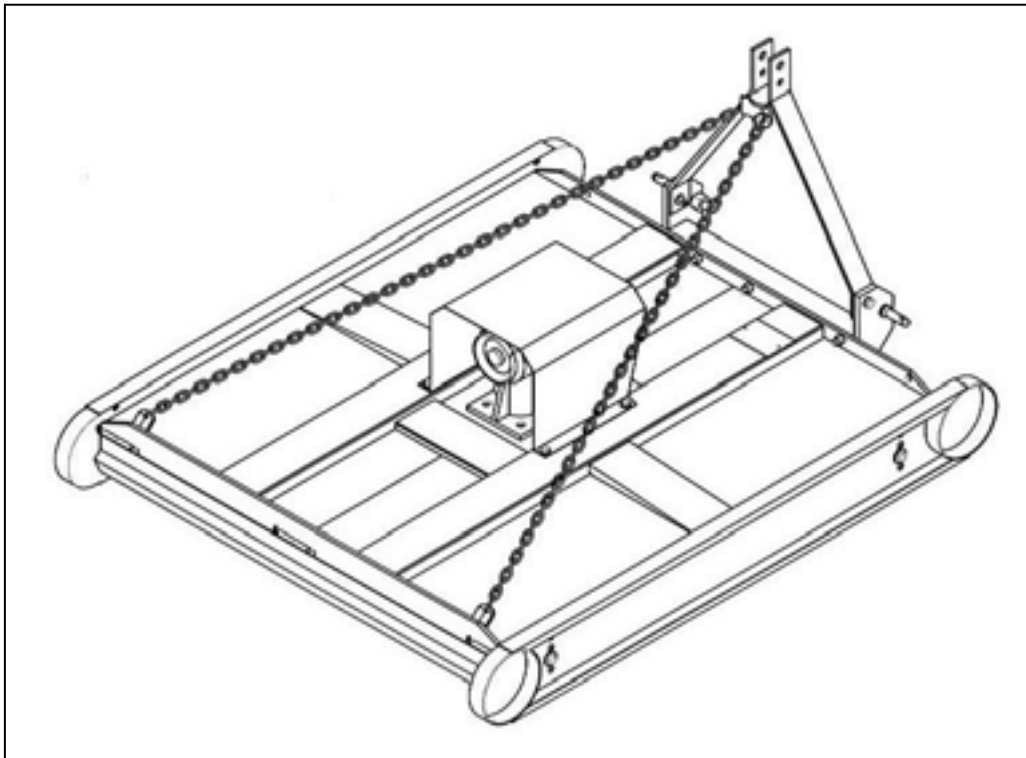




USE AND MAINTENANCE MANUAL

ROTARY SLASHER TORNADO



PREFACE

This manual is an integral part of the machine.

It must always accompany the machine and be kept within reach of the operator.
The enclosures mentioned are an integral part of this manual.

The purpose of this manual.

This manual gives information for the correct and safe use of the machine.
The owner must read this manual carefully before work with the machine.

Responsibility of the owner

The owner is responsible for accidents or damages caused to people or things due to negligence in following the instructions in this manual.

Assistance in using this manual

Explanations: contact the dealer.

Request for additional copies of the manual: in case of loss or wear and tear, or in case one wants the manual in a different language, the customer should ask the dealer or manufacturer.

Pay attention to the warning signals



<Danger>: indicates a situation that is potentially dangerous which, if not avoided, will cause death or serious damage.



<Warning>: indicates a situation that is potentially dangerous which, if not avoided, will cause death or serious damage.



<Caution>: indicates a situation that is potentially dangerous which, if not avoided, can cause minor to moderate damage, or it indicates to be careful about an unsafe procedure.

<Important>: indicates instructions that must be followed precisely in order to avoid damage to the product, process or environment.

<Note>: indicates supplementary information.

DESCRIPTION

FUNCTION OF USE

A machine of modern conception, the rotary slasher does excellent work in pulling out tall grass, for example in orchards and vineyard.

The rotary land clearing machine rids fields of harmful grass and bushes to make them suitable for subsequent cultivation.

What remains on the land serves to retain humidity.

PERFORMANCES

The machine is connected to the tractor with a three points hitch that gives the motion of translation and with a PTO shaft connected with the tractor PTO that gives the motion of rotation to the blade shaft.

The grass isn't cutted but torn in pieces with a length from 3 to 5 inches.

Centrifugal force puts out the material in regular way and realizes a kind of mulch that disintegrates itself quickly.

The cutting height is adjustable in 5 pre-determined positions from 1.2 to 8 inches.

PERFORMANCES LIMITS

- Maximum forwarding speed: 9 m.p.h.
- Speeds greater than the maximum can compromise the condition of the machine, the quality of the work and the safety of the operator.
- Maximum power applicable to the gear box: from 22 to 50 Kw \pm 5% with 540 r.p.m according to the type.
- Superior power to which is indicated can damage irreparably the transmission gear box; especially during heavy works.
- .

STANDARD EQUIPMENT

- **Cutting members with blades.**
- **PTO shaft slip clutch TORNADO 150/2-150/3-180** - page. 19-20
- **PTO shaft shear pin TORNADO 90-100-110-120-135** - page. 17-18

VARIANTS & OPTIONS

- **PTO shaft slip clutch TORNADO 90-100-110-120-135** - page. 17-18
- **PTO shaft shear pin TORNADO 150/2-150/3-180** - page. 19
- **PTO shaft free wheel TORNADO 90-100-110** - page. 17

THECNICAL SPECIFICATIONS

CHARACTERISTICS PER MODEL

Model	Type	Power		PTO	Cutting width		Cutting height		Blades	Blades speed	3 Points hitch	Weight	
		Hp	Kw		g/min	cm	Inch	cm				Inch	N°
	90	30	22	540	90	35	3+15	1.2+8	2	1528	1	112	257
TORNADO	100	30	22	540	100	39	3+15	1.2+8	2	1528	1	127	280
	110	30	22	540	110	43	3+15	1.2+8	2	1528	1	142	313
	120	40	30	540	120	47	3+15	1.2+8	2	1026	1	157	346
	135	40	30	540	135	53	3+15	1.2+8	2	1026	1	175	386
	150/2	40	30	540	150	59	3+15	1.2+8	2	1026	1	210	463
	150/3	70	50	540	150	59	3+15	1.2+8	3	1042	2	229	505
	180/3	70	50	540	180	71	3+15	1.2+8	3	810	2	308	679

SAFETY INFORMATION

GENERAL REGULATIONS

- Only work in daylight.
- To prevent damage due to launch of objects or parts of blades, before to start job be sure that any persons or animals should be in the radius of 50 meters from the machine.
- Wear long pants and heavy shoes.
- The protections are integral part of the machine: always work with the protections.
- Pay attention to the soil: make sure that are not stones, sticks, iron wires, etc...
- Pay attention using the machine on slopes: proceed to the maximum slope and never work in slanting direction.
- Before leaving the driver's seat, turn off the engine and disengage the transmission engine-shaft.
- Check immediately the machine if it touches foreign objects.
- Check immediately the machine if there are unusual strong vibrations.
- Change quickly defective parts.

SAFETY RESTRICTIONS

Children and people who are not familiar with these instructions must not be permitted to use the machine. Local regulations can restrict the use of the machine in accordance to the age.

SAFETY SIGNS ON THE MACHINE

In this section the safety signs on the machine are reproduced and explained.



1

2

3

4

5

1. Read the operator manual.
2. Disconnect the tractor key before maintenance and repair operations.
3. Stay at safety distance from the blades.
4. Danger of flying objects. Stay at safety distance.
5. Stay at safety distance from blades when machine is moving.

The safety signs on the machine must always be legible.

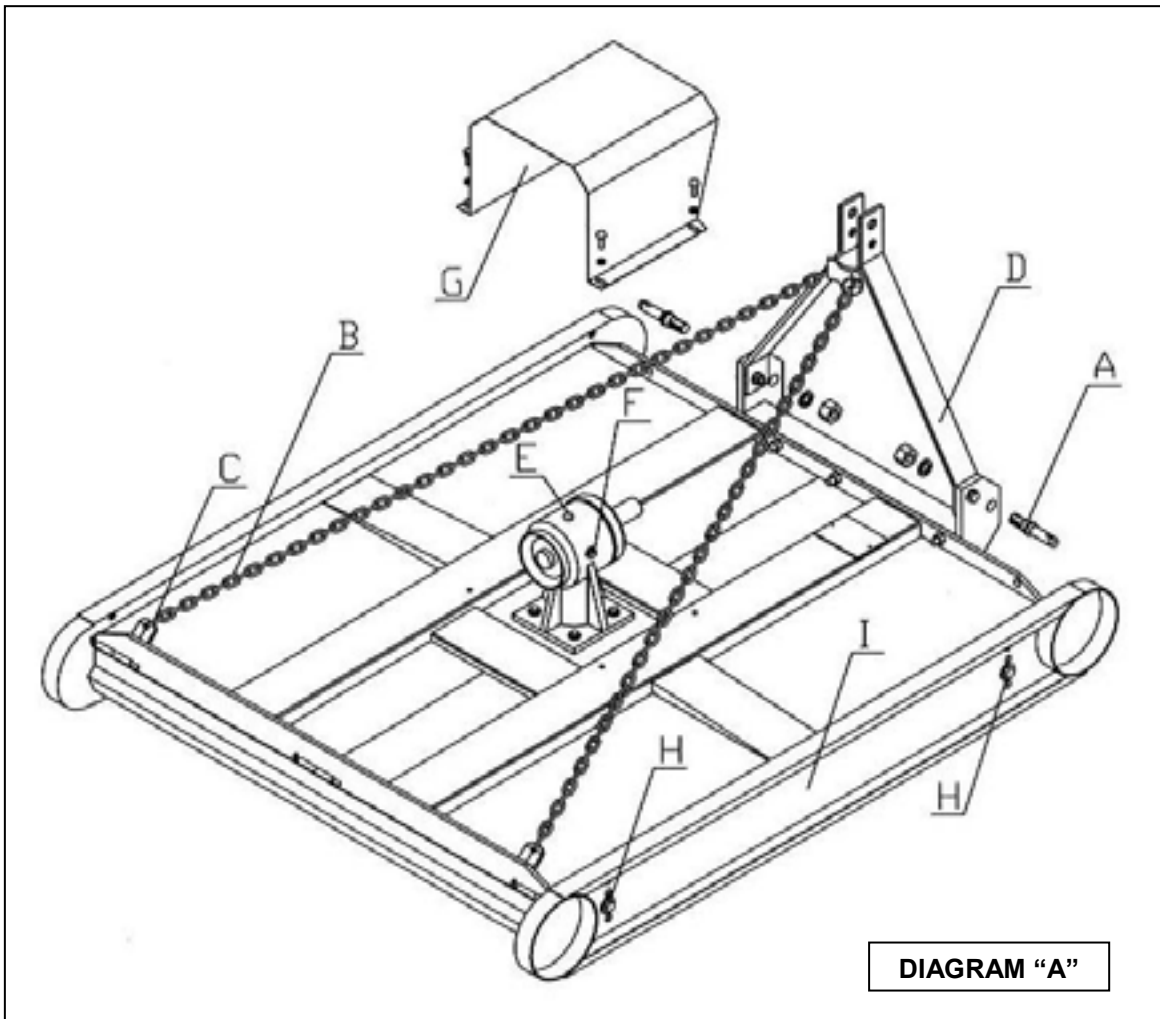
In case of damage, the labels of the signs must be substituted.

In the case of the substitution of machine parts that have safety signs, the signs must be replaced.

Supplying of new safety labels and the application procedure.

Contact your dealer to receive new safety labels with instructions for application.

ASSEMBLY INSTRUCTIONS



1. ASSEMBLING

- a) Assemble the pins "A" in the holes of the connection bar.
- b) Fix the chain "B" through the clip "C" to one of the two brackets in the frame rear part, run the chain through the pipe welded on third point "D" and fix the second side of the chain to the second bracket.
- c) Through the plug "E" fill oil, in foreseen type and quantity at point "1-b" page 10, in gear box.
- d) Assemble the safety protection "G" (only on TORNADO 150-180).

INSTRUCTION FOR USE

BEFORE BEGINNING WORK

- a) Hook the machine to the tractor as follows :
 - 1. Plug in tractor raising beams into lower hitch points of the machine, lock with safety pins.
 - 2. Connect through tie-rod the third hitch point of the tractor with the third point of the machine (the connection triangle vertex), insert the pin and lock it with safety pin.
- b) Adjust cutting height as follows :
 - 1. Refer to diagram "A" unscrew and take out the screws "H" on the machine right side.
 - 2. Adjust cutting height moving slide "I" towards up to decrease and towards down to increase.
 - 3. Plug in and lock screws "H".
 - 4. Repeat the same operations on the other machine side make sure to set up the same cutting height on the two slides.
- c) Check oil level in the gear box (see point "1-a" page 10).
- d) With the machine raised, go to the working zone.
- e) Connect the machine PTO shaft to the tractor PTO.
- f) Check that PTO chain is locked to prevent the protection sheet of PTO from rotating.

TO BEGINNING WORK

- a) Keep people and animals at least 65 feet radius all around the machine.
- b) Pull down the machine until the slides touch the ground.
- c) Connect PTO power and gradually bring it to 540 r.p.m...
- d) Start to work.

AT THE END OF WORK

- a) Stop the tractor.
- b) Raise the machine.
- c) Disconnect PTO power.
- d) Disconnect PTO joint from tractor PTO.

MAINTENANCE INSTRUCTIONS

On schedule "A" the maintenances are indicated with their terms to effect on the machine.
 Not follow the scheduled terms can compromise the functionality of the machine and in this case the warranty is not applicable.

SCHEDULE "A" SCHEDULED MAINTENANCE

	FIRST START	AFTER 10 HOURS	EACH 30 HOURS	EACH 500 HOURS.	END SEASON	BEGIN. WORK	END WORK
MACHINE					Cleaning		Cleaning
ANGULAR GEAR BOX	Put oil	Fill oil	Check level	Change oil			
PROTECTIONS			Check			Check	
SCREW		Locking	Locking				
BLADES			Check Sharpness Balance				Check Cleaning

1. OIL CHECK_OIL SUBSTITUTION

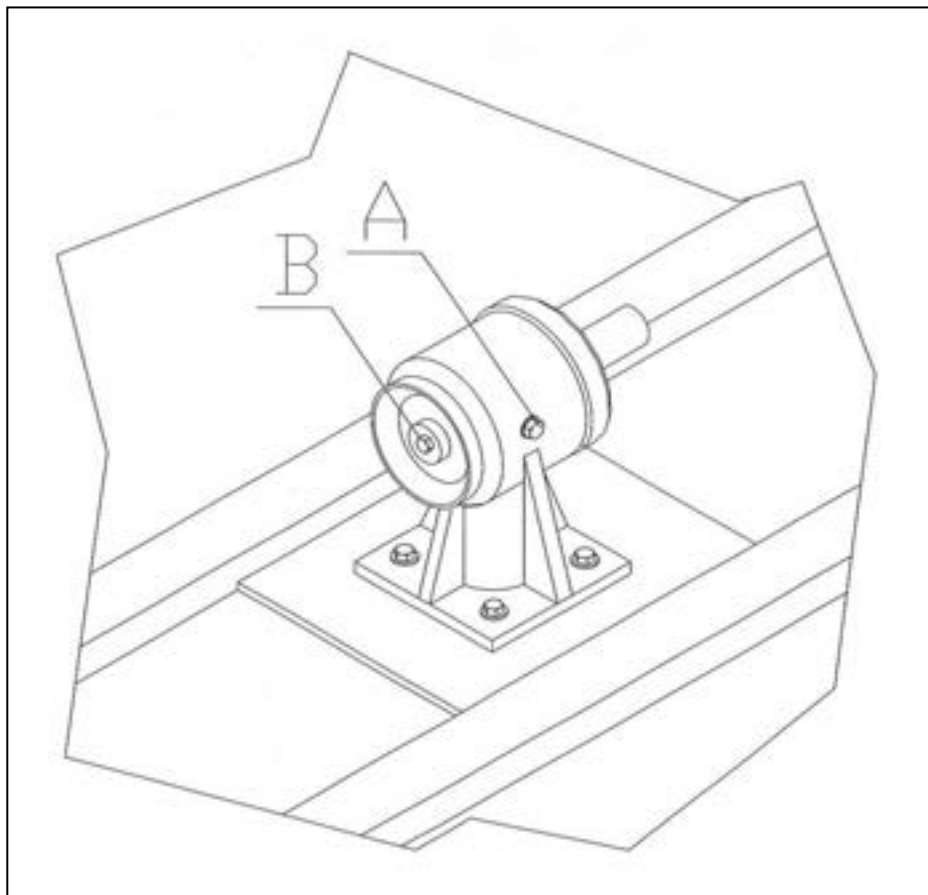
At the scheduled time on schedule "A", check or substitute oil in gear box.
To fill oil use only OIL SAE 140 EP.
Angular gear box capacity: L 0,5

a) To check oil level in gear box, refer to diagram "A", operate as follows :

1. With machine on level unscrew the plug "F" and check that oil touches on lower hole rim.
2. If the level it's OK screw the plug "F".
3. If the level it's low unscrew plug "E" and fill oil.
4. When level its OK screw and lock plugs "E" and "F".

b) To change oil in gear box, refer to diagram "A", operate as follows :

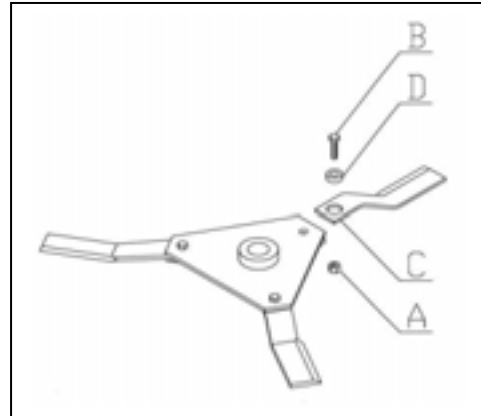
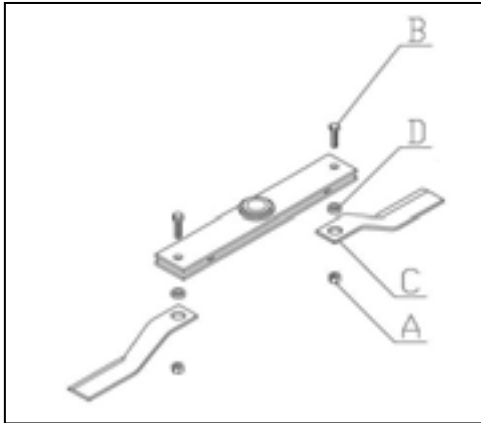
1. Unscrew the plugs "E" and "F".
2. Take out from hole "E", with a pump, all the oil.
3. Fill new oil through hole "E" and check that oil touches on lower hole "F" rim.
4. Screw and lock plugs "E" and "F".



2. BLADE SUBSTITUTION

a) To change the blades operate as follow :

1. Unscrew nut "A" and take out the screw "B" from hole.
2. Take out the blade "C" from blade case.
3. Put the bush "D" inside the new blade.
4. Insert the new blade in the blade case.
5. Screw the screw "B" and lock with nut "A".



PROBLEMS SOLVING

TROUBLES	CAUSES AND SOLUTIONS
Abnormal vibrations	-Damaged blade - Replace -Broken blade - Replace -Not balanced blade - Balance
Uneven or unsatisfactory cut	-Not sharp blade - Sharp

TRANSPORT

Except when working, moving the machine takes place when the machine is standing still and the transmission is disconnected.

<Important>: keep speed low avoiding holes and ground roughness.

<Important>: Before begin the movements always make sure that the safety hooks be in position.

<Note when on the road, obey existing traffic laws. Exhibit the signal signs on the rear ends. Respect any local laws there may be.

STORAGE

Store the machine in a dry place that isn't dusty.

INFORMATIONS ON DEMOLITION

At the end of its working life, the machine must be sent to be demolished and that can only be done by an authorized authority, in accordance with the national laws in force for the environment. Therefore it is necessary to get information from the qualified local authorities on the procedure to follow. The machine is mainly composed of: iron materials and paints.

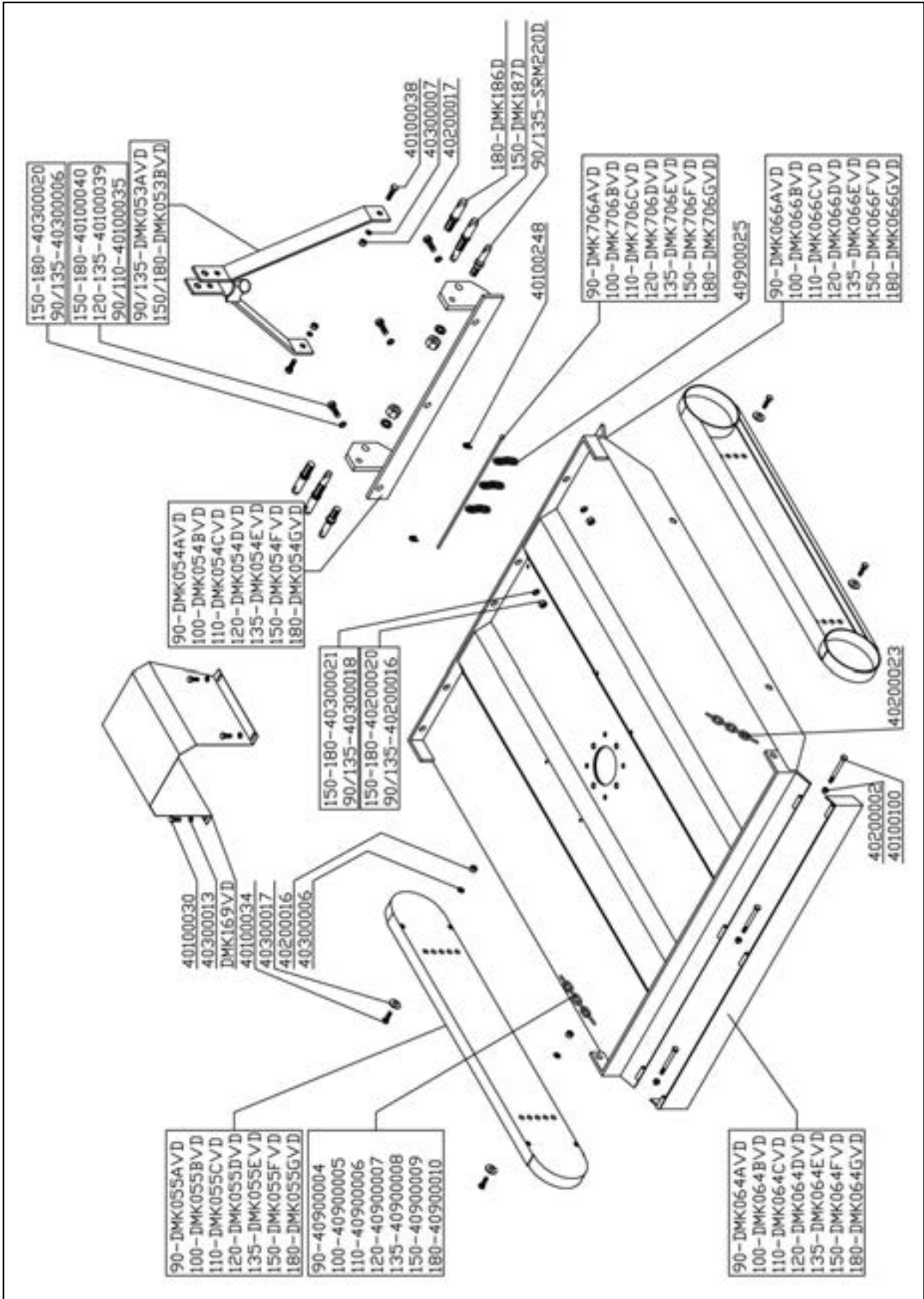
WARRANTY

The machine is covered by the manufacturer warranty for a period of 24 months.

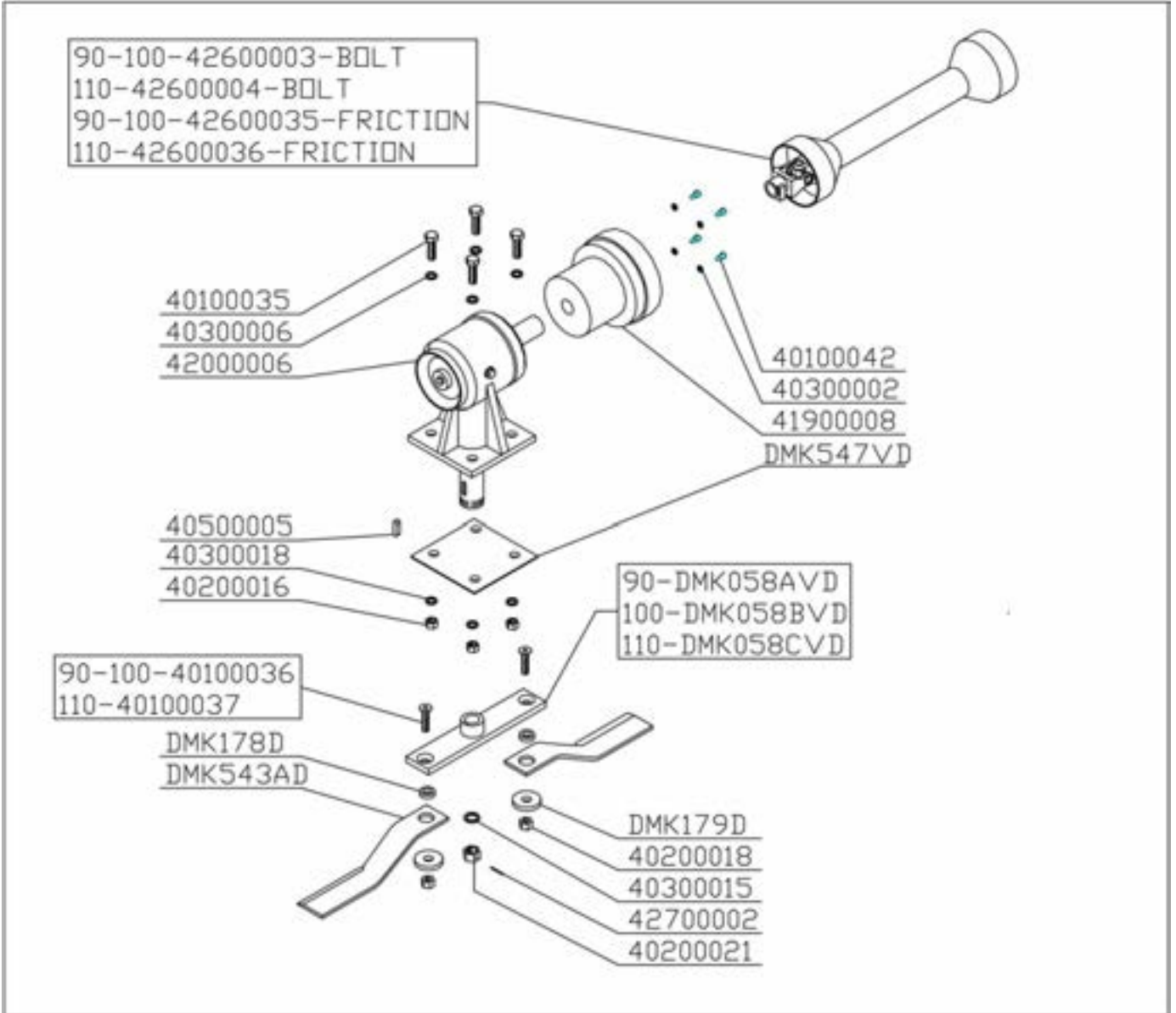
The warranty is not applicable when:

- a) The maintenance work has not been done correctly.
- b) The machine has been used out of its own service.
- c) The machine has been transformed or modified without the manufacturer's written authorization.

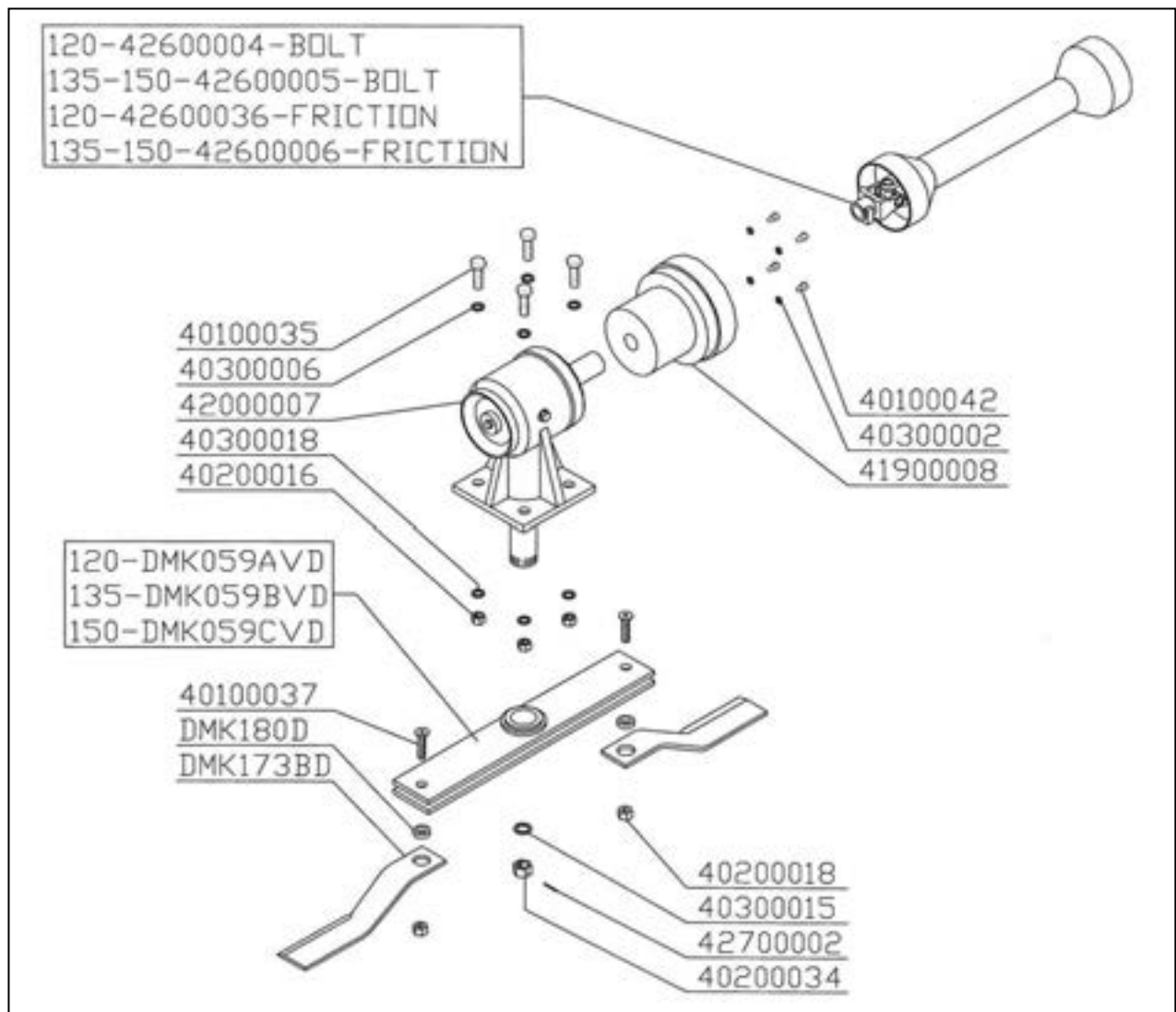
SPARE PARTS AND OPTIONS



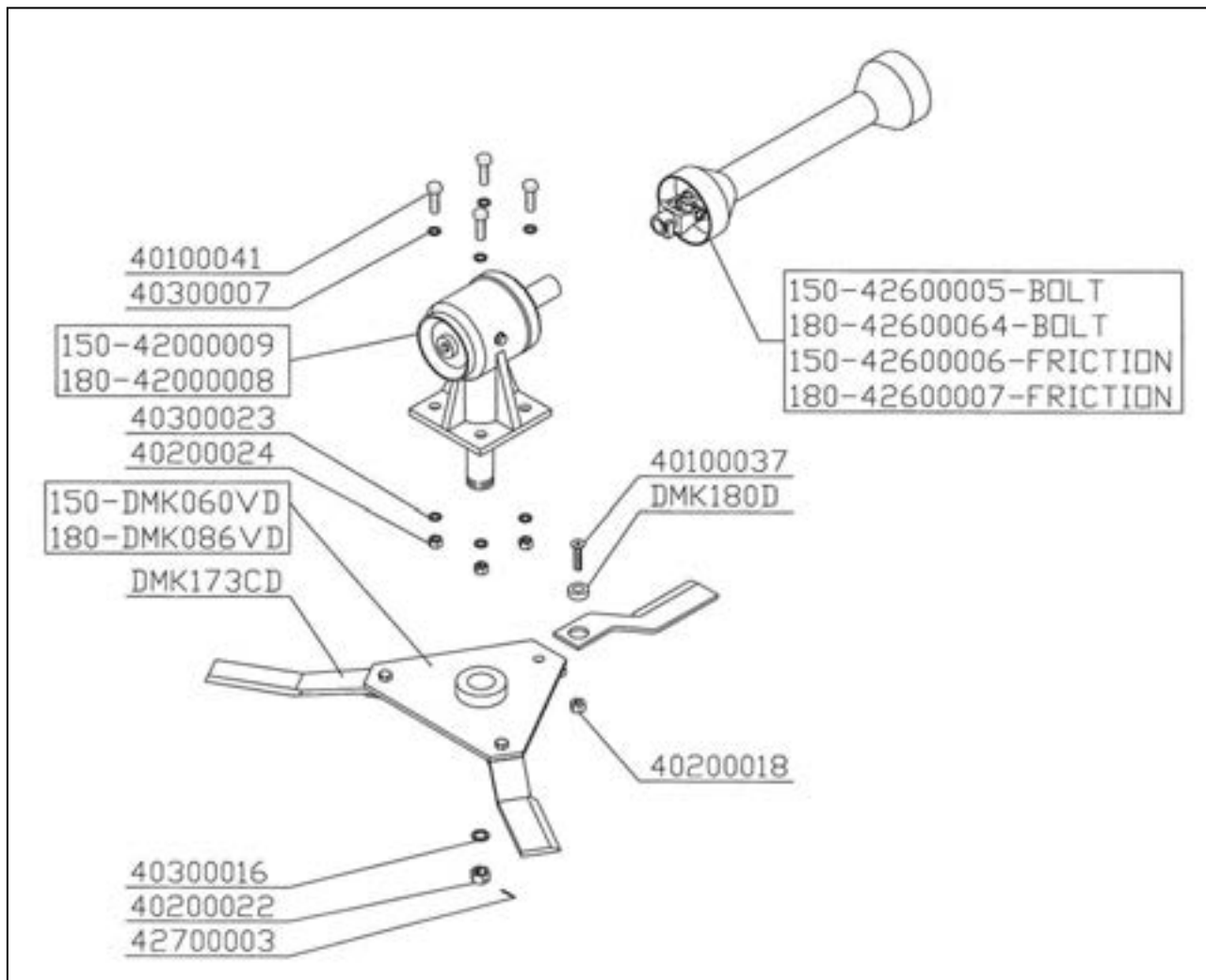
TORNADO 90 - 100 - 110 TRANSMISSION



TORNADO 120 - 135 - 150/2 - AM120 TRANSMISSION



TORNADO 150/3 - 180 TRANSMISSION



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