

POWER HORSE™

Walk Behind Blower, 212cc, 4 Cycle

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# 6959423

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

BEST APPLICATION – The Power Horse mini cultivator is great for Lawn & Garden applications such as digging, soil cultivation, aeration, creating seedbeds and weed removal. It has plenty of power to weed, work-in fertilizer, or aerate soil. It is designed to work in all kinds of pre-tilled soil.

Packaging Contents

Lower Handle (1)	Handle Assembly(1)	10-inch Inflatable Wheel (2)
8-inch inflatable wheel (1)	Bolt M8X40 (4)	Pipe Bolt M8X45 (2)
Saddle-shaped Gasket (6)	Knob,M8 (2)	Bolt M8X16 (4)
Combination Bolt M5X20 (2)	Nut M5 (2)	Self-tapping Screw ST5.5X14 (4)
Self-tapping Screw ST4X12 (2)	Nut M10 (2)	Flat Washer ϕ 16* ϕ 28*2.0 (4)
Screw (1)	4mm Hex Wrench (1)	Open-end Wrench12-14 (1)

Technical Specifications

VENDOR: Provide the technical specifications of the product. Replace the information in the table (example below) with the correct specifications. Add any additional information.

Property	Specification
Engine	212 cc, 4 cycle, Full-Crank
Air Speed	160 MPH
Air Volume	1400 CFM
Oil Capacity	500ml
Gasoline Capacity	3.6L
Full Speed	3500-3600 RPM
Oil Type	10W-30
Spark Plug .	F7RTC,F7TC,NGK
Net Weight	38.6 kg

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 people 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.
- 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, hard hat, gloves, dust collection systems, and hearing protection when appropriate. This applies to all people in the work area.
- Do not overreach. Keep proper footing and always 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 conditions 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.

Assembly Instructions

⚠WARNING

- Do NOT place the cultivator on a high surface where it can fall and cause property damage or personal injury.

1. Fan – Rotating element which generates air flow
2. Fan Housing – Outer component which houses the fan
3. Intake Guard – Prevents fingers, hands, or large debris from entering the fan housing and contacting the fan blades
4. Flow Angle Adjustment – Vertically adjusts the direction of air flow between 3 positions: level, 15 degrees up, and 15 degrees down.
5. Front Swivel Wheel – 360 degree swiveling wheel to allow for maneuverability.
6. ON/OFF Switch – Stops the engine when turned to “OFF”. Must be turned to “ON” for engine to start and run.
7. Muffler – Location of engine exhaust.
8. Air Filter – Removes debris and contaminants from intake air, allowing engine to run smoothly and maintain engine life.
9. Recoil Starter Handle – The engine is equipped with an easy pull recoil starter.
10. Spark Plug/Spark Plug Wire – Provides spark to ignite air/ fuel mixture. The Spark Plug Wire must be disconnected and moved away from the Spark Plug when servicing the unit.



Figure 1

Operating Instructions

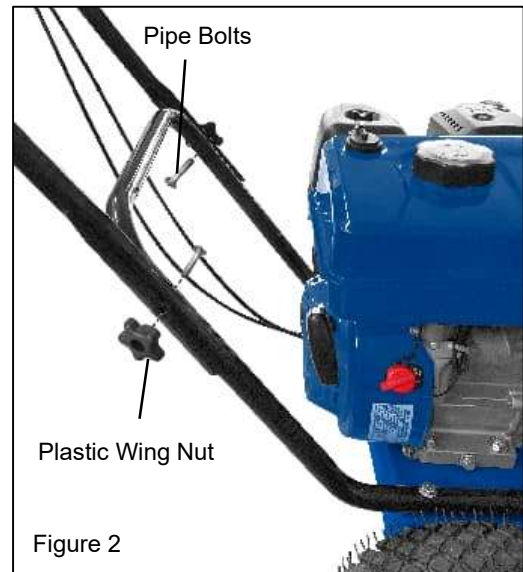
HOW TO REMOVE BLOWER FROM CARTON

1. Remove all parts and packaging components.
2. Use a utility knife to cut all 4 vertical edges and lay the side panels flat around the blower.
3. Remove any remaining packaging.
4. Roll the unit out from the carton, and place on a hard level surface.

HOW TO ASSEMBLE THE HANDLE

NOTE: There are two positions in which the handle can be attached – a high position and a low position. (See Figure 2)

1. Assemble the handle tabs into the holes on the lower frame tubing. Use the bottom holes for the low handle position. Use the middle holes for the high handle position. (See Figure 2)
2. Secure the handle onto the frame tubing with the (2) pipe bolts and the (2) plastic wing nuts. Firmly hand- tighten the wing nuts. (See Figure 2)



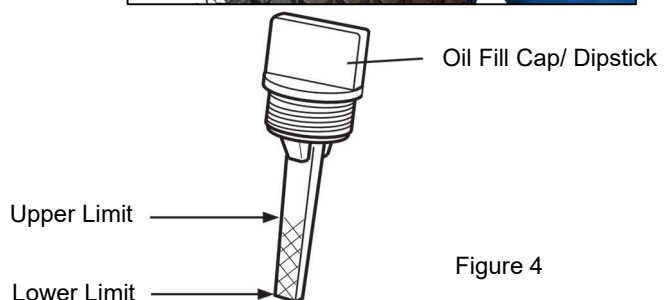
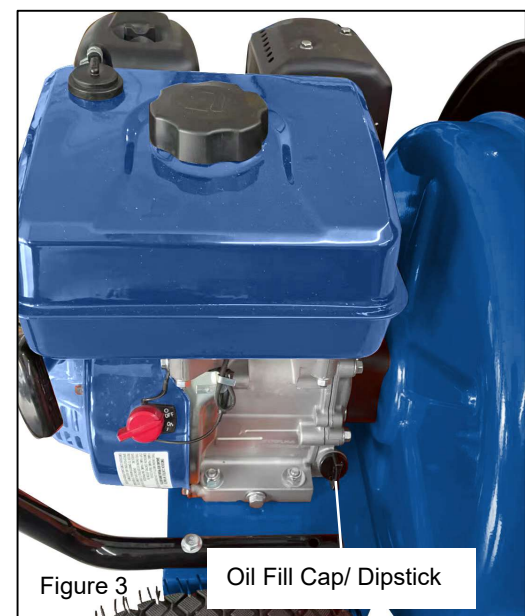
HOW TO CHECK OIL LEVEL AND FILL TO PROPER LEVEL

Before checking oil, make sure engine is off, and spark plug wire has been disconnected from spark plug.

1. Set walk behind blower on a level surface.
2. Remove the oil fill cap/dipstick and wipe clean with cloth. (See Figure 3)
3. Insert dipstick into fill spout but do NOT screw in.

Remove dipstick and check oil level.

4. When oil level is full, the oil will be at upper limit on dip stick. If oil level is near or below the lower limit, oil must be added. (See Figure 4)
5. Add oil slowly until the oil level reaches the upper limit of the dipstick. Use a funnel or nozzle to reduce spillage.
6. Replace and tighten dipstick.
7. Clean up any spilled oil.



⚠CAUTION

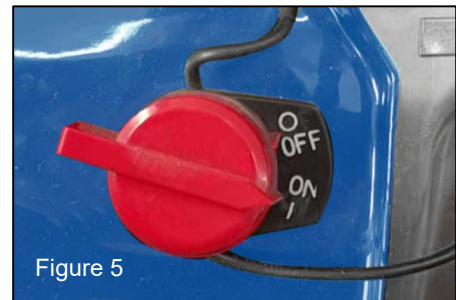
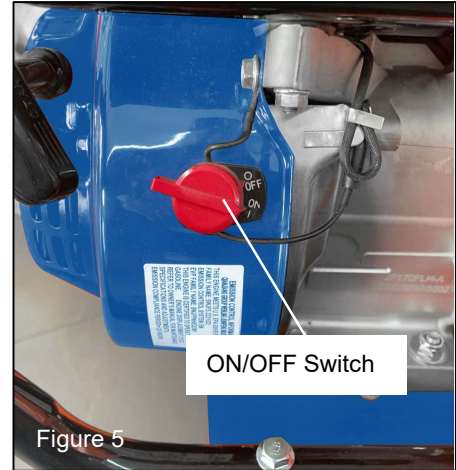
Frequently check oil level while filling. DO NOT OVER FILL. DO NOT UNDERFILL. Running engine at improper oil level will seriously damage engine.

STARTING THE ENGINE

1. Review ALL steps in the “BEFORE STARTING THE ENGINE” section.
2. Make sure the ON/OFF switch is in the ON Position (See Figure 5).

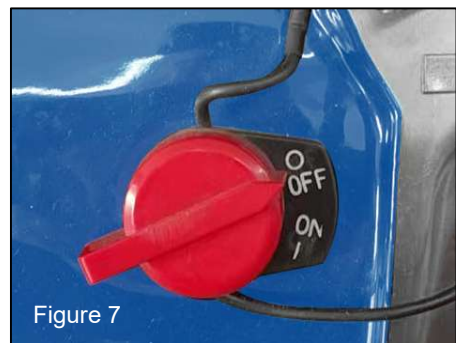
NOTE: Not required when re-starting a warm engine.

3. Firmly grip the Recoil Starter Handle with your right hand and grip the blower handle with your left hand. (See Figure 6).
4. Pull the recoil slowly, until you feel tension in the starter rope. Then quickly pull the recoil starter handle to completely unwind the starter rope. DO NOT allow the starter rope to snap back. Let the starter rope slowly rewind.
5. If engine fails to start after 3 or 4 attempts, push the primer bulb again 2 more times and retry.
6. If engine fails to start after 6 or more attempts, see instructions in the “Troubleshooting Chart”.



HOW TO STOP THE BLOWER

Move the ON/OFF Switch to the OFF position. (See figure 7)



HOW TO ADJUST THE FLOW ANGLE

Adjustment Method for Vertical Flow Angle:

Push the adjustment handle knob upwards to adjust the vertical air flow position



Adjustment Method for Horizontal Flow Angle :

Push the adjustment handle knob upwards to adjust the horizontal air flow position



After Each Use

To prevent fuel gum deposits and corrosion in the unit's carburetor and fuel system, it is highly recommended to use a fuel additive/stabilizer formulated for ethanol fuels. Follow the stabilizer manufacturer's instructions. Run the engine at least 5 minutes after adding stabilizer.

1. Allow engine to cool and empty the fuel tank before storing or transporting in vehicle. Use up remaining fuel in the carburetor by starting the engine and letting it run until it stops.
2. When not in use, store cultivator indoors in a dry location. Store cultivator above the reach of children or in a locked area out of the reach of children.
3. Store unit and fuel in areas where fuel vapors cannot reach sparks or open flames from water heaters, electric motors or switches, furnaces, etc.
4. When preparing the cultivator for storage or when cultivator will not be used for 30 days or more:
 - a. Empty fuel tank and use up remaining fuel in the carburetor by starting the engine and letting it run until it stops. Squeeze primer bulb several times to purge fuel from carburetor.
 - b. Inspect and clean the cultivator thoroughly.
 - c. Lightly oil all external metal surfaces.

- d. Remove the spark plug, place a few drops of 2-cycle engine oil into the cylinder. Pull the recoil starter several times to distribute the oil. Replace the spark plug.
- e. Inspect and clean air filter as required.

Maintenance

Spark Plug

Inspect the spark plug after every 10-15 hours of use; adjust spark plug gap and replace spark plug as necessary. Replace spark plug every year to maintain engine performance and easy starting.

To inspect or replace the spark plug:

1. Remove the insulated spark plug boot.
2. Use the spark plug wrench to remove the spark plug, by turning counter-clockwise.
3. Visually inspect the spark plug for cracks or damage. If damaged, replace spark plug with a recommended replacement (see "Product Specifications").
4. Clean carbon deposits. If excessive carbon build up, replace spark plug.
5. Adjust the spark plug gap to 0.024 – 0.028 in.(0.6 - 0.7mm).
6. Install the spark plug finger tight in the cylinder head, and then tighten firmly with the spark plug wrench.
7. Re-install the insulated spark plug boot.

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.

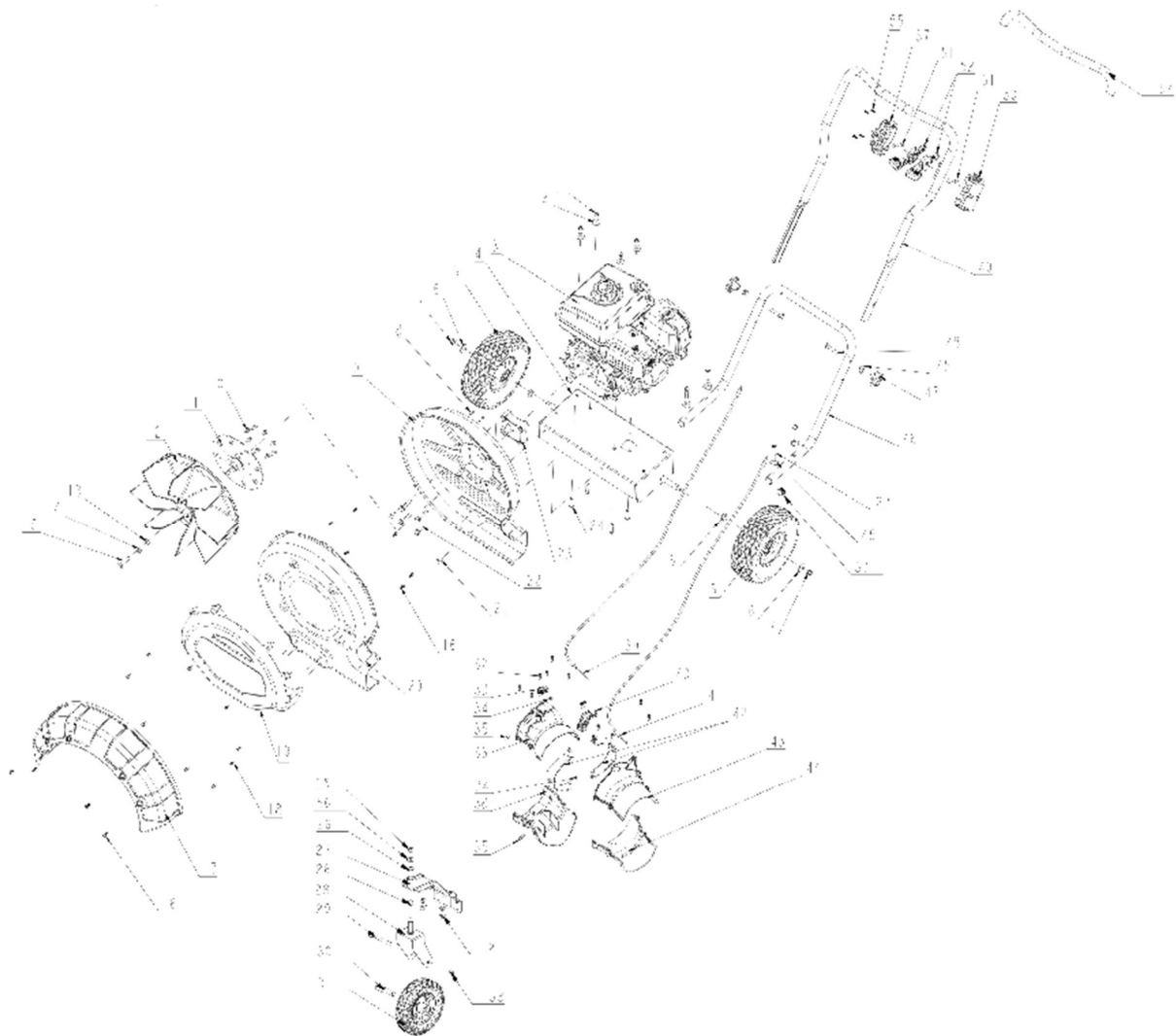
Maintenance Interval	Maintenance Point
Daily Before Operating	Inspect cultivator for damaged parts, and make sure all fasteners and guards are in place and secure.
After every 5 hours of use	Clean the air filter
After every 10 to 15 hours of use	Adjust the spark plug gap and replace the spark plugs as needed

Troubleshooting

Failure	Possible Cause	Corrective Action
Engine difficult to start	1. Out of fuel 2. On/Off Switch turned OFF 3. Engine is not primed.	1. Add fresh fuel 2. Turn switch to ON

	4. Spark plug wire disconnected 5. Fouled spark plug 6. Dirty Carburetor 7. Clogged air filter 8. Clogged fuel filter 9. Contaminated Fuel	3. Push primer bulb 3 times - waiting 2 seconds between each push. 4. Attach spark plug wire to spark plug 5. Remove spark plug. Inspect. Replace if necessary 6. Take unit to an authorized service center for Carburetor cleaning 7. Remove and clean air filter 8. Remove fuel filter. Inspect. Replace if necessary 9. Drain fuel tank. Clean fuel tank. Fill with fresh fuel
Engine Problems Engine smokes excessively Engine runs very "rough" Engine runs erratically Engine cannot maintain full speed	1. No Engine Oil 2. Engine oil not at proper level 3. Fouled spark plug 4. Clogged air filter 5. Clogged fuel filter 6. Contaminated Fuel 7. Carburetor out of adjustment	1. Add engine oil 2. Check engine oil. Add or drain engine oil if necessary 3. Remove spark plug. Inspect. Replace if necessary 4. Remove and clean air filter 5. Remove fuel filter. Inspect. Replace if necessary 6. Drain fuel tank. Clean fuel tank. Fill with fresh fuel 7. Take unit to an authorized service center for Carburetor adjustment
Excessive vibration / noise	1. Loose parts 2. Engine problems (above)	1. Tighten all fasteners 2. Refer to engine solutions (above)
Engine will not stop	Defective On/Off Switch	Replace On/Off Switch

Parts Diagram



Parts List

Reference	Part Number	Part Description	Quantity
1	B04340800046	Nylon Lock Nut	4
2	B07020008046	Large Flat Washer	4
3	101231250001000	Engine	1
4	201008504006J0	Base Assembly	1
5	20160840300800	Inflatable Wheel	2
6	30770840300010	Flat Washer	4
7	B04411000045	Flange lock nut	2
8	B052104012C7	Self-tapping Screw	2
9	203208504006J0	Rear Volute Welding Assembly	1
10	B01310601266	Larger Flange Bolt	8
11	20140850400091	Fan Fixing Plate	1
12	30130850400000	Fan	1
13	30180710201020	Gasket	1
14	B07000010046	Spring Washer	1
15	B01311004097	Hex Bolt	1
16	B05005501407	Self-tapping Screw	10
17	30160850400000	Top Fan Cover	1
18	32010870100006	Hex Socket Combination Screw	9
19	30150850400000	Bottom Fan Cover	1
20	201208504006J0	Front Volute Welding Assembly	1
21	B01310801666	Flange Bolt	6
22	B01310804066	Larger Flange Bolt	8
23	20120850101000	Protective Sleeve,Crankshaft	1
24	B01310803566	Larger Flange Bolt	4
25	B04341000047	Nylon Lock Nut	1
26	30080850101000	Bushing	2

Reference	Part Number	Part Description	Quantity
27	20150850400090	Bracket Fixing Plate, Front Wheel	1
28	20130850400090	Bracket, Front Wheel	1
29	B01311010066	Larger Flange Bolt	1
30	30490850400020	Bush, Wheel	1
31	30480850400000	8-inch inflatable wheel	1
32	B05210501607	Self-tapping Screw	12
33	30250850400000	Fixing Seat I, Control Line	1
34	B04010500046	Hex Nut	2
35	30290850400006	Hex Socket Combination Screw	2
36	30200850400000	Top Housing, Air Outlet	1
37	30060850400000	Left Housing,Control Lever	1
38	30210850400000	Bottom Housing, Air Outlet	1
39	20090850400000	Control Line 2, Air Flow Direction	1
40	30260850400000	Fixing Seat II, Control Line	1
41	20080850400000	Control Line 1, Air Flow Direction	1
42	30220850400000	Connecting Sleeve, Flow Angle Adjustment Port	2
43	30230850400001	Flow Angle Adjustment Port, Top	1
44	30240850400001	Flow Angle Adjustment Port, Bottom	1
45	30110850101020	Pipe Washer	6
46	30030850400090	Lower Handle	1
47	20040850101000	Knob	2
48	30090850101020	Pipe Bolt	2
49	30010850400090	Upper Handle	1
50	30070850400000	Right Housing,Control Lever	1
51	20050850400000	Locating Pin	4
52	30040850400000	Wind Direction Control Lever	2
53	B04341000046	Nylon Lock Nut	1
54	30100850101800	Foam, Handle Tubing	1
55	B05210401607	Self-tapping Screw	4
56	B07020010046	Large Flat Gasket	1

Reference	Part Number	Part Description	Quantity
57	30230810401800	Plug	2

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 right 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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www.northerntool.com

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