

YANMAR

OPERATOR'S MANUAL

SPREADER

CSS, VNQ

[For Combine Harvester AW82V]

en Original instructions

Introduction

Introduction

Please read this operator's manual before using your spreader.

We would first like to take the opportunity to thank you for purchasing the Yanmar spreader. This operator's manual explains how to use the Yanmar spreader, as well as precautions to take during use. Read this manual along with the operator's manual for the Yanmar combine harvester before using the spreader.

Keep this operator's manual to hand at all times for future reference as necessary.

Follow the following suggestions when using the product

- Do not use the product until you fully understand the contents of this operator's manual
- Include the operator's manual when transferring the product to other users.
- If this operator's manual or the safety labels are lost or damaged, order a replacement from the Yanmar dealer as soon as possible.
- To ensure safe operation, read Chapter 1 "For your safety" before using the product.
- Contact your Yanmar dealer for any questions you have or anything you do not understand.


Notice

- Some parts may be modified to improve this product. Some of the content, photographs and diagrams in this operator's manual may be different from the actual product. Notice of such modifications will not be provided.
- We hope that there are no problems with this operator's manual. If errors or missing information is subsequently discovered, this operator's manual will be revised within a set period of time. We may not be able to provide a revised version immediately.

About the intended use of the product

- This product chops and uniformly discharges straw when harvesting and processing using the combine harvester. Apart from the above intended uses, this product must not be used for any other purposes or modified in any way.
- If this product is used for any purposes other than its intended uses as specified above or is modified, the warranty for this product shall be void. Please comply with the intended uses of the product .
(See the warranty certificate for details)

INTRODUCTION



Safety First

- This is the safety-alert symbol. When you see this symbol on your spreader, combine harvester or in this operator's manual, be alert to the potential for personal injury and carefully read the messages that follow.
- Please read the following precautions and safety rules before reaping or using the spreader.

Signal Words

The signal words "DANGER", "WARNING" and "CAUTION" are used with the safety-alert symbol.

- (1) "DANGER" indicates an immediately hazardous situation which, if not avoided, *will* result in death or serious injury.
- (2) "WARNING" indicates a potentially hazardous situation which, if not avoided, *could* result in death or serious injury.
- (3) "CAUTION" indicates a potentially hazardous situation which, if not avoided, *could* result in minor or moderate injury. It is also used to alert against unsafe practices.

Service instructions

- (1) This stop symbol indicates important proper operation or service messages in this operator's manual. When you see this symbol, carefully read the messages that follow.
- (2) "NOTE" describes precautions to take while working.

Measurements

This spreader is of metric design. All hardware are therefore metric (ISO). Make sure to use the specified metric hardware when service becomes necessary.

Direction

Right-hand and left-hand sides of the spreader and combine harvester are determined by facing in the direction of the combine harvester forward travel.



IMPORTANT

NOTE



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Chapter 1 For your safety

- Be sure to abide by the following instructions which are very important for safety.
- Personal injury, death, other accidents and damage to the machine may be caused if the precautions are not followed.
- Please refer to the combine harvester operator's manual for working procedures and precautions.

1-1. Precautions for removing and installing the spreader

CAUTION

To install or remove the spreader, first park the combine harvester on a flat surface. Turn off the engine and apply the parking brake before installing or removing the spreader.

The work must be carried out by 2 people.

[Failure to comply]

May result in serious injury if installed or removed by one person, since the spreader weighs approximately 120kg.

In addition, if the engine is not turned off during work, it may result in serious injury.

1-2. Precautions for using the spreader

WARNING

- Always turn off the engine before removing clogged straw from the rotating blades and saw blades.

[Failure to comply]

It may result in you coming into contact with the rotating blades, resulting in injury.

- When removing the clogged straw, wear thick gloves and remove the clogged straw carefully, a little at a time.

[Failure to comply]

May result in you coming into contact with the blades, resulting in injury.

CAUTION

Always turn off the engine before adjusting the spreader. Do not put your hands into the spreader.

[Failure to comply]

May result in you coming into contact with blades, resulting in injury.

For your safety

⚠ CAUTION

Do not sit or stand on the diffusion plate.

[Failure to comply]

May result in the diffusion plate becoming deformed, resulting in injury.

1-3. Precautions for checking and maintaining the spreader

⚠ WARNING

Always turn off the engine and make sure that all rotating parts are completely stopped before checking and replacing the blades.

[Failure to comply]

May result in you coming into contact with the cutting edge of the blades, resulting in injury.

⚠ CAUTION

- Reattach the covers removed for checking and maintenance.

[Failure to comply]

May result in clothes getting caught in the machinery, resulting in injury by the rotating parts.

- Wear thick gloves when checking and replacing the blades. Do not touch the cutting edge of the blades.

[Failure to comply]

May result in you coming into contact with the blades, resulting in injury.

1-4. Machine identification plate location

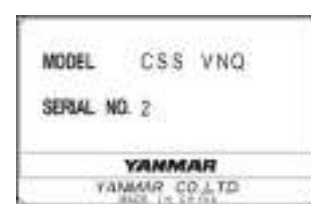
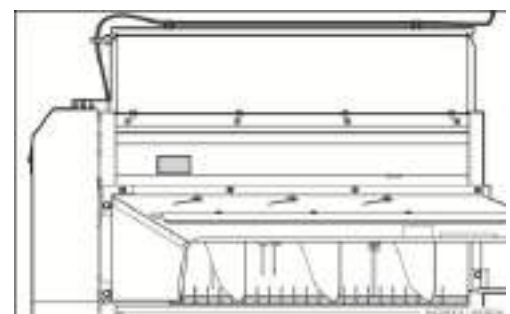
When the machine runs abnormally

If an abnormality persists even after performing maintenance, contact your Yanmar dealer and specify the following information.

<Content of contact>

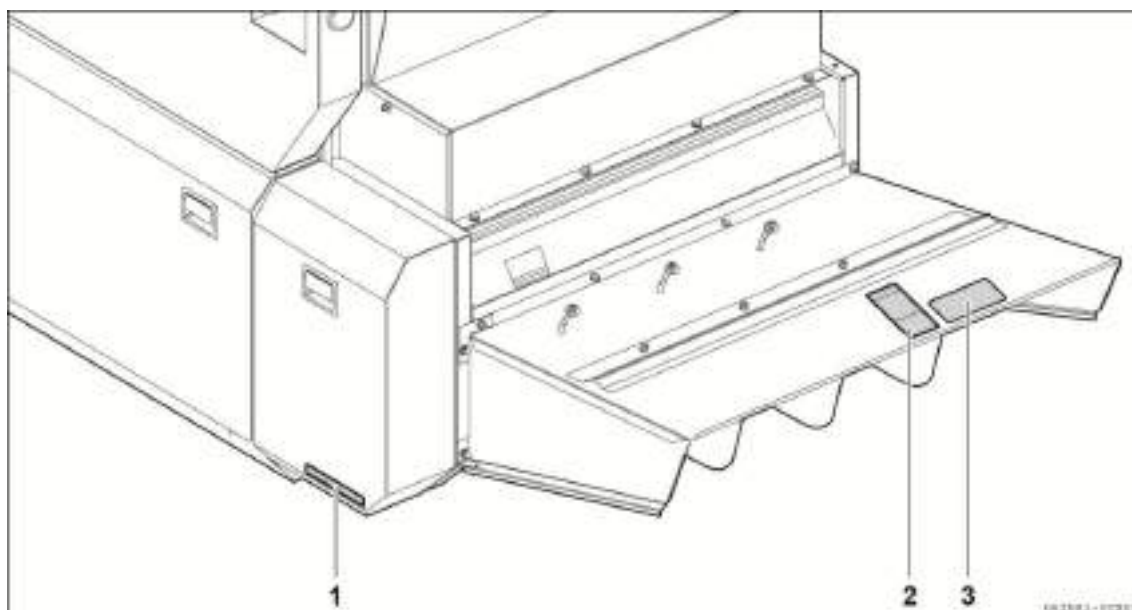
- Model number and manufacture number of the machine
- How do you use the machine?
(At what speed do you run the machine?)
- How long have you used the machine?
(Cumulative operating hours and distance ?)
- Explain the problems in as much detail as possible

Machine identification plate

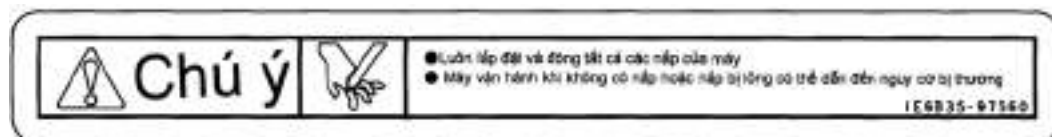


For your safety

1-5. Safety labels location



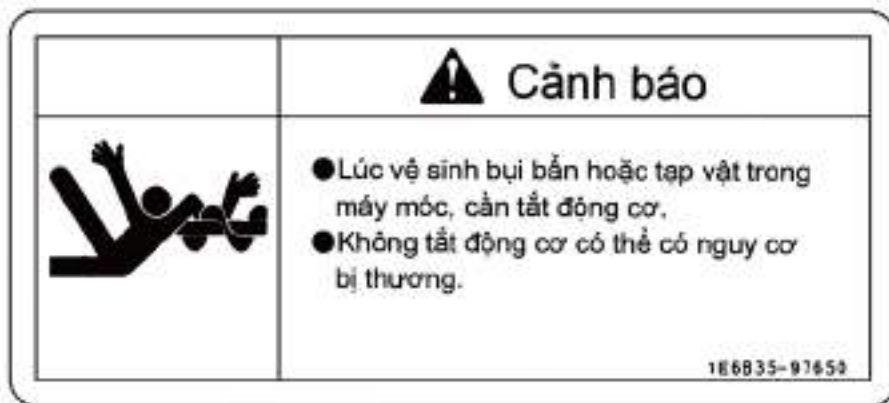
1



2

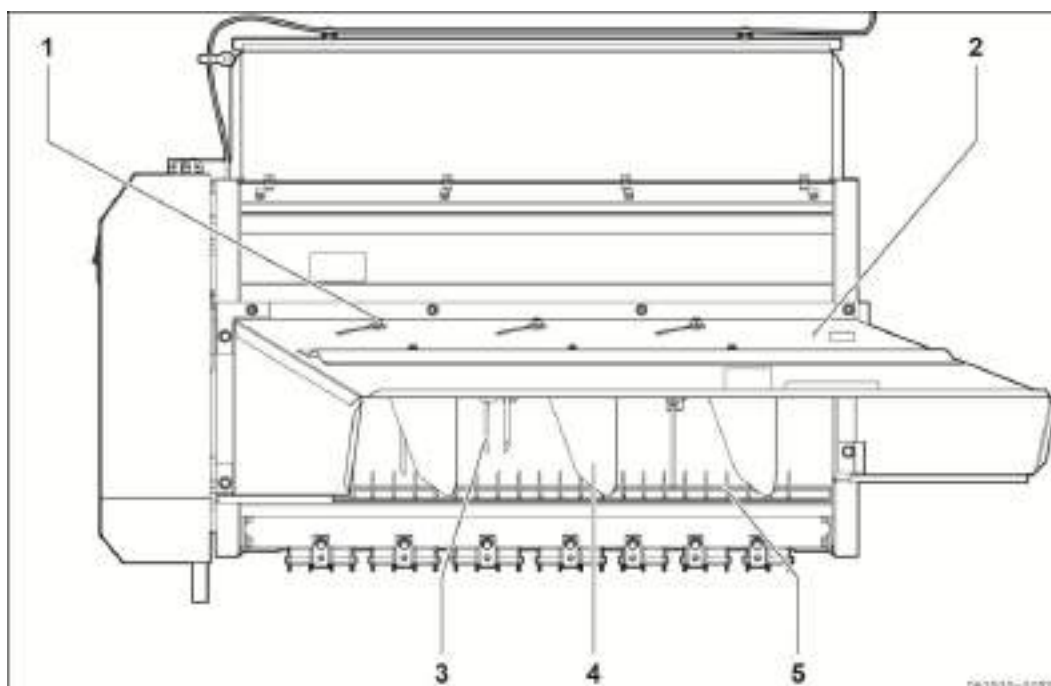


3



No.	Parts Number	Parts name
1	1E6B35-97560	CAUTION install the cover
2	1E6B35-97540	CAUTION stop the engine
3	1E6B35-97650	WARNING rotation

Chapter 2 Part names



1	Guide plate adjusting nut
2	Diffusion plate
3	Rotating blade
4	Guide plate
5	Saw blade

Chapter 3 Installing the spreader

⚠ CAUTION

To install or remove the spreader, first park the combine on a flat surface. Turn off the engine and apply the parking brake before installing or removing the spreader.

The work must be carried out by 2 people.

[Failure to comply]

May result in serious injury if installed or removed by one person, since the spreader weighs approximately 120kg. In addition, if the engine is not turned off during work, it may result in serious injury.

3-1. Before installing the spreader

1- Remove the upper and lower rear covers of the threshing section (a, b) as shown in the figure.

[Reference]

The lower rear cover (b) does not need to be reattached after installing the spreader assembly.

Parts to remove

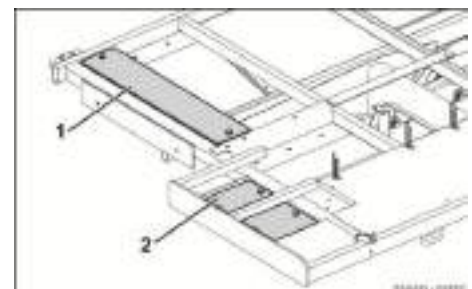
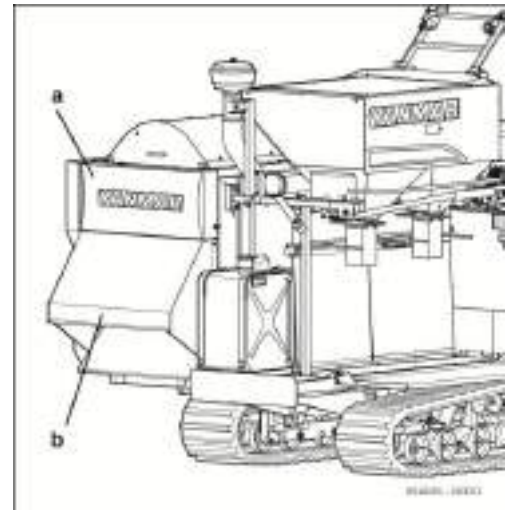
- Bolt M8 x 20 (9 pcs)
- Bolt M10 x 20 (3 pcs)
- Nut M8 (2pcs)

2- Remove the weights at the rear of the chassis frame as shown in the figure.

Detached parts

- 1. Weight 4.5kg (2 pcs)
- 2. Weight 1.8kg (11 pcs)

3- Open the side cover of the threshing section.



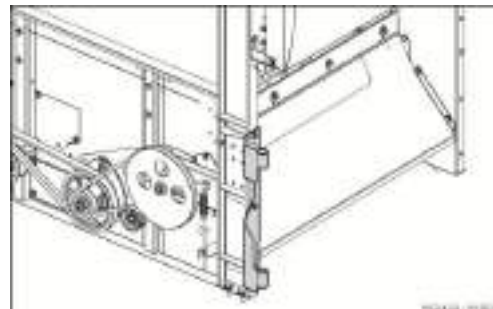
Installing the spreader

3-2. Installing the spreader

1- Attach the mounting bracket L directly onto the thresher as shown in the figure.

Parts for installation

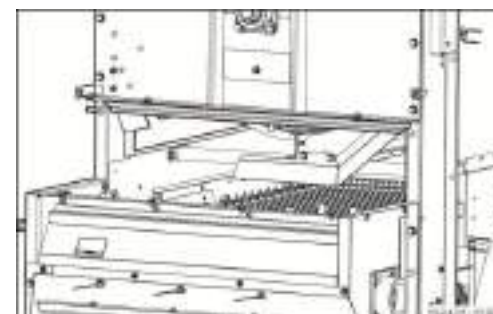
- Bolt M8 x 25 (6pcs)



2- Attach the plate to the thresher frame at the rear of the combine harvester.

Parts for installation

- Nut M8 (2pcs)
- Spring washer (2pcs)



Installing the spreader

3- Align the bolts with the bolt holes of the right side thresher frame and install the spreader. Tighten the bolts.

Parts for installation

- Bolt M10 x 25 (3pcs)
- Flat washer, Spring washer

[IMPORTANT]

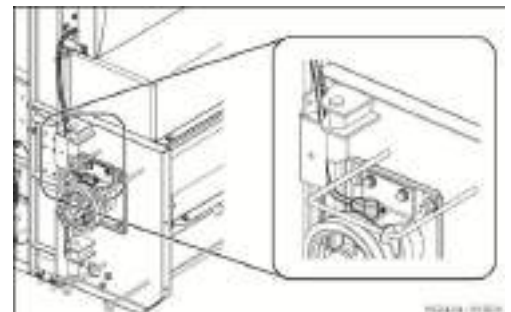
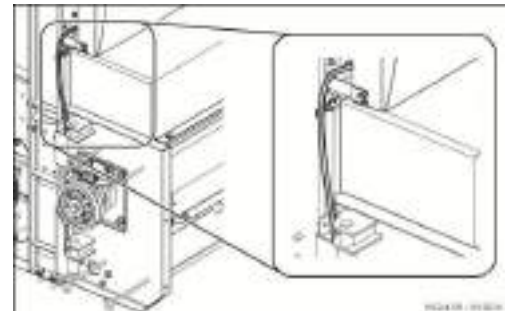
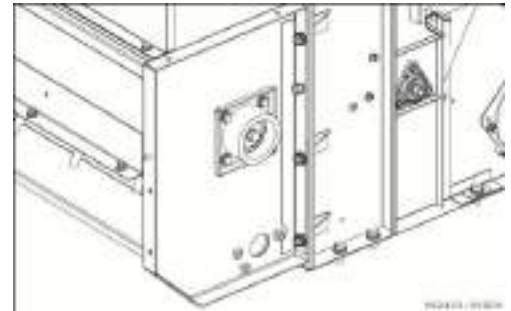
This electrical harness must be connected before installing the spreader. If the spreader is installed first, there will be no space for the harness.

4- Connect the terminal of the electrical sensor harness to the rotation sensor, and fix the harness to the threshing section.

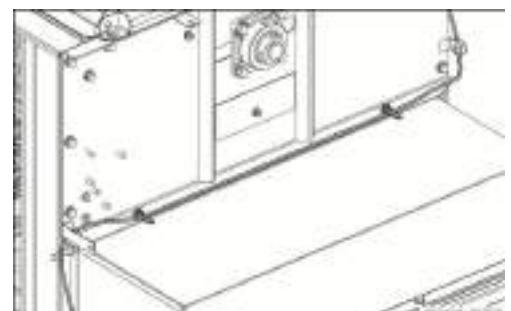
[IMPORTANT]

The harness must be put through from the pivot. If it is not put through, the harness may interfere with the cutter belt. As a result, the harness may get caught and damaged.

The rotation sensor cable should be fed through the pivot point and fixed to the back of the threshing section with a harness clamp.



5- Fix the cable with a harness clamp (in two places).



Installing the spreader

6- Connect the harness from the rotation sensor to the main harness at the right side.



7- Attach the cover at the rear of the spreader.

Parts for installation

- Nut M8 (4pcs)
- Spring washer (4pcs)
- Bolt M8 x 16 (4pcs)



8- Remove the sleeve from the winnower drive pulley shaft.

Parts to remove

- Nut M20
- Collar 36 x 45 x 56
- Spring washer
- Collar 21 x 64 x 10

[Reference]

The “collar 36 x 45 x 56” is not required once the pulley is installed.

9- Install the spreader drive pulley to the winnower drive pulley shaft.

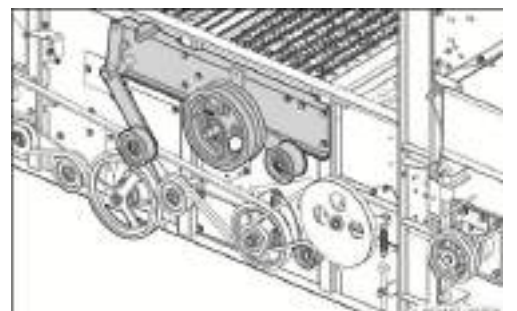
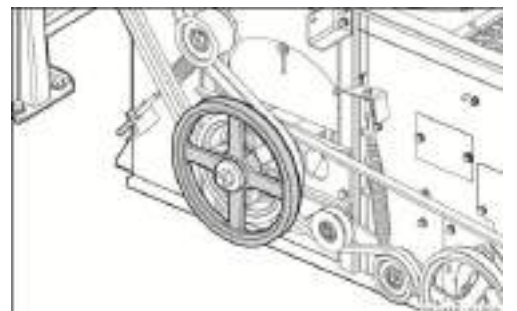
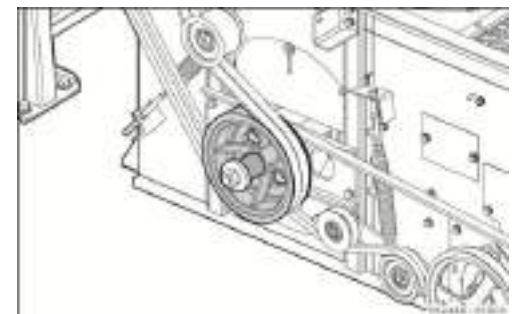
Parts for installation

- V-pulley 298 C1
- Nut M20
- Spring washer
- Collar 21 x 64 x 10

10- Install the central belt pulley assembly to the left side of the thresher frame.

Parts for installation

- Central belt pulley assembly
- Nut M8
- Spring washer M8
- Bolt (flat washer + spring washer) M8 x 20 (4pcs)

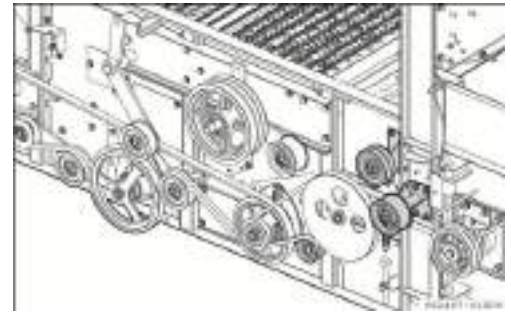


Installing the spreader

11- Install the pulley to the left side of the thresher frame.

Parts for installation

- Guide pulley ASSY
- Nut M8 (4pcs)
- Spring washer M8 (4pcs)
- Washer (4pcs)



12- Install the tension pulley to the left side of the thresher frame.

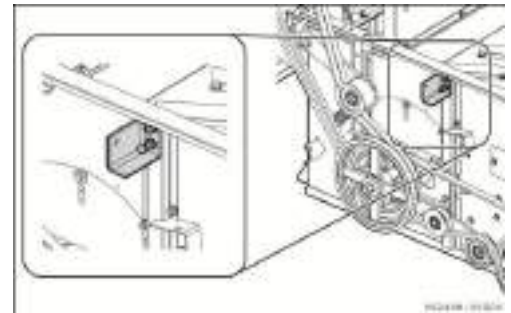
Parts for installation

- Tension pulley ASSY
- Nut M8 (2pcs)
- Spring washer M8 (2pcs)
- Washer (2pcs)
- Bolt M8 x 20 (2pcs)

13- Install the tension rod bracket to the left side of the thresher frame.

Parts for installation

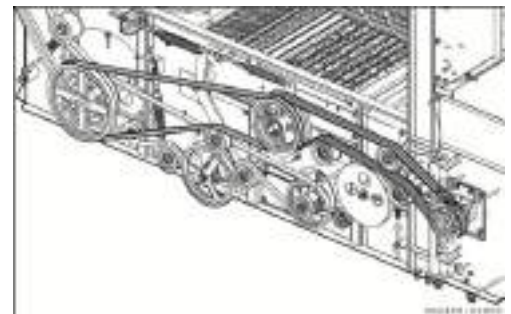
- Tension pulley ASSY
- Nut M8 (2pcs)



14- Install the V-belts between the central pulley to the spreader drive pulley, then install the V-belt between the winnower drive pulley and the central pulley.

Parts for installation

- V-belt B86 H4 (2pcs)
- V-belt SC101 H4



[Reference]

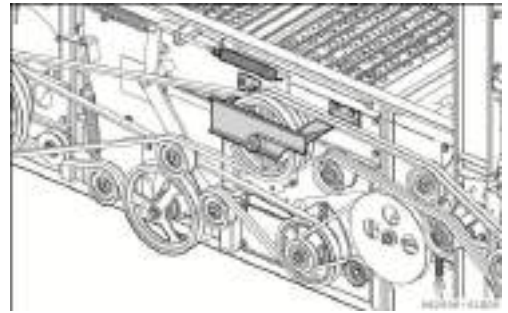
Install the V-belts between the central pulley and the spreader drive pulley first.

Installing the spreader

15- Install the support in the shaft of the central pulley.

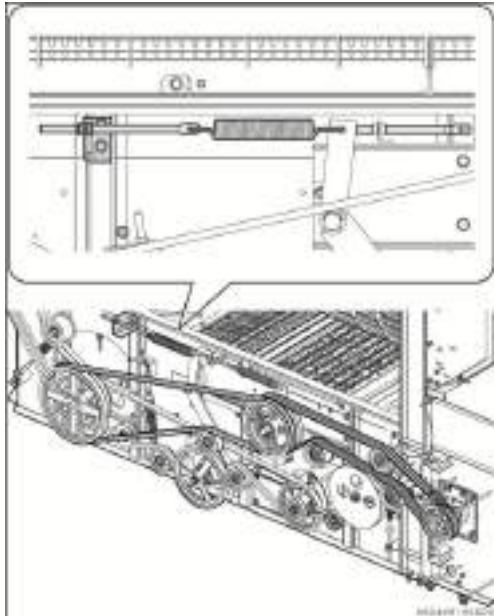
Parts for installation

- Bolt M8 x 20 (4pcs)
- Nut M20

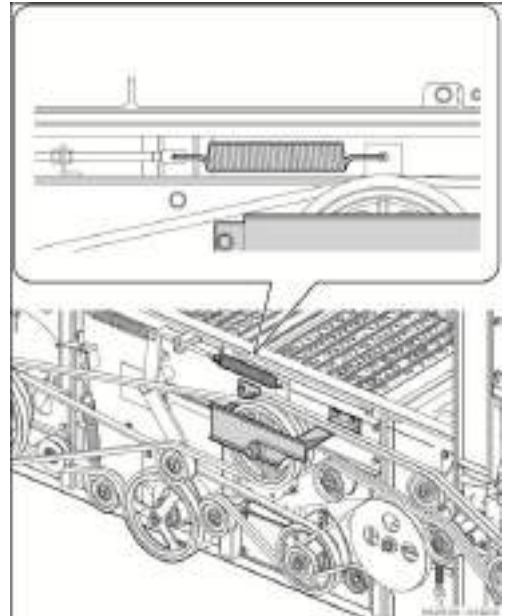


16- Install the tension bolts and tension springs. (Two places)

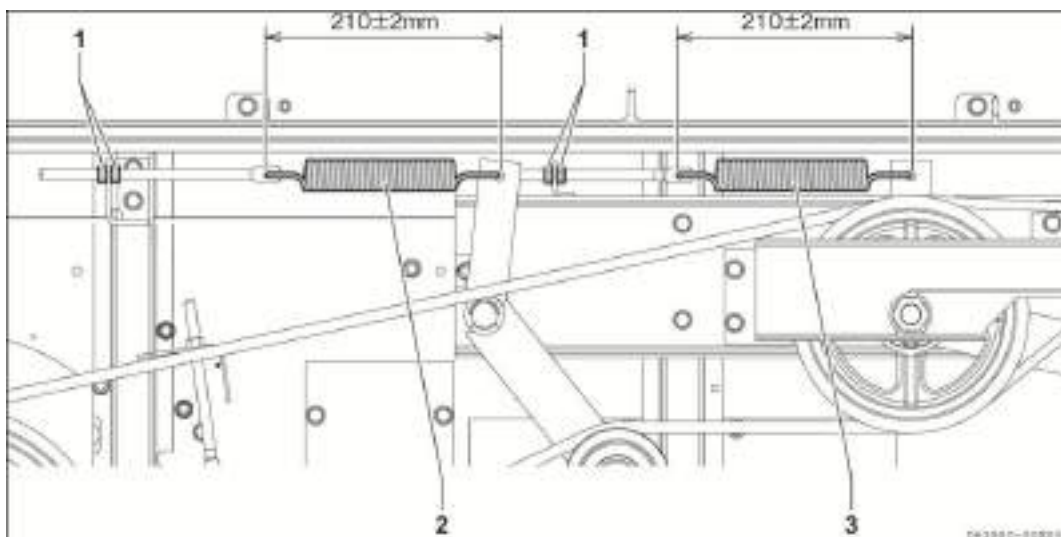
Tension for central pulley to spreader drive pulley



Tension for winnower to central pulley



17- Adjust the length of the springs to 210 ± 2 mm.

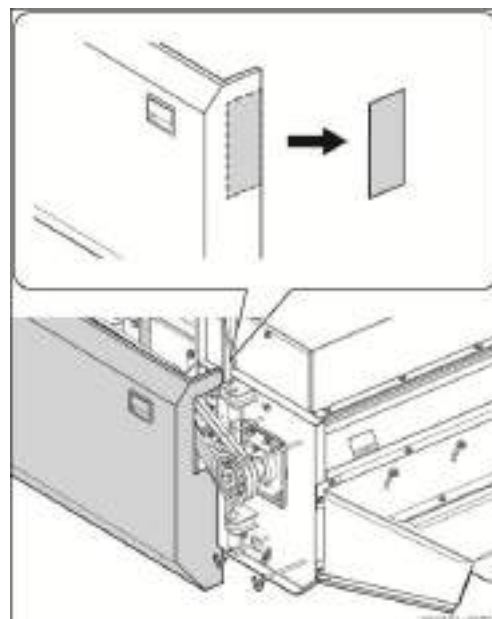


1. Lock nut
2. Tension spring (the winnower to the central pulley)
3. Tension spring (the central pulley to the spreader drive pulley)

Installing the spreader

18- Attach the thresher left lower rear cover.

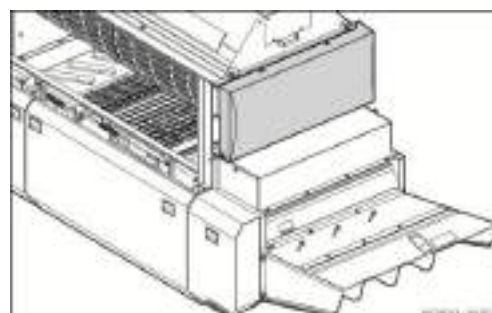
Before attaching, cut the cover as shown by the dotted line in the figure so that the cover does not interfere with the spreader drive belts.



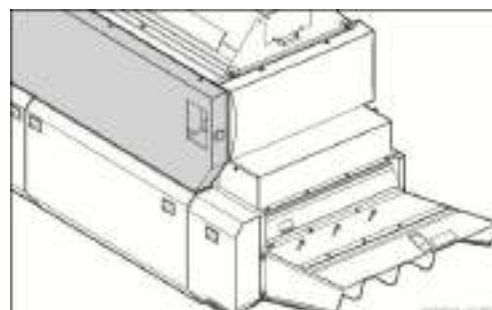
19- Attach the spreader cover.



20- Attach the upper rear cover. At this time, tighten the clamp with bolts on the right side, and fix the harness that is connected to the spreader rotation sensor.



21- Close the side cover of the threshing section.



Chapter 4 Operating the spreader

⚠ WARNING

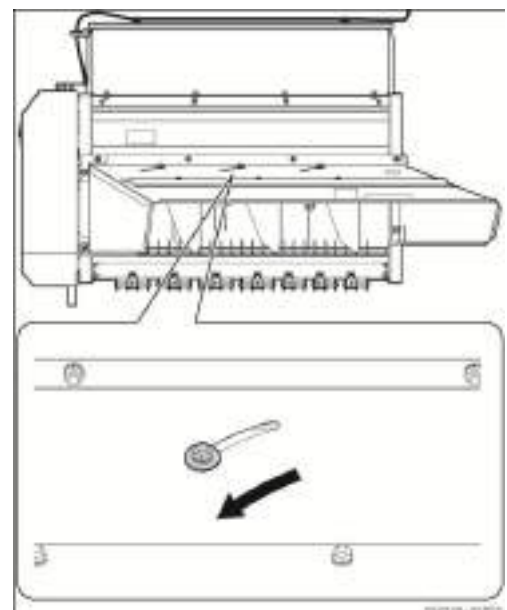
- Always turn off the engine before removing clogged straw from the rotating blades and saw blades.
[Failure to comply]
May result in you coming into contact with the rotating blades, resulting in injury.
- When removing the clogged straw, wear thick gloves and remove the clogged straw carefully, a little at a time.
[Failure to comply]
May result in you coming into contact with the blades, resulting in injury.

⚠ CAUTION

- Always turn off the engine before adjusting the spreader. Do not put your hands into the spreader.
[Failure to comply]
May result in you coming into contact with blades, resulting in injury.
- Do not sit or stand on the diffusion plate.
[Failure to comply]
May result in the diffusion plate becoming deformed, resulting in injury.

4-1. Diffused operation

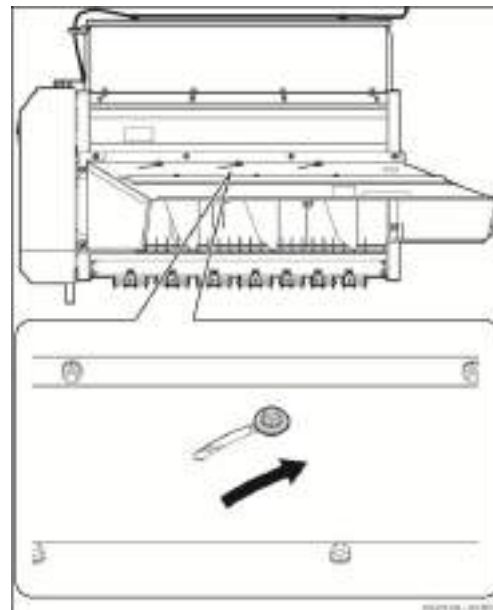
- 1- Loosen the nuts (3pcs)
- 2- Move the bolt to the "Diffused" position and then tighten the nuts to fix the bolt in position.



Operating the spreader

4-2. Centralized operation

- 1- Loosen the nuts (3pcs)
- 2- Move the bolt to the "Centralized" position and then tighten the nuts to fix the bolt in position.



Chapter 5 Checking and adjusting the spreader

WARNING

Always turn off the engine and make sure that all rotating parts are completely stopped before checking and replacing the blades.

[Failure to comply]

May result in you coming into contact with the cutting edge of the blades, resulting in injury.

CAUTION

- Reattach the covers removed for checking and maintenance.

[Failure to comply]

May result in clothes getting caught in the machinery, resulting in injury by the rotating parts.

- Wear thick gloves when checking and replacing the blades. Do not touch the cutting edge of the blades.

[Failure to comply]

May result in you coming into contact with the blades, resulting in injury.

IMPORTANT

- Do not use worn blades in order to guarantee balanced rotation.
- Use Yanmar genuine parts when replacing the blades, bolts and metal components.
- Tighten the blade installation bolts regularly to the specified torque.

(Specified torque : 110-115N·m (11-11.5 kgf·m))

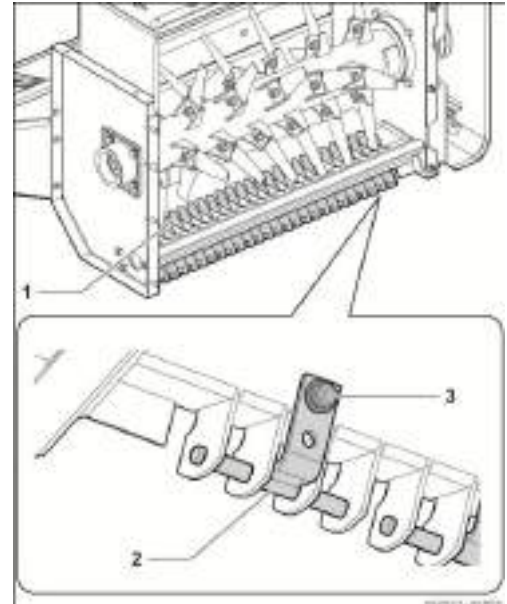
Checking and adjusting the spreader

5-1. Checking and adjusting the blades

<Replacing the saw blades>

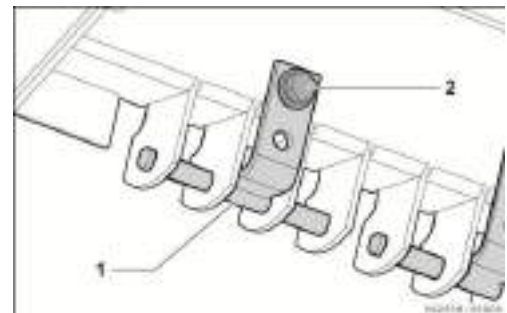
1- Remove the bolts (3), and then remove the blade stay (2) and parts used to fix the blades (1) from the bracket together. Remove the blades.

1. Saw blade
2. Blade stay (fixes the saw blades)
3. Bolt



2- After replacing the saw blades, insert the blade stay (1) and fix the saw blades to the blade stay. Install the bolts. Push the bolts into the blade stay while tightening them. Make sure there are no gaps between the stay and bracket.

1. Blade stay
2. Bolt



3- Replace the other saw blades in the same way.
(Power to the spreader must be turned off when replacing the blades.)

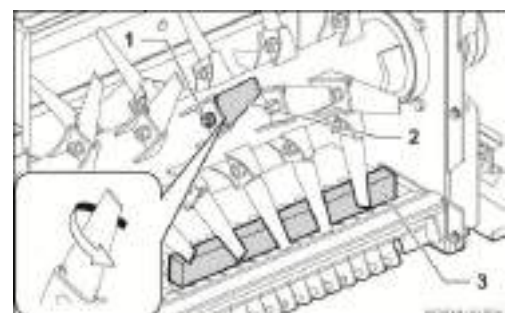
<Replacing the rotating blades>

1- When replacing the rotating blades (2), place a wooden block (3) under the saw blades to stop the rotating blades from rotating.

Place the wooden block in a position opposite to the direction of rotation, so that the blade cannot rotate.

Loosen the nuts (1), then remove the rotating blades

1. Nut
2. Rotating blades
3. Wooden block



[Reference]

If the rotating blades are worn, they can be rotated 180 degrees and reinstalled as shown by the arrow in the figure.

Checking and adjusting the spreader

- 2- Place a wooden block and fix it in position to prevent the shaft from rotating clockwise. Fix the blade in the reverse order of removal.
- 3- Replace the other rotating blades in the same way.
(Power to the spreader must be turned off when replacing the rotating blades)

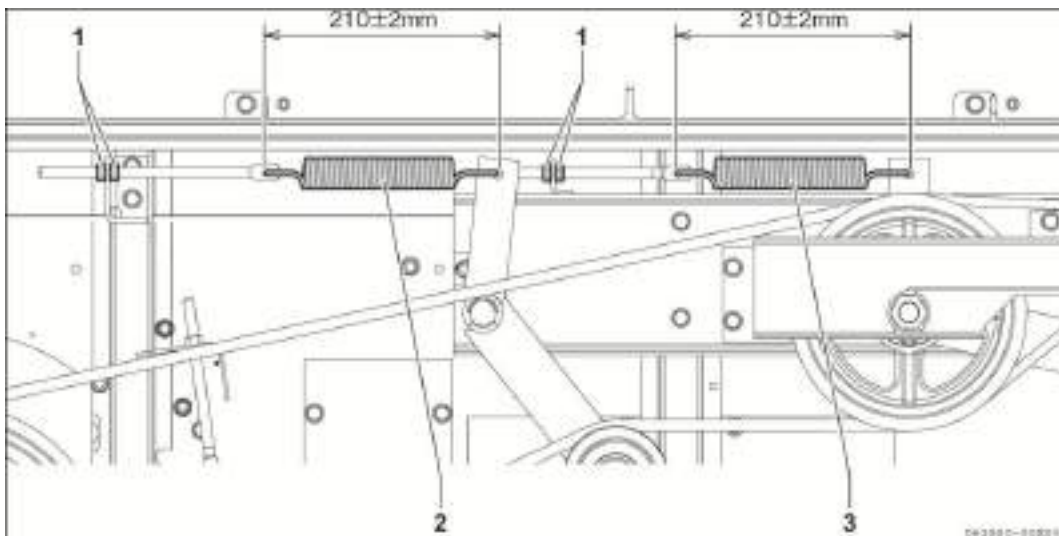
5-2. Checking and adjusting the spreader drive belt

<Checking>

Be sure to adjust the length of the springs that are connected to the tension rod.

<Adjusting>

Use adjusting nuts to adjust the length and fix the springs.



1. Lock nut
2. Tension spring (the winnower to the central pulley)
3. Tension spring (the central pulley to the spreader drive pulley)

Checking and adjusting the spreader

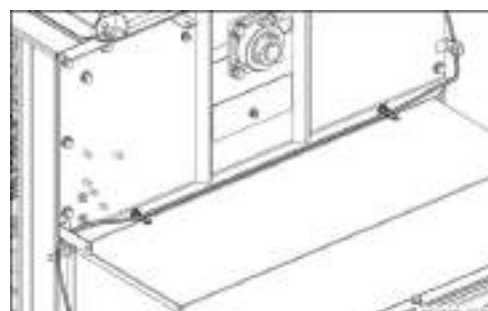
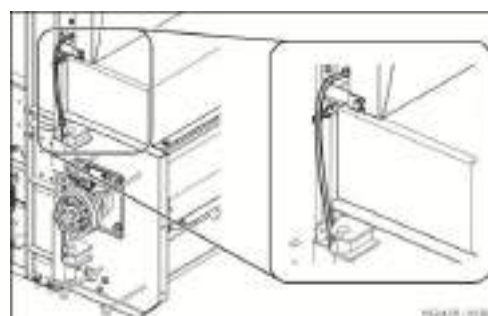
5-3. Checking the electrical system

<Checking>

Confirm that the harness is firmly connected with the main harness.



Confirm that the harness is firmly fixed by clamps.



[Reference]

The alarm does not operate normally when the rotation sensor is defective or when the harness is not connected.

Chapter 6 Troubleshooting

WARNING

Always turn off the engine and apply the brake before repairing the spreader.

[Failure to comply]

May result in injury.

[Note]

Follow the following procedures when performing maintenance. If the failure is not solved after maintenance, please contact your Yanmar dealer.

6-1. Unable to cut straw

Inspection section	Procedure
Check the saw blades and rotating blades for wear.	Replace the blades and saw blades.

6-2. Insufficient performance

Inspection section	Procedure
Check the belt for slipping.	Check the belt tension length. Replace the belt if worn.
Check the blades and saw blades for wear.	Replace the blades and saw blades.

Chapter 7 General information

7-1. Specifications

Model		CSS,VNQ
Applicable combine		AW82V
Width	(mm)	860
Length	(mm)	1385
Height	(mm)	750
Weight	(kg)	119
Rotational speed	(rpm)	2833
Diameter	(mm)	446
Circumferential velocity	(m/s)	66.1
Length of blade	(mm)	120
Number of blades		24

7-2. List of main consumable parts

	Part number	Name	Remarks
1	1S7596-32201	Blade (T5)	Rotating blade
2	1S7596-36400	Blade	Saw blade
3	25124-010504	LC105-AG8	V-belt (from winnower pulley to central pulley)
4	25123-008604	LB86-AG8	V-belt (from central pulley to spreader drive pulley)