

POWER HORSE™

173cc High Wheel Trimmer

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 # 115069

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 (if applicable): _____

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 product is designed for certain applications only. Northern Tool and 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

Main function of the product is trimming, which is suitable for ranch, orchards, vegetable fields, garden and lawn that with flat ground.

Packaging Contents

- One String Trimmer
- Trimmer Line×10
- Trimmer Line Pouch
- Use And Care Guide

Technical Specifications

| Property | Specification |
|---------------------|-----------------------------|
| Working Width | 22in |
| Working Depth | 1.57-3.74mm |
| Nylon Line Diameter | 0.157mm |
| Engine | Petrol, 4-Stroke Air Cooled |
| Engine Displacement | 173cc |
| Engine Power (Max) | 3.3kW / 3000rpm |
| Full Tank Capacity | 1.2L |
| Oil Tank Capacity | 0.5L |

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 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. This product will be safer and do a better job 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.

⚠️WARNING

PROP 65

- This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to www.p65warnings.ca.gov.
- 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. Always keep proper footing and balance.
- Remove keys or wrenches before connecting the tool to an air supply, power supply, or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may cause personal injury.
- Secure the work with clamps or a vise instead of your hand when practical. This safety precaution allows for proper tool operation using both hands.

⚠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.
- Do not use a product with a malfunctioning switch. Any power tool that cannot be controlled with the power switch is dangerous and must be repaired by an authorized service representative before using.
- Disconnect the power/air supply from the product and place the switch in the locked or off position before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.

- 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.
- Do not leave the tool running unattended.

Specific Operation Warnings

WARNING

- Read this operator's manual carefully in its entirety before attempting to assemble this machine. Read, understand, and follow all instructions on the machine and in the manual(s) before operation. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
- Be completely familiar with the controls and the proper use of this machine before operating it.
- This machine is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times. This machine has been designed to perform one job: to cut vegetation and grass. Do not use it for any other purpose.
- Never allow children under 14 years of age to operate this machine. Children 14 and over should read and understand the instructions and safe operation practices in this manual and on the machine and should be trained and supervised by an adult.
- Only responsible individuals who are familiar with these rules of safe operation should be allowed to use this machine.
- Thoroughly inspect the area where the equipment is to be used. Remove all stones, sticks, wire, bones, toys and other foreign objects, which could be tripped over or picked up and thrown by the string trimmer. Thrown objects can cause serious personal injury.
- Plan your trimming pattern to avoid discharge of material toward roads, sidewalks, bystanders and the like. Also, avoid discharging material against a wall or obstruction, which may cause discharged material to ricochet back toward the operator.
- To help avoid trimmer line contact or a thrown object injury, stay in operator zone behind handles and keep children, bystanders, helpers and pets at least 75 feet from string trimmer while it is in operation. Stop machine if anyone enters area.
- Keep children out of the trimming area and under watchful care of a responsible adult other than the operator.
- Be alert and turn string trimmer off if a child enters the area.
- Before and while moving backwards, look behind and down for small children.
- Use extreme care when approaching blind corners, doorways, shrubs, trees, or other objects that may obscure your vision of a child who may run into the string trimmer.
- Keep children away from hot or running engines. They can suffer burns from a hot muffler.
- Never allow children under 14 years of age to operate this machine. Children 14 and over should read and understand the instructions and safe operation practices in this manual and on the machine and be trained and supervised by an adult.

- Always wear safety glasses or safety goggles during operation and while performing an adjustment or repair to protect your eyes. Thrown objects which ricochet can cause serious injury to the eyes.
- Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Shirts and pants that cover the arms and legs and steel-toed shoes are recommended. Never operate this machine in bare feet, sandals, slippery or lightweight (e.g. canvas) shoes.
- Do not put hands or feet near or under rotating parts. Always keep clear of discharge area as the rotating spindle and trimmer lines can cause injury.
- Never operate the string trimmer without proper shields, guards, control lever or other safety protective devices in place and working.
- Never operate the string trimmer with damaged safety devices. Failure to do so, can result in personal injury.
- Many injuries occur because of the string trimmer being pulled over the foot during a fall caused by slipping or tripping. Do not hold on to the string trimmer if you are falling; release the handle immediately.
- Never pull the string trimmer back toward you while you are walking. If you must back the string trimmer away from a wall or obstruction first look down and behind to avoid tripping and then follow these steps:
 - a. Step back from string trimmer to fully extend your arms.
 - b. Be sure you are well balanced with sure footing.
 - c. Pull the string trimmer back slowly, no more than halfway toward you.
 - d. Repeat these steps as needed.
- Do not operate the string trimmer while under the influence of alcohol or drugs.
- Do not engage the self-propelled mechanism on machines so equipped while starting engine.
- The control lever is a safety device. Never attempt to bypass its operation. Doing so makes the safety device inoperative and may result in personal injury through contact with the rotating trimmer line. The control lever must operate easily in both directions and automatically return to the disengaged position when released.
- Never operate the string trimmer in wet grass. Always
- be sure of your footing. A slip and fall can cause serious personal injury. If you feel you are losing your footing, release the control lever immediately and the spindle will stop rotating within three seconds.
- Operate only in daylight or good artificial light. Walk, never run.
- Stop the spindle when crossing gravel drives, walks or roads.
- If the equipment should start to vibrate abnormally, stop the engine, and check immediately for the cause. Vibration is generally a warning of trouble.
- Shut the engine off and wait until the spindle comes to
- a complete stop before cleaning the discharge area. The spindle continues to rotate for a few seconds after the control lever is released. Never place any part of the body in the trimmer line area until you are sure the spindle has stopped rotating.
- Never operate string trimmer without proper trail shield, discharge cover, control lever or other safety protective devices in place and working. Never operate string trimmer with damaged safety devices. Failure to do so can result in personal injury.
- Muffler and engine become hot and can cause a burn. Do not touch.
- Only use parts and accessories made for this machine by the manufacturer. Failure to do so can result in personal

injury.

- When starting engine, pull cord slowly until resistance.
- is felt, then pull rapidly. Rapid retraction of starter cord
- (kickback) will pull hand and arm toward engine faster than you can let go. Broken bones, fractures, bruises or sprains could result.
- If situations occur which are not covered in this manual, use care and good judgement. Contact Customer Support for assistance or the name of the nearest service dealer.

Service

Safe Handling of Gasoline:

- To avoid personal injury or property damage use extreme care in handling gasoline. Gasoline is extremely flammable, and the vapors are explosive. Serious personal injury can occur when gasoline is spilled on yourself or your clothes, which can ignite. Wash your skin and change clothes immediately.
- Use only an approved gasoline container.
- Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
- Remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
- Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
- Never fuel machine indoors because flammable vapors will accumulate in the area.
- Never remove gas cap or add fuel while engine is hot or running. Allow engine to cool at least two minutes before refueling.
- Never over fill fuel tank. Fill tank to no more than 1 inch below bottom of filler neck to provide for fuel expansion.
- Replace gasoline cap and tighten securely.
- If gasoline is spilled, wipe it off the engine and equipment. Move machine to another area. Wait 5 minutes before starting engine.
- Never store the machine or fuel container near an open flame, spark, or pilot light as on a water heater, space heater, furnace, clothes dryer or other gas appliances.
- To reduce fire hazard, keep machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage and remove any fuel-soaked debris.
- Allow machine to cool at least 5 minutes before storing.

General Service:

- Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
- Before cleaning, repairing, or inspecting, make certain the spindle and all moving parts have stopped. Disconnect the spark plug wire and ground against the engine to prevent unintended starting.
- Check the spindle and engine mounting bolts at frequent intervals for proper tightness. Also, visually inspect spindle for damage. Replace with the original equipment manufacturer's (O.E.M.) parts only, listed in this manual. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- Never tamper with safety devices. Check their proper operation regularly.

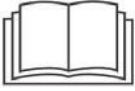








- After striking a foreign object, stop the engine, disconnect the spark plug wire and ground against the engine. Thoroughly inspect the string trimmer for any damage. Repair the damage before starting and operating the string trimmer.
- Trimmer components, guards and shields are subject to wear and damage which could expose moving parts or allow objects to be thrown. For safety protection, frequently check components and replace immediately with original equipment manufacturers (O.E.M.) parts only, listed in this manual. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
- Do not change the engine's governor setting or over-speed the engine. The governor controls the maximum safe operating speed of the engine.
- Check fuel line, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.
- Do not crank engine with spark plug removed.
- Maintain or replace safety and instruction labels, as necessary.
- Observe proper disposal laws and regulations. Improper disposal of fluids and materials can harm the environment.

⚠WARNING

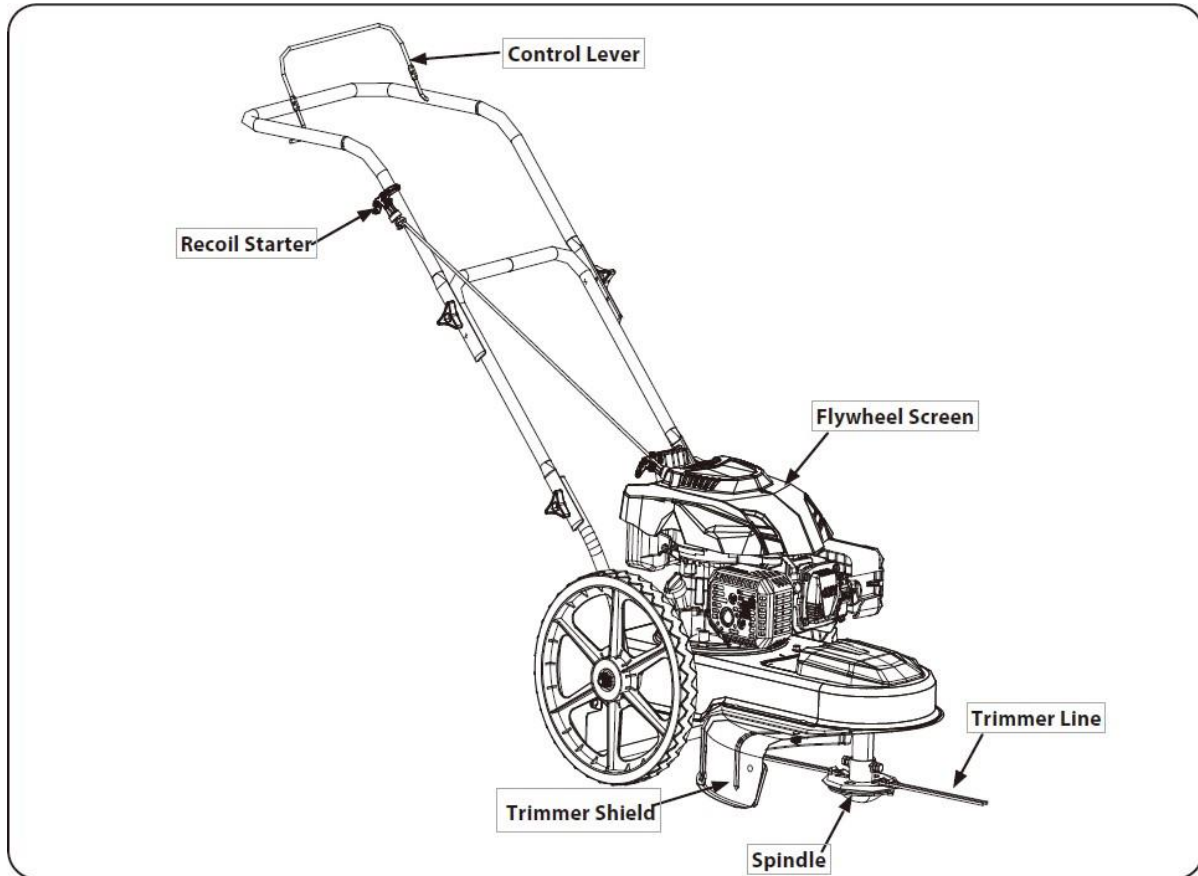
- To avoid serious injury or death, do not modify engine in any way. Tampering with the governor setting can lead to a runaway engine and cause it to operate at unsafe speeds. Never tamper with factory setting of engine governor.
- This machine is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrestor meeting applicable local or state laws (if any).

Safety Symbols

This page depicts and describes safety symbols that may appear on this product. Read, understand, and follow all instructions on the machine before attempting to assemble and operate.

| Symbol | Description |
|---|---|
|  | READ THE OPERATOR'S MANUAL(S) Read, understand, and follow all instructions in the manual(s) before attempting to assemble and operate |
|  | EYE PROTECTION Always wear safety glasses or safety goggles when operating this machine. |
|  | DANGER — BYSTANDERS Do not trim when children or others are around. |
|  | DANGER — HAND/ FOOT CUT Keep hands and feet away from rotating parts. |
|  | DANGER — THROWN DEBRIS Remove objects that can be thrown by the machine in any direction. Wear safety glasses. |
|  | DANGER — SLOPES Use extra caution on slopes. Do not trim on slopes greater than 15°. |
|  | WARNING—GASOLINE IS FLAMMABLE Allow the engine to cool at least two minutes before refueling. |
|  | WARNING— CARBON MONOXIDE Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas. |
|  | WARNING— HOT SURFACE Engine parts, especially the muffler, become extremely hot during operation. Allow engine and muffler to cool before touching. |

Main Parts of Product



Recoil Starter: The recoil starter is attached to the right side of the upper handle. Stand behind the unit and pull the recoil starter rope to start the unit.

Trimmer Shield: The trimmer shield is connected to the trimmer base, and it is used to prevent debris from being thrown.

Control Lever: The control lever must be depressed to start the engine and rotation of trimmer spindle assembly. Releasing the control lever stops the engine and trimmer spindle assembly.

Spindle: The spindle rotates the trimmer line.

Trimmer Line: The trimmer line is attached to the spindle assembly, and it is used to trim grass, vegetation, undergrowth and weeds.

Flywheel Screen: Keep the flywheel screen free of grass clippings and debris at all times.

Assembly Instructions

Middle Handle

1. Remove the triangle knob and carriage bolt from the left lower handle and the right lower handle.
2. Pivot the middle handle into the operating position and fasten the middle handle. See Figure 3-1.

Upper Handle

1. Remove the triangle knob and carriage bolt from the left upper handle and the right upper handle.
2. Find the upper handle and move the upper handle into one of two position by pivoting and fasten the middle handle. See Figure 3-2.

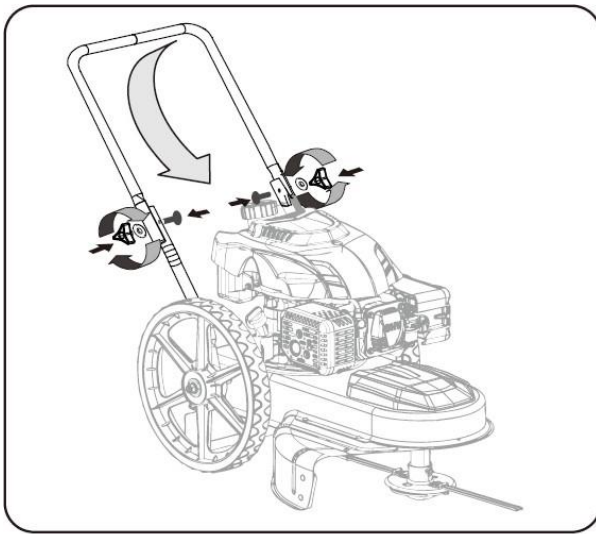


Figure 3-1



Figure 3-2

Starter Rope

1. Disconnected the spark plug boot from the spark plug.
2. Pivot the control handle against the upper handle and pull the rope out of the engine.
3. Put the starter rope into the hook. See Figure 3-3

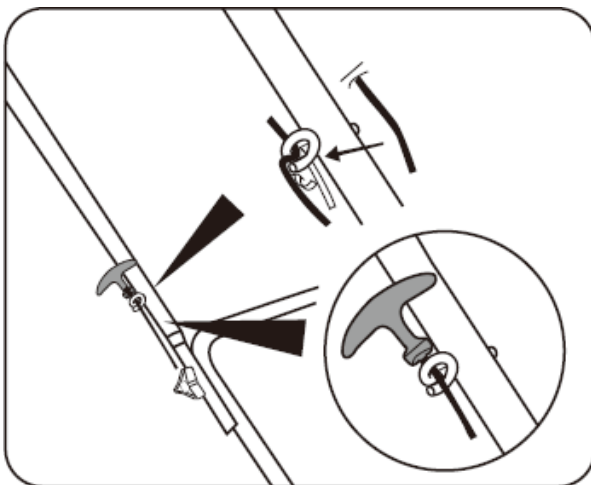


Figure 3-3

Assembly Trimmer Shield

1. Pull the trimmer shield out into position by pivoting the hole. See Figure 3-4.
2. Insert the bolt into the hole with screw the nut and fasten it by tool. See Figure 3-5.

⚠ WARNING

Make sure the trimmer shield is installed in place before starting the machine.

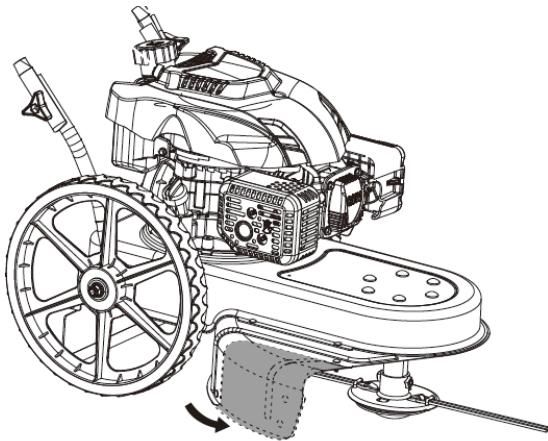


Figure 3-4

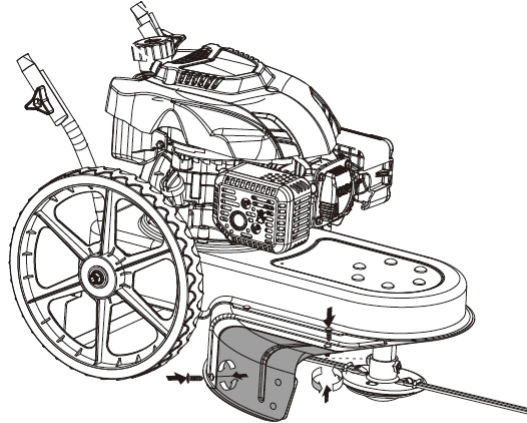


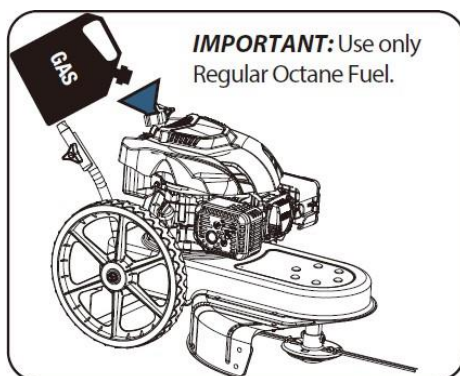
Figure 3-5

Adding Gas and Oil

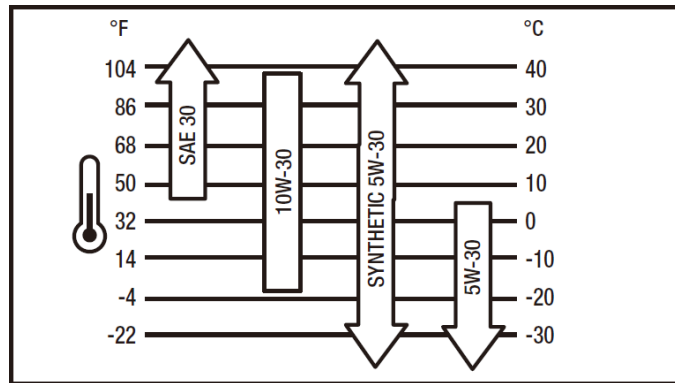
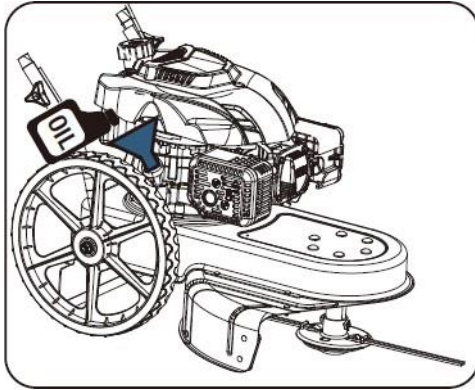
⚠ WARNING

Use extreme care when handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Never fuel the machine indoors or while the engine is hot or running. Extinguish cigarettes, cigars, pipes and any other sources of ignition.

1. Remove gas cap. Place funnel securely and add fuel. Do not top off. Fuel tank capacity is approx. 32 gallons.
2. Secure the gas cap and wipe off any excess fuel.
3. We recommend the use of 10W-30 oil. Other high-quality detergent oils are acceptable if classified for service SF, SG, SH, SJ or higher.
4. Do not use special additives.
5. Outdoor temperatures determine the proper oil viscosity for the engine. Use the chart to select the best viscosity for the outdoor temperature range expected.



1. Place string trimmer on a level surface.
2. Remove the filler cap. Place the funnel securely and add oil. Do not top off. Oil capacity is approx. .5 liters. Check dipstick to confirm adequate amount of oil.
3. Secure the oil cap and wipe off any excess oil.



Before Each Use

- Make sure all safety guards are in place and all nuts and bolts are secure.
- Check oil level in engine crankcase. Add oil if necessary.
- Check the fuel supply. Fill the fuel tank no closer than 1 inch from top of tank to provide space for expansion.
- Be sure the spark plug wire is attached and the spark plug is tightened securely.
- Examine underneath and around engine for signs of oil or fuel leaks.
- Inspect fuel hoses for tightness and fuel seepage. Look for signs of engine damage.
- Remove excessive debris from muffler area and recoil starter.

⚠ CAUTION

Please do not start your tiller until you have read the manual that came with your tiller, and the sections in this manual tiller controls and safety. If you have read these, follow the steps below to start your tiller. Always perform this pre-start checklist before starting the engine.

Operating Instructions

Adjusting the Spindle Height

The spindle height can be adjusted for various applications. To do so, proceed as follows:

1. Loosen the found-on side of the spindle shaft.

Note: The s is designed so that they cannot be removed from the spindle shaft.

2. Slide the spindle upward or downward to the desired position before retightening the bolts ① and nut ②. See Figure 5-1.

Note: bolts must be tightened with the spindle when starting the equipment.

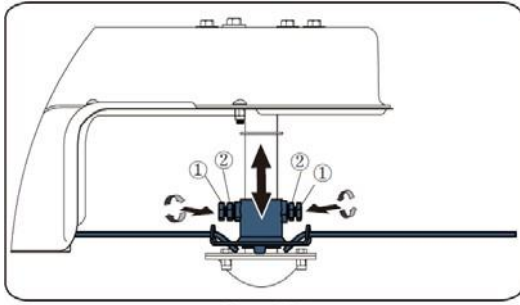


Figure 5-1

Starting and Stopping

1. Press the priming bulb one or two times and depress control lever. Pull the starter rope to start the engine. See Figure 5-2.
2. Releasing the control lever stops the engine.

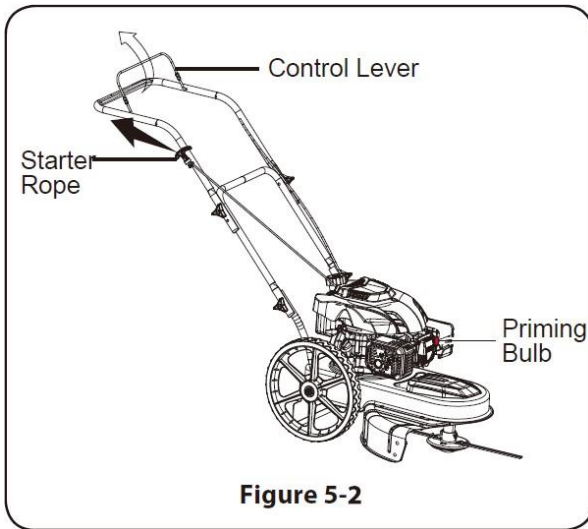


Figure 5-2

Using Your String Trimmer

Be sure trimming area is clear of stones, sticks, wire, or other objects which could damage the string trimmer or engine. Such objects could be accidentally thrown by the trimmer in any direction and cause serious personal injury to the operator and others.

⚠WARNING

The operation of any string trimmer can result in foreign objects being thrown into the eyes, which can damage your eyes severely. Always wear safety glasses while operating the string trimmer, or while performing any adjustments or repairs on it.

- The string trimmer is designed with the spindle offset to the left side, allowing the operator to trim along a fence, landscaping, or a house to His or Her's right side without having to make any adjustments to the machine.
- Operate the string trimmer at a slower walking speed when trimming tall, thick weeds or grass.
- Clean the underside of the trimmer after each use to remove any debris build up.

⚠WARNING

Shut the engine off and wait until the trimmer head comes to a complete stop before cleaning the discharge area. The trimmer head continues to rotate for a few seconds after the trimmer head control is released.

Do not trim on excessively steep slopes. If a slope is difficult to stand on, do not trim. Do not trim on slopes when the ground is slippery or wet. Trim across the face of a slope, not up and down.

CAUTION: While operating the string trimmer, do not allow the spindle to contact a concrete, asphalt, or gravel surface. Doing so will result in premature wear.

Slope Operation

⚠WARNING

- Slopes are a major factor related to slip and fall accidents, which can result in severe injury. Operation on slopes requires extra caution. If you feel uneasy on a slope, do not trim on it. For your safety, use the slope gauge included as part of this manual to measure slopes before operating this machine on a sloped or hilly area. If the slope is greater than 15 degrees, do not trim on it.
- Trim across the face of slopes; never up and down. Exercise extreme caution when changing direction on slopes.
- Watch for holes, ruts, rocks, hidden objects, or bumps which can cause you to slip or trip. Tall grass can hide obstacles.
- Always be sure of your footing. A slip and fall can cause serious personal injury. If you feel you are losing your balance, release the control lever immediately and the spindle will stop rotating within three (3) seconds.
- Do not trim near drop-offs, ditches or embankments, you could lose your footing or balance.
- Do not trim slopes greater than 15 degrees as shown on the slope gauge.
- Do not trim on wet grass. Unstable footing could cause slipping.

Changing the Trimmer Line

To ease in removing worn trimmer line, change the trimmer line before it becomes too short (i.e., approximately half its original length).

1. Remove the worn trimmer line from the spindle.
2. Fold the replacement trimmer line in half and insert both ends through the loop near the edge of the spindle.
3. Pull the ends of the trimmer line through the loop until the line is securely beneath the metal tab.
4. Cross the line ends and pull each tightly to secure the trimmer line in place. See Figure 5-3.

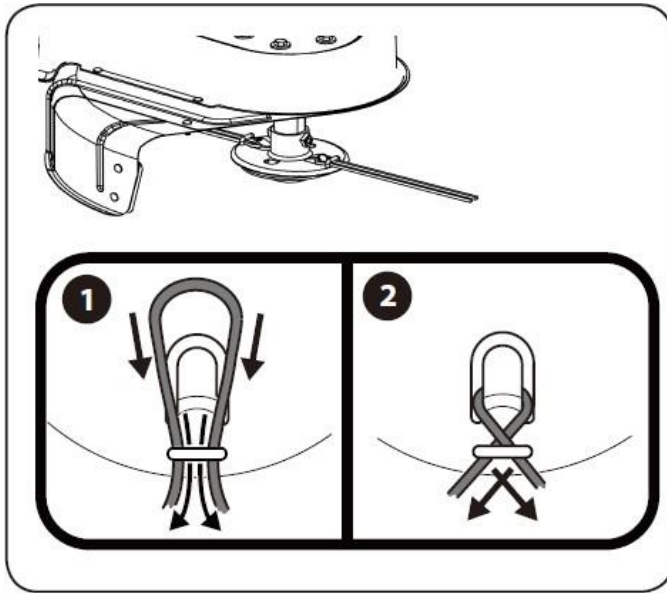


Figure 5-3

HIGH ALTITUDE OPERATION

If operating equipment with engines regularly at altitudes over 5,000 feet, the carburetor's air-fuel mixture will be too rich and emissions may increase. On engines not built for the United States the carburetor can be adjusted to operate under this condition. The carburetor should be returned to its normal setting if regular operation is less than 5,000 feet. Contact your service center to modify the carburetor.

After Each Use

Take the following steps to prepare your trimmer for storage.

1. Clean and lubricate the trimmer.
2. Store the trimmer in a dry, clean area. Do not store next to corrosive materials, such as fertilizer.
3. Using a light oil or silicone, coat the equipment, especially cables and all moving parts of your string trimmer.
4. Clean the engine regularly with a cloth or brush. Keep the top of the engine clean to permit proper air circulation. Remove all grass, dirt and debris from muffler area.
5. Engines stored between 30 and 90 days need to be treated with a gasoline stabilizer such as STA-BIL® to prevent deterioration and gum from forming in fuel system or on essential carburetor parts.
6. Scrape and clean the underside of the machine with a suitable tool. Do not spray with water.

IMPORTANT: Do not use a pressure washer or garden hose to clean the machine. These may cause damage to the engine. The use of water will result in shortened life and reduce serviceability.

Maintenance

General Recommendations

- Always observe safety rules when performing any maintenance.
- The warranty on this string trimmer does not cover items that have been subjected to operator abuse or negligence. To receive full value from warranty, operator must maintain the string trimmer as instructed here.
- Changing of engine-governed speed will void engine warranty.
- All adjustments should be checked at least once each season.
- Periodically check all fasteners and make sure these are tight.

⚠WARNING

Always stop engine, disconnect spark plug, and ground against engine before performing any type of maintenance on your machine.

Lubrication

1. Lubricate pivot points on the control lever at least once a season with light oil. This control must operate freely in both directions. See Figure 6-1.
2. Lubricate the wheels at least once a season with light oil (or motor oil). If wheels are removed for any reason, lubricate surface of the axle bolt and inner surface of the wheel with light oil. See Figure 6-1.
3. Follow the accompanying engine manual for lubrication schedule and instruction for engine lubrication.

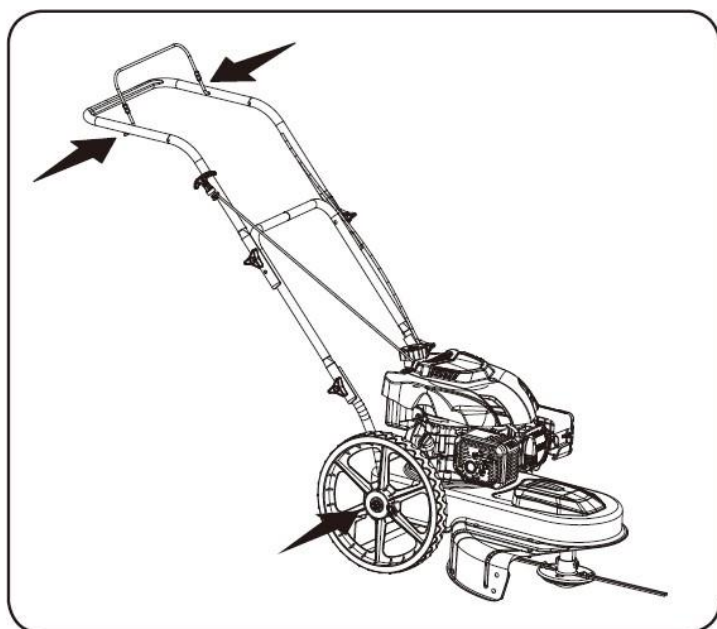


Figure 6-1

Deck Care

Clean underside of the machine after each use to prevent build-up of grass clippings or other debris. Follow steps below:

1. Disconnect spark plug wire. Drain gasoline from string trimmer or place a piece of plastic under the gas cap.
2. Tip trimmer so that it rests on its side. Keep the side with the air cleaner facing up. Hold trimmer firmly.
3. Scrape and clean the underside of the machine with a suitable tool. Do not spray with water.
4. Put the trimmer back on its wheels on the ground. If you had put plastic under the gas cap earlier, make sure to remove it now.

IMPORTANT: Do not use a pressure washer or garden hose to clean the machine. These may cause damage to the engine. The use of water will result in shortened life and reduce serviceability.

⚠WARNING

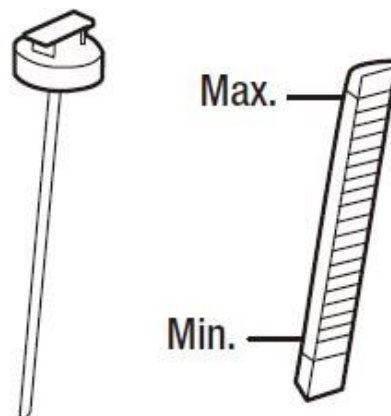
Never tip the trimmer more than 90° in any direction and do not leave the trimmer tipped for any length of time. Oil can drain into the upper part of the engine causing a starting problem.

Engine

A list of key engine maintenance jobs required for good performance by the trimmer is given below.

Maintain oil level. Always check oil before each use.

- Remove the dipstick and wipe with a clean cloth.
- Insert the dipstick into the filler neck without screwing it in.
- Remove the dipstick and check the oil level. The oil level should be in between the MIN. and MAX. levels.
- If low, add oil slowly into the engine oil fill tube. Do not overfill. After adding oil wait one minute and then re-check the oil level.
- Replace and tighten the dipstick.



HOW TO REMOVE OIL

⚠ CAUTION

CAUTION: Used oil is a hazardous waste product and must be disposed of properly. Do not discard with household waste. Check with your local city or service center for safe disposal/recycling facilities

The oil must be drained from the oil drain plug. See Figure 7-1.

1. Remove the dipstick.
2. Put a container below the oil drain plug.
3. Remove the oil drain plug and allow oil to drain into the container.
4. Install the oil drain plug and tighten with a wrench.

⚠ WARNING

When you drain the oil from the oil drain plug, the fuel tank must be empty, or fuel can leak out and result in fire or explosion. To empty the fuel tank, run the engine until it runs out of fuel.

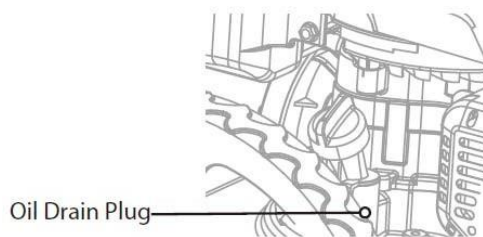
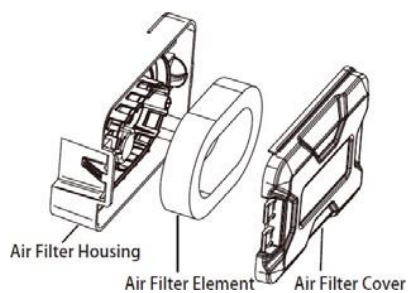


Figure 7-1

AIR FILTER

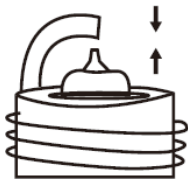
Service the air filters every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air filter should be serviced.

1. Remove the air cleaner outside cover. Be careful to prevent dirt and debris from falling into the air cleaner assembly.
2. Separate the air filter from the air filter housing.
3. Inspect the air filter. Clean the dirty air filter with warm water and mild soap. Allow air filter to dry thoroughly before re-installing.
4. Install the air filter assembly onto the carburetor and secure with the screw.



SPARK PLUG

Clean spark plug and reset the gap once a season. Spark plug replacement is recommended at the start of each mowing season.



GAP 0.6-0.8 mm (0.024-0.031 in.)

Check the gap with a wire gauge. If necessary, reset the gap. Install and tighten the spark plug.

⚠ WARNING

Never tip the trimmer more than 90° in any direction and do not leave the trimmer tipped for any length of time. Oil can drain into the upper part of the engine causing a starting problem.

Maintain the product by adopting a program of conscientious repair and maintenance in accordance with the following recommended procedures. It is recommended that the general condition of any tool be examined before it is used. Keep your tool in good repair. Keep all cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control. Keep handles dry, clean, and free from oil and grease. Also refer to the engine manufacturer's instruction manual for additional information about engine maintenance. The following chart is based on a normal operation schedule.

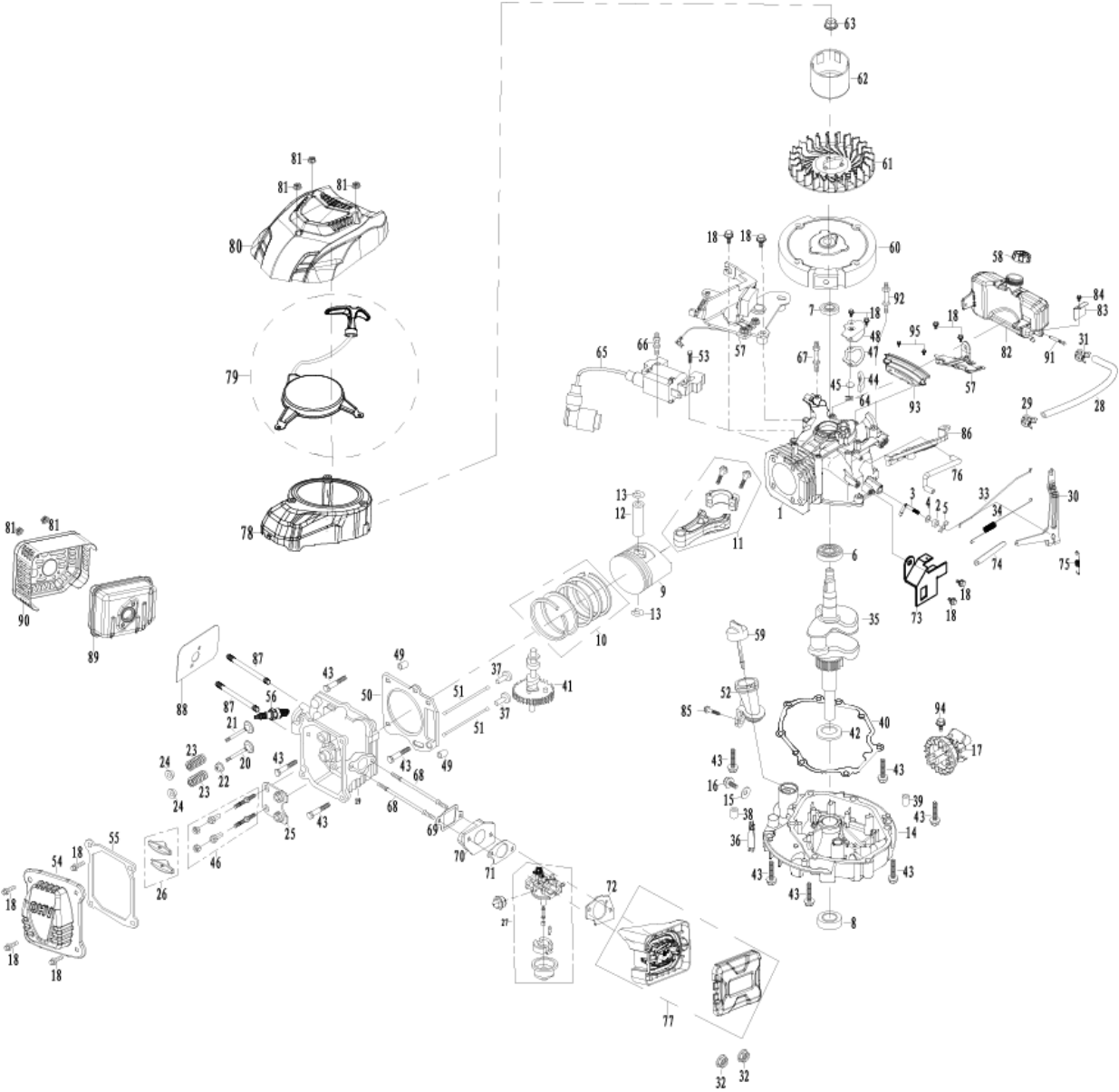
| Maintenance Interval | Maintenance Point |
|------------------------|--|
| Daily before operating | Always check oil before each use |
| Every 25 hours | Service the air filters every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. |
| Every Quarter | Clean sparkplug and reset the gap once a season. Spark plug replacement is recommended at the start of each mowing season. |

Troubleshooting

Use the table below to troubleshoot problems before contacting service personnel or your local dealer. If the problem continues after troubleshooting, call your local dealer for assistance.

| Failure | Possible Cause | Corrective Action |
|--|--|--|
| Engine Fails to start | Control lever disengaged. | Engage control lever. |
| | Spark plug boot disconnected. | Connect wire to spark boot. |
| | Fuel tank empty or stale fuel. | Fill tank with clean, fresh gasoline. |
| | Engine not primed (if equipped with primer). | Prime engine as instructed in the operation section. |
| | Faulty spark plug. | Clean, adjust gap, or replace. |
| | Blocked fuel line. | Clean fuel line. |
| | Engine flooded. | Wait a few minutes to restart, but do not prime. |
| | Fuel valve (if equipped) closed. | Open fuel valve. See engine manual. |
| | Engine not choked (if equipped with choke). | Choke engine. See engine manual. |
| Engine runs erratic | Spark plug boot loose. | Connect and tighten spark plug boot. |
| | Blocked fuel line or stale fuel. | Clean fuel line; fill tank with clean, fresh gasoline. |
| | Vent in gas cap plugged. | Clear vent. |
| | Water or dirt in fuel system. | Drain fuel tank. Refill with fresh fuel. |
| | Dirty air cleaner. | Refer to engine manual. |
| | Unit running with CHOKE (if equipped) applied. | Push CHOKE knob in. |
| Engine overheats | Engine oil level low. | Fill crankcase with proper oil. |
| | Air flow restricted. | Clean area around and on top of engine. |
| Occasional skips (hesitates) at high speed | Spark plug gap too close. | Adjust gap to .030". |
| Idles poorly | Spark plug fouled, faulty, or gap too wide. | Reset gap to .030" or replace spark plug. |
| | Dirty air cleaner. | Refer to engine manual. |
| Excessive Vibration | Spindle wing nuts loose. | Tighten wing nuts. |
| | Spindle damaged. | See an authorized service dealer. |
| Poor Trimming Performance | Trimmer line too short or worn. | Replace trimmer line. |
| | Worn or damaged spindle belt. | Replace spindle belt. |

Engine Parts Diagram



Engine Parts List

| Ref # | Part Number | Part Description | Part Qty | Kit Number |
|-------|--------------|---|----------|--------------|
| 1 | N/A | CRANKCASE | 1 | N/A |
| 2 | N/A | SEAL, GOVERNOR ARM SHAFT | 1 | PH115069.EK9 |
| 3 | N/A | SHAFT, GOVERNOR ARM | 1 | |
| 4 | N/A | WASHER, GOVERNOR ARM SHAFT | 1 | |
| 5 | N/A | PIN, LOCK | 1 | |
| 6 | N/A | BALL BEARING | 1 | |
| 7 | N/A | OIL SEAL | 1 | N/A |
| 8 | N/A | OIL SEAL | 1 | N/A |
| 9 | N/A | PISTON | 1 | N/A |
| 10 | N/A | SCRAPER RING SET, PISTON | 1 | N/A |
| 11 | N/A | ROD ASSEMBLY., CONNECTING | 1 | N/A |
| 12 | N/A | PIN, PISTON | 1 | N/A |
| 13 | N/A | CLIP, PISTON | 2 | N/A |
| 14 | N/A | COVER ASSEMBLY, CRANKCASE | 1 | N/A |
| 15 | N/A | WASHER, DRAIN PLUG | 1 | N/A |
| 16 | N/A | BOLT, DRAIN PLUG | 1 | N/A |
| 17 | N/A | GOVERNOR ASSEMBLY | 1 | N/A |
| 18 | N/A | BOLT M6X12 | 14 | PH115069.EK3 |
| 19 | N/A | CYLINDER HEAD | 1 | N/A |
| 20 | N/A | VALVE, IN | 1 | N/A |
| 21 | N/A | VALVE EXHAUST | 1 | N/A |
| 22 | N/A | RETURNER, INTAKE VALVE | 1 | PH115069.EK5 |
| 23 | N/A | SPRING, VALVE | 2 | |
| 24 | N/A | SEAT, VALVE SPRING, IN | 2 | |
| 25 | N/A | PLATE, PUSH ROD GUIDE | 1 | N/A |
| 26 | N/A | ROCKER ASSY | 2 | PH115069.EK4 |
| 27 | PH115069.E27 | CARBURETOR ASSEMBLY | 1 | N/A |
| 28 | N/A | FUEL LINE $\Phi 6 \times \Phi 10 \times 290\text{MM}$ | 1 | N/A |
| 29 | N/A | CLIP, FUEL LINE $\Phi 10$ | 1 | N/A |
| 30 | N/A | GOVERNOR ARM | 1 | PH115069.EK9 |
| 31 | N/A | CLIP, FUEL LINE | 1 | N/A |
| 32 | N/A | NUT M6 | 2 | PH115069.EK7 |
| 33 | N/A | ROD, GOVERNOR | 1 | PH115069.EK9 |
| 34 | N/A | SPRING, THROTTLE RETURN | 1 | PH115069.EK9 |
| 35 | N/A | CRANKSHAFT ASSEMBLY | 1 | N/A |
| 36 | N/A | PIPE, OIL DEFENSE | 1 | N/A |
| 37 | N/A | LIFTER, VALVE | 2 | N/A |
| 38 | N/A | DOWEL PIN, CASECOVER | 1 | N/A |
| 39 | N/A | DOWEL PIN, CASECOVER | 1 | N/A |
| 40 | N/A | PACKING, CASECOVER | 1 | N/A |
| 41 | N/A | CAMSHAFT ASSEMBLY | 1 | N/A |
| 42 | N/A | WASHER, CRANKSHAFT | 1 | N/A |

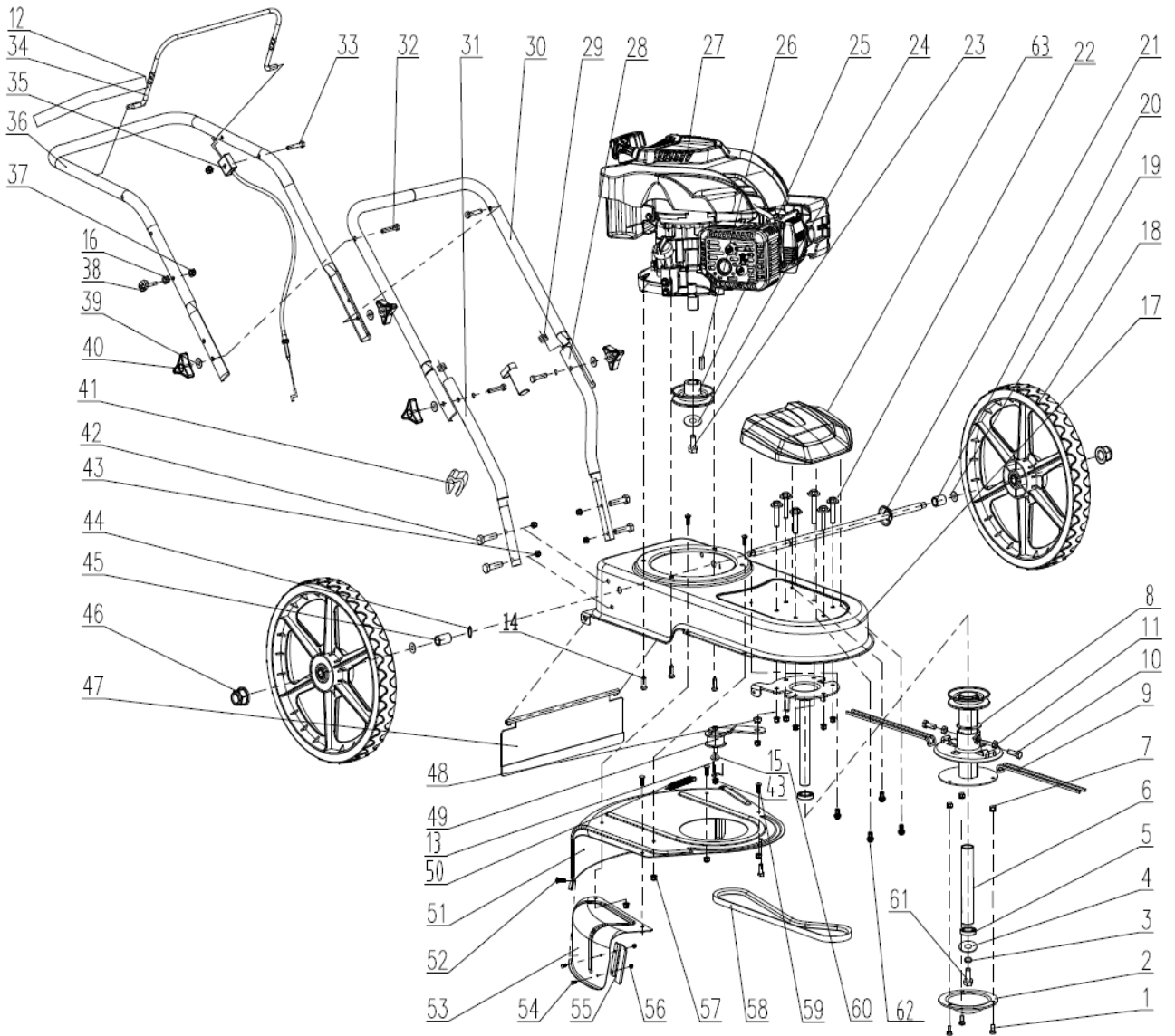
| | | | | |
|----|--------------|---------------------------|----|---------------|
| 43 | N/A | BOLT M8X50 | 10 | N/A |
| 44 | N/A | FILTER, BREATHER | 1 | N/A |
| 45 | N/A | COVER, BREATHER VALVE | 1 | N/A |
| 46 | N/A | ADJUSTER ROCKER ARM | 2 | PH115069.EK4 |
| 47 | N/A | GASKET, BREATHER CHAMBER | 1 | N/A |
| 48 | N/A | CAP, BREATHER CHAMBER | 1 | N/A |
| 49 | N/A | PIN, DOWEL | 2 | N/A |
| 50 | N/A | GASKET, CYLINDER HEAD | 1 | N/A |
| 51 | N/A | ROD, PUSH | 2 | N/A |
| 52 | N/A | EXTENSION, OIL FILLER | 1 | PH115069.EK8 |
| 53 | N/A | BOLT M6X30 | 1 | PH115069.EK11 |
| 54 | N/A | COVER COMP, CYLINDER HEAD | 1 | PH115069.EK3 |
| 55 | N/A | PACKING, HEADCOVER | 1 | PH115069.EK3 |
| 56 | PH115069.E56 | SPARK PLUG | 1 | N/A |
| 57 | N/A | THE BRAKE COMPONENTS | 1 | N/A |
| 58 | PH115069.E58 | FUEL TANK CAP COMP | 1 | PH115069.EK10 |
| 59 | PH115069.E59 | DIPSTICK | 1 | N/A |
| 60 | N/A | FLYWHEEL ASSEMBLY | 1 | N/A |
| 61 | N/A | FAN, RECOIL STARTER | 1 | N/A |
| 62 | PH115069.E62 | PULLEY, STARTER | 1 | N/A |
| 63 | N/A | NUT | 1 | N/A |
| 64 | N/A | BREATHER VALVE SPRING | 1 | N/A |
| 65 | N/A | IGNITION COIL ASSY | 1 | PH115069.EK11 |
| 66 | N/A | BOLT STUD, IGNITION COIL | 1 | PH115069.EK11 |
| 67 | N/A | BOLT STUD, RECOIL STARTER | 1 | N/A |
| 68 | N/A | BOLT, STUD | 2 | N/A |
| 69 | N/A | PACKING, INTAKE | 1 | PH115069.EK6 |
| 70 | N/A | INSULATOR, CARBURETOR | 1 | PH115069.EK6 |
| 71 | N/A | PACKING, CARBURETOR | 1 | PH115069.EK6 |
| 72 | N/A | GASKET, AIR CLEANER | 1 | PH115069.EK6 |
| 73 | N/A | SHROUD ASSY, UPPER | 1 | PH115069.EK7 |
| 74 | N/A | CLIP, WIRE HARNESS | 1 | N/A |
| 75 | N/A | SPRING, GOVERNOR | 1 | PH115069.EK9 |
| 76 | N/A | TUBE, BREATHER | 1 | PH115069.EK9 |
| 77 | N/A | AIR CLEANER ASSEMBLY | 1 | N/A |
| 78 | PH115069.E78 | HOOD, FAN | 1 | PH115069.EK7 |
| 79 | N/A | STARTER COMP, RECOIL | 1 | N/A |
| 80 | N/A | COVER, FAN | 1 | PH115069.EK1 |
| 81 | N/A | NUT M6 | 5 | PH115069.EK1 |
| 82 | N/A | FUEL TANK ASSEMBLY | 1 | PH115069.EK1 |
| 83 | N/A | WIND DEFLECTOR | 1 | PH115069.EK2 |
| 84 | N/A | BOLT M4*8 | 1 | PH115069.EK10 |
| 85 | N/A | BOLT M8X20 | 1 | N/A |
| 86 | N/A | SHROUD C | 1 | N/A |

| | | | | |
|----|-----|---------------------|---|---------------|
| 87 | N/A | BOLT, STUD | 2 | N/A |
| 88 | N/A | PACKING, EXHAUST | 1 | PH115069.EK2 |
| 89 | N/A | MUFFLER COMP | 1 | PH115069.EK2 |
| 90 | N/A | SHIELD, OUT MUFFLER | 1 | PH115069.EK2 |
| 91 | N/A | FILTER | 1 | PH115069.EK10 |
| 92 | N/A | START HOOD STUDS | 1 | N/A |
| 93 | N/A | SHROUD B | 1 | N/A |
| 94 | N/A | BOLT M6X20 | 1 | N/A |
| 95 | N/A | BOLT M6X35 | 2 | N/A |

Engine Kits

| Kit # | Kit No. | Part Description | Includes Ref # | Kit Qty |
|-------|---------------|-----------------------|--------------------------------|---------|
| 1 | PH115069.EK1 | Recoil Kit | 79, 80,81 | 1 |
| 2 | PH115069.EK2 | Muffler Kit | 81, 88, 89, 90 | 1 |
| 3 | PH115069.EK3 | Valve Cover Kit | 18, 54, 55 | 1 |
| 4 | PH115069.EK4 | Rocker Kit | 26, 46 | 1 |
| 5 | PH115069.EK5 | Intake Valve Kit | 22, 23, 24 | 1 |
| 6 | PH115069.EK6 | Carburetor Gasket Kit | 69, 70, 71, 72 | 1 |
| 7 | PH115069.EK7 | Air Cleaner Kit | 32, 72, 77 | 1 |
| 8 | PH115069.EK8 | Dipstick Housing Kit | 52, 85 | 1 |
| 9 | PH115069.EK9 | Governor & Spring Kit | 2, 3, 4, 5, 30, 33, 34, 74, 75 | 1 |
| 10 | PH115069.EK10 | Tank Kit | 58, 82, 91 | 1 |
| 11 | PH115069.EK11 | Ignition Coil Kit | 53, 65, 66 | 1 |

Parts Diagram



Parts List

| Ref # | Part Number | Part Description | Quantity |
|-------|-------------|----------------------------|----------|
| 1 | PH115069.1 | NUT M6 | 3 |
| 2 | PH115069.2 | BUMP HEAD | 1 |
| 3 | PH115069.3 | SPRING WASHER | 1 |
| 4 | PH115069.4 | FLAT GASKET | 1 |
| 5 | PH115069.5 | BEARINGS | 2 |
| 6 | PH115069.6 | DRIVEN WHEEL JACKSHAFT | 1 |
| 7 | PH115069.7 | BOLT M6*12 | 4 |
| 8 | PH115069.8 | MOWER HEAD ASSEMBLY | 1 |
| 9 | PH115069.9 | TRIMMER LINE | 12 |
| 10 | PH115069.10 | BOLT M8*25 | 2 |
| 11 | PH115069.11 | NUT M8 | 2 |
| 12 | PH115069.12 | SOFT GRIP | 1 |
| 13 | PH115069.13 | GEAR LEVER | 1 |
| 14 | PH115069.14 | SCREW | 3 |
| 15 | PH115069.15 | FLAT GASKET 8x16x1.5 | 1 |
| 16 | PH115069.16 | NUT M6 | 1 |
| 17 | PH115069.17 | MOW GRASS PLATE | 1 |
| 18 | PH115069.18 | WHEEL | 2 |
| 19 | PH115069.19 | WASHER | 2 |
| 20 | PH115069.20 | REAR AXLE JACKSHAFT | 1 |
| 21 | PH115069.21 | REAR AXLE WELDING ASSEMBLY | 1 |
| 22 | PH115069.22 | BOLT M8*25 | 6 |
| 23 | PH115069.23 | BOLT | 1 |
| 24 | PH115069.24 | WASHER | 1 |
| 25 | PH115069.25 | PULLEY ENGINE | 1 |
| 26 | PH115069.26 | CRANKSHAFT FLAT KEY | 1 |
| 27 | PH115069.27 | ENGINE DV173 | 1 |
| 28 | PH115069.28 | THE PUSH ROD (LEFT) | 1 |
| 29 | PH115069.29 | PUSH DOWN THE PLUG | 2 |
| 30 | PH115069.30 | THE PUSH ROD | 1 |
| 31 | PH115069.31 | THE PUSH ROD (RIGHT) | 1 |
| 32 | PH115069.32 | SHAPED BOLT M8*45 | 4 |
| 33 | PH115069.33 | SHAPED BOLT M6*33 | 1 |
| 34 | PH115069.34 | FLAMEOUT LEVER | 1 |
| 35 | PH115069.35 | STALL LASSO | 1 |
| 36 | PH115069.36 | THE PUSH ROD | 1 |
| 37 | PH115069.37 | ACORN NUT M6 | 2 |
| 38 | PH115069.38 | PULL ON THE ROPE TIED TO | 1 |
| 39 | PH115069.39 | WASHER | 4 |
| 40 | PH115069.40 | TRIANGLE KNOB | 4 |
| 41 | PH115069.41 | WIRE CLIP | 1 |
| 42 | PH115069.42 | BOLT M8*30 | 4 |

| | | | |
|----|-------------|------------------------|----|
| 43 | PH115069.43 | NUT M8 | 11 |
| 44 | PH115069.44 | WASHER | 1 |
| 45 | PH115069.45 | WHEEL SPACER | 1 |
| 46 | PH115069.46 | NUT M10*1.5 | 2 |
| 47 | PH115069.47 | TRAILING SHIELD | 1 |
| 48 | PH115069.48 | TENSION WHEEL BUSHING | 1 |
| 49 | PH115069.49 | TENSION WHEEL ASSEMBLY | 1 |
| 50 | PH115069.50 | TENSION SPRING | 1 |
| 51 | PH115069.51 | SHIELD | 1 |
| 52 | PH115069.52 | BOLT M6*10 | 2 |
| 53 | PH115069.53 | SMALL SHIELD CAP | 1 |
| 54 | PH115069.54 | BOLT M5*8 | 2 |
| 55 | PH115069.55 | LINE CUTTER | 1 |
| 56 | PH115069.56 | NUT M5 | 2 |
| 57 | PH115069.57 | NUT M6 | 4 |
| 58 | PH115069.58 | BELT | 1 |
| 59 | PH115069.59 | BOLT M6*14 | 4 |
| 60 | PH115069.60 | JACKSHAFT | 1 |
| 61 | PH115069.61 | BOLT M8*20 | 1 |
| 62 | PH115069.62 | TAPPING SCREW KAL45x12 | 4 |
| 63 | PH115069.63 | COVER PLATE ASSEMBLY | 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 Powerhorse product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of two 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.

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POWER HORSE™

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Burnsville, Minnesota 55306

www.northerntool.com

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