



Developing a European approach to the Initial Training of Motorcyclists

The Initial Rider Training Project

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THE MANUAL

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***The IRT
model European
initial rider training programme***



The Initial  Rider Training Project

***Before
starting to ride***



the Theoretical element of the IRT programme

The Initial Rider Training Project

Theoretical

- 1 Road regulations
- 2 Signs and markings
- 3 Dynamics and mechanics
- 4 Hazard awareness
- 5 Helmets and appropriate clothing
- 6 Social responsibilities
- 7 Impairment
- 8 Attitude and behaviour

Machine control

- 1 Machine familiarity
- 2 First movements
- 3 Gears, brakes and direction
- 4 Steering and counter-steering
- 5 Low speed manoeuvring
- 6 Hazard management

Traffic interface

- 1 Positioning in traffic
- 2 Distance and speed
- 3 Curves and bends
- 4 Junctions
- 5 Overtaking
- 6 Motorways
- 7 Anticipation
- 8 Riding together
- 9 Journey planning



The Theoretical element - *Before starting to ride*

Mechanics and dynamics

Theoretical element aspect 3

This aspect introduces the future rider to how a machine works and the need to care for it

Two gyroscopes

A motorcycle or a scooter behaves and is controlled differently from any other motorised vehicle. This is primarily because when moving its two wheels act as gyroscopes and the faster it goes the stronger is the gyroscopic effect.

Changing the direction of a gyroscope is achieved by exerting force in the opposite direction to that which you want it to go in.

This means that when a motorcycle is moving at 20 or more kilometres an hour, to make it turn to the left forward pressure should be put on the left side of the handlebar. Contrary to expectation and, indeed, what would happen at slower speeds the machine does not alter direction to the right but to the left, the opposite direction to the force that is being exerted.

This is known as counter steering and it will become understood and used by the future rider as he or she learns to control and use the machine.

Slowing and stopping

When it is moving the machine will be able to be slowed or



Checking all is well

The future rider will need to understand that the motorcycles and scooters that he or she will be riding are machines and like all machinery they will need regular checks, maintenance and repair.

The extent to which repairs will be needed will be influenced by the frequency of the checks and maintenance. What can start off as no more than a minor adjustment can, if unattended, end up as a major repair, with high costs and the loss of the use of the machine while they are being done.

The future rider will need to become familiar with a machine's owners' manual. These always contain much useful information and importantly lists which will set out what needs to be checked and maintained and how frequently they should be done.

Notwithstanding the requirements of the owners' manual the future rider should plan to develop the habit of checking the essential features of his or her motorcycle or scooter at least once a week and always before starting on a long journey.

These should always include the operation of the brakes and the condition of their mechanisms and pads or linings, the fork oil seals, the pressure and condition of the tyres, the lubrication and tension of the chain, the level of the engine oil, the condition of the battery and evidence of oil, hydraulic and cooling fluid or fuel leaks.

The future rider should appreciate that a well cared-for machine is unlikely to breakdown, or cause or contribute to an accident.

Power to the wheels

When the engine is running and a gear or drive is engaged the rear wheel will turn and the machine will go forward. To disconnect the engine from the rear wheel and indeed to select the gear without the engine jumping forward, a device called a clutch is employed.

On machines with automatic transmission the operation of the clutch is automatically linked to the throttle which controls the engine speed.

Hazard awareness

Theoretical element aspect 4

This aspect introduces the future rider to the concept of hazard awareness and its importance in learning to ride a motorcycle or scooter well and safely

Seeing and recognising

The future rider will need to understand that one of the most important skills to be learnt in the process of obtaining an A category licence is that of recognising potentially threatening situations, known as hazard awareness.

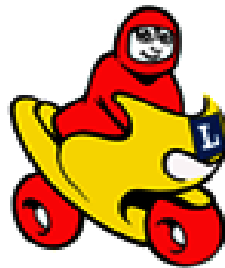
Learning and developing this vital skill is dependant on a number of things. Firstly a rider will need to learn where he or she should be looking. Secondly to consciously see what is at that point and, thirdly to recognise one or more factors in the context of their hazard potential and the demands that could be made on the rider.

Having identified a potentially hazardous situation, being able to evaluate the demands and take the appropriate actions to avoid or minimise them will require the future rider to develop an understanding of a number of situations and considerations across a range of circumstances.

Position, speed and distance

The future rider will need to learn that his or her position on the road, the speed at which the machine is travelling and the distance from a road feature or other road users, will all influence his or her ability to recognise and evaluate potentially hazardous situations.

Indeed position, speed and distance will often determine whether a situation will become potentially hazardous and need to be managed as such. Too fast, too close and/or in the wrong position on the road are factors in the majority of road traffic accidents.



Road conditions

The future rider should understand that road conditions will influence his or her ability to ride safely. Firstly its construction, surface and state of repair will all effect the machine and a rider's control of it. Secondly the type of road and the volume and mix of traffic will influence the incidence of potentially hazardous circumstances.

Other road users

Understanding the requirements and likely behaviour of other road users will be essential knowledge for the future rider. Whilst this will never be an exact science a rider can often learn to anticipate how, for example, the driver of a heavy goods vehicle or a bus may behave and adjust position, speed and distance accordingly.

Similarly how pedestrians are likely to behave can be anticipated, particularly when trying to get across a road to catch a bus at a stop. More unpredictable will be children and old people and the future rider will learn that it is often necessary to expect the unexpected.

Weather and lighting

Rain, wind and strong sunlight, to say nothing of snow and ice, can all contribute to the hazards faced by rider, as can reduced visibility, even with the benefits of street lighting.

Managing your machine



the Machine control element of the IRT programme

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The Machine control element - *Managing your machine*

Steering and counter steering

Machine control element aspect 4

Instructor's requirements

Review the Instructor's notes
Assess the extent of rider's pre-knowledge
Plan the layout of the exercises
Explain and demonstrate steering and counter steering and their influence on direction changing
Explain the particular importance of visual focus to machine control when changing direction
Emphasise the importance of hazard awareness and rider attitude in the context of the exercises
Continue to assess the rider's attitude

Hazards, attitude and behaviour

It is important that the rider appreciates that the machine control skills addressed in this Aspect are essential for being able to safely and competently ride a motorcycle on public roads
The rider should begin to understand the dynamics of a motorcycle in the context of how direction can be changed at different speeds

Rider's pre-knowledge

The rider should understand and be competent in the use of the throttle, clutch, gears and brakes and able to move off, accelerate, decelerate, turn and stop safely and smoothly.

The rider should understand the importance of where to look and applying correct visual focus, both in the context of machine control and awareness of other road users.



The exercises

Riding in a slalom at speeds from 15 to 50 kilometres an hour

Riding in a circle at 15 to 40 kilometres an hour

Riding in a figure of eight at speeds from 15 to 35 kilometres an hour

Turning through 180 degrees

Evaluation

The rider should be able smoothly ride in a slalom, a circle, a figure of eight and a U, at slower speeds, requiring a mixture of steering and leaning to affect change of direction and at higher speeds where direction change is achieved by leaning and counter steering.

The rider should be able to directly induce counter steering through pressure on the handlebar and/or footrests, confidently and competently.

The rider's visual focus should be supporting the control of the machine and enabling the early development of potentially hazardous situations to be seen when later riding on public roads.

Steering and counter steering

Machine control element aspect 4

Instructor's notes.1

Preparation and planning

Each of the exercises in aspect 4 require setting out on the training ground, using cones and tapes. Whilst the diagrams on the fourth page of these instructor's notes define the ideal arrangements, complying with them will not always be possible due to space limitations. The instructor should therefore plan and adapt the exercises accordingly. If, for example the diameters of the circle or figure of eight need to be reduced then the higher speed should be correspondingly reduced.

Where more than one rider is receiving tuition it is important that the instructor(s) ensures that adequate separation is maintained.

Explaining and demonstrating

The instructor should explain to the rider the dynamics of a motorcycle and the changes that occur when it increases in speed. Particular attention should be given

to the gyroscopic effect of the wheels at moderate and higher speeds and where and how pressure should be applied to achieve a desired change in direction.

In demonstrating the exercises the instructor should show the control transition from steering, where the handlebars are turned in the direction of the turn, through leaning, where the rider shifts bodyweight in the direction of the turn, to counter steering, where the rider puts pressure on the handlebar and/ or footrest opposite to the direction of the turn. The instructor should remember that full counter steering can be achieved at moderate speed and the temptation to show the effect at higher speeds should be avoided as it can be intimidating at this stage of the training.

The importance of where the rider should be looking in these exercises should be stressed by the instructor and be clearly evident when demonstrating.

It is important that the techniques of speed control in the exercises of aspect 4 should be explained and demonstrated. The rider should understand that brakes should only be used while the machine is upright and then when in a turn speed should be adjusted with the throttle and engine braking. It is particularly important that the instructor continues to assess the rider's approach and where the rider's progress or attitude and behaviour gives cause for concern the exercise should be stopped and instructor should address the cause of the problem.



The Exercises

Riding in a slalom

The instructor having demonstrated how the rider should ride the slalom, should ensure that the rider appreciates that the skills addressed are essential for safe machine control in traffic.

Having checked behind, engaged drive, moved off, accelerated in the defined lane to approximately 15 kph, the rider should go between the first and second cones, changing direction on exiting to enable the machine to be directed between the second and third cones, and so on.

The changes in direction should be made with steering and leaning and with any necessary slight variation in speed being controlled by the throttle. The visual focus of the rider should be smoothly and progressively moving from the exit of the cones that are about to be entered, to the entrance to the subsequent pair of cones on exiting the former cones. On exiting between the penultimate and final cones the rider should bring the machine to a smooth stop.

The exercise should be repeated and as the rider gains confidence and competence, on

continued

Steering and counter steering

Machine control element aspect 4

Instructor's notes.2

exiting the final cones the rider should ride back to the start point and stop there. Following this the rider's speed through the cones should gradually increased so that direction is controlled by leaning and then leaning and counter steering together.

Riding in a circle

The rider should start from an anti-clockwise position half a metre outside of a circle of cones having a diameter of approximately 20 metres. On moving off the rider, maintaining the distance relative to the cones, should attain a speed of approximately 15 kph. The rider's should be looking to a point at least one third of the circumference of the circle in front of his or her current position. Initially the rider will steer with the handlebars and as speed increases will lean into the turn.

As the rider gains in competence and confidence the speed should be gradually increased to a maximum of 40 kph. As the machine's speed increases the rider should apply counter steering input and lengthen visual focus to a point about half of the circle in front.

The rider should the repeat the exercise riding in a clockwise direction.

Riding in a figure of eight

With the cones set out in two circles with a diameter of around 20 metres and approximately ten metres between them, the rider should start the exercise from a position of 90 degrees facing outwards in an anticlockwise direction. On reaching the point where the second circle can be reached by changing direction by approximately 45 degrees, the rider should join the second circle at around half a metre on the outside of its cones in a clockwise direction.

For the first few circuits the rider's speed should be in the region of 15 kph, which should be gradually increased as the rider gains confidence and competence.

When in a circle at slower speeds the rider should focus at least one third of the circle in front of him or her and as the exit point for the second circle can be seen, then the focus should move to the entry point on the second circle. As the



rider's speed increases the focus in the circle should increase to about half the circle in front of the machine.

With the rider turning alternatively left and right, the head should be level with the surface, rather than at the angle of the machine

The instructor may vary the distance between the circles so the rider changes direction in one fluid or two distinct movements

When turning in the circles the rider should adjust speed with the throttle, using the engine braking to reduce speed. This requires the machine to be in the correct gear. The rider should understand that if the gear is too high the engine will have little or no braking effect. If the rider needs to reduce speed with the brakes this should be done between the circles when the machine is upright or by straightening the machine away from the circle and then braking when upright.

Turning 180 degrees

With the cones set out as the figure of eight, this exercise the requires the rider to make U turns. Starting in an anti-clockwise direction, from a position half a metre outside of one of the circle of cones,

continued

Steering and counter steering

Machine control element aspect 4

Instructor's notes.3

Turning 180 degrees - continued

Having checked behind, the rider should move off and gradually accelerate to a speed of around 15 kph. On completing 180 degrees and being in line with to the initial position on the second circle, the rider should straighten up and just before reaching that point on the second circle, check behind and then enter the turn.

The rider's visual focus on entering a turn should be on the exit point and should smoothly move to the entry point on the second circle as the mid point is reached.

As the rider's competence and confidence grows the speed can be gradually increased to around 30 kph in the turns and on exiting a turn the the speed can be smoothly increased on the straight to a maximum of 50 kph and then reduced before entering the following turn.

The exercise can then be repeated in a clockwise direction.

Hazards, attitude and behaviour

The most important thing for the rider to understand at this point in the training, where he or she should have attained a moderate level of machine control skills, is that those skills are only part of what is needed to be able to ride safely and well. Proficiency in them is primarily needed to enable a rider to fully concentrate on traffic conditions and evaluate what is likely to develop.

The rider should appreciate that his or her attitude in this process is crucial. If a rider believes on entering a blind bend that the exit is clear, or that he or she has been seen by an approaching vehicle that is signalling an intention to cross in front, then the prospects of the rider gaining, without incident, the necessary experience over the first eighteen months of riding will be significantly reduced.

The necessity of correct visual focus should have been reinforced in these exercises with particular importance being given to the need to ensure that all is clear behind before executing the appreciable changes in direction required in these manoeuvres.

The rider should know that brakes should not be used in a turn and appreciate that being in the correct gear at the correct speed is crucial to arriving safely.



Evaluation

The machine control skills of aspect 4 are probably the most important for a motorcycle to be ridden safely and well. It is most important that the rider has achieved a level of competence that allows the exercises to be performed smoothly and in control of the machine.

The rider should be able to start, stop, use the throttle and clutch and change gear, to accelerate and decelerate with the correct and co-ordinated use of brakes and gears.

The rider should be able to smoothly change direction, progressing through steering at slower speeds, introducing lean as speed increases and inducing counter steering at higher speeds.

The visual focus of the rider should be correct and rearward checks must always be made when commencing a manoeuvre and changing direction.

If the rider has shown an over-confidence in his or her ability and a propensity to take risks, the instructor should be confident that the rider understands the likely consequences of such behaviour and modifies it accordingly.

Only when the instructor is satisfied on all of the above points should the rider be allowed to progress to the next aspect.

Hazard management

Machine control element aspect 6

Instructor's requirements

Review the Instructor's notes
Evaluate the rider's pre-knowledge
Carefully plan the layout of the exercises
Explain and demonstrate obstacle avoidance with the use of extreme counter steering input
Explain and demonstrate the most effective braking techniques in emergency situations
Emphasise the importance of attitude and behaviour in avoid situations where the swerving and emergency braking skills are required
Continue to assess the rider's attitude

Hazards, attitude and behaviour

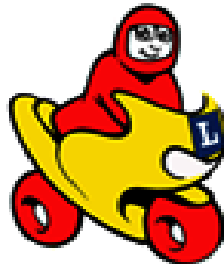
Whilst the skills that are addressed in aspect 6 are probably most difficult to master, the rider should understand that they are essential to be able to avoid collisions with other road users
A rider's ability to anticipate the unexpected is very important because in two-thirds of accidents where a motorcycle and another vehicle are involved, its driver will not have seen the rider

Rider's pre-knowledge

The rider should understand the counter steering technique and be able to consciously use it to effect changes of direction at speeds above 25 kph
The rider should understand and be able to demonstrate the braking techniques that are needed in the range of normal traffic situations
The rider should understand that the knowledge and skills that are being acquired are essential to be able to ride safely in traffic and that his or her attitude and behaviour are crucial to riding safely
The rider should understand that other road users will not always behave as expected and should appreciate the need to ride in a way allows hazardous situations to avoided, or at least managed

The exercises

Swerving to avoid an obstacle at speeds up to 30 kilometres an hour
Braking to avoid a collision from speeds up to 50 kilometres an hour



Evaluation

The rider should be able to ride around an obstacle using extreme counter steering input
The rider should be able to stop from a given speed in the shortest possible distance with the machine under control and neither wheel locking
The rider should be able to react quickly to a requirement to perform these collision avoidance techniques
The rider should understand that the need for and the effectiveness of these collision avoidance techniques will be influenced by his or her attitude and behaviour

Hazard management

Machine control element aspect 6

Instructor's notes.1

Preparation and planning

The exercises of aspect 6 are without a doubt the ones that are the most demanding of the rider. The instructor should therefore ensure that everyone's safety is the highest priority.

In preparing for the exercises the instructor should be aware of the ways in which the braking and swerving techniques will be tested in the national A category licence examination.

Whilst testing these techniques is now a European Union requirement in all of the Member States, the actual arrangements do vary considerably, with differences in speeds, distances and the dimensions of the obstacle around which the rider must swerve. In some countries the braking and swerving techniques are tested separately and in others they are combined.

If the size of the training ground is sufficient and the condition of its surface is good, then the instructor should plan to set

the exercises out in a way that is as close as possible to what the rider will experience when he or she comes to take the test.

In saying this it should the instructor should know that it is possible for a rider to be trained in both emergency braking and swerving, in smaller areas and at lower speeds than those required by some national testing arrangement.

In planning for these exercises it is important that the rider is introduced to the techniques in a progressive way. The direct input required to effect counter steering necessary to swerve around an obstacle can be induced at a speeds as low as 20 kph and good emergency braking techniques from as low as 25 kph.

The instructor must always ensure that the rider is wearing appropriate clothing when riding these exercises. Gloves, footwear, jacket and trousers should afford good protection in the event of the rider falling.

Explaining and demonstrating

The ability to brake quickly and effectively in an emergency and to be able to swerve around a vehicle or person that has unexpectedly entered a rider's intended path, are essential machine control skills and are truly lifesaving.

In explaining and demonstrating them it is important that the instructor emphasises that the likelihood of the rider being required to use them will, to a very large extent, be



determined by the rider's attitude and behaviour. If a hazardous situation is seen at an early stage in its development then the rider can adjust speed and/or line and it can become a normal traffic situation

The instructor must be able to competently demonstrate the swerving and braking techniques that these exercises require and should recognise that to the rider they will initially be intimidating, even frightening. The instructor should carefully explain what is required of the rider and how the machine will react and should initially demonstrate the techniques at slower speeds.

As always the rider's visual focus is very important and the instructor should emphasise and closely monitor it.

The Exercises

Swerving to avoid

The rider should begin by exploring the positive counter steering characteristics of the machine. Riding in a straight line at about 20 kilometres and hour, a firm and deliberate forward movement should be made on the handlebar on the opposite side to the intended direction of the turn.

continued

Hazard management

Machine control element aspect 6

Instructor's notes.2

Swerving to avoid - continued

The input on the handlebar should be made with the upper arm and torso, the wrist locked and the head should remain vertical to the road.

The rider should not alter the throttle position or operate the clutch or gears and should look where he or she intends to go, not at the obstacle to be avoided.

After effecting a turn the rider should stop. The manoeuvre should then be repeated with increasing strength of input and corresponding tightness of turns.

When the rider has gained competence and confidence, a second counter steering input should be introduced, this time on the opposite handlebar to the first. On the machine returning to the vertical position the rider should stop. When reasonably competent in making the two consecutive swerves, the rider should make a further normal turn onto the line in which he or she was originally travelling and then stop.

When the instructor is satisfied that the rider can undertake the exercise and be at all times in control of the machine, the counter steering input can be changed from the handlebar to the footrest.

The approach should be as before except that instead of pushing the opposite handlebar to the direction of the intended turn the rider's foot should push firmly down on the opposite footrest to the intended turn.

When the instructor is satisfied that the rider has mastered the technique, input from the handlebar and footrest can be combined. The instructor should explain that the characteristics of a machine will determine the most effective counter steering input.

At this point the rider should be required to make an initial swerve to the left or to the right, depending on a prearranged signal being given by the instructor. After the initial swerve the rider should swerve back to his or her original direction and then turn on to the original line.

When the instructor is satisfied that the rider has reached a reasonable standard of competence then the training ground can be laid out as close to the requirements of the national test and the exercise can be practised with the speed being progressively increased to 30 kilometres an hour. Should the national test require the swerving manoeuvre to be taken at higher speeds then this should only be attempted on a training grounds of sufficient size with a good surface.

Braking in an emergency

In introducing this exercise the instructor should stress that when used properly a motorcycle's brakes are very efficient and a competent rider can usually stop before the obstacle.

The rider should understand that the object of the exercise will be to stop the machine from a given speed in the shortest possible distance without either wheel locking or the machine deviating from a straight line.

Travelling in a straight line at 20 kilometres an hour, on reaching a marked point the rider should very firmly apply both brakes together and pull in the clutch lever and roll off the throttle. This should be repeated until the rider has developed a feel for the braking effectiveness and can regularly stop without either wheel locking.

On each occasion the stopping distance should be marked so that the rider can appreciate that the distance is shorter when the wheels do not lock and is able to judge the improvement in his or her performance.

At this stage the speed can be increased to 30 kph and a prearranged visual signal should be substituted for the marked braking point. The stopping distances should be measured and compared with the rider's previous performance. This will give the rider an understanding of reaction time and increased stopping distance.

When the instructor is satisfied that the rider is able to make an effective emergency stop, with the machine being under his or her control, the speed can be increased in stages. If the size and the surface of the training ground safely allows, up to a maximum of 50 kilometres an hour

continued

Hazard management

Machine control element aspect 6

Instructor's notes.3

Braking and swerving

Normally swerving and emergency braking are two distinct manoeuvres that a rider can resort to in dealing with a serious situation.

The Instructor should explain to the rider that if there is not enough distance to stop to avoid hitting an obstruction, such as a car that has pulled out in front of a rider, then the rider should swerve around it. Indeed it would be a very skilled rider who in such a situation, could make the judgement to trade speed for increased manoeuvrability, particularly as changing from braking to swerving controls would require time, which is also space.

Some national A licence testing arrangements have however chosen to combine the braking and swerving manoeuvres.

If the size and surface of the training ground safely permits, then, and only if the

rider can competently and consistently perform the separate swerving and emergency braking exercises, the instructor can set out the training ground as required.

The rider should be thoroughly briefed on what will be required of him or her and should first attempt the combined manoeuvre at speeds slower than required in the A licence test, working up to the required test speeds as and when the instructor is satisfied that it is safe to so do.

Hazards, attitude and behaviour

Aspect 6 focuses on extremely hazardous situations. In the course of the exercises the instructor should ensure that the rider has a wider appreciation of hazards and behaviour, beyond the immediate context of a crisis braking or swerving situation.

The rider's visual focus should be where he or she will get the earliest possible warning of a hazardous situation. When it is necessary to either swerve or brake very hard, the rider must be looking where he or she wants to go and not at the obstacle they are trying to avoid.

The rider should have a good understanding of the relationship between speed and distance and the compounding effect of thinking and reaction time. Added to this should be an appreciation of the condition of the road surface on the rider's ability to be in control of a situation.

The rider should know that emergency braking should only be attempted with the machine upright and in a straight line. Should the rider need to brake hard whilst in a curve then it will be necessary to bring the machine upright, brake and then lean it over, using firm counter steering input.

Evaluation

The rider must be able to swerve around an obstacle, to the left and to the right, at speeds of up to 30 kilometres an hour, competently and confidently and with the machine under control at all times.

The dimensions of the obstacle should be at least ? metres by ? metres and at a distance of at least ? metres from the marked point where the manoeuvre should begin. When the instructor indicates the point at which the manoeuvre should begin the distance to the obstacle should be at least ? metres.

The rider must be able to safely brake in an emergency, keeping the machine under control at all times, from speeds of 30 up to 50 kilometres an hour.

When the instructor is satisfied that the rider's machine control skills are such that all the exercises of aspects 1 to 6 can be performed safely and competently and that he or she understands the importance of correct attitude and behaviour, then it is time to move on to the real challenge of learning to ride safely in traffic.

***Riding safely
on the Road***



the Traffic Interface element of the IRT programme

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The Traffic interface element - *Riding safely on the Road*

Before venturing on the road



The rider must

Meet all the legal requirements

Be suitably dressed and have appropriate protective equipment

Be able to competently control the machine

Understand the rules of the road particularly with regard to the traffic and road layout situations to be encountered

Accept and comply with the wishes of the instructor when riding together on public roads

Understand and have practised the arrangements for communicating with the instructor

Appreciate the likely hazards to be encountered in riding the aspect

Appreciate the likely behaviour of other road users and the need to anticipate it

Recognise that it is his or her attitude and behaviour that will largely determine his or her safety

The instructor should

Pre-plan the exercise

Identify a route where the rider will experience the traffic situations covered in the particular aspect

Verify that the rider and his or her machine meet all the legal requirements and are suitably attired

Be confident that the rider has the necessary machine control skills

Develop the riding patterns for the aspect and the methods for communicating with the rider

Brief the rider thoroughly on the riding patterns and communicating arrangements

Explain to the rider the particular hazards that could be encountered in the course of riding the aspect

Explain the likely behaviour of other road users and give examples of how it can be anticipated

Assess the attitude and likely behaviour of the rider and adjust approach accordingly

Distance and speed

Traffic interface element aspect 2

This aspect looks at the rider's position on the road when riding in suburban and rural environments, where the presence of other traffic is less likely to determine the speed at which the rider travels

Guidance and advice.1

Preparation and planning

In planning for this aspect the instructor should seek a route with relatively few junctions and bends and with only light traffic. As the rider's ability and confidence develops the route can be extended in both distance and complexity. The volume of traffic, however, should remain light.

The chosen routes should have features to allow the instructor and the rider to safely stop to discuss experiences.

Legal and safety requirements

Before each training session on public roads the instructor must ensure that the rider is suitable attired and verify that he or she and the machine meet all legal requirements.

Preparing and briefing the rider

The rider must understand that when riding on suburban or rural roads with intermittent or light traffic, he or she will primarily determine the speed of the machine. This is different from riding in traffic where the rider's speed is mainly influenced by the speed of the stream.

This will require the rider to appreciate that her or her visual behaviour will need to be different. Where the rider is looking and how what is seen is evaluated, will allow the rider to determine what is a safe speed. The instructor must stress that at no time should the rider exceed the permitted speed limit.

The instructor must explain the importance of the rider focussing on the furthest point that can be seen on the road. On a straight road this would be at the point at which both sides of the road appear to join. Where the road curves or rises to a crest, it will be the point at which the road disappears from the rider's sight.

That is the point, often called the limit point, that should be used by the rider to determine the safe speed. This should never be faster than the distance that the machine can stop in without resorting to heavy braking.

The limit point is a moving point and the rider's focus will move with it. The rider must never forget that it is dangerous to focus on a fixed point.



The importance of identifying potential hazards at the limit point together with the need to monitor and evaluate situations as they develop and, if necessary become a new, closer limit point, must also be understood by the rider.

The communication arrangements must be explained and understood, as should the riding positions and arrangements for stopping to discuss the rider's performance.

The Experience

Limit points

Joining the carriageway with the instructor leading, having checked that it is safe to do so and clearly signalled the intention, and taken a position in the middle of the lane, the rider should seek to identify the limit points being used by the instructor and understand the speed being taken in the context of them.

After a few distinct and different situations have been encountered the instructor and rider should stop and discuss them.

The ride should then be continued with stops as required, until the rider has followed the instructor through the range of situations and their limit points normally encountered.

continued

Distance and speed

Traffic interface element aspect 2

Guidance and advice.2

Limit points - continued

When the instructor is satisfied that the rider's understanding is sufficient the routes can be ridden with the rider leading. When the road is straight and clear and the limit point is where both sides of the road appear to join, the rider should adopt a speed which is within the allowed speed limit and which would allow the machine to be brought to a stop with the use of no more than light braking before a mark, such as a signpost, which was identified when it coincided with the limit point, has been reached.

When a curve or the crest of a rise is approaching, the limit point should be identified by the rider as the point at which the road surface disappears from his or her sight, the machine's speed should decrease accordingly. The extent to which the rider should reduce speed should relate to the rate at which the limit point appears to move toward the rider.

When the limit point appears to be moving away from the rider, for example when a curve is straightening, then the rider can

increase speed. Again the speed should always be determined by the ability to stop within the distance to the limit point.

When approaching a curve the rider should recognise that the the limit point can also appear to move laterally. This can give an indication of the direction and severity of the curve and the rider should adjust speed accordingly.

Situation monitoring

When focussing on a limit point the rider should identify a situation as it first appears. If, for example, the rider sees a road junction at the limit point, a process of evaluating its hazard potential should begin. The question of priority should be considered and whether there is traffic that could or will come from or go onto a road that is joining the road that the rider is on, should be monitored.

When a situation is first identified the rider should be prepared to reduce speed and when he or she believes that the joining road has priority or that traffic coming from it or joining it could, or actually would, take the intended path of the rider, then that point will become the limit point and the rider must adjust speed accordingly.

Evaluation

The instructor should be satisfied that the rider is correctly identify the limit points and adjusting speed accordingly.



The rider should have a good understanding of the relationship between speed and stopping distances, the the time it takes to react and should be identifying situations, monitoring them and taking the appropriate action in time.

Speed and average stopping distances

Anticipatory light braking

	reaction	+dry	+wet
at 30 kph:	5 m	15 m	15 m
at 60 kph:	10 m	60 m	60 m
at 90 kph:	15 m	130 m	130 m

Anticipatory firm braking

	reaction	+dry	+wet
at 30 kph:	5 m	9 m	12 m
at 60 kph:	10 m	46 m	36 m
at 90 kph:	15 m	81 m	81 m

Unanticipated emergency braking

	reaction	+dry	+wet
at 30 kph:	10 m	4 m	8 m
at 60 kph:	20 m	14 m	28 m
at 90 kph:	30 m	32 m	64 m

Overtaking

Traffic interface element aspect 5

This aspect looks at how a rider can safely pass other vehicles

Guidance and advice.1

Preparation and planning

For this aspect the instructor should seek suburban or rural roads with reasonably straight stretches, some of them being dual carriageway and having a moderate level of traffic. They should provide opportunities for instructor and rider to stop safely to for advice and evaluation.

Legal and safety requirements

The rider must be suitable dressed and meet all legal requirements. The instructor must ensure that the rules and road signs and markings that regulate overtaking are understood by the rider.

Preparing and briefing the rider

To overtake another vehicle the rider must know that it is permitted and that can be safely completed within the speed limit.

Importantly the rider must understand that he or she should be able to see past the vehicle to be overtaken and also be seen by the driver of that vehicle and that these requirements will influence the position in relation to, and distance from, the other vehicle.

The instructor should brief the rider on possibilities such as traffic emerging from side roads or hidden hollows in the road ahead and the effect of side winds and turbulence and spray from the vehicle to be overtaken.

The rider should also be advised that when contemplating overtaking more than one vehicle, the possibility of one of the vehicles also pulling out must be considered.

The Experience

Approach, position and distance

Ideally the initial overtaking manoeuvres should be undertaken on a dual carriageway. This will enable the rider to develop the correct approach, position and distance practices without having to worry about oncoming traffic.

The rider should remain in the right hand lane until making the overtaking manoeuvre. On approaching the vehicle it is important to check behind and continue to do so at frequent intervals and before starting to overtake. The rider should also



be looking to the vehicle to be overtaken and scanning beyond it.

If for any reason the rider feels that it may not be safe to overtake then he or she should never attempt to so do.

The closing speed to the vehicle in front should be evaluated and the rider should gradually reduce speed to match the speed of the vehicle when arriving at the correct distance from it and in the correct position relative to it.

The distance should never be less than than it would take to stop at that speed using only moderate braking (remember the 2 second rule, 3 seconds if the road is wet).

The correct position is where the rider can be seen by the driver of the vehicle to be overtaken and other vehicles and where the rider has the maximum view of the road in front of the vehicle to be overtaken. This will be close to the left hand side of the lane without moving into the outside lane.

When the checks behind indicate that it is safe to overtake without impeding any faster vehicle in either lane, the rider can indicate his or her intention and pull out smoothly, using moderate acceleration to pass the vehicle without undue delay.

continued

Overtaking

Traffic interface element aspect 5

Guidance and advice.2

Overtaking safely

When overtaking another vehicle the rider should be in the middle of the left hand lane. If however it is wet and the vehicle being passed is generating spray the rider should move further out.

The same response should be made if significant turbulence is experienced and particular care should be taken on reaching the front of the vehicle if there is a strong crosswind.

When the vehicle has been passed the rider should remain in the left hand lane until the right hand lane can be resumed with a sufficient safe distance between the rider and the vehicle that has been overtaken.

When this is so the rider should again check behind, signal the intention and smoothly return to a position in the middle of the right hand lane.

Overtaking a number of vehicles that are travelling close to one another requires particular care by the rider.

If there is sufficient space between the vehicles to enable the rider to safely return to the right hand lane and maintain correct distances then this should be done. The correct position being where the rider can be seen by the driver of the next vehicle to be overtaken.

If however there is insufficient space between the vehicles the rider should remain in the left hand lane until the lead vehicle has been passed.

In these circumstances the rider should pay particular care to one of the vehicles pulling out. Should this happen the rider should not accelerate through what would be an ever narrowing gap but should brake and then assume the correct distance to the vehicle that pulled out.

Under no circumstances should the rider exceed the permitted speed limit to complete an overtaking manoeuvre.

Oncoming traffic

When the instructor is confident that the rider can competently and safely manage overtaking situations on dual carriageways the experience can be extended to dealing also with oncoming traffic.

The rider must understand that when overtaking on a dual carriageway the primary visual focus is on the vehicle being overtaken. When overtaking on a single carriageway however it is the oncoming traffic that is the crucial focus.



This does not mean that the rider can ignore the vehicle that he or she wishes to overtake. Indeed all the skills and knowledge previously applied are needed in addition to the crucial requirement of looking for oncoming traffic.

The correct distance from and position in relation to the vehicle to be overtaken are essential to enable the rider to see oncoming traffic at the earliest opportunity.

So placed the rider should be looking to the limit point and only when that is at a sufficient distance to enable the vehicle to be overtaken safely and only when the opposite lane is completely clear of oncoming vehicles, should the rider consider overtaking.

Before initiating the manoeuvre the rider should have checked behind and double checked that there are no oncoming vehicles, paying particular attention to the possibility of them being hidden by a dip in the road or emerging from side roads.

When satisfied that the road is clear and that the vehicle can be overtaken safely, the rider should signal the intention and pull out smoothly, using moderate acceleration to pass the vehicle. At no point should the speed limit be exceeded or road signs or markings ignored.

continued

Overtaking

Traffic interface element aspect 5

Guidance and advice.3

Oncoming traffic - continued

It is sometimes possible on long straight roads where there are no restrictions to the rider's vision, to safely overtake a slow moving vehicle when oncoming traffic can be seen in the distance.

However the rider should only consider such a manoeuvre when he or she has carefully evaluated the closing speed of the oncoming vehicle and is sure that its distance is sufficient to enable the manoeuvre to be completed within a significant safety margin.

In no circumstances should the rider pull out to overtake if there is any possibility that the driver of the oncoming vehicle would have to reduce speed or take any other evasive action.

On long, straight roads the rider should pay particular attention to the possibility of oncoming traffic being hidden by a dip in the road, recognising that such a hollow can also contain a side road, from which traffic can emerge.

The rider should also understand that adverse weather conditions, such as rain and fog, and at dawn and dusk, can make it more difficult to see oncoming traffic, particularly if the lights of the vehicle are not on. In such circumstances the rider must take particular care and make allowances for such eventualities when making decisions.

Filtering

Filtering, that is when a motorcycle or scooter moves through lines of stopped or slow moving traffic, is not allowed in all countries. Where it is allowed, by regulation or by usual practice, it should be explained and, if possible, experienced by the rider. Where national rules or guidelines exist they must be followed by the instructor and rider.

If however filtering is permitted but its practice is not codified, the rider should only filter when taking extreme care and giving due consideration to the other vehicles.

When the lines of traffic are moving at speeds of 10 kph or more the rider should stay within the line. If however the traffic is moving intermittently and when moving does not exceed speeds of 10 kph, the rider can carefully ride between the lines. If there are more than two lines of traffic the rider should go between the two furthest lines to the left.



The rider should have his headlight on and indicator flashing. The rider should never go more than five kph faster than the traffic through which he or she is moving.

The rider should always be aware of the possibility of a vehicle changing lines without checking behind. As this will often mean that the vehicle will not be able to fully join the intended line the rider should always be able to safely brake to a stop if it were to happen.

When the driver of another vehicle, having seen the rider, makes room it is good practice and manners to acknowledge this with a wave of the hand or foot.

Evaluation

The instructor must be satisfied that the rider can safely and competently overtake.

That the rider is correctly judging the speed of other traffic and is taking the correct position to it at a safe distance.

The rider should be looking for and seeing oncoming vehicles, the vehicle to be overtaken and vehicles behind, and is making sound judgements having due regard for his or her safety and the safety of other road users.

continued

Journey planning

Traffic interface element aspect 9

This aspect addresses the need to plan for and evaluate the demands of intended journeys

Guidance and advice.1

Preparation and planning

Whilst this aspect is considered within the Traffic interface element it cannot be actually addressed in the context of preparing for and undertaking a ride on a public road or indeed, on an off-road training ground.

Whilst the practical steps of planning a route can be covered by the instructor within a briefing, issues such as whether the motorcycle or scooter should be used for a particular purpose or in a particular way will need different approach.

One way would be for the instructor to discuss these considerations with the rider. Beginning each consideration with a question and developing the discussion in the light of the rider's response.

In so doing the instructor can recognise that the rider's life attitude and values will determine to a large extent influence his or her response.

Route planning

The instructor should ensure that the rider understands that when he or she has obtained an A category licence, horizons will expand dramatically.

Whilst the rider will undoubtedly know the locality and be able to find the way around and across the home town, he or she will soon be in locations that are unknown and without preparation, will be dependent upon often inadequate road signing or stopping to ask someone the way.

The rider should appreciate that such a situation can be hazardous. Looking for direction signs or street names can result in less than adequate attention being paid to the primary demands of the traffic. Seeing the searched for street name at the last moment should never precipitate a sudden and, to other road users, unexpected manoeuvre.

These problems can be minimised, even avoided, with forethought. By consulting a map the road and the junctions needed reach the intended town can be identified.

Consulting a street plan can give a good idea of the location of the final destination, particularly in relation to a major feature, such as the railway station, which will be sign posted, will all save time and stress and, importantly, the rider will be safer.

Longer journeys will require similar preparation which by their very distance will be complex and difficult to remember.



The instructor should demonstrate how such a route could be planned, identifying in sequence the main towns, considering options, such as using a motorway or taking a scenic route or using a bypass or passing through a town centre.

When a plan has been identified the rider should be able to construct it in a way that will allow quick and easy reference during the journey. This could be a list showing the essential information at each stage. For example the direction on to and the number of the road to be taken to the next town, for example left onto N4 to Wavre.

The sequential list can then be clearly written out and put into a plastic envelope and stuck with an easily removed tape, on top of the petrol tank.

Strategic decisions

The instructor should seek to raise with the rider a number of issues regarding how and why his or her machine could be used when the A category licence has been obtained.

The instructor could begin by asking the rider how he or she sees themselves. Do they have a strong, forceful personality; are they a considerate, caring person, do they believe that they are reticent or shy ?

continued

Journey planning

Traffic interface element aspect 9

This aspect addresses the need to plan for and evaluate the demands of intended journeys

Guidance and advice.1

Strategic decisions - continued

If, in the light of the rider's attitude and behaviour in the course of the initial rider training programme, the instructor feels that the rider has not been very accurate in his or her reply, this can be discussed with the instructor giving particular examples.

At an appropriate point the instructor should ask the rider if they believe that their personality will have an effect on how they will behave on the road and, if so, whether they believe that it will make them less or more likely to have an accident.

If there is a belief that the rider's personality could have a negative effect then the instructor should discuss with the rider how that could be managed.

Such a discussion could take place within a number of scenarios that could be prompted by further questions by the instructor.

For example the instructor could ask if the rider would use the motorcycle or scooter to go to a bar or club to meet friends and then discuss the social pressures that would be on to take alcohol and the possibly disastrous consequences of so doing.

The rider could also be asked if he or she would consider an alternative means of transport if their motorcycle or scooter was felt to be an inappropriate mode for a planned journey, due to, for example, the distances involved or inclement weather.

The instructor should understand that issues such as these will touch upon the rider's intrinsic life values. These will have been formed in childhood and are unlikely

to be changed within the learning process required to safely ride a motorcycle.

If the rider is by nature an aggressive and selfish person, or alternatively, is timid and hesitant then these traits could materialise when he or she is riding in traffic.

The instructor should explain to the rider that understanding the dangers that are inherent in certain attitudes and behaviour does at least give the him or her an opportunity to address them.

Developing a riding style which seeks to contain such behaviour is good sense. Riding a motorcycle or scooter can be as much about habit as it is emotion and good habits can constrain negative emotions.

Evaluation overall

With the Journey planning aspect addressed the Initial Rider Training should have been completed. At each aspect and element the instructor should only have moved on when he or she considers that the rider has attained a reasonable level of competency and confidence.

At this point the instructor should be satisfied that the rider has the necessary skills and knowledge to safely ride a motorcycle or scooter on today's roads and accordingly be able to recommend or authorise the rider to take the national competency test for an A category licence.

Most importantly the rider should not only be able to competently ride his or her machine but should have a good awareness of hazards that will be met and how to avoid, minimise and manage them and understand that his or her attitude and behaviour will be the prime determinate in ensuring his or her and other road users safety.





Thank you for your attention

