

RANGER
3 IN 1

CODE
436C
Autodrive

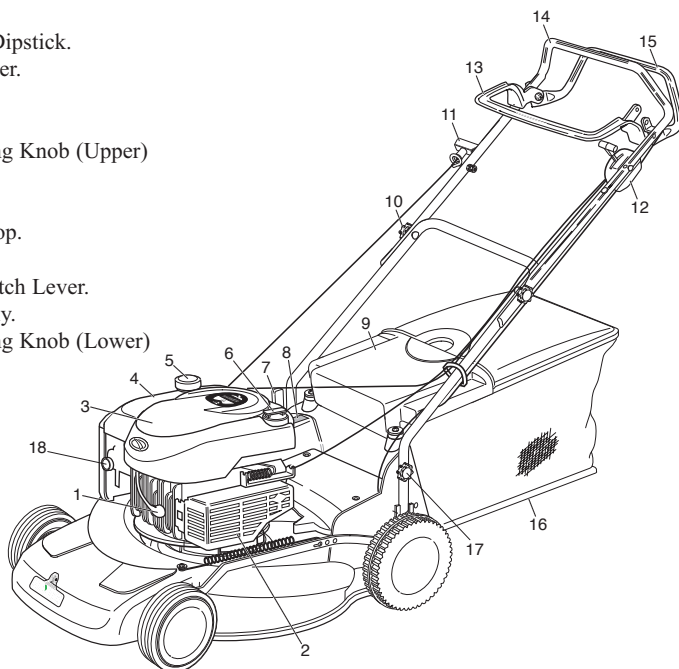
OWNER'S HANDBOOK

(English Version)
FROM SERIAL NO: 436C001001
ISSUE 8.12.04

HANDBOOK: 436005 (REV .0.)

Main Features

1. Spark Plug Lead.
2. Muffler Guard.
3. Engine Cover.
4. Air Filter.
5. Fuel Filler Cap.
6. Oil Filler Cap & Dipstick.
7. Height of Cut Lever.
8. Serial No. Label.
9. Rear Deflector.
10. Handlebar Securing Knob (Upper)
11. Engine Start Grip.
12. Throttle Control.
13. Lever - Engine Stop.
14. Handlebar.
15. Ground Drive Clutch Lever.
16. Grassbag Assembly.
17. Handlebar Securing Knob (Lower)
18. Primer Bulb.



1C436C05

Specifications

Code	436C
Engine	Briggs & Stratton Quantum XTS 60
Engine type	127802-1593-21
Engine/Cutterbar speed	2900 rpm
Fuel type	Unleaded petrol
Fuel capacity	1.5 litres
Oil type	SAE 30 engine oil
Oil sump capacity	0.6 litres
Width of Cut	500mm
Height of Cut	13 - 90mm
Overall dimensions	1440 x 555 x 1,070mm
Dry Weight	40 Kg



1ST Year (12 months)

We certify that this service has been
carried out by an Authorised Hayter
Service Dealer

Date: _____



1ST Year (12 months)

Owner's Name: _____

Serial Number: _____

Date: _____

Note for dealer: Please retain this voucher for your records.



2nd Year (24 months)

We certify that this service has been
carried out by an Authorised Hayter
Service Dealer

Date: _____



2nd Year (24 months)

Owner's Name: _____

Serial Number: _____

Date: _____

Note for dealer: Please retain this voucher for your records.



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INTRODUCTION

Thank you for purchasing a **Hayter** mower. The following pages are designed to help you gain safe and efficient service from your mower.

IMPORTANT: This 'Owners Handbook' should be regarded as part of the mower as it gives essential information regarding mower safety, operation, maintenance and specifications. Read and understand this handbook prior to operating your mower for the first time. Make sure you are familiar with all the controls and points of regular maintenance. If you have any doubts, consult your local **Hayter** authorised dealer who will be pleased to give you assistance.

IMPORTANT: This mower is designed solely for use in a domestic grass cutting environment. Use in any other way is considered as contrary to the intended use. Compliance with and strict adherence to the conditions of operation, service and repair as specified in this handbook also constitute essential elements of the intended use.

This mower should be operated, serviced and repaired only by persons who are familiar with its particular characteristics and who are acquainted with the relevant safety procedures.

The safety precautions listed in this handbook and all other generally recognised regulations on safety must be observed at all times.

Any arbitrary modifications carried out to this machine may relieve Hayter Limited of liability for any resulting damage or injury.

Hayter mowers are robustly constructed and designed for efficient economical performance under normal mowing conditions. Correct operation and maintenance will ensure a long and satisfactory service life. Prior to despatch from our factory every effort is made to ensure that your mower is delivered in perfect condition.

Throughout this handbook all references to **left** and **right** are as viewed from behind the handlebar, in the direction of forward travel.

This handbook is based on information available at the time of publication.

HAYTER LIMITED reserve the right to amend product specifications without prior notification.

LIMITED WARRANTY

Hayter Limited warrants to the original user/purchaser that this unit shall be free from defects in material and workmanship under normal use and service for a period of **three years** from the date of purchase. The manufacturer of major proprietary components ie. engines, gearbox / transaxle (where applicable) furnish their own warranty and services are provided through their authorised network. To qualify for the full benefit of the warranty, the warranty registration card **must** be returned within **14 days** of purchase. Subject to the conditions and exclusions noted in this limited warranty, we shall at our option, repair or replace any warranted part during the applicable period. If you are in doubt or experience any difficulty, please consult a Hayter Authorised Service Dealer for clarification.

To qualify for the extended warranty (second and third year) of the **three year limited warranty** the machine **must** have annual services carried out by an Authorised Hayter Service Dealer. These chargeable services should be carried out within 12 and 24 months of the date of purchase.

Excluded from the extended warranty period are those items which are subject to normal wear and tear e.g. tyres, wheels, cutterblades, belts, cables, grassbags, sweeper/brushes, batteries and other consumable wearing parts.

All consumer machines which are fitted with a **genuine** Hayter friction disc as original equipment before use, are covered by a **Lifetime Warranty** against the engine crankshaft bending. **Note:** friction washers, blade brake clutch (B.B.C) units and other such devices are not applicable. Only machines fitted with a **genuine** Hayter friction disc, which are used in accordance with the recommended operating and maintenance procedures, are covered.

This warranty does not apply to any unit that has been tampered with, altered, misused, abused or used for hire, and will become invalid if non genuine Hayter parts are fitted. This warranty does not cover minor mechanical adjustments unless they are due to defective material or workmanship. Consult the Owner's Handbook or a Hayter Authorised Service Dealer for assistance when making these adjustments.

A warranty period of 90 days applies to machines used for commercial purposes.

To make a warranty claim, return the unit to a Hayter authorised dealer along with proof of purchase stating the machine serial number and date of purchase. The service receipt(s) or this Owners Handbook with the 1st/2nd year service boxes fully completed, must be produced as proof of entitlement to the extended warranty period. Subject to the conditions and exclusions in this limited warranty, the authorised dealer will, at our option, repair or replace any warranted part within the duration of the warranty period.

This limited warranty gives you specific legal rights and is in addition to any statutory rights to which you may be entitled and your statutory rights are not affected by this warranty. If you need additional information concerning this written warranty, or assistance in obtaining services, please write to : **HAYTER LIMITED, Service Department, Spellbrook, Bishop's Stortford, Hertfordshire CM23 4BU**

UK ONLY: Details of your local **Hayter** authorised dealer are contained in Yellow Pages and the Hayter website www.hayter.co.uk or contact contact:- Freephone 0800 616298.

SAFETY PRECAUTIONS

Safety Alert Symbol



This safety alert symbol indicates important safety messages. When you see this symbol be alert to the possibility of injury. Carefully read the following and inform others.

Your mower is perfectly safe if used correctly. Failure to observe the following precautions may result in serious injury.

Training



Before using the mower read the owners handbook carefully. Pay particular attention to the safety precautions. Ensure that you are familiar with the controls and the proper use of the equipment. Learn how to stop the mower quickly in an emergency.

Never allow children or people unfamiliar with these instructions to use the mower.

Never mow while people, especially children, or pets are nearby.

Keep in mind that the user is responsible for accidents or hazards occurring to other people or their property.

Preparation



While mowing, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing sandals.

Thoroughly inspect the area where the mower is to be used and remove all objects which may be thrown by the machine.

WARNING: Petrol is highly flammable.

- Store fuel in containers specifically designed for this purpose.
- Add fuel before starting the engine. Never remove the cap from the fuel tank or add petrol while the engine is running or when the engine is hot. Allow the engine to cool for at least two minutes before refuelling.
- Do not attempt to start the engine if petrol is spilled or a smell of petrol is present. Move the mower away from the area of spillage and avoid creating any source of ignition until petrol vapours have dissipated.

SAFETY PRECAUTIONS

Preparation

- Always use fresh fuel. Stale fuel can block the carburettor and cause leakage.
- Replace fuel tank and oil tank caps securely.

A damaged cutterblade or loose fixing bolt are major hazards. Before use, always visually inspect the cutting mechanism to ensure that it is in good condition. A damaged cutterblade must be replaced immediately with a genuine Hayter replacement part



Operation

Do not operate the engine in a confined space where exhaust fumes (carbon monoxide) can collect. Refuel outdoors only and do not smoke while refuelling.

Always pull the starter cord slowly until resistance is felt. Then pull the cord rapidly to avoid kickback and prevent hand or arm injury.

Mow only in daylight or good artificial light.

Avoid using the mower on wet grass, where feasible.

Always be sure of your footing on slopes.

Walk, never run.

Mow across the face of slopes, never up and down.

Exercise extreme caution when changing direction on slopes.

Do not mow excessively steep slopes of more than 20 degrees.

Use extreme caution when reversing or pulling the mower towards you.

Stop the engine before moving the mower across areas other than grass.

Never operate the mower unless the guards are securely in position and in good condition.

Do not change the engine governor settings or overspeed the engine.

Disengage the rear roller drive clutch before starting the engine.

Start the engine carefully, with feet well away from the cutterblade.



SAFETY PRECAUTIONS

Operation



Do not tilt the mower when starting the engine.

Do not put hands or feet near or under rotating parts.

Never pick up or carry the mower while the engine is running.

Never lift the rear deflector while the engine is running.

Never touch the exhaust/exhaust guard or cooling fins when the engine is hot.

Stop the engine and disconnect the spark plug lead:

- Before clearing blockages or unclogging the discharge chute.
- Before cleaning/checking or working on the mower.
- After striking a foreign object. Inspect the mower for damage and ensure necessary repairs are made before re-starting.
- If the mower starts to vibrate abnormally (check immediately).

Stop the engine:

- Whenever you leave the mower.
- Before refuelling.
- Reduce throttle control setting during engine shutdown.

Maintenance & Storage



Keep all nuts, bolts and screws tight to ensure that the equipment is in safe operating condition.

Frequently check fuel lines and fittings for cracks or leaks and replace if necessary.

Never check for a spark when the spark plug is removed. (Use approved tester)

Inspect the exhaust periodically and replace if worn or leaking.

Never crank the engine with the spark plug removed.

Never start the engine with the air-cleaner or air-cleaner cover removed.

Never store the mower with petrol in the tank within an enclosed area where fumes may reach an open flame or spark.

Maintenance & Storage

Allow the engine to cool before storing in any enclosure. To reduce the fire hazard, keep the engine and the surrounding deck area free of grass, leaves, or excessive grease.

Check the rear deflector and grassbag frequently for wear or deterioration. Replace worn or damaged parts for safety.

If the fuel tank has to be drained, this should be done outdoors and when the engine is cool.

Wear strong work gloves when removing and reassembling the cut-terblade.

Always replace worn or faulty parts with genuine Hayter parts.

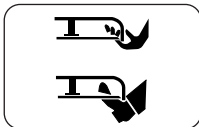


Safety Symbols

Safety Alert - Be aware to the possibility of injury.



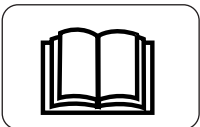
Danger of severing toes or fingers in cutting mechanism.



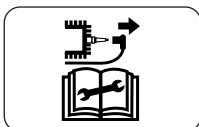
Danger of being hit by thrown objects.



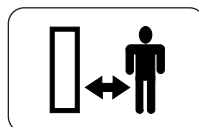
Carefully read the Owners Handbook before using the machine.



Stop engine and remove spark plug lead before working on the mower.

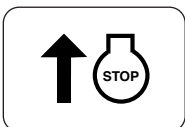


Keep bystanders at a safe distance from the mower.



Control Symbols

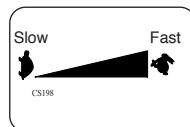
Engine Stop
(Symbol)



Height of Cut Adjustment
(Symbol)

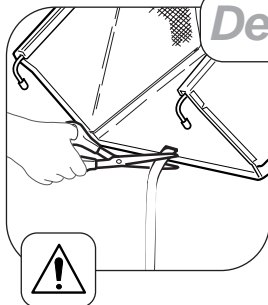


Throttle Control
(Symbols)



ASSEMBLING THE MOWER

Delivery Checklist

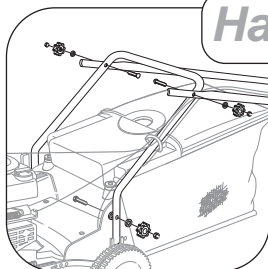


Remove the mower from the packaging and check that the following items have been supplied correctly. If any items are missing contact your local Hayter dealer.

- | | |
|---------------------|---|
| 1. Engine Handbook. | 5. Chute Side Discharger. |
| 2. Owners Handbook. | 6. Grassbag Assembly Instruction Sheet. |
| 3. Plug Mulching. | 7. Grassbag Frame. |
| 4. Grassbag. | 8. Grassbag Top Cover. |

To prevent accidents cut off the long ribbon attached to the grassbag and discard.

Handlebar

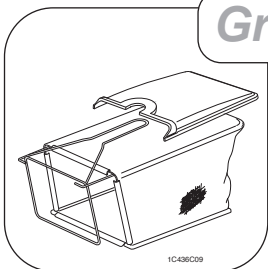


Attach lower handlebar to rear of the mower deck using the 8x60mm screws and 2 handwheels (note! 1 screw is already in the deck).

Attach the upper handlebar to the lower handlebar using 8x45mm saddle screws and handwheels. Tighten all handwheels before operating the mower.

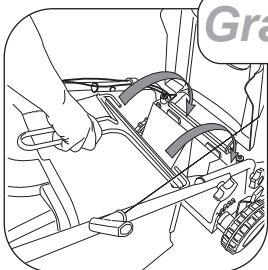
Take care to ensure that the control cables do not become snagged at the pivot point.

Grassbag Assembly



To assemble the grass bag insert the long loop of the frame into the open end of the grassbag with frame handle at the top and the plastic base at the bottom. Snap the plastic mouldings around the open edge of the bag onto the frame. Now snap the grassbag cover onto the top of the assembly at the back.

Grassbag Attachment



Raise the rear deflector, lower the grassbag through the handlebar and hook in position. Lower the deflector to rest against the rest of the grassbag.

BEFORE STARTING THE MOWER

Prevent Engine Damage

To prevent engine damage the engine is shipped without oil or petrol. The engine must be filled with the correct grade of oil and petrol before starting the engine.



Oil Type

Always use high quality detergent oil classified SAE 30 oil. Never use additives with recommended oil.

To prolong the life of your engine it is important that the oil is changed after the first 5 hours of use - refer to 'Maintenance Schedule'.

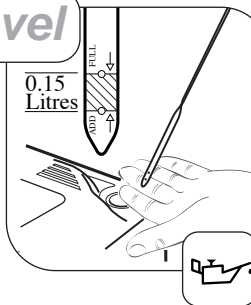


Check Oil Level

Clean around the oil filler cap before removing. With the mower on a level surface, unscrew and remove the oil filler - dipstick. Wipe oil from it with a clean cloth. Screw the oil filler - dipstick back in place, then unscrew and remove it to check the oil level.

The oil level is correct when it is at the **full** mark on the dipstick.

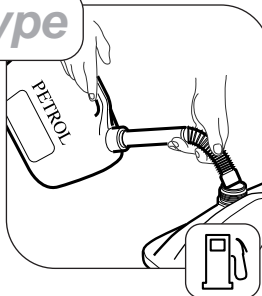
DO NOT OVERFILL.



Fuel Type

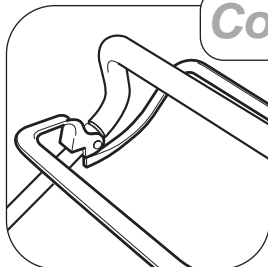
Always use clean, fresh unleaded petrol. Purchase fuel in quantities that can be used within 30 days. Never mix oil with petrol. For added engine protection Briggs & Stratton recommend the use of their fuel additive which is available from an authorised Briggs & Stratton service dealer.

Fill to base of neck to allow for fuel expansion. Do not overfill the fuel tank.



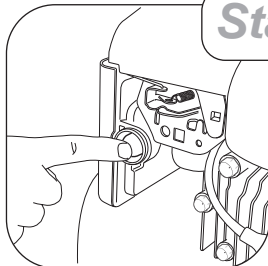
OPERATING THE MOWER

Controls



Operate all control levers several times and ensure that the cables move freely. Check that the engine stop and ground drive clutch levers return freely to their rest position when released.

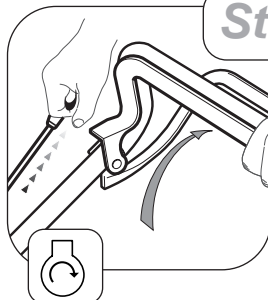
Starting - Step 1



Operate the primer bulb: *Note: Push on the primer bulb 5 times at two second intervals to provide the extra fuel to start the engine after assembling the mower for the first time.*

In normal use push on the primer bulb 3 times at 2 second intervals to provide the extra fuel required to start a cold engine. Operation of the primer bulb is usually unnecessary when starting a warm engine

Step 2



Stand behind the mower and hold the handlebar together with the engine stop lever with your left hand. With your right hand hold the engine start - grip and pull slowly until resistance is felt, then pull rapidly to crank the engine. carefully return the start grip to the storage position when the engine starts.

If the engine does not start after 5 attempts - refer to “Trouble Shooting”.

Allow the engine to warm up.

The engine stop lever must be held firmly against the handlebar to start and to keep the engine running. If the engine stop lever is released the engine will stop. To prevent damage never pull the engine start grip when the engine is running.

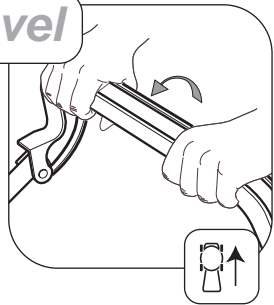
OPERATING THE MOWER

Forward Travel

Hold the handlebar and operate the ground drive clutch lever to power the mower in a forward direction.

When the ground drive clutch lever is disengaged the mower may be pushed. This feature is useful when mowing in confined areas.

If the engine stop lever is released the engine will stop.



Turning

To make a wide turn steer the mower with the handlebar in the direction required.

To make a tight turn release the ground drive clutch lever, apply downward pressure on the handlebar to raise the front wheels just above ground level and steer in the required direction.

To prevent accidents do not raise the front of the mower excessively when making a turn. Never raise the rear of the mower when the engine is running.

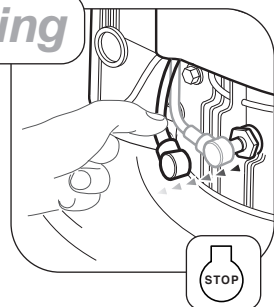


Stopping

Release the ground drive clutch lever, reduce the throttle setting and release the engine stop lever.

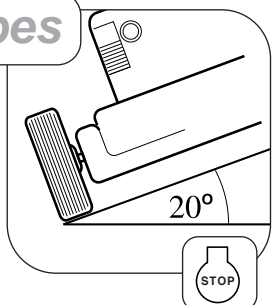
Emergency stop: Release both ground drive clutch lever and engine stop lever together.

If the engine fails to stop, move the throttle lever to the 'slow' position and disconnect the spark plug lead.



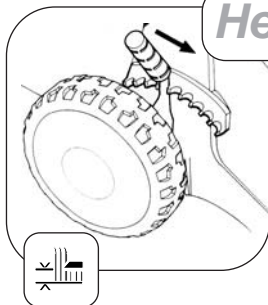
Slopes

To prevent engine damage do not use the mower on slopes greater than 20 degrees.



OPERATING THE MOWER

Height of Cut



Grip the lever and pull sideways to disengage it from the locking notch, then push forwards to higher or pull backwards to lower the height of cut. Finally release the lever at the required position and ensure it locks firmly into one of the eight notch settings.

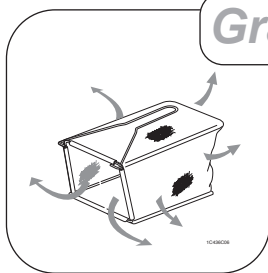
Always select a height of cut to suit operating conditions. Aim to prevent engine overloading and blockages by avoiding low cuts in long grass conditions. Be prepared to make two cuts when the grass is long.

Before Mowing



To prevent accidents thoroughly inspect the area and remove all objects which when contacted by the mower cutterblade could become dangerous projectiles. Inspect the area for hidden obstructions which when contacted by the cutterblade could risk health and safety. Remember the location of these obstructions and ensure that you mow around them.

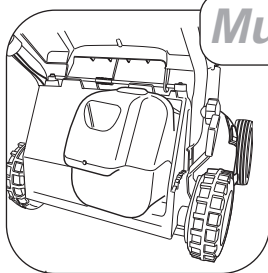
Grassbag



Raise the rear deflector and lift the grassbag through the handlebar and lower the rear deflector to rest against the rear of the mower.

To empty the grassbag, pour out the grass clippings and shake the grassbag vigorously to clean the airways. Good grass collection depends on good air flow through the grassbag. When collecting grass clippings it is important that the grassbag is emptied regularly to prevent blockages and engine overloading.

Mulching



Lift rear deflector and slide the Mulcher Plug into the rear discharger chute. Ensure that the plug is fully inserted and rear deflector closed.

Note: You are not able to mulch with the side discharge chute fitted.

OPERATING THE MOWER

Mulching Tips

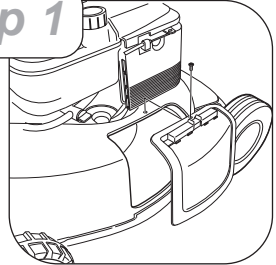
Mulching finely cuts the grass so that it can be easily recycled. Due to nutrients that this returns to the soil, the lawn will require less fertilizer. To correctly mulch the lawn, follow the tips below.

- The grass must be dry. If the grass is wet, it will be difficult to cut and cause heavy clumps of grass.
- Mulching should be carried out twice a week only taking as little as possible from the length of grass.
- Cleaning the underside of the mower housing regularly ensures effective operation.

Note: To prevent grass damage do not remove more than one third of grass height in one cut.

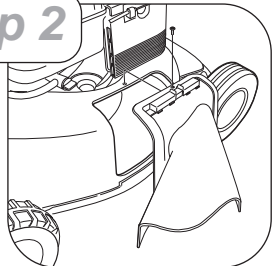
Side Discharge - Step 1

Remove the side cover by removing the single screw in the top as shown. Pinch the two release latches together to release the cover from the opening and remove.



Step 2

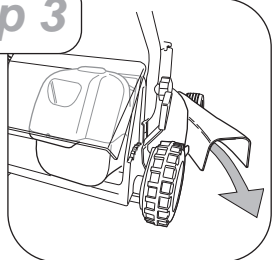
To fit the side discharge chute, locate bottom tab into the opening then pinch the two latches and release into place. Check that it is fully fitted and then replace screw as shown.



Step 3

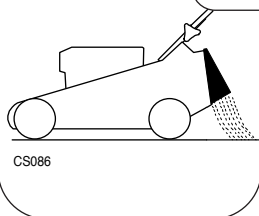
Lift rear deflector and slide the Mulcher Plug into the rear discharger chute at rear of mower. Ensure that the plug is fully inserted and the rear deflector closed.

Note: The Mulching Plug must be fitted for the side discharge chute to work.



OPERATING THE MOWER

Without Grass Collection



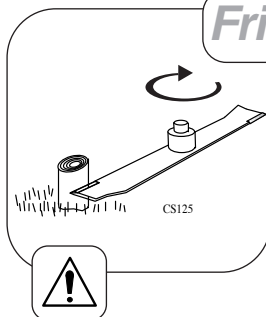
Remove the grassbag and operate the mower with the rear deflector in the closed position.

Heavy Growth

Areas of heavy growth should be mown without collecting the clippings. If collection is required, first mow the area without the grassbag at the maximum height of cut setting. Allow the grass clippings to dry out and then mow the area at the maximum height of cut setting with the grassbag fitted. Reduce the height of cut and mow the area again as necessary until the required finish is obtained.

To prevent grass damage do not remove more than one third of grass height in one cut.

Friction Devise



The cutterblade is driven by the engine via a friction devise to help prevent damage occurring to the cutting mechanism when a hidden obstruction or overload is encountered.

Always stop the engine when a hidden obstruction or excessive vibration is encountered. Disconnect the spark plug lead and examine the cutting mechanism. ALWAYS replace a damaged cutterblade - refer to "Maintenance".

Non-Grassed Areas



When moving the mower across non-grassed areas, stop the engine and set the mower to the maximum height of cut to protect the cutting mechanism.

LAWN CARE CALENDAR

To be used as a guide only.

January

There is very little work to do this month apart from brushing away leaves. Keep off the grass if frozen or waterlogged.

February

Rake the grass thoroughly. Spike the lawn to aerate and stimulate soil organisms and root growth and apply lawn sand if necessary.

March

The yearly lawn work programme really starts this month. As soon as the ground conditions are suitable, the first cut can be made. The first cut should merely “top” the grass as close cutting at this stage could result in severe yellowing or browning. Two cuts are generally sufficient this month.

April

Mow often enough to stop grass growing away. Dig out patches of coarse grass or resistant weed. Re-seed bare patches.

May

Keep mowing increasing the frequency as required. Treat with selective weed killers or combined weed/feed preparations if you did not feed the lawn in April.

June

Summer mowing should now be under way. It should be necessary to mow the lawn twice a week. Raking before mowing is important this month as the combined action keeps runners of clover under control. Water the grass if necessary, and remember to soak thoroughly.

July

Treat the grass with the second application of fertiliser or weed killer/fertiliser. Water when necessary and rake occasionally. As a general rule the grass clippings should be removed each time you mow. If weather conditions are dry and hot and the grass is weed free, leave the clippings on the lawn to help maintain ground moisture.

LAWN CARE CALENDAR

August

Keep mowing regularly and watering as necessary. Fill any cracks caused by drought with a mixture of sharp sand and soil. In dry weather conditions leave the grass longer to help retain ground moisture.

September

Raise the height of cut to allow the grass to thicken and protect the roots from the winter frost and snow.

October

Rake out the thatch from the turf and spike the lawn to assist in drainage. Brush in peat and sharp sand.

November

Use a stiff broom to disperse worm casts before mowing. Keep turf free from leaves.

December

Apart from brushing away leaves, December is a slack end of a busy year. Keep off the lawn if it is very wet or frozen.

MAINTENANCE SCHEDULE

To prevent accidents stop the engine disconnect the spark plug lead before attempting to carry out maintenance procedures on the mower.



- After the very first five hours change the engine oil

Follow the hourly or calendar intervals, whichever occurs first. More frequent service will be required if working for prolonged periods under dusty, dry conditions, or when airborne debris is present or after extensive operation cutting tall, dry grass.

Daily

- Check the oil level
- Remove grass debris from around the engine, exhaust/exhaust guard and air ways in the top cowl and underside of the deck housing.
- Remove grass debris from the grassbag and check for signs of damage.
- Check the condition of guards and safety devices and cutterblades
- Check condition of cutterblade.

25Hrs or Every Season

- Change the engine oil if continuously operating under heavy load or high ambient temperature.
- Service the air cleaner.
- Lubricate wheels, pivot points and linkages and grease the inner control cables at point of entry and exit from their outer casing.
- Check the clutch cable adjustment.
- Sharpen the cutterblade.

50Hrs or Every Season

- Change the engine oil.

100Hrs or Every Season

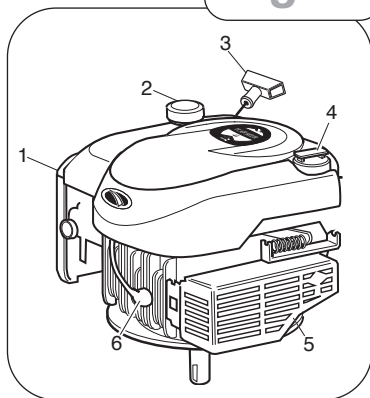
- Clean the engine cooling system. Clean more often under dusty conditions or when airborne debris is present or after prolonged operation whilst cutting tall, dry grass.
- Replace the spark plug.

MOWER MAINTENANCE



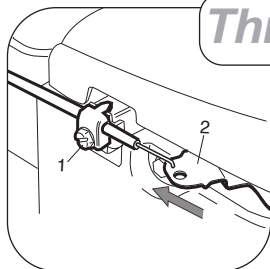
To prevent accidents stop the engine disconnect the spark plug lead before attempting to carry out maintenance procedures on the mower.

Engine



1. Air Filter
2. Fuel Cap
3. Start Grip
4. Oil Cap / Dipstick
5. Exhaust Guard
6. Spark Plug / Lead

Throttle Cable Adjustment



Loosen the outer cable clamp screw (1) and move the governor control lever (2) to the left as far back as possible. Move the throttle control lever to the 'fast' position and re-tighten the outer cable clamp screw while pulling on the outer cable.

Carburettor Adjustments

Should only be made by an authorised Briggs & Stratton dealer. Under no circumstances should the engine be adjusted to run at a speed in excess of that shown on the Declaration of Conformity.

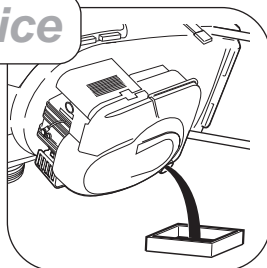
MOWER MAINTENANCE

Oil Service

Check the oil level daily before starting the engine and ensure that the correct oil level is maintained. Refer to-‘Before Starting the Mower’ for oil checking and filling instructions.

Change the engine oil after the first 5 hours of operation and thereafter according to the ‘Maintenance Schedule’:-

1. Drain fuel by running the engine until the fuel tank is empty.
2. Remove the spark plug lead.
3. Allow the engine to cool.
4. Drain the oil while the engine is warm.(Not hot)
5. Tip the mower over on to its left hand side thus ensuring that the air cleaner is kept uppermost **to prevent engine damage.**
6. Remove the oil filler dipstick and drain the oil into a suitable container.
7. Refill with new oil of the recommended SAE viscosity grade.
(Refer to-‘Before Starting the Mower’)

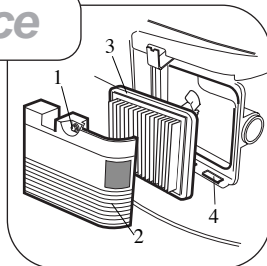


Air Cleaner Service

To service the air cleaner, loosen screw (1) and remove cover (2).

Remove cartridge (3) and clean by tapping gently on a flat surface. If very dirty, replace.

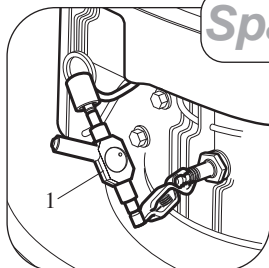
- Do not use petroleum solvents.
- Do not use pressurised air.
- Do not oil the cartridge.



After servicing, install the cartridge into the cover. Insert the tabs on the bottom of the cover into the slots in the bottom of the base (4). Tilt the cover upwards and securely tighten the screw to the base.

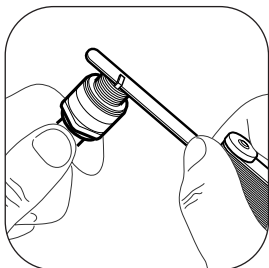
MOWER MAINTENANCE

Spark Plug Service



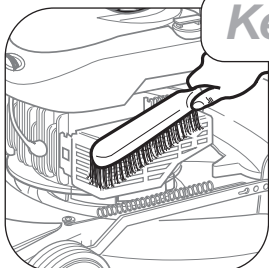
Use only Briggs & Stratton spark tester (1) to check for a spark as shown in the diagram.

Replace the spark plug every 100 hours or every season, whichever occurs first. A spark plug wrench is available from any authorised Briggs & Stratton service dealer.



Check the spark plug gap with a feeler gauge and set at 0.76mm.

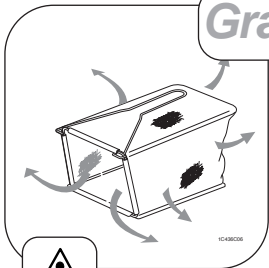
Keeping Engine Clean



Remove all grass and debris from the engine including the exhaust/exhaust guard, the air ways in the top cowl and the surrounding deck areas on a daily basis after use. Never spray the engine with water during cleaning. Water can contaminate the fuel. Always clean with a brush or compressed air.

Grass and debris may clog the engine's air cooling system especially after prolonged operation while cutting tall, dry grass. The internal cooling fins and surfaces may require cleaning to prevent overheating and engine damage. We recommended that this service be carried out by an authorised Briggs and Stratton dealer.

Grassbag



Remove grass debris from the grassbag immediately after use and check its condition for signs of damage.

To prevent accidents replace a damaged grassbag immediately.

MOWER MAINTENANCE

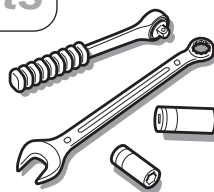
Deck Housing

Remove grass debris from the top and underside of the deck housing immediately after use.

To prevent accidents fertilisers and top dressings are particularly corrosive. Thoroughly clean the mower deck immediately after use on treated grass and store well away from corrosive materials.

Securing Nuts & Bolts

Regularly check that all securing nuts and bolts are tight. Replace missing or damaged items immediately.



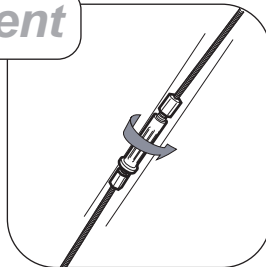
Clutch Cable Adjustment

Move the plastic adjuster as necessary. Then move the drive clutch lever to the engage position and check the drive. If the drive system still slips, adjust the cable until correct.

Cable stretch will change the performance of the drive system, resulting in the clutch slipping particularly when operating in thick grass or on slopes.

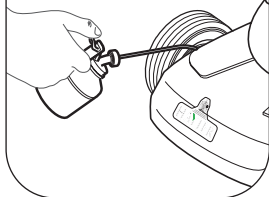
To adjust the clutch cable; rotate the plastic adjuster to shorten/lengthen the cable until satisfactory drive performance is obtained.

Check the clutch cable operation every 25 operating hours and adjust if necessary.



MOWER MAINTENANCE

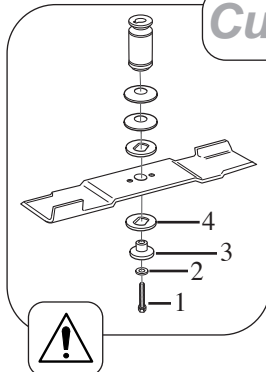
Lubrication



Lubricate the wheels, pivot points and linkages with engine oil every 25 operating hours.

Apply a good quality medium grease to the inner control cables at the point of entry and exit from their outer casing.

Cutterblade Removal



Drain the fuel by running the engine until the fuel tank is empty and the engine stops. **Remove the spark plug lead** and allow the engine to cool. Turn the mower on its **left hand side** and ensure that the air cleaner side of the engine is uppermost.

Firmly grip the end of the cutterblade with the gloved hand and remove bolt (1), tab washer (2) distance piece (3) and spacer (4) securing the cutterblade with a 9/16" A/F spanner.

To prevent accidents never work on the cutterblade unless the spark plug lead has been removed. The cutterblade has sharp edges. ALWAYS wear strong gloves to protect your hands when working on the cutterblade. DO NOT rotate tools towards the cutting edges to avoid the risk of injury should the tool slip. ALWAYS use genuine Hayter replacement parts.

The condition of the cutterblade and its mounting arrangement should be checked regularly for signs of wear or damage. Ensure that the cutterblade is not bent or cracked.

A damaged cutterblade that is out of balance will vibrate excessively and may break. **DO NOT** use an unbalanced cutterblade.

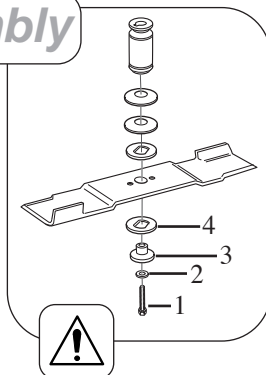
Regularly check that the bolt securing the cutterblade is tightened to the specified torque of 46Nm.

Replace the cutterblade every 2 years or sooner if excessively worn or damaged.

To prevent injury it is wise to seek assistance when turning the mower on its side.

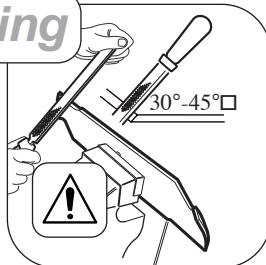
Cutterblade Assembly

Assemble the cutterblade with the turned up edges facing towards the engine. Secure the cutterblade using bolt (1), tab washer (2), distance piece (3) and spacer (4) tighten to a torque of 40Nm

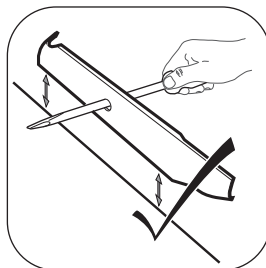


Cutterblade Sharpening

A slightly worn cutterblade may be re-sharpened. Both blade edges must be sharpened equally to ensure balance. Sharpen the cutterblade every 25 mowing hours or more frequently if conditions require. Remove the cutterblade from the mower and clean using a brush and water. Inspect the cutterblade for signs of damage. Sharpen both cutting edges with a flat file to restore performance.



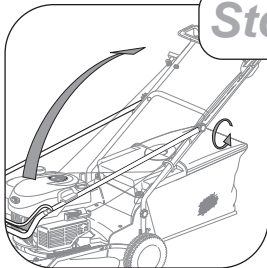
Ensure that the cutterblade is balanced. Use a screw driver with a round shaft to support the cutterblade through its centre hole. Hold the cutterblade horizontal and then release. A balanced cutterblade will remain horizontal.



If the cutterblade is not balanced the heavy end will rotate downwards. Sharpen the heavy end until the cutterblade is correctly balanced.

MOWER MAINTENANCE

Storage



To store the handlebar unscrew the 2 small securing knobs sufficiently to allow it to be pivoted forwards to rest against the mower. Take care to ensure that the control cables do not become snagged at the pivot point and depress the engine stop lever to prevent it being damaged through contact with the engine spark plug.

Engines stored in excess of 30 days need to be protected with Briggs & Stratton fuel additive or drained of fuel to prevent gum from forming in the fuel system or on essential carburettor parts. To ensure your mower is maintained in good working order it is important that the following procedure is adopted. Refer to the Maintenance section as necessary.

Drain fuel from the engine by operating the engine until it stops.

Disconnect the spark plug lead.

Change the engine oil.

Remove the engine spark plug and pour 15ml of engine oil into the engine cylinder and replace the spark plug. Do not exceed the stated volume of oil as engine damage may occur on re-starting. **Do not replace the spark plug lead.** Slowly pull the engine start - grip once to crank the engine. This will distribute the oil and help prevent engine corrosion.

Clean grass and debris from the engine cylinder, cylinder head cooling fins, under top cowl, and around and behind exhaust/exhaust guard.

Clean all other areas of the mower and ensure that the grassbag is clean.

Lubricate the mower.

Treat metal parts with a water repellent anti-corrosion product.

Cover the mower with a protective sheet and store it in a dry, ventilated area.

TROUBLE SHOOTING

PROBLEM	POSSIBLE FAULT	REMEDY
Engine will not turn over	Engine stop lever released	Operate engine stop lever
	Incorrect oil level	Check oil level
	Obstruction under deck	Remove obstruction
Engine smokes	Excess oil level	Check oil level
	Air cleaner cartridge oil soaked or plugged	Service air cleaner
Engine runs then stops	Fuel starvation	Fill fuel tank
	Fuel cap vent blocked	Clean fuel cap vent
Engine will not start.	Engine under load.	Raise height of cut.
	Fuel starvation.	Fill fuel tank.
	Incorrect / contaminated fuel.	Drain fuel tank and fill with correct fuel.
	Spark plug lead disconnected.	Connect spark plug lead.
	Engine brake not released.	Operate engine stop lever.
	Faulty spark plug.	Clean and adjust gap or replace.
Engine runs rough.	Spark plug lead becoming disconnected in use.	Connect spark plug lead.
	Faulty spark plug.	Clean and adjust gap or replace.
	Air cleaner element blocked.	Replace air cleaner element.
	Incorrect / contaminated fuel.	Drain fuel tank and fill with correct fuel.

TROUBLE SHOOTING

PROBLEM	POSSIBLE FAULT	REMEDY
Engine vibrates excessively.	Mounting bolts loose.	Tighten bolts.
	Cutterbar bolt loose.	Tighten bolt.
	Cutterbar out of balance.	Balance cutterbar.
Uneven cut.	Undulating ground contours.	Change direction of travel.
	Cutterbar worn.	Sharpen the cutterbar.
	Cutterbar out of balance.	Balance cutterbar.
	Wheels damaged.	Inspect and replace as necessary.
Discharge chute blocks.	Grass is wet.	Mow dry grass.
	Cut height too low.	Increase cut height.
	Grassbag full.	Empty grassbag.
	No airflow through the grassbag.	Clean the grassbag.
Mower is hard to push.	Height of cut too low.	Increase height of cut.
	Wheels damaged.	Inspect and lubricate or replace as necessary.
Mower will not self propel. (Auto drive model only).	Clutch out of adjustment.	Adjust clutch lever.
	Drive belt damaged.	Replace drive belt.
Poor grass collection.	No airflow through the grassbag.	Clean the grassbag.
	Discharge chute blocked.	Remove blockage.
	Wet grass.	Mow dry grass.
	Grassbag full.	Empty grassbag.

DECLARATION OF CONFORMITY

EC DECLARATION OF CONFORMITY

SANDRIGARDEN
Via Manzoni 22, 36027 Rosa, Italia



declare that the lawnmowers:

Models:	Ranger 3 in 1	(Guglielm Marconi)
Machine Type No.	CODE 436C	(91035011)
Category:	Auto Drive	
Type:	Pedestrian Rotary	
Engine - Manufacturer:	Briggs & Stratton	
- Speed of rotation:	2900 rpm	
Width of cutting device:	500mm	
Speed of rotation of the cutting device:	2900 rpm	

Complies with the provisions of Directive: 98/37/EC Essential Health & Safety Requirements Relating to the Design & Construction of Machinery and Safety Components, as amended and the regulations transposed into national law.

Also Directive 89/336/EEC Electromagnetic Compatibility, as amended and the regulations transposed into national law.

Also Directive 2000/14/EC Noise emission in the environment by equipment for use outdoors, and the regulations transported into national law procedure applied for the conformity assessment : ANNEX VI.
Notified Body : NOVICOM sas di R. Castelli & C. - Via della Fontana - 23804 Monte Marenzo (Lc)
Notified body identification No. 07023.

Measured sound power level:	98 dB(A)
Guaranteed sound power level:	100 dB(A)

Standards Used: EN836 and ENISO14982.

Signed

Alberto Cattaneo
(General Manager)

Date: 14.01.05

Declaration done and Technical Documentation kept at:
SANDRIGARDEN ,
Via Manzoni 22,
36027 Rosa, Italia

VIBRATION INFORMATION

Lawnmower vibration information. Hand/arm weighted vibration value.

a(h, w) 7.80 ms⁻². UNI EN 1033.

PARTS LIST

ITEM NO	DESCRIPTION	PART NO.	QTY
1	Deck	SA3043460	1
2	Side Cover	SA3024200	1
3	Side Discharge Chute	SA3024196	1
4	Screw	SA1034390	1
5	Bolt M8 X 80	SA145670	2
6	Decal Engine	436006	1
7	Woodruff Key	1662	1
8	Nut M8 Plain	ZNH1H000U	8
9	Decal Height of Cut	320006	1
10	Handwheel With Nut	SA2008490	4
11	Cup Washer	SA340060	4
12	Handlebar Lower	SA3043450	1
13	Bolt Handlebar	226024	2
14	Screw M8 X 60	SA142480	2
15	Washer Retaining	SA442060	1
16	Rope Guide	SA295640	1
17	Nut M6 Plain	09437	1
18	Nut M6 Nyloc	09438	4
19	Screw M6 x 55	09780	1
20	Throttle Control	533012	1
21	Handlebar upper	436011	1
22	Lever Engine Stop	340179	1
23	Pin Pivot	340182	2
24	Washer Plastic	09688	2
25	Screw 6mm Plastite	09687	2
26	Engine Brake Cable	341031	1
27	Clutch Lever	306094W	1
28	Clutch Cable	436012	1
29	Pivot Pin	SA2007470	1
30	Deflector	SA4023600	1
31	Spring	SA2023620	1
32	Screw	SA184960	2
33	Washer	SA181690	3
34	Pivot Moulding	SA4008500	2
35	GrassBag Cover	SA4023610	1
36	Grassbag	SA2043320	1
37	Grassbag Frame	SA373610	1

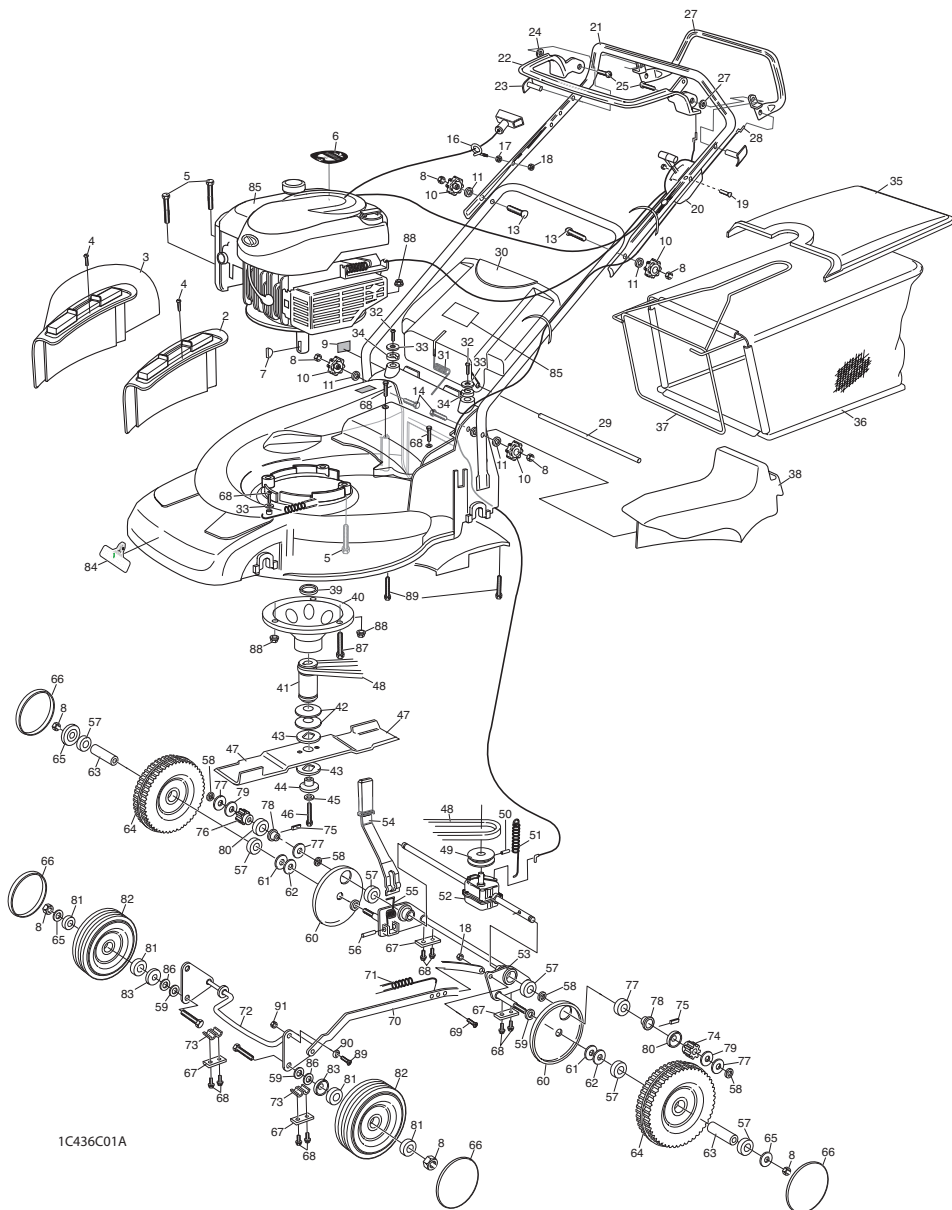
PARTS LIST

ITEM NO	DESCRIPTION	PART NO.	QTY
38	Plug Mulching	SA2024180	1
39	Bush	SA280820	1
40	Crankshaft Support	SA3036920	1
41	Pulley Boss	SA2038060	1
42	Spring Disc	SA2006400	2
43	Friction Disc	SA3006420	2
44	Cutterblade Distance Piece	SA3006410	1
45	Washer Tab	SA281100	1
46	Bolt 3/8 "UNF x 3"	SA281080	1
47	Cutterblade	SA2043700	1
48	'V' Belt	SA2013380	1
49	Pulley	SA244970	1
50	Pin	SA280890	1
51	Spring	SA2023620	1
52	Gearbox Assembly	SA296360	1
53	Rear Axle	SA396330	1
54	Handle Height of Cut	SA496390	1
55	Spring	SA280450	1
56	Pin	SA180460	1
57	Bearing	SA203560	6
58	Circlip 12mm	SA144590	4
59	Washer	SA150770	4
60	Cover Plate	SA380570	2
61	Washer Shim	SA245240	2
62	Washer Wavey	SA145250	2
63	Spacer	SA385250	2
64	Wheel	SA396350	2
65	Washer	09270	2
66	Hub Cap	SA479100	4
67	Securing Plate	SA344110	4
68	Screw M6 x 16	09596	11
69	Screw C/Sunk	SA186210	2
70	Connecting Rod	SA3023630	1
71	Spring	SA2023580	1
72	Front Axle	SA3023590	1
73	Bush	SA480180	2

PARTS LIST

ITEM NO	DESCRIPTION	PART NO.	QTY
74	Gear LH	SA242200	1
75	Key	SA203500	2
76	Gear RH	SA242190	1
77	Washer	SA250780	4
78	Spacer	SA403520	2
79	Washer Plastic	SA403540	2
80	Spacer	SA403510	2
81	Bearing	SA203680	4
82	Wheel	SA356110	2
83	Cap	SA380740	2
84	Decal Hayter Logo	410087	1
85	Decal - Caution	219189	1
86	Washer Bellville	SA244500	2
87	Bolt M8 x 100	SA147510	1
88	Nut M8 Nyloc	09442	3
89	Screw M6 x 12	09546	2
90	Washer	09472	1
91	Nut M6 Nyloc 'T' Type	09438	1

PARTS LIST



1C436C01A

NOTES

Notes:-

Notes:-

CUSTOMER INFORMATION

Serial No:

Motor Type:- (Code 436C) **Engine Type** Briggs & Stratton Quantum XTS 60

Date of Sale:- _____

Your Local Dealer:-