WORKSHOP MANUAL 01/2021 EN

AS-MOTOR Allmäher®

AS 63 2T

AS 63 4T B&S

AS 63 4T Honda

AS 62 4T B&S

Service Information

Adjustment, maintenance and repair instructions

Workshop Manual AS-MOTOR AS 63 and AS 62 Allmäher®:

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Introduction

Preface and validity

Preface

This Repair Manual is designed to make it easier for you to properly make adjustments, perform maintenance and make repairs on an AS 63 Allmäher.

As a reference work it will be a useful aid at all times for the tasks that occur in your workshop.

The online service portal "parts&more" is very helpful for all tasks. Please use the online service portal for exploded drawings, parts lists, instructions and orders. It shows you the correct assembly sequence, even for complex parts.

Naturally, good workshop equipment and trained specialists are the prerequisites for faultless maintenance. Please take advantage of our regularly offered service training courses.

With this Workshop Manual we are providing a valuable tool for you and your workshop team.

Regards

AS-MOTOR GERMANY

SERVICE

Validity

This Workshop Manual is based on the following device versions:

- AS 62 4T B&S: Serial number (SN.:) (0) 337 19 04 0001, March 2019
- AS 62 4T B&S: Serial number (SN.:) (0) 360 19 11 0001, November 2019
- AS 63 2T: Serial number (SN:) (0) 270 15 12 0001, December 2015
- AS 63 4T B&S: Serial number (SN:) (0) 269 15 12 0001, December 2015
- AS 63 4T Honda: Serial number (SN:) (0) 275 16 09 0001, December 2016

The serial number of your respective AS-Motor AS 63 is provided at two points on the device:

1. As sticker, on the top of the engine mount
2. As aluminium plate on the left side of the top bar, permanently riveted

Explanation of the 11-digit serial number:

Example:

- Device type: (0) 264
- Year of manufacture: 16
- Month: 11
- Consecutive number: 0001

Introduction

Deviating device versions and safety instructions

Deviating device versions (newer model years)

Since the market launch of the AS 63 Allmäher 2015, technical improvements of the device have been undertaken.

If your device is newer than the device versions that are the basis of this manual, please note the following:

The changes made only affect the now standard tank support/tank guard (together with lock plate of the handlebar adjustment element). There have been no other changes. For you this means that this manual can also be used and is helpful for newer model years.

Deviating parts of the tank support are available for the executing mechanic in the parts lists and drawings on our online service portal. "www.parts-and-more.org" (PAM). (See section: "parts&more")

In this case the designation of an assembly "handlebar" is: "From serial number 0270... ".

For future device versions this Workshop Manual will be revised annually. Please ensure on a regular basis that your version of the Workshop Manual is the right one/or is up to date.

If for some activities there are different alternative possibilities then you will be alerted to this situation through our symbol  "Tip/note".

Safety instructions for all activities: 

Only authorised AS-MOTOR Workshops are allowed to execute the activities cited in this manual.

Comply with the following instructions and the warnings in the respective sections, otherwise accidents with severe injuries can occur and/or the device can be damaged.

Prior to starting work:

- Before all tasks on the machine, **disconnect the sparkplug connector!**
- Place the device on a level and non-slip substrate.
- Only use ramps and hoists that are suitable for the device.
- Safeguard the device against rolling off and falling over.
- Let the device cool for at least 20 minutes.
- Close the fuel tap and the tank ventilation.
- Never place the device with petrol in the tank, inside a building where petrol fumes can come into contact with open fire or sparks.
- Do not inhale fuel fumes, they are harmful.
- Use gloves, particularly for tasks on cutting tools.
- Avoid skin contact with fuel and operating fluids.
- This  symbol signals a warning. Failure to comply with the warning can result in accidents, injuries and damage!

Introduction

Notice – original spare parts and technical data (1/3)

Original spare parts

Important note:

Only original AS-MOTOR spare parts ensure safety, keep the guarantee intact and protect against damage. Consequently only use original AS-MOTOR spare parts; do not use any imitation or counterfeit parts.

Installation of non-original parts invalidates the guarantee claim and the operating authorisation. Accidents with severe or fatal injuries can be the result.

All original wear parts, all original blades and many original spare parts bear the stamped AS-MOTOR logo, as well as the EXXXXX and/or G 0XXXXXXXX part number.

Technical data – AS 63 2T:

Type	**AS 63 2T ES**
Range of application (temperature)	0 - 30 °C
Engine, type Manufacturer Type Cylinder capacity Performance Engine speed	One cylinder two-stroke engine with easy start AS-Motor Germany AS 165 ES (Easystart) 165 cm^3 4,0 kW (5,4 PS) 3800 min^{-1}
Spark plug Torque Electrode gap for optimal starting behaviour	 NGK BR6HS 25 Nm 0.5 – 0.7 mm
Cutting device, type Cutting height	2 knives (cross knives) 50, 65, 80, 100 mm, per axis
Growth height	up to approx. 100 cm
Cutting width	61 cm
Starting device	Rope start
Traction drive	Rear wheel drive with Variomat for variable adjustment of the speed
Speed forward	2,0 - 4,0 km/h
Maximum area coverage	ca. 2400 m^2/h
Measures and weight Transport size with packaging L/W/H max. tyre dimensions L/W/H Weight	 102/72/78 cm 191/70/99 cm 78 kg
Capacities Fuel tank	 3 Liter
Sound level according to DIN EN 12733 Measured sound level L_{WA} Sound level at working place L_{pA} Measurement uncertainty k	 102,2 dB 90,3 dB 3,0 dB (A)
Vibration emission value according to DIN EN 12733 Hand-arm-vibrations $a_{h,W}$ Measurement uncertainty U	 3,1 m/s^2 2,0 m/s^2
Tyre pressure rear	2,0 bar

Introduction

Technical data and accessories (2/3)

Technical data – AS 63 4T B&S and Honda:

Type	AS 63 4T B&S	AS 63 4T Honda
Range of application (temperature)	0 - 30 °C	
Engine, type Manufacturer Type Cylinder capacity Performance Engine speed	One cylinder four stroke engine Briggs & Stratton Series 850, I/C 190 cm^3 3,7 kW (5,1 PS) 3600 min^{-1}	One cylinder four stroke engine Honda GXV 160 163 cm^3 3,2 kW (4,3 PS) 3600 min^{-1}
Cutting device, type Cutting height	2 knives (cross knives) 50, 65, 80, 100 mm, per axis	
Growth height	up to approx. 90 cm	up to approx. 80 cm
Cutting width	61 cm	
Starting device	Rope start	
Traction drive	Rear wheel drive with Variomat for variable adjustment of the speed	
Speed forward	1,8 - 3,8 km/h	
Maximum area coverage	ca. 2300 m^2/h	
Measures and weight Transport size with packaging L/W/H max. tyre dimensions L/W/H Weight	 102/72/78 cm 191/70/99 cm 74 kg	 102/72/78 cm 191/70/99 cm 82 kg
Capacities Fuel tank	3 Liter	
Sound level according to DIN EN 12733 Measured sound level L_{WA} Sound level at working place L_{pA} Measurement uncertainty k	 94,9 dB 82,8 dB 3,0 dB(A)	 96,1 dB 87,3 dB 3,0 dB(A)
Vibration emission value according to DIN EN 12733 Hand-arm-vibrations $a_{h,W}$ Measurement uncertainty U	 3,0 m/s^2 2,0 m/s^2	 2,7 m/s^2 2,0 m/s^2
Tyre pressure rear	1,0 - 2,0 bar	

Technical data – AS 62 4T B&S:

Type	AS 62 4T B&S
Range of application (temperature)	0 - 30 °C
Engine, type Manufacturer Type Cylinder capacity Performance Engine speed	One cylinder four stroke engine Briggs & Stratton Series 850, I/C 190 cm^3 3,7 kW (5,1 PS) 3600 min^{-1}
Cutting device, type Cutting height	2 knives (cross knives) 50, 65, 80, 100 mm, per axis
Growth height	up to approx. 90 cm
Cutting width	61 cm
Starting device	Rope start
Traction drive	Rear wheel drive with Variomat for variable adjustment of the speed
Speed forward	1,8 - 3,8 km/h
Maximum area coverage	ca. 2300 m^2/h
Measures and weight Transport size with packaging L/W/H max. tyre dimensions L/W/H Weight	 102/72/78 cm 191/70/99 cm 66 kg
Capacities Fuel tank	 1,2 Liter
Sound level according to DIN EN 12733 Measured sound level L_{WA} Sound level at working place L_{pA} Measurement uncertainty k	 95,0 dB 84,2 dB 3,0 dB(A)
Vibration emission value according to DIN EN 12733 Hand-arm-vibrations $a_{h,W}$ Measurement uncertainty U	 4,2 m/s^2 2,0 m/s^2

Introduction

Technical data and accessories (3/3)

Accessories

- Spray paint, orange RAL 2000
- Operating hours counter
- Clinometer
- Mulching accessory

Accessories only AS 63 2T, AS 63 B&S/Honda

- Twin tyres for steep slopes (particularly AS 63 2T)
- Flat tyre protection “Plattfuss-Stop”

Accessory only AS 63 2T

- Snorkel filter AS 63 2T ES (at high dust load)

Accessory is not available as spare part in "parts&more.org" (PAM).

Accessories are ordered the same way that machines are ordered.

Online service portal "parts-and-more.org" (PAM)

For all tasks shown in this Workshop Manual the online service portal "parts-and-more.org" is your most important companion. It offers you the following functions for every single AS-MOTOR device:

- Exploded drawings of each assembly
- Spare parts lists for each assembly
- Modification information for parts
- Current availability (online stock) of spare parts
- Spare part ordering function
- Management of current shopping carts and older orders
- FAQ and general technical information
- Guarantee claims
- Device orders (if released)

Access to the online service portal "parts-and-more.org":

Every official AS-Motor dealer has access to the online service portal via his customer number.

Login access to the system occurs via the website:

www.parts-and-more.org

Access data is issued within one to two days after "Dealer first login" using the AS-Motor customer number.

After receipt of the access data (parts ID and password) you can log in via "Immediate login" and use all functions immediately.

For questions concerning "parts-and-more.org" please contact:

- info@as-motor.de or
- service@parts-and-more.info
- AS-Motor Germany +49 7973 9123-0

Introduction

Online Service Portal "parts-and-more.org" (PAM) (2/2)

Parts search

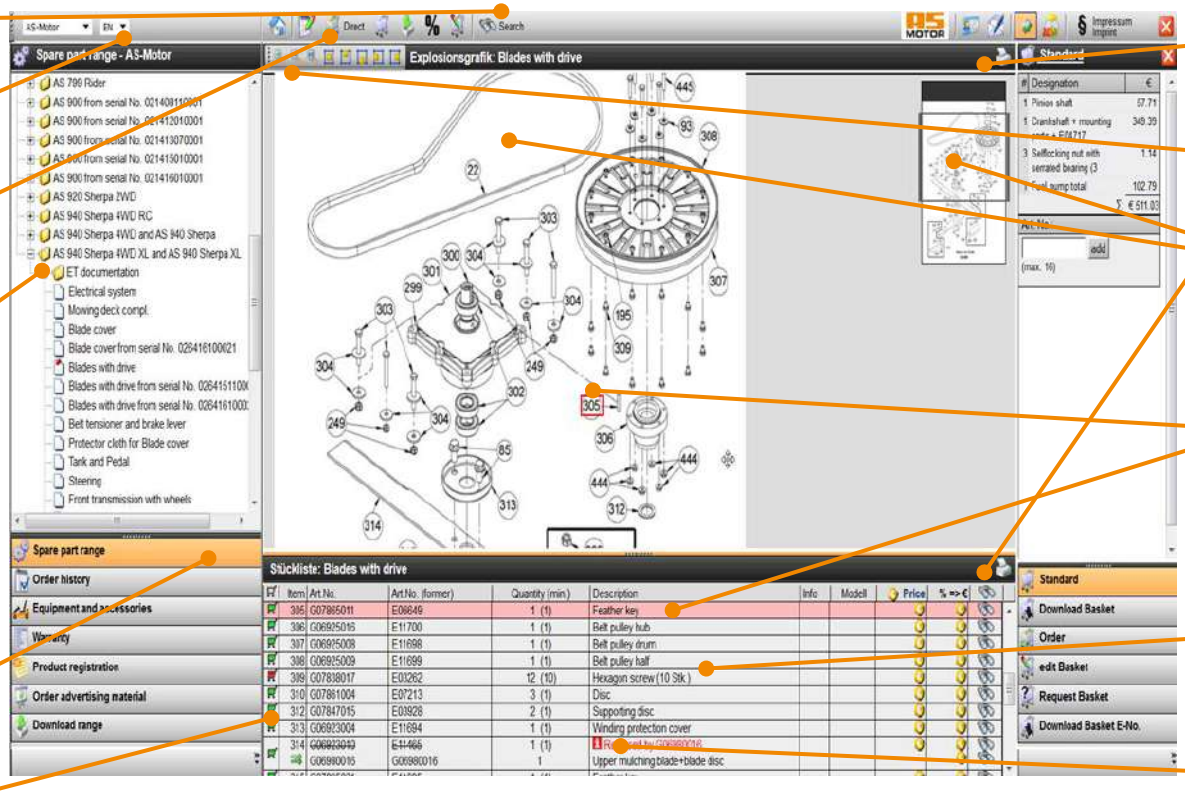
Language selection

Shopping cart

Device and assembly selection

Spare part function

Availability



Print function

Magnifying glass function

Complete overview

Parts direct selection highlighted red

Spare parts list

Parts information
Change notifications
(please click on red “i”)

General information

Frequent faults and rectification (troubleshooting) (1/3)

Fault	Possible cause	Remedy
Engine does not start.	Throttle lever on "0".	Place throttle lever on "Idle".
	Petrol tap is closed.	Open petrol tap.
	Tank ventilation screw closed.	Open tank ventilation screw.
	No petrol in the tank.	Top-up fuel.
	Open starter flap / choke.	Close starter flap / choke.
	Spark plug connector unplugged.	Fit on spark plug connector.
	Engine flooded due to multiple start attempts.	Unscrew spark plug and start several times with the petrol tap closed, dry spark plug and screw it back in.
	Air filter contaminated.	Service air filter (see under Maintenance and cleaning).
	Sparkplug sooted, damaged or wrong electrode gap.	Clean spark plug and check electrode gap (see under Maintenance and cleaning). Replace spark plug as needed.
	Wrong spark plug connector.	Use the prescribed spark plug connector.
	Housing of the mower is clogged.	Clean / service.
	Poor, contaminated, or old fuel.	Clean fuel system. Use fresh fuel.

Fault	Possible cause	Remedy
Engine starts poorly or runs irregularly.	Starter flap / choke closed.	Open starter flap / choke.
	Air filter contaminated.	Service air filter. (See under Maintenance and cleaning)
	Poor, contaminated, or old fuel.	Clean fuel system. Use fresh fuel.
	Sparkplug sooted, damaged or wrong electrode gap.	Clean spark plug and check electrode gap (see under Maintenance and Cleaning). Replace spark plug as needed.
	Wrong spark plug connector.	Use the prescribed spark plug connector.
	Decompression bore is clogged.	Clear out decompression bore.
	Housing of the mower is clogged.	Clean / service.
No drive when activating the drive lever.	Drive belt insufficiently tightened.	Increase Bowden cable tension or check traction drive.
Blade does not rotate.	V-belt is not sufficiently tensioned or is damaged.	Check belt, Bowden cable and blade clutch.
	Bowden cable is defective.	Replace Bowden cable.
Strong vibration in operation.	Blade imbalance due to incorrect re-sharpening or chipping on the blade.	Resharpen and balance blade. Replace damaged blades immediately.
	Blade drive shaft is bent due to collisions.	Repair.
	Engine fastening is loose.	Repair.
	Blade fastening is loose.	Repair.
Abnormal noises.	Lose or bent fastening elements.	Locate and repair.
	Muffler is defective.	Repair
Engine gets hot.	Fan grille contaminated.	Clean fan grille.
	Cooling fins of the engine are contaminated.	Clean cooling fins.

General information

Frequent faults and rectification (troubleshooting) (3/3)

Fault	Possible cause	Remedy
Smoke coming from engine.	Air filter contaminated.	Service or replace air filter.
	Oil level too high.	Check oil level.
Cut is not clean, lawn / meadow is unsightly.	Blade dull or worn.	Resharpen and balance blade. Replace damaged blades immediately.
	Drive speed is too high for the grass height / grass density.	Reduce drive speed and/or select a better cutting height.
	Mow unit bonnet is heavily contaminated.	Clean.
	Different tyre pressure.	Check tyre pressure.
Mulching result is unsatisfactory in high growth.	Drive speed too high.	Reduce drive speed.
Mulching result is unsatisfactory in low growth.	Growth is discharged too quickly.	Use optionalmulch kit.
Discharge channel is clogged.	Mowing grass that is too high or too wet.	Adapt cutting height and mowing speed.
	Blade worn.	Replace or resharpen blades.
	Insufficient engine speed, in spite of full throttle.	Check engine.
The device does not stop when the parking brake is activated.	Brake is adjusted incorrectly or worn.	Check / repair.
The device does not stop.	Traction drive belt does not disengage.	Check traction drive.
Engine does not switch off.	Switch-off system defective.	Close petrol tap. Repair
The tyres lose air.	Thorns or sharp objects damage the tyres.	Use a tyre sealant.

General information

Tyre sizes, wheel dimensions, tyre pressures (1/2)

Tyre pressures

A uniform and correct tyre pressure is essential for the following characteristics:

- Traction uphill
- Braking force downhill
- Suspension comfort
- Safety ⚠ : The tyre does not come off of the rim!
- Uniform mowing pattern

Rules: ⚠

- Check the air pressure on a regular basis.
- Examine tyres and tyre flanks regularly for damage.
- Replace damaged tyres.
- Only use original AS-MOTOR tyres.

Tips / notes: 👍

- Inflate the tyres with our recommended tyre pressure. In our opinion, these pressures offer an optimum of suspension comfort and traction.
- High tyre pressures have a negative influence on suspension comfort and traction.
- Do not underrange the recommended tyre pressures. Tyres can come off of the rims. ⚠
- Do not exceed the maximum tyre pressures.
- AS-Motor mowers come from the factory with a tyre pressure that is higher than the recommended pressure.
- Tyre sealant can prevent flat tyres. Particularly in tubeless tyres.
- Pay attention to the running direction of the tyres, left / right for optimal traction.
- Slow pressure loss of a tyre indicates that there is a thorn in the tyre.
- Tubed tyres cannot be easily used without a tube.

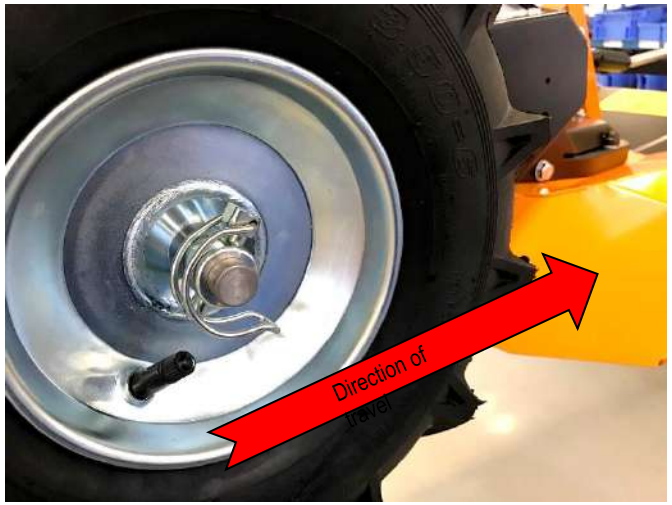
Next page: **Overview TABLE "Wheels"**

General information

Tyre sizes, wheel dimensions, tyre pressures (2/2)

Model:	Front wheel (F) / rear wheel (R):	Tyre size:	Recommended air pressure:	Maximum air pressure:	Tread:	Tubed Tyres (TT) / Tubeless (TL):	Standard equipment / optional:
AS 63	R: Twin tire kit	3.50 - 6	**12 psi / 0.80 bar to 15 psi / 1.00 bar**	36 psi / 2.50 bar	AS	TT	Series Optional

Twin tyres (accessory). Best for AS 63 2T on steep slopes.



Tip / note:
Correct install direction of the linchpin (cotter pin). Protection against loss.

Tightening torques

Correct tightening torques are important to ensure a solid connection of components and to avoid damage

Correct tightening torques are safety-relevant on rotating parts, in particular, like blades, belt pulleys and wheels.

The following tightening torques always apply for hexagon bolts, socket head screws with hexagon socket and standard thread in 8.8 quality: 

		Bolts with standard thread DIN quality 8.8	**Screws or nuts with under-head serrations**
Thread:	Width across flats:	Torque in Nm:	Torque in Nm:
M5	8	6 Nm	8 Nm
M6	10	12 Nm	15 Nm
M8	13	25 Nm	35 Nm
M10	17	55 Nm	70 Nm
M12	19	90 Nm	120 Nm

Special tightening torques

In the tables on the following pages the individual torques are presented for essential, special and safety-relevant parts.

Tip / note: 

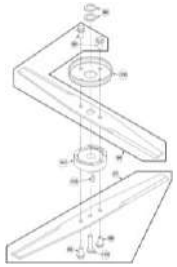
You will find the listed bolts / threaded fittings based on the position number (#XXX) in the exploded drawings of the respective assembly at parts-and-more.org (PAM). The position numbers are the numbers in circles on each part in the exploded drawing. In the parts list below the drawing the position number (Pos.) is also shown and cited by name.

Attention: Several bolts of the engines from Briggs & Stratton and Honda are inch bolts. 

Next pages: **TABLE – SPECIAL TIGHTENING TORQUES**

General information

Special tightening torques for bolted connections (2/2)

Assembly: (in PAM)	Position number in PAM:	Designation: Function:	Tightening torque in Nm:	Dimensions and standard:
Blade with fastening 	#103	Locking screw Central locking screw	120	M12 x 50 VERBUS-RIPP black
	#99	Locking screws (2 pcs) Locking screws – lower blade bar	120	M12 x 25 VERBUS-RIPP black
	#99	Locking screws (2 pcs) Upper blade bar and wrap protection cup	120	M12 x 25 VERBUS-RIPP black
Blade clutch and blade bearing	#104	Fastening – belt pulley hub on blade shaft.	120	VERBUS-RIPP M12x25
	#106	Fastening – sheet metal drum and belt pulley on belt pulley hub.	15	6x M6 x 12
	#11	Belt guide	35	6x Verbus-Ripp M8x25
Engine	#90	Fastening – engine hub on crankshaft.	50	Inch bolt

General information

Fuel, lubricants, fill quantities, consumption (1/2)

Fuel

AS 63 2T (EasyStart)

The AS 2-stroke, 165 ES engine must be operated with a mixture of petrol and two-stroke oil. There are three selection possibilities:

AS-Motor recommendation:
Fully-synthetic two-stroke oil, Fuchs TITAN 2T 100S (AS-Motor original oil) in the mixing ratio 1:100. Fuel, lead-free, at least 91 octane, ideally Super 95 or Super 98. The engine is E10-suitable.

Alternative possibility:
Fully-synthetic two-stroke oil from other manufacturers in the mixing ratio 1:50 (no mineral two-stroke oil, e.g. red Stihl HP). Fuel, lead-free, at least 91 octane, ideally Super 95 or Super 98. The engine is E10-suitable.

Special 2S (two-stroke) fuel:
An AS-Motor approval exists for "Stihl Motomix 1:50", "Aspen 2-stroke und "Oest Oecomix".

Important: ⚠
Do not, under any circumstances use a ratio higher than 1:50 oil. All AS 2-stroke engines react with sensitivity to the ratio. Oil-carbon deposits can cause engine damage.

AS 63 4T B&S, AS 63 4T Honda and AS 62 4T B&S:

The fuel must fulfil the following requirements:

- Clean, fresh, non-leaded petrol.
- At least 91 octane
- Petrol with an ethanol portion up to 10% (E10) is acceptable.
- Fuel stabiliser can be used.
- Fuel ages if it is stored longer than 30 days.
- Due to stagnant fuel residues form in the fuel system or on important parts of the carburettor.
- More extensive information is provided in the engine operating manual

Lubricant (engine oil)

AS 63 4T B&S, AS 63 4T Honda and AS 62 4T B&S:

The 4-stroke engine B&S 850E I/C can be operated with the following oils:

- SAE 30. Under 4 degrees Celsius the use of SAE 30 results in starting difficulties.
- Synthetic oil 5W-30. Multi-grade oil with the greatest bandwidth at all temperatures.
- 10W-30. Over 27 degrees Celsius, the use of 10W-30 results in increased oil consumption. Check the oil level more frequently.

General information

Fuel, lubricants, fill quantities, consumption (2/2)

Fill quantities – engine oil

AS 63 4T B&S 850E I/C
- approx. 0.6 litres

AS 63 4T Honda GXV 160
- 0.65 litre

AS 62 4T B&S 850 E I/C
- approx. 0.6 litres

Tank capacity – fuel

AS 63 2T, AS 63 4T B&S and AS 63 4T Honda
- 3-litre with reserve function

AS 62 4T B&S
- 1.2 litre

Tip / note:
When mowing extreme slopes with the AS 63 2T, AS-Motor recommends placing the fuel tap on "Reserve, to ensure a better flow of fuel.

Consumption (fuel)

- Maximum 2.2 l/h, minimum 0.9 l/h

General information

Maintenance tasks, cleaning and maintenance intervals (1/4)

Maintenance and cleaning (general information)

To ensure the full functionality, the safety and a long service life of the machine, regular maintenance and cleaning of the machine is essential.

All necessary activities and their intervals are listed on the following pages.

Prior to maintenance

Danger! ⚠ Danger of injury if maintenance and cleaning tasks are performed when the engine is running. Only execute maintenance tasks when the engine is running if this is explicitly required.

Prior to all maintenance and cleaning tasks when the engine is at a standstill:

- Let the device cool for at least 20 minutes.
- Close the fuel tap and the tank ventilation.
- Pull off the spark plug connector.

Warning! ⚠ The device can tip or fall over and cause severe injuries.

The front of the device can be lifter to execute maintenance, repair or cleaning tasks on the underside of the device.

- Only lift the device on a level substrate.
- Only use hoists and ramps that are suitable.
- Only attach hoists on the main frame, only the main frame can bear the weight.
- Safeguard the device against tipping over or falling.
- Stay out of the tipping area.

Clean the device:

- Thoroughly clean the device after each use. Particularly the underside and the blade.
- Clean the air grille, engine cooling unit and engine.
- Clean the transmission housing and transmission fan.
- **Danger of fire!** ⚠ Particularly ensure clean parts on the exhaust system.
- For cleaning use brooms, brushes, damp cloths and wood or plastic spatulas.
- **Do not clean with a high-pressure cleaner!** Very important! Many parts will be damaged through high-pressure cleaners.
- Do not use any aggressive cleaning agents.

Thorough visual inspection:

Check the following for safe operation of the machine:

- Nuts, bolts, screws, fuel lines, air filter for firm seat
- Ignition cable and ignition connector for damage
- Covers, protective cloths, muffler
- Tank, fuel tap, carburettor, engine, air filter.

Check safety functions

Check safety switches. (See section "Electrical system", Troubleshooting)

It must not be possible to start the engine, if:

- The seat contact switch in the centre of the seat surface loaded
- The blade clutch is switched on
- The drive lever is not in the zero position

If the engine and the blade are running, the engine must switch off and the blade must stop in 5 seconds as soon as the operator gets out of the seat.

Check parking brake (see section "Operating elements", parking brake)

Ensure that the parking brake functions faultlessly. ⚠

Parking brake test: (see section "Operating elements", parking brake)

- Place the device on a non-slip substrate, e.g. asphalt or concrete.
- Release the drive lever and brake lever. The parking brake is now activated.
- Now attempt to pull the device backwards

If the parking brake is correctly set, the device can only be pulled with blocked rear tyres. Otherwise: See section "Operating elements" parking brake.

Check blades (see section "Mow unit bonnet", blade replacement and blade maintenance)

Danger! ⚠ There is a considerable danger of injury if the blade is improperly mounted and maintained!

Check the blades and all fastening parts for wear, damage and cracks.

- Before and after each mowing use
- If there are noticeable changes

Immediately replace blade parts and **fastenings** if there is: ⚠

- **Damage** or **cracks** (e.g. wear of the blade bolts and nuts)
- **Wear** that extends beyond the wear indicators of the blades. (Granularity marks on the blades)
- At least once a year or every **50 operating hours**, depending on whether wear is present. Material is subject to fatigue; hairline cracks can develop.

Replacement of the blade is strictly required when the thickness of the blade on the rear edge underranges 1 mm at any point

Vibration (see section "Mower deck")

Vibration indicates imbalance in the rotating system. Causes can be:

- One-sided wear of the blade
- Missing parts, or chipping
- Engine or blade fastening damage
- Dull or poorly sharpened blades increase vibration and can cause cracks and breaks.

Check blade clutch and blade brake

At full speed the blade must come to a complete standstill in less than 7 seconds. "Metallic" brake noise indicates a damaged brake pad.

(See section: "Mow unit bonnet". Blade brake, blade bearing and blade clutch.)

Check engine

See section: "Engine"

General information

Maintenance tasks, cleaning and maintenance intervals (4/4)

Component	Action	Maintenance interval	
		A	B
Device	Check for safe working condition (basic inspection).	■	▲
	Clean.	■	
	Customer service.		▲
Fuel	Check fuel level.	■	
	Is the tank cap closed?	■	
Tank, fuel valve, and fuel line	Check parts for leaks and check for good condition.	■	▲
Carburetor	Does the carburetor close again after starting?	■	▲
Ventilation grid	Clean.	■	▲
Engine cooling	Clean.		▲
Spark plug	Check/replace.		▲
Air filter	Maintain.	■	■▲
Blade and fastening components	Check for wear and damage. See chapter Checking the blade.	■	▲
	Change.		▲
Blade brake	Does the blade function safely and does the blade come to a standstill within 7 seconds?	□	▲
Release the drive lever	Does the device stop when the lever is in zero position?	□	▲
Drive	Check.	■	▲
V-belt	Are the belts tensioned correctly, without fissures, and in good condition?		▲
Bowden cables	Check for proper function and ease of movement.	■	▲
Acceleration lever	Check for proper function.	□	▲
Chassis and impact protection	Check for rust and fissures and check the welding seams.	■	▲
	Are all protective devices and covers in place, fastened correctly and properly functioning?	■	▲
Label	Condition of the labels.	■	▲
Parking brake	Check.	■	▲
Flammable material	Remove easily flammable debris buildup from the engine and the device.	■	▲
Tyres	Check tyres and, if necessary, the tyre pressure.	■	▲
Lubrication	See chapter grease lubrication.	■	▲■

For 4-stroke devices

Engine	For reliable information, see the operating manual of the engine manufacturer.	■	▲
	Check oil level (see operating instructions of the engine manufacturer).	■	▲
	Oil change.		▲

A Before and after each use.
B Annually or every 50 h.
■ By the user when the engine is not running.
□ By the user when the engine is running.
▲ By the authorised service centre.

Engines

Overview and maintenance schedules (1/3)

Overview

Model: AS 165 ES (on AS 63 2T)

- Design: Single-cylinder, two-stroke engine with EasyStart
- Displacement: 165 ccm
- Max. net torque: 10.7 Nm at 3,800 rpm
- Mixing ratio:
  - Recommended 1:100 with (AS oil) Fuchs TITAN 2T 100 S
  - Alternative, see "General information, fuel"
- Power:
  - Nominal 4.5 kW (6.1 hp) at 3,800 rpm (Factory setting)
- Engine speed:
  - Maximum 3800 rpm.
  - Minimum 1600 rpm. (Idle)
- Spark plug:
  - NGK BR6HS
  - Electrode gap 0.5 to 0.7 mm
  - Tightening value 25 Nm
- Engine manual available at "parts-and-more.org"

Model: B&S 850E I/C (model no.: 120000)

- Design: Single-cylinder, four-stroke engine with Readystart®
- Displacement: 190 ccm
- Max. net torque: 11.5 Nm at 2,800 rpm
- Fuel:
  - Petrol, min. RON 91, lead-free
- Power:
  - Nominal 3.7 kW (5.0 hp) at 3,600 rpm (Factory setting)
- Engine speed:
  - Maximum 3600 rpm.
- Spark plug:
  - B&S Champion RC12YC
  - Electrode gap 0.51 mm
  - Tightening value 20 Nm
- Operating manual available at:
  - http://www.briggsandstratton.com/eu/de/support/manuals
  - Model type number: 12Q902-0098

Engines

Overview and maintenance schedules (2/3)

Model: Honda GXV 160

- Design: Single-cylinder, four-stroke engine with Readystart®
- Displacement: 163 ccm
- Max. net torque: 9.6 Nm at 2,500 rpm
- Fuel:
  - Petrol, min. RON 91, lead-free
- Power:
  - Nominal kW (4.4 hp) at 3,600 rpm. (Factory setting)
- Engine speed:
  - Maximum 3600 rpm.
- Spark plug:
  - NGK BPR5ES or DENSO W16EPR-U
  - Electrode gap 0.70 to 0.80 mm
  - Tightening value: New ½ turn, used ¼ turn
- Operating manual available at:
  - http://www.honda-engines-eu.com/de/34

Maintenance schedule B&S 850E I/C (AS 63 4T B&S)

Every 8 Hours or Daily
• Check engine oil level • Clean area around muffler and controls • Clean air intake grille
Every 50 Hours or Annually
• Clean air filter [1] • Clean pre-cleaner (if equipped) [1] • Change engine oil • Replace oil filter (if equipped) • Service exhaust system
Every 200 Hours
• Replace air filter [1] • Replace pre-cleaner (if equipped) [1]
Annually
• Replace spark plugs • Service fuel system • Service cooling system [1] • Check valve clearance [2]

[1] In dusty conditions or when airborne debris is present, clean more often.
[2] Not required unless engine performance problems are noted.

Engines

Overview and maintenance schedules (3/3)

Maintenance schedule Honda GXV 160

Perform at every indicated month/year or operating interval, whichever comes first.

Regular Service Period	Item
Before each use	Check: Engine oil level Check: Air filter
First month or 5 hours	Change: Engine oil
Every 3 months or 25 hours	Clean: Air filter (2)
Every 6 months or 50 hours	Change: Engine oil (3) Clean: Air filter (2) Check: Flywheel brake pad (if equipped)
Every year or 100 hours	6 month items plus: Check-adjust: Spark plug Clean: Spark arrester (if equipped) Check: Blade brake clutch (if equipped) Check-adjust: Idle speed Clean: Fuel tank and filter Check-adjust: Valve clearance
Every 2 years or 200 hours	Yearly items plus: Replace: Air filter Replace: Spark plug
Every 2 years	Check: Fuel lines (replace if necessary)

(1) For commercial use, log hours of operation to determine proper maintenance intervals.

(2) Service more frequently when used in dusty areas.

(3) Change engine oil every 25 hours when used under heavy load or in high ambient temperatures.

(4) These items should be serviced by an authorized Honda servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.

(5) See your equipment manual or Honda engine shop manual.

Failure to follow this maintenance schedule could result in non-warrantable failures.

Maintenance schedule AS 165 ES 2-stroke engine

(see also maintenance schedule p. 21)

Sufficient engine cooling is particularly important for a long engine life.

Always keep the

- engine cover (fan grille),
- the muffler (protective grille) and
- the cooling ribs of the engine clean.

Check the air filter before each use.
Replace it if necessary, at the latest after one year or 50 operating hours.

Replace the spark plug when necessary.

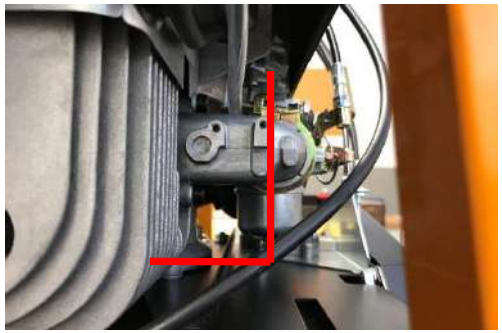
Adjustment – carburettor AS 63 ES (AS 165 ES two-stroke engine) (1/3)

Attention:

The carburettor of the AS 165 ES (EasyStart) **is not compatible** with older carburettors or carburettors of the catalytic models. **The air filter housing is different to older engines too!**

The carburettor of the AS 165 ES (EasyStart) has the **identifier "203"** at the end of the serial number.

Slide the carburettor onto the intake fitting to the stop and firmly tighten. Do not leave any space.



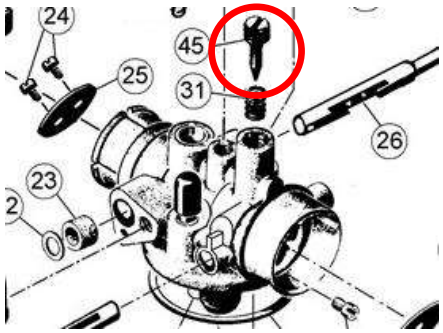
Install the carburettor precisely at a 90 degree angle to the engine.

Firmly tighten the air filter with adapter. Check for leaks. If there is outside air the engine does not regulate properly.

Tighten the idle jet. When cleaning, ensure that the tiny sealing ring of the nozzle does not get lost!

Adjustment – carburettor AS 63 2T ES (AS 165 ES 2-stroke engine) (2/3)

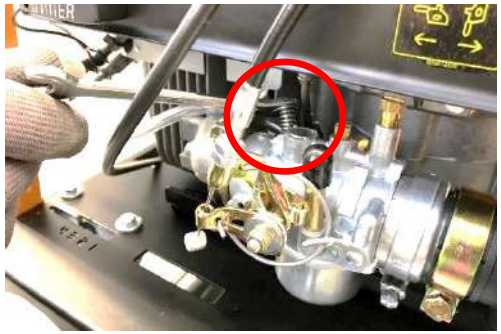
Adjustment of the **air regulator screw**. Completely open close and reopen **one half-turn** (180 degrees).



Tip / note:

Opening of the air regulator screws

- Old engines without cat.:
  ¾ turn (not AS 63 2T)
- Cat. engines 1st and 2nd generation:
  ¼ turn (not AS 63 2T)
- **ES (EasyStart) engine: (for all AS 63 2T)**
  ½ turn

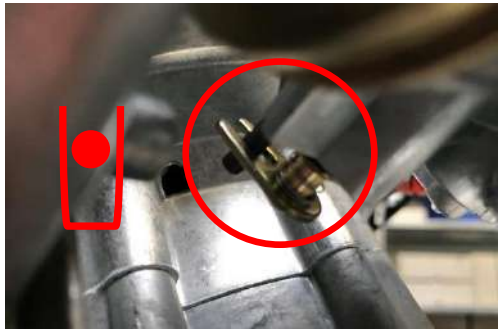


Adjustment of idle rpm via the adjusting screw:

Setpoint: 1,600 rpm.

Adjustment of the regulator (wind vane) for maximum rpm.

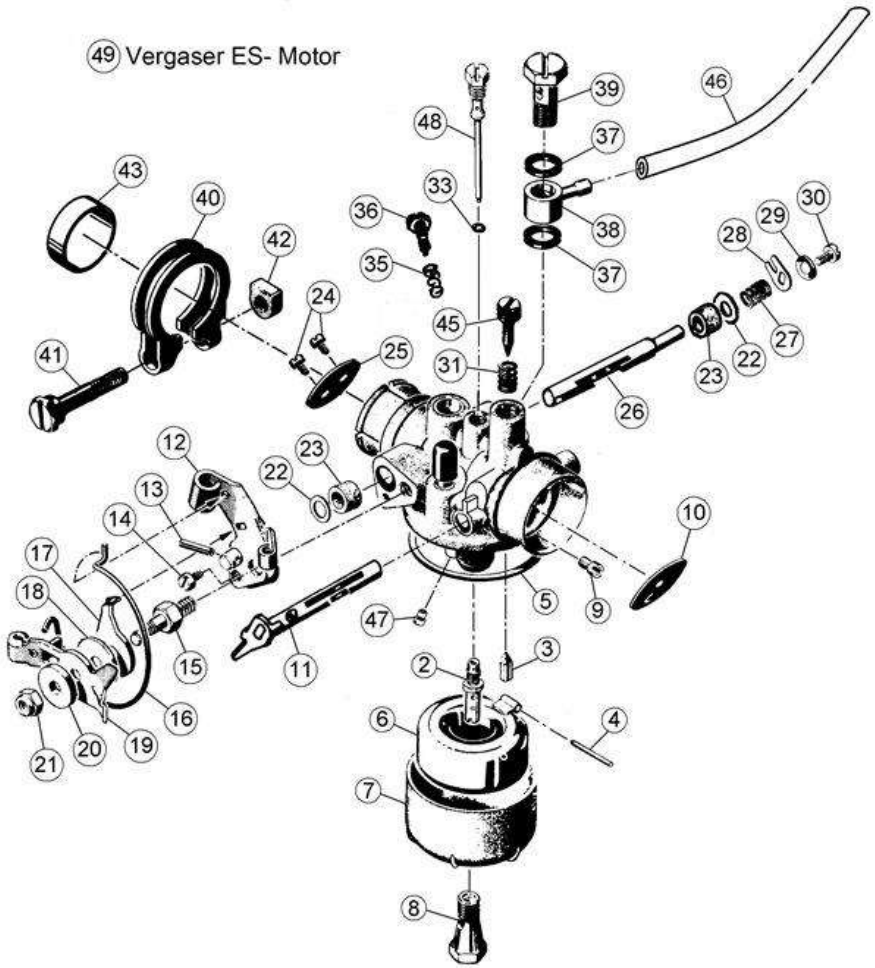
Setpoint: max. 3,800 rpm.



If the carburettor is correctly mounted, the regulator (wind vane) engages precisely and is centred in the throttle lever. At full-throttle position of the throttle lever, the throttle lever can be easily moved back and forth.

To set the maximum rpm (with the engine running ⚠) slightly unscrew the lock nut and with a no. 8 open-ended spanner adjust the spring tension of the regulator (wind vane). Then re-lock the nuts.

Adjustment – carburettor AS 63 2T ES (AS 165 ES 2-stroke engine) (3/3)



Tip / note:

Many carburettor problems are caused by old or contaminated fuel. Even an upstream fuel filter does not offer complete safety in this regard.

Do not use any fuel that is more than 4-months old. Preferably use super petrol 95/98, not Super E10. Super E10 has a shorter shelf life.

Empty the fuel tank over winter and let the carburettor idle.

When cleaning the carburettor, ensure that small parts are not lost. (e.g. #33, #23, #4, #3, #5)

Ensure that pin #4 is not bent, and that pin #6 is in the upper position parallel to the carburettor.

Many parts are available as spare parts on PAM.

Preferably use a 1:100 oil / fuel mixture with AS-Motor special 2-stroke oil. (See section: "General information, fuel"

Replace and inspect the fuel filter regularly.

Check the fuel tank of the customer and the sieve of the fuel tap in the tank for contamination.

Drive AS 63

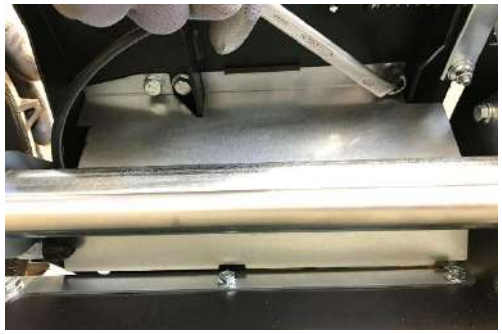
Replacing the drive belt of the Variomat (1/3)

To replace the V-belt of the Variomat drive, the blade belt below it must first be removed. To do this, first take off the belt cover.

Slightly loosen the front belt guide, in order to route the blade belt past it.

Take blade belt off of the belt pulley.

Bring the rear cutting height adjustment element into the highest position "4".

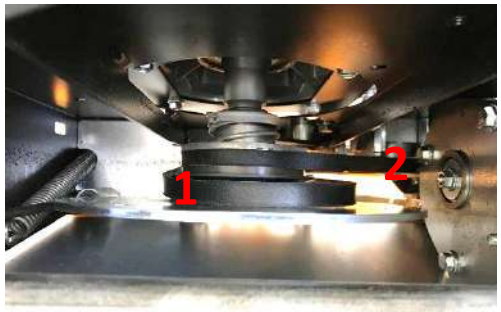


Unscrew the silver hand guard above the rear axle.

Pull out the hand guard over the axle and to the rear.

Replacing the drive belt of the Variomat (2/3)

Removed hand guard with both screws.



View of the rear axle to the lower blade belt (1) and the "Variomat" drive belt (2) above it.

Pull out blade belt over the axle and to the rear.

To do this thread the blade belt out of the belt guide of the tension roller. With your hand, pull the tensioning roller under the engine mount.

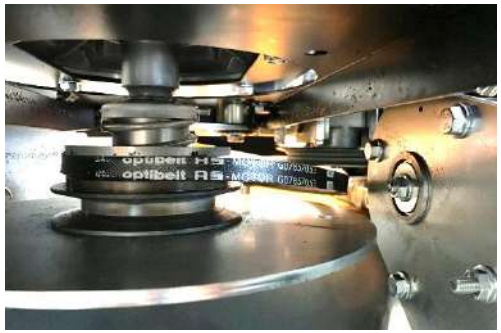
Tensioning roller of the blade clutch with belt tensioner.

The, take off the Variomat drive belt.

Drive AS 63

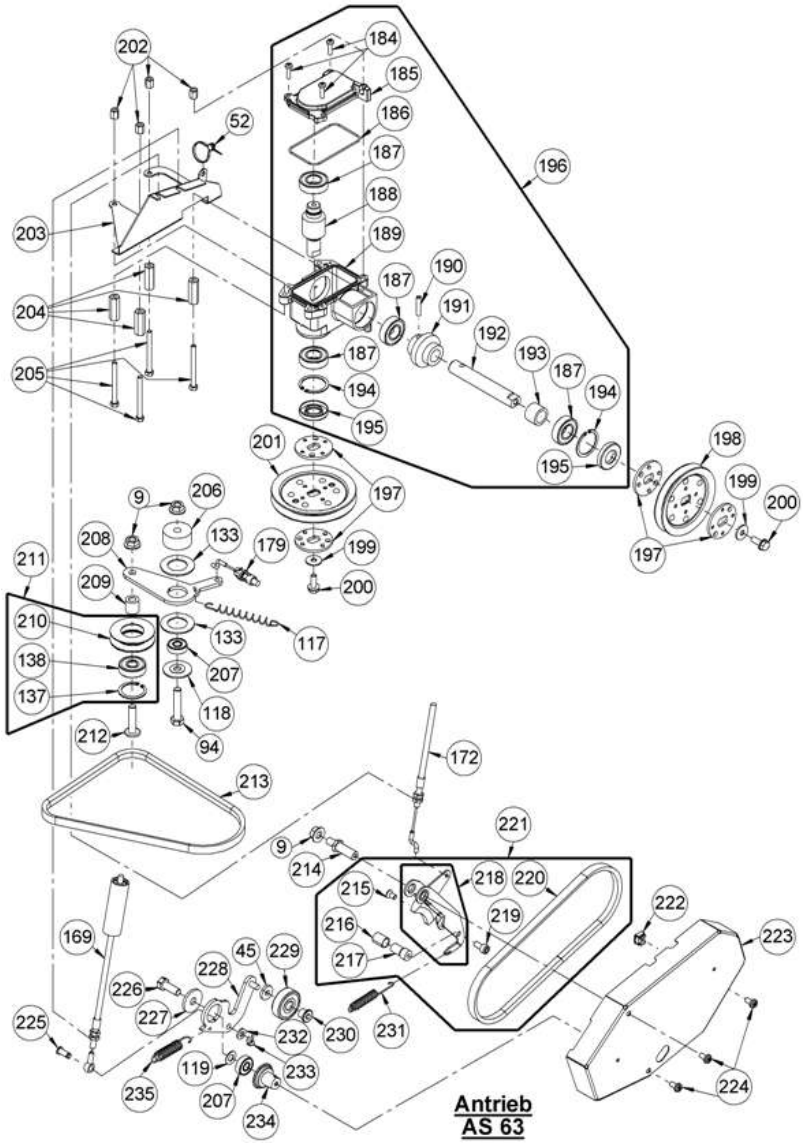
Replacing the drive belt of the Variomat (3/3)

To do this, press the drive belt downward with your left hard, by turning the belt pulleys, take the drive belt off of the angular gear.



Drive belt taken off of the angular gear unit.

Now pull out the drive belt to the rear over the flywheel and over the rear axle.

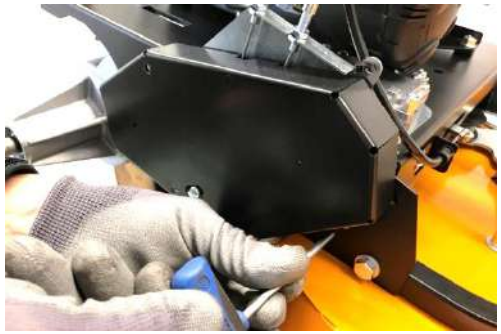


Drive AS 63

Replacing the drive belt of the transmission (1/3)

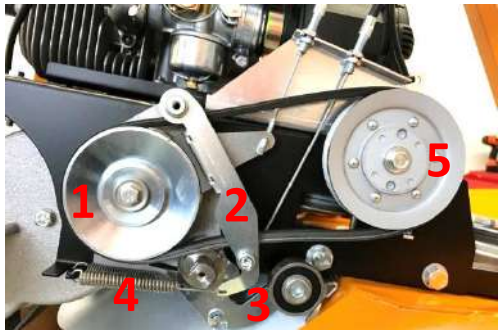
Take off the right rear wheel.

Take off the belt guard of the heavy-duty V-belt.



To do this, unscrew the internal-Torx fillister-head screws.

The drive belt that goes from the angle gear to the gear drive is under the belt guard.



The drive system:

Split belt pulley of the wheel gear unit (1), blade lever (2), belt tensioner (3), tension spring of the brake lever (4), belt pulley angular drive (5).

Use a hook to unhook the tension spring of the brake lever. (Do-it-yourself construction)

Replacing the drive belt of the transmission (2/3)

Take off the heavy-duty belt by twisting it off the belt pulley of the angular gear.

Take the belt off the belt pulley of the wheel gear unit and pull off the brake lever. Unhook the brake cable nipple.

The taken-off belt with brake lever and brake pad.

Screw on the brake lever. Take off old belt and install new belt.

Hook the brake cable nipple back on the brake lever.

Bring the brake lever and drive belt into the form of an "8".

Drive AS 63

Replacing the drive belt of the transmission (3/3)

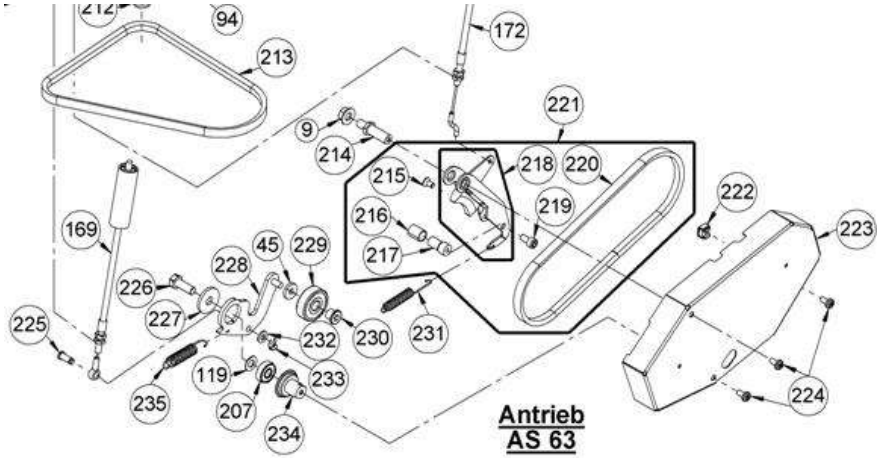
Fit the brake lever onto the brake lever bearing pull the belt onto the split belt pulley of the wheel gear unit.

Now, pull the belt onto the belt pulley of the angular gear unit.

Hook the tension spring of the brake arm back in.

Z ➡ A

Remount belt guard and wheel.



Drive AS 63

Replacing the drive gear (belt pulley) of the transmission (1/3)

Take off the right rear wheel and drive belt of the gear unit. Bring the rear adjustment element into position "4".

Unscrew cover plate of the guard. (See "Replacing the drive belt of the Variomat 1/3" and "Replacing the drive belt of the transmission")

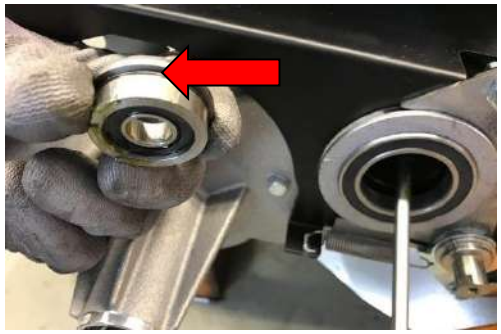
Screw on the hexagon bolt of the transmission belt pulley. Counter nut with spanner on the inside.

With two screwdrivers, uniformly push inner gear of the belt pulley out of the bearing seat. Leave the central screw to secure the parts in the bore.

Take off the entire drive gear with belt pulley. **Attention:** Also take off gear (1). It can fall into the transmission!

All parts of the drive gear in the sequence of assembly.

View into the transmission from the outside. The large and small deep-groove ball bearings of the drive gear are visible.



Use a suitable object to push out the small ball bearing with bearing sleeve from the outside. Check the O-ring (arrow). Check the ball bearing. Re-insert the bearing with the bearing sleeve and O-ring.

View of the outer ball bearing.

If necessary, strike out the defective ball bearing.

Take out the shaft seal.

Clean oil and grease off of the bearing seat and sealing ring seat! If the belt pulley is greasy the machine loses drive force!

Press in a new shaft seal.

Replacing the drive gear (belt pulley) of the transmission (3/3)

Pay attention to the install direction and position of the shaft seal. It must be seated approximately 1 mm lower than the ball bearing (arrow).

Press in a new ball bearing and check for parallel seat.

Put the drive gear together. Do not forget the feather key. Ensure that the belt pulley is free of oil and grease.

Push drive gear into the ball bearing. Ensure that the rear gear does not fall into the transmission.

Check the ease of motion of the two halves of the belt pulley.

Retighten the drive gear. Drive belt, belt guard, hand guard, and wheel. (See "Replacing the drive belt of the Variomat and "Replacing the drive belt of the transmission")

Removing the wheel gear unit (complete) (1/4)

Take off wheels and hand guard (see Taking off the drive belt of the Variomat").

Bring the rear height adjustment element into the highest position, the no. "4" position.

Unscrew the silver discharge plate.

The two belts (blade belt and drive belt) can remain on the engine hub. Here in the illustration they have been removed.

Take off the discharge plate and take off the drive belt of the transmission. (See section "Replacing the drive belt of the transmission")

Unscrew the flywheel from the engine hub.

View of the engine hub with Variomat. (Belt has already been taken off, see section "Replacing the drive belt of the Variomat")

Digression: Remove Variomat.

Unscrew the locking screw (inch thread) of the engine hub and pull off engine hub with Variomat.

Removed engine hub with Variomat. Check the Vario disc (1) for ease of movement and play. Both ends of the pressure spring should be approximately one above the other. Use a little copper paste for lubrication. Keep belt pulleys free of grease and oil.

Unhook the tension spring of the height adjustment element.

Unscrew brake lever bearing.

Unhook the tension spring of the belt tensioner lever.

Removing the wheel gear unit (complete) (3/4)

Unscrew bearing bolts of the belt tensioner and take off belt tensioner.

Pay attention to the install position of the cup spring. When reassembling do not forget the cup spring.

Now pull out the circlip to the side.

Unscrew connection nut with screw and cover cap on the left side of the transmission. Unscrew bearing plate.

Removed bearing plate and connection nut.

Open the arrest of the height adjustment element and push the transmission downward and out.

Removing the wheel gear unit (complete) (4/4)

Move the belt pulley of the transmission out through the opening of the engine mount.

Z ➡ A

Assembly in the reverse sequence.

Removed wheel gear unit. Do not lose or forget the slide bearing.

Please note:

Do not forget the slide bearing ring on the left side.

When setting up the wheel gear unit, the left wheel bearing slips out.

Please note:

Do not forget the cup spring on the bearing bolt of the belt tensioner, and pay attention to the install direction.

Dismantling the wheel gear unit (1/5)

Tip/note: Removal of the wheel gear unit, see chapter "Removing the wheel gear unit (complete)".

Press in two shaft seals and one deep-groove ball bearing.

Shaft seal approx. 1 mm lower than the ball bearing.

Pressed in bearing.

Knocked-in small shaft seal.

Small deep-groove ball bearing pressed in.

Install wheel shaft with ball bearings and two circlips (1 and 2).

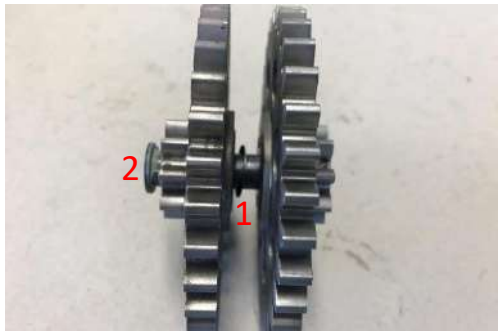
Installed wheel shaft.

Installed wheel shaft.

Fasten 33-tooth on the gear shaft with screw and washer.

Mounted gear. The gear must not grind on the housing. If it does there is a material fault on the housing.

Fit together both double gears 12/33 teeth with two bearings, feather key and gear axle.

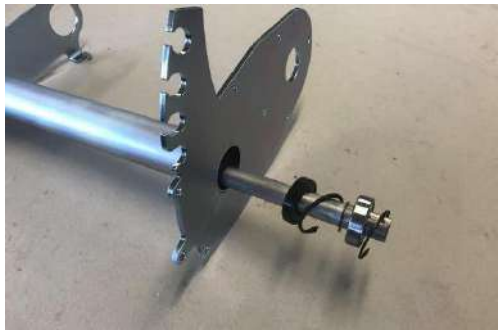


Fitted together gear with feather key (1) in the middle. Pay attention to the head (2) of the gear axle. (See this photo and the next photos)

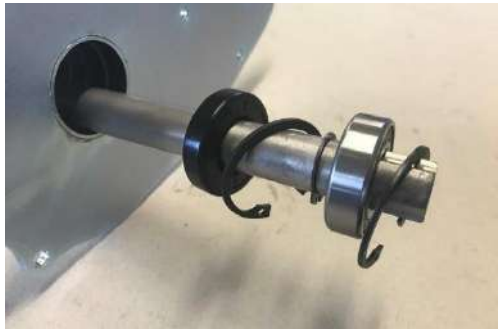
Install gear package with long screw and detent edge washer.

Installed gear package.

Place seal O-ring in the groove.



Install wheel shaft on the right, transmission side with shaft seal, circlip, small circlip, ball bearing, and large circlip.



Component parts of the long wheel shaft on the right side.

Installed wheel shaft.

Now fasten the strut and the 33-tooth gear with the screws.

Drive AS 63

Dismantling the wheel gear unit (4/5)

Fastened strut and 33-tooth gear.

Digression: Drive gear with belt pulley.
It is not necessary to dismantle or remove the transmission to replace or remove the drive gear. (See "Replacing the drive gear of the transmission)

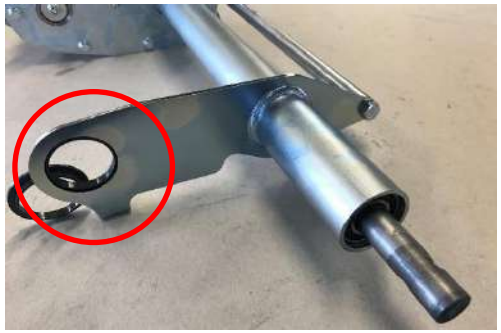
Drive gear assembly with belt pulley. Do not forget the feather key.

Component parts – drive gear with belt pulley.

Fill with 100 grams of transmission fluid grease. Available on PAM (G00041001). In the illustration here the drive gear is already installed. It can be installed or removed. (See "Replacing the drive gear of the transmission)

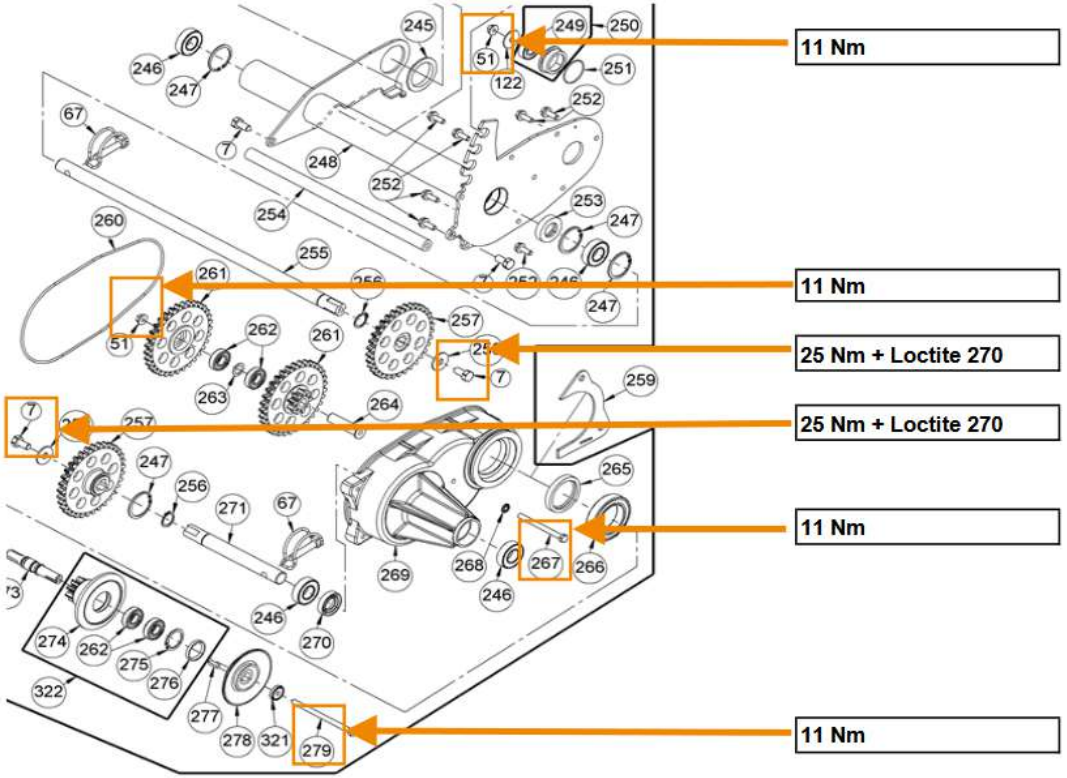
Firmly fasten the swing arm to the transmission housing with the seven bolts. Ensure that the O-ring is correctly seated. A little grease can emerge from the vent hole (circle) in operation.

Now mount the circlip and the ball bearing on the left side of the long wheel shaft. The bearing slides easily into the tube.



Installed bearing on the left side. From the inside, insert the slide bearing ring into the bearing hole. Fix in place with a little grease.

Finished wheel gear unit. Installation, see chapter "Removing the wheel gear unit (complete)".



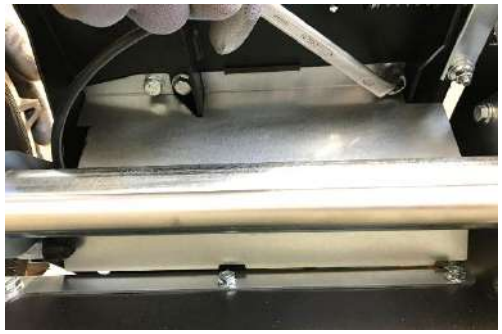
Removing the angular gear unit (1/7)

First take off the belt cover.

Slightly loosen the front belt guide, in order to route the blade belt past it.

Take blade belt off of the belt pulley.

Bring the rear cutting height adjustment element into the highest position "4".

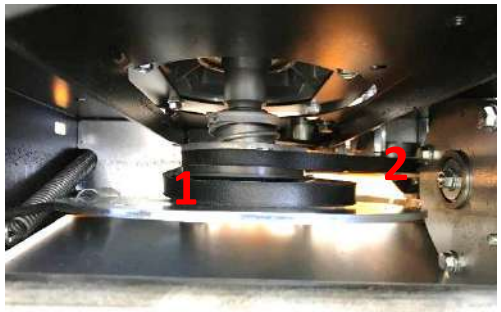


Unscrew the silver hand guard above the rear axle.

Pull out the hand guard over the axle and to the rear.

Removing the angular gear unit (2/7)

Removed hand guard with both screws.



View of the rear axle to the lower blade belt (1) and the "Variomat" drive belt (2) above it.

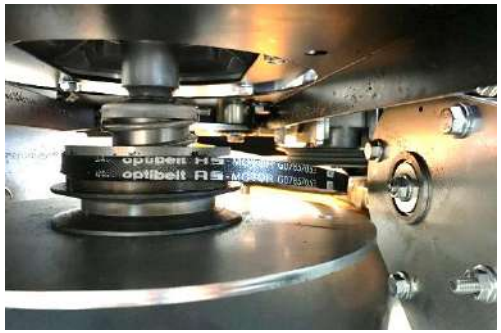
Pull out blade belt over the axle and to the rear.

To do this thread the blade belt out of the belt guide of the tension roller. With your hand, pull the tensioning roller under the engine mount.

Tensioning roller of the blade clutch with belt tensioner.

The, take off the Variomat drive belt. It goes from the Variomat to the angular gear unit.

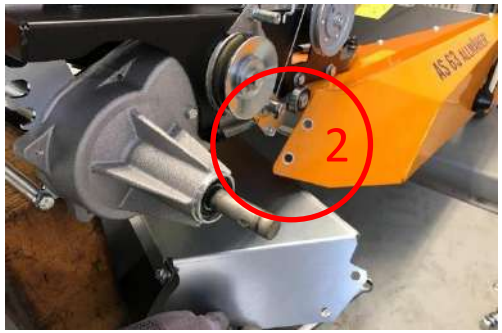
To do this, press the drive belt downward with your left hard, by turning the belt pulleys, take the drive belt off of the angular gear.



Drive belt taken off of the angular gear unit.

Now pull out the drive belt to the rear over the flywheel and over the rear axle.

Unscrew the silver discharge plate. **Note the following when re-assembling:** On the left side the discharge plate rests **on** the blade enclosure (1), on the right side it is **underneath** (2).



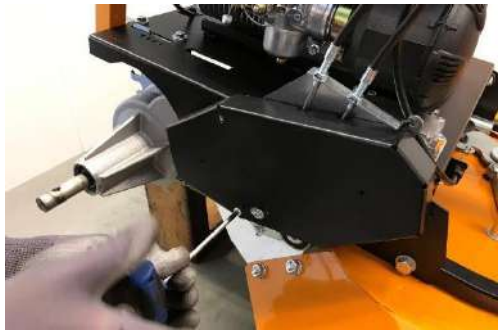
Take off discharge plate.

Access to the lower belt pulley of the angular gear unit is now possible.

To provide even more space, the flywheel can be taken off the engine hub.

Taken off belt pulley with component parts.

View from the engine hub to the belt pulley of the angular gear unit and the tensioning roller of the drive belt of the Variomat.



Now take off the belt guard of the drive.

Unscrew belt pulley of the angular gear.

Tip / note: Counter belt pulley while holding the pulley with the belt.

The belt pulley must be taken off of the belt pulley of the angular gear unit.

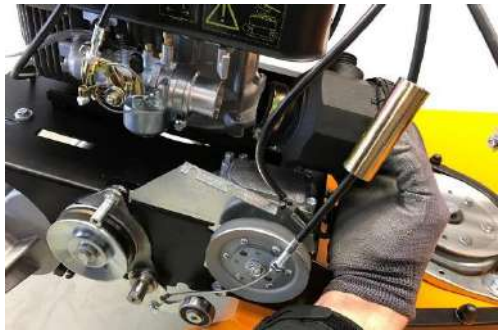
Unhook tension spring of the brake lever.

Take off the belt by turning the belt pulleys.

The belt can now be easily taken off together with the brake lever.

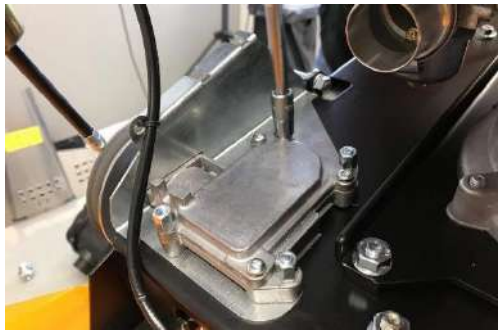
Assembly, see section:

"Replacing the drive belt of the transmission"



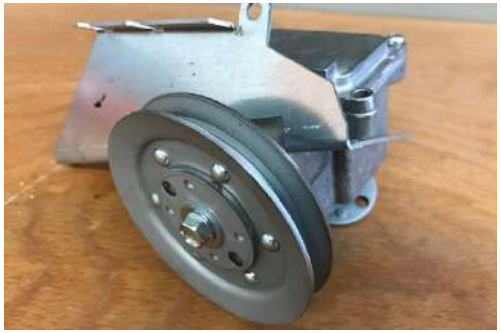
Take off the air filter.

Tip / note: The air filter housing of the AS 63 2T ES is not compatible with older AS models!

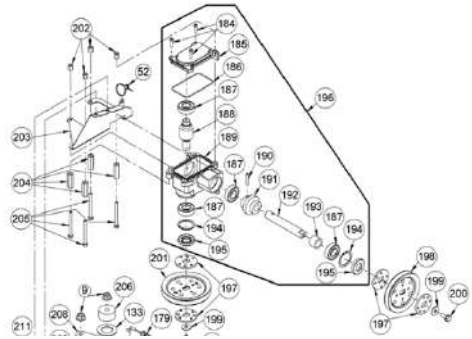


Now unscrew the angular gear unit.

The four fastening screws of the angular gear unit.



The angular gear unit can now be taken out.



Tip / note:

The angular gear unit is designed to be maintenance-free. Nevertheless, should it be blocked, AS-Motor recommends installation of a completely new angular gear unit. Too many parts are damaged.

Z ➡ A

Assembly in the reverse sequence.

Tip / note:

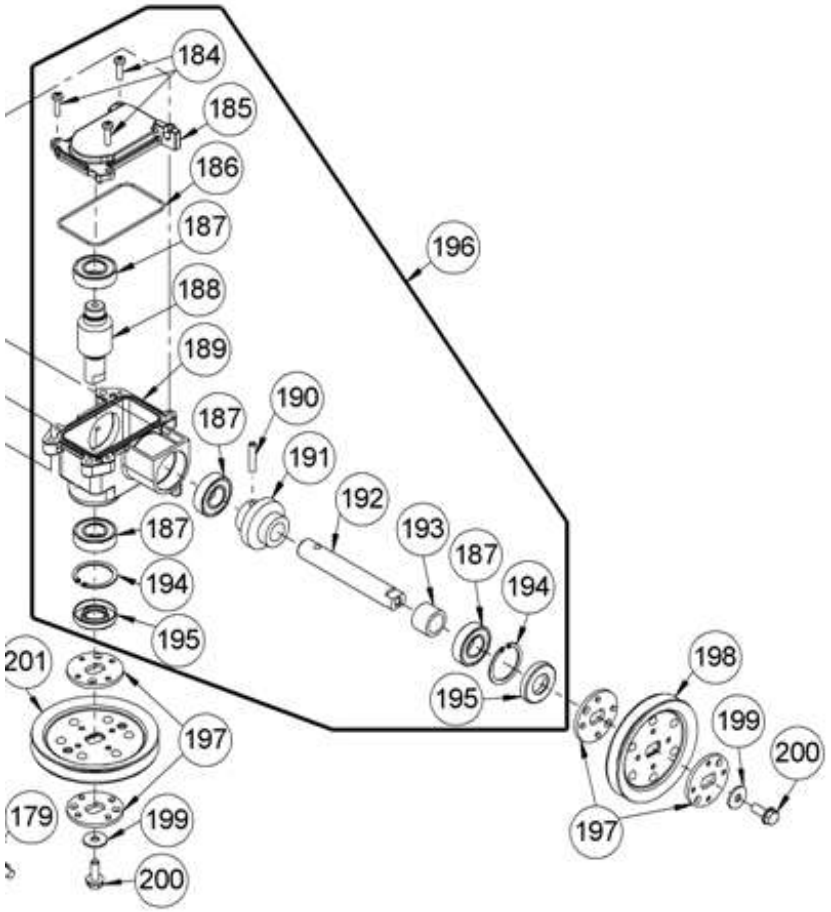
To pull on the belt, set the Variomat lever on "MAX" speed (to the left).

Thus the tension roller of the belt is de-tensioned and the belt can be pulled on more easily.

Pull the belt onto the Variomat of the engine hub and pull forcefully on the belt.

This opens the Vario plate and you obtain more length for pulling on the belt.

Now guide the belt over the tensioning pulley and pull it on by turning the belt pulley.



Removing the Variomat tensioner pulley (1/3)

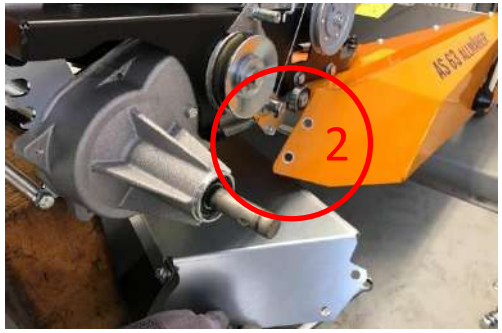
Take off the belt cover of the blade belt.

Bring the rear cutting height adjustment element into the highest position "4".

Unscrew the silver hand guard above the rear axle and pull it out over the axle.

Unscrew the silver discharge plate.
Note the following when re-assembling:

On the left side the discharge plate rests **on** the blade enclosure (1), on the right side it is **underneath** (2).



Take off discharge plate.

View of the drive belt of the Variomat from the rear.

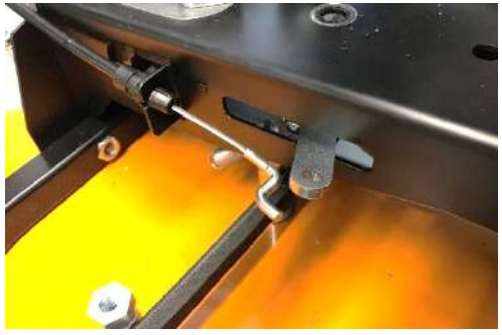
Removing the tensioner pulley of the Variomat belt (2/3)

Tip / note:

To pull the belt on and off, set the Variomat lever on "MAX" speed (to the left).

Counter the screw from below with an offset screwdriver and unscrew the upper nut.

Press the belt downward and take it off by turning the flywheel and the belt pulley of the angular gear unit.



Unhook the Vario cable and the tension spring.

The tensioning pulley can now be removed.

Take off the entire tensioning pulley.

Removing the tensioner pulley of the Variomat belt (3/3)

The tensioning pulley and its component parts.

Install direction of the tensioning pulley with tension spring.

Installation in the reverse sequence.

Z ➡ A

Mower deck

Maintenance of the cross-blade (1/2)

Cross-blade system of the AS 63.

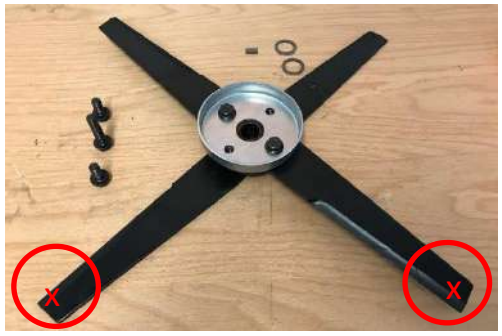
Unscrew central locking screws.

When reassembling do not forget the two support plates!

The blade system and its component parts.

Wrap protection cup with lock screws of the upper mulching blade.

Tightening torque: 120 Nm! ⚠

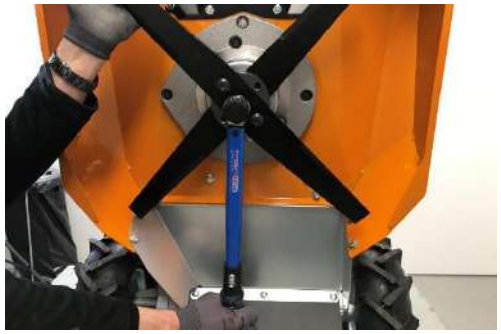


Resharpen and balance blades uniformly. Imbalance can damage the machine and the engine. **Do wear or resharpen the blades beyond the wear marks** (grain markings “dot“ on positions “x”).

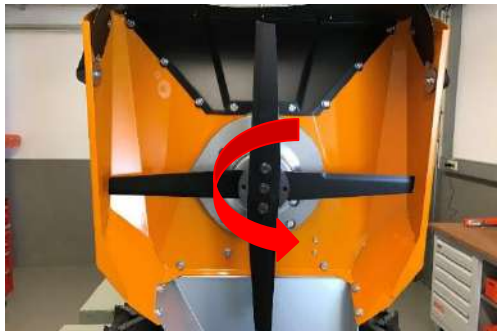
Mower deck

Maintenance of the cross-blade (1/2)

Fit top mulching blade with blade pulley back on. Insert feather key.
Do not forget the two support plates above!



Mount the lower blade with the three locking screws.
Tightening torque: 120 Nm!



Ensure the same install direction of the blades. Turn blade clockwise (as from above operators view).

Attention:

Damaged blades, parts or screws must always be replaced immediately. Comply with the torques.

Safety-relevant parts!

Mower deck

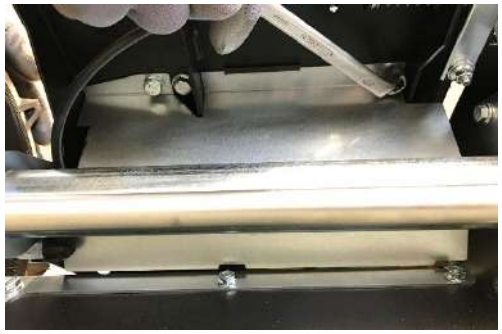
Replacing the blade belt (1/2)

First take off the belt cover.

Slightly loosen the front belt guide, in order to route the blade belt past it.

Take blade belt off of the belt pulley.

Bring the rear cutting height adjustment element into the highest position "4".

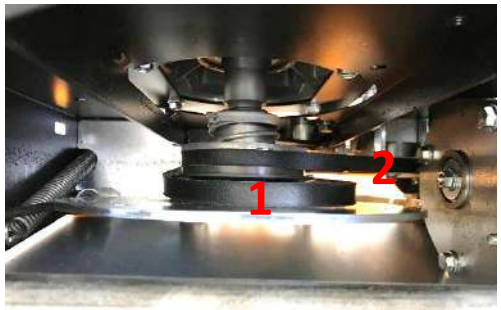


Unscrew the silver hand guard above the rear axle.

Pull out the hand guard over the axle and to the rear.

Mower deck

Replacing the blade belt (2/2)



View of the rear axle to the lower blade belt (1) and the "Variomat" drive belt (2) above it.

Pull out blade belt over the axle and to the rear.

To do this thread the blade belt out of the belt guide of the tension roller. With your hand, pull the tensioning roller under the engine mount.

Z ➡ A

Installation in the reverse sequence.

Tip / note:

Ensure that the belt runs **within the two belt guides.**

Mower deck

Removal of the blade brake (1/2)

First take off the belt cover.

Slightly loosen the front belt guide, in order to route the blade belt past it.

Take blade belt off of the belt pulley.

Unhook tension spring of the brake lever.

Unscrew brake lever bearing.

Thread the brake lever out of the oval hole in the blade enclosure. When re-installing, do not forget the cup spring of the brake lever.

Mower deck

Removal of the blade brake (2/2)

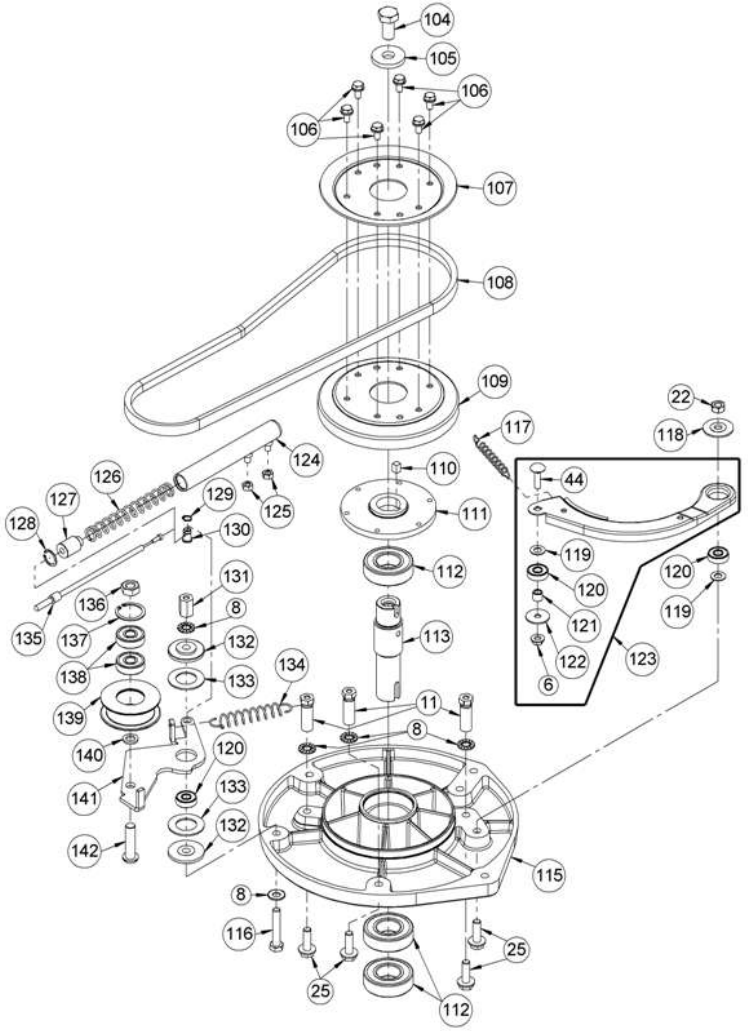
Check both bearings of the brake lever for ease of movement.

Installation in the reverse sequence.

Z ➡ A

Tip / note:

Ensure that the belt runs within the two belt guides.



Messerkupplung
AS 63

Mower deck

Removal of the blade bearing (complete) (1/3)

First take off the belt cover.

Slightly loosen the front belt guide, in order to route the blade belt past it.

Take blade belt off of the belt pulley.

Unhook tension spring of the brake lever.

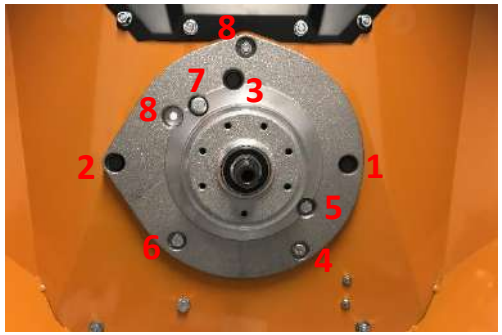
Unscrew brake lever bearing.

Thread the brake lever out of the oval hole in the blade enclosure. When re-installing, do not forget the cup spring of the brake lever. Install the cup spring with the right side up.

Mower deck

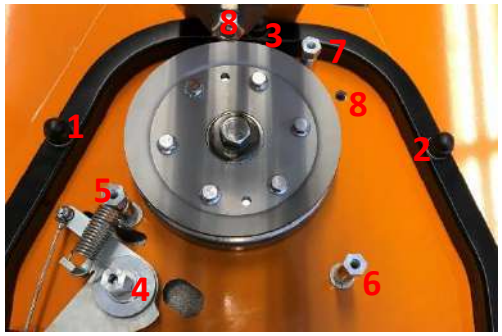
Removal of the blade bearing (complete) (2/3)

Unscrew the belt pulley.



Unscrew the blade bearing from below.

Removed belt pulley with lower brake drum.



View of the blade enclosure from above. Position of the screws of the blade bearing.

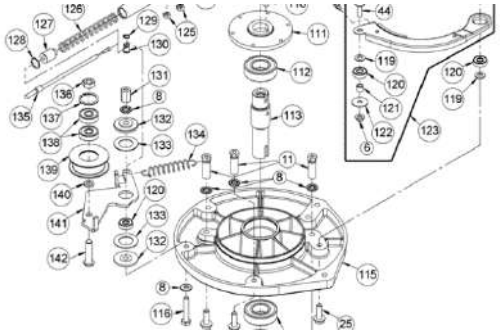
Take off blade. Tightening torque at installation: **120 Nm**. ⚠

Do not forget the support plates of the blade axle. (See "Maintenance of the cross-blade“)

The tensioning lever of the blade clutch must be taken off.

Mower deck

Removal of the blade bearing (complete) (3/3)



Explosion drawing of the assemblies from "www.parts-and-more.org".

Z ➡ A

Installation in the reverse sequence.

Removed blade bearing with belt pulley hub. The belt pulley hub can be dismounted with a pull-off tool. **Tightening torque of the central screw: 120 Nm!**

Tip / note:

Ensure that the belt runs within the two belt guides.

Do not forget the cup spring of the brake lever bearing.

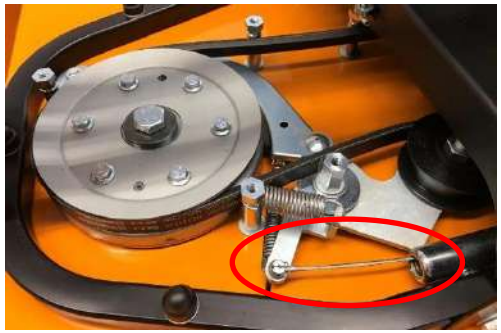
The component parts of the blade bearing and its install direction.

Two bearings down, one bearing up. Short side of the blade shaft up

Operating elements

Adjustment / replacement of the blade clutch cable

Lever of the blade clutch with Bowden cable on the left-hand side.



Lower end of the Bowden cable with nipple on the tensioning lever of the blade clutch.

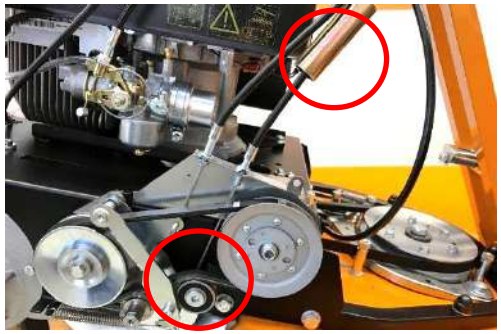
Bowden cable of the blade clutch with integrated compression spring package.

Factory-standard cable fastening, on the rear part of the cable stop with the aid of the two lock nuts. Tensioning of the cable is not necessary.

Operating elements

Adjustment / replacement of the traction drive cable

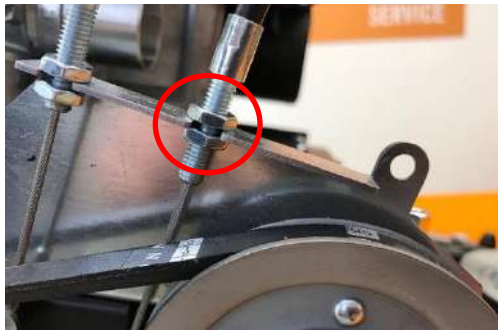
The drive lever, right with, traction drive cable.



Integrated spring package of the cable. The traction drive cable tensioned via the tensioning lever of the drive belt.

When activating the drive lever, the spring package of the cable must deflect by approx. 1.5 – 2.0 cm.

Tensioned drive belt at activated drive lever.



Factory standard setting: Both cable stops are fastened in the middle. The crucial aspect in the deflection of the spring package by 1.5 to 2.0 cm. Not more.

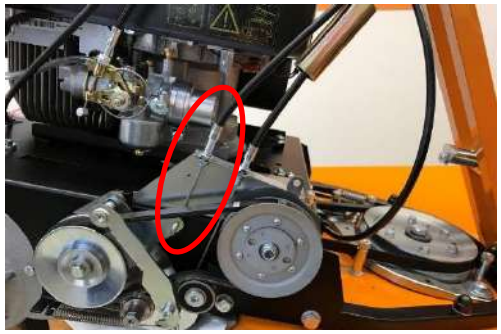
Tip / note:

If the cable is over-tensioned, and the spring package deflects more than 2 cm, then the operating force of the drive lever increases. This is perceived as unpleasant.

Operating elements

Adjustment / replacement of the brake cable

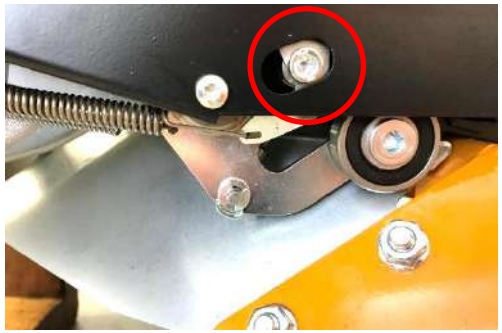
When activating the brake lever, the parking brake opens.



The Bowden cable is fastened on the brake lever.

The parking brake is adjusted on the cable stop.

At activated brake lever, the screw head almost touches the black belt guard.

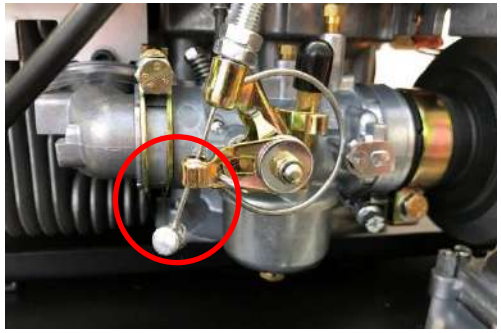


With the parking brake closed, there is a gap between screw head and belt guard.

Operating elements

Adjustment of the accelerator cable AS 63 2T ES

Throttle lever position: "Off"



Position of the accelerator cable at "off".

Throttle lever position: "Idle position"

Position of the accelerator cable at "idle".

Throttle lever position: "Full-throttle"

Position of the accelerator cable at "full throttle".

Operating elements

Adjustment of the accelerator cable AS 63 4T B&S

Throttle lever position: "Off"

Position of the accelerator cable at "off".

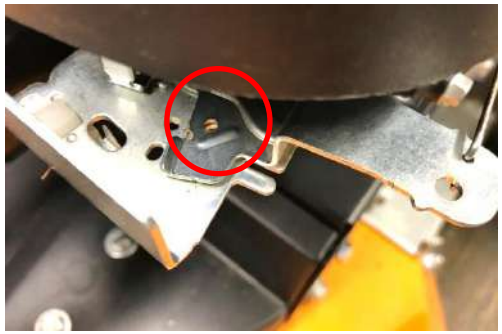
Throttle lever touches the short-circuit contact.

Throttle lever position: "Idle position"

Position of the accelerator cable at "idle". Throttle lever no longer touches the short-circuit contact.

Throttle lever position: "Full-throttle".

The B&S 850 E I/S does not have a choke position on the throttle lever.



Position of the accelerator cable at "full throttle". Perforation of the throttle lever corresponds to the perforation of the sheet metal.

Operating elements

Adjustment of the accelerator cable AS 63 4T Honda

Throttle lever position: "Off"

Position of the accelerator cable at "full throttle". Throttle lever lightly touches the choke lever, without lifting it.

Position of the accelerator cable at "off".

Throttle lever touches and switches the short-circuit contact.

Throttle lever position: "Start/Choke".

The Honda GXV 160 always needs the maximum choke when starting. If the choke is not closed 100%, start problems occur.

Throttle lever position: "Full-throttle"

Position of the accelerator cable at "Start/Choke". Throttle lever touches the choke lever and pushes it all the way up. Choke is closed 100%.

Cabling AS 63 2T ES

In the throttle lever position "Off" the throttle lever touches the short-circuit contact.

In the throttle lever position "Off" the throttle lever touches the short-circuit contact.

Cabling on the engine.

Cabling on the engine. The black cable with the red plug is the short-circuit cable of the electronic ignition.

Drive AS 62 4T B&S

Replacing the drive belt

Dismount the right whell cover and wheel

Take off the cover plate

Loosen the screws of the belt cover

Remove the belt cover

Remove the belt

Installation in the reverse sequence.

Z ➡ A

Drive AS 62 4T B&S

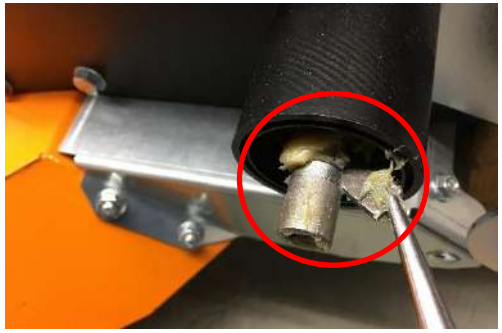
Removing the drive shaft

Preliminary work, see replacing the drive belt

Dismount the left whell cover and wheel

Take off the cover plate

Pull off the left drive pinion



Pull the drive shaft to the left side

Remove the carrier from the drive shaft

Remove the grass winding protection

Drive AS 62 4T B&S

Removing the drive shaft

Pull off the drive shaft to the right side

Sicherungsringer der Antriebwellenlager abnehmen

Lager nach Links ausbauen

Wichtig: Beide Antriebswellenlager sind von links nach rechts eingebaut

Installation in the reverse sequence.

Z ➡ A

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