



**Telford**  
*Te Whare Wānaka o Puerua*  
A Division of Lincoln University

Private Box 6  
Balclutha, 9240, New Zealand  
Phone (03) 419 0300  
Fax (03) 418 3584  
[www.telford.ac.nz](http://www.telford.ac.nz)

# Unit Standard 24555

Agricultural Vehicles and Machinery

Demonstrate knowledge of the  
Safe Operation of a Motorcycle

Version 2    Level 2    Credit 3





# Telford

*Te Whare Wānaka o Puerua*

A Division of Lincoln University

All rights reserved. Telford - a Division of Lincoln University is the owner of the copyright in this publication. Other than as permitted by the Copyright Act 1994, no part of this publication may be reproduced, copied, or transmitted in any other form, or by any other means, without the prior written permission of Telford - a Division of Lincoln University, Private Bag 6, Balclutha, New Zealand

#### **DISCLAIMER: Telford - a Division of Lincoln University –**

- *is not responsible for the results of any actions or in-actions occurring on the basis of information supplied, nor for any omissions or errors.*
- *while referring learners to manufacturer's websites, or to other resource material from specific suppliers (e.g. information pamphlets) - for reading, viewing photos or other research - is doing so in order to enhance learners' knowledge and awareness. Such references are not an endorsement for any particular service or product, nor are they intended to direct learners away from other services or products of a similar nature.*

# Contents

<b>Legislation and Legal Requirements for Motorcyclists .....</b>	<b>4</b>
Legislation .....	4
The Health and Safety Act and Farm Motorcycles .....	4
Employer’s Responsibilities .....	4
Employee’s Responsibilities.....	4
<b>The Transport Acts and Operating a Motorcycle.....</b>	<b>5</b>
Legal Requirements Relating to Operating a Motorcycle on Public Roads .....	5
Motorcycle Licenses .....	5
Registration .....	6
Warrant of Fitness.....	6
<b>Safety .....</b>	<b>7</b>
Clothing and Helmets .....	7
Behaviour and Attitude .....	8
Ground and Weather Conditions.....	8
Carrying Passengers.....	8
Children and Motorbikes.....	9
<b>Motorcycle Controls.....</b>	<b>10</b>
Speedometer.....	11
Tachometer .....	11
Horn Button.....	11
Throttle.....	11
Engine Stop Switch .....	11
Clutch Lever.....	11
Ignition Switch.....	11
<b>Pre-Ride Inspection .....</b>	<b>12</b>
Tyres .....	12
Controls.....	12
Lights .....	13
Oil and fuel .....	13
Chains, chassis and suspensions .....	14
<b>Motorcycle Dynamics.....</b>	<b>15</b>
Riding .....	16
1 Observation.....	16
2 Stance .....	16

3 Active Riding.....	17
4 Skills for Riding on Hills .....	17
Techniques for Rough Terrain .....	19
Coping with Slippery Ground .....	19
Loss of Traction .....	20
Contingency Procedures .....	20
Abandoning Your Motorcycle .....	21
When to Abandon a Motorcycle.....	21
<b>Servicing and Maintenance of Farm Motorcycles .....</b>	<b>22</b>
Oil.....	22
Cleaning of motorbikes.....	22
Battery .....	23
Drive Chain.....	23
Tyres .....	23
Air Filter .....	23
Oiled foam filter .....	24
Brakes .....	24
Rear Brake .....	25
Clutch.....	25
Cables.....	25
Spark plugs.....	25
Safety Checks .....	26
Troubleshooting.....	26
<b>Towing a Trailer with a Motorcycle.....</b>	<b>27</b>
Loading the motorcycle trailer .....	27
<b>Carrying a mounted load or passenger on a motorcycle .....</b>	<b>28</b>
Mounted Load .....	28
Carrying a Passenger.....	28
<b>Research.....</b>	<b>29</b>

# Legislation and Legal Requirements for Motorcyclists

Before operating any motorcycle, you should be aware of the legal requirements associated with operating the machine, and know what safety procedures to observe when riding a motorcycle.

## Legislation

The legal requirements that must be observed when riding motorcycles relate to the following Acts:

- Transport Act 1962 and Amendments
- Traffic Regulations 1062 and Amendments
- Transport (Vehicle and Driver Registration and Licensing) Act 1986 and Amendments
- Health and Safety in Employment Act 1992 and Amendments

## The Health and Safety Act and Farm Motorcycles

This act has one fundamental aim – to prevent harm to people in the workplace. It does this by encouraging people to identify hazards in the work place and then either **Eliminate**, **Isolate** or **Minimise** those hazards. People who have responsibilities under the Act are employers, employees, and contractors.

## Employer's Responsibilities

Employers are required to take all practical steps to ensure the health and safety of employees and others while at work. Things that an employer could do include:

- Making sure that operators are all over 15 years old;
- Provide suitable training before requiring employees to operate a motorbike;
- Maintain the motorbike in good, safe working order;
- Provide appropriate safety gear and stipulate in the employment contract that it must be worn;
- Enforce this by giving official warnings if the gear is not worn.

## Employee's Responsibilities

Clearly employees also have responsibilities. These include:

- Take all practical steps to ensure their own safety and the safety of others;
- Not knowingly subject themselves or others to harm;
- Pay attention at all times when operating motorcycles;
- Wear suitable safety gear or equipment when provided by the employer;
- Operate the motorbike at an appropriate speed for the task;
- Do not overload the motorbike.

# The Transport Acts and Operating a Motorcycle

## Legal Requirements Relating to Operating a Motorcycle on Public Roads

To operate a motorbike on a public road you must hold at least a current learners motorcycle license (Class 6L). To do this you must be at least 15 years of age and have passed a basic skills test offered by most motorcycle dealers, and a theory test similar to the test for a car license.

You should be aware that the definition of a public road is very broad and includes places such as beaches and grass verges beside formed roads.

### Motorcycle Licenses

#### **Stage One – Learner Licence**

Various conditions apply – you must hold the licence for at least six months before you can sit the practical test. This can be reduced by up to three months if you sit a competency test at an approved riding school. You must not ride a bike over 250cc, must not carry passengers, not travel at over 70 km/hr on the open road, must attach an 'L' plate, and not ride between 10.00pm and 5.00am.

#### **Stage Two – Restricted Licence**

This is sent to you following successful completion of the practical test. You must hold a restricted licence for up to 18 months, but this can be reduced by up to nine months if you produce a certificate to show that you have done an approved course during the period of your restricted licence.

#### **Stage Three – Full Licence**

After your restricted licence period is over, apply to your local licensing office for a full motorcycle licence. To ensure you are aware of the legal requirements for riding a motorcycle, refer to the current copy of the Road Code.

#### *Learners' license:*

- Must not ride a bike over 250 CC
- No passengers
- Must keep speed below 70 kph
- Must have an "L" plate
- Must not ride between 10 pm and 5 am
- Must carry license while riding

#### *Restricted license:*

- Similar conditions to learners
- No "L" plate required
- Allowed some passengers

#### *Full license*

- No restrictions on capacity or speed
- Allowed any passengers

## Registration

If operating a motorcycle on public roads the bike must be registered. When the bike is operated off-road there is no requirement to register it.

Motorbikes on farms can be registered as EA class vehicles. This reduces the cost but limits how far you can travel from the farm (no more than 6 km from the boundary). It also limits how fast you may travel - no more than 30 km per hour. The fine for operating an unregistered vehicle is \$200.



## Warrant of Fitness

On a public road the bike must hold a current Warrant of Fitness if it is operated outside the conditions of an EA Class registration. This means if you travel over 30 kph or travel more than 6 km from the farm, you need a WOF.

The fine for operating an unregistered motorcycle is \$150.

# Safety

## Clothing and Helmets

Correct clothing is important for safe riding. Clothing should be protective and not restrictive. Heavy clothing that covers your arms and legs, and good boots that you would usually wear on farm, are enough to offer a significant level of protection.

- Approved helmets must be used when operating on a public road.
- When operating a motorcycle on a farm you are not legally required to wear a helmet - however wearing a helmet is strongly encouraged for your own safety.
- Loose clothing is a serious hazard and should not be worn as it can get caught and cause injury.
- Overalls are ideal as they not only offer you protection but also prevent loose clothing becoming caught in the wheels or chains.



- Good, strong boots are a must as they support the ankle and help keep the foot on the pegs.
- Eye protection is also a good idea as it will protect you from dust, bugs and flying objects.



## Behaviour and Attitude

Motorbikes on farms are not toys - they are always dangerous.

### ***No Stunts***

When playing around on the bike the risks become much greater. If you want to play around on a bike, set aside a specific time for doing so and make sure that you wear a higher level of safety gear. This should include a full-face helmet, high boots, gloves, and knee and elbow protection.

Riding motorbikes as recreation is a good way of honing skills but care should be taken that an aggressive attitude to riding does not develop.

### ***No Alcohol or Drugs***

Alcohol impairs judgement and will reduce your ability to cope with the sudden changes in conditions that occur when riding. Drugs, even those prescribed by a doctor can be dangerous.

### ***Be Alert to Changes in Terrain***

***Before riding in a new area thoroughly check the terrain. Take note of steep areas, changes in soil type and obstacles like troughs and stumps.***

### ***When Crossing Streams***

***Take care to avoid fast flowing water, submerged obstacles and slippery rocks. Be aware that after you have exited the water your brakes may not work as well.***

## Ground and Weather Conditions

Snow, ice and excess water severely affect the control and handling of motorbikes. Extra care should be taken in these conditions as the risk of losing control due to a lack of traction is high. Adverse weather will also reduce visibility and control.

## Carrying Passengers

Many farm bikes are capable of carrying two riders at one time. Passengers should only be carried when:

- Contour is fairly flat.
- The bike has a large enough seat and foot pegs for two.
- The rider has the experience to control the bike with the extra weight.
- If riding on the road, the rider has the appropriate license.



*Two sets of foot pegs*



*Is this safe? NO!*

## Children and Motorbikes

Children often lack the skills, judgement and strength to operate a full size motorbike. Bikes for kids should be the appropriate size for the child.

Things to check are:

- Can the child place both feet on the ground at the same time?
- Can the child lift the bike up if it fall over?
- Can the child easily reach all controls?

If the answer to any of these questions is no, then the motorbike is too large for the child.

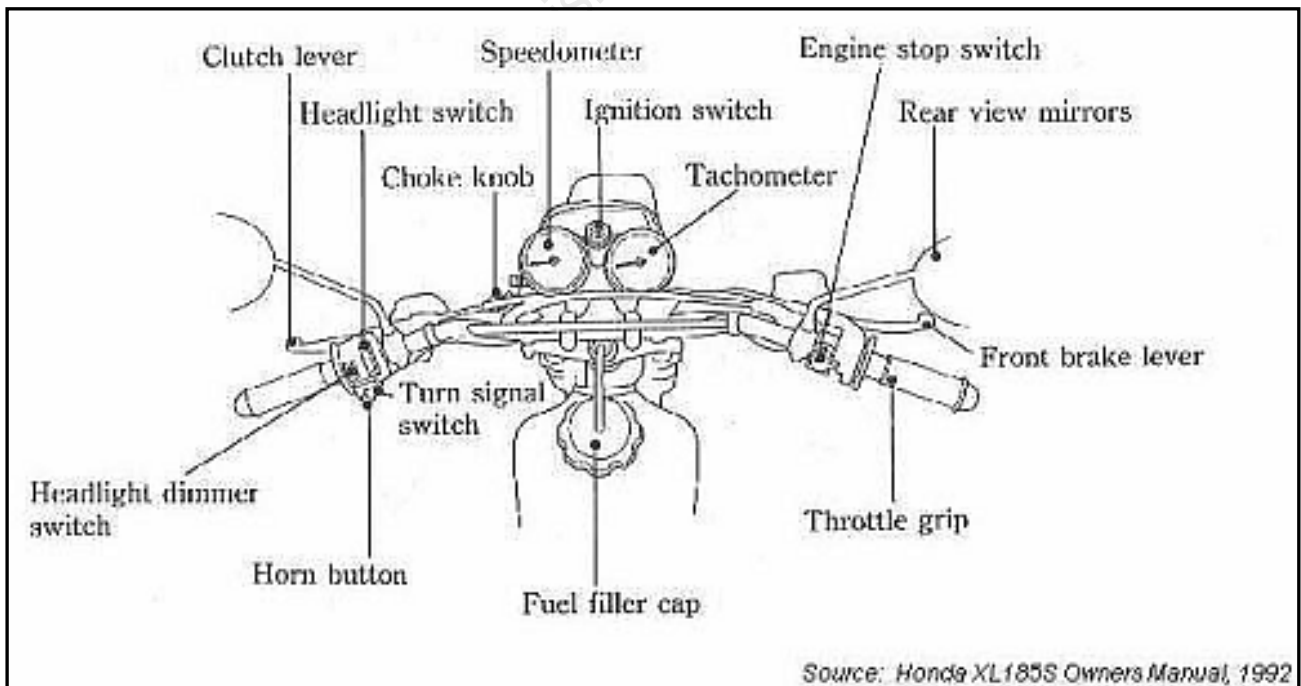
## Motorcycle Controls

In order to operate a motorcycle safely it is vital that you know where all the controls are located and what they do.



*Even a simple bike quite a range of controls*

It is crucial that you can locate any control without taking your eyes away from where you are going.



**Speedometer**

Shows the speed at which you are driving.

**Tachometer**

Shows the rpm (revs) of the engine.

**Horn Button**

Activates the horn.

**Throttle**

Allows you to control acceleration of the bike.

**Engine Stop Switch**

A switch that will turn the engine off if activated.

**Clutch Lever**

Activates the clutch

**Ignition Switch**

Allows the bike to be started

Telford - a Division of Lincoln University

## Pre-Ride Inspection

Prior to riding the bike each day you should check to make sure that all of the vital components are functioning properly. There are a large number of things that need to be checked but as it is mainly a visual check, the whole procedure can be done in a couple of minutes.

The easy way to remember all of the things that need checking is through this simple anagram - T-CLOC

- T Tyres and wheels
- C Controls and cables
- L Lights and electrics
- O Oil and fuel
- C Chains, chassis and suspensions

### Tyres

Check that tyres have the correct air pressure. The front tyre should have a higher air pressure than the rear, particularly if the bike is used on the road a lot. Tyre tread should also be looked at. When the leading edge of the knobs becomes worn, rotate the tyre to use the un-worn edge.

When looking at the wheels check for broken spokes, loose rim locks, and cracks in the rim.

### Controls

Make sure all are functioning and the cables have not become frayed. Brake and clutch levers may need adjusting as the bike wears.





*Lever is well adjusted. Rider can operate with two fingers allowing a good grip on the handlebars.*

### **Lights**

Make sure all bulbs are working.



### **Oil and fuel**

Check motor oil and transmission fluid levels are close to the top line on the dipstick. Keep the fuel level topped up as this will prevent the build-up of dust and water in the fuel tank.

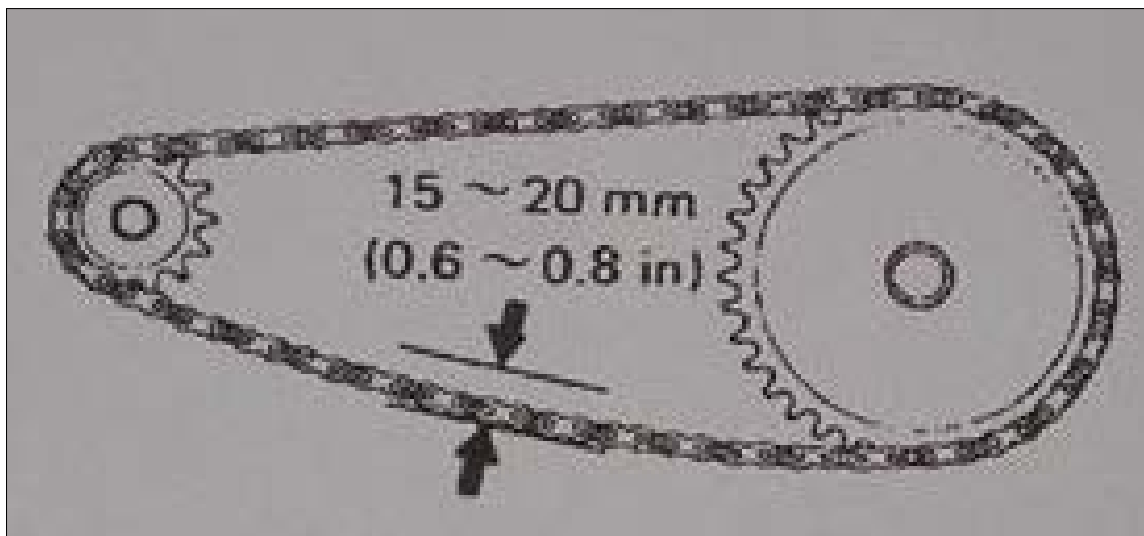
Always make sure that the fuel cock is in the normal position so that you will have a reserve for emergencies.

## Chains, chassis and suspensions

Make sure that the chain is well lubricated and well tensioned. The chain should have between 15 and 20 mm of slack.

Look over the chassis for any cracks or rust. Important spots are the point where the rear swing arm attaches and where the handlebars and the wheel is linked to the frame of the bike (this is called the triple clamp).

Finally, check the shock absorbers for any oil leaks and make sure the rubber boots are intact. Damage to the shocks will seriously affect handling, especially front shocks.



*Too much slack will wear the chain and is dangerous.*

## Motorcycle Dynamics

There are different forces which act on a motorcycle when it is moving. The driver should know a little about these forces to be able to safely ride their motorcycle. When a driver attempts to change direction or stop, the dynamics of the motorcycle come into play.

Once the motorcycle is moving, i.e. the driver has opened the throttle and started the bike moving forward, it will have *momentum*. This momentum will mean that if the rider closes the throttle, the bike will continue to move.

The forces acting on the bike mean that, obviously, the faster you are going, the further it is going to take you to stop. This depends also on the surface you are riding on, and the condition of the brakes. If you apply the brakes very hard, you will be thrown forward at the original speed you were travelling. If you apply the brakes gradually, you will not feel the effect of the braking to the same degree.

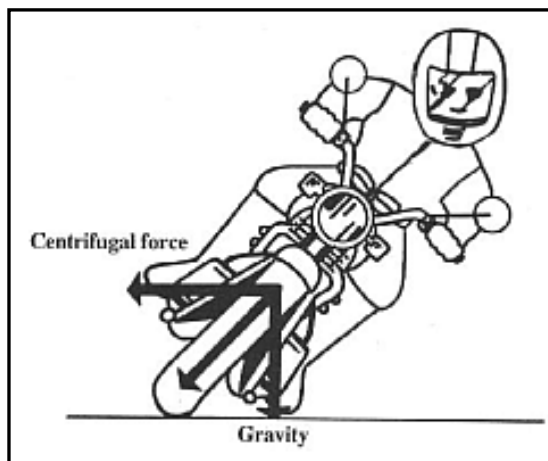
If you accelerate hard, you will be most likely feel like you are being thrown backward as the driver's upper body will still be travelling at the original speed. If you do not accelerate hard, the effect will be less.

The tyres of the motorcycle use friction to maintain grip. Some factors reduce friction, thus reducing the grip of the tyres. These factors include ice and wet roads.

A bike manages to turn by using the combined effects of:

- gravity
- frictional force (tyres gripping the road)
- centrifugal force (movement)

See the diagram at right.



Source: Learning System for Motorcycle Riding Instructors, Ministry of Transport 1992

You must be careful when turning a motorcycle, as leaning too far to the side may cause the bike to tip or some part of it may hit the ground. You will also not be able to turn safely if the centrifugal force is too great (i.e. if you are going too fast).



## Riding

Developing and practicing a core group of skills will help you to avoid hazardous situations and cope with them better when they do occur. These skills are:

1. Observation
2. Stance or body position
3. Active riding
4. Riding on hills

### 1 Observation

Look well ahead of the front wheel keeping a wide focus to pick up the best line. If you are entering an area where there is limited visibility, stop the bike and walk ahead to check out a safe route. Learning to read the terrain ahead is an essential skill for safe, efficient, and enjoyable farm bike riding.

Areas to avoid include:

- Long grass or weeds that may cover hidden objects
- Particularly wet or slippery areas
- Badly rutted areas that may prevent you steering where you want

*Is this a risk?*



*A good way to highlight hazards*

### 2 Stance

- Keep your elbows away from your body. This is the position that gives you the greatest strength.
- Keep your hips, shoulders, and arms relaxed as this will allow your body to absorb shocks and bumps as the bike hits them.
- Press your knees against the petrol tank to help balance the bike.
- Keep your feet horizontal to the foot pegs, toes pointed straight ahead with the pegs under the arch of your foot. Doing this will reduce the chance of your feet slipping from the pegs.



*Foot peg well placed in the arch of the foot*

### **3 Active Riding**

Moving your body weight around to control the farm bike will improve balance. By moving weight forward we increase the braking power of the front wheel and reduce the grip of the back wheel.

Standing will lower the centre of gravity by altering where your weight presses on the bike.

- Lean with the bike when cornering.
- When braking, apply both front and rear brakes progressively. Using only one wheel to brake will increase the distance the bikes to stop.
- Under most conditions the front brakes should do 80% of straight line braking.
- In difficult conditions, standing on the pegs will make the bike more stable by lowering the centre of gravity.

### **Standing up makes the bike more stable**

### **4 Skills for Riding on Hills**

Obviously riding on hills requires a different set of techniques to riding on the flat. Here are some things that will increase your stability and help keep you safe:

- Keep your speed down and look well ahead so that changes in ground contour can be compensated or avoided.
- Pick the best line and easiest route (FOR THE HILL).
- Stand on footrests rather than stay seated.
- Concentrate especially when changing gears.
- Operate the throttle smoothly – avoid sudden acceleration.
- Know the bikes limitations and your own.

**a) Riding Uphill**

- Choose the appropriate gear before you start the climb.
- Use as high a gear as the bike will pull (Gear too low will cause wheel spin).
- Adjust your body position, lean forward over the handle bars, move body forward or back to achieve optimum traction.
- If you must stop during a climb, put down only your left foot. The right foot must remain on the foot rest to apply the rear brake as you stop.
- If you need to start uphill, take off smoothly to prevent wheel spin.
- If it is downhill select second gear, not first, to ensure better control.

**b) Stopping Uphill**

- Smoothly pivot the bike around the left foot by easing the brakes slightly and turning the handlebars to the left. When the bike is side-on to the hill and stable, rethink your next approach. The aim of the exercise is to ensure that your left foot can remain on the brake pedal.



*Note that the rider's foot remains on the brake*

**c) Riding Downhill**

Look before you leap, choose the downhill route with the fewest hazards.

- Engage second or third gear (not first) so the rear wheel is less likely to lock.
- Move your body weight to the rear of the bike and keep your feet on the footrests for maximum control.
- Use the front brake more firmly, up to 80% more than the rear.
- Apply enough front brake to hold the bike at a constant safe speed.
- If the rear of the bike begins to fishtail, release the rear brake.
- If the rear continues to slide open the throttle momentarily.
- If the slide cannot be controlled and danger is imminent, apply the rear brake firmly and slide the bike firmly to the side of the hillside.



By sitting this far forward, the rider is placing more weight on the front wheel and reducing the braking power of the rear wheel.

#### **d) Cornering on a Hillside**

When cornering or riding along a hillside lean the bike towards the slope and press harder on the outside footrest.



*Note the rider's weight applied to the downhill foot-peg*

#### **Techniques for Rough Terrain**

Concentration is essential, do only one job at a time. If you want to look at stock, stop and do the job properly.

Active riding is the key when riding on two wheels, standing with your knees slightly bent and balancing on the footrests improves all aspects of farm bike riding and improves your forward visibility.

#### **Coping with Slippery Ground**

- Always ride smoothly; avoid hard braking or acceleration.
- Make turns in as wide an arc as possible.
- A steady open throttle in a higher gear keeps the bike under control.
- Always keep your feet on the footrests.
- When cornering on slippery ground keep your body upright and lean into the corner.

A slide may be caused by taking a slippery corner while braking hard, resulting in the loss of control. The driver of the motorcycle should keep their body upright and let the bike lean into the corner.

To prevent a slide on slippery ground, the driver should always keep their feet firmly on the footrests. They should avoid sudden hard braking manoeuvres. Turns should be made as widely as possible to help prevent a slide.

### **Loss of Traction**

Traction loss when riding a motorcycle can be caused by many factors.

- riding uphill incorrectly
- riding downhill incorrectly
- wet slippery ground conditions
- rough terrain
- riding around a slope or hill
- loose material on the ground surface causing slipperiness

When riding on ground that may contribute to a loss of traction, care should be taken. The driver should be concentrating on riding *actively*. Riding the motorbike in a balanced standing position with knees slightly bent is the best way to avoid a loss of traction.

If riding the motorcycle uphill, traction is often lost if the bike is in too low a low gear. To prevent this occurring, use as high a gear as possible to ensure the bike will 'pull' up the hill.

If riding down a hill and traction is lost, this may cause the rear of the bike to slide sideways. If this happens, release the rear brakes. If the sliding continues, open the throttle for a short burst to regain control. If you cannot regain control, reapply the rear brake and slide the motorcycle to the ground against the slope.

If the ground conditions are not ideal, for example if it is wet or the bike is being ridden on loose gravel, common sense applies. Ride smoothly and do not rapidly accelerate or brake. Have a steady open throttle and select a high gear. This will help to keep the motorcycle under control.

Avoiding a loss of traction may be as simple as care or avoidance when riding the motorcycle around areas which look suspicious i.e. steep, wet and slippery paddocks, muddy gateways.

### **Contingency Procedures**

The safety rule when riding over rough ground or hill country is to look ahead. If you get into an awkward situation on a slope, stop and dismount, lean the bike against the side of the hill and walk around to look for the safest way out of trouble.

Never ride your bike at such a speed that you cannot stop within half the clear distance ahead of you.

## **Abandoning Your Motorcycle**

At some point during your motorcycle riding it may unfortunately become necessary to abandon your motorcycle, for example when it is somersaulting or rolling. You need to be familiar with the correct procedure to follow should the situation arise.

Some people believe that if you stay with the motorcycle as you fall, you will be all right. However, it is one thing to fall off and hit the ground, it is quite another to do this with a heavy motorcycle on top of you. The best technique is as the motorcycle goes over, kick yourself clear before it comes down and pins your legs. Keep your body curled up. If you are outstretched when you tumble, you could break an arm or a leg. Always keep your eyes open and watch where you are going – and watch where the motorcycle is going.

If you hit something, the outlook is a little different. However, you can improve your chances if you have enough time to react. When you see the collision coming, brace yourself hard against the handlebars, and keep the brakes on. With your legs, kick yourself straight up. When the motorcycle stops, only your hands will be on the handle grips. Your momentum will carry you over the handlebars. Let go of them as you clear them, and try to land safely.

When a bike is about to crash (or is in the process of crashing) the driver should not do nothing and just wait for the inevitable to happen. Some important points to be aware of when crashing:

- Try to prevent the crash right up to the moment that it happens
- If thrown from the bike, try to guide yourself to the softest landing place
- Reduce speed when you know you are going to crash, to lessen the impact
- If tumbling as the result of a crash, try to curl into a ball and prevent limbs flailing about. This may prevent a broken bone
- Try to get away from the bike if you have become separated from it. If the bike hits you, it may crush you underneath it or against a solid object, possibly killing you.
- If sliding as the result of a crash, try to slow yourself down by spreading your body out across the ground to slow down quicker.

## **When to Abandon a Motorcycle**

When either of the following situations arises:

- Sideways rollover
- Forward or rear somersaults

## Servicing and Maintenance of Farm Motorcycles

Preventative maintenance can have a big impact on the efficiency, safety and long-term costs of your farm bike.

A regular time should be set aside to carry out the manufacturers' recommended maintenance steps.

### Oil

Your bike should be checked at least weekly paying particular attention to:

- Engine oil
- Gearbox oil. (This is important because as the clutch wears it contaminates the gearbox oil).

When oil levels drop they should be topped up with the oil recommended by the manufacturer. Oil should be changed at the interval recommended by the manufacturer.



### Cleaning of motorbikes

Motorbikes should be cleaned frequently to reduce wear and tear on moving parts and to prevent corrosion of the frame and exhaust. While water blasters are an efficient way of cleaning bikes, they are not recommended. This is because the high-pressure water can push grit into sensitive parts such as bearings and chains. A safer option is to use a low-pressure hose.

## Battery

The battery fluid levels should be checked every 1000 kilometres as this will give better performance from lights and starters.

## Drive Chain

A broken chain at the wrong moment can be a catastrophe. The chain should be checked regularly for signs of wear. To extend the life of the chain it is important to lubricate it regularly and keep it properly tensioned.

Adjust chain tension by loosening lock nuts and turning the adjuster bolts on each side of the rear wheel. Ensure that marks on the chain adjusters are lined up.



## Tyres

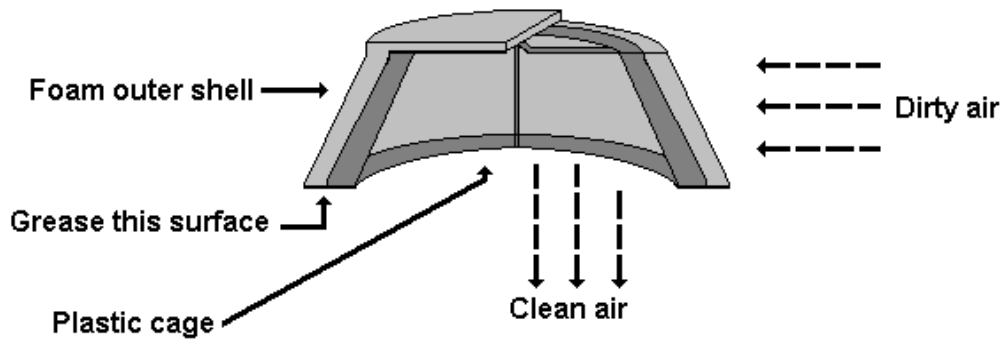
- Every 1000 kilometres check tyre pressure.
- Inflate tyres to the recommended pressure. Lowering pressures will increase traction but will also increase the risk.
- This information can be located in your owners' manual.
- Turning tyres around on the rim occasionally will increase their lifespan and also aid with traction and braking.

## Air Filter

Air filters need cleaning at least once every 3000 kilometres.

This may be shorter depending on the conditions in which you are working. Dusty conditions will shorten intervals considerably.





### Oiled foam filter

To clean an oiled foam filter you will need:

- A supply of foam filter oil.
- Some standard grease.
- A litre of clean petrol.
- Some warm soapy water.
- A pair of disposable rubber gloves.

You should then:

- i) Remove the filter from the motor and block the hole with a clean piece of cloth.
- ii) Remove the foam part of the filter from its cage or frame.
- iii) Use the petrol to rinse the dirt and oil from the filter and then allow it to drain.
- iv) Next, gently clean the filter in the soapy water.
- v) Rinse the filter again, this time in clean warm water and gently squeeze the water from the foam. *Do not twist the filter, as this will rip the foam.*
- vi) Put the filter somewhere clean to dry.
- vii) Once the foam is dry soak it in some filter oil.
- viii) Gently squeeze the excess oil from the foam with the rubber gloves.
- ix) Put the foam back on the cage and smear grease around the base of the filter so that it seals properly.
- x) Return the filter to the motor and replace any covers or guards that you have removed.

### Brakes

**Make sure the brakes are working properly – your life depends on them! If the brakes drag or are noisy when used have the bike checked by a mechanic.**

## Rear Brake

Check the pedal movement. Turn the rear brake-adjusting nut until the distance of free travel is about 25mm.



## Clutch

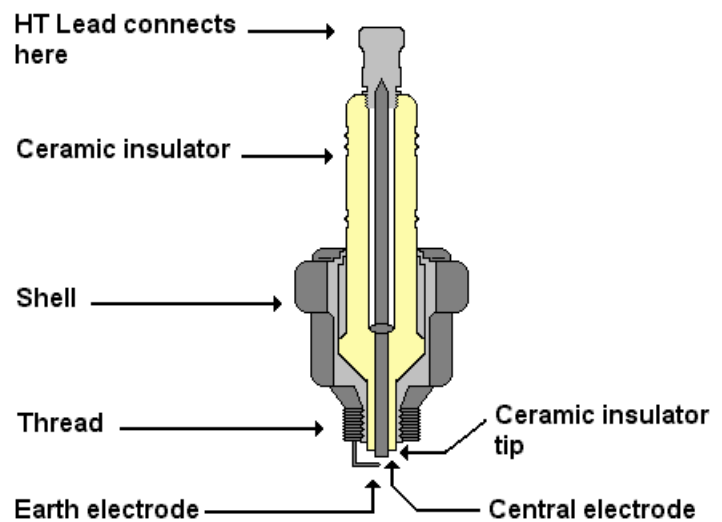
Check the instruction manual for the correct method of adjustment for your machine and adjust as necessary.

## Cables

Lightly grease the exposed parts of all control cables at regular short intervals.

## Spark plugs

Withdraw the spark plug at least every 3000 km. Remove any carbon deposits with a suitable scraper. Fit a new plug to two stroke motors as required, but at least every 6 months. Four strokes will also require regular plug changes but the interval can be longer as these motors are cleaner burning.



*Cut-away view of spark plug*

## Safety Checks

- Keep all nuts and bolts tight.
- If you notice any broken or damaged parts replace or repair them immediately - e.g. footrests, cracked mud flaps, loose handlebars, or seat mountings.



*A common fault on farm bikes is bent foot pegs. This is a hazard, as your foot will slip off the peg very easily*

## Troubleshooting

Regular checks and maintenance will greatly reduce the chances of your machine letting you down in the field. However if the engine fails to start the cause will usually be a lack of fuel to the cylinder or no spark to ignite the fuel.

If your bike fails to start first check that:

1. The ignition and kill switches are on.
2. The tank is filled with the correct fuel.
3. The fuel cock is turned on.
4. The choke control is working properly.

If each of these is alright check that the spark plug is sparking. This is done by removing the plug, refitting it to the high-tension lead, and resting the metal body of the plug against the cylinder head. Kicking the engine over should produce a bright blue spark. If there is no spark, try another plug. You should always carry a spare in the tool kit.

## Towing a Trailer with a Motorcycle

If you need to tow a trailer with your motorcycle, first make sure that it has a professionally fitted towbar.

### *Steering*

Steering may be lightened due to the extra weight of a loaded trailer at the back of the bike.

### *Manoeuvrability*

The extra weight may affect the handling of the bike and may make it harder to turn. Adjust your riding style to accommodate the heavier weight. Remember that the width of the trailer will be greater than the width of the motorcycle.

### *Control*

The trailer should not be too big for the bike, nor should it be too heavily loaded or control of the bike is compromised. Ensuring that a load is well-secured will avoid loss of control due to a change of weight caused by a loose load. Braking distances will be increased due to the extra weight behind the bike, so allow more room for braking and stopping.

### *Gear Selection*

The bike should be in a low gear to provide maximum pulling power for the trailer.

### *Traction*

Avoiding a heavy load when the ground conditions are not ideal will help to prevent the loss of traction. Steep hills should not be attempted while towing a trailer.

## Loading the motorcycle trailer

The gross weight of the trailer (trailer and load) is important to take into consideration when preparing to tow a trailer. The guideline is that the gross weight should not exceed more than half the total weight of the bike and rider.

The weight at the drawbar (towbar) should be around 10-20 percent of the *total weight of the trailer and load*.

The load **MUST** be securely fastened to the trailer. This is important as a moving load will upset the balance of the bike and may cause loss of control and a resulting accident.

## Carrying a mounted load or passenger on a motorcycle

Each motorcycle will differ in the amount of extra weight it can comfortably carry. Sometimes a passenger will need to be transported on the back of the bike, and there are some guidelines to be followed for a safe journey. Remember that it will take longer to stop due to the increased weight.

### Mounted Load

An extra load will affect the bike's handling, so the rider should take extra care when manoeuvring the bike. Additionally, any mounted load needs to be firmly secured. A professionally fitted carrier is often found on a farm bike so take advantage of these when you need to carry a load – never carry the load across your knees!

Do not exceed the maximum load specified in the owner's manual for the motorcycle. Doing so may cause an accident.

### Carrying a Passenger

A passenger is often carried behind the driver of a motorcycle on the farm. Following are some guidelines for both the passenger and the driver;

- bike must have correct passenger footrests fitted and they must be in good condition
- one passenger only must be carried at a time
- the driver must remember that they are responsible for the passenger's wellbeing
- a greater braking distance will be required due to the extra weight
- the power to climb hills will be reduced
- the passenger should don the correct safety gear for riding a motorcycle – the same as the driver
- the passenger should be aware of how the bike behaves when cornering and manoeuvring
- rider, passenger and bike should move as one
- the passenger should look in the direction that the bike is going to maintain balance

When mounting the bike, the rider should be already on the bike and the passenger swings their leg over the back of the bike – much like mounting a horse. Sometimes the passenger may stand on the foot peg with their left leg before swinging their right leg over. The driver must be aware of when the passenger is going to mount and dismount from the bike, it is important that the passenger lets the driver know.

## Research

If you are able, find a Motorbike owner's manual, or pay a visit your local Dealer.

Find out the load weights which are appropriate for motorcycles.

You may want to spend some time looking over a motorbike to locate the various controls and become familiar with the machine.

Telford - a Division of Lincoln University