



7 HP Single-Direction Plate Compactor with Powerhorse 212cc Engine

Owner's Manual



! WARNING: Read and understand all instructions, warnings, and cautions before using this product. Failure to follow the instructions, warnings, and cautions may result in serious personal injury and/or property damage.

Item #52313

SAVE THESE INSTRUCTIONS

Thank you very much for choosing a Powerhorse® product!

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

Item Number: _____

Serial Number/Lot Date Code: _____

Purchase Date: _____

Save the receipt, warranty, and this manual.

This plate compactor is designed for certain applications only. The distributor cannot be responsible for issues arising from modification or use of this product in 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

The Powerhorse Single-Direction Plate Compactor is designed to compact granular soils and crushed aggregate. A Powerhorse 7 HP, 212cc OHV engine powers the 21 ½ inch x 17 ¾ inch compacting plate.

Technical Specifications

Compactor	
Item #52313	198 lbs
Centrifugal Force	3950 lbs
Vibration Frequency	5500 VPM
Travel Speed (depending on soil)	65 ft/min
Grade Ability	20 degree
Compacted Area (depending on soil)	6706 sq ft
Power Take-Off	7HP
Engine	
Engine Maker	Powerhorse
Engine Model	DH212
Output Power (max)	4.3kW @ 3600 RPM
Spark Plug	F7TC
Spark Plug Gap	0.7~0.8mm (0.028~0.03in)
Engine Speed - Full Load	3600 RPM
Engine Speed - Idle	1500 RPM (±100)
Air Filter	Paper/Foam
Engine Oil Type	SAE 10W-30
Engine Oil Capacity	0.63L
Fuel Type	Regular Unleaded Gasoline
Fuel Tank Capacity	3.8L

Optional Accessories	
#52504	Rubber Mat
#52492	4" Wheel Kit
#52493	6" Wheel Kit

Important Safety Information

⚠WARNING

- 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 plate compactor. Always be aware of the environment and ensure that the plate compactor is used in a safe and responsible manner.
- DO NOT allow persons to assemble or operate this plate compactor until they have read this manual and have developed a thorough understanding of how the plate compactor works.
- 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 safer 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.

⚠WARNING

CARBON MONOXIDE HAZARD

- Using an engine indoors CAN KILL YOU IN MINUTES.
- Engine exhaust contains carbon monoxide. This is a poison you cannot see or smell.
- NEVER use inside a home or garage, even if doors and windows are open.
- Only use OUTSIDE and far away from windows, doors, and vents.

⚠WARNING

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.

⚠WARNING

WORK AREA SAFETY

- Inspect the work area before each use. Keep the work area clean, dry, free of clutter, and well-lit. Cluttered, wet, or dark work areas can result in injury.
- Do not use the plate compactor where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The plate compactor can create sparks, which may ignite the flammable liquids, gases, or dust.
- Do not allow the plate compactor to come into contact with an electrical source. The plate

compactor is not insulated and contact will cause electrical shock.

- Keep children and bystanders away from the work area while operating the plate compactor. Do not allow children to handle the plate compactor.
- 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 plate compactor. Do not use the plate compactor while you are tired or under the influence of drugs, alcohol, or medication.
- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.
- Use ANSI Z87.1-approved safety goggles or safety glasses with side shields, or when needed, a face shield. Use a dust mask in dusty work conditions. Also use non-skid, steel toed 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.
- Do not smoke, use matches, or produce an open flame around the plate compactor. Fuel is flammable.
- Do not touch hot surfaces of the plate compactor.
- Equipment can tip over when moving, causing injury.
- Persons not operating the plate compactor should be at least 10 feet away while it is in use.
- Engine exhaust contains carbon monoxide. This is a poison you cannot see or smell. NEVER use in enclosed areas.
- Do not operate without guards in place.

⚠CAUTION

COMPACTOR USE AND CARE

- Do not force the plate compactor. 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 plate compactor will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the plate compactor with a damaged part.
- Put the power switch in the locked or off position before making any adjustments, changing accessories, or storing the plate compactor. Such preventive safety measures reduce the risk of starting the plate compactor accidentally.
- Store the plate compactor when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the plate compactor 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 product.

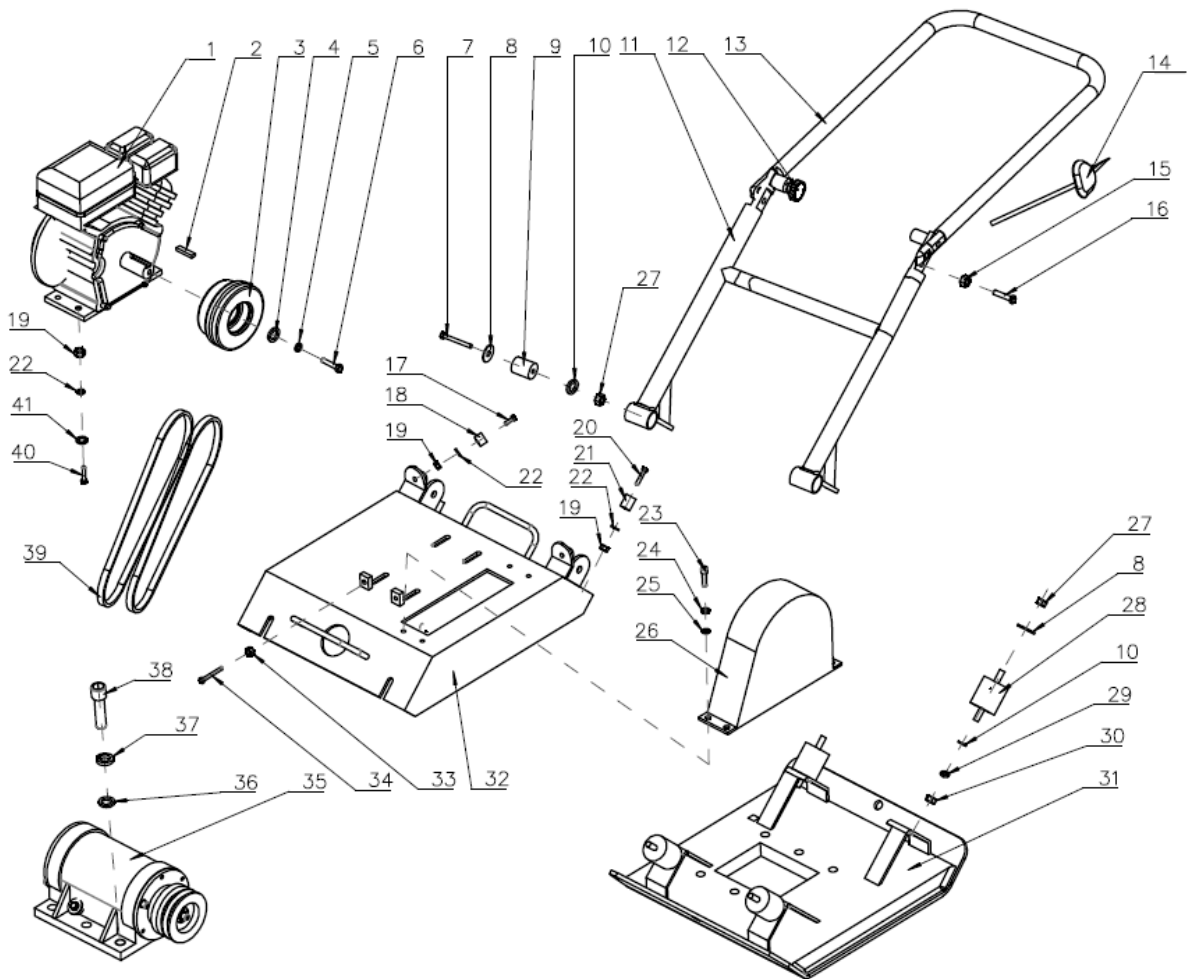
- Keep guards in place and in working order. Never operate the plate compactor without the guards in place.
- Do not leave the plate compactor running unattended.
- Shut off the fuel valve when the engine is not in use.
- Only use the recommended fuel to avoid damaging the equipment.
- Oil does not come with the machine. Add oil to the engine before the first use.
- Check oil levels before operating the plate compactor.

Specific Operation Warnings

⚠WARNING

- Only trained personnel are permitted to operate the compactor
- DO NOT operate if a person is under the influence of drugs or alcohol.
- DO NOT operate in the presence of explosives or flammable substances such as liquids, gases, or dust. Gasoline powered engines may ignite dust or fumes causing an explosion.
- DO NOT leave the compactor unattended while it is running.
- The engine must be turned off and secured against re-starting by pulling out the spark plug before maintenance and servicing.
- Keep hands, feet, and tools clear from the compactor base while operating.
- Only use a suitable means of transport and lifting devices with sufficient loading capacity.
- Securely fasten the plate compactor before transportation. Unsecure fastening of the unit may cause damage or injury during transportation.
- Do not transport the compactor by a motor vehicle with fuel in its fuel tank.
- DO NOT refuel the engine while it is still hot. Fuel is flammable.
- DO NOT service the engine while it is still hot.
- Operate compactor with both hands.
- Not for use by or around children.

Main Parts of Plate Compactor



01	Engine
03	Clutch Assembly
11	Lower Handle
13	Upper Handle
14	Throttle Line Assembly
18	Handle Damper
26	Belt Cover
31	Bottom Plate
32	Engine Support Plate
35	Vibrator Unit
39	Belt

Before Each Use

WARNING

To avoid a risk of an explosion or fire from a fuel spill, only add fuel to the tank when the engine is stopped and has cooled down. In the event of a fuel spill, DO NOT attempt to start the engine until the fuel residue has been completely cleaned up, and the area surrounding the engine is dry.

Before Starting the Plate Compactor

- Read and understand the safety and operating instructions of the engine's Owner's Manual.
- Check:
 - Oil level in engine
 - Fuel level
 - Condition of air cleaner
 - Tightness of external fasteners
 - Condition of fuel lines
- Inspect the plate compactor:
 - Check all the bolts, nuts, and belts. Tighten any if necessary.
 - Check the general condition of the plate compactor and its components. Clean any foreign material (dirt, fragments, etc.) from the unit that may have been thrown off, causing injury.

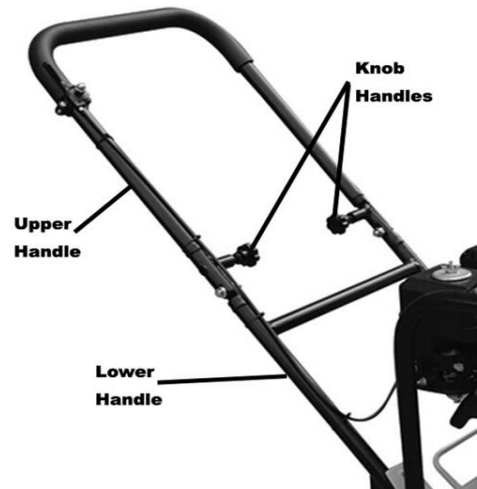
Operating Instructions

⚠WARNING

Read and understand both the engine and the plate compactor Owner's Manuals before starting or operating the unit to avoid incorrect operation that may result in damage or injury.

Handle Assembly

1. Loosen the Knob Handle on each side of the Upper Handle.
2. Swing the Upper Handle until it points straight out from the Lower Handle.
3. Tighten both Knob Handles securely.



Starting the Engine

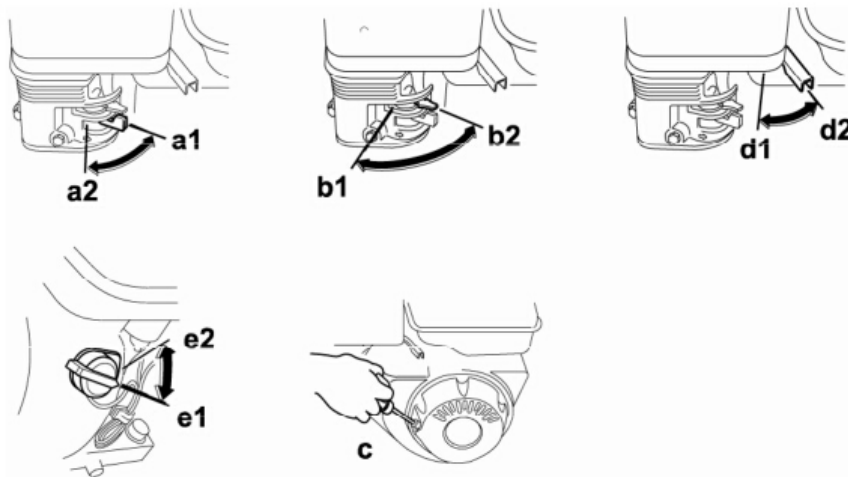
1. Open the fuel valve by moving the lever to the right (a1).

Note: If the engine is cold, move the choke lever to the CLOSE position (b1). If the engine is hot, set the choke to the OPEN position (b2).

2. Turn the engine switch to the ON position (e1).
3. Open the throttle by moving it slightly to the left (d1).
4. Pull the starter rope (c).

Note: If the oil level in the engine is low, the engine will not start. If it doesn't start, add oil to the engine. Some engines are equipped with an oil alert light that will come on while pulling the starter rope.

5. Open the choke as the engine warms (b2).
6. Open the throttle fully to operate.



Graphic 3

⚠ WARNING

Read and understand both the engine's and the plate compactor's Owner's Manual before starting or operating the plate compactor to avoid incorrect operation that may result in damage or injury.

Note: Whenever high speed operation (over 3600 RPM) is NOT required, slow the engine by moving the speed control lever to a low position to save fuel and extend the life of the equipment.

7. Once the engine has started, firmly grasp the plate compactor's handle bar with one hand then quickly turn the throttle lever to high speed. The engine speed should be around 2,300 RPM and therefore engage the centrifugal clutch.

Note: Always move the throttle lever quickly without hesitation, because increasing the engine speed slowly will cause the clutch to slip.

8. Firmly grasp the plate compactor's handle bar with both hands as it begins to move forward.

Walk behind the unit watching for any large objects or foreign matter that might cause damage to the compactor or shoot out causing bodily injury. If objects are in the travel path, slow the engine (stopping compactor travel) and remove the object before proceeding.

The compactor's travel speed may slow down on soils that contain clay; however, there may be cases where the travel speed slows because the vibrator/compaction plate does not leave the ground surface easily due to the composition of the soil. To correct this problem:

- With the compactor turned off, check the vibrator plate to see if clay or other materials have been lodged in the mechanism. If so, clean the plate mechanism with water and remove the material.
- Remember that the plate compactor does not work efficiently on clay or very moist soil.
- If the soil is very moist, dry it to a suitable level or perform compaction twice.

Stopping the Engine

⚠ CAUTION

Never stop the engine abruptly from full speed. Slow the speed and allow the engine to run idle for a few minutes. This is necessary to prevent the moisture of the outside air from getting into the engine carburetor.

- Slow the engine to idle by turning the accelerator lever fully counterclockwise.
- Shift the engine On/Off switch to the off position.
- Close the fuel valve.

See the engine's Owner's Manual for further information.

After Each Use

When the equipment will be idling for longer than 20 days, prepare the engine for storage with the following process:

1. Clean

Wait for the engine to cool, then clean engine with a dry cloth.

Note: Do not clean using water. The water will gradually enter the engine and cause rust damage. Apply a thin coat of rust preventive oil to all metal parts.

2. Fuel

To protect the fuel tank during storage, fill the tank with gasoline that has been treated with a fuel stabilizer additive.

3. Lubricate

a. Change the engine oil.

b. Clean out the area around the spark plug. Remove the spark plug and pour one tablespoon of engine oil into the cylinder through the spark plug hole.

c. Replace the spark plug, but leave the spark plug cap disconnected.

d. Pull the Starter Handle to distribute oil to the cylinder. Pull the recoil starter until you feel resistance. This is when the piston is on the compression stroke where the intake and exhaust valves are closed. Keeping the intake and exhaust valves closed will prevent rust, as moisture cannot get inside the combustion chamber.

4. Storing

Cover the unit and store it in a dry, level, well-ventilated area out of reach of children. The storage area should also be away from ignition sources, such as water heaters, clothes dryers, and furnaces.

Note: During extended storage periods the engine must be started every 3 months and allowed to run for 15-20 minutes or the warranty is VOID.

5. After Storing

After storing, before starting the engine, keep in mind that untreated gasoline will deteriorate quickly. Drain the fuel tank and change to fresh fuel if the untreated gasoline has been sitting for a month, if treated gasoline has been sitting beyond the fuel stabilizer's recommended time period, or if the engine does not start.

Optional Accessories

Item Number	Description
#52492	4" Wheel Kit
#52493	6" Wheel Kit
#52504	Rubber Bottom Mat

Maintenance

⚠WARNING

Check that the plate compactor engine is turned off and cooled before attempting any maintenance, cleaning, or inspection. Performing maintenance on an operating plate compactor can cause injury.

Maintenance Interval	Maintenance Point
Loose or Missing Screws	Every 8 hours (every day)
Damaged Parts	Every 8 hours (every day)
Check Throttle Cable Assembly Bolts for Loosening	Every 8 hours (every day)
Vibrator Oil Check	Every 100 hours
Vibrator Oil Replacement	Every 300 hours
V-Belt (Clutch) Check	Every 200 hours
Battery Check	Every 100 hours

Changing the V-Belt

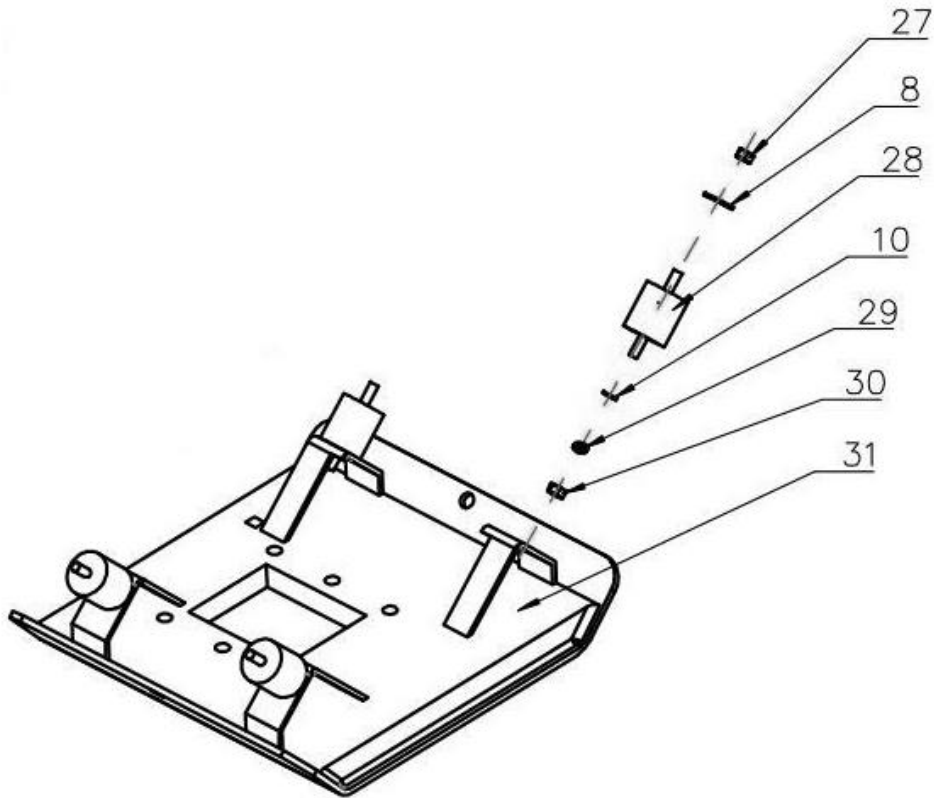
⚠WARNING

Check that the plate compactor engine is turned off and cooled before attempting to change the V-belt. Changing the V-belt while the unit is still operating may cause injury.

1. Turn off the engine.
2. Loosen, but do not remove, the four Nuts (40) that hold the Engine (01) to the Engine Support Plate (32).
3. Using a Nut (33) and Bolt (34), slide the Engine (01) towards the Driver Pulley (13 in Vibratory Housing Assembly) until the Belt (39) can be removed.
4. Remove the old Belts, then install new ones.
5. Check the alignment of the two pulleys (side by side - in the same level/surface).
6. Using Nut (33) and Bolt (34), slide Engine (01) away from Driver Pulley () until Belt is properly tensioned.
7. Re-tighten the four Nuts (40) that hold the Engine (01) to the Engine Support Plates (32).

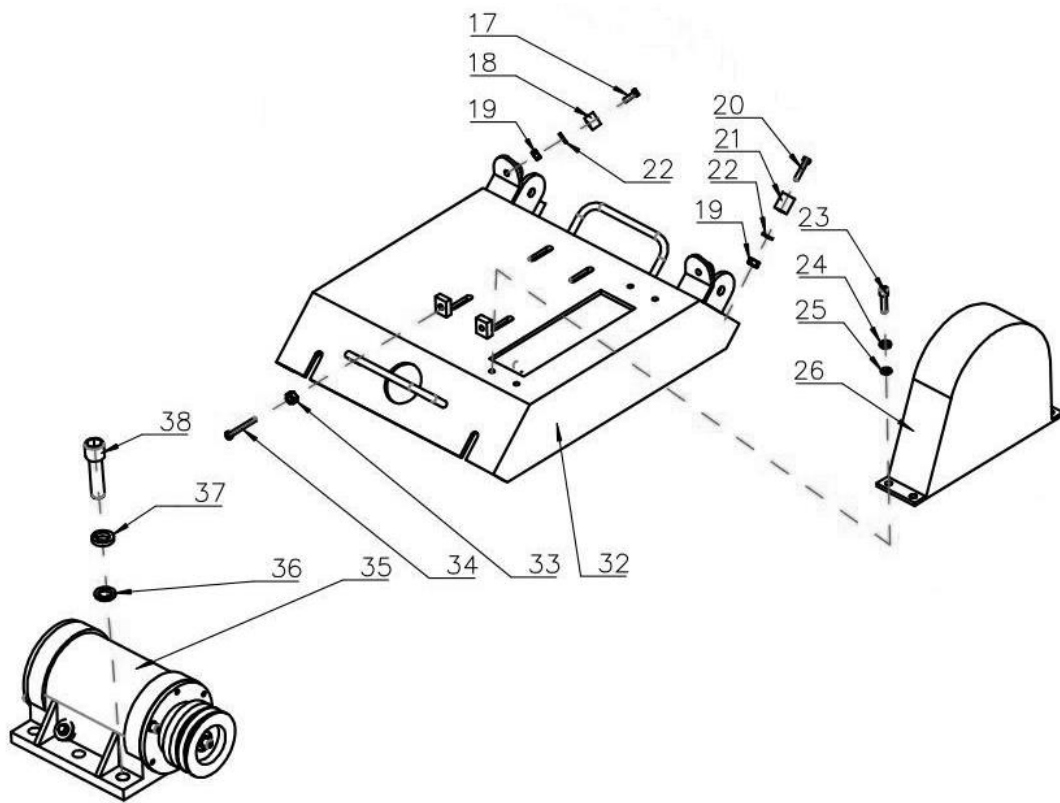
Parts Diagram

Base Plate



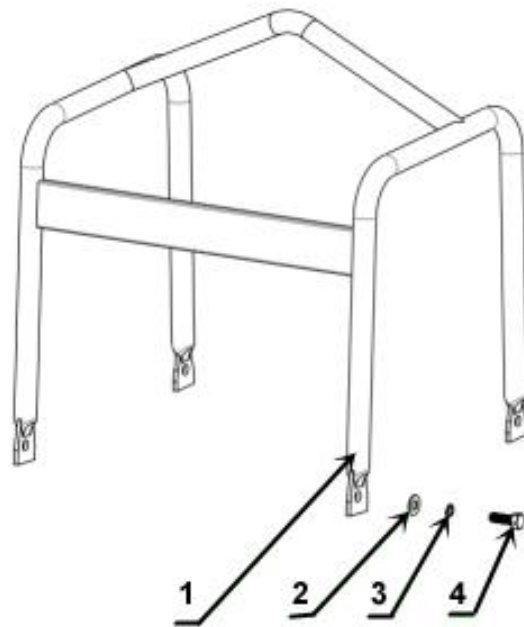
Part Number	Description	Qty.	Specification
8	Enlarged Flat Gasket	6pcs	12*35
10	Flat Gasket	2pcs	Ø 12
27	Locked Nut	6pcs	M12
28	Shock Absorber	4pcs	50*60
29	Spring Gasket	4pcs	Ø12
30	Nut	4pcs	M12
31	Bottom Plate	1pc	540*450

Engine Base Plate



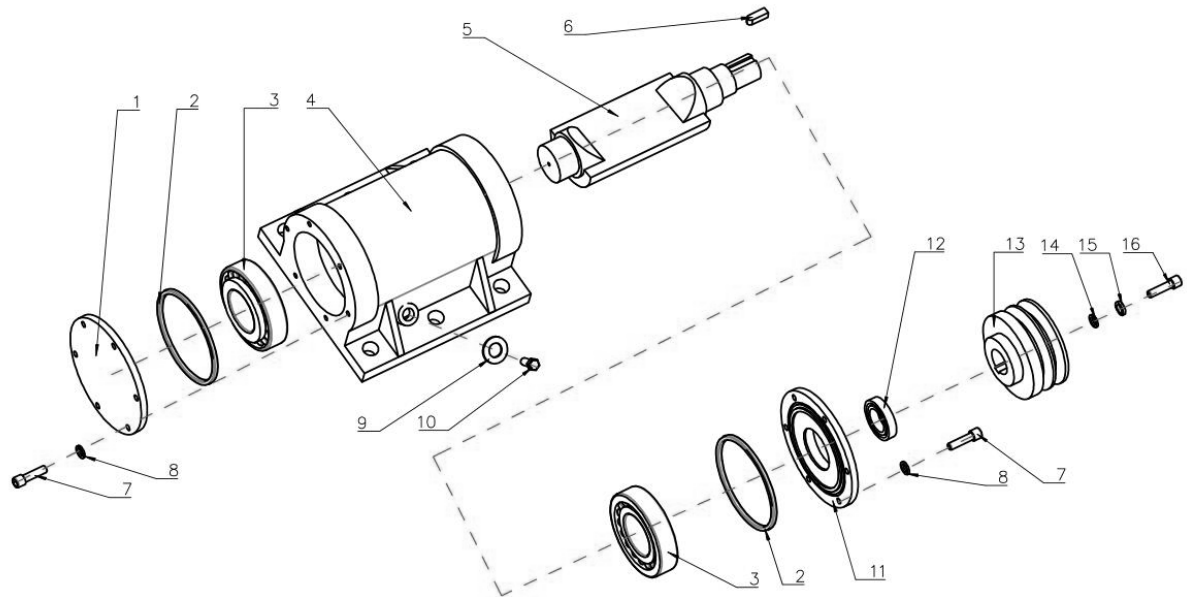
Part No.	Description	Qty.	Specification
17	Flat Cross Bolt	4 pcs	M8*25
18	Handle Damper	2 pcs	35*15
19	Locked Nut	8 pcs	M8
20	External Hexagon Bolt	2 pcs	M8*35
21	Handle Lower Damper	2 pcs	35*35
22	Flat Gasket	8 pcs	Ø8
23	External Hexagon Bolt	2 pcs	M8*20
24	Spring Gasket	2 pcs	Ø8
25	Medium Flat Gasket	2 pcs	8*24
26	Belt Cover	1 pc	240*190
32	Engine Support Plate	1 pc	490*425
33	Nut	2 pcs	M8
34	External Hexagon Bolt	2 pcs	M8*40
35	Exciter	1 pc	04-01
36	Flat Gasket	6 pcs	Ø16
37	Spring Gasket	6 pcs	Ø16
38	Inner Hexagon Bolt	6 pcs	M16*40

Engine Frame



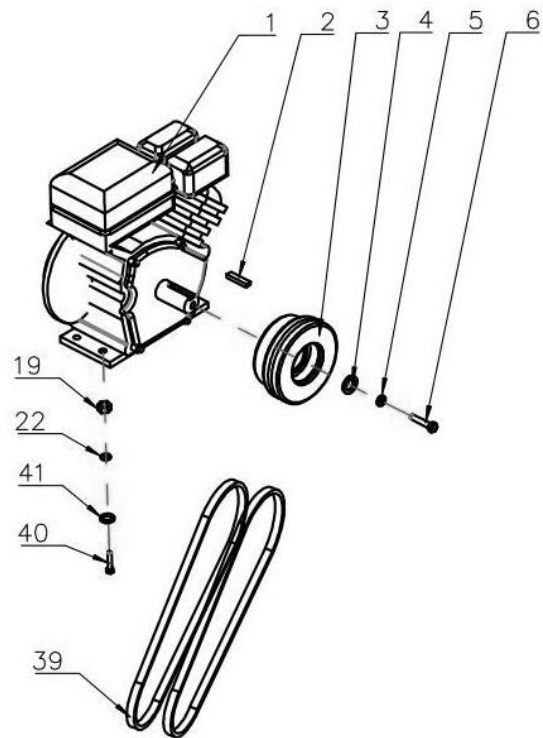
Part No.	Description	Qty.	Specification
1	Engine Frame	1	Metal
2	Flat Gasket	4	10mm
3	Spring Gasket	4	10mm
4	External Hexagon Bolt	4	M10*30

Vibratory Housing Assembly



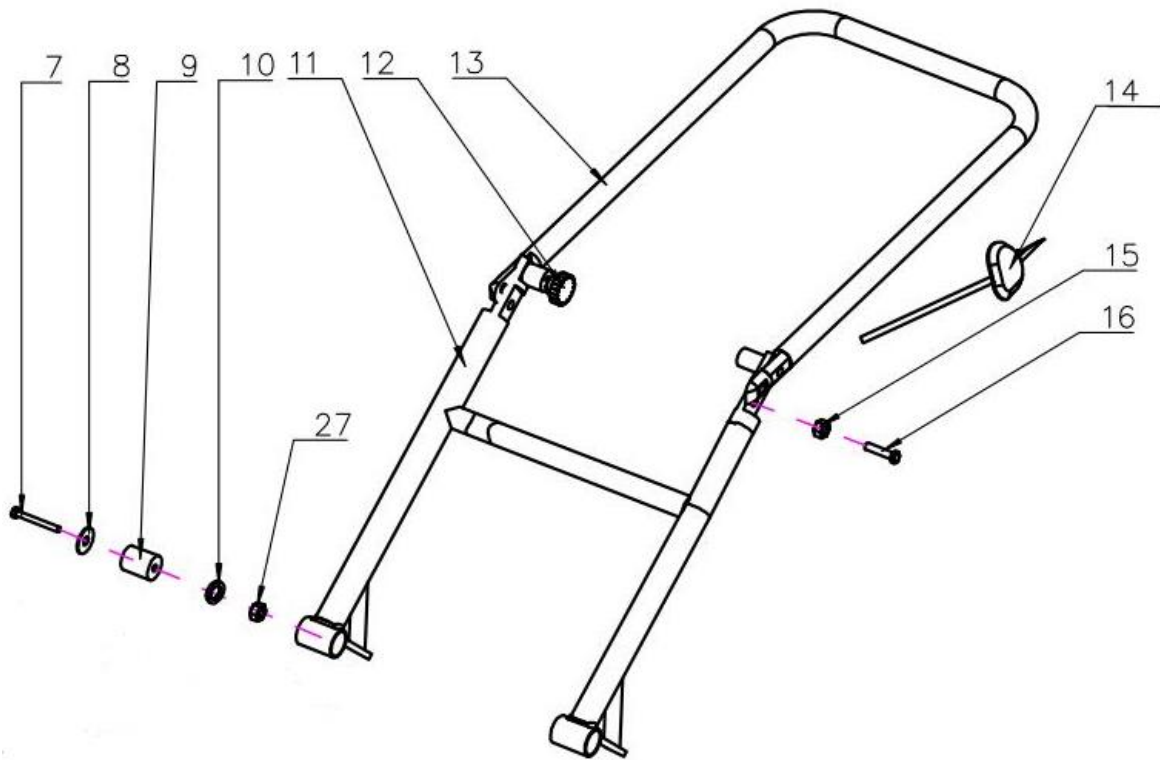
Part No.	Description	Qty.	Specification
1	Case Cover (shut-off)	1pc	04-03
2	O-Ring	1pc	110*3.1
3	Bearing	2 pcs	6309
4	Vibrating Case	1 pc	04-01
5	Eccentric Shaft	1 pc	04-04
6	Key	1 pc	8*30
7	Inner Hexagon Bolt	12 pcs	M6*20
8	Flat Gasket	12 pcs	Ø6
9	Copper Gasket	1 pc	Ø14
10	Oil Drainage Bolt	1 pc	M14*1.5
11	Case Cover (pulley)	1 pc	04-02
12	Oil Seal	1 pc	35*52*7
13	Pulley	1 pc	04-06
14	Spring Gasket	1 pc	10*35
15	Enlarged Flat Gasket	1 pc	10*35
16	Inner Hexagon Bolt	1 pc	M10*25

Clutch and Belt



Part No.	Description	Qty.	Specification
1	Engine	1 set	DH212
2	Key	1 pc	5*40
3	Clutch Assembly	1 pc	128*20
4	Conical Flat Gasket	1 pc	8x30x6
5	Spring Gasket	1 pc	Ø 8
6	External Hexagon bolt	1 pc	M8*30
19	Locked Nut	8 pcs	M8
22	Flat Gasket	8 pcs	Ø8
39	Belt	2 pcs	A-737
40	External Hexagon Bolt	4 pcs	M8*45
41	Enlarged Flat Gasket	4 pcs	8*30

Handle



Part No.	Description	Qty.	Specification
7	External Hexagon Bolt	2 pcs	M12*70
8	Enlarged Flat Gasket	6 pcs	12*35
9	Handle Glue Sheath	2 pcs	25*14*43
10	Flat Gasket	2 pcs	Ø 12
11	Lower Handle	1 pc	350*365
12	Locked Pin Assembly	2 sets	12*35
13	Upper Handle	1 pc	410*365
14	Throttle Line Assembly	1 set	0.9m
15	Locked Nut	2 pcs	M10
16	Flange Bolt	2 pcs	M10*35
27	Locked Nut	6 pcs	M12

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	Remedial Measure
Motor will not start	Switch	Check the ON/OFF switch to ensure that it is switched ON.
	Fuel	Check the fuel supply.
	Oil Level	If a motor is fitted, check the crankcase oil level as an oil sensor device is fitted to the motor which prevents starting and stops the motor when the oil level is low.
	Spark Plug	Ensure the spark plug ignition lead is connected.
	Carburetor	Check the carburetor jet and bowl to ensure they are clean.
Motor stops	Fuel	Check the fuel supply.
	Fuel Cock	Check that the fuel cock is turned on.
	Air Filter	Check the condition of the air filter.
Gas motor lacks power	Air Filter	Check the condition of the air filter.
	Spark Plug	Check the condition of the spark plug.
Insufficient vibration	Belt	Check for a slipping or a missing belt.
	Motor Speed	Check that the motor governed speed is 3,500 r/min.
Machine is not moving freely	Plate Underside	Check the underside of the plate for material build-up.

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 will be required: model number, serial number/lot date code, description, and reference number.
- The distributor reserves the rights to make design changes and/or 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 **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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