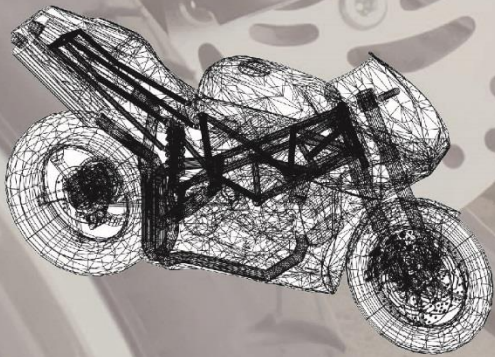


States
of Jersey



Growth, Housing
and Environment

Mopeds & Motorcycles Inspection Manual



DVS

Driver and
Vehicle Standards



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Jersey

Moped and Motorcycle Inspection Manual

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Introduction

1 Abbreviations and definitions

Abbreviation or term	Definition
abandon	When a test can't be completed because the examiner considers it unsafe to continue or because it becomes apparent during the test that certain items can't be satisfactorily inspected. An appropriate fee may be charged for the test.
abort	When a test can't be completed because of a problem with the test equipment or the examiner. No fee may be charged for the test.
DVS	Driver and Vehicle Standards
Examiner	A person appointed by the Minister to undertake the prescribed examination.
Examination	Has the same definition as test or check or inspection
Excessive	Any wear considered to be outside of normal or clearly beyond manufactures recommended limits (if known)
Insecure	A component has relative movement (looseness) at its fixings where there should be none, a component has relative movement (looseness) to an associated component where there should be none, or a component critical to safety isn't safely or completely attached at its fixing or to an associated component.
Unsafe	Any item or component is such a condition that it is likely to cause a danger to the rider, passenger or any person on a road.

2 Refusal to Test

Legislation permits examiners to refuse to test motorcycles in certain circumstances. If any of the reasons for refusal (see below) apply, the inspection will not be carried out. The inspector will carry out appropriate pre-checks before starting the inspection, to ensure the suitability and general condition of the motorcycle.

The reasons for refusing to carry out the inspection are:

- a. The motorcycle or any part or equipment on the vehicle is so dirty that examination is unreasonably difficult.
- b. The motorcycle isn't fit to be driven when necessary to complete the test because of a lack of fuel, or oil, or for any other reason.
- c. The examiner considers a load or other items, or insecurity of a load or other items, would prevent a proper test being carried out.
- d. The fee to be paid in advance of the test hasn't been paid.
- e. The motorcycle emits substantial quantities of avoidable smoke.
- f. A proper examination can't be carried out because any cover, fuel cap or other device designed to be easily opened can't be easily opened.
- g. The condition of the motorcycle is such that, in the opinion of the inspector, a proper examination would involve a danger of injury to any person or damage to the motorcycle or other property.
- h. The motorcycle doesn't have a registration mark or VIN, chassis number, frame number by which it can be identified, or that all such identifications are illegible or use letters and numbers not normally used in the English language.
- i. A tyre so obviously underinflated that it is likely to cause damage to the vehicle or the equipment.

If despite due care initially, it becomes apparent during a test that the test can't be completed for any of the above reasons, the test will be abandoned, or the motorcycle failed because the test couldn't be satisfactorily completed. Any subsequent re-examination and fee must be in line with normal policy.

In addition to the above reasons the examiner will decline to test any motorcycle that has the frame stamped with 'not for road use' or similar words.

3 The inspection manual

Defects found during the Periodic Technical Inspection are categorised in one of the following groups:

- **Advise** – defects having no significant effect on the safety of the motorcycle or impact on the environment and other minor non-compliances
- **Fail** – defects that may prejudice the safety of the motorcycle, have an impact on the environment, put other road users at risk or other more significant non-compliances
- **Impound** – defects constituting a direct and immediate risk to road safety or having an impact on the environment

If a motorcycle has only advisory defects, it will pass its inspection and a certificate of satisfaction will be issued. If a motorcycle has any failure it will be issued a refusal notice if a motorcycle has an Impound it will be issued a refusal notice and a Defect Notice.

4 Assessment of Component Condition

It isn't practicable to lay down limits of wear and tolerances for all types of components on different models of motorcycle, or to define acceptable amounts of damage, deterioration and effectiveness. The examiner is therefore expected to use their judgement to assess if the condition of a component has reached the stage where it's obviously adversely affecting its functionality or likely to adversely affect the roadworthiness of the motorcycle.

5 Definition of insecure

The term 'insecure' is used many times throughout the manual to describe a defective condition. This term should be taken to mean one of the following:

- a component has relative movement (looseness) at its fixings where there should be none
- a component has relative movement (looseness) to an associated component where there should be none
- a component critical to safety isn't safely or completely attached at its fixing or to an associated component

Wheel security has specific criteria detailed in the manual.

6 Unsafe modification

Modifications to motorcycles will be assessed on their merits, taking account of the nature of the modification and whether the component is safety critical.

The main criteria that will be used are whether the modification adversely affects the roadworthiness of the motorcycle, or it's likely to cause injury.

7 Inspection procedure

The examiner will carry out pre-checks to ensure the general condition and suitability of the motorcycle before test.

Small tools, such as pinch bars, levers and the corrosion assessment tools may be used when necessary.

The inspection will be carried out without dismantling. Access panels, covers and seats designed to be easily removed or opened without tools may be removed or opened when necessary, so that the testable items can be inspected. The test will be abandon or a refusal to carry out the test if it isn't possible to test an item because an

access panel, cover or a seat doesn't open despite having been designed to be easily opened.

Solo machines without a centre-stand may be jacked to raise the wheels clear of the ground to check steering and suspension.

8 Road testing

The test doesn't specifically include a road test of the motorcycle. However, one may be carried out if the examiner thinks it's necessary to check the results of an inspection.

9 Disabled rider's controls

If a disabled rider's control or fitment is additional to the standard rider's controls (such as a thumb operated brake) and doesn't adversely affect the standard motorcycle equipment, it won't need to be tested. However, if any such equipment is defective, it will be reported to the vehicle presenter.

Disabled motorcycle controls or fitments that replace or affect the standard controls will be tested in the normal way and any defects recorded as usual.

10 Recording defects

When only advisory defects have been selected, a test certificate will still be issued. If the examiner thinks that a defect on a non-testable item is dangerous, the examiner will explain it to the motorcycle presenter and can issue a Defect Notice.

11 Retest following failure

Information on retest fees and procedures can be found on the gov.je web site.

When carrying out a partial retest you must examine:

- all the previously failed item(s)
- any item(s) that may have been affected by the repairs
- any advisory defect or item advised on at the time of the initial test

If during a retest it's clear that the motorcycle has any fail or Impound defects, you must issue a new refusal notice and or a Defect Notice.

Section 0

Identification of the Vehicle

0.1 Registration plates

You must inspect the rear registration plate on all motorcycles

Registration plates mustn't:

- be obscured, excessively damaged, deteriorated or delaminated
- have background overprinting
- have any feature or fixing that changes the appearance or legibility of any of the characters
- have a honeycomb or similar effect background

Particular attention should be given to the position of any fixing screws or bolts as well as any delamination of the number plate as this can prevent identification of the motorcycle by automatic number plate recognition (ANPR) cameras which 'see' any non-reflective material as being black.

Registration plate characters must be:

- correct size, stroke width and spacing
- laid out in the correct format for the age of motorcycle
- formed using the prescribed font or be similar to the prescribed font
- not in italic, sloping or formed using broken or multiple strokes

You don't need to physically measure the characters or their spacing. They should only be rejected if they are obviously incorrect.

Rear registration plates fitted to motorcycles manufactured on or after 1 January 1977 must:

- have black characters on a yellow background
- be fitted vertically, or as close to vertical as is reasonably practicable
- be mounted at the rear of the motorcycle

Rear registration plates on motorcycles must be in a two line format.

Registration plates must meet the dimensional requirements shown below.

Characters

Height	64mm
Width (except the figure 1)	44mm
Stroke	10mm
Space between characters	10mm
Side margins (minimum)	11mm
Space between top & bottom lines	13mm



Defect	Category
a. Number plate missing or so insecure that it is likely to fall off	Fail
c. Number plate showing an incorrect registration	Fail
d. Number plate does not conform to the specified requirements	Fail

0.2 Vehicle identification number (VIN)

Check the motorcycle is displaying a legible vehicle identification number (VIN).

Motorcycles may have the VIN displayed in more than one location, but only one VIN must be complete and legible.

All motorcycles first used on or after 1st April 1980 must have a VIN or frame number.

Defect	Category
a. VIN missing or cannot be found	Fail
b. VIN incomplete, illegible or obviously falsified	Fail
c. More than one different VIN displayed	Fail

Section 1

Brakes

1.1 Condition and operation

1.1.1 Brake lever and pedal pivot in use

Defect	Category
a. Lever or pedal pivot too tight	Fail
b. Lever or pedal pivot has excessive wear or free play	Fail

1.1.2 Brake lever and pedal condition and travel

A motorcycle must only be failed for insufficient reserve travel if the brake lever is touching the handlebar or the brake pedal is fouling another part of the motorcycle. Motorcycles with servo-assisted braking systems should be checked with the engine running.

On some motorcycles it may be possible to pull the brake lever back until it touches the handlebar. In such cases the extent of reserve travel should be assessed during the brake test.

A brake pedal should be failed if its grooves or raised sections are worn smooth. However, a brake pedal shouldn't be failed if the motorcycle has been manufactured with one that doesn't have grooves or is fitted with anti-slip material.

Where a brake pedal rubber is fitted, this is considered an anti-slip material. It's therefore regarded as a defect if the design pattern is worn smooth.

Defect	Category
a. Brake control has insufficient reserve travel	Fail
b. Brake control:	
i. not releasing correctly	Fail
ii. not releasing correctly so that the functionality of brakes affected	Impound
c. Brake pedal anti-slip provision missing, loose or worn smooth	Fail

Defect	Category
d. Brake control so positioned, bent or shortened that the brake cannot be readily applied	Impound
e. Brake control:	
i. insecure or damaged	Fail
ii. so insecure that the brake cannot be readily applied	Impound

1.1.3 Brake master cylinder and servo

To check the operation of the brake servo:

1. Apply the brake control with the ignition off.
2. With the brake still applied, turn the ignition on.
3. The inspection is successful when you feel that the brake control increases brake pressure without any increase in effort.

Hydraulic brake fluid level checks are confined to transparent reservoirs or where an indicator is fitted. Reservoir caps shouldn't be removed.

Defect	Category
a. Brake servo:	
i. defective or ineffective	Fail
ii. inoperative	Impound
b. Master cylinder:	
i. defective but brake still operating	Fail
ii. leaking	Impound
c. Master cylinder insecure	Fail
d. Brake fluid below minimum mark	Fail
e. Master cylinder reservoir cap missing	Impound

1.1.4 Rigid brake pipes

If the corroded metal brake pipes have surface dirt that needs to be removed before it's possible to assess their condition, it's permissible to lightly scrape the pipe. It must be done with care so that any protective coating doesn't get damaged.

Chafing, corrosion or damage to a rigid brake pipe so that its wall thickness is significantly reduced that compromises the integrity of the pipe.

If you aren't sure whether the pipe is sufficiently deteriorated to justify rejection, you should give the benefit of the doubt.

Defect	Category
a. Brake pipe is at imminent risk of failure or fracture	Impound
b. Leaking brake pipe or connection	Impound
c. Brake pipe excessively damaged or corroded	Fail
d. Brake pipe:	
i. inadequately clipped or supported	Advise
ii. likely to become detached or damaged	Fail

1.1.5 Flexible brake hoses

A hose should only be considered excessively damaged or chafed if it's severe enough to expose the reinforcement.

Defect	Category
a. Brake hose damaged and likely to fail	Impound
b. Flexible brake hose:	
i. slightly damaged, chafed or twisted	Advise
ii. excessively damaged, deteriorated, chafed, twisted or stretched	Fail
iii. excessively damaged, deteriorated, chafed, twisted or stretched likely to fail	Impound
c. Brake hoses or connections leaking	Impound

Defect	Category
d. Brake hose bulging under pressure	Impound
e. Brake hose porous	Impound
f. Brake hose ferrules:	
i. excessively corroded	Fail
ii. excessively corroded and likely to fail	Impound

1.1.6 Brake linings and pads

Defect	Category
a. Brake lining or pad worn below 1.0mm	Impound
b. Brake lining or pad contaminated with oil, grease etc.	Impound
c. Brake lining or pad missing or incorrectly mounted	Impound

1.1.7 Brake discs and drums

A brake disc or drum must be significantly worn before rejection is justified. Being worn below the manufacturer's recommended limit is a reason in itself.

Defect	Category
a. Brake disc or drum:	
i. significantly and obviously worn	Fail
ii. insecure, fractured or otherwise likely to fail	Impound
b. Contaminated with oil, grease etc.	Impound
c. Missing	Impound
d. Brake drum back plate insecure	Fail

1.1.8 Brake cables, rods, levers and linkages

Defect	Category
a. Cable damaged or knotted	Fail
b. Component excessively worn or corroded	Fail
c. Cable, rod or joint insecure	Fail
d. Cable guide defective affecting operation	Fail
e. Restriction in free movement of the braking system	Fail
f. Abnormal movement of levers indicating maladjustment or excessive wear	Fail

1.1.9 Brake callipers and cylinders

Defect	Category
a. Brake calliper or cylinder cracked or damaged	Impound
b. Brake calliper or cylinder leaking	Impound
c. Brake calliper or cylinder inadequately mounted and:	
i. braking performance not affected	Fail
ii. braking performance affected	Impound
d. Brake calliper or cylinder:	
i. excessively corroded	Fail
ii. excessively corroded and likely to fail	Impound
e. Brake calliper or cylinder has:	
i. excessive travel of operating system indicating need for adjustment	Fail
ii. no reserve travel and braking performance affected	Impound

1.1.10 ABS

Vehicles fitted with ABS must have a mandatory warning malfunction indicator lamp (MIL) that illuminates when the system is energised (ignition or battery master switch on). The system must be fully functioning and the ABS warning lamp must illuminate and extinguish in the correct sequence for that make and model of vehicle. It can be any colour, though they are usually red, yellow or amber. It must go out after a short period or when the engine is started but can then come back on and remain on until the vehicle speed exceeds approximately 5 kph (3 mph). It is not necessary to move the vehicle to check the speed- activated function provided the lamp does go off momentarily.

Defect	Category
Any of the required ABS warning lamps:	
a. are missing.	Fail
b. do not illuminate as required when ignition switched on.	Fail
c. indicate a fault	Fail
Vehicles fitted with ABS	
a. a system component obviously missing or excessively damaged.	Fail
b. system wiring excessively damaged	Fail
c. i) a system component with an inappropriate modification	Impound
ii) a system component with an unsafe modification which has seriously weakened the component, does not provide sufficient clearance to other vehicle parts or renders the component inoperative.	Impound
d. A mandatory ABS system not fitted to a vehicle where it is a mandatory requirement	Fail

1.1.11 Complete braking system

Defect	Category
a. Any braking system component insecure or inadequately mounted	Fail
b. Braking system component modification:	
i. unsafe	Impound
ii. adversely affecting braking performance	Impound

1.2 Brake performance and efficiency

1.2.1 Brake performance

You must ensure that the motorcycle is in such a condition that the test can be carried out safely.

To avoid damage to the vehicle or the equipment, no tyre must be obviously underinflated.

If the primary brake tester isn't suitable to test the motorcycle's braking system, a full or partial decelerometer test may be appropriate. If conditions render it unsafe to conduct a decelerometer test the test should be declined.

Sidecar wheels don't need to be fitted with a brake, but if one is fitted it must be tested.

Not all defects will apply depending on the equipment used.

Using a roller brake tester

Ensure that the motorcycle's braking system is suitable for a roller brake tester. If the motorcycle or the system is unsuitable, it should be tested with a decelerometer.

Motorcycles with 2 front and/or rear wheels may need each braked wheel to be tested independently if they cannot both fit in the roller brake tester.

1. Sit on the motorcycle and locate the front wheel in the rollers of the brake tester, ensuring that the motorcycle is lined up in the straight ahead position and settled in the rollers.
2. Make sure that the roller brake tester is set to rotate in the correct direction so that the motorcycle wheel will rotate forward.
3. Start the rollers and allow the front wheel to stabilise. With the rear wheel brake fully applied (unless it's a linked system), gradually apply the front brake until maximum effort is achieved or the wheel locks and slips on the rollers.
4. Once the maximum braking effort is achieved release the brake. The roller brake tester will record the maximum braking effort.
5. If the roller brake tester does not automatically check for excessive fluctuation, restart the rollers if necessary and gradually increase the front brake effort to about half the maximum reading and observe the way it builds up. Hold steady and check for fluctuations. Release the brake and observe the way in which the braking effort reduces.
6. In the case of linked systems, repeat the steps 1 to 5 for each control operating the front wheel brake. However, some linked systems are designed to only work above 10km/h and won't work in a roller brake tester.
7. Repeat the procedure for the rear wheel brake and any sidecar brake fitted.

Using a decelerometer

If the motorcycle can't be tested on a roller brake tester, you should carry out a decelerometer test.

You should make sure that the motorcycle is in a safe condition to conduct a decelerometer test. If you think it isn't safe you should refuse to complete the test.

Before carrying out a decelerometer test on the public highway, you must ensure you have a suitable motorcycle licence and are familiar with the controls.

For motorcycles with special controls, such as for disabled use, you can let the vehicle presenter conduct the decelerometer test if he/she wishes under the observation of the examiner.

Decelerometer testing is potentially hazardous. It's important that the used road meets all of the following criteria:

- is reasonably flat and level
- has a good surface
- is suitable for brake tests in the present weather conditions
- has very little traffic

To conduct the decelerometer test:

1. Set up the decelerometer on the motorcycle in accordance with the equipment manufacturer's instructions.
2. Ride the motorcycle on a level road at a steady speed of around 20mph (32km/h).
3. Gradually apply one brake control and come to a controlled stop. You should try to achieve only the required percentage to pass, rather than the best possible result.
4. While the motorcycle is decelerating, pay attention to the progression of application and any grabbing of the brake.
5. Record the brake efficiency from that brake control.
6. Repeat the test applying only the other brake control.

Defect	Category
a. On a motorcycle with two front or rear wheels, there is:	
i. inadequate braking effort at a wheel	Fail
ii. no recorded brake effort at a wheel	Impound
b. A brake on any wheel grabbing severely	Fail
c. Abnormal lag in brake operation on a wheel	Fail
d. Excessive fluctuation in brake effort through each wheel revolution	Fail

Defect	Category
e. Significant brake effort recorded with no brake applied indicating a binding brake	Fail

1.2.2 Brake efficiency

Most motorcycles have 2 brake controls, one operating the front wheel brake and the other the rear wheel brake. One control must achieve an efficiency of at least 30% and the other control 25%.

If a wheel locks on the operation of a brake control during a roller brake test, the efficiency requirement of 30% is considered to have been met for that control. The efficiency requirement doesn't apply to a braked wheel on a sidecar.

If a linked or dual braking system is operated by one control, the retarding force used in the efficiency calculation is the total from all wheels operated by that control only. However, some linked systems are designed to only work above 10km/h so cannot be tested during a roller, plate or floor test. In these cases, if the motorcycle fails the brake efficiency test, a decelerometer test must be carried out

On motorcycles with 2 front and/or rear wheels, each braked wheel will need to be tested independently if they can't both fit in the roller brake tester. In these cases the efficiency calculation is the total from both wheels when operated by that control only.

The retardation force of a sidecar brake shouldn't be included unless it is operated by one of the motorcycle brake controls.

Brake test results

Brake efforts achieved during a test will be automatically recorded by the roller brake tester and included into the overall result of the test.

Defect	Category
a. Brake efficiency below minimum requirement being 30% overall	Impound

1.3 Brake fluid

The hydraulic brake fluid check is confined to transparent reservoirs. Reservoir caps shouldn't be removed.

Defect	Category
a. Brake fluid contaminated	Fail

Section 2

Steering

2.1 Mechanical condition

2.1.1 Steering linkage condition

To inspect motorcycles with steering linkage:

1. Hold the front wheel firmly between your legs.
2. Rock the steering side to side.
3. Assess any free play in the linkage.

You must distinguish relative movement due to excessive wear from relative movement due to built-in clearance or spring loading of a joint.

The presence and effectiveness of some locking devices, such as locking fluid or 'nyloc' nuts, can't be easily determined. If it isn't certain that a locking device is missing or ineffective, you must give the benefit of the doubt.

Defect	Category
a. A steering linkage component with:	
i. relative movement between components which should be fixed	Fail
ii. excessive movement between components or likely to become detached	Impound
b. A steering ball joint:	
i. with excessive wear or free play	Fail
ii. worn to the extent there is a serious risk of detachment	Impound
c. A steering linkage component:	
i. fractured or deformed	Fail
ii. fractured or deformed to the extent that steering is affected	Impound

Defect	Category
d. Steering linkage locking device missing or ineffective	Fail
e. Steering linkage:	
i. with an unsafe modification	Fail
ii. modified to the extent that steering is affected	Impound
f. Steering ball joint dust cover:	
i. damaged or deteriorated	Advise
ii. missing or no longer prevents the ingress of dirt etc.	Fail

2.1.2 Steering operation

To inspect a motorcycle's steering operation:

1. With the wheels supporting the weight of the motorcycle, turn the steering from lock to lock.
2. Check that any adjustable steering damper is released before failing a motorcycle for excessively stiff steering.

You can conduct a road test to determine if the stability or control is adversely affected. You must let the motorcycle presenter know if the damper is released during the test.

Defect	Category
a. Steering linkage fouling any part of the motorcycle	Fail
b. Handlebar fouling on the fuel tank or bodywork on full lock	Fail
c. Restriction in the movement of the handlebars from lock to lock	Fail
d. A steering damper which is:	
i. insecure or ineffective	Fail
ii. in such a condition that the steering action is adversely affected	Impound

Defect	Category
e. Any fairing or leg shield impeding steering operation	Fail

2.2 Handlebar, forks and yokes

2.2.1 Handlebar condition

To inspect a motorcycle's handlebar condition:

1. With the wheels supporting the weight of the motorcycle, grasp the handlebars by the grips.
2. Apply firm pressure to check for movement at the grips, clamps or any weakness of the handlebars or fork yokes.

Handlebars on some machines are rubber mounted. You might detect some movement when applying firm pressure to handlebars secured in this way.

Defect	Category
a. Handlebar mounting:	
i. insecure	Fail
ii. so insecure that steering is adversely affected	Impound
b. Handlebar:	
i. retaining device missing or loose	Fail
ii. so insecure it is likely to become detached	Impound
c. Handlebar:	
i. fractured, excessively deformed or excessively corroded	Impound
ii. fractured, deformed or corroded to the extent that steering is adversely affected or detachment likely	Impound
d. Handlebar grip:	
i. missing	Fail
ii. insecure to handlebar	Impound

2.2.2 Forks and yokes

To inspect a motorcycle's forks and yokes:

1. Check that the lower steering head bearings are adjusted correctly and are in good condition by turning the handlebars from lock with the front wheel on the ground.
2. Check that the upper steering head bearings are adjusted correctly and are in good condition by turning the handlebars from lock with the front wheel raised clear of the ground.
3. Apply the front brake and push the handlebars forward to check the head bearings for excessive free play.

To inspect a lightweight motorcycle's bearings for excessive play:

1. Raise the front wheel clear of the ground with an assistant.
2. Apply the front brake.
3. Lift the front of the front wheel. It may be necessary to support the centre of the motorcycle if it doesn't have a suitable stand.

If a motorcycle doesn't have a centre stand, you must use suitable equipment to raise the wheels clear of ground, one wheel at a time or both wheels at the same time. If necessary, use an assistant. Pulling a motorcycle over on its side-stand isn't recommended.

Defect	Category
a. Forks or fork yoke:	
i. fractured, insecure, excessively deformed or excessively corroded	Impound
ii. in such a condition that steering control is adversely affected	Impound
b. Forks or fork yoke with an unsafe modification	Fail
c. Steering head bearings:	
i. excessively stiff, notchy, or with excessive wear or play	Fail
ii. in such a condition that steering control is adversely affected	Impound

2.3 Wheel alignment

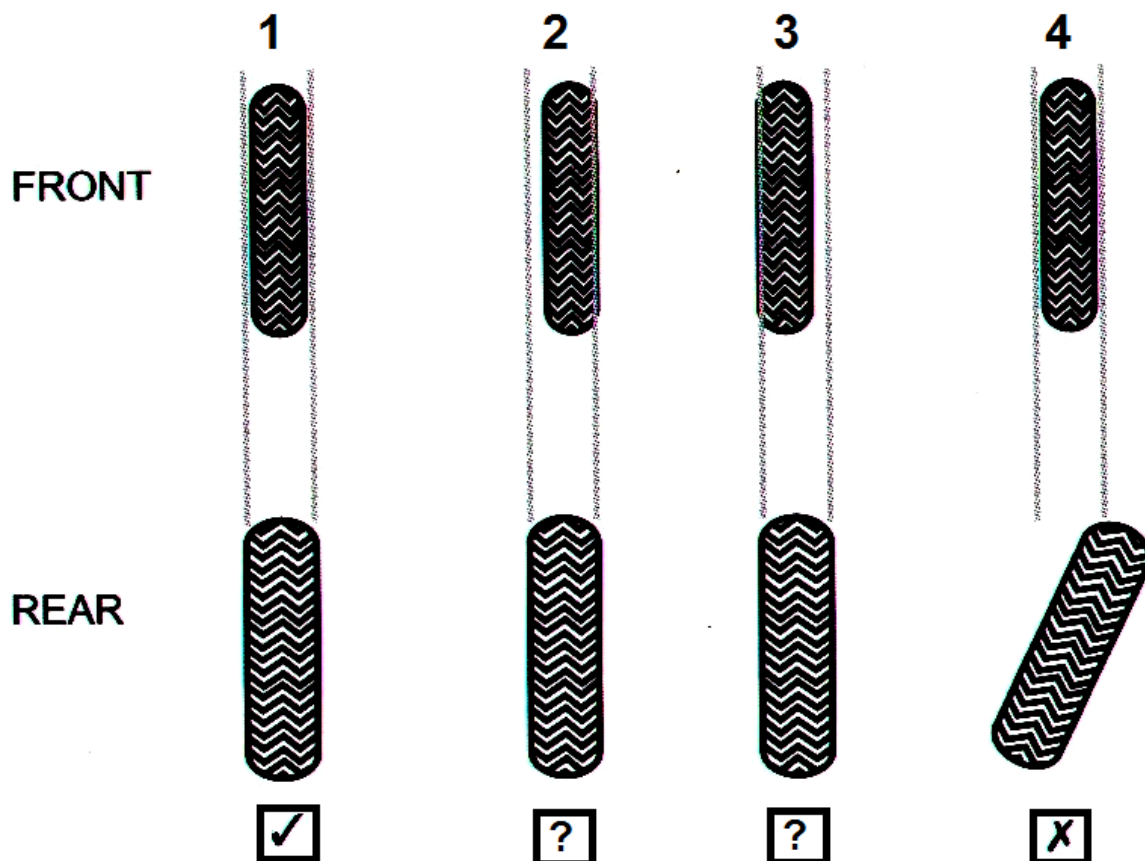
You don't need to inspect the motorcycle's wheel alignment if either the front or rear wheels have already been failed for buckling, eccentricity or damage.

A wheel clamp can be used, as long as it doesn't obstruct the straight edge or cord.

If the motorcycle's wheels seem to be excessively misaligned, you can conduct a road test to assess the effect on the handling.

Some shaft driven motor cycles and motor cycles adapted for use with a sidecar may have a certain amount of parallel misalignment (see examples 2 and 3 in Diagram 1.).

Diagram 1. Examples of correct alignment (1), parallel misalignment (2-3) and misalignment (4)



To check a solo motorcycle's wheel alignment:

1. Use a wheel clamp or an assistant to ensure that the front wheel is held upright and in line with the frame.

2. Place a straight edge or cord against the rear tyre parallel to it and as high off the ground as other parts will permit.
3. Estimate the gap (if any) between the straight edge or cord at the rear points where it's opposite the front tyre.
4. Move the straight edge or cord to the other side of the motor cycle and repeat the steps 2 and 3.
5. Sight along the front wheel and forks and assess any misalignment.

To check the wheel alignment on a motorcycle combination:

1. Set the steering in the straight ahead position, and place a straight edge or cord against the outer walls of the rear tyre.
2. Place a second straight edge or cord against the outer walls of the sidecar tyre and measure between the straight edges or cord at the front and rear of the combination.
3. Assess any toe-in or toe-out of motorcycle and sidecar wheels.
4. Check visually the vertical alignment of the motorcycle and sidecar.

It's normal for motorcycle combinations to be set up in a way that isn't perfectly vertically aligned.

Defect	Category
a. Wheels of a solo motorcycle sufficiently misaligned to adversely affect the handling or steering	Fail
b. Toe-out of the sidecar wheel relative to the motorcycle	Fail
c. Excessive toe-in of the sidecar wheel relative to the motorcycle	Fail
d. Excessive vertical misalignment between the motorcycle and the sidecar wheel which adversely affects the handling of the combination	Fail

Section 3

Lamps, reflectors and electrical equipment

If a motorcycle at the time of manufactured was not fitted with any front or rear position lamps it does not require any lamp or reflector to be fitted between sunrise and sunset. This is not the case for motorcycles that have been modified since the date of manufacture.

3.1 Headlamps

3.1.1 Presence, condition and operation

A motorcycle or motorcycle combination must be fitted with one headlamp, although additional headlamps may be fitted. Apart from headlamp security, the check only applies to mandatory lamps.

All lamps must be compliant and bear the appropriate approval marking
Headlamps aren't needed on motorcycles that:

- aren't fitted with front and rear position lamps

A motorcycle doesn't need a main beam headlamp if it:

- was first used before 1 January 1972 and has an engine capacity of less than 50cc
- has a maximum speed up to 25mph or 40km/h

On twin headlamp systems, one or both headlamps may operate on either beam.
Headlamps' colour must be one of the following:

- white
- yellow
- mainly white light with a blue tinge

If the light intensity of the lamp is significantly reduced, it should be failed.

If the motorcycle doesn't have a battery or the battery doesn't have enough charge, you must run the engine to be able to inspect the headlamp(s).

A 'light source' means any bulb, LED or other means of emitting light.

Repairs to lamps must be assessed for security, colour, light output, durability and beam aim.

Defect	Category
a. A headlamp:	
i. with up to ½ light sources not functioning in the case of LED	Advise
ii. missing, inoperative or more than ½ not functioning in the case of LED	Fail
b. Headlamp reflector or lens:	
i. slightly defective	Advise
ii. seriously defective or missing	Fail
c. Headlamp not securely attached	Fail
d. Non-compliant	Fail

3.1.2 Headlamp alignment

All dipped beam headlamps must be inspected for headlamp alignment.

The type of headlamp will determine whether the aim must be checked on dipped or main beam (see Diagrams 1, 2 and 3).

You can pass a flat top or other alternative dipped beam headlamp, as long as all of the beam upper edge, including any 'peak' is contained within the tolerance band.

Converter kits that temporarily alter a right hand dip headlamp lamp for use in the UK by removing the beam 'kick-up' to the right are not permitted.

If a motorcycle doesn't have a battery or the battery doesn't have enough charge, you must run the engine to be able to inspect the headlamp alignment.

The light intensity may be low if the motorcycle is fitted with automatic transmission, but any hot spot can usually still be identified.

How to inspect a headlamp

Using a rail mounted headlamp aim tester:

1. Position the motorcycle on the designated headlamp aim standing area.
2. With an assistant sitting on the motorcycle in the normal riding position and holding it in an upright position, align the beam tester with the longitudinal axis of the motorcycle. Then align the centre of the collecting lens with the centre of the headlamp as per the aim tester equipment manufacturer's instructions.
3. Determine the appropriate headlamp beam image and its aim (see Diagrams 1, 2 and 3).
4. Switch on the appropriate headlamp beam.
5. Follow the aim tester equipment manufacturer's instructions.

For complex lens systems – meaning those that have more than one lamp behind a single lens – make sure the test equipment is aligned exactly on the centre of the dipped beam pocket.

You mustn't carry out repairs during a test, but you can make minor adjustments to the headlamp aim.

European type – check on dipped beam

European type lamps have an asymmetric dipped beam pattern with:

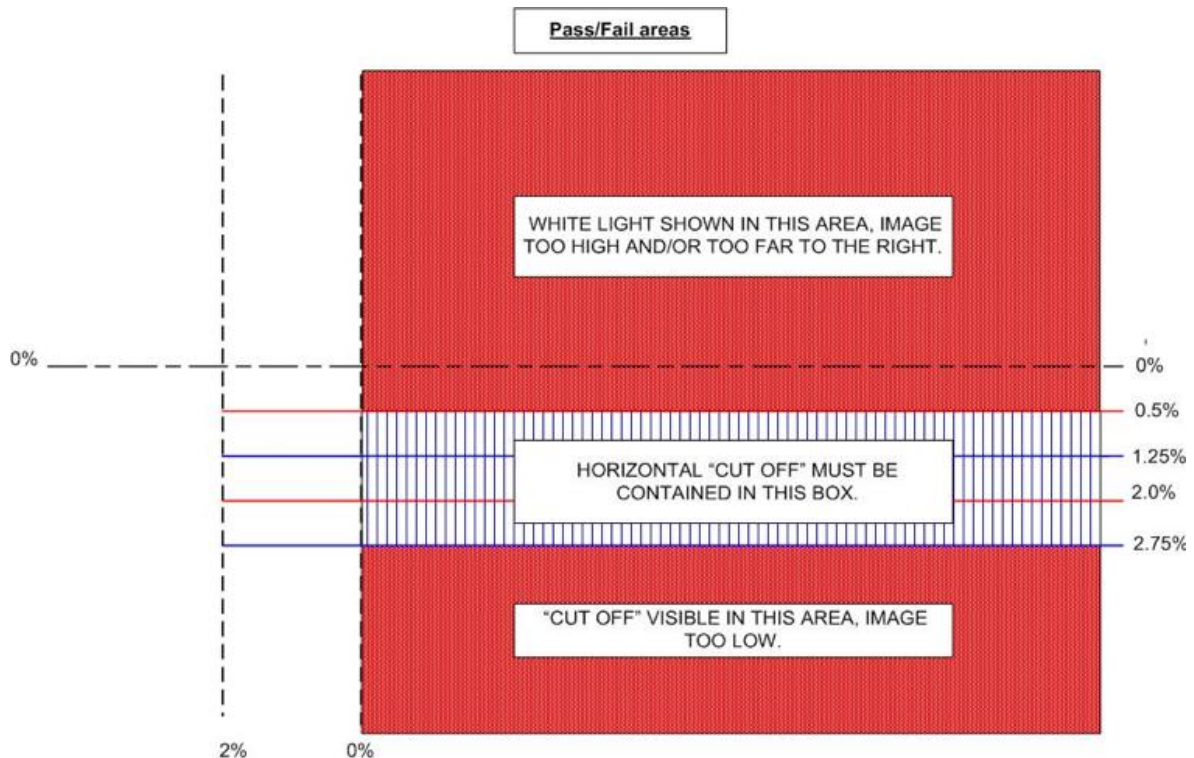
- a horizontal cut-off on the right
- a wedge of light above the horizontal towards the left, known as the 'kick up'

European type lamps might have a European approval mark, usually a letter 'E' in a circle or an 'e' in a rectangle.

For a European type lamp to pass, you must make sure:

- any 'kick up' is visible on the screen
- the beam image horizontal cut-off is between 0.5% and 2.75% below the 0% horizontal line (for headlamps with centres at 850mm or less from the ground)
- the beam image horizontal cut-off is between 1.25% and 2.75% below the 0% horizontal line (for headlamps with centres more than 850mm from the ground)
- white light doesn't show in the zone formed by the 0% vertical and 0.5% horizontal line

Diagram 1. Criteria for European beam headlamp aim



British American headlamp – check on main beam

Check British American type headlamps on main beam if they have:

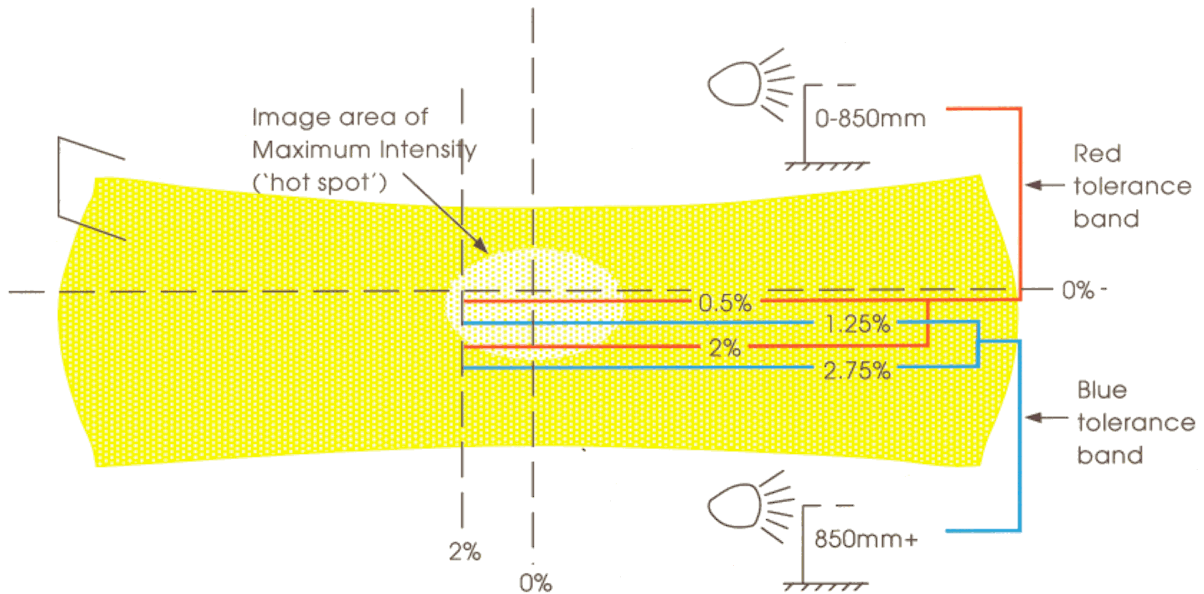
- a symmetrical main beam pattern with a central area of maximum intensity ('hot spot')
- a circular lens which might be marked with a figure '1' followed by an arrow indicating the direction of dip

You must fail a British American type lamp if its 'hot spot' centre is any of the following:

- above the horizontal 0% line
- below the horizontal 2% line (for headlamps with centres at 850mm or less from the ground)
- below the horizontal 2.75% line (for headlamps with centres more than 850mm from the ground)
- to the right of the vertical 0% line
- to the left of the vertical 2% line

For a British American type lamp to pass, you must also make sure the brightest part of the image moves downwards when the lamp is dipped.

Diagram 2. British American headlamp – Main beam image



Check the position of the centre of the area of maximum intensity ('hot spot')

British American headlamp – check on dipped beam

Check British American headlamps on dipped beam if they have:

- an asymmetric dipped beam pattern which when correctly aimed has a flat-topped area of high intensity extending above and parallel with the horizontal 0% line on the nearside
- a circular lens marked with the figure 2 (it might also have an arrow showing the direction of dip)

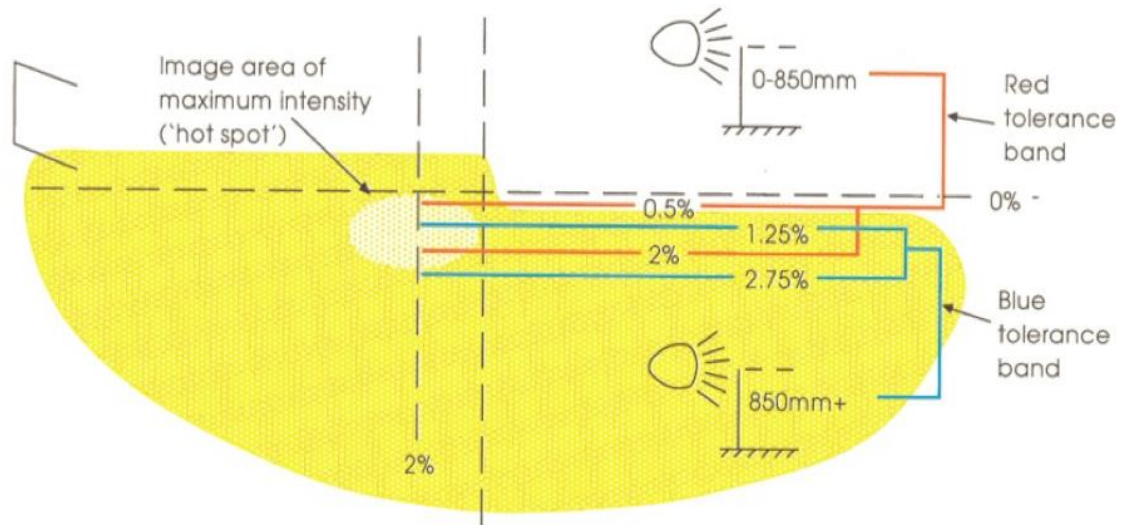
You must fail this lamp if the upper edge of the 'hot spot' is:

- above the horizontal 0% line
- below the horizontal 2.75% line

You must fail this lamp if the right-hand edge of the 'hot spot' is:

- to the right of the vertical 0% line
- to the left of the vertical 2% line

Diagram 3. British American headlamp – Dipped beam image



Defect	Category
a. The aim of a headlamp is not within limits laid down in the requirements	Fail
b. Headlamp aim unable to be tested	Fail

3.1.3 Switching

All headlamps must light up immediately when they're switched on.

Some motorcycles don't have a headlamp 'on' switch and the headlamp(s) light up automatically when the ignition is switched on or the engine is started.

Headlamps must switch immediately between main beam and dipped beam when you operate the dip switch.

On twin headlamp systems one or both headlamps can operate for dipped or main beam.

Operating the dip switch must do one of the following:

- extinguish all main beam headlamps and leave on at least one dipped-beam headlamp
- deflect the main beams to make them dipped beams

Dipped beam headlamps can remain on or switch off when main beam is selected.

Headlamps aren't needed on motorcycles first used before 1 January 1931. However, if one is fitted make sure it dips. If 2 are fitted make sure that they do one of the following:

- both headlamps dip
- one headlamp dips and the other headlamp switches off

Defect	Category
a. Headlamp 'on' switch does not operate in accordance with the requirements	Fail
b. Headlamp 'dip' switch does not operate in accordance with the requirements	Fail

3.1.4 Compliance with requirements

A motorcycle or motorcycle combination must be fitted with one headlamp, although additional headlamps may be fitted.

Headlamps aren't needed on motorcycles that:

- aren't fitted with front and rear position lamps
- have had their front and rear position lamps permanently disconnected, painted over or masked
- were first used before 1 January 1931

A motorcycle doesn't need a main beam headlamp if it:

- was first used before 1 January 1972 and has an engine capacity of less than 50cc
- has a maximum speed up to 25mph or 40km/h

On twin headlamp systems, one or both headlamps may operate on either beam.

The colour of the light that headlamps emit must be one of the following:

- white
- yellow
- mainly white light with a blue tinge

If the light intensity of a mandatory headlamp is significantly reduced, it should be failed.

If the motorcycle doesn't have a battery or the battery doesn't have enough charge, you must run the engine to be able to inspect the headlamp(s).

A 'light source' means any bulb, LED or other means of emitting light.

Repairs to lamps must be assessed for security, colour, light output, durability and beam aim.

Some motorcycles may be fitted with high intensity discharge (HID) headlamps. Existing halogen headlamp units shouldn't be converted to be used with HID bulbs. If such a conversion has been done, you must fail the headlamp.

Defect	Category
a. Headlamp emitted colour or intensity not in accordance with the requirements	Fail
b. Light source and lamp not compatible	Fail

3.2 Front and rear position lamps

3.2.1 Presence, condition and operation

All mandatory front and rear position lamps must be inspected.

All lamps must be compliant and bear the appropriate approval marking

A solo motorcycle can have one or two front and rear position lamps.

These lamps must be:

- mounted centrally or to the off side – if there's one lamp
- mounted one above the other on the centre line – if there's 2 lamps
- mounted symmetrical about the centre line – if 2 are mounted side by side

A motorcycle combination must have 2 front and 2 rear position lamps.

Front and rear position lamps can be incorporated with the direction indicator lamps. The position lamp on the same side of the direction indicator must switch off when the indicator is switched on.

A headlamp or a daytime running lamp (DRL) can function as a front position lamp. The DRL must switch off when the headlamp(s) are switched on and the engine is running.

A motorcycle with a headlamp doesn't need to have a front position lamp.

A sidecar must have a front position lamp.

Repairs to lamps must be assessed for security, colour, light output and durability.

Defect	Category
a. A lamp missing or inoperative	Fail
b. A defective lens	Fail
c. A lamp:	
i. not securely attached	Fail
ii. likely to become detached	Fail
d. Non-compliant	Fail

3.2.2 Switching

All position lamps must light up simultaneously when switched on.

A headlamp or a daytime running lamp can function as a front position lamp.

Front and rear position lamps may be incorporated with the direction indicator lamps. The position lamp on the same side of the direction indicator doesn't have to switch off when the indicator is switched on.

If a motorcycle has a separate registration plate lamp, it must light up simultaneously with position lamps.

Defect	Category
a. Switch does not operate in accordance with the requirements or the rear position lamps can be switched off when the headlamps are on	Fail
b. Switch insecure	Fail

3.2.3 Compliance with requirements

All lamps

All mandatory front and rear position lamps must be inspected.

You don't need to inspect the precise position of lamps, but you should check visually that the lamps appear to meet the position requirements.

Repairs to lamps must be assessed for security, colour, light output and durability.

Switch on the position lamps and operate all the other lamps in turn. Check if the position lamps are adversely affected.

Position lamps

A motorcycle fitted with a headlamp doesn't need to have a front position lamp.

If a motorcycle is fitted with front position lamps, they can emit one of the following:

- white light
- amber light
- mainly white light with a blue tinge

Rear position lamps must be red.

A solo motorcycle can have one or two front and rear position lamps.

A motorcycle combination can be fitted with a yellow headlamp on the motor bicycle and a white front position lamp on the side car.

A sidecar must have a front position lamp.

A motorcycle combination must have:

- 2 front position lamps
- 2 rear position lamps

Front and rear position lamps may be incorporated with the direction indicator lamps. The position lamp on the same side of the direction indicator doesn't have to switch off when the indicator is switched on.

A headlamp or a daytime running lamp (DRL) can function as a front position lamp. The DRL must switch off when the headlamp(s) are switched on and the engine is running.

Defect	Category
a. Lamp:	
i. emitted colour, position or intensity not in accordance with the requirements	Advise
ii. showing red light to the front, white light to the rear or has heavily reduced light intensity	Fail
b. Lamp adversely affected by the operation of any other lamp	Fail
c. Non-compliant	Fail

3.3 Stop lamps

3.3.1 Presence, condition and operation

All stop lamps must be inspected.

All lamps must be compliant and bear the appropriate approval marking

Stop lamps aren't needed for motorcycles that:

- don't have front and rear position lamps
- can't exceed 25mph
- was first used before 1 January 1936
- was first used before 1 April 1986 and has an engine capacity of less than 50cc

Motorcycles, with or without a sidecar, can have one or two stop lamps.

Additional stop lamps, over and above the requirements, must be tested.

If a motorcycle doesn't have a battery or the battery doesn't have enough charge, you must run the engine to be able to inspect the stop lamp(s).

A 'light source' means any bulb, LED or other means of emitting light.

Repairs to lamps must be assessed for security, colour, light output and durability.

Defect	Category
a. Stop lamp(s):	
i. with a multiple light source up to 1/2 not functioning	Advise
ii. inoperative or in the case of a multiple light source more than 1/2 not functioning	Fail
iii. all missing	Impound
b. A lens defective:	
i. which has no effect on emitted light	Advise
ii. such that the emitted light is adversely affected	Fail
c. A stop lamp:	
i. not securely attached	Advise
ii. likely to become detached	Fail
iii. non-compliant	Fail

3.3.2 Switching

Motorcycles first used on or after 1 April 1986 must have a stop lamp that switch on from both brake controls. However, a small number of motorcycles first used from this date were approved with the stop lamp switching on by only one control. You should fail the stop lamp only if you are certain that it was originally manufactured to switch on from both controls.

All stop lamps should light up immediately when the brake is applied and switch off immediately the brake is released.

Additional stop lamps, over and above the mandatory requirements, must be tested.

Defect	Category
a. A stop lamp(s):	

Defect	Category
i. switch does not operate in accordance with the requirements	Fail
ii. switch with a delay in operation	Fail
iii. remain on when the brakes are released	Fail

3.3.3 Compliance with requirements

You must test all stop lamps.

Stop lamps aren't needed on motorcycles that:

- don't have front and rear position lamps

Solo motorcycles and combinations need to have only one stop lamp.

The stop lamp should be mounted on the centre line or to the offside of the motorcycle, disregarding any sidecar fitted.

Additional stop lamps, over and above the mandatory requirements, must be tested.

Stop lamps must emit a steady red light.

Repairs to lamps must be assessed for security, colour, light output and durability.

Switch on the stop lamps and operate all the other lamps in turn to see if the stop lamps are adversely affected.

Defect	Category
a. A stop lamp:	
i. emitted colour, position or intensity not in accordance with the requirements	Fail
ii. showing white light to the rear or significantly reduced light intensity	Fail
b. A stop lamp adversely affected by the operation of any other lamp	Fail

3.4 Direction indicators

3.4.1 Presence, condition and operation

You must inspect all direction indicators.

All lamps must be compliant and bear the appropriate approval marking

Direction indicators aren't needed for motorcycles that:

- don't have front and rear position lamps
- can't exceed 25mph / 40kph
- was first used before 1 April 1986
- are 'off road' motorcycles designed to carry only the rider
- are 'off road' motorcycle combinations designed to carry the rider and one passenger in the side car

'Off road' motorcycles are constructed or adapted primarily for use off road. For example, their tyres, suspension or ground clearance have been adapted for off road use.

A 'light source' means any bulb, LED or other means of emitting light.

Repairs to lamps must be assessed for security, colour, light output and durability.

Defect	Category
a. A direction indicator:	
i. lamp with a multiple light source up to 1/2 not functioning	Advise
ii. lamp missing, inoperative or in the case of a multiple light source more than 1/2 not functioning	Fail
b. A lens defective:	
i. which has no effect on emitted light	Advise
ii. such that the emitted light is adversely affected	Fail
c. A lamp:	

Defect	Category
i. not securely attached	Advise
ii. likely to become detached	Fail
iii. non-compliant	Fail

3.4.2 Switching

Check that the director indicator switch is secure, can be used from the normal riding position, and works as intended.

Defect	Category
a. Indicator switch:	
i. does not operate in accordance with the requirements	Advise
ii. inoperative	Fail

3.4.3 Compliance with requirements

You must inspect all direction indicators fitted.

Switch on the direction indicators and operate all the other lamps in turn to see if the direction indicators are adversely affected.

Some motorcycles have direction indicators combined with the position lamps. In these cases the position lamp doesn't have to switch off when the relevant direction indicator is switched on.

The precise position of direction indicators aren't part of this inspection, but they must be on each side of the longitudinal axis of a solo machine. If a side car is attached, the indicators must be on opposite sides of the combination.

Mandatory direction indicators must have minimum separation distances between the illuminating surfaces of:

solo motorcycles

- having an engine exceeding 50 cc and first used on or after 1st April 1986
 - Front indicators 300mm
 - Rear Indicators 240mm

- having an engine not exceeding 50 cc and first used on or after 1st April 1986
 - Front indicator 240mm
 - Rear indicator 180mm

motorcycle combinations – 400mm at both front and rear

There is no requirement to measure the separation distance unless it is obvious to the examiner that they are too close

Repairs to lamps must be assessed for security, colour, light output and durability.

Defect	Category
a. Lamp emitted colour, position or intensity not in accordance with the requirements	Fail
b. A direction indicator lamp adversely affected by the operation of any other lamp	Fail

3.4.4 Flashing frequency

Indicators must flash between 60 and 120 times per minute.

Defect	Category
a. Rate of flashing not between 60 and 120 times per minute	Fail

3.5 Rear registration plate lamp

3.5.1 Presence, condition and operation

You must inspect all motorcycles fitted with front and rear position lamps.

The rear registration plate must be lit. Most motorcycles will light the registration plate with a rear position lamp, but some will use a separate registration plate lamp.

Some mopeds might not have a registration plate lamp.

Defect	Category
a. A rear registration plate lamp throwing direct white light to the rear	Fail
b. A rear registration plate lamp or light source missing or inoperative:	
i. when rear registration plate has 2 or more lamps or light sources	Advise
ii. when rear registration plate has only one lamp or all lamps not working	Fail
c. A registration plate lamp:	
i. not securely attached	Advise
ii. likely to become detached	Fail

3.5.2 Compliance with requirements

You must inspect all motorcycles fitted with front and rear position lamps.

Registration plate lamps must switch on at the same time with the position lamps.

Defect	Category
a. Rear registration plate lamp does not illuminate simultaneously with the position lamps	Fail

3.6 Rear reflectors

3.6.1 Presence, condition and operation

You must only inspect the one mandatory rear reflector on a solo machine, or 2 on a motorcycle combination.

Motorcycles must have one red reflector aligned to the longitudinal centre line or off side and positioned to reflect squarely to the rear. On motorcycle combinations, the sidecar must also have a reflector fitted towards the outer side and positioned to reflect squarely to the rear.

Rear reflectors aren't needed on motorcycles that:

- don't have front and rear position lamps fitted

Reflective tape isn't an acceptable substitute for a rear reflector.

Defect	Category
a. Reflector defective or damaged:	
i. by up to 50% of the reflecting surface	Advise
ii. by more than 50% of the reflecting surface	Fail
b. Reflector:	
i. not securely attached	Advise
ii. likely to become detached	Fail

3.6.2 Compliance with requirements

You must inspect mandatory rear reflectors.

Motorcycles must have one red reflector aligned to the longitudinal centre line or to the off side and positioned to reflect squarely to the rear. On motorcycle combinations, the sidecar must have a reflector fitted towards the outer side and positioned to reflect squarely to the rear.

Rear reflectors aren't needed on motorcycles without front and rear position lamps.

Reflective tape isn't an acceptable substitute for a rear reflector.

Defect	Category
a. Reflector:	
i. colour or position not in accordance with the requirements	Fail
ii. missing or reflecting white to the rear	Fail

Section 4

Wheels, tyres and suspension

4.1 Wheel bearings

To assess the wheel bearings:

1. With each wheel raised clear of the ground, (where possible) including any sidecar wheel, rock the wheel by hand to check for excessive play in the wheel bearings.
2. Spin the wheel and listen for roughness in the bearings.

	Defect	Category
a.	A wheel bearing:	
	i. with excessive play	Fail
	ii. play so excessive it is likely to break up or directional control impaired	Impound
b.	A wheel bearing:	
	i. excessively rough	Fail
	ii. so rough it is likely to overheat or break up	Impound

4.2 Wheels and tyres

4.2.1 Road wheel security

Check that each wheel, including any sidecar wheel and its associated fixings are present and secure.

Also check the condition of each wheel hub.

	Defect	Category
a.	A wheel:	

Defect	Category
i. with a loose or missing wheel nut, bolt or stud in the case of multiple fixings	Fail
ii. with a loose or missing wheel nut, bolt or stud in the case of a single fixing, or more than one loose or missing in the case of multiple fixings	Impound
b. A wheel hub:	
i. excessively worn or damaged	Fail
ii. worn or damaged to the extent that wheel security is adversely affected	Impound
c. A wheel spindle:	
i. loose	Impound
ii. a wheel spindle or its securing nut(s) so insecure that wheel security or steering control is adversely affected	Impound

4.2.2 Road wheel condition

Check the road wheels fitted to the motorcycle and any sidecar.

Spare wheels aren't included in the inspection, but you should tell the presenter if you notice a defect.

The maximum lateral rim distortion (run out or buckling) limits are:

- 4mm for steel rims
- 2mm for aluminium alloy rims (cast or fabricated)

The maximum eccentricity is 3mm for all types of rim.

Measurements should be taken from a machined surface in the case of cast aluminium alloy rims.

Defect	Category
a. Any fracture or welding defect on a wheel	Impound

Defect	Category
b. A wheel:	
i. excessively corroded, damaged or distorted	Fail
ii. corroded, damaged or distorted to the extent that control of the motorcycle is likely to be adversely affected	Impound
c. Spokes	
i. A spoke missing, cracked, loose, bent or excessively corroded	Fail
ii. multiple spokes missing, cracked, loose, bent or excessively corroded to the extent that control of the motorcycle is likely to be adversely affected	Impound
d. A built-up wheel with:	
i. loose or missing rivets or bolts	Fail
ii. rivets or bolts missing or loose to the extent that control of the motorcycle is likely to be adversely affected	Impound

4.2.3 Tyres

Spare tyres aren't included in the inspection, but you should tell the presenter if you notice a defect.

Size and type

The aspect ratio of a tyre is included in the size marking. For example, a 170/55R17 has an aspect ratio of 55%.

On motorcycles with twin front or rear wheels, check that each tyre on the 'axle' is the same size and structure.

Examples of an unsuitable tyre are:

- a sidecar or car tyre on a solo motorcycle – sidecars may be fitted with either car or motorcycle type tyres
- a tyre specifically designed for front wheel use fitted to the rear wheel
- a bias belted tyre fitted to the front with a cross-ply tyre fitted to the rear
- a radial tyre fitted to the front and a cross-ply or bias belted tyre fitted to the rear.

Additionally, motocross tyres, tyres designated by their manufacture as racing tyres and tyres marked 'NHS' or 'NOT FOR HIGHWAY USE' on the sidewall are also unsuitable, unless the tyre sidewall is marked with:

- an 'E' in a circle
- an 'e' in a rectangle
- JIS (Japanese industry standard)
- DOT (American standard)

Motocross tyres are deemed to be those where the space between tread blocks is substantially greater than the size of the blocks themselves.

Directional tyres must be fitted as instructed on the sidewall. They may use arrow and/or words to indicate the direction of forward rotation.

Condition and fitment

You must reject a tyre if:

- it's damaged to the extent that the ply or cord is exposed
- it has a lump, bulge or tear caused by separation or partial failure of its structure
- the tread rubber is lifting

On a radial ply tyre, you should take care to distinguish between normal undulations in the carcass, resulting from manufacturing, and lumps or bulges caused by structural deterioration.

When assessing cuts in a tyre, you can use a blunt instrument to open a cut to check whether the cut is deep enough to reach the ply or cord. You should take care not to cause further damage.

When assessing a cut in a tyre, you must reject the tyre if:

- ply or cord can be seen without touching the tyre
- exposed ply or cord can be seen – irrespective of the size of the cut – by folding back rubber or opening a cut with a blunt instrument
- cords can be felt but not seen when a cut more than 25mm or 10% of the section width – whichever is the greater – is opened with a blunt instrument

Before failing a tyre due to being able to feel the cords in a cut, you must ensure that you can feel the cords and not some other object. If you aren't sure, then you should pass and advise.

Loose or missing tyre security bolts aren't a defect, if you notice them you should tell the presenter.

Tread depth

A tread pattern is the combination of plain surfaces and grooves extending across the breadth of the tread and round the entire circumference. It excludes any tie-bars, tread wear indicators, or features designed to wear out substantially before the remainder of the pattern, and other minor features.

Grooves containing tread wear indicators (TWI) or grooves cut as deep as those containing the wear indicators when new, are considered to be primary grooves. Other grooves or sipes that aren't cut as deep as the primary grooves are secondary grooves and don't need to be considered when assessing tread depth.

The 'breadth of tread' is the part of the tyre which can contact the road under normal use, including cornering.

The tread pattern must:

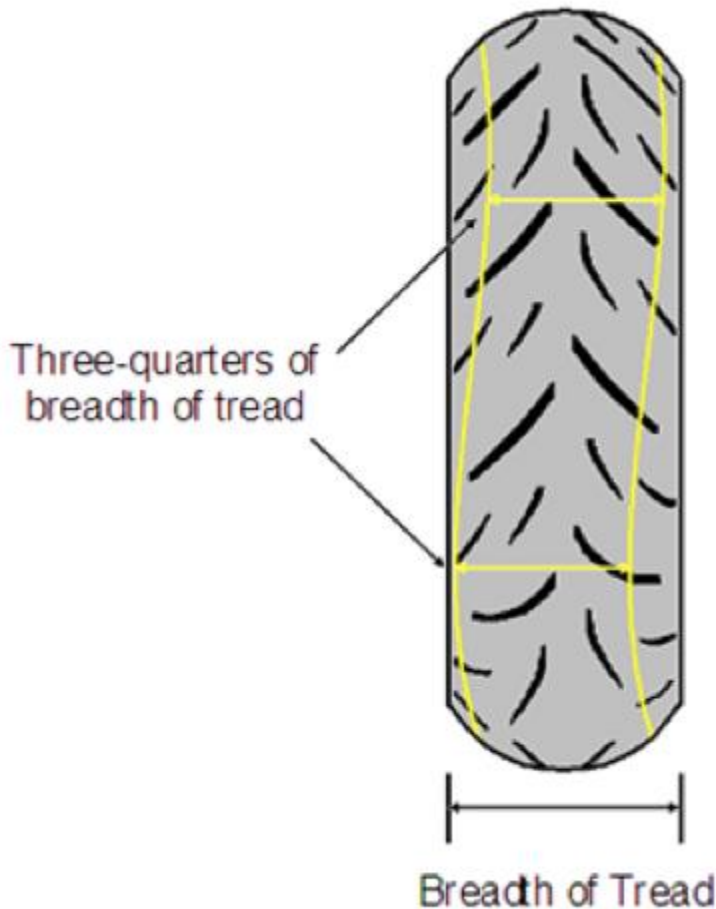
- be visible over the whole tread area
- have a depth of at least 1.0mm throughout a single band of at least 3/4 over any section of the breadth of tread round the entire outer tyre circumference

The whole tread width must have at least 1.0mm deep tread if the original tread pattern didn't extend beyond 3/4 of the tyre width when new.

The continuous band of 1mm tread depth over 3/4 of the breadth of tread doesn't have to run parallel to the tyre centre line (see Diagram 1).

Motorcycles with an engine capacity not greater than 50cc don't need to have 1mm of tread. However, they must have a visible tread pattern around the entire circumference and across the whole breadth of the tread.

Diagram 1. Example of tyre tread area, depth and width



Defect	Category
a. An unsuitable tyre fitted	Fail
b. Tyres on twin wheels are different sizes	Fail
c. Tyres on twin wheels of different structure	Fail
d. A tyre:	
i. with a cut in excess of the requirements deep enough to reach the ply or cords	Fail
ii. with a lump, bulge or tear caused by separation or partial failure of its structure, including any lifting of the tread rubber or with cords exposed or damaged	Impound
e. Tyre tread depth not in accordance with the requirements	Fail
f. A tyre fouling another component	Fail

Defect	Category
g. A tyre with a recut tread fitted	Fail
i. A tyre not fitted in compliance with the manufacturer's sidewall instructions	Fail
j. A tyre valve seriously damaged or misaligned likely to cause sudden deflation of the tyre	Impound
k. A tyre incorrectly seated on the wheel rim	Impound

4.3 Suspension

4.3.1 Springs

Some motorcycles aren't fitted with rear suspension.

Unsafe modifications include:

- welded repairs
- the use of excessive heat to highly stressed components (see Appendix A)
- modifications likely to affect the roadworthiness of the motorcycle

Defect	Category
a. A spring:	
i. insecurely attached	Fail
ii. so insecure that control of the motorcycle is likely to be adversely affected	Impound
b. A spring:	
i. or spring component fractured or seriously weakened	Impound
ii. main leaf fractured	Impound
c. A spring:	
i. missing	Fail

Defect	Category
ii. missing and control of the motorcycle is likely to be adversely affected	Impound
d. A spring with an unsafe modification	Impound

4.3.2 Shock absorbers

A missing shock absorber should only be rejected if they were fitted as standard.

Some smaller motorcycles aren't fitted with shock absorbers on the front suspension.

If twin shock absorbers are fitted and they don't seem to be equally adjusted, you should inform the presenter.

On motorcycles with anti-dive front suspension which restricts front suspension movement when the brake is applied, it may be necessary to place the front wheel against a wall when checking the effectiveness of the shock absorber(s).

Light misting on a suspension shock absorber causing thin film of fluid isn't considered a defect.

Rubber fork gaiters may be pulled back to assess oil leakage from a shock absorber if it's possible to do without dismantling or damage. You must make sure to refit them correctly.

Defect	Category
a. A shock absorber:	
i. insecurely attached	Fail
ii. missing or likely to become detached	Impound
b. A shock absorber not functioning or leaking severely	Fail
c. A shock absorber bush excessively worn	Fail

4.3.3 Suspension arms, rods, linkage etc.

Some motorcycles aren't fitted with rear suspension.

To fully access rear suspension components it may be necessary to remove side panels or the seat to carry out a full examination.

With mono-shock type suspension some linkage movement may be observed when the rear suspension is 'hanging'.

On machines without a centre stand, suitable equipment must be used to raise the wheels clear of ground, either independently or simultaneously, using an assistant where necessary. Pulling a motorcycle over on its side-stand isn't recommended.

Guidance on assessing corrosion is given at Appendix A.

Defect	Category
a. A suspension component:	
i. insecurely attached	Fail
ii. missing, likely to become detached or control of the motorcycle impaired	Impound
b. A suspension component:	
i. excessively damaged or corroded	Fail
ii. fractured or likely to fail	Impound
c. A suspension component:	
i. with an unsafe modification	Impound
ii. modified so that the suspension is inoperative or likely to foul other components	Impound
d. Excessive wear or free play in a suspension component	Fail

4.3.4 Suspension joints, pins and bushes

Some motorcycles aren't fitted with rear suspension.

To fully access rear suspension components it may be necessary to remove side panels or the seat to carry out a full examination.

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With mono-shock type suspension some linkage movement may be observed when the suspension is in an abnormal position.

The condition of suspension pins, bushes, mountings and ball joints should be checked by attempting to move the suspension from side to side and up and down with the wheels raised and resting on hardstanding.

Defect	Category
a. A suspension pin, bush or joint:	
i. excessively worn	Fail
ii. likely to become detached	Impound
b. A suspension joint dust cover:	
i. severely deteriorated	Advise
ii. missing or no longer prevents the ingress of dirt etc.	Fail

Section 5

Structure and attachments

5.1 Frame and attachments

5.1.1 Frame condition

The main load bearing structure of the frame includes any sidecar frame and its attachment brackets. It doesn't include sections that only support components such as footrests, lamps or mudguards.

You may have to remove panels or raise the seat to be able to fully examine the structure. This must only be done if the panel or seat is designed to be easily removed.

If the engine is a stressed member of the frame, the engine mounting brackets should be checked (see Section 5.1.5).

You must visually assess the condition of the frame for corrosion and damage. If you notice corrosion, use finger and thumb pressure to check the extent of the corrosion and, if necessary, carefully scrape or lightly tap the affected areas. Take care not to further damage the frame.

Find further guidance on assessing corrosion and methods of repair in Appendix A of this manual.

Defect	Category
a. A main load-bearing structural member fractured or deformed such that:	
i. structural rigidity is reduced	Fail
ii. steering or braking is likely to be adversely affected	Impound
b. Joining/attachment plates or fastenings:	
i. insecure	Fail
ii. so insecure that structural rigidity is seriously reduced	Impound

Defect	Category
c. main load-bearing structural member corroded to the extent that:	
i. the rigidity of the assembly is significantly reduced	Impound
ii. steering or braking is likely to be adversely affected	Impound

5.1.2 Exhaust system

You must inspect all motorcycles with an internal combustion engine, including hybrid motorcycles.

The exhaust must be inspected to ascertain if it is a compliant exhaust and displays the appropriate approval markings being;

- an 'E' in a circle
- an 'e' in a rectangle
- BS AU 193/T2,
- BS AU 193a: 1990/T2
- BS AU 193a: 1990/T3

An exhaust leak from, for example, a connection joint or a pin hole doesn't justify rejection.

Exhaust noise is assessed under Section 7.1

Defect	Category
a. Exhaust system has a major leak or is insecure	Fail
b. An exhaust silencer marked 'NOT FOR ROAD USE', 'TRACK USE ONLY' or similar words	Fail
c. Exhaust silencer does not have the appropriate compliance markings	Fail
d. Exhaust system has been altered or modified rendering it non-compliant	Fail

5.1.3 Fuel system

You must inspect all motorcycles with an internal combustion engine or a hydrogen fuel cell.

If you can't gain access to the fuel filler cap, see 'refusal to test' in the Introduction to this manual.

Defect	Category
a. Fuel tank, pipe or hose;	
i. insecure	Fail
ii. insecure such that there is a risk of fire	Impound
b. Fuel system:	
i. leaking, missing or ineffective filler cap	Impound
ii. leaking excessively or a risk of fire	Impound
c. Fuel pipe or hose:	
i. chafing	Advise
ii. damaged	Fail

5.1.4 Transmission

You must inspect:

- drive chains and sprockets
- drive belts and pulleys

Make sure that a drive chain intended to be fitted with a horseshoe locking device has that device fitted with the closed end in the direction of rotation.

Defect	Category
a. A transmission belt, chain, sprocket or pulley:	
i. excessively loose or worn	Fail
ii. so loose or worn it is likely to fail	Impound

Defect	Category
b. A drive chain or belt guard insecure	Fail
c. A drive chain horseshoe locking device:	
i. incorrectly fitted	Fail
ii. likely to become detached	Impound
d. A transmission belt or chain:	
i. excessively tight	Fail
ii. excessively tight, so that it is likely to fail	Impound

5.1.5 Engine mountings

You must inspect engine mountings on motorcycles which use the engine as a stressed member of the structure.

Defect	Category
a. A engine mounting or bracket:	
i. damaged or deteriorated	Fail
ii. fractured, missing or excessively loose	Impound

5.2 Seats and riding controls

5.2.1 Rider's seat

Defect	Category
a. A rider's seat:	
i. with a defective supporting structure	Fail
ii. missing or insecure	Impound

5.2.2 Pillion seat

This inspection doesn't include sidecar seats.

If there is an optional cowl replacing or covering the pillion seat at the time of test, you should consider it to be a single seat motorcycle.

Defect	Category
a. A pillion seat:	
i. with a defective supporting structure	Fail
ii. insecure	Fail

5.2.3 Clutch and throttle controls

A throttle friction device is permitted unless it impairs the throttle operation.

A throttle does have to automatically return to the idle position.

Defect	Category
a. A throttle control:	
i. not functioning correctly	Fail
ii. functioning such that safe operation of the motorcycle is affected	Impound
b. A clutch lever damaged, so bent, positioned or shortened that it cannot be readily operated	Fail

5.2.4 Footrests

Single seat motorcycles don't need pillion footrests. If there's an optional cowl replacing or covering the pillion seat at the time of test, you should consider it to be a single seat motorcycle.

Some motorcycles first used on or after 14 June 1993 which are designed to carry a passenger may not be fitted with pillion footrests. Instead, they are fitted with hand holds attached to the frame or seat. Refer to the owner's handbook if available.

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Defect	Category
a. A footrest	
i. rider foot rest insecure	Fail
ii. rider foot rest missing	Impound
iii. pillion foot rest missing or insecure	Fail

Section 6

Audible warning

6.1 Audible warning (horn)

An audible warning must be loud enough to be heard by other road users.

It mustn't be:

- gong
- bell
- siren
- more than one tone

Motorcycles first used on or after 1 August 1973, must emit a continuous or uniform sound that isn't harsh or grating.

You must run the engine of a motorcycle with an electrically operated horn if a battery isn't fitted or is insufficiently charged.

Defect	Category
a. Audible warning:	
i. not working properly	Fail
ii. inoperative	Fail
b. Audible warning control insecure	Advise
c. Audible warning not in accordance with requirements	Fail

Section 7

Speedometers

7.1 Speedometers

Every motor motorcycle first used on or after 1937 requires a speedometer that displays either mph or km/h. This does not apply to a motor cycle first used before 1st April 1984 with an engine of less than 100 cc

Every motor motorcycle first used on or after 1st April 1984, shall have a speedometer capable of indicating speed in both miles per hour and kilometres per hour, either simultaneously or, by the operation of a switch, separately.

Defect	Category
A speedometer	
a. dial glass broken without affecting the operation	Advise
b. incomplete, clearly inoperative, or with dial glass missing or broken and affecting the operation	Fail
c. speedometer not displaying both mph & km/h where required	Fail
d. unable to be illuminated	Fail

Section 8

Exhaust noise

8.1 Exhaust Noise

If the examiner has concerns regarding the level of noise being produced by the vehicle, it is possible to assess the exhaust noise by revving the engine to approximately half the maximum engine speed. The engine should be warm before you carry out this check.

It isn't possible to rev the engine on twist and go type motorcycles.

The exhaust system and silencer should be in such condition, or of such a type, that the noise emitted from the motorcycle isn't clearly unreasonably above the level expected from a similar motorcycle with a standard silencer in average condition.

Defect	Category
a. Noise:	
i. exhaust system is poorly maintained or has been altered so as to increase the noise.	Fail
b. Any part of the exhaust system:	
i. Insecure	Fail
ii. likely to become detached	Impound

Section 9

Emissions

9.1 Visual exhaust emission test

If the examiner has concerns regarding the level of smoke being emitted from the vehicle, it is possible to carry out a visual exhaust emissions test. The engine should be warm before you carry out this check.

9.2. Visual Exhaust Emissions Check (all Spark Ignition engined vehicles).

Ensure that the engine is at normal idling speed and operating temperature and is not subject to significant electrical loading.

It isn't possible to rev the engine on twist and go type motorcycles

Raise the engine speed to around 2500rpm or half engine speed if this is lower and hold steady for 20 seconds to purge the exhaust system. Allow the engine speed to return to idle and allow the emissions to stabilise.

Assess the colour of the exhaust smoke

Assess whether the smoke emitted from the exhaust, is likely to obscure the vision of other road users.

NOTE: The criterion is density and not volume of smoke. The description 'dense smoke' includes any smoke or vapour which largely obscures vision.

Defect	Category
The exhaust emits excessive avoidable smoke or vapour of any colour, to an extent likely to obscure vision.	Impound

9.3 Avoidable leaks

Any oil or fuel or fluid leak can adversely affect the handling and controllability of a motorcycle, as well as a risk of fire if a leak was to contaminate the exhaust system therefore particular attention must be made when inspecting the bike.

Front suspension leaks can contaminate the front brakes and front tyre and other leaks from the engine or transmission or elsewhere may have an adverse effect on the handling if/when the rear tyre is contaminated.

	Defect	Category
a.	any avoidable leaks contaminating braking components	Fail
b.	any avoidable leaks contaminating an exhaust system	Fail
c.	any avoidable leaks reaching the road surface or tyre or likely to leak in the path of a tyre that may affect the handling	Impound

Appendix A

Structural integrity and corrosion

1 Introduction

The effect of corrosion on the safety of a motorcycle is a difficult matter to resolve since it depends not only on the extent of the corrosion but also on the function of the section where corrosion is found.

A small amount of corrosion which substantially weakens an important component or part of the structure would make the motorcycle unsafe, whilst significant corrosion of a less important part may be acceptable.

2 Corrosion assessment

You should identify the important load bearing members and highly stressed parts of the motorcycle such as the frame, suspension components and reaction brackets. Then determine whether any of these parts are excessively corroded, firstly by visual inspection and then by applying pressure with finger and thumb.

If necessary, a corrosion assessment tool should be used to assess the extent of any corrosion by carefully scraping or lightly tapping the affected areas.

A corrosion assessment tool should be only used to ensure that the failure criteria are met, and not for poking or heavily scraping the corroded areas.

Excessively corroded metal, or metal treated with filler, emits a duller sound than unaffected metal. You mustn't hit or use a sharp instrument to probe at the frame or components.

3 Failure criteria

After determining the extent of the corrosion, you must use your experience to judge whether the degree or position of the corrosion has significantly affected the strength of the part, considering remaining amount of sound metal.

You must consider if the corrosion is likely to make the motorcycle dangerous to use on the road under any condition of use, such as fast cornering, use on uneven ground and emergency braking.

Structural corrosion shouldn't be regarded as defective if you consider the motorcycle safe to use. However, you should advise the owner of the presence and location of the corrosion.

If the corrosion has severely reduced the strength of a certain component, you can refuse to carry out a brake test. (see '4. Refusal to test' in Introduction).

4 Highly stressed components

The severity of general or local corrosion in highly stressed components, such as suspension arms, rods and levers can be assessed by lightly tapping or scraping with a Corrosion Assessment Tool.

In places inaccessible to a Corrosion Assessment Tool, an alternative blunt instrument may be used. A highly stressed component should be rejected if corrosion has resulted in serious reduction in the overall thickness of the material, or has caused a hole or split.

Welded repairs to highly stressed components are not normally acceptable, other than where the component is made up of sections that are welded together. In these cases the repair should appear to be as strong as the original design.

5 Acceptable methods of repair

It's essential that repairs to structural components are properly carried out and appear to be as strong as the original structure. Suitable materials of appropriate gauge or thickness must be used and any plating or welding extends to a sound part of a load bearing member.

6 Unacceptable methods of repair

Gas brazing, soldering, adhesive bonding, fibre reinforcement and body filler are bonding processes and aren't regarded as strong enough for repairs to load bearing members, although they are normally adequate for other repair work.

Brazing, bonding and riveting are only acceptable when used by the motorcycle manufacturer. The standard of any such repair must be comparable to the original strength of the component.

Sometimes it's difficult to identify the repair method, especially after the repair has been covered in paint or underseal. If you aren't sure what the method of repair is, you should pass and advise.

7 Repairs to non-metallic load-bearing structures

Non-metallic materials, such as carbon fibre, may be used for load bearing structures and highly stressed components, such as a swinging arm. Repairs to non-metallic materials aren't usually acceptable.

8 Component replacement made of different materials

If a component has been replaced with one made from a different material, you should consider whether the replacement component is strong and stiff enough to perform its intended function.

If you aren't sure about the effect of the modification, you should pass and advise.