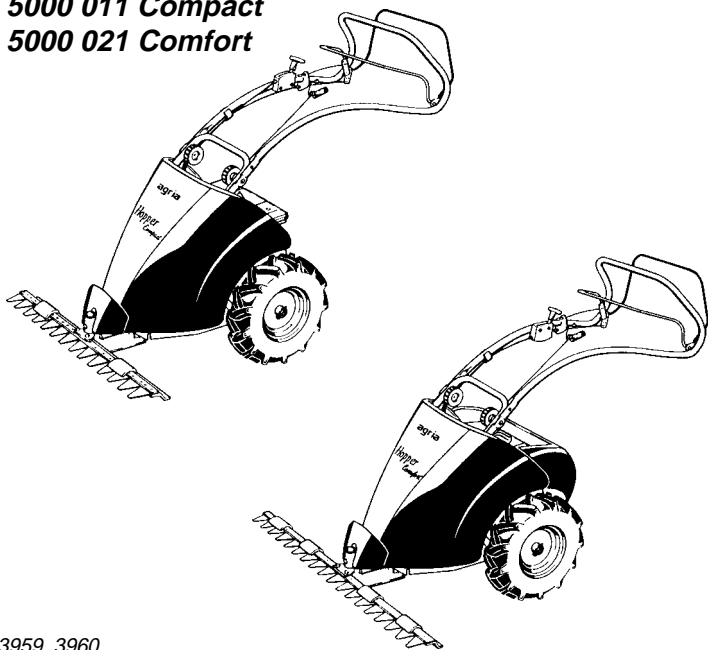


**Power Machines for Soil Cultivation,
Grass and Property Maintenance**

agria

Operating Instructions for AGRIA® Grassland Mower Hopper 5000

**5000 011 Compact
5000 021 Comfort**



3959, 3960



*Before commissioning the machine, read operating instructions
and observe warnings and safety instructions.*

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Note fold-out pages!

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Please complete:

Machine Type No.

ID/Machine No.
.....

Engine Type:

Engine No.

Date of Purchase:

For name plate, refer to p5/fig. A/18.

For Engine type and number, refer to p5/fig. B/7 or C/7.

Please state these data when ordering spare parts to avoid wrong deliveries.

Only use original AGRIA spare parts!

Specifications, figures and dimensions stated in these instructions are not binding. No claims can be derived from them. We reserve the right for improvements without changing these instructions.

This delivery comprises:

- Operating instructions
- Grassland mower – basic machine
- Handlebar with fixing parts
- 1 pair of drive-wheels
- 2 linch pins
- 2 anti-winding tubes
- Tool kit

Symbols



Warning – Danger



Important information



Fuel



Choke



Oil



Mowing drive



Wheel drive



Open



Closed

Lubricants and Anti-Corrosive Agents

Use the specified lubricants for engine and gearbox (see “Specifications”).

We recommend using **bio-lubricating oil** or **bio-lubricating grease** for “open” lubricating points or nipples (as specified in the operating instructions).

We recommend using **bio-slushing oil** for preservation of machines and implements (do not apply on painted external covers). Oil can be brushed or sprayed on.

Anti-corrosive agents are environmentally friendly and degrade fast.

Using ecologically safe bio-lubricants and bio-anti-corrosives, you contribute to environmental protection and to the wellbeing of humans, animals and plants.

Fuel

This engine runs smoothly on commercial **unleaded regular and supergrade petrol** as well as on **leaded supergrade petrol**.

Do not add oil to petrol.

If, for environmental reasons, you use unleaded petrol, make sure the fuel is drained completely when shutting down the engine for more than 30 days. This is to prevent resin residue from depositing in the carburetor, fuel filter, and tank. Or add a fuel stabilizing liquid.

When storing the grassland mower at the end of the season, also drain leaded fuel completely or add a fuel stabilizing liquid.

For further instructions refer to “Engine Preservation”.

Maintenance and Repair

The trained mechanics of your AGRIA workshop carry out expert maintenance and repair.

You should only carry out major maintenance work and repairs on your own, if you have the proper tools and knowledge of machines and internal combustion engines.

Do not hammer against the flywheel with a hard object or metal tools as it might crack and shatter in operation causing injuries and damage. Only use suitable tools for pulling the flywheel.

Figure A

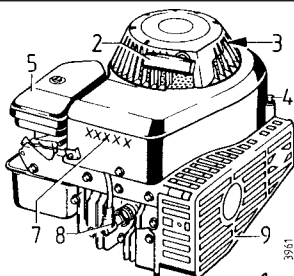
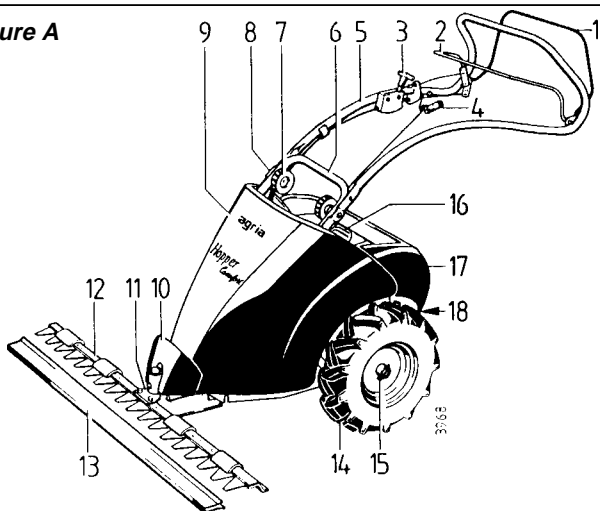


Figure B
CLASSIC 35

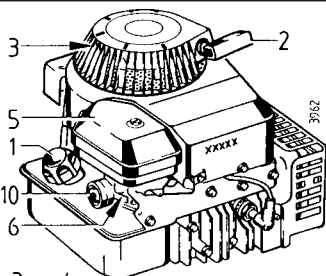


Figure C
CLASSIC 35

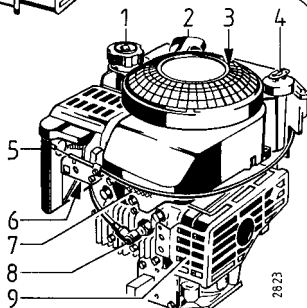


Figure D
Quantum XM 45

Figure A

- 1 Clutch control lever for wheel-drive
- 2 Clutch control lever for mowing drive
- 3 Speed control lever
- 4 Starter handle
- 5 Handlebar
- 6 Steering bar / handle to lift the machine
- 7 Knurled nut for handlebar attachment
- 8 Round and flat bolt for handlebar attachment
- 9 Mowing drive hood
- 10 Rocker arm with grass deflector
- 11 Knife driver with driving stone
- 12 Cutter bar
- 13 Knife guard
- 14 Drive-wheel
- 15 Linch pin
- 16 Engine
- 17 Engine panel (only on Comfort version)
- 18 Name plate (ID no.)

Figures B, C, D

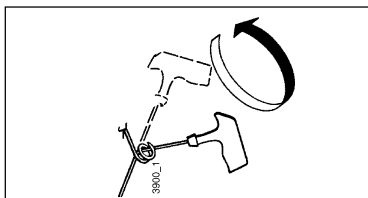
Briggs & Stratton engine

- 1 Fuel tank cap
- 2 Starter handle
- 3 Cooling grille
- 4 Engine filler and drain plug with oil dip-stick
- 5 Air filter
- 6 Carburetor
- 7 Engine type/Type no.
- 8 Spark plug, spark plug connector
- 9 Guarded exhaust
- 10 PRIMER (CLASSIC 35 version only)

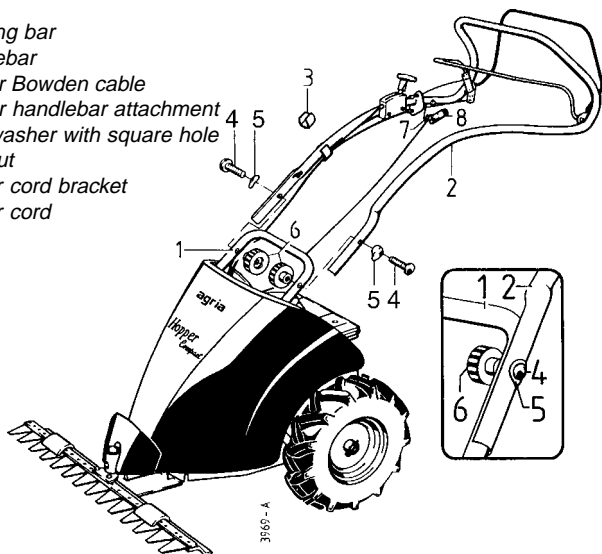
- Open the top of the cardboard box.
- Cut the box open on all four corners and fold down the sides.
- Attach the grip nut (6) and tighten it.
- Attach the Bowden cables to the handlebar using the clip (3). Ensure that all cables are routed properly. Ensure they are not bent or squeezed.

Fitting the handlebar

- Remove the grip nut (6) and remove the bolt (4) together with the oval washer (5).
- Align the ends of the handlebar (2) with the steering bar (1).
- Insert the bolt (4) with the oval washer (5) in the holes on the handlebar and steering bar from the outside. Ensure that the square end of the bolt is fitted properly in the square hole in the oval washer.



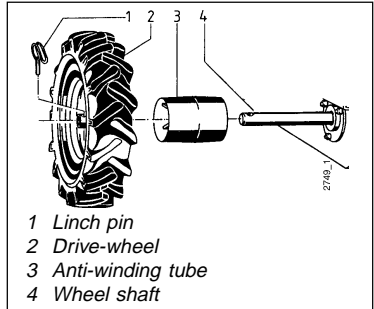
- 1 Steering bar
- 2 Handlebar
- 3 Clip for Bowden cable
- 4 Bolt for handlebar attachment
- 5 Oval washer with square hole
- 6 Grip nut
- 7 Starter cord bracket
- 8 Starter cord



- Fit the starter cord (8) into the bracket (7) and guide it anti-clockwise through the coil windings.

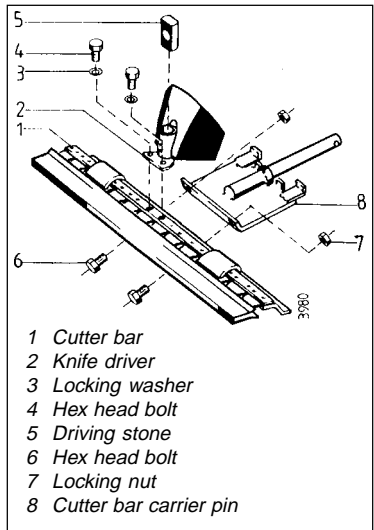
Fitting the Drive-Wheels

- Slide the anti-winding tubes (3) on both ends of the wheel shaft (4)
- Fit the drive-wheels on the wheel shaft (4) in such a way that the tread lugs point forward (seen from above) while the hub holes which accommodate the linch pins point outside
- Insert the linch pin (1) through the hole in the hub and wheel-shaft and lock the pin.



Fitting the Cutter Bar

- Attach the knife driver (2) to the knife with the hex head bolts (4) M8 x 12 and the locking washers (3). Tighten the bolts at a torque of 23 Nm (2.3kpm).
- Insert the knife driving stone (5) into the knife driver in such a way that both holes are aligned axially.
- Attach the cutter bar carrier pin (8) with hex head bolts (6) and locking nuts (7) to the cutter bar. Tighten the locking nuts at 23 Nm (2.3 kpm).
- Attach the cutter bar to the mower (see p21)



Commissioning the machine

For start-up procedures, follow the instructions on p22.

Before starting the engine, read the operating instructions and note:

Warning



This symbol marks all paragraphs which affect your safety. Pass all safety instructions to other users and operators.

Due Use

The grassland mower has exclusively been designed for all common applications and tasks in forestry, grass and park maintenance, and winter service (due use).

Any other type of operation is considered undue. The manufacturer is not liable for any damages resulting from undue use, for which the risk lies with the user alone.

Due use includes compliance with manufacturer's instructions on operation, maintenance and repair.

Any unauthorized changes to the mower render manufacturer liability null and void.

General Instructions on Safety and Accident Prevention

Basic Rule:

The standard accident prevention regulations must be adhered to, as well as all other generally accepted rules governing operational safety, occupational health and road traffic regulations.

For drives on public roads, the national traffic code applies.

Accordingly, check the grassland mower for road and operational safety each time you take up operation.

Only persons familiar with the mower and instructed on the hazards of operation are allowed to use, maintain and repair the mower.

Teenagers of 16 years or younger may not operate the grassland mower!

Only work in good light and visibility.

Operator's clothes should fit tight. Avoid wearing loose fitting clothes. Wear solid shoes.

Note the warning and instruction signs on the mower for safe operation. Compliance is for your own safety.

When transporting the mower on vehicles or trailers outside the area to be mowed, ensure that the engine is turned off.

Careful with rotating tools – keep at a safe distance!

Beware of coasting tools. Before you start any maintenance or repair on them, wait until tools have come to a complete stop.

Foreign powered parts shear and crush!

Riding on the attachment during operation is not permitted.

Implements and their weight affect the driving, steering, braking, and tip-over characteristics of the mower. Therefore, ensure steering and braking functions are sufficient. Match operating speed to conditions.

Do not change settings of governor. High engine speed increases risk of accidents.

Working Area and Hazardous Area

The user is liable to third parties working within the mower's working range.

Staying in hazardous area is not permitted.

Check the immediate surroundings of the mower before you start it. Watch out for children and animals.

Before you start work, clear the area from any foreign object. During operation, always watch out for further objects and remove them in time.

For operation in enclosed areas, ensure that a safety distance is kept to enclosures to prevent damage to tools.

Operation and Safety Devices

Before you start the engine

Become familiar with the devices and operating elements and their functions. Above all, learn how to turn the engine off quickly and safely in an emergency.

Ensure that all protective devices are mounted and positioned to provide protection.

With no implement mounted, make sure PTO-shaft is covered with the protective cap.

Starting the engine

Do not start engine in closed rooms. The carbon monoxide contained in the exhaust fume is extremely toxic when inhaled.

Before you start the engine set all operating elements to neutral or idling position.

For starting the engine, do not step in front of the mower and the implement.

Do not use assist-starting liquids when using electrical assist-starting devices (jumper cable). Danger of explosion.

Operation

Never leave the operator's position at the steering handle while mower is at work.

Never adjust the operating handles during work – danger!

During operation the operator must keep at a distance as defined by the steering handle, especially when turning the machine.

Riding on the implement during operation or in transport is not permitted.

If clogging occurs in the implement, turn off the engine and clean the implement with an appropriate tool.

In case of damage to the grassland mower or to the implement, immediately turn off the engine and have it repaired.

If steering causes problems, immediately bring the mower to a halt and turn it off. Have the malfunction removed without delay.

To prevent the mower from sliding on slopes, make sure it is secured by another person using a bar or a rope. This person must be located at a higher position than the vehicle and at a safe distance from the attachment at work.

If possible, always work horizontally on the slope.

End of Operation

Never leave the mower unattended with the engine running.

Before you leave the grassland mower, turn off the engine.

Secure grassland mower against unauthorized use. If mower is equipped with ignition key, remove the key. For all other versions, remove spark plug connector.

Implements

Only mount implements with the engine and PTO switched off.

Always use appropriate tools and wear gloves when changing implements and parts thereof.

For mounting and dismounting implements bring support leg into proper position and ensure stability.

Secure mower and implements against rolling off (parking brake, wheel chocks).

Beware of injuries while coupling implements.

Mount implements as specified and only couple at specified points.

Secure mower and implement against unauthorized use and rolling off when you leave the machine. If necessary, install transport or security devices and secure.

Mowing Attachment

Handle with care! Sharp blades of the cutter bar may cause injuries! Remove protective knife strips only for mowing and refit immediately after work has finished.

For transport and storage always mount the protective knife strips. Secure finger bars additionally with tension springs.

Do not transport the dismantled cutter bar without protective strips.

Before mounting and dismounting the cutter bar, make sure all blades are protected by the protective strip.

To exchange the mowing knife and to mount/dismount the knife driver, make sure that you turn screws away from cutting edges.

For grinding the mowing knives, always wear safety goggles and gloves.

Weights

Always fit weights onto appropriate weight mounting devices.

Snow Clearing

Ensure snow dozer is mounted correctly! Wear slip-proof shoes.

When swivelling the snow dozer watch out for crush and shear points. Adjust working speed to conditions. Operator may be injured when the mache comes in contact with solid objects.

Maintenance

Never carry out any maintenance or cleaning with the engine running.

Before you work on the engine, always remove spark plug connector (petrol engine only).

Check regularly and, if necessary, replace all protecting devices and tools subject to wear and tear.

Replace damaged cutting tools.

Always wear safety gloves and use proper tools when exchanging cutting tools.

Do not carry out repairs like welding, grinding, drilling, etc. on structural and safety-relevant parts (e.g. coupling devices)!

Keep mower and implement clean to avoid risk of fire.

Check nuts and screws regularly for tight fit and re-tighten, if necessary.

After maintenance and cleaning, ensure that you re-install all safety and protective devices and adjust them properly.

Only use original AGRIA spare parts. All other commercial spare parts must correspond to quality and technical requirements specified by AGRIA.

Storage

It is not allowed to store the mower in rooms with open heating.

Never park the mower in closed rooms with fuel left in tank. Fuel vapours are hazardous.

Engine, Fuel, and Oil

Never let the engine run in closed rooms. Extreme danger of intoxication! For the same reason, also replace damaged exhaust pipe immediately.

Be careful when dealing with fuel. Great danger of fire! Never refill fuel close to open fire, inflammable sparks or hot engine parts. Do not refill fuel in closed rooms. Do not smoke when refilling!

Refill only with the engine switched off and cooled down.

Do not spill any fuel, use a proper filling device.

1. Safety Instructions

In case of fuel spillage, pull the grassland mower away from the spillage before you start the engine.

Make sure fuel is of specified quality.

Store fuel in approved cans only.

Store anti-corrosive agents and stabilizing liquids out of reach of children. If sickness and vomiting occur, see a doctor. If fuel has contacted eyes, rinse them thoroughly, avoid inhaling of vapours.

Read and observe enclosed instructions.

Before you dispose of opened and seemingly empty pressurised tins (e.g. of assist-starting liquids) make sure they are completely empty. Empty them in ventilated places safe from spark formation or flames. If necessary, dispose of tins in hazardous waste deposits.

Be careful when draining hot oil, danger of burns.

Make sure oil is of specified quality. Storage is in approved cans only.

Dispose of oil, greases, and filters separately and properly.

Tyres and Tyre Air Pressure

When working on tyres, make sure grassland mower is parked properly and secured against rolling off.

Any repairs are to be carried out by trained mechanics only and with the appropriate tools.

Regularly check tyre air pressure. Excessive pressure may cause bursts.

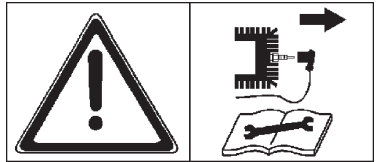
Use appropriate tyre air pressure when mounting weights or implements.

Re-tighten attachment bolts of drive-wheels or check tightness when doing maintenance work.

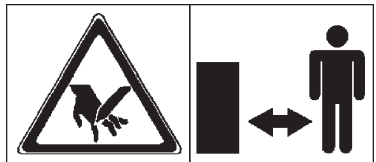
Electrical System and Battery

Persons having a pacemaker must not touch live parts of ignition system when the engine is running.

Explanation of Warning Signs



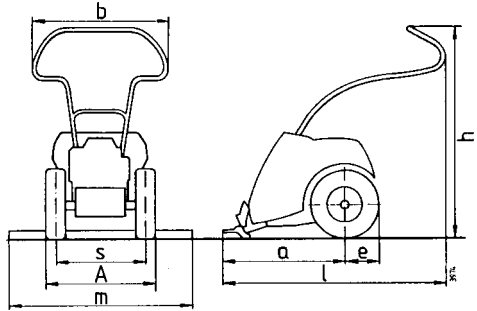
Before any cleaning, maintenance, and repair work switch off the engine and pull spark plug connector.



With engine running, keep at a safe distance from cutting tools.

Grassland Mower

Machine Dimensions:



a	600 mm	l	1140 mm
b	480 mm	m	710 or 910 mm
e	180 mm		(depending on cutter bar version)
h	1040 mm	s	430 mm
		A	525 mm

Tyres: 3.50 - 6 (field tyre)

Tyre air pressure: 0.8 bar

Transmission: Worm gear
with integrated conus clutch
and chain drive

Ground speed:

Forward 2.8km/h

Cutter bar drive: .. Central rocker arm
drive with V-belt clutch

**Only use original AGRIA V-belts! (see
list of wear parts p37)**

Reciprocating shaft speed 850 rpm

Stroke 60 mm

Steering handle: Vibration dampened

Weight including cutter bar:

Compact 71 cm 47.5 kg

Comfort 91 cm 50 kg

Noise level:

In accordance with German 3rd Ordinance on machine-safety law:

Noise level

at operator's ear 84 dB(A)

(in accordance with regulations of German Agricultural Association)

Vibration acceleration value:

on handlebar grip: $a_{hwz} = 4.5 \text{ m/s}^2$

in accordance with ISO 5349 at 85% of rated engine speed with tools at work

2. Specifications, Compact Version

Engine

Manufacturer: Briggs & Stratton

Type: CLASSIC 35
95 902 – 0224

Version: Fan-air-cooled
1-cylinder-4-stroke engine (petrol)

Bore: 65.1 mm

Stroke: 44.4 mm

Cubic capacity: 148 ccm

Power: 2.2 kW at 3000 rpm

Torque: 5.2 Nm at 2600 rpm

Spark plug: Champion RJ 19 LM

Gap: 0.75 mm

Ignition system:

Electronic magnet ignition, ignition point is pre-set, radio remote screened according to VDE 0879

Valve lash (engine cold):

Intake: 0.10 mm – 0.15 mm

Outlet: 0.18 mm – 0.23 mm

Starter: Recoil starter

Fuel tank capacity: 0.95 l

Fuel: Commercial petrol
octane number min. 85 RON
(refer to fuel recommendations)

Air filter: Foamed filter element

Carburetor: Horizontal float

Mix control screw:

in basic setting approx. 1 turn open

Top no-load speed: 3100 rpm

Idling speed: 1400 rpm

Engine oil: Multi-grade oil
SAE 10W-40 API-SC

Filling quantity approx. 0.6 l

Operability on Slopes:

Engine is suited for use on slopes (with oil level at "max" = upper level mark)

Continuous operation

possible up to 25° inclination (55%)

Temporary operation

up to 30° inclination (66%)

2. Specifications, Comfort Version



Engine

Manufacturer: Briggs & Stratton

Type: Quantum XM 45
127 802 - 0899

Version: Fan-air-cooled
1-cylinder-4-stroke engine (petrol)

Bore: 68 mm

Stroke: 52 mm

Cubic capacity: 189.6 ccm

Power: 3.0 kW at 3000 rpm

Torque: 7.8 Nm at 2400 rpm

Spark plug: Champion RJ 19 LM

Gap: 0.75 mm

Ignition system:

Electronic magnet ignition, ignition point is pre-set, radio remote screened according to VDE 0879

Valve lash (engine cold):

Intake: 0.10 mm – 0.15 mm

Outlet: 0.18 mm – 0.23 mm

Starter: Recoil starter

Fuel tank capacity: 1.5 l

Fuel: Commercial petrol
octane number min. 85 RON
(refer to fuel recommendations)

Air filter: Dry filter element

Carburetor: Horizontal float

Mix control screw:

in basic setting approx. 1 turn open

Top no-load speed: 3100 rpm

Idling speed: 1400 rpm

Engine oil: Multi-grade oil
SAE 10W-40 API-SC

Filling quantity approx. 0.6 l

Operability on Slopes:

Engine is suited for use on slopes (with oil level at "max" = upper level mark)

Continuous operation

possible up to 25° inclination (55%)

Temporary operation

up to 30° inclination (66%)

The grassland mower AGRIA 5000 is suited for horticultural, agricultural, and forestal operations, for grass and park maintenance and for winter service operation. The following cutter bars are available:

- Cutter bar – Z
71 cm
91 cm

Engine

The four-stroke petrol engine runs on commercial petrol (refer to fuel recommendations p4).

During the first 20 operating hours (break-in period) do not operate the engine at maximum speed.

Even after the break-in period never operate the engine at higher speed than is necessary for the work in hand.

i **High engine speed is harmful to any engine and considerably affects its longevity. This applies especially for no load operation. Any overspeed (have the engine roar) can result in immediate damage.**

Cooling System

The cooling system is fan-cooled. Therefore keep the grille on the recoil starter and the cooling fins on the cylinder clean and free from sucked-in plant trash.

Always ensure that idling-speed is adjusted correctly. At low speeds and with the speed control lever set to idle, the engine is supposed to run smoothly and without run-out.

Air Filter

The air filter purifies the air intake. A clogged filter reduces engine output.

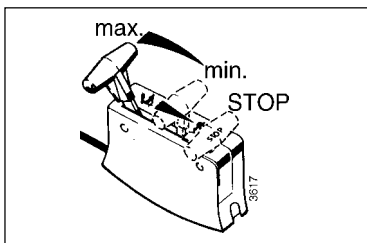
Ignition System

The engine is equipped with a maintenance-free, contactless electronic ignition system. We recommend to have necessary check-ups done by an expert only.

Compact Version

Speed Control Lever (Engine-shut-off switch)

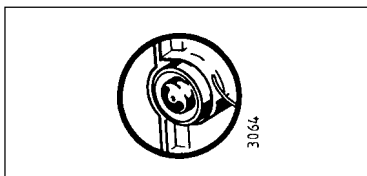
The speed control lever (A/3) on the steering handle has two functions: it steplessly controls ground speed and shuts off the engine in an emergency. For the appropriate positions in the shift gate see the illustration.



The speed control lever also serves as **engine dead stop**. In an emergency move the lever to position „STOP“ to shut off the engine instantly.

PRIMER

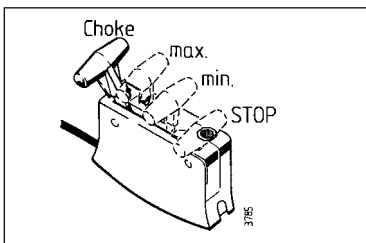
The engine type CLASSIC 35 is equipped with a PRIMER (C/10) instead of a choke to inject fuel for cold starts.



Comfort Version

Speed Control Lever (Engine-shut-off switch)

The speed control lever (A/3) on the steering handle has two functions: it steplessly controls ground speed and shuts off the engine in an emergency. For the appropriate positions in the shift gate see the illustration.



The speed control lever also serves as **engine dead stop**. In an emergency move the lever to position „STOP“ to shut off the engine instantly.

Clutch


The machine is equipped with a conus clutch which is integrated in a worm gear to drive the wheels and with a V-belt clutch with pulley to drive the cutter bar. Actuation is via the clutch control lever for wheel-drive (A/1) and via the clutch control lever for the mowing drive (A/2).


The clutch levers simultaneously serve as a dead man's handle. Upon release of the handle the clutch is disengaged and the engine stops driving the wheels and the cutter bar.

Both clutches can be actuated independently.

The handles are factory-set to a play of at least 10 mm to prevent the clutch from slipping during work.

Check the clutch play after the first operating hour and readjust the play if necessary (see maintenance instructions).

 The clutch control levers are designed as dead stop. Upon release, the handles will automatically go to position „STOP“ to shut off the engine instantly.

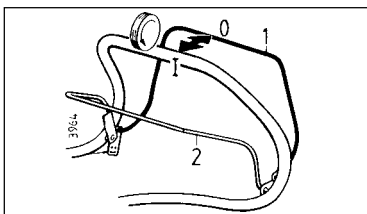
 **Do not tie the dead man's handles.**

Transmission

The grassland mower is equipped with one forward speed.

Forward speed is engaged/disengaged with the clutch control lever (A/1):

- Engage forward speed: move clutch control lever (A/1) towards the handlebar.
- Disengage forward speed: Release the clutch control lever (A/1).

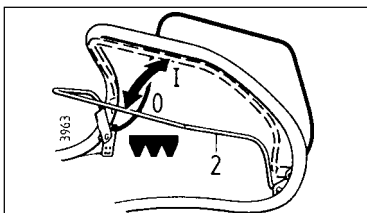


Mowing drive

The knives are driven via a rocker drive.

The mowing drive is engaged/disengaged with the clutch control lever (A/2):

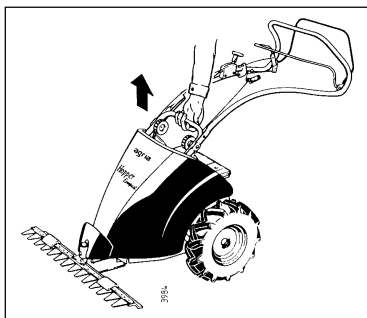
- Engage mowing drive: Pull the clutch control lever (A/2) towards the handlebar
- Disengage the mowing drive: Release the clutch control lever (A/2)



Handle to lift the Machine

The steering bar on the grassland mower is shaped like a handle (A/6) to allow the operator to lift the machine at a favourable point of gravity.

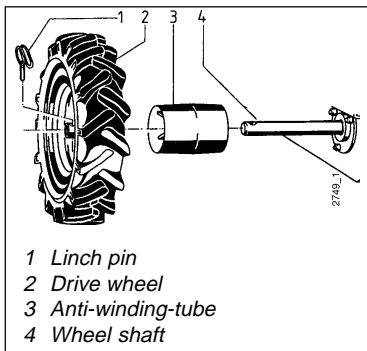
Do not try to lift the mower on the plastic panels!



Drive-wheels

The drive-wheels (2) are attached to the wheel shaft (4) with linch pins (1). This allows attaching and removing the wheels without tools.

Anti-winding tubes (3) are fitted on both ends of the wheel shaft. These prevent grass from winding around the shafts. Removing grass that has wound around the shaft is easy: simply remove the drive-wheels without tools and slide off the tubes.



Engine Panel

The Comfort engine version is equipped with a rear engine panel (A/17).

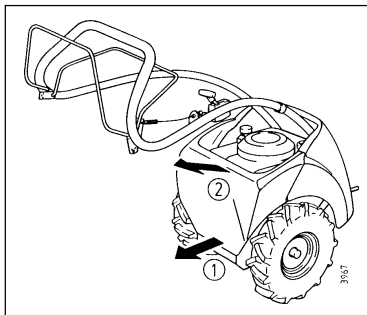
Remove this panel to inspect and service the engine.

Removing the engine panel

- Remove the grip nut and pull the panel from the threaded pin to the rear
- Remove the panel from bracket 2, pulling it upwards at an angle and towards the handlebar

Mounting the engine panel

- To replace the panel, reverse the above order.



Attaching the Cutter Bar

The following cutter bars are available for attachment to the basic machine:

Cutter bar Z..... 71 cm

Cutter bar Z..... 91 cm

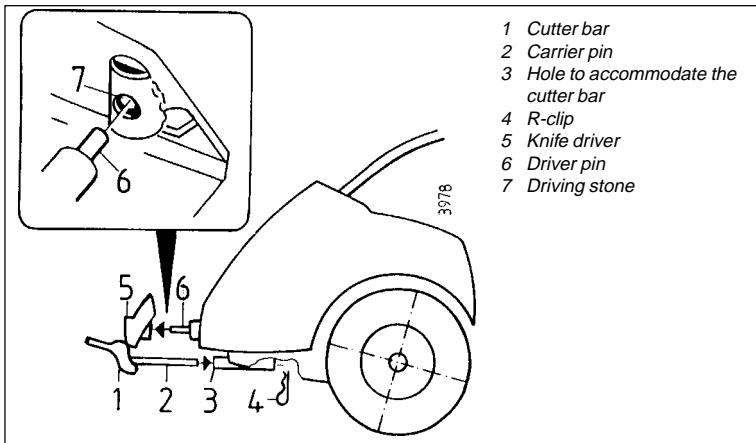
! **When attaching/removing the cutter bar to/from the machine fit the knife guard (A/13) and wear safety gloves!**

- Ensure the driving stone (7) is fitted in the knife driver (5) and its hole is axially aligned with the knife driver's hole.
- Brush Bio-lubricating grease on the driver pin (6) and the carrier pin (2).
- Insert the driver pin (6) in the hole in the driving stone (7) and insert the carrier pin (2) in the hole (3) on the basic machine.
- Lock the carrier pin with an R-clip (4).

To **remove** the cutter bar from the basic machine reverse the above order.



For knife adjustment and replacement see "Maintenance" p29.



Commissioning the Machine

Please note that engine longevity and operational reliability depend to a large extent on its breaking-in. Always allow a cold engine to warm up for some minutes and never operate it at full throttle at the beginning. Make sure the air filter is serviced regularly and to use clean fuel.

Please note: for the first 20 hours of operation (break-in period) do not use the engine at full power.



Caution: The engine is delivered without engine oil for reasons of transport safety!

Before you take the machine into operation, fill in engine oil!

For this purpose, park the grassland mower in such a way that the engine is level. For the proper oil filling quantity and quality see "Specifications".

Check the oil level after filling.

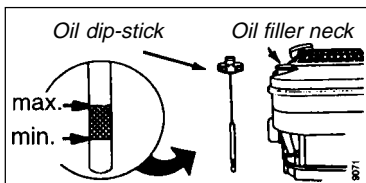
Check oil level

- Remove the oil dip-stick (B/4 and D/4) and clean it with a clean cloth.
- Screw the oil dip-stick all the way down.
- Remove the oil dip-stick and read the oil level.

Ensure that the dip-stick sits tight in the oil filler neck when the engine is running.

To avoid starting problems, top up fuel before the first start-up and after longer storage.

Before each start-up:



- Check the engine oil-level, and top up oil if necessary – do not add too much oil.
- Check whether the fuel tank contains enough fuel.

Do not fill the fuel tank until the fuel overflows. Leave enough room (approx. 5 mm) for the fuel to expand.



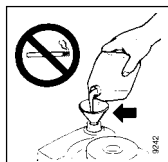
Be careful when dealing with fuel. Great danger of fire! Never refill fuel close to open fire, inflammable sparks or hot engine parts. Do not refill fuel in closed rooms. Do not smoke when refilling!

Refill only with the engine shut off and cooled down.

Do not refill fuel in closed rooms.

Do not smoke while you are filling the fuel tank!

Do not spill any fuel, use a proper filling device.



Do not start the engine in closed rooms. Exhaust fumes contain carbon monoxide which acts toxic when inhaled.

Before you start the engine move all controls to neutral or idling.

Keep your feet clear off the engaged attachment.

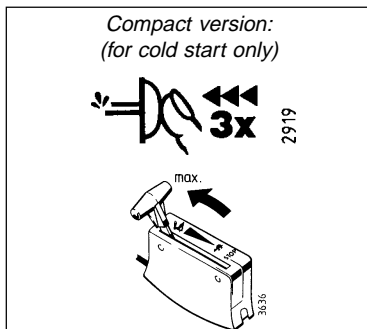
Starting the Engine

Engine cold:

Compact version.

Engine type CLASSIC 35

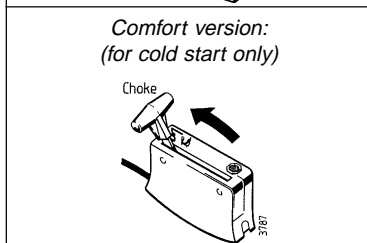
- Press PRIMER (B/10) 3 times to inject fuel
- Move speed control lever (A/3) to "max" (FULL THROTTLE).



Comfort version:

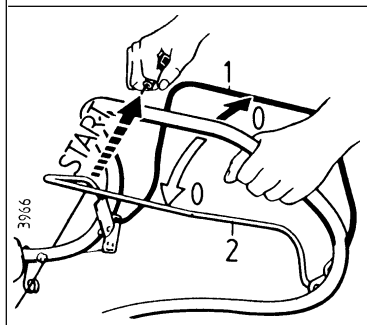
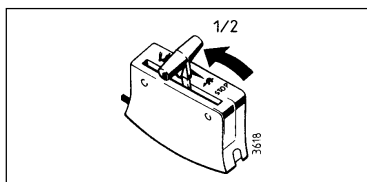
Engine type Quantum XM 45

- Move speed control lever to "CHOKE" position



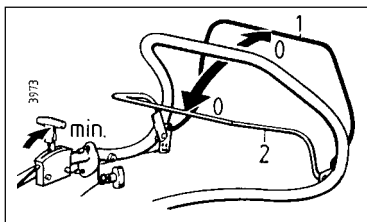
Engine warm:

- Move speed control lever (A/3) to operating position midway between idling speed and full speed
- The operator is behind the handlebar
- Keep off hazardous area (in particular children)
- Leave both clutch control levers (A/1 and A/2) in off-position
- Pull the starter cord handle (A/4) until you feel the starter clutch engage. Then **pull hard and fast** to start the engine. After the start, let the cord glide back. Do not let it snap back.
- Once the engine is started move the speed control lever slowly midway between idling speed and full speed and let it warm up for a short time.

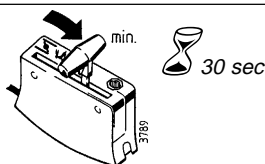


Shutting off the Engine

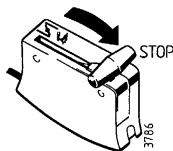
- Release both clutch control levers (the clutches are disengaged)



- Move speed control lever (A/3) to idling speed and let the engine run idling for a about 30 seconds.



- Move speed control lever all the way to STOP position



- To stop the engine **do not** move the control lever to CHOKE position – **risk of fire!**



The speed control lever also serves as **engine dead stop**. In an emergency move the lever to position „STOP“ to shut off the engine instantly.

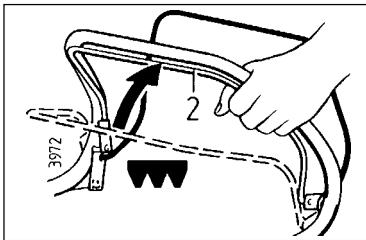
Mowing



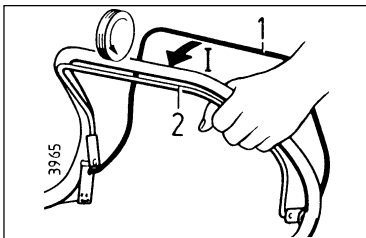
Before you start off check the immediate surroundings for children and animals.

Before you start work remove any foreign objects from the area to be mowed. Watch out for foreign objects during work.

- Remove the knife guard
- Start the engine
- Engage the mowing drive
Pull the clutch control lever to engage the mowing drive (A/2) and move the speed control lever to the desired speed at the same time; the knives start moving



- Engage wheel drive:
Move the clutch control lever for wheel-drive (A/1) towards the handlebar: the mower moves ahead and starts mowing.

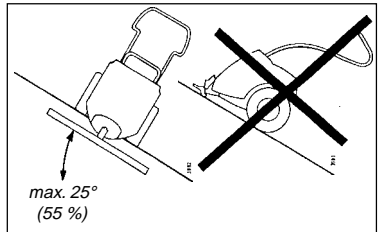


After operation or in case of blockages:

- Release the clutch control lever (A/1). The mower will stop but the knives continue running. This will remove any blockages from the cutter bar
- Release the clutch control lever for mowing drive (A/2)
- Shut off the engine
- Re-attach the knife guard



For any cleaning that becomes necessary during work shut off the engine and remove the spark plug connector for safety reasons.



Mowing on flat areas

Mowing on slopes



Always turn the machine towards the slope when mowing on banks.

Apart from adhering to operating instructions for grassland mowers, it is also important to observe the following maintenance instructions.



Warning: Only do maintenance work with the engine shut off.

To prevent accidental start while working on the cutter bar or the engine, always remove the spark plug connector from the spark plug.

Machine

Worm Gear

The worm gear is permanently lubricated. Lubricating and servicing is not necessary.

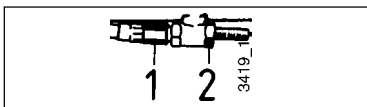
Checking and Adjusting Clutch Play

For smooth clutch operation ensure that the play on each clutch control lever is at least 10mm. Check the clutch play while the drives are disengaged.

If the clutch play needs readjustment, adjust the cable-setting screws.

Adjustment

- Undo locking nut (2)
- Adjust the setting screw (1) in such a way that the play on the clutch control lever is at least 10mm.
- Retighten the locking nut (2)



Ensure that the drives are disengaged when the clutch control levers are in position "0", this means wheels and cutter bar come to a stop.

If it is no longer possible to adjust the clutch play, the V-belt will need replacement. **For this purpose, contact your professional AGRIA workshop.**

V-Belts

Inspect the condition of the V-belts at least once per year.

- Turn the mower over to its left side and remove the bottom plate (5)
- If the V-belts are worn, replace them
Only use original AGRIA V-belts!
– see "wear parts"

For V-belt change and the following adjustment, **contact your AGRIA workshop!**

Chain Drive

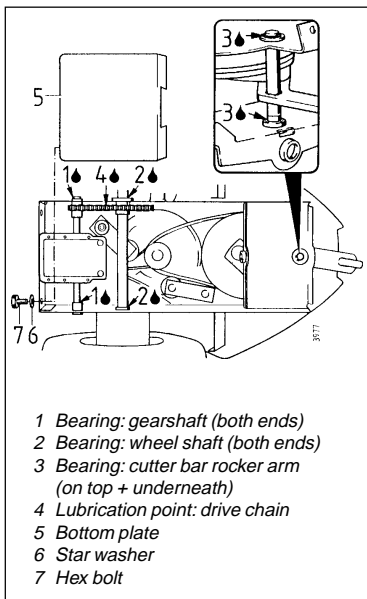
Wet the drive chain (4) with chain oil once a year and after cleaning the mower with a pressure washer.

Bearing Bushes

Apply a few drops of Bio-slushing oil to the bearing bushes (1–3) once a year and after cleaning with a pressure washer. For this purpose, turn the mower over onto its left side and remove the bottom plate (5)

Drive-wheels

- Inspect the tyre pressure at regular intervals. In particular, ensure that the pressure on both wheels is equal to ensure a smooth running.
- Fit the wheels in such a way that the lugs point in travelling direction to give full traction (seen from above).
- Check the wheel shaft permanently for any grass stems that have wound around it. Remove any grass. If necessary, remove the drive-wheels for this purpose.



Mowing Attachment

The cutter bar is exposed to extreme strain. Therefore, it needs careful maintenance and adjustment.

- **Each time before you take up operation** and after every **8** operating hours, lubricate all gliding parts with Bio-lubricating grease or Bio-lubricating oil.
- Approximately after every **30 minutes** of operation, re-tighten all nuts and bolts on the mowing drive and the cutter bar (especially on the knife driver).

Cleaning

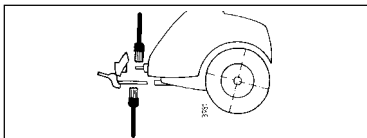
After each operation, clean the cutter bar thoroughly with water. Above all, remove the dirt which has collected between knife blades. For this purpose remove the knife.

After cleaning, apply Bio-lubricating oil or Bio-lubricating grease to all gliding parts.


For longer storage, spray the cutter bar with Bio-slushing oil.

Driver Pin, Cutter Bar Carrier Pin

- Lubricate the driver pin and the carrier pin with Bio-lubricating grease each time the cutter bar is attached and after cleaning with a pressure washer.



Cutter Bar Z

 **Wear safety gloves when working on the cutter bar!**

Removing the knife


Loosen the hex nuts (1) on the knife holders (2). Then remove the knife holders and the knife (3).

Fitting the knife

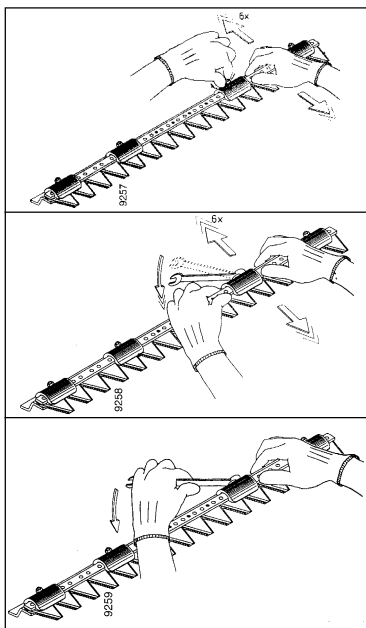
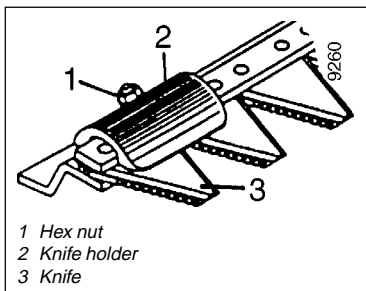
After cleaning the knives thoroughly and applying some Bio-lubricating grease (in particular to the gliding faces and attachment areas on the knife holder):

- Replace knife and knife holder; the hex nuts must turn easily. If this is not the case oil them.
- Adjust the knife holder

Adjusting the knife holders

 On cutter bars equipped with 4 knife holders **adjust the two middle holders first!**

- Slightly tighten the hex nut (1) with 2 fingers while your other hand oscillates the knife (3) as indicated by the arrow
- Place a slightly angled ring spanner at an angle of about 45° on the nut and oscillate the knife with both hands while you press on it. While you are doing this, the ring spanner will move through the angle. If this is not enough, place the spanner again on the nut and repeat the procedure.
- Tighten hex nut (1)
- Then adjust the remaining knife holders in the same way



Grinding the Mowing Knives

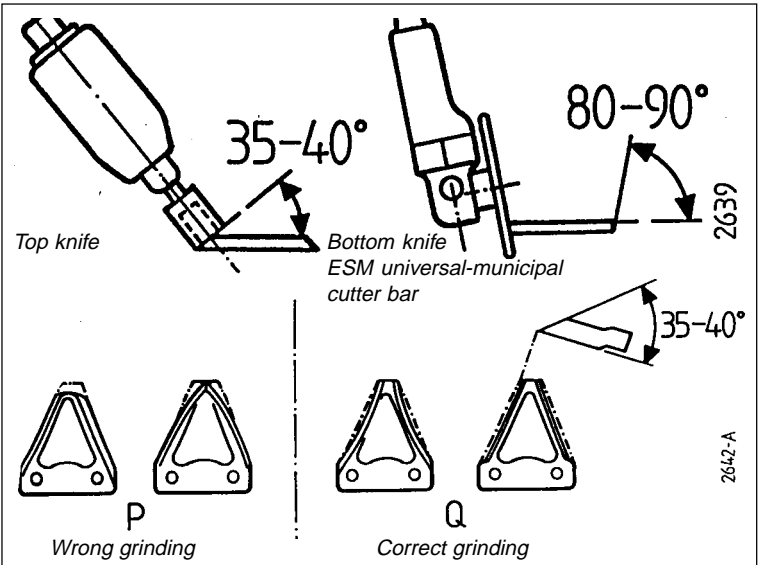
⚠ Wear safety goggles and gloves!

After 4–20 operating hours, depending on the wear on the knives, these become dull and regrinding is necessary.

For this purpose, we recommend using a hand grinder of 15,000 – 20,000 rpm with a pot-shaped grinding pin of 25 mm in diameter and approx. 35 mm in length or a special grinding tool.

Grinding the knives is essential for a clean and smooth operation.

- Grinding is done using the front of the grinding pin only, guiding it from the back of the knife to the tip of the blade.
- Blades must not heat in the process. They are destroyed when they turn blue (glowed out and soft).
- Do not round off the blade tips (P).
- Do not grind the blades in a curve (P).
- Use a grinding stone to remove any burr.

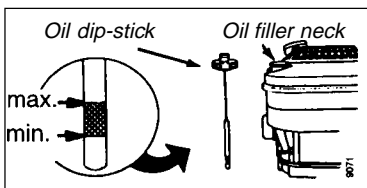


Engine

Check Engine Oil Level

Each time before you take up operation and after every 5 operating hours!

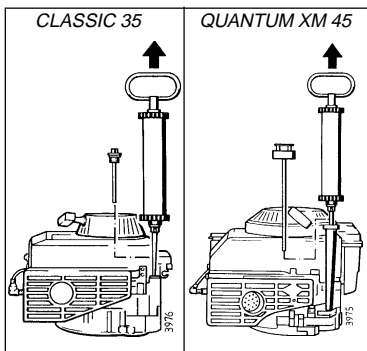
- Check only with the engine shut off and in horizontal position.
- Clean the oil filler plug (B/4 and D/4) and its surrounding parts.
- Remove the oil filler plug. Clean the oil-dipstick with a clean cloth and put it all the way back in. Remove the oil dipstick and read the oil level.
- Refill oil, if the oil level is below the bottom dip-stick mark. Refill engine oil (see „Specifications“) up to the top mark on the dip-stick.



Change Engine Oil

The first oil change is after 5 operating hours. Subsequent oil change intervals are after **50** operating hours or **once a year**, depending on which period is completed first. At extreme strain and high temperatures, change oil after 25 operating hours.

- Remove the drain and filler plug (B/4 and D/4).
- Pump the oil out through the filler neck using a suction pump.



- Dispose of old oil properly!
- Fill fresh engine oil.

For oil quantity and quality, refer to chapter „Specifications“.

If possible, use a funnel or a similar device to fill in oil.

Only change oil while the engine is still warm, but not hot – **danger of burns!**



Air Filter

Clean the air filter insert after every **3 months** or after every **25 operating hours** at the latest (earlier in very dusty conditions). For this purpose, proceed as follows:

Compact Version:

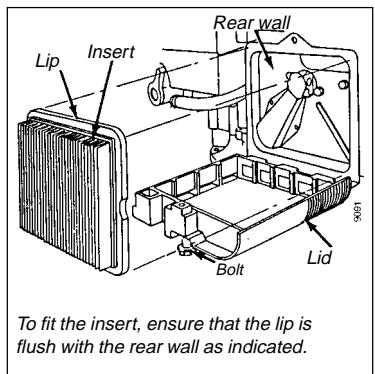
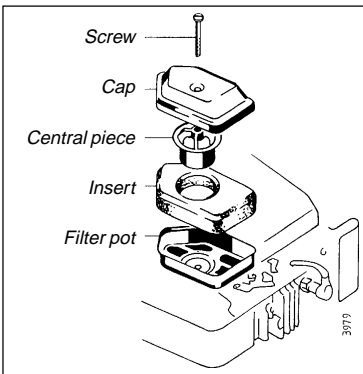
– Engine type CLASSIC 35

- Remove the screw and remove the cap.
- Remove the filter insert and wash it in non-foaming, warm suds. **Do not use** detergents containing paraffine (petrol etc.). Rinse it thoroughly in running water, rinse until the water stays clear.
- Squeeze the insert like a sponge, wrap it in cloth and press it until it is dry
- Soak the insert with some engine oil and press surplus oil out
- Replace the insert in the filter pot together with the central piece.
- Attach the screw and tighten it

Comfort Version:

– Engine type Quantum XM45

- **Remove the bolt** and fold down the cover.
- Tap the filter insert on a smooth surface and wash it in non-foaming, warm suds. **Do not use** detergents containing paraffine (petrol etc.). Rinse it inside out in running water, rinse until the water stays clear.
- Let the insert air-dry **completely**, before you put it back in.
- Do not treat the insert with oil and do not do not blow it clean with compressed air.
- Replace a heavily soiled air-filter insert (see wear parts).



Fuel System

- Each time you maintain the machine, check fuel hose, fuel tank, and carburetor for leakages. Repair, if necessary, immediately replace a leaking or porous fuel hose.

- Replace fuel hoses after every 2 years.

- If engine fuel supply is too high, move the speed control lever to FULL THROTTLE and crank the engine with the recoil starter until the engine starts again.

Do not crank the engine when the spark plug is removed.

Spark Plug

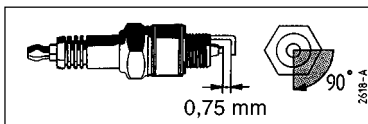
- After every 50 operating hours clean the spark plug and reset the gap to 0.75 mm. Clean the spark plug only with a steel brush and wash it with a conventional detergent.

- Exchange the spark plug at intervals of approx. 100 operating hours.

- Exchanging spark plug:

Turn the new spark plug into cylinder head by hand. Then continue with a spark plug wrench. Turn wrench at 90° or a torque of 20...30 Nm.

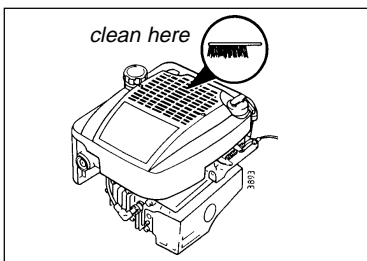
- With spark plug or spark plug cable removed, do not check the ignition for spark formation. Only use approved testing equipment.



Cleaning Cooling Grille

After long operation, dirt can clog the cooling system. To avoid overheating and damage to the engine, clean the cooling grille regularly.

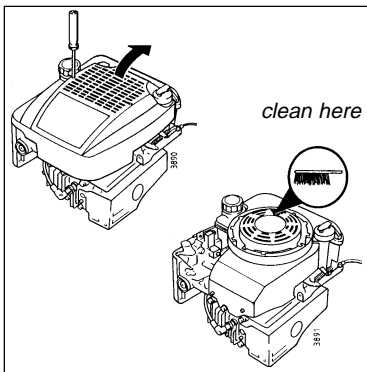
Check each time before you take up operation.



Air-Cooling System

Clean internal cooling fins and surfaces at least every 100 operating hours (earlier in very dusty conditions).

For this purpose, contact your professional AGRIA workshop.



Governor

For smooth engine performance keep governor linkages, springs and actuating devices clean and free from dust and dirt. Do not bend or twist parts. (Governor linkages on carburetor B/6 and D/6).

Exhaust

Regularly clean surrounding parts of the muffler (B/9 and D/9). Free it from grass, dirt and inflammable deposits.

– **Danger of fire!**

Check each time before you take up operation.

Removing Carbon Deposits

After every **100** hours of operation take off the cylinder head and remove carbon deposits on the cylinder, cylinder head, piston crown, and valves and renew head gasket. **For this purpose, contact your professional AGRIA workshop.**

Carburetor Settings

Small differences in fuel, temperature, height or strain may require slight adjustment of the carburetor. Only let engine run with air filter and air filter cap fitted.

To adjust the carburetor, contact your AGRIA workshop!

Speed Control

Devices for actuating engine speed must be adjusted correctly to start, operate and switch off the engine at correct speed rates.

To adjust the speed, contact your AGRIA workshop!

Dead Stop

- Check the dead stop function each time you maintain or service the machine.

- Upon release of the dead man's handles (A/1 and A/2) the clutches must disengage and wheel-drive and mower drive must come to a stop.

If necessary, contact your **AGRIA workshop.**

General

- Watch out for fuel and oil leakage and repair, if necessary.
- Regularly check bolts and nuts for tight fit and retighten, if necessary.
- Slightly grease all gliding and moving parts (e.g. speed control lever, hand lever bearing, etc.) with Bio-lubricating grease and Bio-slushing oil.

Cleaning

After each cleaning (washing with water, especially with pressure washer) lubricate all lubrication points, oil and let the mower run for a short time to press water out.

Apply grease generously to leave a grease ring around bearings to prevent water, plant sap, and dirt from penetrating.

Clean the engine only with a cloth. Avoid spraying with air-compressed water jets, as water might leak into ignition and fuel system, causing malfunctions.

Storage

For longer periods of no operation prepare the grassland mower for storage. Proceed as follows:

a) Clean thoroughly

Repair paint coat, lubricate lubrication points and operate mower for a short time. Then spray all shining parts, in particular cutter bar, with Bio-slushing oil.

b) Engine preservation

- Change engine oil
- Drain fuel completely and let the engine run until it comes to stop due to lack of fuel or add fuel stabilizer (AGRIA No. 673 50).

Method: Fill fuel tank, add anti-corrosive and stabilizing liquid (amount "ON" stabilizes 4l of fuel). Let engine run for approx. 1 minute. (**Observe enclosed instructions**).

- Fill a tea-spoon (approx. 0.03l) of engine oil into spark plug opening. Slowly crank the engine.
- Set the piston to compression with the recoil starter to keep the valves closed.
- Slowly crank the engine every 2–3 week (spark-plug connector is removed). Then set the piston to compression again.



Warning! Keep anti-corrosive agent and stabilizer out of reach of children at all times.

Do not inhale vapours! In case of sickness and vomiting see a doctor immediately! In case of eye contact with liquids, rinse eyes thoroughly.

c) Drive-wheels

Support drive-wheels in such a way that tyres have no ground contact. Pneumatic tyres are quickly destroyed, if left standing under load and unsupported.

d) To park, transport, or store the grassland mower, do **not** tilt it forward, backward, or sideward. Due to inclination, engine oil may get into the cylinder and into the combustion engine, which may result in starting problems and heavy oil carbonization.

Do not park the grassland mower in humid rooms, in rooms where fertilizer is stored, in stables or adjacent rooms because of severe corrosion.

e) Protect machine with cloth or a similar cover.

Lubricants, Varnishes, Wear Parts

AGRIA Order No.

Lubricants and Anti-Corrosive Agents

118 24	Engine oil 10 W-40	tin	1l
690 34	Bio-lubrication oil	bottle	500ml
690 35	Bio-lubrication grease	cartridge	400g
690 36	Bio-Slushing oil	bottle	500ml
673 50	Fuel stabilizer	bottle	125ml



Please read and observe enclosed instructions!

Varnishes

181 03	Spray varnish birch-green	spray tin	400ml
712 98	Spray varnish red, RAL 2002	spray tin	400ml
509 68	Spray varnish black	spray tin	400ml

Wear Parts

672 44	Air filter insert for Quantum XM45 engine
686 34	Spark plug RJ 19 LM
753 75	V-belt for transmission
753 77	V-belt for mowing drive

Spare Parts

997 097	Grassland mower 5000
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6. Troubleshooting



Observe safety instructions! Have all serious malfunctions on the machine or engine repaired by your AGRIA workshop. They have the proper tools. Improper repairs can only add to the damage.

Problem	Possible cause	Remedy	Page
<i>Engine does not start</i>	- Spark plug connector not connected	Connect spark plug connector	
	- Speed control lever not in position CHOKE	Move speed control lever to position "CHOKE"	33
	- Fuel tank empty or poor fuel	Fill fresh fuel	22
	- Fuel line clogged	Clean fuel line	33
	- Defective spark plug	Clean, adjust or exchange spark plug	33
	- Engine too much fuel ("flooded engine")	Dry and adjust spark plug and start at full throttle	33
	- Inleaked air due to loose carburetor and suction line	Tighten attachment bolts	35
<i>Misfirings in engine</i>	- Engine running in CHOKE range	Move speed control-lever to operating position, if necessary, adjust speed control	23
	- Loose ignition cable	Fit connector tightly on spark plug Fix ignition cable retaining device	* 34
	- Clogged fuel line or poor fuel	Clean fuel line, fill fresh fuel	33
	- Vent opening in fuel tank cap clogged	Exchange fuel tank cap	
	- Water or dirt in fuel system	Drain fuel and fill fresh fuel	33
	- Air filter clogged	Clean air filter or exchange	32
	- Carburetor misadjusted	Re-adjust carburetor	* 34
<i>Excessive temperature in engine</i>	- Low engine oil level	Refill oil immediately	31
	- Impaired cooling	Clean cooling fan grille, clean internal cooling fins	33
	- Air filter clogged	Clean air filter	* 33
	- Carburetor misadjusted	Re-adjust carburetor	* 34
<i>Misfirings in engine at high speeds</i>	- Short firing intervals	Adjust spark plug	33
	- Incorrect idle mix	Adjust carburetor	* 34
<i>Engine frequently stalls in idle</i>	- Firing interval too long, defective spark plug	Adjust or replace spark plug	33
	- Carburetor misadjusted	Re-adjust carburetor	* 34
	- Air filter clogged	Clean air filter	32
<i>Engine does not run smoothly</i>	- Speed control linkages are clogged or jammed	Clean speed control linkages	34

6. Troubleshooting

Problem	Possible cause	Remedy	Page
Engine does not stop when set to stop	- Speed and engine stop are not properly adjusted	Readjust speed control	* 34
Engine output too low	- Loose cylinder head or damaged gasket - Poor compression - Air filter clogged	Tighten cylinder head, exchange gasket Have engine checked Clean the air filter	* * 32
Wheel drive or mowing drive does not stop with clutch pulled	- Incorrect hand clutch lever adjustment	Adjust hand clutch lever	* 26
Excessive vibration	- Attachment bolts loosened - Mowing knife loosened, warped or incorrectly adjusted	Tighten attachment bolts Immediately turn off engine! Check cutter bar carrier, knife driver, all bolts and nuts for tightness, exchange damaged parts, adjust knife guides.	35 28, 29
Uneven cut/ plant trash gets caught between knives	- Dull mowing knives - Knife guides not properly adjusted - Knives not straight - Blades are not aligned - Blades are not on top of each other	Re-grind mowing knives Adjust knife guides Have knives re-aligned or exchanged Have blades re-aligned Have cutter bar re-aligned	30 29 * * *
Blade tips of bottom knife work into blades of top knife	- Top knife protrudes too far over bottom knife	Adjust knife guides and wear plates	29

* = For this purpose contact your AGRIA workshop.

Inspection and Maintenance Chart



	A	After operating hours						min.	min.	B	page
		5	8	25	50	100	250	3month	yearly		
Clean engine, check bolts and nuts				K K							35
Check engine oil level, refill, if necessary	K	K									31
First engine oil change subsequent oil changes		W			W						31
Check air filter	K										32
Clean air filter insert				W				W			32
Replace air filter insert, earlier, if required (only Quantum XM 45)					W						32
Replace fuel hoses									W*		33
Clean cylinder head						W					34
Clean cooling-screen	K										33
Clean guide plates, cooling fins – earlier, if required						W					33
Clean spark plug, adjust spark plug gap					W						33
Exchange spark plug							K				33
Check dead stop function	K										34
Lubricate all gliding parts									K	K	35
Check free play of hand lever	K										26
Oil drive chain										K	27
Oil bearings on gear shaft, wheel shaft, clutch control lever										K	27
Grease driver pin and carrier pin, also each time you fit the cutter bar				K						K	28
Cutter bar: check knife guides for play – also each time you change knives	K		K							K	28
Cutter bar: Check play of wear plates, also, each time you change knives			K								29
Regrind knives, earlier if required				W							30

A = Each time before you take up operation

B = After each cleaning

K = Checks and maintenance to be executed by operator

W = Maintenance to be executed by professional workshop

* = after 2 years

EC Conformity Declaration
in accordance with the EC directive

We,

AGRIA-Werke, GmbH
D-74215 Möckmühl/Württ.

herewith declare in sole responsibility that the product
Grassland Mower Hopper, Type 5000
to which this declaration refers, corresponds to
the standard fundamental safety and health requirements
as stipulated in EC directive 89/392/EEC
and EMC directive 89/336/EEC.

Möckmühl, 10th February 1997



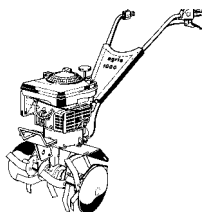
on behalf of Gregor Czaja
Head, Quality Control



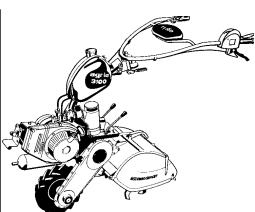
Dipl. Ing. Thomas Ilchmann
Head, Research and Development

All you need to succeed

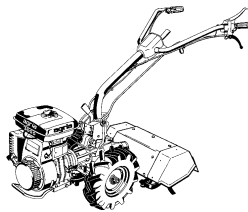
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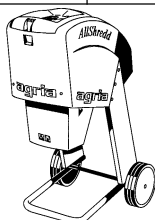
Power hoes



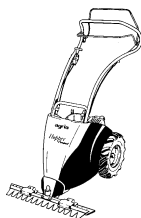
One-wheel hoes



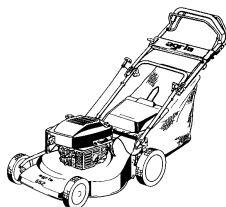
Hobby two-wheelers



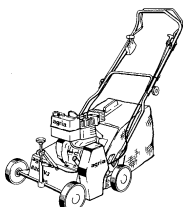
AllShredd



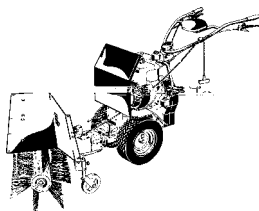
Cutterbar mowers



Lawn mowers



Verticutters



All-purpose machines

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