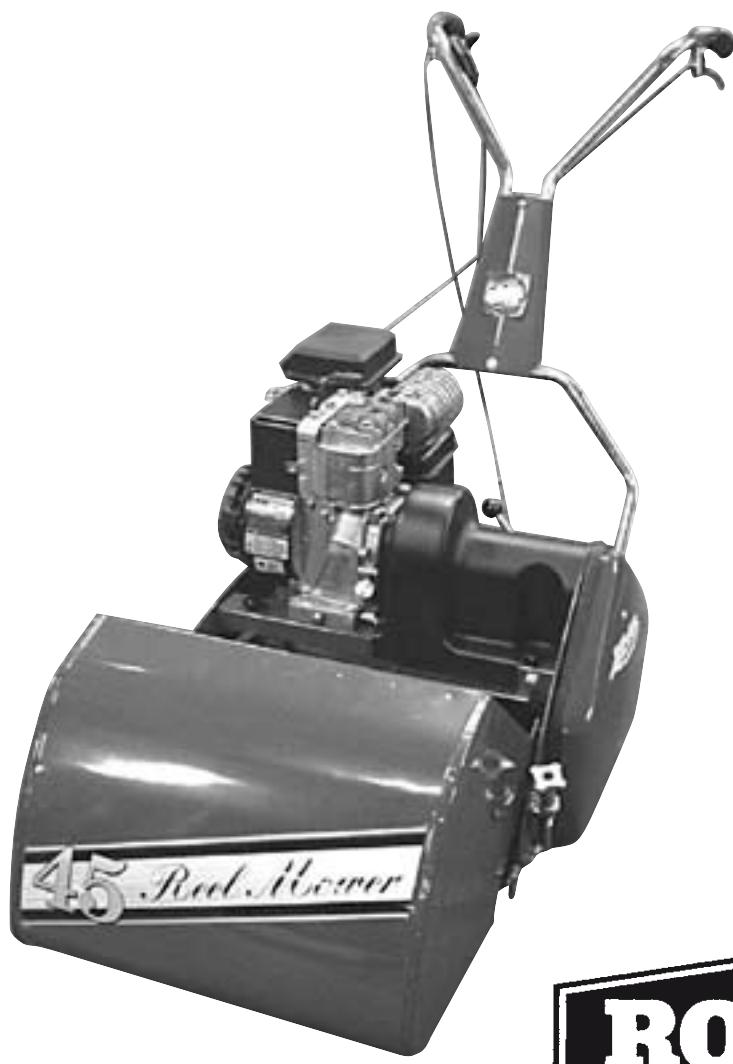


# Owners Manual

## **MODEL 45<sup>TM</sup>** **REEL MOWER** **MODELS 45048 & 45148**



# Thank you for buying a Rover Mower.

This manual covers the operation and maintenance of the Rover Model 45™ reel mower. Please read and understand this owners manual, and the accompanying engine manufacturers manual. If any point is unclear, contact Rover Mowers Limited or any authorised Rover Mower service dealer.

To emphasise special information, the words **WARNING** and **CAUTION** are used.

	<b>WARNING</b>		<b>CAUTION</b>
The safety of the user and others involved. Personal injury may result should this information be disregarded.			Follow these instructions to avoid mower damage and possible loss of warranty.

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# SAFETY INSTRUCTIONS

1. Never mow while barefoot or wearing open sandals, or thongs. Wear long trousers and heavy shoes.
2. Know your controls. Read the owner's manual carefully. Learn how to stop the engine quickly in any emergency.
3. Make sure that the lawn is clear of sticks, stones, bones, wire and debris. They could be thrown by the blade.
4. Stop the engine and disconnect the spark plug lead before clearing blockages, checking or working on the mower.
5. Before using always visually inspect to see that the blades, blade bolts and cutter assembly are not worn or damaged. Replace worn or damaged blades and bolts in sets to preserve balance.

## **DAMAGED BLADES AND WORN BOLTS ARE MAJOR HAZARDS.**

6. Check all nuts, bolts and screws often, always be sure the mower is in safe operating condition. Use only genuine Rover replacement parts.
7. Refuel out doors only. Do not smoke while fuelling engine. Add fuel before starting the engine. Never remove the cap off the fuel tank or add petrol while the engine is running or if the engine is hot. If petrol is spilled, do not attempt to start the engine but move the machine away from the area of the spill and avoid creating any source of ignition until the petrol vapours have dissipated.
8. Do not mow whilst people, especially children or pets are in the mowing area.
9. Replace worn or faulty silencers.
10. Mow only in good daylight.
11. Never use the mower unless the grass catcher or guards provided by the manufacturer are in position.
12. Start the engine carefully, with feet well away from the blades.
13. Do not operate the engine in a confined space where exhaust fumes (carbon monoxide) can collect.
14. Stop the engine whenever you leave the mower, even for a moment.
15. Do not allow children or people unfamiliar with these instructions to use the mower.
16. Store the mower in a well ventilated room away from naked flames such as may be found in hot water heaters.
17. Never leave wind-up starters in a wound condition.
18. Do not over-speed the engine or alter governor settings. Excessive speed is dangerous and shortens engine life.
19. It is advisable to wear suitable eye protection when operating a mower.
20. Turn the fuel off at the conclusion of mowing and reduce the throttle setting during engine run-out.
21. Store fuel in a cool place in a container specifically designed for the purpose. In general plastic containers are unsuitable.
22. Stop the engine, disconnect the spark plug lead and inspect the mower if-
  - (a) the mower begins to vibrate abnormally or
  - (b) after striking a foreign object.
23. Never cut grass while walking backwards.
24. Stop the engine before pushing the mower across gravel drives, walks or roads.
25. Walk, never run.
26. Mow across the face of slopes, never up or down. Exercise extreme caution when changing direction on slopes. Do not mow excessively steep slopes.
27. Never pick up or carry a mower when it is operating.

## 1.1 UNPACKING

1. Lift the top off the carton base and place to one side.
2. Pivot the upper handlebars into the upright position, and secure with the clamp screw and nut. Do not damage the clutch and throttle cables. Refer to separate sheet for details.
3. Roll the mower off the timber base of the carton.
4. To adjust the height of the handlebars:-
  - a. Loosen the lower handlebar securing bolts (A) on both sides of the mower. Figure 1.
  - b. Adjust the height of the handle bars, by pivoting them up or down, to suit the operator.
  - c. Re-tighten the nuts (A) Figure 1.



*Figure 1. Rear View*

## 1.2 BEFORE OPERATING

<b>WARNING</b>	
	Read and understand the safety instructions and the engine manufacturers operating instructions BEFORE using the mower.

1. Place the mower on a level surface in a well ventilated area.
2. Fill the engine crankcase with 10W-30 or SAE 30 oil to the top of the oil filler port. Refer to engine manufacturers instructions.
3. Fill the fuel tank with UNLEADED petrol.
4. Ensure the spark plug lead is connected to the spark plug.

## 1.3 GRASS CATCHER

<b>WARNING</b>	
	Stop the engine BEFORE fitting or removing the grass catcher.

1. **To fit the catcher.** Hold the grass catcher by the top edge, hook the catcher on to the two locating pegs on the front of the mower, positioning the catcher on the two rubber stops on either side of the mower.
2. **To remove the catcher.** Disengage the cutter drive and move the throttle control lever to stop position. When the engine has stopped, hold the catcher by the top edge and lift it off the locating pegs.

## 2. CONTROLS

### 2.1 Throttle control

Located on the right hand arm of the handle bars.  
Marked for slow and fast positions. Figure 2.



Figure 2. Throttle control.

### 2.2 Drive clutch lever.

Located on the left hand arm of the handle bars  
bars. Figure 3.



Figure 3. Drive clutch lever.

### 2.3 Cutter drive clutch lever.

Located to the left hand side of the engine protruding out from the shaft cover. Marked for engaged and disengaged positions.  
Figure 4.



Figure 4. Cutter drive clutch lever.

### 3.1 STARTING

1. Disengage the 'Cutter drive lever'. Figure 4
2. Move the 'Choke control lever' located on the engine to the choke position. | ↘ |
3. Move the throttle control lever to the fast position. Figure 2. ↗ |
4. Grasp the engine starter cord and pull rapidly to start the engine. Figure 5.
5. When started move the choke control lever to the run position. | ↑ |



Figure 5. Engine starter cord.

### 3.2 MOWING

1. Start the engine as per section 3.1.
2. Move the throttle control lever to the fast position. Figure 2. ↗ |
3. Move the cutter drive lever to the engaged position Figure 4.
4. Slowly squeeze the clutch control lever. This engages the rear roller drive and moves the mower forward Figure 3.
5. To gain optimum power from engine it should be run at maximum speed.

### 3.3 STOPPING

1. Release the drive clutch lever to disengage the rear roller drive. Figure 3.
2. Move the throttle control lever to the slow position. Figure 2.
3. Disengage the cutter drive lever. Figure 4.

<b>WARNING</b>	
	Before making any adjustments, the engine must be stopped and the spark plug lead removed, to prevent the engine accidentally starting.

### 4.1 CUTTING SETTING

With use it will become necessary to adjust the cutter closer to the bottom blade. The cutter is correctly set when it LIGHTLY touches the bottom blade along its FULL length. Hard bearing or uneven setting causes excessive or uneven wear to the cutting edges, and places undue load on the engine.

#### 4.1.1 CHECKING THE CUTTER SETTING

1. Drain the petrol from the fuel tank.
2. Remove the spark plug lead from the spark plug.
3. Tilt the mower back on the rear roller and support the lower handle bars 250mm off the ground. *Note: If the mower is to be tilted back any further than this the oil must be drained from the engine sump to avoid possible carburettor and air cleaner damage.* Figure. 6.
4. Hold a narrow strip of newspaper between the cutter and the bottom blade while carefully rotating the cutter by hand. The setting is correct if the paper is cut when tested at several points along the full length of the blade. The cutter must be free to rotate without binding.

Lower the mower back to the ground, refuel with petrol and replace the spark plug lead onto spark plug.



Figure 6. Mower tilting.

#### 4.1.2 ADJUSTING THE CUTTER SETTING

1. Loosen the clamping nuts (A) on both sides of the mower Figure 7.
2. To set the cutter closer to the bottom blade, turn the adjusting screws (B) on both sides of the mower anti-clockwise until the cutter just contacts the bottom blade at both ends. Figure 7.
3. If the cutter bears down too hard on the bottom blade, turn the adjusting screws clockwise at least one turn, then repeat Step 2 until the blade is set correctly.
4. Retighten the clamping nuts (A) Figure 7.
5. Retest the cutter setting. After resetting the cutter, the cutter drive chain will need to be checked and adjusted. Refer to section 4.2.

If, after adjusting the cutter setting, a satisfactory cut cannot be achieved, the blades may require sharpening or replacement. Return the mower to an authorised Rover Mower service dealer for blade sharpening and setting.

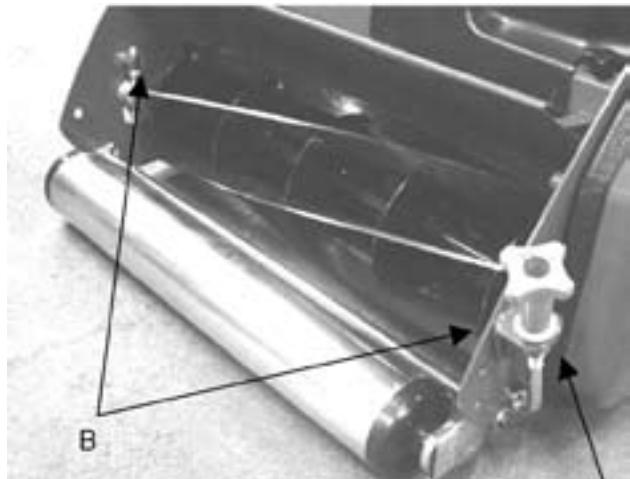


Figure 7. Cutter adjustment.

#### 4.2 CUTTER DRIVE CHAIN

After adjusting the cutter setting or after prolonged use, the cutter drive chain may require re-tensioning.

1. Loosen the locknut (C) Figure 8.
2. Slide the nylon chain adjuster against the chain to allow 6mm of up and down movement of the chain Figure 8.
3. Re-tighten the locknut (C) Figure 8.

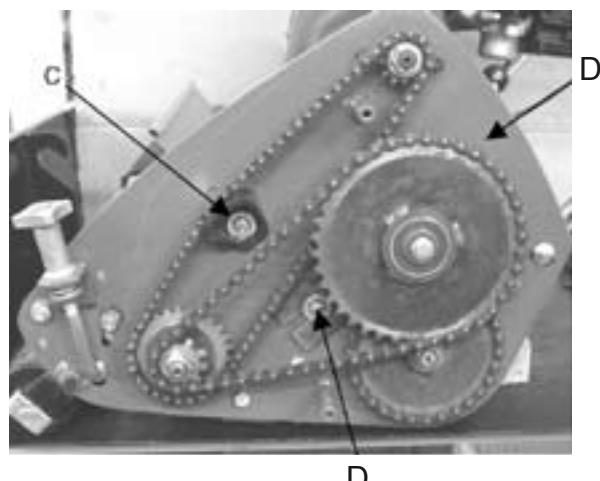


Figure 8. Drive chains.

#### 4.3 CLUTCH AND DRUM CHAINS

The clutch and drum chains are adjusted together.

1. Loosen the two locknuts (D) Figure 8.
2. Slide the large chain sprocket upwards.
3. Retighten the locknuts (D) Figure 8.

**NOTE - CORRECTLY TENSIONED  
CHAINS SHOULD BE SLIGHTLY SLACK,  
NOT TIGHTLY STRETCHED.**

#### 4.4 CUTTING HEIGHT

The cutting height is adjusted with the front roller adjustment knob (A) Figure 9.

To raise the cutting height, turn the knob clockwise. To lower the cutting height, turn the knob anti-clockwise.

	<b>CAUTION</b>
	When setting LOW cut, ensure that the front roller contacts the ground and not the bottom blade.



Figure 9. Cutting height adjustment

#### 4.5 CLUTCH

In the unlikely event of clutch slip and loss of propulsion, the clutch operating pressure can be adjusted.

1. Remove the four retaining screws and washers securing the clutch cover to the chassis and lift off the cover. Exposing the drive shaft, clutch and drive adjuster. Figure 11
2. Loosen the locknut (C) Figure 10.
3. Turn the threaded adjuster (D) anti-clockwise two complete turns. Figure 10.
4. Tighten the locknut (C) and check the operation of the clutch.
5. Replace the clutch cover and secure with four screws and washers.

D      C

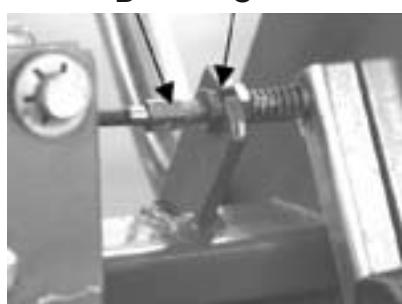


Figure 10. Clutch adjustment, clutch cover shown removed.

#### 4.6 GRASS DEFLECTOR

Depending on the grass cutting conditions, the angle of the grass deflector may need to be altered to direct the cut grass into the catcher.

1. Loosen the thumb screws (B) each side of the machine Figure 11.
2. Move the deflector plate either forward, to throw up the cut grass higher and further, or backwards, to throw the cut grass lower.
3. Re-tighten the thumb screws (B). Figure 11.

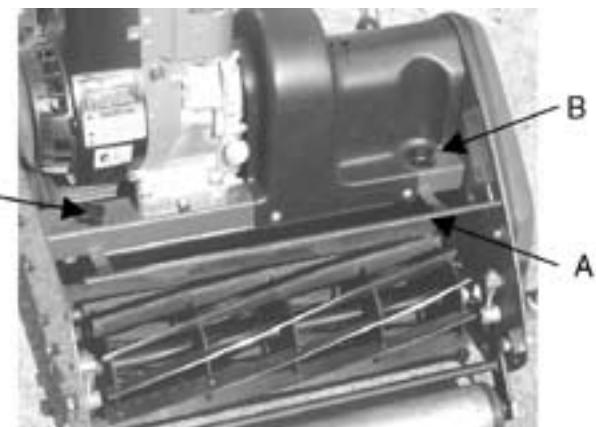


Figure 11. Grass deflector

#### 4.7 BLADE LEVELLING

1. Place mower on a flat surface.
2. Remove Grass deflector by loosening the two thumb screws (B) Figure 11.
3. Loosen the three nuts (A) Figure 12 on the right hand drum bearing housing to allow rear drum level to be adjusted.
4. Place screw driver underneath and in the centre of the front roller.
5. Using a rule measure the height from the flat surface to the bottom edge of the bottom blade on the sole plate at either end of the blade.
6. With a large screw driver in between the rear roller and the frame from the rear of the mower Figure 12 (B), lever the frame upwards until the blade is level.
7. Retighten the three nuts (A) to secure the blade in it's level position.

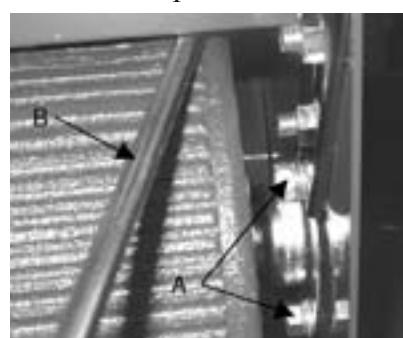


Figure 12. Blade levelling.

## 5.1 LUBRICATION

To gain the optimum performance from your mower, the following areas need to be oiled every five hours of operation. The same grade oil as used in the engine is suitable.

	<b>CAUTION</b>
	Bearings are sealed for life and do not require lubrication.

1. Clutch Thrust Pad (1) - looking through the left hand oil port hole in the clutch cover apply three drops of oil in the thrust pad oil hole. Figure 13.
2. Clutch inner cone (2) - looking through the right hand oil port hole in the clutch cover apply three drops of oil in the clutch inner cone oil hole. Figure 13. Note: it may be necessary to engage the clutch and slowly pull on the engine starter cord to align the inner cone oil hole with the clutch cover hole.
3. Front roller (3) - apply six drops of oil to each side of the shaft. Figure 14.
4. Height adjustment knob (4) - remove the plastic cover plug to gain access, and apply six drops of oil. Figure 14.
5. Drive chains (5) - every 10 hours of operation remove the chain case side cover and apply a 'chain oil' to the drive chains. Replace side cover. Figure 14.

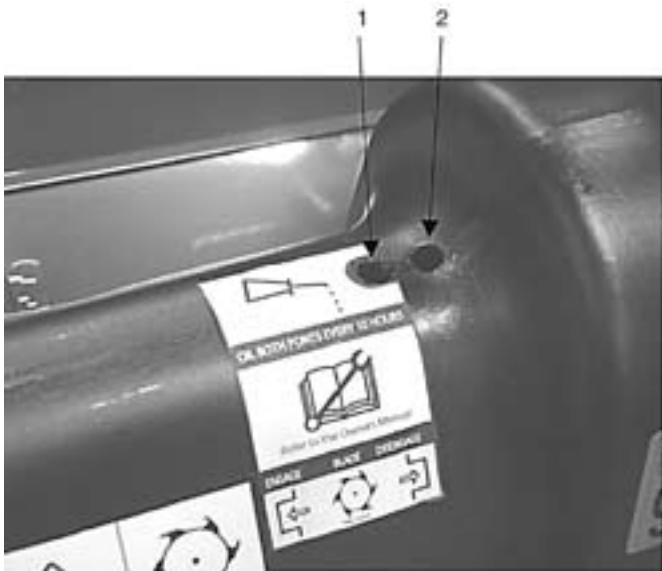


Figure 13. Clutch lubrication points. Clutch thrust pad and clutch inner cone points.

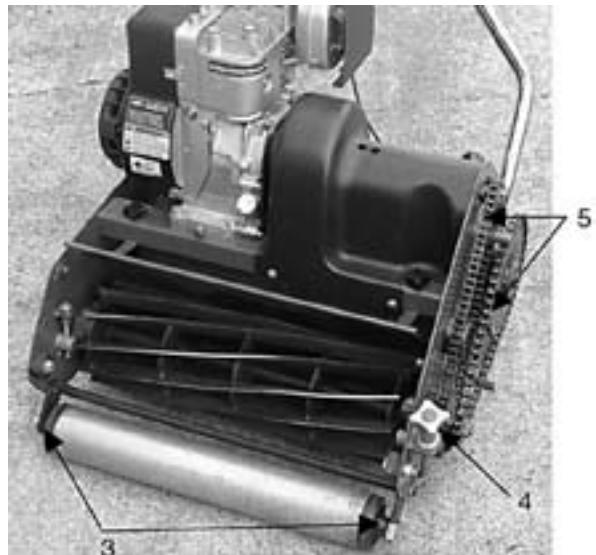


Figure 14. Lubrication points

## 5.2 ENGINE

For detailed cleaning and maintenance instructions, refer to the engine manufacturers operating manual.

## 5.3 GENERAL

1. Keep the mower free of grass and debris build up.
2. Clean any spilt oil or fuel from around the engine.
3. Regularly check that all nuts and bolts are secure.
4. After use and cleaning, lubricate the blade edges with oil to prevent rust build up on the cutting edges.

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## NOTES

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
<b>Engine loses power.</b>	<ol style="list-style-type: none"> <li>1. Oil level in crankcase is low.</li> <li>2. Cooling fins and air passages under engine blower housing are blocked.</li> <li>3. Engine load is excessive</li> <li>4. Air cleaner is dirty.</li> <li>5. Dirt or water is in fuel system.</li> <li>6. Carburettor is adjusted incorrectly.</li> <li>7. Spark plug is pitted, fouled or defective in some other way.</li> </ol>	<ol style="list-style-type: none"> <li>1. Add oil to crankcase.</li> <li>2. Remove obstruction from passages.</li> <li>3. Select a lower speed to reduce load.</li> <li>4. Clean air cleaner element.</li> <li>5. Have machine serviced by Authorised Service Dealer.</li> <li>6. Have machine serviced by Authorised Service Dealer.</li> <li>7. Install new correctly gapped spark plug.</li> </ol>
<b>Engine over heats.</b>	<ol style="list-style-type: none"> <li>1. Cooling fins and air passages under engine blower housing are blocked.</li> <li>2. Carburettor is adjusted incorrectly.</li> <li>3. Oil level in crankcase is low.</li> <li>4. Engine load is excessive.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove obstruction from cooling fins and air passages.</li> <li>2. Have machine serviced by Authorised Service Dealer.</li> <li>3. Add oil to crankcase.</li> <li>4. Select a lower speed to reduce load.</li> </ol>
<b>Mower vibrates abnormally.</b>	<ol style="list-style-type: none"> <li>1. Engine mount bolts are loose.</li> <li>2. Loose cutter blade.</li> <li>3. Cutter assembly is unbalanced.</li> <li>4. Cutter assembly is loose.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten mounting bolts.</li> <li>2. Replace cutter assembly.</li> <li>3. Replace cutter assembly.</li> <li>4. Tighten securing nut.</li> </ol>
<b>Cutter does not rotate.</b>	<ol style="list-style-type: none"> <li>1. Cutter drive chain loose</li> <li>2. Cutter drive chain is broken.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tension cutter drive chain</li> <li>2. Install cutter drive chain.</li> </ol>
<b>Mower does not drive.</b>	<ol style="list-style-type: none"> <li>1. Drive chain is loose</li> <li>2. Drive chain is broken.</li> <li>3. Unable to engage drive clutch</li> </ol>	<ol style="list-style-type: none"> <li>1. Tension drive chain.</li> <li>2. Install new drive chain.</li> <li>3. Have machine serviced by Authorised Rover Service Dealer.</li> </ol>
<b>Engine does not start, hard to start, loses power, or fails to keep running.</b>	<ol style="list-style-type: none"> <li>1. Fuel tank is empty.</li> <li>2. Drive is engaged.</li> <li>3. Cutter Drive is engaged.</li> <li>4. Spark plug is loose.</li> <li>5. Spark plug lead is loose or disconnected from spark plug.</li> <li>6. Spark plug gap is incorrect.</li> <li>7. Spark plug is pitted, fouled or defective in some other way.</li> <li>8. Wrong spark plug is used.</li> <li>9. Electrical connections are loose.</li> <li>10. Carburettor is adjusted incorrectly.</li> <li>11. Air cleaner is dirty.</li> <li>12. Vent hole in fuel tank is plugged.</li> <li>13. Dirt or water in fuel system.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill fuel tank with petrol.</li> <li>2. Disengage drive clutch.</li> <li>3. Disengage cutter drive.</li> <li>4. Tighten spark plug.</li> <li>5. Install spark plug lead on spark plug.</li> <li>6. Set gap between electrodes at 0.8mm.</li> <li>7. Install new correctly gapped spark plug.</li> <li>8. Install correct spark plug.</li> <li>9. Check electrical system to ensure good contact.</li> <li>10. Have machine serviced by Authorised Service Dealer.</li> <li>11. Clean the air cleaner element.</li> <li>12. Inspect and open vent.</li> <li>13. Have machine serviced by Authorised Rover Service Dealer.</li> </ol>
<b>Engine does not idle or idles poorly.</b>	<ol style="list-style-type: none"> <li>1. Air cleaner is dirty.</li> <li>2. Oil level in crankcase is low.</li> <li>3. Cooling fins and air passages under engine blower housing are plugged.</li> <li>4. Idle speed is too low or high speed mixture is incorrect.</li> <li>5. Dirt or water is in fuel system.</li> <li>6. Vent hole in fuel tank is plugged.</li> <li>7. Spark plug is pitted fouled or defective in some other way.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean air cleaner element.</li> <li>2. Add oil to crankcase.</li> <li>3. Remove obstruction from cooling fins and air passages.</li> <li>4. Have machine serviced by Authorised Service Dealer.</li> <li>5. Have machine serviced by Authorised Rover Service Dealer.</li> <li>6. Clean fuel tank vent.</li> <li>7. Install new correctly gapped spark plug.</li> </ol>

NOTES

# **Warranty Conditions**

## **Australia and New Zealand Only**

Rover Mowers Limited warrant that this machine is free from defects in material and workmanship. This warranty is limited to making good or replacing any part which appears upon inspection by the manufacturer or his agent to be defective in material or workmanship.

The engine used to power this machine is warranted by the manufacturer whose warranty statement has been included with the machine. As the warranty for the engine may differ from the warranty for the other components, you are advised to read the engine manufacturer's warranty carefully.

For other items this warranty shall apply for a period of 12 months from the date of purchase except for products used commercially where the warranty is limited to 90 days.

This warranty does not obligate the manufacturer, his agents or dealers to bear the transport costs incurred in the repair or replacement of any defective part.

This warranty excludes fair wear and tear, or any damage

caused by misuse or abuse. Parts such as blades, blade bolts, v-belts and spark plugs, which can be subjected to use beyond their normal intended working capacity are also excluded.

This warranty is void if parts other than genuine have been used or if repairs or alterations have been made without the manufacturers' written authority.

The above warranty does not exclude any condition or warranty implied by the Trade Practises Act 1974 or any other relevant legislation which implies any condition which cannot be excluded.

### **REMEMBER:**

**PROOF OF PURCHASE IS THE RESPONSIBILITY OF THE OWNER AND IS NECESSARY PRIOR TO WARRANTY WORK BEING UNDERTAKEN. REPAIRS MUST BE CARRIED OUT BY AN AUTHORISED DEALER AND GENUINE SPARE PARTS MUST BE USED OR YOUR WARRANTY WILL BE VOID.**

## **For your record:**

**Dealer's name:** .....

**Dealer's address:** .....

**Dealer's phone no:** .....

**Product Model no:** .....

**Product Serial no:** .....

**Date of purchase:** .....



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Standards Australia

Rover Mowers Limited reserves the right to make changes of and add improvements upon its product at any time without notice or obligation. The company also reserves the right to discontinue manufacture of any product at its discretion at any time.

## **ROVER MOWERS LIMITED**

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