Attention please!

Check daily:
1. Oil level in crankcase of engine
2. Oil-bath air cleaner and oil level according to mark on oil container
3. Tyre pressure of drive wheels with pneumatic tyres at tractor and trailer
4. All screws and nuts, especially at wheels

After the first 25 hours of operation:
1. Change oil in machine and engine
2. Check valve clearance and adjust, if necessary

After every 50 hours of operation:
1. Change motor oil
2. Check valve clearance and adjust, if necessary

For further maintenance work
confer to chapter "Maintenance and Service"
Dear AGRIA owner,

Ensure that your dealer explains and demonstrates the machine before you operate it yourself.

Afterwards you should carefully go through this manual, making yourself thoroughly familiar with its contents.

This pocket book size of the manual was chosen to allow it to be carried along at all times.

Any damages due to non-observance of our instructions are not covered by guarantee. Thorough knowledge of the contents of this booklet will therefore repay you well.

The information contained in this manual will enable you to operate the machine easily and efficiently for all its many uses.

AGRIA-WERKE MOECKMUEHL
General

The AGRIA Motor Mower will always prove reliable and ready for use, if serviced, operated and treated with care.

This booklet gives all necessary instructions. Careful consideration of these instructions and inquiries addressed to your AGRIA representative will help you to save time, money and trouble.

Do not pay attention to the friendly advice of people who are not familiar with AGRIA machines.

Never use force. It will not compensate practical knowledge or suitable tools.

Do not try to repair the machine, if the cause of a breakdown cannot be recognized definitely.

Either take the machine to your AGRIA representative or let him come. He will be able to carry out repairs quickly and at low cost due to his knowledges and experiences and his appropriately equipped workshop.

Routine checks:

1. Clean and lubricate machine and attachments time and again and tighten loose screws and nuts.
2. Check **oil level** in casing and always keep oil level at dipstick mark (ill. 2, page 9).

3. Make sure that sufficient oil is in the crankcase according to mark on oil dipstick at oil inlet screw (ill. 7, page 10). Especially when working on slopes, care should be taken that the motor oil reaches the upper mark on the oil dipstick. Details for oil change are given on pages 14 and 27.

4. Check **air cleaner** (ill. 5, page 9), clean as described on page 14.
   Make sure that sufficient oil is in the oil container according to mark.

5. Check **fuel tank** contents. Do not use Super fuel, but only standard brand fuel.
   Pay attention to the fact that a 4-stroke engine is built on which should be run only on gasoline.
   Check, whether the cover is clean, in order to guarantee correct ventilation of the fuel tank and to prevent difficulties of the fuel flow.

6. Do not forget to lubricate all **lubricating points** (ill. 11, page 29) with a grease gun, before putting the mower into operation.

7. Check **cutterbar** and grease all moving parts. Make sure that only sharp blades are used.

8. Check **air pressure** of drive wheels with pneumatic tyres. It should be 21 lbs/sq. in. (1.5 kgs/cm²).

9. For further advice on maintenance and service confer to pages 27—31.
Description of main parts

1. Handlebar
2. Tool box
3. Fuel tank
4. Wheel hub with studs
5. Machine number
6. Upper part of hood
7. Front part of hood
8. Shaker bolt
9. Adjustable cutterbar support
10. Outside wheel clutch lever
11. Oil drain screw
12. Exhaust
13. Engine support
14. Engine with recoil starter
15. Gear shifting lever

1. Gear shift cover
2. Oil filling plug with dipstick
3. Lower part of handlebar
4. Shift lever for mower mechanism
5. Oil-bath air cleaner
6. Throttle
7. Wheel clutch lever
8. Clutch lever
9. Handlebar fixing lever
10. Handlebar support
11. Clutch lever
12. Wheel with pneumatic tyres 3.50-8 AM
13. Cam plate
14. Medium part of hood
15. Key for fixing cutterbar
1 Cylinder head cover
2 Connecting flange for venting hosepipe
3 Carburettor
4 Air guide
5 Manual starter
6 Connecting flange for exhaust
7 Oil inlet screw with oil dipstick
8 Porcelain insulator for lighting connection
9 Short-circuit button

10 Tickler on carburettor
11 Connecting flange for fuel pipe
12 Air regulating screw
13 Adjusting screw for gas sluice
14 Plug
15 Grease oil pipe
16 Crankcase
17 Motor number
18 Oil drain screw
19 Crankshaft (driven side)
20 Cylinder with cylinder head
21 Spark plug with suppressor plug
DESCRIPTION

Engine (illustration on pages 10 and 11)

An air-cooled one-cylinder 4-stroke carburettor engine is built on. Therefore, no motor oil may be added to the fuel. Use only standard brand fuel, but no super!

The crank gear runs on friction bearings and drives the cam shaft and the oil pump by means of helical cogwheels.

The valves are suspended in the cylinder head and are regulated by means of the cam shaft via stem and valve rocker.

The lubrication is effected by the oil pump. It sucks in oil from the crankcase through a sieve and presses it through oil outlets onto the axle and to the main bearings and the connecting-rod bearing. The cam shaft and the drag levers are also lubricated by the oil pump. The oil centrifuged from the connecting-rod bearing lubricates the piston runway. The valve mechanism in the cylinder head is lubricated by means of centrifugal oil and oil fume.

The engine is cooled by means of a fan wheel which is fastened on the magnet wheel of the flywheel magneto. The fan wheel is running with the same speed as the crank shaft. The cooling air is brought by the fan wheel via the air guide to the cylinder and flows around it from all sides.

Ignition is effected by a flywheel magneto which is equipped with a contact breaker and an automatic ignition adjustment device as starting aid. The flywheel is placed on the crank shaft axle. The built-in lighting coil supplies 6 Volts 16 Watts A.C.

Details on the carburettor make and its setting are given in chapter “Specification” on page 15.

Always take care that the idling of the engine is properly adjusted. The engine should continue to run satisfactorily at low speed, when throttle is in idling position. This can be adjusted easily by resetting the adjusting screw for the gas sluice (ill. 13, page 11). The screw should be adjusted while the engine is still warm.

Troublefree running of the mower in first place depends on condition and operation of the engine. We, therefore, recommend to get regular information on its operation and maintenance. Furthermore, make yourself familiar with the remedies for troubles as quoted in chapter “Causes of Troubles” on pages 34—36.

Avoid high revolution rates during the first 20 hours of operation (running-in time). Do not race the engine when running idle. Do not let the engine howl while operating throttle.

Then change oil. The engine should be still warm. Screw out oil drain screw (ill. 18, page 11) and oil inlet screw (ill. 7, page 10), let oil flow out by inclining the machine. Put in oil drain screw again and check for tightness.

Fill 1,3 litres new motor oil SAE 20 HD into the opening (ill. 7, page 10). A multi-range oil is recommended, as this will make you more independent from the surrounding temperature and no starting troubles will occur due to too thick oil. For further advices confer to chapter “Maintenance and Service” on page 27.
Use only standard brand motor oils with HD addition, as for example ESSO Extra-Motor-Oil 10 W - 30. Keep to the once chosen sort of oil.

Even after the running-in time take care never to open the throttle more than just necessary for the respective work.

High speeds, in the long run, will damage any engine and substantially shorten its durability, particularly if it is raced when running idle.

For technical data confer to page 15.

Air cleaner (ill. 5, page 9)

The oilbath air cleaner has the task to clean the intake air from the dust contained in it. It is constructed in such a manner that the filtering effect does not decrease even when the filter is dirty.

The air cleaner should be cleaned in short intervals, under very dusty conditions even daily. If the output of the engine decreases, clean air cleaner first!

Proceed as follows:

a) Clean outside of air cleaner and surrounding area;

b) Open locking clip, take off oil container, remove used oil and clean oil container;

c) Fill in motor oil up to the lower oil level mark (not more!) of the oil container and put it on again;

d) Take care that the cleaner fits tightly.

Please note: After several oil changes or when very dirty, screw off air cleaner, take off oil container, thoroughly clean air cleaner by dipping it into Diesel fuel several times, shake off fluid, screw on air cleaner again and fill in oil as described above. (Never use gasoline, water, lyes or hot fluids for cleaning).
**Speeds of the Special Motor Mower**

**Model 2300 113, 2300 123 or 2300 133**

<table>
<thead>
<tr>
<th>Speed</th>
<th>on Steel Wheels 360 350 - 8 4,000 - 8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>miles/h</td>
</tr>
<tr>
<td>Forward</td>
<td>2,1</td>
</tr>
<tr>
<td>Reverse</td>
<td>1,2</td>
</tr>
</tbody>
</table>

**Model 2300 513, 2300 523 or 2300 533**

<table>
<thead>
<tr>
<th>Speed</th>
<th>360</th>
<th>350 - 8</th>
<th>4,000 - 8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>miles/h</td>
<td>kms/h</td>
<td>miles/h</td>
</tr>
<tr>
<td>First</td>
<td>2,0</td>
<td>3,3</td>
<td>2,2</td>
</tr>
<tr>
<td>Second</td>
<td>3,9</td>
<td>6,3</td>
<td>4,2</td>
</tr>
</tbody>
</table>

**Engine clutch**

The AGRIA Motor Mower has a steel multi-disc clutch running in oil bath. It is operated by the lever (No. 8, page 9) on the right side of the handlebar. When lever is pulled, the clutch is released, i.e. the engine stops driving the machine.

To avoid slipping of the clutch during work the lever is set at a 0.04 in. (1—2 mms) clearance.

It is recommended to check this clearance regularly and to readjust it by means of the setscrew at the clutch lever support if necessary.

**Wheel clutch**

In order to move the machine when the engine is not running, the AGRIA Motor Mower has been equipped with a wheel clutch.

It is operated by the wheel clutch lever (No. 7, page 9) on the left side of the handlebar. If this lever is pulled, the wheel axle drive is disengaged.

The Bowden Cable is so adjusted that the wheel clutch has disengaged the wheel axle 3 mms before locking of hand lever.

This clearance should be checked regularly and readjusted by means of the setscrew at the lever support, if necessary.

**Drive wheels should turn noiselessly when lever is pulled.**

Pull control only when engine is disengaged. Be sure that machine is not under load. You will note this at once when pulling the lever. It should be easy to operate it. As soon as you feel any resistance, do not use force, but move the machine slightly back and forth on the handlebar whereupon the lever can be operated without danger of damaging the Bowden Cable.
Gear shifting

I. Motor Mower Model 2300 113, 123 or 133

This machine is equipped with one forward and one reverse gear.

For speeds see page 16. Forward gear is shifted by pulling back of gear lever (No. 15, page 8), reverse gear by pushing ahead of gear lever. Gear shifting is the same as with a motor car: pull clutch, shift slowly, release clutch while opening throttle. If a speed cannot be shifted, shortly engage and disengage; this will enable you to shift silently.

II. Motor Mower Model 2300 513, 523 or 533

This machine is equipped with two forward gears. For speeds see page 16.

Gears are shifted by means of gear lever (No. 15, page 8).

First gear is shifted by pushing gear lever ahead, second gear by pulling gear lever back.

Second gear has been designed for driving only. Mowing is done in first gear. Gear shifting is coupled to the mower mechanism in order to avoid wrong shifting. Shifting to second gear will automatically disengage the mowing attachment.

For shifting procedure see under I.

Adjusting of handlebar for appropriate operational height

1. Loosen elastic stop nut (4).

2. Unscrew elastic stop nut (3), pull out hexagon screw.

3. Move handlebar to desired height and insert hexagon screw in corresponding bore hole.

4. Screw on elastic stop nut (3). (Fibre insert pointing to the outside)

5. Fasten elastic stop nut (4).

Laterally swinging out handlebar

1. Loosen handlebar fixing lever (1).

2. Swivel handlebar to desired position and fix eyebolt (2) in corresponding notch of curved tube.

3. Fasten handlebar fixing lever again.
Mounting the Cutterbar

1. Screw on swath boards (2 and 9). Take care to tighten crown nuts only as far as to permit insertion of splint.

2. Screw grass divider (4) on blade carrier (3).

3. Insert Cutterbar:
   a) Swivel shaker to the left.
   b) Insert cutterbar shank (5) about halfway into cutterbar receiver.
   c) Incline cutterbar to side of shaker.
   d) Push blade carrier (3), if necessary, until opposite to shaker.
      Caution: Blade!
   e) Push in cutterbar up to stop, lock by turning mower key (No. 15, page 9) (yellow side must be on top).

4. Check clearance of shaker and blade carrier, readjust if necessary (carrier bolts) (6). At centre position of shaker clearance should be about thickness of a postcard.
Starting the engine

I. With cold engine

1. Check, whether the gear shifting lever (ill. 15, page 8) is in idling position.

2. Pull and lock clutch lever (ill. 8, page 9) and wheel clutch lever (ill. 7, page 9).
   This is done as a precaution to prevent that the machine begins to move due to too viscous gear oil, when starting at low temperatures.

3. Open throttle (ill. 6, page 9) about half.

4. Open fuel cock.
   (wing position vertically downward).

5. Press tickler (ill. 10, page 11) on carburettor, until fuel overflows.

6. Pull rope at recoil starter handle (ill. 5, page 10), until resistance can be felt, then pull briskly and carry the rope back to its holder.
   **Do not let the rope snap back!**

7. If the engine does not start, repeat starting process but do not press tickler on carburettor again!

8. The engine may run irregularly, if air has entered the pipes due to lack of fuel. In this case, stop engine, fill in fuel, press tickler on carburettor, until fuel overflows and start as described under 6. and 7.

II. With warm engine

1. Open fuel cock.

2. Put throttle (ill. 6, page 9) in idling position, i.e. close it completely.

3. Do not press tickler on carburettor, otherwise engine is flooded.

4. Pull rope at recoil starter handle (ill. 5, page 10), until resistance can be felt, then pull briskly and carry the rope back to its holder.
   **Do not let the rope snap back!**

Attention, when starting the engine in closed rooms! The exhaust gases contain the invisible and inodorous, but highly poisonous carbon monoxide gas. Therefore, take care that there is good ventilation and that the exhaust gases are led off quickly!
Stopping the engine

1. Pull clutch lever (ill. 8, page 9).
2. Put gear shift lever (ill. 15, page 8) in idling position.
3. Put throttle (ill. 6, page 9) in idling position, i.e. close it completely.
   Let engine run idle for about half a minute so that it cools down! Thereby, the engine is protected and, as a consequence, its durability is favourably influenced.
4. Close fuel cock (horizontal wing position, letter "Z" to be seen from above).
5. Press short-circuit button (ill. 8, page 10), until engine stops.
6. If the machine will not be used for a longer time, do not stop engine as described under 5, but let it run, until fuel in the carburettor is consumed and the engine stops automatically.
   Bring the engine to compression by means of the recoil starter so that valves are closed.
7. After the engine has stopped, unlock wheel clutch lever (ill. 7, page 9) and clutch lever (ill. 8, page 9).

Working with Motor Mower

After preparing the motor mower for mowing it is put into operation as follows:

1. Pull engine clutch lever (5).
2. Pull wheel clutch lever (1).
   This is especially important in chilly weather, as single clutch discs possibly might stick together on account of stiff gear oil.
3. Start engine and let it warm up (s. page 22/23).
4. Release wheel clutch lever (1).
5. **Model 2300 113, 123 or 133**
   Pull gear lever (4) back for driving forward; push gear lever forward for driving backwards.
   **Model 2300 513, 523 or 533**
   Shift first gear by pushing gear lever forward; shift second gear by pulling gear lever back.
6. Slowly release engine clutch lever (5) and at the same time open throttle (2).
7. Drive up to the patch to be mown.
8. **Model 2300 113, 123 or 133**

Pull engine clutch lever (5), push **forward** gear lever of mowing attachment (3).

**Model 2300 513, 523 or 533**

Pull engine clutch lever (5), shift first gear (see No. 5), push **forward** gear lever of mowing attachment.

9. Slowly release engine clutch lever (5) and at the same time open throttle (2).

The motor mower runs, the mower blade moves, mowing can be started.

**Attention!** If, during the mowing process, the cutterbar has to be cleaned, the engine should be stopped for safety reasons!

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### Maintenance and Service

Besides following the instructions referring to the engine, it is advisable to pay the necessary attention to our further advice about servicing and maintenance.

**Good performance depends upon good servicing**

1. **Check oil level** before starting the engine.

   Oil dipstick for machine (ill. 2, page 9), for engine (ill. 7, page 10).

2. **Change oil** in time. Keep oil filling plug, oil drainage plug and environment scrupulously clean so that no dirt may get into the interior of the machine.

   Oil must be changed after the first 25 hours, then after every 100 working hours, but at least twice a year! This especially applies to machines with only a few operating hours per year.

   4 pints (1.8 litres) of a light gear oil SAE 80 such as **ESSO Gear Oil ST 80** are required. Oil has to be changed immediately after running the machine, engine being warm.

   Lift motor mower at the cutterbar support when draining the oil so that old oil may flow out of the wheel gear casing.

   **Oil change in the engine becomes necessary after the first 25 and then after every 50 hours of operation.** 1.3 litres (appr. 3 pints) motor oil SAE 20 HD are necessary. The use of a multirange oil, as for example **ESSO EXTRA MOTOR OIL 10 W – 30**, is recommended, as this makes you more independent from the surrounding temperature and troubles while starting due to too viscous oil are prevented.

   **Use only standard brand motor oils with HD addition. Keep to the once chosen sort of oil!**
3. Check valve setting after the first 25 and then after every 50 hours of operation and readjust, if necessary.

According to the data given on page 15, the valve clearance should be 0.1 mm with cold engine.

For checking and adjusting proceed as follows:

1. Screw off cylinder head cover (screws SW 10)
2. Revolve engine by means of the recoil starter, until compression resistance is felt.
3. Loosen hexagon nut SW 14 below the valve rocker.
4. Insert feeler gauge 0.1 mm between valve rocker and ball piece.
5. Turn ball pin by means of spanner SW 10 or screw driver clockwise, until the feeler gauge can just be moved to and fro a bit.
6. Tighten hexagon nut SW 14 again.
7. It should now be possible to turn both push rods by hand without difficulty.
8. Before putting on the cylinder head cover again, make sure that the loop ring gasket is placed correctly.

4. Fuel: Use only standard brand fuels, but no Super!

Keep cover plug of fuel tank clean, in order to guarantee sufficient ventilation and to prevent difficulties of the fuel flow.

5. Do not neglect air cleaner (see page 13).

6. Provide for efficient cooling of the engine. Always keep necessary parts in good order and free of sucked in foreign particles.

7. Check exhaust every 200 working hours; decarbonize and clean if necessary.

8. Always keep clean fuel tank, fuel pipe, carburettor and strainer of fuel cock.

9. Tighten loose screws and bolts.

10. From time to time oil Bowden cable cores (let some oil drip into Bowden wire spiral), as well as both hand levers and throttle.

11. Check tyre pressure of drive wheels with pneumatic tyres. It should be 21 lbs/sq. ins. (1.5 kgs/cm²).

12. Lubrication.

There are grease nipples at the following spots:

a) in front of cam plate (No. 13, page 9),
b) on the shaker (below No. 14, page 9),
c) on the key of cutterbar locking (No. 15, page 9).

Before mowing these spots are to be lubricated with anti-friction bearing grease (such as ESSO Multi-purpose Grease) by means of the attached grease gun.

13. Cleaning.

After each use the entire mowing attachment, cutterbar and machine should be thoroughly cleaned. Be sure that the air intake of engine is free from sucked in dirt or foreign matter (grass, weed etc.) in order to guarantee troublefree cooling of the engine at all times.

If mower is continuously in operation clean and lubricate it every 3—4 hours.
14. **Cutterbar.**

As the parts getting in contact with the plants during the mowing process tend to get glued, all sliding parts should be lubricated regularly and sufficiently while mowing, so that a smooth running of the knife is guaranteed.

Of course, this also applies for the stopping of mowing respectively for the daily cleaning.

**The following points are of special importance:**

**A)** Do not garage machine
- in moist rooms,
- in rooms where fertilizer is stored,
- in stables or adjacent rooms
as this would cause severe corrosion.

**B)** If machine is not used for some time it is necessary to slush the engine.

This is done as follows:

1. **Thoroughly** clean machine. Remove rust from bright parts, grease carefully, repair damage to paint if necessary. Check Bowden cables, setting of clutch, ignition, sparking plug. Immediately replace damaged parts. Clean air cleaner. Replace fuel and air hoses if brittle. Clean air intake and cooling ribs of cylinder under the cowling. Decarbonize exhaust slots and muffler.

2. Drain gear oil. It is recommended to wash gear in kerosene (after warming up the machine). Then fill in 4 pints new gear oil SAE 80, as for example **ESSO Gear Oil ST 80.**

3. **Slushing the engine**
   
a) Drain motor oil and fill in 1,3 litres (abt. 3 pints) slushing oil, as for example **ESSO slushing oil RUST BAN 337.**

b) Start engine and let it run for abt. half a minute at increased idling speed, then close fuel cock. As soon as the carburettor is empty and the engine has stopped, bring the engine to compression by hand so that the valves are closed.

c) Before putting the machine into operation again, drain slushing oil and fill in motor oil (as described on page 27, 2).

If the machine is not used for some time, slowly crank the engine several times every 4–6 weeks.

4. Screw out spark plug in order to prevent the formation of condensation water in the crankcase and in the cylinder. Cover spark plug passage with a clean cloth or fine-mesh filter gauze.

5. Empty fuel tank. Clean fuel tank, carburettor and fuel pipe.

6. Cover air cleaner and exhaust so that neither dirt nor humidity may enter.

7. **If pneumatic tyres are mounted:**

   Jack up machine so that pneumatic tyres do not touch the ground. Pneumatic tyres become unserviceable within a very short time, if left under load without air.
Replacing of Mowing Blade

1 Knife Guide Plate
2 Stop Plate
3 Grass Divider
4 Shaker Cover
5 Tommy Bar
6 Key
7 Hexagon Screw
8 Knife Driver
   Adjusting Screw
9 Hexagon Screw
10 Knife Driver
11 Mowing Blade

a) Unscrew blade carrier (9 and 10).

b) Laterally pull out blade (11).
   Insert end of box spanner into hole of outside knife section and pull out knife.

c) Correspondingly mount new blade.

Readjusting of Blade Guide

After some time, the quality of mowing may be reduced by unequal wear of blade guides. This can be improved by readjusting which is done as follows:

Blade Guide Cross Section
(No. 1, page 32)

1 Cutterbar Back
2 Blade Support
3 Hexagon Screw
4 Blade Carrier
5 Mowing Blade
6 Double Finger

a) Clean and oil cutterbar so that blades can easily be moved.

b) Loosen hex. screws (3) of blade carriers (4).

c) According to wear, remove shim between blade carrier and blade support (2).

d) Tighten hex. screws (3) just so much that blade support (2) can be pushed forward by hand. See that blade support equally presses against guide edge of blade (5).

e) Tighten hexagon screws (3).

f) Repeat procedure with every blade carrier (4).

g) After that, check working of blade. It must not work too hard nor be lifted off finger plates by pressure on grass divider.
Cause of Troubles

1. Engine does not start
   - Fuel tank empty
   - Fuel cock closed
   - Fuel cock or pipe choked
   - Float on float pin displaced
   - Float pin sticks
   - Carburettor contains water
   - Tickler of carburettor pressed too slightly
   - Tickler pressed too much (sparking plug wetted), engine flooded
   - Nozzle choked
   - Electrode gap incorrect (see data on page 15)
   - Sparking plug fouled or sooted; electrode contact by dirt
   - Sparking plug defective
   - Ignition cable loose or defective
   - Short circuit switch sticks
   - Ignition disturbed.

2. Engine is difficult to start
   - Wrong mixture; not enough fuel
   - Idle nozzle choked
   - Electrode gap of sparking plug too wide (see data on page 15).

3. Engine starts but stops again
   - Causes see paragraph 1.

4. Engine starts but backfires when throttle is opened
   - Engine very cold
   - Lean fuel mixture
   - Nozzles choked
   - Suction pipe leaks
   - Exhaust choked.

5. Carburettor overflows
   - Dirt between float seating and pin
   - Float leaks
   - Float pin released from float.

6. Insufficient tractive power
   - Exhaust muffler choked
   - Air cleaner or intake dirty
   - Oil sealing rings of crankshaft defective
   - Friction coupling slips
   - Piston leaks owing to wear of cylinder or piston
   - Piston rings sticking, worn or broken
   - Suction pipe leaks
   - Sparking plug with wrong thermal value
   - Ignition wrongly timed
   - Mechanical drag in machine.

7. Machine
   - If engine clutch does not release, readjust Bowden cable (see page 16).
   - If wheel clutch does not release, readjust Bowden cable (see page 17).
8. Indications for wrong valve clearance

a) Valve clearance too small:
   Engine does not start.
   Engine starts, but has no output.
   In a critical case the valves burn out or fire may start in the carburettor.

b) Valve clearance too large:
   Noticeable by rattling noises of differing intensities.

Caution: Repairs!

Do not try to repair your AGRIA Motor Mower yourself. Take it to the AGRIA Service or send for an expert. He will be able to repair damages quickly and at low cost.

Mowing with harvester attachment

Necessary additional implements:

a) Basic Machine with cutterbar
b) 1 Harvester Attachment No. 1549 013, 023 or 033
   Size according to cutterbar size
   1 Rubber Supporting Wheel No. 1550 013 adjustable in height.

Mounting

Cutterbar already mounted on machine.
1. Take off shaker cover (No. 4, page 32).
2. Mount harvester attachment on cutterbar as follows:

   1 Right sole
   8 Torpedo
   2 Metal sweep
   9 Back face, connection angle
   3 Deflector bar
   10 Deflector rod
   4 Supporting wheel
   11 Torpedo bag
   5 Clamp bolt
   12 Connection angle for sweep
   6 Setscrew for torpedo
   13 Blade carrier
   7 Connection plate
   14 Support
I. Cutterbar:
   a) Remove left swath board and grass distributor.
   b) Unscrew right shoe and swath board.
   c) Screw on lower part of shoe supplied with harvester attachment.
   d) Put down right sole (1) until top edge of attachment collar is flush with top edge of bottom part of shoe.

II. Supporting Wheel (4):
    Screw No. 1550 013 (if available) into one of the two outside holes (left side of cutterbar back).

III. Torpedo (8):
   a) Insert left shoe point into bag (11).
   b) Slightly tighten setscrew (6).
   c) Tighten clamp bolt (5) and secure with counter nut, tighten setscrew (6).

IV. Back face (9):
   a) Fasten connection angle (9) and deflector bar (3) in correct position.
   b) Fasten back face to cutterbar and screw onto cutterbar back and connection plate (7).

V. Metal sweep (2):
   a) Slightly screw on connection angle (12), put into correct position by trial fastening of metal sweep (2) and tighten.
   b) Put sweep (2) onto blade carrier (13) and connection angle (12) and screw on.

VI. Support (14):
    Check. Metal sweep (2) must slide easily (rotate by hand at eccentric). Position of support (14) must not be too deep as this would lift blade and prevent it from cutting.

VII. Deflector rod (10):
    Put into correct position.

VIII. Setscrews:
    Secure with wire at left shoe and connection plate. After some time, check all bolts and nuts, tighten if necessary.

Working

Before you start mowing, check where to begin with the work and to which side the harvested grain should be laid.

In order to achieve good results in mowing, it is advisable not to lay the harvested grain against the wind, against the direction of inclination of the ears, against slopes.

If, for any reason, these advices cannot be followed, it is advisable to have a second person available to assist with a wooden fork (old rake handle).

The machine is operated as described in chapter “Working” on page 25.
Road driving with cutterbar

Necessary additional implement:

Rubber tired supporting wheel No. 2383 013 with cutterbar support.

Mounting
(see illustration)

1. Detach cutterbar from machine.

2. Insert supporting tube with wheel into cutterbar support and lock by turning key (No. 15, page 9).

3. Insert cutterbar support into connecting plate on steering frame and screw on.

4. Set one shoe tip of cutterbar into funnel shaped pocket of supporting tube and fingers into cutterbar support on steering frame.

5. Hook spring of cutterbar support into back of cutterbar.

Driving

As with basic machine.

The mower with mounted cutterbar may also be driven on the road when using

1 set of rubber tired wheels No. 1550 113, adjustable in height and provided with knife protector and reflectors.

Mounting
(see illustration)

1. Cutterbar is left on machine.

2. Screw both rubber wheels on to the outside screw holes of cutterbar back.

3. Put knife protector on fingers. Set tips of cutterbar shoes into extension tubes with reflectors. The knife protector consists of two parts and can be used for any cutterbar size.

4. Hook on both springs to back of cutterbar.

5. Check whether both rubber wheels are so adjusted that they have sufficient ground clearance.
2-Wheel Driver's Seat No. 1380 013 with pneumatic tyres

The Driver's Seat (see illustration) is useful for mowing large areas. As far as traffic regulations allow, it can be used to drive the Motor Mower to and from work.

1. Frame connecting piece
2. Front angled drawbar arms
3. Vertical pinion holder
4. Inclined pinion holder
5. Pinion
6. Wheel cowling collar
7. Holding screw for above
8. Hex. screw with elastic stop nut (see ill. on page 43)
9. Crossbeam for the two steering frame tubes (see ill. on page 43)

Driver's seat for motor mower

From the engine side of the machine, the two drawbar arms (ill. 2, page 42) are pushed over the two cowling collars (ill. 6, page 42). The hexagon screw (ill. 7, page 42) on the cowling collar is screwed out and replaced by the longer hexagon screw M 12 x 30. The two crescent-shaped connecting pieces (ill. 1, page 42) are then fastened to the machine by this screw.

Working with attached driver's seat

1. **For driving to work** the pinion (5) is pulled out of the vertical pinion holder (3) and inserted to the inclined pinion holder (4). The pinion end grips over the crossbeam (9) of the two steering frame tubes and, thereby, keeps the machine in horizontal position. For better handling the handlebars are raised. For this purpose unscrew hexagon screw (8), raise handlebars and tighten screw (confer to illustration "driving position").

2. **For mowing** the pinion (5) should be placed into the vertical pinion holder (3) again, so that the machine can be tilted forward. The handlebars should be set to the appropriate working height (confer to illustration "working position").

3. Before driving home again, repeat process as described under 1.
### Implements

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Last, not least, we should like to mention that the AGRIA Motor Mower's low design and its laterally swinging out handlebars permit mowing under low trees close to the trunk. Here a mulching bar will do very useful work.

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<td>engine number</td>
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The mower was bought on

from Messrs.