

Econo-Wrap

MAKING QUALITY HAY WRAPPING AFFORDABLE



MODEL EW-450S
STATIONARY BALE WRAPPER

Operator's Manual & Parts Breakdown

Rev. 12/29/14

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GENERAL INFORMATION

Upon purchasing the EW-450S BALE WRAPPER, the buyer receives a 12-month warranty from the date of purchase. If the machine is damaged through no fault of the buyer, he/she is entitled to submit a complaint to the manufacturer or seller. If the user fails to comply with the instruction manual, he/she loses his/her rights resulting from the warranty. More information on complaints is contained in the warranty card. If necessary, further information will be provided by the manufacturer.

When contacting the manufacturer or seller, please provide the type, serial number, year of manufacture of the bale wrapper (this information should be copied from the serial number plate, which is attached to the main frame).

In this instruction manual, instructions crucial for safety are marked with the following words:

NOTE! REMEMBER! IMPORTANT!



NOTE!

Actions contrary to the instruction manual, failure to comply with safety regulations or the use of bale wrapper that is not consistent with its intended use can cause accidents. The user shall be liable for the consequences of such acts.



Intended Use of the Machine

The bale wrapper is intended for wrapping single bales of semi-dry hay from grasses and legumes collected by balers (moisture content of approx. 60%).

After being wrapped with special self-adhesive stretch film, bales are intended to be used for haylage.

The wrapper can be used for bales up to 4'6" long; with a diameter of 3'-5' and weighing up to 2,100 lbs. Special film 30" (or 20") wide should be used for wrapping bales.



NOTE!

The bale wrapper manufacturer shall not be held liable for losses resulting from the use of a wrong type of film.

Film-wrapped bales of haylage allow for considerable reduction of nutrient losses as compared with traditional silaging methods (piles, silos).

The harvested material should be collected using a baler after being dried for several hours (depending on the weather conditions). Bales should be rolled very tight so that the air content inside the bale is reduced to a minimum.

Bales should be wrapped on the wrapper as soon as possible, *two hours after rolling at the latest*. Wrapping bales too late will result in the material becoming over-dried, which promotes the occurrence of disadvantageous processes.

Wrapped bales should be left for fermentation in a dry place on a smooth surface for at least 6-8 weeks. This process should take place at above-zero temperatures, one should make sure that the film on the bales is not damaged. If damage occurs, this place should be sealed again.

Bales can be placed horizontally or vertically next to each other with no more than two layers.

Two months after the harvest, haylage can be fed to animals. Using the wrapper for other purposes shall be regarded as improper use. Meeting and compliance with the conditions pertaining to the use of the machine, its operation, repairs according to the manufacturer's requirements form an inseparable part of the requirement for the consistent use with the intended use.



NOTE!

Exercise particular caution at the bracket with sharp roller knives for cutting the film. Lack of caution may result in hand injuries.



NOTE!

Warning stickers must always be legible. If they are no longer legible or become damaged, new stickers should be bought at points of sale and replaced.



NOTE!

During test runs and bale wrapper operation, the presence of bystanders, and especially of children, near the working machine is forbidden.



NOTE!

Before lifting the wrapper at the three-point connection, the back window of the tractor cab must be closed.



NOTE!

The operation with removed covers is forbidden.



REMEMBER!

It is forbidden to transport the bale wrapper with a loaded bale.



NOTE!

The engine of the tractor and the bale wrapper can be started only after making sure that powering the rotating frame does not pose a risk to anybody.



NOTE!

Regulations pertaining to accident prevention as well as all basic regulations regarding occupational safety and traffic regulations must be complied with on all occasions.



REMEMBER!

Before starting the operation, the bolt locking the rotating frame should be released.

General Specifications & Description of Machine

The main frame (1) of the wrapper is attached to the three-point suspension system of the tractor. The lower frame (2) is fixed to the main frame using two bolts (8) secured with resilient retaining pins. A rotating frame (3) with rollers (9), upon which bales are loaded, is mounted on the lower frame. A barrier (12) and a film dispenser are installed on the vertical beam (11) on the right side of the main frame. Both vertical beams (11) are connected at the top with a U-profile (13). The wrapper is powered from the hydraulic installation of the tractor with a hydraulic motor (5) through a special valve (14), which ensures a smooth start-up and stopping of the rotating frame. The power from the hydraulic motor is transmitted onto the chain wheel of the rotating frame with a 5/8" chain (15). In this way, after the drive is turned on, the rotating frame of the wrapper (together with the bale being wrapped) rotates around the vertical axis. In the rotating frame (3), there is an open bevel gearbox (10).

The subsequent layers of film are wrapped around the bale as a result of the aforementioned motions. The film dispenser (4) consists of a frame and a support bracket with rubber rollers (16) coupled with each other by means of a spur gear. A roll of wrapping film (17) is installed on the bolt in the dispenser frame in accordance with the diagram (see Fig. 11). The appropriately selected position between the rubber rollers and close adhesion of the film (17) to the rollers (16) ensures stretching and good and accurate adhesion to the subsequent film layers. The degree of film lengthening can be adjusted by turning the film roll pressure nut (see Fig. 11, item 3). The lower frame (2) with the rotating frame (3) is secured against tilting by the locking pin (18), which is situated on the main frame (1). When the locking pin (18) is moved forward by the lever system after pulling the line (19) from the tractor cab results in unlocking the lower frame (2), together with the rotating frame (3). After lifting the wrap

A cutter (21) with roller knives for film cutting is fixed to the rotating frame (3) by the roller drives (9). The film, which was pulled out of the inserted bale, will be introduced between the cutter flat bars (21) onto the roller knives and cut off. Rubber resistance wheels (6) are placed on transverse bars of the rotating frame (3), which protect the bale against sliding of the roller, while it is being wrapped. While transporting the wrapper on public roads, the transport cover must be placed, instead of one of the retaining wheels and the triangular sign and the warning sign should be placed on the brackets that are placed on it. The bale wrapper is equipped with

an electronic wrapping counter (7). The counter sensor (22) is installed on the support bracket opening on the right side of the main frame (1), while the wrapping counter should be placed in a visible place in the tractor cab and the cable should be connected to the sensor (22).

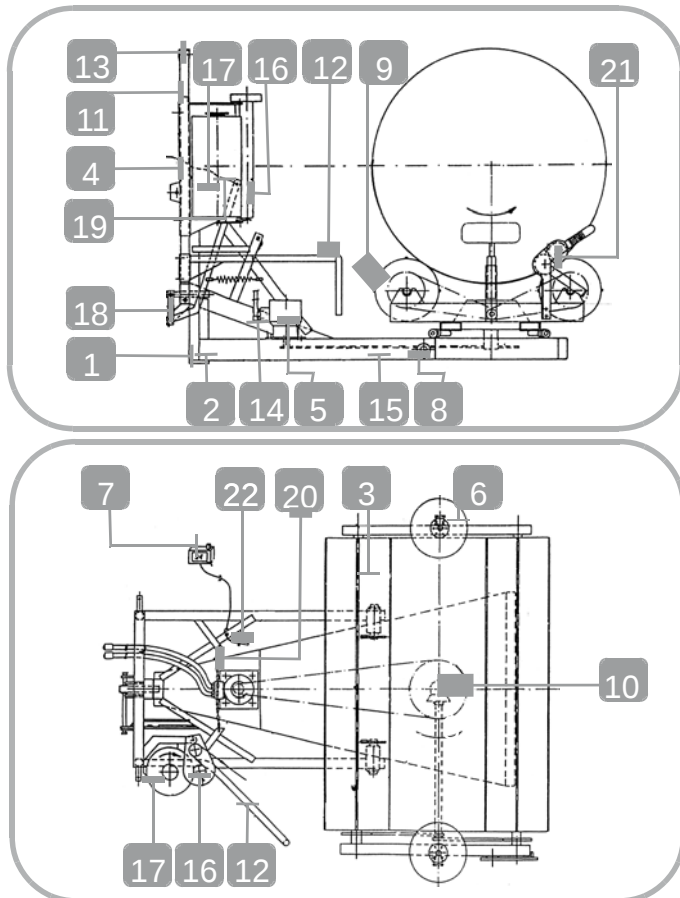


Fig. 7 Diagram of the self-loading bale wrapper

1- main frame; 2- lower frame; 3- rotating frame; 4- film dispenser; 5- hydraulic system; 6- resistance wheels; 7- wrapping counter; 8- pin; 9- roller; 10- bevel gearbox; 11- vertical beam; 12- barrier; 13- connecting U-profile; 14- special valve; 15- main chain; 16- rubber rollers; 17- roll of film; 18- retaining pin; 19- line; 20- securing chain; 21- film cutter; 22- counter sensor

Transport & Installation

For transport, the bale wrapper is installed on a wooden pallet and secured against moving during transport. The bale wrapper is intended for stationary work on a farm. If the bale wrapper is transported on public roads coupled to the three-point suspension system of the tractor, the hydraulic system of the wrapper must be filled with gear oil and closed to ensure the locking of the rotating frame in the transport position, see Fig. 8.



Fig. 8 Wrapper in transport position.

Before driving on the road, it is necessary to:

- insert the retaining pin into the vertical beam of the main frame to protect the lower frame against tilting backwards,
- put the rotating frame of the wrapper in the transport position,
- put the transport cover at the back of the wrapper; install a warning sign with red and white stripes with a red warning light and a triangular sign in the brackets on the cover,
- disconnect the hydraulic hoses of the hydraulic system of the tractor.

Installation

Before attaching the bale wrapper to the tractor, the following actions must be taken:

- remove the agricultural hitch from the tractor,
- back the tractor to align it with the bale wrapper,
- both ends of the push-pull rods with the ball-and-socket joints of the tractor should be moved onto two lower bolts and secure them with cotter pins.
- adjust the length of the upper connector of the tractor and connect its end with the hitch bracket on the main frame of the bale wrapper using the connector bolt and protect it with a cotter pin,
- insert the plugs of the quick disconnect couplings of the hydraulic hoses into the valve sockets of the tractor hydraulic system (Fig. 9),

- attach the end of the back frame locking line at a convenient place in the tractor cab,
- unlock the rotating frame,
- place the bale-wrapping counter at a visible place in the tractor cab. Connect the electric cable to the counter.

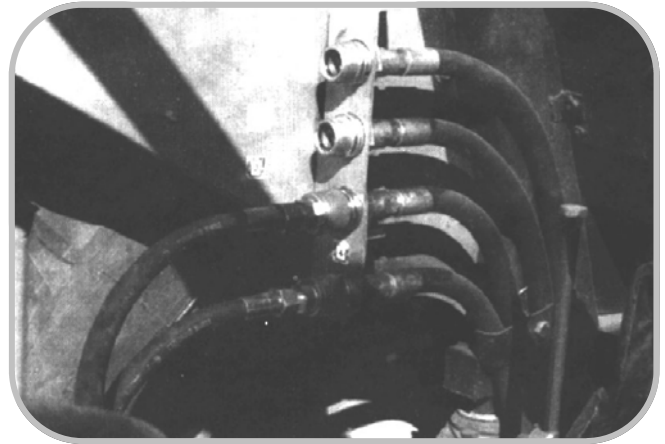


Fig. 9 Installation of hydraulic hoses to the tractor.



IMPORTANT!

All installation work must be performed with the engine off and the key must be taken out of the ignition lock.



REMEMBER!

Use only the original and tested cotter pins to secure the bolts. It is forbidden to use other protections, such as screws, rods etc.

Operation of Machine

Test Run

After connecting the bale wrapper to the tractor, check the transport lock pin and rear frame tilt. Pull the line from the tractor cabin so that the locking pin releases the lock of the lower frame and next lift the wrapper on the tractor suspension upwards and the lower frame with the rotating frame tilted backwards. The chain fixed to the main frame brackets limits the tilt range. The locking pin should protect the lower frame against tilting after releasing the line and lowering the wrapper to the horizontal position. Before starting the hydraulic installation of the bale wrapper, exercise special caution (a warning sound) and make sure that the turntable moves to the left - in accordance with the label on the frame (direction of rotations). The rotating frame and rollers should rotate smoothly.

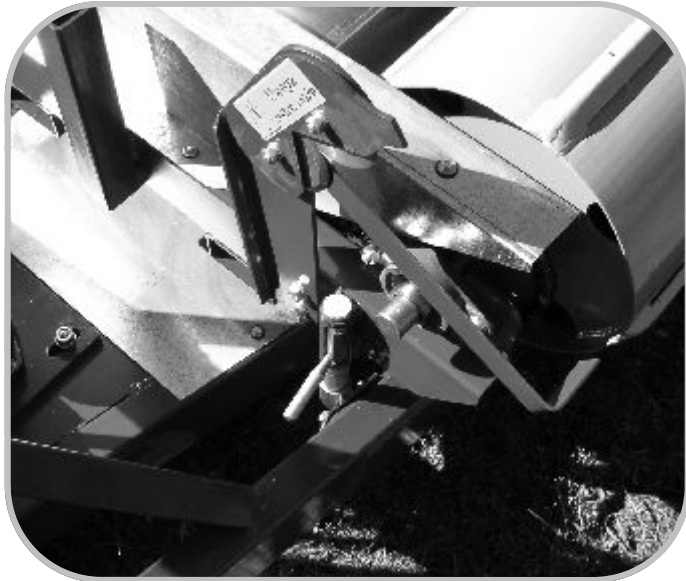


Fig. 10 Transport Lock Pin.



IMPORTANT!
Before starting the operation, remember to release the lock of the rotating frame.

Film Installation

After tilting the support bracket with rubber roller, a roll with special bale-wrapping self-adhesive film is installed onto the feeder bolt. After installation, the roll must be secured with the handle from the top and pressed (Fig. 11). The ends of the film must be pulled through both rolls towards the bale being wrapped. After the film is installed, the rubber roll should adhere accurately and evenly to the film roll along the entire length. In the case of inaccuracies - the film should be adjusted by bending the rod, on which the film is installed.

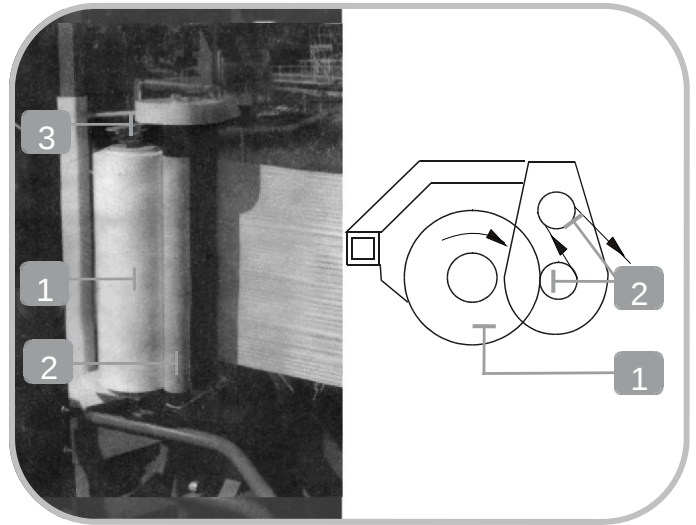


Fig. 11 Film Installation in the Dispenser.

1-Roll of Film; 2-Film Tensioners; 3-Film Pressure Nut

A roll of film should be placed on the lower conical bolt in the following sequence:

- tilt the bracket with rollers,
- unscrew the upper bolt. pressing the film upwards using the lever,
- set the height of the lower pin using adjustment openings and the screw, depending on the width of the roll (500mm or 750mm),
- place the film roll on the lower conical bolt,
- press the roll by turning the upper bolt with the lever, which will allow for keeping the roll in a stable vertical position,
- the end of the film should be pulled through the rollers in accordance with the diagram placed on the roller cover (Fig. 11a) and pull out just enough to be able to hold it with a hand freely.

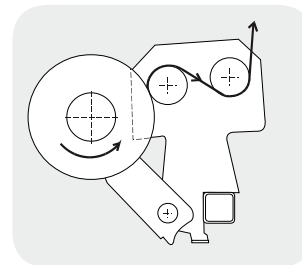


Fig. 11a Film Installation Diagram

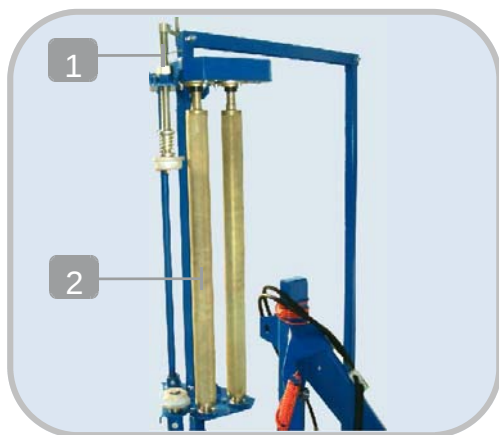


Fig. 11b Universal Film Dispenser.
1-Adjustment Screw; 2-Tensioning Roller



IMPORTANT!
From the factory, the EW-450S Bale Wrapper is configured for use with 30" Film.

Switching to 20" Film

To be able to use 20" film, loosen the chain on the wall of the rotating frame using the tensioner (on the side of the chain drive). Take the chain of the main spur gear on the main roller and next change the spur (Fig. 11c) for a smaller one, which is situated on the main frame (Fig. 11d), which is provided with the machine. Shorten the chain. Install the gear and tension it with tensioners (Fig. 5).



Fig. 11c Spur Gear Replacement.
1-Spur Gear Z-19; 2-5/8" Chain



Fig. 11d Position of the Additional Spur Gear for Wrapping with 20" Film.

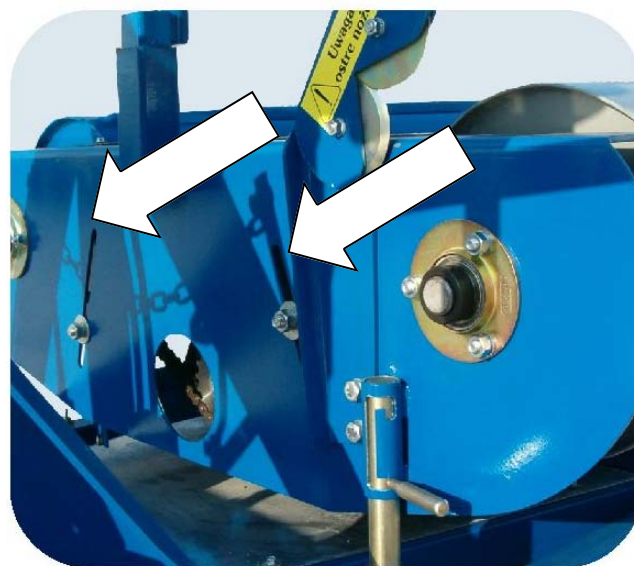


Fig. 11e Chain Tensioners.

Loading Bales Onto Wrapper & Wrapping

Bales should be loaded onto the wrapper using available loading equipment (the lifting capacity of the devices used must be greater than the weight of the bales being wrapped with a possibility of lifting them at a height of 40"). Bales should be wrapped *at their storage location* to avoid damaging the film during their transport to another location. Bales should be loaded from the right (with the rotating frame with rollers positioned along the tractor-wrapper axis) through the light roller - this ensures the best loading, free unloading and efficient film cutting. At the beginning of the wrapping process, the film should be pulled from the dispenser manually and its end should be attached to the bale string, and the hydraulic drive to the rotating frame should then be turned on.



NOTE!

Exercise particular caution before starting the machine—sound a warning signal.

The engine of the tractor, which powers the wrapper, should operate at 1500 rpm. Over approx. 1 minutes, the frame rotates 9 times, during this time, the bale should be wrapped with one layer - it is recommended that bales should be wrapped with two layers of 18 wraps altogether (over approx. 2 min), which ensured tight protection against air and water (for 20" Film use 26 wraps).

Unloading Wrapped Bales and Film Cutting

After a bale has been wrapped, the wrapper should be stopped when the grey roller is behind the machine and one should then pull the line from the driver cab - this will unlock the lower frame with the rotating frame and the wrapped bale. Next, lift the wrapper upwards on the three-point suspension system of the tractor.

The lower frame with the rotating frame and the bale will tilt forwards and the wrapped bale will be unloaded by the white roller to its storage place. The wrapping film will be tensioned over the wrapper rollers.

The wrapper should be lowered to the horizontal position and the lower frame should be locked by releasing the line from the driver cab.

The spring in the lever system should cause the bolt to move automatically and lock the lower frame.

Next, return to the initial position of the wrapper as described above.

The next bale should be loaded on the wrapper rollers (on the film from the previous bale stretched over them).

After turning on the drive, the support bracket with roller knives will cut the film off the previous bale and the wrapping of the next bale will be started at the same time without attaching the film manually.

The bales should be unloaded on a dry and smooth surface so that the film does not become damaged.



Fig. 12 Starting Bale Wrapping.

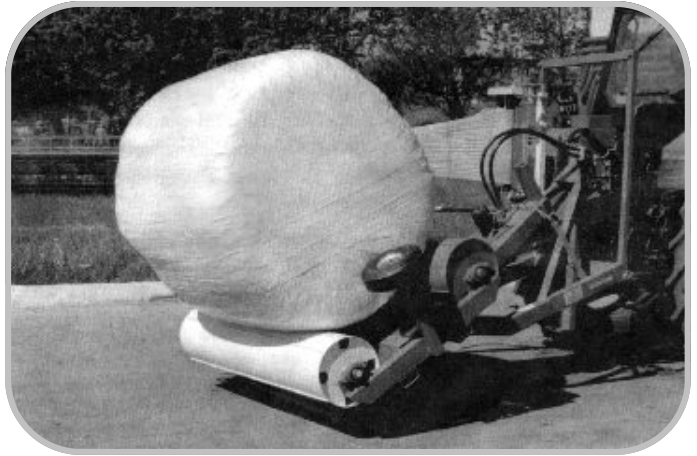


Fig. 13 Unloading Wrapped Bale.

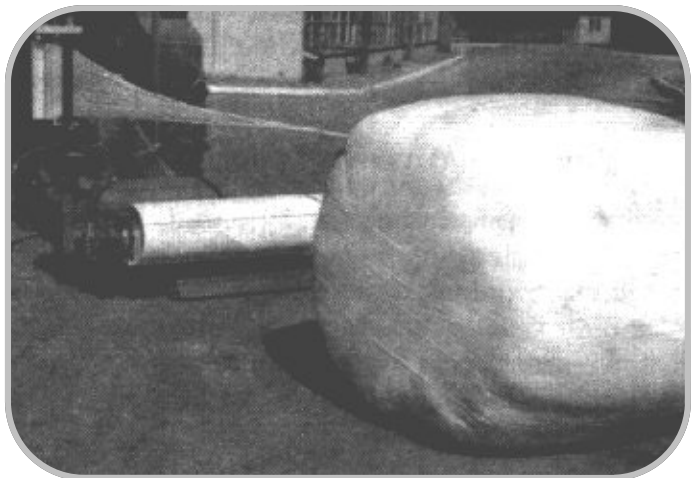


Fig. 14 Unloaded Bale

Drive Chain Adjustment

The tension of the drive chain (1) 5/8" should be adjusted after approx. 1 hour's operation. For this purpose, 4 M-12 nuts (2), which fix the board (3) with the hydraulic motor (4) to the lower frame (5) and shift the board (with the motor) on the flanged holes, should be loosened forwards (towards the tractor) until the correct tension is obtained (deflection of approx. 20 mm). The drive chain (1) can be seen after unscrewing the trapezoid sheet situated behind the engine in the lower frame. The drive chain should be controlled after wrapping each 100 bales.

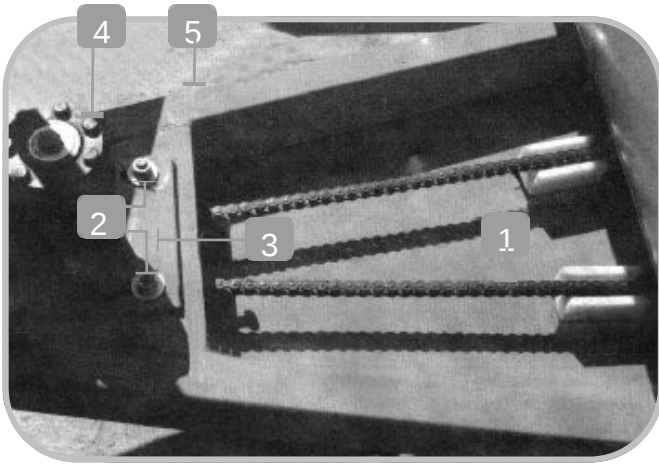


Fig. 15 Adjustment of the Drive Chain Tension

1-Main Drive Chain 5/8"; 2-Nuts M-12; 3-Motor Board; 4-Hydraulic Motor; 5-Lower Frame

Failures & Troubleshooting

Issue	Cause	Solution
1) The turntable of the wrapper does not turn.	(A) The hydraulic system of the tractor or wrapper does not work properly; or (B) Main drive chain is broken.	- check the hydraulic system of the tractor and the wrapper - check the chain condition, connect the damaged links, adjust and lubricate the chain
2) Rollers of the rotating frame do not turn.	(A) Damaged chain wheels or drive chains; or (B) Damaged inlets of bevel wheels in the angle drive of the rotating frame	- check the chain wheels and drive chains, if chain wheels are damaged, replace all set of drive wheels - links of the chain should be connected, the chain must be adjusted and lubricated - check the condition of the inlets in both wheels; replace damaged inlets
3) The film fed for wrapping is pulled up or down.	(A) The film dispenser is installed too high or too low relative to the axis of the bale; or (B) The film roll does not adhere evenly to the rubber roll along the whole length	- place the film dispenser exactly at the height of the axis of the bale - bend the bolt, on which the film roll is put, so that the film adheres evenly to the rubber roll along the whole length
4) The film fed for wrapping bales is not accurately stretched - it unfolds when the machine stops.	(A) Springs tensioning the arm with rubber rollers are damaged or disassembled; or (B) The surface of the rubber rollers of the dispenser is worn; or (C) Damaged spur gear of the film dispenser	- check if the arm with the film tensioners is pressed to the film roll - replace damaged springs - replace rubber rollers of the film dispenser - check the condition of the spur gear of the film dispenser - replace damaged spur gears
5) Wrapping counter does not count the number of frame rotations (wraps).	(A) The gap between the magnet on the rotating frame and the sensor is too large; or (B) Damaged or soiled socket by the sensor; or (C) Battery in the counter is dead.	- Adjust the gap between the sensor on the main frame and the magnet on the rotating frame to reach 15-30 mm - Clean the socket and the plug by the counter and re-connect - Change the battery

Storage

The wrapper must be stored in a covered and protected area in a way to prevent people or animals from injuries. The film dispenser (film tensioners), hydraulic hoses and retaining wheels must be protected against sunlight. Before putting the unit away for a time longer than 3 months, the wrapper should be cleaned and its technical condition should be checked.

Damaged parts must be repaired.
Lubricate the machine before its first use.

Removal of used parts

While removing parts, general occupational safety rules must be complied with, which apply to mechanical equipment operation.

It is recommended that disassembled parts should be sorted according to their size and the type of material disposed of.

THE USER SHOULD REMEMBER THAT:



REMEMBER!
All installation work must be performed only with the engine switched off and the key taken out of the ignition lock.



REMEMBER!
Use only original and tested cotter pins to secure the bolts. It is forbidden to use other protections, such as screws, rods, etc.



NOTE!
Follow occupational safety rules while loading bales.
The lifting capacity of the loading devices may not be exceeded.

Safety of Use and Warnings

During road transport, all servicing work and bale wrapper operation, all general safety rules applicable to the operation of mechanical equipment should be complied with.



NOTE!
One can start working with the bale wrapper after reading this instruction manual.

- 1) The bale wrapper can be operated by an experienced tractor driver.
- 2) Before starting any repair, adjustment and servicing work at the bale wrapper, the engine should be stopped and the ignition key should be taken out of the ignition lock if the wrapper is connected to the hydraulic system.
- 3) During the operation of the machine (near the rotating frame with a bale being wrapped and while unloading bales at the back of the machine), one should make sure that there are no people, animals or objects near the machine.
- 4) The presence of bystanders, and especially of children, near the machine being repaired is forbidden.
- 5) It is recommended that one trained operator should operate the bale wrapper.
- 6) Before each use of the machine, its technical condition should be checked.
- 7) Review the safety symbols before starting work.

SAFETY SYMBOLS

The machine is marked with yellow safety symbols with a description.

The meaning and placement of the individual symbols is explained below.

The symbols should be kept clean and legible.

Lost or illegible symbols should be replaced with new ones.

Symbols can be purchased from the manufacturer.

The legibility of symbols should be checked on a regular basis.

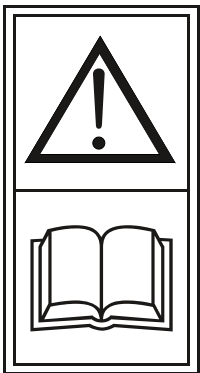


Fig. 1

Obligation to read the instructions for use before machine operation (on the main frame)

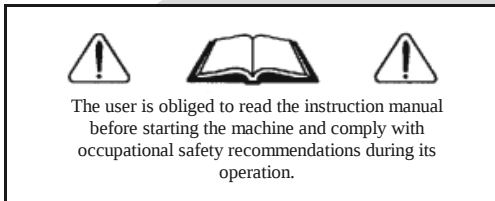


Fig. 2

Pictogram (on the main frame)



Fig. 3

Direction and number of frame rotations (on the front cover)

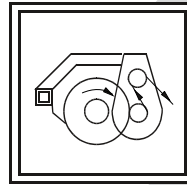


Fig. 4

Diagram of the film route in the dispenser (on the film dispenser)



Fig. 5

Ban on exceeding the speed limit (on the back cover)



Caution - sharp knives

Fig. 6

Pictogram (by the roller knife)

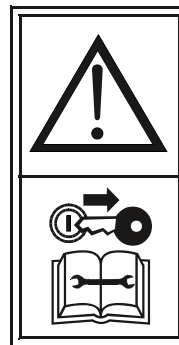


Fig. 7

Turn off the engine and take out the key before starting servicing or repairs. (on the main frame)

Keep at least 4' away from the working machine

Fig. 8

Pictogram (on the main frame)



Fig. 9

Direction of rotations (on the longitudinal cover)

Technical & Operational Information

Length	100 inches
Working Width	55 inches
Weight of Machine	1,091 lbs.
Dimensions of Bales Being Wrapped	
Diameter	39 inches - 63 inches
Length	Up to 55 inches
Weight of Bales	Up to 2100 lbs.
Horsepower Requirement	40 HP Minimum
Mounting Method	3 Point Hitch
Bale Wrapper Drive	Hydraulic Motor
Type of Oil in the Hydraulic System	Gear Oil
Tractor Engine Revolutions	1500 RPM
Roller Rotations	2 RPM
Bale Loading Device	Loading device with lifting capacity greater than the weight of the bales being wrapper with the ability to lift bale higher than 4'.
Minimum Number of Bale Wraps	2 (double with overlapping)
Total Time for Double Wrapping (with a diameter of 4')	approx. 90 seconds
Total Number of Wraps (for bales with a diameter of 4')	30" film - 18 wraps (20" film - 26 wraps)
Wrapping Counter	Electronic
Type of Wrapping Film	Special polyethylene film, 0.025-0.03mm thick which is stretchable, self-adhesive, with ultra-violet ray stabilizer
Film Wrapping	Rotary knives on a fixed bracket, the rotating frame cutting after loading the next bale after the first rotation of the frame
Unloading Wrapped Bales	By tilting the lower frame (together with the rotating frame and the bale) backwards after unlocking it (by pulling the line) and after partial lifting of the wrapper on the 3-Point Hitch of tractor
Bale Wrapper Operation	2 people—1 operating wrapper on tractor, 1 loading the bales

Maintenance

In accordance with the lubricating instructions, maintenance of the wrapper must be performed periodically.



REMEMBER!

Hydraulic Hoses should be replaced every 5 years.

Lubricating Instructions

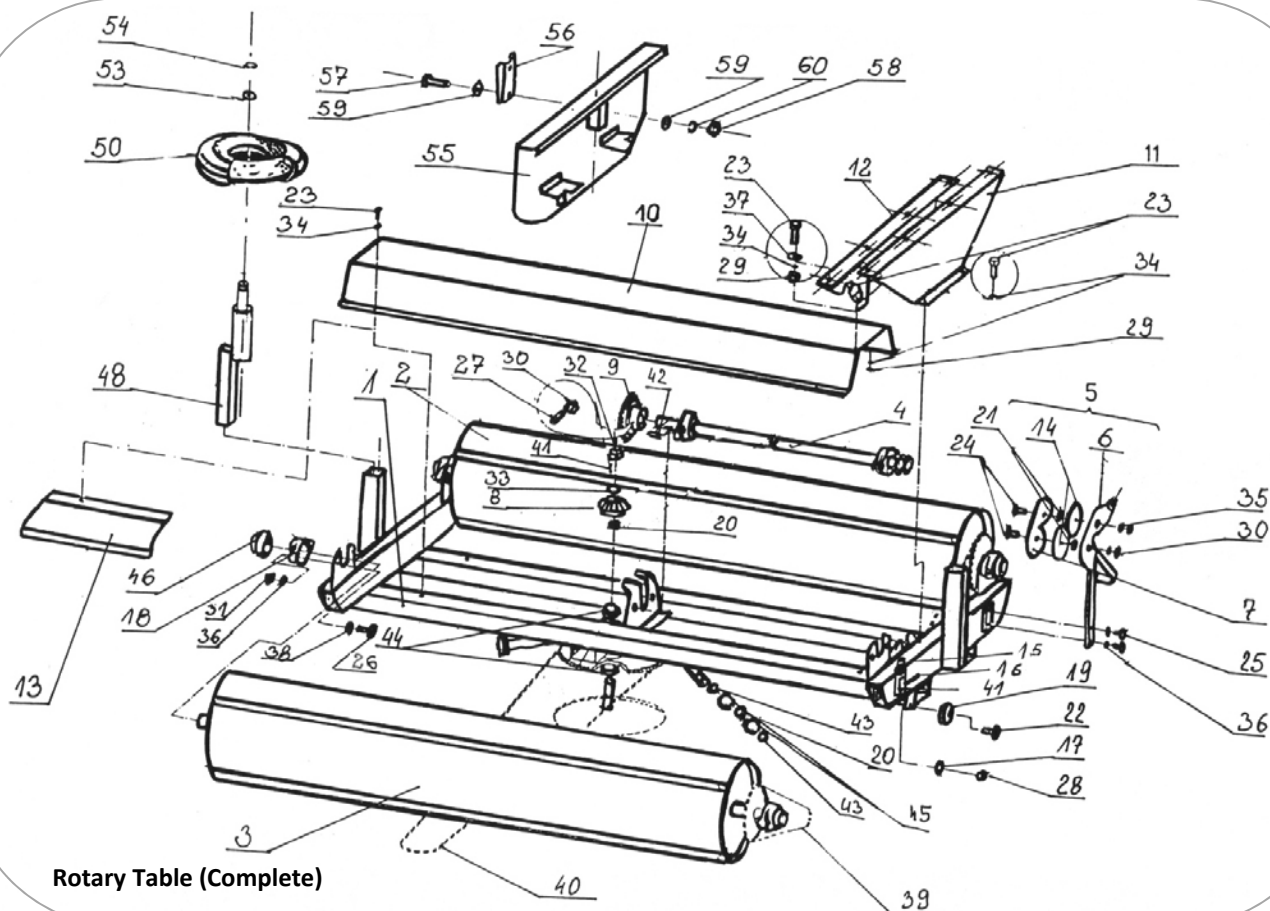
After the end of the season, the wrapper should be inspected and the following elements should be lubricated using the LT-43 lubricant:

- 1) locking pin of the main frame (1x)
- 2) pins of the main frame suspension (2x)
- 3) pins connecting the main frame with the lower frame (2x)
- 4) main drive chain (1x)
- 5) drive chains of the rollers (2x)
- 6) bevel wheels of the rotating frame (1x)
- 7) the track of the bearings on the lower frame (1x)
- 8) edges of roller knives (2x)

PARTS BREAKDOWN

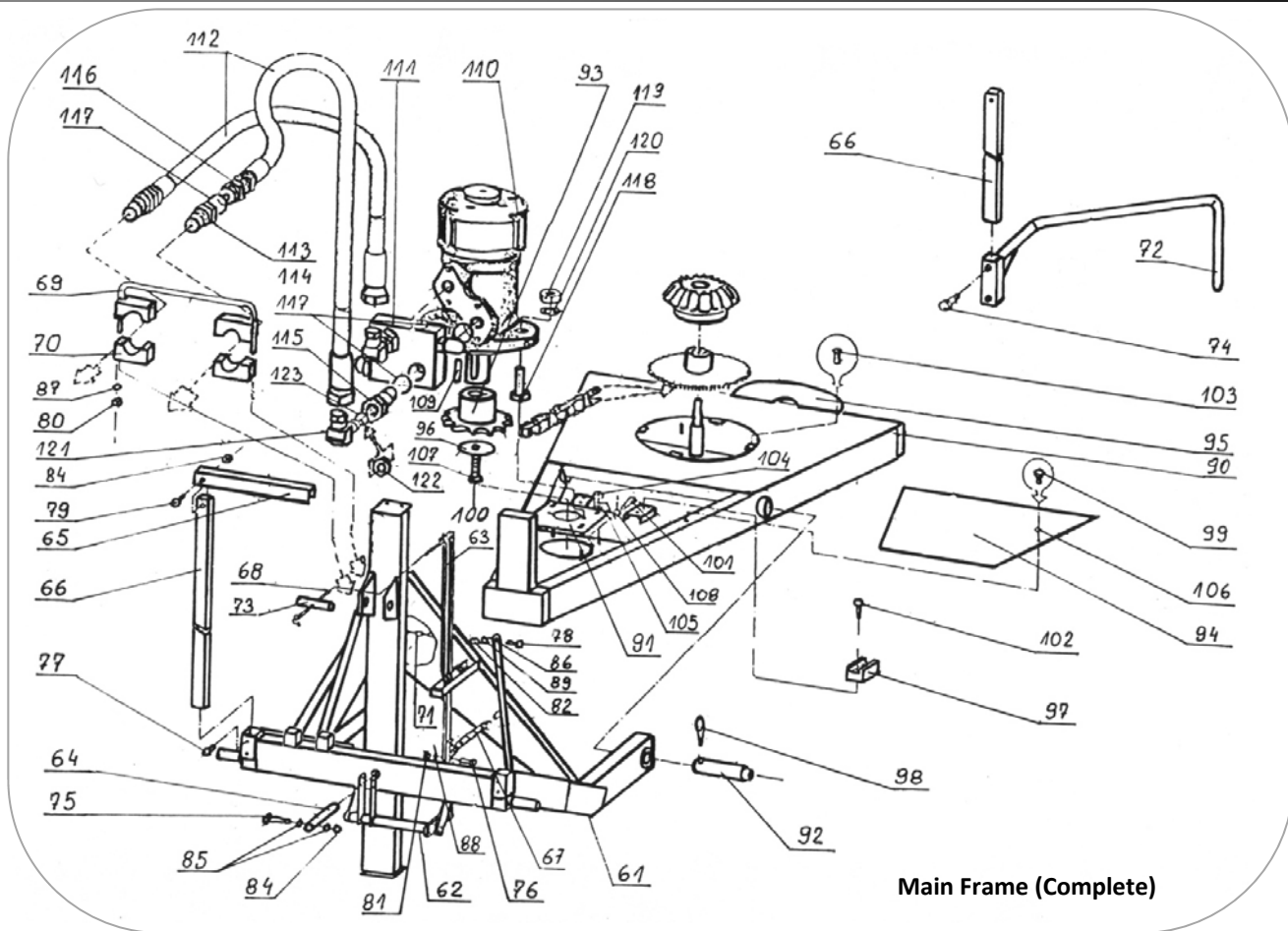


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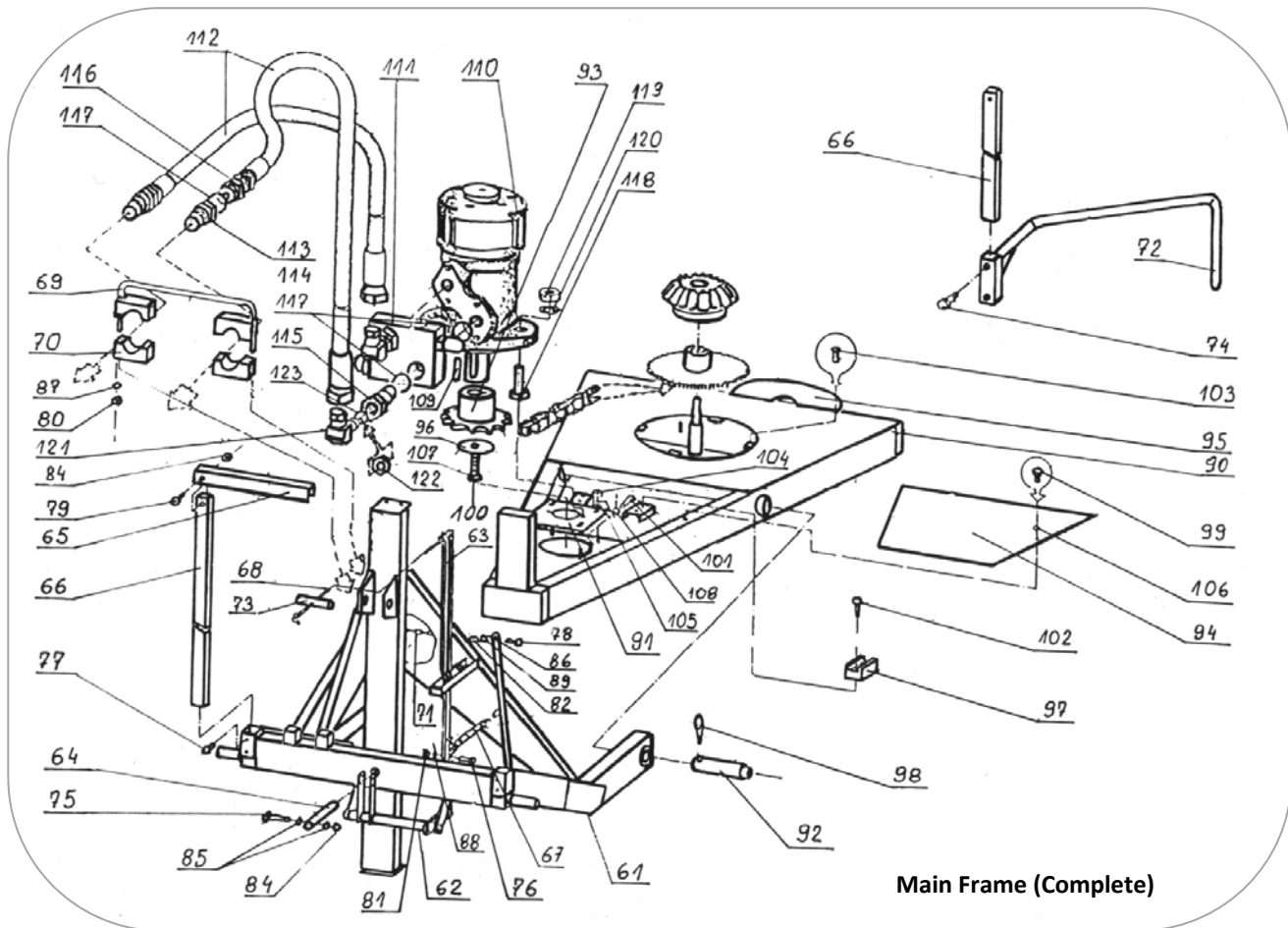
Pos.	Description	Part Number	Qty.
n/a	Rotating Frame Complete	274-035-002	
1	Rotating Frame (welded)	274-035-104	1
2	Roller 1 (welded)	274-035-206	1
3	Roller 2 (welded)	274-035-308	1
4	Drive Roller (welded)	274-035-400	1
5	Cutter (complete)	274-037-503	1
6	Bracket (welded)	274-037-605	1
7	Knife Cover (welded)	274-037-707	1
8	Bevel Gear (Z-17)	274-031-011	1
9	Bevel Wheel (Z-25)	274-031-024	1
10	Frame Gear Cover	274-031-100	1
11	Cover 1	274-031-126	1
12	Cover 2	274-031-113	1
13	Cover 3 (optional)	274-031-602	2
14	Knife	274-031-269	2
15	Bolt	RE-T115	1
16	Handle	RE-T116	1
17	Nut	274-031-419	1
18	Bearing Setting	261-010-010	6

Pos.	Description	Part Number	Qty.
19	Magnet	RE-T119	1
20	Washer 25x35x1	223-891-071	6
21	Washer 8.4x24x3 (Zn)	223-890-539	2
22	Bolt - M5x25	BM52500	1
23	Bolt - 4.8x19 (self-tapping)	BMST4819	14
24	Bolt - M8x25	BM82500	2
25	Bolt - M10x25	BM10250	2
26	Bolt - M10x40	BM10400	12
27	Bolt - M8x25	BM82500	1
28	Nut M5	NM50000	1
29	Nut M6	NM60000	6
30	Nut M8	NM80000	3
31	Nut M10	NM10000	12
32	Nut M20	NM20000	1
33	Washer 21	FW21000	1
34	Washer Z 6.1	FW6.1000	14
35	Washer Z 8.2	FW8.2000	2
36	Washer Z 10.2	FW10.200	14
37	Washer 6.5	FW6.5000	10
38	Washer 10.5	FW10.500	8
39	Chain 10B-76PS	PN-M-84168-76	2
40	Chain 10B-170PS	PN-M-84168-170	1
41	Long Sleeve	RE-T141	1
42	Prismatic Inlet Ax8x7x40	PN-M-85005	1
43	Setting Ring (Z25)	PN-M-85111	8
44	Ball Bearing (6007 2RS)	B60072RS	2
45	Ball Bearing (6305 2RS)	B63052RS	8
46	Ball Bearing (D 206)	PN-M-86120	6
47	Short Sleeve	RE-T147	1
48	Wheel Bracket (welded)	275-065-200	2
50	Bale Guide Roller	RE-T150	2
53	Washer, round 25	FW25000	1
54	Setting Ring (Z25)	PN-M-85111	1
55	Cover	274-075-209	1
56	Bracket	PN-S-73103	2
57	Bolt - M8x16	BM81600	4
58	Nut M8	NM80000	4
59	Washer 8.4	FW8.4000	8
60	Washer Z8.2	FW8.2000	4



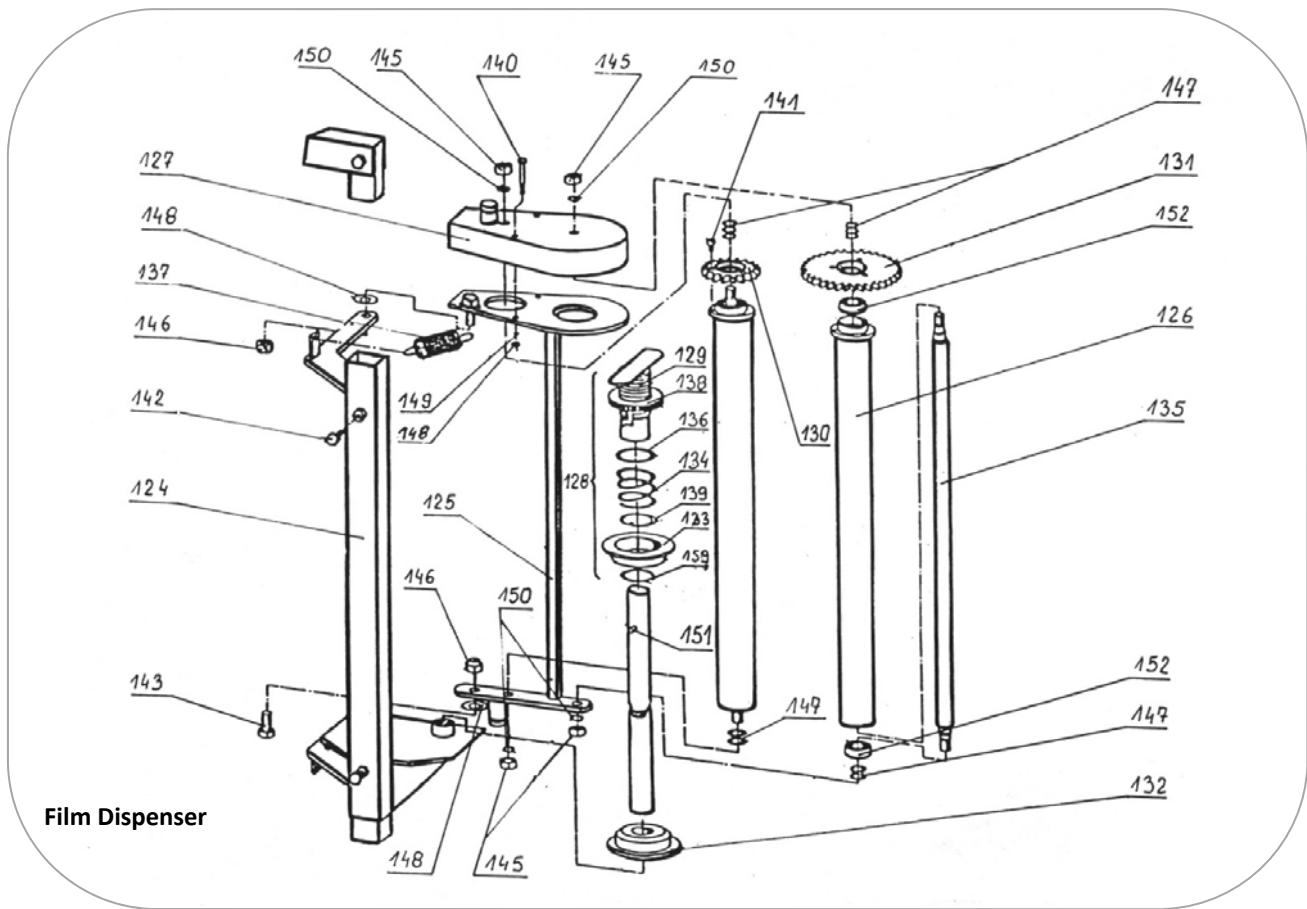
Pos.	Description	Part Number	Qty.
n/a	Main Frame (complete)	274-015-006	1
61	Main Frame (welded)	274-015-108	1
62	Lever (welded)	274-015-200	1
63	Lever	274-011-221	1
64	Locking Pin	274-011-262	1
65	Coupling	274-011-288	1
66	Vertical Beam	274-011-290	2
67	Latch Spring	274-011-310	1
68	Braided Rope	274-011-323	1
69	Clamp	274-011-336	1
70	Block	274-011-351	4
71	Chain	274-011-364	1
72	Barrier (welded)	274-075-504	1
73	Bracket	411-012	1
74	Bolt M10x25	BM10250	2
75	Bolt M10x70	BM10700	1
76	Bolt M10x35	BM10350	2
77	Bolt M12x25	BM12250	4
78	Bolt M12x35	BM12350	2

Pos.	Description	Part Number	Qty.
79	Bolt M12x70	BM12700	2
80	Nut M6	NM60000	2
81	Nut M10	NM10000	2
82	Nut M12	NM12000	2
83	Nut M10	NM10000	1
84	Nut M12	NM12000	2
85	Washer M10	FW10000	2
86	Washer M13	FW13000	2
87	Washer Z6.1	FW6.1000	2
88	Washer Z10.2	FW10.200	2
89	Washer Z12.2	FW12.200	2
n/a	Lower Frame (complete)	274-025-004	1
90	Lower Frame (welded)	274-025-106	1
91	Board (complete)	274-025-208	1
92	Welded Pin	274-025-300	2
93	Wheel Z-12 Set	274-025-401	1
94	Trapezoid Cover	274-021-026	1
95	Semi-Circular Cover	274-021-171	2
96	Washer F9x40x4	274-021-232	1
97	Chain Guide	274-021-273	2
98	Plug 6.5	223-890-850	2
99	Bolt M6x25	BM62500	2
100	Bolt M8x25	BM82500	1
101	Bolt M12x90	BM12900	1
102	Bolt M8x25	BM82500	4
103	Bolt 4.8x19 (self-tapping)	BMST4819	4
104	Nut M12	NM12000	4
105	Washer 13	FW13000	4
106	Washer Z 6.1	FW6.1000	2
107	Washer Z8.2	FW8.2000	1
108	Washer Z12.2	FW12.200	4
109	Prismatic Inlet A8x7x40	PN-M-85005	1
n/a	Hydraulic System Complete	274-055-009	1
110	Hydraulic Motor SR 200	RE-T2110	1
111	Special Valve ZP-2-00	274-055-100	1
112	Flexible Hose AA-10-20000-10/13	BN-81-1903-01	2
113	Valve Plug Quick Disconnect Coupling	ZSR-6-160-13/200	2



Pos.	Description	Part Number	Qty.
114	Valve Plug Quick Disconnect Coupling	Zs-16-13/150G	2
115	Special Plug	274-051-005	2
116	Connector M22x1.5 (overlapping edge)	270-121-117	2
117	Washer	270-121-199	6
118	Bolt M12x45	BM12450	2
119	Nut M12	NM12000	2
120	Washer Z12.2	FW12.200	2
121	Body of Elbow Connector	PN-M-73142	2
122	Lock Nut M16	LN16000	2
123	Gasket 13.3x2.4	PN-M-86961	2

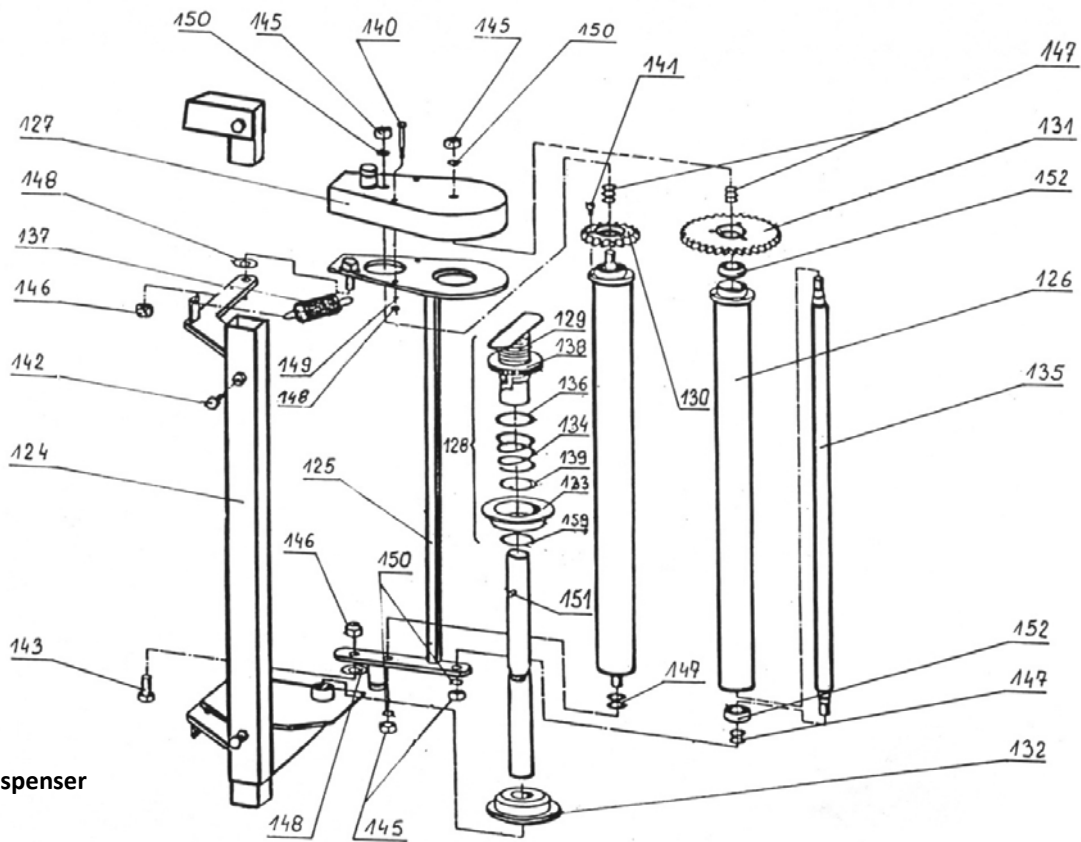
Table 3



Film Dispenser

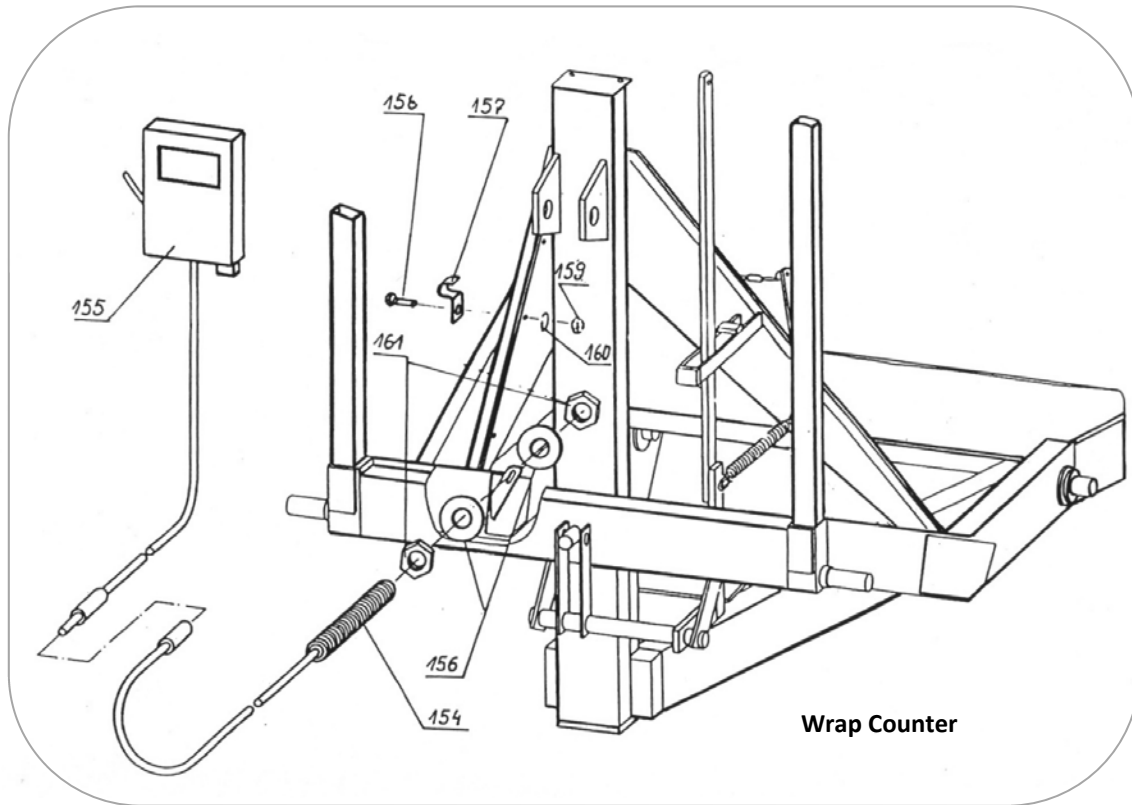
Pos.	Description	Part Number	Qty.
n/a	Film Dispenser	274-045-000	1
124	Dispenser Frame (complete, welded)	274-045-102	1
125	Film Roller Support Bracket (complete, welded)	274-045-306	1
126	Film Roller	274-045-408	2
127	Welded Cover	274-045-601	1
128	Handle (complete)	274-045-703	1
129	Handle (complete, welded)	274-045-805	1
130	Spur Gear (cylindrical, 21)	274-041-007	1
131	Spur Gear (cylindrical, 34)	274-041-010	1
132	Disc 1	274-041-022	1
133	Disc 2	274-041-035	1
134	Spring	274-041-050	1
135	Roller	274-041-109	2
136	Washer	274-041-226	2
137	Spring	274-041-302	2
138	Nut	274-041-330	1
139	Special Washer	274-041-356	1
140	Bolt Mx50	BM50000	2

Film Dispenser

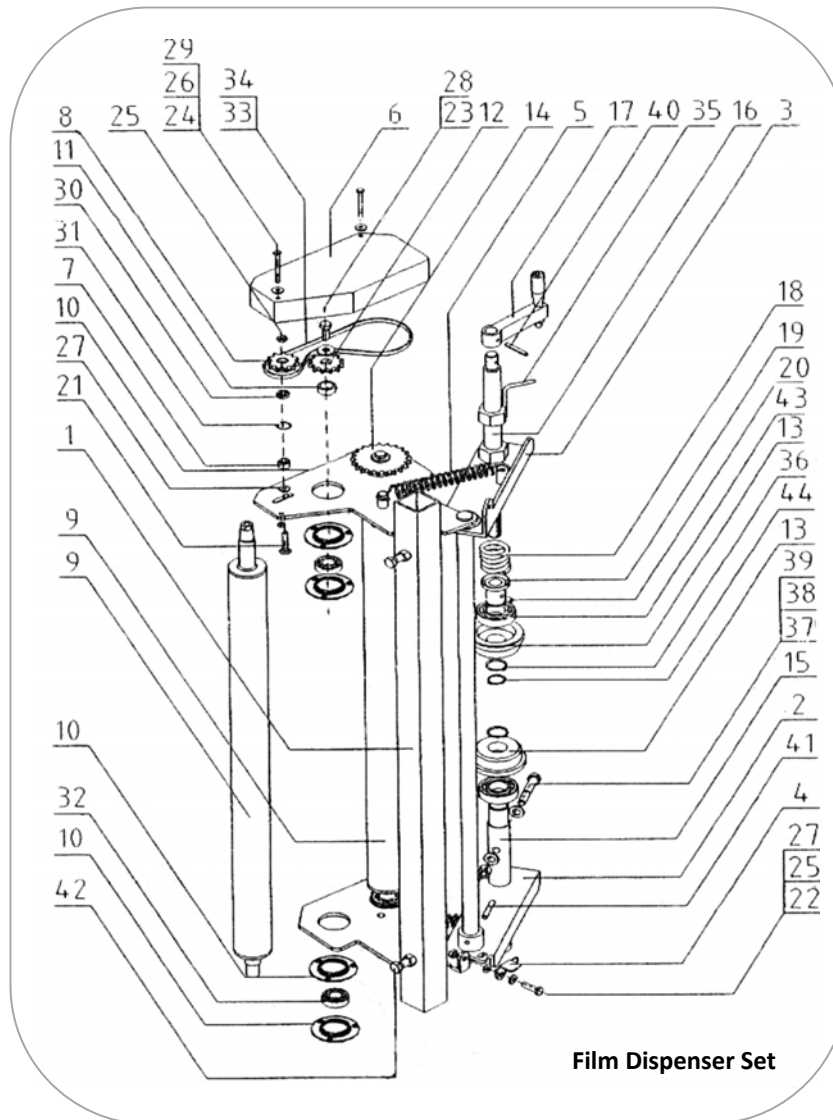


Pos.	Description	Part Number	Qty.
141	Bolt M6x10	BM61000	6
142	Bolt M10x25	BM10250	2
143	Bolt M12x35	BM12350	2
144	Nut M6	NM60000	2
145	Nut M12	NM12000	4
146	Nut M12	NM12000	2
147	Washer M13	FW13000	10
148	Washer M13	FW13000	2
149	Washer Z6.1	FW6.1000	2
150	Washer Z12.2	FW12.200	4
151	Spring Pin 6x28	RE-T3151	1
152	Ball Bearing (62032RS)	B62032RS	4
153	Setting Ring Z38	PN-M-82005	1

Table 4



Pos.	Description	Part Number	Qty.
n/a	Wrap Counter	274-106-006	1
154	Rotation Sensor	274-106-108	1
155	Counter (complete)	274-106-200	1
156	Washer M13x28x2	223-890-554	2
157	Bracket	223-890-977	3
158	Bolt M6x25	BM62500	3
159	Nut M6	NM60000	3
160	Washer Z6.1	FW6.1000	3
161	Nut M12	NM12000	2



Pos.	Description	Part Number	Qty.
1	Mounting Bracket	RE-T501	1
2	Lower Film Bracket	RE-T502	1
3	Upper Film Bracket	RE-T503	1
4	Lock	RE-T504	1
5	Spring 1	RE-T505	1
6	Lid	RE-T506	1
7	Spacing Sleeve	RE-T507	1
8	Spur Gear Z11	RE-T508	1
9	Tensioner Roller (set)	RE-T509	2
10	Setting P205	RE-T510	8
11	Spacing Sleeve 3	RE-T511	2
12	Spur Gear Z12	RE-T512	1
13	Film Compression Section	RE-T513	2

Pos.	Description	Part Number	Qty.
14	Spur Gear Z21	RE-T514	1
15	Lower Roller	RE-T515	1
16	Adjustment Screw	RE-T516	1
17	Handle Set	RE-T517	1
18	Spring 2	RE-T518	1
19	Sleeve	RE-T519	1
20	Interlock	RE-T520	1
21	Bolt M8x40	BM84000	1
22	Bolt M8x30	BM83000	1
23	Bolt M10x25	BM10250	2
24	Bolt M6x70	BM67000	2
25	Nut M6	NM60000	2
26	Nut M6	NM60000	2
27	Washer 8.4	FW8.4000	3
28	Washer 10.5	FW10.500	2
29	Washer 6.5	FW6.5000	2
30	Bearing 608Z	B608Z	1
31	Ring W-22	RE-T531	1
32	Bearing FD205	BFD205	4
33	Roller Chain 08B 1/2"	RE-T533	1
34	Connecting Link 08B	RE-T534	1
35	Lock Nut M27	LMN2700	1
36	Ring Z-30	RE-T536	2
37	Bolt M12x70	BM12700	1
38	Nut M12	NM12000	1
39	Washer 13	FW13000	2
40	Dowel 6x45	D64500	1
41	Dowel 8x50	D85000	1
42	Bolt M12x30	BM12300	2
43	Bearing 6206 RS	B62062RS	2
44	Ring Z-20	RE-T544	1

LIMITED WARRANTY

Tar River Equipment warrants to the original purchaser of any new piece of machinery from Tar River Equipment, purchased from an authorized Tar River Equipment dealer, that the equipment be free from defects in material and work-manship for a period of one (1) year for non-commercial, state, and municipalities' use, ninety (90) days for commercial use from date of retail sale. Warranty for rental purposes is thirty (30) days. The obligation of Tar River Equipment to the purchaser under this warranty is limited to the repair or replacement of defective parts.

Replacement or repair parts installed in the equipment covered by this limited warranty are warranted for ninety (90) days from the date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later. Warranted parts shall be provided at no cost to the user at an authorized Tar River Equipment dealer during regular working hours. Tar River Equipment reserves the right to inspect any equipment or parts which are claimed to have been defective in material or work-manship.

This limited warranty does not apply to and excludes wear items such as chains, knives, blades or other wear items. Oil or grease is not covered by this warranty.

All obligations of Tar River Equipment under this limited warranty shall be terminated if:

Proper service is not performed on the machine

The machine is modified or altered in any way.

The machine is being used or has been used for purposes other than those for which the machine was intended.

DISCLAIMER OF IMPLIED WARRANTIES & CONSEQUENTIAL DAMAGES

Tar River Equipment obligation under this limited warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed, including implied warranties of merchantability and fitness for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include but not be limited to: transportation charges other than normal freight charges; cost of installation other than cost approved by Tar River Equipment; duty; taxes; charges for normal service or adjustment; loss of crops or any other loss of income; rental of substitute equipment, expenses due to loss, damage, detention or delay in the delivery.