WORKSHOP MANUAL 03/2020 EN

AS-MOTOR Allmäher®

AS 65 4T B&S

AS 65 2T ES (from series start approx. 04/2015)

AS 65 2T (2. cat) (to series end approx. 03/2015)

AS 65 4T Honda (from series start GXV 07/2016)

AS 73 4T B&S

Service Information

Adjustment, maintenance and repair instructions

G00052017 EN

www.as-motor.de

Workshop Manual AS-MOTOR Allmäher® AS 65 / AS 73:

Table of contents

Navigate quickly and easily in the PDF document.

Tip:  You can navigate in the PDF document via mouse-over click – click page number and click www.as-motor.de to return to the table of contents.

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 AS 65 and AS 73 Allmähers.

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 current device versions: (Version 06/2017)

- AS 65 4T B&S: from serial no. (SN:) (0) 213 10 02 0001, February 2010
- AS 65 2T ES: from serial number (SN:) (0) 271 15 04 0001, April 2015
- AS 65 2T: from serial number (SN:) (0) 199 11 02 0001, February 2011
- AS 65 4T Honda: from serial number (SN) (0) 283 16 07 0001, July 2016
- AS 73 4T B&S: from serial number (SN:) (0) 146 10 02 0001, February 2010

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

1. As sticker, on the side of the frame
2. As an aluminium plate permanently riveted on the link bar

Explanation of the eleven-digit serial number:

Example:

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

Introduction

Deviating device versions and safety instructions

Deviating device versions

Since the market launch of the AS 65 Allmäher, the machine has been improved on a regular basis.

First and foremost, the **engines** used have been changed:

AS 65 2T:

- Until 2008 without catalytic converter
- From 2008 with 1st generation catalytic converter (large cat)
- From 2011 to approx. 04/2015 with 2nd generation catalytic converter (small cat)
- From 04/2015 with ES (EasyStart) engine, without cat

AS 65 4T B&S:

- Since 2010 unchanged B&S Intek

AS 65 4T Honda:

- Since 06/2016 with Honda GXV 160
- From 08/2006 to 05/2016 with Honda GSV 190

Otherwise, the brake activation of the AS 65 and AS 73 and the link bar have changed in recent years.

The executing mechanic can view the deviating parts 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 a "handlebar assembly is: "From serial number 0213...".

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.

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, **pull off the spark plug 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 (versions 09/2017) 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 65 4T B&S: (Version 09/2017)

Type	AS 65 4T B&S
Range of application (temperature)	0 - 30 °C For temperatures below 5 °C, observe the engine manufacturer's information regarding the engine oil.
Engine, type Manufacturer Type Cylinder capacity Performance Engine speed	One cylinder four stroke engine Briggs & Stratton Series 3 Intek 344 cm^3 7.6 kW (10.3 PS) 3300 min^{-1}
Cutting device, type Cutting width Cutting height Plant growth	Cutter bar and mulching blade 65 cm 50-100 mm central, continuously adjustable up to approx. 150 cm
Starting device	Rope start
Drive Forward speed Reverse speed	Manual transmission with differential lock 1.6; 1.8; 2.3; 3.3; 5.1 km/h 2.4 km/h
Maximum area coverage	approx. 3300 m^2/h
Measures and weight Transport size with packaging L/W/H Max. tire dimensions L/W/H Weight	 183/85/101 cm 220/71/99 cm 125 kg
Capacities Fuel tank Engine oil	 5 litres approx. 1.4 litres SAE 30 (also Checking the oil level)
Sound level Measured sound level L_{WA} Sound level at working place L_{pA} Measurement uncertainty k	 101.0 dB according to DIN EN 12733 91 dB according to DIN EN 12733 2.5 dB (A)
Vibrations emission value Hand-arm-vibrations $a_{h,W}$ Measurement uncertainty U	 3.8 m/s^2 according to DIN EN 12733 2 m/s^2
Tire pressure	1.0 - 2.0 bar

Introduction

Technical data (current models, versions 09/2017) 2/3

Technical data AS 65 2T ES (EasyStart):

Type	AS 65 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 4.5 kW (6.1 PS) 3800 min^{-1}.
Spark plug Torque Electrode gap for best starting behaviour	Bosch W7RAC / Beru 14/7AU / Champion L86 / Denso W20FS-U / NGKB6HS-5 25 Nm 0.5 - 0.7 mm
Cutting device, type Cutting width Cutting height Plant growth	Cutter bar and mulching blade 65 cm 50 - 100 mm central, continuously adjustable up to approx. 130 cm
Starting device	Rope start
Drive Forward speed Reverse speed	Manual transmission with differential lock 1.4; 1.5; 1.9; 2.7; 4.1 km/h 1.9 km/h
Maximum area coverage	approx. 2600 m^2/h
Measures and weight Transport size with packaging L/W/H Max. tire dimensions L/W/H Weight	 183/85/101 cm 220/71/99 cm 110 kg
Capacities Fuel tank	 5 litres
Sound level Measured sound level L_{WA} Sound level at working place L_{pA} Measurement uncertainty k	 101.2 dB according to DIN EN 12733 89.3 dB according to DIN EN 12733 2.5 dB (A)
Vibrations emission value Hand-arm-vibrations $a_{h,W}$ Measurement uncertainty U	 2.6 m/s^2 according to DIN EN 12733 2 m/s^2
Tire pressure	1.0 - 2.0 bar

Technical data AS 65 4T Honda GXV:

Type	AS 65 4T Honda
Range of application (temperature)	0 - 30 °C For temperatures below 5 °C, observe the engine manufacturer's information regarding the engine oil.
Engine, type Manufacturer Type Cylinder capacity Performance Engine speed	One cylinder four stroke engine Honda GXV 160 163 cm^3 3.2 kW (4.3 PS) 3600 min^{-1}
Cutting device, type Cutting width Cutting height Plant growth	Cutter bar and mulching blade 65 cm 50-100 mm central, continuously adjustable up to approx. 100 cm
Starting device	Rope start
Drive Forward speed Reverse speed	Manual transmission with differential lock 1.2, 1.3; ,1.7, 2.4, 3.6 km/h 1.7 km/h
Maximum area coverage	approx. 2600 m^2/h
Measures and weight Transport size with packaging L/W/H Max. tire dimensions L/W/H Weight	 183/85/101 cm 220/71/99 cm 119 kg
Capacities Fuel tank Engine oil	 5 litres approx. 0.7 litres SAE 30 (see also Checking the oil level)
Sound level Measured sound level L_{WA} Sound level at working place L_{pA} Measurement uncertainty k	 98.5 dB according to DIN EN 12733 87.7 dB according to EN 12733 2.5 dB (A)
Vibrations emission value Hand-arm-vibrations $a_{h,W}$ Measurement uncertainty U	 1.7 m/s^2 according to DIN EN 12733 1.5 m/s^2
Tire pressure	1.0 - 2.0 bar

Technical data – AS 73 4T B&S:

Type	AS 73 4T B&S
Range of application (temperature)	0 – 30 °C For temperatures below 5 °C, observe the engine manufacturer's information regarding the engine oil.
Engine, type Manufacturer Type Cylinder capacity Performance Engine speed	One cylinder four stroke engine Briggs & Stratton Series 3 Intek 344 cm^3 7.6 kW (10.3 HP) 3300 min^{-1}
Cutting device, type Cutting width Cutting height Growth height	Blade bar and mulching blade 73 cm 50-100 mm centrally, continuously adjustable approx. 150 cm
Starting device	Rope start
Drive Speed forward Speed reverse	Mechanical manual transmission with differential lock 1.6; 1.8; 2.3; 3.3; 5.1 km/h 2.4 km/h
Maximum area coverage	approx. 3700 m^2/h
Measures and weight Transport size with packaging L/W/H Max. tire dimensions L/W/H Weight	 183/85/101 cm 224/79/99 cm 135 kg
Capacities Fuel tank Engine oil	 5 litres approx. 1,4 litres SAE 30 (see also Checking the oil level)
Noise level Measured sound level L_{WA} Sound pressure level at working place L_{pA} Measurement uncertainty k	 101.0 dB according to DIN EN 12733 91 dB according to DIN EN 12733 2.5
Vibrations emission value Hand-arm-vibrations $a_{h,w}$ Measurement uncertainty U	 3.8 m/s^2 according to DIN EN 12733 2 m/s^2
Tire pressure	1.0 - 2.0 bar

Accessories – AS 65 and AS 73 Allmähers:

- Twin tyres for steep slopes (AS 65 2T and 4T **B&S(*)**)
- Snorkel filter for AS 65 2T ES (at high dust load)
- Steel wheels with wheel hub (AS 65 2T and 4T **B&S(*)**)
- Branch deflector for Christmas tree cultivation
- Steel hand-guard (AS 65 4T B&S and Honda)
- Electric start (AS 65 and AS 73 4T B&S)
- Tilt meter
- Operating hour meter
- Spray-paint, orange, RAL 2000

(*) Particularity for AS 73 4T B&S:

Twin tires:

The AS 73 is factory equipped with low-pressure tyres. If these should be replaced with twin tyres, then two pair of AS 65 twin tyres must be ordered. The original tyres must no longer be used!

Steel wheels:

The AS 73 is factory equipped with low-pressure tyres. If these should be replaced with steel wheels+tyres, then a pair of AS 65 twin tyres must also be ordered. The original tyres must no longer be used!

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.

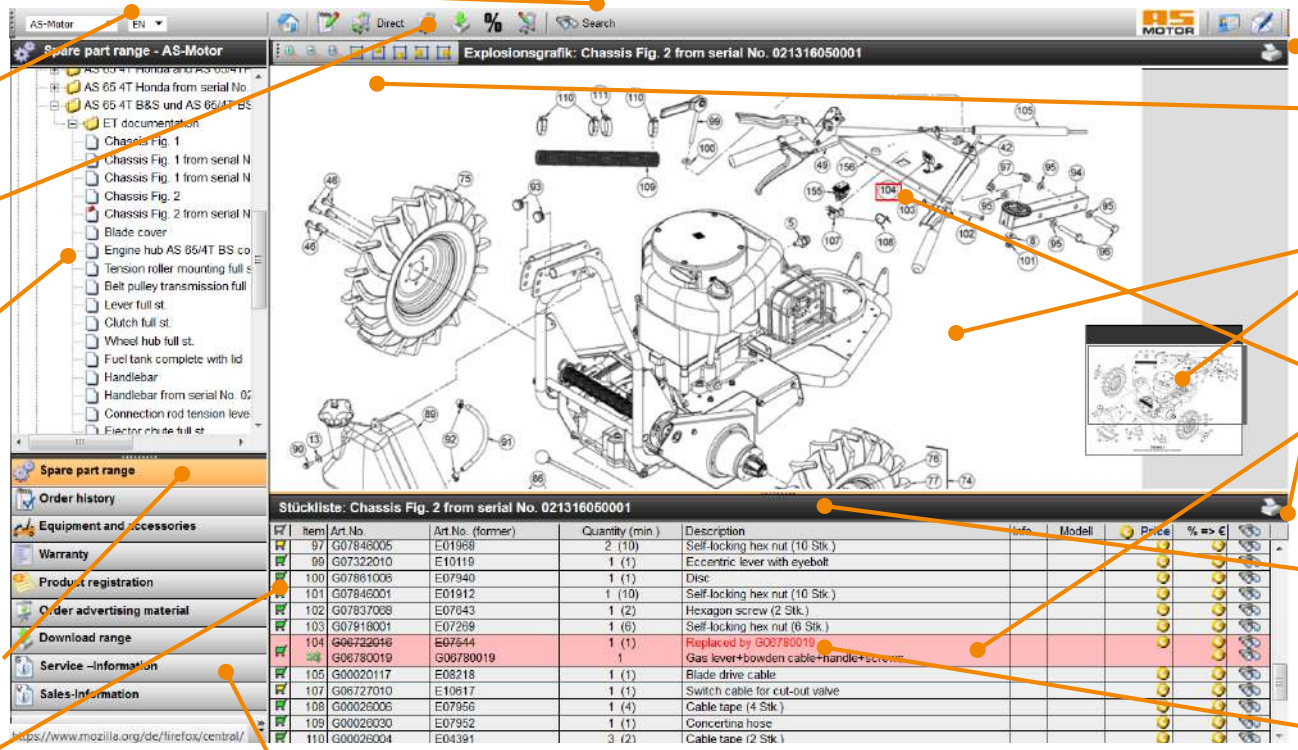
After receipt of the access data (parts ID and password) you can log in via "Immediate login" and use all functions immediately.

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



General information

Frequent faults and rectification (troubleshooting) 1/4

AS 65 2T (two stroke) models

Problem	Possible cause	Remedy
Engine does not start	Engine stop switch is set to OFF.	Set engine stop switch to ON.
	Fuel valve is closed.	Open fuel valve.
	Tank ventilation screw is closed.	Open tank ventilation screw.
	No fuel is in the tank.	Refill fuel.
	Choke is open.	Close the choke.
	Spark plug connector is pulled off.	Observe the safety instructions! Put spark plug connector back on.
	Engine was flooded due to too many start attempts.	Unscrew spark plug and start several times when the fuel valve is closed, dry the spark plug and screw it back in.
	Air filter is dirty.	Maintain air filter (see also Maintenance and cleaning).
	Spark plug is sooted, damaged, or incorrect electrode gap.	Clean spark plug and check electrode gap (see also Maintenance and cleaning). Replace spark plug if necessary.
	Wrong spark plug connector.	Use the specified spark plug connector (see spare part information of the authorised service centre).
	Housing of the mower is jammed.	See also Maintenance and cleaning.
	Poor quality, dirty, or old fuel.	Clean fuel system (authorised service centre). Always use fresh fuel.
Engine starts badly or runs irregularly	Choke is closed.	Open the choke.
	Air filter is dirty.	Maintain air filter (see also Maintenance and cleaning).
	Poor quality, dirty, or old fuel.	Always use fresh fuel.
	Spark plug is sooted, damaged, or incorrect electrode gap.	Clean spark plug and check electrode gap (see also Maintenance and cleaning). Replace spark plug if necessary.
	Wrong spark plug connector.	Use the specified spark plug connector (see spare part information of the authorised service centre).
	Decompression bore is blocked.	Authorised service centre.
	Housing of the mower is jammed.	See also Maintenance and cleaning.
No drive when drive lever is actuated	Drive belt is insufficiently tensioned.	See also Checking the drive.
The blade does not rotate	V-belt is insufficiently tensioned or damaged.	Authorised service centre.
	Bowden cable is defective.	Authorised service centre.
Strong vibrations during operation	Unbalance at the blade caused by incorrect sharpening or chips on the blade.	Have blade resharpened and balanced by an authorised service centre. Replace a damaged blade immediately.
	Blade drive shaft is bent due to collisions with foreign objects.	Authorised service centre.
	Engine fastening is loose.	Authorised service centre.
	Blade fastening is loose.	Authorised service centre.
Irregular noises	Loose fastening elements.	Authorised service centre.
	Silencer is defective.	Authorised service centre.
Engine gets hot	Ventilation grid is dirty.	Clean ventilation grid.
	Cooling fins of the engine are dirty.	Have cooling fins cleaned by authorised service centre.
Uneven cut, lawn becomes unsightly	Blade is dull or worn.	Have blade resharpened and balanced by an authorised service centre. Replace a damaged blade immediately.
	Speed is too high proportionately to the cutting height.	Reduce speed and/or select the correct cutting height.
	Housing of the mower is heavily contaminated.	Clean.
	Different tire pressure.	the tire pressure.
Mulching result with high plant material not satisfactory	Speed is too high.	Reduce speed.
Mulching result with low plant material not satisfactory	Plant material is ejected too quickly.	Increase speed.

General information

Frequent faults and rectification (troubleshooting) 2/4

AS 65 2T models (continued)

Discharge channel is jammed	Mowed grass was too long or too damp.	Adjust cutting height and mowing speed to the mowing conditions.
	Blade is worn.	Authorised service centre.
	Engine speed is too low despite full power.	Authorised service centre.
The device does not stop when the brake is actuated	Brake is adjusted incorrectly, worn, or defective.	Authorised service centre.
The device does not stop	Drive belt does not declutch.	Authorised service centre.
The engine does not switch off	Switching off system is defective.	Close the fuel valve. Authorised service centre.
The tires become flat	Thorns or sharp objects damage the tires.	If necessary, use tire protection gel (authorised service centre).

Other faults (experiential values from the past):

- AS 65 2T (cat. 2. generation): Rotational speed increases significantly in idle. Cause: Outside air, carburettor or shaft seal of the crankshaft leak. First of all try other carburettor.
- New belt always comes off. Cause: Mowing deck and / or frame are warped.
- It is hard to push the machine in "Neutral". Cause: Brake is incorrectly adjusted (see section: Operating elements, Drive cable and brake adjustment)
- AS 65 2T ES does not run smoothly. Wrong carburettor or air filter housing (cat. 2nd generation) mounted (see section: Engines, carburettor and regulator adjustment)
- AS 65 2T and 2T ES does not run smoothly. Carburettor contaminated. Clean carburettor.
- Transmission damage: Shifting when moving, without disengaging the clutch (stop).
- High blade wear. Cutting height too low.
- Broken belt pulleys. Wear over the years or collision with foreign objects.
- AS 73 does not cut high and dense grass. Switch blade speed to "low" (high force).
- Frequent flat tyres. Mowing in thorns. Fill with a sealing agent.

General information

Frequent faults and rectification (troubleshooting) 3/4

AS 65/73 4T models

Problem	Possible cause	Remedy
Engine does not start	Engine stop switch is set to OFF.	Set engine stop switch to ON.
	Fuel valve is closed.	Open fuel valve.
	Tank ventilation screw is closed.	Open tank ventilation screw.
	No fuel is in the tank.	Refill fuel.
	Choke is open.	Close the choke.
	Spark plug connector is pulled off.	Observe the safety instructions! Put spark plug connector back on.
	Device was tilted – oil leaked into the air filter.	Replace air filter, unscrew spark plug and start several times when the fuel valve is closed, dry the spark plug and screw it back in.
	Engine was flooded due to too many start attempts.	Unscrew spark plug and start several times when the fuel valve is closed, dry the spark plug and screw it back in.
	Air filter is dirty.	Maintain air filter (see also Maintenance and cleaning).
	Spark plug is sooted, damaged, or incorrect electrode gap.	Clean spark plug and check electrode gap (see also Maintenance and cleaning). Replace spark plug if necessary.
	Housing of the mower is jammed.	See also Maintenance and cleaning.
	No oil pressure: Too little engine oil.	Check engine oil level, refill.
	No oil pressure: Slope too steep.	Bring the device into a level position.
	Poor quality, dirty, or old fuel.	Clean fuel system (authorised service centre). Always use fresh fuel.
Engine starts badly or runs irregularly	Choke is closed.	Open the choke.
	Air filter is dirty.	Maintain air filter (see also Maintenance and cleaning).
	Poor quality, dirty, or old fuel.	Always use fresh fuel.
	Spark plug is sooted, damaged, or incorrect electrode gap.	Clean spark plug and check electrode gap (see also Maintenance and cleaning). Replace spark plug if necessary.
	Housing of the mower is jammed.	See also Maintenance and cleaning.
No drive when drive lever is actuated	Drive belt is insufficiently tensioned.	Authorised service centre
The blade does not rotate	V-belt is insufficiently tensioned or damaged.	Authorised service centre.
	Bowden cable is defective.	Authorised service centre.
Strong vibrations during operation	Unbalance at the blade caused by incorrect sharpening or chips on the blade.	Have blade resharpened and balanced by an authorised service centre. Replace a damaged blade immediately.
	Blade drive shaft is bent due to collisions with foreign objects.	Authorised service centre.
	Engine fastening is loose.	Authorised service centre.
	Blade fastening is loose.	Authorised service centre.
Irregular noises	Loose fastening elements.	Authorised service centre.
	Silencer is defective.	Authorised service centre.
Engine is smoking	Air filter is soiled or drenched with oil.	Maintain or replace air filter (see also Maintenance and cleaning).
	Oil level is too high.	Have authorised service centre lower the oil level to the marking.
Engine gets hot	Ventilation grid is dirty.	Clean ventilation grid.
	Oil level in the engine is too low.	Refill engine oil (see operating instructions of the engine manufacturer).
	Cooling fins of the engine are dirty.	Have cooling fins cleaned by authorised service centre.
Uneven cut, lawn becomes unsightly	Blade is dull or worn.	Have blade resharpened and balanced by an authorised service centre. Replace a damaged blade immediately.

AS 65/73 4T models (continued)

	Speed is too high proportionately to the cutting height.	Reduce speed and/or select the correct cutting height.
	Housing of the mower is heavily contaminated.	Clean.
	Different tire pressure.	the tire pressure.
Mulching result with high plant material not satisfactory	Speed is too high.	Reduce speed.
Mulching result with low plant material not satisfactory	Plant material is ejected too quickly.	Increase speed.
Discharge channel is jammed	Mowed grass was too long or too damp.	Adjust cutting height and mowing speed to the mowing conditions.
	Blade is worn.	Authorised service centre.
	Engine speed is too low despite full power.	Authorised service centre.
The device does not stop when the brake is actuated	Brake is adjusted incorrectly, worn, or defective.	Authorised service centre.
The device does not stop	Drive belt does not declutch.	Authorised service centre.
The engine does not switch off	Switching off system is defective.	Close the fuel valve. Authorised service centre.
The tires become flat	Thorns or sharp objects damage the tires.	If necessary, use tire protection gel (authorised service centre).

Other faults (experiential values from the past):

- AS 65 2T (cat. 2. generation): Rotational speed increases significantly in idle. Cause: Outside air, carburettor or shaft seal of the crankshaft leak. First of all try other carburettor.
- New belt always comes off. Cause: Mowing deck and / or frame are warped.
- It is hard to push the machine in "Neutral". Cause: Brake is incorrectly adjusted (see section: Operating elements, Drive cable and brake adjustment)
- AS 65 2T ES does not run smoothly. Wrong carburettor or air filter housing (cat. 2nd generation) mounted (see section: Engines, carburettor and regulator adjustment)
- AS 65 2T and 2T ES does not run smoothly. Carburettor contaminated. Clean carburettor.
- Transmission damage: Shifting when moving, without disengaging the clutch (stop).
- High blade wear. Cutting height too low.
- Broken belt pulleys. Wear over the years or collision with foreign objects.
- AS 73 does not cut high and dense grass. Switch blade speed to "low" (high force).
- Frequent flat tyres. Mowing in thorns. Fill with a sealing agent.

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 (FW) / rear wheel (RW):	Tyre size:	Recommended air pressure:	Maximum air pressure:	Tread:	Tubed Tyres (TT) / Tubeless (TL):	Standard equipment / optional:
AS 65	RW : Twin tire kit Steel wheel	4.80/4.00-8	**12 psi / 0.80 bar to 15 psi / 1.00 bar**	36 psi / 2.50 bar	AS	TT	Series Optional Optional
AS 73	RW: Low pressure tires Twin tyres, like AS 65 (*) Steel wheel (*)	16x6.50-8	**12 psi / 0.80 bar to 15 psi / 1.00 bar**	36 psi / 2.50 bar	AS	TL	Series Optional (*) Optional (*)

(*) Particularity for AS 73 4T B&S:

Twin tires:

The AS 73 is factory equipped with low-pressure tyres. If these should be replaced with twin tyres, then two pair of AS 65 twin tyres must be ordered. The original tyres must no longer be used!

Steel wheels:

The AS 73 is factory equipped with low-pressure tyres. If these should be replaced with steel wheels+tyres, then a pair of AS 65 twin tyres must be ordered. The original tyres must no longer be used!

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 AS 65 and AS 73 	#13	Locking screw. Central locking screw	120+5	
	#12	Locking screws (2 pcs)	120+5	
Blade bearing – AS 65 and AS 73	#108, #16	Locking screw. Fastening – belt pulley hub on blade shaft.	120	

General information

Fuel, lubricants, fill quantities, consumption 1/2

Fuel

AS 65 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 2T (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 65 4T B&S, 4T Honda and AS 73 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 65 4T B&S, 4T Honda and AS 73 4T B&S:

The 4-stroke engine 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 65 4T B&S Intek 3 130 344cc with filter

- 1.36 – 1.40 litres

AS 73 4T B&S Intek 3 130 344cc with filter

- 1.36 – 1.40 litres

AS 65 4T Honda GXV 160

- 0.65 litre

Tank capacity – fuel

All models have a 5-litre engine without reserve function.

Consumption (fuel)

AS 65 2T:

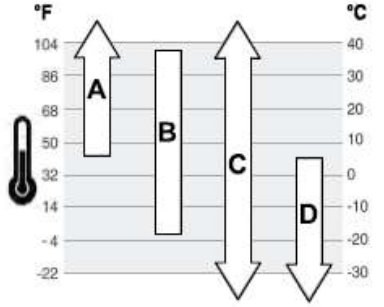
- Maximum 2.2 l/h, minimum 0.9 l/h

AS 65/73 4T B&S:

- Maximum 3.4 l/h, minimum 1.5 l/h

Note concerning oils for the Briggs & Stratton Intek 3 130 engine:

Die Umgebungstemperaturen bestimmen die richtige Ölviskosität für den Motor. Wählen Sie die beste Viskosität für den voraussichtlichen Temperaturbereich anhand des Diagramms aus.



A	**SAE 30** - Unter 40 °F (4 °C) führt die Verwendung von SAE 30 zu Startschwierigkeiten.
B	**10W-30** - Über 80 °F (27 °C) kann die Verwendung von 10W-30 zu erhöhtem Ölverbrauch führen. Den Ölstand häufiger kontrollieren.
C	**Synthetiköl 5W-30**
D	**5W-30**

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 are 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 lifted 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 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. Switch off engine.
- Release the drive 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, Drive cable and brake adjustment".

Check blades (see section "Mowing unit", Blade replacement and blade maintenance)

Danger! ⚠ There is a considerable danger of injury if the blades are 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 if there are **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

General information

Maintenance tasks, cleaning and maintenance intervals 3/4

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: "Mowing deck, replacing the blade belt , blade brake"

Check engine

See section: "Engine"

Important for many years of proper function of an AS-Motor device:

Tip/note:

AS devices contain many ball bearings for a long service life of the machine. Cleaning the machine with steam jets, high pressure cleaners and water damages the ball bearings.
Clean dry!

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?	□	▲
Drive lever	Does the device stop when the lever is in zero position?	□	▲
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.	■	▲
Engine	For reliable information, see the operating manual of the engine manufacturer.	■	▲
	Check oil level (see operating instructions of the engine manufacturer). (*)	■	▲
	Oil change. (*)		▲
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.	■	▲

(*) 4-stroke devices only

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 (easy Start) or AS 165 cat. engine (to 03/2015)

- Design: Single-cylinder, two-stroke engine
- 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, ES)
  - Nominal 4.2 kW (5.7 hp) at 4,500 rpm. (Factory setting, cat. engine)
- Engine speed:
  - Maximum 3,800 rpm, model AS 65 2T ES
  - Maximum 4,500 rpm, model AS 65 2T
  - Minimum 1600 rpm. (Idle)
- Spark plug:
  - NGK BR6HS (AS 165 ES) or NGK B6HS (AS 165 cat.)
  - Electrode gap 0.5 to 0.7 mm
  - Tightening value 25 Nm
- Engine manual available at "parts-and-more.org"

Model: B&S Intek Series 3 130 (model no.: 210000)

- Design: Single-cylinder, four-stroke engine
- Displacement: 344 ccm.
- Fuel:
  - Petrol, min. RON 91, lead-free
- Power:
  - Nominal 7.6 kW (10.3 hp) at 3,300 rpm. (Factory setting)
- Engine speed:
  - Maximum 3,300 rpm.
- Spark plug:
  - B&S resistor spark plug 491045
  - Electrode gap 0.76 mm
  - Tightening value 20 Nm
- Operating manual and spare parts lists available at:
  - **http://www.briggsandstratton.com/eu/de/support/manuals**
  - **Model type number: 21R876 0024**

Engines

Overview and maintenance schedules 2/3

Model: Honda GXV 160

- Design: Single-cylinder, four-stroke engine with choke.
- 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 for B&S Intek Series 3 130: (AS 65 4T B&S and AS 73 4T B&S)

Maintenance Schedule

First 5 Hours
• Change oil [3]
Every 8 Hours or Daily
• Check engine oil level • Clean area around muffler and controls • Clean air intake grille
Every 25 Hours or Annually
• Clean air filter [1] • Clean pre-cleaner (if equipped) [1]
Every 50 Hours or Annually
• Change engine oil [4] • Replace oil filter (if equipped) [4] • Service exhaust system
Every 100 Hours or Annually
• Change engine oil [5] • Replace oil filter (if equipped) [5]
Annually
• Replace spark plug • Replace air filter • Replace pre-cleaner (if equipped) • Replace fuel filter (if equipped) • 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.
[3] Only engines without oil filter.
[4] Engine without oil filter or with standard black oil filter (see ***Specifications*** page for part number).
[5] Engines with high-efficiency yellow or orange oil filter (see ***Specifications*** page for part number).

Engines

Overview and maintenance schedules 3/3

Maintenance schedule for Honda GXV 160

Perform at every indicated month/year or operating hour interval, whichever comes first. (1)

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.

Bei Nichteinhalten dieses Wartungsplans kann es zu Motorversagen kommen, das nicht unter die Garantie fällt.

Maintenance schedule for AS 165 ES 2-stroke engine (see also maintenance schedule)

Sufficient engine cooling is particularly important for a long service life of the engine.

Always keep the

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

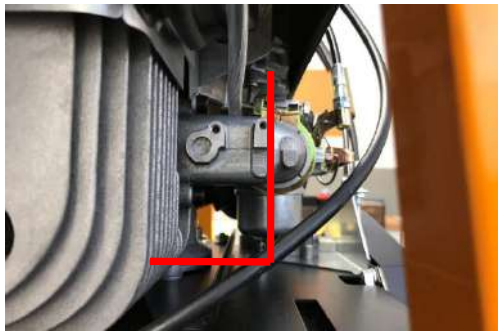
Check the air filter before each use.
Replace it if necessary, at the latest after one year or 50 operating hours.

Replace the spark plug when necessary.

Attention:

Since 2011 the AS 65 2T has had the AS 165 2T engine with catalytic converter, 2nd generation. Since April 2015, it carries the new AS 165 2T ES (EasyStart) engine. The carburettor of the AS 165 ES (EasyStart) is **not compatible** with the carburettor of the previous engine. The carburettor of the **AS 165 ES** (EasyStart) has the identifier "203" at the end of the serial number. The **carburettor of the predecessor** has the **identifier "202".**

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.

Attention:

The AS 165 2T ES (EasyStart) has a different air filter than the previous cat. engine!!! No compatibility.

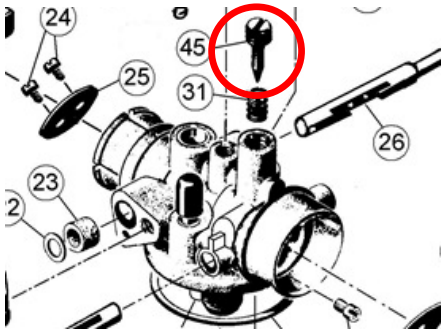
Tighten the idle jet. When cleaning, ensure that the tiny sealing ring of the nozzle does not get lost!

Engines

Carburettor and regulator adjustment AS 65 2T ES and 2T cat. engine 2/4

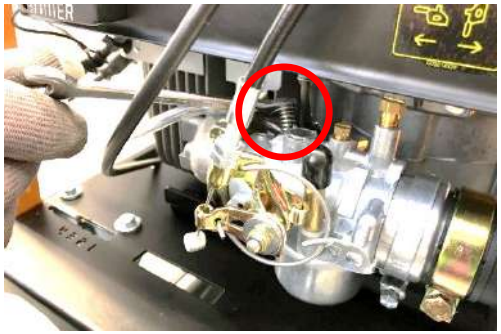
Adjustment of the **air regulating screw**. Close completely and then re-open slightly.

How far should I open it?
See Fig. below.



Tip / note:
Opening of the air regulating screw:

- Cat. engines 1st and 2nd generation **(AS 65 2T from 2008 to 03/2015): ¼ turn**
- ES (Easy Start) engine **(from 04/2015 to AS 65 2T ES): 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. 3,900 - 4,000 rpm.

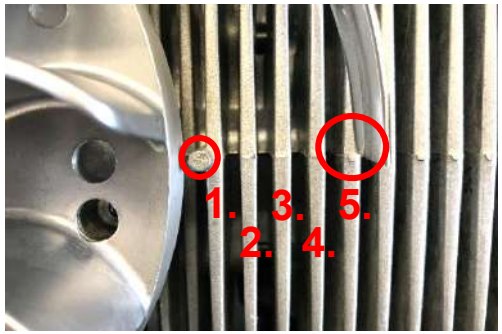
If the carburettor is correctly mounted, the regulator (wind vane) engages precisely and is centred in the throttle lever. The throttle lever can be easily moved back and forth.

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

Position of the wind vane (mechanical regulator) at full throttle (throttle flap completely opened).

Wind vane rests on the end point stop, without jamming.

Position of the wind vane (mechanical regulator) at minimum petrol (throttle flap almost closed).



Engine Manual 2T (Two-Stroke) on PAM

Important:

In this position the wind vane (mechanical regulator) **is precisely on the 5th cooling fin!** Not further or shorter!

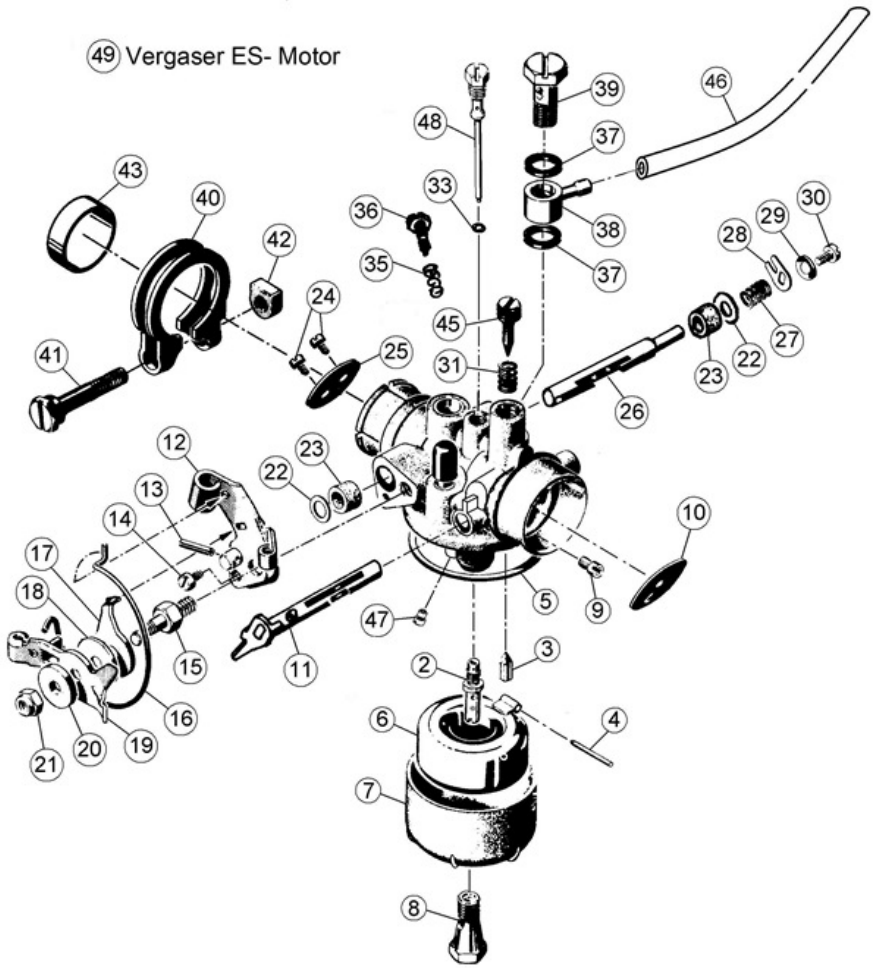
To do this simply bend the wind vane plate into shape by hand. Maintain approximately the radius and form of the fan wheel.

Tip/note:

The spiral spring always presses the wind vane towards the end point stop. The resilience of the spring determines the maximum engine speed. Adjustment – see previous page.

Engine Manual 2T (Two-Stroke): For additional repair instructions of the 2T engine there are several engine manuals on PAM.

Carburettor and regulator adjustment AS 65 2T ES and 2T cat. engine 4/4



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.

Ensure that you do not misplace small parts when cleaning the carburettor (e.g. numbers #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.

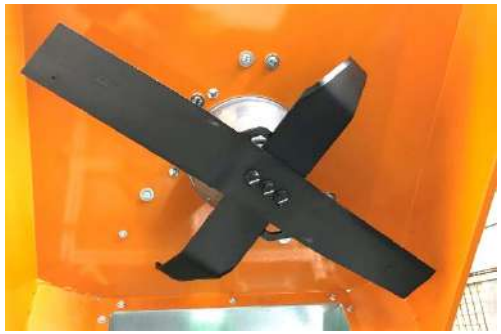
Preferably use a 1:100 oil / fuel mixture with AS-Motor special 2-stroke oil. (See section: "General information, Fuel"

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.

Mowing deck

Blade maintenance and mounting 1/1



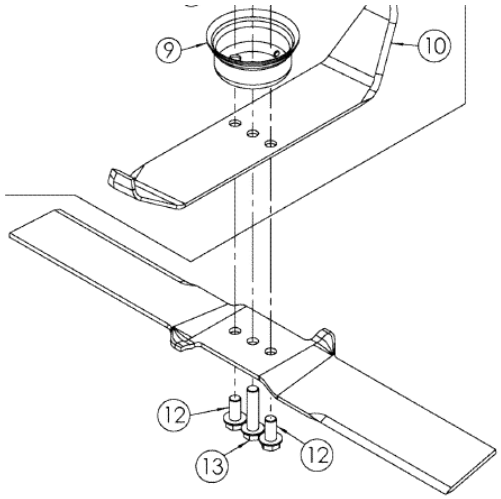
Dismount blade and upper wing blade To do this block with a wedge.

The three locking screws. The middle screw is longer than the outer screw.

Attention: ⚠
The grain marking (hole) indicates the **maximum blade wear**.

Proper installation:
The AS stamp mark is visible from below. The cutting edges of the wing blade point upward.

Attention: ⚠
Tighten the locking screws with **120+5 Nm**! Wing blade sits **above** the main blade!



Important safety instructions: ⚠

See section: "General information, Maintenance tasks, Checking the blades, page 21" and the operating manual of the machine.

Tip/note:

Uniformly sharpen main blade with sword sharpening and precisely balance. Imbalance imposes a significant load on the mower!

Mowing deck

Replacing the blade belt 1/5

Safely park the machine. Pull off the spark plug connector.

Fold the top bar forward to provide space.

Prop up the machine under the transmission so that the wheels do not touch the ground.

Unscrew the belt cover.

Unscrew the top bar on the handlebar side.

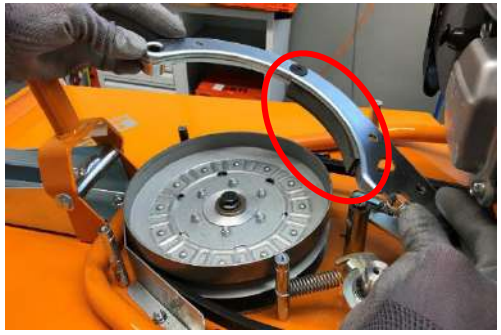
Take off belt cover.

Mowing deck

Replacing the blade belt 2/5

View of the blade clutch, blade brake, belt pulley and blade belt.

Unhook tension spring of the brake lever.



Brake lever upward, pull off by hand.

Check the brake pad.

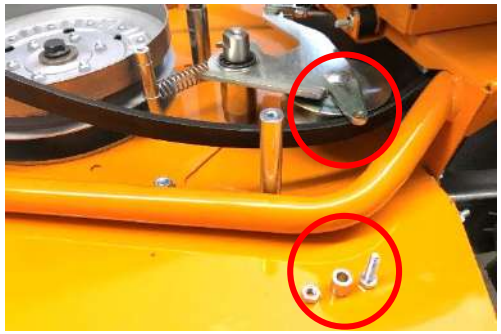
Screw on the belt plate.

Belt is now free on the blade belt pulley.

Pull the belt off of the belt pulley.

Mowing deck

Replacing the blade belt 3/5



Unscrew the belt guide of the belt tensioner.

Take off the left drive wheel.

Unscrew the left side guard.

Take off the right drive wheel.

Take off the right side guard.

Belt holder to the right of the blade belt becomes visible.

Mowing deck

Replacing the blade belt 4/5

Unscrew the right belt holder.

Belt holder on the left side with blade drive cable.

Unhook blade drive cable on the tensioning pulley.

Unhook the blade drive cable from the belt holder.

Unscrew left belt holder.

Blade belt is now free and can be replaced.

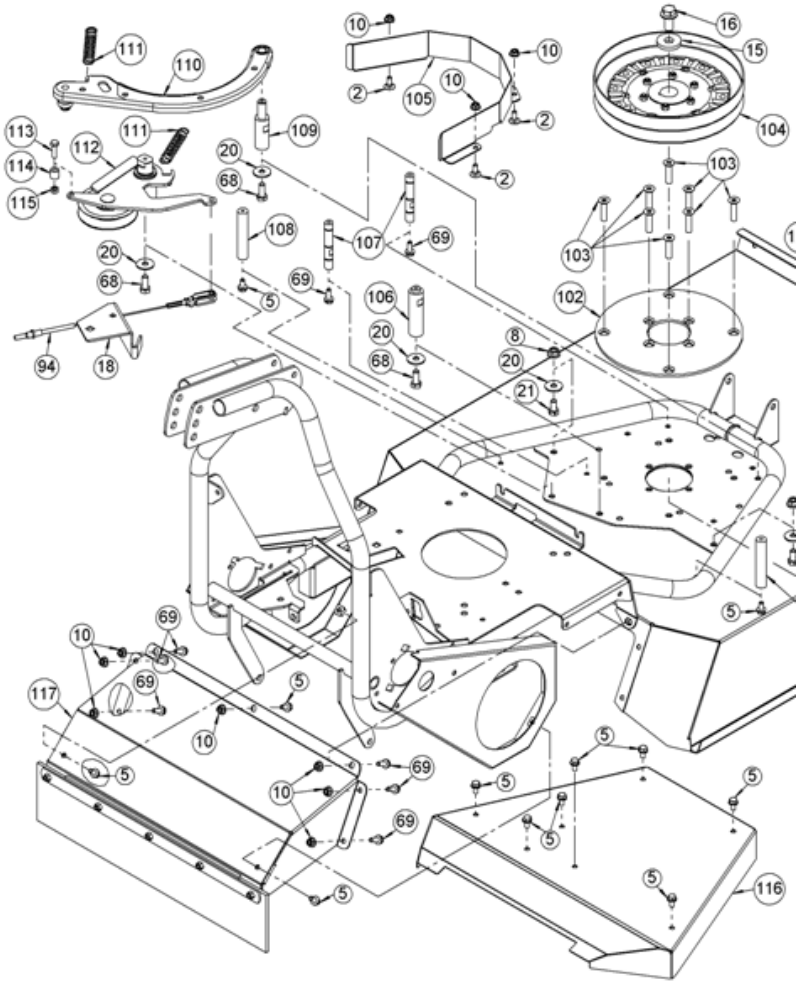
Mowing deck

Replacing the blade belt 5/5

Pull out belt to the front and thread it out between tensioning pulley engine carrier. To do this, activate the tensioning pulley by hand.

Z ➡ A

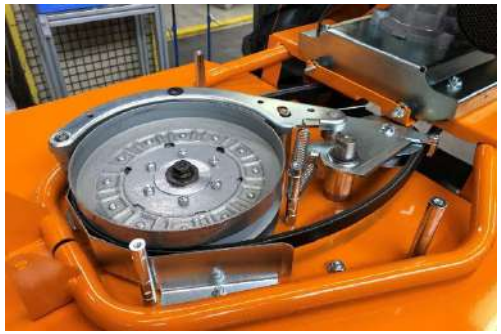
Mount new belt in the reverse sequence.



Mowing deck

Blade bearing – dismounting and mounting 1/4

Take off belt cover.

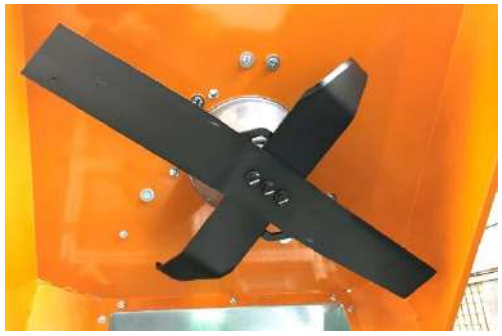


Unhook tension spring of the engine brake and take off the brake lever.

Remove belt guide.

Unscrew the fastening screw of the belt pulley. To do this block the blade. (Note: **Tightening torque 120 Nm!**)

Take off belt pulley and feather key. Pay attention to the support disc under the belt pulley.

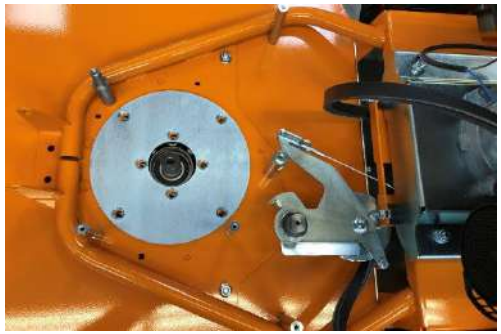


Take off blade.

(Note: Tightening torque of the locking screws of the blade 120+5 Nm!) ⚠

Mowing deck

Blade bearing – dismounting and mounting 2/4



Unscrew bonnet disc.

Caution: ⚠
Blade bearing will now fall downward and out!

Removed blade bearing.

Mounting of the entire blade bearing in detail:

Blade bearing

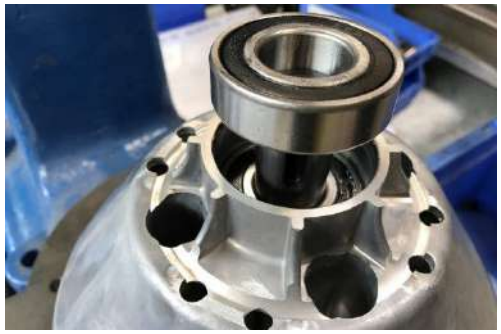
Grease the bearing seats

Fit upper ball bearing on the blade shaft. And press it into the upper bearing seat

Important: "Install direction"
Blade shaft has a groove for the circlip on the lower end.

Mowing deck

Blade bearing – dismounting and mounting 3/4



Press in the first and second ball bearings one after the other.

Blade shaft with the three pressed-in bearings.

Fit on the blade pulley.

Install **brass (not steel!)** feather key.

Fit on the support disc.

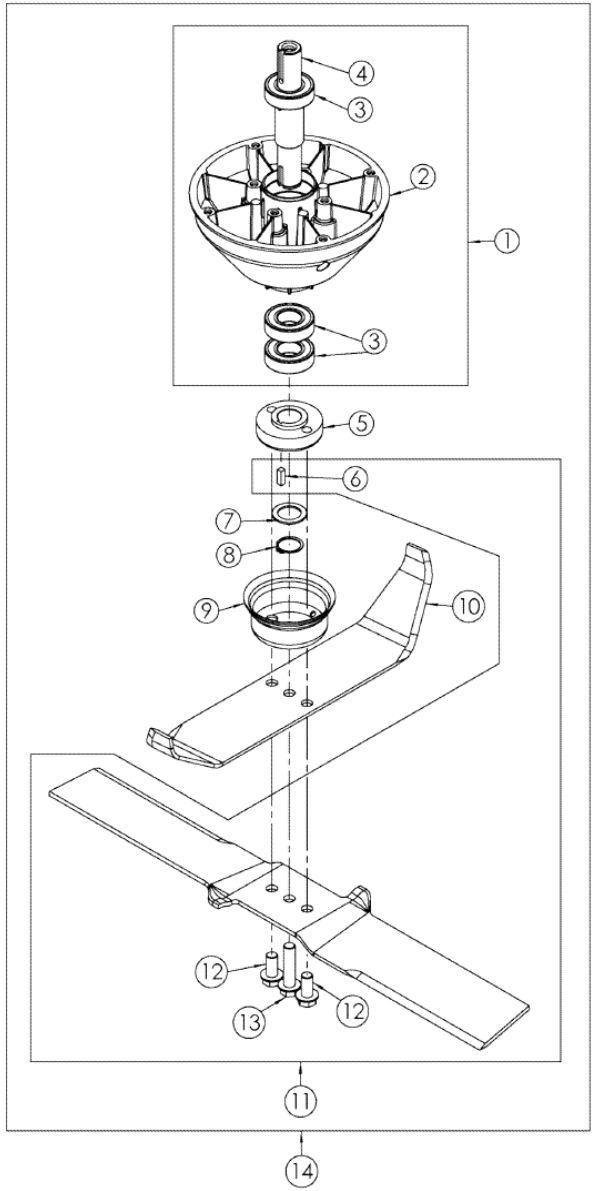
Clip circlip into the groove.

Blade bearing – dismounting and mounting 4/4

Prior to mounting the blade, fit on the wrap protection cup. Tightening torque of the three blade locking screws **120 Nm**.

Z ➡ A

Re-install the blade bearing in the reverse sequence.



Mowing deck

Replacing the entire mowing deck 1/2

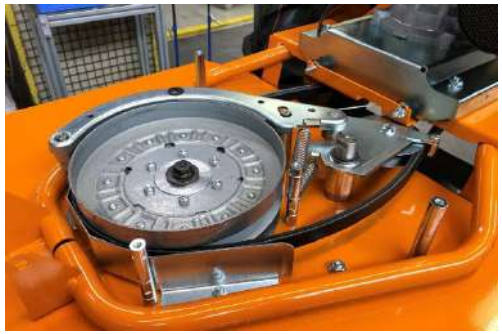
Problem – deformed mowing deck:

Through a strong collision of the blade with a foreign object, the bonnet can be severely warped or deformed. If the seat/fastening of the blade bearing is likewise warped, the belt can come off, the brake arm can rub or belt wear can occur. The reason is the lack of alignment of the belt pulleys/tensioning pulleys/brake lever to each other.

Prior to installing a new mowing deck, you must check whether the tubular steel machine frame is also deformed. If the frame is bent, then even a new mowing deck will not bring about an improvement.

Use an alignment rail to check the frame for deformation or cracks. Particularly in the area of the blade bearing.

Frame must be checked for deformation and damage.

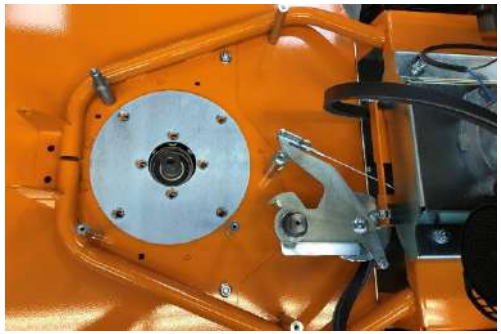


To replace the deck, first it must be removed: Belt cover, upper link, blade brake lever, belt guide, belt pulley.

Now the entire blade bearing can be removed

Mowing deck

Replacing the entire mowing deck 2/2



Removal of the blade bearing, see section: Mowing deck, blade bearing – dismounting and mounting.

Position of all parts attached on the mowing deck. All must be unscrewed.

Also unscrew these screws and take off the mowing deck.

Z ➡ A

Installation in the reverse sequence.

Replacing the drive belt 1/5

First the blade belt must be taken off.

See section: Mowing deck, Replacing the blade belt.

When the blade belt is taken off the drive belt that is above it can be replaced.

Unhook the cable holder on the cover plate of the belt pulley of the transmission.

Unhook the tension spring of the traction drive.

Unhook the drive cable on the deflection lever of the brake.

Unscrew the cover plate of the belt pulley.

Activate the deflection lever by hand and take off the cover plate of the belt pulley

Unscrew the tensioning pulley of the drive belt

Take off cover plate.

Take off the drive belt with the loose tensioning pulley carrier.

Take the belt off of the belt pulley of the transmission.

Take out belt and tensioning pulley carrier to the right side.

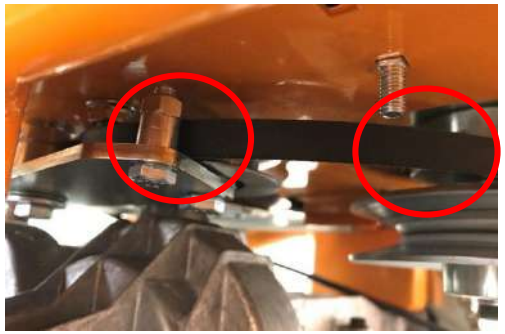
Removed tensioning pulley carrier. Check the bearings of the roller.

Pull the belt to the rear to the belt pulley of the transmission. Do not pull it on yet.

Re-installation of the new belt. Introduce the tensioning pulley carrier with the new belt from the right.

Now pull the drive belt onto the belt pulley of the engine hub.

Hold the tensioning pulley in position.



Check to ensure that the belt is correctly seated on the belt pulley of the engine and the tensioning pulley.

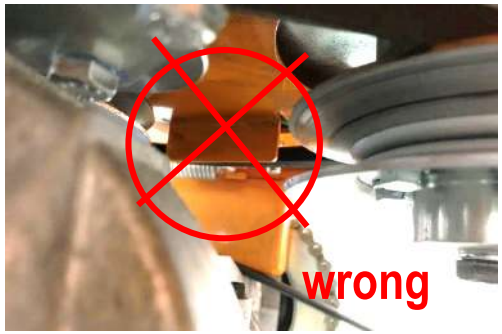
Drive

Replacing the drive belt 4/5

Hold the tensioning pulley carrier in position and screw it back on. Attention: Do not tighten too tightly. It must be possible for the tensioning pulley carrier to move freely. Test the function!

Pull the belt onto the belt pulley of the transmission.

Now check the seat of the belt again. Look in from the **left side.** Belt must be under the orange belt guard!



View from the **right side**.

Proper seat of the belt within (under) the orange belt guard.

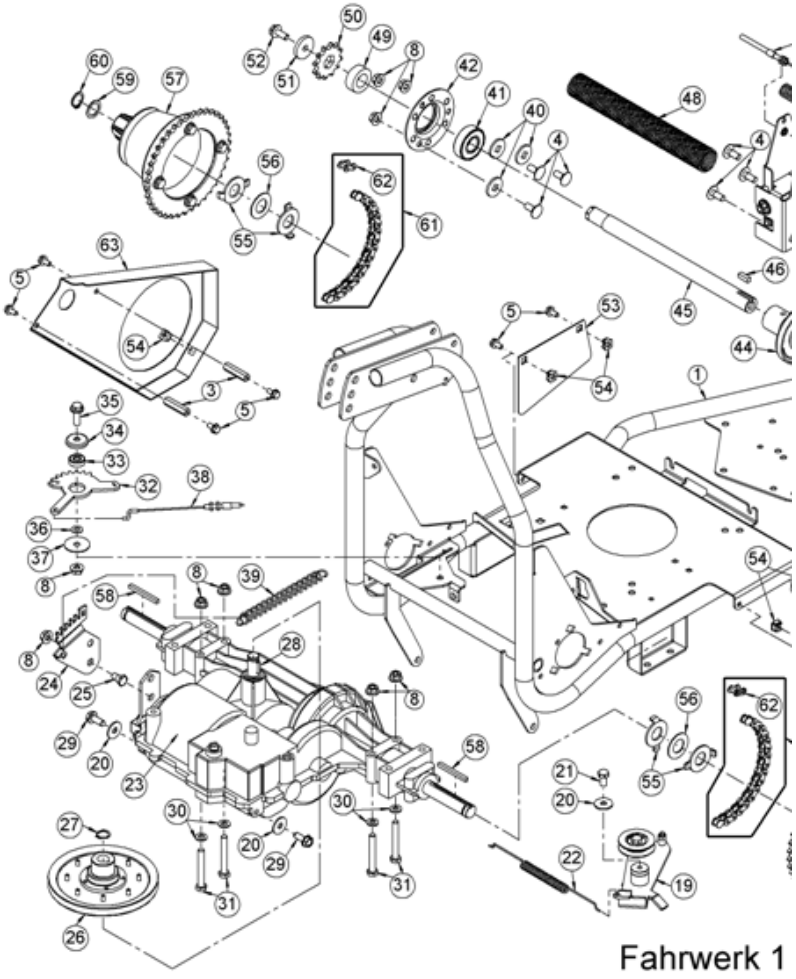
Screw the cover plate of the belt pulley back on. To do this, slightly move the deflector lever of the brake by hand.

Hook the drive cable back in.

Hook the tension spring of the traction drive back in.

Z ➡ A

Pull the blade belt back on in the reverse sequence.
See section: Mowing deck, Replacing the blade belt.



Drive

Removal of chain drive and limited slip differential 1/9

Safely park the machine and safeguard it from falling. Pull off the spark plug connector.

Prop up the machine under the transmission so that the wheels do not touch the ground.

Unscrew both wheels on the rims.

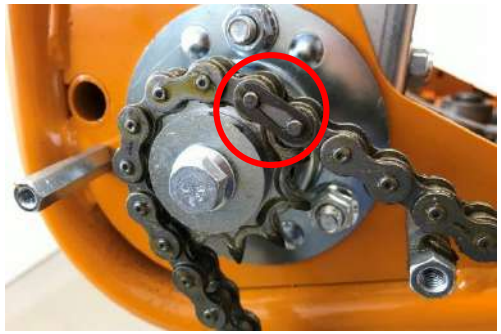
Wheel hubs and chain guard of the chain drive are exposed.

Unscrew the three screws of the chain guard.

Attention: When assembling, the lower-most screw must not be too long, otherwise it blocks the chain!

The drive chain is now exposed.

Removal of chain drive and limited slip differential 2/9



With a screwdriver, push the chain lock to the side and open it.

Take off chain.

Repeat the same procedure on the other side.

Repeat the same procedure on the other side.

Take off the circlip of the wheel hubs.

Do not forget the washer!

Drive

Removal of chain drive and limited slip differential 3/9

Pull off wheel hub. Take off the long feather key and thrust washers.

Counter chain pinion with a chain and unscrew it.

Sequence of the three thrust washers.

Clutch shaft with bearing plate and ball bearings.

Chain pinion with bearing plate and ball bearings.

Unscrew bearing plate and take out the ball bearings. Check the ball bearing.

Repeat the same procedure on the other side.

Unscrew the cable of the limited slip differential and unhook it.

Take out the entire clutch shaft with limited-slip differential (clutch).

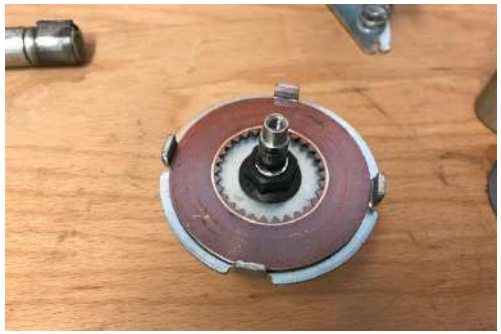
Take the clutch out of the lever housing.

Tip/note: The clutch is extremely robust and durable, however it must be free of oil and grease. Otherwise there is no 100% traction of the limited-slip differential! Rarely defective!

Screw on the clutch and pull it apart.

The component parts of the limited slip differential.

Removal of chain drive and limited slip differential 5/9



Assembly of the clutch of limited slip differential.

All parts must be free of oil and grease!

Insert the first copper disc.

Insert the middle disc in the four grooves.

Insert the second copper disc.

Insert the cover in the four grooves.

Fit the metal disc on the toothed flange.

Fit the toothed flange onto the clutch package. The toothing must engage in both copper discs.

Refasten the clutch.

Insert the three carriage bolts into the lever housing.

Activate the clutch lever by hand and insert the clutch.

Fit the clutch shaft with feather key into the clutch.

Re-insert the entire clutch. The three carriage bolts must fit precisely.

Fit on the bearing plate with ball bearing and **only tighten slightly**.

Repeat the whole procedure on the left side. Do not tighten yet!

Forcefully tighten the left chain pinion!

To do this, counter the clutch shaft with a metal pin in a hole of the clutch shaft.

Now forcefully tighten the right chain pinion!

To do this, counter the clutch shaft with a metal pin in a hole of the clutch shaft.

Fit thrust washers onto the drive shaft left and right. Tabs of the inner washer to the inside, tab of the outer washer to the outside. Do not forget the middle plastic washer.

Fit on wheel hubs left and right. Insert feather keys.

Fit on the feather key and fasten it with the circlip. Ensure that the circlip is perfectly seated.

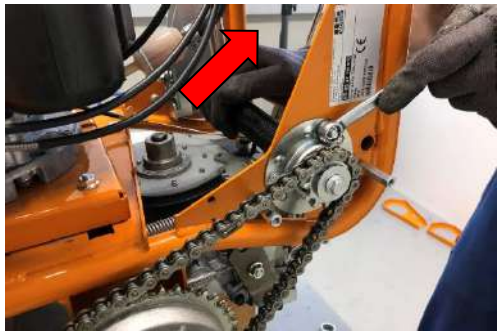
Pull on chains left and right. Chain locks facing the outside.

Latch the chain lock in place with the closed side in the direction of travel.

Chains are now still loose.

With your hand pull the clutch axle to the rear and thus tension both sides.

Uniformly tensioned chain.



Forcefully tighten bearing plates left and right.

Z ➡ A

Reassemble the chain covers and wheels in the reverse sequence.

Hook the differential cable back in and counter it. If the lever is not activated, it must not exert any pull on the differential lever. (1 mm play)

Attention: When assembling, the lower-most screw of the chain guard must not be too long, otherwise it blocks the chain!

Check the chain tension. The tensioned chain can be moved approx. 2 cm back and forth.

Drive

Transmission removal 1/3

First the blade belt must be taken off.

See section: Mowing deck, Replacing the blade belt.

Now the drive belt must be taken off.

See section: Replacing the drive, drive belt.

Now on both sides take off the chain guard.

Attention: When assembling, the lower-most screw of the chain guard must not be too long, otherwise it blocks the chain!

Wheel hubs with chains are now exposed.

Take off the chains on both sides.

Tip/note:
Install chain locks with closed side in the direction of travel.

Take off the wheel hubs on both sides.

Do not forget the feather key.

Take off the wheel hub and the three thrust washers.

The three thrush washers and their install direction.

Unscrew the shift lever. Inch bolt!

Position the machine on the discharge plate. Safeguard it against falling! ⚠

Unhook tension spring of the brake lever.

Unscrew the transmission on the two axles.

Unscrew the left rear threaded fitting.

Unscrew the right rear threaded fitting.

Attention: ⚠

Safeguard the transmission against falling!

Pull the transmission downward and out.

Re-installation:

Again from the rear, move in the transmission downward and fasten it. **"Triangle" mark** of the deflection lever must be on the **marked, first tooth of the brake lever**!

Z ➡ A

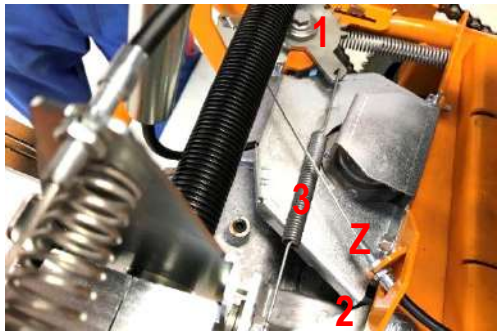
Assembly in the reverse sequence.

Operating elements

Drive cable and brake adjustment 1/3

The drive lever is on the right side of the handlebar.

Brake engaged……..



When activating the drive lever the cable (Z), the brake (1) and the tensioning pulley lever (2) of the drive belt are tensioned via the tension spring (3).

…..Tensioning pulley lever of the drive not tensioned.

Drive lever not activated.....

Drive lever activated.....

Operating elements

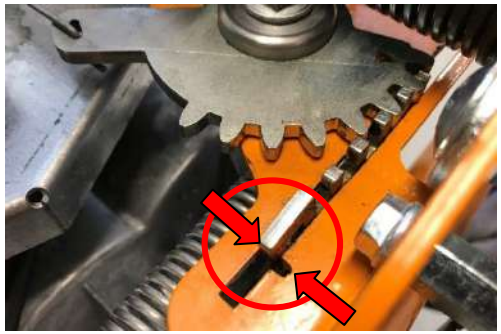
Drive cable and brake adjustment 2/3

…..Brake released……

…..Tensioning pulley lever of the drive tensioned.

Adjustment of the brake:

Release drive lever.



Target adjustment of the brake:

Brake lever plate is flush with the aperture in the frame.

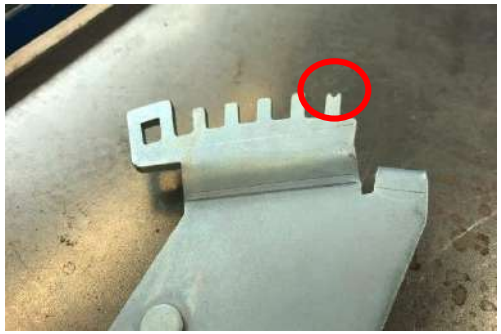
To do this, carefully turn the adjustment screw of the transmission brake, always by 1/8 turn.

Important:

The triangular marking of the deflection lever must be on the first (marked) tooth of the brake lever plate.

Operating elements

Drive cable and brake adjustment 3/3



Brake lever plate with marked tooth.

Factory setting of the upper cable stop.

Factory setting of the lower cable stop.

Brake test:

Drive lever activated, place shift lever on "N" position. Hub can be easily moved. If not, the drive cable is over-tensioned or the adjustment screw of the transmission brake is over-tightened. Readjust on the cable stops or the adjustment screw.

Drive lever not activated. Pull the machine backwards on solid ground. Both drive wheels are completely blocked. If not re-adjust on the adjustment screw of the transmission brake.

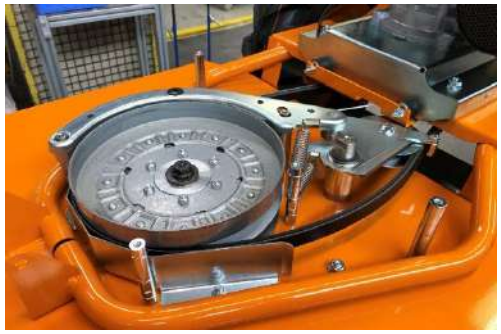
Tip/note:
Brake pad for transmission brake in PAM G06550001 (E06432)

Operating elements

Blade clutch cable replacement and adjustment 1/3

AS 65:

The lever of the blade clutch is on the left on the handlebar. For activation, the small safety button must be pressed and the lever of the blade clutch must be activated.



The blade clutch cable activates the tensioning pulley and tensions the blade belt. Simultaneously the tensioning pulley releases the blade brake.

Tensioning pulley, brake lever and their tension springs.

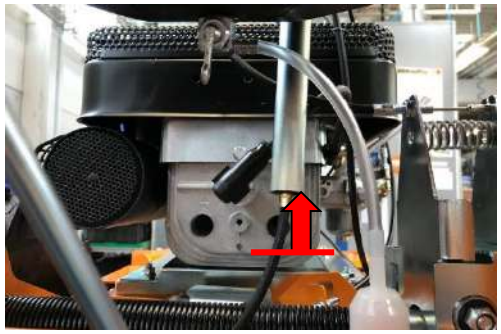
Factory setting of the upper cable stop.

At the lower end the blade clutch cable is simply hooked in on the tensioning pulley lever.

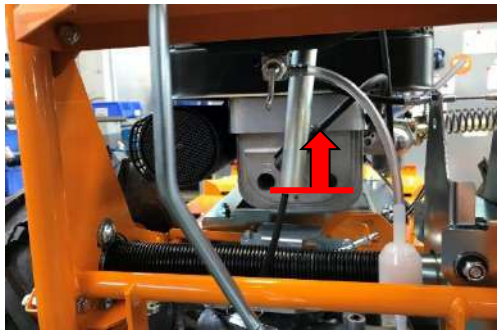
The blade clutch cable is hooked in on the belt guide of the blade belt on the left side. Access above the silver sheet metal cover.

Operating elements

Blade clutch cable replacement and adjustment 2/3



When activating the blade clutch cable, the integrated spring package of the cable tensions the cable approx. 4 to 5 centimetres.

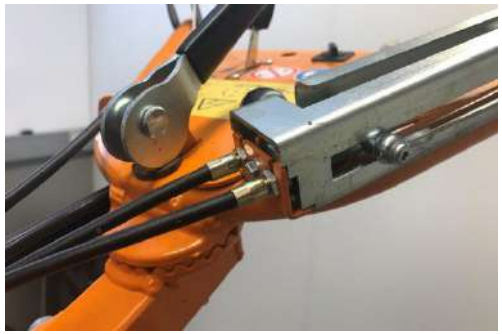


Spring package is tensioned.

AS 73:

The AS 73 has two blade speeds and therefore, two independent blade clutches and blade clutch cables.

On the adjustment unit on the handlebar, you change over between the two blade clutch cables.



View of the double belt pulleys, double belts and double tensioning pulleys of the AS 73. The function is the same as that of the AS 65.

Operating elements

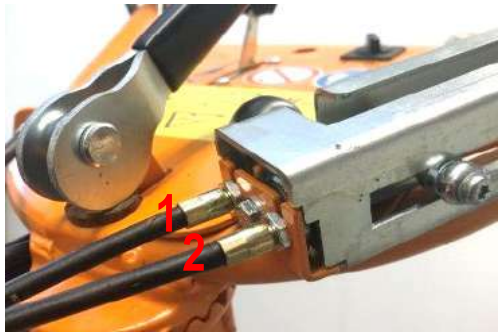
Blade clutch cable replacement and adjustment 3/3

Double tensioning pulleys and cables.

Cables are hooked in on the tensioning pulleys.

Double spring package. At activation of the respective blade clutch cable, dips in approx. 4 to 5 cm.

The blade clutch cables are hooked in on the belt guide of the blade belt on the left side. Access above the silver sheet metal cover, left side.



Tip/note:

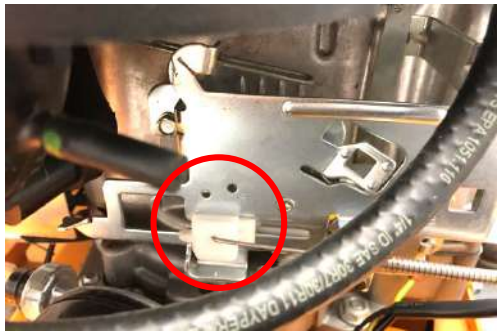
Which blade clutch cable is which?

1= slow blade speed with high force for high, dense grass.

2= high blade speed with less force for a better cutting pattern in low grass/lawn (max. 30 - 40 cm grass height)

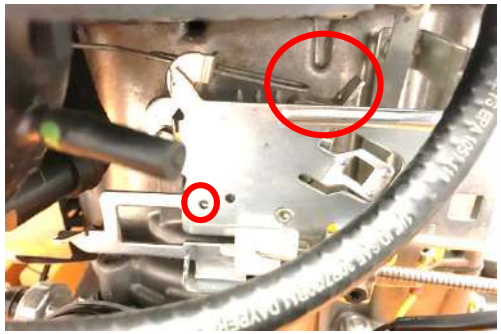
Operating elements

Accelerator cable adjustment 1/2



AS 65/73 4T B&S:

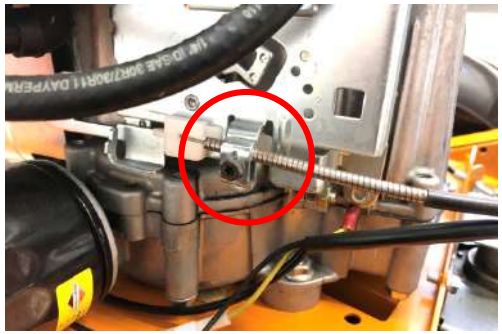
Idle position of the throttle lever.



Full throttle position of the throttle lever. The control bores are up to +/- 2 mm one above the other.

Choke position of the throttle lever.

Choke lever is completely closed.



Adjustment via the cable stop.

AS 65 4T Honda:

Bring throttle lever into zero position. Limit switch pressed. The limit switch has no function, because there is the ON/OFF switch on the handlebar.

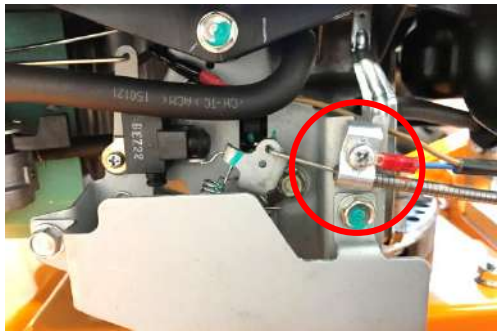
Throttle lever out of the zero position. Limit switch is released.

Operating elements

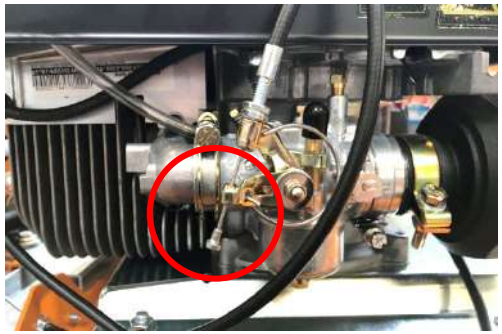
Accelerator cable adjustment 2/2

Full throttle position of the throttle lever. The metal arm touches the choke lever without moving it.

Choke position of the throttle lever. The metal arm carries the choke lever entirely after it. Choke completely closed.



Adjustment via the end stop of the cable.



AS 65 2T ES and 2T:

Bring throttle lever into zero position. Nipple of the accelerator cable projects 3 cm.

First latched position of the throttle lever. Nipple of the accelerator cable projects 1 cm.

Full throttle position of the accelerator cable. Throttle flap entirely opened.

Electrical system

Cabling 1/2

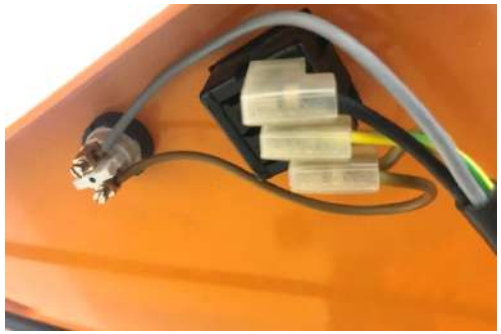
AS 65 / 73 4T B&S:

Switch AS 65/73 4T B&S to April 2016.

Left – the bypass button of the oil pressure sensor.

Cabling from below.

Here with cable of an operating hour meter (X).



Cabling from below.

Cabling on the B&S Intek engine.

Switch AS 65/73 4T B&S from May 2016.

Cabling on the B&S Intek engine.

Electrical system

Cabling 2/2

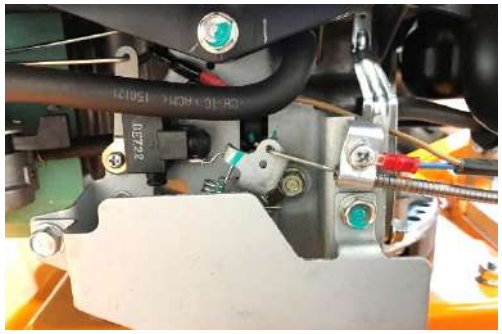
Cabling on the B&S Intek engine.

AS 65 4T Honda:

Switch AS 65 4T Honda.

No button present for oil pressure switch.

Handlebar cabling from below.



Cabling: Blue cable on the cable stop. Brown cable on the black cable and then to the ON/OFF switch.

AS 65 2T (ES):

Cabling: Blue cable on earth of the engine block. Brown cable on flat connector, together with the black short-circuit cable of the ignition. Both cables then to the ON/OFF switch.

Personal notes:

AS-MOTOR Germany GmbH & CO.KG

Ellwanger Strasse 15

74424 Bühlertann, Germany

www.as-motor.de

info@as-motor.de

www.parts-and-more.org