



ROTARY TILLER "T" SERIES

GB Manufactured Gearbox

**Operation, Service
& Parts Manual**



Carefully read this manual
before using the machine

March 2012 *Revised*

No part of this manual shall be reproduced, copied or disseminated by any means, without manufacturer prior authorization in writing.

Gearmore reserves the right to make any necessary changes without giving prior notice, in order to optimize the quality and safety features and does not commit itself to updating this manual every time a change is made.

This booklet provides a thorough and accurate description of the instruction and maintenance activities to be carried out on the tiller you purchased. We congratulate you on your choice and urge you to thoroughly familiarize yourself with and follow the instructions contained in this manual. This will assure you a long, safe and trouble free working life for your tiller.

Gearmore shall not assume any responsibility should problems arise as a result of lack of compliance with the instructions and/or operator's negligence.

The manual is divided in chapters and paragraphs and the pages are numbered, thus offering accurate and precise information.

Date of Purchase: _____

Model Number: _____

Serial Number _____

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GENERAL INFORMATION

GENERAL INFORMATION

APPLICATION

The T Series Rotary Tillers are designed to till soil for seedbed or planting preparation. The T Series Tillers are adapted for tractors with 540 and 1000 rpm PTO speeds and Category 2, 3-point hitch tractors up to 160 HP.

SYMBOLS

This booklet contains three "safety pictograms" which highlight the relevant danger levels or important information:



It draws the operator's attention to special situations which may jeopardize people's safety.



It draws the attention to situations which unfavorably affect the machine efficiency, but not people's safety.

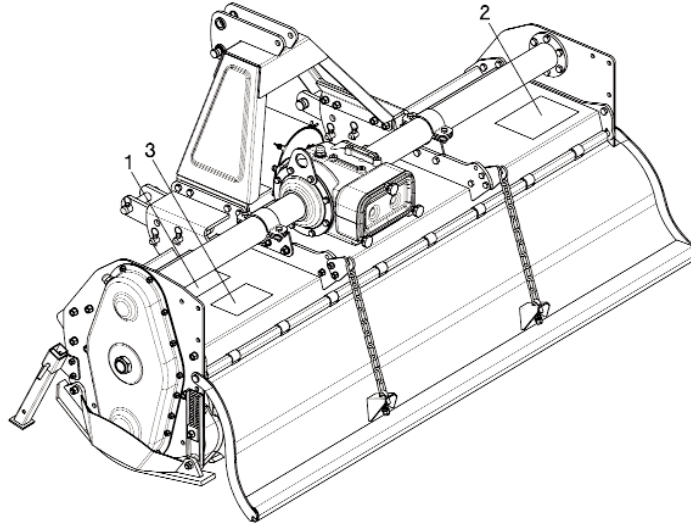


It is used for general information, when people's safety or the efficiency of the parts are not at risk.

SAFETY LABELS

SAFETY LABELS

The safety labels and information on the machine (labels 1, 2 and 3), must be complied with. Failure to comply with these warnings may result in severe injuries or even death. Make sure that the labels are always present and legible; should this not be the case, contact your nearest Gearmore dealer to request replacements



1

DANGER

1 MAKE SURE DRIVELINES ARE OF THE CORRECT LENGTH AND PROPERLY CONNECTED. DRIVELINE SEPARATION AND/OR PTO STUB SHAFT FAILURE CAN CAUSE INJURY OR DEATH. (See Operator's Manual for procedure)

1 - SEE MANUAL FOR MINIMUM OVERLAP & MAXIMUM MAXIMUM LENGTHS

BOTTOMING OUT

2 MAKE SURE THAT DRIVELINE SHIELDS ARE INSTALLED CORRECTLY AND TURN FREELY TO AVOID INJURY OR DEATH FROM ENTANGLEMENT

3 MAKE SURE THAT DRIVELINE IS INSTALLED CORRECTLY ON TRACTOR PTO SHAFT. MOVE YOKE BACK AND FORTH UNTIL LOCKING COLLAR CLICKS FORWARD AND LOCKS YOKE IN PLACE.

4 540 PTO RPM UNLESS SPECIFICALLY MARKED OTHERWISE.

4781001

3

WARNING

SHIELDS AND DEFLECTORS MAINTAINED IN BAD CONDITION MAY CAUSE INJURY OR DEATH FROM ENTANGLEMENT WITH ROTATING PARTS, BEING HIT BY OBJECTS THROWN WITH GREAT FORCE BY BLADES, OR BY BLADE CONTACT.

- Always replace Guards which have been removed for maintenance. Never operate with guard missing or broken.
- Chain Guards, Gearbox, Drivelines Shields, eventual Rubber-fabric Deflectors, and solid band enclosures are subject to wear and lost or broken parts must be replaced or repaired as soon as damage is found.
- Safety shielding must be installed and in good condition to avoid the possibility of thrown objects when the machine is operated in any area where thrown objects could cause injury.

SHIELD

DEFLECTOR

4781006

2

DANGER

FAILING TO FOLLOW SAFETY MESSAGES AND OPERATING INSTRUCTIONS CAN CAUSE SERIOUS BODILY INJURY OR EVEN DEATH TO OPERATOR AND OTHERS IN THE AREA.

1. READ OPERATOR'S MANUAL CAREFULLY AND PAY ATTENTION TO SAFETY DECALS FOR TRACTOR AND TILLER THOROUGHLY TO AVOID MISUSE, ABUSE, AND ACCIDENTS. PRACTICE BEFORE OPERATING.

2. OPERATE ONLY WITH ROPS AND FASTEN SEAT BELT TO AVOID INJURY AND POSSIBLE CRUSHING DEATH FROM OVERTURN. ALLOW NO RIDERS ON TRACTOR OR TILLER. FALLING OFF CAN CAUSE SERIOUS INJURY OR DEATH BY BEING RUN OVER BY TRACTOR OR TILLER OR BY BEING CUT BY THE ROTATING TILLER BLADES. ALLOW NO CHILDREN ON OR NEAR TILLER OR TRACTOR.

3. TO AVOID INJURY FROM FALLING OBJECTS WEAR HARD HAT, SAFETY GLASSES AND SHOES.

4. BLOK UP OR SUPPORT MACHINE SEVERELY BEFORE PUTTING HANDS OR FEET UNDER, OR WORKING UNDERNEATH LIFTED PARTS TO AVOID CRUSHING INJURY OR EVEN DEATH FROM SUDDEN, INADVERTENT DROPPING. MAKING SURE AREA IS CLEAR BEFORE LOWERING.

5. BEFORE TRANSPORTING, PUT LIFT LEVER IN LIFT (DETENT) POSITION AND FOLLOW TRAFFIC CODES. SLOW DOWN AT NIGHT, IN TURNS, & ON HILLSIDES.

6. MAKE SURE THAT SMV SIGN, WARNING LIGHTS, AND REFLECTORS ARE CLEARLY VISIBLE.

7. NEVER OPERATE WITH TILLER RAISED OF GROUND TO REDUCE POSSIBILITY OF INJURY FROM OBJECTS THROWN UNDER TILLER STRUCTURE.

8. BEFORE DISMOUNTING, SECURE TILLER IN TRANSPORT POSITION OR LOWER TO GROUND, STOP PTO, PUT TRACTOR IN PARK OR SET BRAKE, STOP ENGINE, AND REMOVE KEY. NEVER MOUNT OR DISMOUNT MOVING VEHICLE TO PREVENT POSSIBLE CRUSHING INJURY OR DEATH.

1. READ MANUAL

2. SEAT BELTS, ROPS NO RIDERS

3. SAFETY SHOES, HARD HAT, SAFETY GLASSES

4. FALLING OFF

5. TRANSPORT SAFELY

6. USE SMV, LIGHTS, & REFLECTORS.

7. DO NOT OPERATE WITH TILLER RAISED.

8. MOUNTING & DISMOUNTING

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TECHNICAL DATA

TECHNICAL DATA

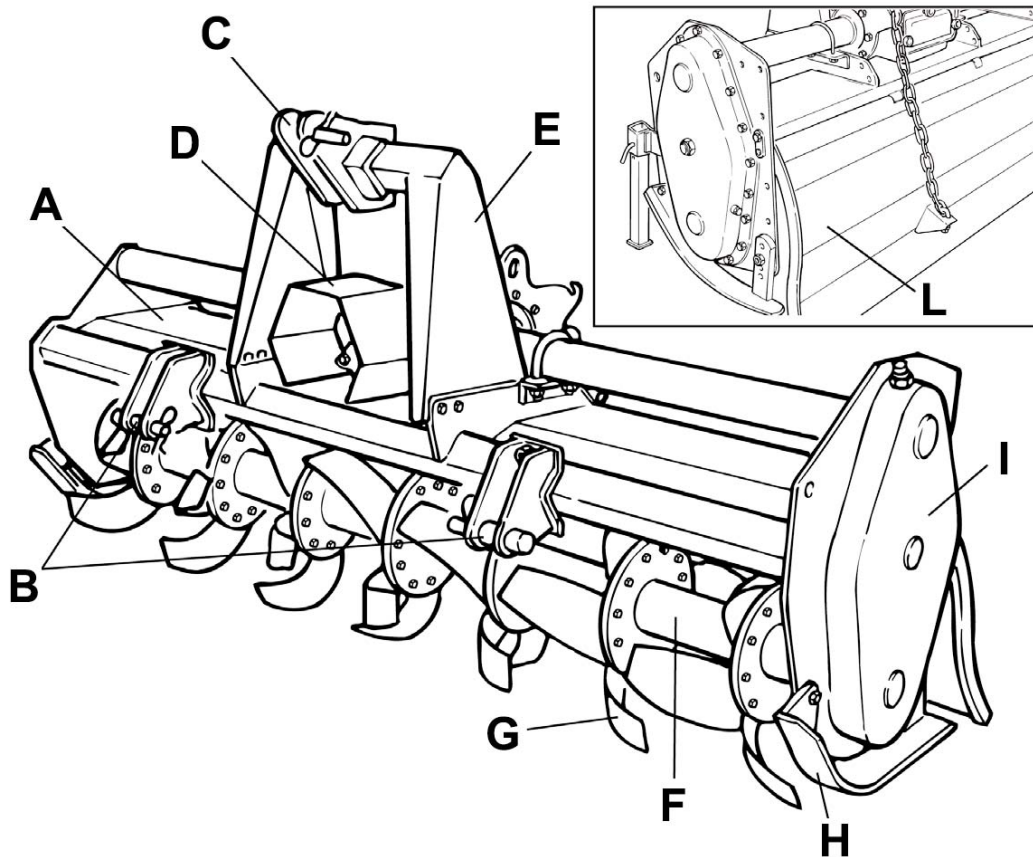
Model	Tilling Width		HP	Weight (Approx.)		Working Depth (Max.)		Side Drive		Blades (Qty.)	Blades	
	cm	Inches		kg	lbs.	cm	Inches	Chain	Gear		Blades /Flange	Shape
T	230	90	90-100	930	2140	25	10		*	60	6	Curved
	280	110	100-120	1110	2205	25	10		*	66	6	Curved
	305	120	120-160	1150	2275	25	10		*	72	6	Curved



When asking for information or technical service, always specify the machine type and width.

MAIN PARTS TERMINOLOGY

MAIN PARTS TERMINOLOGY



- A) Frame
- B) Lower 3-point hitches
- C) Upper 3-point hitch
- D) Cardan guard
- E) 3-point mast

- F) Rotor
- G) Tines
- H) Side skids
- I) Transmission case
- L) Cover

INFORMATION

IDENTIFICATION PLATE

An identification plate is placed on each tiller and is structured as follows:

Serial number (sample):



RECOMMENDED USE

The tillers described in this instruction and maintenance manual, have been designed explicitly to till the land. Any other use jeopardizes the operator's safety and the machine integrity.

INAPPROPRIATE USE

The tillers shall not be used as follows:

- Connected to vehicles which do not have a suitable power or weight.
- Without being properly installed by securing the hitch brackets to all three points of the tractor lift unit.
- Tilling of extremely stony or unsuitable ground.
- Raising or lifting of the equipment when the power take off is engaged.
- In close proximity to person/s when power is engaged.
- Do not stand or step on the equipment when it is being operated or transported.
- Do not operate the machinery while wearing unsuitable (loose fitting) clothing.

TORQUE SPECIFICATIONS

For correct hardware tightening on the tiller, we suggest the use of suitable torque wrench and the applicable torque as listed in the table below:

M-THREADED SCREW/BOLTS
Bolt grade

Thread	8.8		10.9	
	Nm	Lb-ft	Nm	Lb-ft
M6	11	8.5	17	12
M8	28	20	40	30
M10	55	40	80	60
M12	95	70	140	105
M14	150	110	225	165
M16	240	175	305	225
M18	330	250	475	350

SAFETY

SAFETY IN THE WORKPLACE

Most of the accidents, which occur while the operator is using the machine or the equipment or carrying out maintenance and repair activities, are caused by the non-compliance with the main safety requirements.

Therefore the potential risks must be fully understood and special attention must be paid to the activity which is being executed.

**If potentially dangerous situations are known,
accidents can be prevented!**

USER'S REQUIREMENTS

The equipment user must have the following:

Physical: good sight, co-ordination and capability to execute all instructions in a safe manner.

Mental: the users must understand and follow the prescribed norms, rules and safety measures. They must be careful, pay attention to their own safety and the safety of other people and act properly and in a responsible way.

Training: the users must read and understand this manual, its pictures and charts, and the identification and hazard plates. They must be specialized, trained and qualified on any use and maintenance activities.

WORK CLOTHING

The following clothing and personal protective equipment must be used when working and executing maintenance and repair activities:

- Overalls or any other comfortable outfit; make sure that they are not too loose since they might be caught by moving parts.
- Protective gloves.
- Goggles or mask to protect the eyes and face.
- Safety helmet.
- Safety shoes.



Wear only personal safety accessories in good condition and complying with the rules in force.

GENERAL SAFETY NORMS

The features of the area where work is taking place must always be taken into consideration:

- Do not stand in the working radius of the operating machinery or any other machine accessories when the equipment is running.

PREPARATION

Prepare the work:

- Do not drink alcohol, take drugs, or any other substances which may affect your ability to use the equipment before or when working.
- Make sure that there is sufficient fuel in the tractor to prevent the machine from stopping during work.
- Do not use the equipment under unsafe conditions, e.g. do not make temporary repairs just to start or keep working; do not work at night if the area is not well illuminated.

When working or executing maintenance activities, remember:

- The labels and stickers providing instructions on the use of the equipment or information on dangers must not be removed or hidden, and must be legible.
- Do not remove the safety devices, covers and safety guards, unless maintenance activities are being carried out. If the safety devices must be removed, turn the engine off, remove them correctly and re-install them before turning the tractor on.
- Do not lubricate, clean or adjust moving parts.
- Use the appropriate tools to execute maintenance or adjustment activities on the equipment.
- Do not use damaged or unsuitable tools, e.g. pliers rather than wrenches etc.
- Prior to carrying out activities on hydraulic lines under pressure, or disconnecting their components, make sure that the line is no longer under pressure and that it does not contain any hot fluids.
- Check all the fittings and make sure that they are well connected before supplying pressure to the hydraulic lines.
- Make sure that no tools, clothes or any other materials are left in areas where moving parts are present when the maintenance and repair activities are completed.
- Do not give directions and make signals at the same time during a maneuver. Maneuver directions and signals must be given from one person only.
- Do not unexpectedly call an operator, if not necessary. Do not startle the operator, e.g. by throwing objects.
- Pay attention to people in the vicinity of the work area, especially children!
- Make sure that nobody is standing in the working range of the equipment.
- Do not use the equipment to lift people.
- When the equipment is not needed, turn the engine off, leave the vehicle on a flat surface, with the first gear and the parking brake engaged. Disengage the power take off.
- Do not execute any cleaning, lubrication, repair or adjustments when the engine is running and the equipment is in the raised position.
- Do not work on steep slopes, if the stability of the vehicle can be jeopardized.

Manufacturer shall not assume any responsibilities if these instructions are not strictly followed.

SET-UP

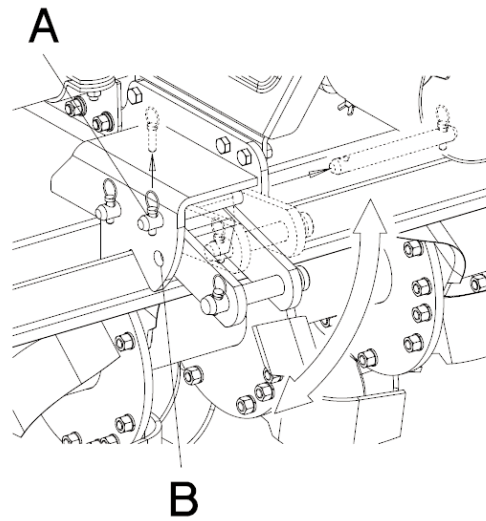
ATTACHMENT TO THE TRACTOR

This tiller may be attached to any tractor equipped with a Cat. 2, 3-point hitch with suitable ball ends. Before attaching the equipment to the tractor, set both on flat and smooth ground and make sure that nobody is standing between them.

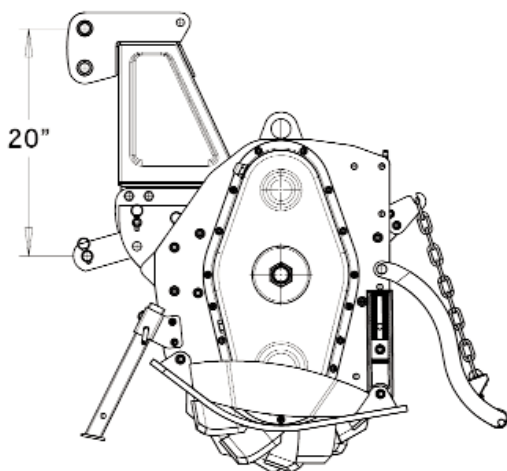
3-POINT CATEGORY 2 HITCH

To connect the tiller to the tractor's Cat. 2, 3-point hitch, do the following operations:

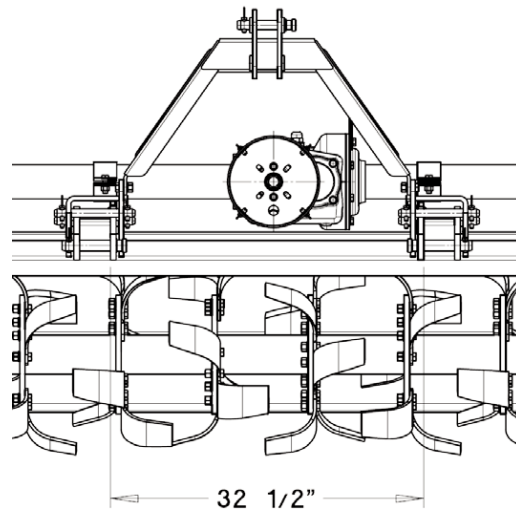
- 1) Put the floating brackets in the lower position inserting the pin A in the upper hole as shown in picture 1; this gives you the standard A.S.A.E. vertical dimension of 20" (picture 2). The horizontal distance between the brackets is 32 1/2".



picture 1

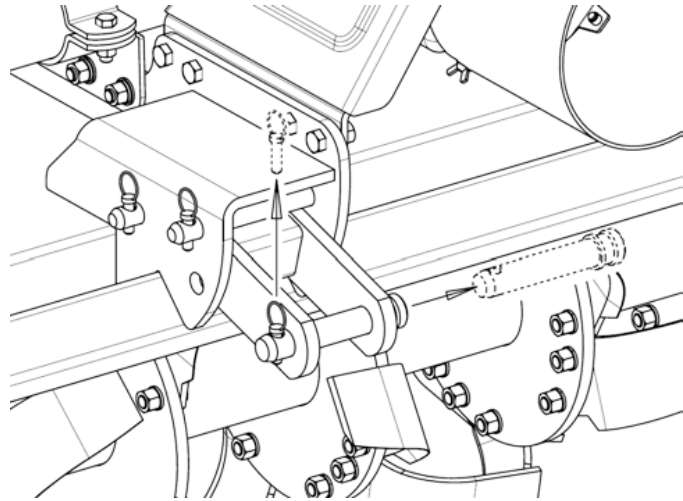


picture 2



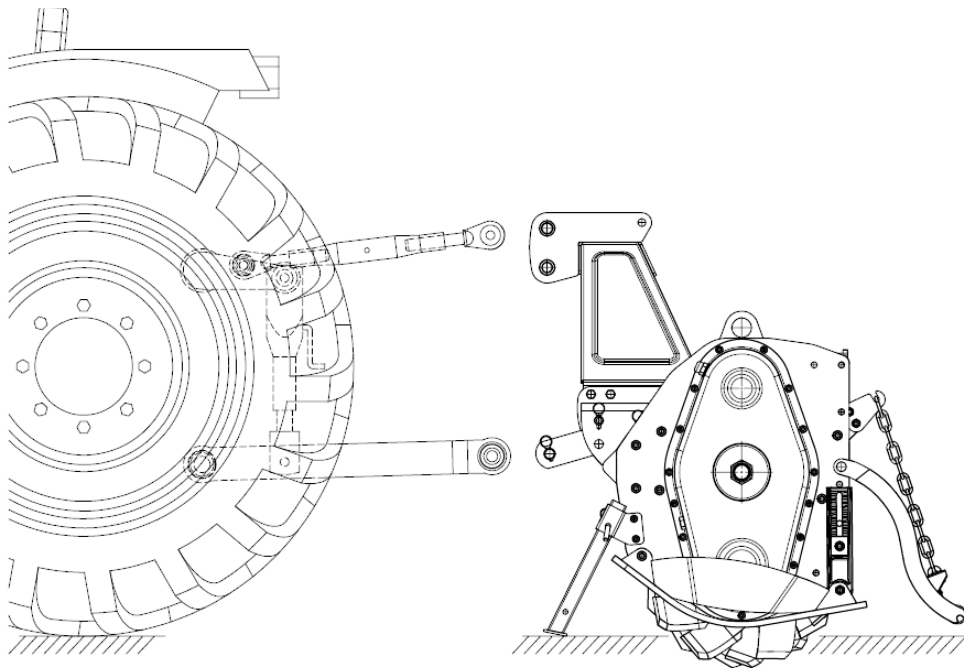
SET-UP

- 2) Remove the cotter pins from the hitch pins (picture 3);
- 3) Remove the lower hitch pins from the lower hitch blocks (picture 3);



picture 3

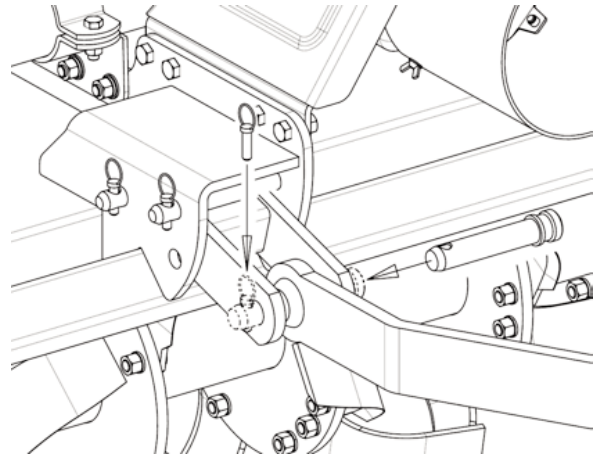
- 4) Before attaching the equipment to the tractor, make sure that the ground is smooth and flat and that nobody is standing between the tractor and the tiller; slowly move the tractor towards the tiller by aligning the tractor lifter arms with the blocks' holes (picture 4); turn the engine off and pull the brake;



picture 4

SET-UP

- 5) Insert the lower hitch pins through the hitch blocks and ball ends (picture 5);
- 6) Secure them by means of the cotter pins which were previously removed (picture 5);



picture 5

- 7) Connect the tractor top link to the third upper point by removing the pin located between the two plates, inserting the top link and securing it by means of the cotter pin. Shift the parking stand in the upper position .
- 8) Adjust the top link so that the upper part of the frame is parallel to the ground. Block all the linking parts by means of the sway chains or arms.
- 9) Make sure that the central unit axis (case/bevel gear pair) is parallel to the ground, thus minimizing the stresses on the power take off and increasing the working life of the equipment.



Caution

After executing all the above mentioned activities, make sure that all the nuts and bolts are tightened.

SET-UP

PTO SHAFT CONNECTION

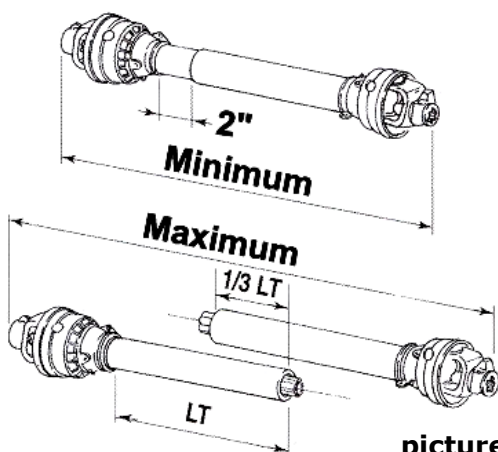
Before installing the PTO shaft make sure that the RPM rating and the direction of rotation match those of the tractor. Carefully read the PTO shaft and tractor instructions.

Furthermore, accurately read the instructions of the manufacturer of the PTO shaft and of the tractor.

Before starting any activity, make sure that the guards are installed on the power take off of the tractor and PTO shaft. Make sure that they cover the PTO shaft throughout its length.

⚠ Caution

When fully extended, the plastic pipes must overlap by at least 1/3 of the length of the pipes (LT). When retracted, the minimum acceptable clearance is 2" (picture 8).



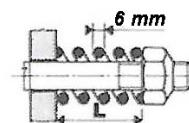
picture 8

Check that the PTO shaft minimum and maximum length are within the parameters of the machine tractor coupling.

Should problems arise, contact your dealer. After the installation, anchor the PTO shield to the tractor and machine using the special chains; make sure that it turns smoothly. If the PTO shaft is equipped with safety devices, e.g. torque limiters or free-wheel devices, install them on the operative machine side. For the use and maintenance of the PTO shaft, please refer to the relevant manual.

SLIP CLUTCH DRIVE SHAFT

This tiller has a drive shaft with a slip clutch, which has been calibrated for a certain overload. To adjust the clutch, tighten or loosen bolts equally. Don't over-tighten or clutch will lock and not slip under stress, which could cause damage during operation. The clutch assembly should get warm (normal temp. 104-122°F) under normal operation. If the clutch gets extremely hot, this is a sign of slippage. If the machine sits for an extended period of time with no usage, the bolts should be loosened and the PTO engaged. This will allow the clutch discs to become free again. After a few seconds, shut-off the tractor and retighten bolts equally. Recheck clutch assembly for temperature after using in tilling application. If it is too hot, the bolts need tightening. If it is too cool, loosen bolts.



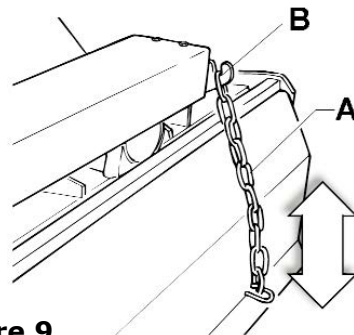
WORKING LENGTH mm (in.)

SPRING HEIGHT FF-4		Nm
L=29.5 (1.161")		---
L=29.0 (1.142")		1200
L=28.5 (1.122")		1500
L=28.0 (1.102")		1820
L=27.5 (1.083")		---
L=27.0 (1.063")		---
L=26.5 (1.043")		---

SET-UP

COVER ADJUSTMENT

The rear cover can be adjusted in height to better compact the ground and make it flat. The adjustment can be made by releasing chain **A** (picture 9) from upper hook **B** and inserting it back to the needed height.



picture 9



Danger

These operations shall be made only on working ground and only after having stopped the engine, disengaged the power takeoff and pulled the parking brake. If necessary, lift the machine from the ground but, in order to avoid risks for people, place it on supports thus preventing any injuries that might be caused by its sudden fall.

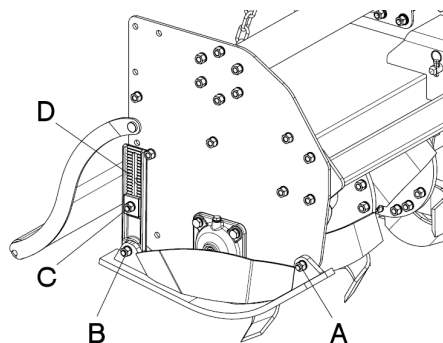
WORKING DEPTH ADJUSTMENT

The working depth of the equipment depends on the position of the lateral skids. If the skids are raised, the working depth increases; if the skids are lowered, the working depth decreases.

To adjust the working depth, loosen nut **A**, **B**, and **C** (picture 10) and adjust the skid height according to the notches **D**.

When the adjustment is completed, tighten the screws to the correct torque, according to the values suggest in **Torque Specifications**, page 5.

IMPORTANT: Make sure that the skids are set at the same height on both sides.



picture 10



Danger

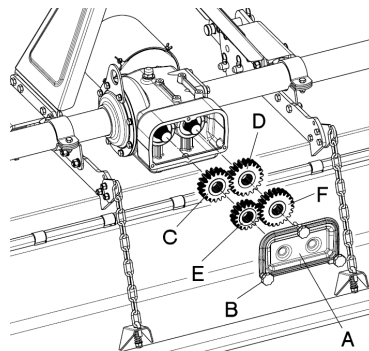
These operations shall be made only on working ground and only after having stopped the engine, disengaged the power takeoff and pulled the parking brake. If necessary, lift the machine from the ground but, in order to avoid risks for people, place it on supports thus preventing any injuries that might be caused by its sudden fall.

SET-UP

SPEED GEAR SETUP

The Series T gearbox is provided with two pair of gears. By changing their relative position 4 different rotor speeds are achieved. Choose the desired rotor speed and follow the instructions below:

- 1) Drain the oil from the gearbox;
- 2) Remove the cover A unscrewing the lobe knobs B (see picture 11).



picture 11

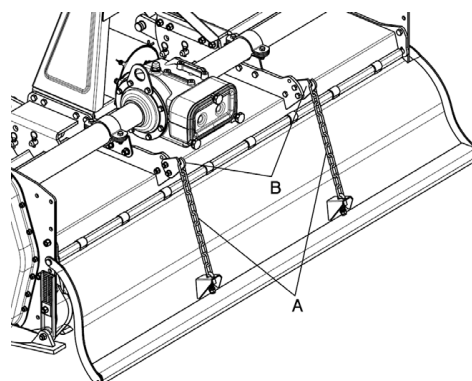
- 3) Change the position of the gears C and D according to the following table:

	C GEAR	D GEAR	ROTOR SPEED	PTO SPEED
1	17 teeth	21 teeth	207 rpm	540
2	16 teeth	22 teeth	230 rpm	540
3	22 teeth	16 teeth	225 rpm	1000
4	21 teeth	17 teeth	251 rpm	1000

- 4) Fix the remaining gears E and F on the suitable pins on the internal face of the cover;
- 5) Put back the cover in its position, tighten the screws, and fill with oil.

LEVELING BOARD ADJUSTMENT

The rear leveling board can be adjusted in height to better compact the ground and make it flat. The adjustment can be made by releasing chains A (picture 12) from upper hooks B and inserting them back to the desired height.



picture 12

MAINTENANCE



These activities must be carried out with the engine off, the power take off disengaged and the hand brake applied. If needed, lift the equipment and place it on supports, thus preventing any injuries that might be caused by a sudden fall of the equipment.

START UP

After carrying out these adjustments, the equipment is ready for use. When at the working area, do not start the power take off with the tiller in working position in the ground. Be sure to lift it by a few centimeters using the tractor lift. Start the engine, engage the power take off, lower the equipment to its working position and start.

ROAD TRANSPORT

With reference to road transport, follow local traffic regulations.

SHUT DOWN

The following activities are recommended if the tiller will not be used for a long period of time:

1. Clean and dry the equipment.
2. Inspect the equipment and replace the damaged or worn parts if necessary.
3. Tighten all the screws and nuts.

Lubricate and cover the machine with a tarpaulin and store it in a dry place.

MAINTENANCE

Maintenance is crucial for the working life and efficiency of any agricultural equipment. If the equipment is properly maintained and operated, a long working life and operator safety are assured.

The maintenance intervals indicated in this booklet are provided as a mere reference and are related to normal working conditions; changes may occur depending on the type of activities, environmental dust, seasonal factors, etc.



- Before injecting lubricating grease into the grease fittings, clean the fittings to prevent mud, dust, or any other foreign matter from contaminating the grease and reducing the lubrication effect.
- When adding or changing the oil, use the same type of oil to prevent mixing oils with different features.
- All maintenance activities must be carried out with the tiller resting horizontally on the ground.
- After using the equipment for a few hours, make sure that all the bolts (especially tine bolts) are tightened; regularly check all the machine guards.

FIRST CHECK

- After 50 working hours, change the oil in the gearbox and make sure that all the screws and bolts are tightened.

MAINTENANCE

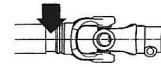
EVERY 8 WORKING HOURS

- Grease the PTO shaft crosses.

EVERY 20 WORKING HOURS

- Grease the PTO shaft inner drive tube.

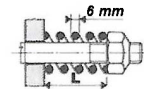
20h



Inner tube
Tube intérieur

EVERY 50 WORKING HOURS

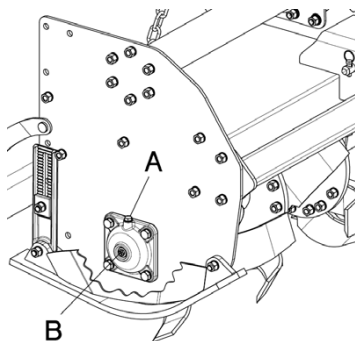
- Check the oil level in the external rotor bearing through the inspection plug B. If needed remove the plug A and add SAE EP 80W90 oil (picture 12).
- Check the oil level in the case/bevel gear pair by removing gearbox's upper oil plug (A - picture 13); oil level should be contained between the 2 nicks of MIN & MAX of the dip stick oil plug (B - picture 13). If needed add SAE EP 80W90 oil.
- Check the oil level in the side transmission (A - picture 14). If needed add SAE EP 80W90 oil.
- Make sure that all the screws and bolts, especially on the blades, are tightened.
- Check slip-clutch spring tension (1500 Nm).



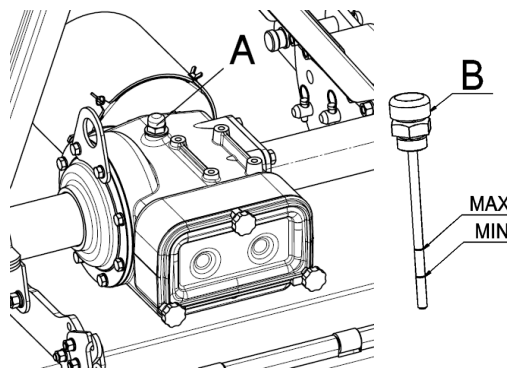
WORKING LENGTH mm (in.)	
SPRING HEIGHT	
FF-4	
	Nm
L=29.5 (1.161")	---
L=29.0 (1.142")	1200
L=28.5 (1.122")	1500
L=28.0 (1.102")	1820
L=27.5 (1.083")	---
L=27.0 (1.063")	---
L=26.5 (1.043")	---

EVERY 500 WORKING HOURS

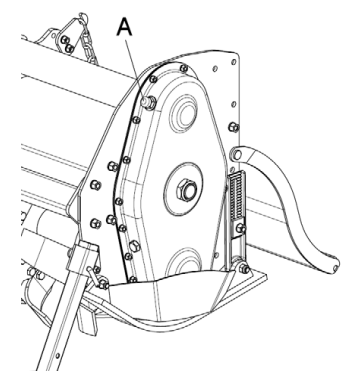
- Change the oil of the case/bevel gear pair, side transmission and rotor support; use SAE EP 80W90 oil. Contact the closest dealer for this maintenance activity.



picture 12



picture 13

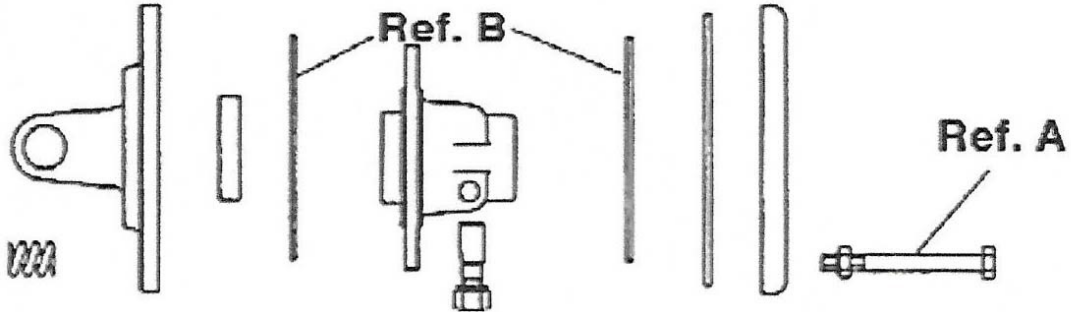


picture 14

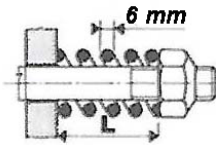
Caution

The old oil must be disposed of in compliance with the local laws where these activities are carried out; do not spill or dispose of waste oil on the ground.

REPLACING CLUTCH LININGS



1. Mount clutch assembly in vise.
2. Remove all bolts and nuts (**Ref. A**).
3. Disassemble all components.
4. Check the condition of all parts, friction plates especially.
5. Replace clutch linings (**Ref. B**).
6. Reassemble the components, install spring with their corresponding bolts and nuts.
7. Tighten nuts following an alternating cross pattern until reaching a height of 28.5 mm (1.122").
8. Check that the height is the same for all springs.
9. Reinstall driveline, making sure all shields are in place.



WORKING LENGTH mm (in.)

SPRING HEIGHT FF-4	Nm
L=29.5 (1.161")	---
L=29.0 (1.142")	1200
L=28.5 (1.122")	1500
L=28.0 (1.102")	1820
L=27.5 (1.083")	---
L=27.0 (1.063")	---
L=26.5 (1.043")	---

SPARE PARTS



The maintenance activities must be carried out with the engine off, the power take off disengaged, the parking brake engaged, and the equipment placed on the ground.

BLADES REPLACEMENT

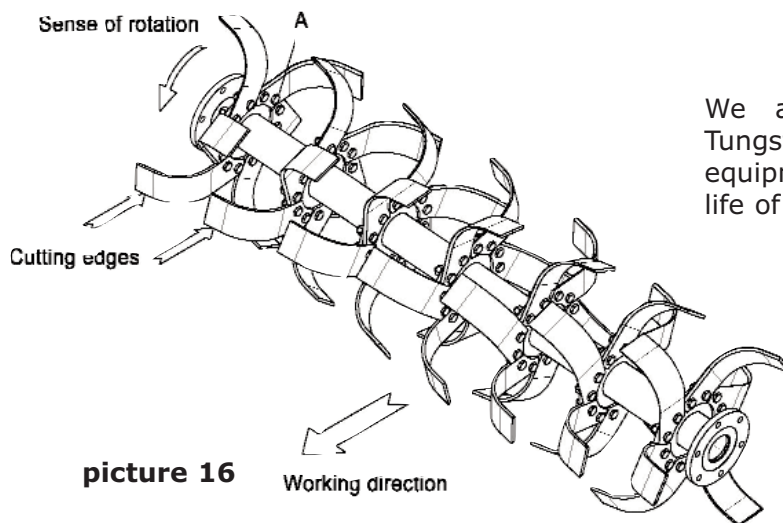
To assure the optimum efficiency of the machine, make sure that the tiller blades are in a good working condition and that their bolts are tightened; replace them if they are broken or bent. The new parts must be installed in the original position.



Before replacing the blades, turn the tractor engine off, pull the parking brake, disengage the power take off, raise the tiller using the tractor lift, and install supports to prevent accidental dropping of the machine.

Pay special attention to the bolts **A** on the blades (picture 16): the screw head must be placed on the blade side, with the washer and the nut on the flange side, so that the bolts cannot loosen while the equipment is being used.

When several blades must be replaced, replace one blade at a time, so that the initial helical layout is maintained (picture 15).



We are now featuring Bonded Tungsten Coated Tines as standard equipment, which has 3 + times the life of non-coated tines.

picture 16

HOW TO ORDER SPARE PARTS

For spare parts requests please refer to our spare parts catalog.

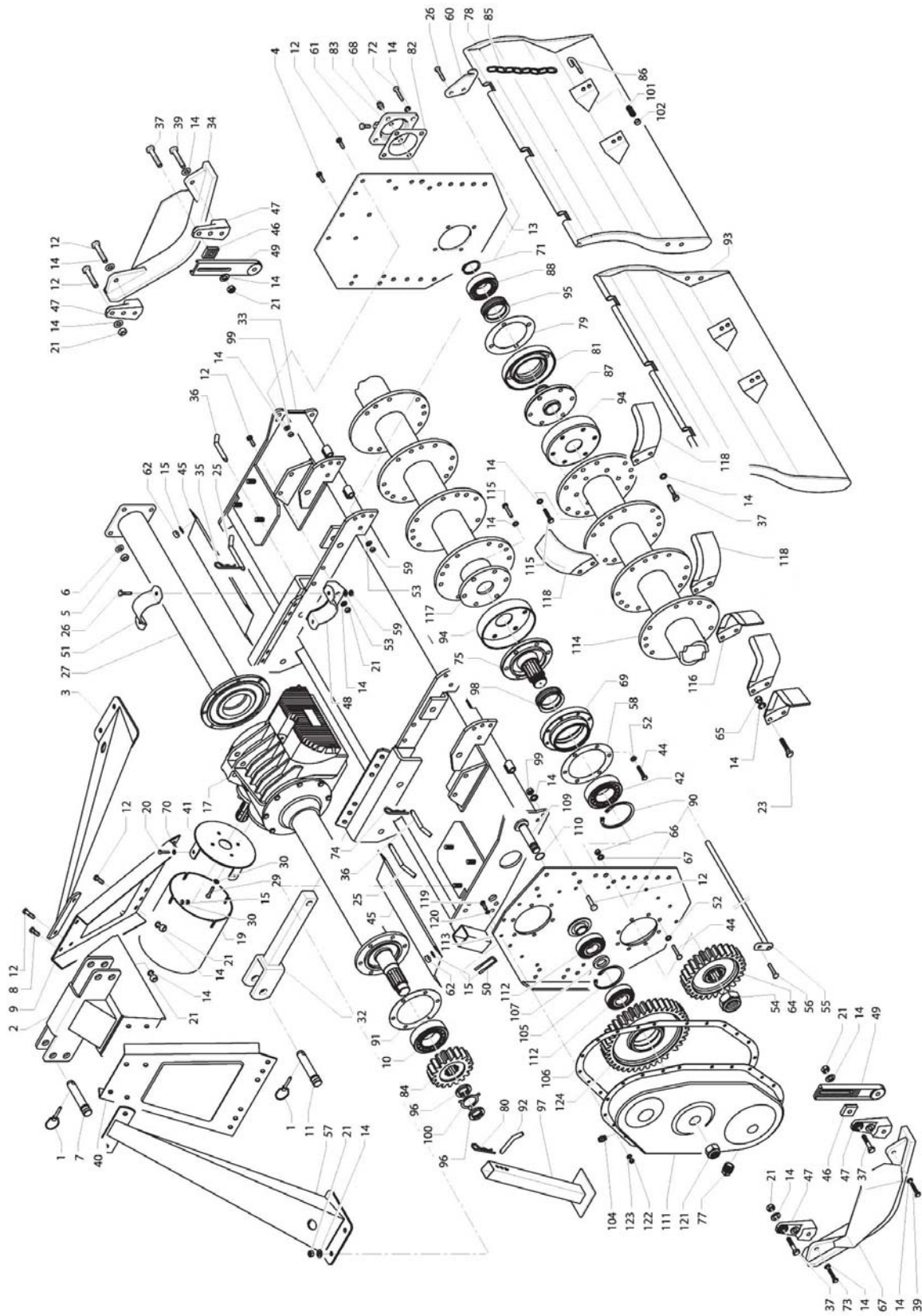
The spare parts can be ordered from the dealer or service center. The following data must always be specified:

- Equipment type and width.
- Part number of the requested component. If the code number is missing, indicate the table number in which it is shown and the relevant reference.
- Description of the part and requested quantity.
- Requested type of transport. Should this information not be provided, the dealer or service center shall not be responsible for delays caused by circumstances beyond their control. The addressee shall be responsible for any transport charges.

TROUBLESHOOTING CHART

PROBLEM	CAUSE	SOLUTION
Excessive vibration	Drive shaft damaged	Replace worn drive shaft
	Tines broken off	Replace damaged tines
	Bent rotor shaft	Replace rotor shaft
Rotor shaft does not turn	PTO Clutch slipping	Check slip clutch adjustment
		Replace clutch discs
Tilling deeper on one side	Tractor lower lift arm out of adjustment	Adjust lift arm
	Tiller depth skid not properly adjusted	Adjust skids to level depth
Tiller bouncing	Trying to go too deep on first pass	Raise tiller so tilling 3" deep
	Tractor in too high a gear	Tiller runs smoother in first or second gear
Leaving tire tracks	Tires set out too wide	Set in tractor tires
	Tractor too large	Offset tiller to cover right tire tracks
PTO will not untelescope	Improper lubrication	Separate and grease both halves
	PTO twisted	Replace twisted parts
	Shields damaged	Replace shields

"T" TILLER ASSEMBLY



TILLER ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1		6350010	Shear Pin D10
2		4004088	3rd Point Upper Plate
3		4004099	Right Side Support
4		3021114035	Bolt M14 x 35 x 2 UNI 5739
5		3414101014	Nut M14 UNI 5587
6		3625000014	Washer D14 UNI 1751
7		4304009	3rd Point Pin D25 L=138
8		3021114045	Bolt M14 x 42 x 2 UNI 5739
9		4004096	3rd Point Plate (right)
10		32214	Bearing
11		4304008	3rd Point Pin D28 L=143
12		3021114040	Bolt M14 x 40 x 2 UNI 5739
13		4134011	External Side Plate
14		3625000014	Washer D14 UNI 1751
15		3414101008	Nut M8 UNI 5587
17		6900025	Gearbox GB Mfg.
18		3011110060	Bolt M10 x 60 x 1.5 UNI 5737
19		6654241	Shaft Shield
20		3021108020	Bolt M8 x 20 x 1.25 UNI 5739
21		3414101014	Nut M14 UNI 5587
23		3131114045	Bolt M14 x 45 Thread 20 UNI 5738
24		4814515	Left Shaped Blade
25		4301589	3rd Point Pin D19 L=100
26		3021112035	Bolt M12 x 35 x 1.75 UNI 5739
27		4004042	External Side Support T230
27		4004044	External Side Support T280
27		4004045	External Side Support T305
29		3021108016	Bolt M8 x 16 x 1.25 UNI 5739
30		3625000008	Washer D8 UNI 1751
32		4004098	3rd Lower Point Arm
33		4004083	Frame T230
33		4004085	Frame T280
33		4004086	Frame T305
34		4004276	External Side Skid
35		6351004	Cotter Pin D4
36		4301590	Block Pin D22 L=95
37		3011114050	Bolt M14 x 50 x 2 UNI 5737
38		4004008	Rotor for Knives T230
38		4004010	Rotor for Knives T280
38		4004011	Rotor for Knives T305

TILLER ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
39		3011114055	Bolt M14 x 55 x 2 UNI 5735
40		4004097	3rd Point Plate (left)
41		4934240	Shaft Shield Support
42		21312	Bearing 21312
44		3021110030	Bolt M10 x 30 x 1.5 UNI 5739
45		4134282	CE Protection T230
45		4134285	CE Protection T280
45		4134286	CE Protection T305
46		4704654	Adjusting Rod Plate
47		4644030	Skid Fixing Plate
48		4004146	Fixing Extension Support
49		4704653	Skid Adjusting Rod
50		4302005	Collar
51		4834019	U-Bolt
52		3625000010	Washer D10 UNI 1751
53		3625000012	Washer D12 UNI 1751
54		34127050	Self Locking Nut M50
55		4002330	Cover Pin T230
55		4002333	Cover Pin T280
55		4002334	Cover Pin T305
56		3021112030	Bolt M12 x 30 x 1.75 UNI 5739
57		4004100	Left Support T305
58		4784635	Gasket
59		3414101012	Nut M12 UNI 5587
60		4934778	Chain Hook
61		3021110010	Bolt M10 x 10 x 1.5 UNI 5739
62		3444101008	Nut M8 DIN 980
64		4724003	Driving Gear Z=27
65		3414101014	Nut M14 UNI 5587
66		3464101012	Self Locking Nut M12 uNI 7473
67		4004275	Skid
68		3444014	Oil Plug M14 x 1.5
69		4704009	Gear Support
70		3625000008	Washer D8 UNI 1751
71		6320050	Circlip E D50
72		3021110045	Bolt M10 x 45 UNI 5739
73		3011114040	Bolt M14 x 40 x 2 UNI 5737
74		6351004	Split Pin D4

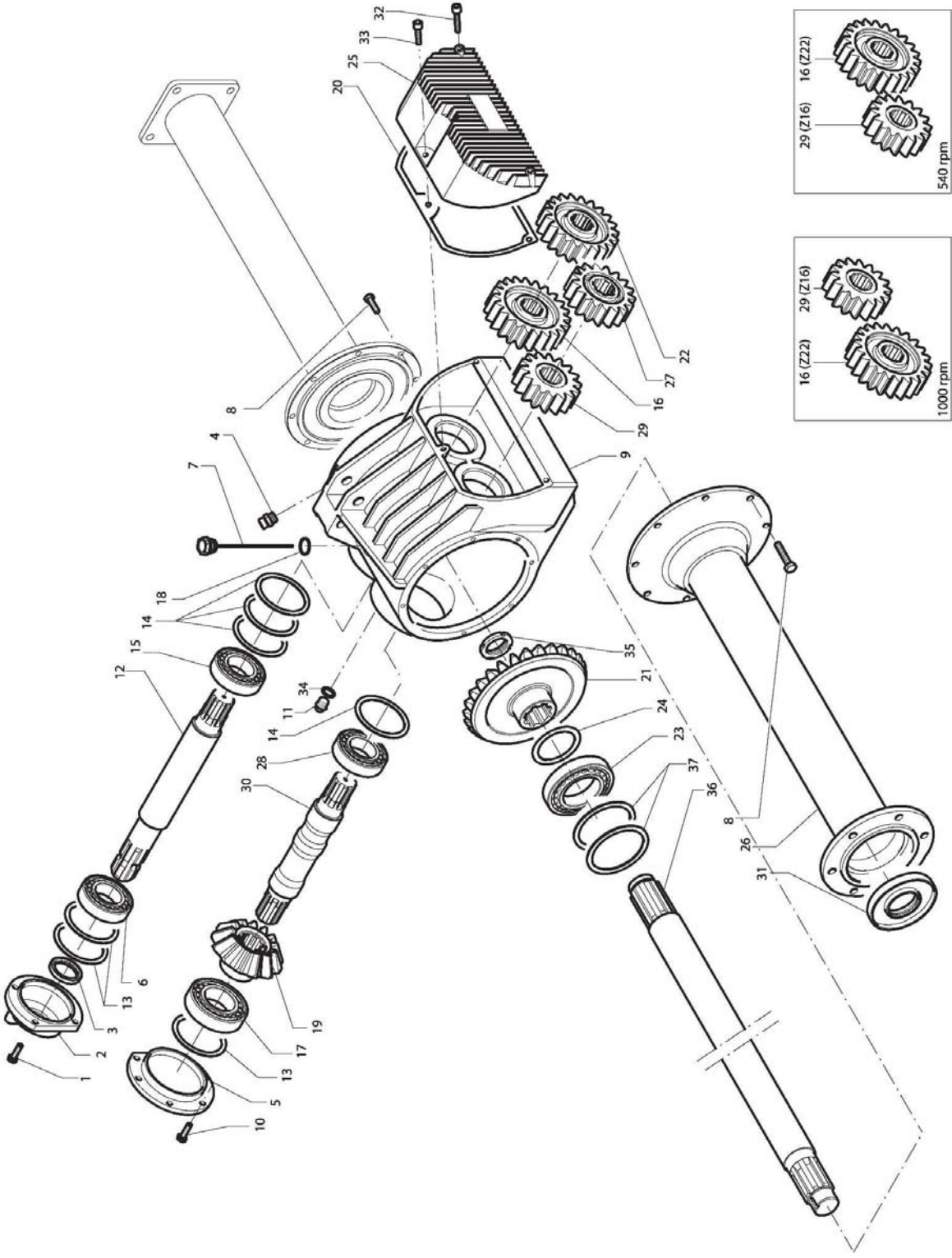
TILLER ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
75		4724008	Hub
77		3441022	Plug M22 x 1.5
78		4004248	Right Bonnet T230
78		4004250	Right Bonnet T280
78		4004251	Right Bonnet T305
79		4784117	Gasket
80		6351003	Split Pin D3
81		4644005	Bearing Support
82		4784118	Bonnet Gasket
83		4644001	External Support Bonnet
84		4724004	Driving Gear Z18
85		4674003	Chain (13 chain link)
86		4302183	Chain Plate
87		4704006	Hub
88		6310	Bearing 6310
90		6310130	Circlip I D130
91		4784734	Gasket
92		4234004	Foot Pin
93		4004252	Left Bonnet T230
93		4004254	Left Bonnet T280
93		4004255	Left Bonnet T305
94		4144098	Dust Cover
95		6203911	GNL 6460 Support
96		3700045	Metal Ring D45 x 1.5
97		4004058	Foot
98		6200750	GNL 0750 Support
99		3414101014	Nut M14 UNI 5587
100		3950045	Washer D45
101		4212214	Spring
102		3464101012	Self Locking Nut M12
103		3604000010	Flat Washer D10 UNI 6592
104		3442022	Oil Plug M22 x 1.5
105		6310110	Circlip I110
106		4784116	Gasket
107		4594122	Bearing Spacer
108		3667010	Self Locking Nut M10
109		4204801	Pin (Intermediate gear)
110		6636220	O Ring 133 D 45.69 x 2.62
111		4004121	Cover
112		30310	Bearing 30310

TILLER ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
113		4004122	Plate
114		4004681	Rotor T230
114		4004683	Rotor T280
114		4004684	Rotor T305
115		3021114035	Bolt M14 x 35 x 1.5 UNI 5739
116		4814005	Left Hand Tine - Non-coated
116A		4814007	Left Hand Tine - Tungsten Coated
117		4004686	Normal Rotor T230, T280, T305
118		4814004	Right Hand Tine - Non-coated
118A		4814006	Right Hand Tine - Tungsten Coated
120		3625000010	Washer D10 UNI 1751
121		3474102033	Self Locking Nut M33
122		3414101010	Nut M10 UNI 5587
123		3625000010	Washer D10 UNI 1751
124		4724002	Intermediate Gear Z40

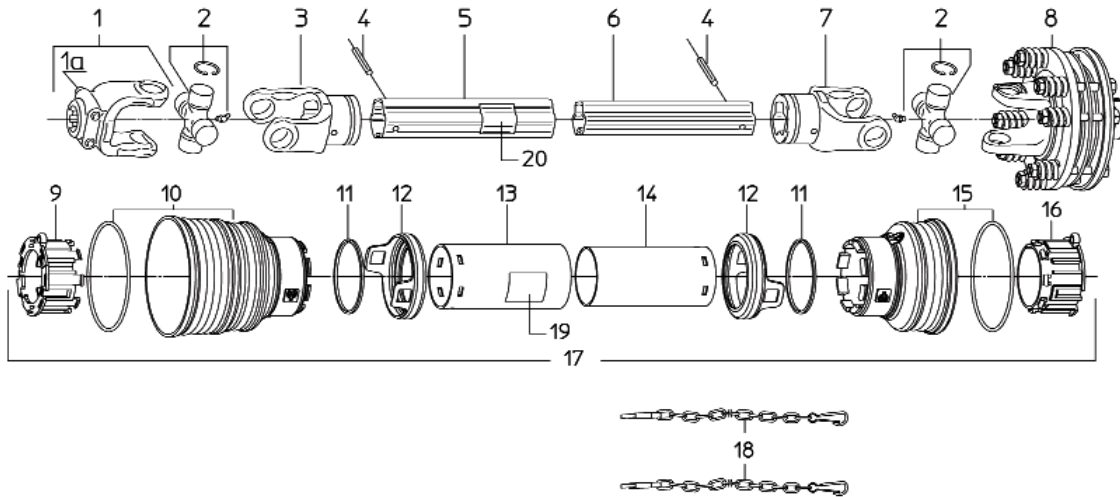
GB GEARBOX ASSEMBLY



GB GEARBOX ASSEMBLY

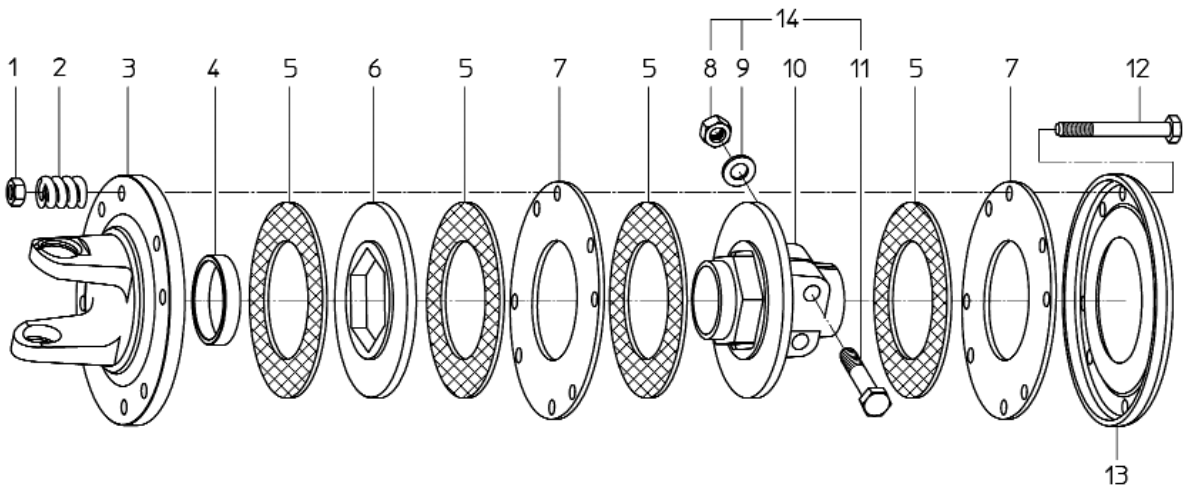
<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1		3021110030	Bolt M10 x 30 x 1.5 UNI 5739
2		24.40600301	Open Cover
3		45x62x8	Oil Seal 45 x 62 x 8
4		37.TSVCO.3-8-O	Plug
5		24.40600300	Closed Cover
6		30309	Tapered Roller Bearing 30309
7		37.TL.1-2-190A	Oil Level Charge Plug
8		3021110025	Bolt TE M10 x 25 UNI 57390
9		01.406LF000	Gearbox
10		3021110030	Bolt M10 x 30 UNI 5739
11		37.T.3-8-908 Z	Oil Plug 3/8" Gas
12		05.40600100	Shaft 1 3/4" Z6
13		13.85x100x1	Shim 88 x 100 x 1 mm
14		13.72x85x05	Shim 72 x 85 x .05 mm
15		32209	Tapered Roller Bearing 32209
16		03.406138C0	Gear Z22
17		32211	Tapered Roller Bearing 32211
18		6470012	Washer 1/2"
19		04.406215P0	Bevel Pinion Z13
20		14.GUARN.26	Gasket, Rear Cover
21		03.406215C0	Ring Bevel Gear Z28
22		03.406124C0	Gear Z21
23		30214	Tapered Roller Bearing 30214
24		13.72x85x05	Shim 72 x 85 x .05 mm
25		02.40600400	Cover
26		4004032	External Side Support T230
26		4004034	External Side Support T280
26		4004035	External Side Support T305
27		04.406124P0	Gear Z17
28		32209	Tapered Roller Bearing 32209
29		04.406138P0	Gear Z16
30		05.40600101	Intermediate Shaft
31		55x90x10	Oil Seal 55 x 90 x 10 gm
32		3051110035	Bolt M10 x 35 UNI 5931
33		3051110025	Bolt M10 x 25 UNI 5931
34		14.G.RAME 3-8"	Washer 3/8"
35		3840045	Self Lock Nut M45 x 1.5
36		4214060	Shaft T230
36		4214062	Shaft T280
36		4214063	Shaft T305
37		13.110.125X	Shim 110 x 125 x 1

DRIVESHAFT ASSEMBLY



<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	1028010	Yoke Assembly
1A	2	1581038	Push Pin Kit
2	2	1008020	Cross Assembly
3	1	1708067	Outer Tube Yoke
4	2	6331090	10 x 90 Elastic Pin
5	1	1818055	Outer Tube
6	1	1817055	Inner Tube
7	1	1708069	Inner Tube Yoke
8	1	1448032	Torque Limiter
9	1	1788010	Tube Bearing Outer Tube
10	1	1788003	Standard Cone
11	2	1218035	Stop Ring
12	2	1888009	Safety Coupling
13	1	1778044	Outer Tube Shield
14	1	1879044	Inner Tube Shield
15	1	1788002	Short Cone
16	1	1788011	Tube Bearing Inner Tube
17	1	90SS8044	Complete Protection
18	2	1006065	Anti-Rotation Chain
19	1	1140010	Outer Decal
20	1	1140011	Inner Decal

SLIP CLUTCH ASSEMBLY



<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	8	6411010	Lock Nut
2	8	1215012	Spring
3	1	1708006	Flange With Yoke
4	1	1705009	Bushing
5	4	1808010	Friction Disc
6	1	1708034	Middle Plate Hex
7	2	1138008	Inner Plate Round
8	2	6410114	Screw Nut
9	2	6412114	Spring Washer
10	1	1708019	Hub With Flange
11	2	6141480	Bolt
12	8	6001010	Bolt For Spring
13	1	1138007	Cover Plate
14	2	6761480	Locking Bolt Kit

LIMITED WARRANTY



GEARMORE, INC., warrants each new Gearmore product to be free from defects in material and workmanship for a period of twelve (12) months from date of purchase to the original purchaser. This warranty shall not apply to implements or parts that have been subject to misuse, negligence, accident, or that have been altered in any way.

Our obligation shall be limited to repairing or replacement of any part, provided that such part is returned within thirty (30) days from date of failure to Gearmore through the dealer from whom the purchase was made, transportation charges prepaid.

This warranty shall not be interpreted to render us liable for injury or damages of any kind or nature, direct, consequential or contingent, to person or property. This warranty does not extend to loss of crops, loss because of delay in harvesting or any other expenses, for any other reasons.

Gearmore in no way warrants engines, tires, or other trade accessories, since these items are warranted separately by these respective manufacturers.

Gearmore reserves the right to make improvements in design or changes in specification at any time, without incurring any obligations to owners or units previously sold.

GEARMORE, INC.
13477 Benson Ave.
Chino, CA 91710

Always refer to and heed machine operating warning decals on machine.

*Please fill out the warranty registration form and return to Gearmore.
You will find the form on our website www.gearmore.com and can submit
it online or print and mail to Gearmore, Inc.*