



P **L**

Drivers Education Curriculum
CLASS D MANUAL

KPP

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Foreword
Director-General,
Road Transport Department of Malaysia



Assalamualaikum w.b.t and Salam 1Malaysia,

A greatest gratitude to Allah SWT and congratulations to those involved with the publication of "Kurikulum Pendidikan Pemandu" (KPP) textbooks based on the results of the study. This new KPP model is a continuous effort and initiative designed by Jabatan Pengangkutan Jalan (JPJ) in order to improve driving skills and road safety awareness to road users; to achieve the Government's target which is to reduce injuries and deaths from road accidents in Malaysia.

As we all know, studies have shown that the human factor or in other words, the road user is the key factor to the occurrence of road accidents. With regard to this matter, the approach taken by the Government is to address road safety issues and reducing the pain caused by accidents in this country through comprehensive and balanced planning based on the 4 E concept which are Education, Enforcement, Engineering, and Environment. Therefore, the implementation of the new KPP model based on the results of this study is one of the Government's initiatives to produce more competent, in compliance with regulation, and prudent drivers which will contribute to the improvement of road safety in Malaysia.

This KPP textbook is designed and equipped with a new approach based on learning outcomes. The content this book is streamlined for the future drivers' benefits, and drivers will gain adequate knowledge of safe driving. Education based on learning outcomes is also one of the approaches in education which emphasizes on the syllabus without any special attention towards practical learning outcomes. Approach based on the overall learning outcomes is believed to increase the effectiveness of drivers' education for the content of this curriculum was designed in result of an in-depth study, and enhanced with a specific module developed based on the famous theory of education, which is Bloom's taxonomy in order to produce drivers that can cultivate safety as the learning outcome.

This KPP textbook aims to compliment the theoretical and practical learning scheme in order to help speed up the process of safe driving learning. The contents of this KPP textbook is structured according to the theoretical and practical of safe driving learning needs. This KPP book also contains detailed information on each subject as reference for future drivers, and drivers for the theory and practical application, as well as the safety procedure needs in order to become more competent, in compliance with regulations, and prudent drivers.

This KPP textbook has been designed as a basic reference and compulsory for the drivers in accordance to the Goverment's measure to cultivate safe driving.

With the launching of this KPP textbook, it is with great hope that it will help all Driving Institutes in Malaysia to design and implement a new standard in the driving training system towards excellence in service quality to the road users in this country. Threfore, Driving Institutes should adopt the best approach to improve the delivery of the curriculum and provide the best facilities to enhace a more conducive teaching and learning environment, in order to produce a safe driver who possess knowledgeable and competent attributes in safe driving, and practical safety on the road.

The publication of this KPP textbook indirectly shows the Department's transformation in ensuring the new standard of driving training system can be executed with commitment, integrity, transparency and maintain professionalism in the delivery of driver licensing services that meets the national and international needs. I would like to express my appreciation and gratitude for the initiatives and contributions from all parties in making this publication a success. I do believe that this KPP textbook can contribute and serve as a catalyst to achieve higher quality of learning and driving trainings in Malaysia.

Thank you.

DATO' SRI ISMAIL BIN AHMAD

Director-General, Road Transport Department of Malaysia

Driving Licences

1.0 INTRODUCTION

1.1 A Person who intends to drive a motor vehicle such as a motorcycle or a car on the road must possess a driving license. This requirement is emphasized under Section 26(1) of the ROAD TRANSPORT ACT 1987 which states that:

'...no person shall drive a motor vehicle of any class or description on a road, unless he is the holder of a driving licence authorizing him to drive a motor vehicle of that class or description...'

1.2 In cases where the driver does not possess a driving licence, it will be considered an offence under SECTION 26(2) which states:

'Any person who contravenes subsection (1) shall be guilty of an offence and shall on conviction be liable to a fine... or to imprisonment...or to both.'

2.0 TYPES OF DRIVING LICENSES

There are a few type of driving licence by RTD Malaysia. The types of driving licences issued differs according to its use. Details are as below:

2.1 Learner's Driving Licence (LDL)



A learner's driving licence is issued to enable a person to undergo driving lessons (practical training) before being allowed to proceed in taking the practical driving test. The learner's driving licence is issued for a period of 3 or 6 months and can be renewed only up to a total of 2 years from the date of issuance of the learner's driving licence. Within this period of 2 years, the person must pass all required competency tests and obtain the class of driving licence applied for.

2.2 Probationary Driving Licence (PDL)



The probationary driving licence is issued after a person has successfully completed all competency tests for the applied class of driving licence and enables a person to begin driving the said vehicle. The probation period is for 2 years from the period of issuance of the probationary driving licence.

2.3 Competent Driving Licence (CDL).



The competent driving licence is issued after a person has passed a probation period of 2 years without having his licence revoked under the Road Safety (KEJARA) point demerit system. The competent driving licence is issued for a period between 1 to 5 years and can be further renewed for the same period of 1 to 5 years.

2.4 Vocational Driving Licence (VDL)



The vocational driving licence enables a person to drive commercial vehicles such as lorries and buses or to be employed as a bus conductor.

3.0 CLASSES OF DRIVING LICENCES

JPJ issues driving licences according to the following classes:

| | |
|-----------|---|
| A | Invalid Carriage (Motor cycle) with unladen weight not exceeding 450 kg |
| A1 | Invalid Carriage (Motor Car) unladen weight not exceeding 3500 kg |
| B | Motorcycle exceeding 500 cc |
| B1 | Motorcycle not exceeding 500 cc |
| B2 | Motorcycle not exceeding 250 cc |
| C | Three Wheels Motor Cycle |
| D | Motor Car unladen weight not exceeding 3500kg |
| DA | Motor Car without Clutch pedal unladen weight not exceeding 3500 kg |
| E | Trucks with unladen mass exceeding 7500 kg |
| E1 | Trucks with unladen mass not exceeding 7500 kg |
| E2 | Trucks with unladen mass not exceeding 5000 kg |
| F | Tractors / Light motorized machines (chained) with unladen mass not exceeding 5000 kg |
| G | Tractors / Light motorized machines (chained) with unladen mass not exceeding 5000 kg |
| H | Tractors / Heavy motorized machines (wheeled) with unladen mass exceeding 5000 kg |
| I | Tractors / Heavy motorized machines (chained) with unladen mass exceeding 5000 kg |

4.0 REQUIREMENTS TO OBTAIN A DRIVING LICENCE

- 4.1 Provisions as to age and physical health of applicants for a driving licence
 - a. There is a minimum age requirement wherein the applicant must be at least 17 years of age.
 - b. There are also physical health requirements. The applicant must be healthy, have clear vision up to 23 meters and must not be colour blind.
- 4.2 For disabled persons, the applicant must produce a Disabled Persons Driving Licence Application Health Exam form that has been approved by a medical officer from a Public Health Clinic registered with the Malaysian Ministry of Health.
- 4.3 Applications by foreign applicants are allowed, permitted that the applicant has a valid passport and will continue to reside in Malaysia for a minimum period of 1 month.

5.0 OBTAINING THE DRIVING LICENCE

5.1 Registration

An applicant must first register himself in any driving institute, driving school or driving student registration office situated in Malaysia which has been accredited by the JPJ.

- ▶ A driving institute is an establishment for practical training that is equipped with facilities such as a driving circuit and lecture hall. A driving school, on the other hand, is a similar establishment without a driving circuit.
- ▶ A driving student registration office is the branch office of a driving institute with the sole purpose of registering driving students. All further training is conducted in the premises of the driving institute.
- ▶ Practical training must be carried out by a trainer who is accredited by the JPJ and has been awarded the Driving Institute Trainer Certificate (SPIM).
- ▶ The vehicle used during practical training must be a vehicle registered under the institute or driving school and must be verified with a Driving Institute Vehicle Certificate (SKIM).

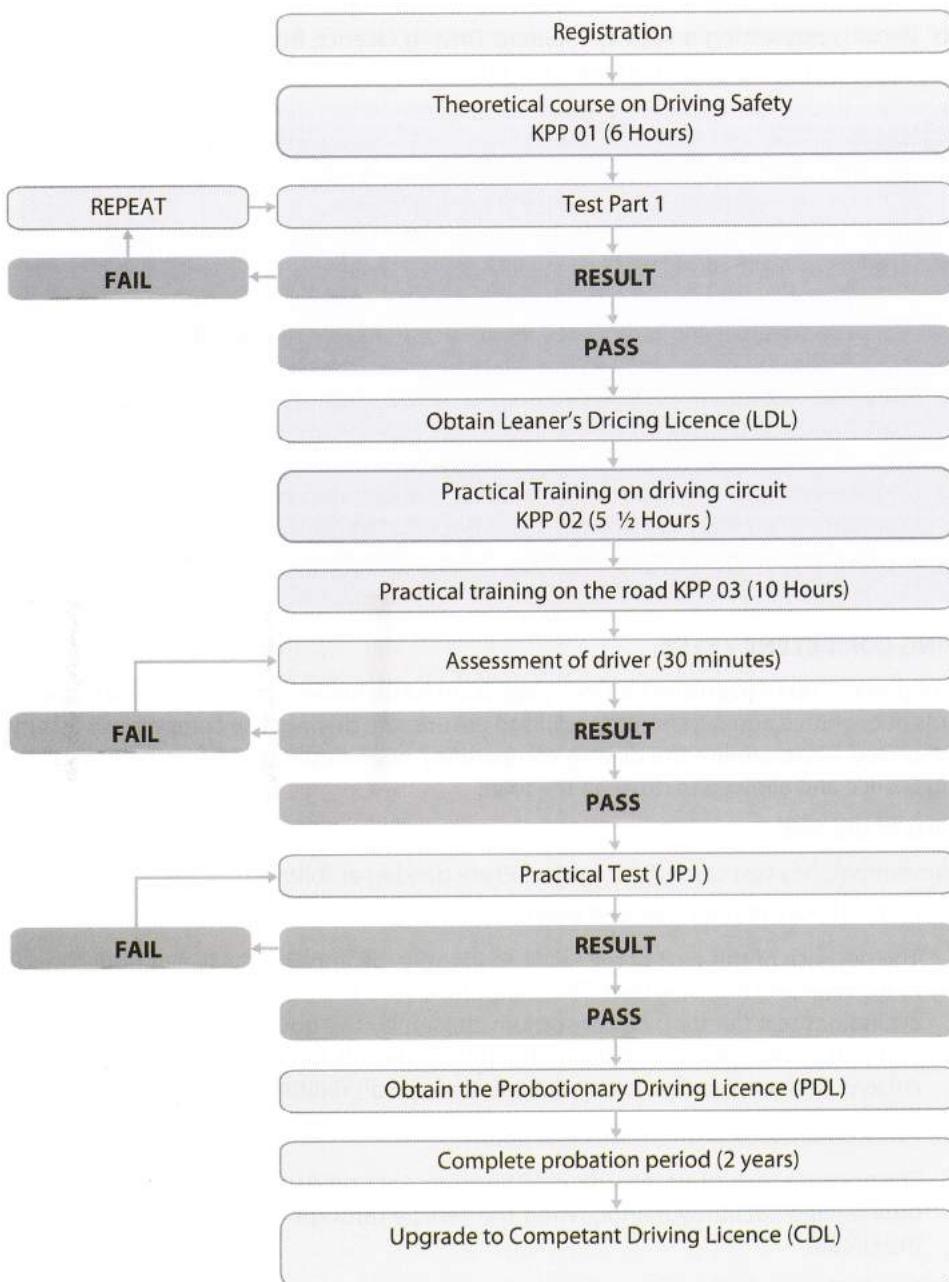
5.2 Obtaining a Motorcar Class Driving Licence

The process to obtain a motorcar class driving licence is as follows:

- a. Attend the Theoretical Course on Driving Safely (KPP 01) for a total of 6 hours
- b. Take Test Part I of the Computer-based Driving Laws Test (Road Laws and Safe Driving)
- c. Obtain the Learner's Driving Licence (LDL).
- d. Undergo practical driver's training on the driving circuit (KPP 02) for a total of 5 1/2 hours.
- e. Undergo practical driver's training on the road (KPP 03) for a total of 10 hours.
- f. Undergo evaluation exam for 30 minutes.
- g. Take Test Part II and III (practical exam) by the JPJ.
- h. Obtain the Probationary Driving Licence (PDL).

i. Upgrade the Probationary Driving Licence to the Competent Driving Licence (CDL).

Flowchart On Procedure To Obtain A Motorcar Class Driving Licence



5.3 Adding an additional class to the current Driving Licence

- Persons already possessing a valid driving licence may apply for another class of licence. These applicants must attend the Theoretical Course KPP01 and all other practical trainings and test for the applied class of driving licence.
- Persons possessing a valid Competent Driving Licence from a different class are also exempted from the probationary period.



INFO

- Driving Licence applications for the B2 motorcycle class are only valid for class B2, and not valid for any other class of driving licence.
- Beginning 1st September 2009, certain fees are waived or reduced for applicants for the B2 class Driving Licence.
 - Exemption from the exam appointment fee of RM10.
 - Learner's Driving Licence fee reduced to RM 2 (RM18 waived).
 - Probationary Driving Licence fee reduced to RM 2 (RM38 waived).
- This fee reduction is awarded to aid those from lower-income groups particularly young adults who are only able to afford a motorcycle as the sole means of transportation.
- In the event that the applicant applies for another class of driving licence, the applicant must then pay the fees that have been waived.

6.0 DRIVING COMPETENCY TEST

The competency test is to ensure that every applicant has achieved sufficient level of proficiency in terms of cognitive and psychomotor skills to ensure safe driving. The competency test must be completed to determine the driving competency of an applicant before he is awarded a driving licence and allowed to drive on the road.

6.1 Parts of the Test

The competency test carried out by the JPJ are divided as follows:

- Part I (Theory of road laws and defensive driving).

The purpose of this part of the test is to identify the applicant's level of understanding of the road and highway laws. The computer-based test option will be conducted at an e-Khidmat test Centre by a consortium chosen by the government, while the written and oral exam options will be conducted by the JPJ for special cases such as senior citizens, and applicants who are illiterate or have disabilities.

- Part II (Practical test on the driving circuit).

The purpose of this test is to identify the applicant's proficiency in handling the vehicle on a driving circuit by manoeuvring the vehicle through the prescribed elements on the circuit.

- Part III (Practical test on the road).

The purpose of this test is to identify the applicant's proficiency in applying defensive driving techniques on the road while identifying and overcoming hazards, maintaining a suitable speed, overtaking, changing lanes and displaying competency in handling the vehicle on the road.

6.2 Test Part 1

1. Undergoing the Part 1 Test

- a. Applicants must undergo the computer-based Part 1 Test at a certified e-Khidmat Testing Centre at any location within Malaysia. The applicant may also self register for the exam at any of these e-Khidmat Exam Centres.
- b. The applicant will be charged a fee of RM27 to undergo the Part I Test.
- c. Applicants must obtain a minimum of 42 marks out of a total of 50 marks (50 questions) within the provided time of 45 minutes in order to pass the Part I Test.
- d. Applicants who have not passed the Test may re-attempt the Test on the same day without limit subject to the availability of slots at the e-Khidmat Testing Centre. Applicants will be charged the same fee as above with every attempt.
- e. All slot reservations for the Part I Test are conducted online by three e-Khidmat service providers through the following addresses:
 - i. Konsortium Multimedia Swasta Sdn. Bhd. (KOMMS) - www.rilek.com.my
 - ii. mySPEED.com Sdn. Bhd. (SPEED) - www.speed.com.my
 - iii. My E.G. Services Bhd. (MyEG) - www.myeg.com.my
- f. The JPJ also provides the option of written and oral test for the Part I Test for applicants with special requirements.

2. Reserving a slot for the Part 1 Test

- a. Reservations for the computer-based Part I Test are charged a fee of RM27 which includes a RM10 fee for the test appointment that is issued by the JPJ. Therefore applicants are excluded from any further fees for the test appointment for the Part II and III Tests.
- b. The test appointment from the Part I Test is valid for the Part II and III Tests. However, if the applicant fails the Part I test, he is obliged to pay the full RM27 to re-attempt the test.
- c. For the written and oral option for the Part I test, reservations must be made at the JPJ office by a representative of a driving institute. The applicant will be charged a fee of RM10 and will obtain his test appointment.

6.3 Part II and III Tests

1. Undergoing the Part II and III Tests

The Part II and III Tests for the Motorcar Class Driving Licence are conducted by JPJ as follows:

| | |
|-----------------|---|
| PART II | <ul style="list-style-type: none"> • Driving through an 'S' curve. • Driving through a 'Z' curve. • Ascending and descending a slope. • Side parking. • Three-point turn. • Ramp for Automatic Transmission vehicles. |
| PART III | Practical driving test on the road |

2. Reserving a slot for the Part II and III tests

a. All applicants must fulfil certain requirements before being allowed to proceed to the Part II and III Tests:

- i. Must have completed Driving Circuit Practical Training (KPP 02) and on the Road Practical Training (KPP 03) for a total of 10 hours.
- ii. Must have passed the preliminary assessment.
- iii. Must possess a valid Learner's Driving Licence which is at least 30 days old.

b. Reservations for the Part II and III tests must be made at the JPJ office by a representative of a driving institute who must produce:

- i. A photocopy of the Learner's Driving Licence.
- ii. A driving education record (SM4).
- iii. Test reservation fees (if applicable).

6.4 Shifting The Test Date

1. In the event that the applicant is unable to carry out the test on the reserved date, the applicant may request to shift the date without any charges incurred. The applicant may only request for a shift in date once and only within allowable time period.
2. However, if the applicant fails any part of the test or is not present on the date of the test, the applicant must obtain a new test appointment card before undergoing a second attempt.

6.5 Validity Period For The Competency Test Results

1. The validity period of the results of the Part I, II and III Test is 1 year from the date of passing said Test.
2. In the event the applicant has passed the Part I Test but has not applied for a Learner's Driving Licence within the period of 1 year, he must repeat all trainings and exams.

3. In the event the applicant has passed the Part II and III Tests but has not applied for a Learner's Driving Licence within the period of 1 year, he must repeat only the Part II and III Test with the condition that the Learner's Driving Licence is still valid during the second test attempt.

6.6 Competency Test Results

1. Test results are announced immediately after the test. Applicants failing the computer-based Part I test are allowed to re-attempt the test at any time subject to reservations, while an applicant failing the Part II and III Tests is only allowed to make a re-attempt after a period of 1 week.
2. In the event an applicant wishes to appeal the results of the Part II and III Tests, he must produce a written appeal to the JPJ office in charge of the test, one day after failing the test.



INFO

1. Beginning 15th March 2013, the government has introduced fee reductions to applicants and possessors of the A and A1 class Driving Licence:
 - » Exemption from the test appointment fee of RM10.
 - » Learner's Driving Licence fee reduced to RM2.
 - » Probationary Driving Licence fee reduced to RM2.
 - » Competent Driving Licence fee reduced to RM2/year.
 - The class A driving licence is issued for Disabled Persons driving a motorcycle with unladen mass not exceeding 450kg.
 - The class A1 driving licence is issued for Disabled Persons driving a car with unladen mass not exceeding 3500kg.
 - Both vehicles must be vehicles modified for the expressed use of Disabled Persons with physical disabilities.

7.0 LEARNER'S DRIVING LICENCE

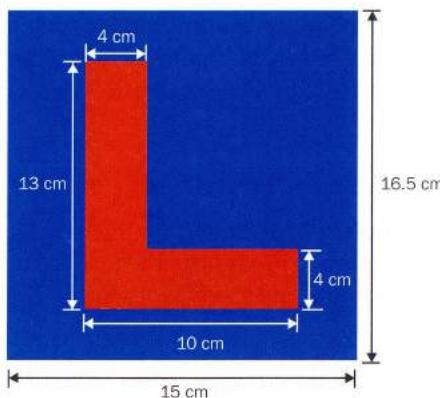
7.1 Issuance of Learner's Driving Licence

1. Before a Learner's Driving Licence is issued, the applicant must fulfil the following prerequisites:
 - a. Must passed the Part I Test within a period of 1 year.
2. The Learner's Driving Licence is issued for a period of 3 or 6 months and can be renewed for a period of 3 or 6 months up to a maximum period of 2 years from the date of issuance.

7.2 Conditions placed on owners of Learner's Driving Licence

Basic conditions are placed on persons possessing a motorcar class Learner's Driving Licence. The conditions are as follows:

1. Must display an 'L' sticker at the front and rear of the vehicle.
2. Must only drive in the presence of a certified Driving Institute Trainer.
3. Must not carry any passengers or baggage (besides the Trainer).



7.3 Requesting a new Learner's Driving Licence

A new Learner's Driving Licence may be requested at any JPJ office or e-Khidmat kiosk by providing:

1. An original MyKad or passport.
2. One (1) colour passport photo 25mm x 32mm in size.
3. A fee of RM30 for 3 months or RM60 for 6 months for a motorcar class licence.

7.4 Learner's Driving Licence renewal

1. A Learner's Driving Licence can be renewed at either a JPJ office, the Urban Transformation Centre (UTC) JPJ office, any post office or any e-Khidmat kiosk by providing:
 - a. Original MyKad or passport.
 - b. Original Learner's Driving Licence.
 - c. One (1) colour passport photo 25mm x 32mm in size.
 - d. A fee of RM30 for 3 months renewal or RM60 for 6 months renewal of a motorcar class licence.
2. Persons intending to renew a Learner's Driving Licence after the 2 year period has elapsed are required to repeat the Part I Test. The Part II and III Test must be completed within the next 2 year period.



INFO

1. Beginning 16th July 2013, the government has introduced a new type of driving licence. The only licences affected are the Probationary Driving Licence and the Competent Driving Licence.
2. To apply for the new type of driving licence, applicants may go to the JPJ office or the UTC JPJ office. The applicant may choose between providing his own photo (passport photo 25mm x 32mm in size with a white background), taking a photo at the JPJ office or using the digital photo embedded in his MyKad.

8.0 PROBATIONARY DRIVING LICENCE

8.1 Issuance of Probationary Driving Licence

1. The Probationary Driving Licence is issued by JPJ for a period of 2 years, giving drivers a probation period to help familiarize themselves with the required driving skills and to gain experience in becoming a proficient driver.
2. In the event a person possessing a Probationary Driving Licence applies for a new class of driving licence, the new Probationary Driving Licence will adhere to the original 2 year period of the first Probationary Driving Licence.

8.2 Conditions placed on owners of Probationary Driving Licences

1. Persons possessing a Probationary Driving Licence must abide by certain conditions while driving on the road. The conditions are as follows:
 - a. Must carry the Probationary Driving Licence at all times.
 - b. Must keep Blood Alcohol Content at 0.00% in the event of a breathalyzer exam, a blood exam or a urine exam.
 - c. Must display a 'P' sticker at the front and rear of the vehicle.
2. A person possessing the Probationary Driving Licence found in contravention any of the above conditions shall be found guilty of an offence under Rule 15A of the Motor Vehicles (Driving Licence) Rules 1992 and may be convicted under Section 119 of the Road Transport Act 1987. Upon conviction, a first-time offence may be fined up to RM2,000 or imprisoned for a term of up to 6 months while further offences may be fined up to RM4,000 or imprisoned for a term of up to 12 months or both.
3. Upon conviction, the person will also be granted demerit points as detailed below:

| Offence | Demerit points |
|--|----------------|
| i. Failure to produce Probationary Driving Licence | 5 |
| ii. Failure to keep Blood Alcohol Content at 0.00% | 5 |
| iii. Failure to display a 'P' sticker at the front and rear of the vehicle | 10 |

4. A person possessing the Probationary Driving Licence will also be granted demerit points if committing any offence listed under the KEJARA demerit point system.
5. In the event that a person possessing the Probationary Driving Licence has collected 10 or more demerit points, his Probationary Driving Licence will be revoked by the Director General of the JPJ.
6. In the event the Probationary Driving Licence is revoked, the person is prohibited from driving a vehicle or owning or applying for any driving licence (including the Learner's Driving Licence) for a period of 12 months from the date of revocation of the Probationary Driving Licence.

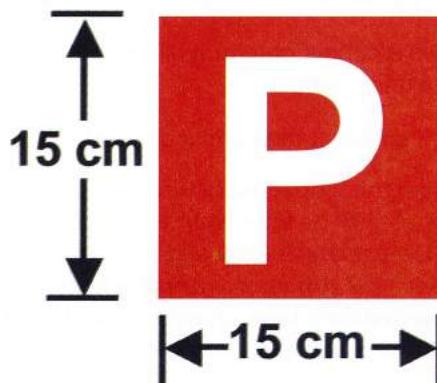
- After the prohibition period, a person must repeat all trainings and exams before being allowed to obtain a new Probationary Driving Licence wherein the probation period will be reset to a period of 2 years.

8.3 Probationary Driving Licence application

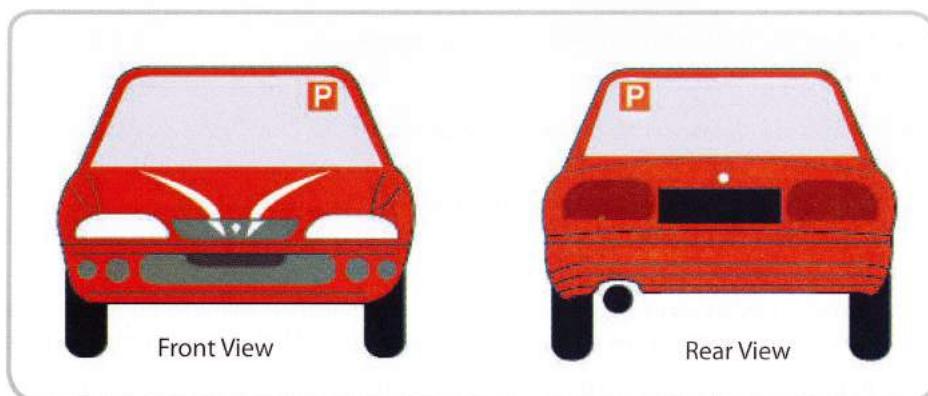
The Probationary Driving Licence may be requested at any JPJ office or e-Khidmat kiosk by providing:

- Original MyKad or passport.
- One (1) colour passport photo 25mm x 32mm in size.
- A fee of RM60 for a motorcar class licence.

8.4 Correct method to display the 'P' sticker



Car owners must display the 'P' sticker in the top left corner of the windscreen at the front and rear of the vehicle. Please refer to the diagram below:



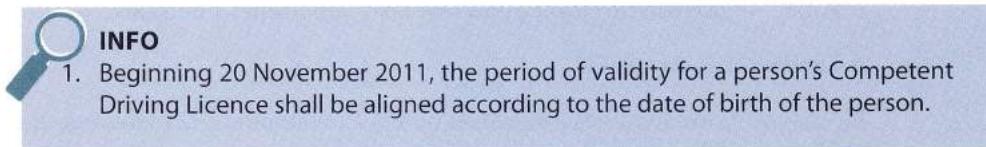
9.0 COMPETENT DRIVING LICENCE

9.1 Issuance of Competent Driving Licence

1. A person possessing the Probationary Driving Licence who has completed the 2 year probation period must apply for the Competent Driving Licence no later than 1 year after the date of completion of the probation period.
2. The applicant may request for a Competent Driving Licence with a validity of 1 to 5 years.
3. Applications to convert the Probationary Driving Licence to the Competent Driving Licence that are received within the period of 7 days before the probation period has elapsed will only be granted a validity period of 1 year.

9.2 Conditions placed on owners of Competent Driving Licences

If found guilty of certain offences, a person possessing the Competent Driving Licence may have his licence revoked by the court (Magistrate/Judge) or by the Director General of the JPJ.



9.3. Competent Driving Licence application and licence renewal

The Competent Driving Licence can be applied at any JPJ office or UTC JPJ office by providing:

1. Original MyKad or passport.
2. Original Learner's Driving Licence.
3. One (1) colour passport photo 25mm x 32mm in size.
4. A fee of RM30 for motorcar class licence.

10.0 VOCATIONAL DRIVING LICENCE

10.1 Vocational driving licence application

All applicants for the Vocational Driving Licence (VDL) must first fulfil the following prerequisites:

1. Passed the required medical test.
2. Attended the theoretical courses and practical training courses required for this class of driving licence.
3. Passed the theoretical and practical test required for this class of driving licence.

10.2 Theoretical Test

1. Applicants taking the theoretical test can be divided into the following 4 categories:
 - a. Goods Driving Licence (GDL). This includes motorcycles.
 - b. Public Service Vehicle Licence (PSV) for buses including vans /minibuses.
 - c. Public Service Vehicle Licence (PSV) for taxis /limousines/hired cars.
 - d. Conductor's Licence (CL).
2. All applicants in categories a to c must obtain a minimum of 42 marks out of a total of 50 marks (50 questions) in order to pass the exam.
3. Applicants for the Conductor's Licence in category d must obtain a minimum of 32 marks out of a total of 40 marks (40 questions) in order to pass the exam.
4. Applicants in categories a, b and c are provided 60 minutes of test time. Applicants in category d are provided 45 minutes of test time.
5. The results of the theoretical test will be announced through the JPJL12 graduation certificate.
6. Applicants who have passed the theoretical test are allowed to immediately proceed with their practical test.
7. Applicants who have failed the theoretical exam may reattempt the test after a minimum period of 1 week.

10.3 Practical Test

1. All parts of the practical test for the Vocational Driving Licence are combined into a single test.
2. Applicants will be graded on driving proficiency in each part of the exam. Passing the test is dependent upon the overall driving performance.
3. The practical test for the Vocational Driving Licence may only be conducted upon completion of the theoretical test.

4. The Vocational Driving Licence practical test is compulsory for the following applicant categories:

- GDL (Trailers)
- PSV (Buses)
- PSV (Taxis and Limousines)

5. The following applicant categories are exempted from undergoing the practical test:

- GDL (Trucks)
- GDL (Light motor vehicles)
- GDL (Motorcycles)
- PSV (Light motor vehicles – minibuses / vans)
- Conductors

10.4. Total practical training hours

All applicants must attend a theoretical class and practical training course for a total amount of the following hours:

| Category | Theoretical Class | Practical Training (Hours) | Total Hours |
|----------------------------|-------------------|----------------------------|-------------|
| GDL (Trailers) | 7 | 8 | 15 |
| GDL (Trucks) | 7 | - | 7 |
| GDL (Light Motor Vehicle) | 7 | - | 7 |
| GDL (Motorcycles) | 7 | - | 7 |
| PSV (Buses) | 7 | 8 | 15 |
| PSV (Taxis and Limousines) | 9 | 5 | 14 |
| PSV (Light) | 7 | - | 7 |
| Conductors | 6 | - | 6 |

 **INFO**

1. Prior to 15th March 2013, the Vocational Driving Licence was separated into 3 categories of cards, namely the PSV, GDL and Conductor categories with fees of RM20 per year for each card. Beginning 20 November 2011, the Vocational Driving Licence will be issued as a single card with a fee of RM20 per year.
2. Beginning 15th March 2013, the period of validity for a person's Vocational Driving Licence shall be aligned according to the date of birth of the person

11.0 APPEALING AN EXPIRED DRIVING LICENCE

- 11.1 Driving licences past their expiration date that have not been renewed in the allocated period will be automatically revoked. The following driving licences will be automatically revoked:
 1. Learner's Driving Licences more than 1 year past the date of expiration.
 2. Competent Driving Licences more than 3 years past the date of expiration.
 3. Vocational Driving Licences more than 3 years past the date of expiration.
- 11.2 In the event a driving licence has passed its expiration date and has not been renewed in the allocated period, a person may have a choice between repeating all relevant trainings and exams or filing an appeal.
- 11.3 In the event a driving licence has passed its expiration date and has not been renewed in the allocated period, a person may have a choice between repeating all relevant trainings and exams or filing an appeal.
- 11.4 Applicants may also verify the status of their appeals and receive the result of their appeals at the same internet address. In the event that the appeal is approved, a letter of confirmation will be made available online. The letter will be made available for access and printing within a period of 14 days from the date the appeal was filed.
- 11.5 The majority of appeals are approved with the following conditions:
 1. Probationary Driving Licence and Competent Driving Licence holders must retake the Exam Parts II and III only.
 2. Vocational Driving Licence holders must repeat the theoretical class component only.

12.0 USAGE OF FOREIGN DRIVING LICENCES IN MALAYSIA

12.1 Foreign driving licences may be employed for driving in Malaysia under certain conditions:

1. Foreign driving licences recognized under Section 28 of the Road Transport Act 1987 may be immediately used for driving or;
2. Foreign driving licences may be converted into a Malaysian driving licence through two methods:
 - a. Conversion based on Bilateral Agreements with Malaysia (automatic conversion).b. Conversion through exemption clauses existing under Rule 5(3) of the Motor Vehicles (Driving Licences) Rules 1992 (non-automatic conversion).
3. An International Driving Permit (IDP) from a different country may also be employed for driving in Malaysia.

12.2 Recognized foreign driving licences

1. Section 28 of the Road Transport Act 1987 states that:

"A driving licence issued under the corresponding provisions of any law in force in any country which is a party to a treaty to which Malaysia is also a party and which purports to recognize domestic driving licences issued by the contracting countries shall, so long as such licence remains in force in that country, be deemed to be a driving licence granted under this Part."

2. Foreign driving licence holders recognized under Section 28 as expressed above, may drive in Malaysia during the period of validity of the foreign driving licence, provided that a Malaysian language or English language translation (in the event that the driving licence is in a language other than Malaysian or English) can be produced with the certification of the embassy of the country from which the licence was granted. Provided that the above condition is met, a foreign citizen may drive without possession of a Malaysian driving licence.
3. Foreign driving licences that may be employed for driving in Malaysia are based upon the list of signatories under the United Nations Conference on Road and Motor Transport 1949 & 1968 as well as nations that have signed Bilateral Agreements with Malaysia.

12.3 Converting a foreign driving licence to a Malaysian driving licence

1. Applications to convert a foreign driving licence are subject to the following procedures:

| | | |
|-----------------------------|--|---|
| Automatic Conversion | <ul style="list-style-type: none"> » Driving Licence Application » Form (JPJL1) » Original MyKad / passport and one photocopy » Original foreign driving licence and one photocopy | <ul style="list-style-type: none"> » Applications must be made at the State JPJ office » Applications for conversion may only be made for class D and class B2 licences |
|-----------------------------|--|---|

| | | |
|--------------------------|---|---|
| Automatic Conversion | <ul style="list-style-type: none"> » Certification of the foreign driving licence or a translation certified by the embassy of the issuing country » One (1) colour passport photo 25mm x 32mm in size » Application fee of RM20 » Driving licence fee according to class: » Class B2 – RM20 / year » Class D – RM30/ year | <ul style="list-style-type: none"> » Applications for conversion may only be made by persons who have been granted Probationary Driving Licences and Competent Driving Licences » Applicants must have a visa valid for at least 3 months after the date of the application. » Applicants must also have a foreign driving licence which is still valid or is less than 3 years past the date of expiration. » Applicants who have been granted a foreign driving licence for a period less than 2 years will be converted to a Probationary Driving licence » Applications will only be considered for countries that have signed Bilateral Agreements with Malaysia. |
| Non-automatic Conversion | <ul style="list-style-type: none"> » Form for Exemption under Rule 5(3) of the Motor Vehicles (Driving Licences) Rules 1992 (Form B-2) » Original MyKad / passport and one photocopy » Original foreign driving licence and one photocopy » Certification of the foreign driving licence or a translation certified by the embassy of the issuing country. Additional supporting documents may be necessary for the following applicants: | <ul style="list-style-type: none"> » Applications must be made at the JPJ Headquarters in Putrajaya » Applicants that have been approved may proceed to any JPJ office and will be charged the following fees: <ul style="list-style-type: none"> • Application fee – RM20 • Driving licence fee according to class: • Class B2 – RM20 / year • Class D – RM30 / year » Applications for conversion may only be made by persons who have been granted Probationary Driving Licences and Competent Driving Licences. |

| | |
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| <ul style="list-style-type: none"> » Citizens/ Permanent Residents only need to produce the above documents. » Members of the Malaysia My Second Home Programme must provide a letter of certification from the Malaysian Immigration Department. » PhD students must provide: <ul style="list-style-type: none"> • Letter of confirmation for a PhD programme in a local university. Student card » Working visa holders employed by the government sector/ law sector/Government Linked Companies (GLC) must provide: <ul style="list-style-type: none"> • Employment contract » Persons on a Dependent Pass must provide: <ul style="list-style-type: none"> • MyKad/passport of the spouse or child (aged 18 to 21). » Spouses of Malaysian citizens: <ul style="list-style-type: none"> • Certificate of Marriage • Mycard of spouse | <ul style="list-style-type: none"> » Applicants must have a visa valid for at least 3 months after the date of the application. Applicants must also have a foreign driving licence which is still valid or is less than 3 years past the date of expiration. » Applications will only be considered for countries listed under the agreement of the United Nations Conference on Road Traffic 1968. » Applicants who have been granted a foreign driving licence for a period of less than 2 years will be converted to a Probationary Driving licence » The updated list of countries may be found by visiting the following internet address www.jpj.gov.my |
|--|--|

13.0 SPECIAL EXEMPTION FOR SINGAPOREAN DRIVING LICENCES

- 13.1 Section 27(6) of the Road Transport act 1987 states that a citizen of Malaysia or Singapore may not be in possession of both a Malaysian driving licence or a Singaporean driving licence at any one time.
- 13.2 Singaporean driving licence holders with a valid driving licence are not required to convert to a Malaysian driving licence to drive on the road.
- 13.3 Singaporean driving licence holders may drive both Malaysian registered vehicles and Singaporean registered vehicles.
- 13.4 Conversion of a Singaporean driving licence is allowed for the equivalent class of Malaysian driving licence. In the event the Singaporean driving licence is converted, it will be invalidated before being returned to the applicant.
- 13.5 Conversion of a Singaporean driving licence is allowed for the equivalent class of Malaysian driving licence. Conversions are not limited to class B and D driving licences.

13.6 Applications must be made at the JPJ office by providing:

1. Singaporean driving licence – To be verified and invalidated before being returned.
2. One (1) photocopy of the Singaporean driving licence.
3. One (1) colour passport photo 25mm x 32mm in size.
4. A letter of confirmation of the Singaporean driving licence from the Singaporean authorities dated less than 1 year.
5. A conversion fee of RM20 and a Malaysian driving licence fee of RM30/year (1 to 5 years).

13.7 A person granted the Malaysian competent driving licence who resides in or has a working pass to work in Singapore is eligible to apply for a Singaporean driving licence. The applicant may obtain the relevant driving licence data from any state JPJ office with a payment of RM10 and may then proceed to make an application with the Singaporean authorities.

14.0 INTERNATIONAL DRIVING PERMIT

14.1 International Driving Permit (IDP) holders from nations that have signed bilateral treaties with Malaysia as well as countries listed under the agreement of the United Nations conference on road and motor transport 1949 & 1968, are allowed to drive on the road providing that the IDP is still valid.

14.2 A person granted the Malaysian competent driving licence intending to drive in other countries are advised to apply for the IDP. Applications can be made at any state JPJ office or at the Automobile Association Malaysia (AAM) office. The competent driving licence must have been issued at least 1 year prior to the application.

14.3 An IDP may be applied for by providing:

1. Original or photocopy of the competent driving licence / MyKad / passport.
2. One (1) colour passport photo 25mm x 32mm in size.
3. Fee of RM150 for 1 year.

- » A person who has lost his driving licence must present himself or send a representative to obtain a copy of the driving licence from a JPJ office or UTC JPJ office.
- » In the event the driving licence was lost due to negligence, the copy of the driving licence may be obtained with a payment of RM20 (and a police report does not need to be provided).
- » In the event the driving licence was lost due to snatch theft, theft, robbery or natural disasters, a copy of the police report must be provided and the copy of the driving licence may be obtained with no charge.
- » Applications can be made by providing:
 - Original MyKad / passport of the applicant or a representative.
 - One (1) colour passport photo 25mm x 32mm in size (compulsory for LDL holders and optional for PDL and CDL holders).
 - A copy of the police report (for cases of snatch theft, theft, robbery or natural disasters only).
- » A fee of RM10 for LDL holders or RM20 for PDL and CDL holders (for cases of negligence).

GLOSSARY OF TERMS

1.0 Hazard



Driving hazards are defined as elements that exist in the surrounding environment, which may cause harm and can occur suddenly. Therefore, caution and an appropriate level of skill will facilitate the driver in overcoming the hazard while keeping calm, especially in unexpected situations. Hazards are mainly divided into three categories:

- a. Physical characteristics such as junctions, roundabouts and corners.
- b. Risks that arise due to the position or movement of other road users.
- c. Problems that occur due to variations in road and weather conditions.

A responsible driver must therefore address each and every hazardous element by quickly adapting to the road conditions and determining the appropriate driving speed and distance from other vehicles. Finally, it must be noted that hazards may occur unexpectedly. As an example, a driver may be unexpectedly faced with an accident, fallen tree, objects ejected from or falling of other vehicles, animals crossing the road and so forth. Therefore, determining the appropriate driving speed and distance from other vehicles is the main priority of a responsible and skilled driver. This will ensure sufficient time to react to any unexpected incidents occurring while driving.

2.0 DRIVING REACTION PLAN (PTP)



A driving reaction plan is based on input from the environment through a process of observation, analysis, estimation and hazard detection. A cautious driver must always ensure that the main driving elements of positioning, speed, gear shift and acceleration are continuously adjusted to best adapt to driving conditions.

3.0 CITO



CITO represents a defensive driving concept which should be applied by a driver on the road. This routine must be ingrained into a driver in the early stages of his training to ensure that it will become a habit which is practiced at all times. The Defensive Driving Routine or CITO is a list of steps that must be carried out while driving and overcoming hazards or practicing a manoeuvre such as overtaking or cornering. It is designed to obtain information from the driver's surroundings before carrying out any manoeuvre.

The steps that must be carried out are as follows:

| | |
|---|--|
| C | Cermin (Mirror): Look in the side view mirrors and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |



Drivers Education Curriculum
CLASS D MANUAL

KPP 01

**DEFENSIVE
DRIVING
THEORY**

1.0 ROAD SIGNS AND HIGHWAY CODES



LEARNING OUTCOME

By the end of this chapter, the reader should:

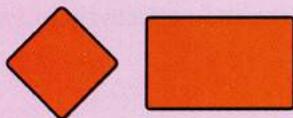
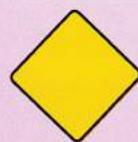
- i. Be able to apply road laws to various situations on the road
- ii. Be able to explain the importance of highway codes

1.1 Road signs

Persons driving on the road must obey all road signs and abide by the highway codes to ensure safety. It is therefore important for drivers to familiarize themselves with the road signs listed in the Table under Rule 5 of the Road Transport Rules 1959.

1. The purpose of road signs are designed to convey information effectively to road users and as such are designed to enable road users to:
 - i. Easily see them
 - ii. Easily understand them
 - iii. Take the appropriate action
2. Road signs are placed for the following purposes: Ordering the flow of traffic to remind and inform road users of significant information or road hazards.
 - i. Ordering the flow of traffic
 - ii. To remind and inform road users of significant information or road hazards.
3. Road signs must be obeyed at all times even when there are no immediate hazards visible to the driver. It is extremely important for a responsible driver to adhere to the displayed road signs.
4. It is not an excuse for a person to disobey road signs just because others are not doing so. This will not only cause danger to others but will also set a bad example especially to children.

The ability to identify and obey road signs is an important skill for any driver. The following table shows common road signs and their meanings:



a. Danger Sign
A yellow diamond with a black border.

b. Regulatory Sign
A white circle with a red border.

c. Mandatory Instruction Sign
A blue circle.

d. Information Sign
A blue, green or brown square.

e. Temporary Sign
An orange diamond or rectangle with a black border.

f. Traffic Light Sign

g. Lines and other signs displayed on the road surface.

h. Arrows displayed on the road surface.

1.1.1 Actions to be taken upon seeing a road sign

1. Upon seeing a road sign, it must first be properly identified and understood. The driver must then apply Driver Reaction Planning (PTP):

INFORMATION

Identify the road sign and determine the best way to address the indicated hazard.

2. Action must be taken based on available information:

POSITIONING

Ensure the vehicle is in a safe position and is in the correct lane for the next course of action.

SPEED

Determine that the speed of the vehicle is suited to the conditions of the road and the information conveyed by the road sign.

GEAR

The gear must be shifted to the gear best suited for the next course of action.

ACCELERATION

Accelerate past the hazard in a safe manner.

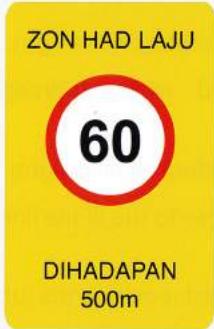
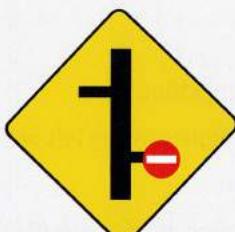
3. Defensive driving theory must be practiced by using the mirror, signal, blind spot and manoeuvre (CITO) method.

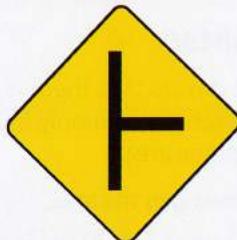
REMINDER

Never disobey road signs. Such actions may endanger yourself, your passengers and even other road users.

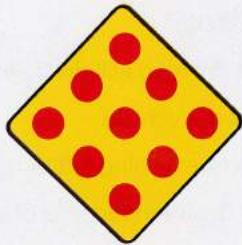
1.1.2 DANGER SIGNS

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|----|---|--|
| 1. |  | <p>UNEVEN ROAD</p> <p>This sign indicates that the road or bridge is uneven or damaged.</p> <p>✓ i. Reduce the speed of the vehicle. ii. Shift to a lower gear.</p> <p>✗ Failure to reduce the speed of the vehicle may cause damage to the vehicle due to bumps in the road and may also cause discomfort to the passengers.</p> |
| 2. |  | <p>UNEVEN ROAD AHEAD</p> <p>This sign indicates that the road ahead is uneven or damaged.</p> <p>✓ i. Reduce the speed of the vehicle. ii. Shift to a lower gear.</p> <p>✗ Failure to reduce the speed of the vehicle may cause damage to the vehicle due to bumps in the road and may also cause discomfort to the passengers.</p> |
| 3. |  | <p>JUNCTION (FOUR-WAY JUNCTION)</p> <p>This sign indicates a four-way junction ahead.</p> <p>✓ i. Stop at the junction. ii. Observe whether there are vehicles approaching from both sides as well as from the front. iii. Give way to vehicles approaching from the right.</p> <p>✗ Failure to stop the vehicle may result in an accident or in obstructing the flow of traffic.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|----|---|---|
| 4. |  | <p>i SPEED LIMIT ZONE AHEAD</p> <p>This sign is to remind drivers that there is a speed limit zone ahead. This sign is commonly found near schools and accident-prone areas.</p> <ul style="list-style-type: none"> ✓ i. Be cautious while driving in the area. ✓ ii. Obey the speed limit. (Speed limit is in units km/h) ✗ Failure to obey the speed limit may increase the risk of an accident due to the high traffic concentration or the road conditions. |
| 5. |  | <p>i STAGGERED JUNCTION (JUNCTION CLOSED)</p> <p>This sign indicates a staggered junction where one junction may not be entered.</p> <ul style="list-style-type: none"> ✓ i. Identify the junction which may not be entered. ✓ ii. Only enter the junction where entry is allowed. ✓ iii. Be aware of any vehicles entering or exiting the junctions. ✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users. |
| 6. |  | <p>i STAGGERED JUNCTION (JUNCTION CLOSED)</p> <p>This sign indicates a staggered junction where one junction may not be entered.</p> <ul style="list-style-type: none"> ✓ i. Identify the junction which may not be entered. ✓ ii. Only enter the junction where entry is allowed. ✓ iii. Be aware of any vehicles entering or exiting the junctions. ✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users. |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|----|---|--|
| 7. |  | <p>RIGHT JUNCTION</p> <p>This sign indicates a junction on the right.</p> <p>✓ i. Caution is advised while approaching the junction.</p> <p>ii. Give a turn signal before turning right.</p> <p>iii. Bring the vehicle close to the white line dividing the road.</p> <p>iv. Be aware of any vehicles exiting the junction.</p> <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |
| 8. |  | <p>LEFT JUNCTION</p> <p>This sign indicates a junction on the left.</p> <p>✓ i. Caution is advised while approaching the junction.</p> <p>ii. Give a turn signal before turning left.</p> <p>iii. Bring the vehicle close to the left of the road.</p> <p>iv. Be aware of any vehicles exiting the junction.</p> <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |
| 9. |  | <p>T-JUNCTION</p> <p>This sign indicates a T-junction.</p> <p>✓ i. Give a turn signal before turning left or right</p> <p>ii. STOP at the junction.</p> <p>iii. If there is no oncoming traffic, you may take the turn.</p> <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|--|
| 10. |  | <p>i ROAD BRANCHING OFF TO THE LEFT</p> <p>This sign indicates a road branching off to the left.</p> <p>✓ i. Reduce the speed of the vehicle.</p> <p>ii. Give a turn signal if intending to turn left.</p> <p>iii. Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |
| 11. |  | <p>i ROAD DIVIDING IN TWO</p> <p>This sign indicates that the road will divide in two.</p> <p>✓ i. Reduce the speed of the vehicle.</p> <p>ii. Give a turn signal before turning left or right.</p> <p>iii. Bring the vehicle to the intended side of the road.</p> <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |
| 12. |  | <p>i ROAD BRANCHING OFF TO THE RIGHT</p> <p>This sign indicates a road branching off to the right.</p> <p>✓ i. Reduce the speed of the vehicle.</p> <p>ii. Give a turn signal if intending to turn right.</p> <p>iii. Give way to any vehicles coming from the front.</p> <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|--|
| 13. |  | <p>ROAD DIVERGES</p> <p>This sign indicates that the flow of traffic may diverge to overcome an obstacle on the road.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle. ✓ ii. Follow the correct lane to the intended destination. ✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users. |
| 14. |  | <p>OBSTRUCTION AHEAD</p> <p>This sign indicates an obstruction where the road has dividers in place.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle. ✓ ii. Be ready to take appropriate action based on the obstruction on the road. ✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users. |
| 15. |  | <p>WINDING ROAD</p> <p>This sign indicates that the road ahead is winding.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle. ✓ ii. Overtaking other vehicles is not allowed. ✓ iii. Drive slowly and carefully. ✓ iv. Sound the horn (if needed). ✓ v. Turn on the high beams at night (if needed). ✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users. |

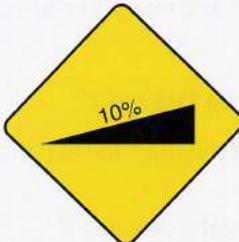
| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|--|
| 16. |  | <p>i WINDING ROAD</p> <p>This sign indicates that the road ahead is winding</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle. ii. Overtaking other vehicles is not allowed. iii. Drive slowly and carefully. iv. Sound the horn (if needed). v. Turn on the high beams at night (if needed). <p>✗ Failure to reduce the speed of the vehicle and to use the correct gear may result in loss of control of the vehicle.</p> |
| 17. |  | <p>i DOUBLE BEND</p> <p>This sign indicates a double bend in the road ahead.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle. ii. Overtaking other vehicles is not allowed. iii. Caution is advised while driving through the double bend. <p>✗ Failure to reduce the speed of the vehicle and to use the correct gear may result in loss of control of the vehicle.</p> |
| 18. |  | <p>i INTERSECTION</p> <p>This sign indicates an intersection ahead.</p> <ul style="list-style-type: none"> ✓ i. There is no road forward. ii. Caution is advised while approaching the intersection. iii. Determine the intended direction. <p>✗ Failure to take note of this sign may result in an accident from vehicles approaching from the left or right or may result in loss of control of the vehicle.</p> |

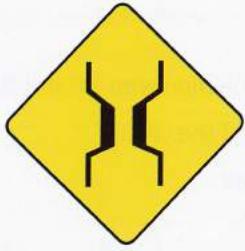
| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|---------------------------------|
| 19. |  | SHARP CURVE TO THE RIGHT |
| |  | SHARP CURVE TO THE LEFT |
| 21. |  | LEFT BEND |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|---|
| 22. |  | <p>i RIGHT BEND</p> <p>This sign indicates a right bend in the road which may be dangerous due to road conditions or limited driver visibility.</p> <p>✓ i. Reduce the speed of the vehicle.</p> <p>ii. Caution is advised while approaching the bend.</p> <p>✗ Failure to reduce the speed of the vehicle and to use the correct gear may result in loss of control of the vehicle.</p> |
| 23. |  | <p>i DIVIDED HIGHWAY ENDS</p> <p>This sign indicates the end of a section of highway separated by a physical barrier and warns of two-way traffic ahead.</p> <p>✓ i. Ensure you are in the correct lane.</p> <p>ii. Be aware of oncoming traffic approaching from the other direction.</p> <p>✗ Failure to reduce the speed of the vehicle and to use the correct gear may result in loss of control of the vehicle.</p> |
| 24. |  | <p>i DIVIDED HIGHWAY BEGINS</p> <p>This sign indicates a section of highway ahead separated by a physical barrier.</p> <p>✓ i. Be aware of a road divider ahead.</p> <p>ii. Caution is advised while approaching the road divider.</p> <p>✗ Failure to reduce the speed of the vehicle and to use the correct gear may result in loss of control of the vehicle.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|---|
| 25. |  | <p>ROUNDABOUT</p> <p>This sign indicates a roundabout ahead.</p> <ul style="list-style-type: none"> i. Ensure you are in the correct lane. ✓ ii. Give way to traffic approaching from the right. iii. Reduce the speed of the vehicle and give the appropriate turn signal. ✗ iv. Continue onto the roundabout when it is safe to do so. <p>Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |
| 26. |  | <p>TWO-WAY TRAFFIC</p> <p>This sign gives warning that the road transitions from one-way road to a two-way road.</p> <ul style="list-style-type: none"> ✓ i. Be aware of oncoming traffic approaching from the other direction. ii. Ensure that there is no oncoming traffic before overtaking. iii. Be aware of vehicles crossing into your lane. <p>Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |
| 27. |  | <p>CLIMBING LANE (TWO LANES)</p> <p>This sign is used on an ascending road where an additional lane is provided for overtaking. There are three lanes provided on a two-way traffic road.</p> <ul style="list-style-type: none"> ✓ i. Heavy vehicles must be on the left-most lane. ii. A vehicle intending to overtake must use the right (middle) lane. iii. Caution is advised while climbing an inclined road. <p>Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|--|
| 28. |  | i CLIMBING LANE (ONE LANES) |
| | | <p>This sign is used on a descending road where an additional lane is provided for overtaking. There are three lanes provided on a two-way traffic road</p> <ul style="list-style-type: none"> ✓ i. Slow-moving and heavy vehicles must be on the left-most lane. ✓ ii. A vehicle intending to overtake must use the right (middle) lane. ✓ iii. Caution is advised for oncoming traffic during overtaking. |
| 29. |  | i LANE NARROWS FROM THE LEFT |
| | | <p>This sign indicates that the road ahead narrows from the left.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle. ✓ ii. Give way to traffic approaching from the right. ✓ iii. Overtaking is prohibited. |
| 30. |  | i NARROWING ROAD |
| | | <p>This sign indicates that the road ahead narrows from both sides.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle. ✓ ii. Give way to oncoming traffic. ✓ iii. Overtaking is prohibited. |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|---|
| 31. |  | <p> ⓘ LANE NARROWS FROM THE RIGHT</p> <p>This sign indicates that the road ahead narrows from the right.</p> <p>✓ i. Reduce the speed of the vehicle. ii. Give way to traffic approaching from the right. iii. Overtaking is prohibited.</p> <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |
| 32. |  | <p> ⓘ INCLINE WARNING (CLIMBING A STEEP HILL)</p> <p>This sign indicates that the road ahead has a 10% gradient steep incline.</p> <p>✓ i. Caution is advised while driving. ii. Shift to a lower gear. iii. Overtaking is prohibited. iv. Turning the vehicle around is prohibited. v. Maintain a firm grip on the steering wheel.</p> <p>✗ Failure to shift into the correct gear and adapt to the flow of traffic may obstruct traffic and increase the risk of accident if the vehicle is moving too slowly.</p> |
| 33. |  | <p> ⓘ DESCENT WARNING (DESCENDING A STEEP HILL)</p> <p>This sign indicates a four-way junction ahead. Perlakukan kendaraan.</p> <p>✓ i. Reduce the speed of the vehicle. ii. Shift to a lower gear. iii. Overtaking is prohibited. iv. Turning the vehicle around is prohibited. v. Maintain a firm grip on the steering wheel.</p> <p>✗ Failure to shift into the correct gear and adapt to the flow of traffic may obstruct traffic and increase the risk of accident.</p> |

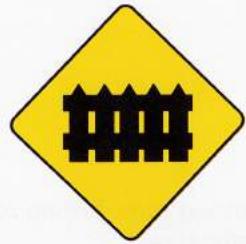
| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|---|
| 34. |  | <p>i NARROW BRIDGE</p> <p>This sign indicates a bridge or section of highway that narrows.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle. ✓ ii. Give way to oncoming traffic and heavy vehicles which may be closer to the bridge. ✗ Failure to shift into the correct gear and adapt to the flow of traffic may obstruct traffic and increase the risk of accident. |
| 35. |  | <p>i SLIPPERY ROAD</p> <p>This sign indicates that the road surface ahead is slippery.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle without braking forcefully. ✓ ii. Avoid overtaking. ✓ iii. Maintain a safe distance from other vehicles. ✓ iv. Maintain a firm grip on the steering wheel. ✗ Failure to reduce the speed of the vehicle safely and maintain a safe distance may result in loss of control of the vehicle. |
| 36. |  | <p>i SOFT SHOULDER</p> <p>This sign indicates that the shoulder of the road is soft and not paved.</p> <ul style="list-style-type: none"> ✓ i. Caution is advised while driving. ✓ ii. Caution is advised during overtaking and when approaching the shoulder of the road. ✓ iii. Maintain a firm grip on the steering wheel. ✗ Failure to take note of this sign may result in the vehicle being embedded by the shoulder of the road and may increase the risk of accident and injury to yourself and to other road users. |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|---|
| 37. |  | <p>TRAFFIC LIGHT</p> <p>This sign indicates a junction with a traffic light.</p> <p>✓ i. Reduce the speed of the vehicle.</p> <p>✓ ii. Obey the traffic light.</p> <p>✓ iii. RED = STOP.</p> <p>✓ iv. YELLOW = PREPARE TO STOP.</p> <p>✓ v. GREEN = GO.</p> <p>✗ Failure to obey the traffic light signals may increase the risk of accident and cause obstruction of the flow of traffic.</p> |
| 38. |  | <p>STOP SIGN AHEAD</p> <p>This sign indicates the presence of a stop sign ahead and to prepare to stop the vehicle.</p> <p>✓ i. Caution is advised while driving due to unexpected road conditions or hazards.</p> <p>✓ ii. Be alert while driving past this area.</p> <p>✗ Failure to stop the vehicle may increase the risk of accident and cause obstruction of the flow of traffic.</p> |
| 39. |  | <p>ALERT / CAUTION</p> <p>This sign is a warning for hazards other than those described above.</p> <p>✓ i. Caution is advised while driving due to unexpected road conditions or hazards.</p> <p>✓ ii. Be alert while driving past this area.</p> <p>✗ Failure to practice caution may increase the risk of accident and injury.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|---|
| 40. |  | <p>i GIVE WAY SIGN AHEAD</p> <p>This sign indicates the presence of a give way sign ahead. Drivers are advised to give way to oncoming traffic from the other direction.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle. ii. Be ready to stop the vehicle and give way to oncoming traffic. <p>✗ Failure to give way may increase the risk of accident and cause obstruction of the flow of traffic.</p> |
| 41. |  | <p>i LANDSLIDES AND FALLING ROCKS</p> <p>This sign indicates a section of road where landslides and falling rocks are common.</p> <ul style="list-style-type: none"> ✓ i. Caution is advised while driving through this section of road. ii. Ensure the road is safe and clear before going forward. <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |
| 42. |  | <p>i COW CROSSING</p> <p>This sign indicates a section of road commonly crossed by cows.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle. ii. Be ready to stop the vehicle in the event an animal is on the road. <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
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| 43. |  | <p>i WILD ANIMAL CROSSING</p> <p>This sign indicates a section of road commonly crossed by wild animals.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle. ii. Be ready to stop the vehicle in the event a wild animal is on the road. <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |
| 44. |  | <p>i PLAYGROUND</p> <p>This sign indicates a playground ahead.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle and be ready to stop the vehicle. ii. Caution is advised while driving. <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |
| 45. |   | <p>i DISABLED PERSONS CROSSING</p> <p>This sign indicates a crossing for disabled persons.</p> <ul style="list-style-type: none"> ✓ i. Reduce the speed of the vehicle and be ready to stop the vehicle. ii. Obey any pedestrian traffic lights that may be in the area. iii. Give way to pedestrians crossing the road. <p>✗ It is prohibited to sound your horn since this may cause disabled persons to panic and endanger their own safety. Persons colliding into a disabled person in this area will be charged under the Road Transport Act 1987.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|--|---|
| 46. |   | <p>i SCHOOL ZONE</p> <p>This sign indicates a towing zone. Towing zones are often found in high traffic areas.</p> <p>✓ i. Reduce the speed of the vehicle and be ready to stop the vehicle.</p> <p>ii. Obey any pedestrian traffic lights or school crossing guards that may be in the area.</p> <p>iii. Give way to pedestrians crossing the road.</p> <p>✗ It is prohibited to sound your horn since this may cause school students to panic and endanger their own safety. Persons colliding into a school student in this area will be charged under the Road Transport Act 1987.</p> |
| 47. |  | <p>i TOWING ZONE</p> <p>This sign indicates a towing zone. Towing zones are often found in high traffic areas.</p> <p>✓ i. No persons are allowed to park their vehicle in an area where this sign is displayed.</p> <p>✗ Vehicles parked by the side of the road may obstruct the flow of traffic. Vehicles in this area may be towed by the authorities.</p> |
| 48. |  | <p>i UNGATED RAILWAY CROSSING</p> <p>This sign indicates a railway crossing without safety gates.</p> <p>✓ i. Reduce the speed of the vehicle once approaching this sign.</p> <p>ii. Stop and ensure that there is no train in view before proceeding.</p> <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|--|
| 49. |  | <p>i PEDESTRIAN CROSSING</p> <p>This sign indicates a pedestrian crossing.</p> <p>✓ i. Reduce the speed of the vehicle and be ready to stop the vehicle.</p> <p>ii. Obey any pedestrian traffic lights that may be in the area.</p> <p>iii. Give way to pedestrians crossing the road.</p> <p>✗ It is prohibited to sound your horn since this may cause pedestrian to panic and endanger their own safety. Persons colliding into a pedestrian in this area will be charged under the Road Transport Act 1987.</p> |
| 50. |  | <p>i GATED RAILWAY CROSSING</p> <p>This sign indicates a railway crossing with safety gates.</p> <p>✓ i. Reduce the speed of the vehicle as this sign is approached.</p> <p>ii. Stop and wait until the gate is opened before proceeding.</p> <p>iii. Caution is advised while driving in the area.</p> <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |
| 51. |  | <p>i AUTOMATIC GATED RAILWAY CROSSING</p> <p>This sign indicates a railway crossing with automatic safety gates.</p> <p>✓ i. Reduce the speed of the vehicle as this sign is approached.</p> <p>ii. Stop and wait until the gate is opened before proceeding.</p> <p>iii. This zone begins in 500 meters.</p> <p>✗ Failure to plan and react accordingly may increase the risk of an accident and injury to yourself and to other road users.</p> |

1.1.3 Regulatory sign

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|----|---|--|
| 1. |  | <p>i NO OVERTAKING</p> <p>This sign indicates that all vehicles are banned from overtaking.</p> <p>✗ Failure to obey the ban on overtaking will increase the risk of an accident and injury to yourself and to other road users.</p> |
| 2. |  | <p>i NO OVERTAKING FOR HEAVY VEHICLES</p> <p>This sign indicates that heavy vehicles are banned from overtaking.</p> <p>✗ Overtaking will obstruct the flow of traffic and may bring harm to yourself and other road users.</p> |
| 3. |  | <p>i NO HONKING</p> <p>Sounding the horn is often banned in places such as schools, courts, hospitals, and government office areas.</p> <p>✗ Sounding the horn will disturb the public peace.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|----|---|---|
| 4. |  | <p>i NO VEHICLE ENTRY</p> <p>All vehicles are banned from entering through this route.</p> <p>✗ Failure to obey the sign will increase the risk of accident and will disrupt traffic.</p> |
| 5. |  | <p>i NO LEFT TURN</p> <p>All vehicles are banned from turning left to avoid turning into a one-way route.</p> <p>✗ Failure to obey the sign will increase the risk of accident and will disrupt traffic.</p> |
| 6. |  | <p>i NO U-TURN</p> <p>Vehicles are not allowed to make U-turns.</p> <p>✗ This action will obstruct the flow of traffic and may cause heavy traffic even if there is enough space to do so. Examples of this are at junctions and busy roads.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|----|---|---|
| 7. |  | <p>i NO RIGHT TURN</p> <p>All vehicles are banned from turning right to avoid turning into a one-way route.</p> <p>✗ Failure to obey will increase the risk of accident and will disrupt traffic.</p> |
| 8. |  | <p>i NO ENTRY FOR MOTORCYCLES</p> <p>Motorcycles are banned from utilizing the following route. Only other vehicles may utilize the route to ensure the safety of other road users.</p> <p>✗ Failure to obey will increase the risk of accident and will disrupt traffic.</p> |
| 9. |  | <p>i NO ENTRY FOR PARTICULAR VEHICLES</p> <p>All tricycles, bicycles, trishaws and vehicles drawn by animals are banned from utilizing the following route. Only other vehicles may utilize the route to ensure the safety of other road users.</p> <p>✗ Failure to obey will increase the risk of accident and will disrupt traffic.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
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| 10. |   | <p>i NO PARKING</p> <p>No vehicle is allowed to park in this section even if space is available since this will obstruct traffic. This sign is commonly found in areas with high traffic and no road shoulders for parking.</p> <p>✗ Failure to obey will increase the risk of accident and will disrupt traffic.</p> |
| 11. |  | <p>i NO STOPPING</p> <p>All vehicles are not allowed to stop in the area marked by this sign. Halting a vehicle in this area will cause traffic to slow down and will also disrupt the smooth driving of other drivers. This sign is commonly found in areas with high traffic and no road shoulders for parking.</p> <p>✗ Failure to obey will increase the risk of accident and will disrupt traffic.</p> |
| 12. |  | <p>i STOP</p> <p>This sign indicates that the driver should stop before continuing. This sign is often found at road intersections.</p> <ol style="list-style-type: none"> All vehicles are required to come to a complete stop before the STOP line and to ensure safe driving conditions. Look to the right, then the left. When the road is considered safe, the driver may proceed forward carefully. <p>✗ Failure to obey will increase the risk of accident and will disrupt traffic.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
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| 13. |  | <p>i 60 KM/H SPEED LIMIT</p> <p>This sign is often placed in urban areas, suburban areas and rural areas. This speed is suitable for the traffic and road conditions in this area.</p> <ol style="list-style-type: none"> Obey the speed limit. Drive carefully and be aware of the presence of vehicles on the shoulder of the road as well as the presence of other road users such as motorcycles, bicycles, buses and pedestrians. <p>✖ Driving above the speed limit may endanger yourself and other road users.</p> |
| 14. |  | <p>i 90 KM/H SPEED LIMIT</p> <p>This sign is often placed on federal and state highways. This speed is suitable for the traffic and road conditions in this area.</p> <ol style="list-style-type: none"> Obey the speed limit. Drive carefully and be aware of road junctions and damaged road shoulders. <p>✖ Driving above the speed limit may endanger yourself and other road users.</p> |
| |  | <p>i END OF SPEED LIMIT ZONE</p> <p>This sign indicates the end of the previous speed limit zone. The new speed limit will be indicated by the next speed limit sign.</p> <ol style="list-style-type: none"> Obey the speed limit. Drive carefully and be aware of road junctions and damaged road shoulders. <p>✖ Failure to obey the new speed limit will endanger yourself and other road users.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|---|
| 15. |  | i HIGHWAY SPEED LIMIT |
| | | <p>This sign is often placed on two-lane and three-lane highways. Although the speed limit is 110 km/h, the driver should always adhere to the driving lane (left lane) and follow proper driving etiquette.</p> <ul style="list-style-type: none"> i. Obey the speed limit. ii. Drive carefully. When driving below the speed limit, ensure that the vehicle does not obstruct the flow of traffic for other road users. iii. Driving at a higher speed may increase the risk of an accident and may result in loss of control of the vehicle. iv. Keep a safe distance from other cars and be aware of vehicles entering and exiting the highway. <p>✖ Driving above the specified speed limit may endanger yourself and other road users.</p> |
| 16. |  | i NO ENTRY FOR VEHICLES WIDER THAN 2.5 METERS |
| | | <p>This sign indicates that the width of the route ahead is not more than 2.5 meters. This sign is often found at sections of road where the width is limited by tunnels or bridges.</p> <ul style="list-style-type: none"> i. Determine the width of the vehicle. If the width of the vehicle exceeds the limit, a different route must be taken. <p>✖ Failure to obey the specified width limit may endanger yourself or other road users.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|--|
| 17. |  | <p>i NO ENTRY FOR VEHICLES TALLER THAN 4.5 METERS</p> <p>This sign indicates that the height of the route ahead is not more than 4.5 meters. This sign is often found at sections of road where the height is limited by tunnels or bridges.</p> <ul style="list-style-type: none"> i. Determine the height of the vehicle. If the height of the vehicle exceeds the limit, a different route must be taken. <p>× Failure to obey the specified height limit may endanger yourself or other road users.</p> |
| 18. |  | <p>i NO ENTRY FOR VEHICLES EXCEEDING 8 TONNES</p> <p>This sign indicates that the road ahead cannot support a weight exceeding 8 tonnes. This sign is often found at bridges that have a specified weight limit due to its structure.</p> <ul style="list-style-type: none"> i. Determine the total weight of the car. ii. A different route must be taken if the vehicle exceeds the weight limit. iii. Vehicles exceeding the specified weight limit will cause damage to the road structure and will bring detriment to other road users. <p>× Failure to obey the specified weight limit may endanger yourself or other road users.</p> |

1.1.4 Mandatory Signs

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
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| 1. |   | <p>i ONE WAY ROAD</p> <p>The purpose of this sign is to ensure that traffic flows smoothly. It is often located at narrow urban roads.</p> <ul style="list-style-type: none"> i. Obey the one way sign. <p>X Failure to obey this sign will result in collision with oncoming traffic, an increase in the risk of accident and obstruction of traffic.</p> |
| 2. |  | <p>i DIRECTION SIGN</p> <p>The purpose of this sign is to ensure that traffic flows smoothly. It is often located at urban roads.</p> <ul style="list-style-type: none"> i. Obey the directional sign. <p>X Failure to obey this sign will result in collision with oncoming traffic, an increase in the risk of accident and obstruction of traffic.</p> |
| 3. |  | <p>i RIGHT TURN ONLY</p> <p>The purpose of this sign is to ensure that traffic flows smoothly. It is often located at urban roads where traffic must flow only to the right.</p> <ul style="list-style-type: none"> i. Obey the right turn sign to ensure that traffic flows smoothly. <p>X Failure to obey this sign will result in collision with oncoming traffic, an increase in the risk of accident and obstruction of traffic.</p> |

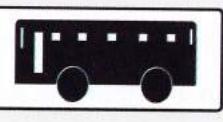
| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
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| 4. |   | <p>➊ GO RIGHT / GO LEFT</p> <p>The purpose of this sign is to ensure that traffic flows smoothly. It is often located at the beginning of road dividers.</p> <ul style="list-style-type: none"> i. Obey the directional sign. <p>➋ Failure to obey this sign will result in collision with oncoming traffic, an increase in the risk of accident and obstruction of traffic.</p> |
| 5. |    | <p>DIVIDED ROAD</p> <p>➊ The purpose of this sign is to ensure that traffic flows smoothly. It is often located at the beginning of road dividers.</p> <ul style="list-style-type: none"> i. Determine which lane to follow and obey the directional sign. <p>➋ Failure to obey this sign will result in collision with oncoming traffic, an increase in the risk of accident and obstruction of traffic.</p> |

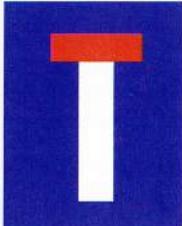
| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|----|---|---|
| 6. |  | <p>i TWO WHEELED VEHICLE LANE</p> <p>This sign indicates that only two wheel vehicles pictured (bicycles, trishaws, and motorcycles) must utilize this lane. This is to ensure that the specified vehicles do not disrupt the flow of traffic. It is often located outside urban areas. It is often located outside urban areas.</p> <p>All specified vehicles must only utilize this lane.</p> <p>X Other vehicles using this lane will increase the risk of accident with the specified vehicles.</p> |
| 7. |  | <p>i MOTORCYCLE / BICYCLE LANE</p> <p>This sign indicates that motorcycles and bicycles must utilize the assigned lane. This is to ensure the smooth flow of traffic and to reduce the risk of an accident to cyclists and motorcyclists. This sign is often located on roads which have a known risk of being dangerous to cyclists and motorcyclists due to high-speed traffic or large numbers of heavy and commercial vehicles.</p> <p>i. Cyclists and motorcyclists must only utilize this lane.</p> <p>X Other vehicles using this lane will increase the risk of accident with the specified vehicles.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
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| 8. |  | <p>i TRISHAW LANE</p> <p>This sign indicates that trishaws must utilize the assigned lane. This is to ensure the smooth flow of traffic and to reduce the risk of an accident to trishaw drivers and passengers. This sign is often located in tourist areas.</p> <ul style="list-style-type: none"> i. Trishaw drivers should only utilize the assigned lane. <p>✖ Other vehicles using this lane will increase the risk of accident with the specified vehicles.</p> |
| 9. |  | <p>i TAXI LANE</p> <p>This sign indicates that taxis must utilize the assigned lane. This is to allow taxis to pick up and drop off passengers without disrupting the smooth flow of traffic and to reduce the risk of an accident to taxi drivers and passengers. This sign is often located in urban areas.</p> <ul style="list-style-type: none"> i. Taxi drivers should only utilize the assigned lane. <p>✖ Other vehicles are prohibited from using this lane.</p> |
| 10. |   | <p>i BUS LANE</p> <p>This sign indicates that buses must utilize the assigned lane. This is to allow buses to pick up and drop off passengers without disrupting the smooth flow of traffic and to reduce the risk of an accident to bus drivers and passengers. This sign is often located in urban areas.</p> <ul style="list-style-type: none"> i. Utilize the appropriate lane for your vehicle. ii. Other vehicles are prohibited from using this lane. <p>✖ All vehicles other than buses are prohibited from using this lane except on Sundays, public holidays or after the specified bus lane hours.</p> |

1.1.5 Information sign

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
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| 1. |  800m | <p>PUBLIC PHONE</p> <ul style="list-style-type: none"> i. Persons intending to utilize the public phone should reduce the speed of the vehicle and give the signal to stop by the side of the road. ✗ Drivers should only halt the vehicle at safe and authorized places so as to ensure that the flow of traffic is not disrupted. |
| 2. |  | <p>HOSPITAL</p> <p>This sign indicates that there is a hospital ahead.</p> <ul style="list-style-type: none"> i. Reduce the speed of the vehicle and be ready to give way to emergency vehicles. ✗ Do not sound the horn since this may disturb patients and the public peace. |
| 3. |  | <p>PARKING</p> <p>This sign indicates a vehicle parking area ahead.</p> |
| |  | <p>MEDICAL CENTRE</p> <p>This sign indicates a medical centre ahead.</p> <ul style="list-style-type: none"> i. Reduce the speed of the vehicle and be ready to give way to emergency vehicles. ✗ Do not sound the horn since this may disturb patients and the public peace. |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|----|---|---|
| 4. |  | <p>i MEDICAL CENTRE</p> <p>This sign indicates a petrol station ahead.</p> <ul style="list-style-type: none"> i. Reduce the speed of the vehicle and be ready to give way to emergency vehicles. ✖ Do not sound the horn since this may disturb patients and the public peace. |
| 5. |  | <p>i PETROL STATION</p> <p>This sign indicates a petrol station ahead.</p> <ul style="list-style-type: none"> i. Reduce the speed of the vehicle. ii. Persons intending to stop at the petrol station should give a left turn signal and manoeuvre the vehicle to the left side of the road. iii. Be careful when exiting the petrol station. |
| 6. |  | <p>i BUS STOP</p> <p>This sign indicates a bus stop ahead.</p> <ul style="list-style-type: none"> i. Be careful of buses entering and exiting the bus stop area. ii. Be aware of passengers being picked up and dropped off in the area. iii. Vehicles other than buses are prohibited from stopping within 9 meters of the bus stop. |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|----|---|--|
| 7. |  | <p>DEAD END</p> <p>This sign indicates that the road ahead leads to a dead end.</p> <p>✖ Do not enter unless intending to do so. Turn the vehicle around if mistaken.</p> |
| 8. |  | <p>U-TURN</p> <p>This sign indicates a U-turn ahead. This sign is often located at junctions, below bridges and in two lane roads.</p> <ol style="list-style-type: none"> Drive carefully and ensure the vehicle is in the correct lane. Reduce the speed of the vehicle and give way to oncoming traffic. <p>✖ Do not obstruct oncoming traffic.</p> |
| 9. |  | <p>DISTANCE SIGN</p> <p>This sign informs road users of the distance to the intended destination or to towns located ahead.</p> <ol style="list-style-type: none"> Determine the travelling route and drive carefully to the intended destination. It is advised to stop at the rest stops if the driver experiences fatigue. Ensure there is enough petrol to reach the intended destination to avoid complications during the journey. (2) indicates a main road. |

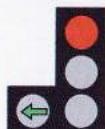
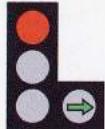
| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
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| 10. |  <p>SUSUR KELUAR KE 1 Johor Bahru Senai 500m</p> | <p>i EXIT TO DESTINATION</p> <p>This sign informs road users of the distance to an exit that leads to the intended destination or town.</p> <ol style="list-style-type: none"> Ensure the vehicle is positioned in the correct lane if the driver is intending to take the exit. Reduce the speed of the vehicle and bring the vehicle to the left side of the road. <p>✖ Do not obstruct the flow of traffic on the road.</p> |
| 11. |  <p>SIMPANG KE 76 SAUK 500m</p> | <p>i DISTANCE TO JUNCTION</p> <p>This sign displays the distance to a junction that leads to the intended destination or town. Ambil posisi yang betul dan berikan isyarat secukupnya.</p> <ol style="list-style-type: none"> Ensure the vehicle is positioned correctly on the road and give the appropriate turn signals. Reduce the speed of the vehicle and be ready to stop the vehicle if needed. Obey any traffic lights (if present). Give way to oncoming vehicles from the opposite direction. Continue with caution. <p>✖ Do not obstruct the flow of traffic on the road.</p> |
| 12. |  <p>DIRECTIONS - ROUNDABOUT</p> <p>This sign informs road users of the direction of destinations and towns.</p> <ol style="list-style-type: none"> Determine the intended direction. Follow the correct lane. Reduce the speed of the vehicle upon approaching the roundabout. Stop the vehicle if required. Give way to vehicles approaching from the right and continue the journey with caution. <p>✖ Do not obstruct the flow of traffic on the road.</p> | |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|---|
| 13. |  | <p>DIRECTIONS</p> <p>This sign displays directions to intended destinations and towns through the main road as well as through exits and junctions.</p> <ol style="list-style-type: none"> Ensure the vehicle is positioned correctly on the road and give the appropriate turn signals. Reduce the speed of the vehicle and be ready to stop the vehicle if needed. Give way to oncoming vehicles from the opposite direction. Continue with caution. <p>Do not obstruct the flow of traffic on the road.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|--|--|
| 13. |  | <p>i CONSTRUCTION / ROADWORK AHEAD</p> <p>This sign warns road users of construction work on the road and directs the flow of traffic. This sign is raised temporarily.</p> <ol style="list-style-type: none"> All drivers are advised to drive cautiously and obey the road sign. Reduce the speed of the vehicle and obey any traffic controllers in the vicinity. <p>✖ Failure to obey this road sign may result in obstruction of traffic and will increase the risk of accident for other road users.</p> |

Traffic light signals

i. Traffic lights are placed at every junction in urban areas and in busy small towns. All drivers must fully understand the meaning of each colour on a traffic light. The purpose of a traffic light is to control the flow of traffic to ensure it moves in a smooth, organized and safe manner.

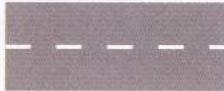
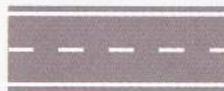
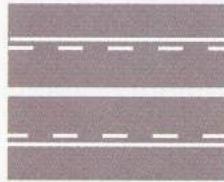
| NO. | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|---|
| 1. |  | RED indicates "STOP". Stop the vehicle behind the white line. Pull the handbrake and free the gear. |
| 2. |  | GREEN indicates "GO". Be aware of traffic from all directions and proceed with caution. |
| 3. |  | A GREEN LEFT ARROW indicates "GO LEFT". Be aware of traffic from all directions and proceed only to the left with caution. Vehicles in the right lane should remain at a standstill. |
| 4. |  | A GREEN RIGHT ARROW indicates "GO RIGHT". Be aware of traffic from all directions and proceed only to the right with caution. Vehicles in the left lane should remain at a standstill. |
| 5. |  | YELLOW indicates "STOP UNLESS BEYOND THE LINE". Vehicles before the line should not proceed since it may result in an accident. |

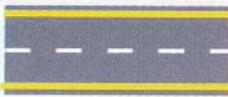
REMINDER

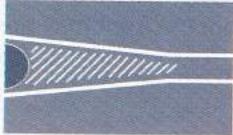
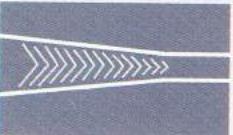
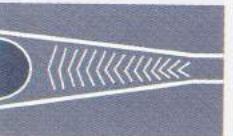
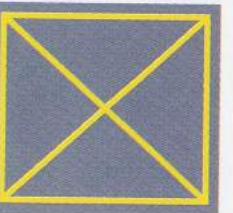
In the event that the traffic light is under repair at a:

- i. Four-way Junction: Priority does not belong to any lane. Drivers should be courteous and prioritize safety to ensure the smooth flow of traffic.
- ii. Three-way Junction: Priority is given to vehicles on the main road to move forward.

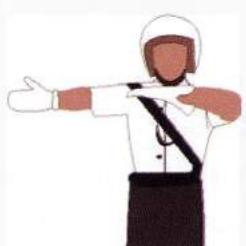
1.1.8 Road and lane markings

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|----|---|--|
| 1. |  | <p>BROKEN WHITE LINE</p> <p>i. Vehicles from both directions are allowed to overtake, take U-turns or stop the vehicle by the side of the road.</p> |
| 2. |  | <p>WHITE EDGE LINE</p> <p>i. This line acts as a boundary line between the road and road shoulder. Vehicles must not be steered beyond the white line. It is prohibited to stop the vehicle by the side of the road.</p> |
| 3. |  | <p>DOUBLE WHITE LINE (SOLID AND BROKEN)</p> <p>i. Only vehicles traveling in the lane with the broken white line are allowed to overtake.</p> |
| 4. |  | <p>DOUBLE WHITE LINE (BOTH SOLID)</p> <p>i. Vehicles from both directions are prohibited from overtaking, taking U-turns or stopping the vehicle by the side of the road even if it is considered safe to do so.</p> <p>ii. This prohibition is in effect due to unsuitable road and environmental conditions which may endanger the driver. E.g. Hilly areas and curves in the road.</p> |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|----|---|---|
| 5. |  | <p>YELLOW EDGE LINE</p> <ul style="list-style-type: none"> i. This line indicates that it is prohibited to stop the car by the side of the road along the section of road marked with this yellow line. ii. Vehicles stopped in this section of road will obstruct traffic. |
| 6. |  | <p>PEDESTRIAN CROSSING</p> <p>This crossing is placed for pedestrians to cross the road safely. It is commonly seen in front of malls, schools, bus stops, etc.</p> <ul style="list-style-type: none"> i. Obey the pedestrian traffic light If no traffic light is present, reduce the speed of the vehicle and stop if required to give way to pedestrians crossing the road. ii. Do not overtake in this area. iii. Sounding the horn is not allowed. |
| 7. |  | <p>BUS AND TAXI LANE</p> <ul style="list-style-type: none"> i. Other vehicles are prohibited from using this lane or stopping in this area. This lane is specifically for the use of public service vehicles (buses /taxis) to facilitate picking up and dropping off passengers. |
| 8. |  | <p>HORIZONTAL YELLOW LINES</p> <ul style="list-style-type: none"> i. This marking is made with a thickness of 5 mm to warn drivers to reduce the speed of their vehicles. ii. This marking is commonly placed in the following locations: iii. Near junctions, roundabouts, pedestrian crossings, toll booths and any other obstruction which requires a fast-moving vehicle to reduce its speed. |

| NO | ROAD SIGNS | DEFINITION & IMPORTANCE |
|-----|---|--|
| 9. |  | <p>ROSS CHEVRON</p> <ul style="list-style-type: none"> i. This is a diagonal road marking placed in two-way traffic. ii. It indicates an obstruction ahead. iii. Vehicles are not allowed to enter the marked area. |
| 10. |  | <p>CHEVRON MERGING</p> <ul style="list-style-type: none"> i. This Chevron indicates merging lanes. ii. It indicates an obstruction ahead. iii. Vehicles are not allowed to enter the marked area. |
| 11. |  | <p>CHEVRON HACTHING DIVERGING</p> <ul style="list-style-type: none"> i. This Chevron indicates diverging lanes. ii. It indicates an obstruction ahead. iii. Vehicles are not allowed to enter the marked area. |
| 12. |  | <p>YELLOW BOX</p> <ul style="list-style-type: none"> i. All vehicles are prohibited from stopping in the yellow box. Stopping a vehicle in the yellow box will disrupt traffic by obstructing the path of vehicles coming from other directions. |

1.1.8 Traffic police hand signals

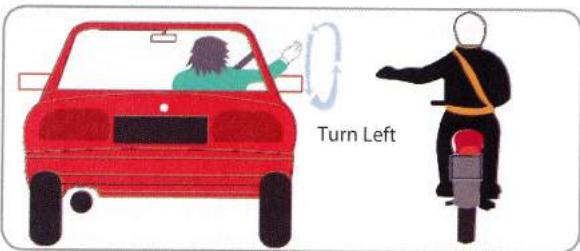
| NO | SIGNALS | REGULATIONS & IMPORTANCE |
|----|---|--|
| 1. |  | Vehicles approaching from behind are required to stop. Traffic coming from the front may proceed to the right. |
| 2. |  | Vehicles approaching from behind are required to stop. Traffic coming from the front may proceed to the left. |
| 3. |  | Both lanes of traffic (left lane and right lane) may proceed. |
| 4. |  | Traffic from the right may proceed. |
| 5. |  | Traffic from the left may proceed. |

1.1.10 Driver hand signals

I intend to turn right



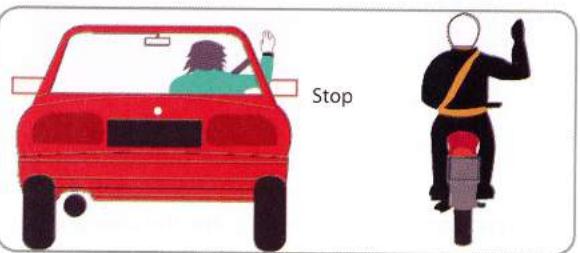
I intend to turn left



Reducing the speed of the vehicle



I intend to stop



1.2 Highway code

The Highway Code is a code of conduct or etiquette on the road. It assigns responsibility to road users regardless of whether they are drivers or pedestrians. Responsible and courteous road users are road users that obey the law.

Road users should always be courteous. They should also be familiar with all highway guidelines which should be shared with other road users especially children to ensure that it is imbued into them from an early age.

A road user should always be sober and stay away from the influence of drugs and alcohol, whether as a driver, passenger or pedestrian and should always remind others to avoid this behaviour.

Be aware of disabled persons on the road such as the blind, and give way to disabled pedestrians crossing the road. Other pedestrians should be courteous and help them across the road whenever possible. Give way to light vehicles such as bicycles and motorcycles.

Vehicles drawn by animals (such as ox carriages and horse carriages) and trishaws travelling at night should carry a light to enable the driver to see well and to improve visibility of the vehicle to other road users.

Pedestrians and persons with animals should always walk against the flow of traffic to easily see approaching vehicles on the road.

1.2.1 Good driving etiquette

Good drivers are not only judged by their skill and experience, but also by their behaviour on the road which should include the following characteristics:

- i. Responsibility
- ii. Concentration
- iii. Foresight
- iv. Patience
- v. Confidence

The above characteristics are the cornerstones of a good driver and thus shape the driving etiquette of a good driver. Practicing and developing good driving etiquette is not only important to shape good driving behaviour, but also to ensure the safety of the driver, passengers and other road users at the same time reducing the number of accidents that mostly stem from the mistakes of the driver.

Responsibility

1. As a responsible driver, you must always prioritize the safety of:
 - a. Yourself and your passengers
 - b. Other road users, especially those who are more vulnerable such as:
 - i. Children
 - ii. Senior citizens
 - iii. Disabled persons
 - iv. Cyclists
 - iv. Motorcyclists

Concentration

1. A responsible driver must be able to concentrate while driving under any conditions to be able to ensure the safety of yourself and other road users.
2. Always pay full attention towards the road as small mistakes can be the cause of an accident.
3. Avoid driving when:
 - i. Tired or not feeling well
 - ii. In anger
 - iii. Experiencing emotional distress
4. Always drive at a safe distance from other cars to provide enough reaction time.
5. Concentration is the basis of proper judgement while driving. It is aided by:
 - i. Good vision
 - ii. Good hearing
 - iii. Good health
 - iv. Self-discipline
6. Avoid actions on the road that may take away your concentration such as the use of cell phones, listening to loud music, etc.

REMINDER

Persons are prohibited from driving after taking any drugs (medication) or alcohol (hard liquor) since it may cause intoxication or inebriation that will affect the driver's concentration.

Foresight

1. Driving foresight refers to the practice of planning your actions and executing appropriate actions in response to changes in the environment. Drivers with many years of experience integrate this skill as a spontaneous reaction.
2. Always anticipate the reaction of other road users.
3. The act of planning your actions and anticipating the reaction of other road users can:
 - i. Reduce carelessness
 - ii. Reduce and avoid the cause of hazards
 - iii. Distance yourself from a hazard or hazardous area.

REMINDER

Persons driving under the influence of drugs or alcohol cannot anticipate properly due to having their concentration affected and are expressly prohibited from driving.

Patience

1. Patience is a virtue and the key to safe driving. Unskilled and ill-mannered road users will test your patience while driving.
2. Do not allow any of these incidents to affect your driving. Be forgiving of the mistakes of other road users.
3. Responding to their mistakes with irresponsible driving or ill-mannered behaviour will only create conflict which will increase the risk of accident.

REMINDER

Driving in anger may increase the risk of accident.

Confidence

1. Confidence is closely linked to skill, foresight and experience.
2. Persons new to driving are often less confident but gain confidence through continuous practice and experience.
3. A good driver will avoid the danger of being overconfident.

REMINDER

Safe driving is on your own shoulders.

1.2.2 The effect of conduct and skill level on driving style

Conduct and skill level are important factors that highly affect your driving style as compared to other factors. Therefore, it is extremely important for a driver to have good conduct and sufficient skill before driving on the road. This can be simplified as follows:

| Conduct | Skill | Driving Style | |
|---------|-------|---------------|---|
| Good | Good | Safe | ✓ |
| Good | Bad | Negligent | ✗ |
| Bad | Good | Selfish | ✗ |
| Bad | Bad | Dangerous | ✗ |

Therefore, all drivers must improve their conduct and skill level to increase road safety and reduce the risk of accident.

1.2.3 Driver behaviour and responsibility

1. Drivers and pedestrians

A driver should never assume that pedestrians are aware of the presence of vehicles on the road. Therefore, it is the responsibility of the driver to share the road responsibly with pedestrians by paying full attention when driving in the vicinity of pedestrians.

A driver must also exercise extreme caution while driving in certain areas. This includes the following areas:



- At places where schoolchildren cross the road:
 - Drivers must drive carefully and be able to halt the vehicle immediately at any time if the situation requires it.
 - Drivers must halt the vehicle should any school children begin crossing the road even if there are no traffic controllers in the area.

iii. Drivers are not allowed to begin moving until all pedestrians have crossed to the opposite side.



b. At pedestrian crossings

Drivers must be careful of inattentive pedestrians crossing the road. There are some pedestrians under the impression that they may cross the road safely without looking in both directions before crossing.



c. At bus stops / taxi stands

Drivers must pay attention while driving past bus stops and taxi stands due to the possibility of pedestrians coming down from buses and taxis and immediately crossing the road without looking in both directions

The danger of the situation increases if the pedestrian crosses the road from the front or back of a stationary bus since this blocks them from the sight of drivers on the road.



d. In residential areas

Drivers must always be careful when driving through residential areas. There is a high possibility of children appearing suddenly on the road in these areas.



e. In crowded areas (entertainment districts, concerts, flea markets, seminars and lectures, etc.)

There may be many different groups of pedestrians in these areas. There may also be pedestrians who are drunk, carrying heavy items, or are generally unaware of their surroundings, especially traffic on the road. Therefore, the driver should be careful and pay full attention while driving through these areas.



f. In areas housing senior citizens or disabled persons

It can be generally assumed that the vision and hearing of senior citizens and disabled persons are impaired. This may cause an accident should they not sense the presence of a vehicle in their immediate vicinity. Therefore, the driver should drive carefully through these areas. If needed, the driver may also sound the horn to warn them of his presence.



g. During bad weather

It is common for pedestrians to rush and not pay attention during bad weather. The visibility of the road for driver is also reduced. These conditions contribute to the cause of accidents with pedestrians. Drivers must always be careful when driving during bad weather.



2. Drivers and Cyclists

- a. When driving in the vicinity of a cyclist, the driver should drive anticipating a hazard in front due to the possibility of the cyclist suddenly turning out of his lane, especially if the cyclist is still a child. All drivers must also be familiar with the steps that can be taken should a dangerous situation arise, such as the use of the emergency brake or turning into the opposite lane.
- b. Drivers should reduce the speed of their vehicle when approaching school zones where there may be many schoolchildren riding bicycles on both sides of the road.
- c. Drivers should avoid honking when there is a cyclist in front of them since this may startle the cyclist except when conveying the intention to overtake the cyclist or in sections of road where visibility is limited such as sharp corners, hilly areas, etc.
- d. Drivers should not leave their vehicle at a standstill in dark sections of road without leaving their lights on since this will endanger cyclists. If the lights are not functioning, remove the vehicle from that area as soon as possible or turn on the emergency lights to indicate the position of the vehicle.
- e. Drivers must give the appropriate signals and ensure the conditions are safe before exiting a parking area onto the road. The signals given must be clearly visible to other road users, especially cyclists.



3. Drivers and Motorcyclists

- Motorcyclists are the group with the highest accident rates. This is due to the number of motorcycles on the road as well as the fact that this group often consists of young adults and high school students. Therefore, drivers of larger vehicles should be careful when driving in the vicinity of a motorcyclist.
- Drivers are not advised to sound their horn when overtaking a motorcyclist to avoid startling them and causing them to accidentally change lanes. However, to sound the horn if needed.
- Drivers should travel behind motorcyclists at a safe distance to avoid distracting them or causing them panic. The 2 second and 4 second distance rules should be used.
- Drivers must give clear and appropriate turn signals when intending to change lanes, overtake or when turning left or right and must also observe through the rear view mirror and side view mirrors to ensure there are no motorcyclists in their 'blind spot'.



4. Drivers and other vehicles

- a. Vehicles belonging to driving institutes / schools while in training or at a JPJ driver examination.
 - i. Vehicles belonging to driving institutes with an "L" sticker should be treated with caution as a possible hazard since the vehicle are being driven by persons learning to drive who are still not skilled in driving techniques. Therefore, the following situations are a possibility:
 - The vehicle may be travelling slowly.
 - The vehicle may travel to the side or the middle of the road.
 - The vehicle may suddenly brake.
 - ii. A cautious driver should always take the following safety precautions when faced with this situation:
 - Do not follow the vehicle too closely.
 - Keep a safe distance from the vehicle in case it brakes suddenly.
 - Do not sound the horn or exhibit any warning / offensive signs if the vehicle is travelling slowly.
 - Adopt a patient and respectful attitude remembering that the driver himself was once in a similar position.
- b. Vehicles driven by persons with probationary licences.

Drivers with probationary (P) licences should be treated with caution since they have just received their driving licence and still have a low level of driving skills. Therefore, drivers should be alert for any mistakes made by the probationary drivers and be ready to take the appropriate action.



c. Public service vehicles

Public service vehicles such as buses and taxis should be treated with special care. The following issues should be taken notice of:

- i. These vehicles may come to a sudden stop to pick up and drop off passengers.
- ii. There may be pedestrians crossing the road from in front or behind a bus without looking in both directions.
- iii. These vehicles may start moving without concern for or giving way to vehicles behind it. Therefore a driver should always be alert and keep a safe distance from such vehicles.



d. Heavy vehicles (such as Chained Vehicles / Excavators / Tractors).

These vehicles are usually travelling very slowly and may even be travelling below the minimum speed limit. This vehicle should be followed from behind with caution. Abide by all the rules of overtaking if intending to overtake this vehicle. Overtake the vehicle only at a safe place and never do so in a dangerous section of road.



e. Commercial Vehicles (Lorries, Trailers, Container Trucks). When encountering commercial vehicles either moving or parked on the shoulder of the roads, drivers should take the following precautions:

- Observe any signs placed on the body of the vehicle such as 'Danger', 'Extended Length Lorry', 'Air Brake' or 'Highly Flammable'.
- Avoid entering the space or suddenly stopping in front of the vehicle due to the additional time it takes for the vehicle to stop.
- Maintain a safe distance when tailing a heavy vehicle especially when it is moving from a stationary position, when climbing hills or when taking corners.

f. Drivers should be more alert when overtaking large vehicles due to their larger 'blind spot' area. Convey the intent to overtake to the lorry driver by sounding the horn.



g. Drivers and Emergency Vehicles with Priority (Police, Ambulance, Fire Department, JPJ and Customs Department).

All drivers should give way to emergency vehicles belonging to the Police, Ambulances, Fire Department, JPJ and Customs Department with their sirens on even if the driver has the right of way. Priority must be given to these vehicles because laws have been enacted give them the right of way. Failure to give way to these emergency vehicles may cause an accident as well as cause the driver to be liable of an offence under the law.

2.0 DEFENSIVE DRIVING



LEARNING OUTCOME

By the end of this chapter, the reader should be able to:

- i. Display the elements of defensive driving as well as adopt a flexible and systematic approach to hazard management.
- ii. Follow safe driving concepts to avoid accidents.

Concept of Defensive Driving

Defensive driving is a form of training for the driver of a motorized vehicle. It consists of knowledge of traffic rules and excellent driving control. The purpose of this form of driving is to reduce driving risks through anticipating dangerous situations even when caused by other road users.

Defensive driving techniques require good observation to maintain the vehicle in a safe position and at a suitable speed using good driving control in order to handle unexpected situations and hazards in a safe and smooth manner. Defensive drivers require good planning and foresight.

2.1 Steps for a planned drive

a) Observation

This refers to utilizing sight, sound and also smell to gather as much information as possible about the situation at hand.



b) Identification

Identify the various hazards in your environment.



c) Analysis

Analyse the hazards and assess the possible risk of each hazard.



d) Prioritization

Be careful of all hazards while focusing on hazards with a high level of risk.



e) Action

Any action must take into account hazards that are visible and not visible. Deciding quickly and safely while taking into account the previous steps will reduce the risk of harm to yourself and other road users.

2.1.1 Improving observational skills

1. Observing is an important aspect in driving. The level of observation of each driver differs. The observational skill of a new driver will be entirely different compared to a skilled or experienced driver.
2. Good observation includes paying attention to the environment outside the car as well as the immediate environment inside the car. Observation is not only limited to sight, as it does not include the process of sensing (as opposed to observation). The process of observation includes:
 - i. Seeing
 - ii. Hearing
 - iii. Smelling
3. The level of observation is affected by:
 - i. Focus
 - ii. Sensitivity
4. Observational skills can be improved by ensuring that:
 - i. The sensory organs which are the eyes, ears and nose are functioning properly.
 - ii. The driver does not drive while tired or sleepy.
 - iii. Attention is always on the road and the environment.
 - iv. The vehicle's lights are functioning properly, especially at night.
 - v. The radio is not turned on so loud that external sounds cannot be heard.

2.1.2 Identifying hazards

Hazards are elements on the road, which have the potential to endanger. Dangerous situations may occur suddenly and clearly such as a car approaching from the opposite direction in the same lane, or may not be obvious at that point, such as a sharp curve with limited visibility.

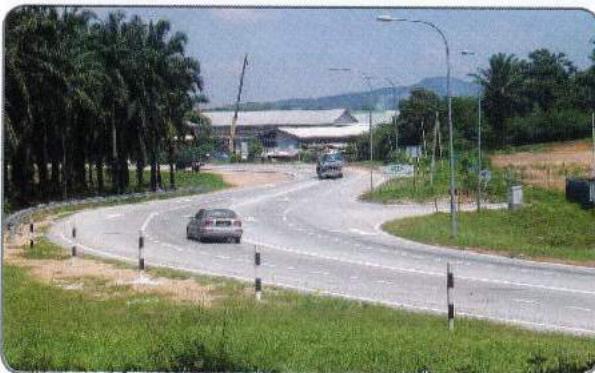
The skill of a defensive driver depends on the ability to identify hazards and situations which are possibly dangerous in nature and consequently taking the appropriate action to overcome the hazard. One of the causes of accidents is the failure to identify high risk situations. Should the driver fail to assess the appropriate level of risk for the identified hazard, the driver will not be able to take the appropriate action to overcome it. There are three (3) types of hazards found on the road.

- a. Physical characteristics such as junctions, roundabouts and corners.
- b. Risky situations that arise due to the position and movement of other road users.
- c. Problems caused by various road surfaces and weather conditions.

Types of physical hazards



Roundabouts and elevated junctions



Winding roads



Diverging roads

Types of moving hazards



Vehicles travelling through a curve in the road



Slow-moving vehicles



Merging traffic and exits

Types of hazardous road conditions due to bad weather

Slippery road surfaces after rain



Flooding on the road surface due to heavy rain



Damaged roads hidden by water

2.1.3 Analysis

The driver must analyse the situation based on:

- ▶ **What can be seen**
- ▶ **What cannot be seen**
- ▶ **What can be expected**

2.1.4 Prioritization

Classify the hazards and address them according to importance. Hazards are classified according to:

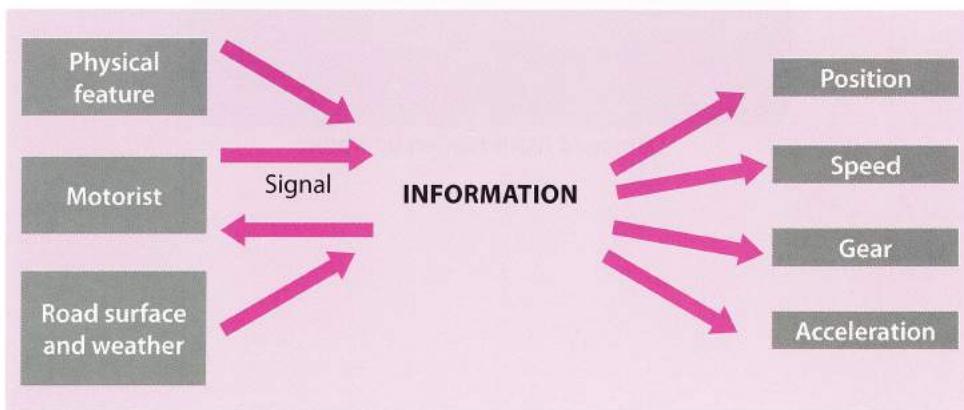
- a. Type of hazard
- b. Distance from hazard
- c. Curvature of the road
- d. Whether the hazard is stationary or moving
- e. Your speed approaching the hazard

Speed has a major effect on many aspects of driving whether on the driver or the vehicle. The driving speed must be based on the skill of the driver as well as the condition of the vehicle. Speed affects driving in the following ways:

- a. The faster the driving speed, the farther ahead the driver must pay attention to the road.
- b. A higher speed driving reduces the time for the driver to think and react.

2.1.5 Driving reaction plan

A Driving Reaction Plan is made based on information gathered through a process of observing, identifying, analysing and prioritizing hazards. A responsible driver always controls the elements of driving, which are position, speed, gear and acceleration, to ensure a safe and smooth drive based on the current driving conditions.



Information

Obtain information through observation of your surroundings. Analyse the information based on importance and effect on you, as the driver. Convey information to other road users through the use of car signal lights.

Position

Position the vehicle in a safe place where it is easy to obtain information.

Speed

Determine an appropriate speed for the vehicle based on hazards and available information.

Gear

Vehicles with automatic transmission may still occasionally require a shift in gear from the D gear to a lower gear; example third gear, second gear or first gear.

Acceleration

After analysing speed, pedestrian reactions and weather and road conditions, determine a suitable acceleration to overcome the hazard and distance yourself from it.

2.2 Defensive driving routine (CITO)

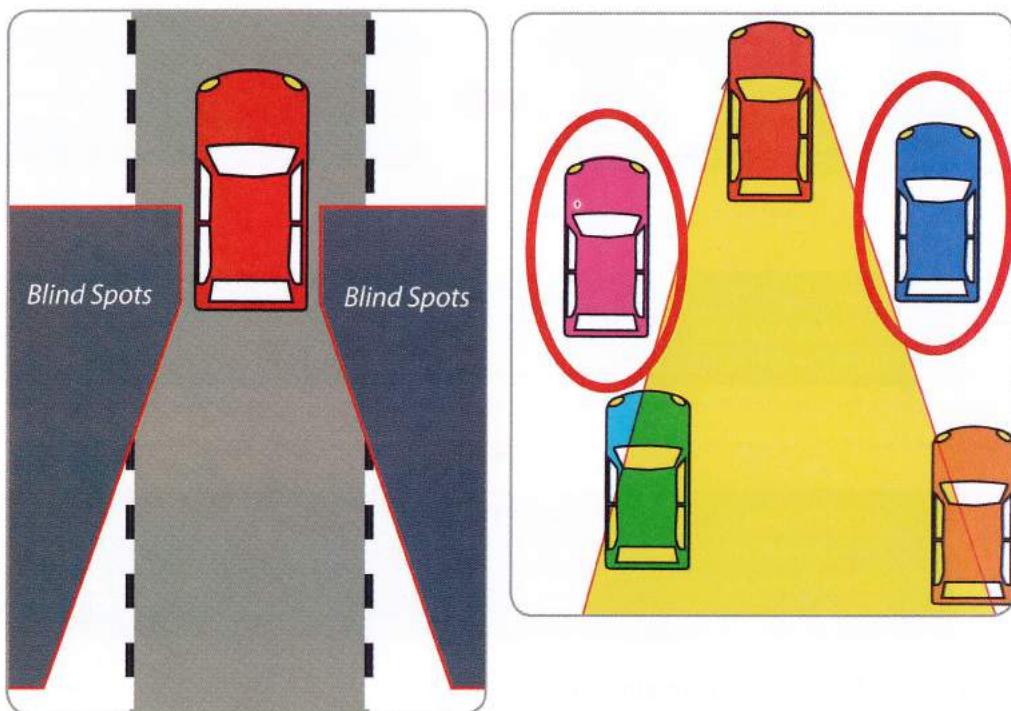
The Defensive driving routine or CITO is a list of steps that must be carried out while driving and overcoming hazards or practicing a manoeuvre such as overtaking or cornering. It is designed to obtain information from the driver's surroundings before carrying out any manoeuvre.

The steps that must be carried out are as follows:

| | |
|----------|--|
| C | Cermin (Mirror): Look in the side view mirror and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |

2.3 Blind Spot

Vehicles have two blind spots which are actually two different areas on the left and right of the vehicle that are obscured from the driver's vision. They are obscured both from vision through direct sight and through the rear view and side view mirrors. Before overtaking another vehicle, changing lanes or turning into a junction, the driver should turn his head and look at each side to ensure that there are no vehicles in these two blind spots.

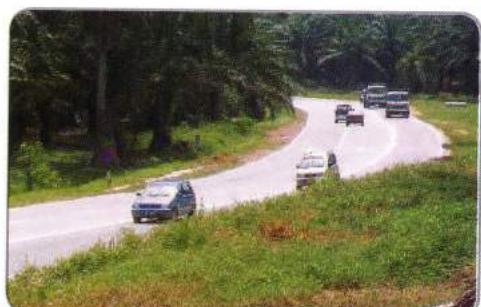


2.4 Rules of defensive driving

A driver must always follow certain rules while driving on the road to ensure smooth driving and to avoid accidents. The following rules have been outlined for this purpose:

- i. Distance Rules
- ii. Overtaking Rule
- iii. Avoiding Frontal Collisions Rule
- iv. Junction Rule

2.4.1 Distance rules



A driver requires enough time and distance to safely stop a vehicle in the event the vehicle directly in front of him makes a sudden stop. The faster the speed of the vehicle, the more distance is required to bring it to a complete stop. There are a few rules which are proven to help drivers maintain a safe distance when following behind another vehicle. The rules are listed below:

- i. Two (2) second rule
- ii. Four (4) second rule

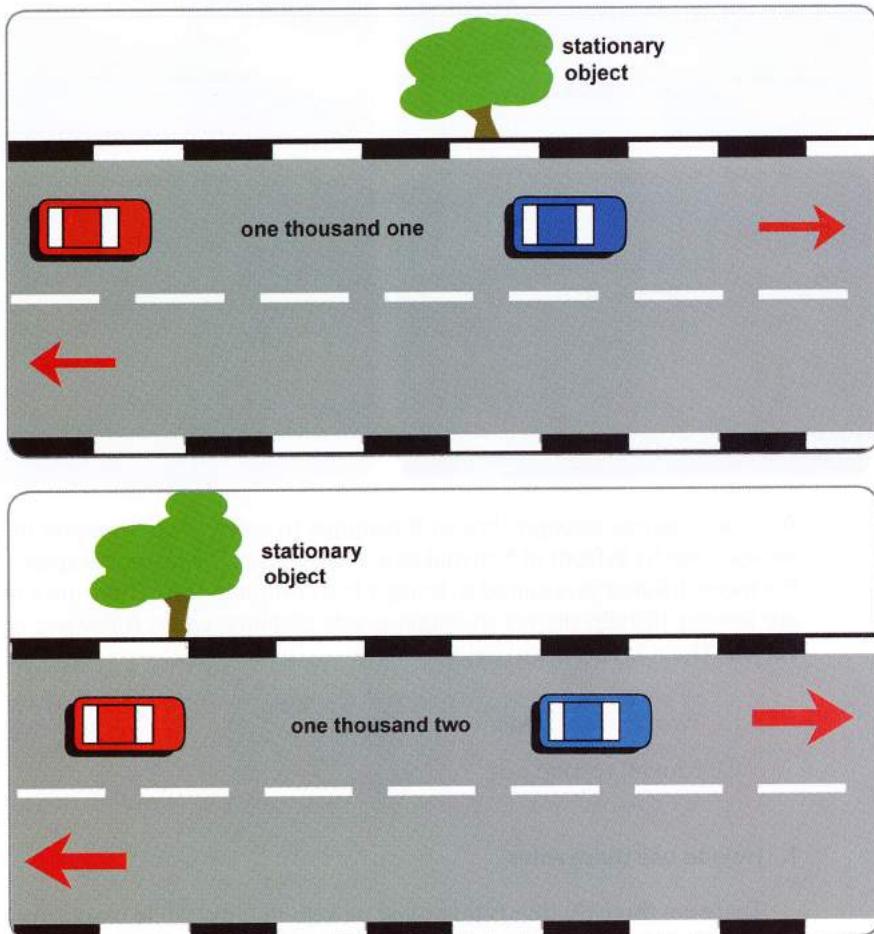
1. How to use these rules

There are three (3) things that must be kept in mind while practicing the rules:

- i. The speed of the vehicle should be roughly equal to the speed of the vehicle being tailed.
- ii. A stationary object on the roadside must be determined as a guidepost, such as a streetlamp, telephone pole, tree, bridge, etc.
- iii. It is not required to ascertain the speed by looking at the dashboard.

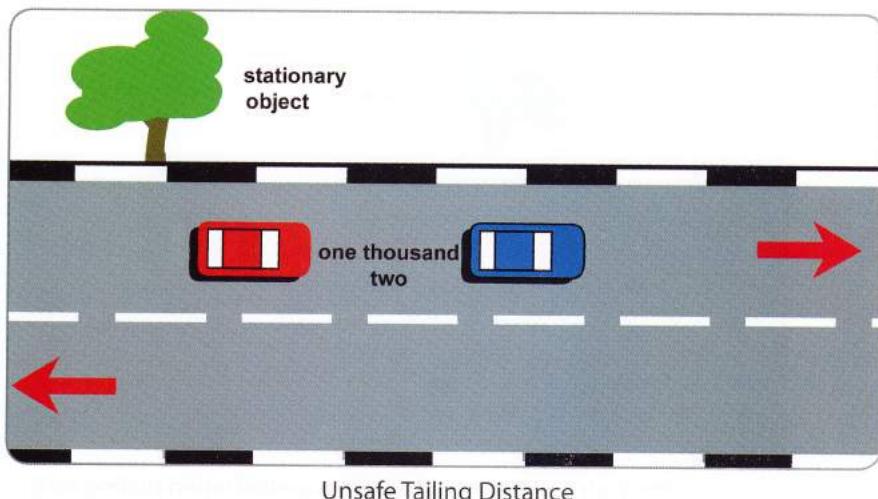
2. Utilizing the Two (2) Second Rule

You must wait until the vehicle being tailed goes past the pre-determined guidepost (for example a tree), and make a count of "one thousand one, one thousand two". If your vehicle does not reach the tree which was set as a guidepost by the end of the count, the distance is considered safe.



Safe Tailing Distance

However, if your vehicle does reach the guidepost before the end of the count, the distance from the tailed vehicle is considered unsafe. The speed of the vehicle should be reduced and a new guidepost should be determined. Make a count of "one thousand one, one thousand two" and repeat the steps until your vehicle is travelling at a safe distance from the tailed vehicle

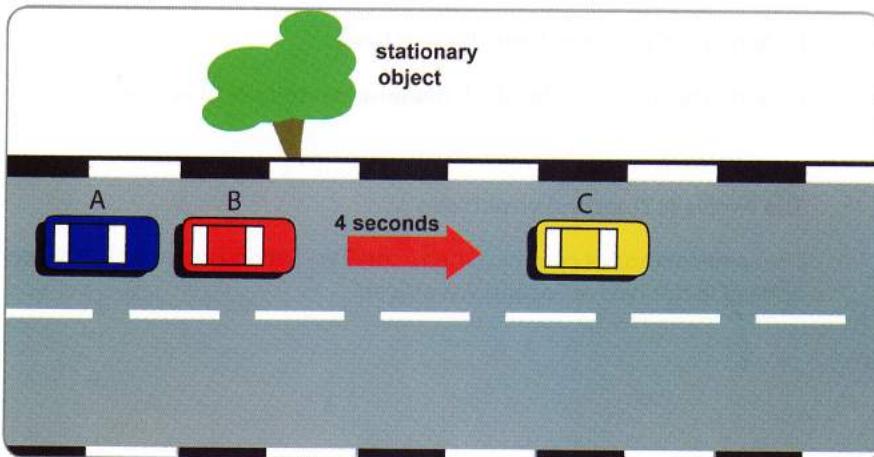


3. Utilizing the Four (4) Second Rule

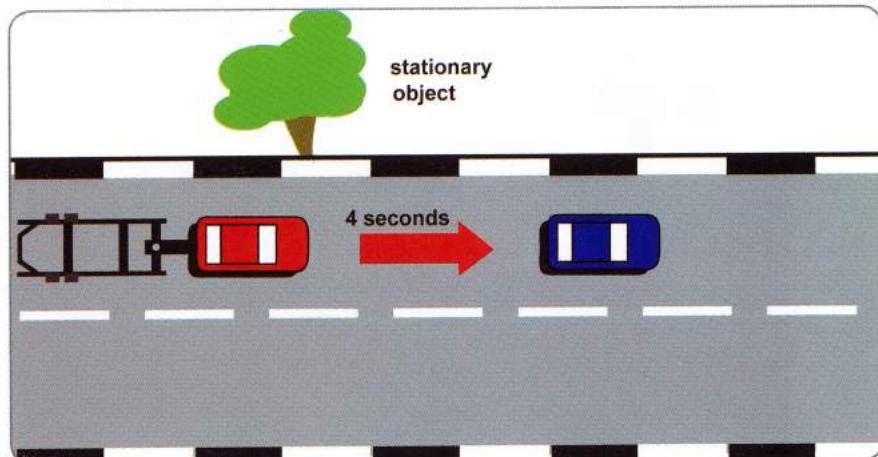
The Four Second Rule can be utilized at any speed and should be practiced in the following situations

- i. The vehicle behind you is tailing you at very close proximity.
- ii. The vehicle in front of you is tailing the vehicle in front of it at very close proximity.
- iii. When pulling cargo.
- iv. During bad weather conditions or on slippery or sandy road surfaces.

The method of counting in the Four Second Rule allows additional time and distance for you or other drivers to stop their vehicles in the event of an emergency. The method of counting is by making a count of "one thousand one, one thousand two, one thousand three, one thousand four", similar to the Two Second Rule.



Vehicle A is tailing vehicle B too closely at an unsafe distance. Vehicle B should practice the Four Second Rule to ensure a safe distance from vehicle C.



The Four Second Rule should be applied when pulling cargo.

When pulling cargo, the total mass of the vehicle is affected and the Four Second Rule should be applied as shown previously to allow adequate time to stop the combined weight of both vehicle and cargo when braking.

4. Importance of maintaining a safe distance when tailing another vehicle:

- i. Allows adequate time and distance to safely stop the vehicle.
- ii. Allows the driver a greater field of vision to observe the situation on the road ahead.

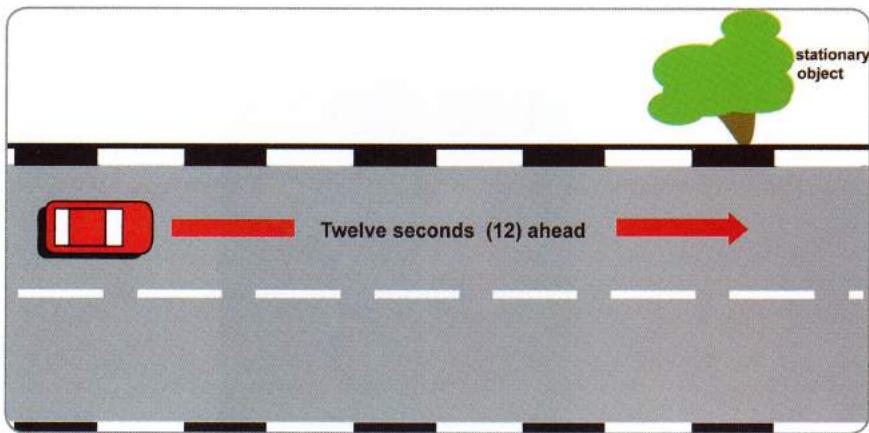
2.4.2 Overtaking rule

A good defensive driver requires skill and the ability to make a comprehensive visual scan and must learn and fully understand the correct overtaking techniques. Overtaking is required in the following situations:

- a. When the vehicle in front is travelling too slowly.
- b. When the vehicle in front changes lanes.
- c. When tailing a vehicle which has an increased risk of accident.

The twelve (12) second visual scan

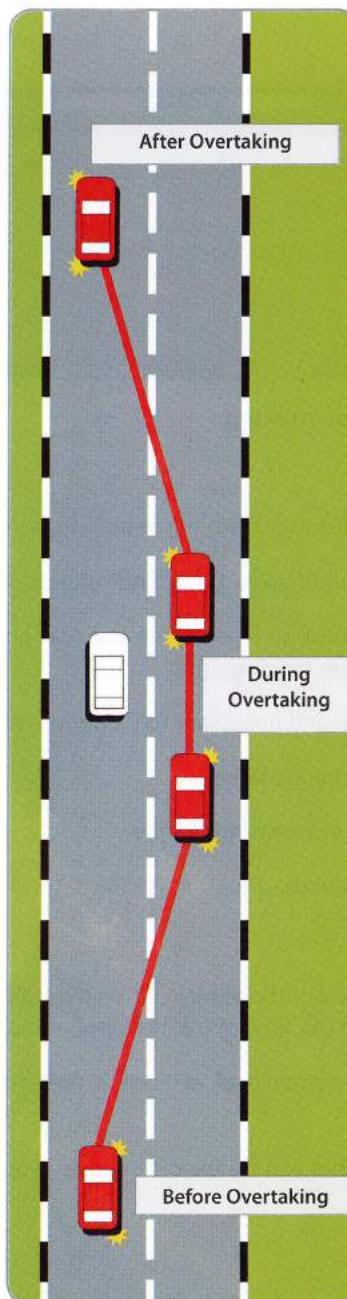
The same method of counting used in the Two Second Rule and Four Second Rule is also applied in the Twelve Second Visual Scan.



There are 3 phases of overtaking:

1. Before overtaking
 - a. Maintain a safe distance from the vehicle in front.
 - b. Make a visual scan of up to 12 seconds ahead.
 - c. Apply the CITO routine to examine the rear and sides of the vehicle to obtain information before moving right.
 - d. Shift to a lower gear if necessary to gain more acceleration for overtaking.
 - e. Move right and change lanes.
 - i. Change lanes in a smooth manner.
 - ii. Move only when the situation is safe.
2. During overtaking
 - a. Increase the speed of the vehicle when overtaking the vehicle in front to refrain from obstructing the flow of traffic from behind.
 - b. Maintain a safe distance of at least 1 meter (3 feet) from the vehicle being overtaken.
 - c. The horn and lights can be used to convey your presence to the vehicle being overtaken.
3. After overtaking
 - a. Apply the CITO routine by examining the rear and sides of the vehicle to obtain information before moving left.
 - b. Move left and change lanes.
 - i. Change lanes in a smooth manner.
 - ii. Move only when the front of the overtaken vehicle can be seen in the left side mirror.

c. Continue the journey and maintain a suitable speed and position.



REMINDER

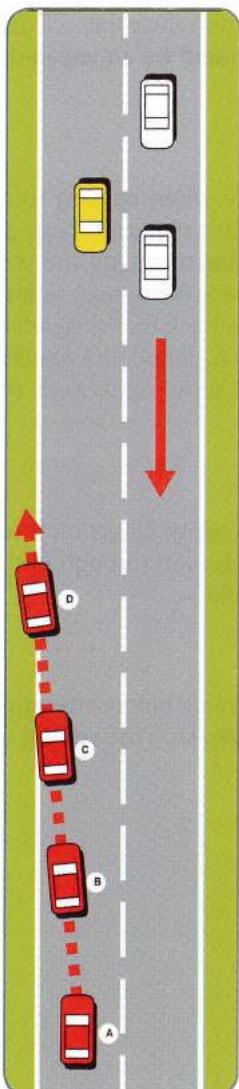
Avoid overtaking when:

- i. Approaching pedestrian crossings.
- ii. At junctions.
- iii. At corners or sharp curves.
- iv. In hilly areas.
- v. At road with double solid lines or a single continuous line.

2.4.3 Avoiding frontal collisions rule

Even if the driver continuously practices the Twelve Second Visual Scan throughout his ride, unexpected situations may suddenly arise such as another vehicle approaching suddenly at a high speed from the opposite direction. The driver should be prepared and not panic if he is familiar with the four (4) rules of avoiding frontal collisions.

The four (4) rules are:



a. Looking ahead

Upon noticing a vehicle from the opposite direction changing into your lane, sound your horn or flash your headlights as a warning signal.

b. Reacting to the left

In the event the other driver does not respond to the warning, immediately apply the CITO routine to ensure the surroundings of the vehicle are clear before veering left.

c. Reducing speed

Release the acceleration pedal, use the brake pedal effectively and shift from the D gear to third gear to engage the engine brake if necessary to reduce the speed of the vehicle. Maintain a firm grip on the steering wheel at all times.

d. Driving off the road

Apply the CITO routine again and veer left to avoid the dangerous situation even if it requires driving off the road to avoid an accident. This is a clever technique to avoid an accident at the cost of a small sacrifice on your part.

REMINDER

All actions should be executed quickly, smoothly and safely.

2.4.4 Rules at Junction

Accidents at junctions can be avoided if all road users apply the junction rules. A responsible driver must learn the 4 foundations of driving at a junction:

1. Determine the correct lane

Before reaching the junction, the driver should determine his intended direction and position the vehicle on the correct lane accordingly. Drivers are prohibited from suddenly changing lanes once they have reached the junction since this will disrupt the flow of traffic. Hazards that may arise at junctions should be anticipated. The CITO routine should be applied before any action is taken.

2. Reduce speed at the junction

The driver is advised to reduce the speed of the vehicle when passing through any junction even if the driver has the right of way. Release the accelerator pedal completely, lightly press the brake pedal and increase pressure until the vehicle comes to a complete stop. Maintain pressure to ensure the vehicle stops safely and the brake lights continue shining to inform drivers at the back that this vehicle is stationary. If the driver is waiting at the junction for a long period, the handbrake may be pulled up and shifted the gear. The same rules as above apply each time a junction is encountered.

3. Convey intent through position and signals

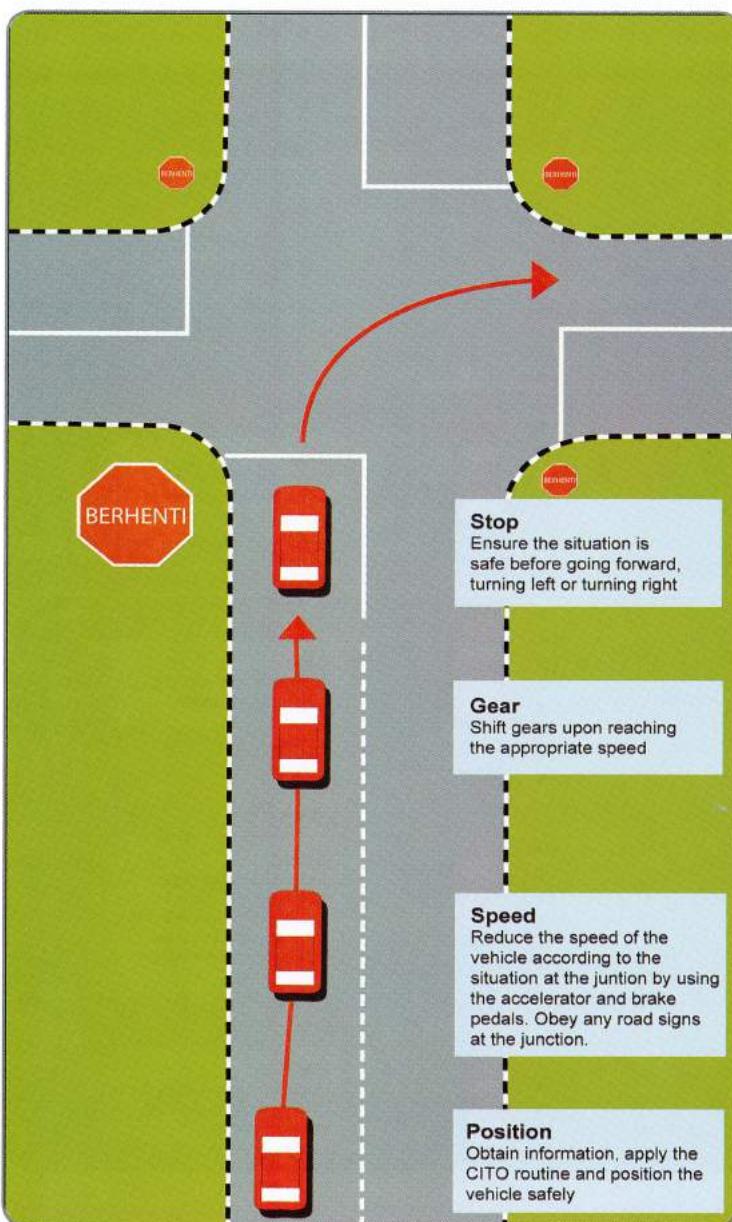
The driver must inform other road users of his intent to change direction through proper positioning and correct car signals. This can be achieved through ensuring the driver is in the correct lane and by giving the signal early.

4. Proceed with caution

Ensure that the surroundings on all sides of the vehicle are safe before attempting a manoeuvre. The driver is advised to be cautious and ready to stop the vehicle safely at any time in the event of an unexpected incident.

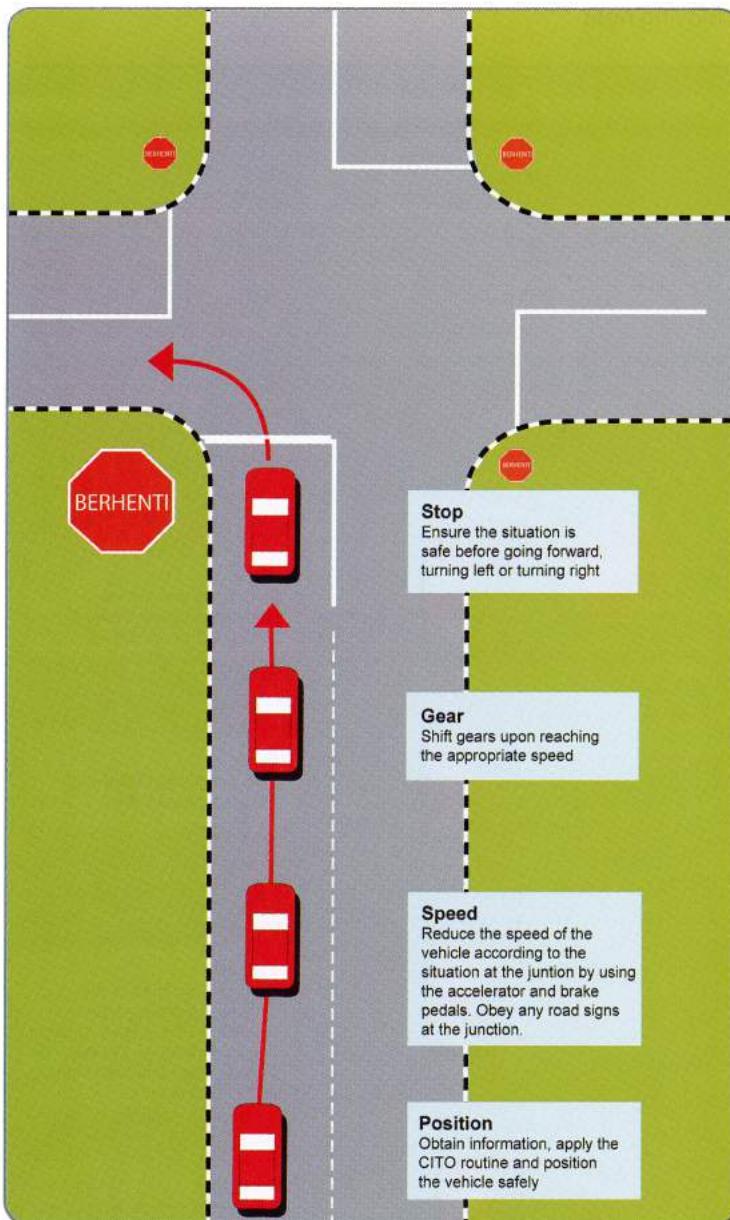
2.4.4.1 Rules at Junctions

Moving right

**INFORMATION**

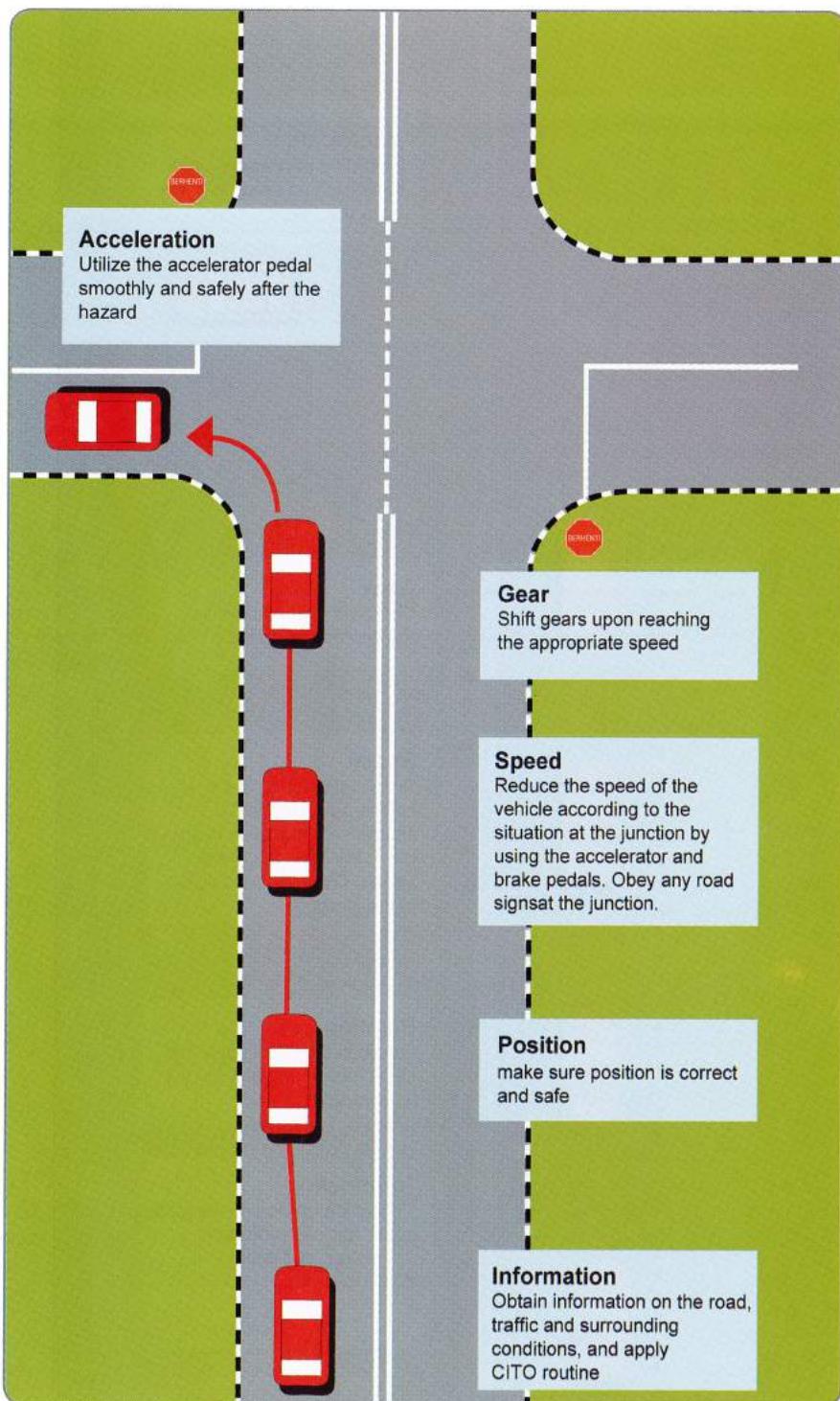
- Observe the situation ahead and the surroundings to obtain the maximum amount of information.
- Analyse the information and create a plan of action to overcome any hazards.
- Convey your intent by giving signals before executing any manoeuvres.

Moving left

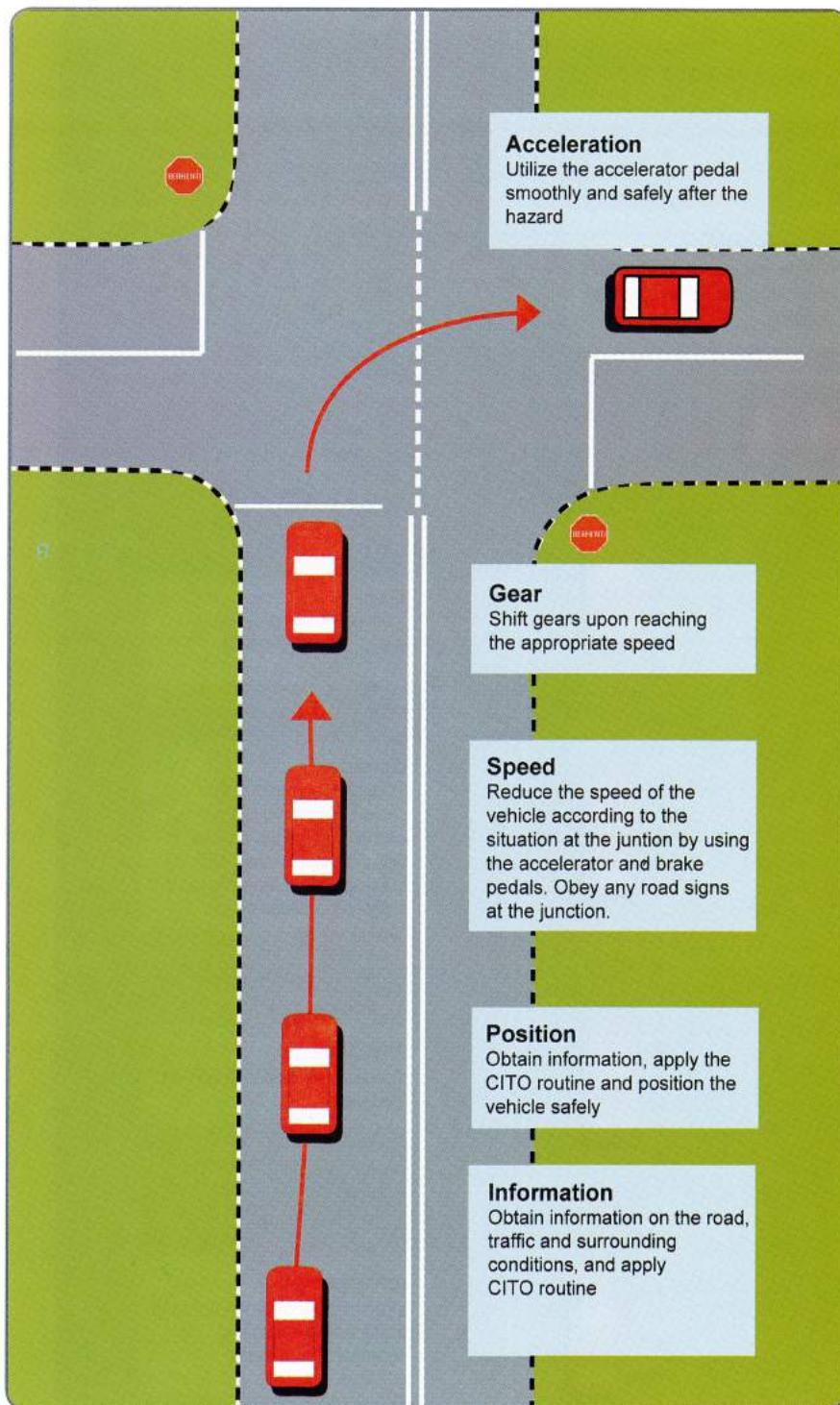
**INFORMATION**

- Observe the situation ahead and the surroundings to obtain the maximum amount of information.
- Analyse the information and create a plan of action to overcome any hazards.
- Convey your intent by giving signals before executing any manoeuvres.

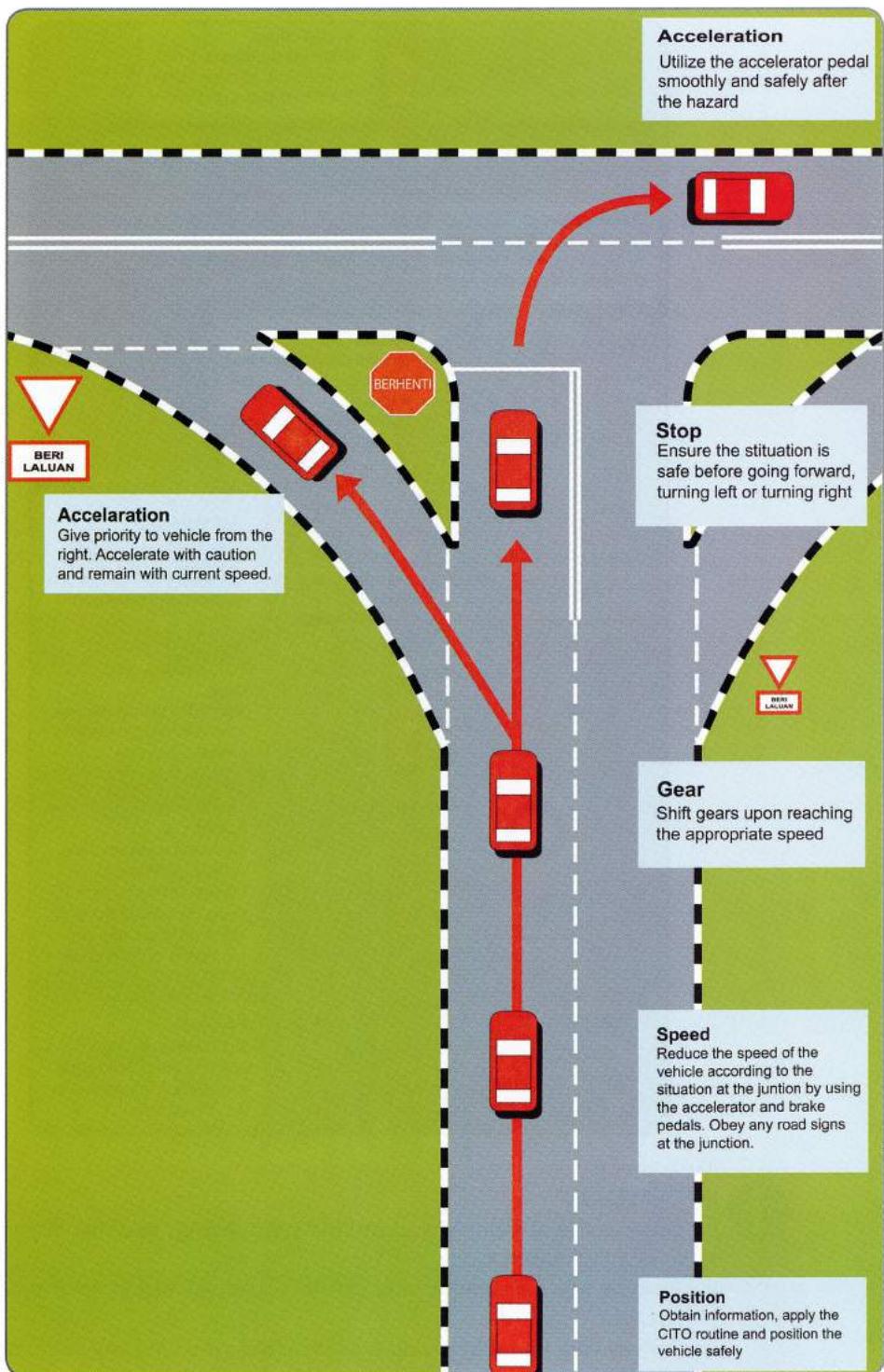
Turning left



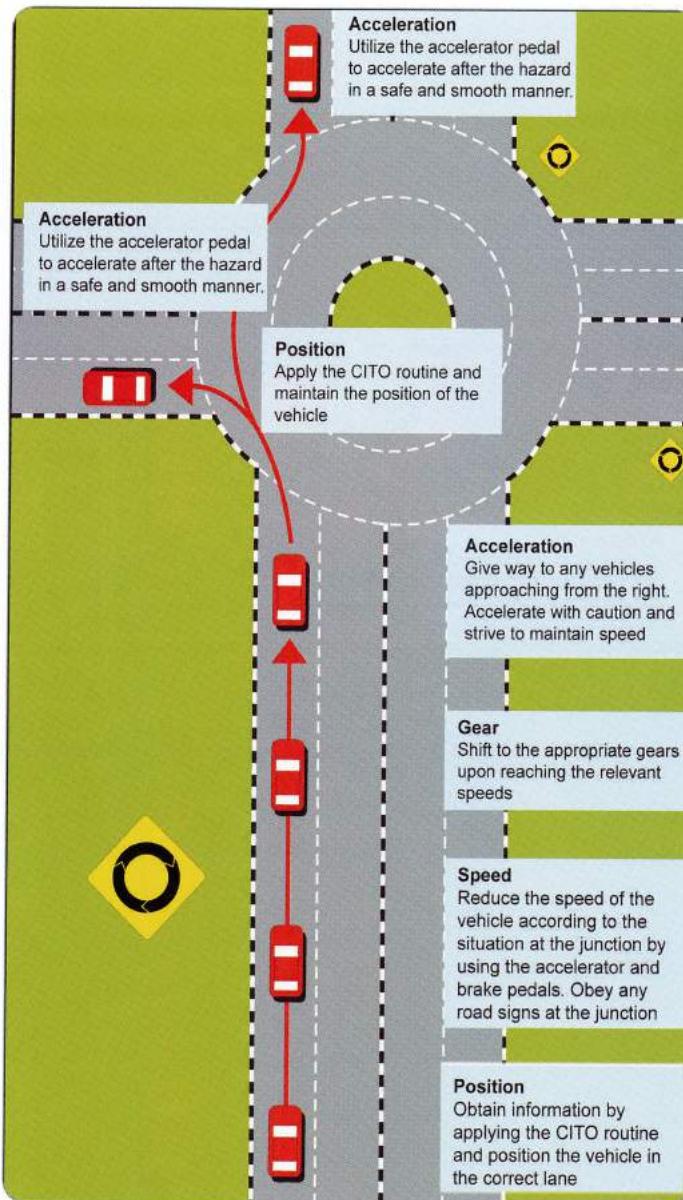
Turning right



T-Junction



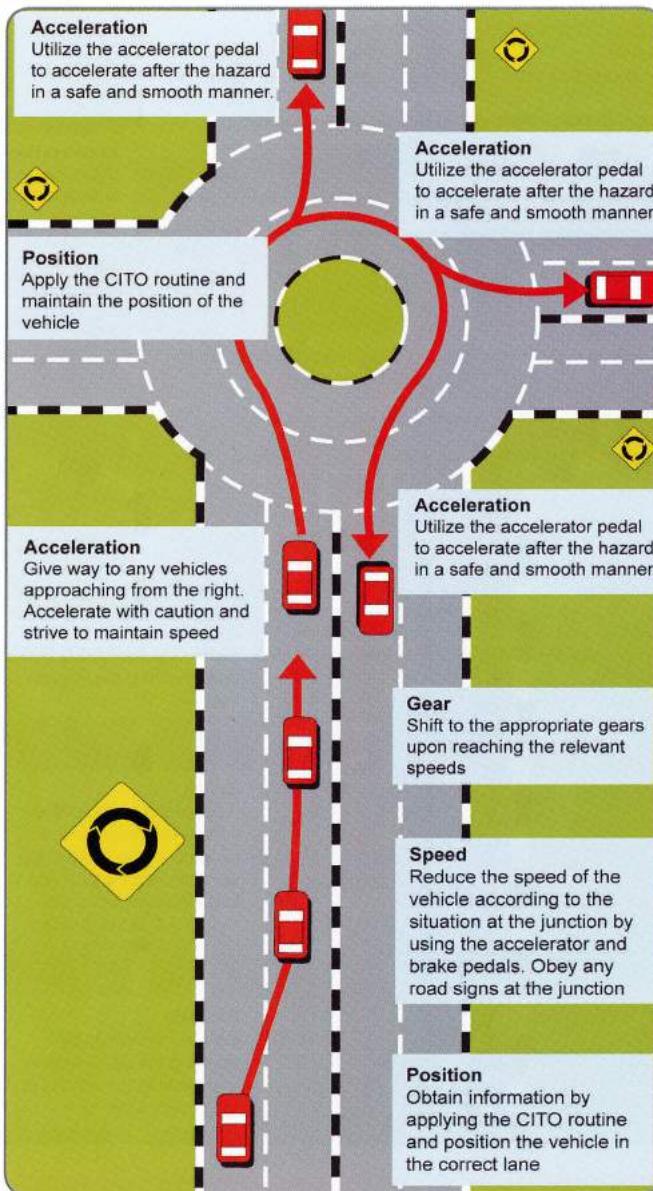
Roundabout junction

**INFORMATION**

- Observe the situation ahead and the surroundings to obtain the maximum amount of information.
- Analyse the information and create a plan of action to overcome any hazards.
- Convey your intent by giving signals before executing any manoeuvres.

Always ensure that you are in the correct lane before executing any manoeuvres.

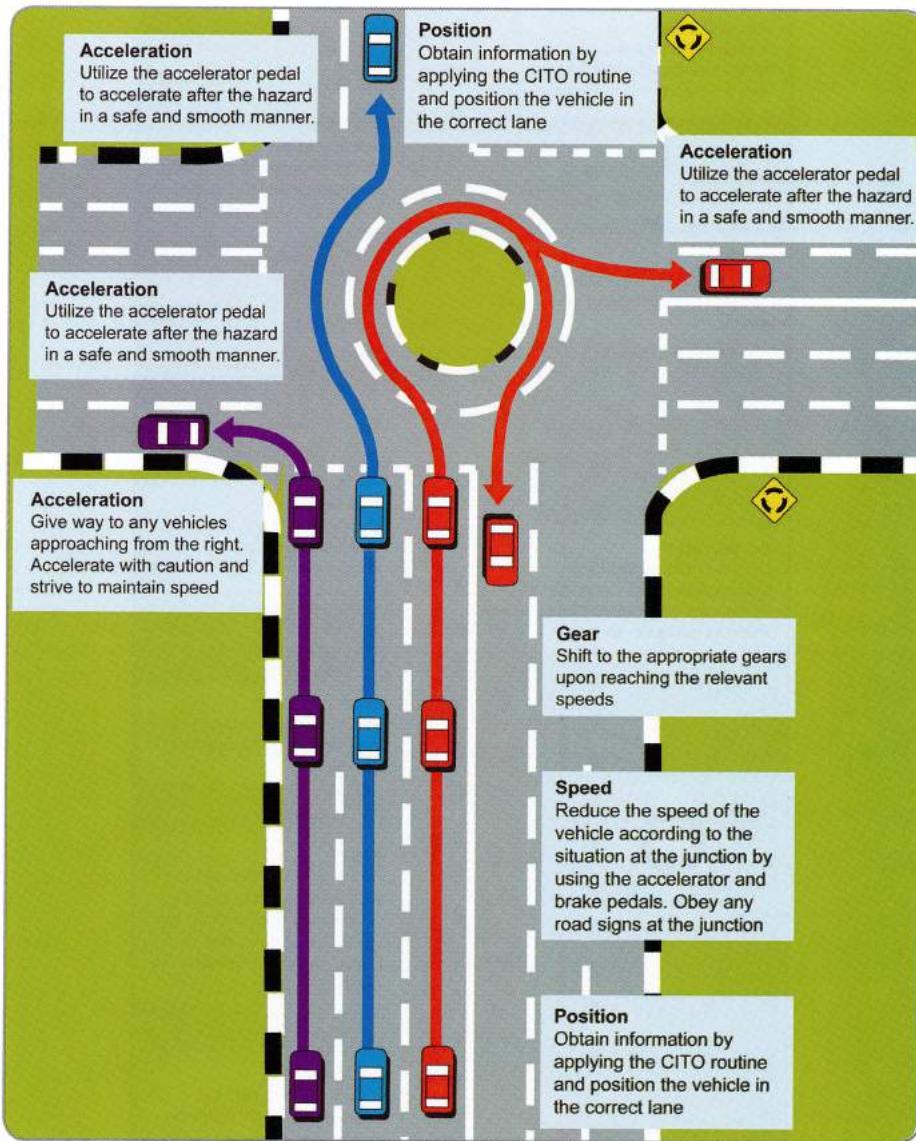
Roundabout

**INFORMATION**

- Observe the situation ahead and the surroundings to obtain the maximum amount of information.
- Analyse the information and create a plan of action to overcome any hazards.
- Convey your intent by giving signals before executing any manoeuvres.

Always ensure that you are in the correct lane before executing any manoeuvres.

Roundabout

**INFORMATION**

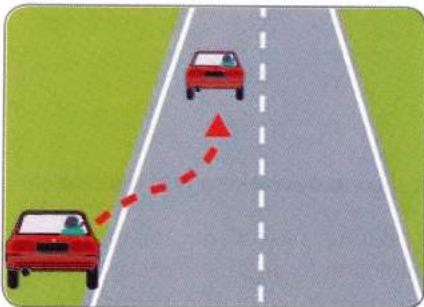
- Observe the situation ahead and the surroundings to obtain the maximum amount of information.
- Analyse the information and create a plan of action to overcome any hazards.
- Convey your intent by giving signals before executing any manoeuvres.

Always ensure that you are in the correct lane before executing any manoeuvres.

2.4.5 Manoeuvres

There are 7 manoeuvres that will be utilized by a driver while driving on the road. These manoeuvres must be familiarized and carried out safely to avoid accidents and to further ensure smooth driving.

Below are the manoeuvres that will be utilized:



Movement into traffic

Movement into traffic means moving according to the flow of the traffic. This manoeuvre occurs when a driver goes onto the road from the shoulder of the road, or when merging lanes, or when moving from a parking lot onto the road, or when changing lanes or when entering a roundabout.



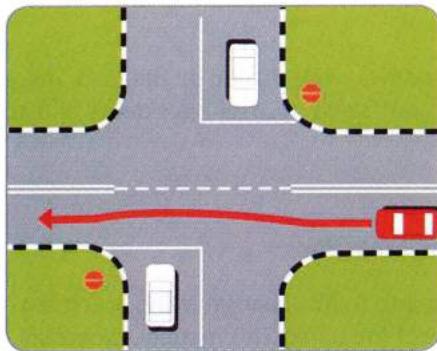
Moving on the road

Moving on the road means driving safely with the appropriate speed and positioning. This manoeuvre is practiced when the vehicle is stationary or moving on the road, or when encountering sharp corners, or when the driver is driving on various road surfaces, including damaged roads, uneven roads or roads with oil spills. It is also practice emergencies such as when the vehicle breaks down or in an accident.



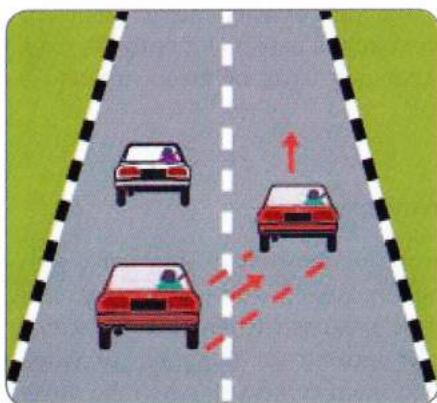
Moving with the flow of traffic

Moving with the flow of traffic means controlling the vehicle safely and smoothly at an ideal distance from other vehicles. This manoeuvre is practiced when tailing another vehicle from behind, moving in front of another vehicle or when moving parallel to other vehicles. This manoeuvre however must not obstruct the flow of traffic.



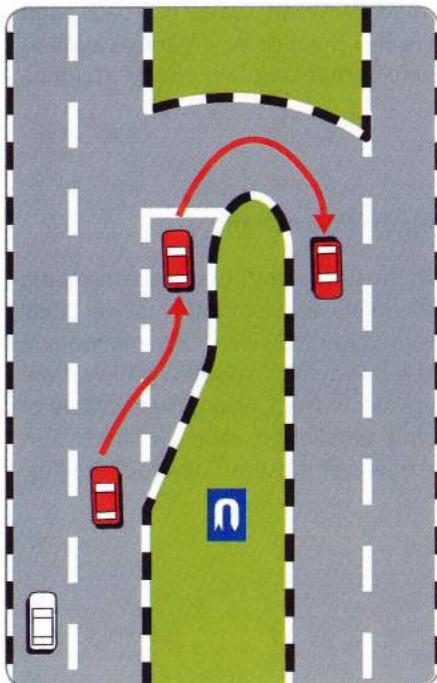
Moving across the road

Moving across the road means steering the motor vehicle on a path which may cross into the path of another road user. This manoeuvre is practiced at junctions, pedestrian crossings, railroad crossings and in areas where traffic is controlled by a traffic controller.



Movement during overtaking and overtaken

Movement during overtaking means moving in the same direction as another vehicle at a different speed to overtake it safely. This manoeuvre is used both when overtaking another vehicle and when being overtaken by another vehicle.

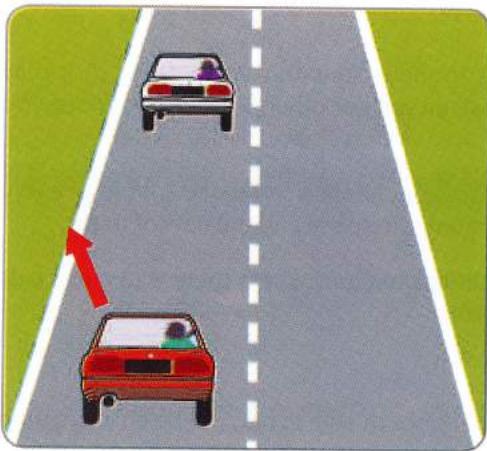


Movement of turning back

Movement while turning back means moving the vehicle in the direction it originally travelled from. Examples of this manoeuvre include reverse parking, taking U-turns and making three (3) point turns.

Movement exiting traffic

Movement exiting traffic means removing the vehicle from the flow of traffic. Manoeuvres include leaving the road using an exit, turning onto the side of the road by turning left or right and stopping the vehicle during emergencies. The emergency signal light should be turned on when the vehicle is at a standstill



Movement of exiting traffic

Movement of exiting traffic means removing the vehicle from the flow of traffic. Manoeuvres include leaving the road using an exit, turning onto the side of the road by turning left or right and stopping the vehicle during emergencies. The emergency signal light should be turned on when the vehicle is at a standstill

2.5 Factors causing accidents

There are many factors and situations which can cause a person to be involved in an accident. As a responsible driver, these factors must be determined before driving on the road. This is an important step in avoiding possible accidents. There are 6 factors that have been determined to cause an accident should the driver be careless:

1. Driver

- a. This is the most important factor and the main cause of accidents is due to persons driving while experiencing fatigue or emotional and mental distress which has a high chance of causing an accident.
- b. Ensure that you are in good mental and physical condition. Drivers who are tired, sleepy, angry, nervous or excited are often not in a condition to drive.
- c. Do not drive after consuming liquor or if under the influence of drugs. It is prohibited to drive with a Blood Alcohol Content (BAC) higher than 0.08%. The period required to reduce the Blood Alcohol Content for persons with BAC higher than 0.08% is 6 hours.
- d. A good driver must quickly adapt to varying weather and road conditions.
- e. Do not consume drugs which have not been approved by your physician and consult your physician if any health issues arise.
- f. Practice the Two Second Rule and Four Second Rule when tailing another vehicle.
- g. Do not overtake in sections of road where it is prohibited. Always practice the CITO routine during driving.
- h. Always be patient and courteous and always obey all road signs.

2. Road

The road is designed to allow vehicles to move smoothly and safely, but it may sometimes be damaged due to rain, heat, oil spills or other reasons. Therefore, you are advised to:

- a. Adapt your speed to the road conditions and the specified speed limit since every road is different in terms of the maximum safe speed and the flow of traffic.
- b. Reduce the speed of your vehicle during situations where there is rain or roads that are slippery, damaged and so forth.
- c. Avoid overtaking on narrow roads.
- d. Avoid driving through puddles of water since the driver may not be able to gauge the depth accurately.



Damaged road surfaces may cause accidents and cause damage to your vehicle

3. Vehicle

- a. A driver must always ensure his vehicle is in good condition because a vehicle that does not function properly may cause an accident.
- b. Brakes, headlights, brake lights, signal lights and the horn must always be functioning properly.
- c. Tyres and windshield wipers must always be in good condition and functioning properly.
- d. Ensure the seatbelts can be fully utilized during driving.
- e. Test the brakes and signal lights and familiarize yourself with the vehicle before driving.



Vehicles that are aged and have not been maintained properly should not be driven on the road since they may unexpectedly break down and increase the risk of an accident.

4. Weather

Bad weather can affect driving in several ways:

- Your concentration may be affected.
- Road visibility may be limited.
- The distance required to bring a vehicle to a complete standstill will increase.

Extremely bad weather conditions may hinder you from continuing your journey. You are advised to stop the vehicle in a safe place.

REMINDER

Drivers are prohibited from turning on their emergency lights while driving in bad weather conditions unless in an emergency and looking for a place to stop that is safe and suitable.





Bad weather conditions reduce road visibility and cause the road surface to be slippery thus increasing the risk of accident. Drivers should be cautious while driving in bad weather conditions.

5. Light

Excessive or insufficient light, sunlight in the morning and lights shining from the opposite direction are all considered to be driving hazards. Your eyes will recover from glare within 7 seconds which means that a driver travelling at 70km/h would have travelled 140 meters in that time. Therefore, the speed of the vehicle should be adjusted according to the light conditions.



Sunlight may temporarily blind a driver and affect his vision and concentration. Drivers are advised to wear sunglasses to avoid temporary blindness due to sunlight.

6. Traffic

Congested traffic on roads will hamper driving and increase the risk of accident. Peak traffic hours are as follows:

| | | |
|------|------------------|----------------------|
| i. | Morning | (7.00 am - 9.00 am) |
| ii. | Noon | (12.00 pm - 2.00 pm) |
| iii. | Afternoon | (4.00 pm - 7.00 pm) |

Areas near shopping malls, factories, schools, sports complexes, etc, also have an increased risk of an accident. Plan your journey to avoid peak traffic hours. Utilize any alternative routes that are present.

REMINDER

Drivers should always be patient, careful, cautious, considerate and fully focussed while driving during peak traffic hours.



Congested traffic conditions may cause mental stress to drivers. Drivers are advised to use any possible alternative routes if the intended route has congested traffic.

2.6. Vehicle positioning which may lead to accidents occurring

The main cause of accidents is the negligence of the driver himself. A driver must familiarize himself with the vehicle positions, which may cause a collision between two vehicles. There are six (6) positions that have been identified to cause collisions:

1. Collisions with vehicles in front

Collisions with vehicles in front occur due to failure to follow the vehicle at a safe distance. This often occurs when the driver is tailing the vehicle in front too closely, fails to pay attention ahead properly, fails to notice the signals given by the vehicle in front, etc.

2. Collisions with vehicles from behind

Collisions with vehicles from behind occur due to failure to observe the rear view mirror. Good defensive drivers will glance at the rear view mirror every 5 seconds. Drivers should not obey the Two Second Rule when vehicles from behind are following too closely. To ensure safe driving conditions, drivers should follow the Four Second Rule in these situations.

Collisions may also be caused by failure to give the appropriate turn signals with adequate time. The signals should be given at least 3 seconds before changing the direction of the vehicle.

3. Collisions during overtaking

Collisions during overtaking occur due to failure to observe the Overtaking Rules. The driver may have failed to practice the Twelve Second Visual Scan ahead or failed to examine the blind spot by turning right and looking over the shoulder.

4. Collisions while being overtaken

Collisions occur while being overtaken due to failure to stay in the left lane, to obey the rules and road regulations or to observe the rear view mirror. In some situations, the driver may also attempt to overtake at the same time, fail to cooperate or increase the speed of the vehicle while another vehicle is attempting to overtake.

5. Collisions with vehicles from the side

Collisions with vehicles from the side are due to failure to plan the journey properly, in decision in choosing a lane or failure to give a turn signal properly. Failure to communicate with other road users may cause unsafe situations to arise.

6. Collisions with oncoming traffic

Collisions with oncoming traffic occur due to failure to apply the Twelve Second Visual Scan or practice the use of the 'Rule to Avoid Frontal Collisions'. This form of collision can be avoided provided that the driver follows the rules that have been outlined. Drivers practicing a culture of safe driving also have a decreased risk of accident.

A responsible driver must familiarize himself with the six (6) positions that can cause a collision between two (2) vehicles as well as the six (6) factors that can influence the outcome. By creating a Driving Plan, applying the Driver Reaction Plan and practicing the CITO routine, the risk of an accident caused by either the driver or other road users can be reduced.

3.0 DRIVING IN VARIOUS CONDITIONS



LEARNING OUTCOME

By the end of this chapter, the reader should be able to:

- i. Prepare himself to drive safely in various conditions.
- ii. Follow safe driving techniques in various conditions.

Introduction

Driving in various conditions requires skill, experience and the ability to adapt quickly due to the various kinds of hazards faced by the driver which may sometimes be extremely dangerous depending on location, weather conditions and traffic conditions. Practice and preparation are the main keys to driving safely in extreme conditions such as fog, heavy rain and so forth.

3.1 Driving during emergencies

Drivers are advised to stay calm during emergencies and identify the best solution to the problem. The following are a few emergency situations that may occur while driving and their solutions.

1. Brake Failure

In the event the driver presses the brake pedal and it touches the floor without resistance, the driver must pump the brake pedal several times. This action may restore brake pressure. Should the brake pressure fail to be restored and the road is safe, the handbrake lever may be raised gradually to reduce the speed of the vehicle. Shift to a low gear to utilize the engine compression to facilitate reducing the speed of the vehicle.

Should the brake pressure fail to be restored while driving on a hill, steep hill or in situations where the vehicle endangers other road users, the handbrake lever maybe pulled gradually to reduce the speed of the vehicle. Shift to a low gear and find an appropriate and safe place to bring the vehicle to a standstill.

REMINDER

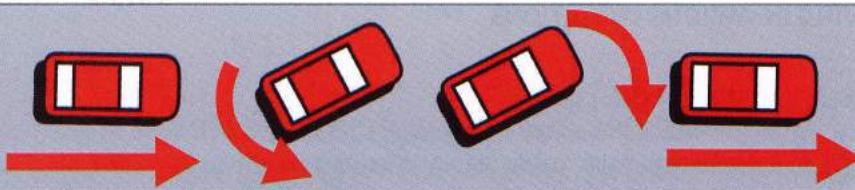
Perform the Vehicle Inspection Routine before going on any journey to avoid the possibility of brake failure while driving to ensure the safety of yourself and other road users.

2. Loss of Vehicle Control

In the event the rear of the vehicle is out of control, release the accelerator immediately. Turn the steering wheel in the direction of the rear of the vehicle that has gone out of control. Afterwards, straighten the steering wheel.

REMINDER

Drivers must obey the specified speed limit and adapt their speed to the current situation as well as pay full attention and anticipate any danger to avoid sudden reactions.



3. Jammed Accelerator

Attempt to reduce the speed of the vehicle by utilizing the brake pedal. Subsequently find a suitable location to stop the vehicle. Next raised the handbrake to halt the vehicle and free the gear. Turn off the engine.

REMINDER

Perform the Vehicle Inspection Routine before going on any journey to avoid the possibility of a jammed accelerator while driving to ensure the safety of yourself and other road users.

4. Exploding tyre

In the event the tyre explodes while driving, maintain a firm grip on the steering wheel to stabilize the vehicle. Steer the vehicle cautiously and brake slowly. Find a level and safe place to stop and change tyres.

REMINDER

Perform the Vehicle Inspection Routine before going on any journey to avoid the possibility of an exploding tyre while driving to ensure the safety of yourself and other road users.

5. Non-functioning Headlights

Should the headlights stop functioning while driving, reduce the speed of the vehicle and keep the vehicle in control. Determine guideposts utilizing the light from other vehicles or by utilizing the white lines on the road surface. Turn on the emergency signal lights. Stop the vehicle in a safe place.

REMINDER

Perform the Vehicle Inspection Routine before going on any journey to avoid the possibility of the headlights not functioning while driving to ensure the safety of yourself and other road users.

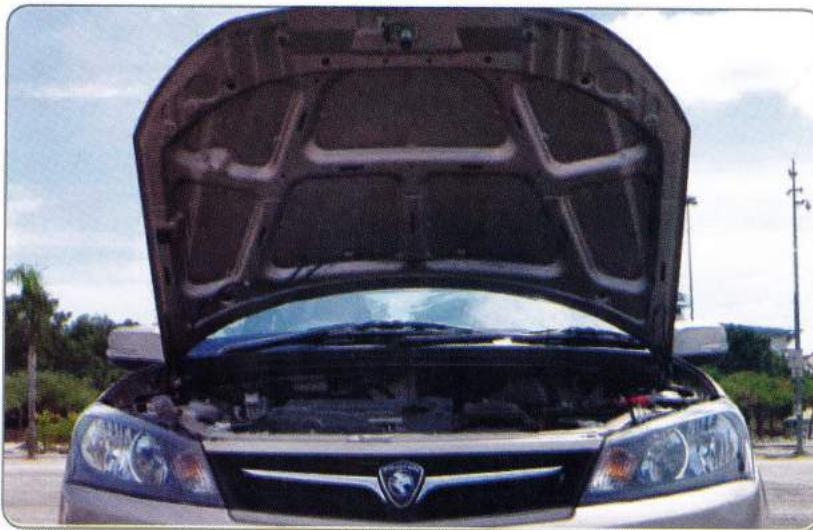
6. Vehicle on Fire

Vehicle fires often occur due to a short circuit in the electrical system. Stop the vehicle immediately. Turn the engine off and evacuate all passengers from the vehicle.

Attempt to extinguish the fire if a fire extinguisher is available or obtain the help of other road users. If the fire is out of control, leave the vicinity of the vehicle before the fuel tank explodes. Contact the fire department.

REMINDER

Perform the Vehicle Inspection Routine before going on any journey to avoid any problems that may arise from a faulty electrical system while driving to ensure the safety of yourself and other road users.



7. Opened Bonnet

If the bonnet suddenly opens while driving, gradually brake. Turn onto the shoulder of the road. Look through the windows to drive to a safe location.

REMINDER

Ensure that the bonnet is closed securely every time the Vehicle Inspection Routine is performed to avoid the bonnet unexpectedly opening while driving to ensure the safety of yourself and other road users.

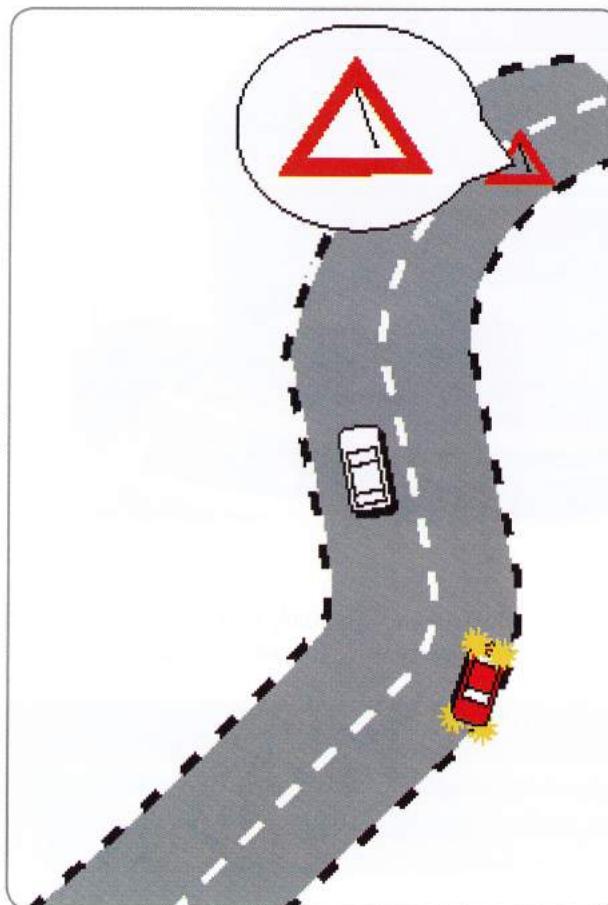
8. Forced Stop on the Highway (Vehicle Breakdown)

Give a left turn signal and stop in the emergency lane. Turn on the emergency signal lights. If the incident occurs at night, also turn on all lights inside the vehicle. Place a warning sign at a 50 meter distance behind the vehicle.

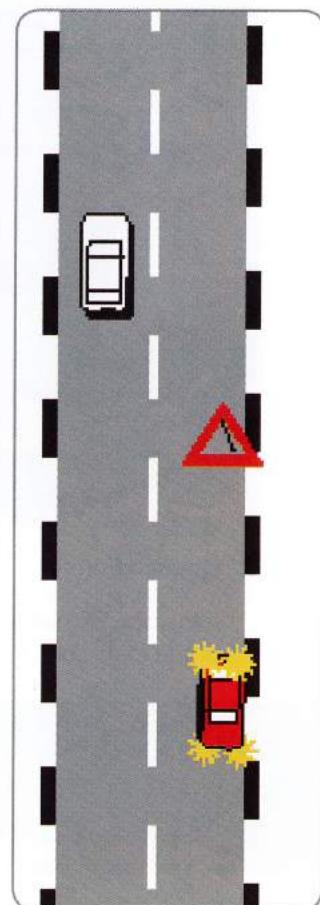
Passengers are to stay away from the traffic on the road. Do not obstruct the light emitted from behind the vehicle by standing behind or doing any work behind the vehicle. Open the bonnet and call for help.

REMINDER

Perform the Vehicle Inspection Routine before going on any journey
to avoid any malfunctions that may occur while driving to ensure
the safety of yourself and other road users.



Emergency stop at a curve



Emergency stop at a straight road

9. Shattered Windscreen

In the event the windscreen shatters during driving, slow the vehicle down. Look through the windows and stop in a safe location. Drape a large cloth over the dashboard and place the shattered glass on the cloth. Drive cautiously to a nearby workshop to replace the windscreen as soon as possible.

REMINDER

If there is a crack in the windscreen glass, it is advised to immediately replace the windscreen to avoid difficulty during driving as well as to ensure the comfort and safety of yourself and your passengers.

3.1.1 Tips to overcome minor malfunctions

1. Car Engine not Starting

- Inspect the gearbox and ensure it is in the 'P' position. If the engine still cannot be started, shift the gear from one position to another and back to the 'P' position. This is a method to release the safety switch.
- If the engine still cannot be started, obtain the help of a mechanic.

2. Vehicle Failure

Vehicle failure may be caused by the following:

- Empty fuel tank Check the fuel gauge.

If the gauge says 'E' (Empty), add more petrol

- Overheated engine. Stop immediately in a safe location and turn the engine off. Open the bonnet so that the engine can cool down quickly. Inspect the cooling the radiator is still hot. Let it cool down. Once the radiator has cooled down, open the water valve and add more water if it is below the minimum level.
- Electrical System Failure. Usually occurs due to a burnt fuse, disconnected wiring or dirty battery terminals. If all systems fail to be turned on, the source of the problem is the battery. Utilize a jumper cable connected to a different vehicle to jumpstart the vehicle.

3. Changing Tyres

In the event of a flat tyre occurring while driving, maintain a firm grip on the steering wheel and brake gently. Exit the road and place the vehicle in a level location.

a. Safety Steps

- Ensure the vehicle is at a safe distance away from the road. Find a location that is flat and even to ensure the vehicle is stable before attempting to change the tyre.
- Ensure that the engine is turned off, the handbrake pulled up and the gear shifted into the 'P' position.

iii. Wedge the other tyres with a hard object for example stones or branches.

iv. Place an 'Emergency Triangle' roughly 15 meters behind the vehicle..

b. How to Change a Tyre

i. Remove the tyre rims and loosen the nuts using a lug wrench by turning in the counter-clockwise direction.

ii. Place the jack in the correct position beside the tyre that you intend to change.

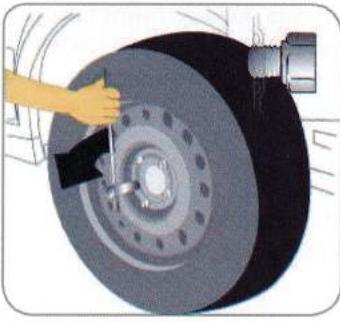
iii. Utilize the jack to raise the body of the car until the wheel is hanging from the body of the car (dependent upon the type of jack utilized).

iv. Confirm the stability of the car before taking any action by shaking the car slightly.

v. The removed tyre should be placed under the car as a safety precaution in case the jack falls or malfunctions.

vi. Attach the spare tyre and fasten the nuts by hand by turning in the clockwise direction.

vii. Utilize the jack to lower the body of the car and fasten the nuts using a lug wrench.



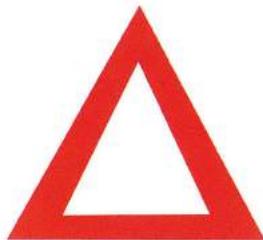
REMINDER

Do NOT place yourself underneath the vehicle that has been raised.

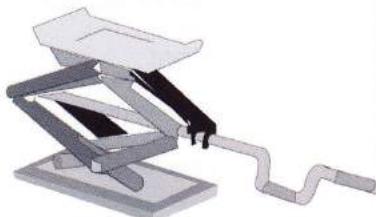
3.1.2 Emergency equipment

1. All vehicles should have the following emergency equipment:
 - a. Emergency triangle
 - b. First aid kit and first aid guide
 - c. Flashlight
 - d. Dry fire extinguisher
 - e. Jack and pivot
 - f. Lug wrench
 - g. Repair equipment
 - h. Adjustable wrench
 - i. Jumper cables
 - j. Towing cable
 - k. Screwdriver
 - l. Sparkplug wrench
 - m. Various wrenches
 - n. Pliers
 - o. A container of clean water

2. The driver must ensure that all emergency equipment is always in good condition to facilitate the driver in case of an emergency.



Emergency Triangle



Jack and pivot



Adjustable wrench



Lug Wrench



Jumper Cables

3.2 Driving safely in urban areas



1. Congested roads

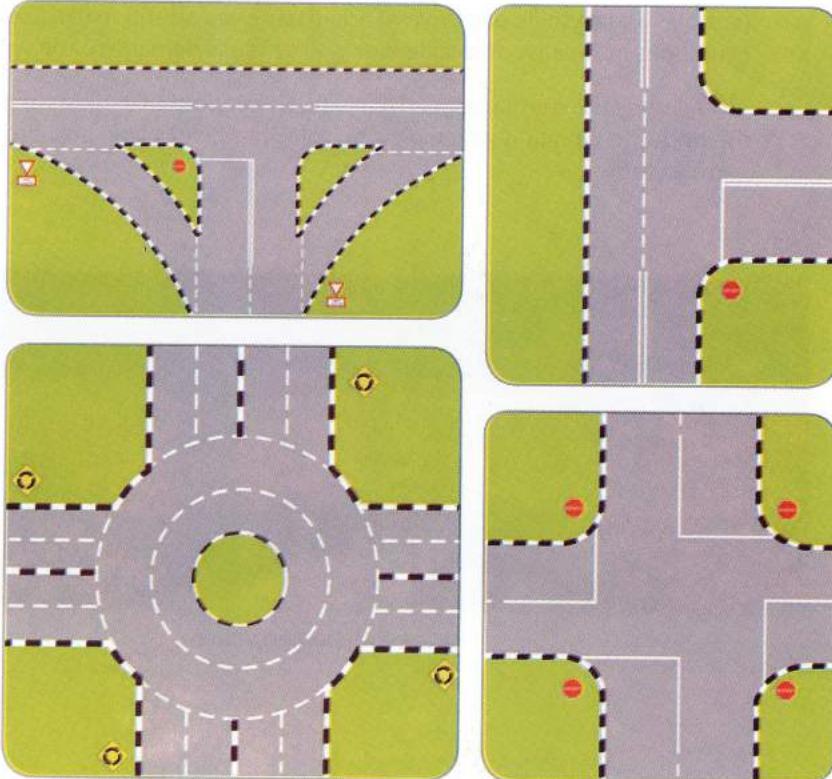
Many towns and urban areas have congested roads. Under these conditions, a driver must:

- Have the ability to steer the vehicle without obstructing traffic which may increase the stress of other road users.
- Follow other vehicles at a safe distance and stop the vehicle at a distance where the back tyres of the vehicle ahead can still be seen. This allows the driver to change lanes in the event the vehicle in front breaks down or is involved in an accident.
- Keep patient and calm during times of heavy traffic to ensure that no rash decisions are made that may endanger other road users.

2. Junctions

Urban areas often have a large network of roads which contain many junctions. Therefore, a driver must:

- Ensure the situation is safe by practicing the CITO routine before taking a turn.
- Apply the junction rules and give way to vehicles approaching from the right.
- Determine the intended direction and avoid changing lanes at the last moment to avoid the risk of an accident occurring.
- Obey all traffic light signals and give way to pedestrians and cyclists.



3. Toll booths

Reduce the speed of the vehicle and ensure the vehicle is in the correct lane as you approach the toll booth. Avoid changing lanes at the last moment since this will increase the risk of an accident occurring. Apply the CITO routine even if other vehicles may seem to be moving slowly. Prepare the exact payment in cash if the cash lane is being utilized to facilitate the flow of traffic.



3.3 Driving safely outside urban areas

1. Road conditions

Roads outside urban areas are often in worse condition as compared to roads found in urban areas. Roads found outside urban areas may be uneven, sandy, have potholes and oil spills, etc. Drivers should pay extra attention to the road since these conditions may cause an accident as well as cause damage to the vehicle.

Always obey the specified speed limit and be cautious of vehicles approaching from the opposite direction which may cut into the driver's lane at sharp curves due to narrow roads.



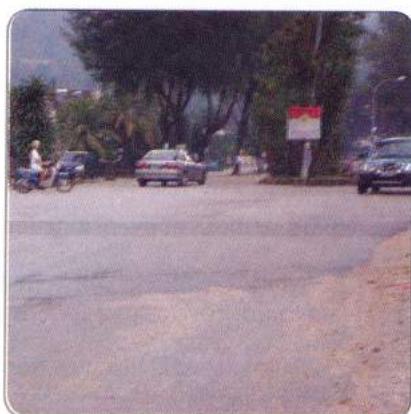
Roads with pooled water



Roads with gravel



Uneven roads



Sandy roads



Roads with covered potholes

2. Animals crossing the road

Drivers must be careful of animals such as cows and goats crossing the road. These animals are often found by the side of the road in rural areas.

The driver must:

- Reduce the speed of the vehicle.
- Give way to the animal crossing the road.
- Avoid sounding the horn since it may cause the animal to panic.

3. Driving at night

Most roads outside urban areas do not have streetlamps. Therefore, persons driving at night must:

- Ensure the vehicle's lights are functioning properly.
- Observe the surroundings more vigilantly.
- Use the lights at the highest setting that does not endanger your safety or inconvenience other drivers.
- Be cautious at every junction since some may not be clearly visible.
- Avoid driving at high speeds to allow for sudden braking due to unexpected hazards such as pedestrians or animals.
- Maintain a safe distance from any vehicles in front to allow enough distance to react safely.



4. Motorcyclists

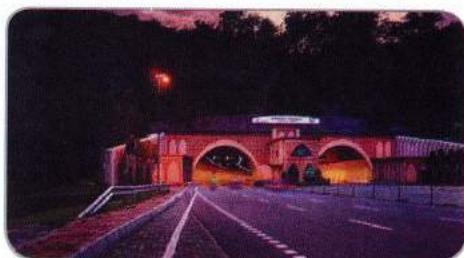
Most urban residents utilize a motorbike to commute to their workplace. Although a motorcycle is not hampered by traffic jams, it has a much higher risk of being involved in an accident. Therefore, a driver must:

- Be aware of motorcycles positioned too closely to the vehicle.
- Always practice the CITO routine to avoid colliding with motorcyclists especially when making any manoeuvres.
- Be patient and calm towards motorcyclists who may be rude or drive recklessly.



5. Tunnels

Practice the CITO routine when approaching a tunnel. Turn on the headlights while in the tunnel. The driver must be cautious while driving in the tunnel since visibility is limited. Maintain a safe distance from other vehicles and obey all road signs.



6. Pedestrians

When passing through urban areas with high concentrations of people such as shopping malls, street markets or school areas, the driver must be careful of pedestrians in the vicinity. Give priority to any pedestrians crossing the road or obey traffic light at the pedestrian crossing.



3.4 Driving safely on the highway

Driving on the highway is both easier and more comfortable. However, persons driving on the highway for the first time may be unfamiliar with the driving conditions. Most accidents on the highway occur due to drivers who drive at high speeds without regard for safety.

Drivers must react in a responsible manner in the event of an emergency while driving on the highway. Drivers must fully understand that the highway is not merely a place for driving at high speeds or in a reckless manner. Rather, it is designed as a convenience for road users travelling from one place to another.

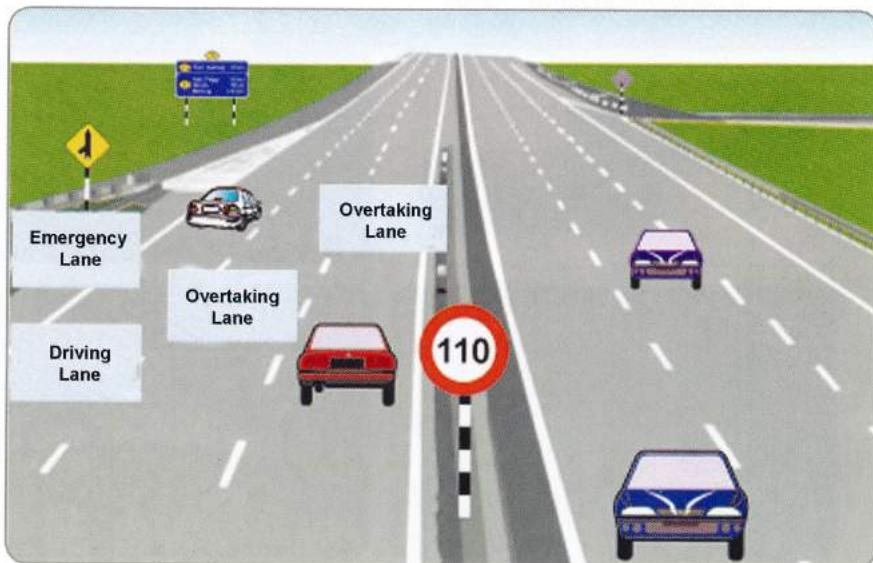
The following are several guidelines to be applied before, during and after driving on a highway:

1. Before Driving

- a. The main concern that must be addressed is the condition of the vehicle. Perform a Routine Vehicle Examination (RPK) before the start of any journey.
- b. Ensure the tyre pressure is suitable.
- c. Ensure the comfort of the driver by performing a pre-driving routine (RSM).
- d. Avoid carrying too many passengers or excessive weight.
- e. Ensure that seatbelts are worn throughout the journey and that all doors are locked. Utilize the child lock if there are any child passengers.
- f. Ensure that the emergency equipment is in the vehicle.

2. During Driving

- a. Always obey the specified speed limit.
- b. Always obey all road signs.
- c. Drivers are advised to rest at the provided rest stops every two (2) hours of driving.
- d. Always be cautious of vehicles entering and exiting the highway.
- e. Observe the temperature gauge and other gauges on the meter panel to ensure the vehicle is functioning properly.
- f. Keep to the driving lane (lane 1) at all times. The middle lane (lane 2) and the right most lane (lane 3) should only be used when overtaking another vehicle. After overtaking, return to the driving lane.
- g. Always give a turn signal before overtaking or changing lanes. Drivers may feel this action is not needed in the absence of vehicles behind them. However, drivers must remember that there are blind spots behind and to the sides of the vehicle.
- h. Always practice the Two (2) Second Rule and Four (4) Second Rule when following behind another vehicle to allow enough time and distance to react should the vehicle in front suddenly stop or experience a breakdown.
- i. Do not ever turn on the hazard lights during rain. The headlights should be turned on instead. The hazard lights should only be turned on to give a warning during emergencies.
- j. The emergency lane is reserved for emergencies only. Drivers are prohibited from stopping the vehicle in the emergency lane for any other reason. Be cautious of vehicles stopped in the emergency lane and motorcyclists parked under bridges.



3. After driving

After completing a journey, especially long journeys, drivers are advised to re-examine the condition of their vehicle including the battery water level, cooling system, engine oil, tyre pressure and minor damage that may be caused to various vehicle components. Rectify any issues and fix any damage that has occurred to ensure the vehicle is always in good condition.

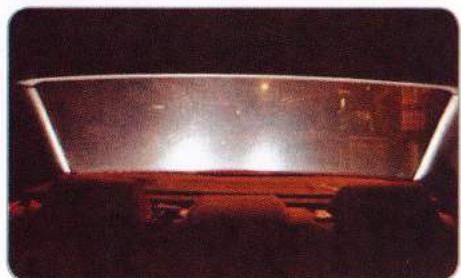
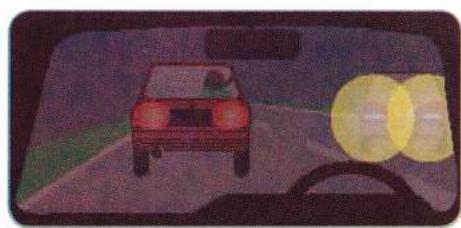
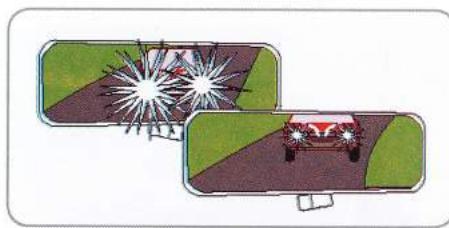
3.5 Driving safely at night

1. Utilizing the lights

- a. Ensure that all lights are functioning correctly and calibrated properly for maximum efficacy.
- b. Drivers are prohibited from turning the high beams on when encountering or following another vehicle. The high beams will reflect through the rear view mirror of the vehicle in front and cause discomfort to the driver.
- c. If a vehicle approaching from the other direction has its high beams on, flash your high beams to remind the other driver to turn their high beams off.
- d. Avoid turning the fog lights or any extraneous driving lights on while driving in urban areas. These lights are too bright and may cause discomfort to other drivers.
- e. Turn on the signal lights and hazard lights when necessary. Turn them off once this necessity has passed.

2. Factors leading to accidents

A person driving at night will not be able to see a hazard as easily as during daytime. Visibility is limited which causes the driver to require additional time to adapt to the lighting and reduces the time available to make a driving decision. The main factors of accidents at night include:



a. The human factor

i. Visibility

Persons driving at night are not able to see as well as when driving during day time.

ii. Glare

A person's vision may also be affected when suddenly encountering extremely bright lights. A driver may require several seconds to recover from glare. A period of two seconds is enough to give rise to a dangerous situation. Therefore, do not look directly at bright lights while driving. Look to the left side of the lane to avoid looking directly into bright lights and reduce the effects of glare. Do not look straight into the headlights of vehicles approaching from the opposite direction.

iii. Fatigue and negligence

Fatigue and negligence can give rise to dangerous situations when driving at night. This is because nighttime is usually the time for a person to sleep. Drivers are therefore not able to see danger or react as well as during day time which increases the risk of an accident occurring. The driver should take a short rest and nap if he is feeling sleepy.



Dim streetlamps

b. Physical factors

i. Dim streetlamps

There is often enough light during daytime to allow clear vision on the road. This may not be possible at night due to dim streetlamps. Many accidents that occur at night are due to drivers not able to see the condition of the road or other road users properly.

ii. Turn on the high beams when necessary

Most drivers often do not turn on their high beams. This may limit the driver's visibility to see the road ahead. Turn on the high beams when necessary. This allows a wider scope of vision as well as increased clarity. Ensure that the use of the high beams do not inconvenience other road users by causing glare.



3.6 Driving safely in various weather conditions

3.6.1 Heat

1. Tyres, air-conditioning and the windscreens
 - a. Perform the Routine Vehicle Examination (RVE). Ensure that the tyre pressure adheres to the specified requirements.
 - b. Examine the water level in the radiator and ensure it is sufficient. The engine temperature will increase due to the heat.
 - c. Ensure the windscreens are clean. This will reduce glare. Also ensure that there is sufficient water for the windscreens wipers.

2. Glare

- a. Bright sunlight and glare will affect vision especially on long journeys. This is due to its effect on driver concentration.
- b. Wearing dark sunglasses will reduce the effect of glare and allow the driver to concentrate on the road.

3. Comfort

Ensure there is good air circulation in the vehicle. Heat may cause stress to the driver. Turn on the air-conditioner (if available) for comfort and to reduce stress due to heat.

4. During driving

- a. Extreme heat may cause the road surface to become soft. Be careful while taking curves and braking.
- b. Examine the temperature gauge from time to time to ensure that the engine temperature does not rise too high. Avoid congested roads to reduce the risk of vehicle breakdown due to extreme heat.

3.6.2 Rain



1. Use of Lights

Turn on the lights when visibility is limited to ensure that other road users are aware of your presence. Rain may limit visibility drastically especially in the event that the windscreen wipers are malfunctioning.

2. Cleanliness of Vehicle Components

Ensure that the windscreen, windows, side view mirrors and rear view mirrors are clean. Ensure that the signal lights are clean and functioning well to ensure the vehicle is visible to other road users.

3. Driving on Wet Roads

- a. Wet roads will reduce the grip of the tyres on the road. Under wet road conditions, drivers will require additional distance to bring the vehicle to a complete standstill. Apply the Four (4) Second Rule to ensure a safe distance from other vehicles since wet road conditions require twice as much time to bring the vehicle to a complete standstill.

b. Test the brakes periodically while on a safe road by gradually pressing down on the brakes to test their efficacy.

REMINDER

Reduce the speed of the vehicle while taking curves under wet road conditions to avoid loss of control of the vehicle.

4. Aquaplaning

a. Driving at high speeds during heavy rain will cause water to accumulate between the tyres and the road surface which will cause the vehicle to glide on the surface of the water. This phenomenon is termed "Aquaplaning".

b. The factors of Aquaplaning are:

- Speed
- Tyre thread
- Tyre pressure
- Depth of bodies of water on the road surface

c. This phenomenon is caused by the tyres losing grip on the road thus causing the driver to lose control of the steering and brakes.

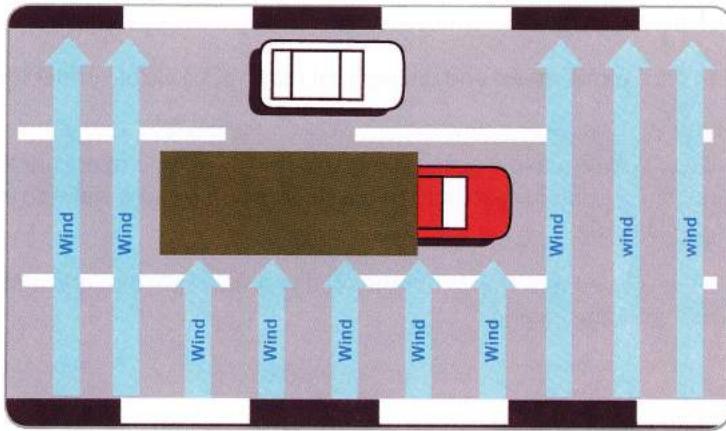
d. In the event this phenomenon occurs, reduce the speed of the vehicle by gradually releasing the acceleration pedal. Do not attempt to brake or change the direction of the vehicle while aquaplaning since this may cause the situation to worsen.

e. Always drive with a moderate speed and avoid driving through bodies of water. Aquaplaning may occur even when travelling at low speeds.

REMINDER

In extremely bad weather conditions, stop the vehicle at the nearest stop area unless the driver has clear visibility and is able to gauge the surroundings well.

3.6.3 Crosswinds



1. There are vehicles that may not be stable when travelling in areas with cross winds due to the shape and weight of the vehicle. This is especially true for small and light vehicles.
2. The effect of crosswinds varies from a tiny push in the direction of the wind to a strong push into the next lane where vehicles may be moving.
3. In some cases, strong crosswinds may cause a vehicle to roll over and may cause death.
4. Be cautious of small vehicles especially motorcycles when overtaking to ensure they are not pushed by the crosswinds into your path.
5. Drivers of small vehicles including cars and motorcycles are advised to observe any wind indicators that are placed in areas with crosswinds to determine the wind speed.

3.6.4 Floods

1. Keep calm when driving through flooded areas. Stop and estimate the water's depth.
2. In the event the water is too deep, the driver is advised to turn back and utilize an alternative route. Even though the journey might be farther, it is a better choice compared to the risk of the vehicle breaking down while passing through the flooded area.
3. The possible harms that flooding may cause to a vehicle:
 - a. Flooded areas with deep waters may cause water to enter through the vehicle's exhaust and cause engine failure.
 - b. Water may also enter through the engine's air intake valve which may cause serious damage to the engine.

4. To pass through a flooded area:
 - a. Ensure that the water is not too deep to allow safe passage.
 - b. Be cautious of drains and ditches that may not be visible under the surface of the water.
 - c. Drive slowly at a low gear setting and rev the engine to ensure the engine does not fail. Do not drive at high speeds since this may cause water to enter the engine more rapidly.
 - d. Drive at the highest point of the road at a slow speed to ensure that water does not enter the engine.

3.6.5 Fog

1. Visibility and foresight

- a. Driving through the fog is difficult and dangerous. Limited visibility will reduce the driver's ability to predict dangerous situations. Therefore, drivers should practice one of the safe distance rules based on the range of vision of the driver.
- b. Avoid accelerating in foggy conditions. Fog may suddenly become heavier which will limit visibility and the ability for a driver to predict the movement of the vehicle in front of him.
- c. Contact the relevant authorities to repair or tow any broken-down vehicles to avoid any possible danger.

REMINDER

In heavy fog conditions, a driver able to see the rear lights of the vehicle in front of him may be positioned too closely and may not have adequate time to stop the vehicle safely in the event of an accident.

2. During driving

- a. Conditions of low visibility may cause stress to a driver's eyes. It will also hamper the ability of a driver to gauge distance, speed, sharpness of a curve and any variations in road conditions.
- b. Drivers may become disoriented in fog which may cause drivers to drive in the wrong lane. Therefore:
 - i. Drive at a safe speed.
 - ii. Maintain sufficient distance from other vehicles.
 - iii. Ensure the vehicle is in the correct lane.
 - iv. Do not turn on the emergency lights since it may distract other drivers.

- c. Avoid overtaking especially in a single carriageway with two way traffic. This will only endanger yourself and other road users.
- d. Maintain a safe distance from the vehicle in front.
- e. Sound the horn if necessary to inform other road users of your intended actions.

REMINDER

Do not follow vehicles too closely.

3. Emergencies

- a. In the event the vehicle breaks down in a foggy area, park the car away from the side of the road and turn on the emergency lights.
- b. Place the 'Warning Triangle' which has a reflective element roughly 15 meters behind the vehicle to warn other road users.
- c. Contact the relevant authorities to repair or tow any broken down vehicles to avoid any possible danger.



LEARNING OUTCOME

By the end of this chapter, the reader should be able to:

- i. Explain how to maintain a vehicle.
- ii. Explain the importance of vehicle maintenance.

4.1.0 Importance of vehicle maintenance

Before driving a vehicle, a driver must be familiar with the components of a vehicle in terms of their function and their maintenance. Components that require periodic maintenance include fuel, fluids, electricity and rubber.

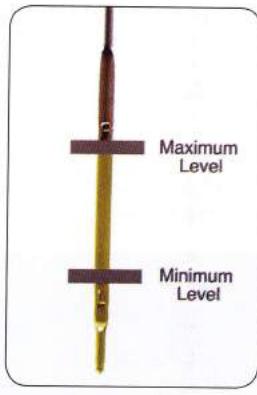
4.1.1 Fuel

1. The fuels commonly used in Malaysian vehicles are:
 - a. Petrol
 - b. Diesel
 - c. NGV (Natural gas)
2. Fuel functions as a power source for the engine. Without it, the vehicle would not be able to move forward.
3. Always ensure that there is sufficient fuel in the vehicle before starting a journey.
4. If the fuel gauge shows 'E', add fuel as soon as possible. Running out of fuel on the road does not only inconvenience the driver and his passengers but may also obstruct the flow of traffic and increase the risk of an accident occurring.

4.1.2 Fluids

1. All vehicles require:
 - i. Engine oil to reduce friction in the engine
 - ii. Transmission fluid to facilitate shifting gears
 - iii. Power steering fluid to allow the power steering to function properly
 - iv. Brake fluid to allow the brake to function properly
2. Every component that requires oil or fluids must be maintained to ensure the vehicle operates at optimum efficiency in terms of power generation, acceleration, control and braking.
3. Maintenance must be carried out according to the total distance the vehicle has travelled or at periodic intervals.

- The level and quality of engine oil should be inspected using the engine oil dipstick. It must be changed after a certain period or after a certain amount of distance has been travelled by the vehicle depending on the quality of the engine oil selected. Generally, the engine oil should be changed every 5,000 km or every 3 months or whichever comes first or depending on the specifications issued by the vehicle manufacturer.
- Transmission fluid should be changed after a certain period or after the vehicle has travelled a distance of 20,000 km – 30,000 km depending on vehicle specifications.
- The level and quality of the power steering fluid must be inspected to ensure it is above the minimum level.
- The level and quality of the brake and clutch fluid must be inspected to ensure it is above the minimum level.



Engine oil level



Engine oil dipstick



Brake fluid container

4.1.3 Water

- The vehicle components which require water are:
 - The radiator to maintain the engine at a suitable temperature.
 - The windscreen wipers to spray water on the windscreen.
 - The batteries to supply and store electrical energy.
- Maintenance is required after travelling a certain distance or after a certain period of time. Inspections are conducted in the engine compartment.
- Ensure the water level of the radiator is not below minimum to ensure that the engine temperature does not go too high. Add coolant if necessary.
- Inspect the water level in the windscreen wiper water container and add any recommended washing liquid if necessary.
- Inspect the water level of the battery to ensure that it is not below minimum. Do not add any water into the battery except battery water (distilled water).

4.1.4 Electricity

1. The most important aspects of a vehicle's electrical system that must be maintained are:
 - i. The battery to supply and store electricity.
 - ii. The lights to illuminate the road and give signals.
 - iii. The wires to distribute electricity to the other components.
2. Maintenance must be carried out according to the distance travelled by the car or after a certain period of time. Inspections are carried out in the engine compartment and on the outside of the vehicle.
3. Inspect the battery terminals. Ensure they are clean and tightened. Apply grease to the terminals to avoid fungal growth. Dirty terminals may be cleaned using hot water.
4. Inspect all lights. Ensure that the front lights, rear lights and signal lights are functioning properly. Replace any faulty light bulbs.
5. Inspect the wiring and electrical connectors in the engine compartment to ensure they are functioning properly. Replace any disconnected wires.



Battery



Wires



Front Lights



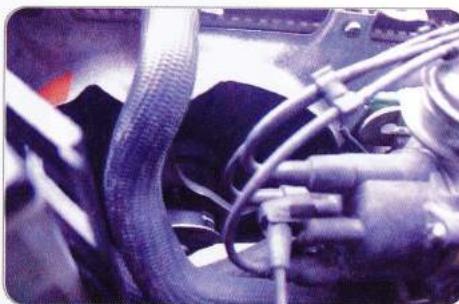
Rear lights

4.1.5 Rubber

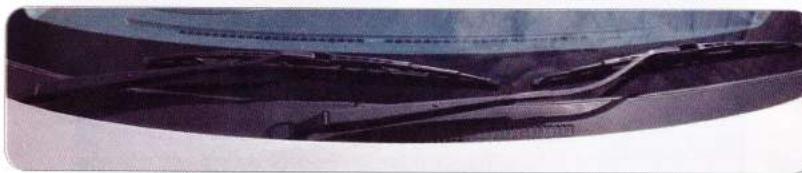
1. The vehicle components made from rubber are:
 - i. Tyres
 - ii. Windscreen wiper blades
 - iii. Hoses
2. Maintenance must be carried out according to the distance travelled by the car or after a certain period of time. Inspections are carried out in the engine compartment and on the outside of the vehicle.
3. Inspect the tyre pressure, tyre treads and the physical condition of the tyres. Ensure that the tyre pressure follows the specifications of the tyre. Replace the tyre if the tread is worn out or the tyre has cracks or the physical condition of the tyre has deteriorated.
4. Ensure that the windscreen wiper blades are functioning properly and in good condition.
5. Ensure that none of the hoses in the engine compartment are leaking or loose. To replace or tighten the hose if necessary.



Tyre



Hose



Windscreen wiper blades

4.2 The importance of vehicle maintenance

Vehicle maintenance must be integrated into the Vehicle Inspection Routine performed before the start of any journey to:

- i. Ensure the safety and comfort of both driver and passengers.
- ii. Extend the lifespan of the vehicle.
- iii. Save cost and time.
- iv. Reduce the risk of an accident occurring.

5.0 SAFETY GEAR



LEARNING OUTCOME

By the end of this chapter, the reader should be able to:

- i. Explain the use of the safety gear.
- ii. Value the importance of the safety gear in maintaining the safety of the driver and passengers.

INTRODUCTION

The purpose of the safety gear is to protect the driver and passengers in the event an accident occurs. The use of the safety gear combined with defensive driving techniques will greatly reduce the risk of accidents and death occurring. Drivers and passengers must make a habit of using the safety gear before the start of any journey.

5.1 Seatbelts



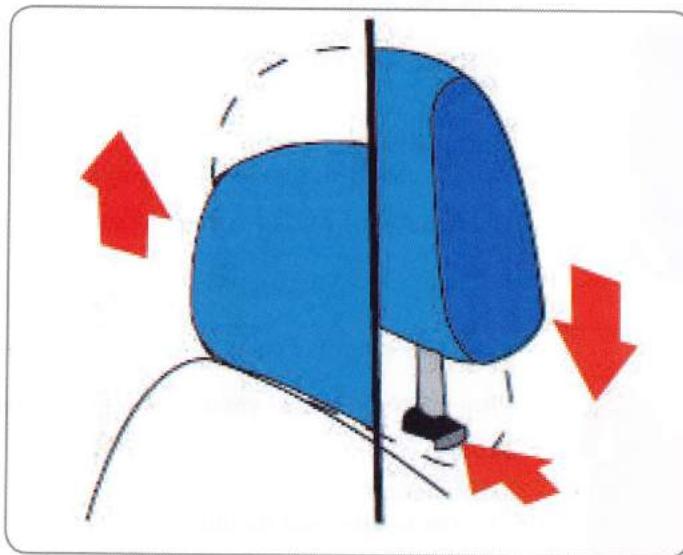
1. The purpose of wearing seatbelts is to reduce the risk of serious harm in the event of an accident. It stops the person wearing the seatbelt from injuring his head or from being thrown out of the vehicle when there is a major collision.
2. It is compulsory to wear the seatbelt on any journey and failure to do so is cause for legal action.

3. The correct method of wearing the seatbelt is as follows:
 - a. Pull the seatbelt gently from the shoulder area to the seatbelt buckle.
 - b. Slide the plate into the seatbelt buckle until a 'click' is heard.
 - c. To take the seatbelt off, press the release button on the seatbelt buckle. A mechanism will pull the seatbelt back into its original position. Ensure the seatbeltdoes not get twisted when pulled into its original position.

REMINDER

Do not modify the existing seatbelt in your vehicle.

5.2 Head restraint



1. The purpose of the head restraint is to reduce the risk of whiplash if an accident occurs as well as to provide comfort while driving.
2. The correct method of adjusting the head restraint is as follows:
 - a. Adjust the top of the head restraint to be even with the top of your ears.
 - b. Maintain a distance of not more than 3.5 inches or one fist between the back of your head and the head restraint.

5.3 Child restraint

1. The child restraint is an important piece of equipment when bringing along child passengers. It is designed to avoid serious injury for its occupant in the event of an accident. Though the purpose may be the same as a seatbelt, it is much safer and more effective for children since seatbelts are designed for the frame of an adult.
2. Drivers with a child passenger must be familiar with the correct method of installing and calibrating the child restraint to ensure the safety and comfort of the child.

3. Only certified child restraints should be used which are suitable for children of that particular age.
4. Ensure that the equipment is installed correctly according to the manufacturer's specifications.

REMINDER

Do not place the child restraint in the front passenger seat.

Do not modify the child restraint.

| Diagram | Specifications |
|---|---|
|  A diagram of a child car seat, showing a blue and red harness system with a central buckle and a base with a metal Y-shaped footrest. | Age and weight of child Age between 9 months to 4 years, with weight between 9 kg to 18 kg. Installation <ol style="list-style-type: none">i. The child seat should face forward.ii. It must be installed in the back seat using a seatbelt. |
|  A diagram of a booster seat, showing a red fabric cover with a black base and a harness system. <i>Booster Seat</i> | Age and weight of child Age between 4 to 11 years, with weight between 15 kg to 36 kg. Installation <ol style="list-style-type: none">i. The booster seat should face forward.ii. The booster seat is designed to be safely used with an adult seatbelt across the chest and waist of the child.iii. It must be installed in the back seat and used in conjunction with a seatbelt. |

5.4 Child Lock

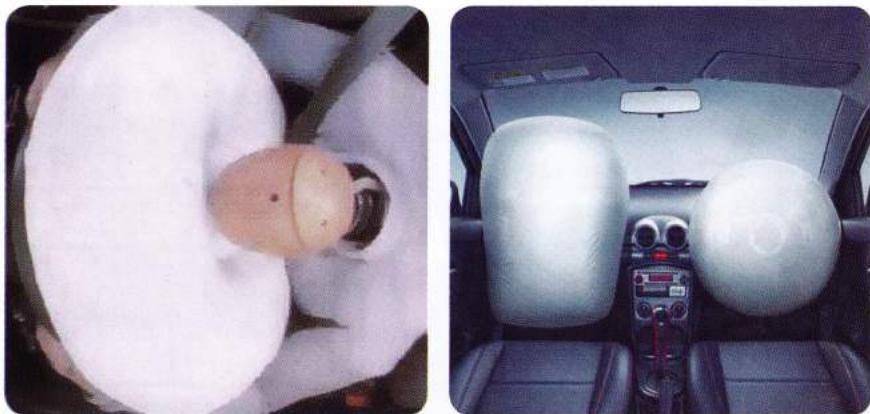


1. The child lock is a safety lock usually found on the inner side of the rear door. It stops children from opening the rear doors from the inside and can only be opened from the outside.
2. Drivers carrying child passengers are advised to utilize the child lock to avoid unintended incidents.

5.5 Anti-lock Braking System (ABS)

1. For vehicles equipped with ABS brakes, the ABS will activate itself automatically when the brake pedal is pressed.
2. The ABS may not necessarily reduce the distance required to come to a complete stop but it will prevent the wheels from locking which allows the steering wheel to be manoeuvred during emergencies. Drivers should maintain pressure on the brake pedal since reducing pressure on the brake pedal will reduce the efficacy of the system.
3. Even though the ABS may assist in bringing the vehicle to a safe stop, the driver should not use this excuse to attempt to drive recklessly. The function of the ABS is limited by the laws of physics. One or more tyres may still skid on the road surface due to:
 - i. Weak grip of the tyre on the road
 - ii. Road surfaces with pooled bodies of water
 - iii. Slippery road surfaces
4. The ABS is only able to assist the driver in braking safely and effectively and is not able to cause the tyre to grip the road harder or avoid skidding. It only reduces the risk of skidding but does not eliminate it completely.

5.6 Airbags



1. Airbags are found in the steering wheel and the dashboard for front seat passengers and are also provided for rear seat passengers.
2. Its function is to reduce the impact caused to the driver and passengers in the event of an accident.
3. This system activates automatically when the sensors in the vehicle detect a strong collision.
4. Avoid placing child passengers in the front seat since the force caused by the release of the airbag during a collision may cause harm to children.

6.0 TRAFFIC OFFENCES AND THE 'KEJARA' SYSTEM



LEARNING OUTCOME

By the end of this chapter, the reader should be able to:

- Explain the common mistakes drivers make that violate the 'KEJARA' System.
- Appreciate the role played by a responsible driver in society.

6.1 Traffic offences and their penalties under the Road Transport Act 1987 and the rules under them (RTR1959)

INTRODUCTION

This chapter includes the various traffic offences and the penalties enforced onto road users found in violation of the regulations under the Road Transport Act 1987 and all rules thereunder (Road Traffic Rules 1959).

The various traffic offences and their penalties are as follows:

ROAD TRANSPORT ACT 1987 (ACT 333)

AND ROAD TRAFFIC RULES 1959

1. Motor vehicle registration

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|----|---|-------------------------|-------------------------|---------------|---------|---------|---------------------------|
| | | | | 15 Days | 1 Month | Maximum | |
| 1. | Possessing or operating an unregistered vehicle | Section 7(1) | Section 7(3) | | Court | | Fine not exceeding RM2000 |
| 2. | Failure to inform the Director or Director General of changes in vehicle registration details | Section 12(5) | Section 11(2) | RM70 | RM120 | RM200 | |
| 3. | Failure to register change of ownership within 7 days | Section 13(1) | Section 119(2) | RM70 | RM120 | RM200 | |
| 4. | Vehicle registration plate which is confusing/ blurry / not according to regulations | Section 14(1) | Section 14(1) | RM100 | RM150 | RM250 | Fine not exceeding RM2000 |

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|----|--|---------------------------------|----------------------------------|---------------|---------|---------|--|
| | | | | 15 Days | 1 Month | Maximum | |
| 5. | Failure to register a change in address within 7 days details | Rule 8GV(LD)65 LN 158/65 | Rule 15VV(LD) 65 LN 158/65 | RM70 | RM120 | RM200 | |
| 6 | Driving a vehicle without a Motor Vehicle License or with a surrendered Motor Vehicle Licence | Section 15(1) Section 119(2) | Section 15(4) Section 15(4) | | Court | | Fine not exceeding RM5000 |
| 7 | Failure to display the Motor Vehicle Licence or damaging / modifying the Motor Vehicle Licence in any way. | Section 20(1) | Section 119(2) | RM100 | RM150 | RM200 | |
| 8 | 3.1 Driving without a Motor Vehicle Licence / Motor Trade Licence 3.2 Driving with an expired Motor Vehicle Licence / Motor Trade Licence a. Motorcycle b. Personal Motor Vehicle c. Taxi / Rented Car d. Bus / Lorry | Section 23(1) Section 22(4) | Section 23(2) | | Court | | Fine not exceeding RM2000 suspension of Motor Vehicle Licence /Motor Trade Licence |
| | | | | | Court | | |
| | | | | | Court | | |
| | | | | | Court | | |
| | | | | | Court | | |

2. Motor vehicle driving licences.

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|----|---|-------------------------|-------------------------|---------------|---------|---------|---|
| | | | | 15 Days | 1 Month | Maximum | |
| 1. | a) Expired driving licence | Section 26(1) | Section 26(2) | RM70 | RM120 | RM200 | |
| | b) No driving licence | | | RM150 | RM200 | RM300 | |
| 2. | Violating the conditions of a Learner's Driving Licence | Section 24(4) | Section 24(4) | RM70 | RM120 | RM200 | |
| 3. | Failure to provide details for endorsement | Section 34(2) | Section 34(4) | Court | | | Fine not exceeding RM2000 or imprisonment for a term not exceeding 6 months |
| 4. | Driving with a suspended or revoked Competent Driving Licence | Section 38(2) | Section 38(2) | Court | | | Fine not exceeding RM2000 or imprisonment for a term not exceeding 6 months . |

2. Driving and offences in connection therewith.

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|----|---|-------------------------|-------------------------|---------------|---------|---------|--|
| | | | | 15 Days | 1 Month | Maximum | |
| 1. | Driving or causing or permitting an under prescribed age person to drive. | Section 39 | Section 39 (5) | | Court | | Fine not exceeding RM1000 or imprisonment for a term not exceeding 6 months or both |
| 2. | i) Driving above the vehicle's maximum speed limit | Section 40(1) | Section 40(1) | | Court | | Fine not exceeding RM1000 and suspension of licence for 1 month. The second or subsequent conviction is punishable by suspension of licence for 3 months |
| | ii) Driving above the speed limit of any road | Section 69(1A) | Section 119(2) | RM300 | RM300 | RM300 | |
| | a) Driving above the speed limit by 40 km/h | Section 41 | Section 41 | | Court | | |
| | b) Driving above the speed limit by 26 km/h – 40 km/h | | | | | | |
| | c) Driving above the speed limit by 1 km/h – 25 km/h | | | | | | |

3. Motor vehicle driving licences.

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|----|---|-------------------------|-------------------------|---------------|---------|---------|---|
| | | | | 15 Days | 1 Month | Maximum | |
| 3 | Reckless or dangerous driving (resulting in death) | Section 41 | Section 41 | | Court | | Mandatory imprisonment for a term between 2 to 10 years and a fine between RM5,000 to RM20,000 and suspension of driving licence commencing from the date of the first court hearing until the case is concluded. |
| 4 | Reckless or dangerous driving (not resulting in death) | Section 42 | Section 42 | | Court | | Mandatory imprisonment for a term of at least one (1) day but not exceeding 5 years and a fine between RM5,000 to RM15,000. Subsequent convictions are punishable by imprisonment for a term not exceeding 10 years and a fine of between RM10,000 to RM20,000. |
| 5 | Careless and inconsiderate driving (not resulting in death) | Section 43 | Section 43 | | Court | | Fine between RM4,000 to RM10,000 and imprisonment for a term not exceeding 12 months. |

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|----|---|-------------------------|-------------------------|---------------|---------|---------|---|
| | | | | 15 Days | 1 Month | Maximum | |
| 6. | Driving while under the influence of alcohol or drugs (resulting in death or injury). | Section 44 | Section 44 | | Court | | Mandatory imprisonment for a term between 3 to 10 years and a fine between RM8,000 to RM20,000 and suspension of driving licence commencing from the date of the first court hearing until the case is concluded. |
| 7. | Being in charge of a vehicle when under the influence of alcohol or drugs | Section 45A | Section 45(1) | | Court | | Fine not exceeding RM500 and imprisonment for a term not exceeding one month. Subsequent convictions are punishable by a fine not exceeding RM1,000 or imprisonment for a term not exceeding 3 months or both. |

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|----|--|-------------------------|-------------------------|---------------|---------|---------|--|
| | | | | 15 Days | 1 Month | Maximum | |
| 8. | Driving or being in charge of a motor vehicle with a Blood Alcohol Content higher than the prescribed legal limit. | Section 45A | Section 45A(3) | Court | | | Fine not exceeding RM2,000 or imprisonment for a term not exceeding 6 months. The second offence is punishable by a fine not exceeding RM4,000 or imprisonment for a term not exceeding 1 year or both and suspension/revocation of driving licence. |
| 9. | Failing the 45B breath test | Section 45B | Section 45B | | | | Fine not exceeding RM2,000 or imprisonment for a term not exceeding 6 months. The second offence is punishable by a fine not exceeding RM4,000 or imprisonment for a term not exceeding 1 year or both and suspension of driving licence for a period of 1 year. |

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|-----|---|-------------------------|-------------------------|---------------|---------|---------|---|
| | | | | 15 Days | 1 Month | Maximum | |
| 10. | Failure to provide a specimen for analysis. | Section 45C | Section 45A(3) | | Court | | Fine not exceeding RM2,000 or imprisonment for a term not exceeding 6 months or both and suspension / revocation of driving licence |
| 11. | Driving when suffering from disease or disability. | Section 46 | Section 46 | | Court | | Fine not exceeding RM1,000 or imprisonment for a term not exceeding 3 months or both. |
| 12. | Riding on running boards and obstruction of driver. | Section 47 | Section 119(2) | RM100 | RM150 | RM250 | |
| 13. | Obstructing traffic in a hazardous manner. | Section 48 | Section 119(2) | RM150 | RM200 | RM250 | |
| 14. | Pillion riding / excessive number of passengers (motorcycle). | Section 49(1) | Section 119(2) | RM100 | RM150 | RM250 | |
| 15. | Failure to produce a valid driving licence. | Section 58(2) | Section 119(2) | RM70 | RM120 | RM200 | |
| 16. | Driving a motor vehicle without consent of registered owner. | Section 51 | Section 51 | | Court | | Fine not exceeding RM2,000 or imprisonment for a term not exceeding 6 months or both. |

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|-----|---|-------------------------|-------------------------|---------------|---------|---------|--|
| | | | | 15 Days | 1 Month | Maximum | |
| 17. | Failure to report an accident to the police within 24 hours. | Section 52(1) | Section 119(2) | RM100 | RM100 | RM100 | |
| 18. | Failure to stop the vehicle when pulled over (person in uniform). | Section 55 | Section 119(2) | RM150 | RM200 | RM300 | |
| 19. | Utilizing a prohibited road or going against certain road restrictions. | Section 70(1) | Section 70(4) | RM70 | RM120 | RM200 | |
| 20. | Pedestrian crossing offence. | Section 75 | Section 75(5) | RM150 | RM200 | RM300 | |
| 21. | Failure to stop the vehicle at a roadblock. | Section 78(2) | Section 78(2) | RM300 | RM300 | RM300 | |
| 22. | Failure to obey road traffic signs. | Section 79(2) | Section 79(2) | RM300 | RM300 | RM300 | |
| 23. | Sponsoring or participating in an illegal street race. | Section 81 | Section 81(2) | Court | | | Fine not exceeding RM2,000 or imprisonment for a term not exceeding 6 months and suspension of driving licence for 1 year. The second offence is punishable by a fine not exceeding RM5,000 or imprisonment for a term not exceeding 1 year and suspension of driving licence for 3 years. |

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|-----|--|----------------------------------|-------------------------|---------------|---------|---------|------------|
| | | | | 15 Days | 1 Month | Maximum | |
| 24. | Failure to drive on the left side of the road. | K. 3(1)RTR / LN 166 / 59 | Section 119(2) | RM150 | RM200 | RM300 | |
| 25. | Failure to wear a seatbelt. | K. 4MV(SSB) 78(P.U.A / 378 / 78) | Seksyen 119(2) | RM300 | RM300 | RM300 | |
| 26. | Failure to turn on the motorcycle headlights during daytime / at night. | K. 96 (A) MV(C / U) | Section 119(2) | RM50 | RM100 | RM150 | |
| 27. | Failure to keep close to the left shoulder of the road when travelling at low speeds. | K. 4RTR (LN166 / 59) | Section 119(2) | RM150 | RM200 | RM300 | |
| 28. | Failure to wear a helmet (motorcycle) | K. 4MS (SH) | Section 119(2) | RM300 | RM300 | RM300 | |
| 29. | Overtaking from the left. | K. 5RTR (LN166 / 59) | Section 119(2) | RM300 | RM300 | RM300 | |
| 30. | Overtaking in a reckless manner / inconveniencing others/not allowing another vehicle to overtake. | K. 6RTR (LN166 / 59) | Section 119(2) | RM300 | RM300 | RM300 | |
| 31. | Failure to keep close to the left while making a left / right turn. | K. 7RTR | Section 119(2) | RM150 | RM200 | RM300 | |
| 32. | Failure to enter the correct lane when approaching a junction. | K. 8RTR | Section 119(2) | RM150 | RM200 | RM300 | |

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|-----|---|---------------------------------|-------------------------|---------------|---------|---------|------------|
| | | | | 15 Days | 1 Month | Maximum | |
| 33. | Entering and halting in a yellow box. | K.8RT(SCP) LN101 / 63 | K.9RT (SCP) | RM150 | RM200 | RM300 | |
| 34. | Failure to stop for school children crossing the road. | K.8RT(SCP) LN101 / 63 | K.9RT (SCP) | RM150 | RM200 | RM300 | |
| 35. | Failure to give way to ambulances and vehicles belonging to the Police, Customs, the JPJ and the Fire Department. | K.9RTR | Section 119(2) | RM150 | RM200 | RM300 | |
| 36. | Sleeping while driving. | K.10RTR | Section 119(2) | RM300 | RM300 | RM300 | |
| 37. | Losing control of the vehicle. | K.17RTR | Section 119(2) | RM300 | RM300 | RM300 | |
| 38. | Using a cell phone while driving . | K.17(A)RTR | Section 119(2) | RM300 | RM300 | RM300 | |
| 39. | Overtaking at a section of road with double solid lines. | K.4RTR (LN167 / 59) | Section 119(2) | RM300 | RM300 | RM300 | |
| 40. | Taking a U-turn at a section of road with speed limits. | K.13RTR | Section 119(2) | RM150 | RM200 | RM300 | |
| 41. | Leaving the vehicle while in idle or without engaging the handbrake | K.14RTR | Section 119(2) | RM100 | RM150 | RM200 | |
| 42. | Non-functioning brakes. | K.15(9) MV (C/U) LN170/59 | Section 119(2) | RM150 | RM200 | RM300 | |

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|-----|---|--------------------------------|-------------------------|---------------|---------|---------|------------|
| | | | | 15 Days | 1 Month | Maximum | |
| 43. | Obstructing traffic or failure to keep close to the side of the road when picking up and dropping off passengers. | K.16RTR | Section 119(2) | RM150 | RM200 | RM300 | |
| 44. | Failure to obey traffic light signals. | K. 17 dan K. 18 TS (LN 167/59) | Section 119(2) | RM300 | RM300 | RM300 | |
| 45. | Exposing the sides and rear of the vehicle to danger. | K. 22RTR | Section 119(2) | RM150 | RM200 | RM300 | |
| 46. | Failure to install side view mirrors on a motorcycle. | K. 21MV (C/U) | Section 119(2) | RM50 | RM100 | RM150 | |
| 47. | Non-functioning windscreen wipers. | K. 23MV (C/U) | Section 119(2) | RM100 | RM150 | RM250 | |
| 48. | Non-functioning horn. | K. 24MV (C/U) | Section 119(2) | RM50 | RM100 | RM150 | |
| 49. | Non-functioning signal lights. | K. 25MV (C/U) | Section 119(2) | RM150 | RM200 | RM300 | |
| 50. | Non-functioning/ blinking brake lights or brake lights of a different colour than red. | K. 26MV (C/U) | Section 119(2) | RM150 | RM200 | RM300 | |
| 51. | No mud flap (wings). | K. 31MV (C/U) | Section 119(2) | RM100 | RM150 | RM250 | |
| 52. | Failure to maintain the vehicle properly. | K. 94MV (C/U) | Section 119(2) | RM100 | RM150 | RM250 | |

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|-----|---|-------------------------|-------------------------|---------------|---------|---------|------------|
| | | | | 15 Days | 1 Month | Maximum | |
| 53. | Failure to maintain the brakes/gearbox /power steering / windscreen wipers. | K. 95MV (C/U) | Section 119(2) | RM100 | RM150 | RM250 | |
| 54. | Failure to maintain the headlights / non-functioning headlights. | K. 97MV (C/U) | Section 119(2) | RM150 | RM200 | RM300 | |
| 55. | Failure to turn on the headlights at night. | K. 101MV (C/U) | Section 119(2) | RM100 | RM150 | RM250 | |
| 56. | No Emergency Triangle. | K. 101A MV(C/U) | Section 119(2) | RM70 | RM120 | RM200 | |
| 57 | Keeping the headlights on while parked on the right side of the road. | K. 102MV (C/U) | Section 119(2) | RM100 | RM150 | RM300 | |
| 58 | Failure to maintain the silencer / exhaust. | K. 103MV (C/U) | Section 119(2) | RM70 | RM120 | RM200 | |
| 59. | Failure to maintain the speedometer. | K. 104MV (C/U) | Section 119(2) | RM100 | RM150 | RM250 | |
| 60. | Failure to maintain the tyres / bald tyres. | K. 105MV (C/U) | Section 119(2) | RM100 | RM150 | RM250 | |
| 61. | Loud exhaust. | K. 109MV (C/U) | Section 119(2) | RM100 | RM150 | RM250 | |
| 62. | Obstructing traffic except when dropping off passengers. | K. 113MV (C/U) | Section 119(2) | RM100 | M150 | RM300 | |
| 63. | Installing headlights of a different colour than white. | K. 96(20)(i) | Section 119(2) | RM100 | RM150 | RM300 | |

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|-----|---|--|--|----------------------------------|----------------------------------|----------------------------------|------------|
| | | | | 15 Days | 1 Month | Maximum | |
| 64. | Tinting the windows black beyond the legal limit. | K. 5MV (PCTG) 1991 | K. 10MV (PCTG) | RM100 | RM150 | RM300 | |
| 65. | Parking a vehicle in a prohibited area: i) Area with a 'no parking' sign. ii) At a yellow line. | K. 8A (TS(SCT) 59 LN 167/59 K.12(3A)TS | Section 119(2) | RM100 | RM150 | RM250 | |
| 66. | Parking a vehicle in a prohibited area: i) At a junction / curve in the road. ii) In front of a fire hydrant. iii) In hazardous /concealed areas. iv) Bus stop. | K. 12(1)RTR K. 12(2)RTR K. 12(3)RTR K. 12(4)RTR | Section 119(2) Section 119(2) Section 119(2) Section 119(2) | RM150 RM100 RM150 RM100 | RM200 RM150 RM200 RM150 | RM300 RM250 RM300 RM250 | |
| 67. | iv) Repairing / washing a vehicle on a public sidewalk. | K. 48RTR | Section 119(2) | RM100 | RM150 | RM250 | |
| 68. | Blocking / obstructing pedestrian traffic on a public sidewalk. | K. 38RTR | Section 119(2) | RM100 | RM150 | RM250 | |
| 69 | Operating / parking a vehicle on a public sidewalk. | K. 50RTR | Section 119(2) | RM150 | RM200 | RM300 | |

4. Provisions against third party risks that arise out of the use of motor vehicles.

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|----|--|-------------------------|-------------------------|---------------|---------|---------|---|
| | | | | 15 Days | 1 Month | Maximum | |
| 1. | No insurance coverage. | Section 90(1) | Section 90(2) | | Court | | Fine not exceeding RM1,000 or imprisonment for a term not exceeding 6 months and suspension of driving licence for a period of 12 months. |
| 2. | i) Failure to produce proof of insurance . | Section 58(1) | Section 103 | | Court | | |

6. Offences and miscellaneous provisions

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|----|---|-------------------------|-------------------------|---------------|---------|---------|--|
| | | | | 15 Days | 1 Month | Maximum | |
| 1. | Falsified / falsification of /damaging/ modification of / usage of licences/ documents / false vehicle registration plates. | Section 108 | Section 108 | | Court | | Fine not exceeding RM5000 or imprisonment for a term not exceeding 1 year or both. |
| 2. | Liability of registered owner. | Section 109 | Section 109 | | Court | | |
| 3 | Obstruction and interference of traffic. | Section 110 | Section 110 | RM150 | RM200 | RM300 | |

| No | Offence | Relevant section / Rule | Relevant section / Rule | Compound rate | | | Court Fine |
|----|---|-------------------------|-------------------------|---------------|---------|---------|---|
| | | | | 15 Days | 1 Month | Maximum | |
| 1. | a) Refusal to provide information. b) Providing false information. | Section 114(3) | Section 114(2) | | Court | | Fine not exceeding RM5,000 or imprisonment for a term not exceeding 1 year or both. |
| 2. | i) Failure to provide driver's details. | Section 115(1) | Section 115(1) | RM100 | RM150 | RM250 | |

6.2 'KEJARA' System

1. General definition

The 'KEJARA' System is an acronym of the words 'SISTEM KESELAMATAN JALAN RAYA' (Road Safety System). This system is aimed at drivers in possession of Competent and Probationary Driving Licences.

2. Specific definition

This is a system which awards demerit points to drivers charged with a traffic offence whether in the nature of a compound (Police, JPJ or SPAD), or a fine (Courts) for a listed offence.

3. Purpose of the existence of the 'KEJARA' System

The 'KEJARA' System was introduced to:

- i. Take action against drivers charged with traffic offences.
- ii. Distinguish problematic and risky persons driving on the road.
- iii. Increase awareness among drivers regarding road safety and traffic rules and regulations.
- iv. Create drivers who are disciplined, responsible and considerate when driving on the road.

4. How the 'KEJARA' System functions

The 'KEJARA' System functions in the following manner:

- i. The 'KEJARA' System operates under Act 35, 35a, 37 and 38 and also under the Motor Vehicles Rules (Demerit Points) 1997.
- ii. A record of 'KEJARA' System offenders is kept through the serving of summons for the listed offences and demerit points are recorded.
- iii. Drivers obtaining 15 or more demerit points will have the following action taken against them:

| DEMERIT OFFENCE | PENALTY |
|---|---|
| 15 or more demerit points for the first occurrence | Suspension of driving licence for 6 months |
| 15 or more demerit points for the second occurrence | Suspension of driving licence for 12 months |
| 15 or more demerit points for the third occurrence (Within a 5 year period) | Suspension of driving licence for 12 months and action will be taken to terminate the driving licence |

- iv. Competent Driving Licence holders that have had their licences suspended may not drive and may not obtain any driving licence of any class, whether a Learner's Driving Licence or otherwise, during the period of suspension.
- v. Probationary Driving Licence holders obtaining 10 or more demerit points will have their driving licence revoked.
- vi. Persons with revoked driving licences (Probationary or Competent Driving Licences) may not drive and may not obtain any driving licence of any class, whether a Learner's Driving Licence or otherwise, for a period of 12 months from the date of revocation.

5. Rehabilitation course

A driver may be mandated to attend a rehabilitation course as follows:

- The Director General of the JPJ may order persons in possession of suspended driving licences to attend a rehabilitation course. Upon completion of the course, the period of suspension will be reduced.

6. Bonuses awarded

Bonuses are awarded under the following situations:

| SUSPENSION PERIOD | REDUCTION PERIOD | REMAINING SUSPENSION PERIOD |
|-------------------------------|-----------------------|-----------------------------|
| First Offence (6 months) | 4 Weeks (1 month) | 5 Months |
| Second Offence (12 months) | 8 Weeks (2 months) | 10 Months |

- CDL holders with total demerit points less than 15 points who have committed no listed offences for a period of 24 continuous months, will benefit from having 7 of their demerit points disregarded.

7. Penalties

Persons are prohibited from driving with a suspended driving licence:

- Driving with a suspended or revoked driving licence is punishable with a fine not less than RM3,000 and not exceeding RM10,000 or imprisonment for a term not

8. Demerit points awarded for listed offences:

The following is a list of offences and demerit points awarded respectively:

| NO. | OFFENCE | DEMERIT POINTS AWARDED |
|-----|---|------------------------|
| A) | Driving or operating a motor vehicle under the influence of alcohol or drugs | 15 |
| B) | Driving in a reckless or dangerous manner | 15 |
| C) | Driving in a careless and inconsiderate manner | 15 |
| D) | Street racing | 15 |
| E) | Failure to provide a breath, blood or urine specimen for analysis without reasonable justification when requested by a police officer | 15 |
| F) | Failure to obey traffic light signals | 10 |
| G) | Exceeding the speed limit: By 40 km per hour | 10 |
| | By 26 km – 40 km per hour | 8 |
| | By 1 km – 25 km per hour | 6 |
| H) | Offences related to overtaking and obstruction while overtaking | 8 |
| I) | Failure to give way to an Ambulance or Fire Engine or Police / Customs / JPJ vehicles | 8 |
| J) | Offences committed at pedestrian crossings | 8 |
| K) | Offences related to driving on the left side of the road | 8 |
| L) | Failure to stop at a junction | 8 |
| M) | Failure to maintain and control of a moving vehicle | 8 |
| N) | Operating a motor vehicle on a restricted road | 5 |
| O) | Failure to obey road signs and directions | 5 |
| P) | Utilizing a tyre with bald treads | 5 |
| Q) | Overtaking at a solid double line | 5 |

| | | |
|----|---|----|
| R) | Failure to obey the conditions as stipulated when obtaining the Probationary Driving Licence [Rule 15A. Motor Vehicles Rules (Driving Licences) 1992] | |
| | Failure to bring the Probationary Driving Licence while driving | 5 |
| | Failure to display a 'P' sticker | 10 |
| | Failure to ensure an alcohol content in breath, blood or urine of 0.00 for holders of Probationary Driving Licences | 5 |



Drivers Education Curriculum
CLASS D MANUAL

KPP 02

**DRIVING CIRCUIT
PRACTICAL
TRAINING**

(PRE- JOURNEY PREPARATION)

GLOSSARY OF TERMS**1.0 HAZARD****HAZARD**

Hazards while driving include elements existing in the surroundings and those that may occur suddenly which may endanger the driver. Therefore, caution and an appropriate level of skill will facilitate the driver in overcoming the hazard while keeping calm, especially in unexpected situations. Hazards can generally be classified into three categories:

- a. Physical characteristics such as junctions, roundabouts and corners.
- b. Problems arising due to the position or movement of other road users.
- c. Problems arising due to variations in road surface and weather conditions.

A responsible driver must therefore address each and every hazardous element by quickly adapting to the road conditions and determining the appropriate driving speed and distance from other vehicles. Finally, it must be noted that hazards may occur unexpectedly. As an example, a driver may be unexpectedly faced with an accident, fallen tree, objects ejected from or falling of other vehicles, animals crossing the road and so forth. Therefore, determining the appropriate driving speed and distance from other vehicles is the main concern of all drivers. This will ensure sufficient time to react to any unexpected incidents from occurring while driving.

2.0 DRIVING REACTION PLAN (PTP)



A driving reaction plan is based on input from the environment through a process of observation, analysis, estimation and hazard detection. A cautious driver must always ensure that the main driving elements of positioning, speed, gear shift and acceleration are continuously adjusted to best adapt to driving conditions.

3.0 CITO



CITO represents a defensive driving concept which should be applied by a driver on the road. This routine must be ingrained into a driver in the early stages of his training to ensure that it will become a habit which is practiced at all times. The Defensive Driving Routine or CITO is a list of steps that must be carried out while driving and overcoming hazards or practicing a manoeuvre such as overtaking or cornering. It is designed to obtain information from the driver's surroundings before carrying out any manoeuvre. The steps that must be carried out are as follows:

| | |
|---|--|
| C | Cermin (Mirror): Look in the side view mirror and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |

1.0 PRE- JOURNEY INSPECTION

LEARNING OUTCOME

By the end of this chapter, the reader should:

- i. Inspect the condition of the vehicle as part of a pre-journey routine.
- ii. Have an increased appreciation of the value of safety.

1. Pre-Journey Inspection Routine

The pre-journey inspection routine is a habit that should be embedded in every driver. Its purpose is to:

- i. Avoid any vehicle malfunctions for the duration of the journey.
- ii. Ensure that the vehicle is in optimum condition for the duration of the journey.
- iii. Reduce the risk of an accident occurring due to any malfunctions or technical faults. This will ensure the safety of the driver and passengers.

The pre-journey inspection routine consists of two parts:

- a. Vehicle Inspection Routine (RPK)
- b. Pre-Driving Routine (RSM)

2. Vehicle inspection routine (RPK)

The Vehicle Inspection Routine (RPK) is a habit that should be carried out by every driver before the start of a journey. Its purpose is to:

- i. Avoid any vehicle malfunctions during the journey.
- ii. Ensure that the vehicle is in good condition for the duration of the journey.
- iii. Reduce the risk of an accident occurring due to any malfunctions or technical faults.

The Vehicle Inspection Routine (RPK) consists of three parts:

- a. External Inspection of Vehicle
- b. Inspection of Engine Compartment
- c. Inspection of Booth Compartment

The table below can be used as a guide to ensure that no component is overlooked during inspection.

The table below can be used as a guide to ensure that no component is overlooked during inspection.

| | | |
|----------|-----------------|--|
| P | PETROL | Fuel for the vehicle which may either be petrol, diesel or NGV |
| O | OIL | Oil for the engine, brake, clutch, power steering and transmission |
| W | WATER | Water for the radiator, battery and windscreen wipers |
| D | DAMAGE | Damage to the body of the vehicle, windows and others |
| E | ELECTRIC | Battery, starter, lights and wires |
| R | RUBBER | Tyres, hoses, windscreen wiper blades and timing belts |

REMINDER

Before the start of any journey, malfunctioning components must be repaired or replaced immediately and the relevant fluids should be added where insufficient.

1. External inspection of vehicle





The external inspection of the vehicle should be carried out in a clockwise direction

2. Walk around the car in a clockwise direction and inspect it for any damage. External damage often occurs in these areas:
 - a. Tyres (including spare tyre)
 - i. Tyres are an important factor in determining the safety of the vehicle and its passengers.
 - ii. Tyres act as a cushion to facilitate the absorption of vibrations by the suspension system to reduce its effect on the body of the vehicle.
 - iii. Balancing must be done on the tyres to ensure that they will spin without vibration when travelling at different speeds.
 - iv. Alignment must be done on the tyres to ensure that the tyre tread wears out evenly.
 - v. The tyres should be inspected before every journey especially long ones.
 - vi. Tyre air pressure:
 - Determine the tyre pressure by using a tyre pressure gauge set with a scale between 26 psi to 32 psi (lb/in²) or 180 kPa to 220 kPa (kg/cm²). Vehicle manufacturers will also often place a table of specifications on the side of the driver's door for tyre recommendations and ideal tyre pressure.
 - Insufficient tyre pressure will cause the tyre treads to wear out faster on the left and right of the tyre.
 - Excessive tyre pressure will cause the tyre treads to wear out faster in the middle of the tyre.

vii. Most modern tyres have an indicator to show how much the tyre has worn out. The indicator shows the 1/16 inch permitted depth of the tyre tread pattern. The tyre should be changed if it has worn out beyond this indicator.

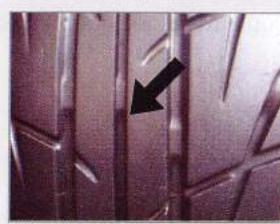
viii. Ensure that the tyre has no cracks, bulges or tears.

| SAIZ TAYAR TIRE SIZE | |
|--|------------------|
| 185/60R14 82H 175/70R13 82H | |
| TEKANAN KEMBONG TAYAR SEMASA SEJUK COLD TIRE INFLATION PRESSURE kPa (PSI) | |
| HADAPAN FRONT | BELAKANG REAR |
| 210 (31) | 190 (28) |
| TAYAR GANTIAN : SPARE TIRE : 155/80R13 79T 155/70R14 77T | 250 (37) |
| PW922183 | |

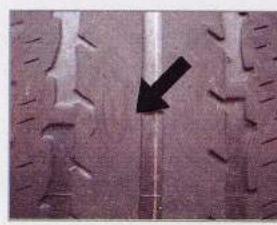
Table of specifications for tyre recommendations and ideal tyre pressure



Tyre and rim



Tyre treads in good condition



Worn out tyre treads that should be replaced

b. Lights

- Ensure that the front lights, rear lights, signal lights, brake lights, additional brake light and reverse lights are functioning properly.
- Ensure that the front and rear light covers are not cracked or broken.
- The front and rear light covers should be replaced if there is any damage.
- Ensure that the front and rear light covers are clean.
- A soft cloth may be utilized to clean the light covers.



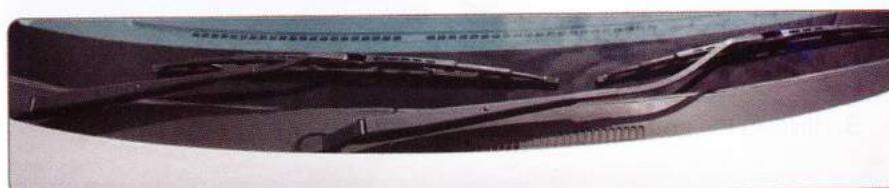
Front of the Vehicle



Rear of the Vehicle

c. Windscreen wipers

- Windscreen wipers are utilized to wipe the windscreen if there is dirt or when driving in the rain.
- Ensure that the windscreen wiper blades are in good condition since hard, cracked or torn windscreen wiper blades will fail to wipe the water off completely when driving in the rain. It may also cause scratches on the windscreen.



windscreen wiper blades

d. Body of the vehicle

- Inspect the vehicle in a clockwise direction.
- The elements that must be inspected are as follows:
 - Vehicle registration plate: Ensure that the vehicle registration plate is clean and not damaged.
 - Bumper: Ensure the bumper is in good condition.
 - Boot and bonnet covers: Ensure they are both in good condition and closed securely.
 - Side mirrors: Ensure they are clean and not damaged.
 - Doors and windows: Ensure that they can be opened and closed properly. Press your thumb on the body of the door and pull the door handle to open and close the door in a gentle manner.



- e. Front and rear windscreens
 - i. Ensure that the front and rear windscreens are clean and not damaged



Front Windscreen



Rear Windscreen

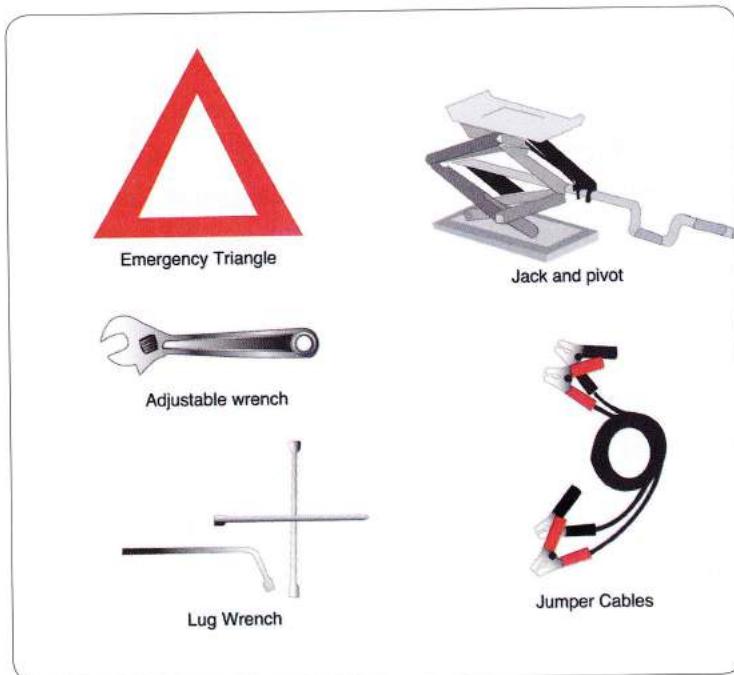
3. Inspect the bottom of the vehicle to identify any leaks.

REMINDER

If there is any damage found to the vehicle, the relevant component should be immediately repaired or replaced.

4. Boot Compartment Inspection.
5. Pull the handle located at the bottom right of the driver's seat to open the boot.
6. Open the boot and inspect the emergency equipment located at the bottom to ensure it is complete and in good condition.
7. Inspect all emergency equipment in the boot and ensure that they are in good and working condition:
 - a. Emergency triangle
 - b. First aid kit and first aid guide
 - c. Flashlight
 - d. Dry fire extinguisher

- f. Jack and pivot
- g. Lug wrench
- h. Repair equipment
- i. Adjustable wrench
- j. Jumper cables
- k. Towing cable
- l. Screwdriver
- m. Sparkplug wrench
- n. Various wrenches
- o. Pliers
- q. A container of clean water



1.2 Documenting external vehicle damage

Tick the following checklist to document any external damage found on the vehicle for future action

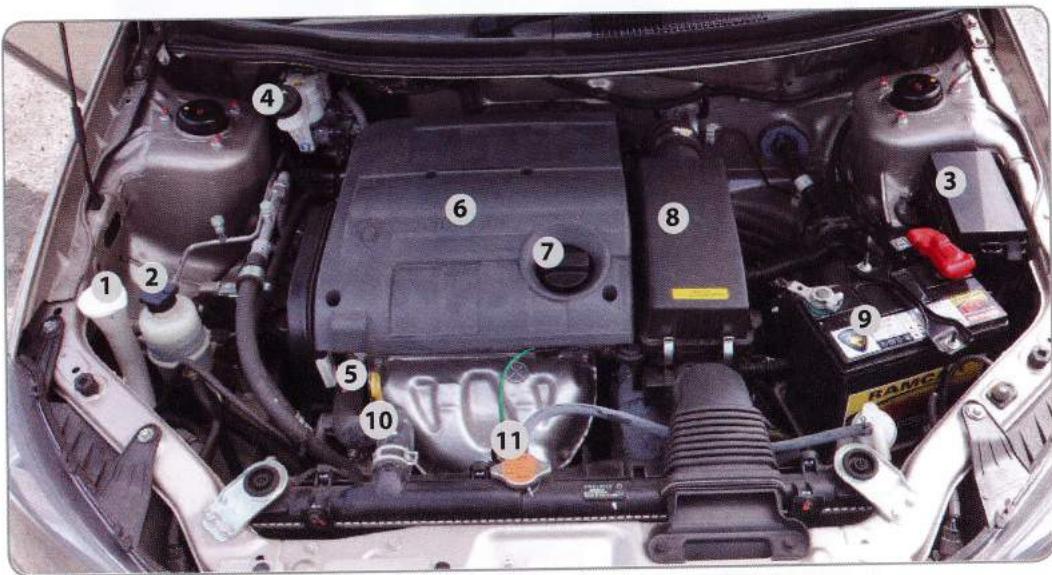
Checklist

Please tick (✓) if complete / in good condition and (X) if incomplete / damaged.

| EXTERNAL VEHICLE INSPECTION | ENGINE COMPARTMENT INSPECTION |
|---|--|
| Tyres | Engine Oil Level |
| <ul style="list-style-type: none"> • Tyre Pressure • Tread Pattern Depth • Physical Condition | <ul style="list-style-type: none"> Brake Fluid Level Power Steering Fluid Level Automatic Transmission Fluid |
| Lights | <ul style="list-style-type: none"> • Front • Rear • Signal • Reverse • Brake |
| | <ul style="list-style-type: none"> Battery Water Level Radiator Water Level Windscreen Wiper Water Level Elasticity of Timing Belts Unobstructed Fan Blades Wire Connections |
| Windscreen Wiper Blades | Hoses in Good Condition |
| Body of Vehicle | <ul style="list-style-type: none"> Clean Battery Terminals Clean Engine Compartment |
| <ul style="list-style-type: none"> • Vehicle Registration Plate • Boot / Bonnet Covers • Bumper • Side Mirrors • Doors and Windows | |
| Windscreens | |
| <ul style="list-style-type: none"> • Front • Rear | |
| Booth | |
| <ul style="list-style-type: none"> • Tools • Fire Extinguisher • Emergency Triangle | |

1.3 Engine compartment inspection

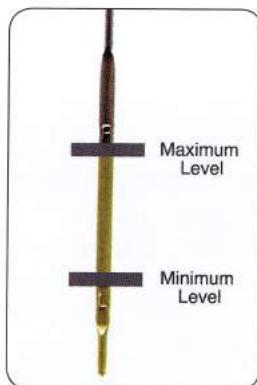
1. Engine Compartment



1. Windscreen Wiper Water Container
2. Power Steering Fluid Container
3. Fuse Box
4. Brake Fluid Container
5. Engine Oil Dipstick
6. Rocker Cover
7. Engine Oil Filler Cap
8. Air Filter
9. Battery
10. Radiator Hose
11. Radiator Cap

2. Engine Compartment Inspection

- a. Open the bonnet by pulling the handle located at the bottom right of the dashboard on the driver's side. The bonnet will raise up slightly.
- b. Release the safety latch and lift the bonnet completely. Place the rod as a bonnet stay.
- c. Inspect the level and quality of the following fluids:
 - i. Engine oil -Pull the dipstick out. Ensure the oil level is between the maximum and minimum markings.
 - ii. Brake fluid -Ensure the fluid level is between the maximum and minimum markings.
 - iii. Power steering fluid (if available) -Take off the cap and ensure the fluid level is between the maximum and minimum markings.



Engine oil level



Engine oil dipstick



Brake fluid container

d. Inspect the water level

- Radiator water – Take off the radiator cap and ensure the water level in the radiator is sufficient. Afterwards, replace the cap securely.
- Reserve radiator water – Ensure the amount of water is sufficient.
- Battery water – Ensure the water level in the battery is sufficient. (For wet batteries only)
- Windscreen wiper water – Ensure the amount of water is sufficient.



Reserve radiator water container

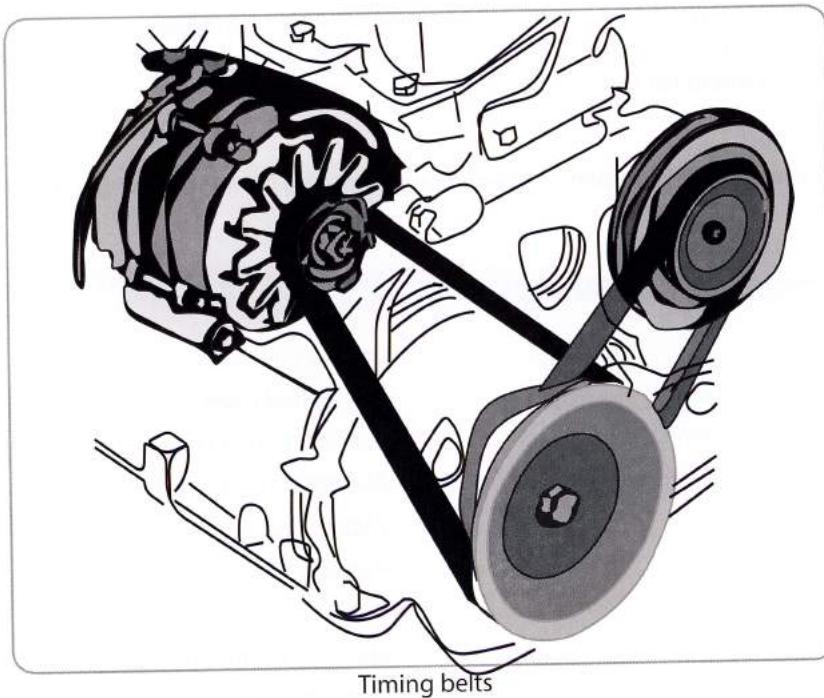


Battery



Windscreens wiper water container

- Inspect the timing belts – Ensure the timing belts are not cracked or frayed. Press the timing belt using your thumb to test the elasticity. The belt should stretch from 0.5 cm – 1.0 cm.



- f. Inspect the fan blades –Ensure the blades are not damaged or obstructed when spinning.
- g. Inspect all connections
 - i. Wires –Ensure that all wires are connected firmly to the appropriate electrical components.
 - ii. Hoses –Ensure they are in good condition and there are no leaks, cracks or bulges.
 - iii. Battery terminals –Ensure that the battery terminals are clean and fastened securely. Apply the appropriate grease to the terminal to avoid rust or fungal growth.

1.4 DOCUMENTING ENGINE COMPARTMENT WEAR / DAMAGE

Tick the following checklist to document any wear / damage found in the engine compartment for future action.

Checklist

Please tick (✓) if complete / in good condition and (X) if incomplete / damaged

| EXTERNAL VEHICLE INSPECTION | ENGINE COMPARTMENT INSPECTION |
|---|--|
| Tyres | Engine Oil Level |
| <ul style="list-style-type: none"> • Tyre Pressure • Tread Pattern Depth • Physical Condition | <ul style="list-style-type: none"> Brake Fluid Level Power Steering Fluid Level Automatic Transmission Fluid |
| Lights | <ul style="list-style-type: none"> Battery Water Level Radiator Water Level Windscreen Wiper Water Level Elasticity of Timing Belts Unobstructed Fan Blades Wire Connections |
| Windscreen Wiper Blades | Hoses in Good Condition |
| Body of Vehicle | <ul style="list-style-type: none"> Clean Battery Terminals Clean Engine Compartment |
| <ul style="list-style-type: none"> • Vehicle Registration Plate • Boot / Bonnet Covers • Bumper • Side Mirrors • Doors and Windows | |
| Windscreens | |
| <ul style="list-style-type: none"> • Front • Rear | |
| Booth | |
| <ul style="list-style-type: none"> • Tools • Fire Extinguisher • Emergency Triangle | |

2.0 SWITCHING THE ENGINE ON AND OFF



LEARNING OUTCOME

By the end of this chapter, the reader should:

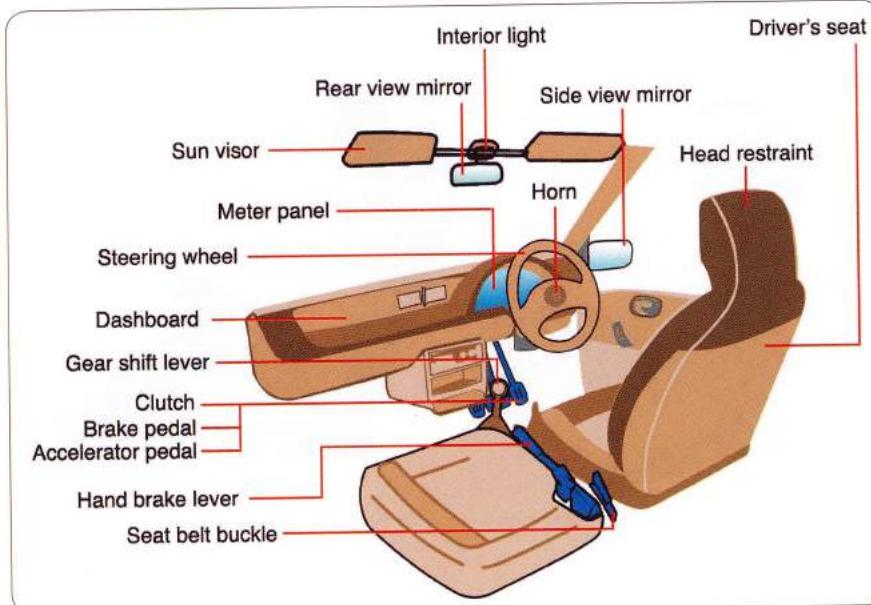
- i. Switch the engine on and off properly.
- ii. Have an increased understanding of the value of safety.

1. Pre-driving routine (RSM)

The Pre-driving Routine (RSM) is a routine carried out before the start of a journey. Its purpose is to confirm the proper functioning of vehicle components. It is carried out in the following order:

- i. Enter the vehicle, sit and ensure that the handbrake is engaged.
- ii. Adjust the driver's seat and head restraint.
- iii. Adjust the rear view and side view mirrors.
- iv. Fasten the seatbelt.
- v. Ensure that all indicators on the dashboard are functioning correctly.
- vi. Ensure that the gearshift is placed in the free gear (neutral) position.
- vii. Start the engine without pressing the accelerator.
- viii. Ensure that all switches are functioning properly.

2. Driver's seat



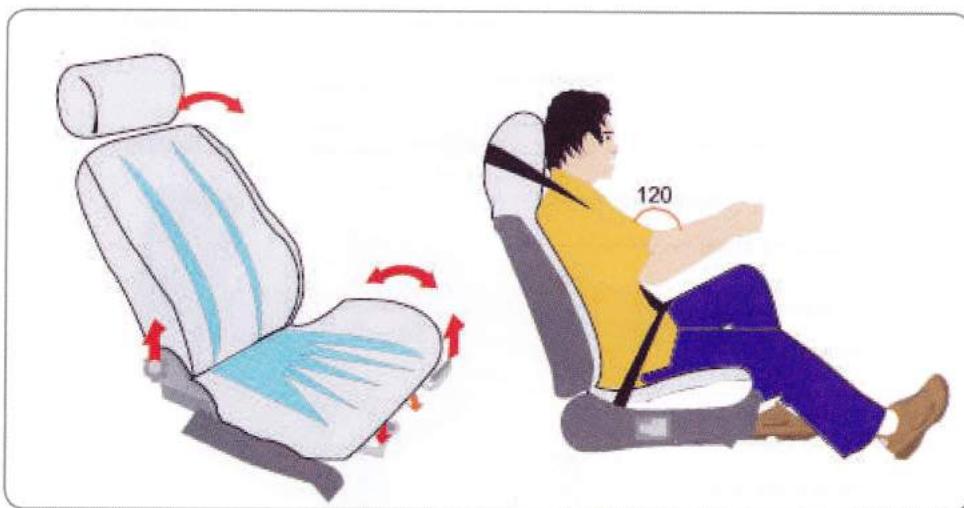
2.1 Seat and head restraint

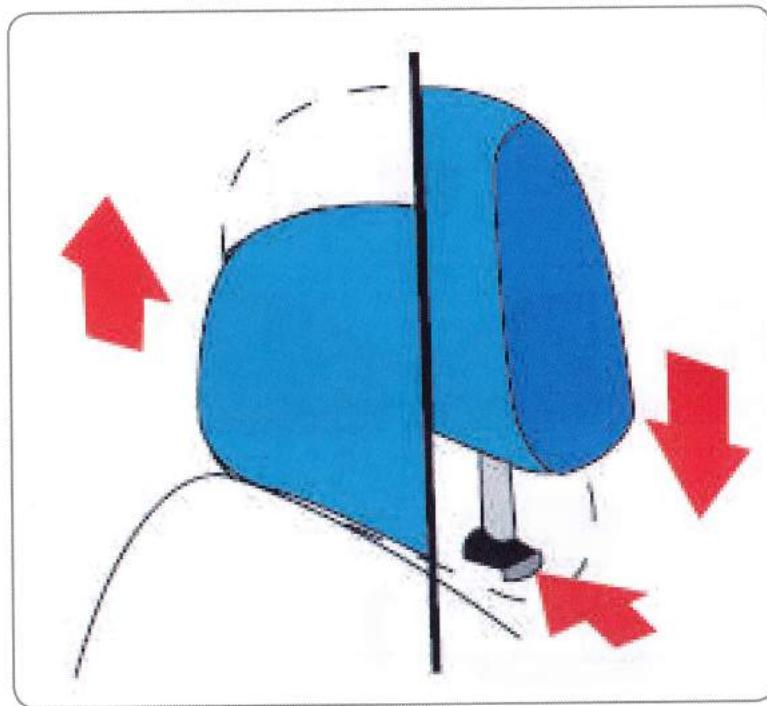
Objective:

Adjusting the seat to comfortably accommodate the driver will allow the driver optimum control of the vehicle in terms of handling the steering, gear, clutch, brakes and accelerator as well as ensuring a comfortable drive.

To adjust the driver's seat:

- i. Sit and lean back. Pull the lever located at the bottom right of the chair to adjust how far it leans back.
- ii. Place your left and right foot on the brake pedal and accelerator pedal respectively. Bend your feet to an angle of roughly 120°.
- iii. Grip the steering wheel with your right hand at the 12 o'clock position while adjusting your seat with your left hand.
- iv. Adjust the distance of the seat from the steering wheel using the lever found underneath the seat. Adjust the seat until your right hand is fully extended while still leaning back in the seat.
- v. Grip the steering wheel at the 3-9 or 2-10 o'clock positions. This should maintain the elbows at an angle of roughly 120°. This is the ideal driving position.
- vi. Attempt to reach all the switches and levers available to the driver such as lights, radio, air-conditioning and gearshift. Ensure that all of them are within reach. Ensure that the driver's vision is not obstructed in any way in this position.





Head restraint

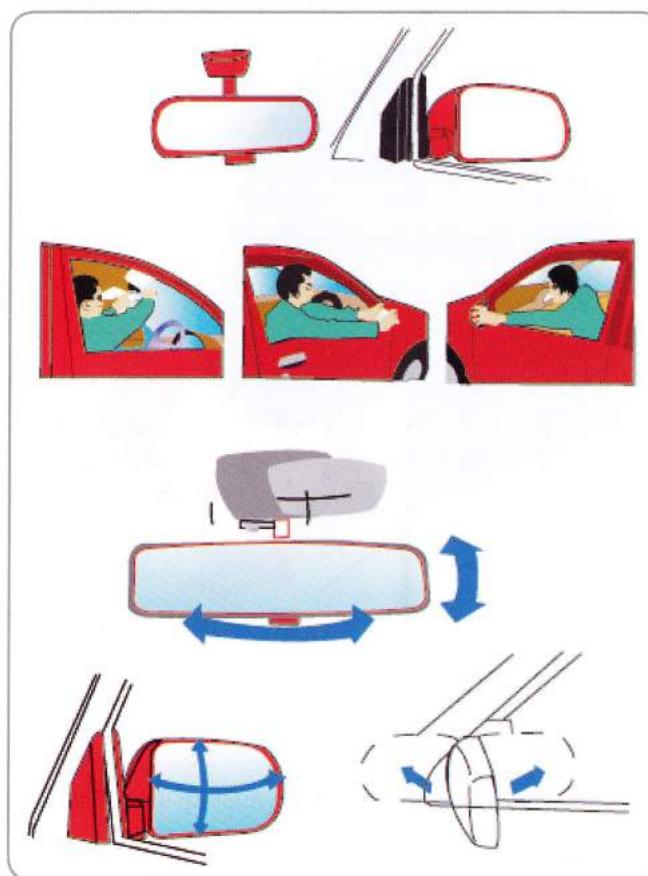
Objective:

The head restraint is adjusted to reduce the risk of whiplash if a collision should occur.

To adjust the head restraint:

- i. Align the top of the head restraint to be parallel with your ears.
- ii. Ensure that the back of your head rests comfortably on the head restraint.

2.2 Side view and rear view mirrors



Objective:

To obtain information on changes occurring to the side and rear of the vehicle before determining an appropriate course of action based on current road traffic conditions.

To adjust the side view mirrors:

- There are two types of side view mirrors; manual and motorised.
- The side view mirror should be adjusted so that 25% of the mirror is showing the body of the vehicle and 75% of the mirror is showing the rear of the vehicle.

To adjust the rear view mirrors:

- The rear view mirror should be adjusted to show the rear windscreens completely.
- Adjusting the mirror correctly will allow maximum visibility and will minimize the area obscured from the driver (blind spot).

2.3 SEATBELT

Objective:

To reduce the risk of serious harm and injury and to avoid the vehicle occupants being ejected from the vehicle in the event of a strong collision.

To fasten the seatbelt correctly:

- i. Pull the seatbelt gently from over your shoulder towards the seatbelt buckle.
- ii. Fasten the seatbelt by sliding the plate into the buckle until a 'click' is heard.
- iii. Adjust the seatbelt to be positioned as low on your waist as possible.



2.3 Ensuring that all indicators on the meter panel are in good functioning condition

Objective:

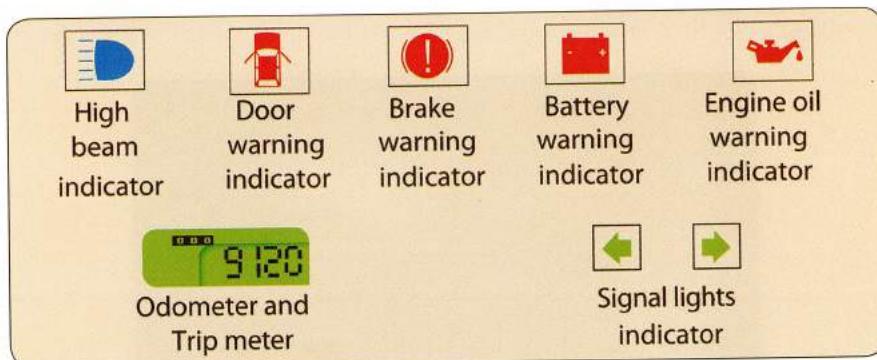
To allow the driver to familiarize himself with and fully understand the function of the indicators which include meters, gauges and warning lights. To ensure that all indicators on the meter panel are functioning correctly.

- i. Insert the key and turn it in the clockwise direction into the 'ON' position. Leave the key in this position while inspecting the meter panel and ensure that all indicators are functioning correctly.
- ii. Ensure that all warning lights are flashing. This indicates that the electrical system is functioning properly.
- iii. Inspect all indicators on the meter panel as listed below:

| INDICATOR | FUNCTION |
|-----------------------------------|--|
| Tachometer | Displays the number of engine revolutions per minute |
| Speedometer | Displays the speed of the vehicle |
| Odometer | Displays the total distance travelled by the vehicle |
| Trip meter | Displays the distance travelled by the vehicle from one specific point to another |
| Brake warning light | Turns on when the handbrake is engaged |
| Engine oil pressure warning light | Turns on when the engine is not being lubricated properly or when the engine oil is insufficient |
| Battery warning light | Turns on when the battery is not charging properly |
| Gear position indicator | Displays the position of the gear |
| Fuel gauge | Displays the amount of fuel in the fuel tank |
| Water temperature gauge | Displays the engine temperature |



Meter Panel for an Manual Vehicle



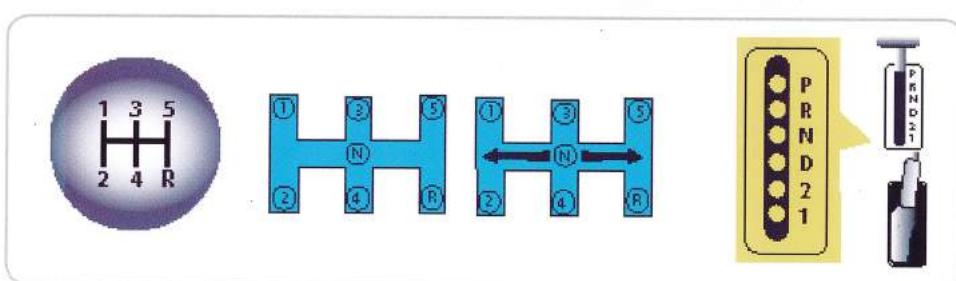
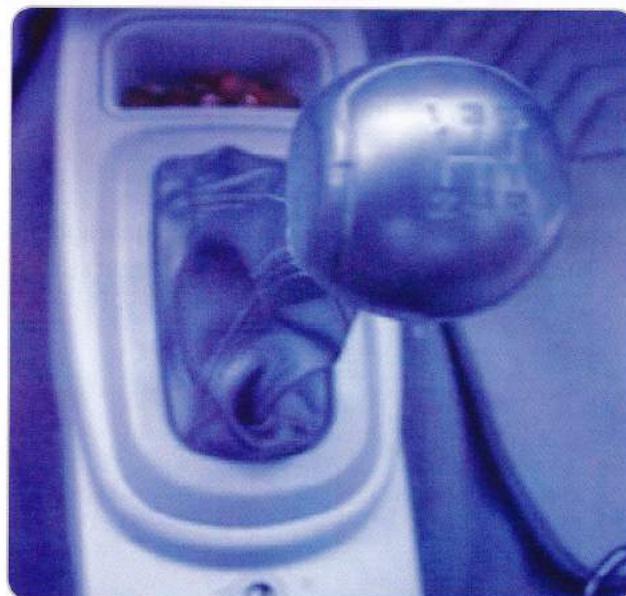
2.4 Gear

Objective:

To prevent the vehicle from moving immediately upon starting the engine. To familiarize drivers with ensuring that the transmission is placed in free gear.

To shift to free gear:

- i. Grip the gear knob and attempt to move it left and right.
- ii. If the gear knob cannot be moved, press the clutch and free the gearshift by pulling the gear knob up or down depending on its position at the time.
- iii. For vehicles with automatic transmission, ensure that the gear is shifted into the N or P gear position.

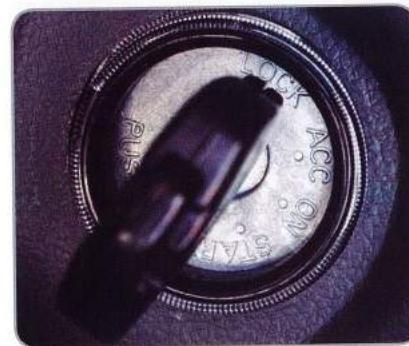
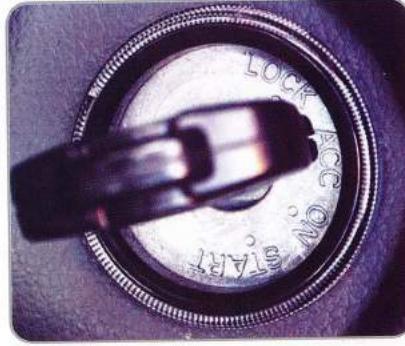
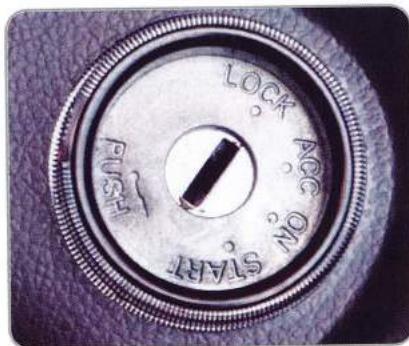


2.5 Switching the engine on

Objective:

For the driver to switch the engine on without pressing the accelerator pedal which may cause damage to:

1. Starter motor
2. Flywheel
3. Battery connections / wires due to electricity overload
 - a. The ignition switch function is to switch the engine on. Below is an explanation of its function and the correct key position.
 - b. Insert the ignition key and turn it clockwise to the 'ON' position.
 - c. The indicators found on the ignition switch are:



| POSISI | FUNGSI |
|-----------|---|
| OFF/ LOCK | The engine is switched off and the steering wheel locked. The ignition key may only be inserted and removed in this position. |
| ACC | The engine is switched off and all electrical equipment can be utilized except the air-conditioner. |
| ON | The engine may be switched on and all electrical equipment can be utilized. |
| START | Switch the engine on by turning the ignition key to this position for a few seconds. The key will return to the 'ON' position upon release. |

To start the engine:

- Insert the ignition key and turn the key in the clockwise direction to the 'ON' position. Hold it in this position for a few seconds to ensure that all indicators are functioning properly.
- Ensure that all switches for electrical equipment are switched off.
- Turn the key to the 'START' position till the engine has started running and wait for a period of between 1 to 4 seconds only before releasing the key to avoid any damage to the electrical systems.
- In the event the engine does not switch on, release the key and try again after a moment.

2.6 ENSURING THAT ALL EQUIPMENT SWITCHES ARE FUNCTIONING PROPERLY

Objective:

To allow the driver to familiarize himself with and fully understand the function of the equipment switches. To ensure that all switches are functioning correctly.

- Start the engine using the recommended procedure.
- Turn every switch on to test that they are functioning properly.

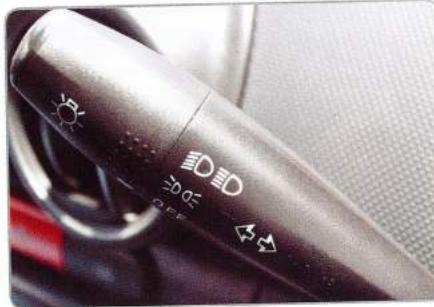
1. Turn Signal Lever

Objective:

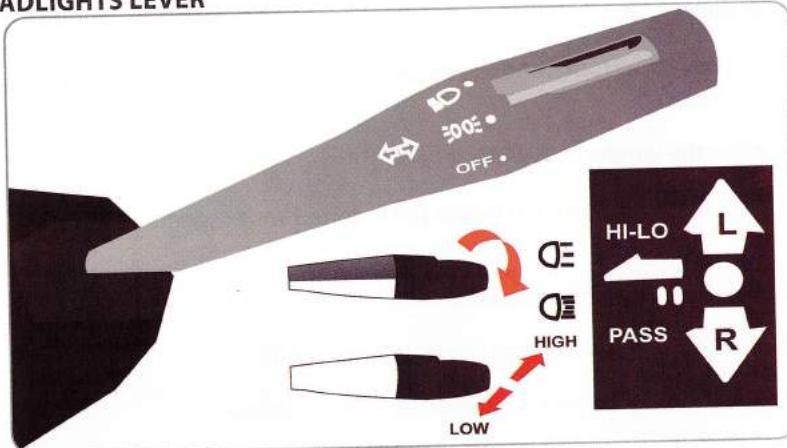
The turn signal is used to inform other road users including pedestrians of your intended direction and actions. This includes turning left or right, overtaking, changing direction and changing lanes. The turn signal should be given early, at least three seconds before the intended action, to ensure that other drivers have sufficient time to react. Giving the turn signal late may cause the driver behind to brake too hard or collide into the vehicle.

To utilize the turn signal lever:

- Push the lever down to display a right turn signal.
- Push the lever up to display a left turn signal.



2. HEADLIGHTS LEVER



Objective::

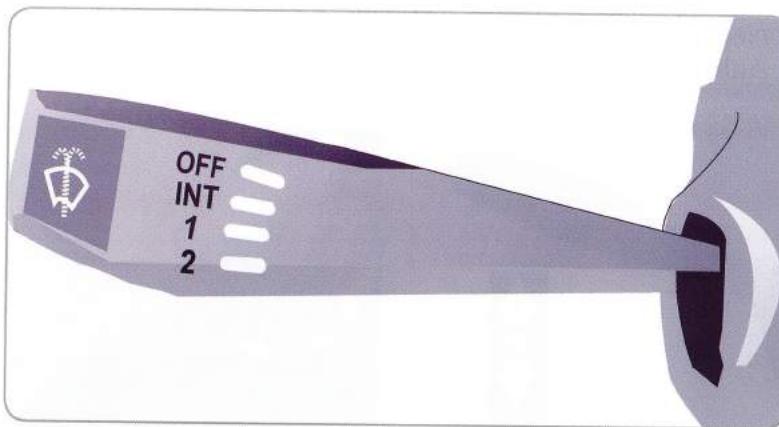
The main headlights located at the front of the vehicle allows the driver to see the road at night. These lights are also turned on during bad weather conditions to increase the visibility of the vehicle to other road users. The high beams are utilized when the road is clear, there is no oncoming traffic and there are no vehicles ahead.

To utilize the headlights lever:

- To turn the headlights on, twist the headlights lever in the clockwise direction.
- Pull the lever towards the steering wheel to turn the high beams on. The high beams indicator on the meter panel will turn on. To turn the high beams off, repeat the action.
- While the lever is twisted to the 'OFF' position, pull the lever towards the steering wheel and release it quickly to 'FLASH' the high beams. This indicates you are giving way to the road user ahead and allowing them to 'PASS'.

Switching The Engine and Off

3. Windscreen Wiper Lever

**Objective:**

To maintain the front windscreen clear of water or any dirt which may obstruct the driver's vision.

To utilize the windscreen wiper lever:

- Push the lever down to choose the required wiper speed:

| | |
|-------------|------------------------------------|
| OFF | no movement |
| INTERMITTEN | moves then stops intermittently |
| " 1 " | moves continuously at a low speed. |
| " 2 " | moves continuously at a high speed |

- To clean the windscreen, pull the lever towards the steering wheel to release a stream of water onto the windscreen.

4. Hon

**Objective:**

The horn is a means of communication, integrated into a vehicle to allow a driver to give warning to other road users. The driver should only sound the horn when necessary.

To utilize the horn:

- Press down on the horn area on the steering wheel and confirm that it is functioning properly.

5. Hazard Light

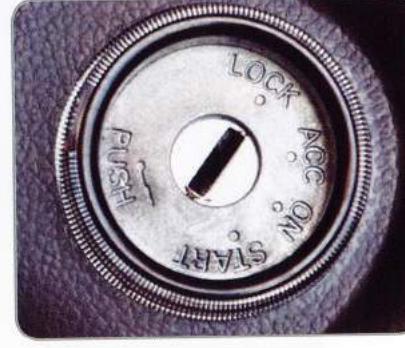
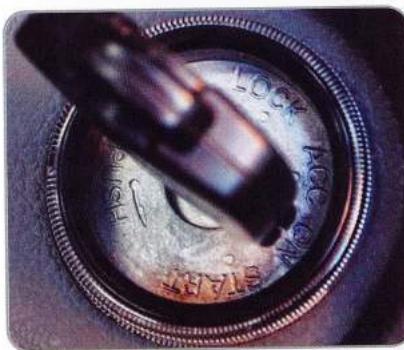


Objective:

If the switch is pressed, all four turn signal lights will flash continuously. In an emergency, turn the hazard lights on. Change lanes to a safe lane (emergency lane) until a safe parking place is reached. Leave the hazard lights on. Avoid utilizing the hazard lights when the vehicle is moving unless necessary.

- i. Press the hazard light switch to ensure that all four turn signal lights flash continuously.

2.9 SWITCHING THE ENGINE OFF



Objective:

To switch the engine off safely and correctly which includes shifting into free gear and engage the handbrake.

Switching The Engine and Off

To switch the engine off:

- i. Shift the gear into the free gear position.
- ii. Engage the handbrake by pulling the handbrake lever.
- iii. Switch off all electrical switches.
- iv. Turn the ignition key in the counter-clockwise direction to the 'OFF' or 'LOCK' position before removing the ignition key.

2.10 UNFASTENING THE SEATBELT

Objective:

To unfasten the seatbelt safely and correctly.

To unfasten the seatbelt:

- i. To unfasten the seatbelt, press the release button on the seatbelt buckle. A pulling mechanism will return the seatbelt to its original position. Ensure that the seatbelt does not get tangled while being pulled back into its original position.



3.0 ADAPTING TO THE GEAR, BRAKE, CLUTCH, ACCELERATOR AND STEERING



LEARNING OUTCOME

By the end of this chapter, the reader should:

- Fully utilize the gearshift, brakes, clutch, accelerator and steering wheel.
- Have an increased understanding of the value of safety.

The gearshift, brakes, clutch, accelerator and steering wheel are important components in handling the movement and speed of the vehicle according to the intent of the driver. Correct usage will ensure a safe and smooth drive.

3.1 Pre-driving routine (RSM)

The Pre-Driving Routine (RSM) is a routine that should be carried out before the start of a journey. Its purpose is to ensure that the vehicle components are functioning properly. It is carried out in the following order:

Enter the vehicle, sit and ensure that the handbrake is engaged.

- Adjust the driver's seat and head restraint.
- Adjust the rear view and side view mirrors.
- Fasten the seatbelt.
- Ensure that all indicators on the dashboard are functioning correctly.
- Ensure that the gearshift is placed in free gear (neutral) position.
- Start the engine without pressing the accelerator.
- Ensure that all switches are functioning properly.

3.2 Determining and shifting to the appropriate gear

Objective:

To obtain the required torque appropriate to the speed of the vehicle either when moving forward (forward gear) or when reversing (reverse gear).

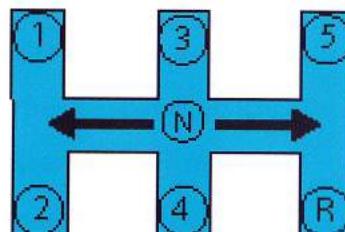
- There are two types of transmission, manual and automatic. Manual transmissions require the use of a clutch.
- Most modern vehicles have gearboxes comprised of five forward gears and one reverse gear.
- There is a schematic of gear positions placed on the gear knob to facilitate drivers in choosing their intended gear.
- Avoid looking at the gear knob while shifting gears.
- The gear is shifted based on speed and necessity.
- Correct usage will reduce the risk of accidents, enable smoother driving and reduce fuel consumption.

For most vehicles in Malaysia, the gear ratio is as follows:

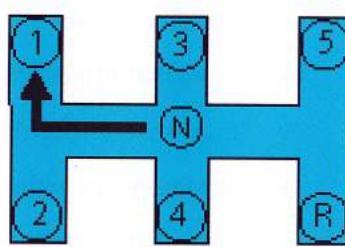
| Position | Function |
|-------------|-------------------|
| 1 | 0 - 20 km |
| 2 | 15 - 35 km |
| 3 | 30 - 45 km |
| 4 | 40 - 65 km |
| 5 | 60 km/h and above |
| R (reverse) | Reversing |
| N (neutral) | Free gear |

Determining and shifting to the appropriate gear:

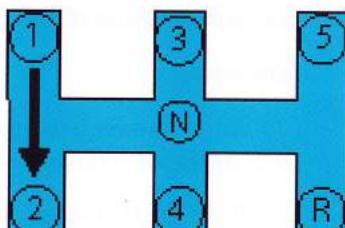
a. Ensure that the vehicle is in free gear by attempting to move the gear knob left and right. The gear knob should move freely.



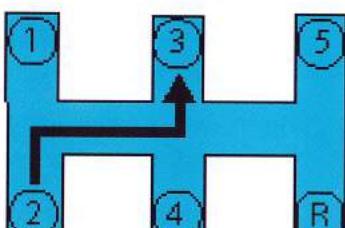
b. To shift into the gear 1 position, press the clutch fully, push the gear knob left, hold it, then push the gear knob forward.



c. To shift from gear 1 to gear 2, press the clutch fully, pull the gear knob down, hold it for a moment in the neutral position, then pull the knob down.



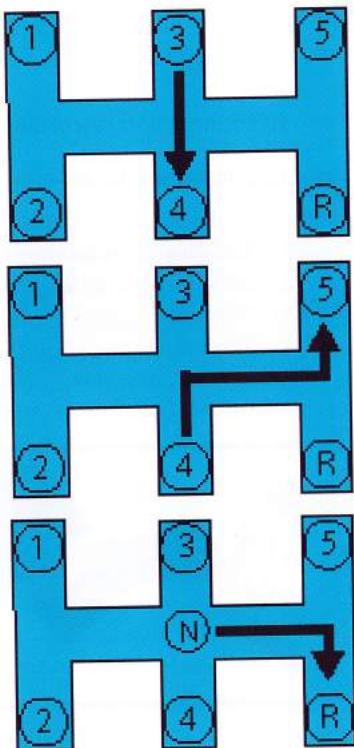
d. To shift from gear 2 to gear 3, press the clutch fully, push the gear knob forward into the neutral position, push the knob to the right, then push the gear knob forward.



e. To shift from gear 3 to gear 4, press the clutch fully, pull the gear knob down twice while holding it for a moment in the neutral position.

f. To shift from gear 4 to gear 5, press the clutch fully, push the gear knob forward into the neutral position, push the knob to the right, then push the gear knob forward.

g. To place the vehicle in reverse (R) gear, press the clutch fully while the gear is in the neutral position, then pull the gear knob fully to the right, hold, then pull the gear knob down.



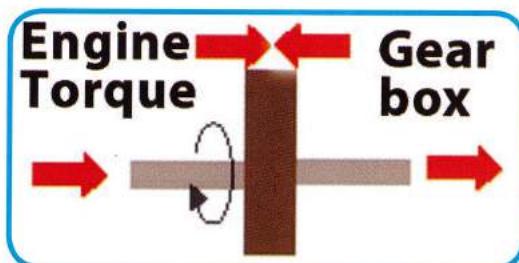
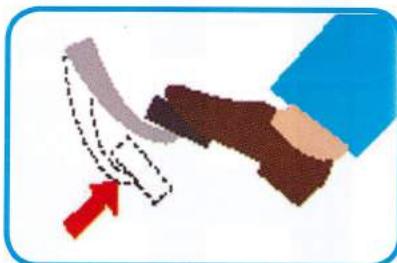
3.3 Utilizing the clutch

Objective:

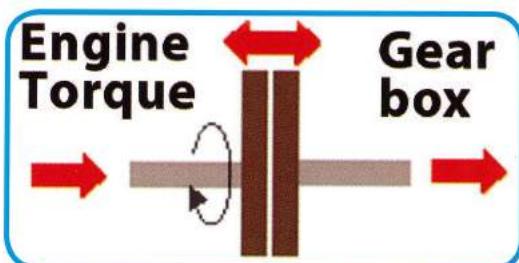
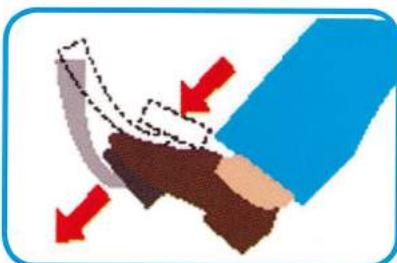
To connect and disconnect the engine torque from the gearbox.

To utilize the clutch:

- i. The clutch pedal should be controlled with the left foot.
- ii. When the clutch is pressed, torque from the engine does not reach the gearbox.
- iii. When the clutch is released, torque from the engine is transmitted to the gearbox.
- iv. The clutch pedal should be pressed fully using the left foot before shifting gears and must be released afterwards to allow the torque to flow to the gearbox.



Position of the clutch pedal when pressed



Position of the clutch pedal when released

3.4 Familiarisation with the gear, brake, clutch, accelerator and steering

Objective:

To familiarize the driver with selecting the appropriate gear and balancing the clutch and accelerator pedals to allow the vehicle to move smoothly and without jerking.

To utilize correctly:

- i. Utilize the left foot to press the clutch pedal fully and hold.
- ii. Shift the gear knob into the gear 1 position. If the gear knob cannot be moved into position, release the clutch and press it again. Make another attempt to shift into first gear.
- iii. Utilize the right foot to gently press the accelerator pedal.
- iv. Gradually release the clutch pedal until the sound of the engine revving reduces. This indicates that the clutch has engaged the flywheel.
- v. Maintain the clutch in this position.
- vi. If it is safe to do so, release the handbrake.
- vii. At the same time, release the clutch slightly. The vehicle will begin moving.
- viii. Ensure that the vehicle is moving properly before releasing the clutch fully.



3.5 Familiarisation with the gear, brake, clutch, accelerator and steering

Objective:

To familiarize the driver with selecting the appropriate gear and balancing the clutch and accelerator pedals to allow the vehicle to move smoothly and without jerking.

To utilize correctly:

- i. Utilize the left foot to press the clutch pedal fully and hold.
- ii. Shift the gear knob into the gear 1 position. If the gear knob cannot be moved into position, release the clutch and press it again. Make another attempt to shift into first gear.
- iii. Utilize the right foot to gently press the accelerator pedal.
- iv. Gradually release the clutch pedal until the sound of the engine revving reduces. This indicates that the clutch has engaged the flywheel.
- v. Maintain the clutch in this position.
- vi. If it is safe to do so, release the handbrake.
- vii. At the same time, release the clutch slightly. The vehicle will begin moving. Ensure that the vehicle is moving properly before releasing the clutch fully.

3.5 Brake pedal

Objective:

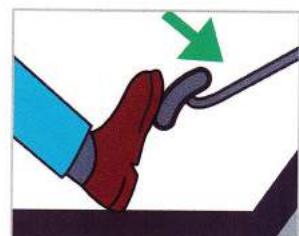
To reduce the speed of the vehicle and bring it to a complete stop in the correct manner.

To use the brake pedal:

- i. Only use the right foot to press the brake pedal.
- ii. Gradually press the brake pedal until the vehicle is travelling at the intended speed then release the brake pedal. If intending to come to a complete standstill, gradually press the brake to reduce the speed of the vehicle until it stops completely.
- iii. Utilizing the brake correctly will avoid skidding and loss of control of the vehicle.

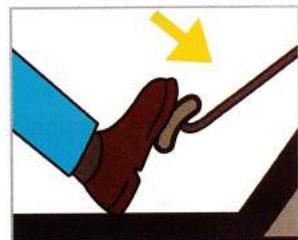
Step 1

Lightly press the brake pedal to gently reduce the speed of the vehicle or to gently bring it to a complete stop.

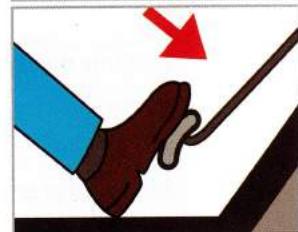


Step 2

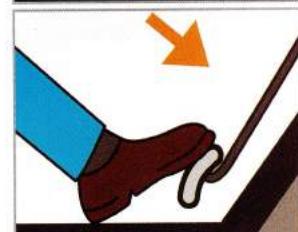
Increase the pressure on the brake pedal to reduce the speed of the vehicle quickly or to stop a vehicle travelling at high speeds.

**Step 3**

Press the brake pedal firmly but gradually. Reduce the pressure used to bring the vehicle to a gentle stop.

**Step 4**

Press the brake pedal firmly and maintain a firm pressure to ensure that the vehicle comes to a stop until the driver is ready to start moving again.



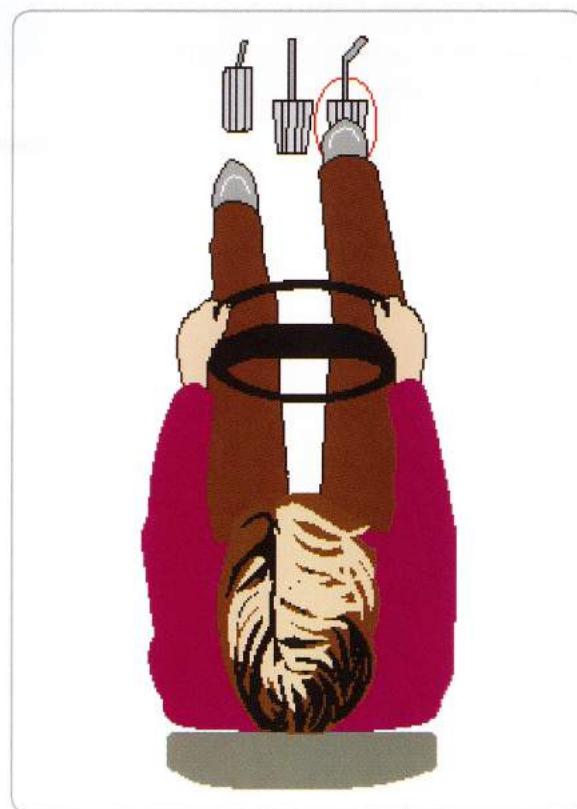
3.6 Accelerator

Objective:

The function of the accelerator is to control the speed of the vehicle through the control of fuel intake into the engine.

To utilize the accelerator:

- i. Only the right foot should be utilized to press the accelerator pedal.
- ii. Release the accelerator when pressing the clutch to shift gears or when pressing the brake.
- iii. Avoid pressing the accelerator and brake pedals simultaneously.
- iv. Press the accelerator in a gradual manner to obtain speed and stable movement while also reducing fuel consumption.



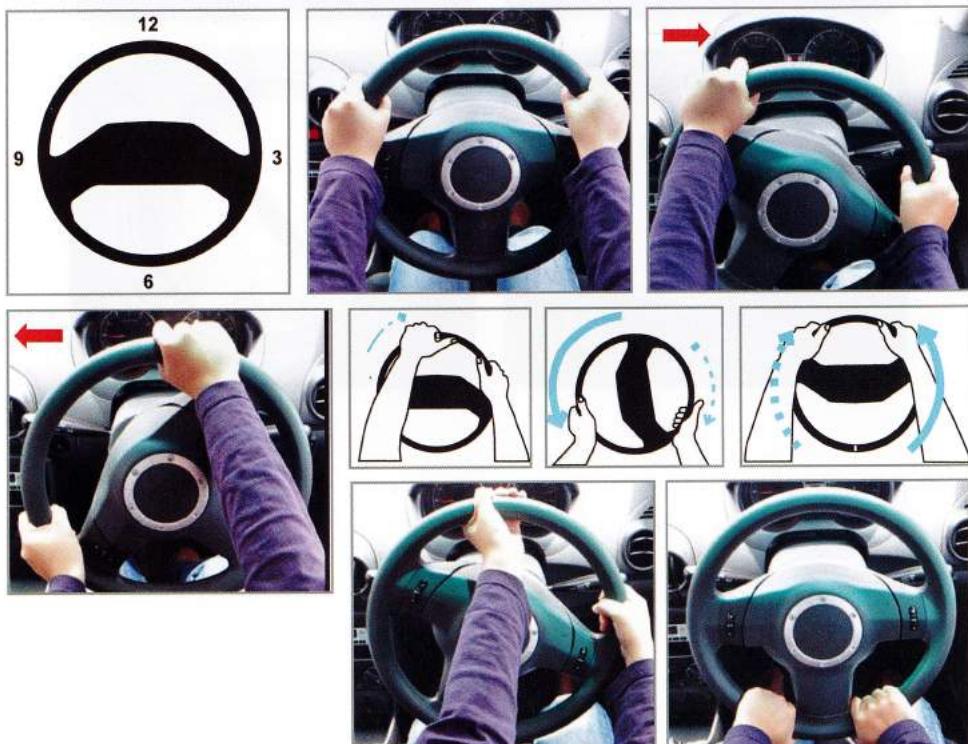
3.7 Steering wheel

Objective:

To control the direction of the vehicle.

To use the steering wheel:

- i. Maintain a firm grip on the steering wheel with both hands at all times while driving.
- ii. The steering wheel should be turned using the Pull and Push Technique. Begin by first pulling, and not pushing, the steering wheel to gain better control of the vehicle.
- iii. Slide the left hand up on the steering wheel not exceeding the 12 o'clock position.
- iv. Pull the steering wheel down with the left hand and simultaneously slide the right hand down the steering wheel.
- v. To make a sharper turn, push the steering wheel up with the right hand and simultaneously slide the left hand up again.
- vi. Repeat the previous steps until the vehicle is facing the intended direction.
- vii. Straighten the vehicle after making the turn by repeating the previous steps in reverse.



Wrong method of gripping the steering wheel

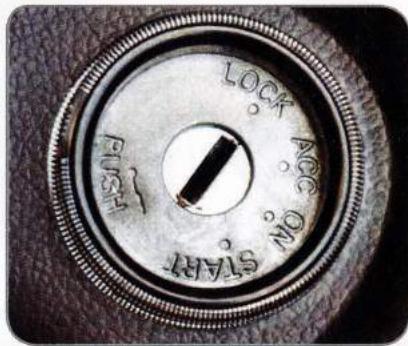
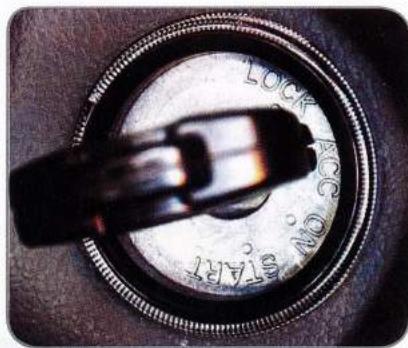
3.7 Switching the engine off

Objective:

To switch the engine off safely and correctly which includes engaging the handbrake and shifting the gear to the 'P' position.

To switch the engine off:

- i. Ensure that the handbrake lever is raised and the hand brake is engaged.
- ii. Ensure the gear is placed in the 'P' position.
- iii. Switch off all electrical systems in the vehicle.
- iv. Turn the ignition key in the counter-clockwise direction to the 'OFF' or 'LOCK' position before removing the ignition key.



4.0 FAMILIARIZATION WITH THE PRE-DRIVING SAFETY ROUTINE

LEARNING OUTCOME



By the end of this chapter, the reader should:

- i. Carry out the safe driving routine before starting a journey.
- ii. Have an increased understanding of the value of safety.
- iii. Have an increased understanding of the value of carrying out the safe driving routine before starting a journey.

Safe driving routine

Objective:

To obtain information of the surroundings to overcome possible hazards, the driver must always practice the following CITO routine before taking any action or practicing any manoeuvre:

| | |
|---|--|
| C | Cermin (Mirror): Look in the side view mirrors and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |

5.0 EMERGENCY HELP



LEARNING OUTCOME

Learning Outcome

By the end of this chapter, the reader should:

- i. Display a level of preparation to react in the case of an emergency.
- ii. Feel a level of responsibility in helping victims of road accidents.
- iii. Help those who face problems or are involved in accidents on the road.

Emergencies are situations that require immediate and appropriate action to avoid worse injuries or the possibility of worse injuries occurring. In emergencies, the act of saving lives and minimizing the threat to human life is the main concern. It is only after this that an effort should be made to save material possessions. In managing emergencies, the slogan "Saving Lives First" is the main slogan which should be applied.

1. Emergency situations may arise from many possible incidents including:

- i. Accidents.
- ii. The vehicle being driven catches fire.
- iii. The driver falling ill suddenly while driving.
- iv. Issues with weight and cargo.
- v. Unusual road conditions.
- vi. Death of the driver or passengers.
- vii. Explosions, whether outside or inside the vehicle.

The driver must keep in mind that an emergency situation may bring harm not only to the driver and his passengers, but also to the public, possessions and the surrounding environment.

2. Handling emergencies. The driver should:

- i. Stop the vehicle when an incident occurs.
- ii. Do not act rudely towards the person needing help.
- iii. Only move injured persons if necessary (their injuries will worsen if not moved).
- iv. Stay at the location of the incident until help arrives.
- v. Turn on the hazard lights and place the Emergency Triangle in a suitable location to warn other drivers of an emergency situation ahead.
- vi. Extinguish any small fires using the correct fire extinguisher.

3. Making emergency calls (I'll call for help)

- a. Remember the numbers for emergency services (Police/Fire Department/ Ambulance / SMART-999)
- b. Numbers for emergency services should be placed at easily visible areas such as the dashboard or sun visor.



Drivers Education Curriculum
CLASS D MANUAL

KPP 02

**DRIVING CIRCUIT
PRACTICAL
TRAINING**

(VEHICLE CONTROL)

Driving Circuit Practical Training (Vehicle Control)

1.0 STARTING AND STOPPING A VEHICLE



LEARNING OUTCOME

By the end of this chapter, the reader should:

- ii. Be able to start and stop the vehicle safely and smoothly.
- ii. Value the comfort and safety of himself and his passengers.

1.1 Pre-Journey Inspection Routine

The pre-journey inspection routine is a habit that should be embedded in every driver. Its purpose is to:

- i. Avoid malfunctions that may occur during the journey.
- ii. Ensure that the vehicle is in optimum condition throughout the journey.
- iii. Reduce the risk of accidents occurring due to damage or technical malfunctions.

This will ensure the safety of both driver and passengers throughout the journey.

The pre-journey inspection routine consists of two parts:

- a. Vehicle Inspection Routine (RPK)
- b. Pre-Driving Routine (RSM)

Vehicle inspection routine (RPK)

1. External Inspection of Vehicle

Walk around the car in a clockwise direction and inspect it for any damage. External damage often occurs in these areas:

- a. Tyres (including spare tyre)
 - i. Tyres are an important factor in determining the safety of the vehicle and its passengers.
 - ii. Tyres act as a cushion to facilitate the absorption of vibrations by the suspension system to reduce its effect on the body of the vehicle.
 - iii. Balancing must be done on the tyres to ensure that they will spin without vibration when travelling at different speeds.

iv. Alignment must be done on the tyres to ensure that the tyre tread wears out evenly.

v. The tyres should be inspected before every journey especially long ones.

vi. Tyre air pressure:

- Determine the tyre pressure by using a tyre pressure gauge set with a scale between 26 psi to 32 psi (lb/in²) or 180 kPa to 220 kPa (kg/cm²). Vehicle manufacturers will also often place a table of specifications on the side of the driver's door for tyre recommendations and ideal tyre pressure.
- Insufficient tyre pressure will cause the tyre treads to wear out faster on the left and right of the tyre.
- Excessive tyre pressure will cause the tyre treads to wear out faster in the middle of the tyre.

vii. Most modern tyres have an indicator to show how much the tyre has worn out.

The indicator shows the 1/16 inch permitted depth of the tyre tread pattern.

The tyre should be changed if it has worn out, up until the indicator.

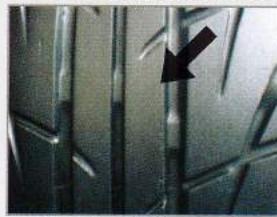
viii. Ensure that the tyre has no cracks, bulges or tears.



Table of specifications for tyre recommendations and ideal tyre pressure



Tyre and rim



Tyre treads in good condition



Worn out tyre treads that should be replaced

b. Lights

- i. Ensure that the front lights, rear lights, signal lights, brake lights, additional brake light and reverse lights are functioning properly.
- ii. Ensure that the front and rear light covers are not cracked or broken.
- iii. The front and rear light covers should be replaced if there is any damage.
- iv. Ensure that the front and rear light covers are clean.
- v. A soft cloth may be utilized to clean the light covers.



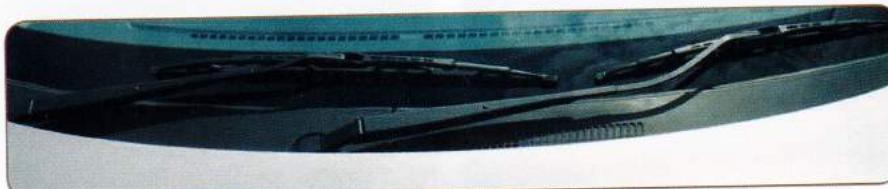
Front of the Vehicle



Rear of the Vehicle

c. Windscreen wipers

- i. Windscreen wipers are utilized to wipe the windscreen if there is dirt or when driving in the rain.
- ii. Ensure that the windscreen wiper blades are in good condition since hard, cracked or torn windscreen wiper blades will fail to wipe the water off completely when driving in the rain. It may also cause scratches on the windscreen.



windscreen wiper blades

d. Body of the vehicle

i. Inspect the vehicle in a clockwise direction.

ii. The elements that must be inspected are as follows:

- Vehicle registration plate: Ensure that the vehicle registration plate is clean and not damaged.
- Bumper: Ensure the bumper is in good condition.
- Boot and bonnet covers: Ensure they are both in good condition and closed securely.
- Side mirrors: Ensure they are clean and not damaged.
- Doors and windows: Ensure that they can be opened and closed properly. Press your thumb on the body of the door and pull the door handle to open and close the door in a gentle manner.



e. Front and rear windscreens

i. Ensure that the front and rear windscreens are clean and not damaged



Front Windscreen



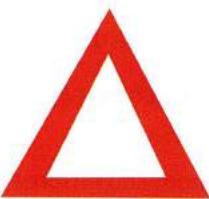
Rear Windscreen

2. Inspect the bottom of the vehicle to identify any leaks.

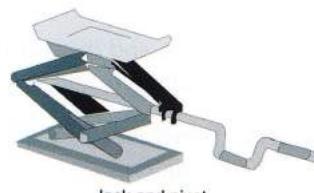
3. Boot Compartment Inspection.
4. Pull the handle located at the bottom right of the driver's seat to open the boot.
5. Open the boot and inspect the emergency equipment located at the bottom to ensure it is complete and in good condition.
6. Inspect all emergency equipment in the boot and ensure that they are in good and working condition:
 - a. Emergency triangle
 - b. First aid kit and first aid guide
 - c. Flashlight
 - d. Dry fire extinguisher
 - e. Jack and pivot
 - f. Lug wrench
 - g. Repair equipment
 - h. Adjustable wrench
 - i. Jumper cables
 - j. Towing cable
 - l. Screwdriver
 - m. Sparkplug wrench
 - n. Various wrenches
 - o. Pliers
 - q. A container of clean water

REMINDER

If there is any damage found to the vehicle, the relevant component should be immediately repaired or replaced.



Emergency Triangle



Jack and pivot



Adjustable wrench



Lug Wrench



Jumper Cables

7. Engine Compartment Inspection

- Open the bonnet by pulling the handle located at the bottom right of the dashboard on the driver's side. The bonnet will raise up slightly.
- Release the safety latch and lift the bonnet completely. Place the rod as a bonnet stay.
- Inspect the level and quality of the following fluids:
 - Engine oil—Pull the dipstick out. Ensure the oil level is between the maximum and minimum markings.
 - Brake fluid—Ensure the fluid level is between the maximum and minimum markings.
 - Power steering fluid (if available)—Take off the cap and ensure the fluid level is between the maximum and minimum markings.



Engine oil level



Engine oil dipstick



Brake fluid container

d. Inspect the water level

- i. Radiator water – Take off the radiator cap and ensure the water level in the radiator is sufficient. Afterwards, replace the cap securely.
- ii. Reserve radiator water – Ensure the amount of water is sufficient.
- iii. Battery water – Ensure the water level in the battery is sufficient. (For wet batteries only)
- iv. Windscreen wiper water – Ensure the amount of water is sufficient.



Reserve radiator water container

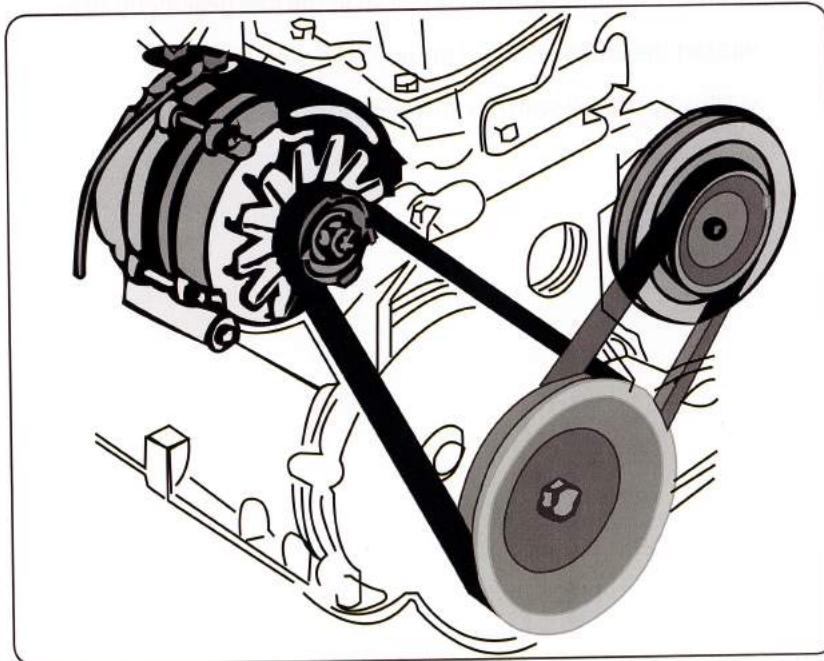


Battery



Windscreen wiper water container

e. Inspect the timing belts – Ensure the timing belts are not cracked or frayed. Press the timing belt using your thumb to test the elasticity. The belt should stretch from 0.5 cm – 1.0 cm.



Timing belts

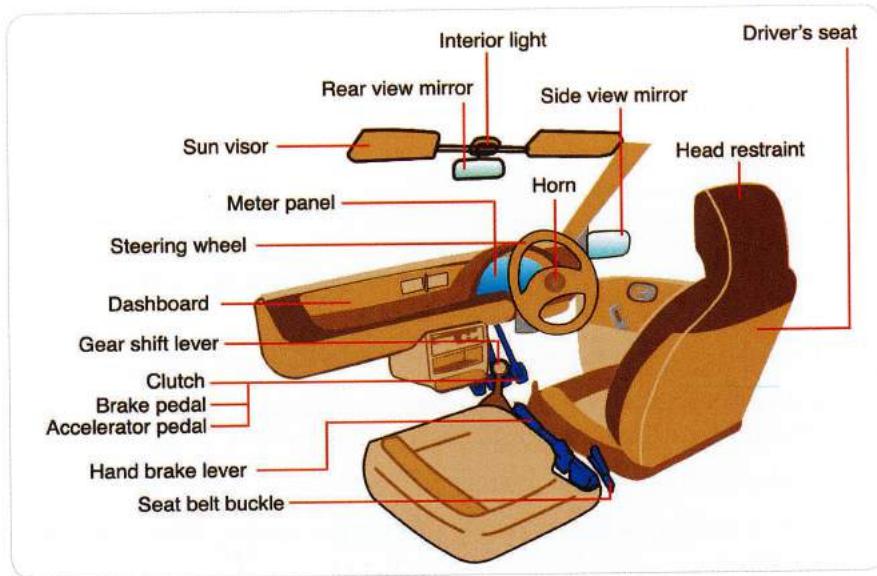
- f. Inspect the fan blades – Ensure the blades are not damaged or obstructed when spinning.
- g. Inspect all connections
 - i. Wires–Ensure that all wires are connected firmly to the appropriate electrical components.
 - ii. Hoses– Ensure they are in good condition and there are no leaks, cracks or bulges.
 - iii. Battery terminals–Ensure that the battery terminals are clean and fastened securely. Apply the appropriate grease to the terminal to avoid rust or fungal growth.

1. Pre-driving routine (RSM)

The Pre-driving Routine (RSM) is a routine carried out before the start of a journey. Its purpose is to confirm the proper functioning of vehicle components. It is carried out in the following order:

- i. Enter the vehicle, sit and ensure that the handbrake is engaged.
- ii. Adjust the driver's seat and head restraint.
- iii. Adjust the rear view and side view mirrors.
- iv. Fasten the seatbelt.
- v. Ensure that all indicators on the dashboard are functioning correctly.
- vi. Ensure that the gearshift is placed in the free gear (neutral) position.
- vii. Start the engine without pressing the accelerator.
- viii. Ensure that all switches are functioning properly.

2. Driver's seat



1.2 Safe driving routine

Objective:

To obtain information of the surroundings to overcome possible hazards, the driver must always practice the following CITO routine before taking any action or practicing any manoeuvre:

| | |
|----------|--|
| C | Cermin (Mirror): Look in the side view mirrors and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |

1.3 Moving forward

Objective:

To familiarise the driver with balancing the clutch and accelerator to allow the vehicle to move forward in a smooth, comfortable and safe manner.

- i. Utilize the left foot to fully press the clutch pedal and hold.
- ii. Shift the gear knob into the gear 1 position. If the gear knob cannot be moved into position, release the clutch and press it again a few times. Make another attempt to shift into first gear.
- iii. Utilize the right foot to gently press the accelerator pedal.
- iv. Gradually release the clutch pedal until the sound of the engine revving reduces. This indicates that the clutch has engaged the flywheel.
- v. Maintain the clutch in this position.
- vi. Practice the CITO routine to ensure that the surroundings are safe before moving forward.
- vii. If it is safe to do so, release the handbrake.
- viii. At the same time, release the clutch slightly. The vehicle will begin moving forward. Increase pressure on the accelerator. Release the clutch pedal.
- ix. To bring the vehicle to a stop, release the accelerator pedal fully.
- x. Control the braking of the vehicle by gradually pressing the brake and controlling the pressure on the clutch pedal.
- xi. When the vehicle has slowed down, press the clutch pedal fully while gradually increasing pressure on the brake pedal until coming to a complete stop.
- xii. Once the vehicle is stationary, engage the handbrake.
- xiii. Put the vehicle into free gear.

1.4 Moving in reverse

Objective:

To familiarise the driver with reversing in a smooth, comfortable and safe manner. Moving in reverse is often difficult since it may cause the vehicle to stray off the lane.

- i. Utilize the left foot to fully press the clutch pedal and hold.
- ii. Shift the gear knob into the gear R (reverse) position. If the gear knob cannot be moved into position, release the clutch and press it again a few times. Make another attempt to shift into the gear R position.
- iii. Utilize the right foot to gently press the accelerator pedal.
- iv. Gradually release the clutch pedal until the sound of the engine revving reduces. This indicates that the clutch has engaged the flywheel.
- v. Maintain the clutch in this position.
- vi. Practice the CITO routine to ensure that the surroundings are safe before moving forward.
- vii. If it is safe to do so, release the handbrake.
- viii. At the same time, release the clutch slightly. The vehicle will begin moving forward. Increase pressure on the accelerator. Release the clutch pedal.
- ix. To bring the vehicle to a stop, release the accelerator pedal fully.
- x. Control the braking of the vehicle by gradually pressing the brake and controlling the pressure on the clutch pedal.
- xi. When the vehicle has slowed down, press the clutch pedal fully while gradually increasing pressure on the brake pedal until coming to a complete stop.
- xii. Once the vehicle is stationary, engage the handbrake.
- xiii. Put the vehicle into free gear.

2.0 DRIVING ON STRAIGHT ROADS, CURVES, JUNCTIONS AND ROUNDABOUTS



LEARNING OUTCOME

By the end of this chapter, the reader should:

- i. Drive safely on straight roads, curves, junctions and roundabouts.
- ii. Ensure that the vehicle is positioned correctly while driving.
- iii. Ensure that the vehicle is in the correct lane while driving.
- iv. Overtake other vehicles safely.
- v. Have an increased understanding of the value of safety for himself, passengers and other road users.

2.1. Pre-Journey Inspection Routine

1. The pre-journey inspection routine is a habit that should be embedded in every driver. Its purpose is to:
 - i. Avoid malfunctions that may occur during the journey.
 - ii. Ensure that the vehicle is in optimum condition throughout the journey.
 - iii. Reduce the risk of accidents occurring due to damage or technical malfunctions. This will ensure the safety of both driver and passengers throughout the journey.

The pre-journey inspection routine consists of two parts:

- a. Vehicle Inspection Routine (RPK)
- b. Pre-Driving Routine (RSM)

2. Vehicle inspection routine (RPK)

1. External Inspection of Vehicle

Walk around the car in a clockwise direction and inspect it for any damage. External damage often occurs in these areas:

- a. Tyres (including spare tyre)
 - i. Tyres are an important factor in determining the safety of the vehicle and its passengers.
 - ii. Tyres act as a cushion to facilitate the absorption of vibrations by the suspension system to reduce its effect on the body of the vehicle.
 - iii. Balancing must be done on the tyres to ensure that they will spin without vibration when travelling at different speeds.
 - iv. Alignment must be done on the tyres to ensure that the tyre tread wears out evenly.
 - v. The tyres should be inspected before every journey especially long ones.
 - vi. Tyre air pressure:

- Determine the tyre pressure by using a tyre pressure gauge set with a scale between 26 psi to 32 psi (lb/in²) or 180 kPa to 220 kPa (kg/cm²). Vehicle manufacturers will also often place a table of specifications on the side of the driver's door for tyre recommendations and ideal tyre pressure.
- Insufficient tyre pressure will cause the tyre treads to wear out faster on the left and right of the tyre.
- Excessive tyre pressure will cause the tyre treads to wear out faster in the middle of the tyre.

vii. Most modern tyres have an indicator to show how much the tyre has worn out. The indicator shows the 1/16 inch permitted depth of the tyre tread pattern. The tyre should be changed if it has worn out, up until the indicator.

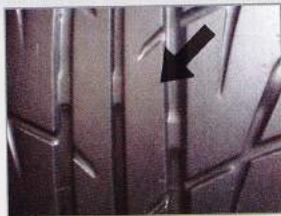
viii. Ensure that the tyre has no cracks, bulges or tears.

| SAIZ TAYAR TIRE SIZE | |
|---|------------------|
| 185/60R14 82H 175/70R13 82H | |
| TEKANAN KEMBONG TAYAR SEMASA SEJUK COLD TIRE INFLATION PRESSURE, kPa (PSI) | |
| HADAPAN FRONT | BELAKANG REAR |
| 210 (31) | 190 (28) |
| TAYAR GANTIAN : SPARE TIRE : 155/80R13 79T 155/70R14 77T | 250 (37) |
| PW922183 | |

Table of specifications for tyre recommendations and ideal tyre pressure



Tyre and rim



Tyre treads in good condition



Worn out tyre treads that should be replaced

b. Lights

- Ensure that the front lights, rear lights, signal lights, brake lights, additional brake light and reverse lights are functioning properly.
- Ensure that the front and rear light covers are not cracked or broken.
- The front and rear light covers should be replaced if there is any damage.
- Ensure that the front and rear light covers are clean.
- A soft cloth may be utilized to clean the light covers.



Front of the Vehicle



Rear of the Vehicle

c. Windscreen wipers

- i. Windscreen wipers are utilized to wipe the windscreen if there is dirt or when driving in the rain.
- ii. Ensure that the windscreen wiper blades are in good condition since hard, cracked or torn windscreen wiper blades will fail to wipe the water off completely when driving in the rain. It may also cause scratches on the windscreen.



windscreen wiper blades

d. Body of the vehicle

- i. Inspect the vehicle in a clockwise direction.
- ii. The elements that must be inspected are as follows:
 - Vehicle registration plate: Ensure that the vehicle registration plate is clean and not damaged.
 - Bumper: Ensure the bumper is in good condition.
 - Boot and bonnet covers: Ensure they are both in good condition and closed securely.
 - Side mirrors: Ensure they are clean and not damaged.
 - Doors and windows: Ensure that they can be opened and closed properly. Press your thumb on the body of the door and pull the door handle to open and close the door in a gentle manner.



e. Front and rear windscreens

i. Ensure that the front and rear windscreens are clean and not damaged



Front Windscreen



Rear Windscreen

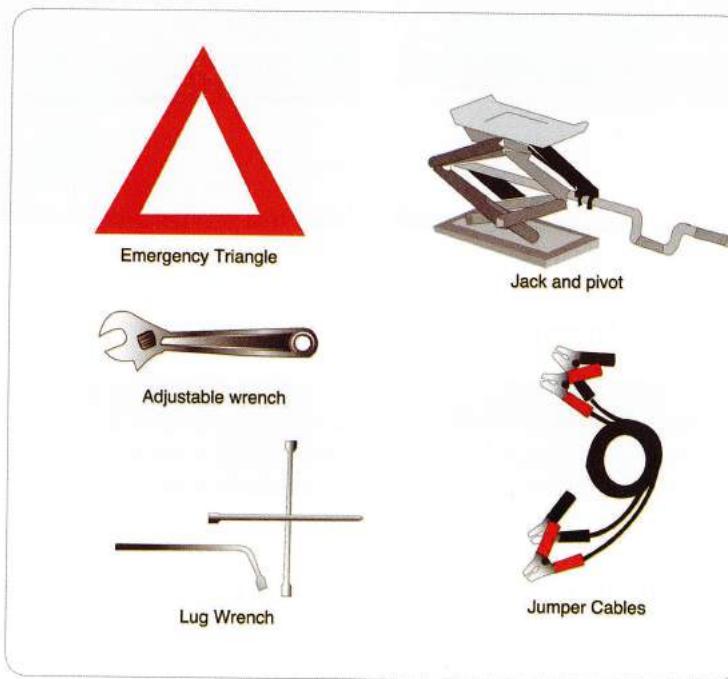
2. Inspect the bottom of the vehicle to identify any leaks.

REMINDER

If there is any damage found to the vehicle, the relevant component should be immediately repaired or replaced.

3. Boot Compartment Inspection.
4. Pull the handle located at the bottom right of the driver's seat to open the boot.
5. Open the boot and inspect the emergency equipment located at the bottom to ensure it is complete and in good condition.
6. Inspect all emergency equipment in the boot and ensure that they are in good and working condition:
 - a. Emergency triangle
 - b. First aid kit and first aid guide
 - c. Flashlight
 - d. Dry fire extinguisher

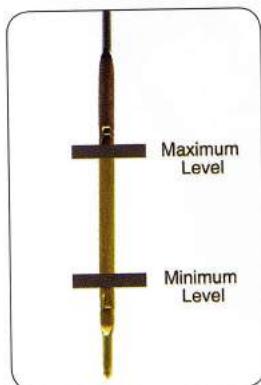
- f. Jack and pivot
- g. Lug wrench
- h. Repair equipment
- i. Adjustable wrench
- j. Jumper cables
- k. Towing cable
- l. Screwdriver
- m. Sparkplug wrench
- n. Various wrenches
- o. Pliers
- q. A container of clean water



7. Engine Compartment Inspection

- a. Open the bonnet by pulling the handle located at the bottom right of the dashboard on the driver's side. The bonnet will raise up slightly.
- b. Release the safety latch and lift the bonnet completely. Place the rod as a bonnet stay.
- c. Inspect the level and quality of the following fluids:

- i. Engine oil -Pull the dipstick out. Ensure the oil level is between the maximum and minimum markings.
- ii. Brake fluid -Ensure the fluid level is between the maximum and minimum markings.
- iii. Power steering fluid (if available) -Take off the cap and ensure the fluid level is between the maximum and minimum markings.



Engine oil level



Engine oil dipstick



Brake fluid container

- d. Inspect the water level

- i. Radiator water -Take off the radiator cap and ensure the water level in the radiator is sufficient. Afterwards, replace the cap securely.
- ii. Reserve radiator water -Ensure the amount of water is sufficient.
- iii. Battery water -Ensure the water level in the battery is sufficient. (For wet batteries only)
- iv. Windscreen wiper water -Ensure the amount of water is sufficient.



Reserve radiator water container

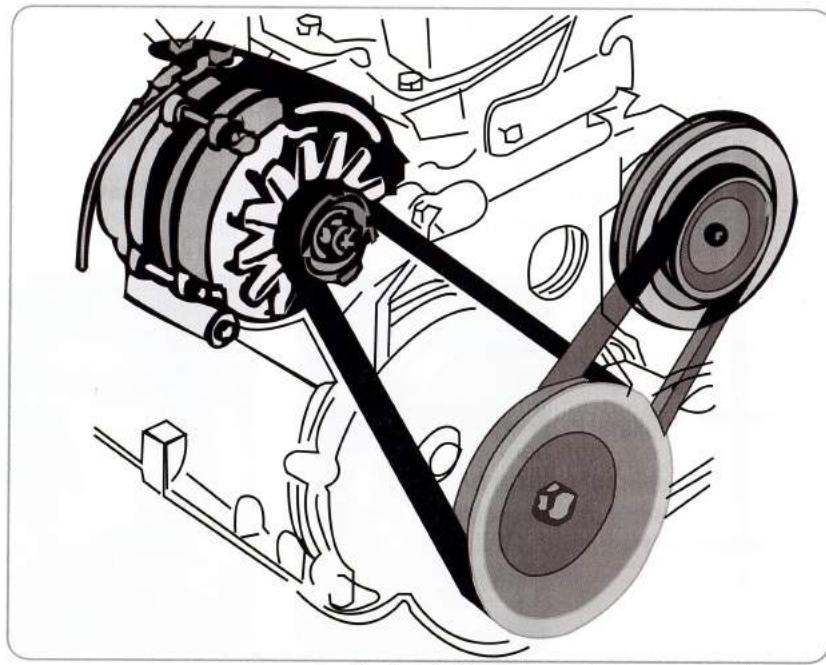


Battery



Windscreens wiper water container

- e. Inspect the timing belts – Ensure the timing belts are not cracked or frayed. Press the timing belt using your thumb to test the elasticity. The belt should stretch from 0.5 cm – 1.0 cm.



Timing belts

- f. Inspect the fan blade –Ensure the blades are not damaged or obstructed when spinning.
- g. Inspect all connections
 - i. Wires–Ensure that all wires are connected firmly to the appropriate electrical components.
 - ii. Hoses – Ensure they are in good condition and there are no leaks, cracks or bulges.
 - iii. Battery terminals–Ensure that the battery terminals are clean and fastened securely. Apply the appropriate grease to the terminal to avoid rust or fungal growth.

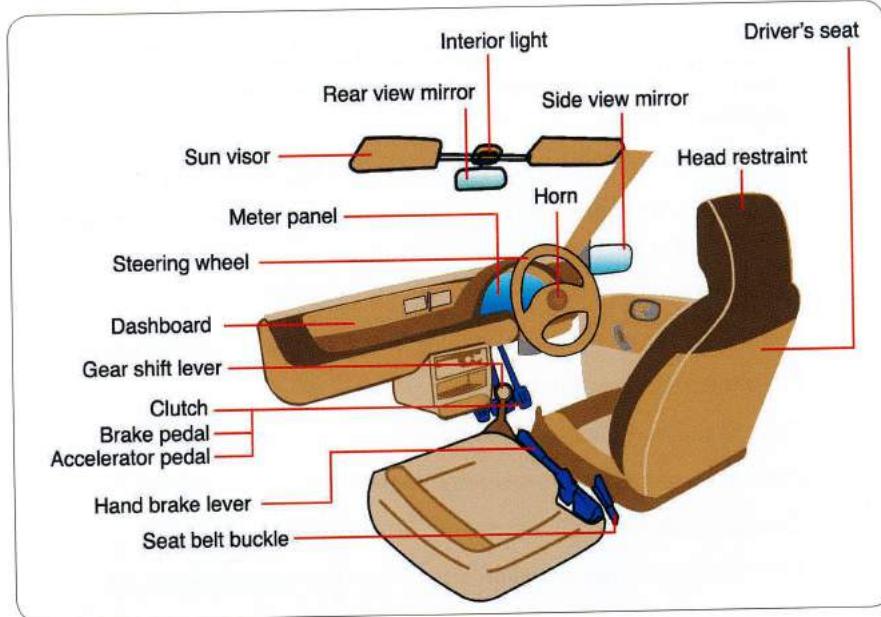
1. Pre-driving routine (RSM)

The Pre-driving Routine (RSM) is a routine carried out before the start of a journey. Its purpose is to confirm the proper functioning of vehicle components. It is carried out in the following order:

- i. Enter the vehicle, sit and ensure that the handbrake is engaged.
- ii. Adjust the driver's seat and head restraint.
- iii. Adjust the rear view and side view mirrors.
- iv. Fasten the seatbelt.
- v. Ensure that all indicators on the dashboard are functioning correctly.

- vi. Ensure that the gearshift is placed in the free gear (neutral) position.
- vii. Start the engine without pressing the accelerator.
- viii. Ensure that all switches are functioning properly.

2. Driver's seat



2.2. Safe driving routine

Objective:

To obtain information of the surroundings to overcome possible hazards, the driver must always practice the following CITO routine before taking any action or practicing any manoeuvre:

| | |
|----------|--|
| C | Cermin (Mirror): Look in the side view mirrors and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |

2.3 Driving on straight roads

Objective:

To ensure that the driver is able to position the car safely as well as determine the appropriate speeds in which to shift the gear appropriately. Apply the Twelve (12) Second Visual Scan to look ahead.

- i. Ensure that the steering wheel is in the correct (neutral) position.
- ii. Select the appropriate gear according the required torque. Practice the gear selection routine.
- iii. Ensure that the vehicle is travelling straight before shifting gears.
- iv. Ensure that the right hand can maintain proper control of the steering wheel while shifting gears.
- v. Shift gears with the left hand.
- vi. Use the right foot to press the brake pedal fully and maintain this position.
- vii. Press the gear selection button on the gear knob.
- viii. Release the handbrake.
- ix. Place both hands on the steering wheel.
- x. Gradually release the brake pedal.
- xi. Press the accelerator pedal until the intended speed is achieved.
- xii. Practice the CITO routine throughout the drive.

REMINDER

Vehicles with automatic transmission will begin moving even when the accelerator pedal is not pressed.

Shifting to gear 3

- xiii. Ensure that the speed of the vehicle does not exceed 40 km/h.
- xiv. Ensure that the pressure applied to the accelerator is consistent. Shift the gear knob to the gear 3 position without reducing pressure on the accelerator pedal.
- xx. You will feel the engine brake being engaged and the torque produced by the vehicle will increase.

Shifting to gear 2

- xvi. Ensure that the speed of the vehicle does not exceed 20 km/h.
- xvii. Press the gear selection button on the gear knob.
- xviii. Ensure that the pressure applied to the accelerator is consistent. Shift the gear knob to the gear 2 position without reducing pressure on the accelerator pedal.
- xix. You will feel the engine brake being engaged and the torque produced by the vehicle will increase.

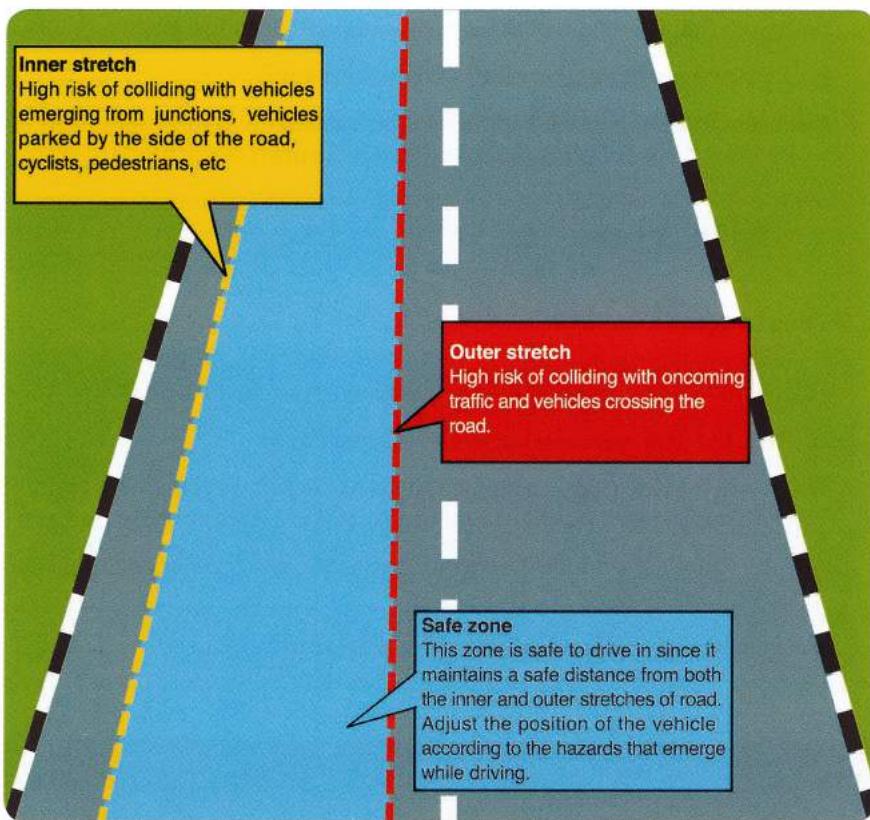
Shifting to gear 1

- xx. Ensure that the speed of the vehicle does not exceed 10 km/h.
- xxi. Press the gear selection button on the gear knob.
- xxii. Ensure that the pressure applied to the accelerator is consistent. Shift the gear knob to the gear 1 position without reducing pressure on the accelerator pedal.
- xxiii. You will feel the engine brake being engaged and the torque produced by the vehicle will increase.
- xxiv. Practice the CITO routine throughout the drive.

REMINDER

The torque produced by the engine will increase and the speed of the vehicle will increase due to the excessive pressure on the engine. Do not increase the speed of the vehicle above 30 km/h.

Safe Zone



Ensure that the vehicle is positioned correctly on the road; not too closely to the curb or shoulder of the road as well as not too closely to the middle of the road. The vehicle should always be maintained in the 'Safe Zone'. Adjust the position of the vehicle according to the hazards that emerge while driving.

2.4. Driving through curves in the road

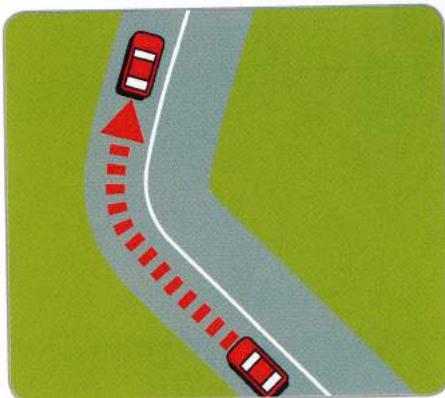
Objective:

To ensure that all drivers are able to maintain good control of their vehicle in terms of controlling the direction and speed of the vehicle. Practice the CITO safety routine before taking the curve.

- i. Be prepared for any approaching vehicles from the opposite direction.
- ii. Determine the direction and sharpness of the curve.
- iii. Ensure that the vehicle is positioned to obtain the widest scope of vision. For left curves, position the vehicle on the left of the road. For right curves, position the vehicle in the middle of the road.
- iv. Reduce the speed of the vehicle before entering the curve (brake if necessary).
- v. Select the appropriate gear according to the speed of the vehicle (if necessary).
- vi. Control the accelerator to maintain a constant speed while taking the curve.
- vii. Look ahead in the intended direction to determine the ideal direction to point the vehicle.
- viii. Maintain firm control of the steering wheel by using the Pull and Push Technique.
- ix. Increase the speed of the vehicle after exiting the curve.

REMINDER

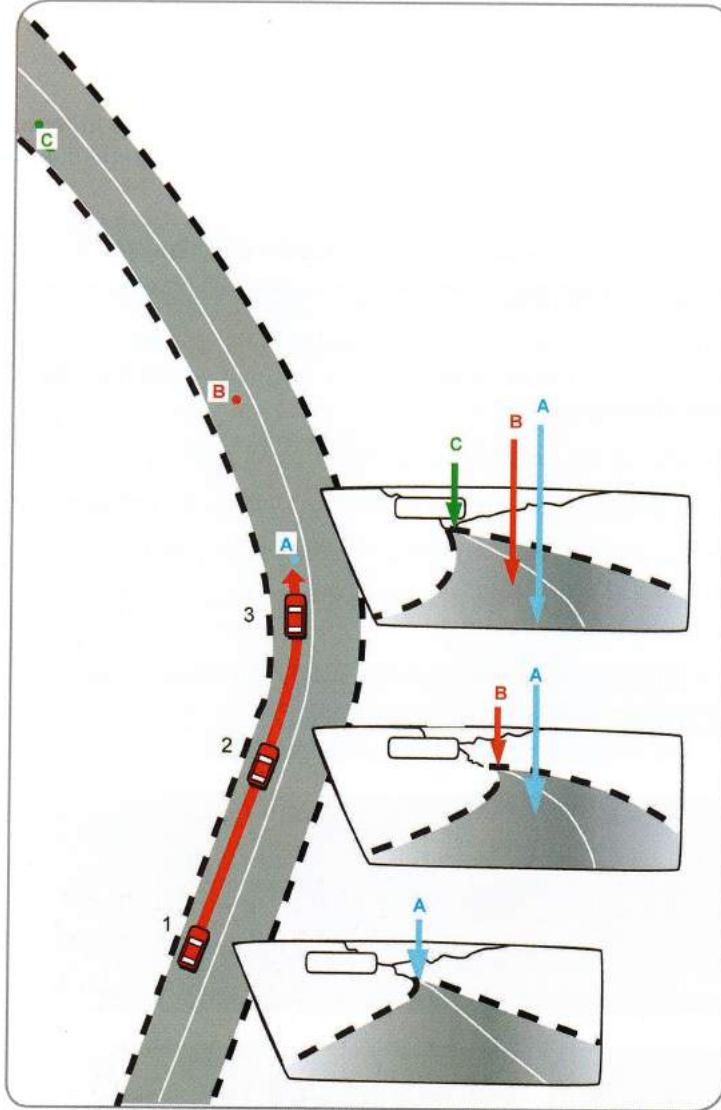
- i. Avoid braking while taking the curve.
- ii. Avoid changing gears while taking the curve.
- iii. Avoid jerking the steering wheel while taking the curve.



Curve to the right



Curve to the left

**EXITING THE CURVE:**

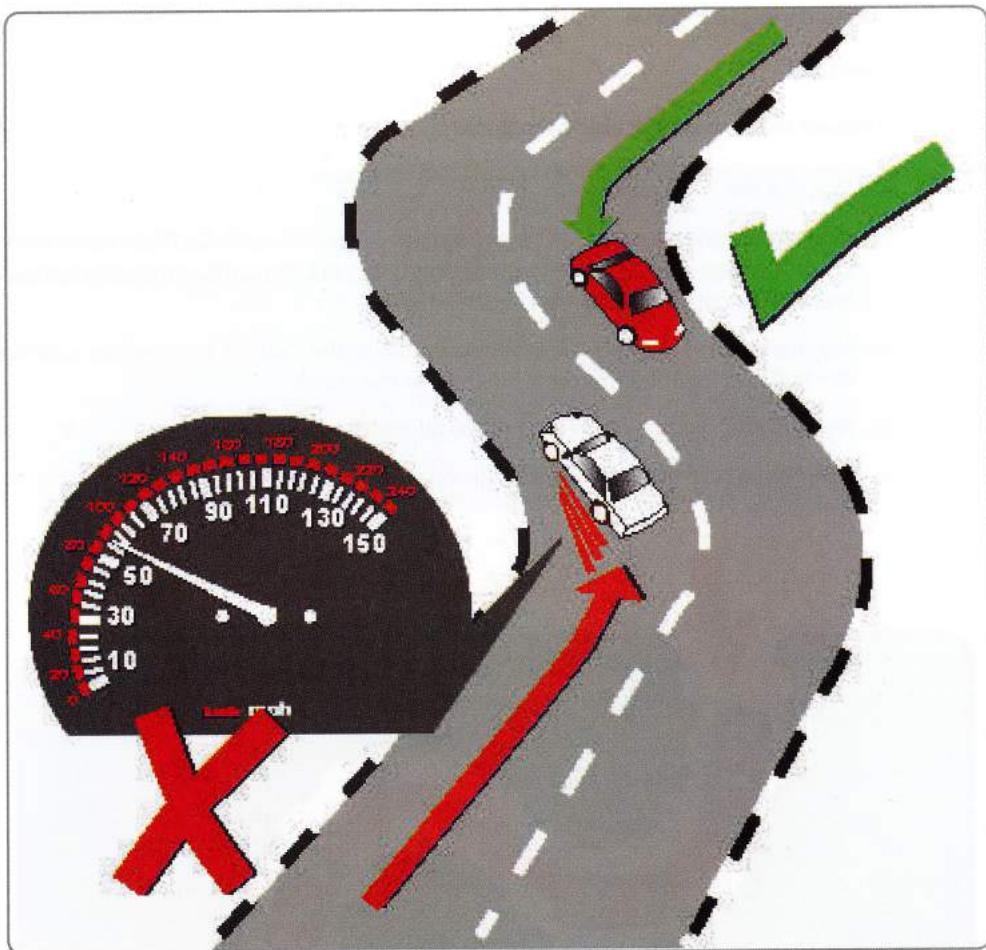
- » The scope of vision of (B-C) is improved as compared to position 1-2. Increase the speed of the vehicle to continue the journey.

ENTERING THE CURVE:

- » Maintain the speed of the vehicle. Determine the direction and sharpness of the curve. (A-B). The scope of vision is still similar to position 1-2.

APPROACHING THE CURVE:

- » When approaching the curve, determine the appropriate speed to maintain proper control of the vehicle. Position (1-A).



Driving through curves in the road

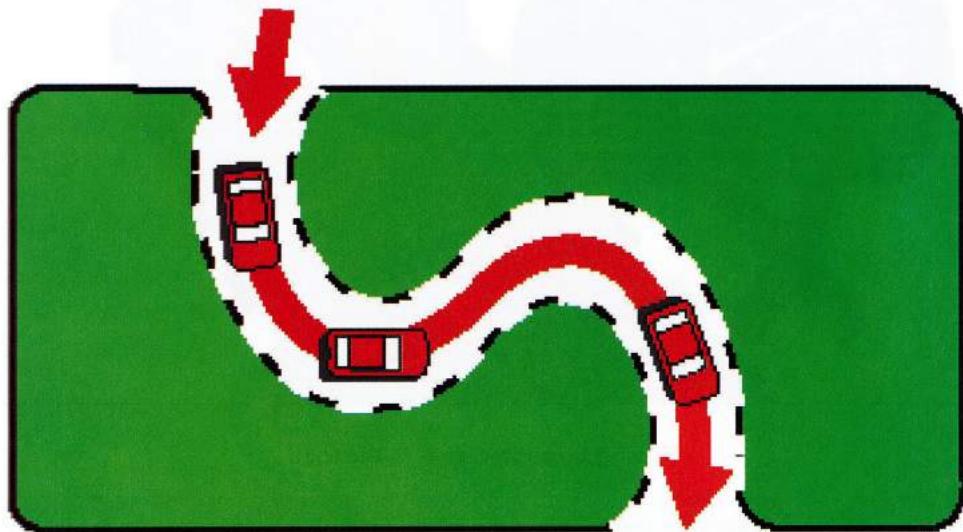
Determining the appropriate speed while driving through a curve depends upon sharpness of the curve. Two vehicles moving past each other on a curve should ensure they are both at safe positions on the road. Any recommended speed limits should be obeyed.

2.4.1 Driving through 'S' curve

Objective:

To ensure that drivers are able to maintain good control of their vehicle at 'S' curves.

- i. Practice the CITO routine.
- ii. Press the accelerator and shift down to gear 3 if necessary to facilitate maintaining control of the vehicle while overcoming the curve (hazard) without straying off the lane or colliding into any objects ahead.
- iii. Maintain a firm grip on the steering wheel in the correct position by applying the Pull and Push Technique while taking the curve.
- iv. Avoid shifting gears or braking while taking the curve.
- v. Maintain a constant speed until the vehicle is exiting the curve.

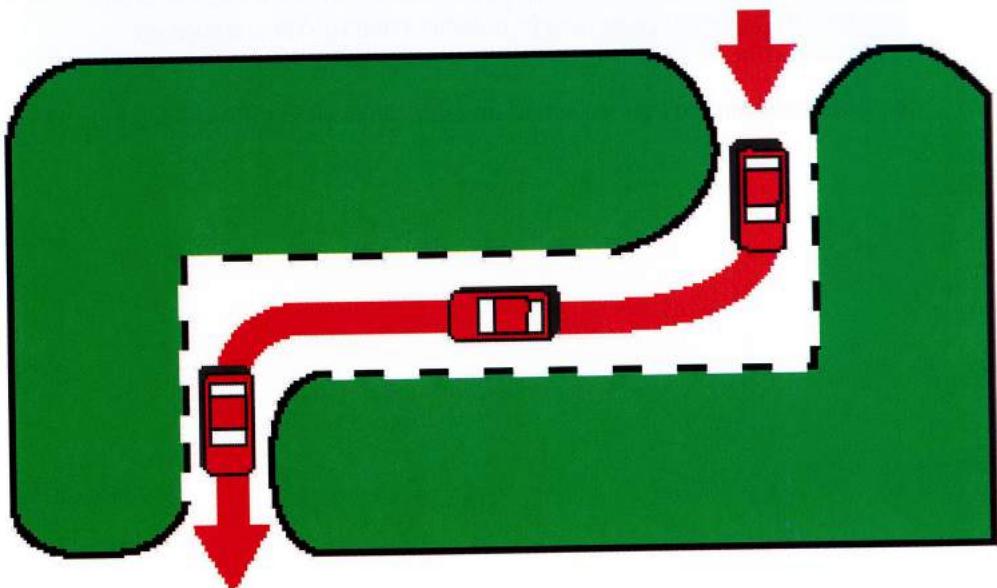


2.4.2 Driving through 'Z' curve

Objective:

To ensure that drivers are able to maintain good continuous control of their vehicle on narrow roads.

- i. Practice the CITO routine.
- ii. Press the accelerator and shift down to gear 3 if necessary to facilitate maintaining control of the vehicle while overcoming the curve (hazard) without straying off the lane or colliding into any objects ahead.
- iii. Maintain a firm grip on the steering wheel in the correct position by applying the Pull and Push Technique while taking the curve.
- iv. Avoid shifting gears or braking while taking the curve.
- v. Maintain a constant speed until the vehicle is exiting the curve.

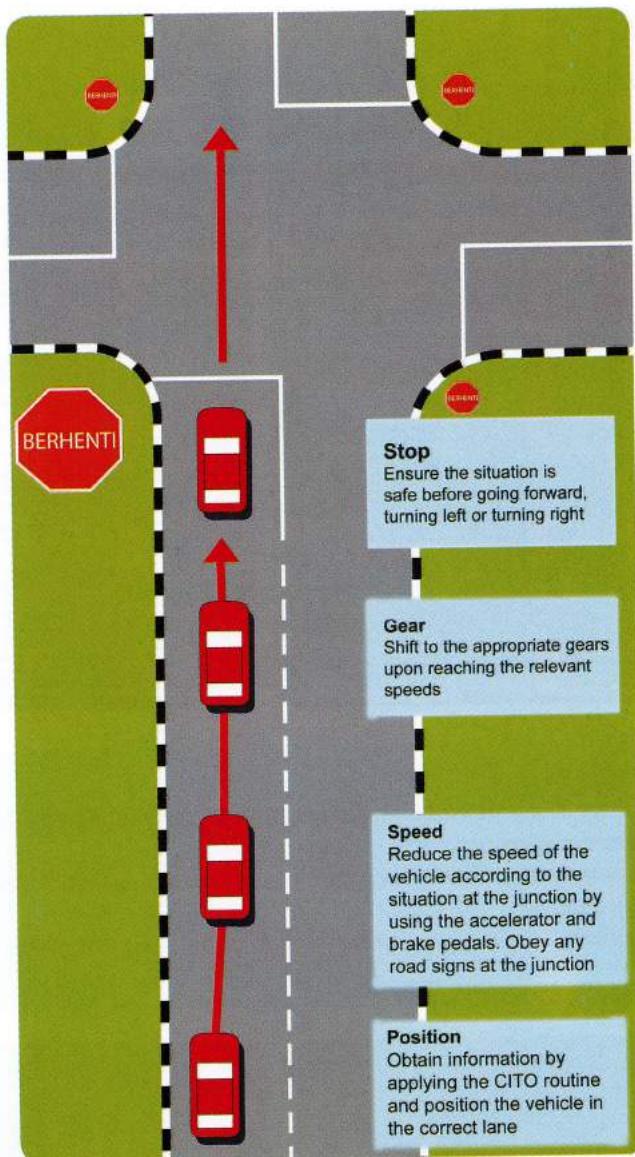


2.5 Driving through junctions

Objective:

To provide understanding to drivers on how to drive through junctions in a safe and smooth manner.

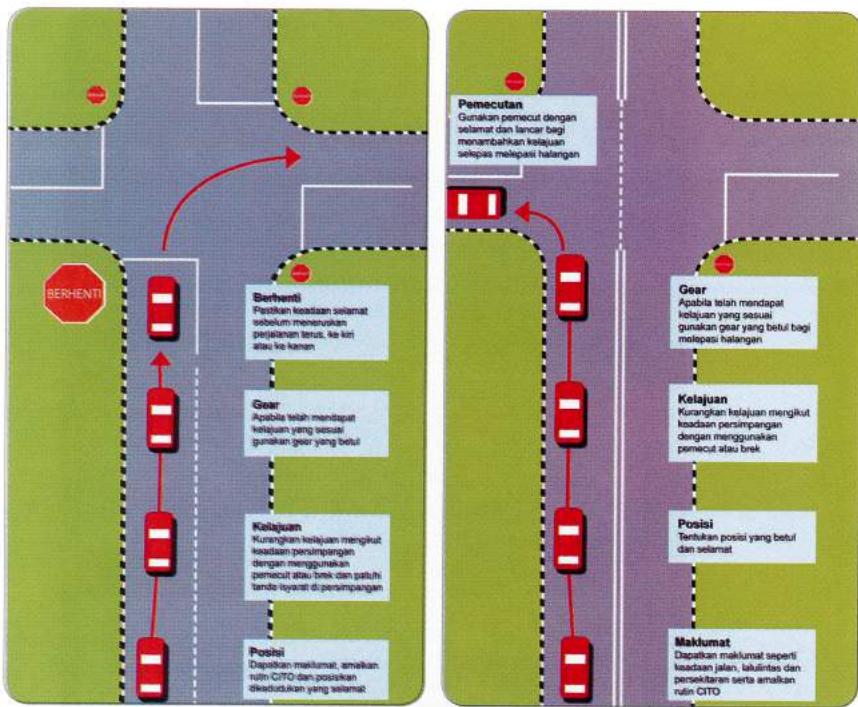
- a. Practice the CITO safe driving routine.
- b. Ensure the vehicle is positioned correctly and safely.
- c. Reduce the speed of the vehicle when approaching the junction and bring the vehicle to a complete stop. Obey the following:
 - i. Maintain a safe distance of 2 meters (6 feet) from other vehicles.
 - ii. Engage the handbrake if necessary.
 - iii. Free the gearshift.
 - iv. Maintain pressure on the brake pedal to ensure that the rear brake lights stay on to warn drivers approaching from behind that the car is stationary.
- d. After determining that the situation is safe, drive off in the intended direction.



INFORMATION

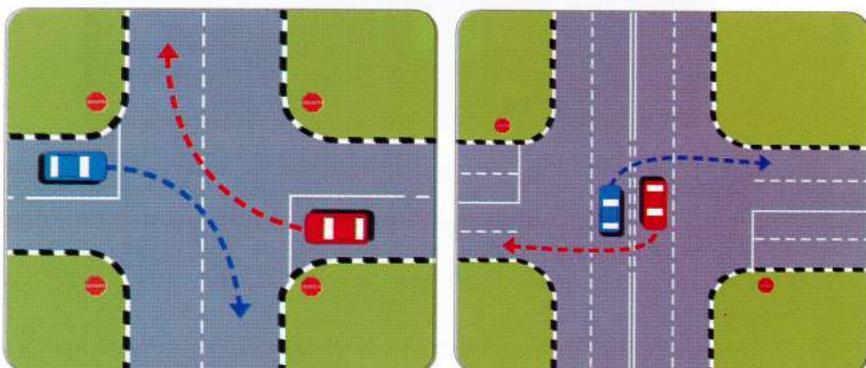
- Observe the situation ahead and the surroundings to obtain the maximum amount of information.
- Analyse the information and create a plan of action to overcome any hazards.
- Convey your intent by giving signals before executing any manoeuvres.

Turning right and left. Priority is given to vehicles on the right (outer lane).



INFORMATION

- Observe the situation ahead and the surroundings to obtain the maximum amount of information.
- Analyse the information and create a plan of action to overcome any hazards.
- Convey your intent by giving signals before executing any manoeuvres.



Passing through a junction using the inside-inside method or the outside-outside method

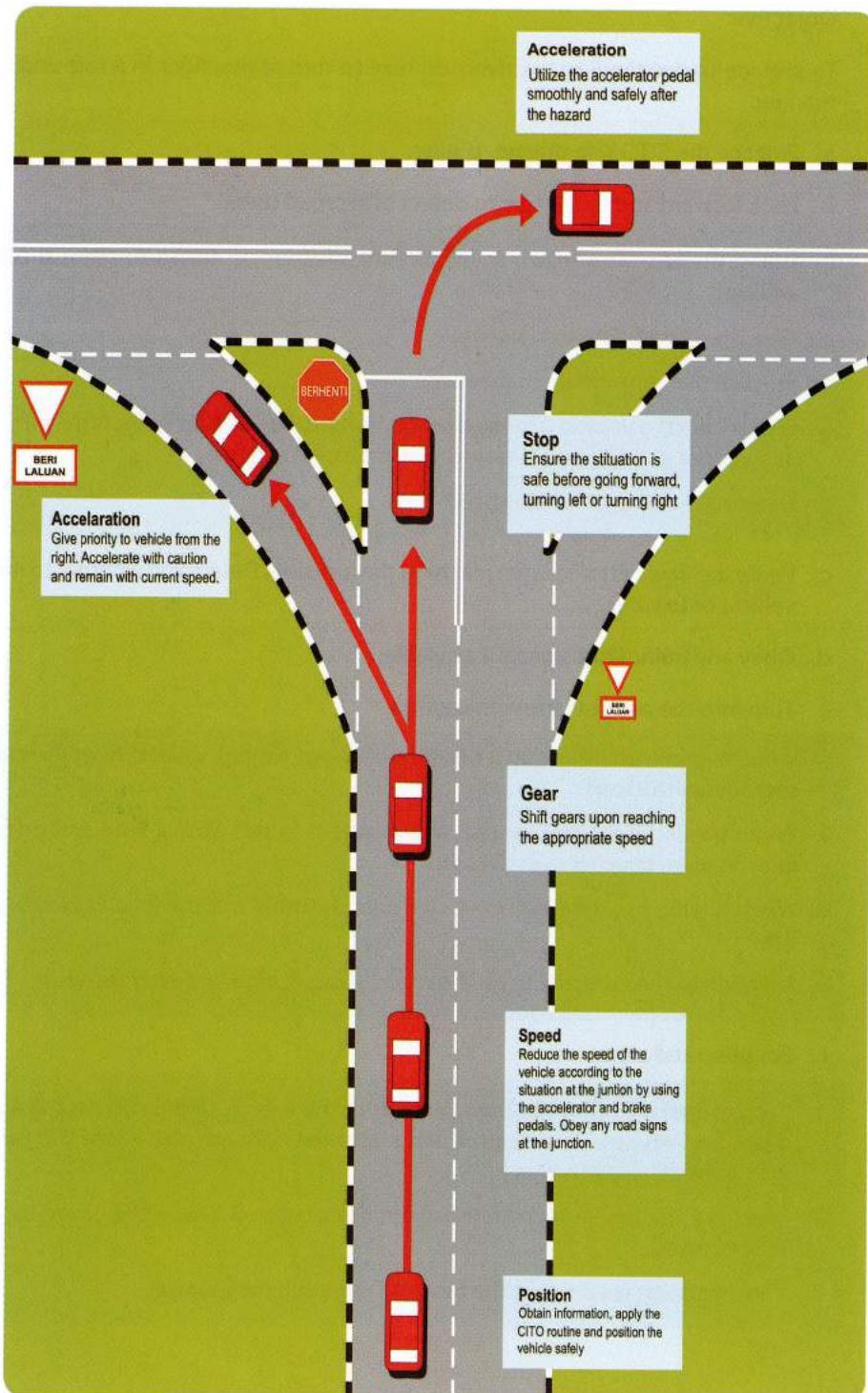
2.6 Turning at junctions

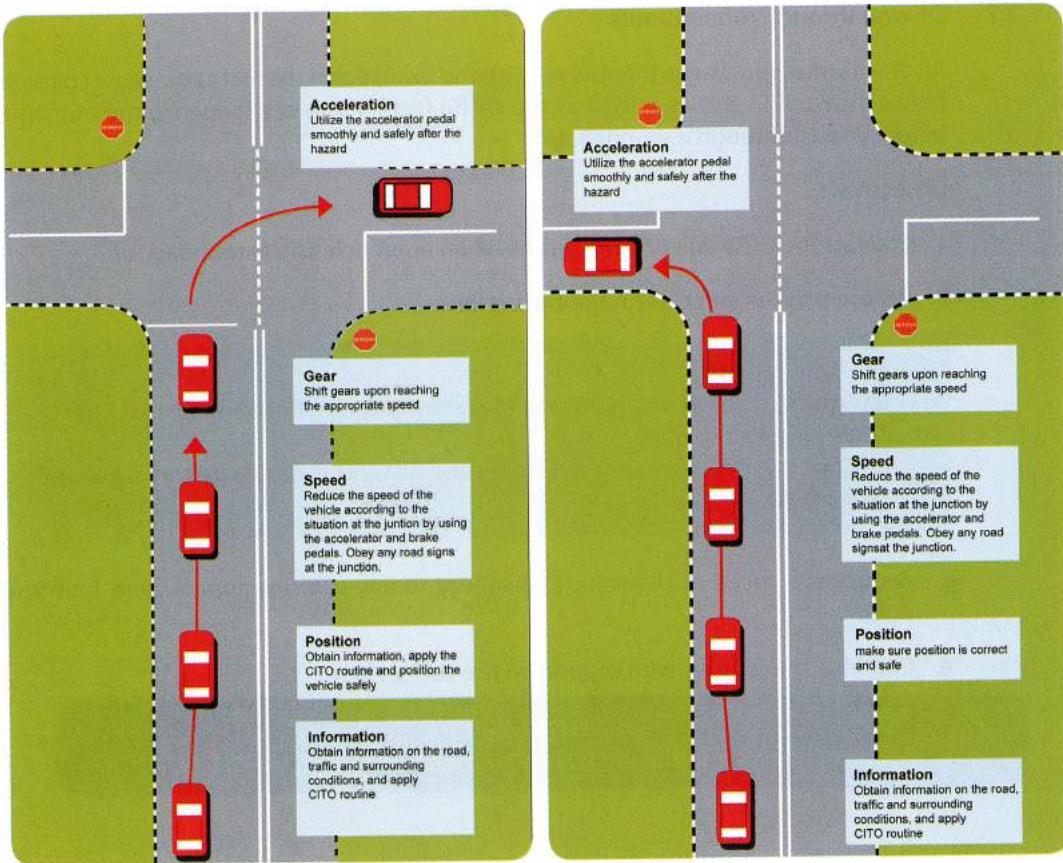
Objective:

To provide understanding to drivers on how to turn at junctions in a safe and smooth manner.

- a. Practice the CITO safe driving routine.
- b. Look forward and to the rear to detect other road users:
 - i. Utilize the rear view mirror to identify the position of drivers to the rear of the vehicle.
 - ii. Give the appropriate turn signals.
 - iii. Practice the appropriate manoeuvre.
 - iv. Ensure that the vehicle is in the correct position. Positioning the vehicle early will allow other drivers to understand your intended action.
 - v. Determine the appropriate speed.
- c. Verify the flow of traffic upon reaching the junction. Determine whether to move the vehicle or to wait.
- d. Obey any traffic light signals if available.
- e. Turn into the nearest lane with caution.
 - i. When turning left, maintain a distance of about 1 meter (3 feet) from the curb or shoulder of the road.
 - ii. When turning right, ensure that the vehicle is in the correct lane and does not intrude upon another driver's lane.
 - iii. When driving on a one way road, stay near the middle of the road to facilitate the turn.
 - iv. Maintain the same position on the road before, during and after the turn.
- f. For obscured areas:
 - i. Stop the vehicle, with the front bumper of the vehicle slightly across the line in a position where drivers approaching from the right are able to see the vehicle and anticipate your actions.
 - ii. Exit from the junction cautiously from the obscured area while observing the flow of traffic.
 - iii. If the situation is safe, take the turn and continue the journey.

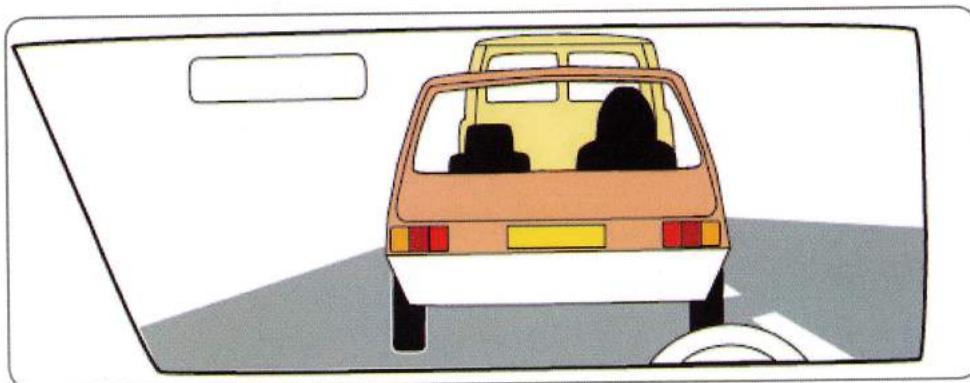
g. Continue the journey to increase the distance from the junction.





Turning right and left

To turn right, drivers must give way to vehicles approaching from the opposite direction.



Always ensure that the rear and sides of the vehicle are clear by practicing the CITO routine before turning at a junction.

2.7 Driving through roundabouts

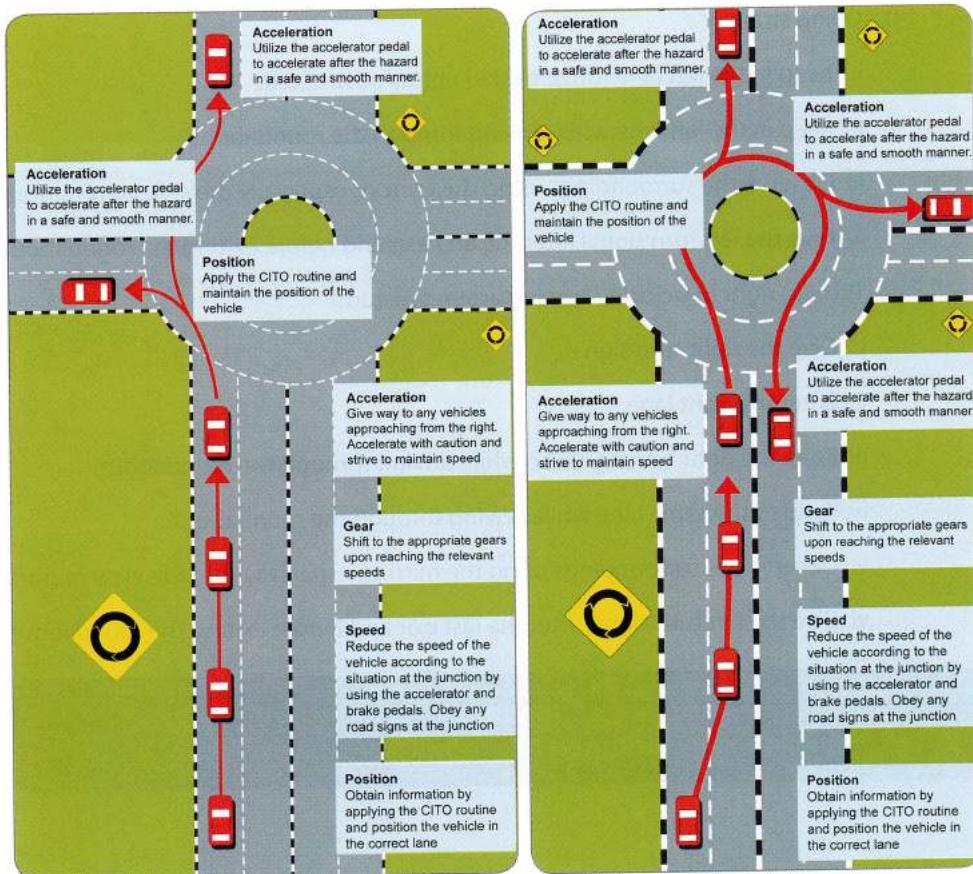
All drivers must familiarize themselves with the six (6) positions that can cause a collision between two (2) vehicles as well as the six (6) factors that can influence the outcome before driving through a roundabout.

Objective::

1. Practice the CITO safe driving routine when approaching the roundabout.
2. Ensure that the vehicle is in the correct lane.
 - i. Two lane roundabout–
left lane to turn left and right lane to go straight, turn right and take a U-turn.
 - ii. Three lane roundabout
left lane to turn left, middle lane to go straight and right lane to turn right and take a U-turn.
3. Reduce the speed of the vehicle. Give way to any vehicles approaching from the right.
4. Continue the journey with caution on the correct lane.

REMINDER

Drivers using the right lane must be cautious of traffic from the left.



INFORMATION

- Observe the situation ahead and the surroundings to obtain the maximum amount of information.
- Analyse the information and create a plan of action to overcome any hazards.
- Convey your intent by giving signals before executing any manoeuvres.

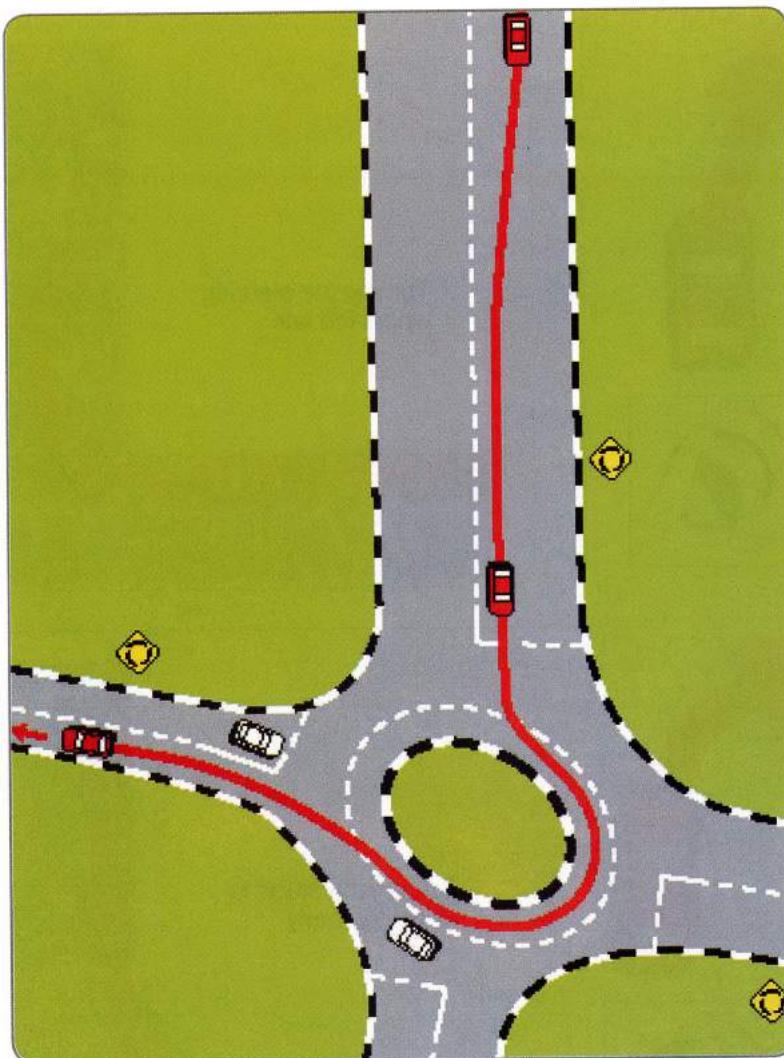
a. Turning left

- Before approaching the roundabout, practice the CITO safe driving routine.
- Give the left turn signal when approaching the roundabout.
- Enter the left lane.
- Keep in the left lane while driving through the roundabout.
- Keep the left turn signal on while driving through the roundabout.

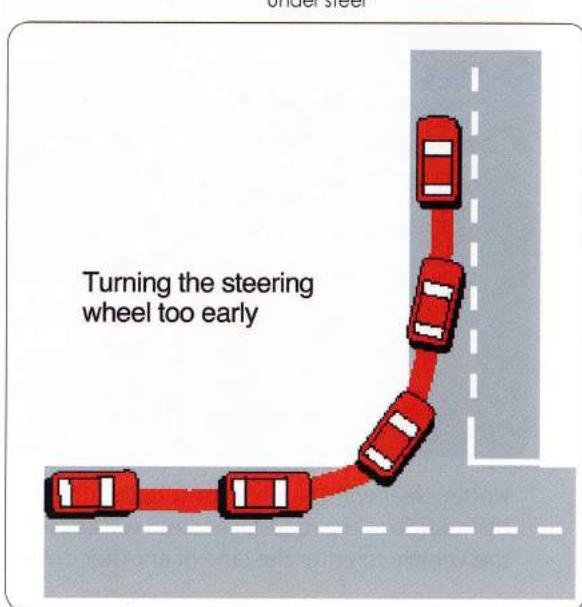
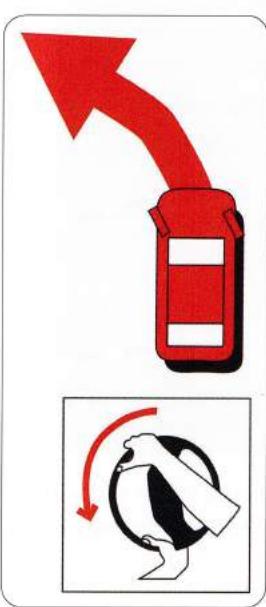
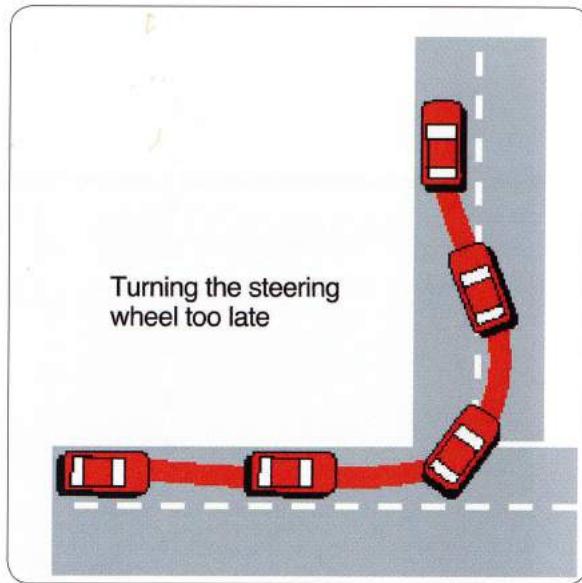
- b. Going straight
 - i. Keep in the left lane (driving lane) unless obstructed.
 - ii. Keep in the left lane while driving through the roundabout.
 - iii. Observe the surroundings using the mirrors, especially the side view mirrors.
 - iv. Give the left turn signal after the first exit and before exiting the roundabout.
- c. Turning right (3 o'clock) / turning around (U-turn)
 - i. Give the right turn signal.
 - ii. Enter the right lane.
 - iii. Keep the right turn signal on while driving through the roundabout.
 - iv. Keep to the same lane while driving through the roundabout.
 - v. Observe the surroundings using the mirrors, especially the side view mirrors.
 - vi. Give the left turn signal after the last exit and before exiting the roundabout.

REMINDER

Always choose the correct lane to facilitate the flow of traffic.



Under steer will cause the turn to become too large and cause the vehicle to crash by the side of the road. Over steer will cause the turn to become too small and cause the vehicle to enter the lane of another driver.



2.8 Overtaking safely

Objective:

To ensure that the situation is safe before overtaking by practicing the CITO safe driving routine. It is practiced when:

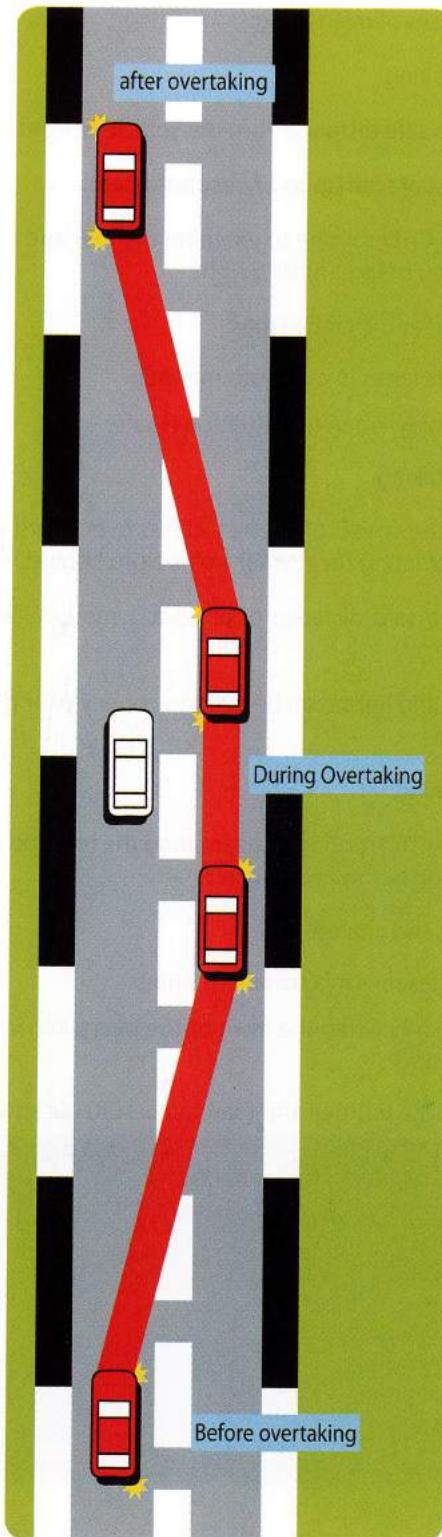
- i. The vehicle in front is moving too slowly.
- ii. The vehicle ahead changes directions.
- iii. Following a vehicle in front which may cause an accident.

1. There are 3 phases of overtaking:
 - a. Before overtaking
 - i. Maintain a safe distance from the vehicle in front.
 - ii. Make a visual scan up to 12 seconds ahead.
 - iii. Apply the CITO routine to examine the rear and sides of the vehicle to obtain information before moving right.
 - iv. Move right and change lanes.
 - Change lanes in a smooth manner.
 - Move only when the situation is safe.
 - b. During overtaking
 - i. Increase the speed of the vehicle to overtake the vehicle in front, to refrain from obstructing the flow of traffic from behind.
 - ii. Maintain a safe distance of at least 1 meter (3 feet) from the vehicle being overtaken.
 - iii. The horn and lights can be used to convey your presence to the vehicle being overtaken.
 - c. After overtaking
 - i. Apply the CITO routine by examining the rear and sides of the vehicle to obtain information before moving left.
 - ii. Move left and change lanes.
 - Change lanes in a smooth manner.
 - Move only when the front of the overtaken vehicle can be seen in the left side mirror.
 - iii. Continue the journey and maintain a suitable speed and position.

REMINDER

Avoid braking while taking the curve.

- i. Approaching a pedestrian crossing.
- ii. At a junction.
- iii. At corners or curves.
- iv. On hilltops.
- v. At double solid lines or a continuous solid line.



2.9 Bringing the vehicle to a stop

Objective:

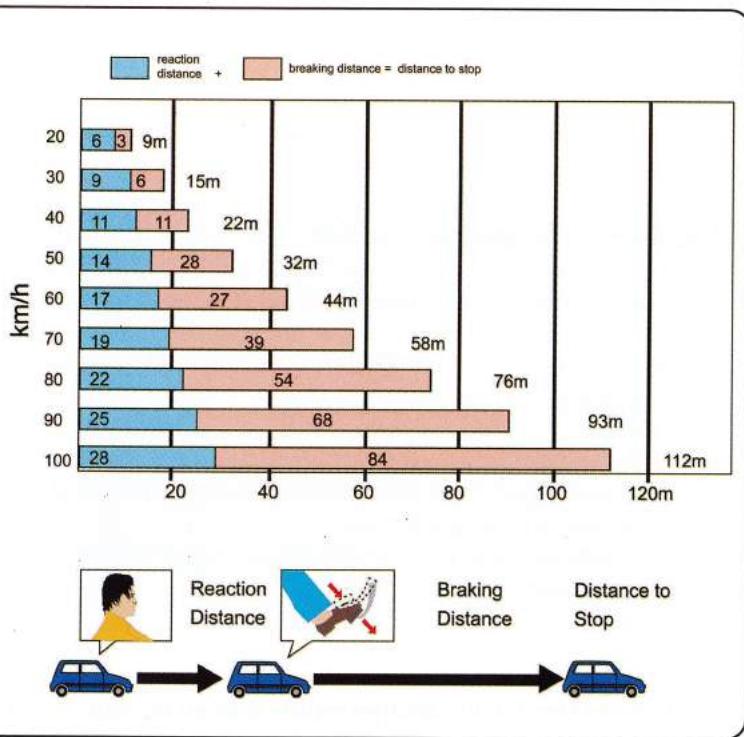
To stop the vehicle safely and in a safe place on the road without obstructing other road users. This provides comfort to both the driver and passenger.

- i. Practice the CITO safe driving routine.
- ii. Ensure that the surroundings are safe before bringing the vehicle to a stop.
- iii. To bring the vehicle to a complete stop, release the accelerator completely.
- iv. Control the speed of the vehicle by pressing the brake pedal gently based on the speed of the vehicle as well as the period of time before coming to a complete stop. At the same time, control the clutch pedal to ensure the engine does not die.
- v. When the vehicle has slowed down and almost comes to a complete stop, press the clutch pedal fully and increase pressure on the brake pedal until the vehicle comes to a complete stop.
- vi. After the vehicle comes to a complete stop, engage the handbrake.
- vii. Free the gearshift.

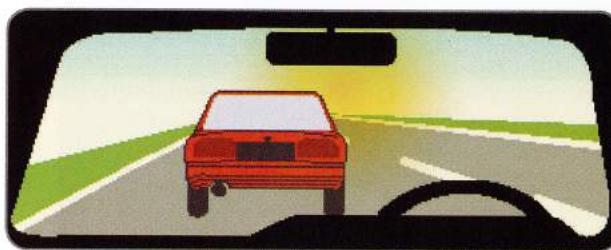
A safe distance to stop behind another vehicle is when the stop line or rear tyres of the vehicle in front is visible (2 meters) to allow the vehicle to change lanes in the event the vehicle in front malfunctions or is involved in an accident.

REMINDER

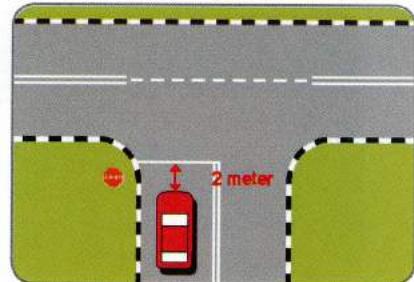
- i. Avoid parking the vehicle in prohibited areas such as curves, junctions, obstructing a fire hydrant or bus stops.
- ii. When braking in an emergency, it is not required to give a signal and usage of the handbrake should be avoided. Maintain a firm grip on the steering wheel with both hands.



The braking distances required to stop a vehicle at different speeds



Safe braking distance (rear tyres of vehicle in front are visible)



Braking distance of 2 meters

3.0 CLIMBING AND DESCENDING A HILL



LEARNING OUTCOME

By the end of this chapter, the reader should:

- Climb and descend hills correctly and safely.
- Have an increased understanding of the value of the safety of the driver, passengers and other road users.

3.1. Pre-Journey Inspection Routine

The pre-journey inspection routine is a habit that should be embedded in every driver. Its purpose is to:

- Avoid malfunctions that may occur during the journey.
- Ensure that the vehicle is in optimum condition throughout the journey.
- Reduce the risk of accidents occurring due to damage or technical malfunctions.

This will ensure the safety of both driver and passengers throughout the journey.

The pre-journey inspection routine consists of two parts:

- Vehicle Inspection Routine (RPK)
- Pre-Driving Routine (RSM)

Vehicle inspection routine (RPK)

1. External Inspection of Vehicle

Walk around the car in a clockwise direction and inspect it for any damage. External damage often occurs in these areas:

- Tyres (including spare tyre)
 - Tyres are an important factor in determining the safety of the vehicle and its passengers.
 - Tyres act as a cushion to facilitate the absorption of vibrations by the suspension system to reduce its effect on the body of the vehicle.
 - Balancing must be done on the tyres to ensure that they will spin without vibration when travelling at different speeds.
 - Alignment must be done on the tyres to ensure that the tyre tread wears out evenly.
 - The tyres should be inspected before every journey especially long ones.
 - Tyre air pressure:
 - Determine the tyre pressure by using a tyre pressure gauge set with a scale between 26 psi to 32 psi (lb/in³) or 180 kPa to 220 kPa (kg/cm³). Vehicle manufacturers will also often place a table of specifications on the side of the driver's door for tyre recommendations and ideal tyre pressure.

- Insufficient tyre pressure will cause the tyre treads to wear out faster on the left and right of the tyre.
- Excessive tyre pressure will cause the tyre treads to wear out faster in the middle of the tyre.

vii. Most modern tyres have an indicator to show how much the tyre has worn out. The indicator shows the 1/16 inch permitted depth of the tyre tread pattern. The tyre should be changed if it has worn out, up until the indicator.

viii. Ensure that the tyre has no cracks, bulges or tears.

| SAIZ TAYAR TIRE SIZE | |
|--|------------------|
| 185/60R14 82H 175/70R13 82H | |
| TEKANAN KEMONG TAYAR SEMASA SEJUK COLD TIRE INFLATION PRESSURE kPa (PSI) | |
| HADAPAN FRONT | BELAKANG REAR |
| 210 (31) | 190 (28) |
| TAYAR GANTIAN : SPARE TIRE : 155/80R13 79T 155/70R14 77T | |
| 250 (37) | |
| PW922183 | |

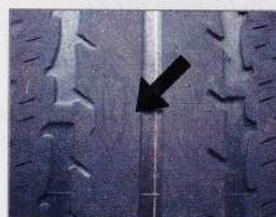
Table of specifications for tyre recommendations and ideal tyre pressure



Tyre treads in good condition



Tyre and rim



Worn out tyre treads that should be replaced

b. Lights

- Ensure that the front lights, rear lights, signal lights, brake lights, additional brake light and reverse lights are functioning properly.
- Ensure that the front and rear light covers are not cracked or broken.
- The front and rear light covers should be replaced if there is any damage.
- Ensure that the front and rear light covers are clean.
- A soft cloth may be utilized to clean the light covers.



Front of the Vehicle



Rear of the Vehicle

c. Windscreen wipers

- i. Windscreen wipers are utilized to wipe the windscreen if there is dirt or when driving in the rain.
- ii. Ensure that the windscreen wiper blades are in good condition since hard, cracked or torn windscreen wiper blades will fail to wipe the water off completely when driving in the rain. It may also cause scratches on the windscreen.



windscreen wiper blades

d. Body of the vehicle

- i. Inspect the vehicle in a clockwise direction.
- ii. The elements that must be inspected are as follows:
 - Vehicle registration plate: Ensure that the vehicle registration plate is clean and not damaged.
 - Bumper: Ensure the bumper is in good condition.
 - Boot and bonnet covers: Ensure they are both in good condition and closed securely.
 - Side mirrors: Ensure they are clean and not damaged.
 - Doors and windows: Ensure that they can be opened and closed properly. Press your thumb on the body of the door and pull the door handle to open and close the door in a gentle manner.



- e. Front and rear windscreens
 - i. Ensure that the front and rear windscreens are clean and not damaged



Front Windscreen



Rear Windscreen

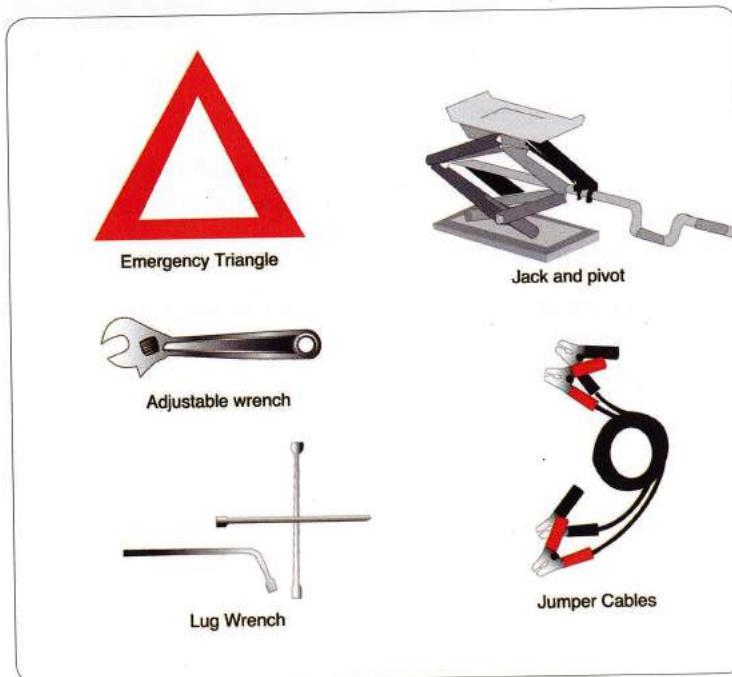
- 2. Inspect the bottom of the vehicle to identify any leaks.

REMINDER

If there is any damage found to the vehicle, the relevant component should be immediately repaired or replaced.

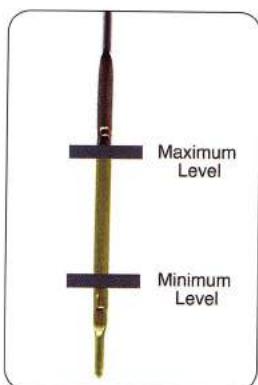
- 3. Boot Compartment Inspection.
- 4. Pull the handle located at the bottom right of the driver's seat to open the boot.
- 5. Open the boot and inspect the emergency equipment located at the bottom to ensure it is complete and in good condition.

6. Inspect all emergency equipment in the boot and ensure that they are in good and working condition:
 - a. Emergency triangle
 - b. First aid kit and first aid guide
 - c. Flashlight
 - d. Dry fire extinguisher
 - e. Jack and pivot
 - f. Lug wrench
 - g. Repair equipment
 - h. Adjustable wrench
 - i. Jumper cables
 - j. Towing cable
 - k. Screwdriver
 - l. Sparkplug wrench
 - m. Various wrenches
 - n. Pliers
 - o. A container of clean water



7. Engine Compartment Inspection

- a. Open the bonnet by pulling the handle located at the bottom right of the dashboard on the driver's side. The bonnet will raise up slightly.
- b. Release the safety latch and lift the bonnet completely. Place the rod as a bonnet stay.
- c. Inspect the level and quality of the following fluids:
 - i. Engine oil – Pull the dipstick out. Ensure the oil level is between the maximum and minimum markings.
 - ii. Brake fluid – Ensure the fluid level is between the maximum and minimum markings.
 - iii. Power steering fluid (if available) – Take off the cap and ensure the fluid level is between the maximum and minimum markings.



Engine oil level



Engine oil dipstick



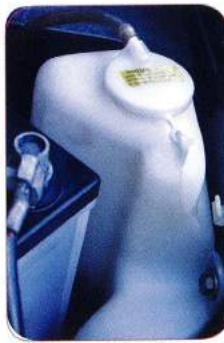
Brake fluid container

- d. Inspect the water level

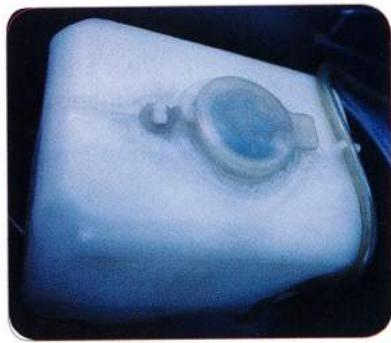
- i. Radiator water – Take off the radiator cap and ensure the water level in the radiator is sufficient. Afterwards, replace the cap securely.
- ii. Reserve radiator water – Ensure the amount of water is sufficient.
- iii. Battery water – Ensure the water level in the battery is sufficient. (For wet batteries only)
- iv. Windscreen wiper water – Ensure the amount of water is sufficient.



Reserve radiator water container

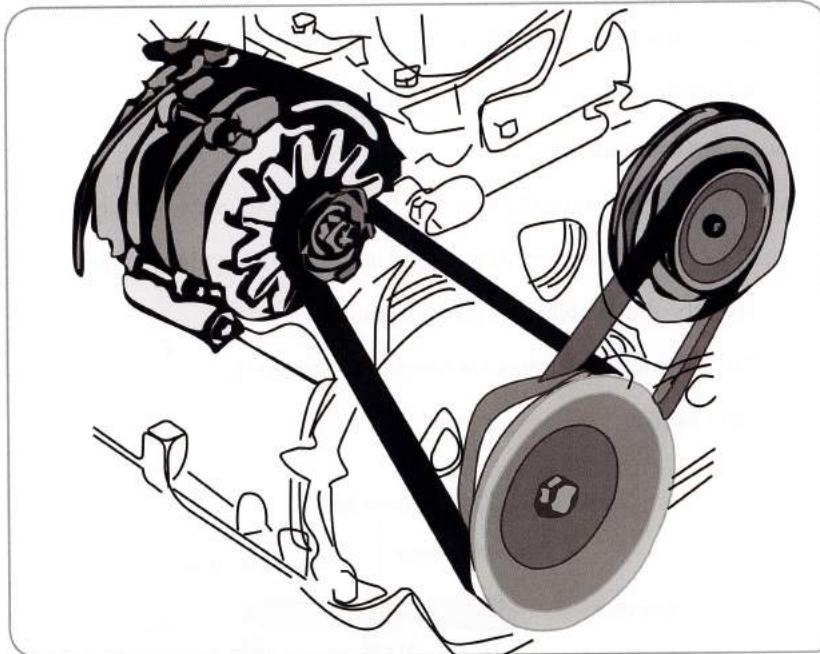


Battery



Windscreen wiper water container

e. Inspect the timing belts—Ensure the timing belts are not cracked or frayed. Press the timing belt using your thumb to test the elasticity. The belt should stretch from 0.5 cm –1.0 cm.



Timing belts

f. Inspect the fan blades—Ensure the blades are not damaged or obstructed when spinning.

g. Inspect all connections

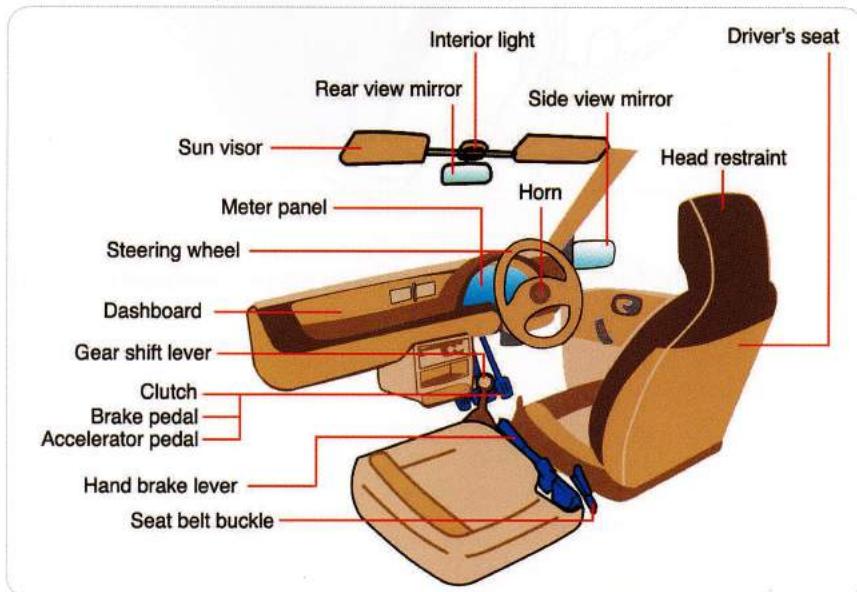
- Wires-Ensure that all wires are connected firmly to the appropriate electrical components.
- Hoses-Ensure they are in good condition and there are no leaks, cracks or bulges.
- Battery terminals-Ensure that the battery terminals are clean and fastened securely. Apply the appropriate grease to the terminal to avoid rust or fungal growth.

1. Pre-driving routine (RSM)

The Pre-driving Routine (RSM) is a routine carried out before the start of a journey. Its purpose is to confirm the proper functioning of vehicle components. It is carried out in the following order:

- Enter the vehicle, sit and ensure that the handbrake is engaged.
- Adjust the driver's seat and head restraint.
- Adjust the rear view and side view mirrors.
- Fasten the seatbelt.
- Ensure that all indicators on the dashboard are functioning correctly.
- Ensure that the gearshift is placed in the free gear (neutral) position.
- Start the engine without pressing the accelerator.
- Ensure that all switches are functioning properly.

2. Driver's seat



3.2 Safe driving routine

Objective:

To obtain information of the surroundings to overcome possible hazards, the driver must always practice the following CITO routine before taking any action or practicing any manoeuvre:

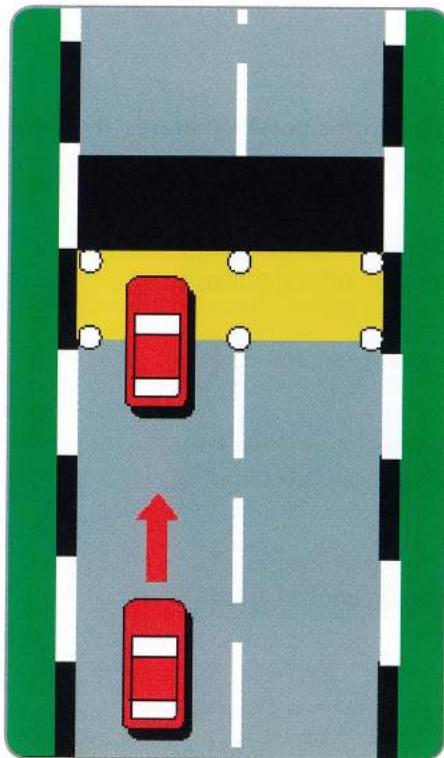
| | |
|----------|--|
| C | Cermin (Mirror): Look in the side view mirrors and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |

3.3 Climbing and descending a hill

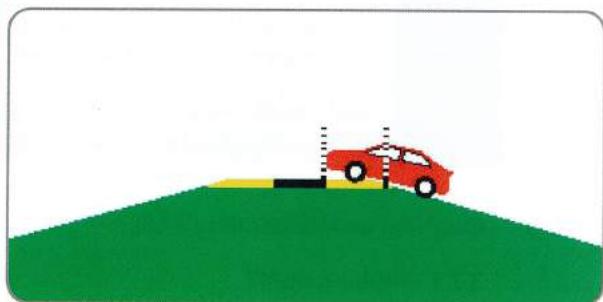
3.3.1 Climbing uphill

Objective:

- i. To ensure that the driver is able to stop safely at uneven or hilly sections of road. Identify the slope of the hill to select the appropriate gear.
- ii. Move the vehicle forward using a low gear.
- iii. Maintain the vehicle at a speed where it can be easily stopped on the slope within 3 minutes (in driving exam only).
- iv. Bring the vehicle to a complete stop with the front tyres on the yellow line and without the engine dying.
- v. Engage the handbrake and raise both hands from the steering wheel after completing the task (in driving exam only). Maintain both feet on the brake and clutch.
- vi. Be prepared to receive the order to move forward.



Top view of the hill climb



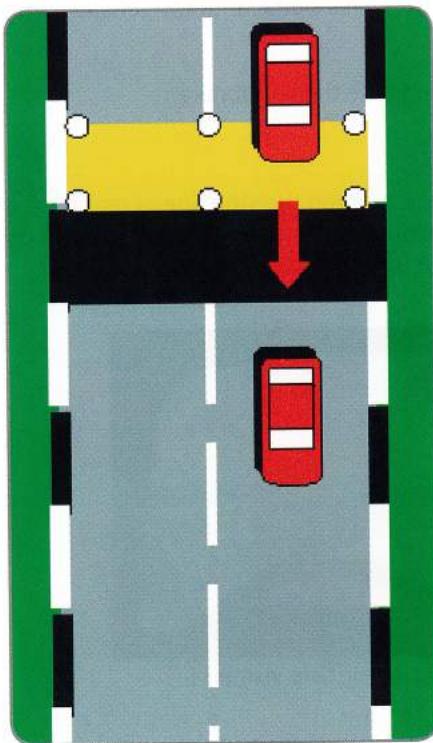
Side view of the hill climb

3.4 Descending a hill

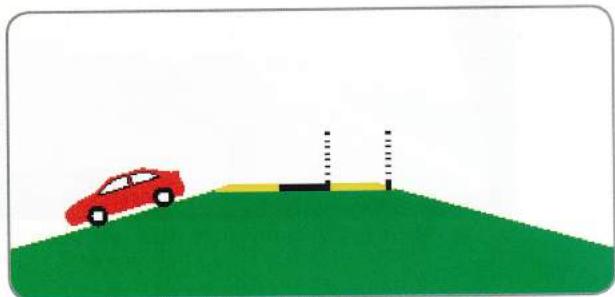
Objective:

To ensure drivers are able to control the steering wheel and brake correctly and safely when descending a hill.

- i. Release the handbrake.
- ii. Gradually press the accelerator to bring the vehicle to a suitable and safe speed to overcome the hill (hazard) without straying off the lane or colliding into any objects ahead.
- iii. Apply the safe driving routine while bringing the vehicle to a stop. The process of climbing and descending the hill should be completed within 3 minutes (in driving exam only).



Top view of the hill descent



Side view of the hill descent

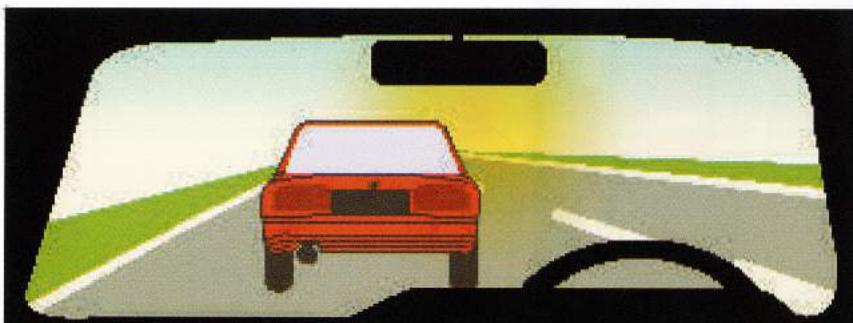
3.5 Bringing the vehicle to a stop

Objective:

To stop the vehicle safely and in a safe place on the road without obstructing other road users. This provides comfort to both the driver and passenger.

- i. Practice the CITO safe driving routine.
- ii. Ensure that the surroundings are safe before bringing the vehicle to a stop.
- iii. To bring the vehicle to a complete stop, release the accelerator completely.
- iv. Control the speed of the vehicle by pressing the brake pedal gently based on the speed of the vehicle as well as the period of time before coming to a complete stop. At the same time, control the clutch pedal to ensure the engine does not die.
- v. When the vehicle has slowed down and almost comes to a complete stop, press the clutch pedal fully and increase pressure on the brake pedal until the vehicle comes to a complete stop.
- vi. After the vehicle comes to a complete stop, engage the handbrake.
- vii. Free the gearshift.

A safe distance to stop behind another vehicle is when the stop line or rear tyres of the vehicle in front is visible (2 meters) to allow the vehicle to change lanes in the event the vehicle in front malfunctions or is involved in an accident.



Safe braking distance (rear tyres of vehicle in front are visible)

4.0 PARKING



LEARNING OUTCOME

By the end of this chapter, the reader should:

- i. Park the vehicle by turning into a parking space correctly.
- ii. Anticipate hazards so that manoeuvres may be carried out safely.
- iii. Display a sense of responsibility towards other road users.
- iv. Have an increased understanding of the value of safety.

1. Safe Driving Routine

Objective:

To obtain information of the surroundings to overcome possible hazards, the driver must always practice the following CITO routine before taking any action or practicing any manoeuvre:

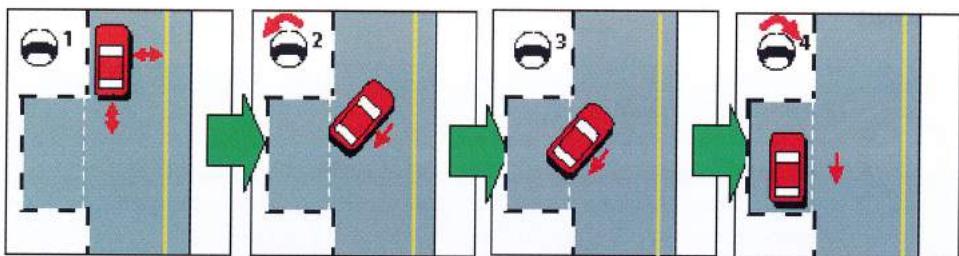
| | |
|---|--|
| C | Cermin (Mirror): Look in the side view mirrors and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |

4.1 Side Parking

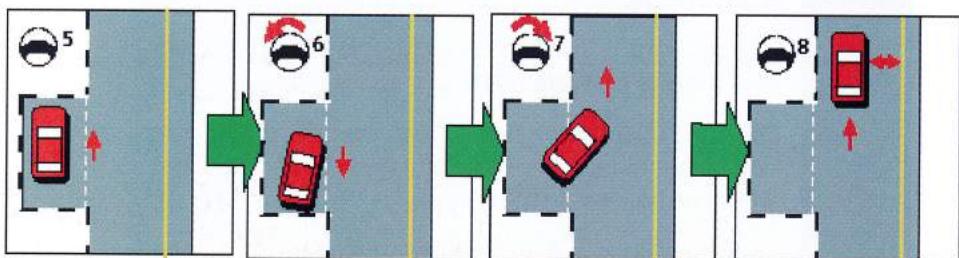
Objective:

To ensure that the candidate is able to park the vehicle and exit parking in a safe manner.

- i. Practice the CITO routine. Move the vehicle forward by selecting the appropriate gear and stop the vehicle at a suitable distance.
- ii. Press the clutch pedal and shift to the reverse (R) gear. Reverse the vehicle slowly by balancing the clutch and accelerator until the body of the vehicle is parallel to the line of the parking box, then stop for a moment.
- iii. Reverse the vehicle slowly to the left until 75% of the parking box line is visible through the right side view mirror. Stop for a moment.
- iv. Reverse straight backwards until the back tyres approach the parking line. Stop for a moment. Reverse the vehicle to the right until the entire body of the vehicle is inside or is parallel within the parking box. Stop for a moment.



- i. Select the appropriate gear. Gently move forward and position the vehicle parallel to the parking box. Stop for a moment. Raise both hands once the task is completed (in driving exam only).
- ii. Shift to the reverse (R) gear and gently reverse the vehicle to the left until reaching the edge of the parking box, then stop for a moment.
- iii. Gently move the vehicle forward and to the right to exit the parking box.
- iv. Ensure that the body of the vehicle does not cross the yellow line in front of the parking box when exiting the parking box and move the vehicle forward. The entire task must be completed within 5 minutes (in driving exam only).



5.0 MAKING A THREE-POINT TURN



LEARNING OUTCOME

By the end of this chapter, the reader should:

- i. Safely change the direction of the vehicle.
- ii. Anticipate hazards so that manoeuvres may be carried out safely.
- iii. Have an increased understanding of the value of safety.

1. Safe driving routine

Objective:

To obtain information of the surroundings to overcome possible hazards, the driver must always practice the following CITO routine before taking any action or practicing any manoeuvre:

| | |
|---|--|
| C | Cermin (Mirror): Look in the side view mirrors and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |

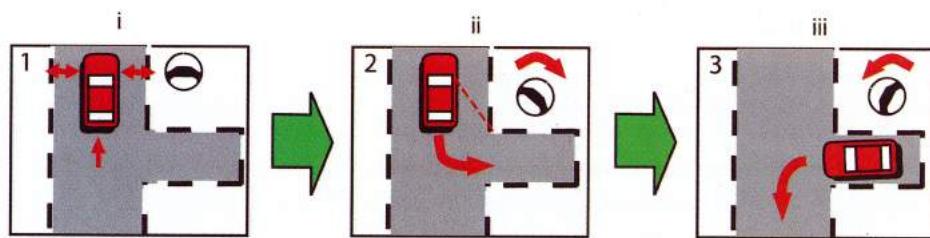
5.1 Three-point turn

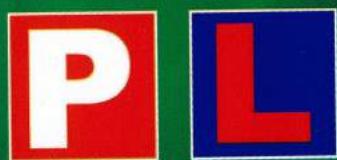
Objective:

To ensure that the candidate is able to make a three-point turn on a two-way road.

- i. Practice the CITO routine. Move the vehicle forward by selecting the right gear position; moving forward and to the right slowly from outside the exam box. Stop for a moment by pressing the brake pedal fully.
- ii. Practice the CITO routine. Press the clutch and shift to the R (reverse) gear position and gently reverse the vehicle to the right by balancing the clutch and accelerator. Stop for a moment.
- iii. Practice the CITO routine. Press the clutch and shift to the 1 (first) gear position. Gently move the vehicle forward and to the left by balancing the clutch and accelerator to gently exit the box. All three actions must be completed within 3 minutes (in driving exam only).

Making A Three-Point Turn





Drivers Education Curriculum
CLASS D MANUAL

KPP 03

**ON THE ROAD
PRACTICAL
TRAINING**

GLOSSARY OF TERMS**1.0 HAZARD****HAZARD**

Hazards while driving include elements existing in the surroundings and those that may occur suddenly which may endanger the driver. Therefore, caution and an appropriate level of skill will facilitate the driver in overcoming the hazard while keeping calm, especially in unexpected situations. Hazards can generally be classified into three categories:

- a. Physical characteristics such as junctions, roundabouts and corners.
- b. Problems arising due to the position or movement of other road users.
- c. Problems arising due to variations in road surface and weather conditions.

A responsible driver must therefore address each and every hazardous element by quickly adapting to the road conditions and determining the appropriate driving speed and distance from other vehicles. Finally, it must be noted that hazards may occur unexpectedly. As an example, a driver may be unexpectedly faced with an accident, fallen tree, objects ejected from or falling of other vehicles, animals crossing the road and so forth. Therefore, determining the appropriate driving speed and distance from other vehicles is the main concern of all drivers. This will ensure sufficient time to react to any unexpected incidents from occurring while driving.

2.0 DRIVING REACTION PLAN (PTP)



A driving reaction plan is based on input from the environment through a process of observation, analysis, estimation and hazard detection. A cautious driver must always ensure that the main driving elements of positioning, speed, gear shift and acceleration are continuously adjusted to best adapt to driving conditions.

3.0 CITO



CITO represents a defensive driving concept which should be applied by a driver on the road. This routine must be ingrained into a driver in the early stages of his training to ensure that it will become a habit which is practiced at all times. The Defensive Driving Routine or CITO is a list of steps that must be carried out while driving and overcoming hazards or practicing a manoeuvre such as overtaking or cornering. It is designed to obtain information from the driver's surroundings before carrying out any manoeuvre. The steps that must be carried out are as follows:

| | |
|----------|--|
| C | Cermin (Mirror): Look in the side view mirror and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |

1.0 PRE-JOURNEY INSPECTION



LEARNING OUTCOME

By the end of this chapter, the reader should:

- Inspect the condition of the vehicle as part of a pre-journey routine.
- Have an increased appreciation of the value of safety of himself, his passengers and other road users.
- Display a sense of responsibility towards the safety of himself, his passengers and other road users.

Objective

To familiarize drivers with the pre-journey safety routine. Drivers are also exposed to elements of real road and traffic conditions to familiarize themselves before receiving their competent driving licence and to instil a sense of responsibility towards the safety of themselves, their passengers and other road users.

1. Pre-Journey Inspection Routine

The pre-journey inspection routine is a habit that should be embedded in every driver. Its purpose is to:

- Avoid any vehicle malfunctions for the duration of the journey.
- Ensure that the vehicle is in optimum condition for the duration of the journey.
- Reduce the risk of an accident occurring due to any malfunctions or technical faults. This will ensure the safety of the driver and passengers.

The pre-journey inspection routine consists of two parts:

- Vehicle Inspection Routine (RPK)
- Pre-Driving Routine (RSM)

2. Vehicle inspection routine (RPK)

The Vehicle Inspection Routine (RPK) is a habit that should be carried out by every driver before the start of a journey. Its purpose is to:

- Avoid any vehicle malfunctions during the journey.

- ii. Ensure that the vehicle is in good condition for the duration of the journey.
- iii. Reduce the risk of an accident occurring due to any malfunctions or technical faults.

The Vehicle Inspection Routine (RPK) consists of three parts:

- a. External Inspection of Vehicle
- b. Inspection of Engine Compartment
- c. Inspection of Booth Compartment

The table below can be used as a guide to ensure that no component is overlooked during inspection.

The table below can be used as a guide to ensure that no component is overlooked during inspection.

| | | |
|---|-----------------|--|
| P | PETROL | Fuel for the vehicle which may either be petrol, diesel or NGV |
| O | OIL | Oil for the engine, brake, clutch, power steering and transmission |
| W | WATER | Water for the radiator, battery and windscreen wipers |
| D | DAMAGE | Damage to the body of the vehicle, windows and others |
| E | ELECTRIC | Battery, starter, lights and wires |
| R | RUBBER | Tyres, hoses, windscreen wiper blades and timing belts |

REMINDER

Before the start of any journey, malfunctioning components must be repaired or replaced immediately and the relevant fluids should be added where insufficient.

1. External inspection of vehicle



The external inspection of the vehicle should be carried out in a clockwise direction

2. Walk around the car in a clockwise direction and inspect it for any damage. External damage often occurs in these areas:
 - a. Tyres (including spare tyre)
 - i. Tyres are an important factor in determining the safety of the vehicle and its passengers.
 - ii. Tyres act as a cushion to facilitate the absorption of vibrations by the suspension system to reduce its effect on the body of the vehicle.

- iii. Balancing must be done on the tyres to ensure that they will spin without vibration when travelling at different speeds.
- iv. Alignment must be done on the tyres to ensure that the tyre tread wears out evenly.
- v. The tyres should be inspected before every journey especially long ones.
- vi. Tyre air pressure:
 - Determine the tyre pressure by using a tyre pressure gauge set with a scale between 26 psi to 32 psi (lb/in³) or 180 kPa to 220 kPa (kg/cm³). Vehicle manufacturers will also often place a table of specifications on the side of the driver's door for tyre recommendations and ideal tyre pressure.
 - Insufficient tyre pressure will cause the tyre treads to wear out faster on the left and right of the tyre.
 - Excessive tyre pressure will cause the tyre treads to wear out faster in the middle of the tyre.
- vii. Most modern tyres have an indicator to show how much the tyre has worn out. The indicator shows the 1/16 inch permitted depth of the tyre tread pattern. The tyre should be changed if it has worn out beyond this indicator.
- viii. Ensure that the tyre has no cracks, bulges or tears.

| SAIZ TAYAR TIRE SIZE | |
|---|------------------|
| 185/60R14 82H | 175/70R13 82H |
| TEKANAN KEMBONG TAYAR SEMASA SEJUK COLD TIRE INFLATION PRESSURE kPa (PSI) | |
| HADAPAN FRONT | BELAKANG REAR |
| 210 (31) | 190 (28) |
| TAYAR GANTIAN : SPARE TIRE : 155/80R13 79T 155/70R14 77T | |
| 250 (37) | |
| PW922183 | |

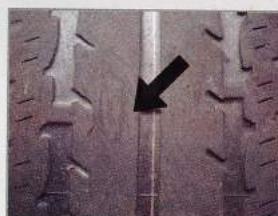
Table of specifications for tyre recommendations and ideal tyre pressure



Tyre and rim



Tyre treads in good condition



Worn out tyre treads that should be replaced

b. Lights

- i. Ensure that the front lights, rear lights, signal lights, brake lights, additional brake light and reverse lights are functioning properly.
- ii. Ensure that the front and rear light covers are not cracked or broken.
- iii. The front and rear light covers should be replaced if there is any damage.
- iv. Ensure that the front and rear light covers are clean.
- v. A soft cloth may be utilized to clean the light covers.



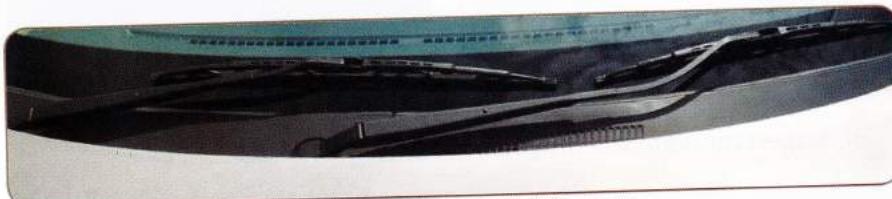
Front of the Vehicle



Rear of the Vehicle

c. Windscreen wipers

- i. Windscreen wipers are utilized to wipe the windscreen if there is dirt or when driving in the rain.
- ii. Ensure that the windscreen wiper blades are in good condition since hard, cracked or torn windscreen wiper blades will fail to wipe the water off completely when driving in the rain. It may also cause scratches on the windscreen.



windscreen wiper blades

d. Body of the vehicle

- i. Inspect the vehicle in a clockwise direction.
- ii. The elements that must be inspected are as follows:
 - Vehicle registration plate: Ensure that the vehicle registration plate is clean and not damaged.

- Bumper: Ensure the bumper is in good condition.
- Boot and bonnet covers: Ensure they are both in good condition and closed securely.
- Side mirrors: Ensure they are clean and not damaged.
- Doors and windows: Ensure that they can be opened and closed properly. Press your thumb on the body of the door and pull the door handle to open and close the door in a gentle manner.



e. Front and rear windscreens

- i. Ensure that the front and rear windscreens are clean and not damaged



Front Windscreen



Rear Windscreen

- 3. Inspect the bottom of the vehicle to identify any leaks.

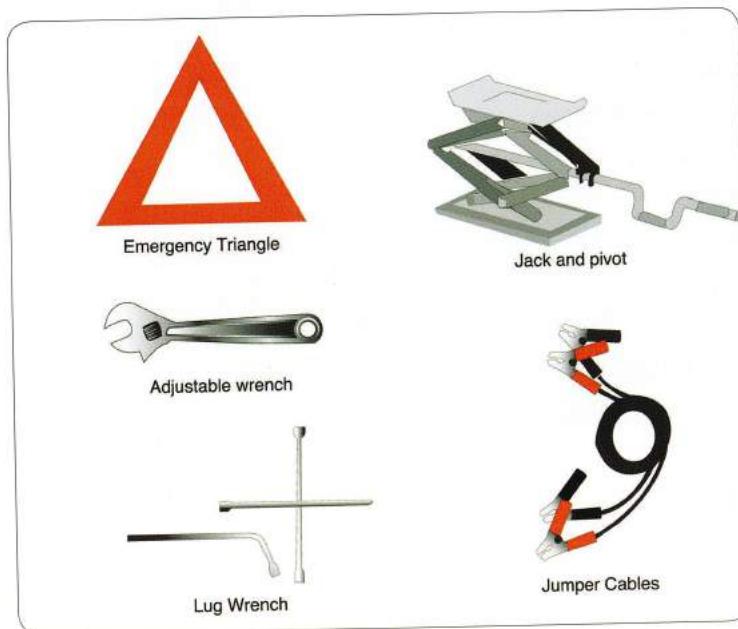
REMINDER

If there is any damage found to the vehicle, the relevant component should be immediately repaired or replaced.

- 4. Boot Compartment Inspection.
- 5. Pull the handle located at the bottom right of the driver's seat to open the boot.
- 6. Open the boot and inspect the emergency equipment located at the bottom to ensure it is complete and in good condition.

7. Inspect all emergency equipment in the boot and ensure that they are in good and working condition:

- Emergency triangle
- First aid kit and first aid guide
- Flashlight
- Dry fire extinguisher
- Jack and pivot
- Lug wrench
- Repair equipment
- Adjustable wrench
- Jumper cables
- Towing cable
- Screwdriver
- Sparkplug wrench
- Various wrenches
- Pliers
- A container of clean water



1.2 Documenting external vehicle damage

Tick the following checklist to document any external damage found on the vehicle for future action

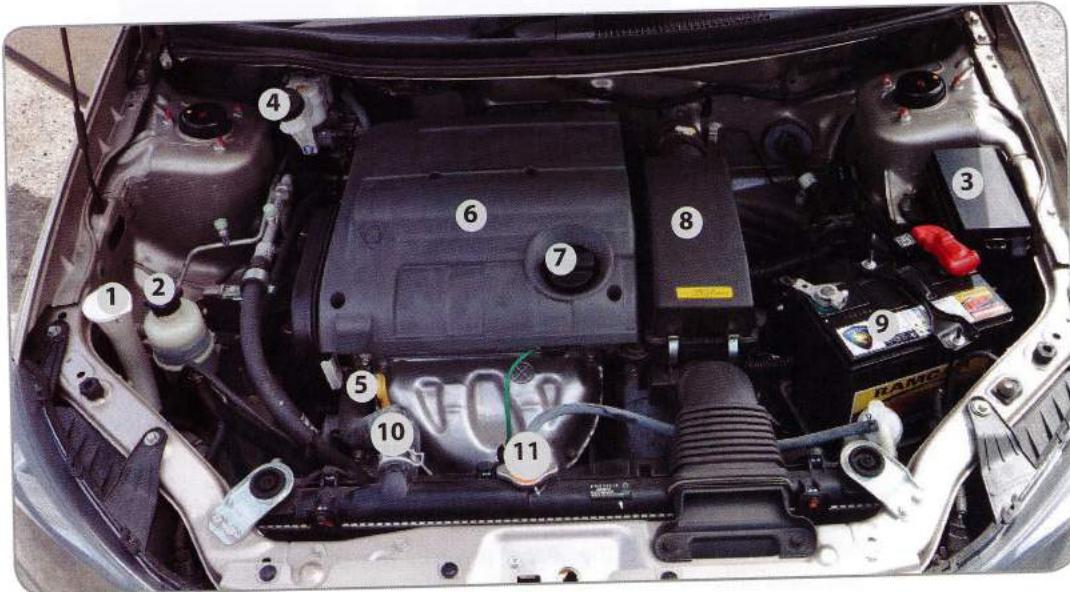
Checklist

Please tick (✓) if complete / in good condition and (X) if incomplete / damaged.

| EXTERNAL VEHICLE INSPECTION | ENGINE COMPARTMENT INSPECTION |
|---|---|
| Tyres | Engine Oil Level |
| <ul style="list-style-type: none"> • Tyre Pressure • Tread Pattern Depth • Physical Condition | <ul style="list-style-type: none"> Brake Fluid Level Power Steering Fluid Level Automatic Transmission Fluid |
| Lights | <ul style="list-style-type: none"> Battery Water Level Radiator Water Level |
| <ul style="list-style-type: none"> • Front • Rear • Signal • Reverse • Brake | <ul style="list-style-type: none"> Windscreen Wiper Water Level Elasticity of Timing Belts Unobstructed Fan Blades Wire Connections |
| Windscreen Wiper Blades | Hoses in Good Condition |
| Body of Vehicle | <ul style="list-style-type: none"> Clean Battery Terminals Clean Engine Compartment |
| <ul style="list-style-type: none"> • Vehicle Registration Plate • Boot / Bonnet Covers • Bumper • Side Mirrors • Doors and Windows | |
| Windscreens | |
| <ul style="list-style-type: none"> • Front • Rear | |
| Booth | |
| <ul style="list-style-type: none"> • Tools • Fire Extinguisher • Emergency Triangle | |

1.3 Engine compartment inspection

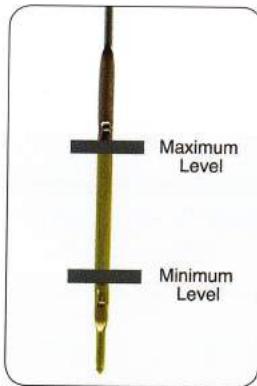
1. Engine Compartment



1. Windscreen Wiper Water Container
2. Power Steering Fluid Container
3. Fuse Box
4. Brake Fluid Container
5. Engine Oil Dipstick
6. Rocker Cover
7. Engine Oil Filler Cap
8. Air Filter
9. Battery
10. Radiator Hose
11. Radiator Cap

2. Engine Compartment Inspection

- a. Open the bonnet by pulling the handle located at the bottom right of the dashboard on the driver's side. The bonnet will raise up slightly.
- b. Release the safety latch and lift the bonnet completely. Place the rod as a bonnet stay.
- c. Inspect the level and quality of the following fluids:
 - i. Engine oil-Pull the dipstick out. Ensure the oil level is between the maximum and minimum markings.
 - ii. Brake fluid-Ensure the fluid level is between the maximum and minimum markings.
 - iii. Power steering fluid (if available)-Take off the cap and ensure the fluid level is between the maximum and minimum markings.



Engine oil level



Engine oil dipstick



Brake fluid container

d. Inspect the water level

- i. Radiator water-Take off the radiator cap and ensure the water level in the radiator is sufficient. Afterwards, replace the cap securely.
- ii. Reserve radiator water-Ensure the amount of water is sufficient.
- iii. Battery water-Ensure the water level in the battery is sufficient. (For wet batteries only)

iv. Windscreen wiper water-Ensure the amount of water is sufficient.



Reserve radiator water container

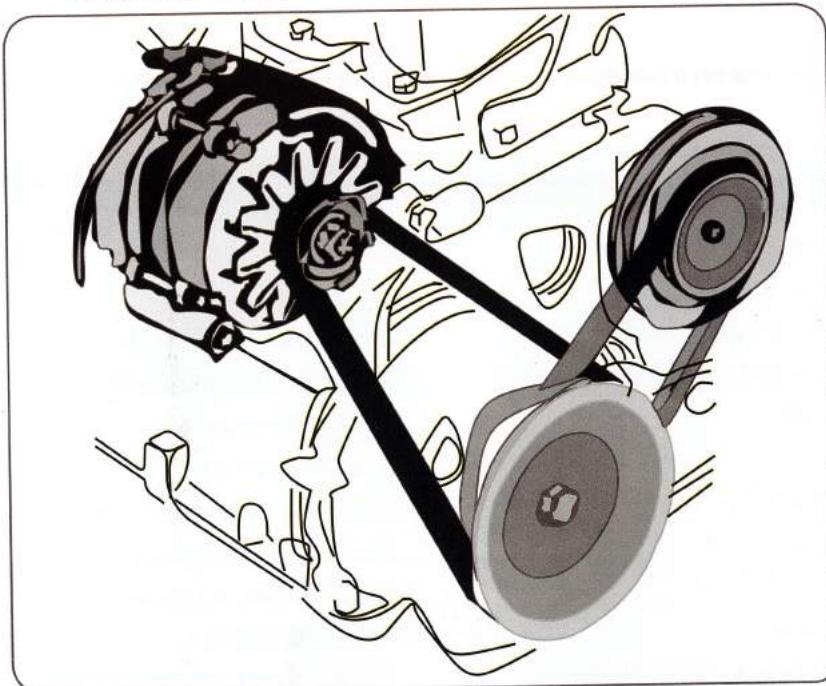


Battery



Windscreens wiper water container

e. Inspect the timing belts-Ensure the timing belts are not cracked or frayed Press the timing belt using your thumb to test the elasticity. The belt should stretch from 0.5 cm-1.0 cm.



Timing belts

f. Inspect the fan blades-Ensure the blades are not damaged or obstructed when spinning.

g. Inspect all connections

- Wires-Ensure that all wires are connected firmly to the appropriate electrical components.
- Hoses-Ensure they are in good condition and there are no leaks, cracks or bulges.
- Battery terminals-Ensure that the battery terminals are clean and fastened securely. Apply the appropriate grease to the terminal to avoid rust or fungal growth.

1.4 DOCUMENTING ENGINE COMPARTMENT WEAR / DAMAGE

Tick the following checklist to document any wear / damage found in the engine compartment for future action.

Checklist

Please tick (✓) if complete / in good condition and (X) if incomplete / damaged

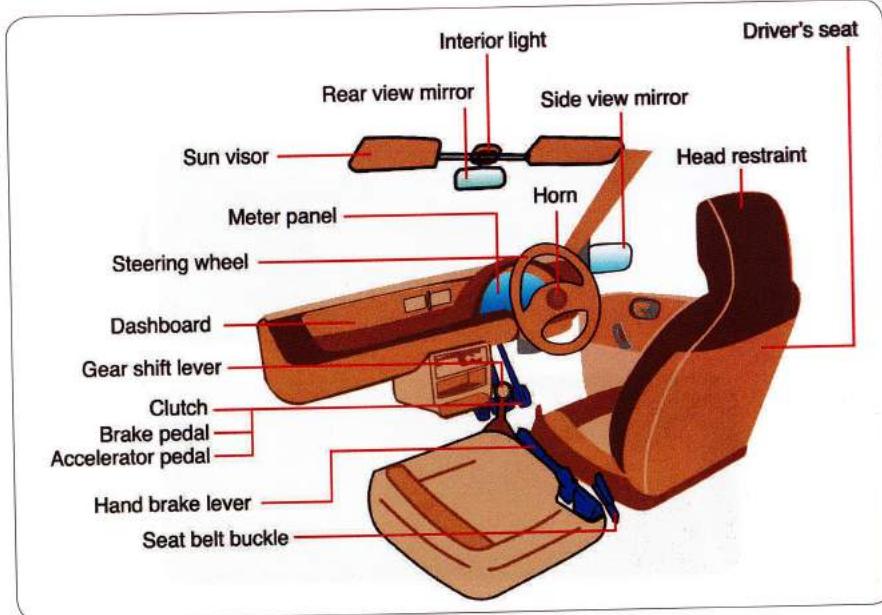
| EXTERNAL VEHICLE INSPECTION | ENGINE COMPARTMENT INSPECTION |
|--------------------------------|-------------------------------|
| Tyres | Engine Oil Level |
| • Tyre Pressure | Brake Fluid Level |
| • Tread Pattern Depth | Power Steering Fluid Level |
| • Physical Condition | Automatic Transmission Fluid |
| Lights | Battery Water Level |
| • Front | Radiator Water Level |
| • Rear | Windscreen Wiper Water Level |
| • Signal | Elasticity of Timing Belts |
| • Reverse | Unobstructed Fan Blades |
| • Brake | Wire Connections |
| Windscreen Wiper Blades | Hoses in Good Condition |
| Body of Vehicle | Clean Battery Terminals |
| • Vehicle Registration Plate | Clean Engine Compartment |
| • Boot / Bonnet Covers | |
| • Bumper | |
| • Side Mirrors | |
| • Doors and Windows | |
| Windscreens | |
| • Front | |
| • Rear | |
| Booth | |
| • Tools | |
| • Fire Extinguisher | |
| • Emergency Triangle | |

1. Pre-driving routine (RSM)

The Pre-driving Routine (RSM) is a routine carried out before the start of a journey. Its purpose is to confirm the proper functioning of vehicle components. It is carried out in the following order:

- i. Enter the vehicle, sit and ensure that the handbrake is engaged.
- ii. Adjust the driver's seat and head restraint.
- iii. Adjust the rear view and side view mirrors.
- iv. Fasten the seatbelt.
- v. Ensure that all indicators on the dashboard are functioning correctly.
- vi. Ensure that the gearshift is placed in the free gear (neutral) position.
- vii. Start the engine without pressing the accelerator.
- viii. Ensure that all switches are functioning properly.

2. Driver's seat



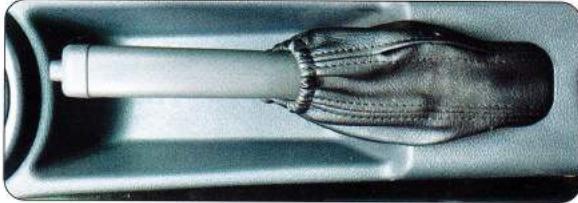
1.5 Handbrake

Objective:

The handbrake lever must be raised to ensure that the vehicle is kept at a complete standstill during the pre-driving inspection.

Steps to using the handbrake:

- a. To engage the handbrake
 - i. Press your right foot down on the brake pedal as a safety precaution.
 - ii. Press the button on the handbrake lever.
 - iii. Raise the lever and release the button.
 - iv. Release the brake pedal.
- b. To release the handbrake
 - i. Press your right foot down on the brake pedal as a safety precaution.
 - ii. Raise the handbrake lever slightly and press the button on the handbrake lever.
 - iii. Push the lever down and release the button.
 - iv. Release the brake pedal.



1.6 Seat and head restraint

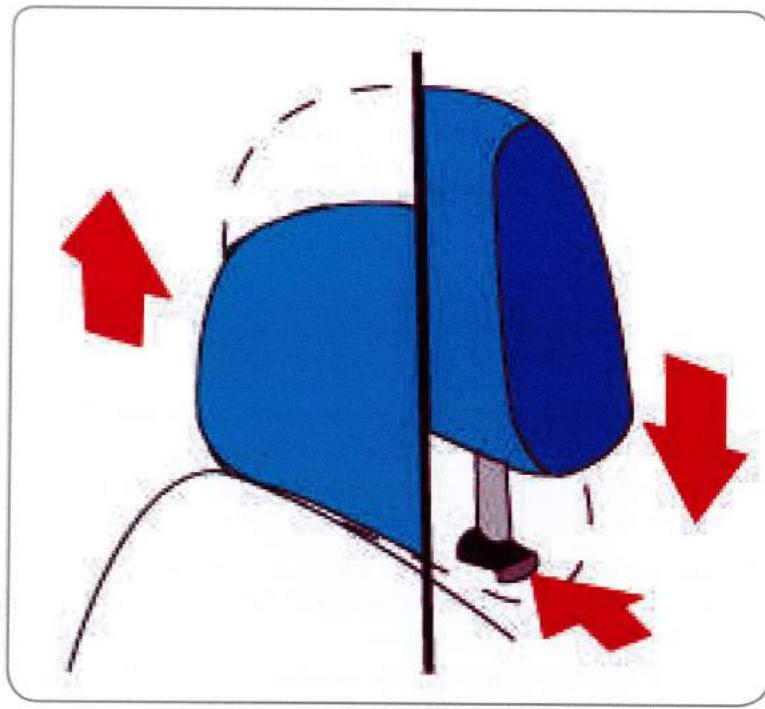
Objective:

Adjusting the seat to comfortably accommodate the driver will allow the driver optimum control of the vehicle in terms of handling the steering, gear, clutch, brakes and accelerator as well as ensuring a comfortable drive.

To adjust the driver's seat:

- i. Sit and lean back. Pull the lever located at the bottom right of the chair to adjust how far it leans back.
- ii. Place your left and right foot on the brake pedal and accelerator pedal respectively. Bend your feet to an angle of roughly 120°.
- iii. Grip the steering wheel with your right hand at the 12 o'clock position while adjusting your seat with your left hand.
- iv. Adjust the distance of the seat from the steering wheel using the lever found underneath the seat. Adjust the seat until your right hand is fully extended while still leaning back in the seat.
- v. Grip the steering wheel at the 3-9 or 2-10 o'clock positions. This should maintain the elbows at an angle of roughly 120°. This is the ideal driving position.
- vi. Attempt to reach all the switches and levers available to the driver such as lights, radio, air-conditioning and gearshift. Ensure that all of them are within reach. Ensure that the driver's vision is not obstructed in any way in this position.





Head restraint

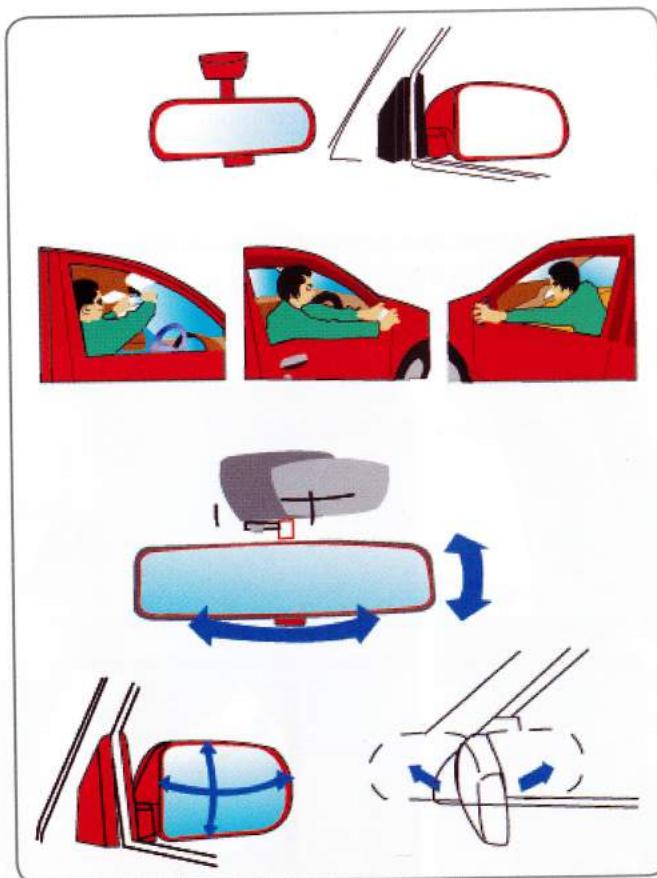
Objective:

The head restraint is adjusted to reduce the risk of whiplash if a collision should occur.

To adjust the head restraint:

- i. Align the top of the head restraint to be parallel with your ears.
- ii. Ensure that the back of your head rests comfortably on the head restraint.

1.7 Side view and rear view mirrors

**Objective:**

To obtain information on changes occurring to the side and rear of the vehicle before determining an appropriate course of action based on current road traffic conditions.

To adjust the side view mirrors:

- There are two types of side view mirrors; manual and motorised.
- The side view mirror should be adjusted so that 25% of the mirror is showing the body of the vehicle and 75% of the mirror is showing the rear of the vehicle

To adjust the rear view mirrors:

- The rear view mirror should be adjusted to show the rear windscreen completely.
- Adjusting the mirror correctly will allow maximum visibility and will minimize the area obscured from the driver (blind spot).

1.8 Seatbelt

Objective:

To reduce the risk of serious harm and injury and to avoid the vehicle occupants being ejected from the vehicle in the event of a strong collision.

To fasten the seatbelt correctly:

- i. Pull the seatbelt gently from over your shoulder towards the seatbelt buckle.
- ii. Fasten the seatbelt by sliding the plate into the buckle until a 'click' is heard.
- iii. Adjust the seatbelt to be positioned as low on your waist as possible.



1.9 Ensuring that all indicators on the meter panel are in good functioning condition

Objective:

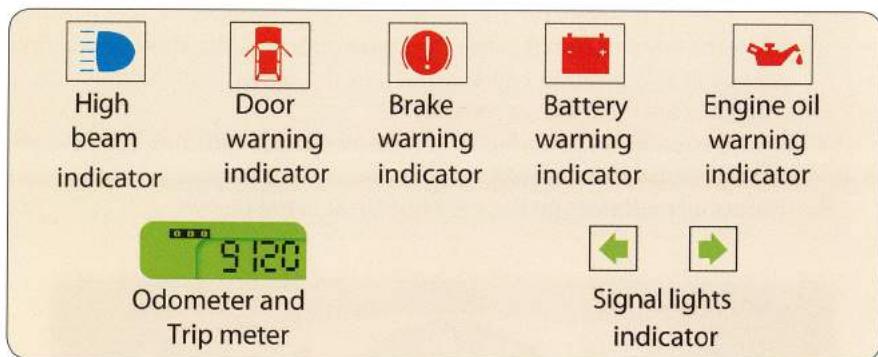
To allow the driver to familiarize himself with and fully understand the function of the indicators which include meters, gauges and warning lights. To ensure that all indicators on the meter panel are functioning correctly.

- i. Insert the key and turn it in the clockwise direction into the 'ON' position. Leave the key in this position while inspecting the meter panel and ensure that all indicators are functioning correctly.
- ii. Ensure that all warning lights are flashing. This indicates that the electrical system is functioning properly.
- iii. Inspect all indicators on the meter panel as listed below:



Meter Panel for an Manual Vehicle

| INDICATOR | FUNCTION |
|-----------------------------------|--|
| Tachometer | Displays the number of engine revolutions per minute |
| Speedometer | Displays the speed of the vehicle |
| Odometer | Displays the total distance travelled by the vehicle |
| Trip meter | Displays the distance travelled by the vehicle from one specific point to another |
| Brake warning light | Turns on when the handbrake is engaged |
| Engine oil pressure warning light | Turns on when the engine is not being lubricated properly or when the engine oil is insufficient |
| Battery warning light | Turns on when the battery is not charging properly |
| Gear position indicator | Displays the position of the gear |
| Fuel gauge | Displays the amount of fuel in the fuel tank |
| Water temperature gauge | Displays the engine temperature |



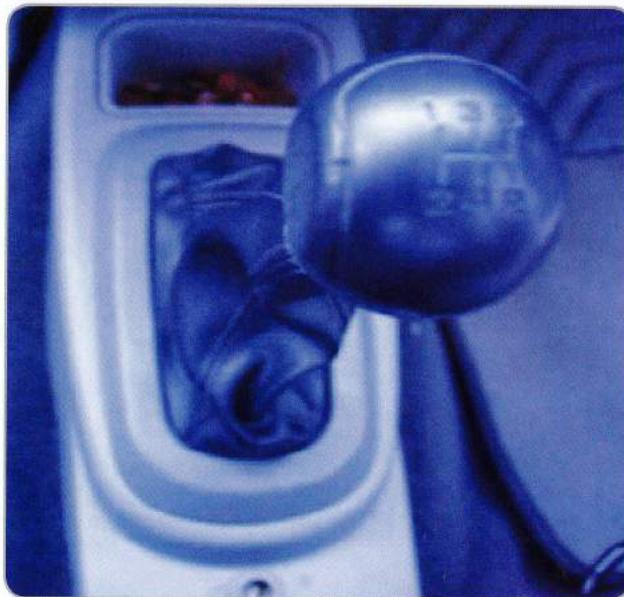
1.10 Gear

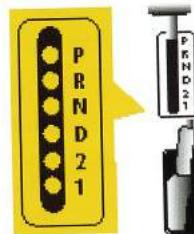
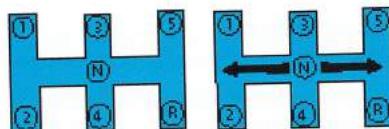
Objective:

To prevent the vehicle from moving immediately upon starting the engine. To familiarize drivers with ensuring that the transmission is placed in free gear.

To shift to free gear:

- i. Grip the gear knob and attempt to move it left and right.
- ii. If the gear knob cannot be moved, press the clutch and free the gearshift by pulling the gear knob up or down depending on its position at the time.
- iii. For vehicles with automatic transmission, ensure that the gear is shifted into the N or P gear position.





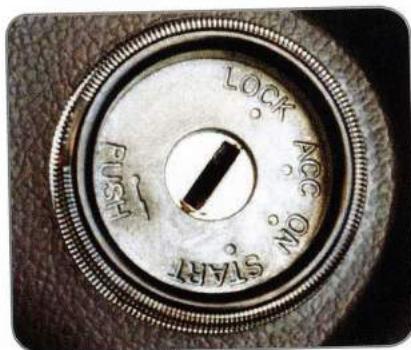
1.11 Switching the engine on

Objective:

For the driver to switch the engine on without pressing the accelerator pedal which may cause damage to:

1. Starter motor
2. Flywheel
3. Battery connections / wires due to electricity overload

- a. The ignition switch function is to switch the engine on. Below is an explanation of its function and the correct key position.
- b. Insert the ignition key and turn it clockwise to the 'ON' position.
- c. The indicators found on the ignition switch are:



| POSISI | FUNGSI |
|-----------|---|
| OFF/ LOCK | The engine is switched off and the steering wheel locked. The ignition key may only be inserted and removed in this position. |
| ACC | The engine is switched off and all electrical equipment can be utilized except the air-conditioner. |
| ON | The engine may be switched on and all electrical equipment can be utilized. |
| START | Switch the engine on by turning the ignition key to this position for a few seconds. The key will return to the 'ON' position upon release. |

To start the engine:

- Insert the ignition key and turn the key in the clockwise direction to the 'ON' position. Hold it in this position for a few seconds to ensure that all indicators are functioning properly.
- Ensure that all switches for electrical equipment are switched off.
- Turn the key to the 'START' position till the engine has started running and wait for a period of between 1 to 4 seconds only before releasing the key to avoid any damage to the electrical systems.
- In the event the engine does not switch on, release the key and try again after a moment.

1.12 ENSURING THAT ALL EQUIPMENT SWITCHES ARE FUNCTIONING PROPERLY

Objective:

To allow the driver to familiarize himself with and fully understand the function of the equipment switches. To ensure that all switches are functioning correctly.

- Start the engine using the recommended procedure.
- Turn every switch on to test that they are functioning properly.

1. Turn Signal Lever

Objective:

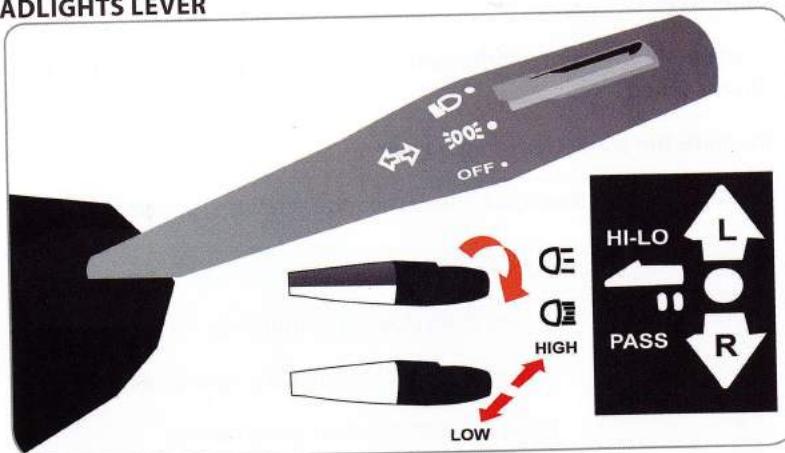
The turn signal is used to inform other road users including pedestrians of your intended direction and actions. This includes turning left or right, overtaking, changing direction and changing lanes. The turn signal should be given early, at least three seconds before the intended action, to ensure that other drivers have sufficient time to react. Giving the turn signal late may cause the driver behind to brake too hard or collide into the vehicle.

To utilize the turn signal lever:

- Push the lever down to display a right turn signal.
- Push the lever up to display a left turn signal.



2. HEADLIGHTS LEVER



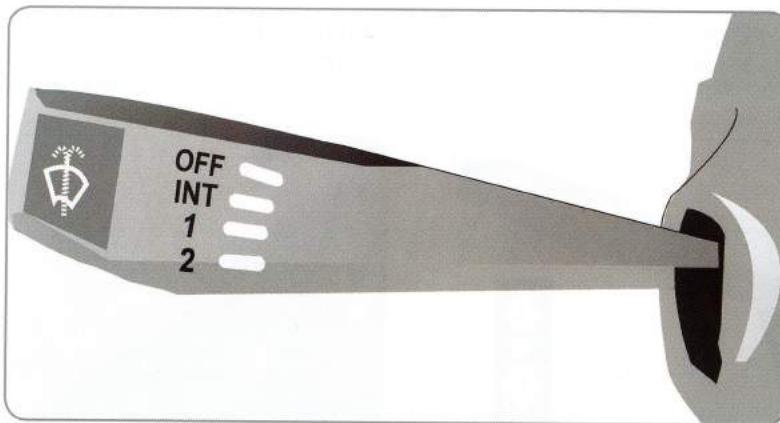
Objective::

The main headlights located at the front of the vehicle allows the driver to see the road at night. These lights are also turned on during bad weather conditions to increase the visibility of the vehicle to other road users. The high beams are utilized when the road is clear, there is no oncoming traffic and there are no vehicles ahead.

To utilize the headlights lever:

- To turn the headlights on, twist the headlights lever in the clockwise direction.
- Pull the lever towards the steering wheel to turn the high beams on. The high beams indicator on the meter panel will turn on. To turn the high beams off, repeat the action.
- While the lever is twisted to the 'OFF' position, pull the lever towards the steering wheel and release it quickly to 'FLASH' the high beams. This indicates you are giving way to the road user ahead and allowing them to 'PASS'.

3. Windscreen Wiper Lever



Objective:

To maintain the front windscreen clear of water or any dirt which may obstruct the driver's vision.

To utilize the windscreen wiper lever:

- Push the lever down to choose the required wiper speed:

| | |
|-------------|------------------------------------|
| OFF | no movement |
| INTERMITTEN | moves then stops intermittently |
| " 1 " | moves continuously at a low speed. |
| " 2 " | moves continuously at a high speed |

- To clean the windscreen, pull the lever towards the steering wheel to release a stream of water onto the windscreen.

4. Hon



Objective:

The horn is a means of communication, integrated into a vehicle to allow a driver to give warning to other road users. The driver should only sound the horn when necessary.

To utilize the horn:

- Press down on the horn area on the steering wheel and confirm that it is functioning properly.

5. Hazard Light



Objective:

If the switch is pressed, all four turn signal lights will flash continuously. In an emergency, turn the hazard lights on. Change lanes to a safe lane (emergency lane) until a safe parking place is reached. Leave the hazard lights on. Avoid utilizing the hazard lights when the vehicle is moving unless necessary.

Safe driving routine

Objective:

To obtain information of the surroundings to overcome possible hazards, the driver must always practice the following CITO routine before taking any action or practicing any manoeuvre:

| | |
|----------|--|
| C | Cermin (Mirror): Look in the side view mirrors and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |

1.13 Moving forward

Objective:

To ensure the driver is familiar with applying the correct amount of pressure on the accelerator needed to move the vehicle forward in a safe, smooth and comfortable manner.

- i. Utilize the left foot to fully press the clutch pedal and hold.
- ii. Shift the gear knob into the gear 1 position. If the gear knob cannot be moved into position, release the clutch and press it again a few times. Make another attempt to shift into first gear.
- iii. Utilize the right foot to gently press the accelerator pedal.
- iv. Gradually release the clutch pedal until the sound of the engine revving reduces. This indicates that the clutch has engaged the flywheel.
- v. Maintain the clutch in this position.
- vi. Practice the CITO routine to ensure that the surroundings are safe before moving forward.
- vii. If it is safe to do so, release the handbrake.
- viii. At the same time, release the clutch slightly. The vehicle will begin moving forward. Increase pressure on the accelerator. Release the clutch pedal.
- ix. To bring the vehicle to a stop, release the accelerator pedal fully.
- x. Control the braking of the vehicle by gradually pressing the brake and controlling the pressure on the clutch pedal.
- xi. When the vehicle has slowed down, press the clutch pedal fully while gradually increasing pressure on the brake pedal until coming to a complete stop.
- xii. Once the vehicle is stationary, engage the handbrake.
- xiii. Put the vehicle into free gear.

REMINDER

A vehicle with automatic transmission will move forward slowly by itself even when the accelerator pedal is not pressed.

2.0 DRIVING IN URBAN AREAS

LEARNING OUTCOME

By the end of this chapter, the reader should:

- a. Drive in urban areas while:
 - i. At a speed below the specified limit or suitable to the road conditions.
 - ii. At a safe distance from other vehicles.
 - iii. In the correct lane in a safe manner.
 - iv. Changing lanes in a safe manner.
 - v. Overtaking other vehicles in a safe manner.
 - vi. Driving through curves in a safe manner.
 - vii. Driving through junctions in a safe manner.
 - viii. Driving through roundabouts in a safe manner.
 - ix. Driving through school zones and residential areas in a safe manner.
 - x. Giving way to other road users (emergency vehicles such as ambulance, police & fire department).
 - xi. Taking U-turns in a safe manner.
- b. Apply the safe driving routine in a responsible manner while driving on the road.
- c. Display a sense of courtesy while driving on the road.

2.1 Safe driving routine

Objective:

To obtain information of the surroundings to overcome possible hazards, the driver must always practice the following CITO routine before taking any action or practicing any manoeuvre:

| | |
|----------|--|
| C | Cermin (Mirror): Look in the side view mirrors and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |

2.2 Safe driving routine

Objective:

To obtain information of the surroundings to overcome possible hazards, the driver must always practice the following CITO routine before taking any action or practicing any manoeuvre:

- a. Roads
 - i. Single lane road (two-way traffic)
 - ii. Two lane road
 - iii. Road with three or more lanes
 - iv. Motorcycle lane
 - v. Bus and taxi lane
- b. Traffic
 - i. Pedestrians
 - ii. Cyclists / motorists
 - iii. Parking lots
 - iv. Pedestrian crossings
 - v. Crossings for schoolchildren
 - vi. Public Service Vehicles picking up and dropping off passengers
 - vii. Vehicles picking up and dropping off passengers
- c. Road surface conditions
 - i. Damaged / potholes / wet
 - ii. Oily
 - iii. Narrow road

Drivers must always anticipate, be cautious and give way to other vehicles in order to be able to react earlier before entering the danger zone. Road traffic conditions will continuously change. Drivers must be observant of every change in their surroundings.

Drivers must always:

- a. Practice the safe driving routine (CITO routine) before starting a journey to obtain accurate information in order to avoid hazards.
- b. Ensure that the vehicle is travelling at a safe speed based on the specified speed limit displayed on road signs or based on observation and analysis of hazards found while driving in urban areas.

c. Maintain a safe distance from the vehicle in front since this will determine the effective available braking distance. The effective available braking distance is also dependent upon the speed of the vehicle, the physical shape of the road as well as the condition of the road surface which is affected by weather conditions. The driver must maintain a distance that allows him to think and react to the situation safely. The Two (2) or Four (4) Second Rule should be applied.



Obey the specified speed limit and maintain a safe distance from the vehicle in front while driving in a cautious manner.



Always obey any displayed road signs while driving in urban areas and be aware of the presence of other road users.



Always drive in the correct lane and obey all road traffic regulations.

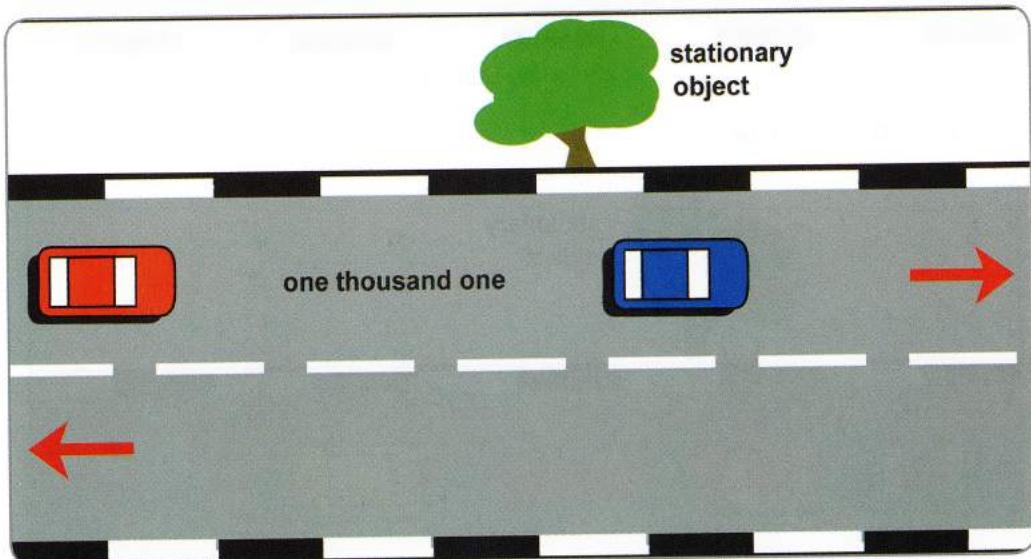


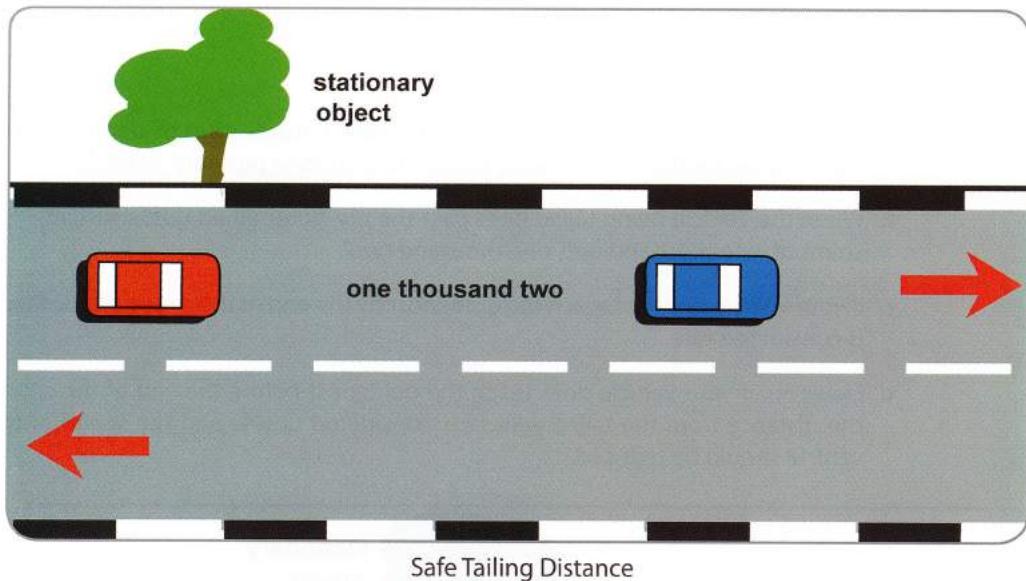
Be aware of damaged road surfaces and drive with caution.

2.3 Maintaining a safe tailing distance

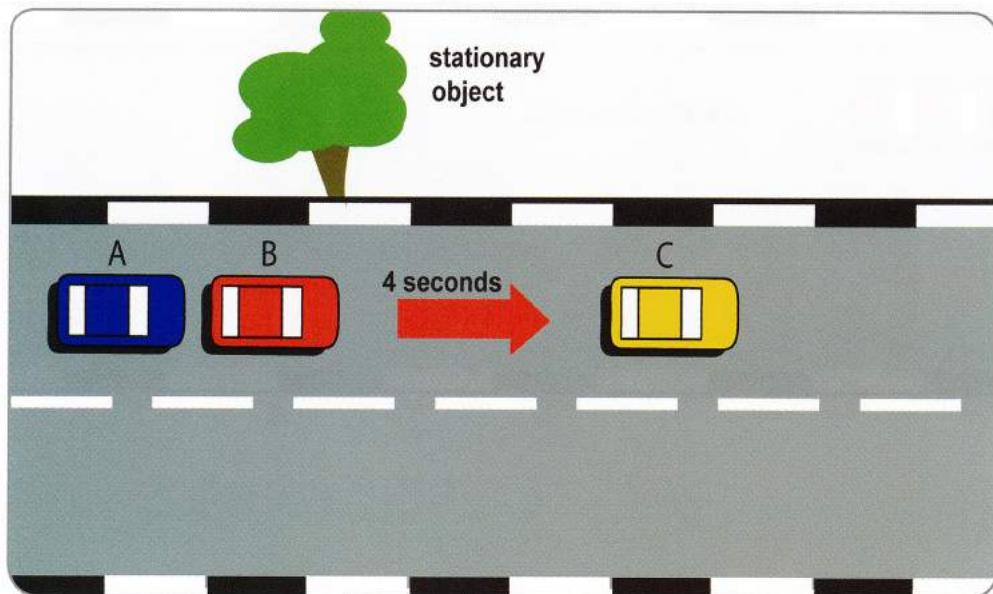
1. Two (2) Second Rule

- a. While tailing a vehicle, a stationary object on the roadside must be determined as a guidepost, such as a streetlamp, signpost, telephone pole and so forth.
- b. When the vehicle being tailed goes past the pre-determined guidepost, make a count of "one thousand one, one thousand two".
- c. If your vehicle does not reach the guidepost by the end of the count, the distance is considered safe.
- d. However, if your vehicle does reach the guidepost before the end of the count, the distance from the tailed vehicle is considered unsafe and the speed of the vehicle should be reduced.



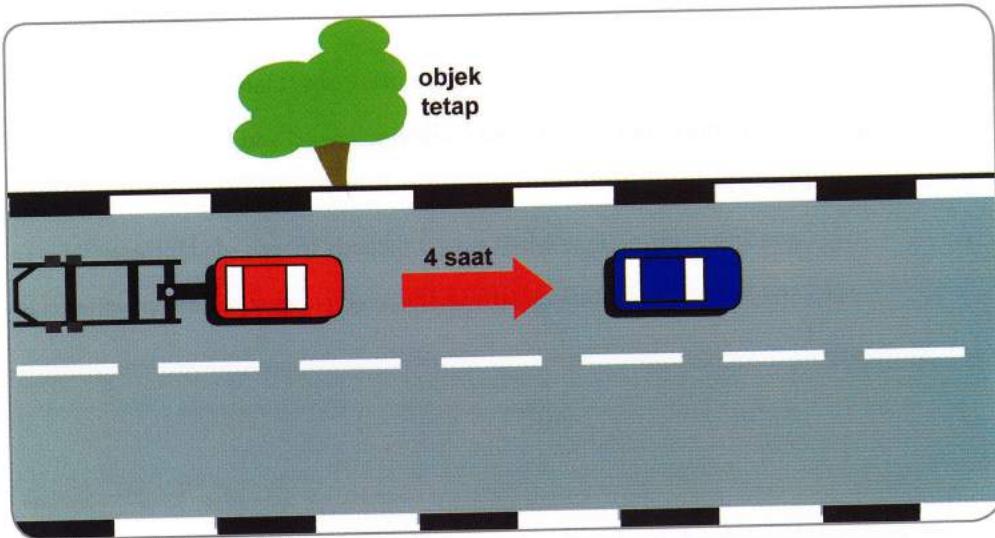


2. Four (4) Second Rule



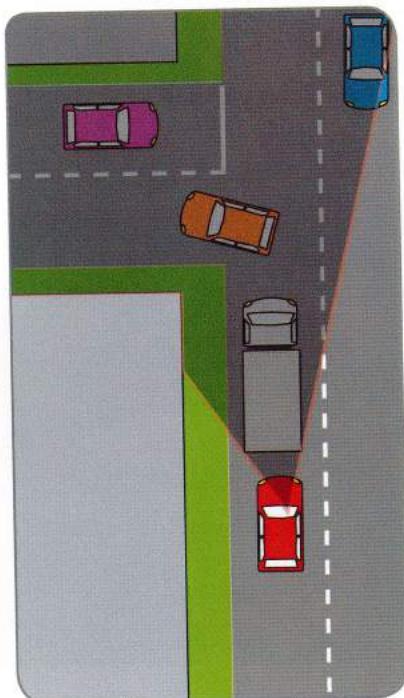
Vehicle A is tailing vehicle B too closely at an unsafe distance. Vehicle B should practice the Four Second Rule to ensure a safe distance from vehicle C.

- i. The vehicle behind you is tailing you at very close proximity.
- ii. The vehicle in front of you is tailing the vehicle in front of it at very close proximity.
- iii. During bad weather conditions or on slippery or sandy road surfaces.
- iv. When pulling cargo.

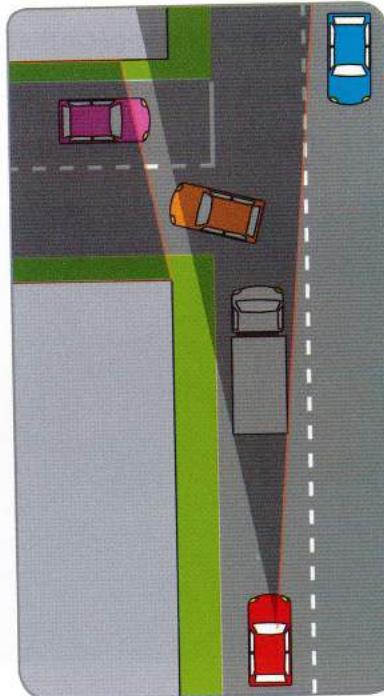


The Four Second Rule should be applied when pulling cargo.

- e. Importance of maintaining a safe distance when tailoring another vehicle:
 - i. Allows adequate time and distance to safely stop the vehicle.
 - ii. Allows the driver a greater field of vision to observe the situation on the road ahead.



The illustration above shows how a driver tailoring another vehicle too closely is not able to see hazards ahead.



The illustration above shows a safe tailoring distance where the driver is able to see hazards ahead.

2.4 Driving in the correct lane

1. The driver must ensure that he is driving in the correct lane in a safe manner.
 - a. Determine the correct lane based on driving speed and flow of traffic.
 - i. Lane 1:Driving lane
 - ii. Lane 2:Overtaking lane when speed exceeds speeds of vehicles in lane 1.
 - iii. Lane 3:Also an overtaking lane when speed exceeds speeds of vehicles in lane 2.

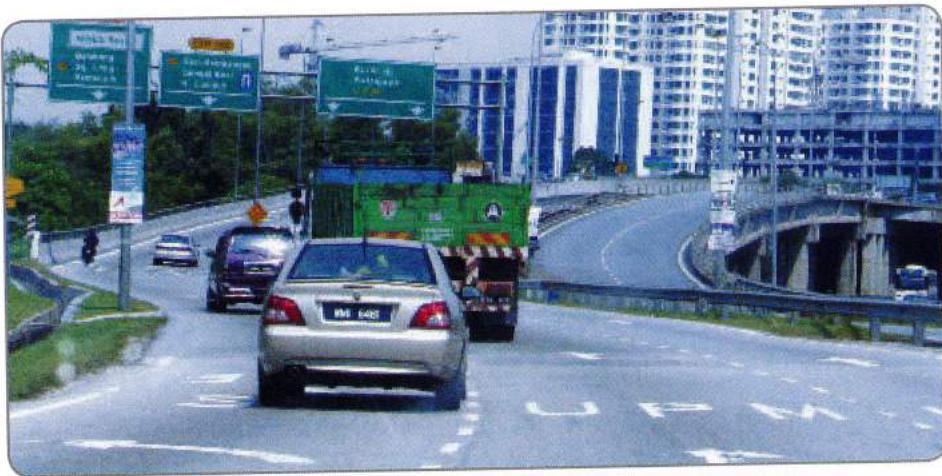
REMINDER

Avoid utilizing lanes 2 and 3 unless intending to overtake. Always utilize lane 1 for driving purposes. After using lane 2 or 3 to overtake, change back to lane 1.

2. Drive following the flow of traffic while maintaining control of the vehicle to position it safely among other vehicles.
 - a. Ensure a safe tailing distance.
 - b. Position the vehicle in the safe zone (with at least 1 meter (3 feet) of space on both the left and right of the vehicle).
 - c. Stay aware of vehicles to the rear by examining the rear view and side view mirrors periodically every 5-10 seconds.
 - d. Be aware of changes in the flow of traffic.
 - e. Take note of every road sign displayed along the road.
 - f. Obey the specified speed limit.

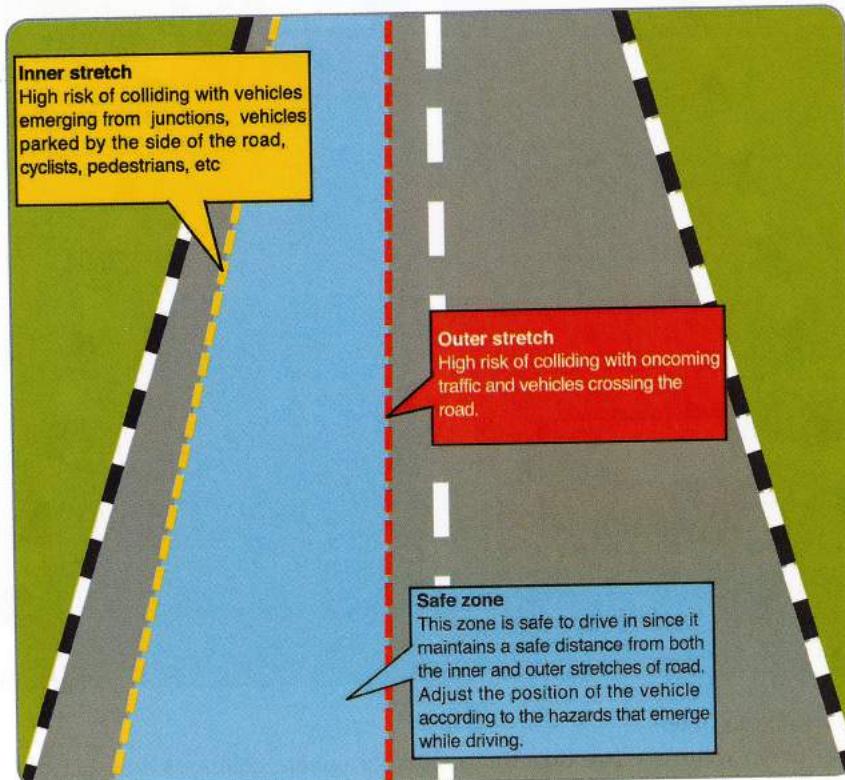


3. Change to the intended lane as early as possible to avoid changing lanes at the last moment since this may disrupt the flow of traffic and increase the risk of an accident occurring.



4. Ensure that the vehicle is positioned correctly on the road; not too closely to the curb or shoulder of the road as well as not too closely to the middle of the road. The vehicle should always be maintained in the 'Safe Zone'. Adjust the position of the vehicle according to the hazards that emerge while driving.

Safe zone



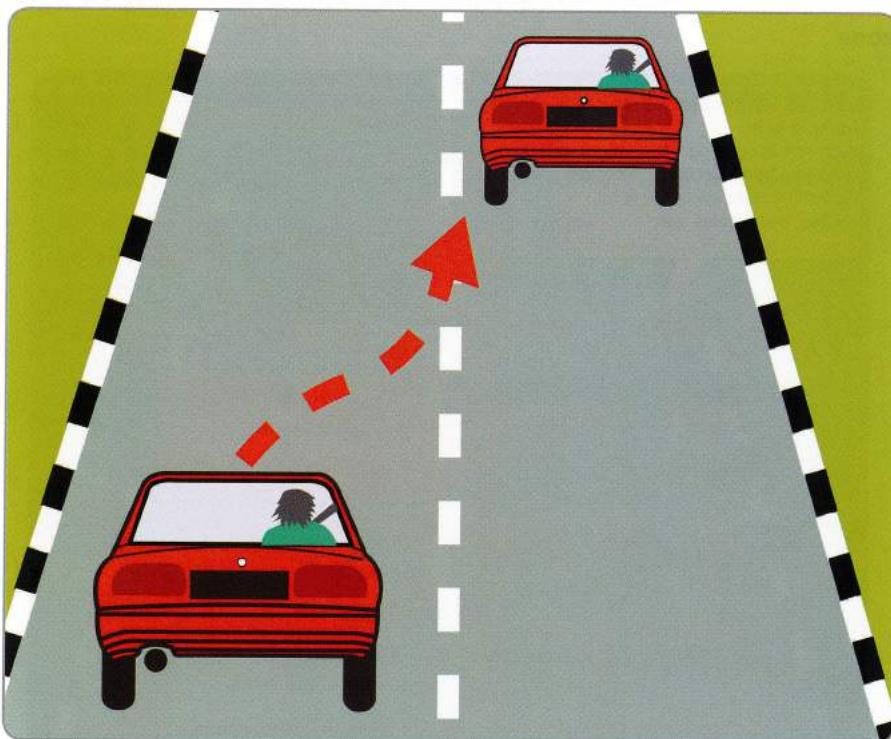
Ensure that the vehicle is positioned correctly on the road; not too closely to the curb or shoulder of the road as well as not too closely to the middle of the road. The vehicle should always be maintained in the 'Safe Zone'. Adjust the position of the vehicle according to the hazards that emerge while driving.

2.5 Changing lanes safely

1. Changing lanes in urban areas requires additional caution. This is due to other drivers moving at the same time especially motorists and vehicles approaching from behind at high speeds.

Drivers must always:

- a. Practice the safe driving routine (CITO routine) before changing lanes to obtain accurate information in order to avoid hazards. At high speeds, the CITO routine must be carried out at an earlier time.
- b. Change lanes safely
 - i. Change lanes only when the driver feels necessary.
 - ii. Ensure that there is enough distance and time to change lanes since vehicles may approach from behind at high speeds.
 - iii. Adjust the speed of the vehicle to reflect the speed of traffic in the lane before entering the lane.



2.6 Overtaking safely

Overtaking will place the driver in a situation where collisions may occur. Overtaking at the wrong place or time is a dangerous act. Before overtaking, observe the speeds and positions of any vehicles approaching from the other direction as well as the vehicle intended to be overtaken. Ensure that the road ahead is clear and has enough space to allow overtaking. In two-lane or three-lane roads, overtake other vehicles by utilizing the overtaking lane. Do not overtake by utilizing the driving lane. Drivers must always:

1. Practice the safe driving routine (CITO routine) before overtaking to obtain accurate information in order to avoid hazards.
2. Overtaking consists of three phases:

Before overtaking

- i. Maintain a safe distance from the vehicle in front.
- ii. Make a visual scan up to 12 seconds ahead.
- iii. Apply the CITO routine to examine the rear and sides of the vehicle to obtain information before moving right.
- iv. Shift from gear D to gear 3 if necessary to gain more acceleration for overtaking.
 - Change lanes in a smooth manner.
 - Move only when the situation is safe.

During overtaking

- i. Increase the speed of the vehicle to overtake the vehicle in front to refrain from obstructing the flow of traffic from behind.
- ii. Maintain a safe distance of at least 1 meter (3 feet) from the vehicle being overtaken.
- iii. The horn and lights can be used to convey your presence to the vehicle being overtaken.

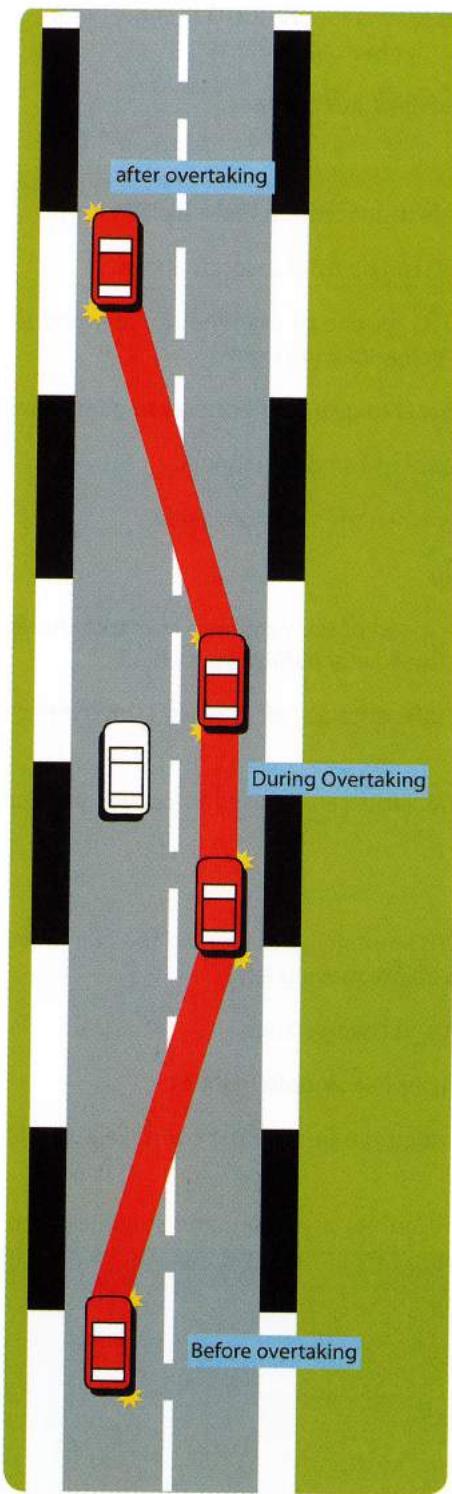
After overtaking

- i. Apply the CITO routine by examining the rear and sides of the vehicle to obtain information before moving left.
 - Move left and change lanes.
 - Change lanes in a smooth manner.
- ii. Move only when the front of the overtaken vehicle can be seen in the left side mirror.
- iii. Continue the journey and maintain a suitable speed and position.

REMINDER

Avoid overtaking when:

- i. Approaching pedestrian crossings.
- ii. At junctions.
- iii. At corners or sharp curves.
- iv. In hilly areas.
- v. At sections of road with double solid lines or a single continuous line.



2.7 Driving through curves in the road

All drivers must be able to maintain good control of their vehicle in terms of controlling the direction, position, speed and gear selection of their vehicle in order to pass through the curve safely and smoothly. Practice the CITO safety routine before taking the curve.

1. Approaching the curve

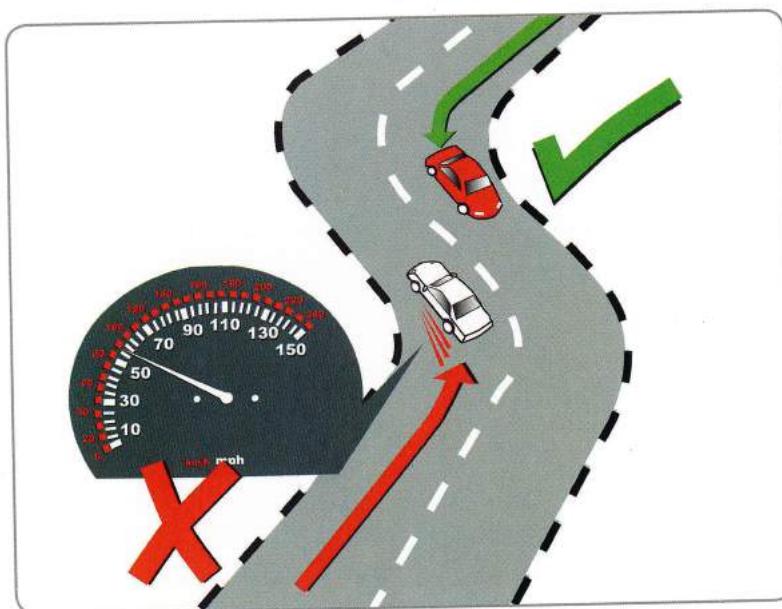
- a. Practice the CITO routine before taking the curve.
- b. Ensure that the vehicle is in the correct position on the road.
- c. Be ready to react towards vehicles coming from the opposite direction.
- d. Determine the direction and sharpness of the curve.
- e. Utilize the brakes to achieve a suitable speed.
- f. Select a suitable gear based on the speed of the vehicle. Shift down to gear 3 if necessary to obtain more torque and stability.

2. Entering the curve

- a. Do not brake while taking the curve.
- b. Utilize the accelerator pedal cautiously to maintain a constant speed throughout the curve.
- c. Look ahead in the direction the vehicle is heading to ensure that the steering wheel is maintained in the proper position.

3. Exiting the curve

- a. Increase the speed of the vehicle to continue the journey.



2.8 Driving through junctions

All drivers must exercise additional caution when approaching or driving through junctions. This is due to the possibility of many unexpected hazards such as vehicles running red lights or vehicles that do not give right-of-way.

1. Approaching the junction

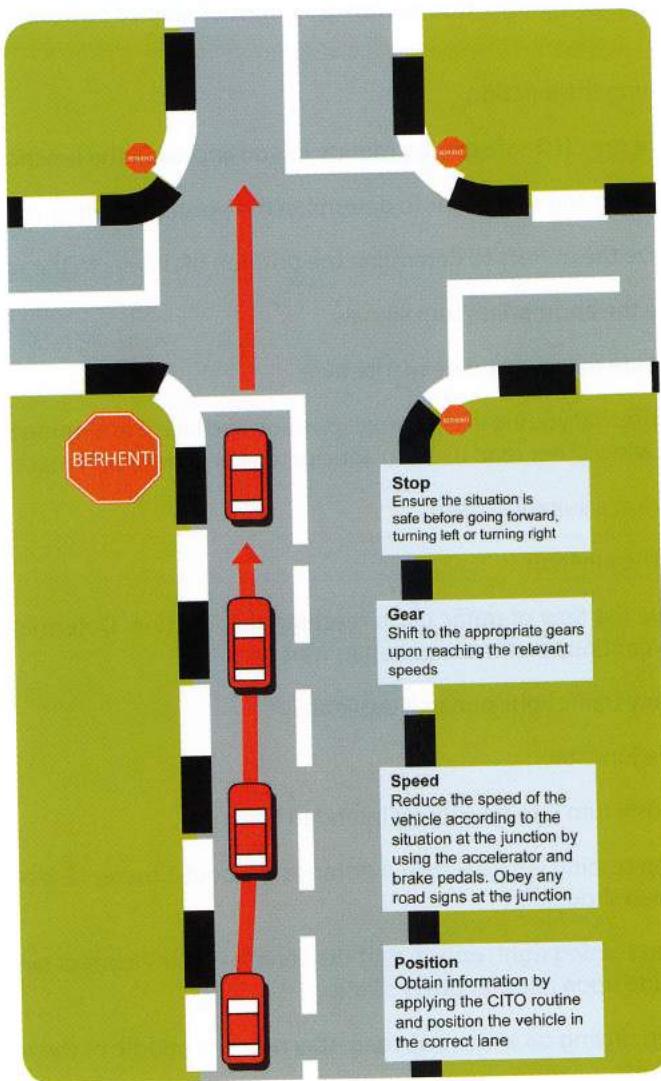
- a. Practice the CITO safe driving routine.
- b. Position the vehicle correctly and safely.
- c. Release the accelerator pedal completely and press the brake pedal with gradually increasing pressure until the vehicle comes to a complete stop.

2. Entering the junction

- a. Maintain pressure on the brake pedal to ensure the vehicle is stopped safely and to keep the brake lights on to warn drivers approaching from the rear that the vehicle is stationary.
 - Maintain a safe distance of 2 meters (6 feet) by ensuring that the rear tyres of the vehicle in front are still visible.
- b. Engage the handbrake if necessary.
- c. If the driver intends to wait for a long period of time at the junction, engage the handbrake and shift from gear D to N.
- d. Maintain pressure on the brake pedal to keep the brake lights on to warn drivers approaching from the rear that the vehicle is stationary.

3. Exiting the junction

- After evaluating the risk of accident and determining that the situation is safe, move forward and continue the journey.



2.9 Turning at junctions

All drivers must exercise additional caution when approaching or driving through junctions. This is due to the possibility of many unexpected hazards such as vehicles running red lights, vehicles that do not give right-of-way or pedestrians crossing the road.

1. Approaching the junction

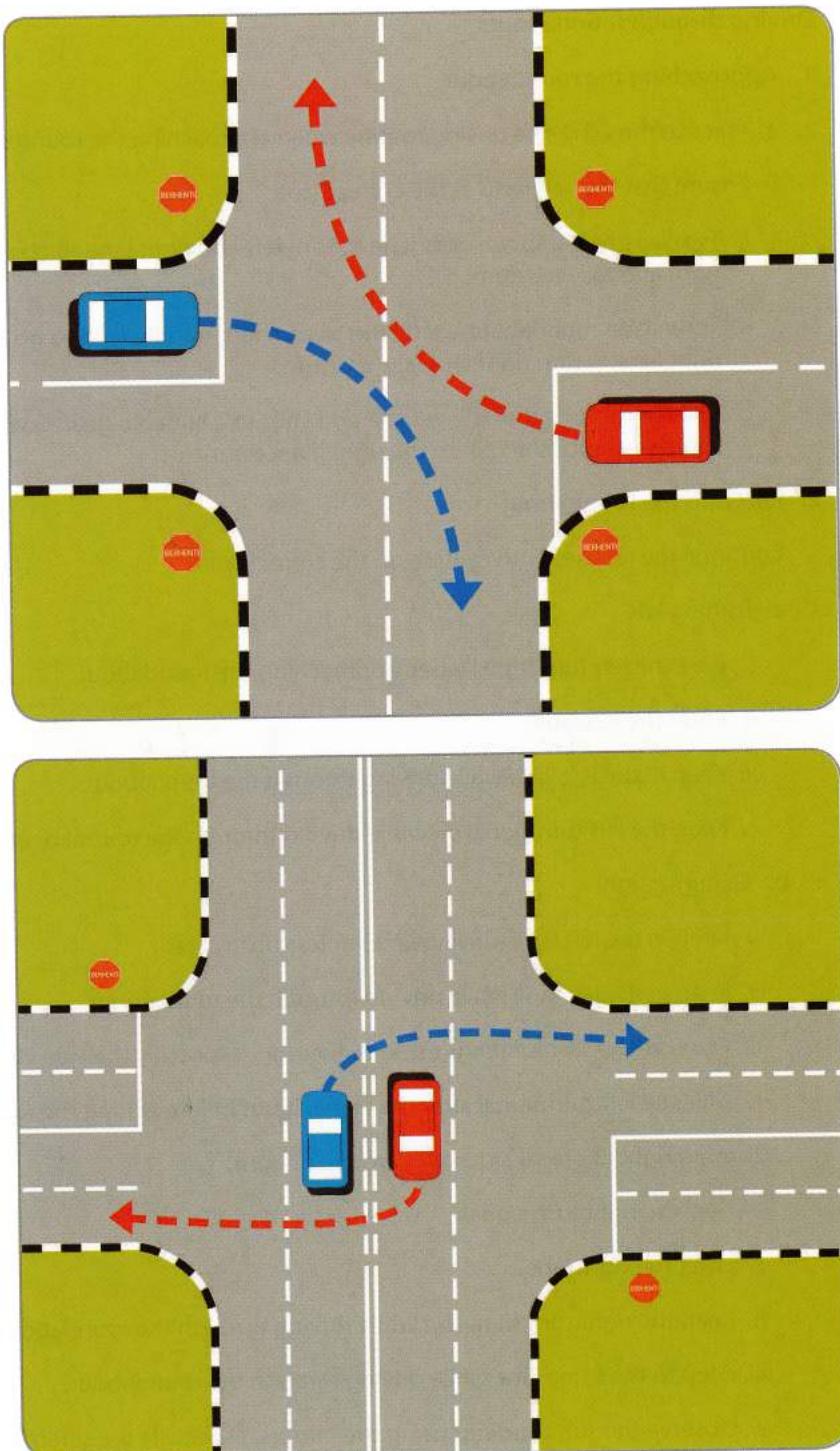
- a. Practice the CITO safe driving routine as you approach the junction.
- b. Look ahead and to the rear to determine the position of other road users:
 - i. Utilize the mirrors to determine the position of drivers to the rear.
 - ii. Give the appropriate turn signals.
 - iii. Execute the appropriate manoeuvre.
 - iv. Ensure that you are in the correct position and lane. Positioning the vehicle early will allow other road users to anticipate your actions and react accordingly.
 - v. Drive at a suitable speed.

2. Entering the junction

- a. Observe the flow of traffic upon reaching the junction. Determine whether it is safe to continue or if it is required to wait first.
- b. Obey any traffic light signals if available.

3. Exiting the junction

- a. Cautiously turn into the closest intended lane:
 - i. When turning left, maintain a distance of about 1 meter (3 feet) from the curb or road shoulder.
 - ii. When turning right, ensure that the vehicle is in the correct lane and does not intrude upon another driver's lane.
 - iii. When driving on a one way road, stay near the middle of the road to facilitate the turn.
 - iv. Maintain the same position on the lane before, during and after the turn.
 - v. Distance yourself from the junction and continue the journey.



Passing through a junction using the inside – inside method or the outside – outside method

2.10 Driving through roundabouts

1. Approaching the roundabout

- a. Practice the CITO safe driving routine when approaching the roundabout.
- b. Ensure that the vehicle is in the correct lane.
 - i. Two lane roundabout – left lane to turn left and right lane to go straight, turn right and take a U-turn.
 - ii. Three lane roundabout – left lane to turn left, middle lane to go straight and right lane to turn right and take a U-turn.
- c. Reduce the speed of the vehicle and shift to a suitable gear. Give way to any vehicles approaching from the right if necessary.

2. Entering the roundabout

Continue the journey with caution on the correct lane.

a. Turning left

- i. Give the left turn signal when approaching the roundabout.
- ii. Enter the left lane.
- iii. Keep in the left lane while driving through the roundabout.
- iv. Keep the left turn signal on while driving through the roundabout.

b. 'Going straight'

- i. Keep in the left lane (driving lane) unless obstructed.
- ii. Keep in the left lane while driving through the roundabout.
- iii. Observe the surroundings using the mirrors, especially the side view mirrors.
- iv. Give the left turn signal after the first exit but before exiting the roundabout.

c. Turning right (3 o'clock) / turning around (U-turn)

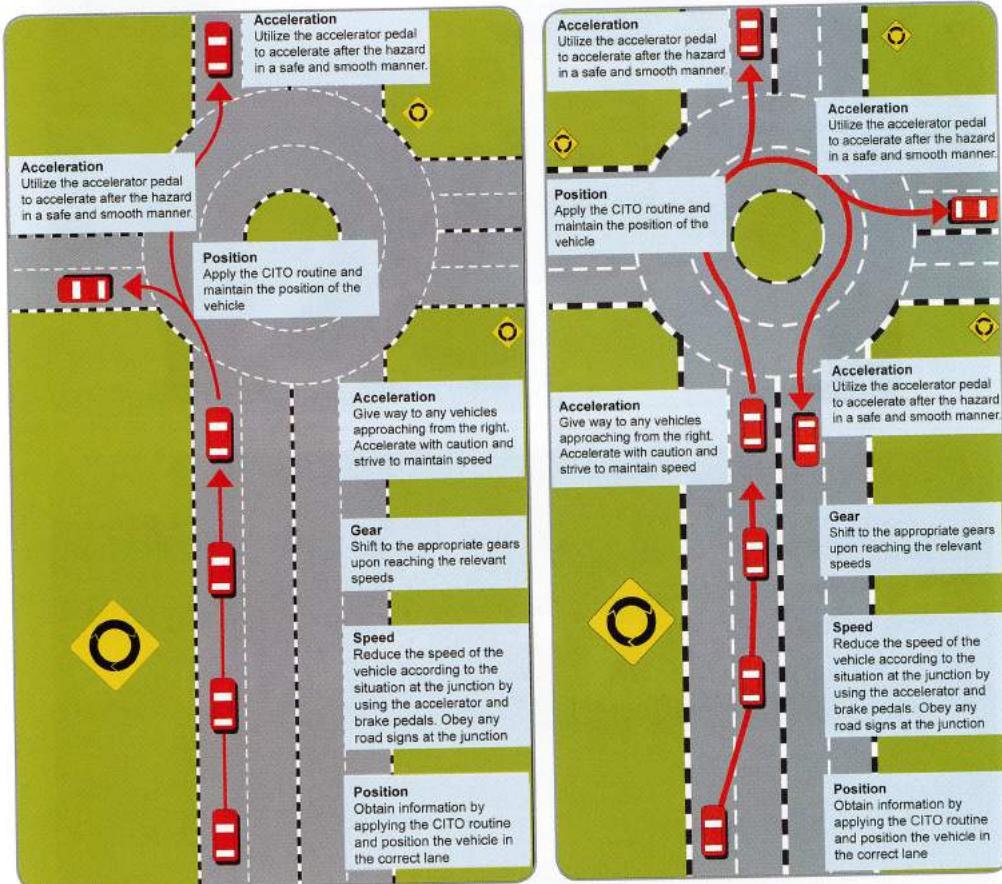
- i. Give the right turn signal.
- ii. Enter the right lane.
- iii. Keep to the same lane while driving through the roundabout.
- iv. Observe the surroundings using the mirrors, especially the side view mirrors.
- v. Give the left turn signal after the last exit before exiting the roundabout.

3. Exiting the roundabout

- Continue the journey after exiting the roundabout.

REMINDER

Be cautious of traffic on the left side of the vehicle when utilizing the right lane.



INFORMATION

- Observe the situation ahead and the surroundings to obtain the maximum amount of information.
- Analyse the information and create a plan of action to overcome any hazards.
- Convey your intent by giving signals before executing any manoeuvres.

2.11 Driving in school zones and residential areas

Drivers must fully understand the hazards that are present in school zones and residential areas as well as the relevant warning signs to allow safe and smooth movement in these areas.

1. Reduce the speed of the vehicle according to the specified speed limit



- a. School zones
 - i. Obey the specified speed limit of 30 km / h.
 - ii. Reduce the speed of the vehicle at school crossings.
 - iii. Observe the traffic controller carefully since the orders given may come late
 - iv. Obey any traffic light signals (if available).
 - v. Be aware of any children in the school zone or crossing the road.

vi. Be aware of any vehicles entering or exiting the school compound.



b. Residential areas

- i. Be cautious around children playing.
- ii. Be aware of vehicles entering and exiting residential properties.
- iii. Be aware of road surface conditions (damaged, potholes, bumps).
- iv. Be cautious of vehicles parked on both sides of the road.
- v. Be prepared to stop the vehicle when faced with any of the above hazards.

REMINDER

Vehicles with automatic transmission will move forward slowly without the need to press the accelerator.

2.12 Giving way to other road users

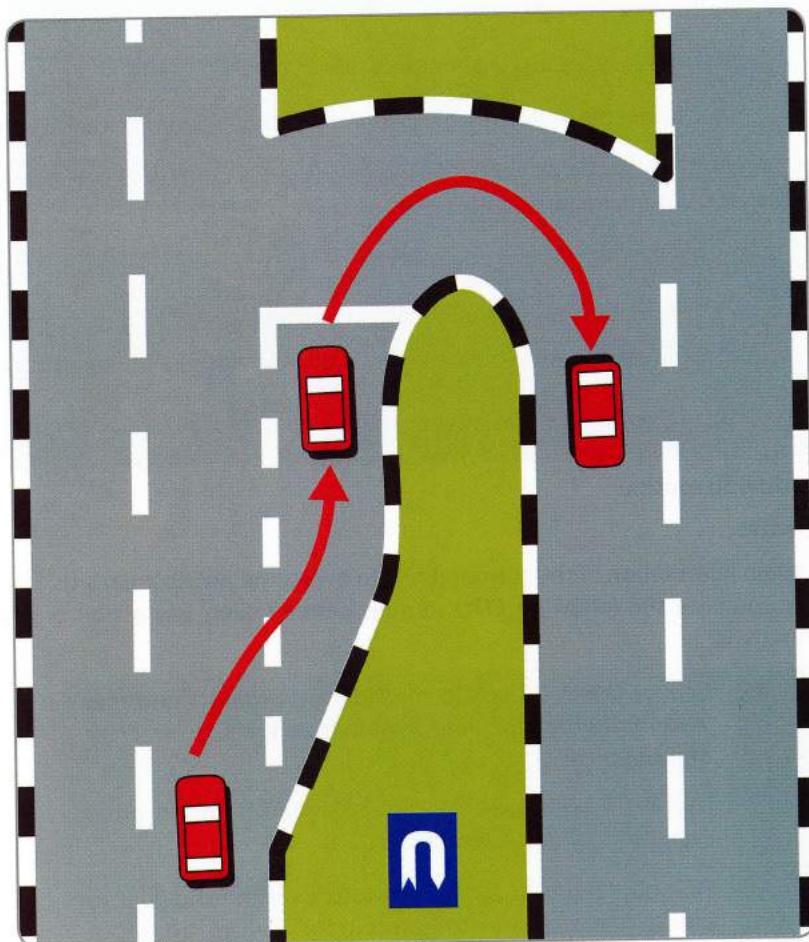
Giving way to other road users includes giving way to road users who are disabled as well as emergency service vehicles such as the police, fire department, ambulances, etc. All drivers should be prepared to cooperate with such vehicles and be prepared to stop the vehicle to give way if necessary.

1. Give way or stop the vehicle when encountering disabled persons crossing the road.
2. Give way when the siren of an emergency service vehicle is seen or heard.
 - a. Reduce the speed of the vehicle and move to the shoulder of the road.
 - b. Avoid obstructing the path of the emergency vehicle.
 - c. Stop on the shoulder of the road if necessary.



2.13 Taking U-turns

- a. Take U-turns only in places where it is allowed.
- b. Always practice the CITO safe driving routine.
- c. Position yourself in the correct lane before taking the U-turn.
- d. Adjust the speed of the vehicle by selecting the appropriate gear. If necessary, shift to gear 2 or 3.
- e. Maintain control of the steering wheel and position the vehicle in the correct lane without straying into the path of other vehicles while taking the U-turn.
- f. Practice the CITO safe driving routine.
- g. Move forward and increase the speed of the vehicle after completing the U-turn.



3.0 DRIVING OUTSIDE URBAN AREAS



LEARNING OUTCOME

By the end of this chapter, the reader should:

- a. Drive outside urban areas while:
 - i. At a speed below the specified limit or suitable to the road conditions.
 - ii. At a safe distance from other vehicles.
 - iii. In the correct lane in a safe manner.
 - iv. Changing lanes in a safe manner.
 - v. Overtaking other vehicles in a safe manner.
 - vi. Driving through curves in a safe manner.
 - vii. Driving through junctions in a safe manner.
 - viii. Driving through school zones and residential areas in a safe manner.
 - ix. Giving way to other road users (emergency vehicles such as ambulance, police & fire department).
 - x. Taking U-turns in a safe manner.
 - xi. Climbing and descending hills in a safe manner.
- b. Apply the safe driving routine in a responsible manner while driving on the road.
- c. Display a sense of courtesy while driving on the road.

3.1 Safe driving routine

Objective:

To obtain information of the surroundings to overcome possible hazards, the driver must always practice the following CITO routine before taking any action or practicing any manoeuvre:

| | |
|----------|--|
| C | Cermin (Mirror): Look in the side view mirrors and rear view mirror to gather information from the sides and rear of the vehicle. |
| I | Isyarat (Signal): Give the correct signal to inform other road users of your intentions. |
| T | Titik buta (Blind spot): Turn to look over the shoulder to ensure that there are no hazards in the vehicle's blind spot which are not seen in the mirrors. |
| O | Olah gerak (Manoeuvre): Utilize the intended manoeuvre with a safe speed and distance depending on the hazard. |



3.2 Determining the ideal driving speed

Drivers outside urban areas will often be faced with various hazards which may disrupt the drivers' ability to drive smoothly.

1. Roads
 - a. Single lane road (two-way traffic)
 - b. Two lane road
 - c. Motorcycle / bicycle / trishaw lane
2. Traffic
 - a. Pedestrians
 - b. Cyclists / motorists / trishaws
 - c. Vehicles parked on the road shoulder
 - d. Crossings for school children
 - e. Public Service Vehicles picking up and dropping off passengers
 - f. Vehicles picking up and dropping off passengers
 - g. Heavy vehicles / machinery
 - h. Animals
3. Road surface conditions
 - a. Damaged / potholes / wet / sandy
 - b. Oily

- c. Narrow roads
- d. Uneven
- e. Bumpy, etc

Drivers must always anticipate, be cautious and be aware since vehicles will often be driven at high speeds outside urban areas. Drivers must plan and react early to safely exit the danger zone. Road traffic conditions will continuously change. Drivers must be observant of every change in their surroundings.

1. Drivers must always:
 - a. Practice the safe driving routine (CITO routine) before starting a journey to obtain accurate information in order to avoid hazards.
 - c. Ensure that the vehicle is travelling at a safe speed based on the specified speed limit displayed on road signs or based on observation and analysis of hazards found while driving outside urban areas.
 - d. Maintain a safe distance from the vehicle in front since this will determine the effective available braking distance. The effective available braking distance is also dependent upon the speed of the vehicle, the physical shape of the road as well as the condition of the road surface which is affected by weather conditions. The driver must maintain a distance that allows him to think and react to the situation safely.

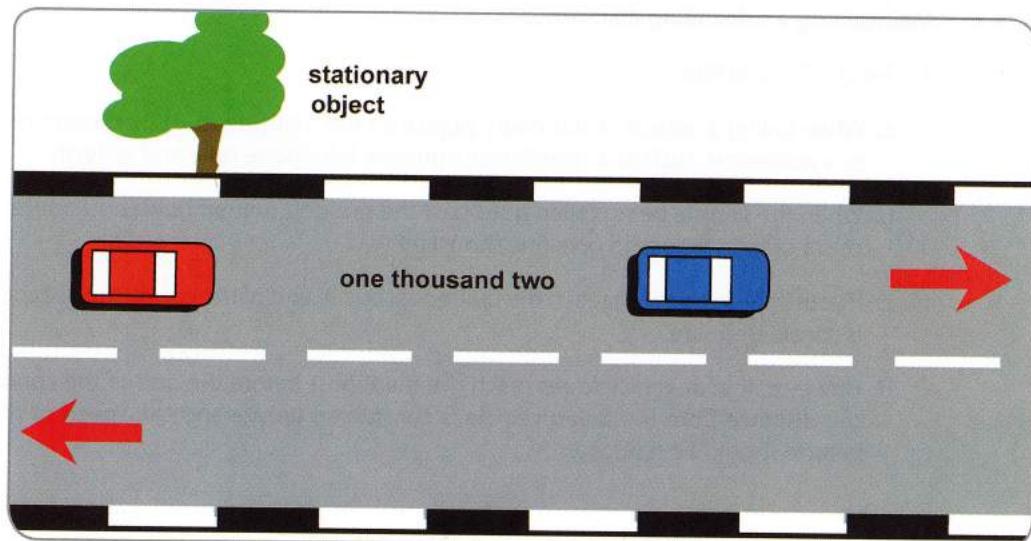
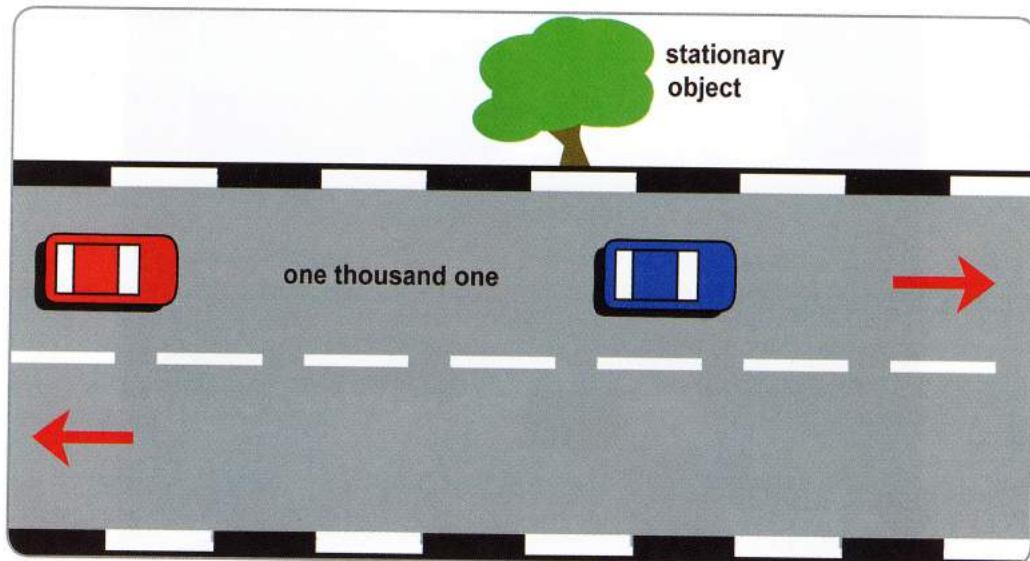
The Two (2) or Four (4) Second Rule should be applied.





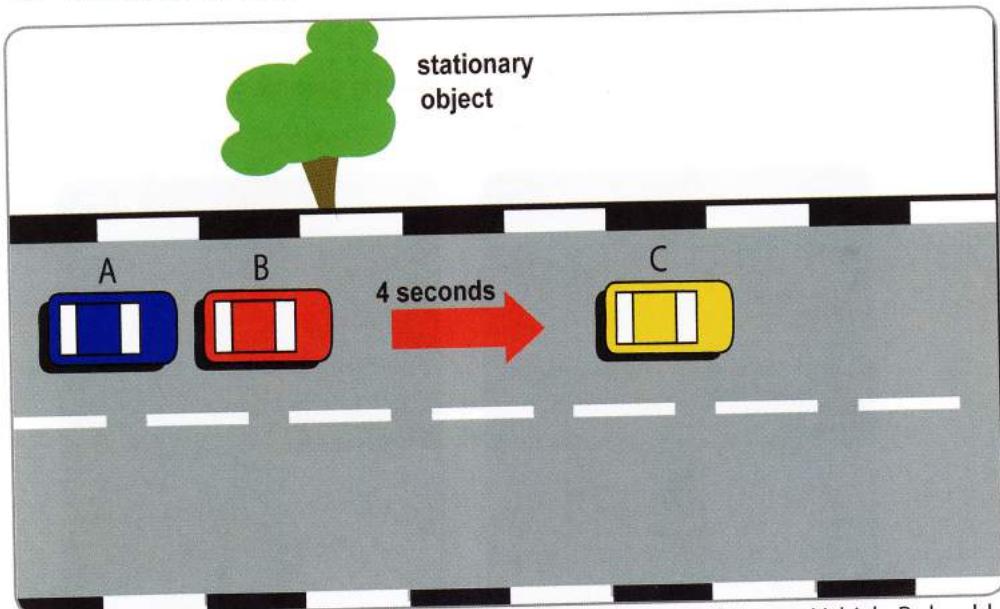
3.3 Maintaining a safe tailing distance

1. Two (2) Second Rule
 - a. While tailing a vehicle, a stationary object on the roadside must be determined as a guidepost, such as a streetlamp, signpost, telephone pole and so forth.
 - b. When the vehicle being tailed goes past the pre-determined guidepost, make a count of "one thousand one, one thousand two".
 - c. If your vehicle does not reach the guidepost by the end of the count, the distance is considered safe.
 - d. However, if your vehicle does reach the guidepost before the end of the count, the distance from the tailed vehicle is considered unsafe and the speed of the vehicle should be reduced.



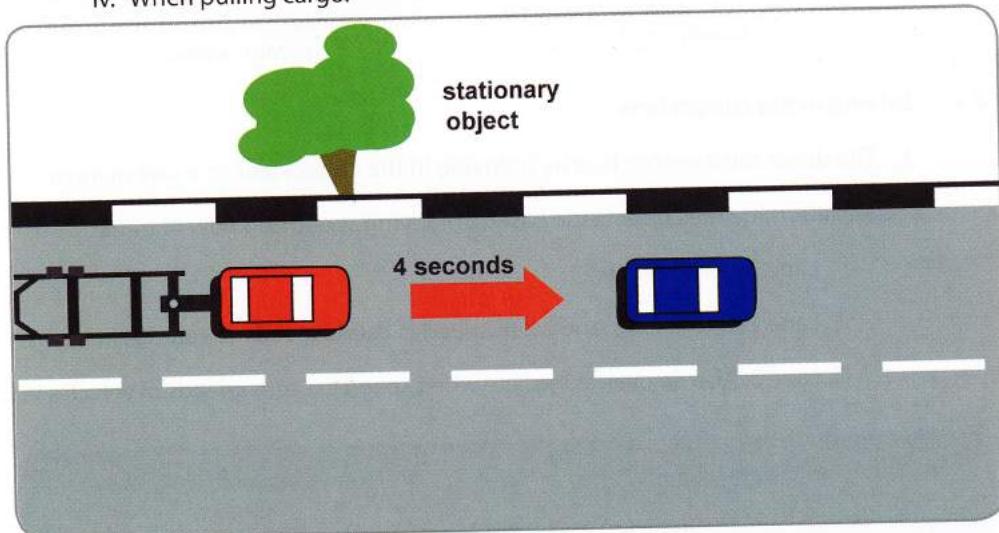
Safe Tailing Distance

2. Four (4) Second Rule



Vehicle A is tailing vehicle B too closely at an unsafe distance. Vehicle B should practice the Four Second Rule to ensure a safe distance from vehicle C.

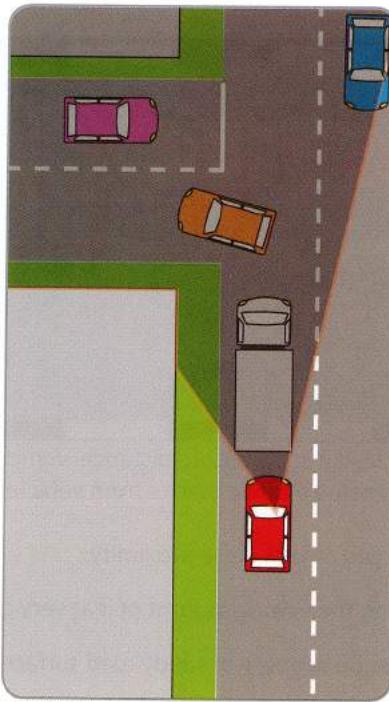
- i. The vehicle behind you is tailing you at very close proximity.
- ii. The vehicle in front of you is tailing the vehicle in front of it at very close proximity.
- iii. During bad weather conditions or on slippery or sandy road surfaces.
- iv. When pulling cargo.



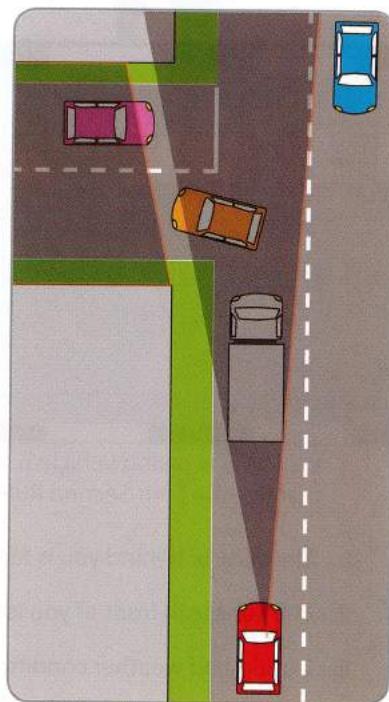
The Four Second Rule should be applied when pulling cargo.

e. Importance of maintaining a safe distance when tailing another vehicle:

- Allows adequate time and distance to safely stop the vehicle.
- Allows the driver a greater field of vision to observe the situation on the road ahead.



The illustration above shows how a driver tailing another vehicle too closely is not able to see hazards ahead.



The illustration above shows a safe tailing distance where the driver is able to see hazards ahead.

2.4 Driving in the correct lane

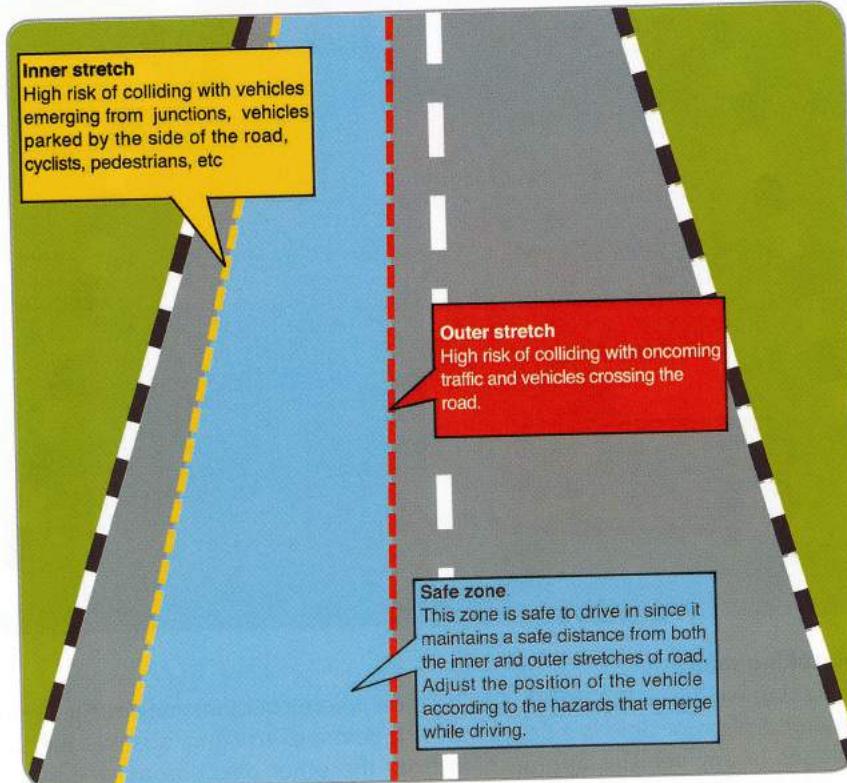
- The driver must ensure that he is driving in the correct lane in a safe manner.
 - Determine the correct lane based on driving speed and flow of traffic.
 - Lane 1: Driving lane
 - Lane 2: Overtaking lane when speed exceeds speeds of vehicles in lane 1.
 - Lane 3: Also an overtaking lane when speed exceeds speeds of vehicles in lane 2.

REMINDER

Avoid utilizing lanes 2 and 3 unless intending to overtake. Always utilize lane 1 for driving purposes. After using lane 2 or 3 to overtake, change back to lane 1.

2. Drive following the flow of traffic while maintaining control of the vehicle to position it safely among other vehicles.
 - a. Ensure a safe tailing distance.
 - b. Position the vehicle in the safe zone (with at least 1 meter (3 feet) of space on both the left and right of the vehicle).
 - c. Stay aware of vehicles to the rear by examining the rear view and side view mirrors periodically every 5 – 10 seconds.
 - d. Be aware of changes in the flow of traffic.
 - e. Take note of every road sign displayed along the road.
 - f. Obey the specified speed limit.
3. Change to the intended lane as early as possible to avoid changing lanes at the last moment since this may disrupt the flow of traffic and increase the risk of an accident occurring.
4. Ensure that the vehicle is positioned correctly on the road; not too closely to the curb or shoulder of the road as well as not too closely to the middle of the road. The vehicle should always be maintained in the 'Safe Zone'. Adjust the position of the vehicle according to the hazards that emerge while driving.

Safe zone



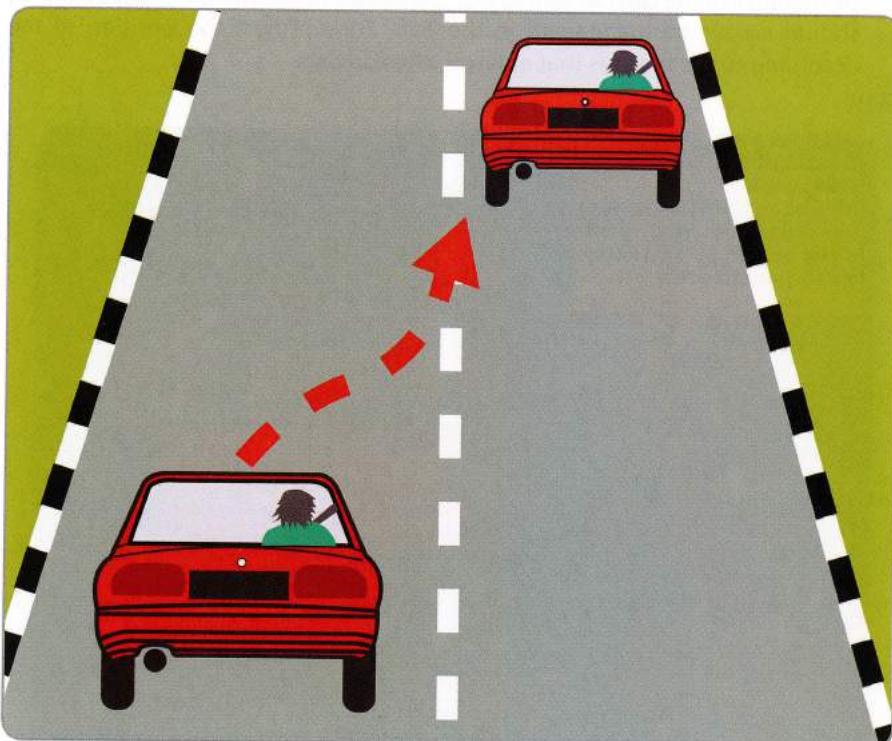
Ensure that the vehicle is positioned correctly on the road; not too closely to the curb or shoulder of the road as well as not too closely to the middle of the road. The vehicle should always be maintained in the 'Safe Zone'. Adjust the position of the vehicle according to the hazards that emerge while driving.

2.5 Changing lanes safely

1. Changing lanes in urban areas requires additional caution. This is due to other drivers moving at the same time especially motorists and vehicles approaching from behind at high speeds.

Drivers must always:

- a. Practice the safe driving routine (CITO routine) before changing lanes to obtain accurate information in order to avoid hazards. At high speeds, the CITO routine must be carried out at an earlier time.
- b. Change lanes safely
 - i. Change lanes only when the driver feels necessary.
 - ii. Ensure that there is enough distance and time to change lanes since vehicles may approach from behind at high speeds.
 - iii. Adjust the speed of the vehicle to reflect the speed of traffic in the lane before entering the lane.



2.6 Overtaking safely

Overtaking will place the driver in a situation where collisions may occur. Overtaking at the wrong place or time is a dangerous act. Before overtaking, observe the speeds and positions of any vehicles approaching from the other direction as well as the vehicle intended to be overtaken. Ensure that the road ahead is clear and has enough space to allow overtaking. In two-lane or three-lane roads, overtake other vehicles by utilizing the overtaking lane. Do not overtake by utilizing the driving lane. Drivers must always:

1. Practice the safe driving routine (CITO routine) before overtaking to obtain accurate information in order to avoid hazards.
2. Overtaking consists of three phases:

Before overtaking

- i. Maintain a safe distance from the vehicle in front.
- ii. Make a visual scan up to 12 seconds ahead.
- iii. Apply the CITO routine to examine the rear and sides of the vehicle to obtain information before moving right.
- iv. Shift from gear D to gear 3 if necessary to gain more acceleration for overtaking.
 - Change lanes in a smooth manner.
 - Move only when the situation is safe.

During overtaking

- i. Increase the speed of the vehicle to overtake the vehicle in front to refrain from obstructing the flow of traffic from behind.
- ii. Maintain a safe distance of at least 1 meter (3 feet) from the vehicle being overtaken.
- iii. The horn and lights can be used to convey your presence to the vehicle being overtaken.

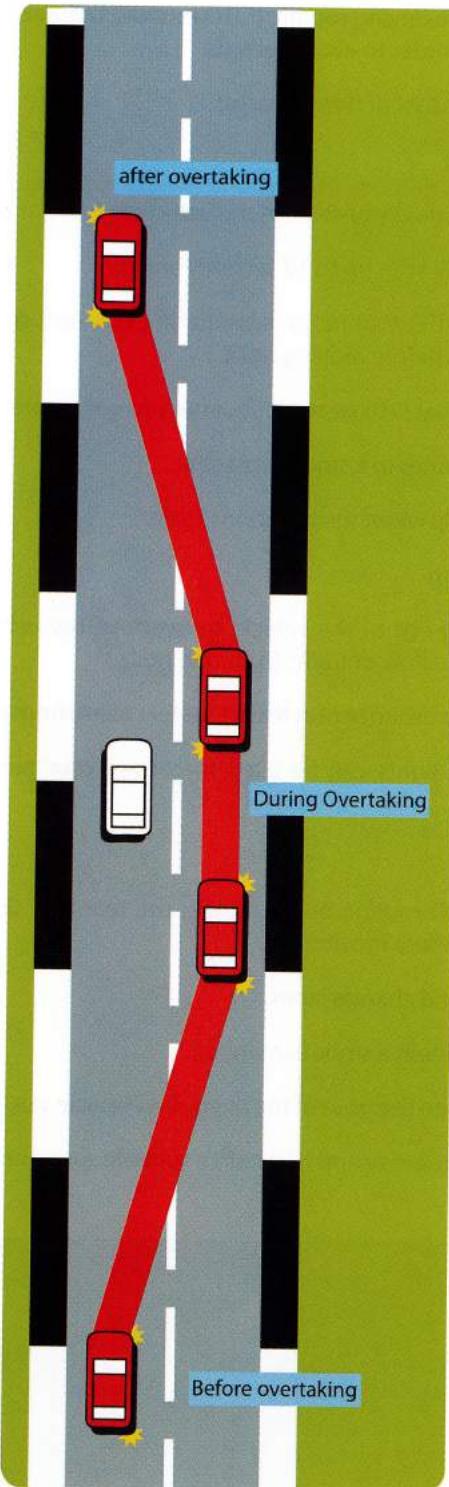
After overtaking

- i. Apply the CITO routine by examining the rear and sides of the vehicle to obtain information before moving left.
 - Move left and change lanes.
 - Change lanes in a smooth manner.
- ii. Move only when the front of the overtaken vehicle can be seen in the left side mirror.
- iii. Continue the journey and maintain a suitable speed and position.

REMINDER

Avoid overtaking when:

- i. Approaching pedestrian crossings.
- ii. At junctions.
- iii. At corners or sharp curves.
- iv. In hilly areas.
- v. At sections of road with double solid lines or a single continuous line.



2.7 Driving through curves in the road

All drivers must be able to maintain good control of their vehicle in terms of controlling the direction, position, speed and gear selection of their vehicle in order to pass through the curve safely and smoothly. Practice the CITO safety routine before taking the curve.

1. Approaching the curve

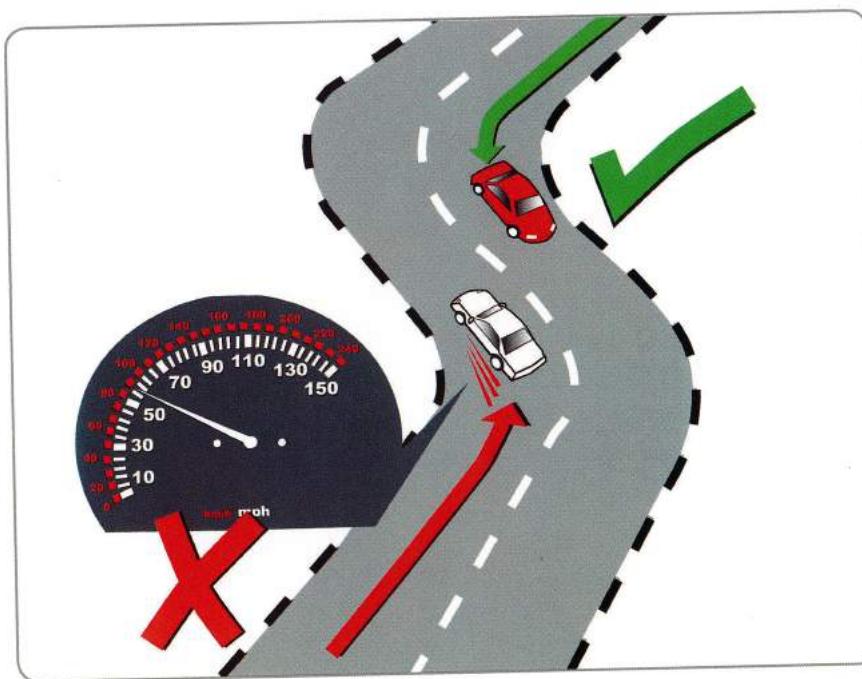
- a. Practice the CITO routine before taking the curve.
- b. Ensure that the vehicle is in the correct position on the road.
- c. Be ready to react towards vehicles coming from the opposite direction.
- d. Determine the direction and sharpness of the curve.
- e. Utilize the brakes to achieve a suitable speed.
- f. Select a suitable gear based on the speed of the vehicle. Shift down to gear 3 if necessary to obtain more torque and stability.

2. Entering the curve

- a. Do not brake while taking the curve.
- b. Utilize the accelerator pedal cautiously to maintain a constant speed throughout the curve.
- c. Look ahead in the direction the vehicle is heading to ensure that the steering wheel is maintained in the proper position.

3. Exiting the curve

- a. Increase the speed of the vehicle to continue the journey.



2.8 Driving through junctions

All drivers must exercise additional caution when approaching or driving through junctions. This is due to the possibility of many unexpected hazards such as vehicles running red lights or vehicles that do not give right-of-way.

1. Approaching the junction

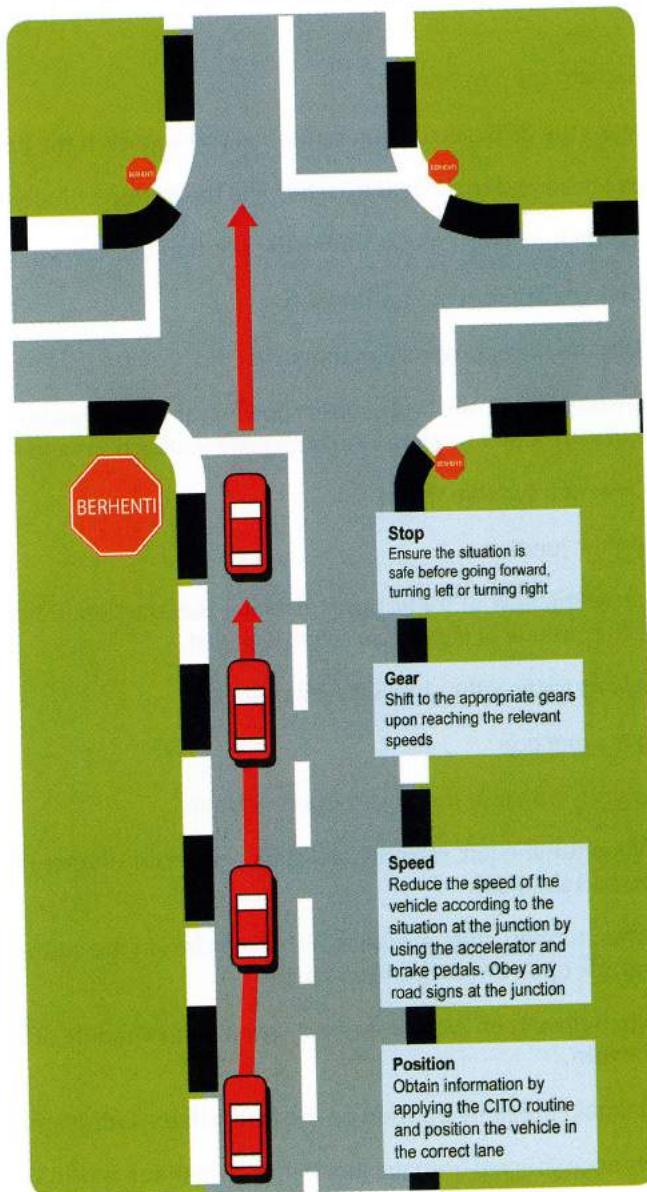
- a. Practice the CITO safe driving routine.
- b. Position the vehicle correctly and safely.
- c. Release the accelerator pedal completely and press the brake pedal with gradually increasing pressure until the vehicle comes to a complete stop.

2. Entering the junction

- a. Maintain pressure on the brake pedal to ensure the vehicle is stopped safely and to keep the brake lights on to warn drivers approaching from the rear that the vehicle is stationary.
 - Maintain a safe distance of 2 meters (6 feet) by ensuring that the rear tyres of the vehicle in front are still visible.
- b. Engage the handbrake if necessary.
- c. If the driver intends to wait for a long period of time at the junction, engage the handbrake and shift from gear D to N.
- d. Maintain pressure on the brake pedal to keep the brake lights on to warn drivers approaching from the rear that the vehicle is stationary.

3. Exiting the junction

- After evaluating the risk of accident and determining that the situation is safe, move forward and continue the journey.



2.9 Turning at junctions

All drivers must exercise additional caution when approaching or driving through junctions. This is due to the possibility of many unexpected hazards such as vehicles running red lights, vehicles that do not give right-of-way or pedestrians crossing the road.

1. Approaching the junction

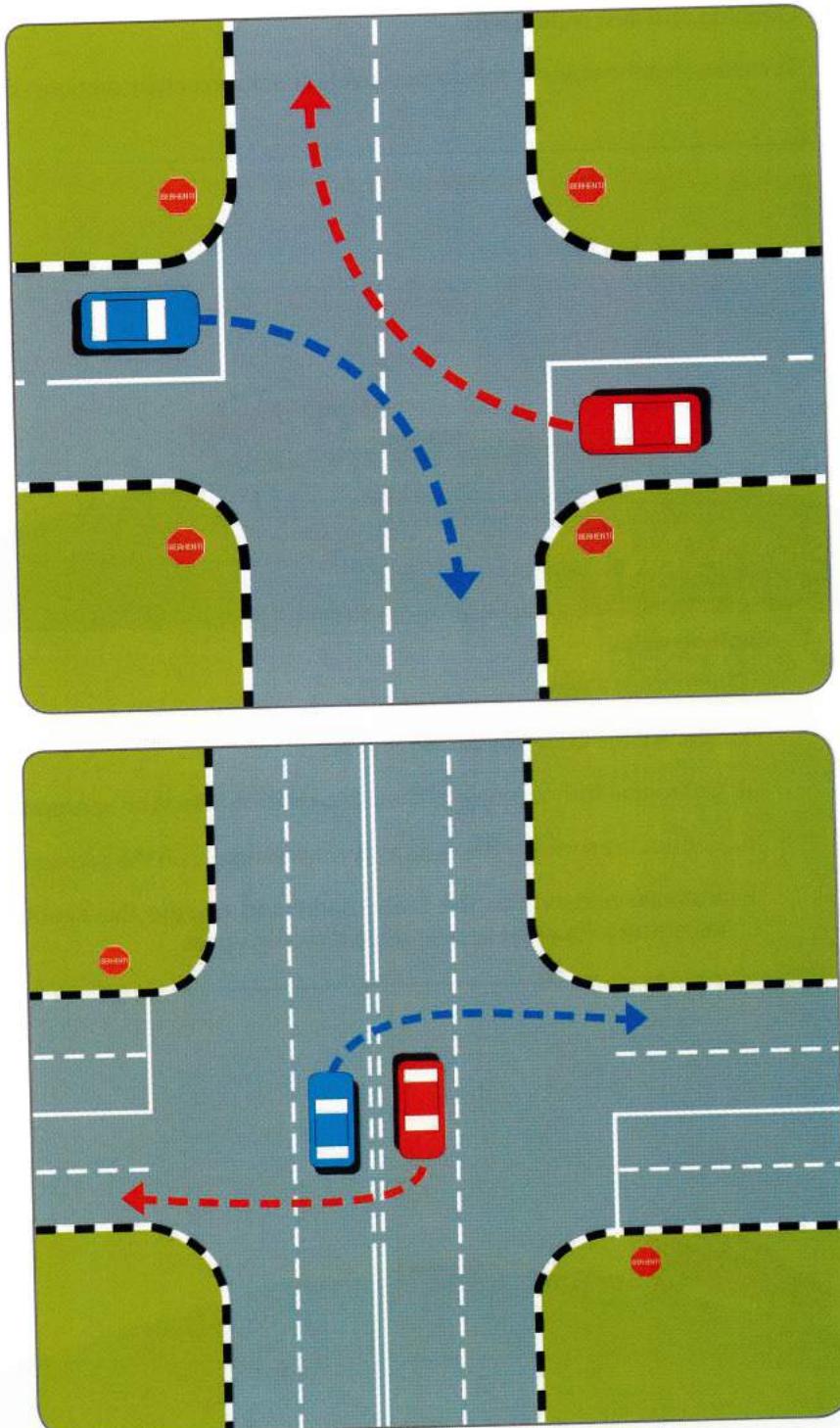
- a. Practice the CITO safe driving routine as you approach the junction.
- b. Look ahead and to the rear to determine the position of other road users:
 - i. Utilize the mirrors to determine the position of drivers to the rear.
 - ii. Give the appropriate turn signals.
 - iii. Execute the appropriate manoeuvre.
 - iv. Ensure that you are in the correct position and lane. Positioning the vehicle early will allow other road users to anticipate your actions and react accordingly.
 - v. Drive at a suitable speed.

2. Entering the junction

- a. Observe the flow of traffic upon reaching the junction. Determine whether it is safe to continue or if it is required to wait first.
- b. Obey any traffic light signals if available.

3. Exiting the junction

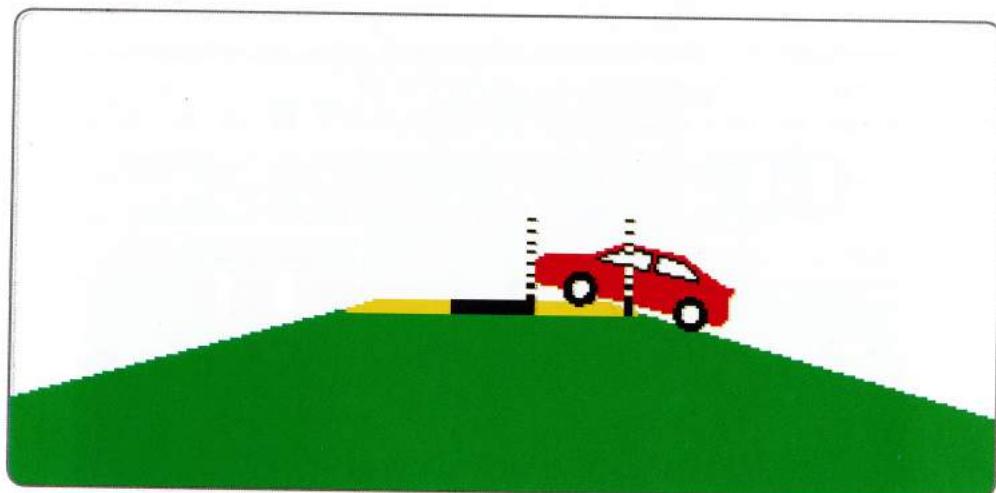
- a. Cautiously turn into the closest intended lane:
 - i. When turning left, maintain a distance of about 1 meter (3 feet) from the curb or road shoulder.
 - ii. When turning right, ensure that the vehicle is in the correct lane and does not intrude upon another driver's lane.
 - iii. When driving on a one way road, stay near the middle of the road to facilitate the turn.
 - iv. Maintain the same position on the lane before, during and after the turn.
 - v. Distance yourself from the junction and continue the journey.



Passing through a junction using the inside – inside method or the outside – outside method

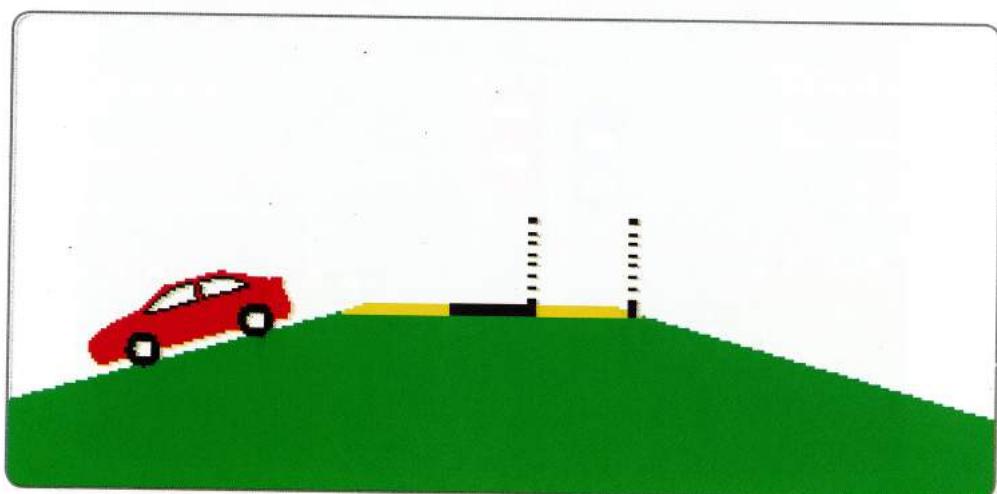
3.10 Climbing and descending hills

To ensure that the driver is able to stop safely at uneven or hilly sections of road.



1. Climbing uphill

- a. Drivers must always:
 - i. Practice the CITO safe driving routine.
 - ii. Determine the steepness of the hill in order to select the appropriate gear.
 - iii. Control the speed of the vehicle through pressure on the accelerator pedal.
 - iv. Maintain pressure on the brake pedal and engage the handbrake if it is necessary to stop the vehicle while climbing uphill.



2. Descending a hill

Drivers must always

- i. Determine the steepness of the hill in order to select the appropriate gear.
- ii. Balance the use of low gears and the brake pedal to control the speed of the vehicle.
- iii. Avoid braking while taking turns (if any).
- iv. Maintain pressure on the brake pedal and engage the handbrake if it is necessary to stop the vehicle while descending the hill.

REMINDER

Use the accelerator and brake pedal alternately to ensure the vehicle travels at a safe speed.

3.11 Driving in school zones and residential areas

Drivers must fully understand the hazards that are present in school zones and residential areas as well as the relevant warning signs to allow safe and smooth movement in these areas.

1. Reduce the speed of the vehicle according to the specified speed limit



a. School zones

- i. Obey the specified speed limit of 30 km / h.
- ii. Reduce the speed of the vehicle at school crossings.
- iii. Observe the traffic controller carefully since the orders given may come late
- iv. Obey any traffic light signals (if available).
- v. Be aware of any children in the school zone or crossing the road.
- vi. Be aware of any vehicles entering or exiting the school compound.



b. Residential areas

- i. Be cautious around children playing.
- ii. Be aware of vehicles entering and exiting residential properties.
- iii. Be aware of road surface conditions (damaged, potholes, bumps).
- iv. Be cautious of vehicles parked on both sides of the road.
- v. Be prepared to stop the vehicle when faced with any of the above hazards.

3.12 Giving way to other road users

Giving way to other road users includes giving way to road users who are disabled as well as emergency service vehicles such as the police, fire department, ambulances, etc. All drivers should be prepared to cooperate with such vehicles and be prepared to stop the vehicle to give way if necessary.

1. Give way or stop the vehicle when encountering disabled persons crossing the road.
2. Give way when the siren of an emergency service vehicle is seen or heard.
 - a. Reduce the speed of the vehicle and move to the shoulder of the road.
 - b. Avoid obstructing the path of the emergency vehicle.
 - c. Stop on the shoulder of the road if necessary.



3.13 Taking U-turns

- a. Take U-turns only in places where it is allowed.
- b. Always practice the CITO safe driving routine.
- c. Position yourself in the correct lane before taking the U-turn.
- d. Adjust the speed of the vehicle by selecting the appropriate gear. If necessary, shift to gear 2 or 3.
- e. Maintain control of the steering wheel and position the vehicle in the correct lane without straying into the path of other vehicles while taking the U-turn.
- f. Practice the CITO safe driving routine.
- g. Move forward and increase the speed of the vehicle after completing the U-turn.



