

# BALTIMATIC® – 2 ROTOR HAYTEDDER



## INSTRUCTION & PARTS



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# OWNERS MANUAL/INSTRUCTION

AND

## SPARE PARTS CATALOGUE

### BALTIMATIC<sup>®</sup> HAY TEDDER

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## 1. INTRODUCTION

Delivered together with **BALTIMATIC**<sup>®</sup> tedder, is owner's manual and spare part catalogue. This booklet gives the basic information about construction, operation and regulation of tedder. Owner's manual is an integrated part of the machine and should be given to operator.

Carefully use of instruction will ensure long-term, non-problematic use of **BALTIMATIC**<sup>®</sup> tedder. In owners manual is used warning symbols to emphasize the importance of information.



This symbol indicate important information regarding safety matters. If you see this symbol be aware of danger and read carefully the relevant information and if necessary pass this information on to operator. Disregarding precautions marked with this symbol can cause danger for the operator and other persons. Always follow these precautions.

**BALTIMATIC**<sup>®</sup> Tedder has serial plate situated in front of machine. On that plate is written basic information identifying the machine.

**Used in owners manual:**

**“Left” means left side in driving direction**

**" Right” means right side in driving direction**

## 2. APPLICATION OF **BALTIMATIC**<sup>®</sup> HAY TEDDER

Machine is designed only for agricultural fieldwork.

To use **BALTIMATIC**<sup>®</sup> tedder for other applications is not allowed.

**BALTIMATIC**<sup>®</sup> Tedder should be operated, serviced and repaired only by persons knowledgeable about safety rules for work with and on such machines.

**Modification and changes to the tedder made by operator is not allowed.**

**BALTIMATIC**<sup>®</sup> Hay Tedder is designed for tedding hay and straw. Slightly dried fresh grass in order to accelerate drying process.

**BALTIMATIC**<sup>®</sup> Hay tedder will spread cut hay / straw equally thereby increasing the drying process of hay/straw.

## 3. SAFETY AND WARNINGS

### 3.1. Overall security regulations



#### **ATTENTION / CAUTION**

In order to avoid danger before work with **BALTIMATIC**<sup>®</sup> tedder read carefully owners manual and respect the rules specified there:

**Page 3.**

- \*Securing of **BALTIMATIC**<sup>®</sup> hay tedder lift pins to tractors lift arms should be done only by using typical safety parts like lynch pins.
- \*Support leg of frame is an integral part of machine. It is not allowed to remove support leg.
- \*Check always before work with **BALTIMATIC**<sup>®</sup> tedder position of support wheels. Check always before parking of tedder the position of support wheels and support leg.
- \* **BALTIMATIC**<sup>®</sup> Hay tedder should be lifted up smoothly, without rapid move.
- \*Transport of machine can start after the correct connection of machine with tractor and lifting up to transporting level.
- \* **BALTIMATIC**<sup>®</sup> Hay Tedder transported on hitch system of tractor on public roads must be equipped with warning lights and triangle plates – relevant to local regulations.
- \*Every time before work of machine, check the conditions of bolted connections of spring fingers to the arm and arms to disc of belt pulley.
- \*During work of **BALTIMATIC**<sup>®</sup> Tedder it should not be over weighted by additional weight.
- \*It is not allowed work w/o shield for PTO shaft and rotor barriers
- \*Ensure that no one person or animals are near machine during work.
- \* Maximum allowed PTO rotation is 540 rpm
- \*Always **prior** making left/right turns and **prior** driving backwards **disconnect** PTO power and **lift up** tedder.
- \*It is not allowed driving backwards when machine is in working position
- \*Maximum allowed slope during work with tedder is 12 degree
- \*Tractor working with **BALTIMATIC**<sup>®</sup> Tedder must be equipped with standard front weights
- \*Removing of materials and objects from the machine must only be done when tractor engine is turned off and when machine is lowered to the ground.
- \*Special attentions when **BALTIMATIC**<sup>®</sup> tedder is mounted to tractor should be observed during turning, during transport and when driving backwards.

\*Storing of **BALTIMATIC**<sup>®</sup> Hay Tedder should take place on level and stable surface sheltered. **PTO shaft after disconnection from tractor should stay on machine.**

\*Dismounting of **BALTIMATIC**<sup>®</sup> Hay Tedder from tractor can be done only after tractor engine is stopped and key is taken out.

**FAILURE IN FOLLOWING ABOVE RULES CAN CREATE INJURY OF PEOPLE, DAMAGING OF TEDDER AND OTHERS. THE ENDUSER IS RESPONSIBLE FOR ANY INJURIES IF RULES ARE NOT RESPECTED.**





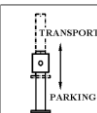




### 3.2 Safety signs and labels

In table 1 is specified markings/labels situated on machine and their meaning.

Labels should be kept in condition that information all time is readable and not is lost.

None readable labels should be replaced by new ones.

New labels can be supplied no charge by request to distributor/producer.

Label	Meaning	Location on machine
ATTENTION ROTATING ELEMENTS	Warning against rotating elements book.	On left side of main frame
	Prior work with machine. Please read instruction book.	Rear part of main frame.
	Turn off tractor engine and remove key PRIOR making repair or maintenance work on the haytedder	On right side of main frame.
	Throwing elements. Keep safe distance from machine	On rear frame next to left side rotor
	Throwing elements. Keep safe distance from machine	On rear frame next to right side rotor
	Awareness of support in - working position - parking position	On frame above support
	Left direction of rotation	On left belt pulley
	Right direction of rotation	On right belt pulley
	Left Right	On left and right support wheels
	Information about PTO shaft. Direction and speed of rotation	On shield for input shaft for PTO shaft.

**4 INFORMATION REGARDING OPERATION OF BALTIMATIC<sup>®</sup> TEDDER**

**4.1. General information**

**BALTIMATIC<sup>®</sup>** Hay Tedder with two rotors is a 3 point hitched machine adjusted for work at slopes no more than 12 degree and working with tractor class 0.6 and higher. Tractor should be equipped with standard front weights. For driving of **BALTIMATIC<sup>®</sup>** Tedder should be used standard PTO shaft with 1 3/8' spline in both ends. 130 NM transferring power 8KW.

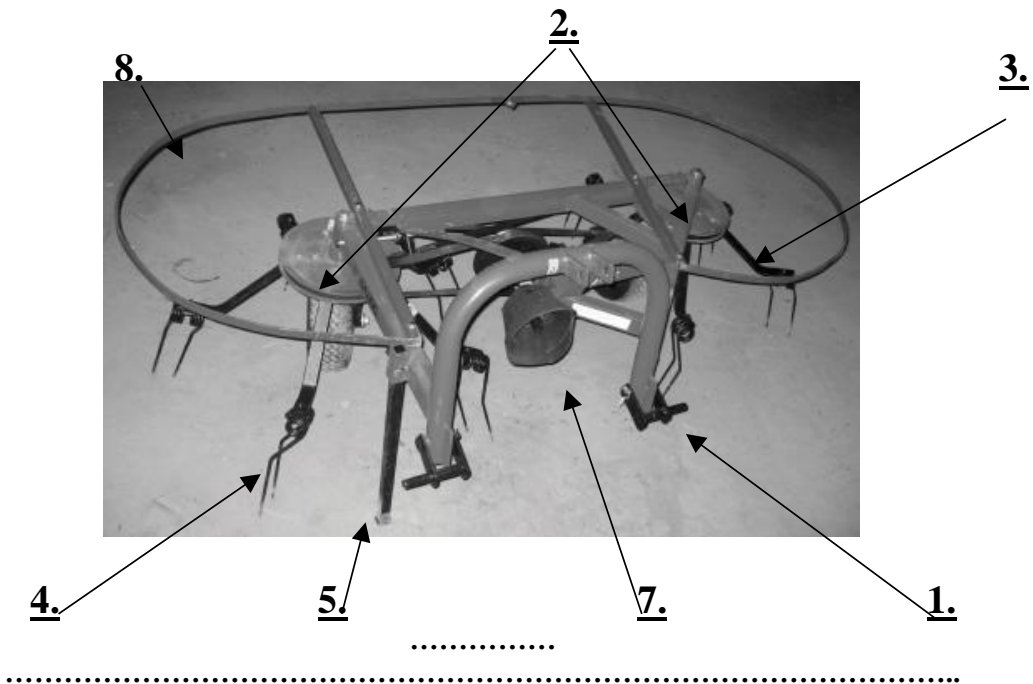
**4.2. Construction and work of BALTIMATIC<sup>®</sup> Hay Tedder**

It is a 3 point hitched machine, getting power from PTO shaft.  
The layout of 3 point hitched points is acc. To norm ISO 730-1 & AC1: 1996.

**BALTIMATIC<sup>®</sup>** Hay tedder is built from frame (1) to which are fixed working assemblies/components. Working components are rotating elements (2) to which are fixed arms (3) with doubled spring fingers (4). The power for rotating elements is coming via PTO shaft, pulleys and V-belts. Belt pulley with spring fingers rotate in opposite direction. Spring fingers touch the cut grass / straw - turning it. Support wheels (5) are following the ground to ensure even ground clearance for spring fingers. To the frame of machine are bolted safety barriers (8) preventing access to rotating working elements. To barriers are welded clamps (9) for fixing lights-warning plates (10) and triangle plate (11) (ACC. TO NOMR PN-93/r-36154

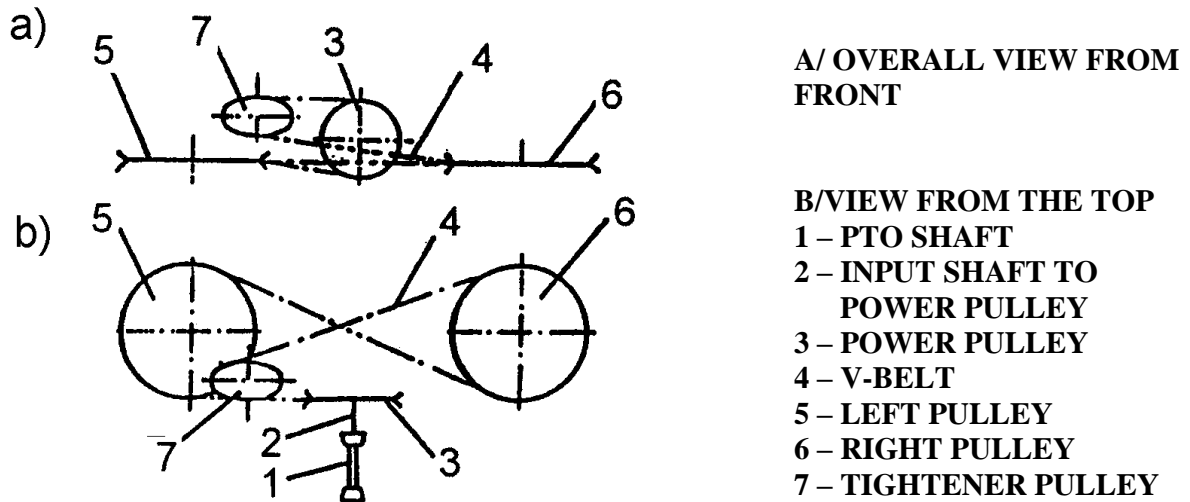
**BALTIMATIC<sup>®</sup> HAY TEDDER WITH TWO ROTATING ELEMENTS**

- 1. 1-HITCHED FRAME, 2-ROTATING ELEMENT, 3-ARM, 4-SPRING FINGER
- 5-SUPPORT WHEEL, 6-SUPPORT, 7-PTO SHIELDS, 8-SAFETY BARIERE



**DRAWING 2.**

**SCHEMA OF DRIVE OF BALTIMATIC® TEDDER**



**4.3 Technical characteristic**

TECHNICAL DATA FOR 2 -ROTORHAYTEDDER					
DIMENSIONS			US		US
	Length	mm	inch	1460	57½"
	Width	mm	inch	2610	102,75"
	working width	mm	inch	2700	106 1/3"
	Height	Mm	Inch	1200	47 ¼"
WEIGHT		kgs	lbs	120	264
POWER REQUIRMENT		kW	kW	8-10	08- 10
TRACTOR REQUIREMENT					
	Class			Min. 0.6	
	Power	kW	kW	23-33	23-33
ROTOR SPECIFICATIONS					
	Axle spacing	mm	inch	1350	53 1/6"
	Diam rotors	mm	inch	1260	49 1/2"
GROUND CLEARANCE TRANSPORT		mm	inch	min 300	Min 12"
NUMBER OF GREASING POINTS		pcs.	pcs.	4	4
ROTOR REVOLUTIONS		rpm	rpm	340	340

	US		US	
MAXIMUM TRANSPORT SPEED	km/h	miles/h	9.2	6
WORKING SPEED	km/h	miles/h	6 - 12	4 - 8
<b>SUPPORT WHEEL SYSTEM</b>				
Number of wheels	pcs.	pcs.	2	2
spacing of wheels	mm	inch	1400	55 1/6"
Dimensions – diam	mm	inch	380	15"
Dimensions – width	mm	inch	160	6 1/3"
<b>POWER TAKE OF SHAFT – PTO</b>				
Power size	Nm	Nm	210	210
Nominal transmission of power	kW	kW	12	12
Lenght	mm	inch	460	18 1/6"
Yoke ends	splined	splined	6	6
Revolution	rpm	rpm	540	540

#### 4.4 Equipment

With **BALTIMATIC**<sup>®</sup> Hay Tedder should be supplied owners manual with instructions and sparepart catalogue.

#### 4.5 Preparation of tractor to work with **BALTIMATIC**<sup>®</sup> hay tedder

Preparation of tractor to work with **BALTIMATIC**<sup>®</sup> Hay Tedder should be made in accordance to general instruction in owners manual for the tractor.

Lift arm pins on the tractor should be adjusted to same height as the lift arm pins on the tedder. That will make it easier to mount **BALTIMATIC**<sup>®</sup> tedder to tractor.

#### 4.6 Preparation of machine for work

Check **BALTIMATIC**<sup>®</sup> tedder that it is in correct technical condition.

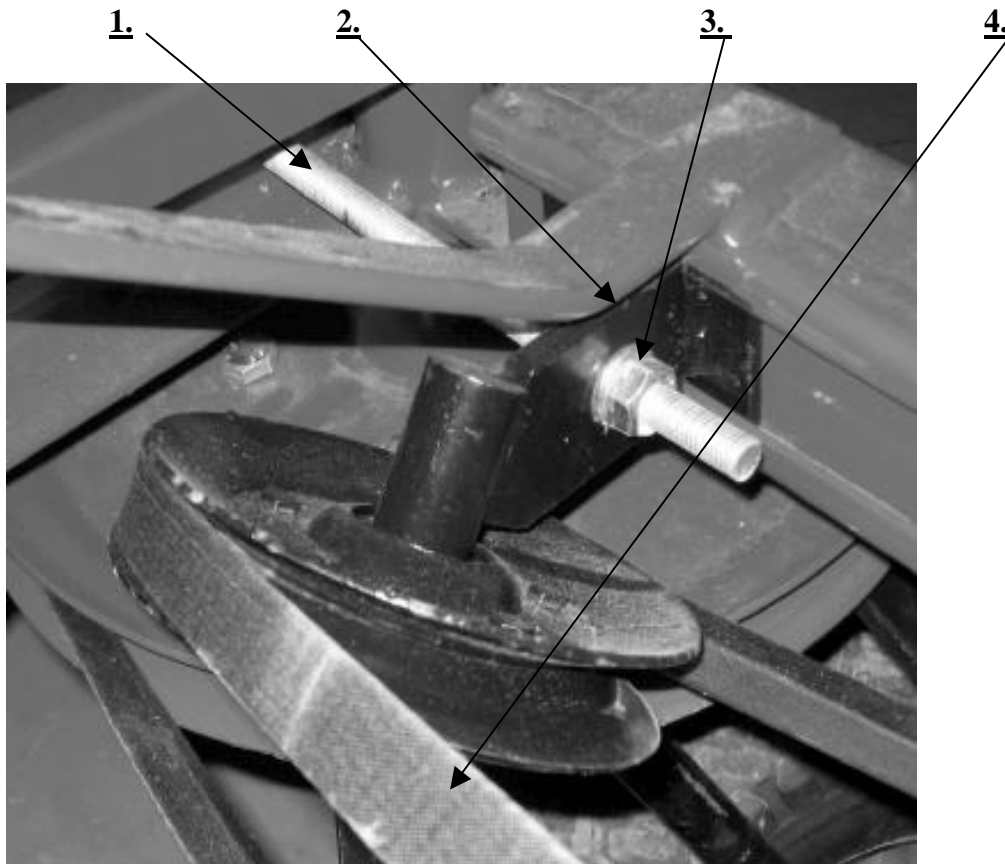
- Check bolt connections of springs to arms
- Check bolt connections of arms to belt pulley
- Check springs for wear and broken springs  
In case of worn or damaged springs these must be replaced
- Check condition of V-belt, if damaged or worn-out it should be Replaced with a new one.
- Check the tension of V-Belt. Belt must not be loose.  
If regulation of tension is necessary it can be done by nut (3) on drawing 3. The slack of the V-belt between belt pulley and tightner should be approx 6' when a force of 110 lbs is applied to the V-belt.
- Checking if support wheels are turning slightly, without stopping
  - Mount PTO shaft on machine.



**Remember every time before work, to check technical condition of spring fingers, bolt connections of springs to arms and bolt connections of arms to belt pulley.**



**Drawing 3. Regulation of tightening of belt:**  
1/tightening bolt, 2/tightener, 3/regulation nut, 4/V-belt



#### 4.7 Mounting **BALTIMATIC**<sup>®</sup> Hay Tedder to tractor

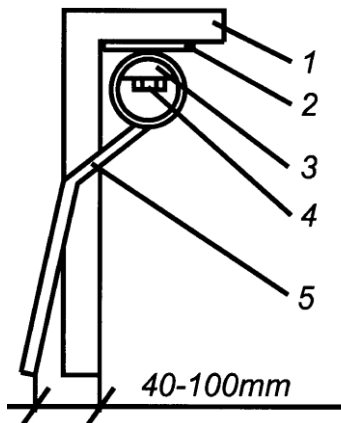
Mounting of **BALTIMATIC**<sup>®</sup> Hay Tedder to tractor should be done in following steps:  
Disassembled draw bar from lower lift arms. Drive tractor close to frame of Hay Tedder  
Stop tractor, use hand brake, turn off -tractor engine and take out tractor key.  
Mount top link to top of 3 point hitch on tedder and secure by using lynch pins. Lift up lift arm supports of frame on tedder – mount these to lift arms on tractor and secure by lynch pins. Tighten side chains of lower lift arms on the tractor.  
Mount PTO shaft to **BALTIMATIC**<sup>®</sup> Hay tedder and to tractor. ( Tractor side on shaft is outside pipe, Tedder side on shaft is inside pipe).  
Secure chains of shield of PTO shaft to shield of machine shaft and tractor.



**ATTENTION** it is prohibited to mount hay tedder to tractor at the same time tractor us running. Turn off tractor and remove key prior connecting **BALTIMATIC**<sup>®</sup> hay tedder to tractor.

#### 4.8 ADJUSTMENT OF BALTIMATIC<sup>®</sup> TEDDER

Before operation and working with BALTIMATIC<sup>®</sup> tedder it is necessary to make proper adjustments of the tedder. Correct adjustments of spring fingers and adjustments of working angle of the rotors. The control of correct adjustment of spring fingers should be done at the same time when damaged spring fingers are replaced or tightened. In order to adjust finger correctly it is necessary to use 90 degree angel bar (pos. 1 on draw. 4) In order to make regulation please make loose on fixing bolt (4 on drawing 4) Put angel bar on rotor arm acc. to drawing 4. Distance from end of spring finger to the range of angle bar should be from 1½” – 4” (40 up to 100mm). Fingers should be adjusted equally on all arms of both rotors.



Drawing 4.

Correct adjustment of spring fingers:

- 1 – angel bar
- 2 – rotor arm
- 3 – spring washer
- 4 – nut bolt
- 5 – spring finger

In order to achieve the proper working angle of rotors from the ground, it is necessary to adjust topline on tractor whereby the front spring fingers on the rotors will be situated 1 / 4” – 1 / 3” (4 – 10) mm over the ground.

#### 4.9 – operation of BALTIMATIC<sup>®</sup> hay tedder

Newly cut grass is after been cut laying on the ground on the field – sometimes in a windrow. In the drying process the grass is teded 3-4 times during a day. Tedding should be done during weather condition where the humidity is low. Frequent tedding enables the grass to dry quicker. BALTIMATIC<sup>®</sup> Hay Tedder should enter the windrow of grass only when full RPM of the working rotors is achieved (rotation speed of tractor shaft 540 rpm).

During work it is recommended to find level of RPM on engine which will give speed in range of 6-12 km/h and which will give RPM of engine which refers to nominal rotation of PTO shaft. Speed should be selected dependly on land condition and the quantity of grass/straw in the windrow. All material, which makes the machine to clough, should be removed when Hay Tedder is in lower position (on ground) and engine of tractor is OFF



**Before start, be sure that no one is near or around the machine & tractor. During work do not allow people to be close to machine. All service and repair work should be done only when BALTIMATIC<sup>®</sup> Tedder is in lower position on the ground and the engine of tractor is OFF.**



**ATTENTION:**

**It is not allowed to drive backward with tractor during work, when machine is in working position. BALTIMATIC<sup>®</sup> Tedder should be lifted smoothly without rapid moves.**

#### **4.10 Transport**

Hitched Hay tedder with two rotors when transported on public roads should be equipped with warning lights and triangle warning plates – relevant to local regulations.

During transport, **BALTIMATIC<sup>®</sup>** Hay Tedder should be lifted up, to position ensuring required ground clearance.

When making turns on the road keep attention to on the length of the vehicle (tractor and hay tedder). It is not allowed to have any persons riding on the hay tedder during transport.

### **5. TECHNICAL SECTION**

#### **5.1 Maintaining **BALTIMATIC<sup>®</sup>** hay tedder in good condition**

In order to keep hay tedder in good condition every time after work is finished, the

**BALTIMATIC<sup>®</sup>** Hay tedder should be cleaned from the rest of plants.

All bolts / nuts should be checked for not being missing or loose.

All moving parts should be checked.

Parts being damaged or being worn out should be renovated or replaced with new parts.

#### **5.2 Post - seasonal service.**

When season is finished, **BALTIMATIC<sup>®</sup>** Hay tedder should be carefully cleaned. Worn or damaged working elements should be replaced and all loose bolts/nuts should be tightened.

Tightener for V-belt should loosen. **BALTIMATIC<sup>®</sup>** Tedder should be greased acc. To greasing instruction. Places where paint is removed/ damaged should be cleaned and covered by new paint.

**5.3 Greasing instruction**

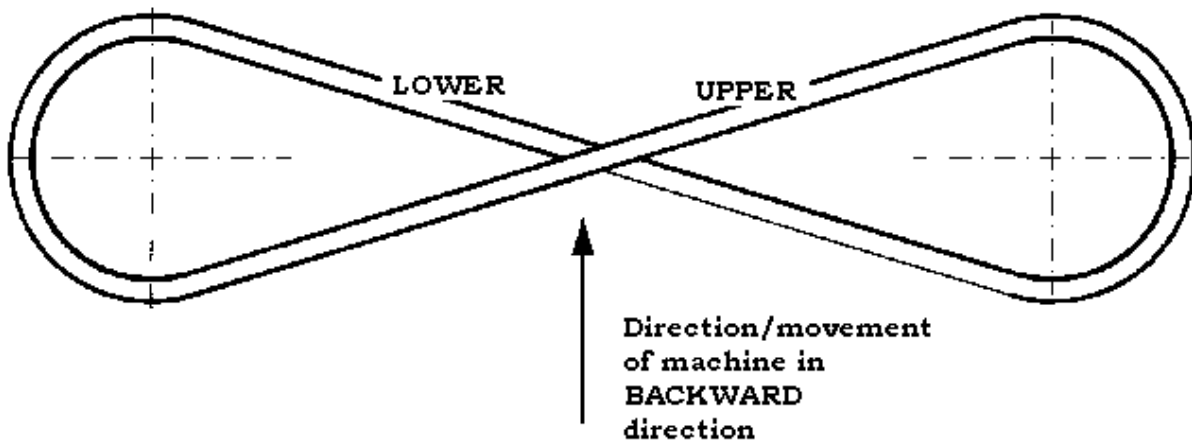
Please keep the relevant greasing periods mentioned in table 3.  
 Prior greasing all greasing point – greasezerks should be cleaned.

TABLE 3. GREASING PLACES		
LOCATION OF GREASE ZERKS	FREQUENCY	TYPE OF GREASE
Hubs of wheel holder for driving wheels	Each 20th. Hour of work	LT- 43
Bushings/bearings on wheels	Each 20th. Hour of work	LT- 43
End of PTO shaft	After daily work	LT- 43

**5.4 Mounting V-belt**

- Place the V-belt down on the ground
- Belt should be placed as shown on drawing 5. Having shape of number 8
- Drive backward with the tedder machine toward the belt on the ground as shown on drawing 5.
- Mount V-belt according to drawing 2. (page 6).
- While mounting V-belt move/turn the belt pulleys in opposite direction than the pulleys are turning during ordinary work.
- Put attention to that V-belt after mounting has the correct position
- tighten belt by using tightener. The slack of the V-belt between belt pulley and tightnere should be approx 6' (15 mm) when a force of 110 lbs (50 N) is applied to the V-belt.

**Drawing 5. Preparation of belt for mounting on machine**



**6. Storage of BALTIMATIC<sup>®</sup> Hay Tedder**

Hay tedder should be stored under roof on level, solid ground.

The PTO input shaft on the tedder and bolt on belt tightener should be covered with solid grease.

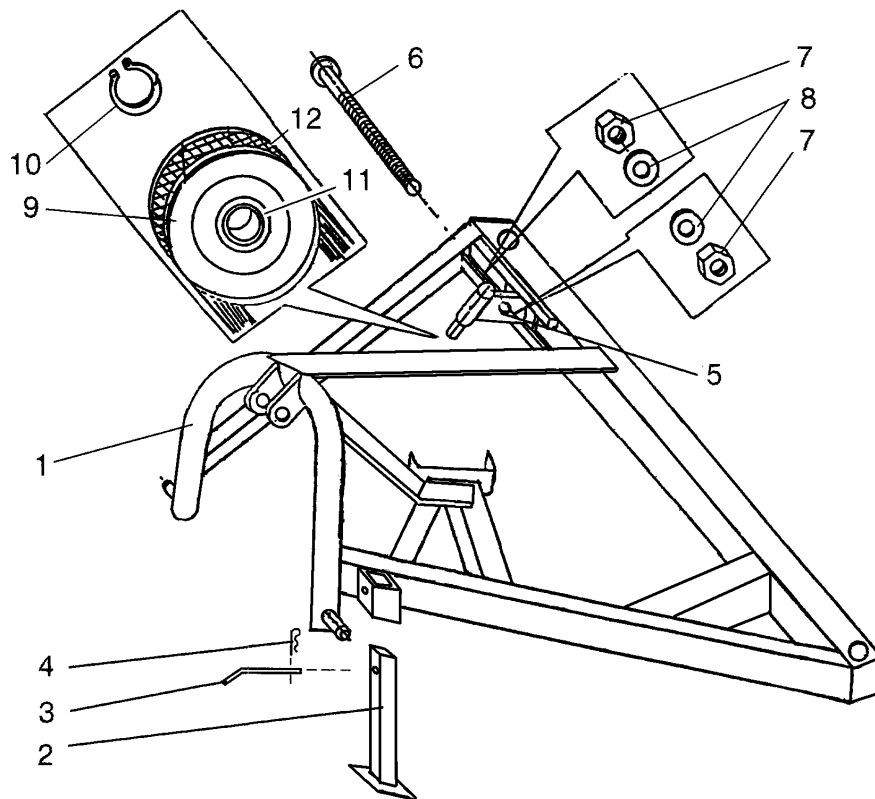
In case machine is stored long time outside, conservation/preservation of these elements should be repeated during the storage period in case the protective grease coating is wearing off.

**BALTIMATIC<sup>®</sup>** Hay Tedder should be stored in place where there is no danger for any persons.

**All bolts/nuts are according to metric norms.**

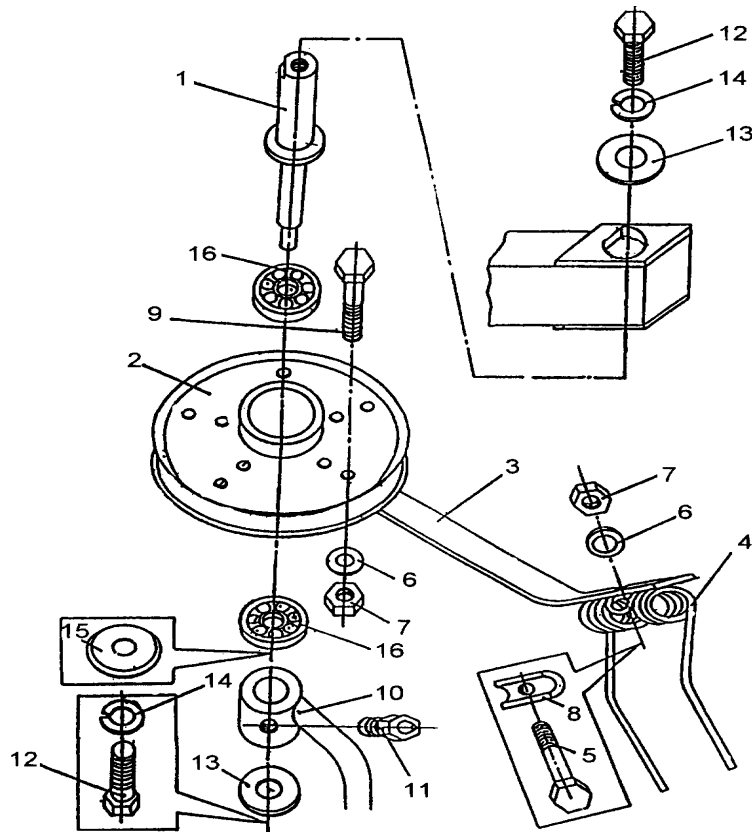
**FRAME WITH TIGHTENER**

Pos. No.	Part Description	Part number	pcs.
1	Frame	8245-525-001-002	1
2	Support	8245-525-001-005	2
3	Pin for support	8245-525-001-004	2
4	Hair pin	BN-81/1902-04	2
5	Tightener for V-belt	8245-525-001-007	1
6	Bolt for tightner	8245-525-001-006	1
7	Nut M12	PN-86/M-82144	2
8	Washer 13	PN-76/M-82005	2
9	Belt pulley	8245-525-001-001	1
10	Circlip z 20	PN-81/M-85111	1
11	Bearing 62052RS	PN-85/M-86100	1
12	V-belt C5000	PN-86/M-85200/86	1



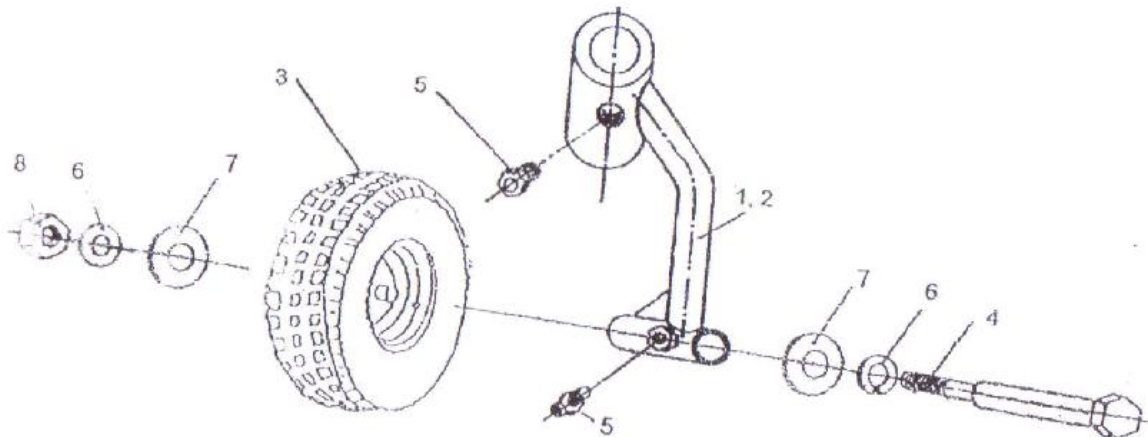
**Page 14**  
**ROTORS**

Pos. No.	Part Description	Part number	pcs.
1	Axle for rotor	8245-525-002-001	2
2	Belt pulley for rotor	8245-525-002-002	2
3	Rotorarm	8245-525-002-003	10
4	Spring	8245-525-002-004	10
5	Bolt M 12x45	PN-85/M-82105	10
6	Washer 13	PN-78/M-82005	30
7	Nut M 12	PN-86/M-82144	30
8	Compression washer	8245-525-002-005	10
9	Bolt M 12x 30	PN-85/M-82105	20
10	Wheel holder left	8245-525-003-001	1
11	Grease zerk M 10	PN-76/M-86002	2
12	Bolt M 16 x 35	PN-85/M-82105	4
13	Washer	8245-525-002-006	4
14	Spring washer 16.5	PN-77/M-82008	4
15	Plate	8245-525-002-007	2
16	Ball Bearing 60072RS	PN-79/M-86100	4



SUPPORT WHEEL

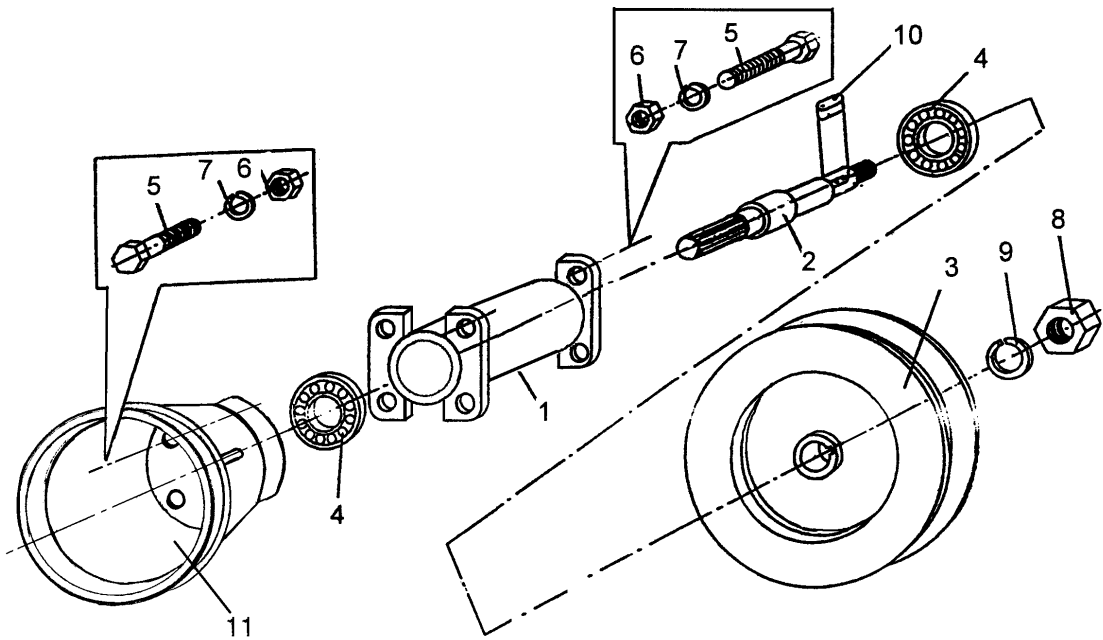
Pos. No.	Part Description	Part number	pcs.
1	Left wheel holder	8245-525-003-010	1
2	Right wheel holder	8245-525-003-011	1
3	Wheel	8245-525-003-012	2
4	Axle for wheel	8245-525-003-013	2
5	Greasing zerk M 10	PN-76/M-86002	4
6	Washer	8245-525-003-014	4
7	Washer	8245-525-003-015	4
8	Nut M20	PN-85/M-82144	2





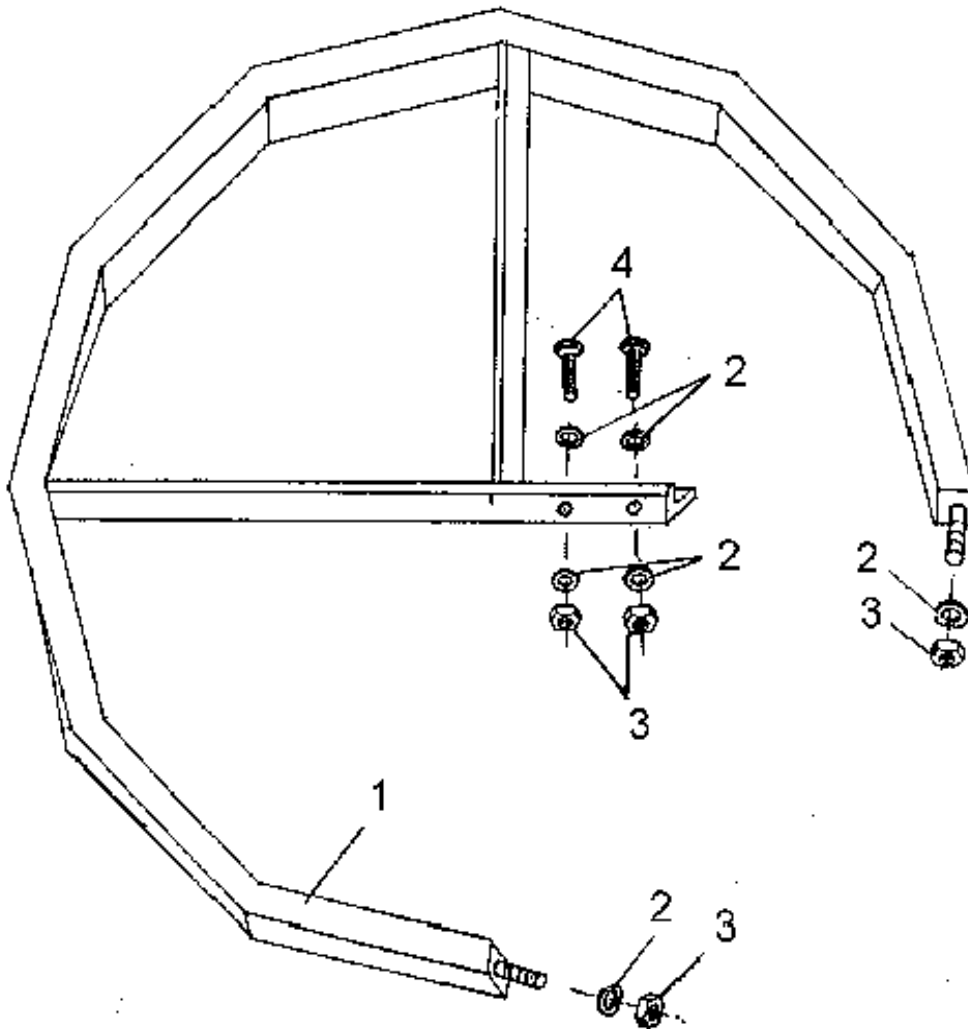
CONNECTOR

Pos. No.	Part Description	Part number	pcs.
1	Bushing	8245-525-004-001	1
2	Input shaft	8245-525-004-002	1
3	Belt pulley	8245-525-004-003	1
4	Ball Bearing 60072RS	PN-79/M-86100	2
5	Bolt M 10 x 30	PN-85/M-82105	6
6	Nut M 10	PN-86/M-82144	6
7	Spring washer 10.2	PN-77/M-82008	6
8	Nut M 20	PN-86/M-82144	1
9	Spring washer 20.5	PN-77/M-82008	1
10	Prism key B7x8x26	PN-70/M-85005	1
11	PTO cover	21902	1



SCREENFOR RIGHT ROTOR

Pos. No.	Part Description	Part number	pcs.
1	Screen for Right rotor	8245-525-006-001	1
2	Washer 10.2	PN-78/M-82005	7
3	Nut M 10	PN-86/M-82144	5
4	Bolt M 10 x 20	PN-85/M-82105	2



SCREENFOR LEFT ROTOR

Pos. No.	Part Description	Part number	pcs.
1	Screen for Left rotor	8245-525-005-001	1
2	Washer 10.2	PN-78/M-82005	6
3	Nut M 10	PN-86/M-82144	4
4	Bolt M 10 x 20	PN-85/M-82105	2

