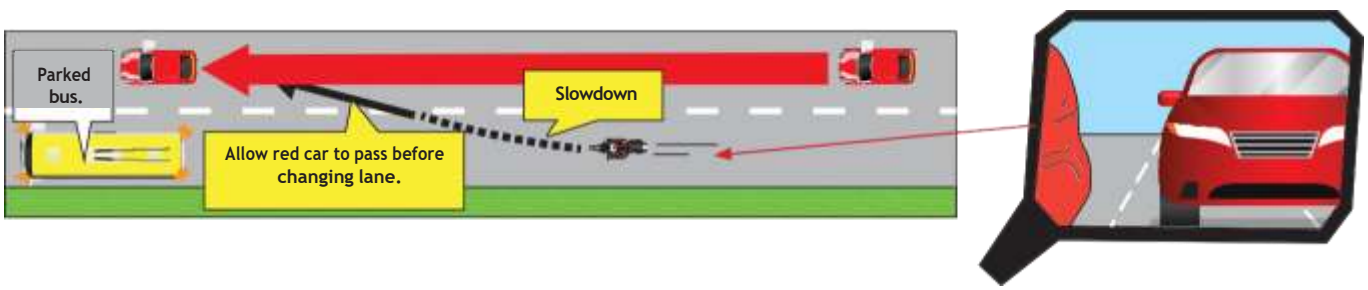
1) To keep to the right or left in order to turn right or left respectively.
2) To overtake a slow moving vehicle which is hindering the flow of traffic.
3) To overtake any obstruction or obstacles along your path.

After analysing the traffic and road conditions, adjust your speed to suit the traffic flow and make full use of space available to change lane safely. When you find it difficult to move over to the next lane in heavy traffic, you should slow down and wait for someone to give way to you. Avoid abrupt lane change which might result in accident or forcing drivers to jam brakes or swerve to avoid accident.

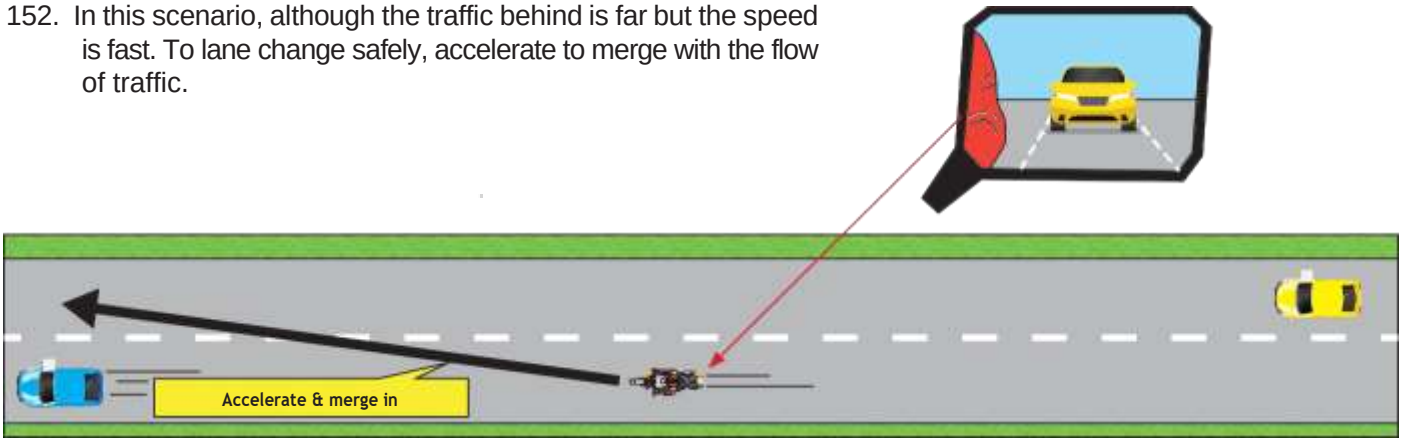
Plan your route ahead, choose the appropriate lane and remain in your own lane as far as possible. Do not travel in between the two lanes simultaneously. If you have missed a turn, do not stop suddenly, reverse or swerve sharply into the desired lane. You should proceed and exit by the next turn.

DIFFERENT SCENARIOS TO CONSIDER BEFORE CHANGING LANES

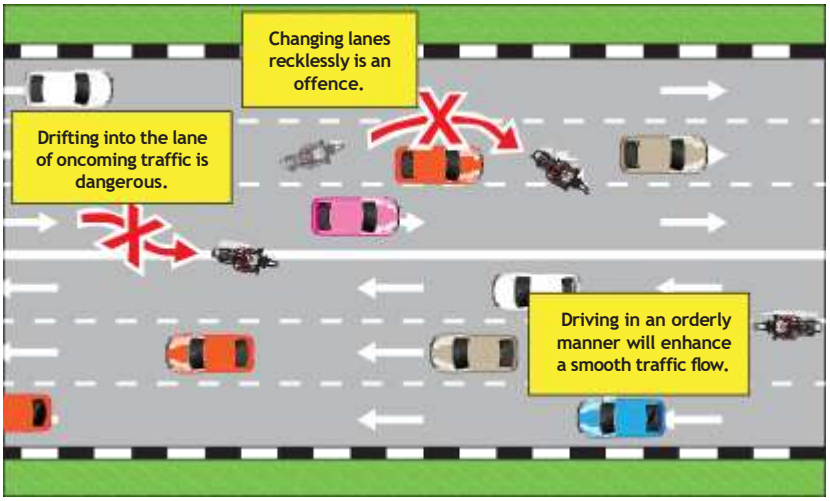
151. When it is unsafe to change lane, do so after the vehicle behind has passed. In this scenario, the red car is too near and it is unsafe to lane change. Slow down when approaching parked bus and allow the red car to pass before picking up speed to change lane.



152. In this scenario, although the traffic behind is far but the speed is fast. To lane change safely, accelerate to merge with the flow of traffic.

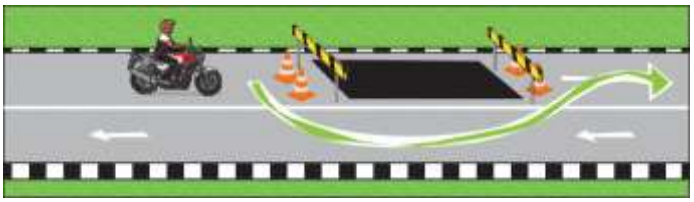


153. You should not change lanes or cross the centre continuous white line unnecessarily.

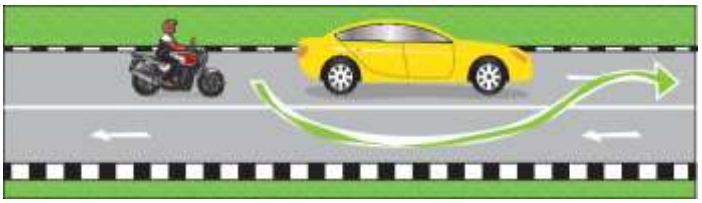


154. Always keep to the left when riding along two-way street or dual-carriageway. In the situation where your path of travel is obstructed by road works, parked vehicles, etc. you may overtake safely and cross the centre continuous white line or move to the lane on your right. In doing so, take precautionary measures to ensure that your intended path is safe and clear before you move to the right.

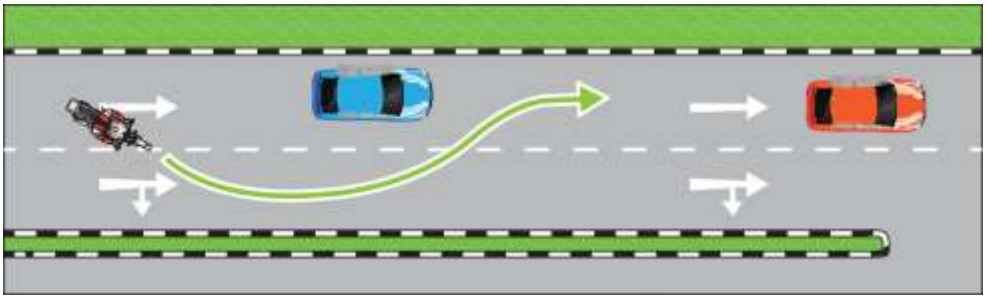
(a) Road Works Ahead.



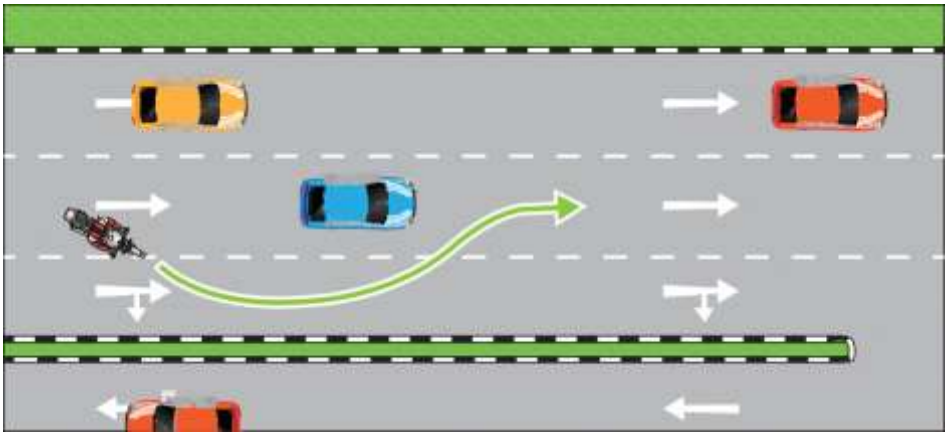
(b) Parked Vehicle Ahead.



155. Where there are two lanes, the left lane is for normal driving and the right lane is for overtaking and turning right.



156. Where there are three lanes, the left lane is for slower vehicles, the centre is for faster vehicles and right lane is for vehicles overtaking and turning right.



OVERTAKING

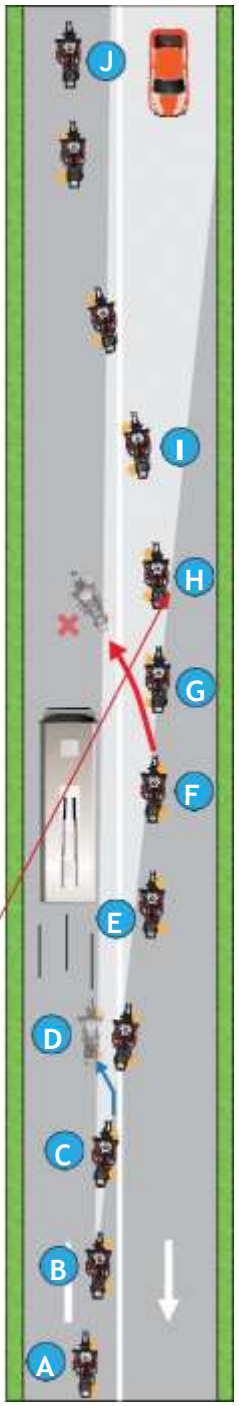
157. Overtaking manoeuvre is about passing a slower moving vehicle to proceed ahead which is somewhat similar to changing lane but it could be dangerous due to oncoming vehicles and a slip up can result in serious or fatal consequences. Whenever in doubt do not overtake. Safe overtaking requires the following steps:

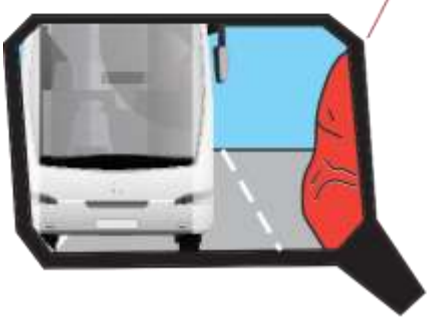
(i) Good judgement of speed and distance;
(ii) Good handling skill;
(iii) Quick analysis of traffic situation;
(iv) Applying the appropriate speed and
(v) Adequate distance and road space.

OVERTAKING PROCEDURES

158. The following steps should be adopted when overtaking:

A. Signal your intention and remain at a safe distance.
B. Confirm traffic situation ahead (about 12 secs – time taken to complete the process).
C. Check mirror and blind spot.
D. Move out gradually. Reduce speed and return back to safety if not safe to overtake. Increase speed to overtake when safe.
E. Maintain a safe side clearance. Horn to make known of your presence if necessary.
F. Slow down and return back to safety if it is dangerous to overtake.
G. Signal your intention to keep left for at least 3 seconds.
H. After overtaking, look at the side mirror to confirm safety. Check blind spot before moving left.
I. Move left gradually when safe.
J. Switch off your signal and regulate your speed.





BEING OVERTAKEN

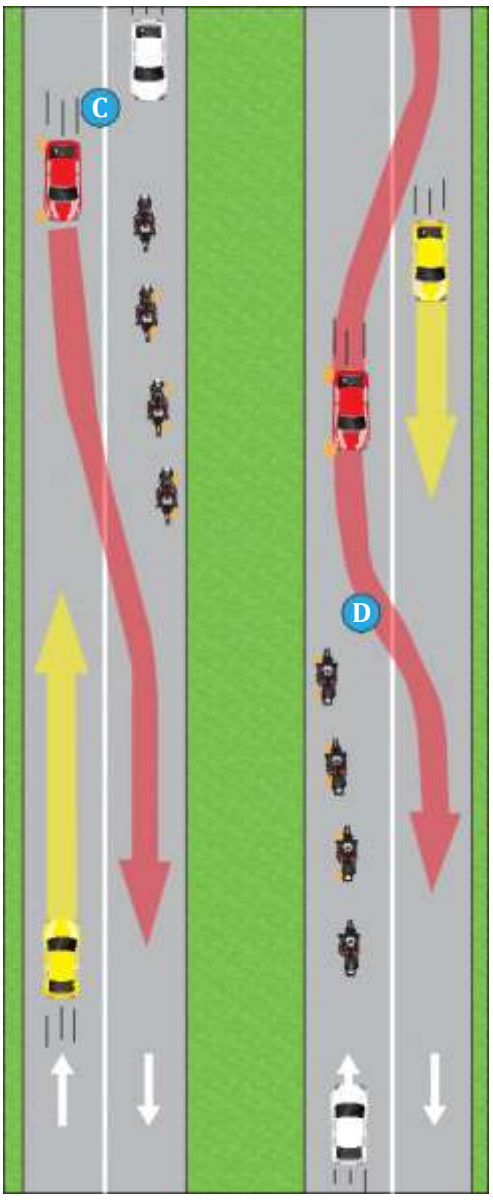
159. Safety procedures and positioning when being overtaken:

A. When another vehicle is following close behind, you should move to the left and allow the vehicle behind to overtake.

B. When the vehicle behind signals his intention to overtake your vehicle, you should move to your left to allow him to overtake.

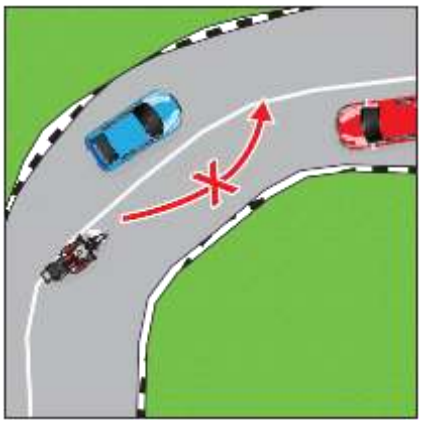
C. When being overtaken slow down and keep left to create more space for overtaking vehicle to complete manoeuvre safely.

D. When an oncoming overtaking vehicle appears in front of you, slow down, keep left or even stop. In order to avoid collision, move off the road on left if the situation allows.



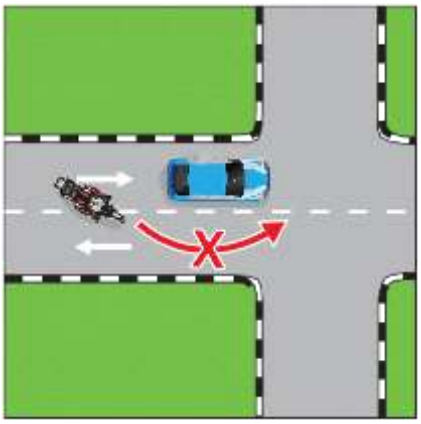
PLACES AND SITUATIONS DEEMED UNSAFE FOR OVERTAKING

160. You should not overtake at the following places and situations:

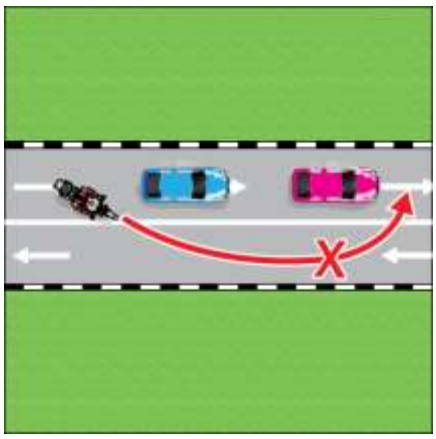


(a) Near or around a sharp bend;

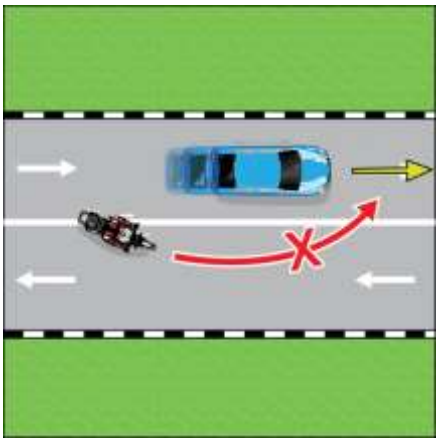
(b) Near a pedestrian crossing;



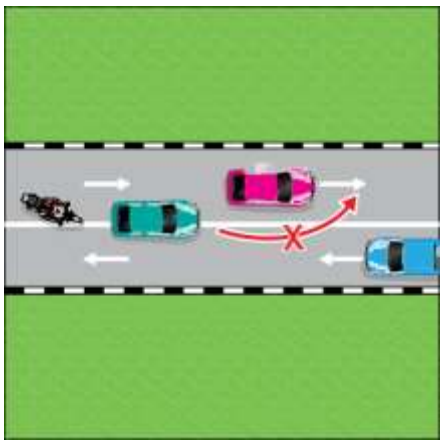
(c) Near a road junction;



(d) Do not overtake more than one vehicle at a time;

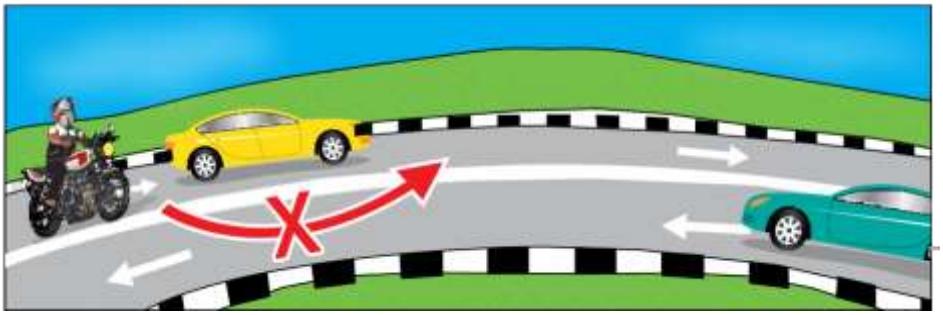


(e) Do not persist in overtaking if the vehicle ahead suddenly increases speed;

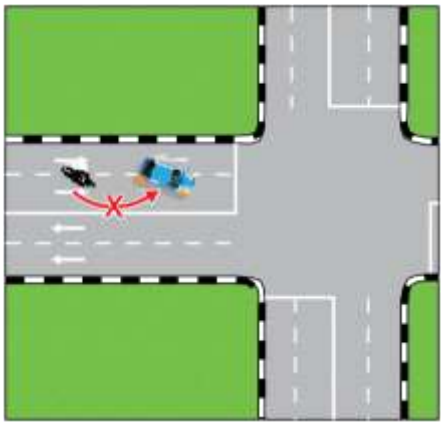


(f) When the car in front of you is about to overtake the car in front of it

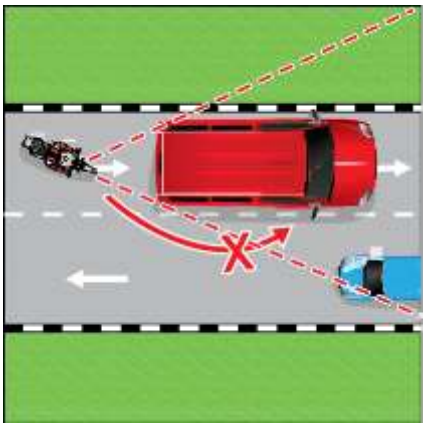
(g) On a narrow road/bridge;

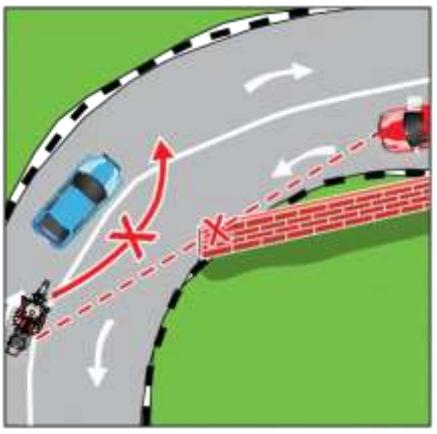


(h) On a steep slope or incline

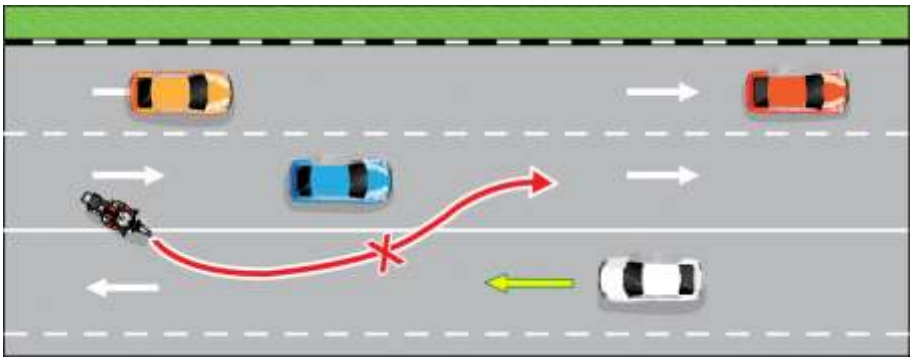


(i) When the car in front is changing to the right lane in order to make a right turn





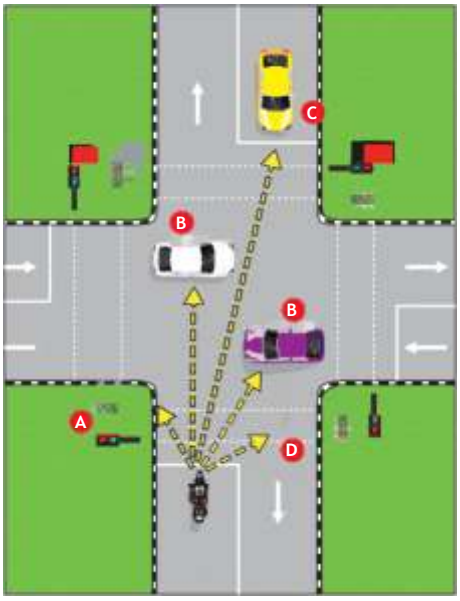
(j) Do not overtake when your front view is restricted or obscured.



(k) If it would force another vehicle to swerve or reduce speed

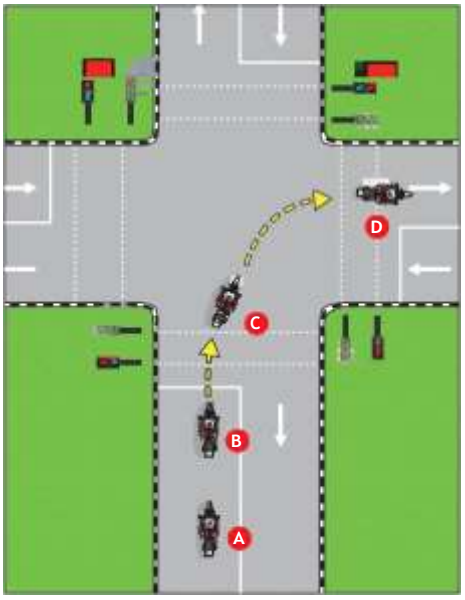
AT INTERSECTIONS

161. Accidents are common at junctions due to converging vehicular traffic and other road users. Obey all traffic rules and be prepared for those who don't. Their paths criss-cross each other and be alert and analyse the traffic situation early and accurately, decide immediately the course of action you have to or intend to take. Analysis should be done continuously as the traffic situation is always changing. Always expect the unexpected. Drivers may not be aware of changes in timing or sequence of traffic lights and proceed against it posing danger to other road users.



Look out for:

(a) Traffic lights;
(b) Vehicles travelling across the road;
(c) Oncoming vehicles;
(d) Pedestrians waiting to cross, or crossing the road.

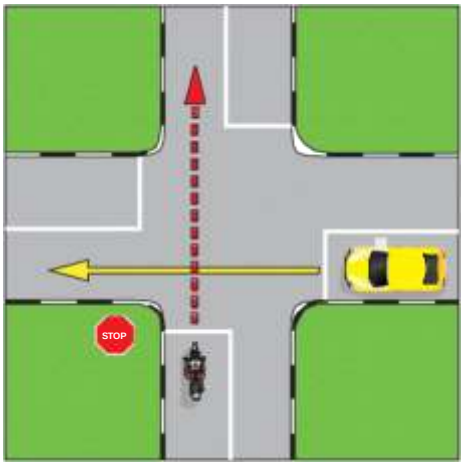


Decide on:

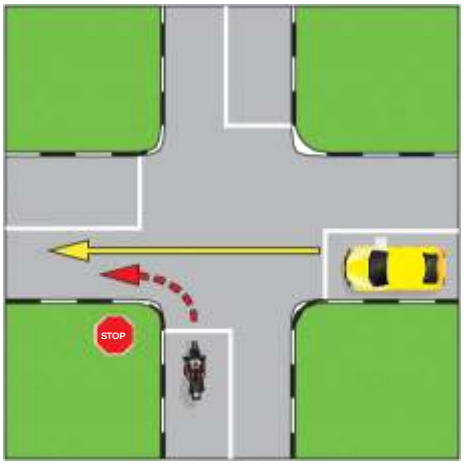
(a) The position to begin signalling;
(b) The position to begin lane changing;
(c) Your final position;
(d) Your turning path.

THE GIVE-WAY RULES AT INTERSECTION

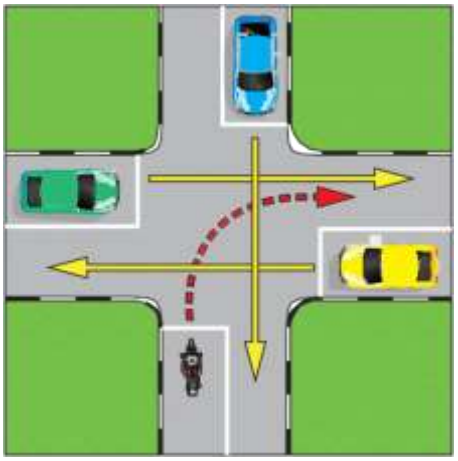
162. When approaching a junction with a major road, slow down gradually and give way to traffic on the major road. Where there is a "STOP" sign, stop before the stop-line. At an uncontrolled junction where there are no traffic lights:



(a) If you are going straight across the junction, you must give way to traffic going straight from the right.



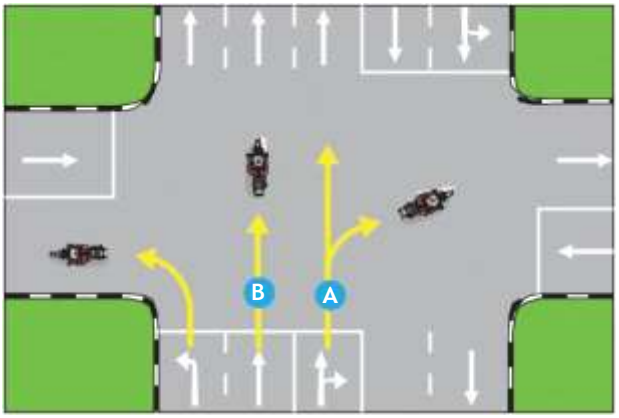
(b) If you are turning left, you must give way to traffic going straight from the right.



(c) If you are turning right, you must give way to traffic going straight from all directions, as well as traffic turning right from the right and traffic turning left from the opposite direction.

SAFETY PRECAUTIONS WHEN PASSING A JUNCTION WITH TRAFFIC CONTROL

163. At most junctions, the lanes are individually marked for specific directions. Always obey the lane markings. If you are not in the correct lane for the chosen direction, do not change lane suddenly. Get into the correct lane early.



A. When turning right into a 'shared' lane for turning right and going straight, signal early so that straight-going vehicles from behind can take an alternate lane to proceed.

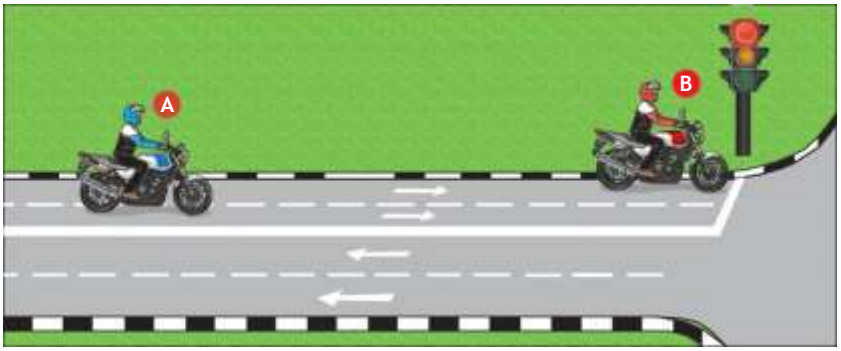
B. When going straight, avoid using the 'shared' lane so as not to obstruct vehicles turning right when the traffic light changes to 'red' for vehicles going straight.

164. Do not accelerate when you are approaching a signalized junction. Always be prepared for the signal light to change by reducing your speed. This will give you time to decelerate evenly when the traffic light changes from green to amber.

When the traffic light has just turned amber and you are:

(a) At 'A' and there is enough distance before the stop line, slow down and stop at the 'stop line';

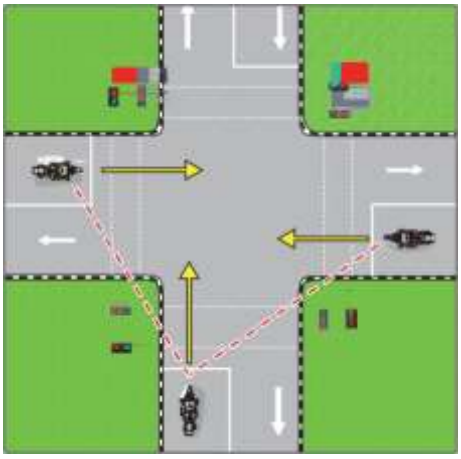
(b) At 'B' and you are too near the stop line and you cannot possibly stop safely before the 'stop line', you may proceed.



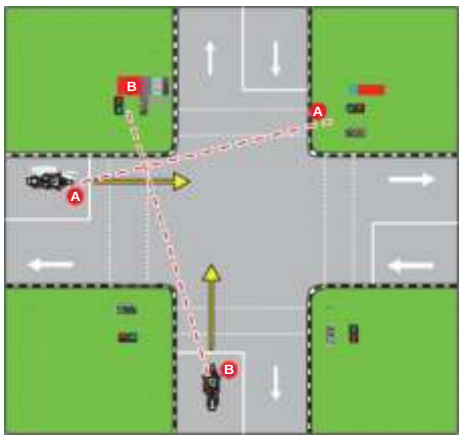
165. In a traffic hold-up, it is courteous to allow vehicles in the minor road to proceed even in the absence of the yellow-box.

(a) Always stop before the white line. Do not obstruct pedestrians by stopping pass the pedestrian crossing line marking.

(b) When the traffic light facing you turns green, look to the left and right for other vehicles before you start to move off.



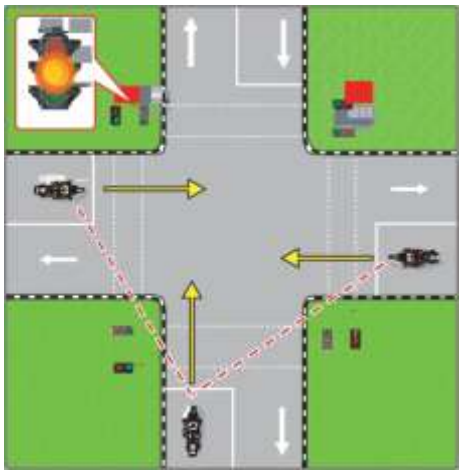
At a complex junction where many traffic lights are installed, obey the traffic lights facing you.



SAFETY TIPS - always slow down when approaching junctions and be prepared to give way or stop when encountering danger. Beware of changing traffic lights and vehicles crossing into your path. Beware of cyclist, pedestrians and motorcyclists who are most vulnerable at junctions.

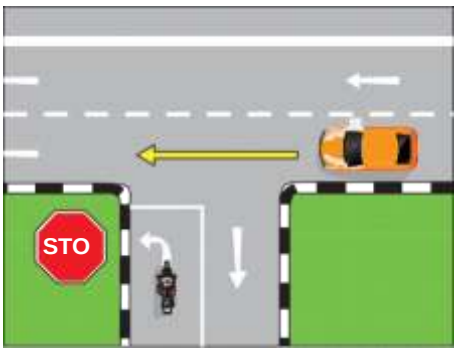
When turning left or right at a signalized junction, remember that the pedestrian crossing lights on your left and right may also be green to allow pedestrians to cross the roads to your left and right. Proceed cautiously and if there are pedestrians give way by coming to a complete halt. Proceed only when the pedestrians have cleared your path. Never make a turn in the face of a pedestrian.

The traffic lights are out of order when the amber lights flash continuously. If this happens, slow down and look out for the other vehicles. Also look out for the police officer who may be controlling traffic and obey his/her hand signals.

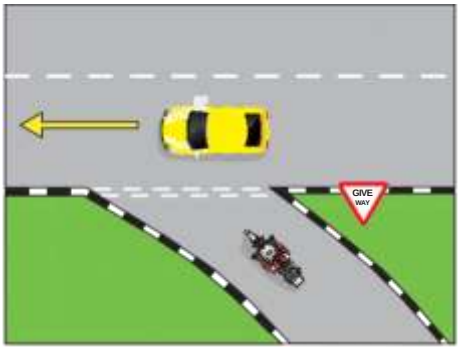


SAFETY PRECAUTIONS WHEN PASSING A JUNCTION WITHOUT TRAFFIC CONTROL

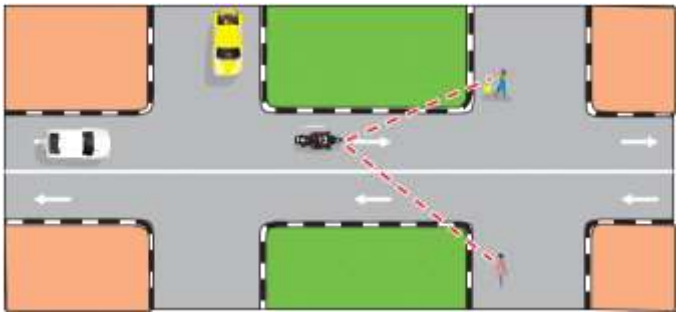
166. At junctions with a STOP sign, stop behind the stop-line and give way to traffic on the main road.



At junctions with a GIVE WAY sign, slow down and stop if necessary to give way to traffic on the main road.



Reduce your speed as you approach a side road. Keep a lookout for other road users, first to the right, then to the left. Get ready to stop if necessary.

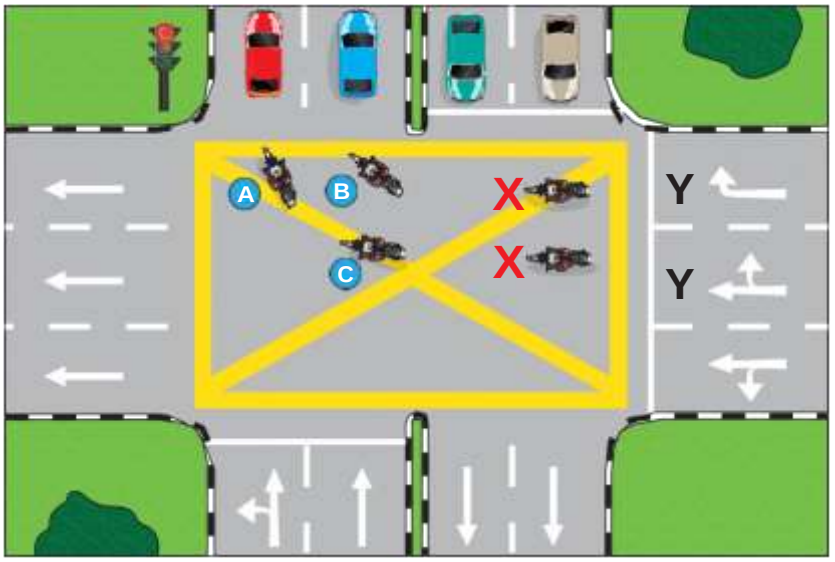


THE MEANING OF YELLOW BOX

167. It is an offence for any rider to drive his/her vehicle into a junction marked with a yellow box and cause obstruction even if the lights are in his/her favour. However, there are certain situations in which a driver or rider will not be penalised for entering the yellow-box junction.

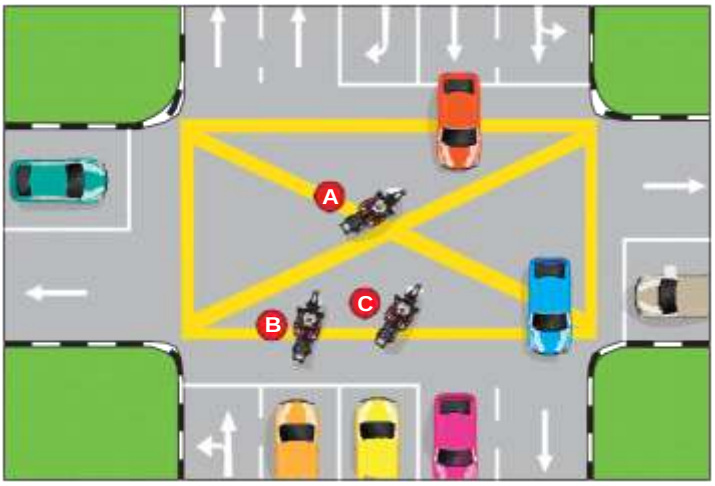
(A) SITUATION ONE

The first is when the turning vehicles in a box-junction do not block other vehicles. Only riders of turning vehicles A, B and C and NOT those marked X may enter the yellow box when their exit lanes from it are blocked by other vehicles. Should the traffic lights change to red, vehicles A, B and C would not cause any obstruction to other vehicles. However, vehicles marked X would be obstructing traffic should the lights change and the riders will be penalised, as such they should wait behind the stop-line at 'Y'.



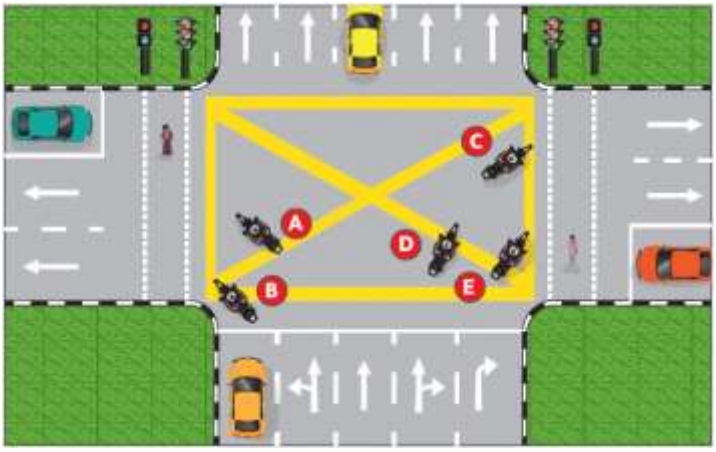
(B) SITUATION TWO

The second situation is when motorists are waiting in the yellow box while trying to turn right in the face of oncoming traffic. Riders of vehicles marked A, B and C can remain in the box until a suitable opportunity arises for them to complete their turns. Should the lights turn red against them, they should proceed to complete their turn and clear the yellow box junction.



(C) SITUATION THREE

The third situation is when motorists are waiting in a yellow box junction while making left or right turns because of pedestrians crossing the road. The diagram shows that the riders of vehicles A, B, C, D and E may enter the yellow box even when they are prevented from executing their turns by pedestrians using the crossings.



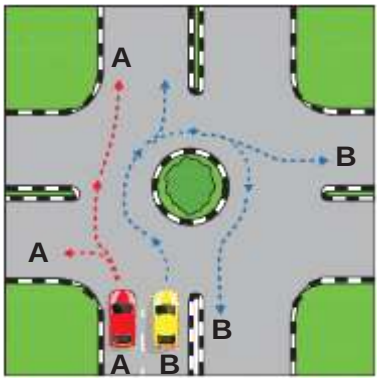
HOW TO NEGOTIATE AT ROUNDABOUT

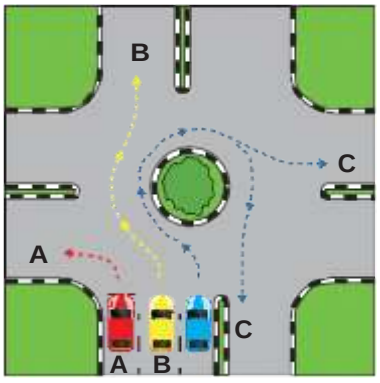
168. When approaching a roundabout:
    a) Reduce your speed;
    b) Decide as early as possible which exit you need to take;
    c) Get into the correct lane;
    d) Beware of the speed and positions of the traffic around you.

169. When entering a roundabout:
    a) Give way to traffic on your right in the roundabout (unless road markings indicate otherwise);
    b) Look out for traffic already in the roundabout;
    c) Do not enter a roundabout if you can see that your exit is blocked.

170. Once in a roundabout:
    a) Look out for and give way to vehicles crossing in front of you;
    b) Be cautious when you are passing an exit or intending to leave by the next exit;
    c) Signal your intention early when changing lanes;
    d) Signal left when you are about to leave the roundabout.

The general rule is that:
Traffic from lane A as in the illustration goes to 'A';
Traffic from lane B goes to 'B';
Traffic from lane C goes to 'C'.



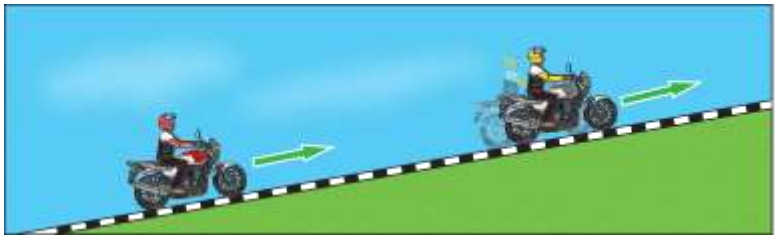


RIDING UNDER VARIOUS ROAD CONDITIONS

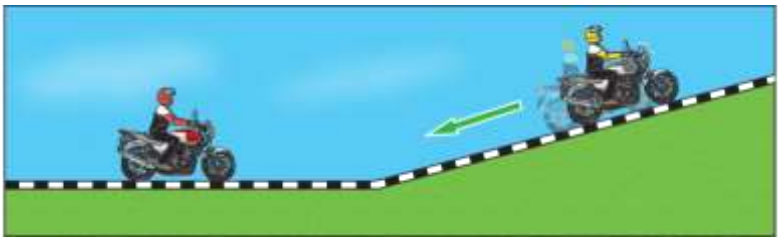
RIDING UP A SLOPE

171. On approaching a slope or incline, accelerate to a speed higher than when travelling on a flat road to go up the slope.

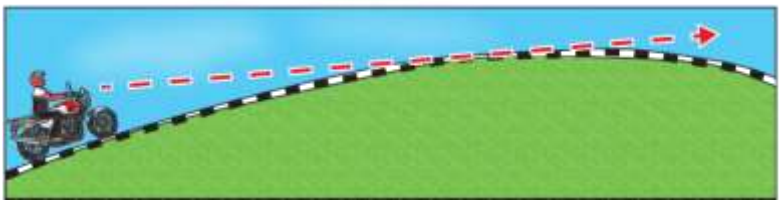
172. Should the vehicle show signs of losing speed, quickly change to a lower gear and accelerate.



173. If the hill is steep, shift from the 3rd to 2nd gear before going up. Do not ride too close to the vehicle in front.



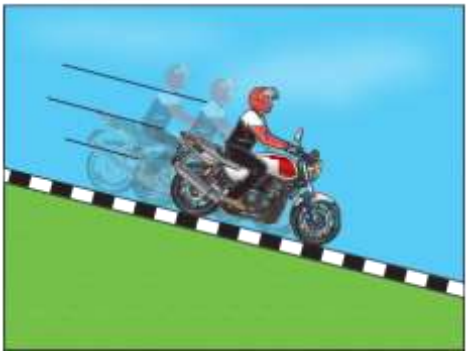
174. Be very careful as you approach the top of the slope as you cannot see what is approaching from the other side of the slope. You should keep to the left and proceed carefully. Do not ride too close to the vehicle in front.



RIDING DOWN A SLOPE

175. Choose an appropriate gear before you ride down a slope. Use the 3rd or the 2nd gear on a low slope. On a steep slope, use the 2nd or the 1st gear.

(a) On a low, downhill slope, use the 3rd or the 2nd gear.



(b) On a steep downhill slope, use the 2nd or the 1st gear.

176. It is far better to use the 'engine-brake' than the foot-brake over a long distance downslope as using the foot-brake will cause the brakes to overheat and 'fade'. Use the foot-brake only when necessary.

When descending, the ascending vehicle has the right of way. Keep a greater following distance when riding downhill.

RIDING IN DIFFERENT WEATHER CONDITIONS

177. The following shows the safety precautions to take when riding in different weather conditions

DAYLIGHT AND LOW LIGHTING CONDITIONS

178. Too much or too little light will affect our ability to see. Sun-glare or light reflected off objects or a pool of water on the road can dazzle and even blind our vision. You should wear sunglasses or lower the sun-visor when it is very bright.

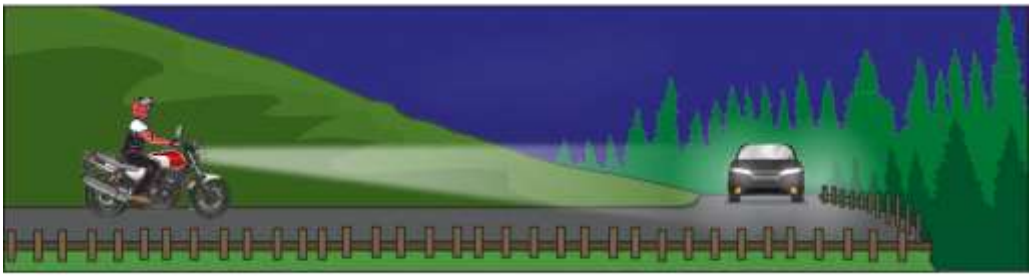
179. It is a legal requirement to ride a motorcycle with the headlights on regardless of day or night. Do not ride if your headlight is not working even during the day.

180. When the headlight of an oncoming vehicle dazzles you, look to your left to avoid the glare. Use the edge of the road to guide your vehicle. If the light is blinding, slow down and stop by the side of the road. Proceed when vision is regained.

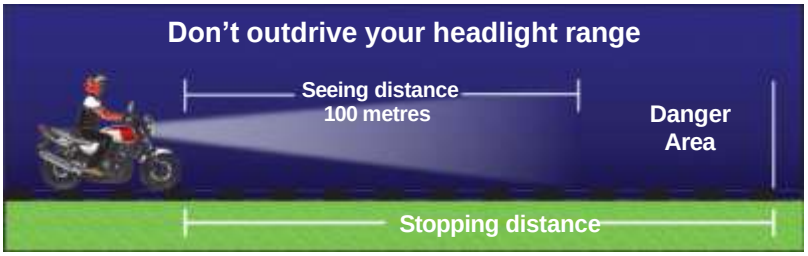
181. In daylight, dip your headlights so that you can be easily seen. At night, when facing oncoming traffic, dip your headlights. You should use the high beam when the road is poorly lit.

182. Dip your headlight when you are following behind another vehicle. If not, the beam from your headlight will be reflected by the rear view mirror of the car in front and dazzle the rider. When another vehicle is overtaking you at night, you should dip your headlight as soon as the other car passes you.

183. On approaching bends where visibility is poor, use your high beam. This will attract the attention of other road users and warn them of your approach.

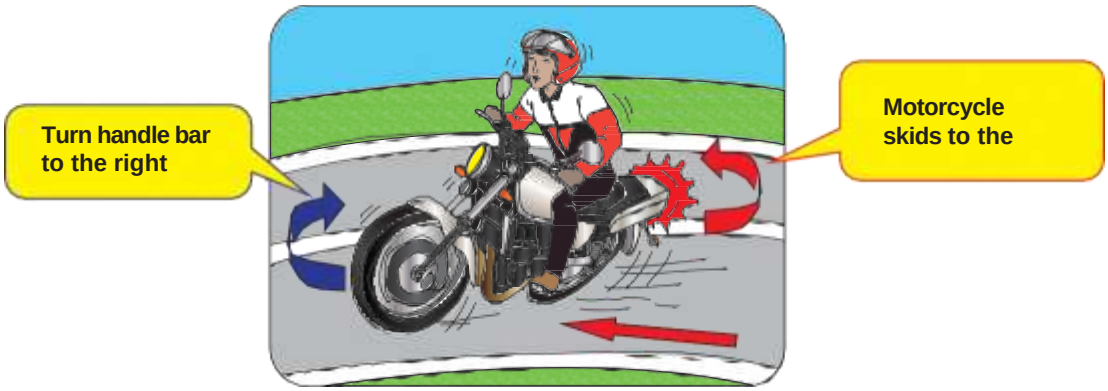


184. It is safer not to out-drive your normal headlight range. The average headlight on high beam is about 100 metres.



RIDING IN RAINY WEATHER

185. There are three important factors you must not forget when riding during rain.
   a) Slow down as you require twice the normal distance to stop your motorcycle because there is less friction between the tyre and the road.
   b) Braking too hard will lock the wheels and your motorcycle will surely skid or spin out of control. If it skids, steer in the direction of skid and straighten the motorcycle on regaining traction.
   c) Riding when drenched and cold in the rain could cause you to lose concentration.



When it rains, water forms on the surface of the road. The water between the tyres and the road increases as you speed up. When there is too much water beneath the tyres, friction between tyres and road is lost and the machine will glide along the road surface. The term for this is 'aquaplaning'(hydroplaning). To counter the effect of aquaplaning, reduce speed by applying intermittent braking (ON & OFF) to regain traction. Even good tyres cannot prevent aquaplaning.

Avoid riding through floods if you can. If it is unavoidable, engage a lower gear, open throttle evenly to increase engine speed and apply half clutch to control speed, to pass through the flood.

After passing through floods, do not speed up. Apply intermittent (ON & OFF) braking repeatedly at short intervals to dry the brakes. You may pick up speed when effectiveness of the brake system is regained. If visibility is poor ensure that the motorcycle headlights and tail lamp are on, so that other road users can easily see you.

When visibility is very poor and you cannot see clearly, stop by the side of the road and turn the hazard lights on (if any) to inform others of your presence.

RIDING IN WINDY CONDITIONS

186. When riding in strong windy conditions, you should slow down, use a lower gear and hold the handlebar firmly with both hands to avoid being pushed into the path of other vehicles.

CORNERING

187. When going into a bend or corner the centrifugal force will cause the motorcycle to push outwards. To reduce centrifugal force while going round a sharp bend safely, you should slow down and negotiate at the appropriate speed. If you increase your speed when going round a bend, the push of the centrifugal force will be greater, and it will be difficult for you to keep your intended path.

RIDING POSTURES TO ADOPT WHEN CORNERING

Lean With – This is the riding posture to take when negotiating gradual bends

(i) Lean at the same angle as your motorcycle.
(ii) Keep your head upright.
(iii) Grip the fuel tank with your knees and thighs.
(iv) Do not bank excessively.
(v) Rest right foot firmly on the footrest.

Lean Out – This posture is for negotiating sharp bend or corner at low speed

(i) Lean your body outwards away from the angle of banking of the motorcycle.
(ii) Keep your head upright.
(iii) Rest right foot firmly on the foot rest.

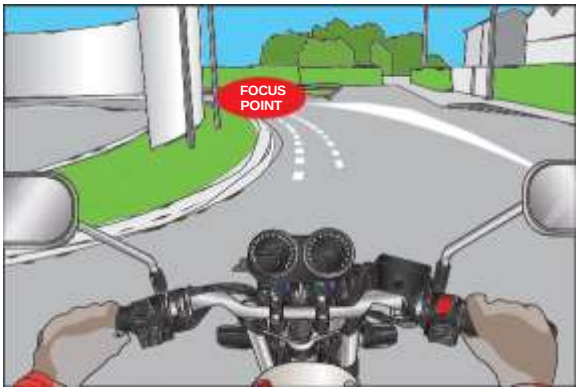
Lean In – This posture is for negotiating bends at high speed

(i) Lean in more than the banking angle of the motorcycle.
(ii) Keep your head upright
(iii) Rest right foot firmly on the foot rest.

PROCEDURE WHEN NEGOTIATING A BEND:

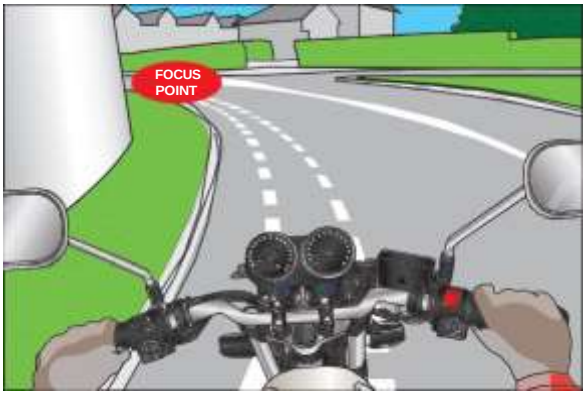
Before entering the bend:

(i) Slow down before you enter a corner.
(ii) Observe the curvature of the bend.
(iii) Shift down to an appropriate gear and look head at your intended path.



Negotiating the bend:

(i) Adopt the appropriate riding posture for cornering.
(ii) Maintain your speed.
(iii) Do not apply brake or clutch.
(iv) Look ahead at your intended path.
(v) Adjust your path of travel. On a right-hand bend, keep close to the left to increase your field of vision. On a left-hand bend, keep near to the centre line.



Exiting the bend:

(i) Pick up speed and look at where you are going especially at the exit point of the corner or bend. Resume normal riding posture

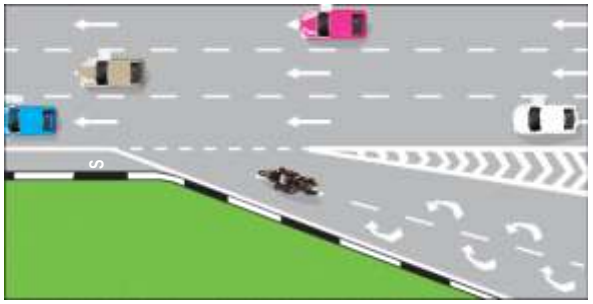
RIDING ON EXPRESSWAYS

188. Expressways are designed for unimpeded, smoother and faster traffic flow than on ordinary roads. On expressways, you have to react earlier and faster to traffic situations. Therefore it is very important that you concentrate and be alert while riding on expressways.

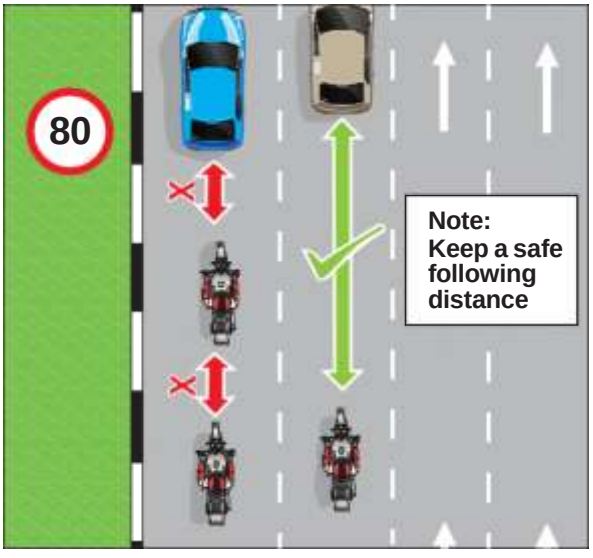
In order not to impede the smooth traffic flow, the vehicles listed below are prohibited on expressways:

a) Bicycles
b) Tricycles
c) Invalid carriages
d) Trishaws
e) Motorcycles with side-cars
f) Motorcycles which are propelled by electric motors
g) 3-wheeled vans
h) Low trailers
i) Vehicles driven by learner drivers
j) Road rollers
k) Ready-mix concrete trucks
l) Mobile cranes
m) Forklifts
n) Excavators
o) Road pavers
p) Tractors
q) Dumpers
r) Wheel loaders
s) Bulldozers
t) Graders
u) Mobile concrete pumps
v) Hydrant dispensers
w) Electric bicycles (E-bikes)

189. To join the expressway, signal your intention once you are on the slip road leading to it. Build up your speed in the acceleration lane to that of vehicles on the expressway so that you can merge smoothly into the traffic stream on the expressway.



190. On the expressway, drive at a steady speed close to the speed limit of the expressway or the limit of your vehicle and keep a safe following distance between you and the vehicle in front. The speed limits of most expressways are 80 km/h and 90 km/h. The speed limit of the KPE is 70 km/h or 80 km/h.



191. Observe the speed of your vehicle by glancing at the speedometer at regular intervals. Do not race with other vehicles or weave in and out of traffic. If you noticed an accident on the other side of the road, you should not stop but concentrate on the road ahead.

192. Do not use the right outermost lane unless overtaking another vehicle; it is meant for emergency vehicles and overtaking. If you do use it, return to the inner lane as soon as it is safe for you to do so. Do not exceed the speed limit when overtaking on the expressway.

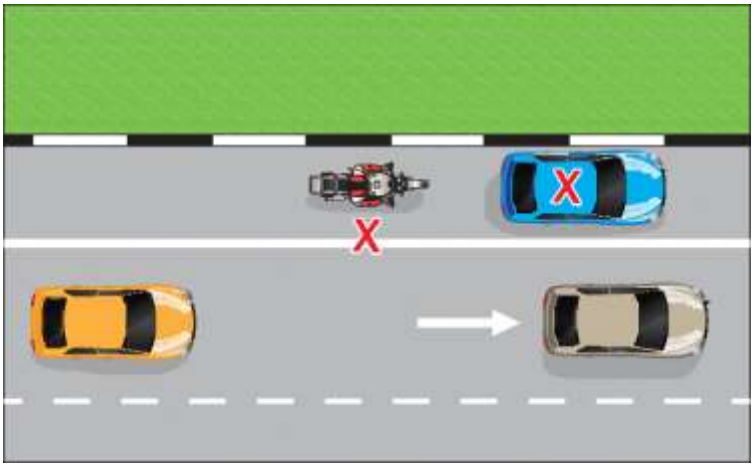
193. Slower moving vehicles should keep to the left and not 'hog' the centre lanes. Road hogging holds up traffic and slows its flow; it also causes other faster moving vehicles to overtake dangerously on the left.

194. Do not stop or park on the expressway, including on the road shoulders. It is an offence to drive on the road shoulder of the expressway.

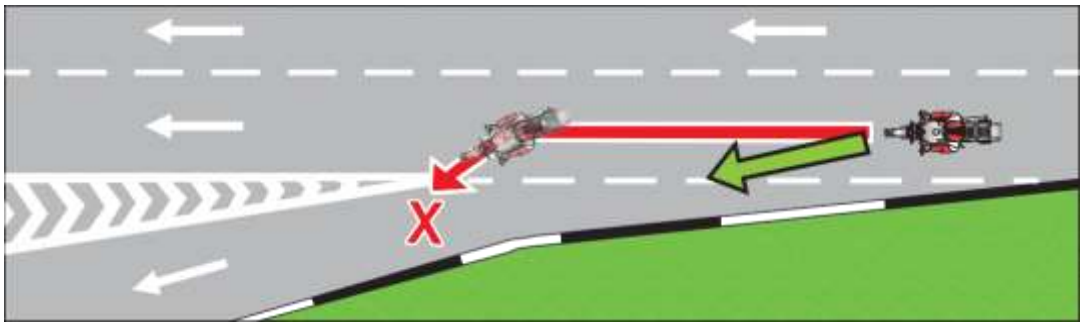
You may stop or park your vehicle on the road shoulder of the expressway in the event of a breakdown or accident.

The penalty for driving on the road-shoulder of an Expressway is a fine with demerit points.

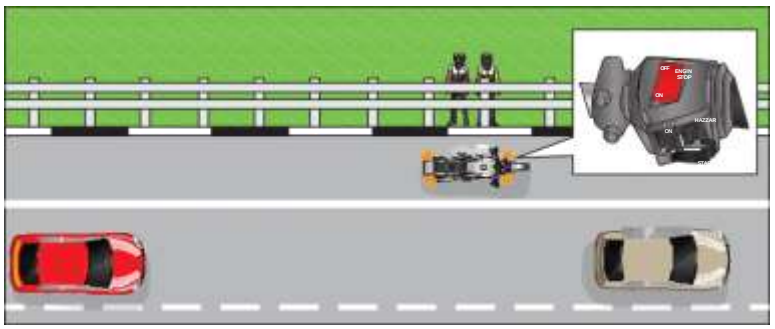
Do not let down or pick up passengers on the expressway.



195. When leaving the expressway, plan your exit early, signal left and move into the left inner lane. Once you are on the deceleration lane, slow down to a speed suitable for the road you are joining. If you miss an exit, do not reverse but carry on to the next exit.



Should your vehicle break down while on the expressway, switch on the hazard lights and if possible, move your vehicle off the carriageway onto the road shoulder. Do not step into the expressway and do ensure that the pillion keeps clear of the carriageway. Both pillion and rider are to stand behind the vehicle impact guardrails while waiting for the rescue vehicle to arrive. Place a breakdown sign (an equilateral triangle) at a distance of 20 metres or more behind the vehicle as a warning to other drivers. Arrange to have your vehicle towed away as soon as possible as it is hazardous for it to remain on the road shoulder.



DEFENSIVE RIDING

DEFINITION OF DEFENSIVE RIDING

196. Defensive riding is a set of strategies that helps motorcycle riders to always be in control and not to be caught unaware by the improper actions of other road users. It is also about noticing, anticipating and planning ahead. These strategies ensure a motorcycle rider remains in a safe, controllable situation. The following strategies and case studies can also be applied for driving other motor vehicles.

To be a consistent defensive rider, you must always ride in a defensive manner under all the following 6 conditions:

a) Rider's Condition
b) Motorcycle Condition
c) Traffic Condition
d) Road Condition
e) Weather Condition
f) Bright and Low Light Condition

RIDER'S CONDITION

197. Do not ride if you are not mentally and physically fit. You are not fit to ride if you are experiencing any of these adverse conditions;

a) Tired/Sleepy
b) Angry
c) Worried
d) Under the influence of alcohol/drugs
e) Unstable emotional state
f) Eyesight problem
g) Hearing problem

MOTORCYCLE CONDITION

198. Ensure that your motorcycle is in optimal mechanical condition. Conduct pre-ride inspection of your motorcycle and do a thorough weekly check on all parts of the motorcycle. Replace or repair all faulty parts. Do not ride a defective motorcycle as it may endanger your life and those around you.

TRAFFIC CONDITION

199. Plan your route before departing. Know what the traffic condition is like before setting out. Avoid traffic jams by taking an alternative route. Start earlier if you know you will take longer than usual, to reach your destination.

Look far ahead, get the big picture and scan for hazards. Act promptly on all traffic signals and signs. Anticipate the intentions of other road users and react accordingly. Be tolerant of others' mistakes.

ROAD CONDITION

200. Read the condition of the road ahead of you. Look out for hazardous surfaces which are likely to cause skidding such as oil patches, water, mud, loose sand, fallen leaves and sharp curves.

Unlike a four-wheeled vehicle, which balances itself, a motorcycle requires a rider to keep it in balance and should anything upset this balance, the motorcycle will flip over and its rider thrown off the motorcycle. When this happens, the rider is bound to be injured.

Just a few square inches of rubber is all the motorcycle's tyre has in contact with the road surface. Should anything slippery get in between this small area of contact, a skid is inevitable.

When riding on an uneven road, you should use a lower gear. When riding over loose gravel or sand, you should slow down and avoid sudden or quick movements.

The first 10 minutes or so of a heavy downpour makes the road surface extremely hazardous. Before the rain can wash away the dirt, grime or mud from the road surface, the rainwater combined with these impurities makes the road extremely slippery. Avoid riding during the first 15 minutes of a downpour. In addition, visibility becomes poor when it rains heavily and traction is greatly reduced due to aqua-planning.

The same slippery condition is also created during light rain when there is insufficient rain water to wash away the dirt and grime on the road surface.

ADVERSE WEATHER CONDITIONS

201. Rain imposes riding difficulties and as a defensive rider, you should know how it can affect the control of your motorcycle and cause accidents. Rain reduces visibility and therefore affects adversely your perception and judgement of speed and distance. Torrential rain reduces your vision to such a low that you cannot see lane markings or the road edges.

Heavy rain also causes aquaplaning in which the tyres lose friction with the road surface because of water building up between the tyre and the road surface. When this happens, your motorcycle will skid out of control, or be unable to stop in time in an emergency.

Under such adverse weather conditions, you should slow down, so that you can stop in time. Braking distance will increase two-fold and wheels will lock when braking hard, causing the motorcycle to skid. Ride slower in such situations. Be careful of steel plates, manhole covers and painted road markings which are slippery in wet conditions.

If visibility becomes so poor that you cannot see clearly, find a safe place to stop and wait until the condition gets better.

DAYLIGHT AND LOW LIGHT CONDITIONS

202. Too much or too little light can affect our ability to see and be seen. When affected by such conditions, a rider should adjust his riding to suit these conditions.

The glare from the morning and afternoon sun can dazzle a rider and reduce his vision. To overcome this, do the following:

a) Slow down sufficiently to be able to see objects nearer to you in time to take evasive action; and
b) Wear tinted goggles or sunglasses to cut down the glare.

Your ability to see is reduced at night because of insufficient light, even with headlights on. A rider should reduce his speed and not ride faster than he can stop safely within the range of the headlights.

Others may not see you clearly at night. Ensure that you switch on the head lights to be easily seen. Make it a habit of wearing bright or light-coloured clothing when riding at night so others can notice your presence better.

In the day, most motorists may not notice you because of the size of your motorcycle. Make yourself more visible by turning on your headlights, even during daytime, to increase your visibility to others.

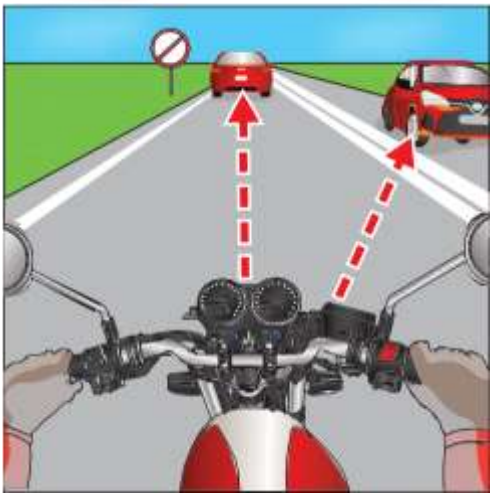
INTERACTION WITH OTHER ROAD USERS

203. The Highway Code is a code of conduct, which is meant to complement the existing set of traffic laws. It lays stress on the responsibilities of road users towards each other.

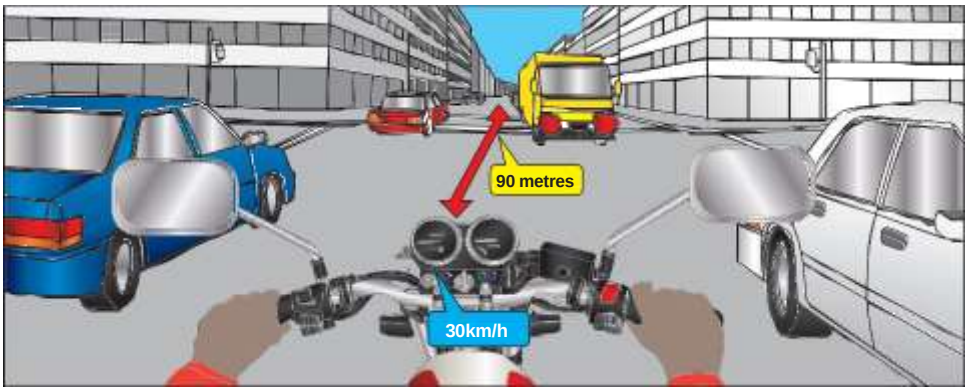
Knowledge and compliance to the Highway Code is essential for safe driving. You should watch for tell-tale signs which indicate traffic hazards and react accordingly to prevent accidents. Give other road users ample time and space to complete whatever they are doing.

When travelling forward, be aware of the traffic behind you as well by checking the side mirrors from time to time. Check your blind spots by turning your head to look over your shoulder before switching lanes. Do not swing out, change lane or stop abruptly or at short notice. Show clear and correct signals to inform the vehicle behind of your intentions.

THE VEHICLE IN FRONT

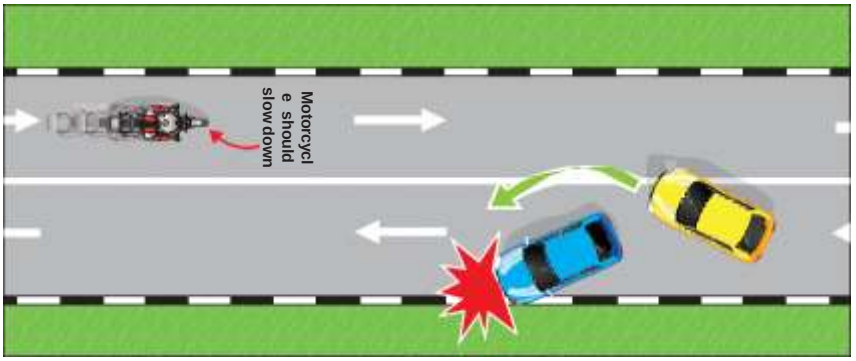


204. Practice safe distancing. When riding look far ahead, ensure the following:
   a) Position yourself on the centre of left side of the lane so that you can see most of what the driver ahead is seeing;
   b) Observe all vehicles, paying special attention to the vehicle in front;
   c) Be alert for any changes in traffic situations or patterns;
   d) Look out for brake warning lights and indicator lights on vehicles travelling in front of you. This should give you ample warning to react quickly.
   e) The distance (in metres) at which you should look must be at least 3 times the speed (in km/h) at which you are riding.



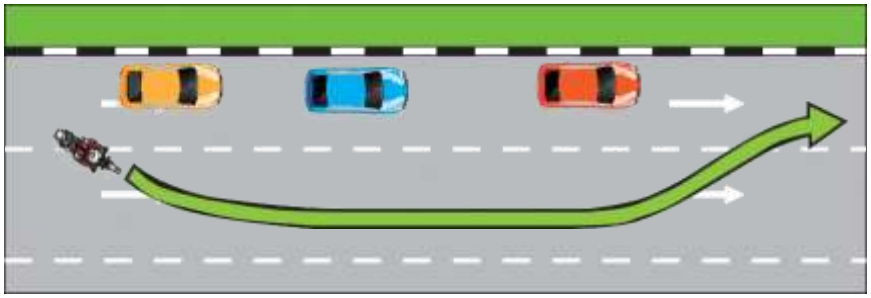
THE ONCOMING VEHICLE

205. Always look far ahead, analyse the road in front of you and anticipate any problem you might have with the oncoming vehicle. If an oncoming vehicle from an adjacent lane signals to change lane, do not accelerate. Slow down instead and leave a gap for the vehicle to enter your lane.

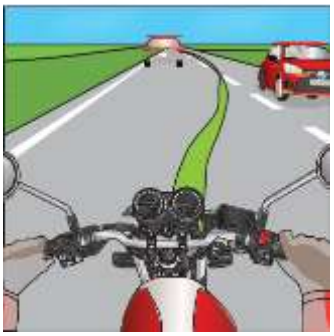


STATIONARY VEHICLES

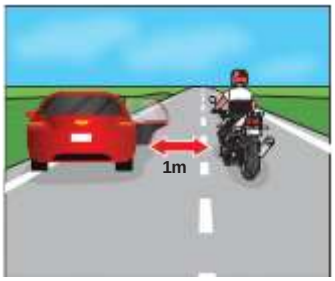
206. When there are several stationary vehicles on the left lane, do not weave in and out. Use the next lane on the right instead and move back to the left lane after you have passed them.



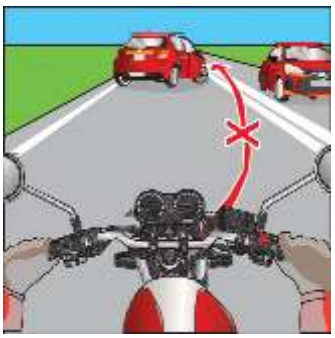
207. When passing stationary vehicles on a two-way road, give way to oncoming vehicles from the opposite direction.



208. When passing by a parked vehicle, look out for drivers or passengers opening the doors of their vehicles. When riding past parked vehicles, be on a look out for bicycle or pedestrian wanting to cross the road in front of the parked vehicle. Always slow down and be prepared to stop. Keep a safe gap of about 1 metre between you and the parked vehicles.

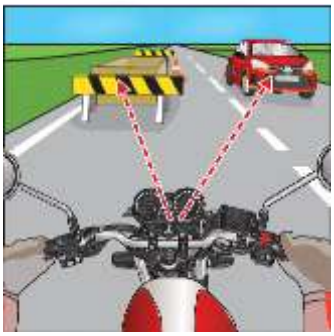


209. Always be prepared for vehicles pulling out from the side of the road or a parking lot. Both the presence of a driver in a vehicle and smoking exhaust are indicators that the vehicle may move off. Be ready to slow down or stop.

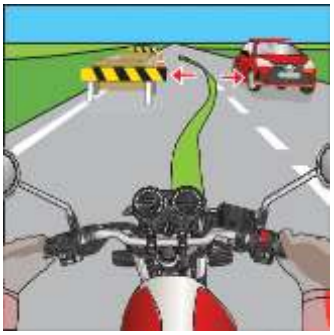


OBSTACLES

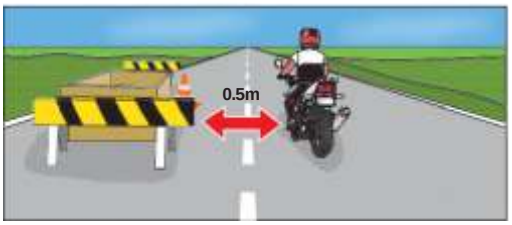
210. When approaching road works, look out for workers, equipment and materials lying on the road. If the obstruction is on your side of the road, give way to oncoming vehicles from the opposite direction before passing.



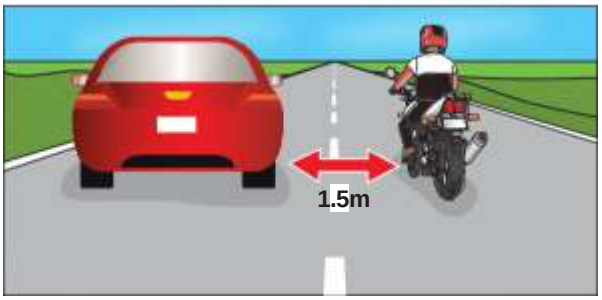
211. Slow down to the speed at which you can stop at a safe distance of one vehicle length from the obstacles should the need arises to give way to oncoming vehicles.



212. When passing fixed obstacles, keep a gap of at least 0.5 metres from them.



213. When passing moving vehicles, keep a gap of at least 1.5 metres from them.



PEDESTRIANS

214. Accidents involving pedestrians often result in serious injury or even death. Pedestrians, especially the very young and the very old, are the most vulnerable group of road users. It is your duty as a rider to protect pedestrians.

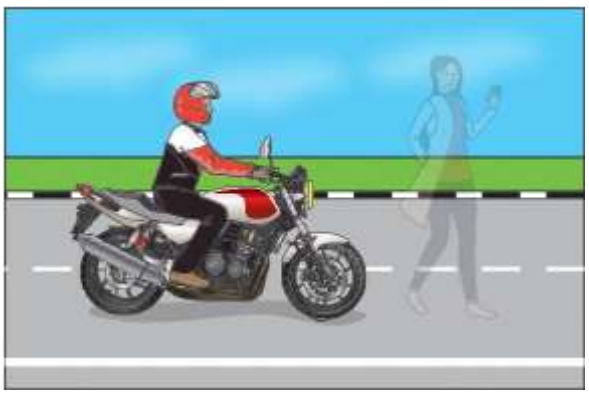
215. Young children below the age of fifteen are prone to accidents. This is because they are impulsive, playful, curious and unaware of the dangers on the road. Be very careful when riding near schools, playgrounds and in residential areas. Be especially alert when riding near ice-cream sellers and road side vendors. Always keep a look-out for children who may run or dash across the road.

216. The old and the handicapped are vulnerable to accidents on the roads. It is a known medical fact that upon reaching the age of 50 years, a person's

a) vision begins to fade;
b) hearing is impaired;
c) body weakens and reflexes become slower.

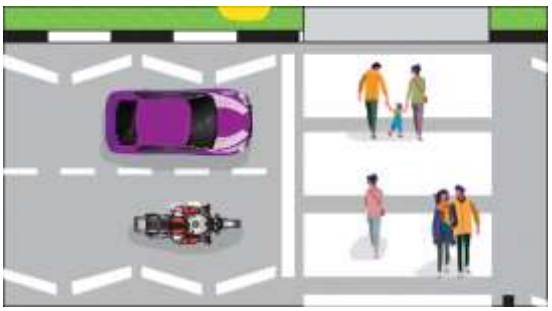
Aged and handicapped persons are usually slow in reacting to traffic situations. Therefore, when approaching the old or the handicapped, give them plenty of room and stop if necessary, for them to cross the road. When you see a person with a white walking stick crossing the road, you should slow down, stop and give way to him.

217. Jaywalkers cross the road anywhere they please, heedless of traffic rules and vehicles. Be on the look-out for them.

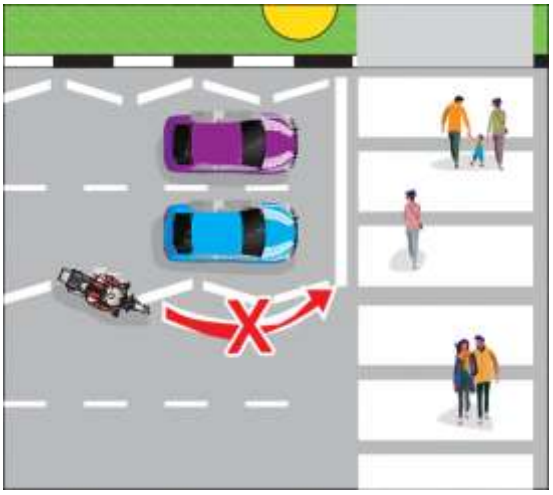


218. Joggers may run or dash across the road unexpectedly without any regard for vehicles on the road. Always be alert and give way to them if necessary.

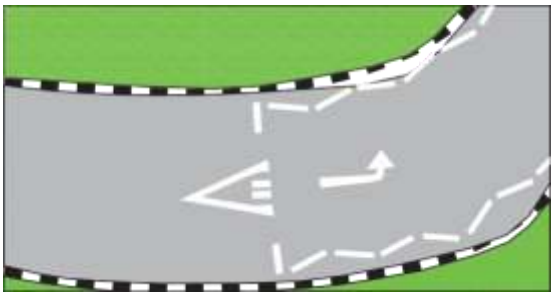
219. Pedestrians have the right of way at a Zebra Crossing. Zig-zag lines are drawn on the road to give you advance warning of the Zebra Crossing ahead.



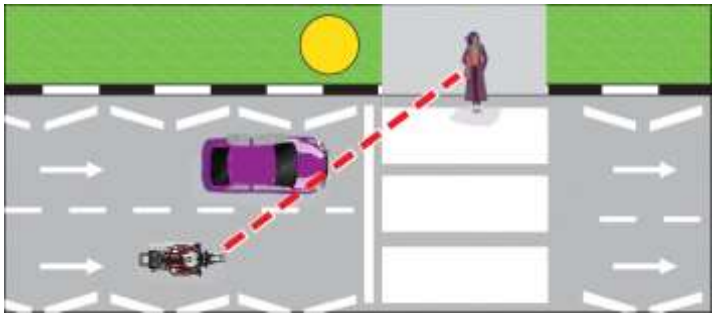
220. When stopping for pedestrians to cross, stop well before the stop line. On approaching a Zebra Crossing, slow down and look out for pedestrians crossing the road. Do not park, overtake or accelerate within the area marked by the zig-zag lines.



221. When the visibility of a zebra crossing is poor, Pedestrian Crossing Ahead Markings (PCAMs) are painted on the road to alert you that a zebra crossing is hidden out of sight.



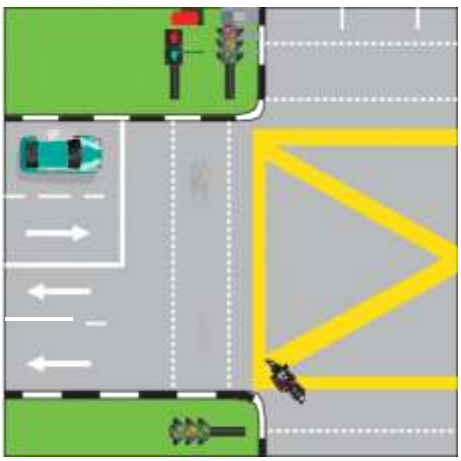
222. A vehicle slowing down or stopping near or at the zebra crossing may indicate that pedestrians are crossing the road; approach cautiously and stop if necessary.

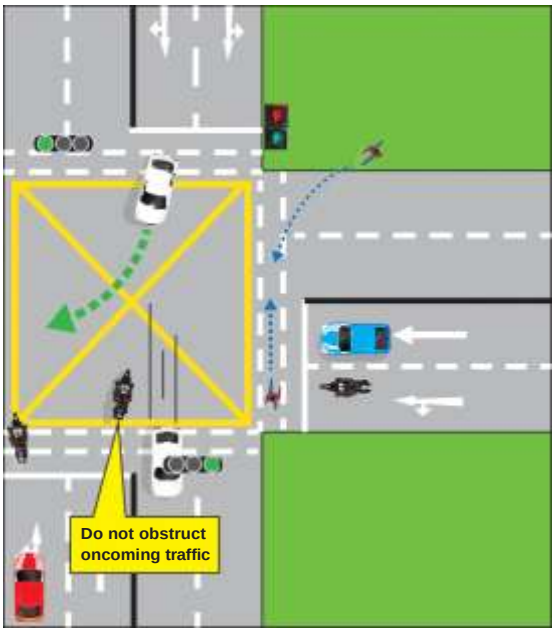


223. When you are at or near a Pedestrian Crossing at controlled junctions:

A. When turning left, stop before the pedestrian crossing to allow pedestrian to cross.

When pedestrians are at or near crossings, slow down and be prepared to stop even if you are doubtful of their intentions. Make sure the pedestrian is about 5 meters away after passing you before you proceed on. If pedestrians are crossing the road when the 'Red Man' is lighted, you should stop and wait.

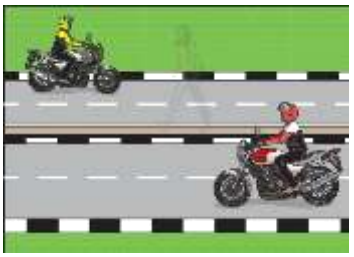




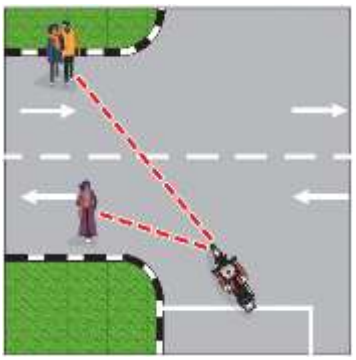
B. When turning right, stop just after the crossing so as to not obstruct oncoming vehicle when giving way to pedestrians crossing the road.

When pedestrians are at or near crossings, slow down and be prepared to stop even if you are doubtful of their intentions. Make sure the pedestrian is about 5 meters away from your intended path before proceeding to turn. If pedestrians are crossing the road when the 'Red Man' is lighted, you should not proceed.

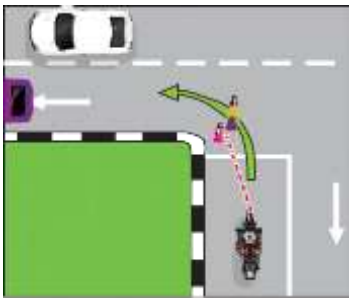
C. Do not park, overtake, accelerate, or stop at, or near pedestrian crossings as you might hinder the view of approaching vehicles. Always be on the alert and slow down when approaching pedestrian crossings and do not stop pass the pedestrian crossing line marking so as not to obstruct the pedestrian flow.



224. If pedestrians use the centre of the road as a refuge when crossing, ride slowly and allow ample clearance between them and your vehicle. Do not ride too close to them as it may force them to move backwards into the path of other vehicles.



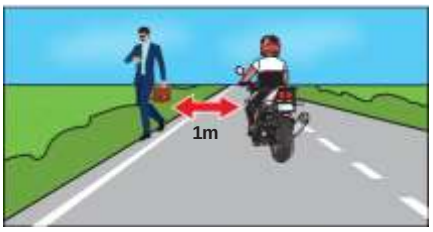
225. When you are turning into a side road, look out for pedestrians.



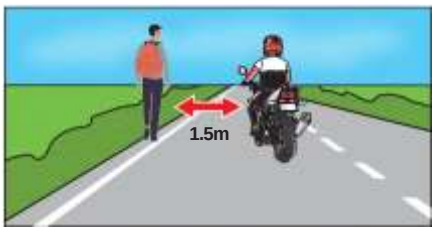
226. Motorists turning left to join the main traffic from a side road should look out for pedestrians from the left.

227. On a road without a pavement or pedestrian footpath, do not ride too close to the pedestrians.

228. When pedestrians are facing traffic, keep a gap of at least 1 metre from them.



229. When pedestrians are turned away from traffic, keep a gap of at least 1.5 metres from them.

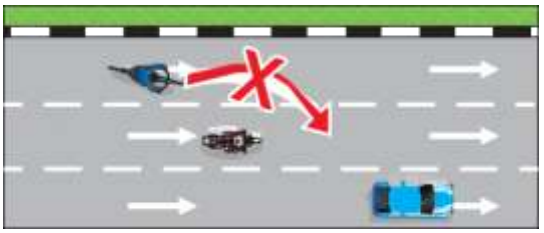


230. When riding through puddles of water, ride slowly so as to prevent splashing the water onto pedestrians who may be nearby.

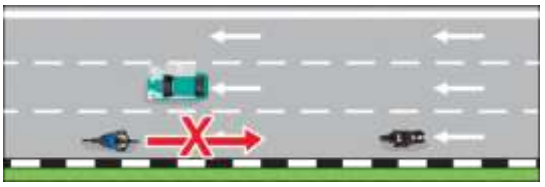
CYCLISTS AND POWERED ASSISTED BICYCLE (PAB)

231. Give cyclists/PAB users plenty of room and be alert when approaching them. Slow down and be ready to stop when a cyclist/PAB is glancing behind him which is an indication that he might change lane. Look out for cyclists/PAB:

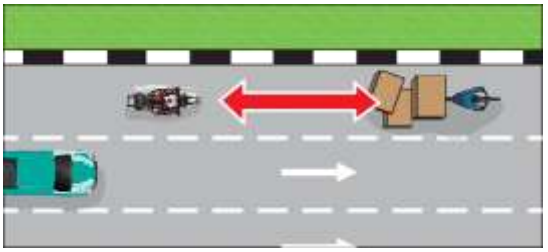
a) riding into your path suddenly;



b) riding against the flow of traffic;



c) Be careful of cyclist/PAB carrying pillion or heavy loads as they might wobble when going up an incline and might veer into your path. Provide a minimum distance of 1.5m when passing cyclists where practicable, just like with another vehicle.

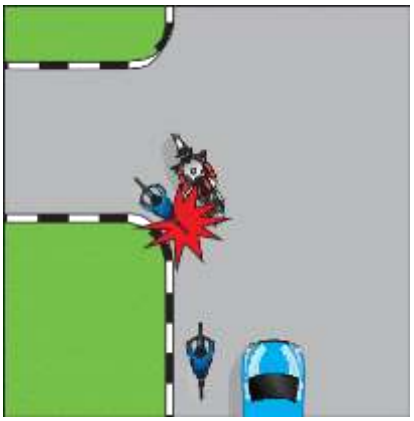


232. When turning,

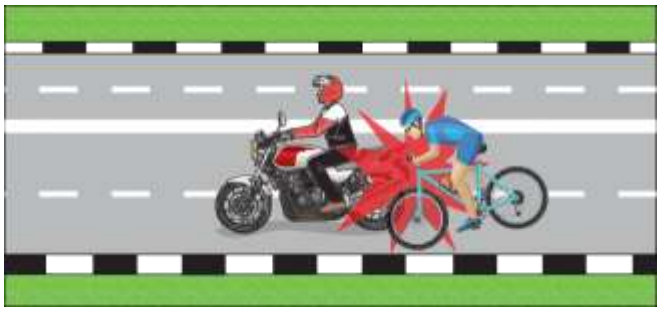
a) check your mirrors and blind spots;

b) look out for cyclists/PAB between you and the kerb;

c) do not make a sharp turn as you may knock the cyclist down. Slow down and give way to the cyclist/PAB if it is not safe to turn.

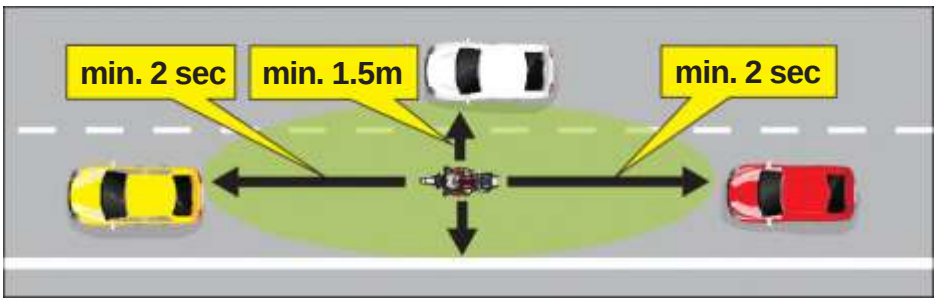


233. When overtaking, keep a safe distance between your motorcycle and the cyclist/PAB. Provide a minimum distance of 1.5m when passing cyclists where practicable. Do not cut in sharply after overtaking the cyclist as the cyclist/PAB might swerve.

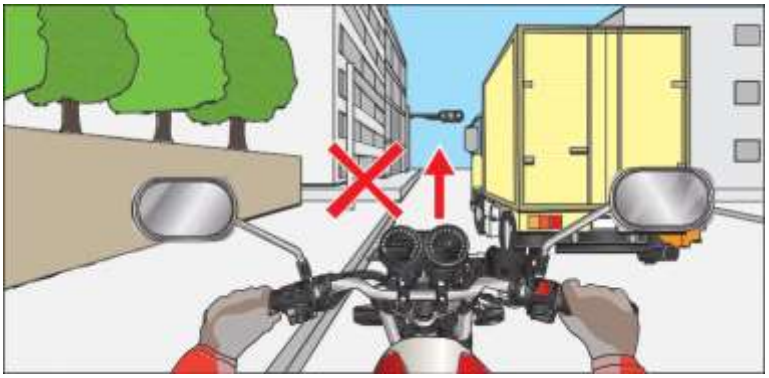


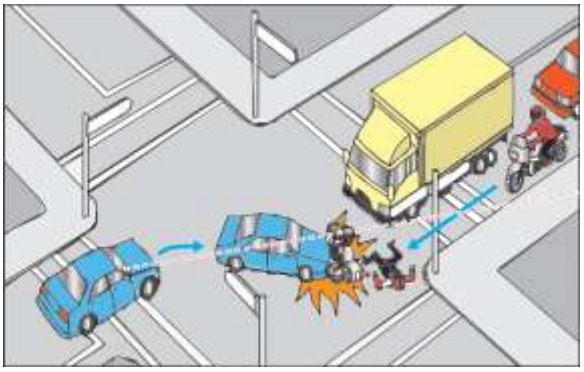
DEFENSIVE RIDING SCENARIOS, RISK FORECAST AND REACTION TO HAZARDS

234. Create a safety cushion around you. If the rear vehicle is following too close, slow down and increase your following distance using the 4 second rule. This means that you should not be passing a fixed object in less than 3 seconds from the time the front vehicle passed the same object. Observing this rule will force the rear vehicle to slow down too, thus reducing the chances of an accident.



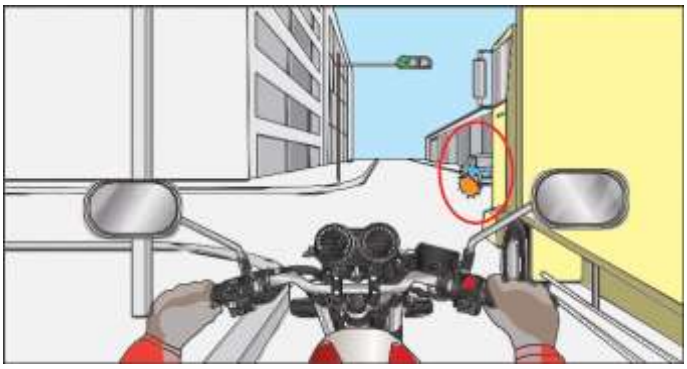
235. Anticipate adverse conditions ahead if your full view is obstructed. Move forward cautiously until you have a clear frontal view. Ensure the turning vehicle has seen you and is giving way before passing the junction. Should the vehicle turn, stop and allow it to pass.



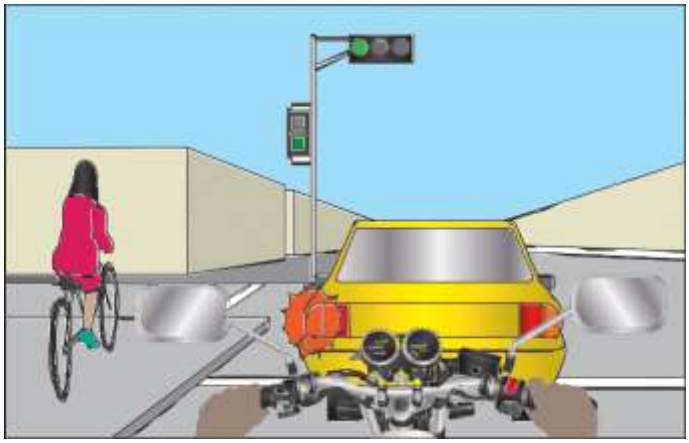


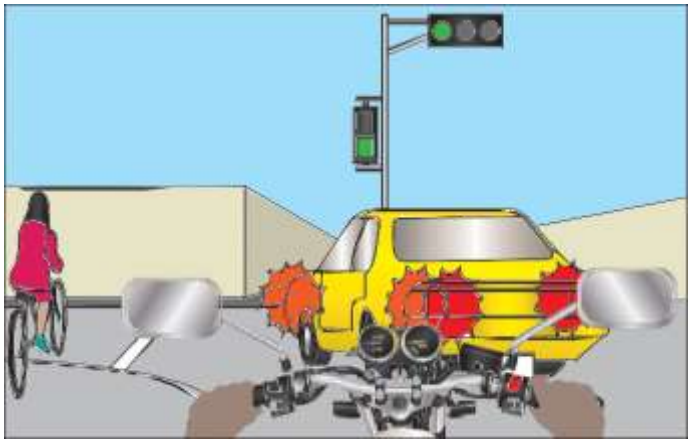
236. Even when the traffic lights are in your favor, slow down and be prepared to stop at junctions.

In this example, the turning car is unable to see the motorcyclist going straight as the view is blocked by the heavy vehicle turning right.



237. Be able to anticipate and be prepared to stop should the car in front stop to give way to cyclist or pedestrians proceeding straight across the junction.





238. Be prepared for taxis cutting into your path when you see a passenger hailing for taxis by the roadside.

SIX POSITIONS OF TWO-VEHICLE CRASH

239. The largest single category of traffic accidents involves two vehicles. The two-vehicle accident involves combinations of collisions between heavy vehicles, motorcars and motorcycles.

The two-vehicle accidents result in most deaths and injuries.

There are six positions in which you could have an accident with another vehicle. Learn and distinguish these six positions, study the hazards using the case studies and apply the defences against them to prevent yourself from getting into one.

The Six Positions to study with are:

(i) You could collide with the vehicle in front
(ii) You could collide with the vehicle behind
(iii) You could collide with the oncoming vehicle
(iv) You could collide with the vehicle from the side
(v) You could collide with the overtaking vehicle
(vi) You could collide with the vehicle being overtaken

ACCIDENT WITH THE VEHICLE INFRONT

240. There are two main reasons for this type of accident.

(i) The vehicle in front suddenly slows down or stops.
(ii) You followed too closely behind the front vehicle.

What makes the front vehicle slow down or stop suddenly?

Possible reasons include:

- The taxi in front may suddenly stop to pick up passengers,
- It may suddenly brake in order to make a turn because the passenger has given last minute instructions;
- The car in front suddenly stops when the traffic lights turn amber because the driver notices a Red Light Camera;
- A drunken or sleepy driver may apply brakes suddenly;
- A car or motorcycle may suddenly cut into the path of the vehicle in front of you, forcing its driver to brake hard;
- The driver in front may suddenly brake to avoid a dashing animal, pedestrian, pot-hole or litter on the road;
- During night-time riding, the driver in front may stop suddenly as he is momentarily blinded by the oncoming headlight glare.

These kinds of situations usually take place so abruptly that the drivers in front would have no time to signal or slow down to warn the other drivers behind them. If you happen to be riding behind them when they make such sudden stops, the risk of collision is higher. Never take for granted that all drivers will signal and slow down their vehicles before stopping.

Accidents due to own fault can arise for the following reasons:

- You are not alert because you are sleepy, tired, sick, or distracted;
- Your brakes are not working properly;
- Your tyres are not providing enough grip when you brake hard;
- The road is wet and slippery;
- Your speed is too fast for the road and weather condition;
- You follow too closely behind the front car.

When you collide into the rear of the front vehicle, you usually end up a loser. You will be blamed for the accident and your vehicle will usually be badly damaged.

DEFENSIVE APPROACH TO ADOPT

241. Firstly, always try to anticipate what the driver in front is going to do. This requires full concentration and alertness from you.

Secondly, keep a safe distance away from the vehicle ahead of you. A safe following distance provides you with the space cushion which gives you ample time to react and brake safely behind the vehicle in front of you.

To maintain a safe following distance, use the Two-second Rule.

The advantages of the Two-second Rule are:
1. This rule can be applied at any speed.
2. Drivers need not know the actual following distance.

A safe following distance also enable us to —

1. Observe the traffic pattern well up ahead of the front vehicle.
2. Start braking as soon as, or sooner than the driver in front of us.
3. Brake gently.
4. Have extra time and space in which to STOP.

Observing a safe following distance allows preventable accidents. It also helps build your confidence and makes riding more relaxing and enjoyable.

ACCIDENT WITH THE VEHICLE BEHIND

242. For this type of accident, the causes are quite the same as in the previous position "Accident with the vehicle infront", except that this time you are the front vehicle.

However, the most likely reason for the vehicle behind to hit you is that it did not keep a proper following distance, meaning It follows too closely behind you.

Why would the driver follow so closely behind you?

Could it be you are riding too slowly, or the driver behind is in a hurry.

When someone follows closely behind you, he is telling you to move over and let him pass.

If you ignore him or increase your speed, he is likely to stay closely behind you for a while.

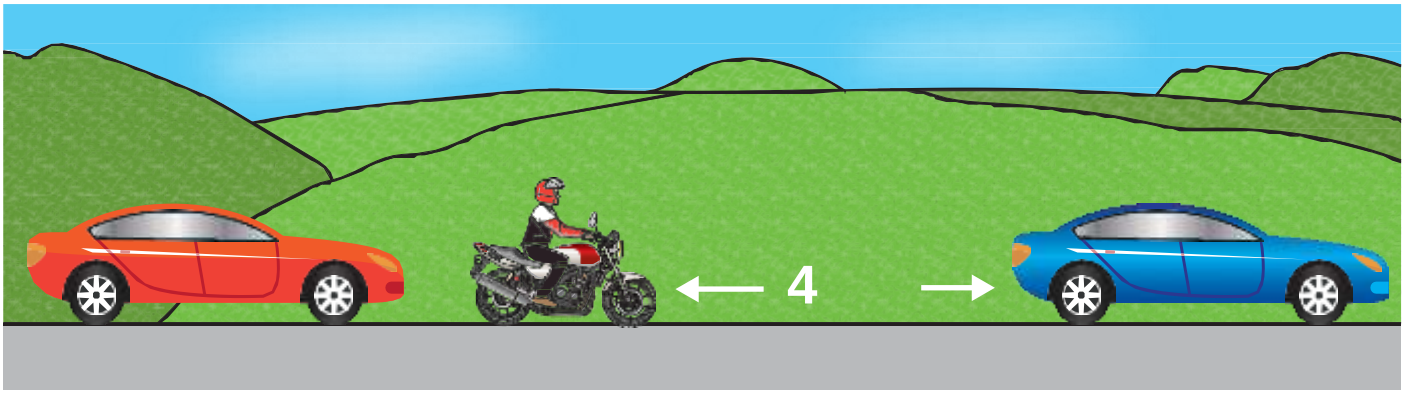
In the meantime, if you are forced to brake suddenly avoid some danger, which always happens unexpectedly, then you stand a good chance of being hit by the vehicle right behind you.

Usually when a driver is in a hurry, his concentration is divided. Therefore, you have to give the driver behind you ample space to slow down or stop in case of emergency. This can be done by lengthening your following distance from 2 seconds to 4 seconds. The extra time and space you have for yourself eliminates the need to apply braking for you and the driver behind. You are in fact doing the Two-second Rule for the driver behind you and yourself.

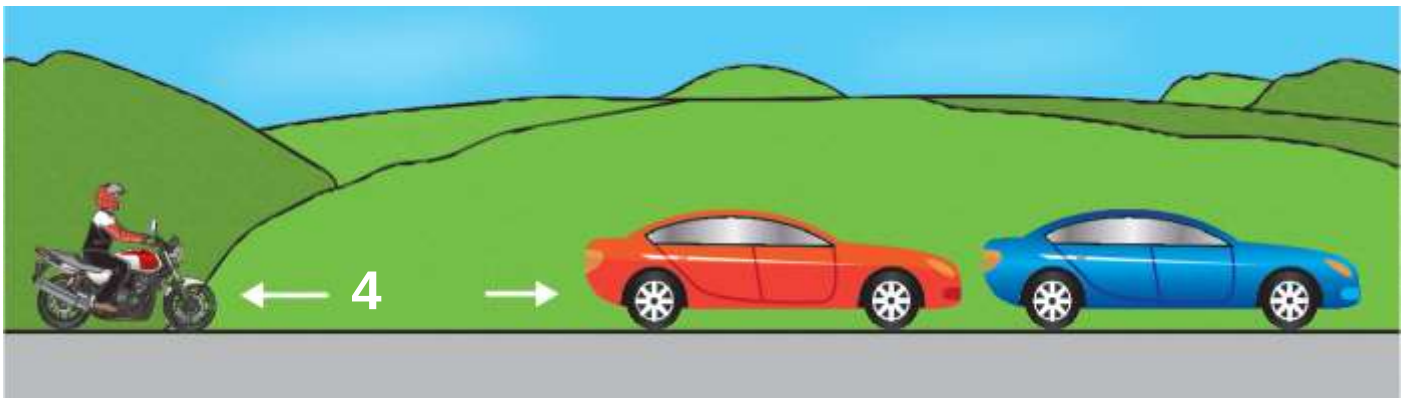
DEFENSIVE APPROACH TO ADOPT

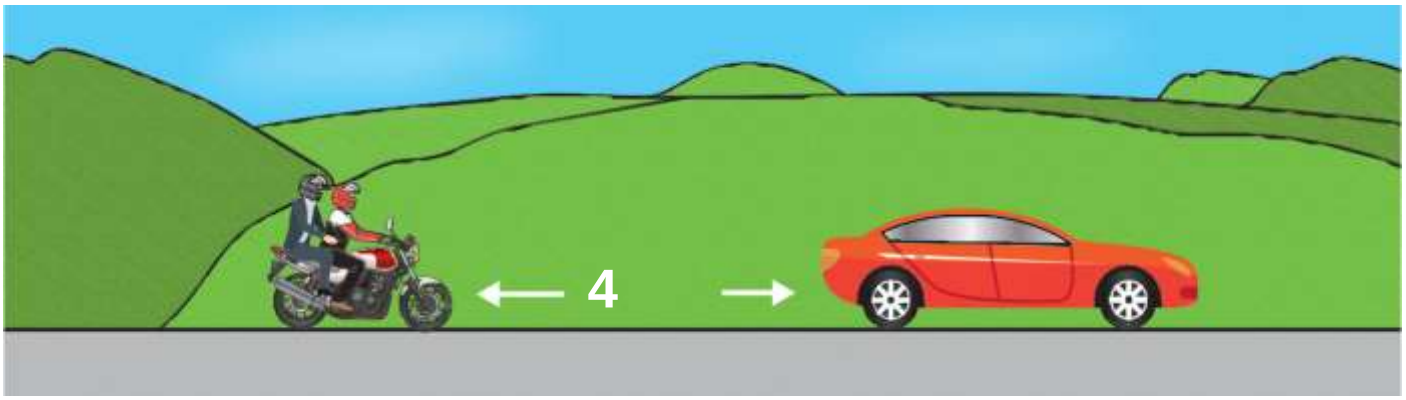
THE FOUR SECOND RULE

243. Apply the count of 4 seconds (one-thousand-and-one, one-thousand-and-two, one-thousand-and-three, one-thousand-and-four) in the same manner as the 2-second rule.



You can also use the 4-second rule when you notice the vehicle ahead is tailgating its front vehicle, or when you are carrying a pillion or additional load. This rule can also be used when riding under adverse conditions. For example, when the road is wet and slippery, visibility is poor or your vehicle is heavily loaded.





BLIND SPOT

244. Another instance where you may be hit from the back is when you are changing lanes. This happens when you do not check the blind spot for vehicles just before you change lanes. Although you may have already signalled and checked the side mirrors, there is an area on your right and left side of your vehicle which is not covered by the mirrors. This area is known as the blind spot.

You can only overcome this problem by turning your head to look over your right or left shoulder to make sure there is no vehicle in the blind spot area. Make it a habit to check the blind spot before changing lanes.

ACCIDENT WITH THE ONCOMING VEHICLE

245. The main reason for this kind of accident is that the oncoming vehicle for some reason, drives across the centre line and enters into your path.

The damage to both vehicles and the injury sustained by both parties in a head-on accident is by far the most serious. It may not be your fault but your suffering in a head-on accident is no less than the other party.

Some of the reasons for an oncoming car to go across the centre line include:

- The driver may be sleepy or drunk.
- The centre line cannot be seen because it has faded or covered by rain water.

- The driver tries to avoid obstacles in his path; for example, construction barrier, litters on the road; parked vehicles, pedestrians or cyclists.
- The driver is blinded by strong light.
- The driver loses control of the vehicle through inaccurate steering, or skid caused by emergency braking.
- The vehicle's speed is too fast for the curve.
- Faulty manoeuvre especially for large vehicles; they have to move towards the right before making a left turn.
- Right turning vehicle may position over the centre line before turning.

It is true that most of the head-on collisions take place at curves, but judging from the above reasons, head-on accidents can actually happen at any place; on a straight road, at a junction and on curves. Be on constant lookout for any tell-tale sign which may cause an oncoming vehicle to go across the centre line.

DEFENSIVE APPROACH TO ADOPT

THE TWELVE-SECOND RULE

246. A practical way of scanning for hazards ahead of us is by using the 12-second rule.

The 12-second rule helps us identify movement and positions of oncoming traffic and enables us to anticipate what problems the oncoming drivers are going to have that might cause them to invade our space. The 12-second rule also give us ample time to adjust our speed and positions.

Using the basic idea of the 2-second rule, you can extend the scanning to a point 12 seconds down the road. For example, an overhead pedestrian bridge or an overhead directional sign, and then count off, "one-thousand-and-one, one-thousand-and-two, one-thousand-and-three, one-thousand-and-four" and so on. If you reach the point before you reached "one-thousand-and-twelve", then you need to choose another point further away than this one and try again until you can reach the spot after counting down.

Once you have mastered this exercise, you will have an idea of how far ahead the 12 second rule is in terms of actual distance.

HEAD ON COLLISION AVOIDANCE RULE

247. There are simple rules which can help avoid us the deadly head-on accident.

RULE 1 — READ THE ROAD AHEAD

Scan the road ahead.

Use the 12-second rule to Identify movement and positions of oncoming traffic.

RULE 2 — REACT BY MOVING LEFT

When an oncoming vehicle is sighted moving towards the centre line, move to the left.

Do not crowd the centre line. Give the oncoming vehicle plenty of room. If you are travelling well to the left, you have already made some space available for the oncoming vehicles should they need it.

RULE 3 - REDUCE SPEED

When you see a threat developing, reduce your speed immediately. Example of such threats include drifting of the oncoming vehicle across the centre line.

Slowing down gives the oncoming driver extra time and space to react. Continue slowing down and be prepared to stop until the situation clears.

RULE 4 - RIDE OFF THE ROAD

If you have followed the first 3 steps of:

(i) Reading the road ahead,
(ii) Reacting by moving left,
(iii) Reducing speed,

and the oncoming vehicle still keeps drifting across the centre line, the final alternative might for you to ride off the road. This action may well be a life saver, if the other choice is a head-on crash.

Most people are unwilling to leave the road probably because it is an unknown area for them. They are afraid that they might turn over or lose control of their vehicles. In a moment of panic, they ride right into head—on collision.

ACCIDENT WITH VEHICLE AT INTERSECTION

248. This sort of accidents can happen at an Intersection, a Round-about, or where two roads merge or at car park exits.

These are mainly due to vehicles from the side:
- Falling to stop at Stop Sign, Give Way Sign, Red lights, etc.
- Failing to keep a proper lookout for traffic,
- Speeding (Speed too fast)
- Insisting on the right-of-way

Accidents occur as a result of difficulty in seeing each other because of:
- Obstructions e.g. parked vehicles. road side hedges, etc
- Glare e.g. rising/setting sun, glare from headlights of incoming vehicles.

UNCONTROLLED INTERSECTIONS

249. An uncontrolled intersection is an intersection which has no traffic lights, Give-way signs, Stop signs or a policeman on duty.

At an uncontrolled intersection, observe the two give-way rules:
(i) Give way to traffic approaching from the right; and
(ii) Turning vehicles give way to straight going vehicles.

These rules do not give the right-of-way to anyone. They only state who is to give way.

So, NEVER assume that you have the right-of-way just because the other drivers are supposed to give way to you.

CONTROLLED INTERSECTIONS

250. A controlled intersection is an intersection which has traffic lights, Give-Way signs, Stop signs or a policeman on duty.

The Highway Code tells us clearly what we should or should not do at these places. Yet many drivers simply do not obey these rules; they go through Give-way signs and Stop signs without stopping, and may even pass through the intersection though the red light is on.

A safe rider must anticipate such reckless acts at both uncontrolled and controlled intersections. Proceed through an intersection only when it Is legal and safe to proceed.

DEFENSIVE APPROACH TO ADOPT

INTERSECTION SAFETY RULES

251. The Intersection Safety Rules are a combination of:
(i) The rules for intersections as set out in the Highway Code, and
(ii) Common sense

The Intersection Safety Rules comprise of the following rules:
1) KNOW
2) SLOW
3) SHOW
4) GO

RULE 1 — KNOW YOUR ROUTE AND PLAN AHEAD

Know In advance where you want to go and what you have to do.

Know your give way rules, but do not expect all other drivers to know.

Know the 6 positions which can result in a 2-vehicle crash.

Know the stopping distance.

RULE 2 - SLOW FOR INTERSECTIONS AND EXPECT THE UNEXPECTED

Slow down gradually when approaching Intersections. Intersections are not for speeding. Your speed should be such that if you have to stop your motorcycle, you can do so without losing control.

It is a good idea to ease off the accelerator before passing minor roads joining from the left or right, as if you are obliged to give way. In an event you need to stop your motorcycle to prevent a collision, you could have saved the ‘ reaction distance’ - a crucial 8 to 10 metres saved can change the whole picture.

Remember: A Red traffic light or a Stop sign cannot physically stop a car from going through. Always slow down and be prepared to give way.

RULE 3 - SHOW YOUR INTENTION BY YOUR POSITION AND SIGNAL

Knowing what you intend to do is not enough, you have to let other drivers know your intentions as well.

You can do so by getting into the proper lane early and signal your turn well in advance (at least 3 seconds), before making your move.

RULE 4 - GO WITH CARE

After you have observed the necessary safety precautions as described from Rule 1 to 4, go through the Intersection without hesitation or being overly cautious.

Lastly, give way to pedestrian who are crossing at the Intersection when you are turning.

ACCIDENT WITH OVER-TAKING VEHICLE

252. You could be involved in accident when the vehicle overtakes you.

These are some of the common reasons for accidents arising due to over-taking;

- The driver's judgement is affected because he is not in the right state of mind mentally (tired, sleepy, drunk, worried, angry, impatient etc.);
- The road condition is not suitable for high speed travelling (uneven or slippery road surface, hilly or winding road);
- The driver' s vision is affected by oncoming headlight glare or poor weather conditions.

Whatever the reasons, accident with an overtaking vehicle will always put you in a disadvantageous position. Whether we are being sideswiped or forced off the road, there is always a possibility of a second accident due to inability to control our motorcycle at such speeds.

DEFENSIVE APPROACH TO ADOPT

As a sensible rider, you should therefore always ride at a speed that matches the prevailing traffic flow. This will eliminate the need for others to overtake you.

However, should someone still attempt to overtake you, you should make It easy for him by either slowing down your speed, or moving over to the left to give him more time and space to complete the manoeuvre.

You do this simply because you don't want to become the victim of some irresponsible or careless driver.

ACCIDENT WITH THE VEHICLE BEING OVERTAKEN

253. Lastly, an accident could occur between you and the vehicle you are overtaking. In our local driving conditions, there is very little time saved from overtaking as the vehicle we have just overtaken will always pull alongside us at the next traffic light. Overtaking creates unnecessary wear and tear on the motorcycle and causes excessive fuel consumption. It also adds stress on the already stressful rider.

Often a result of road rage, overtaking a vehicle could result in the other driver reacting emotionally towards being overtaken. The driver could start to race with you, resulting in you being trapped and unable to respond to adverse events. This could result in you colliding with an oncoming vehicle, being forced off the road, or colliding with the vehicle you are trying to overtake.

An accident could occur also if there is inadequate distance available within which overtaking can be completed safely.

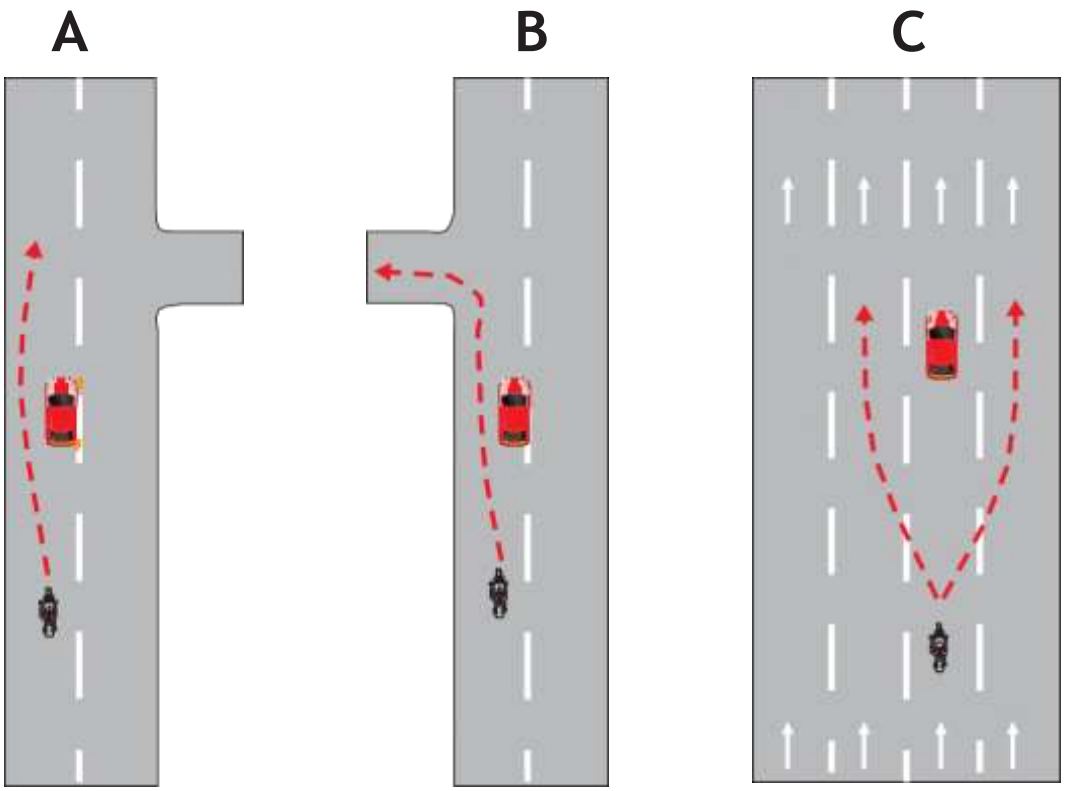
This distance may be limited by:

- oncoming cars,
- roadway terrain that may restrict front view,
- legal prohibition against overtaking.

Successful overtaking requires the driver to make decisions based on his own good judgement to carry out the complex procedure of overtaking. He has no allowance for any doubts or indecision. Bear in mind that overtaking can be a disruptive manoeuvre that disturbs traffic in your lane and the oncoming lane. It can also cause an emotional reaction in drivers being overtaken.

As a rule of thumb, always overtake on the right. However, under the following circumstances, you may overtake on the left:

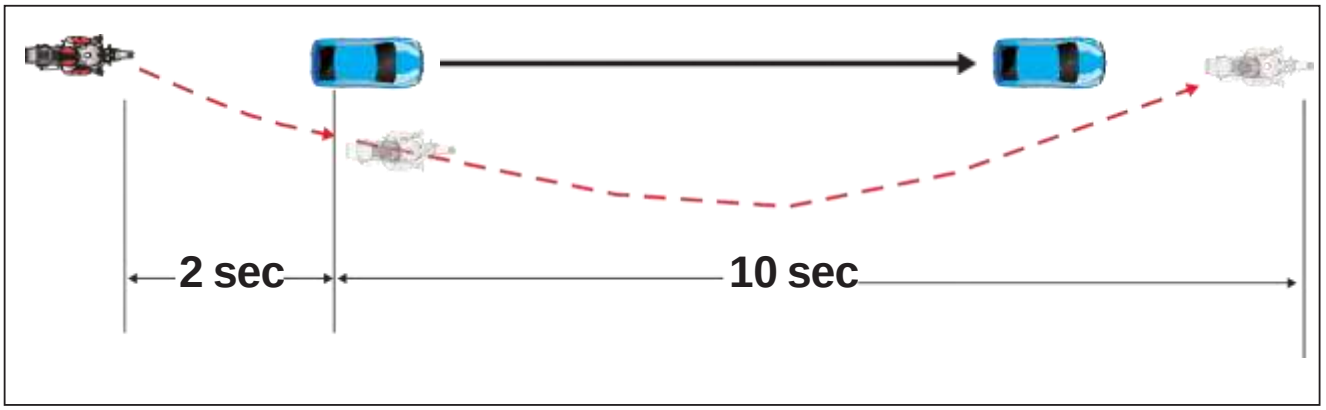
a) When the driver in front has signalled his intention to turn right.
b) When you want to turn left at a junction.
c) In a one-way-street where vehicles may pass on either side.



DEFENSIVE APPROACH TO ADOPT

OVERTAKING RULES

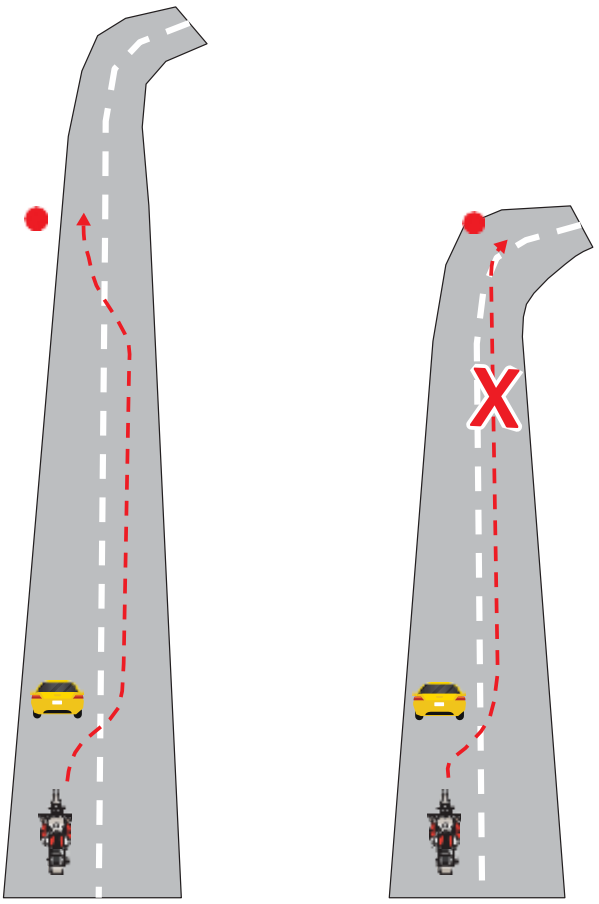
254. As it usually takes about 10 seconds to complete an overtaking manoeuvre, and it is advisable to maintain a 2-second following distance before attempting to overtake. The whole manoeuvre may therefore take as long as 12 seconds.



The 12-second rule also enable us to determine whether the road space ahead of us is sufficient for us to complete the overtaking manoeuvre.

The point of distance to look ahead before overtaking.

It will take about 12 seconds to reach this point. Hence called the 12-second rule.



Do not overtake if there are hazards or you are unable to see any oncoming traffic within the 12 second distance.

HOW TO OVERTAKE SAFELY IN 10 STEPS:

1. **STAY BACK** (before you overtake)

   Maintain a safe following distance. Stay 2 seconds away from the car in front.

   Many riders forget what they had learnt about following distance when they start to overtake. They close in on the vehicle ahead so they can dart out onto the right side as soon as an opening occurs.

   This is hazardous because the vehicle in front might stop suddenly. The change in direction will be too sharp for you to react in time. Additionally, the closer you get to the vehicle in front, the less you can see ahead.

2. **CHECK AHEAD**

   Check ahead for oncoming traffic and the road space available.

   See that approaching traffic is beyond your 12-second visual scan and that there is no road hazard within the 12-second distance.

   Remember that it takes approximately 10 seconds to complete your overtaking manoeuvre.

3. **CHECK BEHIND**

   Check traffic behind you.

   Do not pull to the right until you know what is behind you e.g. in the event that someone is overtaking your vehicle at the same time.

   Use your mirrors and also turn your head to the right to check for any vehicle in your blind spot.

4. SIGNAL RIGHT

Use the right turn signal to warn the vehicles behind you that are about to pull on to the right hand side. You must signal for at least 3 seconds before making your move.

You may need to re-adjust your 12-second scan at this point.

5. MOVE RIGHT

Once you are sure you are following at a safe distance and the road ahead (12 seconds away) is clear, move onto the right-hand side of the road.

Give that vehicle you are overtaking plenty of room.

Be careful to maintain control.

6. ACCELERATE

By now you are pretty much committed to overtake. You are on the right-hand side of the road and you certainly do not want to stay there any longer than necessary. This is a dangerous lane for you to be on.

Accelerate and overtake as quickly as possible. You may have to change down to the next lower gear to gain more power and acceleration.

Remain within speed limit.

7. COMMUNICATE

Now that you are in the blind spot of the vehicle you are over-taking, tap your horn or flash you head-lights to let the driver know that you are attempting to overtake him.

Use your Judgement on this. It isn't always necessary, and It could sometimes create confusion in heavy traffic. However, if you notice that the car you're overtaking is drifting or not stabilised in its lane, use your horn.

8. SIGNAL LEFT

After you have passed the vehicle, use your left turn signal to indicate that you are returning to the left-hand side of the road.

You must let the driver know your intention.

9. MOVE LEFT

Return to the left side as soon as you can see the front of the vehicle you've just overtaken in your side mirror.

Also, turn your head check your blind spot.

Careful not to cramp the vehicle you have just passed.

10. RESUME SPEED

Cancel your signal.

Now that you have safely completed overtaking, up the tempo and resume normal speed.

Take up your correct position in the traffic stream by using the 2-second, 4-second and 12—second rules to continue your Journey.

INSURANCE

255. Users of motor vehicles are to be insured at least against third-party risks and compensation. This is to provide against third-party risks arising out of the use of motor vehicles and for the payment of compensation in respect of death or bodily injury arising out of the use of motor vehicles. It is a requirement by law.

PILLION

256. No person riding a motorcycle or scooter on a road shall carry any child below 10 years of age as a pillion passenger.

Riding with a passenger is different from riding alone. The extra weight of a passenger changes the balance of the motorcycle and has an effect on the acceleration and braking operations of the motorcycle. With a passenger, you will need a longer stopping distance. You will also need a longer safe clear road ahead when overtaking due to a reduced acceleration rate.

Unless the passenger is an experienced pillion rider, you should instruct the passenger on the following:

a) Sit as close to you as possible.
b) Sit astride the motorcycle with feet on the footrests all the time, even at rest.
c) Keep his/her body in line with yours and relax.
d) Hold your waist with both hands.
e) Grip your hip with his/her knees.
f) Do not shift his/her body about.
g) When negotiating a bend, the pillion should lean together with you in the same direction.

Take the following precautions before riding;

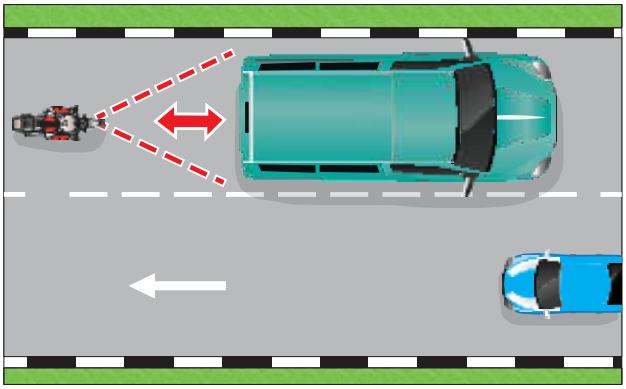
a) Adjust the mirrors after the pillion rider is seated on the motorcycle.
b) Ensure the passenger's clothing will not get entangled with the wheel.
c) Check the tyre pressure to ensure it is inflated sufficiently to take the extra weight.

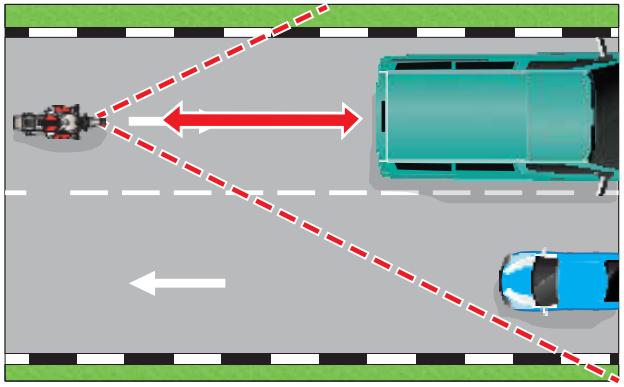
HEAVY VEHICLES

257. Accidents involving large vehicle are normally very serious or fatal. Bear in mind these factors when you encounter large vehicles on the road:

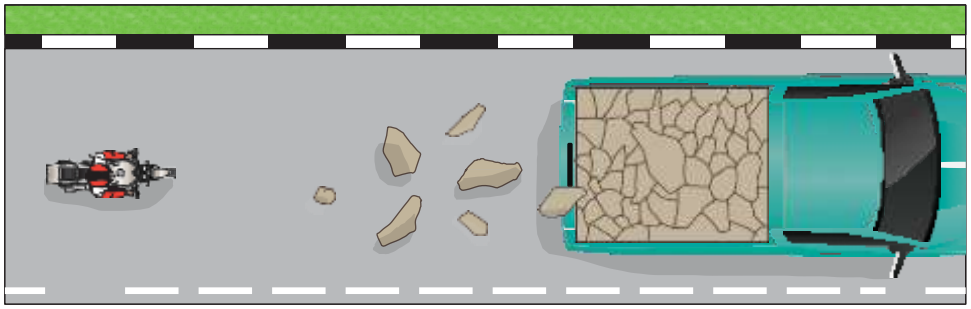
a) They are high, long and bulky, and block your view;
b) They need plenty of space to turn;
c) Their speed is restricted because of their size and load.

Keep between you and the large vehicle a greater following distance than you normally would with other vehicles. Riding behind a large vehicle you should keep well back because it allows the driver to see you in the mirrors and your view of the road ahead will be blocked if you are too close to the large vehicle. When following a large vehicle on a wet road, water spray from the rear of the large vehicle makes it difficult to see if you follow too close. You should drop back until you can see better.



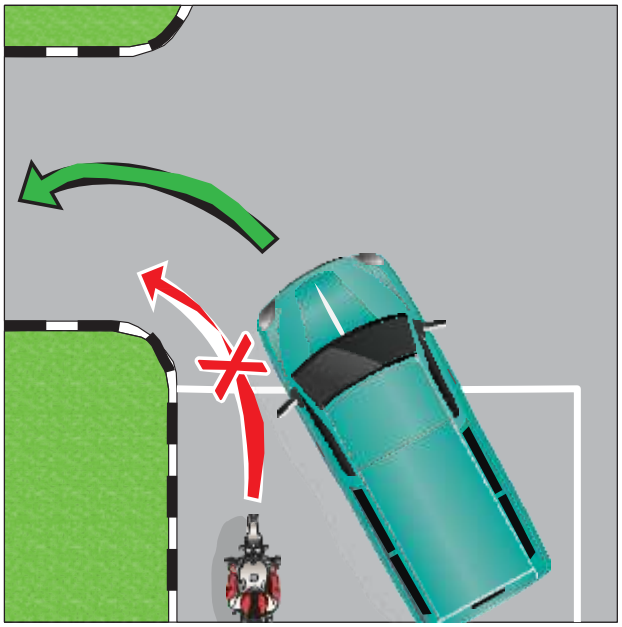


258. You will not be able to react in time should goods fall off a loaded vehicle if you are following it too closely.



259. Large vehicles may not be able to turn left without first moving to the right, or turn right without first moving to the left. As such, watch out when large vehicles are turning left, right or U-turn.

Do not try to pass them on the side which they intend to turn into.



MINOR VEHICLE MALFUNCTIONS

260. Everyone hopes that he/she need not deal with difficult situations on the road. However, no one can predict when an emergency will arise, so be prepared for such incidents. The following are how to identify the trouble spots and the remedial actions.

BREAKDOWN

261. If a breakdown occurs unexpectedly while riding, the most important consideration is to retain control of the vehicle. Let other road users know that something is wrong by sounding the horn and switching on the hazard lights. Move to the side of the road after checking that it is safe to do so.

THROTTLE GRIP STUCK

262. If the throttle is stuck and does not return to a closed position,
   a) immediately squeeze the clutch lever, turn off the engine and apply the brakes. Beware of 'Free Wheeling' when stopping at high speed.
   b) Stop the vehicle and switch off the ignition.

FRONT BRAKE FAILURE

263. In the event of a front brake failure:
   a) turn on the hazard lights and move safely to the side of the road;
   b) apply the rear brake;
   c) change to a lower gear, preferably to the 2nd gear and release the clutch to use the engine brake;
   d) switch off the engine.

REAR BRAKE FAILURE

264. In the event of a rear brake failure:
   a) turn on the hazard lights and move safely to the side of the road;
   b) gently apply the front brake;
   c) change to a lower gear, preferably to the 2nd gear and release the clutch to use the engine brake;
   d) switch off the engine.

TYRE PUNCTURES

265. When a tyre punctures, there will be a strong pull on the motorcycle, making it sway from side to side. The pull is greater for the front wheel than for the rear wheel. When this happens, tighten your grip on the handle bar and steer against the pull to keep on course. Brake gently and progressively and stop the vehicle by the side of the road.

ENGINE OVERHEATING

266. When the engine of your motorcycle overheats, there will be a sudden increase in engine noise and engine revolutions. When this happens;
   a) Move the motorcycle safely to the side of the road with hazard lights or left indicator on.
   b) Pull in the clutch lever fully.
   c) Steer the motorcycle safely to the side of the road.
   d) Switch off the engine.

BUS LANE

267. You can ride on the bus lane outside restricted hours. During bus lane prohibited hours, a rider is only allowed to use the bus lane when the rider is trying to avoid a collision.

HIGH FUEL CONSUMPTION

268. Rapid acceleration and harsh braking can cause high fuel consumption.

FIRE

269. When your motorcycle catches fire while riding, you should stop immediately.

ACCIDENTS

270. There are three factors which contribute to a traffic accident:
   (i) The road users;
   (ii) The environment;
   (iii) The vehicle.

   Of the three factors, nearly most of the traffic accidents are caused by road users and are due mainly to:
   a) errors in judgement, especially by children and the elderly, and
   b) riding without due care and attention.

   When you are involved in an accident, you should stop irrespective of whether there is an injury or not. Remember to switch on the vehicle hazard lights to warn the other road users of the accident.

   In an accident where there is no injury:
   a) the drivers involved should move their vehicles quickly and safely to the roadside to avoid creating a hazardous situation for other road users;
   b) both parties should settle the matter among themselves;
   c) if the matter cannot be settled privately, both parties should inform their respective insurance companies of the accident;
   d) it is not necessary to report the accident to the police.

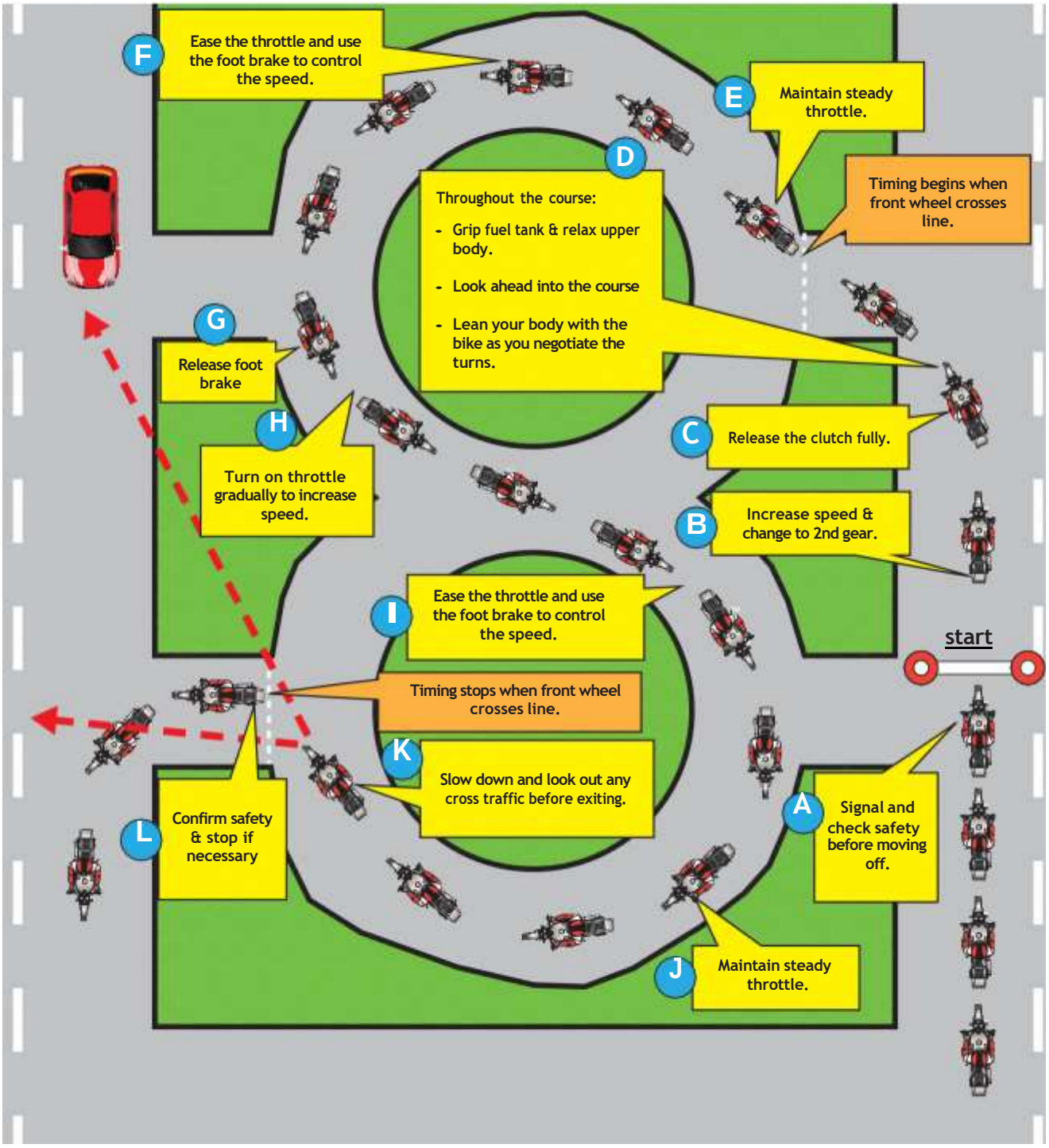
   In an accident where there is injury:

   a) seek help from passers-by to warn other road users of possible obstruction(s) or danger arising from the accident;
   b) call for the police and the ambulance;
   c) do not move or remove your vehicle without the authority of a police officer, unless:
   (i) the injured person has to be conveyed to a hospital;
   (ii) it is necessary to extricate a trapped person, to prevent a fire, or reduce serious traffic hazards as a result of the accident;
   d) inform your insurance company of the accident.

S COURSE

271. The aim is to understand the motorcycle's limits in speed, operation and maintain the correct posture when manoeuvring in tight spaces safely.

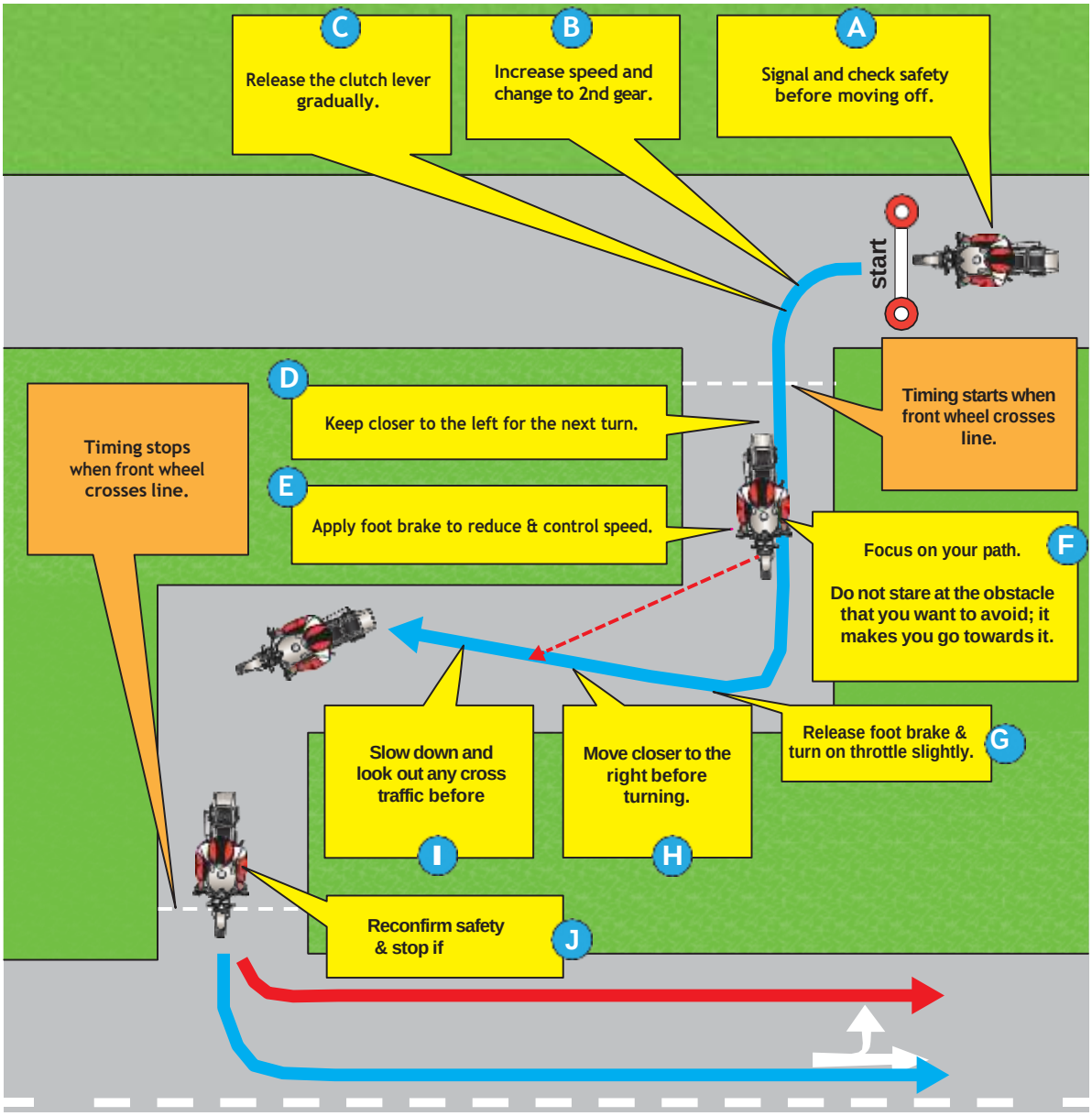
The objective is to safely negotiate the S Course in less than 11 seconds.



CRANK COURSE

272. The aim is to understand the motorcycle's limits in speed, operation and maintain the correct posture when manoeuvring in a series of sharp turns safely.

The objective is to safely negotiate the Crank Course in less than 6 seconds.



COMMON MISTAKES BY LEARNER RIDERS FOR S COURSE AND CRANK COURSE

Control Your Speed Before Entering

273. A common mistake is that learners enter the S Course and Crank Course at the wrong speed. If the speed is too high, they will force the motorcycle to turn using the handlebar, causing the motorcycle to turn awkwardly and wobble when turning. But if the speed is too slow, the engine knocks and the engine may stall.

Line Of Sight At Each Turning Point

274. Another common mistake is learners lowering their heads and looking down which causes them to manoeuvre awkwardly and hitting the kerb. The correct way is to keep changing your line of sight to the next turning point.

Correct Posture For S Course

275. Adopt and maintain the correct posture at different parts of the S Course.

i. Lean your motorcycle more when entering and exiting the S Course.

ii. Lean at the same angle as your motorcycle when manoeuvring inside the S Course

Correct Posture For Crank Course

276. Adopt and maintain the correct posture for the Crank Course.

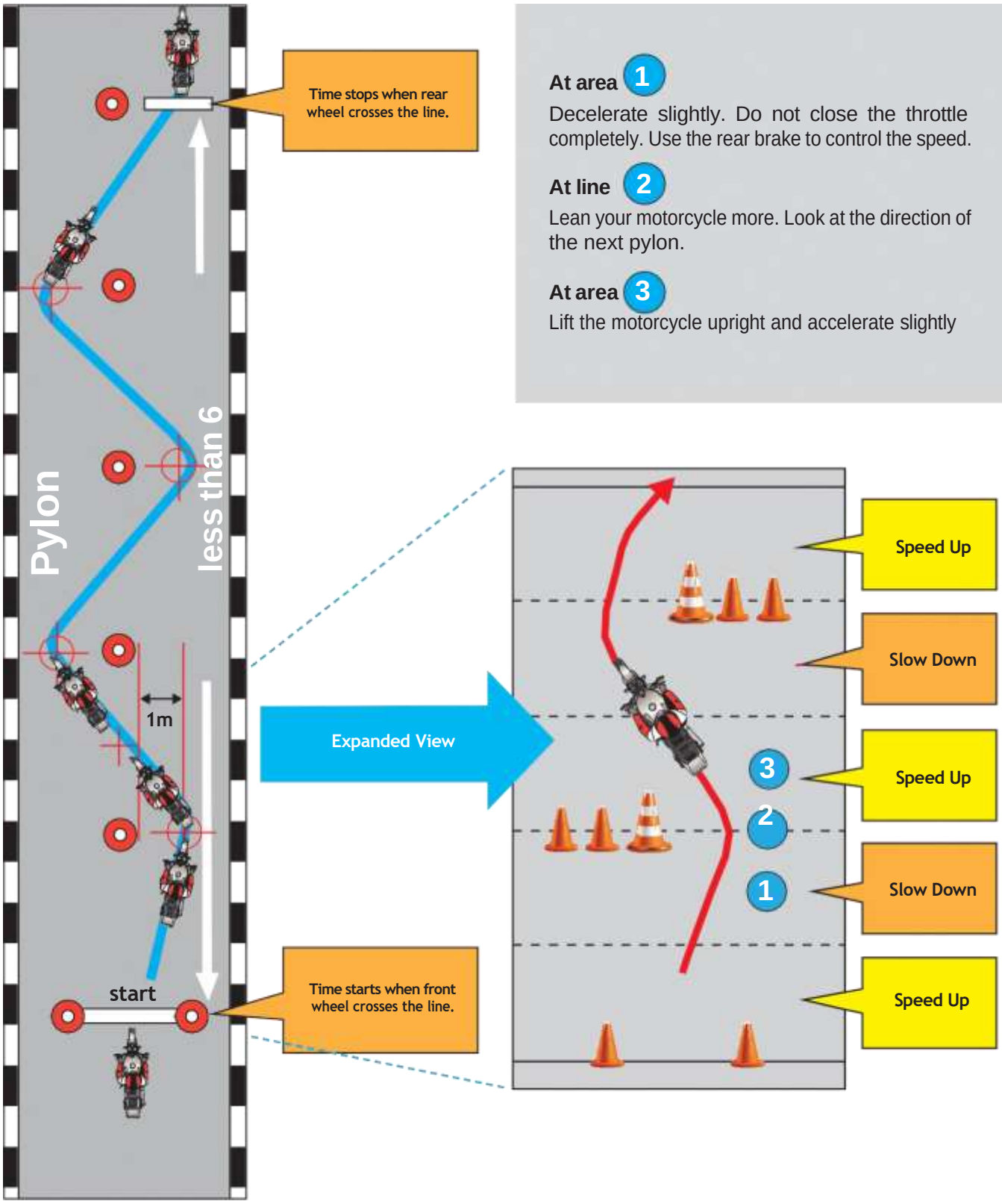
i. Lean your motorcycle more when manoeuvring the Crank Course.

ii. "Knee grip" the tank between both knees is essential for smooth turning. This is especially important for manoeuvres that require control at low speeds like crank course or entering and exiting the S Course.

PYLON SLALOM COURSE

277. The aim of this course is to equip riders with the skills to avoid hazards during an emergency.

The objective is to negotiate the slalom course without hitting the pylons in less than 6 seconds.



At area 1

Decelerate slightly. Do not close the throttle completely. Use the rear brake to control the speed.

At line 2

Lean your motorcycle more. Look at the direction of the next pylon.

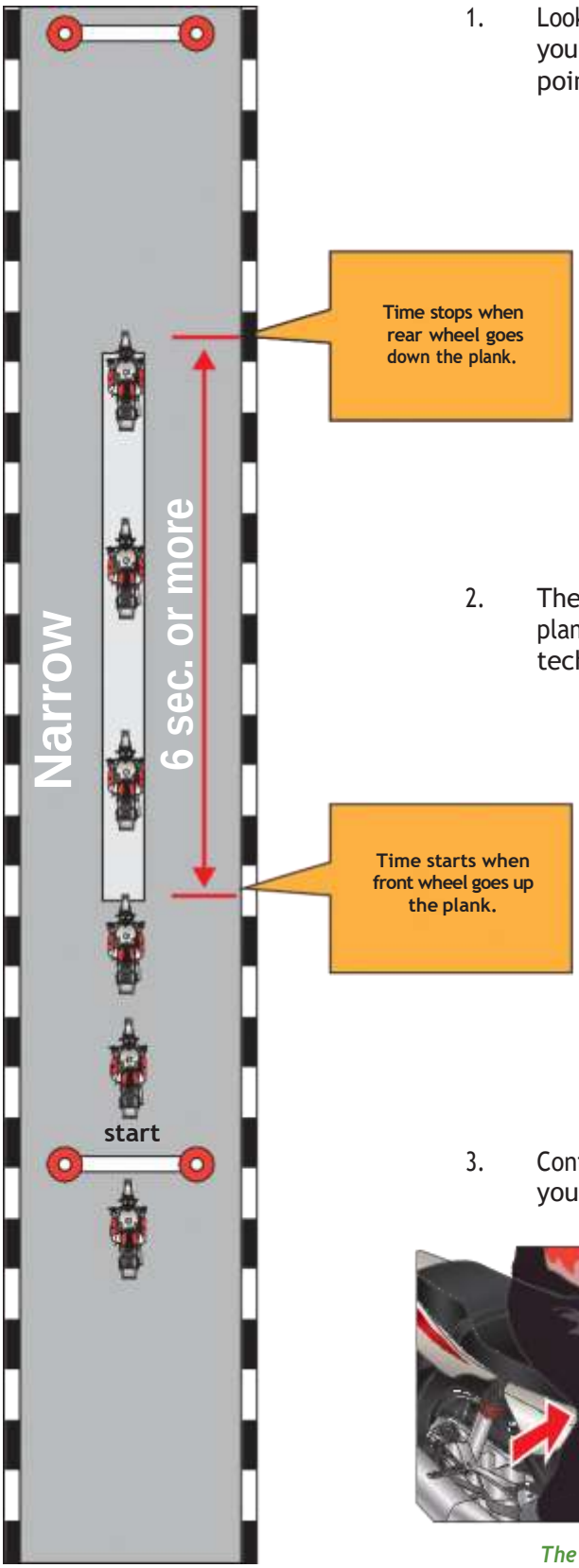
At area 3

Lift the motorcycle upright and accelerate slightly

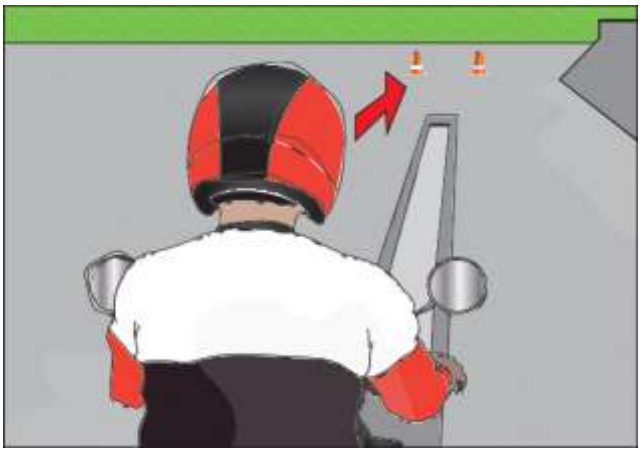
NARROW PLANK COURSE

278. The aim is to keep the motorcycle on a straight course when riding at very low speeds.

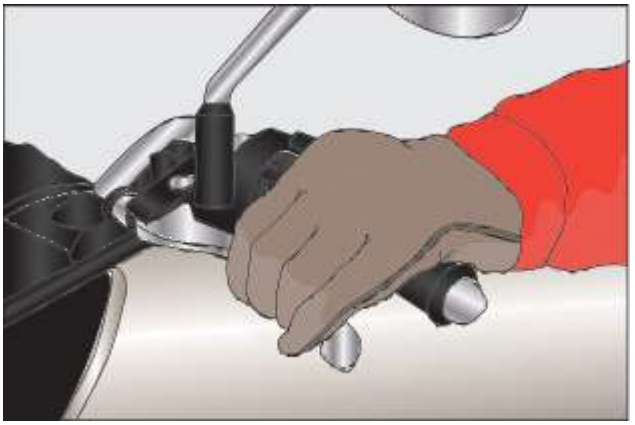
The objective is to complete the movement across the narrow plank for 6 seconds or more.



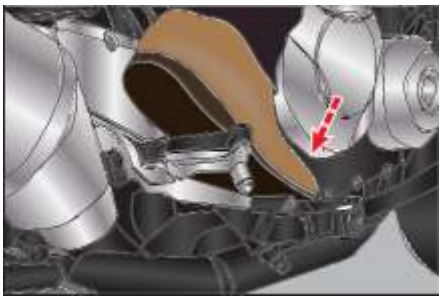
1. Look forward. Tilting your head down puts you out of balance and you are more likely to fall off the plank. Keep your eyes on the point after the end of the plank.



2. The timing will start once the front wheel goes up the narrow plank. Do not close the throttle completely, maintain a half-clutch technique.



3. Control the speed using the rear brake and grip the fuel tank with your knees.



The timing stops when the rear wheel goes comes down at the end of the plank.

STOPPING AND MOVING OFF FROM A SLOPE

279. The objective is to move off from a slope without rolling backwards or stalling the engine.

Slight adjustment in the use of controls is required when stopping or moving the motorcycle off on an incline. There is a tendency for the motorcycle to roll backwards when going uphill. To counter this, open the throttle a bit more when going uphill. Apply more pressure on the brakes to hold the motorcycle on an incline.

280. Take the following steps when stopping on an incline:

a) Check mirrors.
b) Left indicator on.
c) Check 'blind spot'.
d) Pull in to the left.
e) Apply both front and rear brakes gradually to reduce speed.
f) Pull-in the clutch lever just as the motorcycle is about to stop.
g) Cancel your left signal.
h) Release the hand brake lever but keep the pressure on the brake pedal.

To move off smoothly on an incline requires good co-ordination of the clutch, throttle and the brake pedal. Being skilled in the 'half-clutch' technique is crucial in this manoeuvre. Do not hold on to the 'biting point' too long as this would wear out the clutch lining faster.

281. Follow the procedure below in moving off on an incline:

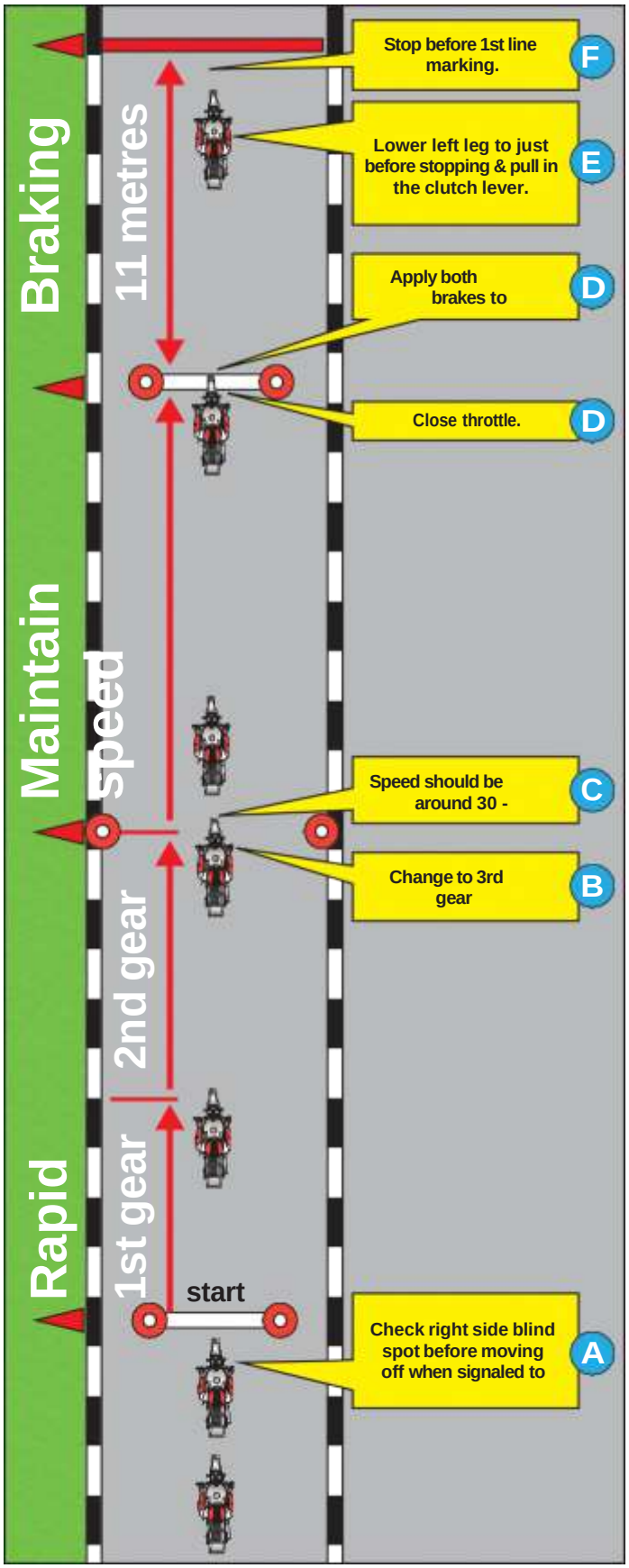
a) Step on the brake pedal.
b) Pull-in the clutch lever fully.
c) Shift to first gear.
d) Open the throttle a bit more than you would on a flat road and hold it steady. Keep about 2,000 to 3,000 rpm.
e) Release the clutch lever gradually until the 'biting point' is reached.
f) Hold and maintain the clutch lever after achieving 'biting point'.
g) Check side mirror and right 'blind spot'.
h) Show your right signal.
i) Turn the throttle slightly further and release the clutch lever a bit more until you feel the motorcycle wanting to move forward and a drop in the engine speed.
j) Release the pressure on the brake pedal.
k) Increase throttle slightly and at the same time gradually release the clutch lever fully.
l) Should the engine stall on moving off:

(i) Step on the brake pedal quickly to prevent the motorcycle from rolling back.
(ii) Shift the gear to neutral.
(iii) Start the engine and repeat procedure for moving off.

EMERGENCY BRAKE COURSE

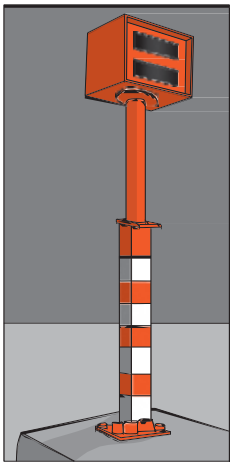
282. The aim is to equip riders with the skills to stop the motorcycle in the shortest distance safely during emergencies.

The objective is to stop within 11 metres at the speed of 30 km/h on wet surface with the correct posture and technique.



TRAFFIC LIGHT SURVEILLANCE CAMERA

283. Traffic Police (TP) will deploy more traffic sensors, such as speed and red-light cameras to enhance road safety on the roads. TP will explore placing additional cameras in accident prone locations, in order to mitigate the risks of accidents occurring. The highly visible cameras will serve to deter the commission of traffic violations, thereby enhancing road safety.

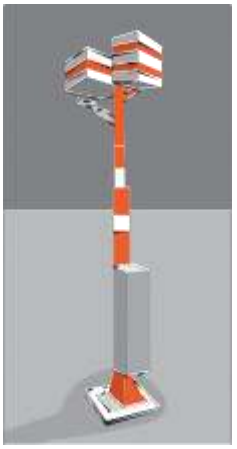


RED LIGHT CAMERAS

284. To deter and detect motorists who endanger other road users by beating the red lights, a total of 240 digital red-light cameras have been installed island-wide as of Jun 2015.

Traffic junctions that do not have red light cameras installed are monitored by TP's mobile enforcement operations. Such locations are regularly evaluated so that they remain relevant.

Motorists who beat red lights are liable for 12 demerit points and a fine of $400 to $500, depending on vehicle type. Any motorists who are charged in court are liable to a $1,000 fine or 3 months' imprisonment for the first offence, and a $2,000 fine or 6 months' imprisonment for a second or subsequent offence.

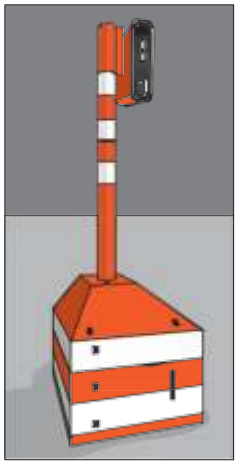


FIXED SPEED CAMERAS

285. TP also employs various enforcement strategies to ensure that motorists comply with vehicle/road speed limits. These include the use of static digital speed enforcement cameras island-wide and the use of mobile speed laser cameras during anti-speed operations. In addition, patrol officers are continually on the lookout for speedsters who drive dangerously. Motorists who commit speeding offences can be fined $150 to $400 and receive 4 to 24 demerit points. They may also be prosecuted in court.

MOBILE SPEED CAMERAS

286. TP is constantly exploring various technological solutions to complement its enforcement efforts. One option is the adoption of Mobile Speed cameras (MSCs).



Similar to the functions of fixed speed cameras, the MSCs are meant to be more mobile, and provide a more ad-hoc solution, being able to be deployed to certain areas that the current fixed speed cameras may not be able to.

Deploying and redeploying of MSCs will be faster and more cost-effective than the fixed speed cameras, and also allow TP to respond promptly to curb localised and prolonged speeding problems, without compromising frontline resources from other TP operations. Painted in the same traffic-orange colours, the cameras will act as deterrence to errant motorists and behaviours.

TP would like to urge all road users to adhere to traffic rules and regulations at all times and not only when there are enforcement cameras or police officers in sight. For the sake of your loved ones, make it home safely.

APPEALS

287. Traffic Police takes a firm stance against motorists who commit traffic violations or drive while under suspension or revocation. Motorists who wish to appeal for their traffic offences can only do so online via TP's e-Appeals Portal. Appeals for traffic offences will only be considered on grounds of extenuating circumstances, such as medical emergencies, and must be supported by relevant documentary proof. Repeated appeals without fresh evidence will not be considered.

COURTEOUS RIDING

RIDING ALONG

288. Adjust your speed to the speed of the traffic around you so as to not slow down traffic behind you. It is courteous to yield the right-of -way to others when circumstances permit. When the right-of-way is given to you, it is gracious to say thank you.

SIGNALLING

289. Give appropriate signals at least 3 seconds in advance to allow others to act on them in time. Cancel your signals when they are not in use so as to not confuse others.

USE OF HORN

290. Sound the horn only to warn other road users of dangers such as a likely collision. Do not use the horn to express anger of frustration. Do not use the horn to demand the right-of-way or bulldoze your way through crowded places.

LANE DISCIPLINE

291. Keep to the left of the road and leave the other lanes for other faster moving vehicles to pass safely. Keep within your lane. It is inconsiderate to straddle lanes as this would obstruct other vehicles and may lead to traffic being held up.

Do not weave in and out of traffic lanes as it would cause confusion and danger to others. Cutting into the path of other vehicles is discourteous and likely to cause an accident.

AT ROAD JUNCTIONS

292. Move into the correct lane early at road junction to let others know your intended direction of travel. When making right turns, position your vehicle properly so that it does not hinder oncoming vehicles.

IN TRAFFIC QUEUES

293. Stay in queue during traffic hold-ups. Do not jump queue. Jumping queue would aggravate the traffic jam. Leave a gap at the junction to a side road in traffic queues to enable vehicles from the opposite direction to turn right as well as for vehicle from the side road to move out.

OVERTAKING

294. Overtake only when it is absolutely necessary. Overtake only when you are sure that there are no other vehicles attempting to pass or overtake you.

Slow down and keep left when being overtaken to allow the overtaking vehicle to pass quickly. Accelerating when others are trying to overtake you is unsafe and not gracious.

FOLLOWING DISTANCE

295. Keep a safe following distance from the vehicle in front so as to allow yourself enough room to stop safely should the vehicle in front stop suddenly.

Do not harass the vehicle in front by tailgating it. This is a dangerous practice which could easily lead to an accident. Flashing your headlights or blasting the horn at slower moving vehicles in front of you is rude.

STOPPING AND PARKING

296. The best place to park your motorcycle is on firm ground level.

If you have to stop at the side of the road always park close to the edge of the road. If you need to park, use the designated parking places where you would not cause any inconvenience to other road users.

Do not stop your motorcycle under a shade which is at a distance from a junction while waiting for the traffic signal to change. This is a selfish act and may slow down traffic at the junction.

When parking your motorcycle in a parking lot, be considerate by parking your motorcycle parallel to and in the centre of the lot.

When you leave your parked motorcycle, you should always use the handlebar steering lock.

Do not park on a steep slope as it is unsafe to do so.

PEDESTRIANS AND CYCLISTS

297. Give pedestrians and cyclists plenty of room as they might change direction suddenly. Do not sound the horn when you are close to pedestrians as you might scare and cause them to react irrationally, resulting in an accident.

Do not obstruct pedestrians by stopping on the pedestrian crossing. On wet roads, slow down when you are near pedestrians and cyclists so as to not splash them with water from the road.

PATIENCE

298. Always be patient. Do not rush or lose your cool on the road.

It is not gracious to show any provocative gesture when other drivers do something wrong or cause inconvenience to you.

No one would deliberately get himself/herself involved in an accident.

Indicate that you are sorry when you have caused inconvenience to others. This will soothe the other driver.

When a learner driver stalls at a junction, you should be patient as you expect them to make mistakes.

PROBATIONARY DRIVERS

299. Be patient and prepare for probationary drivers who appear to be inexperienced to react more slowly.

USE OF MOBILE COMMUNICATION DEVICE WHILE DRIVING OR RIDING

("Use", in relation to a mobile communication device, means to hold it in at least one hand while operating any of its functions)

300. It is an offence to use a mobile communication devices [including mobile telephone and any hand held devices (e.g. tablets, walkie-talkies, handheld gaming consoles, etc) which are designed or capable of being used for a communicative function) when driving, riding a motorcycle or bicycle. Should you need to use the mobile communication device while riding, you should ride to a safe place such as a carpark and use it when you are stationary. Communicative function, in this context, refers to any of the following functions:
(a) Sending or receiving oral or written messages;
(b) Sending or receiving electronic documents;
(c) Sending or receiving still or moving images;
(d) Sending or receiving audio or video files; and
(e) Providing access to the internet

Any rider caught using a mobile communication device whilst riding will be charged in court. The penalty for this offence is a fine not exceeding $1,000 or imprisonment not exceeding 6 months, or both. The offender's driving licence is also likely to be disqualified.

Typical scenarios of using a mobile communication device while riding includes riding with one hand holding a mobile communication device and communicating with another person on that device while the vehicle is in motion; texting with a mobile communication device, dialling a phone number or pressing a button to receive a call while holding the mobile communication device are also against the law. Using hands free devices, such as wireless headsets, is acceptable unless the rider is holding on to the mobile communication device while using the hands free device while the vehicle is in motion.

In short, an offence is committed if the rider satisfies all the 3 conditions below:
(a) At least one hand is holding a mobile communication device; and
(b) Rider is using any function of the mobile communication device; and
(c) The motor vehicle is in motion.