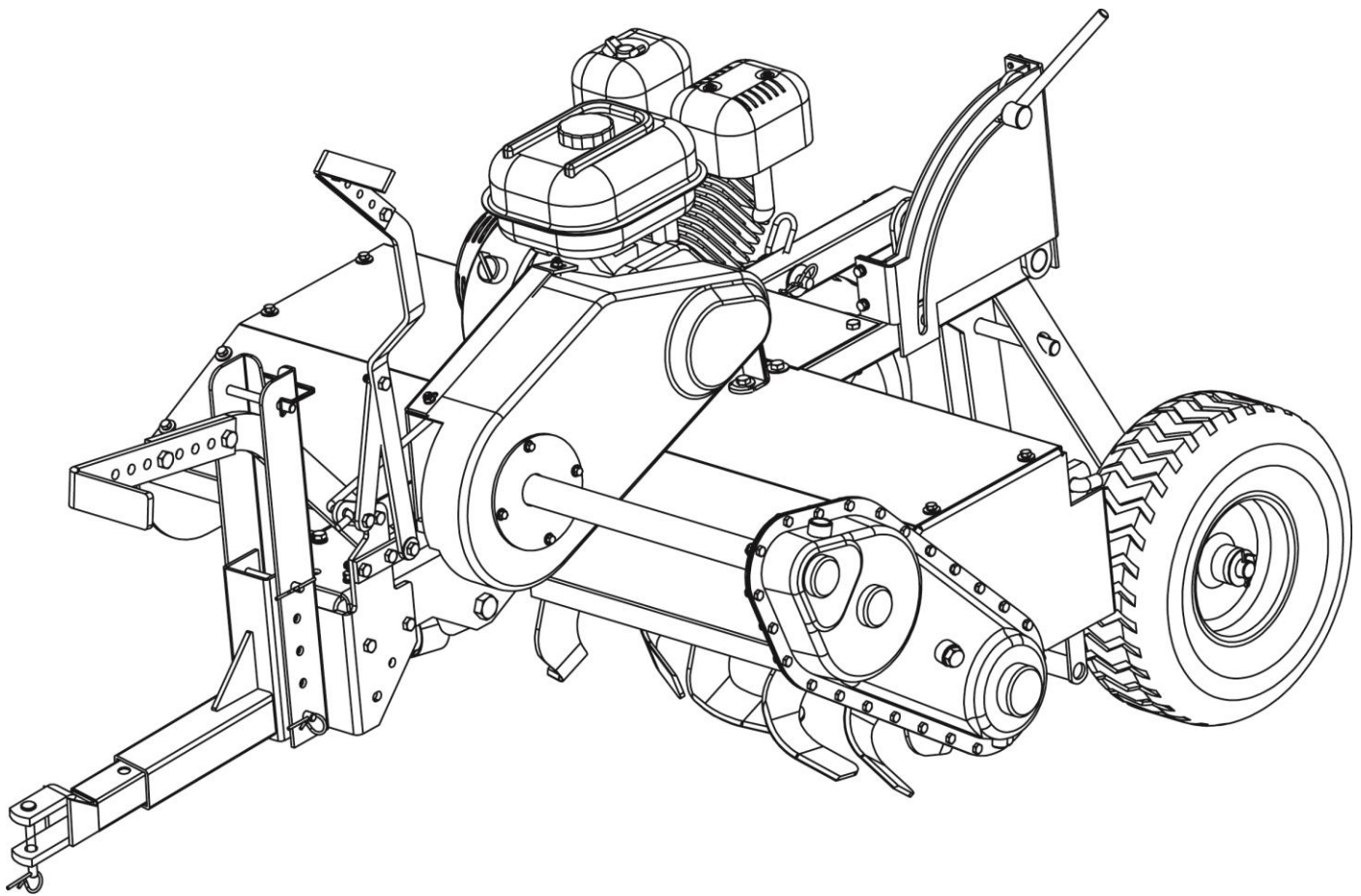




ATV / LAWN TRACTOR TOWABLE TILLER Owner's Manual



⚠ WARNING:

Carefully read and understand all **ASSEMBLY AND OPERATION INSTRUCTIONS** before operating. Failure to follow the safety rules and other basic safety precautions may result in serious injury.

11092016

Item# ATV-3665

Thank you very much for choosing this product! For future reference, please complete the owner's record below:

Model: ATV-3665 Purchase Date: _____

Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it.

This product is designed for certain applications only. The manufacturer cannot be responsible for issues arising from modification. We strongly recommend this product not be modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the product until you have first contacted us to determine if it can or should be performed on the product.

For technical questions please call **1-218-943-6296**.

INTENDED USE

The ATV-3665 ATV Tiller has twenty-four 12 inch hardened steel tines for tilling compacted soil. It is constructed with a manual lever for height adjustment up to 5 inches. The shock absorbing hitch and 15 inch pneumatic turf tires work well on uneven terrain.

GENERAL SAFETY RULES



WARNING: Read and understand all instructions. Failure to follow all instructions listed as follows may result in serious injury.



CAUTION: Do not allow persons to operate or assemble this Tiller until they have read this manual and have developed a thorough understanding of how the Tiller works.



WARNING: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

SAVE THESE INSTRUCTIONS

WORK AREA

- **Keep work area clean**, free of clutter and well-lit. Cluttered and dark work areas can cause accidents.
- **Keep children and bystanders** away while operating a Tiller. Distractions can cause you to lose control, so visitors should remain at a safe distance from the work area.
- **Be alert of your surroundings.** Using a Tiller in confined work areas may put you dangerously close to cutting tools and rotating parts.

PERSONAL SAFETY





- **Stay alert**, watch what you are doing and use common sense when using a Tiller. Do not use a Tiller while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating a Tiller may result in serious personal injury.
- **Dress properly.** Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.
- **Use safety apparel and equipment.** Use safety goggles or safety glasses with side shields which comply with current national standards, or when needed, a face shield. Use a dust mask if working in dusty work conditions. This applies to all persons in the work area. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate.

TILLER USE AND CARE

- **Do not modify the Tiller in any way.** Unauthorized modification may impair the function and/or safety and could affect the life of the equipment. There are specific applications for which the Tiller was designed.
- **Always check for damaged or worn out parts before using the Tiller.** Broken parts will affect the Tiller operation. Replace or repair damaged or worn parts immediately.
- **Do not exceed the Tiller load capacity.**
- **Distribute the load evenly.** Uneven loads may cause the Tiller to tip, resulting in personal injury to the operator or others.
- **Use the Tiller on flat and level surfaces** capable of supporting the Tiller and its maximum load. Pulling or pushing a load on a slanted or uneven surface can result in loss of control.
- **Store idle Tiller.** When the Tiller is not in use, store it in a secure place out of the reach of children. Inspect it for good working condition prior to storage and before re-use.

SAFTY RULES

Hazard Signal Word Definitions

	<p>This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.</p>
	<p>DANGER indicates an imminent hazardous situation which, if not avoided, will result in serious injury or death.</p>
	<p>WARNING indicates a potentially hazardous situation which, if not avoided, can result in serious injury or death.</p>
	<p>CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.</p>

SAFTY RULES



WARNING

Read this manual.

Serious injury or death can result if safety instructions are not followed.



Engine is shipped without oil.

-Before starting engine, fill with SAE 10W-30 motor oil.

-See engine manual for engine oil capacity.

Closely inspect all Tiller components.

-If product arrives with damaged components then:

A. Shipping damage, contact the freight company that delivered the unit and file a damage claim.

B. Contact customer service for replacement parts at 218-943-6296.

SAFTY RULES

EQUIPMENT SAFETY GUIDELINES

- Safety of the operator and bystanders is one of the main concerns in designing and developing a tiller. However, every year accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator can avoid many accidents by observing the following precautions and insist those working with you, or for you, follow them.
- In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.
- Replace any safety sign that is not readable or missing. Location of such safety signs are indicated in this manual.
- Never use alcoholic beverages or drugs that can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
- Under no circumstances should children under the age of 18 be allowed to work with this equipment. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and how it works. Review the safety instructions with all users annually.
- This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible, properly trained and physically able person familiar with machinery and trained in this equipment's operations. If the elderly are assisting, their physical limitations need to be recognized and accommodated.
- Personal protection equipment including hardhat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintenance, repairing, removal, or moving the implement. Do not allow long hair, loose fitting clothing, or jewelry to be around equipment.
- Do not modify the equipment in any way. Unauthorized modification could result in serious injury or death and may impair the function and life of the equipment.
- In addition to the design and the confirmation of this implement, including safety signs and safety equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to safety messages and operation instruction in each of the appropriate sections of the tractor and tiller manuals. Pay close attention to the safety signs affixed to the tractor and the tiller.
- TRI Global Enterprises, Inc. or any of its subsidiaries will not be held liable for any damages, losses or injury due to the mis-application or mis-use of this product or for any other reason. Always wear ANSI approved safety glasses, protective clothing, and proper hand and foot protection at all times. Keep all people, pets or animals, clear from work area.

SPECIFICATION

Engine (see Engine manual for all specs)	Briggs & Stratton I/C 208cc; 6.5HP
Approximate run time, one tank of fuel	3 Hours
Chain/Gear box oil capacity	80W–90 gear oil; 1 quart (0.9 liter)
Towing hitch type	Pin Hitch
Height adjustment	Lift Lever
Towing speed recommended	2 to 4 mph
Tilling range - DEPTH	0" to 5"
Tilling range - WIDTH	36" working width
Number of tines	24
Tine size	12.5"
Wheel size	15"x6"
Machine size (unassembled/assembled)	39"Wx66"L(Storage status) 35"Wx77"L(Working status)
N.W./G.W	249 lbs / 322 lbs

ASSEMBLY INSTRUCTIONS

Step 1: Wheel Assembly

Attach the Wheel Bushing (#35) to the Wheel Axle (#36), then attach the Wheel (#34) to the Wheel Axle using one Wheel Bushing B (#33), one Flat Washer (#32) and one Cotter Pin (#31). Repeat this step for the other wheel. See Figure 1.

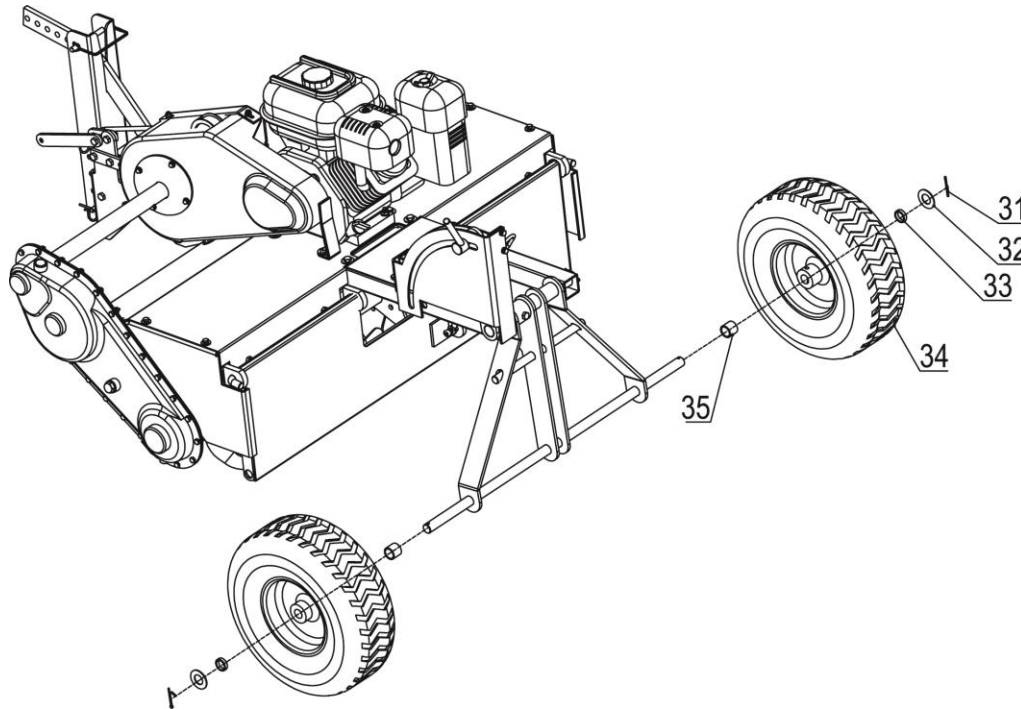


Figure 1

Step 2: Tongue Assembly

Insert Tongue Assembly (#83) to the Front Frame Assembly (#88) using two Bolts (#93) and two R Pins (#94). See Figure 2.

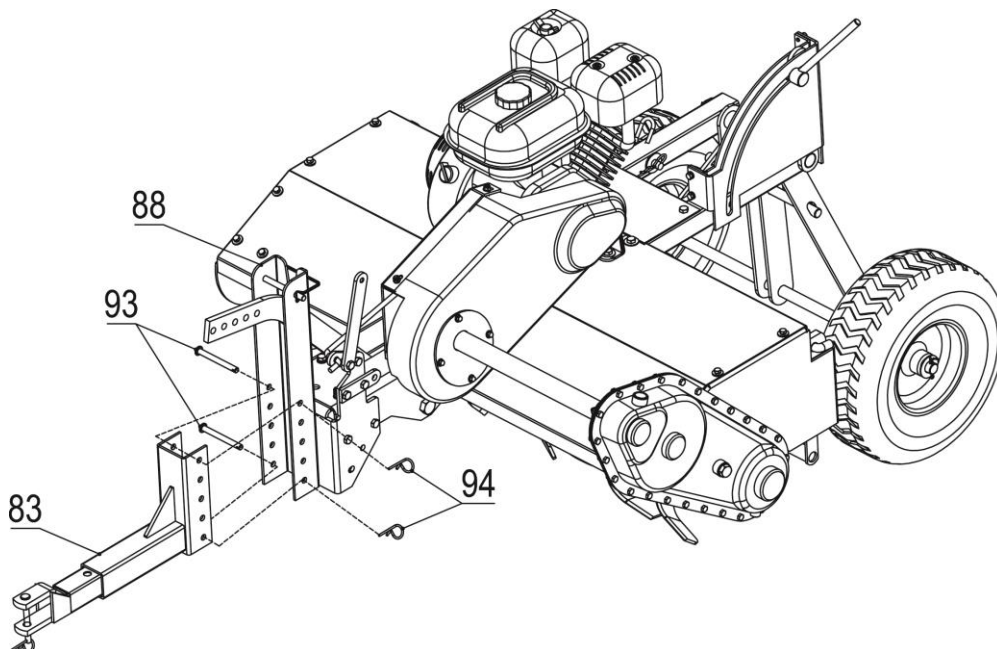


Figure 2

ASSEMBLY INSTRUCTIONS

Step 3: Lift Arm Assembly

1. Connect the Lift Arm (#92), the Connecting Plate (#64), and the Connecting Rod (#85) using two Nylon Washers (#80), two Big Flat Washers (#12), two Hex Bolts (#79), and two Nylon Lock Nuts (#10). See Figure 3.

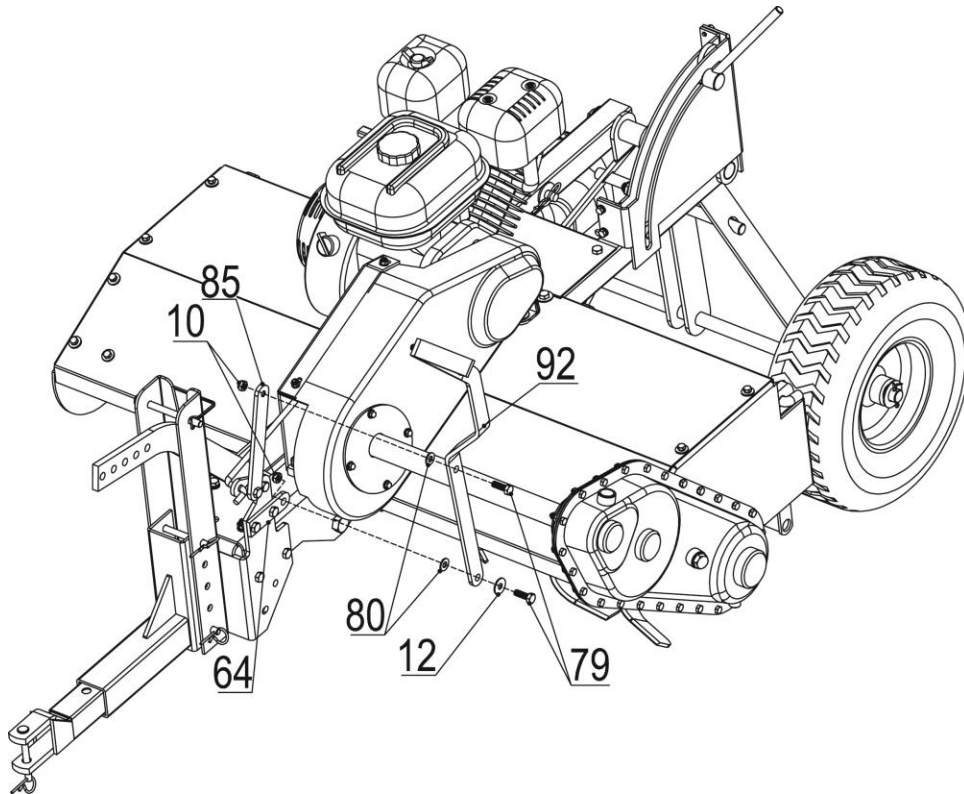


Figure 3

Step 4: Lift Handle Part 2 Assembly

1. Connect the Lift Handle (#90) to the Lift Arm (#92) using two Hex Bolts (#89) and two Nylon Lock Nuts (#74). See Figure 4.

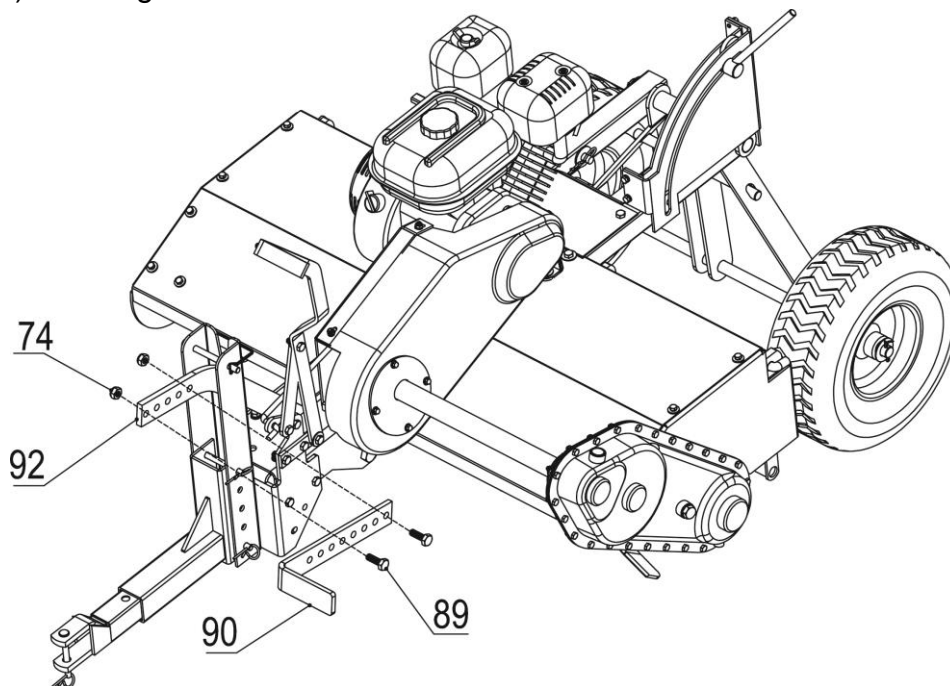


Figure 4

OPERATION INSTRUCTIONS

SAFETY TRAINING



- Safety is a primary concern in the design and manufacturing of our Tiller. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.
- It has been said, “The best safety device is an informed, careful operator.” We ask you to be that kind of operator. It is the operator’s responsibility to read and understand all safety and operating instructions in the manual and to follow them. Accidents can be avoided.
- Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your towing vehicle, before assembly or operating, to acquaint yourself with the machines. If this machine is used by any person other than you, or is loaned or rented, it is the tiller owner’s responsibility to make certain that the owner’s manual be available to the operator prior to operation.
- Operators must:
 1. Read and understand the operator’s manuals.
 2. Operate tiller in a proper and safe way.
- Know your controls and how to stop the towing vehicle, engine, and tiller quickly in an emergency. Read this manual and the one provided with your towing vehicle.
- Train all new personnel and review instructions frequently. Be certain only a properly trained and physically able person will operate the machinery. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.

OPERATION INSTRUCTIONS

Operating the Tiller

1. Raise the Tiller Tines by making sure the Lift Arm is forward, then place the Tiller on level ground. Figure 5 shows the Tiller in the towing position (non-tilling position).
2. Disengage the Tine Clutch Lever, lock the Limiting Plate with the wheels in the raised position, then start the Engine following the procedure in the Engine Owner's Manual.

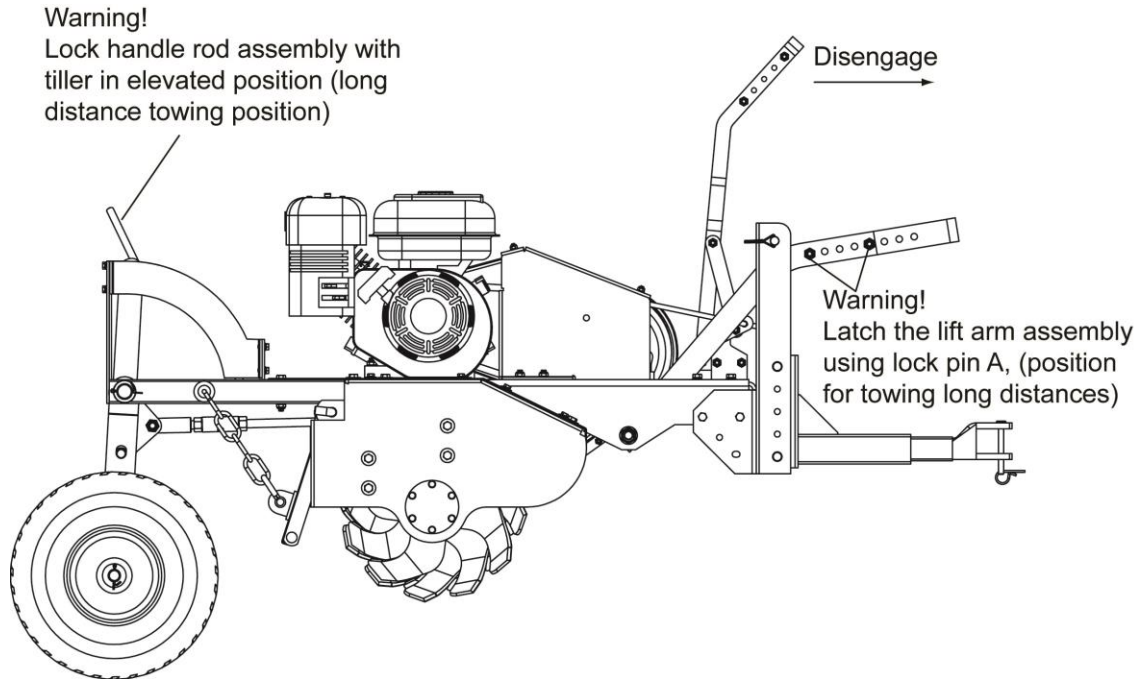


Figure 5

To Engage the Tines, push the Tine Clutch Lever. Adjust the depth of Tines by moving the Limiting Plate and re-locking the Handle Rod Assembly. Figure 6 shows the Tiller in the operating (tilling) position.

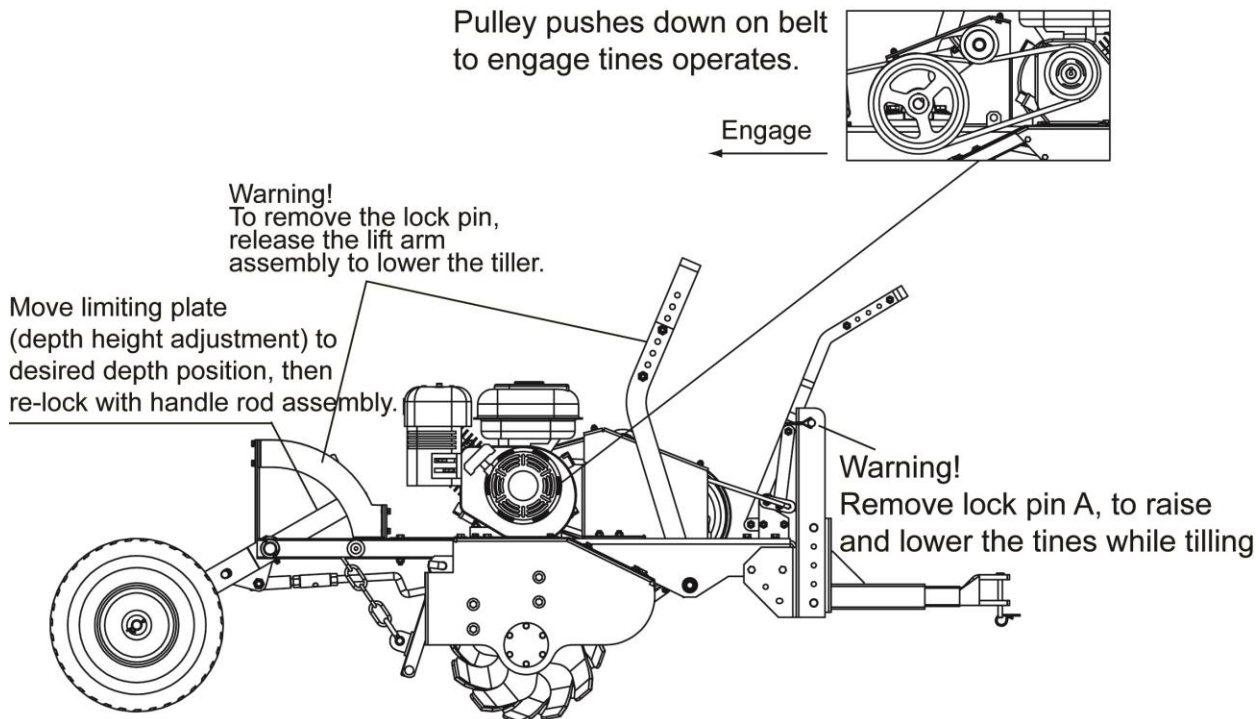


Figure 6

WARNING: Recommended Towing Speed is approx. 2 to 4 mph; depending on soil type and soil conditions.

TEST RUN TILLER BEFORE USE:

Position tiller so tines are fully in raised position. Start the engine, then engage tines.

Allow tines to rotate for approx. 5 minutes.

Dis-engage tines, then stop the engine and re-check following:

Pulleys & belts (re-tighten or align if necessary)

Tines (tighten if necessary)

OPERATING & TILLING HELPFUL TIPS:

- **If encountering rock(s):** Always remove as soon as possible to avoid damage.
- **Beginner or first time tilling:** It is recommended to start slowly until you become familiar and more comfortable with operating the tiller.
- **If soil is soft/wet:** Start at a shallow tilling depth. Make a pass and let dry. Lower depth and repeat as necessary. If soil is too wet, it could cause soil to have lumps.
- **If soil is hard/dry:** Start at a shallow tilling depth. Till in the opposite direct of the final planting (cross till). Make a final pass in the same direction of the final planting.
- **Tilling Pattern:** Till in rows where each pass is made one tiller width from previous pass, then come back and till between passes. When passes are made next to each other, the tiller will pull towards the tilled area.

MAINTENANCE AND STORAGE



WARNING!

When performing any maintenance, please shut off the engine, wait 5 minutes to allow parts to cool and disconnect the spark plug wire, keeping it away from the spark plug.

STORAGE SAFETY

- Store the unit in an area away from human activity.
- Do not park your tiller where it can be exposed to direct contact to livestock for long periods of time. Damage and livestock injury could result.
- If possible, store your tiller inside, but not near an open flame or spark.
- Make sure all parked machines are on a hard, level surface and engage all safety devices.
- After the tiller has cooled, cover the machine with a suitable protective cover that does not retain moisture.

Regular Maintenance Checklist

Procedure	Before Each Use	Every 20 Hours	Every 35 Hours	Every 50 Hours	Every 80 Hours
Check the engine oil level	●				
Clean the tines and debris shield	●				
Check the general condition of the machine, i.e. nuts ,bolts, weld, etc.	●				
Clean engine exterior & cooling fins	●				
Check the tines bolt for wear (Figure 7 on page 14)	●				
Check the pull spring of pulley (Figure 9 on page 14)	●				
Clean air filter		●			
Inspect the tine drive belt for wear (Figure 9 on page 14)			●		
Change engine oil Note: First time after 5 hours.			●		
Replace air filter and pre-cleaner			●		
Replace the tine drive belt (Figure 9 on page 14)			●		
Replace spark plug			●		
Replace the oil in chain box (Figure 10 on page 15)				●	
Check tines for wear				●	
Replace bearing on pulley					●

MAINTENANCE AND STORAGE

Please check if these two bolts are tightened.

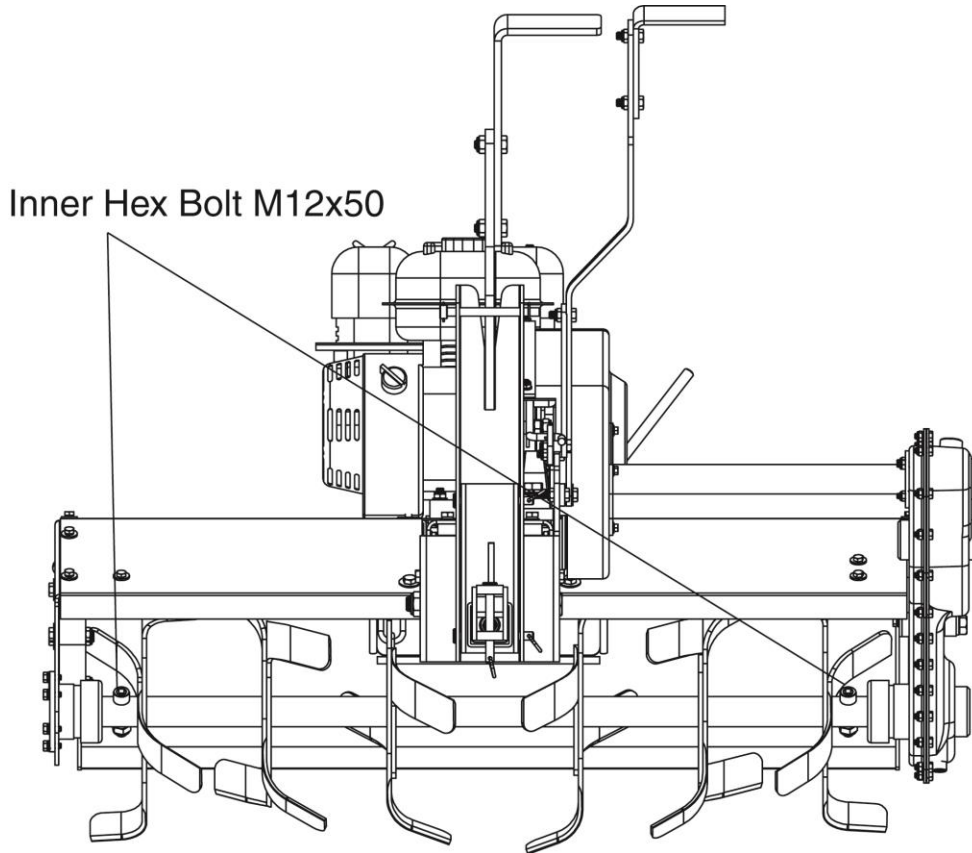


Figure 7

Replacing the Tine Drive Belt

1. Remove the Belt Cover.
2. Disengage the Tine Clutch Lever and remove the worn Belt.
3. Install a new Belt, engage the Tine Clutch Lever, attach the Belt Cover.

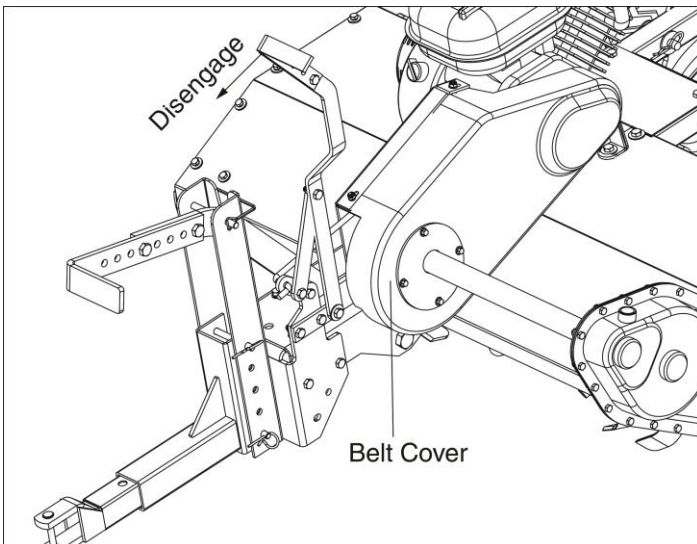


Figure 8

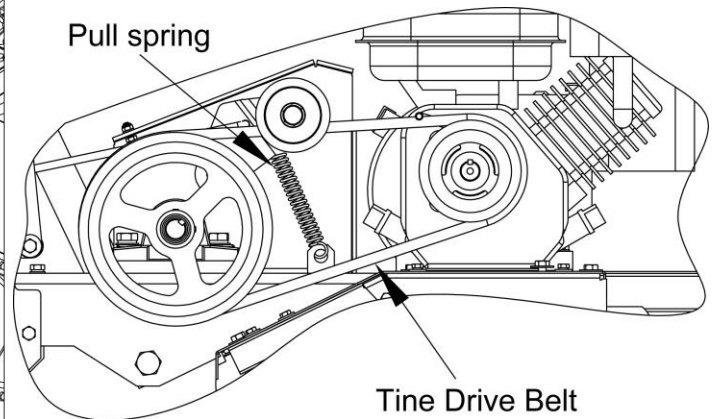


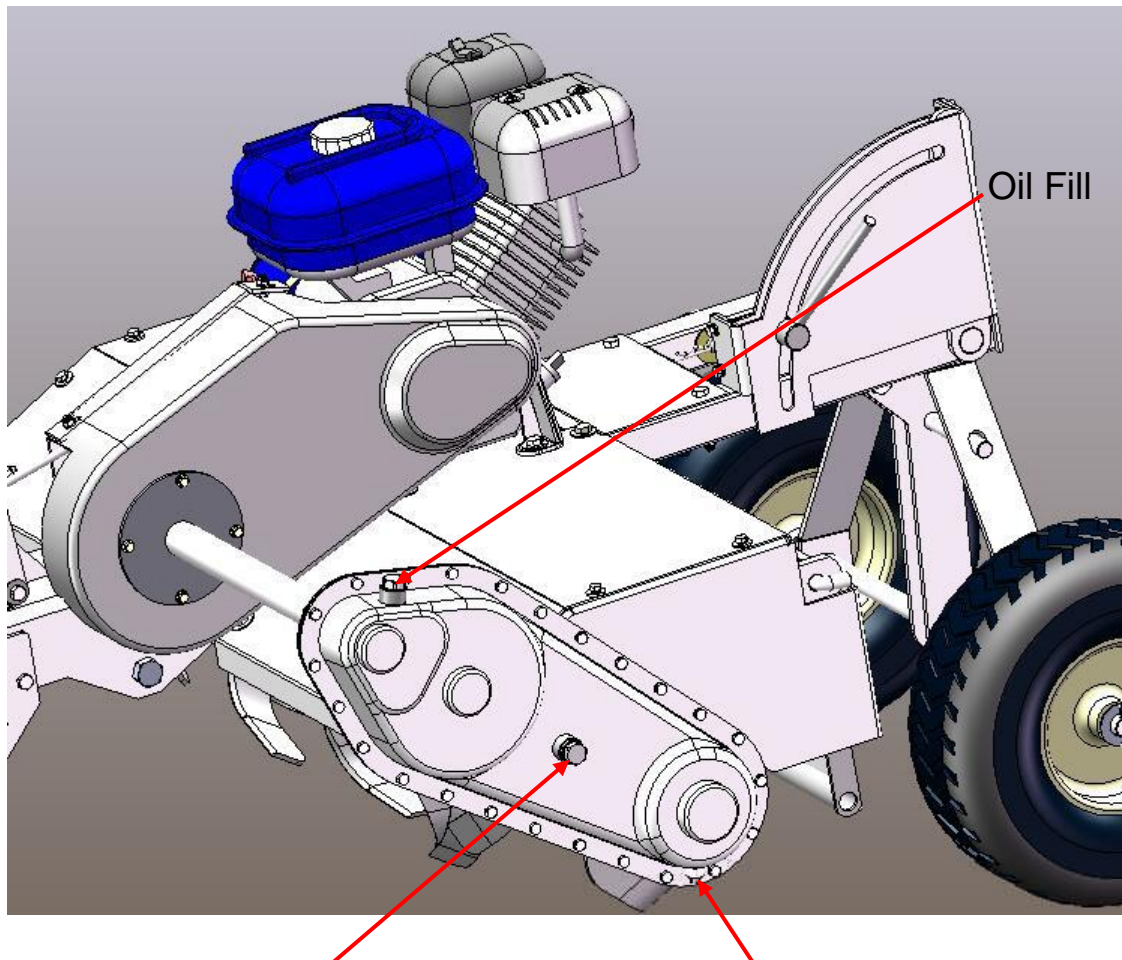
Figure 9

MAINTENANCE AND STORAGE

Replacing the oil in chain/gear box

The amount of oil needed: 1 Quart.

1. Place the tiller on a level surface and initially add 30 oz. (0.9 Quarts) of 80W-90 gear oil, and wait a minute for the oil to settle.
2. Check to make sure the oil level is at the oil window. Do not overfill.



Oil Window

Figure 10

Drain

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE
Recoil will not pull out or is difficult to pull.	<p>Check that the tine drive clutch is disengaged.</p> <p>Check the engine oil level; the engine may be seized.</p> <p>There may be an oil compression lock in the cylinder. Take out the spark plug; hold a rag over the spark plug hole and pull the recoil cord several times to blow out any oil in the cylinder. Wipe off the spark plug and reinstall it.</p> <p>The recoil may be broken or jammed.</p>
The engine will not start manually.	<p>Check that the tine drive clutch is disengaged.</p> <p>Check that the spark plug wire is attached.</p> <p>Make sure that the fuel shut-off is in the on position.</p> <p>Check the oil and gas level.</p> <p>The gas may be old; change it if necessary. Use a fuel stabilizer if you keep gas longer than one month.</p> <p>Check the throttle and choke settings, adjustment and travel.</p> <p>The spark plug may be dirty or cracked; change it if necessary. If it's oily, leave it out, hold a rag over the plug hole and pull the recoil cord several times to blow out any oil in the cylinder, then wipe off the plug and reinsert it.</p> <p>The air filter may be dirty; change it following the procedure in the engine owner's manual.</p>
The engine lacks power or is not running smoothly.	<p>Check the throttle; it should be set in the fast position.</p> <p>The air filter may be dirty; change it following the procedure in the engine owner's manual.</p> <p>The spark plug may be dirty; change it if necessary. If it's oily, leave it out, hold a rag over the plug hole and pull the recoil cord several times to blow out any oil in the cylinder, then wipe off the plug and reinsert it.</p> <p>The gas may be old; change it if necessary.</p> <p>The engine oil may be dirty. Change it if necessary.</p>
Engine smokes.	<p>Check the oil level and adjust as needed.</p> <p>The air filter may be dirty; change it following the procedure in the engine owner's manual. You may be using the wrong oil. Refer to your engine owner's manual for detailed information.</p> <p>Clean the engine cooling fins and the carburetor housing if they are dirty.</p>
The engine runs well but the tines won't move.	<p>The tine drive clutch is not engaged.</p> <p>The tine drive clutch belt is off the pulleys or broken.</p>
The engine runs well but labors when tilling.	<p>Operator is being too aggressive; raise the tines.</p> <p>Be sure the engine throttle is set on the fast position.</p>
Excessive bounce and difficult handling.	<p>The area you are tilling may be too dry and hard. Moisten the ground or wait for conditions that are more favorable.</p> <p>Be sure the engine throttle is set on the fast position.</p>
The tilled soil balls up or clumps.	<p>The ground that you are trying to till is too moist.</p>

TROUBLESHOOTING

Belt slips on pulley or
Belt comes off pulley

Check that Belt and pulley are aligned properly.
Adjust the space of Nylon Lock Nuts M8.
(See Figure 11 below)

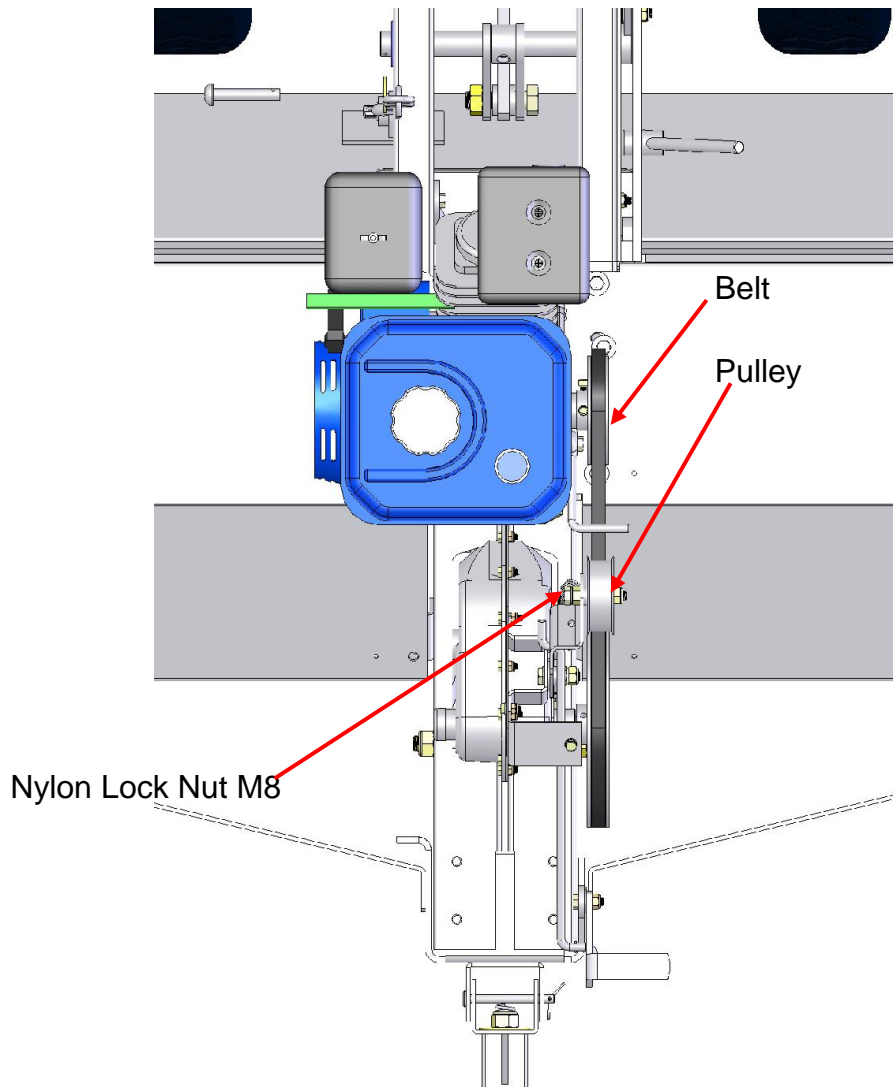
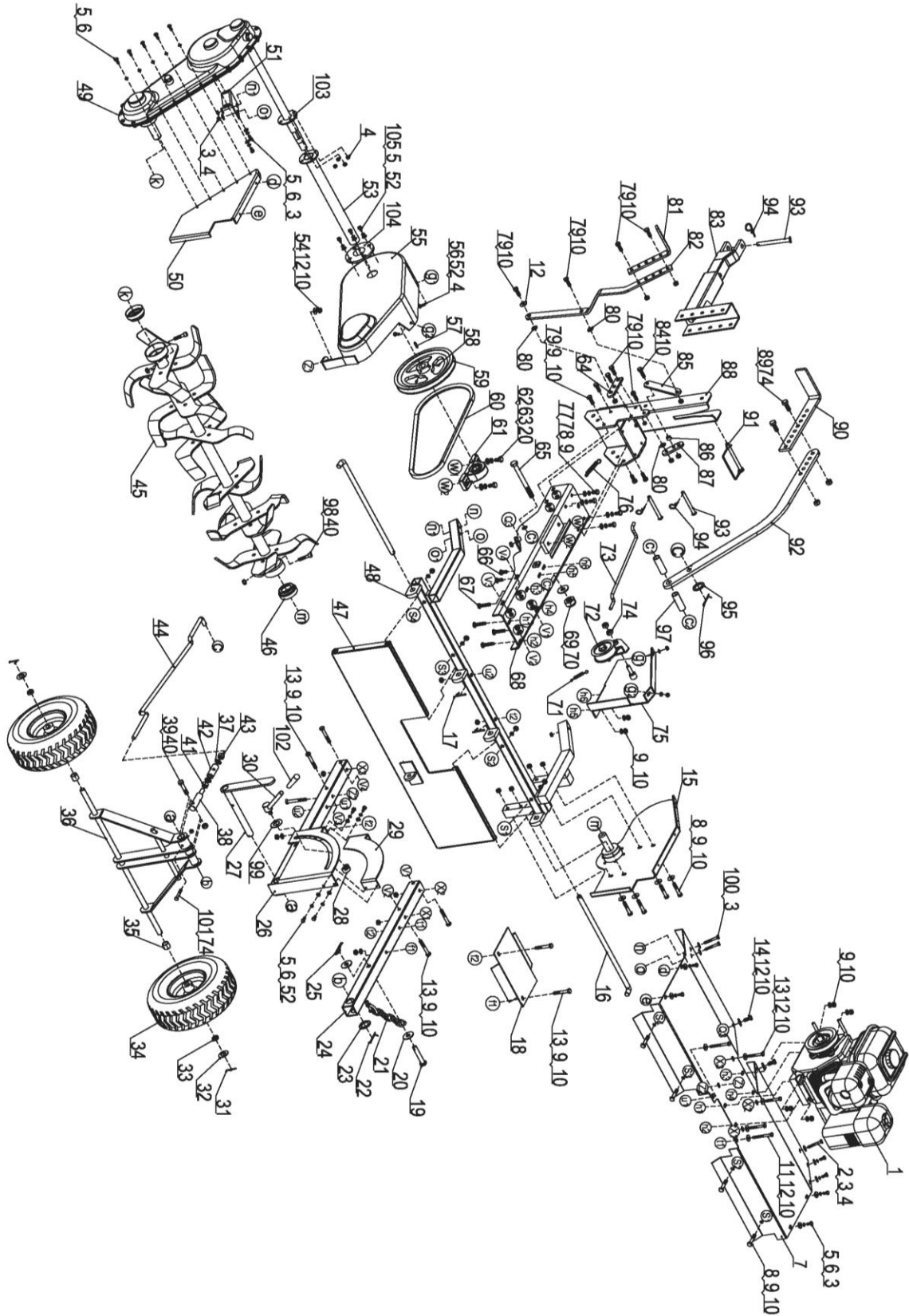


Figure 11

PARTS LISTING & BREAKDOWN DRAWING

Main Assembly-Exploded Drawing



PARTS LIST and PARTS DIAGRAM

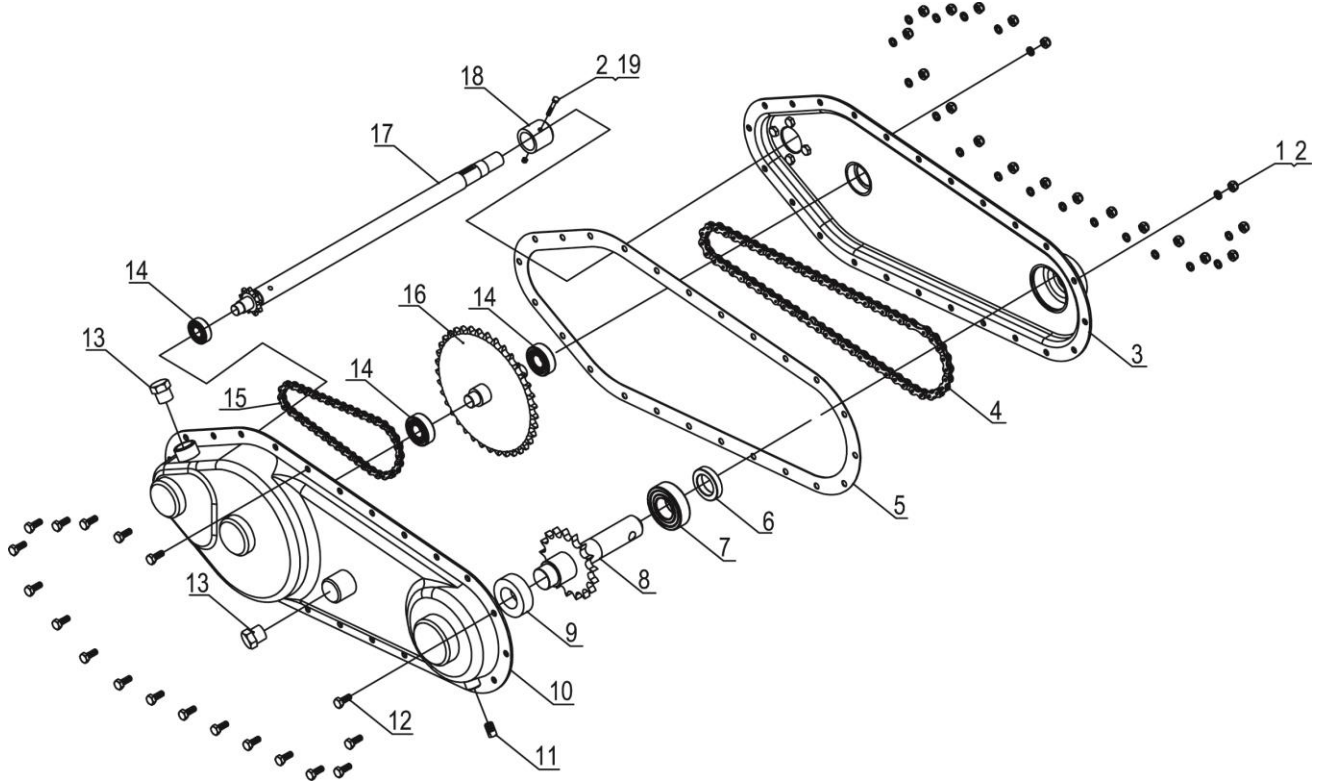
Main Assembly-Parts List

PART #	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY
1	Engine	1	36	Wheel Axle	1
2	Hex Bolt M6x45	1	37	Lock Washer Ø14	2
3	Big Flat Washer Ø6	13	38	Connecting Rod	1
4	Nylon Lock Nut M6	9	39	Hex Bolt M12x55	1
5	Hex Bolt M6x14	17	40	Nylon Lock Nut M12	3
6	Lock Washer Ø6	21	41	Hex Nut M14	1
7	Cover Assy.	1	42	Regulating Sleeve	1
8	Hex Bolt M8x45	8	43	Hex Nut M14	1
9	Flat Washer Ø8	28	44	Poll Rod	1
10	Nylon Lock Nut M8	40	45	Coulter	1
11	Hex Bolt M8x85	2	46	End Cap	2
12	Big Flat Washer Ø8	9	47	Rear Fender Assy.	1
13	Hex Bolt M8x55	9	48	Frame	1
14	Hex Bolt M8x20	2	49	Transmission Assy.	1
15	Left Fender	1	50	Right Fender	1
16	Inserted Pin Ø14x410	2	51	Stiffening Plate	1
17	Cotter Pin Ø4x30	2	52	Flat Washer Ø6	10
18	Rear Fender	1	53	Outer Sleeve	1
19	Cup Head Pin Ø21x65	1	54	Hex Bolt M8x60	1
20	Big Flat Washer Ø12	4	55	Belt Cover	1
21	Chain	1	56	Hex Bolt M6x16	2
22	Cotter Pin Ø3x50	1	57	Flat Key	1
23	Flat Washer Ø24	1	58	Screw M6x10	2
24	Tube Assy.	1	59	Pulley	1
25	R Pin	1	60	Belt	1
26	Limit Fixed Plate	1	61	Pillow Block Bearing	1
27	Limiting Plate	1	62	Hex Bolt M12x30	2
28	Round Nut	1	63	Lock Washer Ø12	2
29	Limit Fixed Plate 2	1	64	Connecting Plate	1
30	Handle Lever	1	65	Hex Bolt M16x165	1
31	Cotter Pin Ø4x40	2	66	Carriage Bolt M8x20	2
32	Flat Washer Ø20	2	67	Carriage Bolt M8x40	4
33	Bushing B	2	68	Tail Plate	1
34	Wheel	2	69	Flat Washer Ø16	1
35	Wheel Bushing A	2	70	Nylon Lock Nut M16	1

71	Latch Spring	1	89	Hex Bolt M10x30	2
72	Swing Plate	1	90	Lift Handle	1
73	Pull Rod	1	91	Lock Pin A	1
74	Nylon Lock Nut M10	5	92	Lift Arm	1
75	Pulley Casing	1	93	Bolt Ø9x87	3
76	Latch Spring	1	94	R Pin	3
77	Hex Bolt M8x16	4	95	Flat Washer Ø14	1
78	Lock Washer Ø8	4	96	Cotter Pin Ø3x30	1
79	Hex Bolt M8x25	11	97	Bushing	2
80	Nylon Washer	3	98	Hexagon Socket Head Bolt M12x50	2
81	Tine Clutch Lever	1	99	Big Flat Washer Ø10	1
82	Tine Clutch Lever A	1	100	Hex Bolt M6x50	2
83	Tongue Assy.	1	101	Hex Bolt M10x55	1
84	Hex Bolt M8x30	1	102	Handle Sleeve	1
85	Connecting Rod	1	103	Rubber Gasket for Flange	1
86	Bushing B	1	104	Flange	1
87	Rocker	1	105	Hex Flange Head Tapping Screw M6x25	4
88	Front Frame Assy.	1			

PARTS LISTING & BREAKDOWN DRAWING

Tine Drive Transmission Assembly- Exploded Drawing

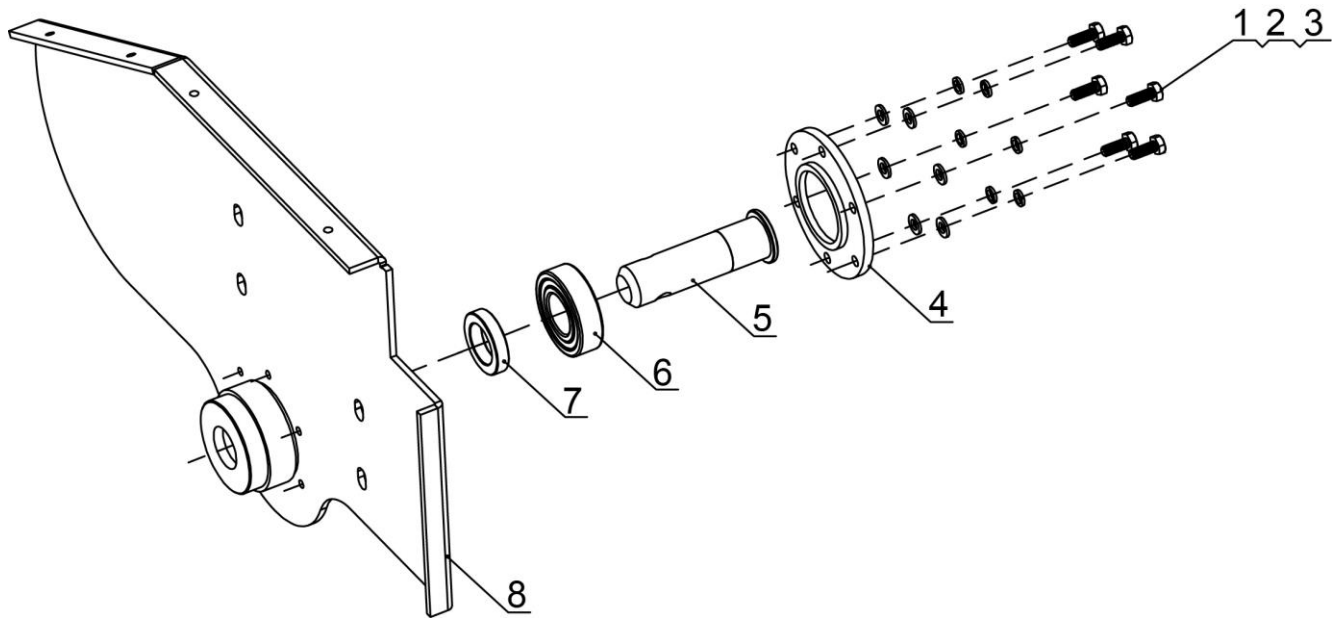


Tine Drive Transmission Assembly-Parts List

Ref#	Description	Qty
1	Lock Washer Ø6	19
2	Nylon Lock Nut M6	20
3	Right Side Drive Housing	1
4	Long Chain	1
5	Gland Bush	1
6	Frame-rubber Oil Seal	1
7	Bearing	1
8	Output Shaft	1
9	Nylon Sleeve 2	1
10	Left Side Drive Housing	1
11	Oil Plug A	1
12	Hex Bolt M6x16	19
13	Oil Plug	2
14	Bearing	3
15	Short Chain	1
16	Idler Shaft	1
17	Input Shaft	1
18	Nylon Sleeve 1	1
19	Hex Bolt M6x45	1

PARTS LISTING & BREAKDOWN DRAWING

Left Fender Assembly- Exploded Drawing

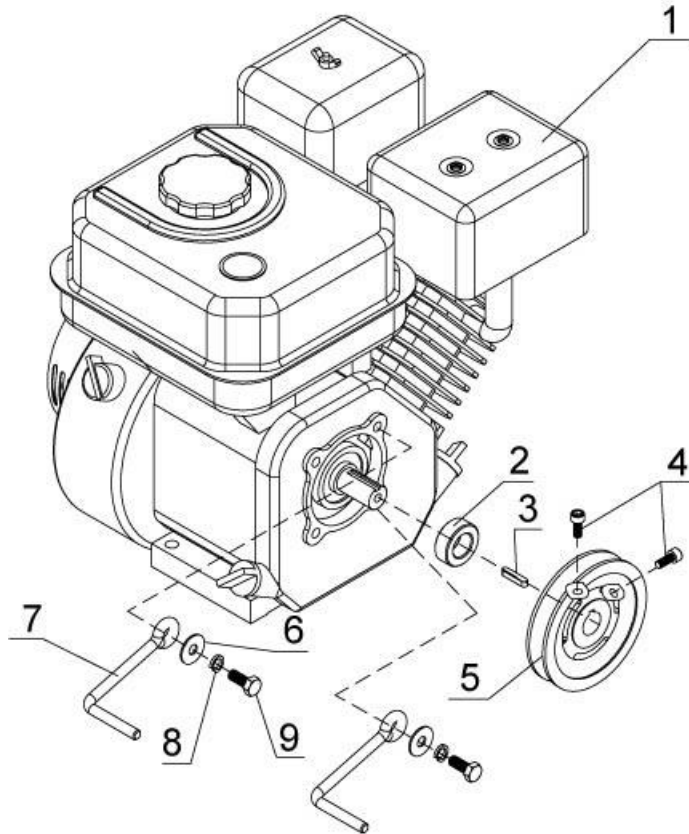


Left Fender Assembly-Parts List

Ref#	Description	Qty
1	Hex Bolt M6x16	6
2	Lock Washer Ø6	6
3	Flat Washer Ø6	6
4	Bearing Cover	1
5	Shaft 4	1
6	Bearing	1
7	Frame-rubber Oil Seal	1
8	Left Fender	1

PARTS LISTING & BREAKDOWN DRAWING

Left Fender Assembly- Exploded Drawing



Engine-Parts List

Ref#	Description	Qty
1	Engine	1
2	Bushing	1
3	Flat Key	1
4	Hex Bolt M6x16	2
5	Belt Pulley	1
6	Big Flat Washer Ø8	2
7	Belt Gear Lever	2
8	Lock Washer Ø8	2
9	Hex Bolt M8x20	2

For replacement parts and technical questions, please call 1-218-943-6296.

WARRANTY

One-year limited parts warranty.



TG
PO BOX 203
Miltona, MN 56354
Made in China