



# Tamping Rammer

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# 5898315

**READ & SAVE THESE INSTRUCTIONS**

Thank you very much for choosing a NorthStar 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

Though compact and lightweight, this rammer creates a strong impact and you may expect a large tamping effect on the ground.

It will compact nearly all types of soil, except soft soil that contains too much moisture.

Use this rammer to tamp the ground for creating roads, embankments, and to prepare the surface to support buildings. It can also be used when burying gas or waterlines, and electric cables.

### Warning about incorrect applications and techniques

Do not use this machine on ground that is harder than the machine can handle, or for driving pilings or tamping rock beds. Furthermore, use of the machine on sloping ground such as the side of an embankment, may make the machine unstable and can cause an accident. It can also result in premature machine wear due to uneven loads on the machine.

Use the machine with confidence for tamping earth and sand, soil, sand, gravel, and asphalt. Do not use the machine for other type of jobs

## Packaging Contents

- Tamping Rammer(1)
- Goggle (1)
- Fuel Hose (1)
- A Pair of Gloves (1)
- Hex.Wrench #5 (1)
- Hex.Wrench #6(1)
- Hex.Wrench #8 (1)
- Spark Plug Sleeve (1)
- Operation Manual for engine (1)
- Pre Air Filter Element (1)
- Operation Manual for tamping rammer(1)

## Technical Specifications

Property	Specification
Overall Length(inch)	29
Overall width(inch)	16.5
Overall Height(inch)	43
Shoe Size Length x width(inch)	13.6 x11
Jumping stroke(in)	1.6-3.1
Impact Force(lbf)	3146
Impact Number (Blows per minute)	640 - 680
Lubricating Oil (cc)	900
Operating speed(RPM)	3600-3800
Fuel	Petrol
Fuel Tank capacity(L)	2.5
Operating weight(lbs)	158.4
ENGINE MODEL	Honda GXR120(Air Cooled,4 stroke engine)
Engine Max. Output	2.7KW(3.6HP)

## 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. 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](http://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. Keep proper footing and balance at all times.
- 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**

#### **Structure**

The upper section of the machine functions as a weight and consists of an engine section guide, a gear reducer section, and reciprocating section. It also accommodates the handle and the fuel tank sections, which are connected by rubber dampers.

The lower section of the machine which hits the ground, consists of a spring case to engage sliding motion, a sloping section to allow the machine to tilt toward the front, bellows to cover the foot, a sliding section, and a protective sleeve.

#### **Power transmission**

Power is provided by an air-cooled, 4-cycle, single-cylinder gasoline engine. The output end of the engine crankshaft is equipped with a centrifugal clutch.

As the engine speed increases, the centrifugal clutch expands and a pinion gear that is a part of the clutch drum engages a gear in the crankshaft on the main frame. The engine speed is decreased in order to produce the required force for tamping.

The rotating motion of the mainframe crankshaft is converted to a reciprocating motion through a connecting rod. This reciprocating motion causes the foot to go up and down through a strong coil spring. The weight of the main body and the strong force from the engine compress the spring and the foot moves up and down, striking the ground forcefully.

#### **General precautions**

##### **WARNING**

DO NOT work in the following conditions.

If you do not feel well due to overwork or illness.

If you are taking any medicine.

If you are under the influence of alcohol.

## CAUTION

Read this instruction manual carefully and handle the machine as described so that you can work safely.



For details about the engine, refer the separate instruction manual for the engine.

Make sure you thoroughly understand the construction and operation of the machine.

To work safely, always wear protective clothing (helmet, safety glasses, safety shoes, ear plugs etc.) and appropriate work clothes. Always check the machine to make sure that it is normal before starting operation.

The decals on the machine body (operating methods, warning decals, etc.) are very important to ensure safety. Keep the machine body clean so that they can be read at all times. If any decal cannot be read, replace it with a new one.

It is very dangerous if children come into contact with the machine. Take the utmost care about how and where the machine is stored.

Before performing any maintenance, be sure to turn the engine off.

We do not accept any liability for accidents or problems caused as a result of not using genuine parts (foot assembly, etc.), or if the machine has been modified.

### **Precautions when adding fuel**

#### DANGER

Take the utmost care not to allow the machine to fall during work, or when stopped or stored. Secure the machine with a rope or similar tie when stored or left idle so that it cannot fall. If the rammer falls over when children are around, a serious accident may occur. If the machine foot is worn, the machine will be especially unstable. If the machine foot is worn badly, replace it with a new one.

If the machine falls over while working, the machine will move forward due to the kicking motion of the foot while it is lying on its side. If the ground is solid, it will move quickly and is very dangerous. To ensure that the operator and anyone nearby are safe, turn the throttle lever to the engine stop position and make sure the machine stops. You must be extremely careful when working on a road because a serious accident can easily occur.



### **Precautions while lifting**

#### DANGER

Before lifting the machine, make sure that there is no damage to any of the components on the machine (look especially for damage to the rubber dampers and the hook). There must not be any loose or missing screws and the machine must generally be in a safe condition

Turn the engine off before lifting the machine

Use wire cables with enough strength to support the machine.

DO NOT lift it higher than necessary, for safety.

DO NOT use a damaged wire cable. Only use the single hook to lift the machine.

DO NOT support it from any other points (such as the handle).

Never lift or lower the machine rapidly when using a hydraulic shovel or a crane.

When lifting the machine, do not allow any people or animals to pass under or near the machine.

When using any type of equipment to lift the machine, be careful that the lifting equipment does not cause an accident. Make sure you check the lifting equipment carefully, to ensure that there are no problems or damage



### **Transportation and storage precautions**

#### **DANGER**

When transporting

Before transporting the machine, stop the engine.

DO NOT try to move it before the engine and machine body have cooled down enough.

Drain any fuel before transporting the machine.

Transport the rammer in a manner that keeps it level. If you must lay the machine down to transport it, drain any fuel from the fuel tank and carburetor. Then close the fuel tank cap and oil fill plug securely. Next, position the machine so that the carburetor will be facing up.

Secure the machine body so that the machine cannot move or fall during transportation.

When you want to lift the machine by gripping the handle, be careful not to pinch your fingers or hands between the handle and the main body.

Since this machine is quite heavy, use a truck specifically designed to transport heavy objects.

When storing the machine

After the engine and machine body have cooled down enough, store the rammer so that it is level. Fasten the machine as needed so that the machine cannot fall down. If you must lay the machine down, close the fuel tank cap and oil fill plug securely. Arrange the machine position so that the carburetor will be facing up. After it is lying down, make sure there are no oil or fuel leaks. (If fuel is leaking, drain it all from the fuel tank.)

### **Maintenance precautions**

#### **WARNING**

Appropriate maintenance of the machine is required to ensure safety and keep the machine performing well. Always be aware of the machine's condition and keep it in good condition.

### CAUTION

Be sure to turn the engine off before checking or adjusting the machine.

The muffler and muffler guard become very hot. Do not touch them until they will have cooled down.

The lubrication oil and engine oil are very hot and can burn you. Do not start any maintenance on the machine while the oil remains hot.

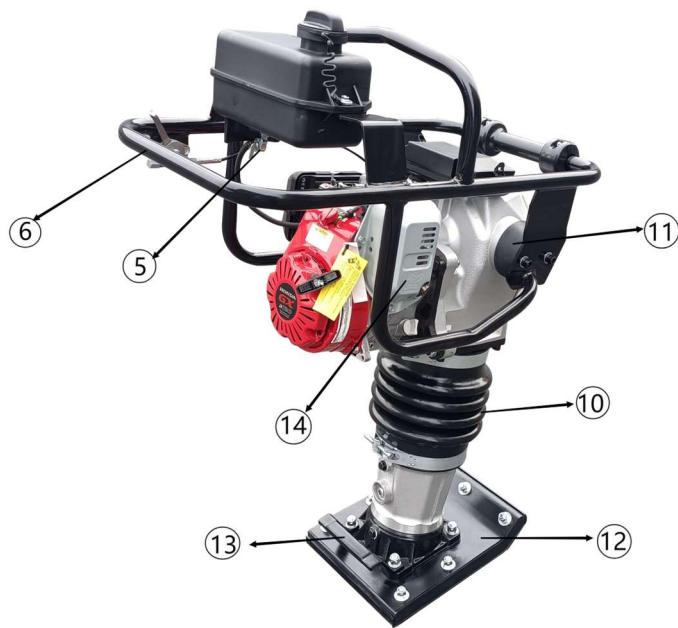
After performing any maintenance, check the condition of the safety components and the general safety of the machine. In particular, check the nuts and bolts thoroughly.

If you have to disassemble any components on the machine, be sure to refer the maintenance standard sheets and always work safely.



## Main Parts of Product





01	Fuel Tank Cap(EPA)
02	Fuel Tank Assembly(EPA)
03	Lift Frame
04	Engine On/Off switch
05	Fuel Cock Assy
06	Operating Handle
07	Throttle lever Assembly
08	Choke Lever
09	Air Filter(engine)
10	Bellow
11	Shock Absorber
12	Tamping Plate
13	Grip Handle(Foot)
14	Engine Muffler

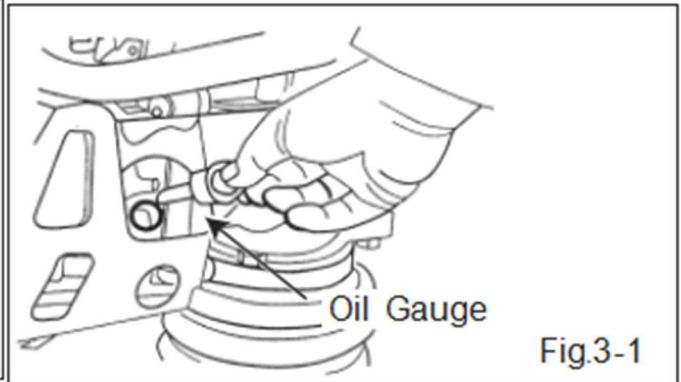
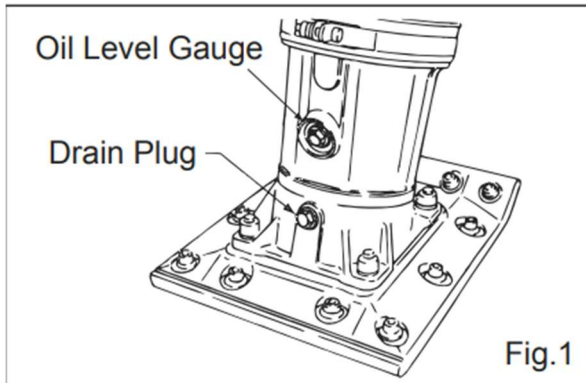
## Before Each Use

### ⚠WARNING

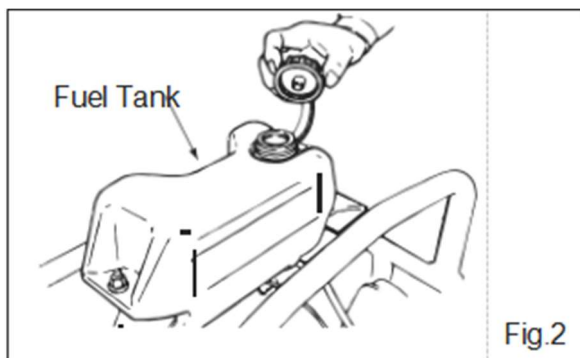
1 This machine is of oil bath lubrication system.

2 Check the oil level through a window at rear end of the foot.

Replenish oil if oil is not visible at the window. For lubrication, use automobile engine oil of 10W-30 SE,SF or better grade. 800cc or the like. (Fig.1)



3 Fill the fuel tank with regular gasoline ( unleaded ). Simultaneously, check engine oil and make it a habit to replenish on the earlier side. Low lubrication oil level may result in engine seizure due to consumption during operation. (Fig.2 and 3-1) Nevertheless, oil level should be checked prior to start up without fail. For lubrication, use automobile engine oil of 10W-30 SE,SF or better grade. See Engine Operating Manual for further detail.



4 Check every bolt, nut or screwed area for tightness. Loosened due to vibration may result in unexpectedly serious trouble. Be sure to tighten any screwed area. Remove dirt and dust. Particularly clean the vicinity of recoil starter and foot.

## CAUTION



### GRIP HANDLEBAR

Before starting operation check

GRIP HANDLEBAR (FOOT) to:

1. Make sure that there is no damage on the bolts.
2. Make sure that there is no crack or breakage on handle.
3. Make sure that there is no fissure on the surface, if there is abnormal or damage, replace with new one.

### For operation

GRIP HANDLEBAR (FOOT) is to be used to uplift the shoe part of the machine with the body laid down on the ground or truck bed.

1. Use proper lifting techniques to avoid back injury. GRIP HANDLEBAR (FOOT) is for manual lifting only.
2. Do not use GRIP HANDLEBAR (FOOT) as a rammer lift point. Use the lifting point on the top of the machine.
3. Do not move the rammer with GRIP HANDLE BAR (FOOT/MT) and the front rollers more than 5 meters.

## Operating Instructions

### ⚠WARNING

1 Lower the fuel cock lever to let fuel flow. To start, switch must be in the "ON" position. (Fig.4,5)

2 With carburetor choke lever closed, set throttle lever to CLOSE position. In cold weather, it should be closed fully, while in summer season or if engine is warm, make it half-open or full-open.

In case the engine failed to start, leaving the choke lever fully closed causes an excessive fuel intake. Therefore it should be returned to the half-open position. (Fig.6)

3 Grip the recoil starter handle and pull it a little to feel a slight resistance. Then pull it powerfully from there. To release the handle do not release it at the position where it has been pulled to, but release it after returning closely to the starter case. (Fig.7)

4 If the engine has started, while listening to explosion sounds, return the choke lever slowly to full-open position. Be sure to perform a warm-up run for the period 3 to 5 minutes at low speed while paying careful attention to gas leakage or abnormal sound.

5 If it is difficult to start the engine by repeatedly pulling the starter rope, remove ignition plug and check the sparking performance. If the plug is wet due to excessive fuel intake or soiled, replace the coil or clean sufficiently to its internals. With the ignition plug removed, pull the recoil starter handle 2-3 times to discharge excessive gas.

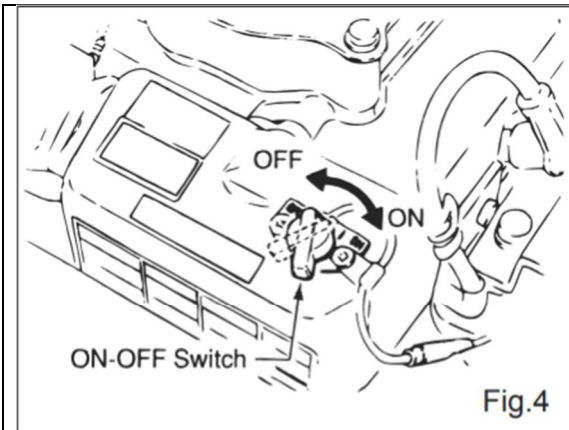


Fig.4

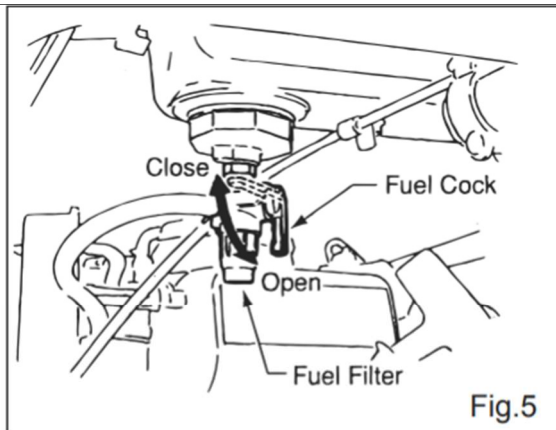


Fig.5

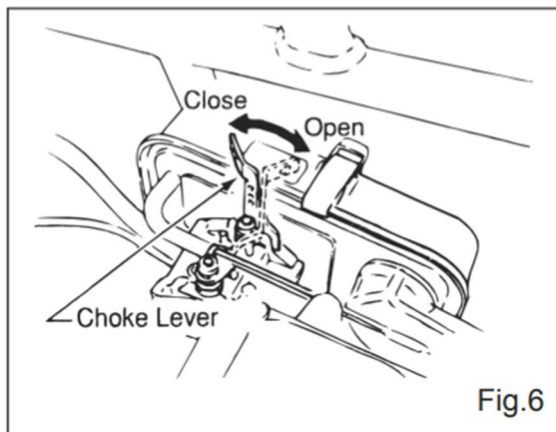


Fig.6

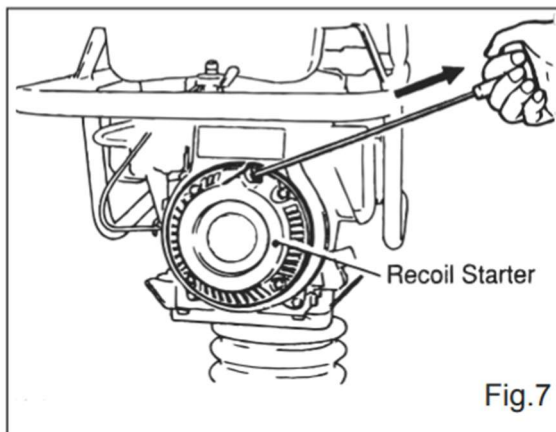


Fig.7

6 To start tamping action, move the throttle lever(fig.8) quickly from CLOSE to the FULL OPEN positon. Do not move the throttle lever slowly as this may cause damage to the clutch or spring.

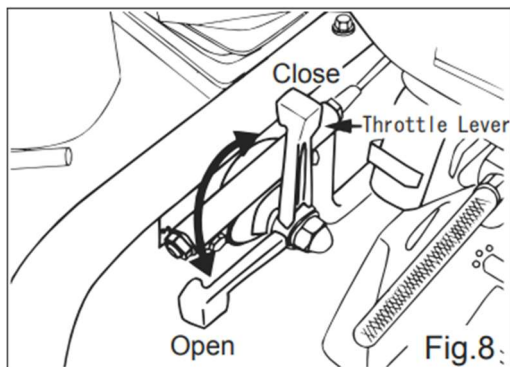


Fig.8

7 After starting tamping action, adjust the jumping motion to suit particular soil condition by lightly controlling the throttle lever. When the engine speed falls between the set values shown on the engine, your work can be carried out at the best efficiency. Increasing the engine speed unnecessarily, does not cause the compaction force to increase. On the contrary, a resultant resonance causes the compaction force to decrease, damaging the machine.

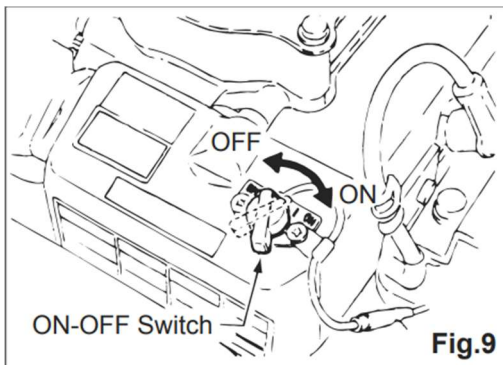
8 Under cold weather, the oil in the machine being viscous, resistance at reciprocating part is greater causing the tamping rammer to perform somewhat irregular movement. Therefore, it is recommended to perform warm up run while moving the throttle lever repeatedly between ON and OFF positions, before entering the work.

9 Soil contacting surface of the foot is lined with heat-treated metal sheet for extra strength. However, for compacting cobblestone, use the filling up soil for example so that the foot hits the soil uniformly.

10 The tamping rammer has been designed to advance while jumping. For quicker advance, erect the machine by pushing its handle down slightly so that flat surface of the foot at its rear end contacts the ground.

11 To discontinue the work, contrary to the starting, move the throttle lever quickly from ON to OFF. The throttle lever should not be moved slowly.

12 With the throttle lever closed from ON to OFF, run the engine for 3- 5 minutes at low speed, and after temperature is lowered, turn the switch to the "OFF" position. (Fig.9)



13 Close the fuel cock.

## After Each Use

### ⚠ WARNING

#### After each use, perform the following:

- Remove any foreign substances such as dirt or rocks from the rammer and engine.
- Clean the engine cylinder cooling fins.
- Clean or replace the air filter.
- Check the general condition of the rammer for wear or damage. Parts can be ordered and replaced before the next use.

#### Storing for more than 30 days, or before transporting, perform the following:

- Drain the fuel tank completely.
- Check that the accelerator handle is in the idle position then start and run the engine until the fuel in the carburetor is completely consumed
- Change the engine oil and follow the procedures in the engine manual for engine storage.

- . If storing the rammer, place the rammer in a clean, dry area where it won't be accidentally knocked over and cover it with a cloth.
  - . If transporting the compactor: lift it by the top, center of the frame using a proper lifting crane
- when moving it on and off a truck. Lifting the compactor by hand may cause personal injury due to its heavy weight.

## Maintenance

### **⚠WARNING**

**1 Flammable liquid. Stop engine and do not smoke or allow work in immediate area when refueling. Fire or explosion could result from flames or sparks.**

**2 Moving part Shutdown engine before performing service or maintenance. Contact with moving parts can cause serious injury.**

**3 High temperature. Allow machine and engine to cool before performing service or maintenance. Contact with hot components can cause serious burns**

#### **Daily service**

Remove dirt and dust from engine and control area. Clean air cleaner as necessary. Check and retighten all fasteners as necessary.

Check spring box and bellows for oil leaks. Repair as needed.

#### **Fifty hours service**

Clean air cleaner cover. Adjust spark plug gap to 0.02-0.03 inch (0.6-0.7mm). This unit has electronic ignition which requires no adjustments.

#### **Three-hundred hours service**

Remove fuel filter cap and clean. Clean every part of unit and retighten bolts and nuts as necessary.

Drain oil reservoir on foot housing. Refill with approx. 800cc of #10W-30 motor oil for HP-RM75H. Oil should be midway in sight glass. Break in oil should be changed after first 50 hours. (Fig. 10 )

#### **Air cleaner cleaning (Periodical service)**

Remove element from pre-cleaner at the top of crank case and clean it with cleaning oil (kerosene).

Rammer is the top element (yellow) with 2 - 5cc and bottom element (gray) with 13 - 15cc of engine oil SAE10W-30 squeeze out the oil before installing them. Air cleaner of the engine side will hardly be contaminated, If it is, however, after cleaning the element with kerosene, dip it in mixed oil consisting of 3 parts of gasoline and 1 part of engine oil. Then tightly squeeze outer primary element (sponge) and shake off well the inner secondary element before installing them. (Fig. 14)

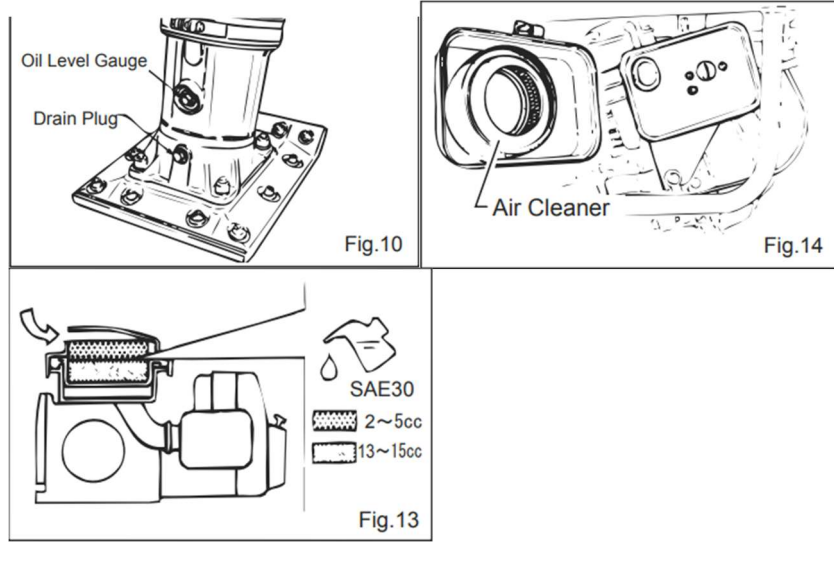
#### **Storage**

Rammer should be stored in such position as it is placed on level, after engine and machine have been cooled down. Be sure to secure the rammer as necessary to avoid falling down. If the rammer has to be laid down inevitably, tighten fuel tank cap and engine oil plug securely and wait until engine and machine are cooled down. After laying it down, make sure that

there is no leak of fuel or oil. (If fuel leaks, drain the tank)

Long-term storage: Drain fuel from fuel tank, fuel line and carburetor. Remove spark plug and pour a few drops of motor oil into cylinder. Crank engine 3 or 4 times so that oil reaches all internal parts.

Clean exterior with a cloth soaked in clean oil store unit covered with plastic sheet in a moisture free and dust free location out of direct sunlight



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.

How often?	Place to check	Item to check	Oil etc.
Daily (before starting operation)	Appearance	Flaws, deformity, stains	
	Air cleaner	Dirt, flaws, deformation	
	Bolts, nuts	Loose or missing parts	
	Handle	Flaws, deformity, cracks, breaks	
	Rubber damper	Flaws, deformity, cracks, breaks	
	Engine oil	Leaks, oil level, dirt	Engine oil
	Main body lubrication oil	Leaks, oil level, dirt	Engine oil
	Fuel tank Fuel system	Leaks, fuel level, presence of dirt	Gasoline

		Leaks, wear, loose parts	
After first 20 hours	Engine oil	Replace only after the first 20 hours.	Engine oil
Every 50 hours	Spark plug Engine oil	Clean, adjust gap Replace	Engine oil
Every 80 to 100 hours	Primary element	Cleaning	Engine oil(25-30cc)
Every 100 to 150 hours	Secondary element	Cleaning	Neutral detergent (water washing and dry)
Every 200 hours	Main body lubrication oil	Replace only after the first 50 hours.	Engine oil
Every 2 years	Fuel hose	Replace	

## Troubleshooting

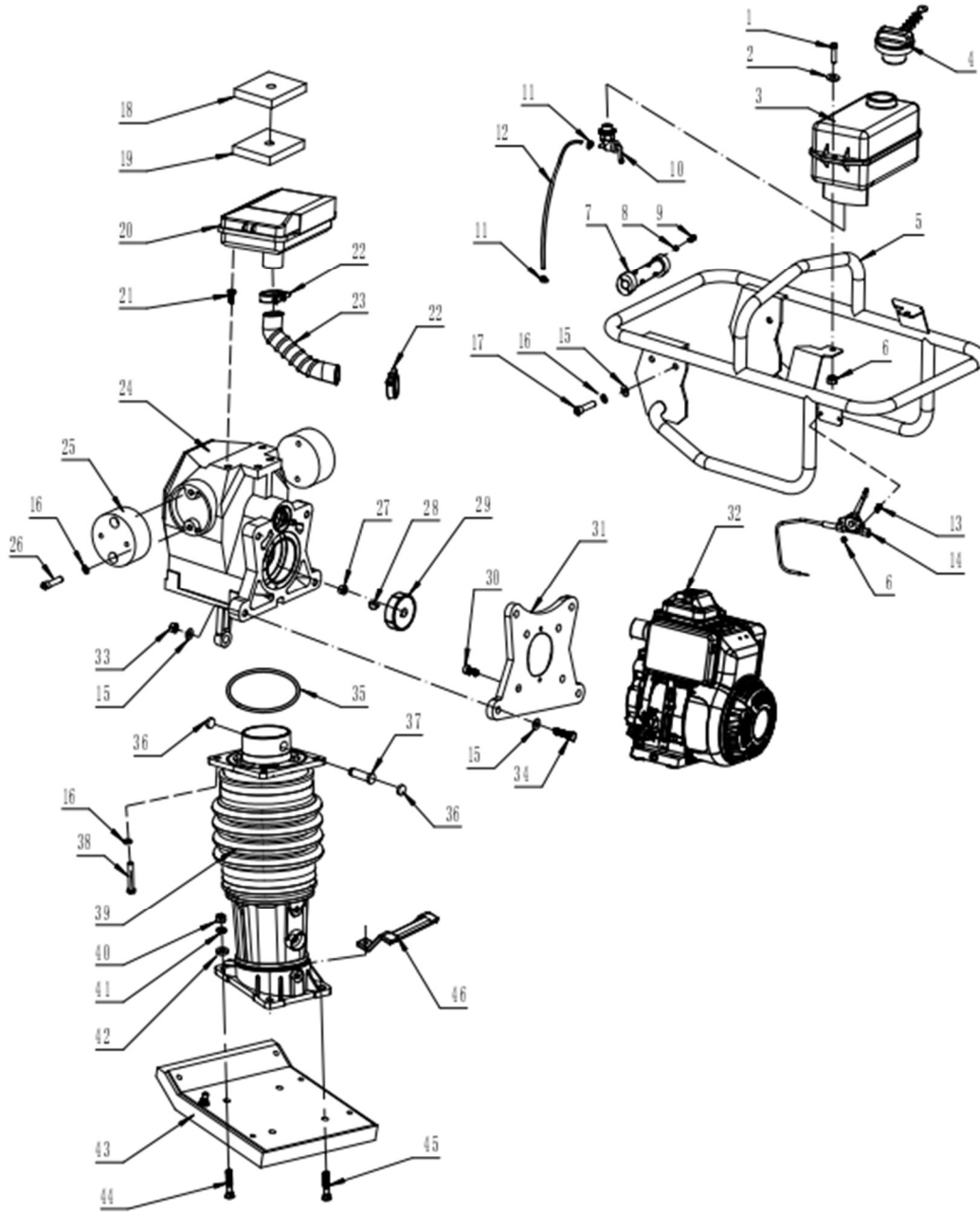
### ⚠ WARNING

**Follow all safety precautions whenever diagnosing or servicing the equipment or engine**

Failure	Possible Cause	Corrective Action
Engine does not start	There is no fuel in the tank	Supply fuel
	The fuel valve is closed	Open fuel valve
	Engine stop switch is OFF	Turn switch to ON
	There is no oil in the carburetor	Supply oil
	The spark plug is broken or has too much carbon deposit	Clean the spark plug or replace it
	The fuel filter is plugged	Clean the fuel filter or replace it (see engine manual)
	The spark plug is fouled	Clean the spark plug or replace it

Engine does not accelerate or runs poorly	The air filters are dirty	Clean the air filters or replace them
	Carburetor cannot supply oil freely	Clean the carburetor
	Piston ring, air door wired	Refer to the engine manual
Engine runs but rammer does not tamp	Clutch worn out	Replace the clutch
	The connecting rod or gear is broken	Replace the rod or gear
	There is too much oil in the ramming system	Remove some of the oil
Engine runs but rammer jumps erratically	Nuts/fasteners in the transmission or rammer are loose	Check all nuts and fasteners and tighten any that are loose
	Spring in the rammer is broken	Replace the spring
	The engine speed is too low	Set the accelerator handle to full running position

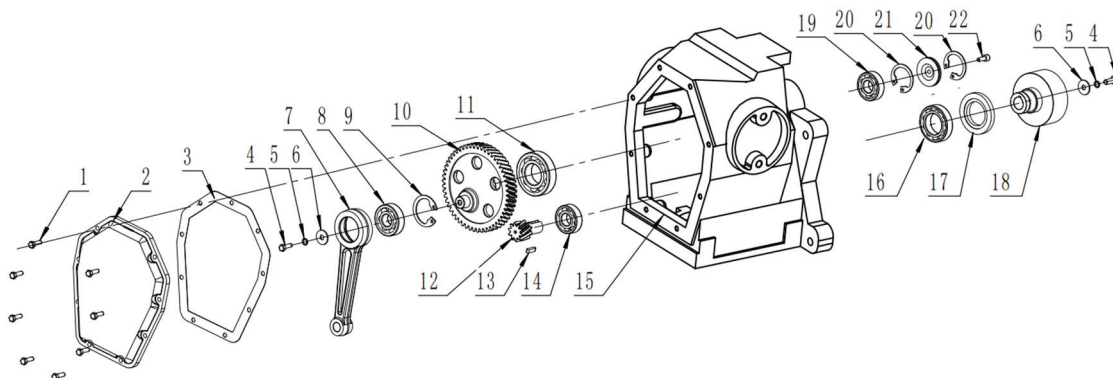
# Parts Diagram 1



## Parts List 1

Reference	Part Number	Part Description	Quantity
1	589831501	Flange Bolt M6*25	2
2	589831502	Medium Flat Washer Ø8*22	2
3	589831503	Fuel Tank Assembly(EPA)	1
4	589831504	Fuel Tank Cap(EPA)	1
5	589831505	Protection Frame	1
6	589831506	Flange Nut M6	4
7	589831507	Plastic Handle	1
8	589831508	Locked Nut M5	4
9	589831509	Inner Hexagon Bolt M5*16	4
10	589831510	Fuel Cock Assy	1
11	589831511	Clamp Ø9	2
12	589831512	Fuel Hose	1
13	589831513	Countersunk square neck Bolt M6*16	4
14	589831514	Throttle lever Assembly	1
15	589831515	Flat Gasket Ø10	12
16	589831516	Spring Gasket Ø10	12
17	589831517	Inner Hexagon Bolt M10*25	4
18	589831518	Air Filter(Up)	1
19	589831519	Air Filter(Down)	1
20	589831520	Air Filter Case	1
21	589831521	Countersunk square neck Bolt M8*12	4
22	589831522	Clamp for Air filter Hose	2
23	589831523	Air filter Hose	1
24	589831524	Crank Case Assembly	1
25	589831525	Shock Absorber	2
26	589831526	Inner Hexagon Bolt M10*20	4
27	589831527	Nut M12*1.25	1
28	589831528	Half-moon Key 4*16	1
29	589831529	Clutch	1
30	589831530	Inner Hexagon Bolt M8*20	4
31	589831531	Flange	1
32	589831532	Honda Engine GXR120	1
33	589831533	Locked Nut M10	4
34	589831534	Flange Bolt M10*60	4
35	589831535	“O” Ring Ø160*6.5	1
36	589831536	Nylon Stopper	2
37	589831537	Connecting rod pin	1
38	589831538	Inner Hexagon Bolt M10*40	4
39	589831539	Cylinder Assy	1
40	589831540	Locked Nut(Thick) M12	4
41	589831541	Spring Gasket(white Zinc) M12	4
42	589831542	Flat Gasket Ø12	4
43	589831543	Tamping Plate	1
44	589831544	Countersunk square neck Bolt M12*70	2
45	589831545	Countersunk square neck Bolt M12*80	2
46	589831546	Grip Handle(Foot)	1

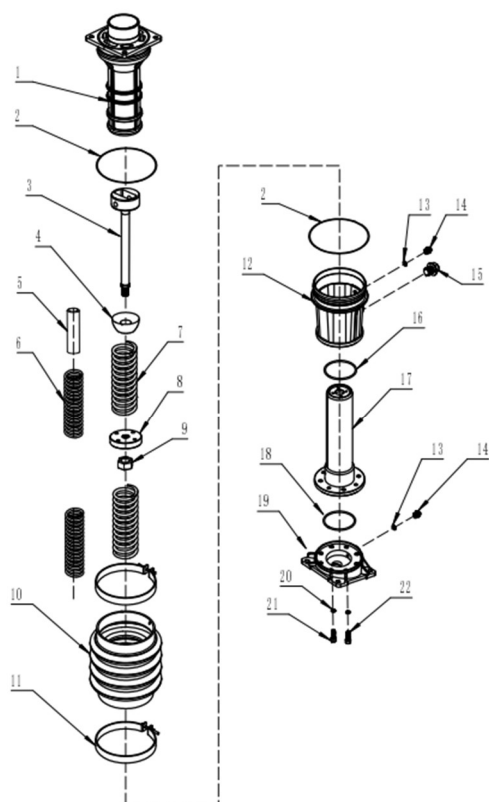
## Parts Diagram 2



## Parts List 2

Reference	Part Number	Part Description	Quantity
1	58983152401	Flange Bolt M6*18	8
2	58983152402	Crank case cover	1
3	58983152403	Paper gasket 0.5mm	1
4	58983152404	External hexagon bolt M8*16	3
5	58983152405	Spring Gasket Ø8	3
6	58983152406	Quenched Flat washer Ø8*24	3
7	58983152407	Connecting rod	1
8	58983152408	Deep groove ball bearing 6304	1
9	58983152409	Clip Ø52	1
10	58983152410	Big gear	1
11	58983152411	Deep groove ball bearing 6207	1
12	58983152412	Small Gear	1
13	58983152413	Key 5*20	1
14	58983152414	Deep groove ball bearing 6204	1
15	58983152415	Crank Case	1
16	58983152416	Deep groove ball bearing 6007-2RS	1
17	58983152417	Oil Seal TC40*68*8 TC40*68*8	1
18	58983152418	Clutch support drum	1
19	58983152419	Deep groove ball bearing 6204-RS	1
20	58983152420	Clip Ø47	2
21	58983152421	Aluminum Closed Cover	1
22	58983152422	Inner Hexagon bolt M6*20	1

## Parts Diagram 3



## Parts List 3

Reference	Part Number	Part Description	Quantity
1	58983153901	Outside cylinder	1
2	58983153902	"O" Ring 160*4	2
3	58983153903	Piston Rod	1
4	58983153904	Bowl Gluesheath	1
5	58983153905	Column Gluesheath	1
6	58983153906	Small Spring Ø6.5*56*230	2
7	58983153907	Big Spring Ø9*76.5*230	2
8	58983153908	Piston cap	1
9	58983153909	Piston cap nut M18*1.5	1
10	58983153910	Bellow(Black)	1
11	58983153911	Bellow clamp	2
12	58983153912	Protection sleeve	1
13	58983153913	Copper Gasket Ø12	2
14	58983153914	Hexagon Oil plug M12*1.25	2
15	58983153915	Oil Lever gague M16*1.5	1
16	58983153916	"O" Ring 102*3	1
17	58983153917	Inside cylinder	1
18	58983153918	"O" Ring 103*4	1
19	58983153919	Foot plate	1
20	58983153920	Spring Gasket Ø10	8
21	58983153921	Inner Hexagon bolt M10*40	4
22	58983153922	Inner Hexagon bolt M10*25	4

## 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 NorthStar 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.



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