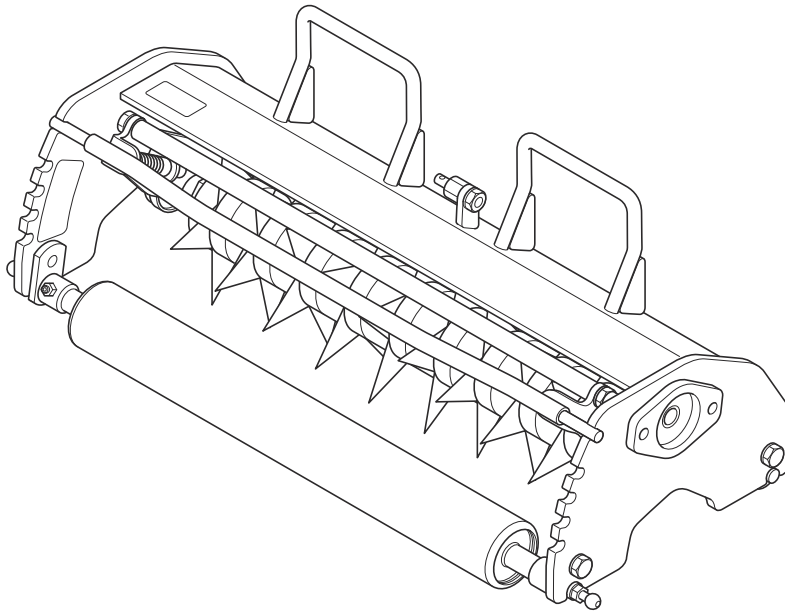


# ***ASP311***

Spiker Unit

## Owner's Operating Manual



Serial No. ASP311 : 10001-

"Required reading"  
Read this manual before using the machine.

---

**BARONESS**<sup>®</sup>  
Quality on Demand

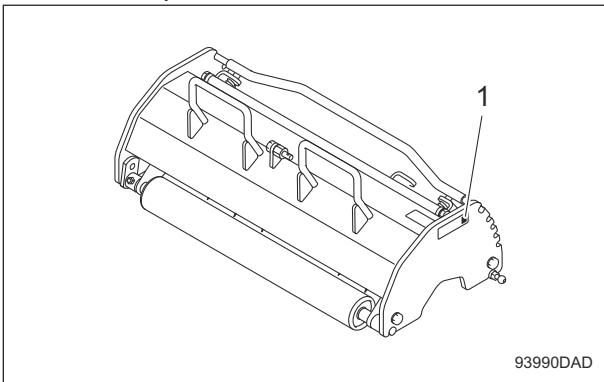
Ver.1.0

# Greeting

Thank you for purchasing the Baroness product. This manual describes the proper handling, adjustment, and inspection of your product. We hope you will use the product safely, and take advantage of its best performance. For details on the handling, adjustment and inspection of the main vehicle, refer to the Owner's Operating Manual for the main vehicle.

## QR Code

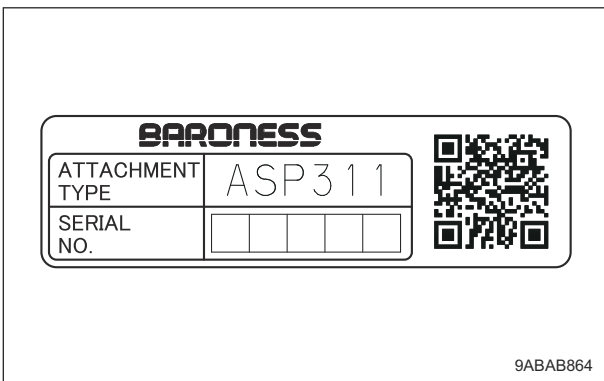
A QR code for this spiker unit is printed on the serial number plate.



QR Code\_001

1	QR code
---	---------

Scan the QR code with your smartphone for easy access to Baroness Manual Reference Service where you can browse Owner's Operating Manual and Parts Catalog.  
<https://doc.baroness-international.com/manuals/ASP311>



QR Code\_002

Read this manual carefully to ensure that you thoroughly understand how to properly operate and maintain the product, and to avoid causing injury to yourself or others.

The operator is responsible for operating the product properly and safely.

Maintenance service for this machine should be performed by a mechanic with expertise.

If you have any questions concerning maintenance or genuine parts, please contact a Baroness dealer or Kyoisha.





When making inquiries about your product, please specify the model and serial number.

When loaning or transferring the product, please also provide this manual together with the product.

Kyoisha Co., Ltd.

## Warning Symbols


This manual uses the following warning symbols for handling precautions that are important for your safety.

 <p style="text-align: center;">696cq5-001</p>	<p>Warning symbol</p>
<p>This symbol indicates the articles regarding “Danger,” “Warning,” or “Caution.” Those articles describe important safety precautions and so read them carefully to understand completely before operating the machine. Failure to adequately follow these safety precautions may cause an accident.</p>	
<p><b> Danger</b></p> <p>This symbol indicates that serious injury or death will occur if the warning is ignored.</p> <p> Warning</p> <p>This symbol indicates that serious injury or death may occur if the warning is ignored.</p> <p> Caution</p> <p>This symbol indicates that injury or damage to property may occur if the warning is ignored.</p> <p>Important</p> <p>This symbol indicates precautions on the mechanism of the machine.</p>	

# Introduction

---

## Precautionary Statement

 Caution

The information described in this manual is subject to change for improvement without prior notice.

When replacing parts, be sure to use genuine Baroness parts or parts designated by Kyo-eisha.

Note that the Baroness product warranty may not apply to defects caused by the use of parts from other companies.

Prior to use, carefully read the following manuals to thoroughly understand the contents for safe and correct operation.

- Baroness Owner's Operating Manual

## Purpose

This spiker unit is intended for spiking in golf courses.

Do not use this machine in any way other than its intended purpose, and do not modify the machine.

Operating this spiker unit for other purposes and modifying it may be very dangerous and may cause damage to the machine.

<b>Safety</b> .....	<b>Page 1-1</b>
Safe Operating Practices .....	Page 1-2
<b>Disposal</b> .....	<b>Page 2-1</b>
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Names of Each Section .....	Page 3-3
Regulation Decals .....	Page 3-3
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# Contents

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**Safety**

# Safety

---

Failure to adequately follow these safety precautions may cause an accident resulting in injury or death.

**⚠ Danger**

This product is designed to ensure safe operation and has been tested and inspected thoroughly before shipment from the factory. The product is equipped with safety devices to prevent accidents.

However, whether the product demonstrates its original performance level depends on the manner in which it is operated and handled, as well as the manner in which it is managed on a daily basis.

Inappropriate use or management of the product may result in injury or death.

Observe the following safety instructions to ensure safe operation.

**Safe Operating Practices**

Read Safe Operating Practices described in the Owner's Operating Manual of Baroness main vehicle equipped with this spiker unit thoroughly.

**Recycle and Waste Disposal ..... Page 2-2**

About Recycle .....Page 2-2

About Waste Disposal ..... Page 2-2



# Disposal

---

## Recycle and Waste Disposal

### About Recycle

Recycling battery etc. is recommended for environmental conservation and economical use of resources.

It may be required by local laws.

### About Waste Disposal

Make sure that waste generated when servicing or repairing the machine is disposed of in accordance with local regulations. (e.g. waste oil, antifreeze, rubber products, and wires etc.)

**Specifications ..... Page 3-2**

Specifications .....Page 3-2

Features of Spiker Unit ..... Page 3-2

**Names of Each Section ..... Page 3-3****Regulation Decals .....Page 3-3**

Positions of Regulation Decals ..... Page 3-3

Description of Regulation Decals ..... Page 3-3

**Safety Signs and Instruction Signs ..... Page 3-4**About Safety Decals and Instruction  
Decals .....Page 3-4Positions of Safety Decals and  
Instruction Decals ..... Page 3-4Description of Safety Decals and  
Instruction Decals ..... Page 3-4**Operation Decals ..... Page 3-5**

Positions of Operation Decals ..... Page 3-5

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# Product Overview

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## Specifications

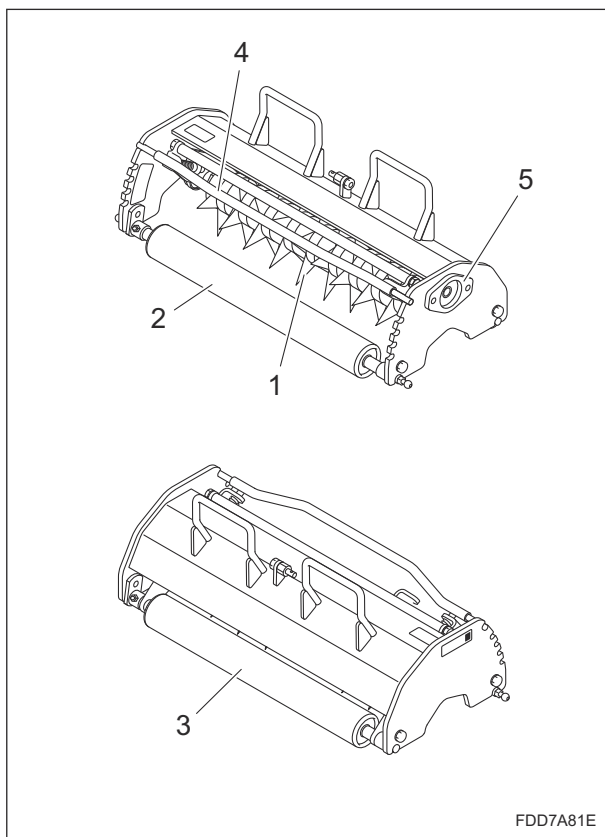
### Specifications

Model		ASP311	
Name		Spiker Unit	
Dimensions	Total length	296 mm	11.65 in
	Total width	693 mm	27.28 in
	Total height	277 mm	10.91 in
Weight		46.0 kg	101.41 lb
Operating width		415 mm	16.34 in
Operating depth		10,20,30,40 mm (4 levels)	0.39,0.79,1.18,1.57 in (4 levels)
Spiking Blade	Number per unit	9	
	Diameter	160 mm	6.30 in
	Thickness	1.6 mm	0.063 in
	Space between blades	50 mm	1.97 in

### Features of Spiker Unit

Light aeration on the surface layer improves water permeability and air permeability to help root growth.

## Names of Each Section

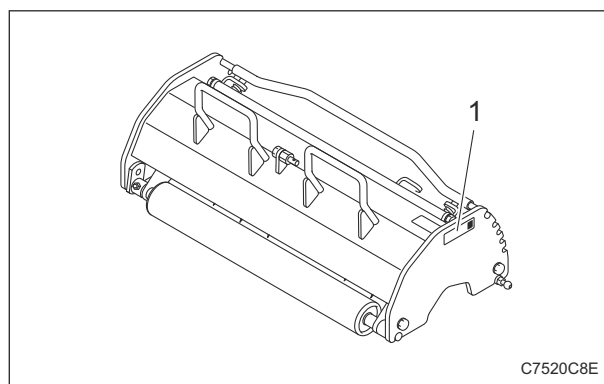


Names of Each Section\_001

1	Spiking blade
2	Front roller
3	Rear roller
4	Depth adjusting lever
5	Motor mounting plate

## Regulation Decals

### Positions of Regulation Decals



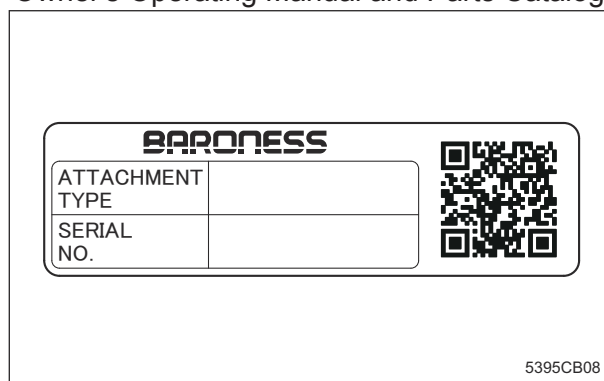
Positions of Regulation Decals\_001

1	Serial number plate
---	---------------------

### Description of Regulation Decals

#### Serial Number Plate

The serial number plate indicates the model and serial number of the machine. A QR code is also printed for browsing Owner's Operating Manual and Parts Catalog.



Serial Number Plate\_001

# Product Overview

## Safety Signs and Instruction Signs

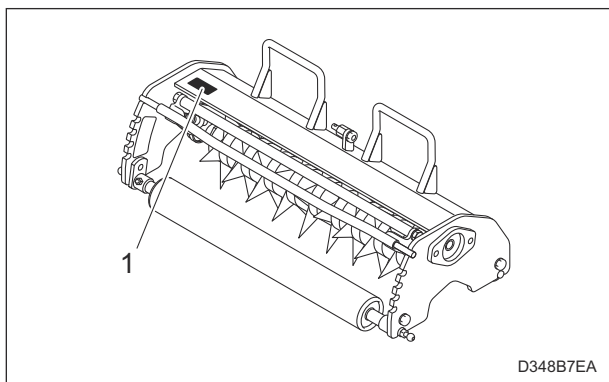
### About Safety Decals and Instruction Decals

**Important**

Safety decals and instruction decals are attached to this mower unit. Make sure that decals are preserved in their entirety. If they are damaged, become dirty, or peel off, replace them with new ones.

Part numbers for decals that need to be replaced are listed in the parts catalog. Order them from a Baroness dealer or Kyoeisha.

### Positions of Safety Decals and Instruction Decals



Positions of Safety Decals and Instruction Decals\_001

1	Hands and feet caution decal
---	------------------------------

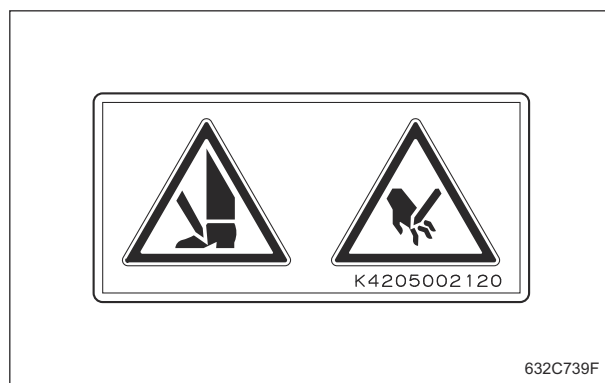
### Description of Safety Decals and Instruction Decals

#### Hands and Feet Caution Decal

K4205002120  
DECAL, CAUTION HANDS/FEET

**Warning**

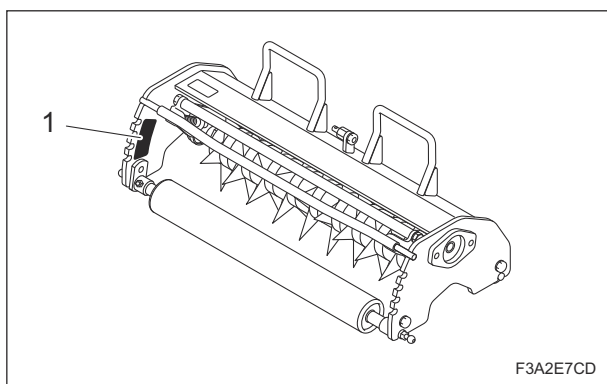
There is a danger of cutting your hands or feet



Hands and Feet Caution Decal\_001

## Operation Decals

### Positions of Operation Decals



Positions of Operation Decals\_001

1	Depth indicating decal
---	------------------------

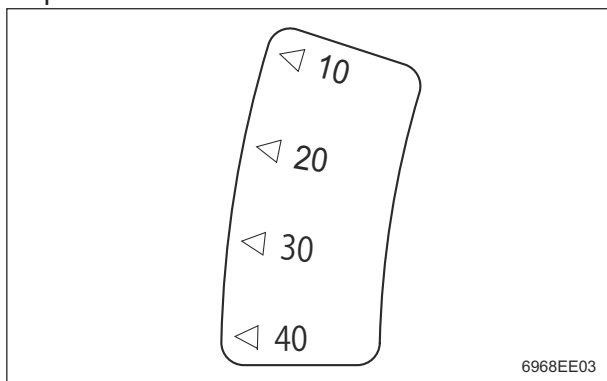
### Description of Operation Decals

#### Depth Indicating Decal

LM315P-1315A0

LABEL, INDICATING DEPTH

This is a scale that indicates the spiking depth.



Depth Indicating Decal\_001

# Product Overview

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# Handling Instructions

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<b>Installation .....</b>	<b>Page 4-2</b>
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Procedure to Remove Spiker Unit .....	Page 4-2
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# Handling Instructions

## Handling Precautions

### Important

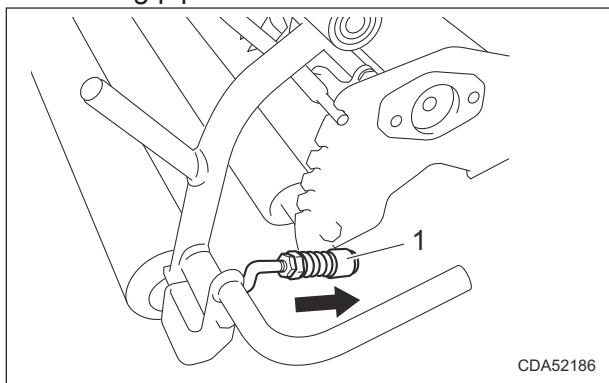
This manual contains descriptions for handling the spiker unit.

For details on handling the main vehicle, refer to this manual and the Owner's Operating Manual for the main vehicle.

## Installation

### Procedure to Install Spiker Unit

1. Place the spiker unit.
2. Install the stoppers of the left and right spiker unit fixing pipes into the frame.



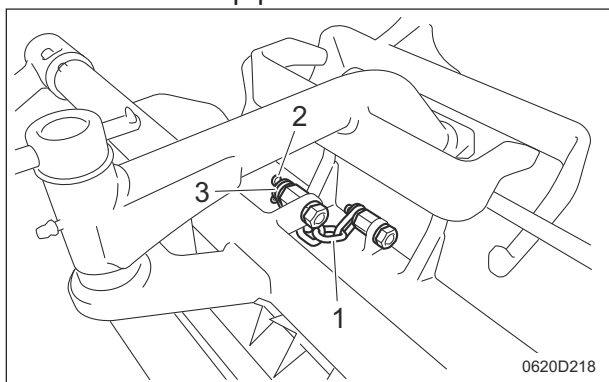
Procedure to Install Spiker Unit\_001

1	Stopper (left/right)
---	----------------------

### Important

When installing the spiker unit #1, install the chain on the upper side of the hydraulic hose. Otherwise, it will interfere with the hydraulic hose when the chain is stretched, and the hydraulic hose will be damaged.

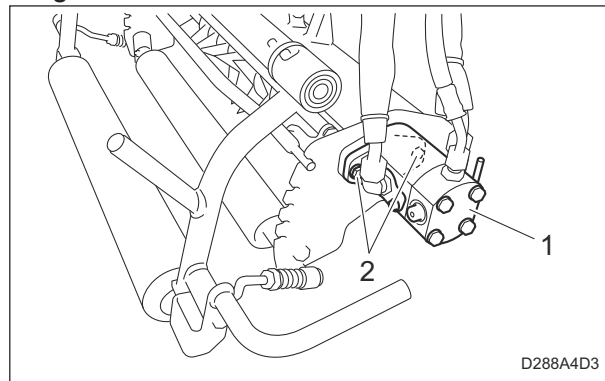
3. Install the chain into the spiker unit with a washer and snap pin.



Procedure to Install Spiker Unit\_002

1	Chain
2	Snap pin
3	Washer

4. Install the motor with bolts.
5. Tighten the bolts.

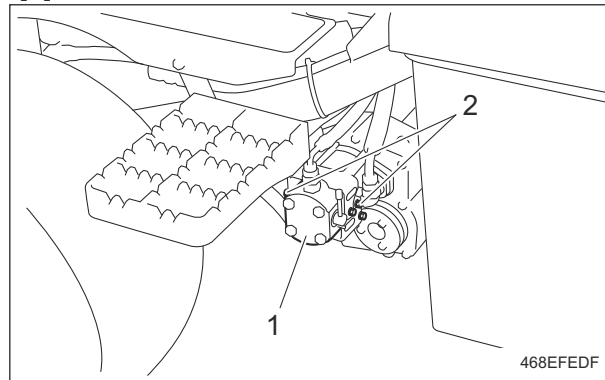


Procedure to Install Spiker Unit\_003

1	Motor
2	Bolt

### Procedure to Remove Spiker Unit

1. Removing the spiker unit #1
  - [1] Remove the bolts which install the motor.



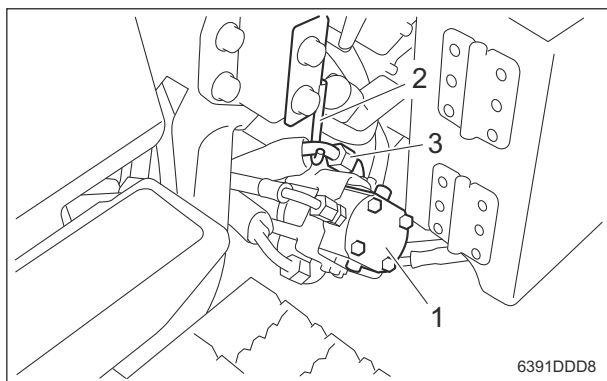
Procedure to Remove Spiker Unit\_001

1	Motor
2	Bolt

- [2] Remove the motor.

# Handling Instructions

[3] Hang the hydraulic hose fitting of the removed motor on the hook.

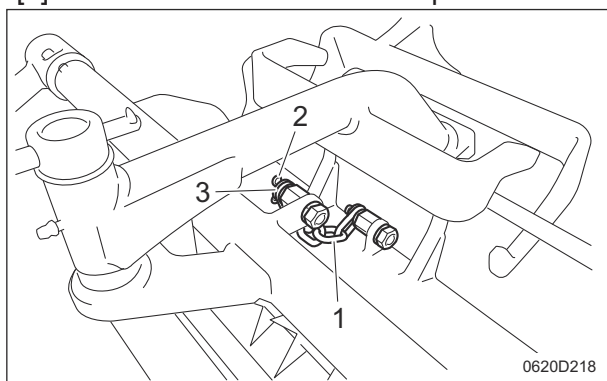


Procedure to Remove Spiker Unit\_002

1	Motor
2	Hook
3	Hydraulic hose fitting

[4] Remove the snap pin and washer which install the chain.

[5] Remove the chain from the spiker unit.

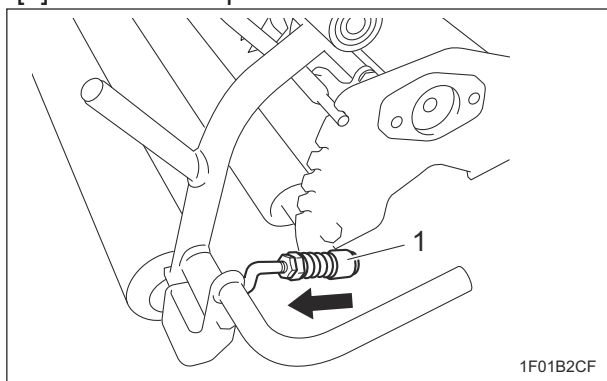


Procedure to Remove Spiker Unit\_003

1	Chain
2	Snap pin
3	Washer

[6] Slide the stoppers of the left and right spiker unit fixing pipes forward and pull them up.

[7] Pull out the spiker unit and remove it.

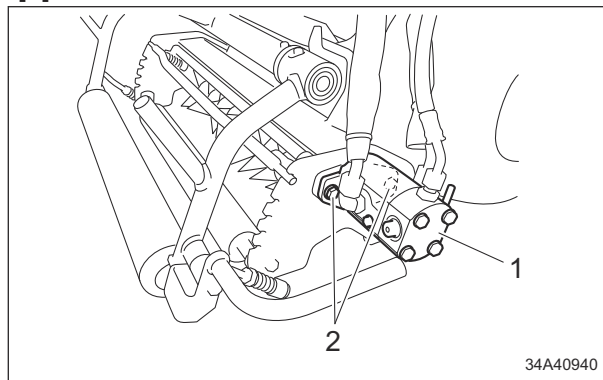


Procedure to Remove Spiker Unit\_004

1	Stopper (left/right)
---	----------------------

2. Removing the spiker unit #2 and #3

[1] Remove the bolts which install the motor.



Procedure to Remove Spiker Unit\_005

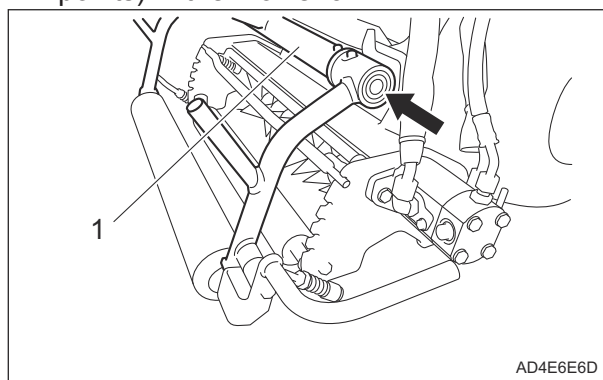
1	Motor
2	Bolt

[2] Remove the motor.

**Important**

The hole on the mower arm is for putting the motor during maintenance. Do not use it while traveling. Otherwise, the hydraulic system and the machine will be damaged.

[3] Insert the shaft of the removed motor into the hole (where the arrow in the diagram points) in the mower arm.



Procedure to Remove Spiker Unit\_006

1	Mower arm
---	-----------

[4] Remove the snap pin and washer which install the chain.

[5] Remove the chain from the spiker unit.

[6] Slide the stoppers of the left and right spiker unit fixing pipes forward and pull them up.

[7] Pull out the spiker unit and remove it.

# Handling Instructions

## Inspection Before Use

The purpose of the machine inspection is to:

- Prevent accidents
- Prevent damage to the machine
- Maintain machine performance

Detecting machine malfunctions early helps prevent unexpected problems from occurring. If you detect any abnormalities with the machine, immediately perform maintenance or repairs.

## Spiker Unit

### Inspection of Spiking Blades

#### Caution

Wear gloves when touching edged tools to avoid cutting your hands.

1. Make sure that the edges of the spiking blades are not too blunt to cut.
2. Make sure that the spiking blades are not bent.
3. Make sure that the spiking blades are not chipped.
4. Check the wear amount of the spiking blades.
5. Make sure that the blade shaft does not have distortion.

### Inspection of Rollers

1. Make sure that there is no abrasion nor adhesion of the roller.
2. Make sure that there is no wear of the roller shaft.
3. Make sure that there is no wear nor damage of the oil seal.
4. Make sure that there is no wear nor rust of the bearing.
5. Make sure that there is no play in the roller shaft.

### Inspection of Covers

#### Warning

If you have removed a protective cover during inspection, be sure to securely install it in its original position.

If a protective cover remains removed, foreign objects may fly off, possibly resulting in injuries.

1. Make sure that there is no wear or deterioration of protective covers.
2. Make sure that there is no damage to protective covers.
3. Make sure that there is no interference with moving parts due to deformation of protective covers.
4. Make sure that protective covers are installed in their appropriate positions.

### Inspection of Depth Adjusting Lever

1. Make sure that there is no damage nor deformation of the depth adjusting lever.
2. Make sure that the lever moves smoothly.

### Inspection of Bolts and Nuts

#### Important

The bolts and nuts may be loosened at the earlier stage of the use.

Be sure to retighten or replace before operating the machine whenever there is any abnormality.

1. Check the bolts and nuts for looseness and coming off.
2. Check the bolts and nuts for cracks and damages.
3. Check the bolts and nuts for rust.
4. Check around the bolts and nuts for traces of rust fluid.
5. Check for unequal bolt length.
6. Check the bolts and nuts for stripped threads and abrasion.

# Handling Instructions

## Adjustment Before Work

### Adjustment of Spiking Depth

**Caution**

Spiking blades are edged tools. Handle them carefully, since they could cut your hands or legs.

**Important**

The standard spiking depth is 10 to 40 mm (0.39 to 1.57 in). The setting deeper than 40 mm (1.57 in) will cause damage to the blades and the machine.

**Important**

Lowering the spiker unit in an area other than lawn may cause damage to the spiking blades. By putting the lever into the groove of "For travel and storage", contact between the spiking blades and the ground can be avoided.

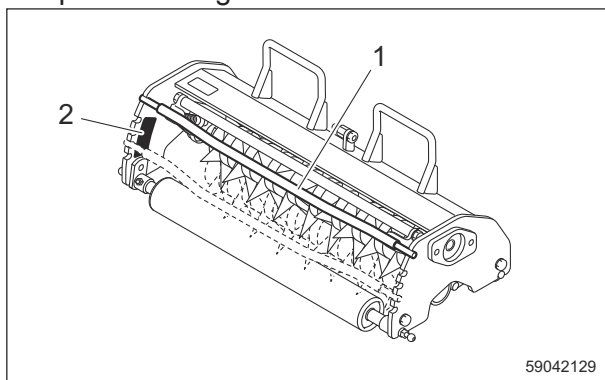
The spiking depth can be adjusted by changing the position of the depth adjusting lever.

1. Pull the depth adjusting lever toward your side.

**Important**

The spiking depth values show rough indications. They may not be the same as the actual depth.

2. Adjust the spiking depth to the desired position by putting the lever into the grooves other than the top with using the scale of the depth indicating decal.

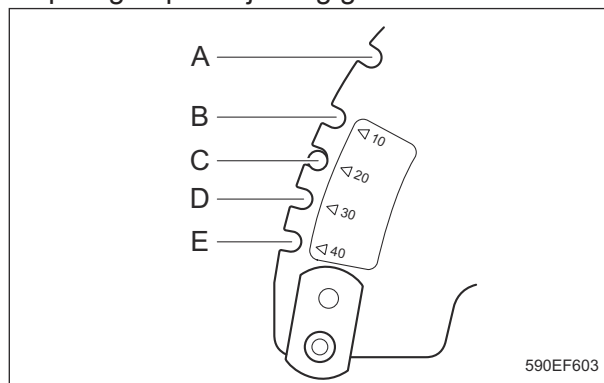


59042129

Adjustment of Spiking Depth\_001

1	Depth adjusting lever
2	Depth indicating decal

### Spiking depth adjusting groove



590EF603

Adjustment of Spiking Depth\_002

A	For travel and storage
B	10 mm (0.39 in)
C	20 mm (0.79 in)
D	30 mm (1.18 in)
E	40 mm (1.57 in)

# Handling Instructions

## Move

### Traveling Procedure

#### Warning

In the case of 2WD/3WD model, travel in 2WD mode since it is dangerous to travel on steep downward slopes, wet road surface or downward slopes of wet lawn in 3WD mode. Rear tire going into a skid may cause loss of traveling control.

#### Caution

Under any circumstances drive the machine at such a speed that you can stop it immediately for emergencies.

#### Important

Do NOT start to move or stop the machine abruptly. It will damage the hydraulic system or result in oil leakage.

#### Important

Do not travel backward with the spiker unit lowered. Otherwise, the spiker unit comes off the lift fork when it is raised.

1. Start the engine.
2. Gradually move the throttle lever to the "High speed" position.
3. Raise all the spiker units.
4. Release the parking brake.
5. Slowly depress the traveling pedal.
6. The machine starts traveling.
7. The machine stops slowly when the traveling pedal released.

## Operations

### Spiking Procedure

#### Warning

In the case of 2WD/3WD model, travel in 2WD mode since it is dangerous to travel on steep downward slopes, wet road surface or downward slopes of wet lawn in 3WD mode. Rear tire going into a skid may cause loss of traveling control.

#### Caution

Spiking work must be performed at an appropriate speed for the site and location. When spiking over bumpy surfaces, slow down the traveling speed.

#### Important

Do NOT start to move or stop the machine abruptly. It will damage the hydraulic system or result in oil leakage.

1. Start the engine.
2. Raise all the spiker units.
3. Stop the engine.
4. Adjust the spiking depth.
5. Start the engine.
6. Shift the throttle lever to the "High speed" position to run the engine at the maximum speed.
7. Release the parking brake.
8. Start the work following the procedure below.
  - [1] Depress the traveling pedal.
  - [2] Lower the spiker units at the working position.
  - [3] Raise all the spiker units after work is completed.

## Cleaning After Use

The purpose of the machine cleaning is to:

- Prevent accidents
- Prevent damage to the machine
- Maintain machine performance

Properly clean the machine to maintain its functionality and performance.

If you detect any abnormalities with the machine, immediately perform maintenance or repairs.

## Spiker Unit

### Cleaning of Spiker Unit

Be sure to clean the spiker unit after use.

1. Stop the engine.
2. Carefully clean the front and back of the spiker unit with water or compressed air.
3. Remove any grass wrapped around the spiking blades.

## Storage

### Short-Term Storage

Short-term storage means that the machine is temporarily stored (within 1 month) without use.

Follow the instructions below for short-term storage of this spiker unit.

1. Cleaning
  - Remove dirt, grass clippings, oil stains etc. completely.
2. Spiker unit
  - Set the spiking depth to which the spiking blades do not touch the ground.
3. Storage location
  - Cover the spiker unit and store it in a dry place where it will not be exposed to rain.

# Handling Instructions

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**Precautions for Maintenance** .....Page 5-2

**Replace** ..... Page 5-2

Spiker Unit ..... Page 5-2

**Storage** ..... Page 5-5

Long-Term Storage .....Page 5-5

# Maintenance

## Precautions for Maintenance

**Warning**

The chapter "Maintenance" in this manual describes practical measures which should be performed by a mechanic with expertise. The owner should instruct the mechanic with expertise to perform maintenance service for this machine.

**Caution**

First, learn well the operations you plan to perform.

**Important**

Use tools appropriate for each operation.

**Important**

Use Baronesse genuine parts for replacement and accessories. Our product warranty may be void if you use non-genuine parts for replacement or accessories.

## Replace

### Spiker Unit

#### Replacement of Spiking Blades

**Warning**

Be sure to stop the engine before change of the spiking blades.

**Caution**

The spiking blades are edged tools. Take extra care in handling since they could cut your hands or legs.

**Caution**

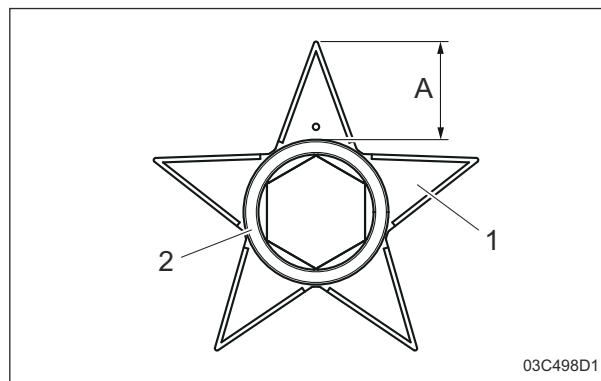
When touching edged tools, be sure to wear gloves since they could cut your hands.

**Important**

Replace all spiking blades.

Replace the spiking blade with a new one if the cutting edge is chipped or worn. The usage limit of the spiking blade is when it wears 5 mm (0.20 in) from new. For the wear amount of the spiking blade, refer to the figure below to check the dimensions from the outer diameter of the collar to the cutting edge.

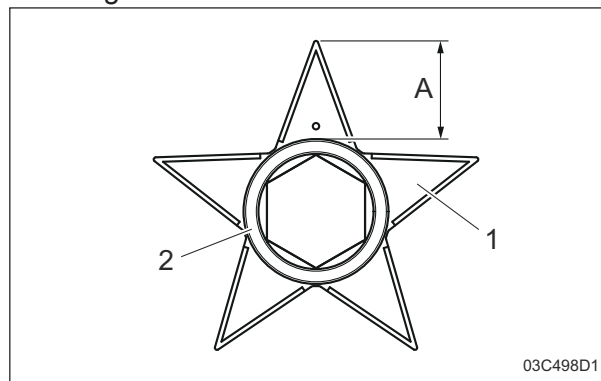
■ New



Replacement of Spiking Blades\_001

1	Spiking blade
2	Collar
A	46 mm (1.81 in)

■ Usage limit



Replacement of Spiking Blades\_002

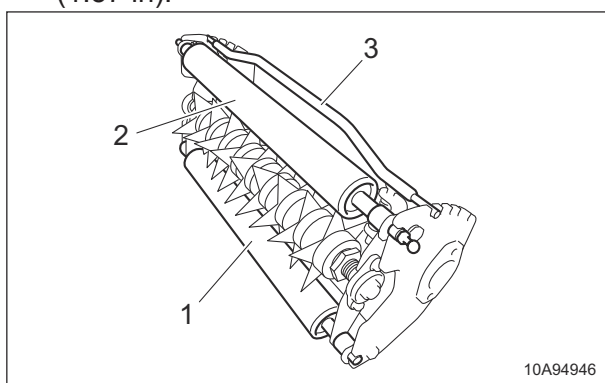
1	Spiking blade
2	Collar
A	41 mm (1.61 in)

## ■Removal of Spiking Blades

**⚠ Caution**

If your hands or fingers come into contact with the spiking blades, you may be injured. Be sure to wear gloves when handling and be careful not to get injured.

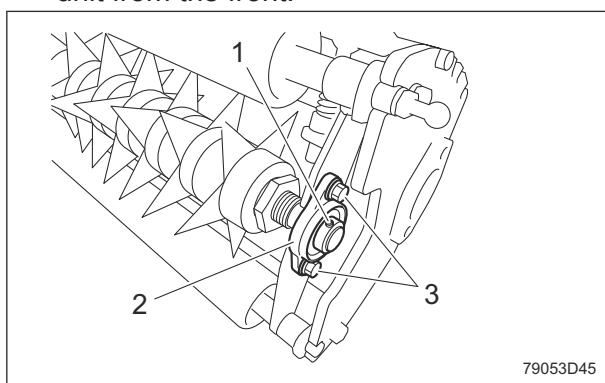
1. Stand the spiker unit with the front roller facing upward.
2. Put the depth adjusting lever into the bottom grooves for a depth of 40 mm (1.57 in).



Removal of Spiking Blades\_001

1	Rear roller
2	Front roller
3	Depth adjusting lever

3. Loosen the left and right hollow screws.
4. Remove the bolts from the flange unit on the right side when you face the spiker unit from the front.



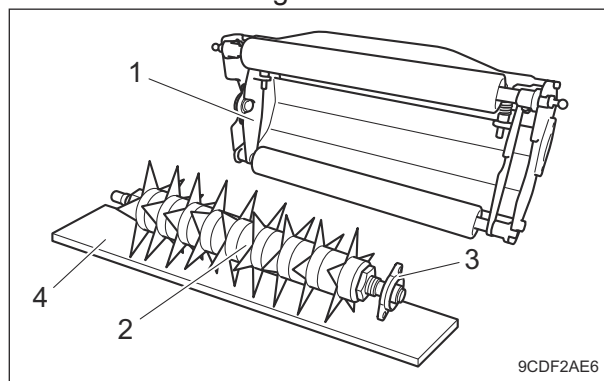
Removal of Spiking Blades\_002

1	Hollow screw
2	Flange unit
3	Bolt

5. Remove the spiking blade Assy from the frame.

6. Place the spiking blade Assy on a wooden board or other material in order not to rotate it.

7. Remove the flange unit.



Removal of Spiking Blades\_003

1	Frame
2	Spiking blade Assy
3	Flange unit
4	Wooden board

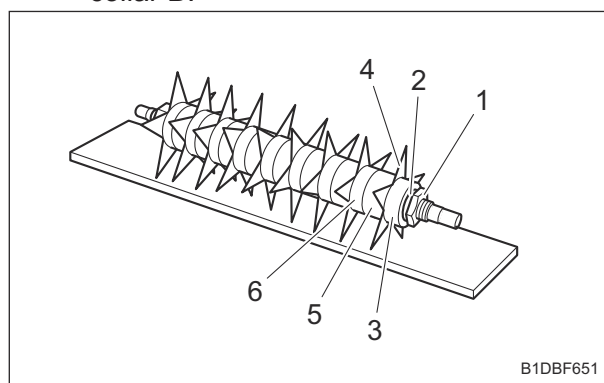
8. Disassemble the spiking blade Assy.

[1] Remove the special nut on the side which the flange unit was removed.

[2] Remove the disc spring washer.

[3] Remove the end collar.

[4] Remove the spiking blade, collar A and collar B.



Removal of Spiking Blades\_004

1	Special nut
2	Disc spring washer
3	End collar
4	Spiking blade
5	Collar A
6	Collar B

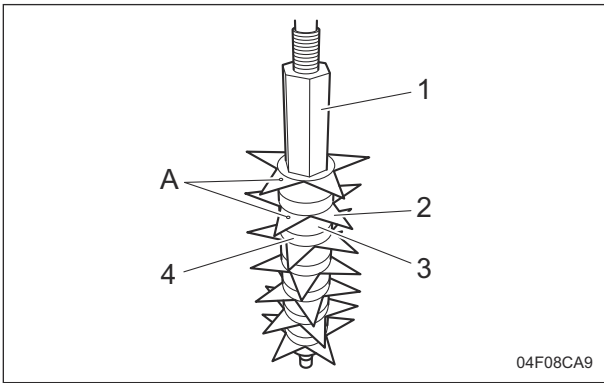
# Maintenance

## Installation of Spiking Blades

**Caution**

If your hands or fingers come into contact with the spiking blades, you may be injured. Be sure to wear gloves when handling and be careful not to get injured.

1. Assemble the spiking blade Assy.
  - [1] Stand up the blade shaft with the left flange unit side facing downward (when you face the spiker unit from the front).
  - [2] Install the end collar.
  - [3] Install in order of a spiking blade, collar B and collar A.
  - [4] Rotate the blade shaft counterclockwise by one of its six sides, and install in order of a spiking blade, collar B and collar A. Each time inserting one spiking blade into the blade shaft, rotate the blade shaft counterclockwise by one of its six sides. Using the position of the hole in the blade as a guide, shift the position of the hole by 60 degrees to arrange the blade tips in a spiral.

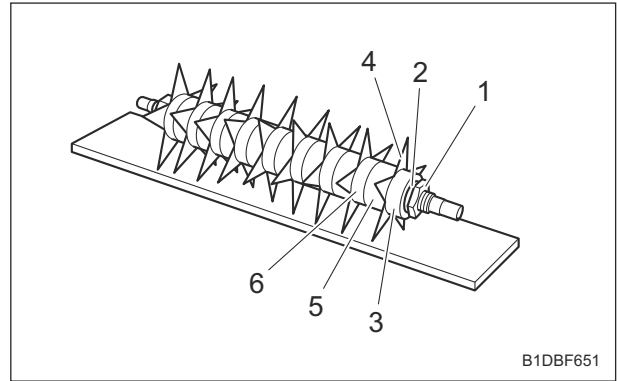


Installation of Spiking Blades\_001

1	Blade shaft
2	Spiking blade
3	Collar A
4	Collar B
A	Hole

- [5] Install the end collar.
- [6] Install the disc spring washer.

[7] Install the special nut.



Installation of Spiking Blades\_002

1	Special nut
2	Disc spring washer
3	End collar
4	Spiking blade
5	Collar A
6	Collar B

**Important**

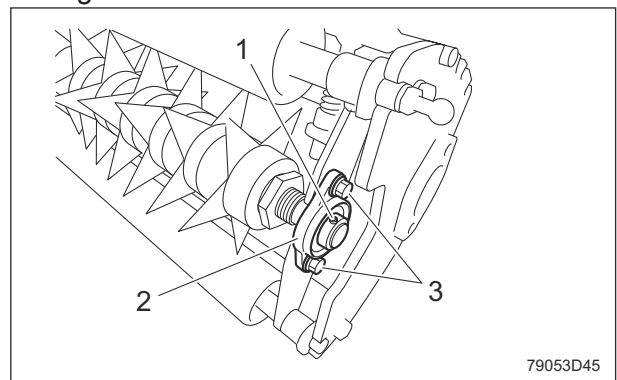
Install the spiking blade Assy to the frame with the side which installed disc spring washer to the right side (when you face the frame from the front).

2. Install the spiking blade Assy into the frame.

**Important**

Make sure that the length of the left and right protrusions of the shaft of the spiking blade Assy are equal.

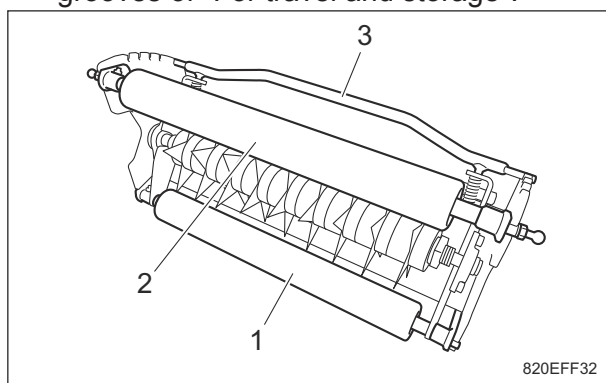
3. Install the flange unit to the side which installed disc spring washer.
4. Install the bolts into the flange unit.
5. Tighten the hollow screws on the left and right sides.



Installation of Spiking Blades\_003

1	Hollow screw
2	Flange unit
3	Bolt

6. Put the depth adjusting lever into the top grooves of "For travel and storage".



Installation of Spiking Blades\_004

1	Rear roller
2	Front roller
3	Depth adjusting lever

## Storage

### Long-Term Storage

Follow the instructions below for long-term storage of this spiker unit.

#### 1. Cleaning

- Remove dirt, grass clippings, oil stains etc. completely.

#### 2. Spiker unit

- Set the spiking depth to which the spiking blades do not touch the ground.

#### 3. Storage location

- Cover the spiker unit and store it in a dry place where it will not be exposed to rain.



# Appended Table

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**Tightening Torques .....Page 6-2**  
    Standard Tightening Torques .....Page 6-2

**Daily Check List ..... Page 6-4**

**Maintenance Schedule ..... Page 6-4**

Appended Table

# Appended Table

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## Tightening Torques

**Important**

Refer to the Tightening Torque table.  
Note that the Baroness product warranty may not apply to defects caused by incorrect or overtorque tightening, etc.

## Standard Tightening Torques


### Bolts and Nuts

**Important**



A number of bolts are used in each part of this machine.  
Be sure to re-tighten the bolts and nuts, because they may be loosened at the earlier stage of the use.

- As to the bolts and nuts without any special instruction, tighten them in appropriate tightening torque with proper tool.  
Too much tightening may cause the looseness or damage of the screw.
- The strength of tightening is determined by types of screws, strength, the friction of thread face or base face and others.  
The table below is for the galvanized or parkerized bolts.  
In case that the strength of internal thread is weak, it is not applied.
- Do not use rusty or sand attached "screw."  
Otherwise, it may cause insufficient tightening even if you apply the specified tightening torque.  
The friction of the screw face becomes higher and the tightening torque is canceled out by the friction, therefore sufficient tightening cannot be applied.
- If "screw" is wet by water or oil, do not tighten it with normal tightening torque.  
If the screw is wet, the torque coefficient will get smaller and it may result in too much tightening.  
Too much tightening may cause looseness by the screw stretched or result in damage.
- Do not use a bolt experienced too much burden.
- Using the impact wrench requires the skill.  
Do exercise as much as possible for steady tightening.

# Appended Table

Nominal diameter	General bolt		
	Strength classification 4.8		
	 tib3yb-001		
	N-m	kgf-cm	lb-in
M5	3 - 5	30.59 - 50.99	26.55 - 44.26
M6	7 - 9	71.38 - 91.77	61.96 - 79.66
M8	14 - 19	142.76 - 193.74	123.91 - 168.17
M10	29 - 38	295.71 - 387.49	256.68 - 336.34
M12	52 - 67	530.24 - 683.20	460.25 - 593.02
M14	70 - 94	713.79 - 958.52	619.57 - 831.99
M16	88 - 112	897.34 - 1142.06	778.89 - 991.31
M18	116 - 144	1,182.85 - 1,468.37	1,026.72 - 1,274.54
M20	147 - 183	1,498.96 - 1,866.05	1,301.10 - 1,619.73
M22	295	3,008.12	2,611.05
M24	370	3,772.89	3,274.87
M27	550	5,608.35	4,868.05
M30	740	7,545.78	6,549.74

Appended Table

Nominal diameter	Heat-treated bolt					
	Strength classification 8.8			Strength classification 10.9		
	 tib3yb-002			 tib3yb-003		
	N-m	kgf-cm	lb-in	N-m	kgf-cm	lb-in
M5	5 - 7	50.99 - 71.38	44.26 - 61.96	7 - 10	71.38 - 101.97	61.96 - 88.51
M6	8 - 11	81.58 - 112.17	70.81 - 97.36	14 - 18	142.76 - 183.55	123.91 - 159.32
M8	23 - 29	234.53 - 295.71	203.57 - 256.68	28 - 38	285.52 - 387.49	247.83 - 336.34
M10	45 - 57	458.87 - 581.23	398.30 - 504.51	58 - 76	591.43 - 774.97	513.36 - 672.68
M12	67 - 85	683.20 - 866.75	593.02 - 752.34	104 - 134	1,060.49 - 1,366.40	920.50 - 1186.03
M14	106 - 134	1,080.88 - 1,366.40	938.21 - 1,186.03	140 - 188	1,427.58 - 1,917.04	1,239.14 - 1,663.99
M16	152 - 188	1,549.94 - 1,917.04	1,345.35 - 1,663.99	210 - 260	2,141.37 - 2,651.22	1,858.71 - 2,301.26
M18	200 - 240	2,039.40 - 2,447.28	1,770.20 - 2,124.24	280 - 340	2,855.16 - 3,466.98	2,478.28 - 3,009.34
M20	245 - 295	2,498.27 - 3,008.12	2,168.50 - 2,611.05	370 - 450	3,772.89 - 4,588.65	3,274.87 - 3,982.95
M22	-	-	-	530	5,404.41	4,691.03
M24	-	-	-	670	6,831.99	5,930.17
M27	-	-	-	1,000	10,197.00	8,851.00
M30	-	-	-	1,340	13,663.98	11,860.34

**Note:**  
The same values are applied to "fine screw thread."

# Appended Table

## Daily Check List

- . . . Inspect, adjust, supply, clean (first time)
- . . . Inspect, adjust, supply, clean
- ▲ . . . Replace (first time)
- △ . . . Replace

Maintenance Item		Before Work	After Work	Remarks
Mower unit	Check spiking blade	○		
	Check roller	○		
	Check cover	○		
	Check depth adjusting lever	○		
	Check spiker unit exterior	○		
	Check bolts and nuts	○		
	Adjust spiking depth	○		
	Clean spiker unit		○	

## Maintenance Schedule

ASP311

- . . . Inspect, adjust, supply, clean (first time)
- . . . Inspect, adjust, supply, clean
- ▲ . . . Replace (first time)
- △ . . . Replace

Maintenance Item		When Required	Remarks
Mower unit	Replace spiking blade	△	

**Daily Check Records ..... Page 7-2**

**Maintenance Records .....Page 7-3**

Records

# Records

## Daily Check Records

ASP311

Use this table freely for your records of the daily check.

Model		Serial Number	
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	Items									
Mower unit	Check spiking blade									
	Check roller									
	Check cover									
	Check depth adjusting lever									
	Check spiker unit exterior									
	Check bolts and nuts									
	Adjust spiking depth									
	Clean spiker unit									





**BARONESS**<sup>®</sup>  
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