



POWERHORSE®

5" Chipper Shredder Towable

Owner's Manual



WARNING: Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item # 115061

READ & SAVE THESE INSTRUCTIONS

Thank you very much for choosing a Powerhorse product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code: _____

Purchase Date: _____

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

This Cement Mixer is designed for certain applications only. Northern Tool & Equipment is not responsible for issues arising from modification or improper use of this product such as an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-800-222-5381**.

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Intended Use

For chipping sticks and branches up to 5 in. dia.

Packaging Contents

- Chipper (1)
- Tower (1)
- Wheels (2)
- Owner's Manual (1)
- In-feed (1)
- Discharge (1)
- Rubber Seal (2)
- Support Feet (1)
- Feet Fixation (1)

Technical Specifications

Property	Specification
Gas Engine	
Engine Type	Horizontal Single Cylinder 4-stroke, OHV, 15HP, Recoil Start
Displacement	420cc
Cooling System	Forced air cooled
Speed	Idle: 1,740 ± 50 RPM / Maximum: 3600 RPM
Fuel	1.7 Gallon
Engine Oil	0.29 Gallon
Chipper	
Tire	16in.
Chipping Capacity	5in.
Coupler	2in.
Wood Diameter	5in.
Roller Max RPM	2000 RPM

Important Safety Information

⚠️WARNING

- Read and understand all instructions. Failure to follow all instructions may result in serious injury or property damage.
- The warnings, cautions, and instructions in this manual cannot cover all possible conditions or situations that could occur. Exercise common sense and caution when using this tool. Always be aware of the environment and ensure that the tool is used in a safe and responsible manner.
- Do not allow persons to operate or assemble the product until they have read this manual and have developed a thorough understanding of how it works.
- Do not modify this product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the product. There are specific applications for which the product was designed.
- Use the right tool for the job. DO NOT attempt to force small equipment to do the work of larger

industrial equipment. There are certain applications for which this equipment was designed. It will be a safer experience and do the job better at the capacity for which it was intended. DO NOT use this equipment for a purpose for which it was not intended.

- Industrial or commercial applications must follow OSHA requirements.
- Do not allow used the Chipper indoor.

⚠WARNING

- This product may contain chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.
- Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm. Some examples of these chemicals are:
 - - lead from lead-based paints,
 - - crystalline silica from bricks and cement and other masonry products, and
 - - arsenic and chromium from chemically-treated lumber.
- Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well-ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.
- Handling power cords on corded products may expose you to lead, a chemical known to the state of California to cause cancer and birth defects or other reproductive harm. Wash your hands after handling.

⚠️WARNING

WORK AREA SAFETY

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well-lit. Cluttered, wet, or dark work areas can result in injury. Using the product in confined work areas may put you dangerously close to cutting tools and rotating parts.
- Do not use the product where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The product can create sparks, which may ignite the flammable liquids, gases, or dust.
- Do not allow the product to come into contact with an electrical source. The tool is not insulated and contact will cause electrical shock.
- Keep children and bystanders away from the work area while operating the tool. Do not allow children to handle the product.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be hidden from your view and may cause personal injury and/or property damage if contacted.

⚠️WARNING

PERSONAL SAFETY

- Stay alert, watch what you are doing, and use common sense when operating the tool. Do not use the tool while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the tool 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. Air vents on the tool often cover moving parts and should be avoided.
- Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety goggles (not safety glasses) with side shields, or when needed, a face shield. Use a dust mask in dusty work conditions. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate. This applies to all persons in the work area.
- Do not overreach. Keep proper footing and balance at all times.

⚠CAUTION

PRODUCT USE AND CARE

- Do not force the product. Products are safer and do a better job when used in the manner for which they are designed. Plan your work, and use the correct product for the job.
- Check for damaged parts before each use. Carefully check that the product will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the product with a damaged part.
- Store the product when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the tool for good working condition prior to storage and before re-use.
- Use only accessories that are recommended by the manufacturer for use with your product. Accessories that may be suitable for one product may create a risk of injury when used with another tool. Never use an accessory that has a lower operating speed or operating pressure than the tool itself.
- Keep guards in place and in working order. Never operate the product without the guards in place.

Specific Operation Warnings

⚠WARNING

- Your Wood Chipper is a powerful tool, not a plaything. Exercise extreme caution at all times. The machine is designed to Chip Woods. Do not use it for any other purpose.
- Know how to stop the Wood Chipper quickly.
- Never operate your unit on a slippery, wet, muddy, or icy surface. Exercise caution to avoid slipping or falling.
- See manufacturer's instructions for proper operation and installation of accessories.
- Never use the machine without ensuring that all guards and shields are in place.
- Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the Wood Chipper. This includes all shields and guards. Modifications to your machine could cause personal injuries and property damage and will invalidate your warranty.
- If the machine start to make an unusual noise or vibrate, shut down the engine, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for engine to cool down, then inspect for damage. Vibration is generally a warning of trouble. Check damaged parts and clean, repair and/or replace as necessary.
- Never tamper with safety devices. Check their proper operation regularly.
- Before performing any maintenance or inspection procedure, shut down the engine, disconnect

the spark plug wire keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for machine to cool down.

- Never allow people who are unfamiliar with these instructions to use the Wood Chipper. Allow only responsible individuals who are familiar with these rules of safe operation to use your machine.
- Never overload or attempt to chip woods beyond the manufacturer's recommendation. It could result in personal injury or damage to the machine.
- While using, don't hurry or take things for granted. When in doubt about the equipment or your surroundings stop the machine and take time to look things over.
- Never operate the machine when under the influence of alcohol, drugs, or medication.
- Use the machine only in daylight.
- Stay alert for hidden hazards or traffic.
- Keep all nuts and bolts tight and keep the equipment in good operating condition.

Main Parts of Product

Subassembly
Discharge
In-feed
Tower
Feet Fixation
Support Feet
Wheel

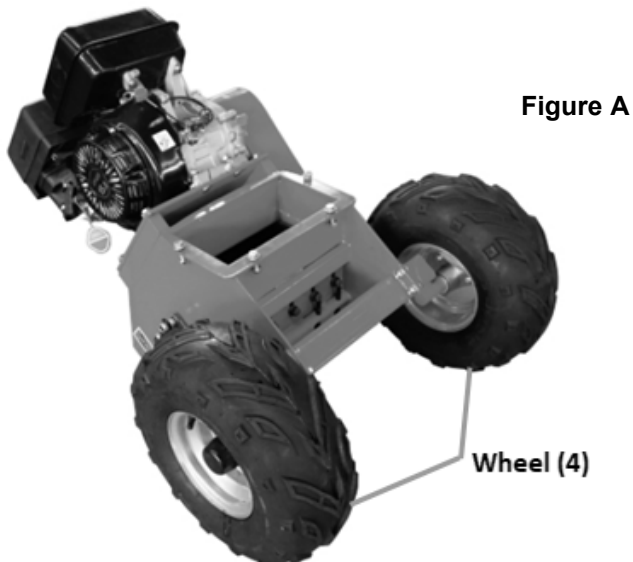


Assembly Instructions

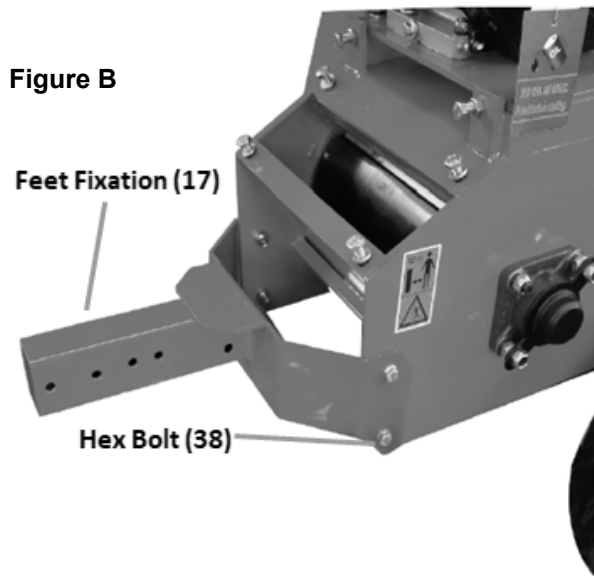
⚠WARNING

- Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set-up or use of this product.
- TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION, turn the Power Switch of the tool to the "OFF" position and unplug the tool from electrical outlet before assembling or making any adjustments to the tool.

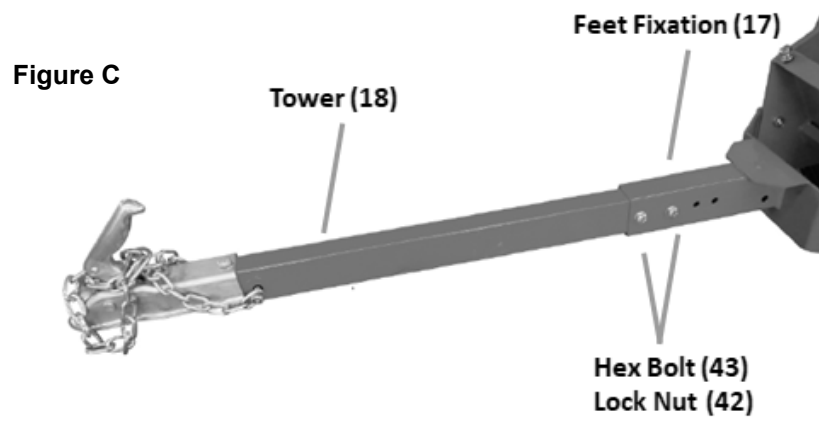
1. Install wheels (4) to Chipper, See Figure A



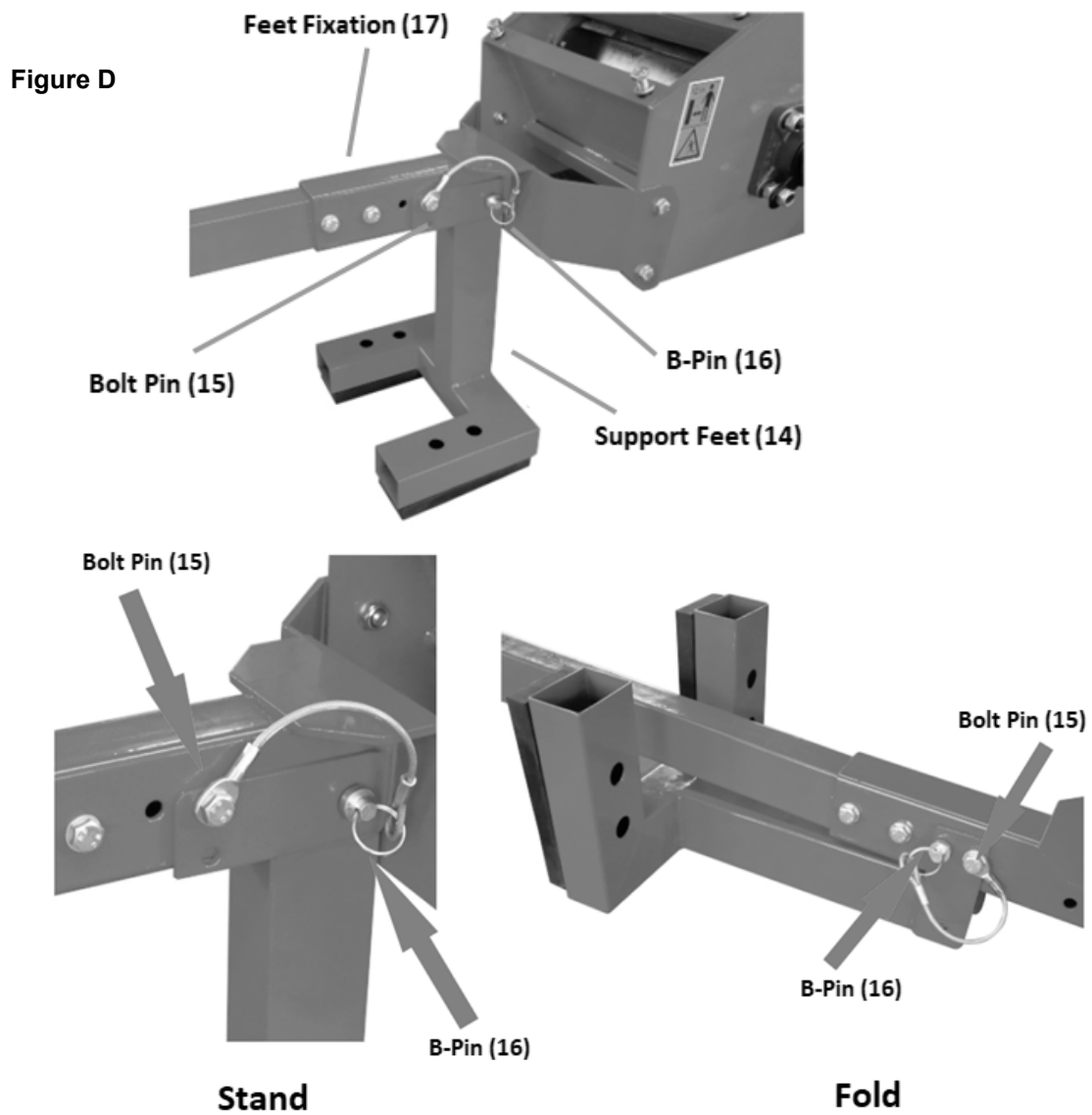
2. Install Feet Fixation (17) to Chipper with Hex Bolt (38), See Figure B



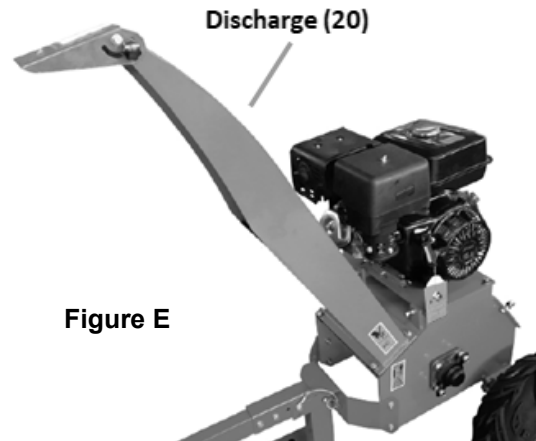
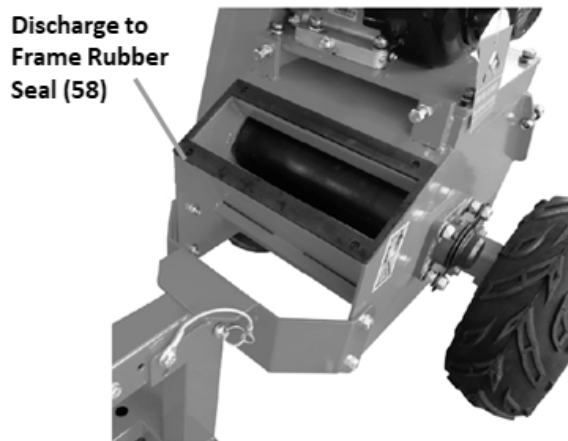
3. Install Tower (18) to Feet Fixation (17) with Hex Bolt (43) and Lock Nut (42). See Figure C



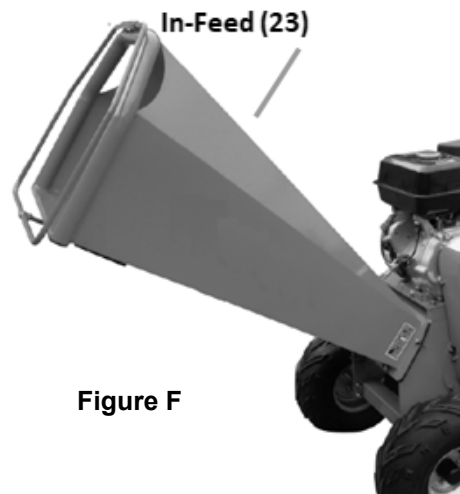
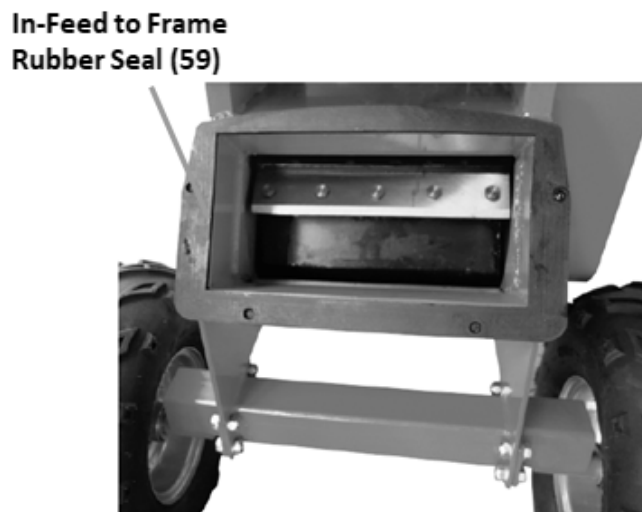
4. Install Support Feet (14) to Feet Fixation (17) with Bolt Pin (15) and B-Pin (16), See Figure D.



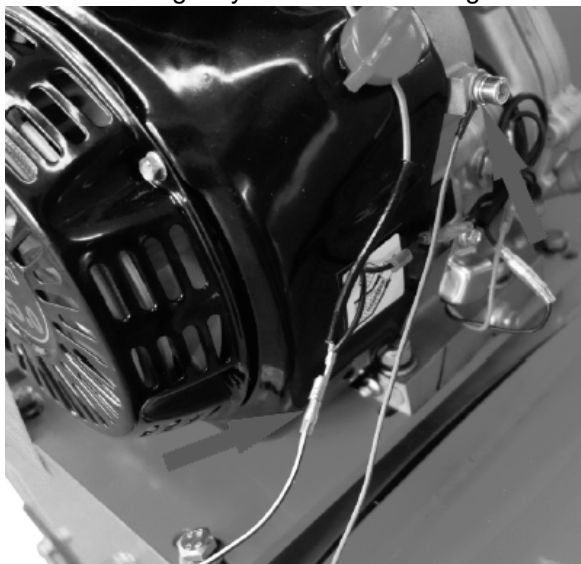
5. Add Discharge to Frame Rubber Seal (58) to Chipper, and install Discharge (20) to Frame with Hex Bolt (38). See Figure E



6. Add In-Feed to Frame Rubber Seal (59) to Chipper, and install In-Feed (23) to Frame with Hex Bolt (54) See Figure F



7. Connect emergency switch wire See Figure G



Before Each Use

⚠WARNING

- Operators must be fully trained before using this machine.
- User Manual is read and understood.
- Machine is positioned on level ground, all guards are fitted and in good condition.
- Blades are in good condition and secure. All blades are sharpened or replaced in sets.
- All fasteners are checked for tightness.
- Only WOODEN materials free of nails etc. are fed into the machine.
- Emergency stop wire is rightly connected and the switch is functional.
- Fire extinguisher is available on site.

Operating Instructions

⚠WARNING

- Always feed from the side.
- It is better to have a second trained operator within easy reach of the machine.
- Maintain strict discipline at all times and service machine at specified periods.
- Note direction of discharge chute and if necessary note the wind direction to prevent debris from being blown into highway or where it could affect members of the public.
- DO NOT put any part of your body into the in-feed chute while the machine is running.
- DO NOT operate the machine whilst under the influence of alcohol or drugs.
- DO NOT operate inside a building or confined space or Climb on the in-feed chute.
- Do not place your hands into the chute when loading. This is a very UNSAFE method and could result in injury to your hands.
- Do not reach or step across the rail while the Wood Chipper is running. This is a very UNSAFE method which could cause personal injury, even death.

Starting

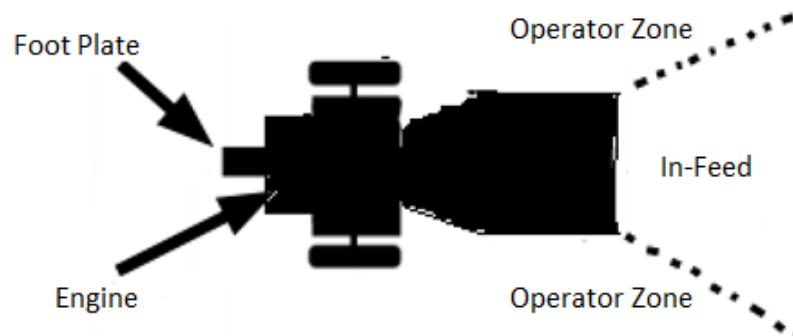
1. Position your Wood Chipper on flat, dry ground, and then stop the front wheel with brake, make sure the machine cannot be moved.
2. Make sure the fuel shut-off valve is in the "ON" position.
3. Move the choke control lever to the "CHOKE" position (should only be needed if the engine is cold).
4. Move the throttle control lever to the "FAST" position.

5. Recoil Start: Turn the Ignition Switch to the "On" position. Grasp the recoil starter handle and slowly pull until you feel resistance. Let the cord retract a little bit then pull the cord rapidly to start the engine. One or two pulls usually starts the engine.
6. Electric Start: Turn and hold the Key in the start position until Engine starts then let the Key return to run position.
7. Move the choke control lever (if used for cold engine) slowly back to the "RUN" position when the engine is running well.
8. If the Wood Chipper has not been running (cold engine), warm up the engine by running the engine at half throttle for 3 to 4 minutes, then advance the engine throttle control to the maximum speed.

Stopping

1. Move the Throttle Lever to IDLE.
2. Recoil Start: Turn the Ignition Switch to the OFF position.
3. Electric Start: Turn the Key to the OFF position.

Operator Zone



When Blocked

If the Roller stops while chipping woods or branches, the engine should be stopped, and take out the woods which stuck the roller, and then restart the engine, and chip again.

Maintenance

⚠WARNING

- Before performing any maintenance procedure or inspection, stop the engine, wait five minutes to allow all parts to cool.

Procedure	Before Each Use	Every 3 Hours	Every 25 Hours	Every 100 Hours
Check engine oil level	Δ			
Check general equipment condition	Δ			
Check belts	Δ			
Check tire pressure			Δ	
Clean engine exterior and cooling			Δ	
Change Engine Oil	First time 5hours		Δ	
Replace air filter			Δ	
Replace spark plug				Δ

Lubrication

All Bearings of your Chipper are sealed units and should have sufficient lubricant to last the life of your machine with normal use.

Greasing the rack and Pinion

All the rack and pinion should be greased before every use..

Troubleshooting

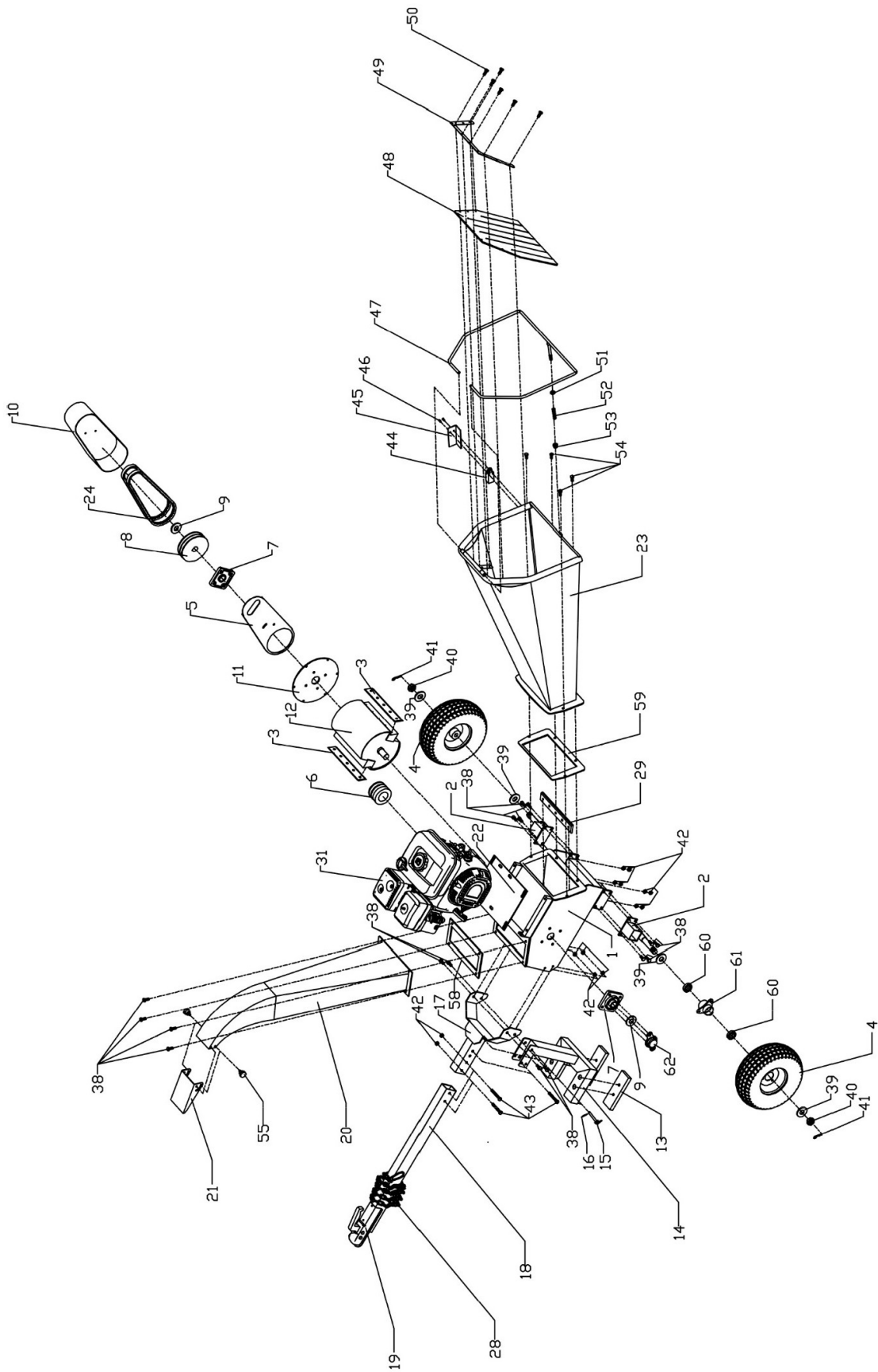
⚠WARNING

- Before performing any maintenance procedure or inspection, stop the engine, wait five minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.

Failure	Possible Cause	Corrective Action
The engine won't start. (Please refer to the engine user manual for engine-specific procedures.)	Is the ignition switch in the "ON" position	1. Turn ON the switch
	Is the fuel shut-off valve on?	1. Turn ON the valve
	Are you using fresh, clean gas?	1. Change new and clean gas
	Is the spark plug clean?	1. If the spark plug is dirty or cracked, change it. 2. 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.

The engine lacks power or is not running smoothly. (Please refer to the engine user manual for engine-specific procedures.)	Is the throttle Lever is in the "Run" position	1. Turn ON the switch
	Is the air filter clean?	1. If it's dirty, change it following the procedure in the engine manufacturer's owner's manual.
	Is the spark plug clean	1. If the spark plug is dirty or cracked, change it. 2. 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.
	Are you using fresh, clean unleaded gas	1. Change new and clean gas
	Does your engine have the right amount of clean oil	1. If it's dirty, change it following the procedure in the engine manufacturer's owner's manual.
	Oil level	1. Check the oil level and adjust as needed.
Engine smoke (Please refer to the engine user manual for engine-specific procedures.)	Oil level	1. Check the oil level and adjust as needed.
	Air filter	1. Clean or replace the Air filter
	Using the wrong oil	1. Too light for the temperature. Refer to your engine owner's manual for detailed information.
	Cooling fins dirty.	1. Clean the cooling fins dirty.
Machine does not seem to have full chipping power.	The belts may be too loose and slipping	1. Adjust or replace belts as need.
Operator Lever not engaging rack with pinion gear	Chips maybe dirty	1. Clean wood chips or other debris from under rack 2. Clean accumulated dirt from frame where carriage assembly rests against rubber bumpers

Parts Diagram



Parts List

Reference	Part Number	Part Description	Quantity
1	1	Foundation	1
2	2	Wheel Axis	1
3	3	Blade	2
4	4	Wheel	2
5	5	Belt Cover Inner Plate	1
6	6	Clutch	1
7	7	Bearing	1
8	8	Pulley	1
9	9	42*9*5 Spacer	1
10	10	Belt Cover	1
11	11	Bearing Fixation Frame	1
12	12	Roller	1
13	13	Rubber Pad	2
14	14	Support Feet	1
15	15	Bolt Pin	1
16	16	B-Shape Pin	1
17	17	Feet Fixation	1
18	18	Tower	1
19	19	Tower Couple	1
20	20	Discharge	1
21	21	Chute Adjust	1
22	22	Engine Fixation	1
23	23	In-Feed	1
24	24	Belt	2
25	28	Chain	2
26	29	Lower Blade	1
27	31	Engine	1
28	38	M10*24 Hex Bolt	12
29	39	Φ25 Washer	2
30	40	M25 Open Nut	2
31	41	Pin	2
32	42	M10 Lock Nut	6
33	43	M10*80 Hex Bolt	2
34	44	Switch	1
35	45	Switch Cover	1
36	46	M6*60 Socket Head Screw	1
37	47	Switch Frame	1
38	48	Rubber Of Feeder	1
39	49	Rubber Fitting	1
40	50	M6*16 Hex Bolt	1
41	51	Φ12 Washer	1
42	52	Φ16*80*1.5 Spring	1
43	53	M12 Nut	1
44	54	M8*12 Hex Bolt	2
45	55	Discharge Knob	1
46	58	Discharge To Frame Rubber	1
47	59	Feed To Frame Rubber	1
48	60	Bearing	4
49	61	Flange	2
50	62	Bearing Cover	1

Replacement Parts

- For replacement parts and technical questions, please call Customer Service at **1-800-222-5381**.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following information will be required: item description, item model number, item serial number/item lot date code, and the replacement part reference number.
- The distributor reserves the rights to make design changes and improvements to product lines and manuals without notice.

Limited Warranty

Northern Tool and Equipment Company, Inc. ("We" or "Us") warrants to the original purchaser only ("You" or "Your") that the Klutch product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of **one year** from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, Your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

Obligations of Purchaser

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim. Any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

Remedy Limits

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

Assumption of Risk

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

Governing Law

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.



Distributed by:
Northern Tool & Equipment Company, Inc.
Burnsville, Minnesota 55306
www.northerntool.com

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