Standard Duty Tractor Rototiller

Operation and Maintenance Manual

Register your **WARRANTY** within 30 days of purchase

BD-092

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Introduction: *Owner Information*

Thank you for your decision to purchase a Blue Diamond® Standard Duty Tractor Rototiller. To ensure maximum performance of your equipment, it is mandatory that you thoroughly study the Operator's manual and follow the recommendations. Proper operation and maintenance are essential to maximize equipment life and prevent personal injury.

Operate and maintain this equipment in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and /or laws. Follow all on-product labeling and instructions.

Make sure that all personnel have read this Operator's Manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

Blue Diamond is continually working to improve its products. Blue Diamond reserves the right to make any improvements or changes as deemed practical and possible without incurring any responsibility or obligation to make any changes or additions to equipment sold previously.

Although great care has been taken to ensure the accuracy of this publication, Blue Diamond makes no warranty or guarantee of any kind, written or expressed, implied or otherwise with regard to the information contained within this manual. Blue Diamond assumes no responsibility for any errors that may appear in this manual and shall not be liable under any circumstances for incidental, consequential or punitive damages in connection with, or arising from the use of this manual.

Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Blue Diamond Attachments Dealer for assistance, information, or additional copies of the manual. Contact www.bluediamondattachments.com or call 888-376-7027 for a complete list of dealers in your area.

Serial Number Location:

Please record attachment information in the space provided for future reference.

Figure 1

Model Number:_____

Serial Number: _____

Dealer Name: _____

Dealer Number:_____

Date of Purchase:_____

The serial number plate is located as shown in [Figure 1].

Always use your serial number when requesting information or when ordering parts.

NOTE: The directions left, right, front and rear, as mentioned throughout this manual, are as viewed from the operator's position.

Revision Date: 12.16.2022

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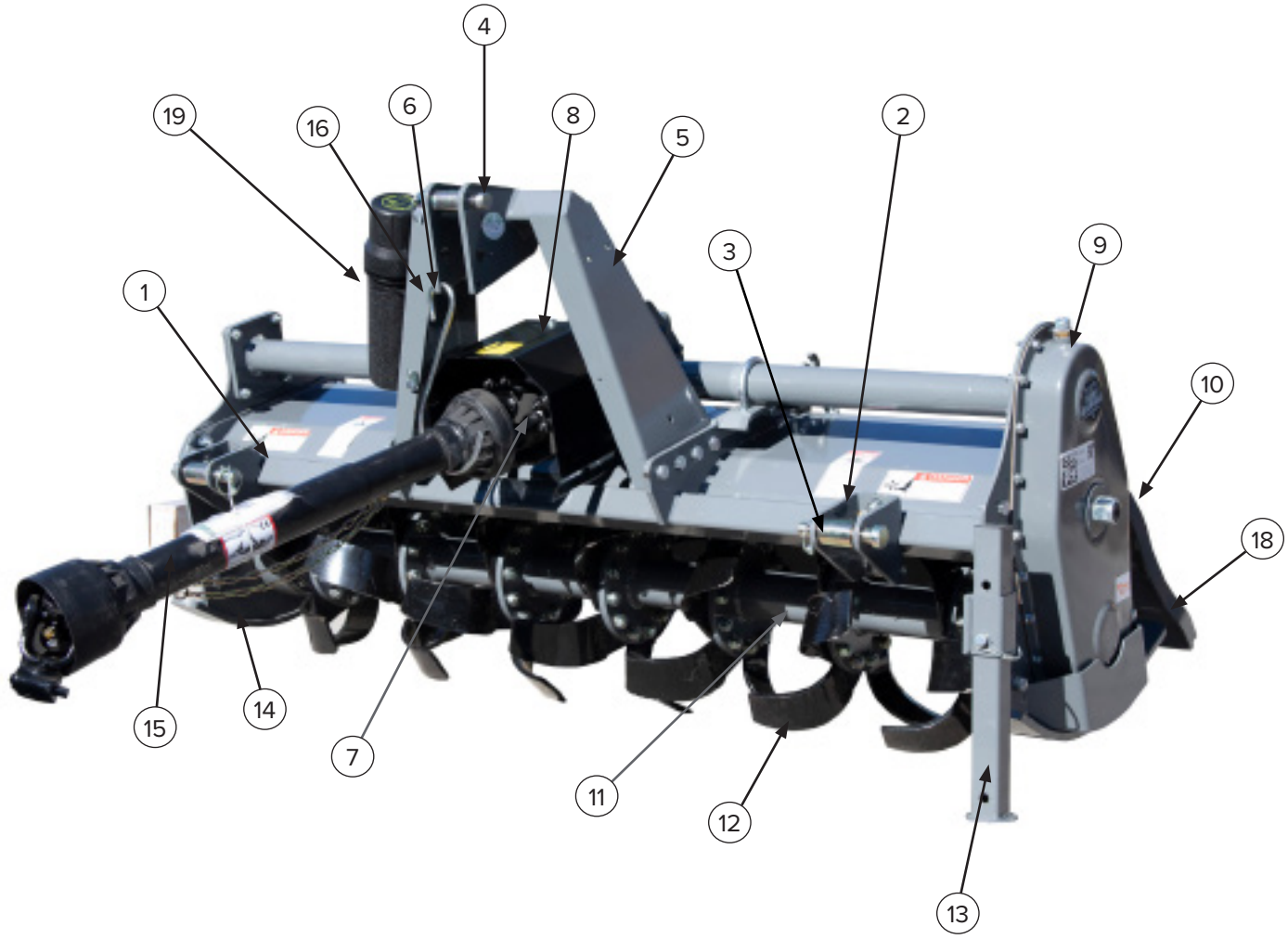
1.1 *Attachment Identification*



Ref			
1	Tiller Deck	11	Rotor shaft
2	Clevis (lower hitch)	12	Tine
3	Lower hitch pin	13	Parking stand
4	Upper hitch pin	14	Skid
5	Topmast	15	Cardan driveshaft
6	PTO shield	16	Driveshaft support
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10	Rear leveling board		

1. Introduction

1.2 *Attachment Specifications*

DESCRIPTION		STANDARD DUTY TRACTOR ROTOTILLER	
Product Number	—	429015	429020
Overall Dimensions	mm	1649 x 940 x 720	1970 x 940 x 720
Tilling Width	in	59”	72”
	cm	150	183
Recommended Tractor HP range	HP	25 — 40	35 — 50
3-point Hitch type	—	Cat I, Compatible Quick Hitch I Cat. ASAE	Cat I, Compatible Quick Hitch I Cat. ASAE
Number of Flanges on Rotor	No.	7	9
Total Number of tines on Rotor	No.	42	54
PTO Input Speed	RPM	540	540
Rotor Shaft Speed	RPM @ 540	241	241
Standard Tine Construction	—	curved	curved
Transmission Type	—	gear	gear
Maximum Working Depth	cm	18	18
Rotor Tube Diameter	mm	76	76
Rotor Swing Diameter	mm	434	434
Driveline Safety Device	—	Slip clutch	Slip clutch
Weight (driveline not included)	lbs	564	683
	kg	256	310

2. Safety

2.1 General Safety Information

SAFETY ALERT SYMBOL

This SAFETY ALERT SYMBOL identifies important safety messages on the equipment and in the owner's manual. when you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

DANGER

The signal word **DANGER** on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

The signal word **WARNING** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

The signal word **CAUTION** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

IMPORTANT

The signal word IMPORTANT identifies procedures which must be followed to avoid damage to the machine.

- Read and follow instructions in this manual and the machine's Operators Manual before operating.
- The manual must always remain with the machine. In case of loss or damage, request a new copy from your dealer or from Blue Diamond.
- Strictly follow all rules prescribed by the safety pictograms/decals applied to the machine. Ensure that all safety pictograms/decals are legible. If pictograms/decals are worn, they must be replaced with new ones obtained from Blue Diamond and placed in the position indicated by this manual.
- Before using the machine, make sure that all safety devices are installed and in good working ocnditions. In case of damage or shields, replace them immediately.
- It is absolutely forbidden to remove or alter safety devices.
- Before starting, and during operation of the rototiller, make sure there are no people or animals in the operation area; the machine can project material from the back with risks of serious injury or death.
- Pay maximum attention to avoid any accidental contact with rotating parts of the machine.
- During operation, adjustment, maintenance, repairing, or transportation of the machine, the operator must always use appropriate Personal Protective Equipment (PPE) including but not limited to safety glases, gloves, and hearing protection.
- Do not operate the attachment or machine while wearing loose fitting clothing that can be entangled or caught in parts of the machine.
- Do not operate the implement when tired, not in good condition, or under the influence of alcohol or drugs.

DANGER

WARNING

Failure to follow all safety instructions may result in serious injury or death.

2.1 *General Safety Instruction Cont'd*

If the use of the machine is required at night or in conditions of reduced visibility, use the lighting system of the tractor and possibly an auxiliary lighting system.

2.2 *Qualified Operators*

Safe Operation Needs a Qualified Operator

DANGER

AVOID SERIOUS INJURY OR DEATH

Operators must receive instructions before operating the machine. Untrained operators can cause serious injury or death.
For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and the equipment.
For an operator to be qualified, he or she must have read and understood the instructions of this manual, he or she must make adequate preparation for the proper use of the machine, and he or she must hold a driving license.
In case of doubt regarding the use of the machine and/or the interpretation of this manual, the operator must contact either their dealer or Blue Diamond.

Operator Training

- Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine safely under all conditions of the work area.

2.3 *Equipment Safety Instruction*

- Use the tiller for its intended purpose only. Improper use can damage the tiller and cause serious injury to persons, animals, or death.
- The machine should be used by a single operator driving the tractor.
- Any unauthorized modification of the machine may cause problems in safety and relieves Blue Diamond from any liability for damages or injuries that may result to operators, third parties, and objects.
- Before using the machine, familiarize yourself with its controls and its working capacity.
- Do not leave the tiller unattended with tractor engine running.
- Do not operate the tiller on too muddy, sandy, or rocky soils.
- Keep the machine clean from debris and foreign objects which may damage function or cause injury.

Failure to follow all safety instructions may result in serious injury or death.

2.3 *Equipment Safety Instruction Cont'd*

- Do not use the machine if the category of the connecting pins of the rototiller does not match that of the tractor hitch system.
- Do not use the machine with missing bolts, screws, pins, or safety pins.
- Never use the machine to transport or lift people, animals, or objects.
- Make certain, by adding front ballast, that at least 20% of the total weight (tractor, attachment, and ballast) is on the front axle of the tractor to ensure stability.
- Before engaging the tractor PTO, make sure the tractor PTO speed is set as required for the tiller (540 rpm). Do not over speed PTO or machine breakage may result.
- Do not operate the tiller if the driveshaft is damaged. The driveshaft could be subject to breakage during operation, causing serious ijury or death. Remove the driveshaft and replace it with an undamged one.

2.4 *Operating Safety Instructions*

- Before using the machine, be sure to have cleared the operating area from obstacles (stones, branches, debris, etc.). Mark all the obstacles that cannot be removed (e.g. by means of highly visible flags).
- Never engage the tractor PTO in the presence of people close to the driveshaft. The body, hair, or clothing of a person can be easily caught in rotating parts, causing serious injury or death.
- Before engaging the PTO and during all operations, make sure that no person or animal is in the immediate area of action of the machine. Never use the tiller if people are in the working area.
- It's absolutely forbidden to stand near the tiller with moving parts.
- The operator must operate tiller lifting/lowering only from the driving seat of the tractor. Do not perform lifting maneuvers on side or behind the tractor.
- Before making changes in direction, turns, or going in reverse, slightly lift the tiller from the ground after disengaging the power take-off, to avoid damage to the machine.
- In presence of steep slopes (greater than 15 degrees) the tilling action may cause instability of the tractor, with risk of tipping and consequent serious injury or death hazard. Consult the Operating Manual for the tractor to determine the maximum slope that the tractor is able to deal with.
- Always disengage the PTO before raising the tiller, and never engage the PTO with the tiller in the raised position. The machine might throw objects at high speed, causing serious injury or death.

2.4 *Operating Safety Instructions Cont'd*

- Never leave the driver's seat when the tractor is turned on. Before leaving the tractor, lower the tiller to the ground, disengage the PTO, insert the parking brake, stop engine, and remove the key from the control panel.
- The PTO shields of tractor and implement side, the driveshaft shielding and the driveshaft retaining chains must be properly installed and in good condition, to avoid risk of entanglement with serious injury or death.
- Before engaging the PTO of the tractor, always make sure that the drive shaft is mounted in the correct direction and that is clamping elements are properly connected both to the tractor side and the tiller side.
- Stop operating immediately if blades strike a foreign object. Repair all damage and make certain rotor and blades are in good condition before resuming operation.
- Always disengage the tractor PTO when the driveshaft exceed an angle of 10 degrees up or down while operating. An excessive angle with driveshaft rotating can break the driveshaft and cause flying projectiles.
- Avoid clutch's overheating caused by too long or frequent slipping of the clutch, since it can damage the clutch componenets. Before checking slip clutch, make sure it has cooled. Clutch could be extremely hot and cause severe burns.
- Prolonged use of the tiller can cause overheating of the gearbox. Do not touch the gearbox during use and immediately after, it could be extremely hot and cause severe burns.
- All adjustment operations on the tiller must be performed by qualified and trained operators, with the tractor engine off, the PTO disengaged, the tiller lowered to the ground or on security stands, the ignition key off, and the parking brake set.

2.5 *Transporting Safety Instructions*

- Before transporting, determine the stopping characteristics of the tractor and attachment.
- Transport only at speeds where you can maintain control of the equipment.
- When driving on roads, the implement must be in transport position adequately raised from the road surface, with tractor lifting hydraulics locked so that the tiller cannot be lowered accidentally.
- The attachment may be wider than the tractor. Pay attention during transporting to persons, animals, or obstacles exposed.
- When turning, use extreme care and reduce tractor speed.
- Do not operate the tractor with weak or faulty brakes or worn tires.
- Always use tractor lighting system and auxiliary lighting system for an adequate warning to operators of other vehicles, especially when transporting at night or in conditions of reduced visibility.
- In case of tiller lifting, make sure that the lifting device chosen is suitable to perform the operation safely, and use only the lifting points prescribed on the tiller.

2.6 *Maintenance Safety Instructions*

- All maintenance and repairing operations must be performed by qualified and trained operators, with the tractor engine off, the PTO disengaged, the tiller lowered to the ground or on security stands, the ignition key off, and the parking brake set.
- Perform repairs and replacements necessary to the machine using only original spare parts provided by the manufacturer or your Dealer.
- Perform maintenance operations always using appropriate Personal Protective Equipment (PPE). Including but not limited to protective eye glasses, hard hat, hearing protection, safety shoes, overall and work gloves, filter mask, etc.
- Before any maintenance operation, make sure that the parts which may become hot during use (friction clutch, gear box, etc) have cooled or serious injury may occur.
- Do not perform repairs that you do not know. Always follow the manual instructions and in case of doubt contact your dealer or Blue Diamond.
- Do not swallow fuels or lubricants. In case of accidental injestion, immediately seek medical treatment. In case of accidental contact with eyes, rinse well with water and consult a doctor.

2.7 *Storage Safety Instructions*

- Never leave the tractor unattended with the tiller in lifted position. Accidental operation of lifting lever or a hydraulic failure may cause sudden drop of unit with injury or death by crushing.
- Following operation, or before unhooking the tiller, stop the tractor, set the brakes, disengage the PTO, lower the attached tiller to the ground, shut off the engine, remove the ignition key, and wait for all moving parts to stop.
- Make sure all parked machines are on a hard, level surace, and all safety devices are engaged.
- Place support blocks under tiller as needed to prevent unit from tipping over onto a child and/or an adult. A tiller that tips over can result in injury or death.
- Store the unit in an area away from human activity.

2. Safety

2.8 *Safety Decals*

The safety decals applied on the machine give fundamental information for using the machine safely.

Make sure safety decals are in good condition. If the decals are worn, they must be replaced with others obtained from Blue Diamond and placed in the correct positions indicted by this manual.

Make sure the safety decals are legible. If necessary, wipe them by a cloth with soap and water.

2.8 *Safety Decals Cont'd*

ITEM	PART NUMBER	DESCRIPTION
1	529300	WARNING: ALWAYS READ THE OPERATOR MANUAL
2	529301	MAINTENANCE: TURN OFF TRACTORS & REMOVE KEY
3	529302	THROWN OR FLYING OBJECTS HAZARD
4	529303	ROTATING KNIVES, LOWER LIMBS HAZARD
5	529304	HAND HAZARD
6	529305	ROTATING GEARS
7	529306	CRUSHING HAZARD BY LINK LIFTING
8	529307	IMPLEMENT INPUT DRIVELINE
9	529308	TRACTOR PTO RPM & ROTATION DIRECTION
10	529309	FINGERS/HANDS CRUSHING HAZARD
11	529310	SAFETY EQUIPMENT
12	529311	OIL FILLING PLUG - NEW
13	529312	GREASE - NEW
14	529313	OIL DRAIN PLUG
15	529314	MAINTAIN OIL LEVEL
16	529315	LIFTING HOOK JOINT
17	529316	MAINTENANCE GUIDE (STANDARD DUTY)
18	529317	CE LOGO
19	529318	ROTATING DRIVELINE (COVER)
20	529319	ROTATING DRIVELINE (TUBE)

3. Set Up

The tiller is delivered fully assembled and equipped with a driveshaft with torque limiter (clutch discs) and related operating manual.

When the attachment is delivered, check that there is no damage to the tiller or driveshaft. In case of damage or missing parts immediately notify the dealer or Blue Diamond.

3.1 *General Information*

The Standard Duty Tractor Rototiller is designed to be mounted on tractors equipped with:

- 3-point Hitch Category I (ISO 730 standard)
- Quick Hitch Category I (ASABE Standard)

The position of the lower hitches must be adjusted accordingly.

3-Point Hitch Category I

If the tractor is equipped with a 3-point Hitch Category I (ISO 730 standard), verify that the upper pin is positioned down and that lower clevises are showing the pins oriented down [Figure 1], so that the distance between upper and lower pins is 18" (460 mm approx), as required from the standard.

If this does not occur, proceed as follows:

1. Remove the pin from the upper hole of the top mast, through the extraction of the elastic pins, remove bushing provided for coupling with Quick Hitch, and reposition the pin through the lower hole. Replace the elastic pins when finished. Store the bushing for possible future use.

2. Remove the U-bolts clamping the clevises to the square tube.

3. Invert the clevises orientation and reposition them on the square tube at distance of 13-7/16" from the center of tiller PTO. At the end of the operation the lower clevises shall be positioned symmetrically respect to tiller PTO, at distance of 26-7/8" (683 mm)

4. Re-tighten the U-bolts, referring to the tightening table of this manual.

5. Remove from lower pins the bushings provided for coupling with Quick Hitch, through the extraction of elastic pins. Replace the elastic pins when finished. Store the bushings for possible future use.

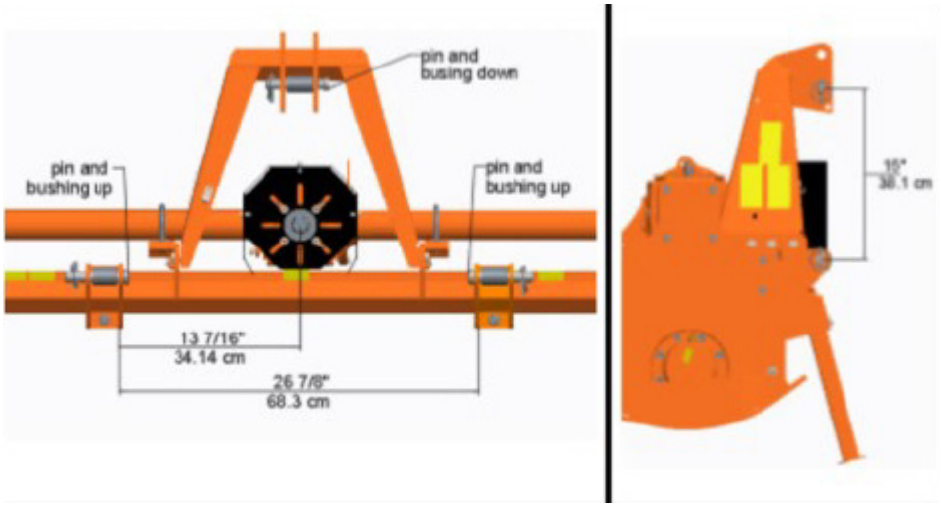


Figure 1

3.1 *General Information Cont'd*

Quick Hitch Category I

If the tractor is equipped with a Quick Hitch Category I (ASABE Standard), verify that the upper pin is oriented down, and that lower clevises are showing the pins oriented up [Figure 2]. so that the distance between upper and lower pins is 15" (381 mm), as required from the standard.

If this does not occur, proceed as follows:

1. Remove the pin from the upper hold of the topmast, through the extraction of the elastic pins, and reposition the pin through the lower hole. Be sure the pin is provided with bushing for coupling with the Quick Hitch. Replace the elastic pins when finished.
2. Remove the U-bolts clamping the clevises to the square tube.
3. Invert the clevises orientation and reposition them on the square tube at distance of 13-7/16" from the center of tiller PTO. At the end of the operation the lower clevises shall be positioned symmetrically with respect to tiller PTO, at a distance of 26-7/8" (683 mm)
4. Retighten the U-bolts, referring to the tightening table of this manual. Be sure the pins are provided with bushing for coupling with Quick Hitch.

NOTE: The upper hole of the top mast provides the tiller with an additional possibility of adaptation to tractors with 3-point hitch Category 1.

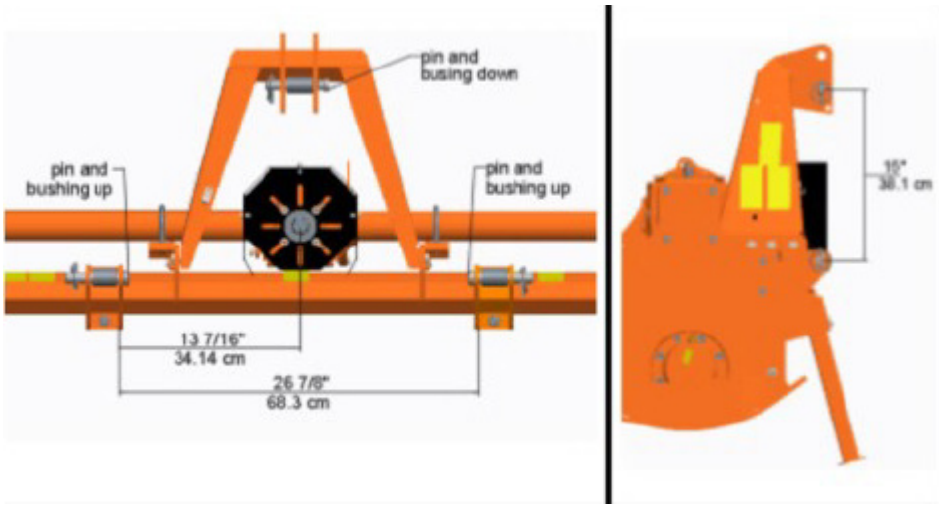


Figure 2

3.2 *Connecting to the Tractor*

To connect the tiller to the tractor the operator must do the following:

- Drive the tractor in reverse, align the rear lifting arms to lower hitches of the tiller in parking
- Set the tractor's parking brake, stop engine, remove the ignition key, and leave the operator's position.
- Connect the lifting arms of the tractor to the lower hitches of the tiller, through the use of the pins and the relative safety split pins.
- Raise the tiller until PTOs of the tractor and attachment are at the same height, then adjust the 3-Point top link so that the front of the machine is leveled to the back (the axis of the tiller PTO must be parallel to the ground), in order to minimize stress transmitted to the tiller through the cardan shaft
- Make sure that the left side of the tiller is leveled with the right, by adjusting the tractor lifting arms, then lock the arms to prevent swinging that could compromise the stability of tractor and machine.
- Finally, adjust the parking stand, placing it at the highest point by means of the related elastic pin.

3.3 *Driveline Installation*

Before installing the driveshaft, the operator must read the manuals of driveshaft and tractor, checking in particular that RPM and direction of rotation of the tractor PTO match those of the tiller.

If the direction of rotation of the PTO tractor does not match that of the tiller, contact your dealer or Blue Diamond.

To connect the driveshaft to the tractor and implement, the operator must:

- Park tractor and tiller on a flat surface, with parking brake set, engine off, and ignition key removed.
- Check that safety devices of drive shaft, tiller, and tractor are in good condition. If not, provide for their replacement.
- Remove the PTO shield of the tiller through the fixing screws.
- Position the driveshaft with clutch turned towards the implement side.
- Insert the clutch hub on the tiller PTO, then ensure its tightening onto shaft through its fastener.
- Replace the PTO shield of the tiller through the fixing screws.
- Insert the driveshaft yoke on the tractor PTO, then ensure its tightening onto shaft through its fastener.
- Hook to the tractor and tiller the two retaining chains of the driveline shielding, to prevent shielding rotation during functioning of the machine.

Driveline Length Check

Before operating the tiller, ensure that the size of driveshaft is adequate. The driveshaft supplied with the machine has a standard length, therefore it may need an adaptation of the length, depending of the tractor which the tiller is combined.

The length of the driveshaft must be such to:

- Avoid bottom out of the transmission tubes, when the driveshaft is in compressed position (when tiller is raised up off the ground)

3. Set Up

Driveline Length Check Cont'd

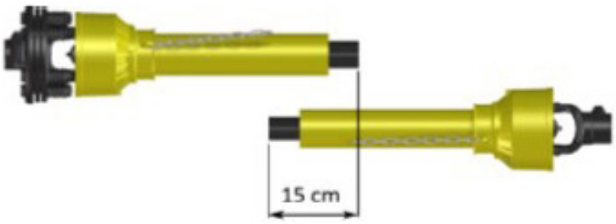
- Ensure an overlapping of the transmission tubes enough to transmit the torque required when the driveshaft is in max extension (when tiller is in its lowest position in the ground).

When the driveshaft is at its minimum length (max compressed position), there must be at least a 2 cm of distance between the ends of each transmission tube and the yoke's side.

When the driveshaft is at its maximum operational extension, there must be an overlap between the tubes' profiles of 15 cm at least.

A driveshaft too long may cause structural damages to the tractor and machine. If the driveshaft is too long, it may be adapted by removing it and shortening the tubes according to the instructions provided by the manufacturer in its use and maintenance manual.

A driveshaft too short can cause disengage of the tubes during operation, with severe hazard for the operator and structural damage to the tractor and machine. If the driveshaft is too short, it must be replaced with a longer one. In this case contact the Manufacturer or your dealer.



MAX EXTENDED POSITION

Figure 3

MAX COMPRESSED POSITION

Figure 4

IMPORTANT

- Before operating the tiller the first time, make sure that the driveshaft is lubricated in accordance with the instruction booklet.
- Before operating the tiller the first time and after long periods of inactivity, make sure that the driveline clutch has run a short "run in" in accordance with what indicated in the instruction manual of the Manufacturer, removing the possible oxidation of the components that may compromise the correct slipping during the usage (see Maintenance section).
- Always engage the tractor PTO at low RPM to minimize the effect of the peak torque on the driveline and the machine.

3.4 *Tractor-Tiller Stability*

The weight of the machine modifies the stability of the system tractor-tiller, resulting in loss of steering control and braking.

The front axle of the tractor should always be loaded with at least 20% of the overall weight of the system tractor-tiller.

Check the lifting capacity and stability of the tractor making sure the following relatiionships are complied with:

1) M x (S1 + S2) ≤ 0.2 x T x i + Z x (d + i)
2) M ≤ 0.3T

i = Tractor wheelbase (cm)
d = Distance between front axle and ballast center of mass (cm)
T = Weight of tractor + operator (75 kg)
Z = Ballast weight (kg)
M = Implement weight (kg)
S1 = Distance between rear axle and lower hitch points (cm)
S2 = Distance between lower hitch points and implement center of mass = 34 cm

CAUTION

Check the lifting capacity and stability of the tractor and, if necessary, apply the front ballast. To determine the appropriate characteristics of the ballast, refer to the manual of the tractor.

Apply the front ballast as required. To determine the appropriate characteristics of the ballast, refer to the manual of the tractor.

If this does not occur, apply the front ballast required. To determine the appropriate characteristics of the ballast, refer to the manual of the tractor.

4. Operation

Before operating the tiller, make sure you have read and understood the operating manuals of the tiller, tractor, and PTO shaft, and followed what is described in the section “Set Up”.

DANGER

During operation, adjustment, maintenance, repairing, or transporting of the attachment, the operator must always use appropriate Personal Protective Equipment (PPE).
Before starting work, ensure that all machine guards are in good conditions and fully functional.
During operation, the machine can throw material from the back. Prevent people and animals from approaching the operational area.

4.1 *Start Up*

Before the start up and before each use, perform the following pre-operation inspections and service of the implement:

- Check that the tiller has not damaged functional parts and has all mechanical parts in good condition. Repair and / or replace the damaged parts.
- Check that the tiller has no missing parts (pins, safety pins, plugs, oil, etc). Restore the missing parts.
- Check that all guards and safety devices have no damages and are properly positioned. Repair and / or replace the damaged shielding, restore the correct position.
- Verify that the PTO driveshaft is properly installed (see section Connection of the drive shaft on page 15).
- Check that the driveshaft clutch is in good condition, and that its componenets are not subject to “sticking” (see Maintenance and Driveline sections on pages 23 and 16).
- Check the presence of lubricant in all greasing points of the tiller (driveshaft, supports, etc.) (See sections on Lubrication starting on page 25).
- Check for oil leaks from the gearbox or the transmission side cover. Identify the reason of loss, then repair, and/or replace the damaged components.
- Check the correct oil level in the gearbox and in transmission side box (See Maintenance section on page 23).
- Check that blades are not excessively worn and the relating hardware is correctly tightened (See Maintenance section on page 23).
- Check that all the tiller hardware is properly tightened. Refer to the tightening table in the manual for proper torque values (See table on page 32).
- Check that all safety decals are correctly positioned, in good condition, and legible. Replace any damaged decals.
- Check that there is no constraints that may prevent the movement of equipment. Remove any constraint.

Before the start up and before each use, make the following checks on the operating area identified for tillage:

- Check that the area is clear of foreign objects (rocks, branches, or debris). Remove any obstacles and visibly highlight obstacles that cannot be removed (e.g. with flags).
- Make sure in the exposed working area there are no people or animals.
- Make sure the soil to be worked is not too grassy, muddy, sandy, or rocky.

WARNING

Before conducting the above inspections and service, make sure the tractor engine is off, all rotation parts are completely stopped and the tractor is in park with the parking brake engaged. Make sure the tiller is resting on the ground or securely blocked up and the tractor lifting hydraulics locked.

Once all the checks above have been done, start tractor and the tiller as follows:

- Start the tractor and engage the tractor PTO at low RPM, making sure that the tiller is NOT in the raised position but is close to the ground, then increase speed of the engine to 540 RPM.
- Lower the tiller to the ground and simultaneously start driving the tractor at low speed. Subsequently, increase the ground speed depending on ground conditions.
- If the environmental temperature is very cold, it's recommended to wait a few minutes with the PTO of the tractor at a low rate before lowering the tiller completely on the ground.
- Drive for a while operating the tiller, then stop the tractor to check the quality of the work performed. If you need to get off the tractor, lift the tiller just out of the ground, reduce engine speed, and disengage PTO, set the parking brake, stop engine, and remove the ignition key.
- If the working depth and/or soil texture are not as desired, correct them by adjusting the skids and/or the rear cover (see Adjustment section on page 20).

4.2 *Operating Instructions*

During operations:

- Always keep the tractor engine at the RPM rate ensuring the tiller is given the right power required for use.
- Always keep a tractor speed adequate to conditions of the soil to be worked (from 2 to 10 km/h approximately). Reduce speed in the case of hard or stony soils.
- Choose a driving pattern that provides the maximum pass length and minimizes turning.
- When working in the hills, if you can do "climbing" in the sense of the slope, in any case do not work along the hillsides, making the steps from top to bottom to reduce the terrace. Where possible always try to "work up" the slope. If this is not possible avoid hoeing along the contours of the hill and hoe up and down the slope to avoid a terracing effect.
- Always perform changes and reverse of direction with PTO disengaged and the tiller slightly lifted from the ground to avoid damage to the machine.
- Periodically check for foreign objects wrapped around the rotor shaft and remove them, after disengaging PTO, turn off tractor engine, remove ignition key, and waiting for all moving parts to stop.
- If blades strike a foreign object, or in case of prolonged intervention of the clutch due to an object wedged into the rotor, stop operating immediately, idle the engine speed, and disengage the PTO. Wait for stopping of all rotating parts, then raise the implement, and proceed to removing the object, after stopping the tractor, setting the parking brake, stopping the engine, and removing the ignition key. Repair any damages immediately, and make sure rotor and blades are in good condition before restarting operation.

- Avoid friction clutch overheating caused by too long or too frequent slipping of the clutch, since this can damage the friction plates and clutch parts.

Typical problems that may occur operating the tiller are described in the Troubleshooting section on page 30 along with their solutions.

4.3 *Adjustments*

WARNING

All adjustment operations must be performed with the tractor engine off, the PTO disengaged, the tiller lowered to the ground or on security stands, the parking brake set, and the ignition key off.

Lower Clevises Adjustment

It is possible to adjust the lower hitch position by loosening the U-bolts [Figure 5] and sliding the clevis (Item 2) [Figure 5] on the square tube. Tighten the U-bolts after making any adjustment required.

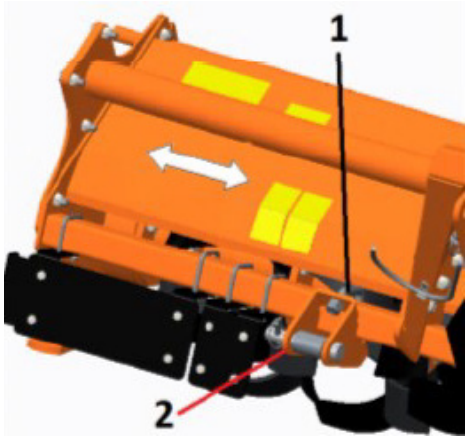


Figure 5

Friction Clutch Adjustment

The PTO drivehsaft and friction clutch are designed to transmit adequate power to the tiller.

The clutch preserves the machine from overloads, through the slipping of friction discs, and limits the max torque transmissible to a calibrated value set at factory. It is recommended, therefore, to leave this value unchanged to avoid damages to the machine or to the driveshaft.

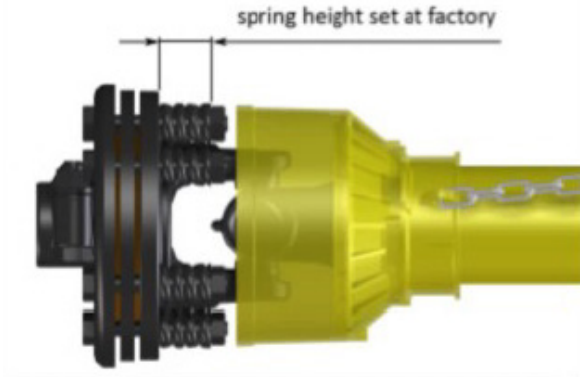


Figure 6

An adjustment can be done, however, when the clutch slipping is too frequent, which means that the calibration is too low.

In this case, the tightening of nuts over the compressed springs will give an increase in torque transmissible.

On the contrary, a loosening of the nuts over the springs will give a decrease in torque transmissible.

IMPORTANT

For details about clutch adjustment, refer to the user manual of the Manufacturer of the driveshaft installed.
The Manufacturer is not liable for damages resulting from a wrong modification of the clutch calibration.

NOTE: Excessive tightening of the springs can prevent the clutch from slipping and to protect the machine from overload. Make sure that the height of all the compressed springs is equal to prevent clutch malfunctioning.

4. Operation

Skids Adjustment

The working depth of the tiller is determined by the position of the side skids. It may be increased by raising the skids, and decreased by lowering them. It's important that both skids are adjusted at the same height.

To adjust the working depth, perform the following steps:

- Lift the machine, put it safely on security stands, then switch the tractor engine off, disengage PTO, set parking brake, and turn off the ignition key.
- Loosen the bolts in the front of the skid (Item 1) [Figure 7].
- Unscrew and remove the bolt on the rear of the skid (Item 2) [Figure 7].
- Adjust the height of the skid through the holes, as desired.
- Reinstall the rear bolt (refer to the tightening table of this manual for proper torque values on page 32).
- Tighten the front bolt (refer to the tightening table of this manual for proper torque value on page 32).

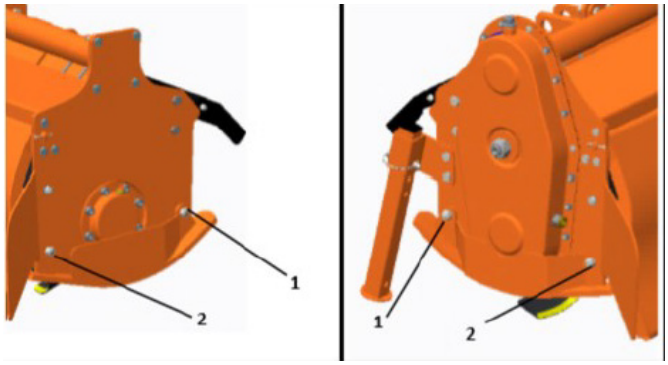


Figure 7

When finished, verify that both skids are at the same level, and check if the front of the tiller is leveled to the back, when lowered to the ground. Adjust with the 3-point top link if necessary.

Rear Board Adjustment

The standard duty tillers are eqipped with a rear board with two chains.

The position of the rear board is adjustable by varying the number of chain links tensioned under the weight of the board, included between the rear board U-bolt 1 and the slot of the frame 2 [Figure 8].

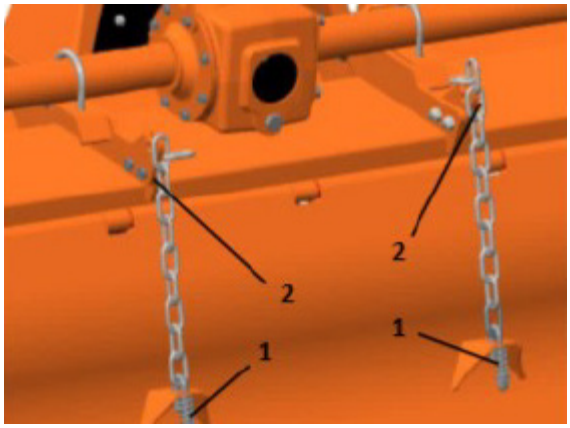


Figure 8

- To raise the rear board, reduce the number of chain links in tension. This operation, together with the increase of the tractor ground speed, allows for a courser soil texture.
- To lower the rear board, increase the number of chain links in tension. This operation, together with the reduction of the ground speed, allows for a finer soil texture.

IMPORTANT

Be sure to set the same number of chain links in tension for both chains, in order to equally divide the weight of the rear board between the chains.

WARNING

To avoid the risk of crushing or cutting of fingers, raise or lower the rear board only from the lower edge, not from the sides.

4. Operation

4.4 *Stopping and Disconnecting*

To stop the tiller at the end of a working session:

- Bring the tractor to a complete stop.
- Place the transmission in park or neutral.
- Reduce the engine speed, then disengage the PTO.
- Wait for stopping of all rotating parts.
- Lower the implement to the ground.
- Set the parking brake
- Shut down the engine and remove the key before exiting the tractor.
- Place safety blocks under tiller to prevent unit from tipping over onto a child and/or an adult. A tiller that tips over can result in injury or death.
- Disconnect the driveline from the tractor PTO and rest it on the provided support of the tiller.
- Disconnect the top link and rear lifting arms of the tractor from the tiller hitches.
- Check the tiller stability. If needed, place additional safety blocks.
- Get on the tractor, start the engine, and move away from the tiller slowly.
- Make sure the tiller remains stored in a protected area, to prevent that unauthorized personnel can approach it.

Before a long term storage (e.g. at seasonal end), do cleaning and maintenance operations as specified in Maintenance and Storage sections on pages 23 and 28).

4.5 *Transporting*

To set the tiller for transportation, perform the following steps:

- Idle tractor engine, disengage tractor PTO, and wait for stopping of all rotating parts.
- Lift the tiller into the transport position, making sure the driveline transmission tubes do not contact tractor or tiller. A minimum gap of 2 cm should be left between the tubes and tractor and tiller (See Driveline Installation section on page 16).
- Lock the tractor lifting hydraulics, turn off the engine, set the parking brake, remove ignition key, and leave the operator position.
- Adjust the parking stand to the highest position, through the use of relative retaining pin, to prevent its possible damage during transport.

When driving on public roads, strictly follow all local laws and traffic regulations.

WARNING

When driving on public roads, reduce your speed, be aware of traffic around you and proceed in such a way that faster moving vehicles may pass you safely.

5. Maintenance

Proper and regular maintenance ensures a long life of the equipment, avoids failures, and saves time and repair cost.

Periodic inspections and maintenance operations described in this section must be performed by a qualified operator in the times and terms prescribed. Failure to comply with maintenance prescriptions can compromise the functioning and duration of the machine, and consequently invalidate the warranty.

The frequency of maintenance indicated refers to normal conditions of use. It must be intensified in severe operating conditions (frequent stops and starts, prolonged winter season, etc).

Repairs, maintenance, and modifications other than those mentioned in this section should NOT be performed without consulting your dealer or Blue Diamond. Blue Diamond, may on a case by case basis, give the authorization to proceed with the repair together with all necessary instructions.

Wrong or inappropriate repairs or maintenance may generate abnormal operating conditions, equipment damage, and generate risks for the operator in addition to voiding the warranty.

WARNING

For safety reasons, all maintenance operations must be performed with tractor PTO disengaged, tiller stopped, and completely lowered to the ground or onto support blocks, parking brake set, tractor engine shut off, and ignition key removed.

IMPORTANT

Respect the environment. Store or dispose of unused chemicals as specified by the chemical manufacturer and all local and federal regulations.

5.1 *Blades Replacement*

Frequently check the wear condition of blades through visual inspection. The wear of blades is very variable depending on the type of soil.

Replacement of the blades is necessary when the operator notices increase of power absorption during tilling, or when the blade dimension is significantly reduced compared to the original.

The use of the machine with blades in bad condition compromises the quality of work.

Before Replacing the Blades

- Idle the tractor engine, set the parking brake, disengage tractor PTO, and wait for all moving parts to come to a complete start.
- Place the tiller slightly lifted from the ground on safety blocks or mechanical stands
- Lock the control lever of the hydraulic lift of the tractor.
- Turn off the tractor and remove the key.

Blade Replacement Steps

- Remove the two bolts and washers clamping the blade to the rotor flange, then remove the blade.
- Position the new blade exactly as the worn blade had been, then tighten the bolts, referring to the tightening table of this manual for proper torque values (see Torque Specification Chart on page 32).
- Repeat the same procedure for all the other blades.

At the end of the replacement, make sure the blades have the right helical arrangement, as shown in Figure 9 on page 24.

Periodically check the tightness of screws and nuts, and tighten if necessary.

5. Maintenance

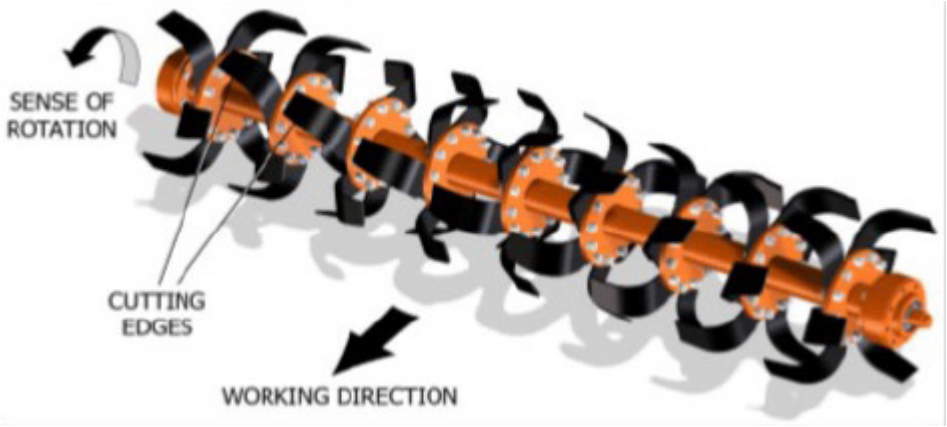


Figure 9

IMPORTANT

Remove and install one blade at a time to ensure blades are correctly oriented when installed. Replace worn blades only with original parts.

CAUTION

WORN TINES MAY BE VERY SHARP!

5. Maintenance

5.2 *Gearbox Lubrication*

Lubricant: SAE EP 140 gear oil.

Check the oil level every 50 hours, making sure the oil mark left on the dipstick of the filling plug (top of the gearbox) is located between the two reference marks (minimum and maximum).

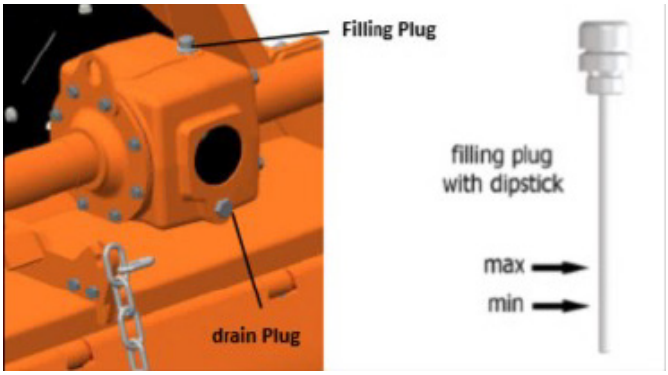


Figure 10

The oil change must be performed:

- After the first 50 working hours
- Each 500 working hours.

To make the oil change:

- Place a tank under the oil drain plug (bottom of gearbox).
- Unscrew the oil drain plug and drain oil completely into the tank.
- Retighten the drain plug.
- Unscrew the oil filling plug.
- Fill up oil till restoring the correct level (between the two reference dipstick marks).
- Retighten the filling plug.
- Dispose the discharged oil into containers for used oil.

CAUTION

Before touching the gearbox wait until it has sufficiently cooled.

IMPORTANT

Frequently check possible oil leaks from tiller through visual inspection, and in case of leakage provide immediately proper maintenance.
Avoid oil leaks on the ground when restoring oil level or making oil change.

5.3 *Side Case Lubrication*

Lubricant: SAE EP 140 gear oil.

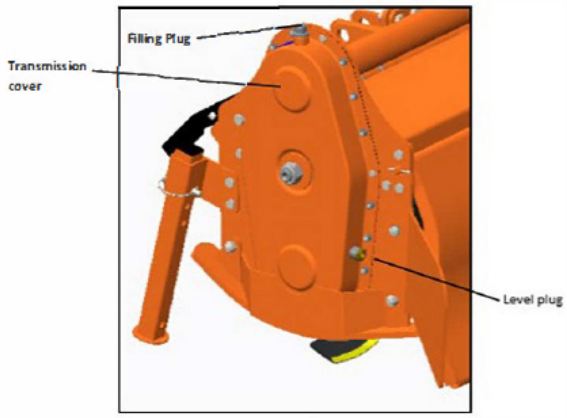


Figure 11

Check the oil level every 50 hours, making sure it reaches the level plug on the transmission cover.

If the oil is below this level, fill up oil until the correct level is restored. This oil change must be performed every 500 working hours.

To make the oil change:

- Remove the skid from the transmission side.
- Place a tank under the oil level plug.

- Unscrew the oil level plug and drain completely the oil into the tank.
- Retighten the level plug
- Unscrew the oil filling plug (top of transmission cover).
- Fill up oil till restoring the correct level (until level plug)
- Retighten the filling plug.
- Replace the side skid.
- Dispose the discharged oil into containers for used oil.

5.4 *Bearing Housing Lubrication*

Lubricant: SAE multi-purpose lithium type grease.

Grease the rotor hub support every 8 working hours, through a suitable grease gun.

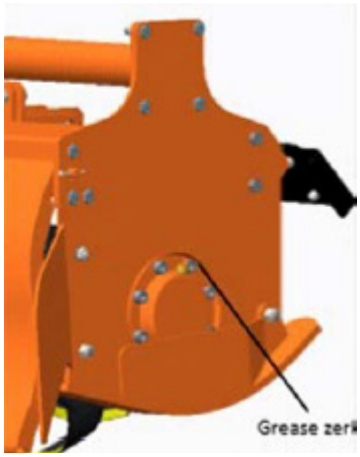


Figure 12

IMPORTANT

Make sure to clean the fitting zerk before using the grease gun.
Do not let excess grease collect on or around parts, particularly when operating in sandy areas.

5.5 *Driveshaft Maintenance*

Lubricant: SAE multi-purpose lithium type grease.

Grease crosses, sliding parts of protective shielding, and driveshaft transmission tubes.

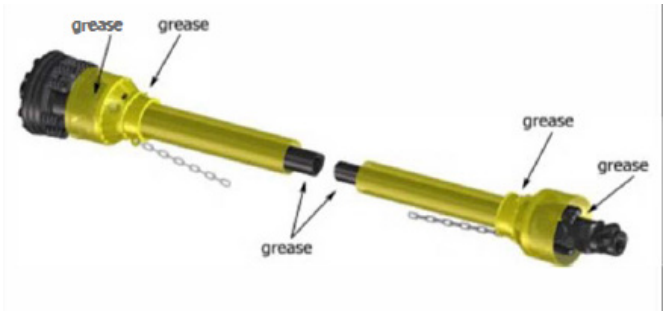


Figure 13

IMPORTANT

For details about maintenance and lubrication of the driveshaft, refer to the user manual of the driveshaft manufacturer.

Driveshaft clutch:

Exposition to the elements of tiller and driveshaft, or a long period of inactivity, generally results in oxidation of some clutch components, and creates “sticking” effect on the clutch.

Consequently, the torque required to the slippage of the clutch increases considerable respect tot he value set at factory, and this may be cause of driveshaft breakage during operation, or damage to the tractor or implement.

To avoid it, before re-using the tiller, the operator must perform a short “run-in” of the clutch, as follows:

- Take note of the height of the compressed springs.

- Loosen the bolts that compress the springs.
- Connect the tiller to the tractor (See Connecting to the Tractor section on page 15)
- Connect the driveshaft (See Driveline Installation section on page 15).
- Start the tractor, remove key, and wait for all components are stopped before dismounting from tractor.
- Retighten the bolts restoring the original springs postion on the driveshaft.

NOTE: For replacement of the driveshaft service parts (e.g. friction discs), refer to the user manual of the driveshaft manufacturer.

6. Storage

Before leaving the tiller unused for a long time, it's necessary to perform the following tasks to preserve the appearance and functionality of the machine, and to make easier the restart at later use:

- Park the tiller on a flat surface, in a place dry and protected from exposure to the elements, possibly with storage temperature between 32°F and 122°F (0°C to 50°C). See Stopping and Disconnection section on page 22.
- Throughly clean the machine, removing from the rotor all residues due to tillage, in order to avoid damage from grass and stagnant water.
- Carefully inspect the machine, checking for worn and/or damaged parts. Immediately perform all repairs and/or replacements needed in order to make the machine ready for restarting.
- In case of abrasion of painted surfaces, restore the surface protection through touchup paint to prevent rust.
- Make sure the safety decals are in their original positions, intact, and legible. When required, replace the decals immediately.
- Lubricate properly all grease points, and restore the oil levels as indicated in the Maintenance section beginning on page 25. Use protective oil to coat the exposed mechanical componenets and to protect them against rust.

If the tiller driveshaft is equipped with a friction clutch, it is suggested to take note of the height of the compressed springs and loosen the bolts that compress the springs, to prevent the discs from the "sticking" effect due to moisture that may cause the clutch failure at the restart of activities (see Driveshaft Maintenance section on page 24).

Before restarting operations, restore the original height of the springs.

7. Scrapping

In case of scrapping, the machine must be disposed in appropriate and authorized sites, according to local legislation.

Before scrapping, separate plastic parts from rubber parts, aluminum, steel, et.

Recover and dispose any exhausted oils to authorized centers for oil collecting.

8. Troubleshooting

PROBLEM	CAUSE	SOLUTION
Gearbox/transmission case noise noticeable and constant	Low oil level	Add oil to the gearbox/transmission case.
	Worn gears	Replace gears
Intermittent noise from tiller	Loose blades	Tighten blade hardware
	Gear tooth damaged	Replace damaged gear
Noise and/or vibration from tiller	Blades worn or damaged	Replace blades
	Bearings damaged	Replace bearings
	The front of the tiller is not leveled to the back	Adjust 3-point top link of tractor making tiller PTO parallel to the ground
	Rotor damaged	Repair/replace rotor
	Hard soil	Reduce ground speed
Driveline vibration	Worn driveshaft	Replace driveshaft
	Machine lifted too high	Lower machine and readjust tractor lift stops
	Debris wrapped on rotor	Remove debris
Rotor stops turning	Slip clutch slipping	Reduce load to tiller or adjust slip clutch
	Broken chain in chain box	Repair broken link
Machine skips or leaves crop residue	Badly worn blades	Replace worn blades
	Slip clutch slipping	Adjust slip clutch or reduce load
	Ground speed too fast for conditions	Reduce ground speed
Smoke and/or hot smell from tiller	Debris wrapped around in blades and/or rotor	Remove debris
	Low oil level in gearbox	Add oil
	Slip clutch slipping	Reduce load to machine or adjust slip clutch
Gearbox overheating	Low oil level	Add oil
	Hard soil	Reduce ground speed
Blades wear frequently	Muddy or sandy soil	Reduce ground speed
Blades break frequently	Stony soil	Reduce ground speed
Oil leaking from gearbox / transmission case	Gearbox/transmission case overfilled	Drain to proper level
	Loose filling/drain plug	Tighten filling/drain plug
	Damaged breather plug	Tighten filling/drain plug
	Damaged seals	Replace seals
Tillage depth insufficient	Tiller is carried by tractor	Lower tractor 3-point arms
	Tractor has insufficient power	Increase PTO speed
	Skids need adjusting	Adjust skids
	Blades worn or bent	Replace blades
	Blades incorrectly installed	Install tines correctly
	Debris entangled in blades and/or rotor	Clear rotor and/or blades
Soil texture too course	Rear board too high	Lower rear board
	PTO speed too slow	Increase PTO speed
	Ground speed too fast	Reduce ground speed

8. Troubleshooting

PROBLEM	CAUSE	SOLUTION
Soil texture too fine	Rear board too low	Raise rear board
	Ground speed too slow	Increase ground speed
Tiller choking up with soil	Blades worn or bent	Replace blades
	Blades incorrectly installed	Install tines correclty
	Rear board too low	Raise rear board
	Soil too wet	Wait until soil dries
Tiller skipping on ground or leaving crop residue	Blades incorrectly installed (wrong helical arrangement, cutting edge in wrong direc-tion, etc.)	Install blades correctly (replace into correct helical arrangement, position cutting edge on the leading edge of rotational direction, etc.)
	Debris entangled in blades and/or rotor	Clear rotor and/or blades
	Ground speed too fast	Reduce ground speed
	Soil too hard	Reduce ground speed and make tilling in more steps
Tillage not uniform	Blades worn or damaged	Replace blades
	Skids not aligned	Align skids
	Tiller left side not leveled with right side	Adjust tractor 3-point arms
Too much load required of tractor	Excessive working depth	Lower skids
	Excessive PTO speed	Reduce PTO speed

9. Specifications

9.1 *Torque Specifications*

Standard Hardware and Lock Nuts

BOLT TYPE	GRADE 8.8		GRADE 10.9	
Metric Size	Standard (ft/lb)	Metric (N•m)	Standard (in/lb) OR (ft/lb)	Metric (N•m)
M6	8 ft / lb	11 N•m	11 ft / lb	15 N•m
M8	19 ft / lb	26 N•m	27 ft / lb	36 N•m
M10	39 ft / lb	52 N•m	53 ft / lb	72 N•m
M12	67 ft / lb	91 N•m	93 ft / lb	125 N•m
M14	105 ft / lb	145 N•m	150 ft / lb	200 N•m
M16	165 ft / lb	225 N•m	230 ft / lb	315 N•m
M18	230 ft / lb	310 N•m	300 ft / lb	405 N•m
M20	325 ft / lb	440 N•m	450 ft / lb	610 N•m

10. Spare Parts

All repairs and replacements on the machine must be performed only by using original spare parts, which must be obtained from your dealer or Blue Diamond®.

This section contains the information needed to identify the parts of standard duty tillers that may be ordered from the Manufacturer.

When requesting spare parts from the Manufacturer, always provide the following information:

- Type of machine
- Tiller serial number
- Description and Blue Diamond® part number
- Quantities of each part needed

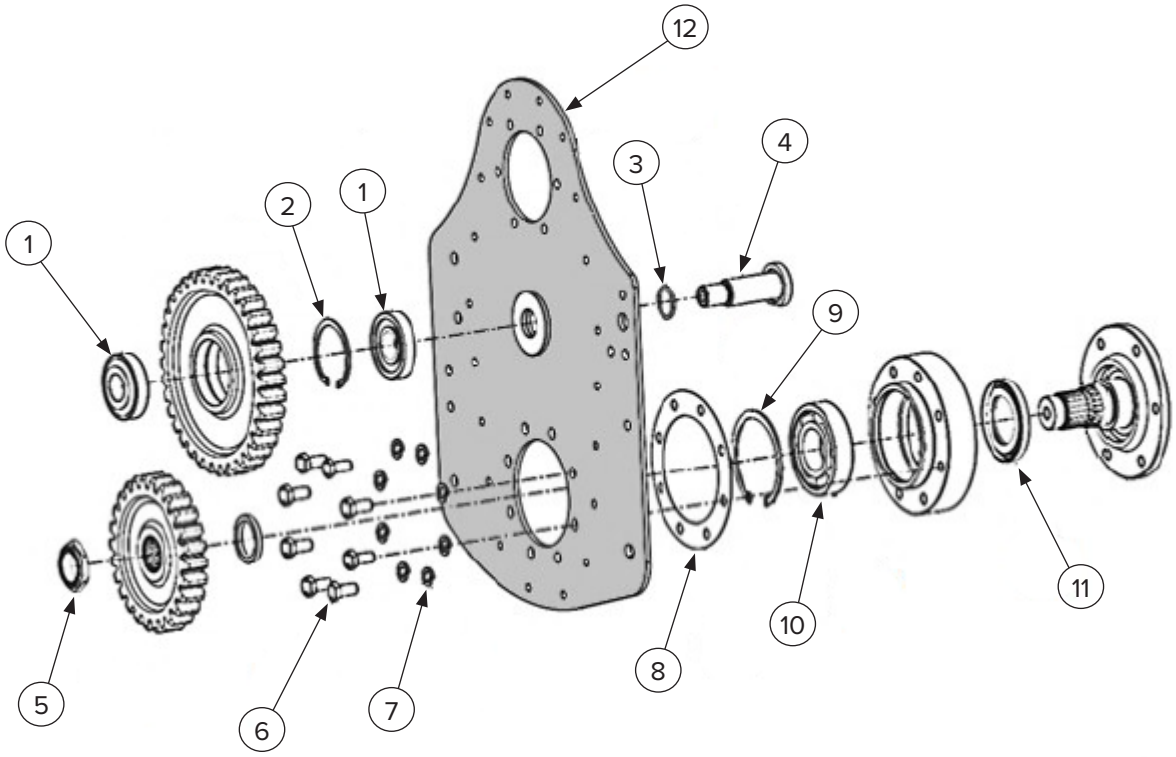
NOTE:
For identification of Part Numbers and description of safety decals refer to the Safety Labels section on page 11.

For identification of Part Numbers and description of PTO driveline parts, refer to the manual of the driveshaft manufacturer.

The Manufacturer reserves the right to substitute a required part with an equivalent part, if applicable.

11. Parts

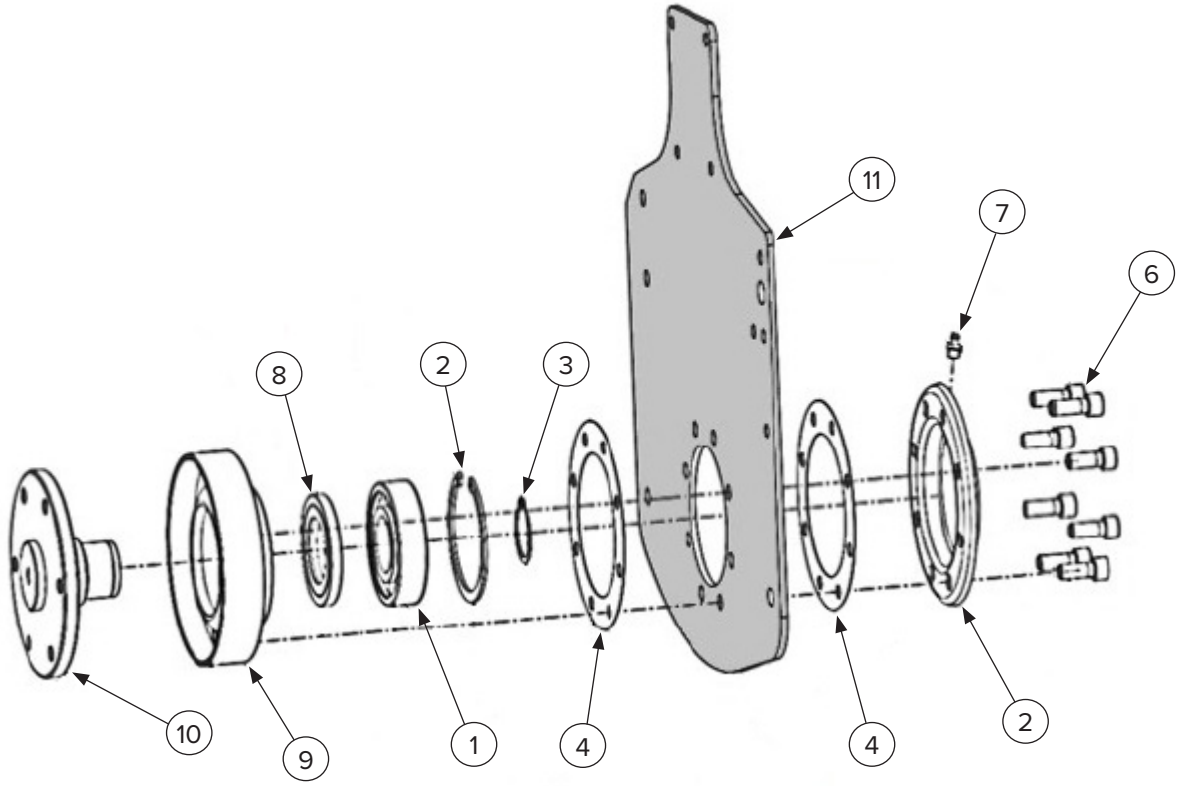
11.1 *LH Side Plate Components*



ITEM	PART NUMBER	DESCRIPTION	QTY
1	529320	Bearing 30306	2
2	529321	Circlip Internal 72mm	1
3	529322	O-Ring M30 X 3.50	1
4	529323	Middle Shaft	1
5	529324	Nylock Nut M35 X 1.50	1
6	529325	Hex Bolt M12 X 1.75 X 25 (8.8)	8
7	529326	Lock Washer 12mm	8
8	529327	Housing Gasket	1
9	529331	Circlip Internal 100mm	
10	529328	Bearing 6309 Lu	1
11	529329	Oil Seal 55 X 90 X 10	1
12	529330	LH Side Plate Assembly	1

11. Parts

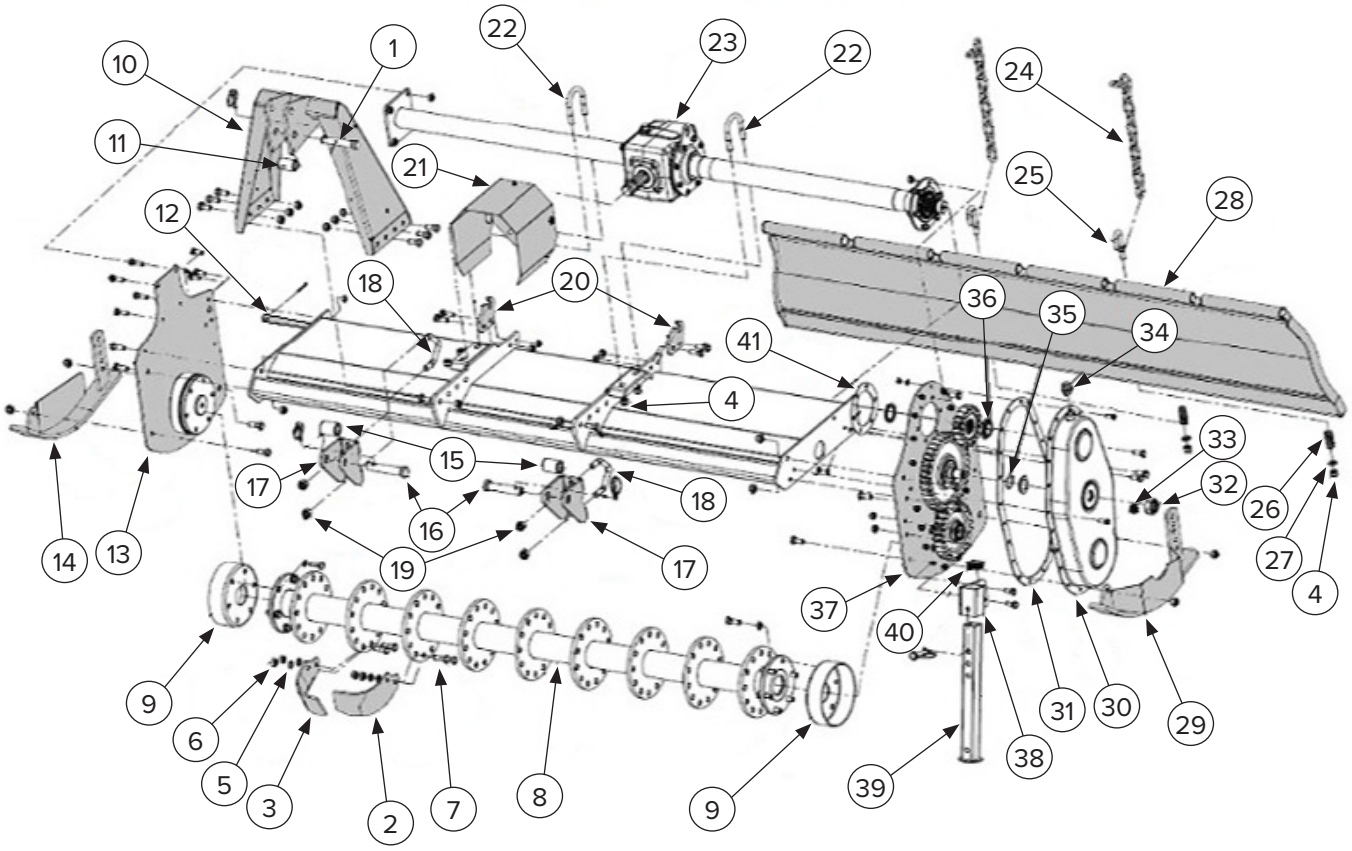
11.2 *RH Side Plate Components*



ITEM	PART NUMBER	DESCRIPTION	QTY
1	529328	Bearing 6309 Lu	1
2	529331	Circlip Internal 100mm	1
3	529332	Circlip External 45mm	1
4	529327	Housing Gasket	2
5	529333	End Cover	1
6	529334	Allen Bolt M12 X 1.75 X 30 (8.8)	8
7	529335	1/8 Grease Zerk 7.5mm	1
8	529329	Oil Seal 55 X 90 X 10	1
9	529336	Gear Side Housing	1
10	529337	Stub Axle Shaft	1
11	529338	RH Side Plate Assembly	1

11. Parts

11.3 *Main Frame Components*



11. Parts

11.3 *Main Frame Components*

ITEM	PART NUMBER	DESCRIPTION	QTY
1	529339	Top Hitch Pin CAT-1	1
2	529340	LH Tine (Specify 72", 60" Or 50" Tiller)	27
3	529341	RH Tine (Specify 72", 60" Or 50" Tiller)	24
4	529342	Nylock Nut M12 X 1.75	21
5	529343	Lockwasher 12mm	27
6	529344	Hex Nut M12 X 1.25	24
7	529345	Hex Bolt M12 X 1.25 X 35 (HT-10.9)	21
8	529346	Rotor Shaft (72" Tiller)	–
	529347	Rotor Shaft (60" Tiller)	–
	529348	Rotor Shaft (50" Tiller)	–
9	529349	Duty Dust Cover	–
10	529350	Top Mast	1
11	529351	Top Link Bushing	1
12	529352	Tailgate Rod (72" Tiller)	1
	529353	Tailgate Rod (60" Tiller)	2
	529354	Tailgate Rod (50" Tiller)	1
13	529338	RH End Plate	1
14	529355	RH Skid Shoe	1
15	529356	Lower Link Bushing	1
16	529357	Bottom Hitch Pin Cat-1	1
17	529358	Lower Hitch Bracket	1
18	529359	U-Bolt	1
19	529360	Nylock Nut M14 X 2	2
20	529361	Chain Lifting Hook	2
21	529362	Pto Shield	2
22	529363	U-Bolt	2
23	529364	Gearbox Assembly (72" Tiller)	4
	529365	Gearbox Assembly (60" Tiller)	2
	529366	Gearbox Assembly (50" Tiller)	1
24	529367	Tailgate Lift Chain	2
25	529368	J-Bolt	2
26	529369	Spring	2
27	529370	Lockwasher 12mm	2
28	529371	Tailgate (72" Tiller)	1
	529372	Tailgate (60" Tiller)	1
	529373	Tailgate (50" Tiller)	1
29	529374	LH Skid Shoe	1
30	529375	Side Cover	1

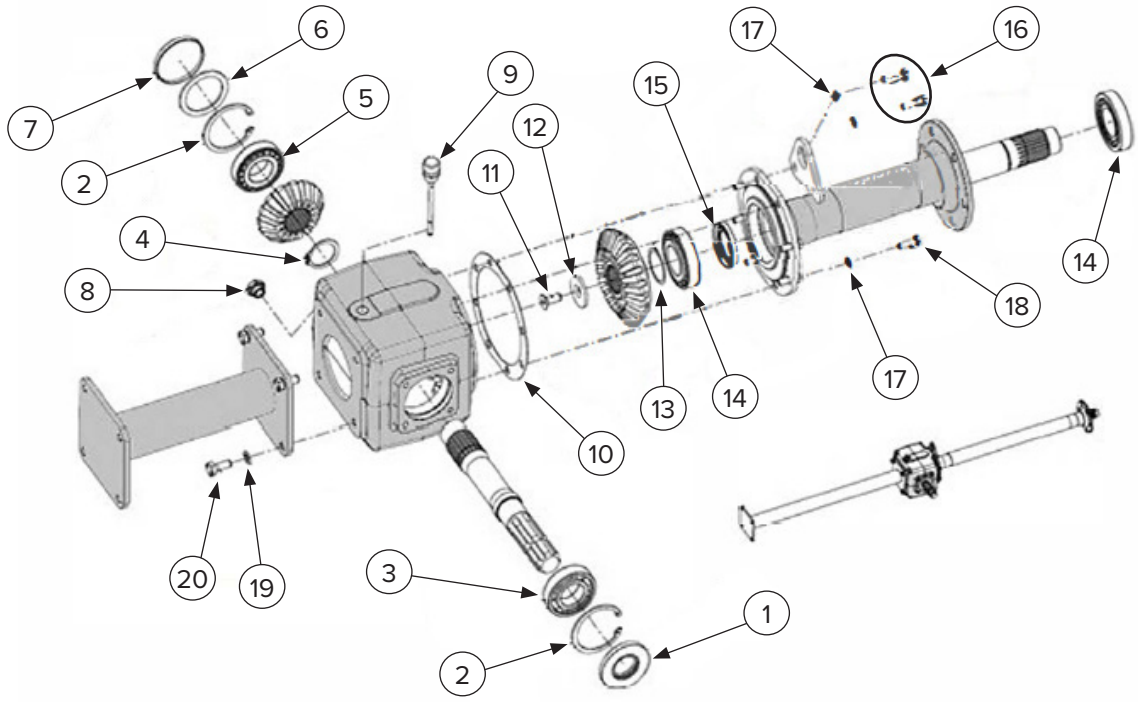
11. Parts

11.3 *Main Frame Components*

ITEM	PART NUMBER	DESCRIPTION	QTY
31	529376	Side Cover Gasket	1
32	529377	Nylock Nut M24 X 2	1
33	529378	Oil Level Guage 3/8"	1
34	529379	Breather Plug 1/2"	1
35	529322	O-Ring M30 X 3.50	1
36	529324	Nylock Nut M35x1.50	1
37	529330	LH Side Plate Assembly	1
38	529380	Tractor Rototiller Standard Duty Stand Holder	1
39	529381	Tractor Rototiller Standard Duty Stand	1
40	529382	Tractor Rototiller Standard Duty Sq. Plastic Cap 40mm	1
41	529383	Tractor Rototiller Standard Duty Flange Gasket	1

11. Parts

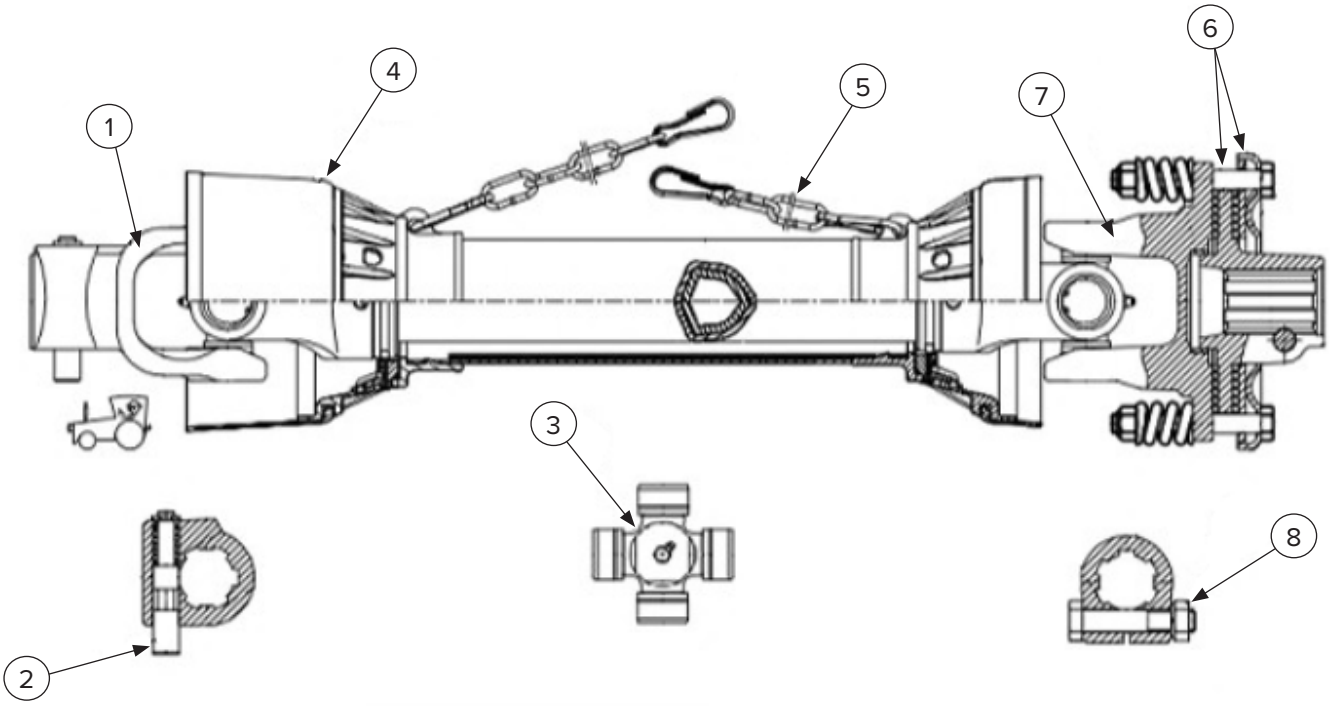
11.4 *Top Gearbox Components*



ITEM	PART NUMBER	DESCRIPTION	QTY
1	529384	Input Oil Seal 35 X72 X 8	1
2	529321	Cirlip Internal 72mm	2
3	529385	Bearing 6207	1
4	529386	Circlip External 40mm	1
5	529387	Bearing 30207	1
6	529388	Spacer Shim	1
7	529389	Oil Cap Seal 72 X 8	1
8	529390	Drain Cap Plug 3/8"	1
9	529391	Dipstick Breather	1
10	529392	Flange Gasket	1
11	529393	Csk Bolt M10 X 1.5 X 25	1
12	529394	Crown Washer	1
13	529395	Shim 50 X 42 X 0.20mm	1
14	529396	Bearing 30208	2
15	529397	Oil Seal 40 X 62 X 7	1
16	529398	Hex Bolt M8 X 1.25 X 30	2
17	529399	Lock Washer 8mm	8
18	529400	Hex Bolt M8 X 1.25 X 25	6
19	529401	Lock Washer 10mm	4
20	529402	Hex Bolt M10 X 1.50 X 25 (8.8)	4
21	529364	Gearbox Assembly (72” Tiller)	1
22	529365	Gearbox Assembly (60” Tiller)	1

11. Parts

11.5 *Slipclutch Driveline Components – 4', 5', & 6' Tillers*



ITEM	PART NUMBER	DESCRIPTION	QTY
1	529403	Tractor Yoke 1-3/8" W/Push Pin	1
2	529404	Push Pin Kit	1
3	529405	Cross Kit	1
4	529406	Outer Plastic Shield Brg	1
5	529407	Inner Plastic Shield Brg	1
6	529408	Complete Safety Shield	1
7	529409	Safety Support Chains	2
8	529410	Clutch Lining (Pack Of 2)	1
9	529411	Complete Slip Clutch	1
10	529412	Eccentric Pin Kit	1
11	529413	Complete SC Driveline	–

Warranty

MANUFACTURER'S LIMITED WARRANTY

BLUE DIAMOND® ATTACHMENTS, a manufacturer of quality attachments, warrants new BLUE DIAMOND® ATTACHMENTS products and/or attachments at the time of delivery to the original purchaser, to be free from defects in material and workmanship when properly set up and operated in accordance with the recommendations set forth by BLUE DIAMOND® ATTACHMENTS, LLC.

BLUE DIAMOND® ATTACHMENTS liability for any defect with respect to accepted goods shall be limited to repairing the goods at a BLUE DIAMOND® ATTACHMENTS designated location or at an authorized dealer location, or replacing them, as BLUE DIAMOND® ATTACHMENTS shall elect. The above shall be in accordance with BLUE DIAMOND® ATTACHMENTS warranty adjustment policies. BLUE DIAMOND® ATTACHMENTS obligation shall terminate twelve (12) months for the Standard Duty Tractor Rototiller after the delivery of the goods to original purchaser.

This warranty shall not apply to any machine or attachment which shall have been repaired or altered outside the BLUE DIAMOND® ATTACHMENTS factory or authorized BLUE DIAMOND® ATTACHMENTS dealership or in any way so as in BLUE DIAMOND® ATTACHMENTS judgment, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident beyond the company recommended machine rated capacity.

WARRANTY CLAIM

To submit a warranty claim, a claim must be filed with BLUE DIAMOND® ATTACHMENTS before work is performed. The BLUE DIAMOND® PRODUCT SUPPORT TEAM will advise repairs and applicable parts exchanges. Tampering with the failed part may void the warranty. This warranty does not include freight or delivery charges incurred when returning machinery for servicing. Dealer mileage, service calls, and pickup/delivery charges are the customers' responsibility.

EXCLUSIONS OF WARRANTY

Except as otherwise expressly stated herein, BLUE DIAMOND® ATTACHMENTS makes no representation or warranty of any kind, expressed or implied, AND MAKES NO WARRANTY OF MERCHANTABILITY IN RESPECT TO ITS MACHINERY AND/OR ATTACHMENTS ARE FIT FOR ANY PARTICULAR PURPOSE. BLUE DIAMOND® ATTACHMENTS shall not be liable for incidental or consequential damages for any breach or warranty, including but not limited to inconvenience, rental of replacement equipment, loss of profits or other commercial loss. Upon purchase, the buyer assumes all liability for all personal injury and property resulting from the handling, possession, or use of the goods by the buyer.

No agent, employee, or representative of BLUE DIAMOND® ATTACHMENTS has any authority to bind BLUE DIAMOND® ATTACHMENTS to any affirmation, representation, or warranty concerning its machinery and/or attachments except as specifically set forth herein.

This warranty policy supersedes any previous documents.

NOTE: Blue Diamond® Attachments is a trademark of BLUE DIAMOND® ATTACHMENTS

QUALITY | DEPENDABILITY | INTEGRITY

Blue Diamond® Attachments
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