

DR[®] WALK BEHIND BLOWER

SAFETY & OPERATING INSTRUCTIONS



Models:
X20 MAX
X20 MAXSP

Serial No. _____

Order No. _____

DR Power Equipment
Toll-free phone: 1-800-DR-OWNER (376-9637)
Website: www.DRpower.com

WARNING

Read and understand this manual and all instructions before operating the DR WALK BEHIND BLOWER.

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Conventions used in this manual

DANGER

This indicates a hazardous situation, which, if not avoided, **will** result in death or serious injury.

WARNING

This indicates a hazardous situation, which, if not avoided, **could** result in death or serious injury.

CAUTION

This indicates a hazardous situation, which, if not avoided, **could** result in minor or moderate injury.

NOTICE

This information is important in the proper use of your machine. Failure to follow this instruction could result in damage to your machine or property.

Serial Number and Order Number

A Serial Number is used to identify your machine and is located on the Serial Number Label on your machine. An Order Number is used to check and maintain your order history and is located on the packing slip. For your convenience and ready reference, enter the Serial Number and Order Number in the space provided on the front cover of this manual.

Additional Information and Potential Changes

DR Power Equipment reserves the right to discontinue, change, and improve its products at any time without notice or obligation to the purchaser. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your machine.

California Proposition 65

 **WARNING**
CANCER AND REPRODUCTIVE HARM - www.P65Warnings.ca.gov

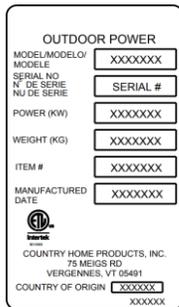


Figure 1

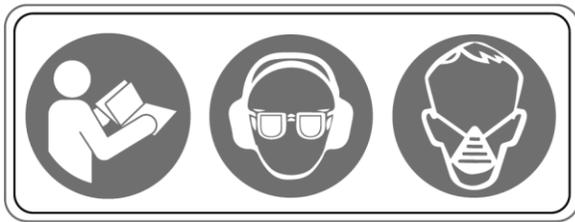
Chapter 1: General Safety Rules

WARNING

Read this safety & operating Instructions manual before you use the DR WALK BEHIND BLOWER. Become familiar with the operation and service recommendations to ensure the best performance from your machine. If you have any questions or need assistance, please contact us at www.DRpower.com or call toll-free 1-800-DR-OWNER (376-9637) and one of our Technical Support Representatives will be happy to help you.

Labels

Your DR WALK BEHIND BLOWER carries prominent labels as reminders for its proper and safe use. Shown below are copies of all the Safety and Information labels that appear on the equipment. Take a moment to study them and make a note of their location on your WALK BEHIND BLOWER as you set up and before you operate the unit. Replace damaged or missing safety and information labels immediately.



#A0000256659



#A0000256673

**WARNING: Check Oil
Before Starting Engine**

#137581



#A0000268281

Protecting Yourself and Those Around You

WARNING

This is a high-powered machine, with moving parts operating with high energy at high speeds. Use proper clothing and safety gear when operating this machine to prevent or minimize the risk of severe injury. You must operate the machine safely. Unsafe operation can create a number of hazards for you, as well as anyone else in the nearby area. Always take the following precautions when operating this machine:

- Always wear protective goggles or safety glasses with side shields while operating this blower system to protect your eyes from possible foreign objects thrown from the machine.
 - Wear shoes with non-slip treads when using your DR WALK BEHIND BLOWER. If you have safety shoes, we recommend wearing them. Do not use the machine while barefoot or wearing open sandals.
 - Avoid wearing loose clothing or jewelry, which can catch on the machine's moving parts.
 - We recommend wearing gloves while using your DR WALK BEHIND BLOWER. Be sure your gloves fit properly and do not have loose cuffs or drawstrings.
 - Wear long pants while operating the machine.
 - Use ear protectors or ear plugs rated for at least 20 dba to protect your hearing.
 - Never allow people who are unfamiliar with these instructions to use the blower. Allow only responsible individuals who are familiar with these rules of safe operation to use your machine.
 - Never place your hands, feet, or any part of your body near or under any moving part while the machine is running.
 - Keep bystanders away from your work area at all times. To be safe, do not operate the machine near small children or pets, and never allow children to operate the blower. Stop the engine when another person or pet approaches.
 - Never operate the engine with the air cleaner or cover over the carburetor air-intake removed, except for adjustment. Removal of such parts could create a fire hazard. Do not use flammable solutions to clean air filter.
 - The muffler and engine become very hot and can cause a severe burn; do not touch.
 - Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the DR WALK BEHIND BLOWER. This includes all shields and guards. Modifications to your machine could cause personal injuries and property damage and will void your warranty.
-

Safety for Children and Pets

WARNING

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the blowing activity. **Never** assume that children will remain where you last saw them.

- Keep children out of the work area and under the watchful care of a responsible adult.
 - Be alert and always turn off the DR WALK BEHIND BLOWER engine if children or pets enter the work area.
 - Before, and while moving backwards, look behind, and **down** for small children and pets.
 - Never allow children to operate the blower.
 - Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure your vision.
-

Safety with Gasoline-Powered Machines

WARNING

Gasoline is a highly flammable liquid. Gasoline also gives off flammable vapor that can be easily ignited and cause a fire or explosion. Never overlook the hazards of gasoline. Always follow these precautions:

- Never run the engine in an enclosed area or without proper ventilation as the exhaust from the engine contains carbon monoxide, which is an odorless, tasteless, and deadly poisonous gas.
- Store all fuel and oil in containers specifically designed and approved for this purpose and keep away from heat and open flame, and out of the reach of children.
- Fill the gasoline tank outdoors with the engine off and allow the engine to cool completely. Do not handle gasoline if you or anyone nearby is smoking, or if you are near anything that could cause it to ignite or explode. Replace the fuel tank and fuel container caps securely.
- If you spill gasoline, do not attempt to start the engine. Move the machine away from the area of the spill and avoid creating any source of ignition until the gas vapors have dissipated. Wipe up any spilled fuel to prevent a fire hazard and properly dispose of the waste.
- Allow the engine to cool completely before storing the DR WALK BEHIND BLOWER in any enclosure. Never store the machine with gas in the tank or a fuel container, near an open flame or spark such as a water heater.
- Never make adjustments or repairs with the engine running. Disconnect the spark plug wire and keep the wire away from the spark plug to prevent accidental starting.
- Never check for an ignition spark with the spark plug or spark plug wire removed. Use an approved spark tester.
- Never tamper with safety devices. Check their proper operation regularly.
- Never change the engine governor settings or modify the engine speed. Modifications will void your warranty.
- To reduce fire hazard, keep the engine and muffler area free of debris build-up such as leaves, grass, oil, grease, or any other combustible material. Clean the engine area after each use.
- Never operate the engine without the muffler. Inspect the muffler periodically and replace if necessary. If equipped with a muffler deflector, inspect the deflector periodically and replace if necessary.
- Never operate the engine with the air cleaner or the cover over the carburetor air-intake removed, except for adjustment. Removal of such parts could create a fire hazard.
- Always check fuel lines and fittings frequently for cracks or leaks, replace if necessary.

Safety on Slopes

WARNING

Slopes are a major factor related to slip and fall accidents, which can result in severe injury. All slopes require caution. If you feel uneasy on a slope, do not use the Blower on it. Always take the following precautions when using this machine on slopes:

Always:

- Move across the face of slopes; never up and down. Exercise extreme caution when changing direction on slopes.
- Remove objects such as stones, wire, rope, or rags.
- Watch for holes, ruts, or bumps in the landscape.

Never:

- **Never** use the Blower near drop-offs, ditches, or embankments; you could lose your footing or balance.
- **Never** use the Blower on slopes greater than 20 degrees, or any excessively steep slopes.
- **Never** use the Blower on wet, or slippery slopes; reduced traction could result in slipping.
- **Never** park the Blower on a steep grade or slope.

General Safety

WARNING

Operating this Blower safely is necessary to prevent or minimize the risk of **death or serious injury**. Unsafe operation can create a number of hazards for you. Always take the following precautions when operating this machine:

- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.
- Your DR WALK BEHIND BLOWER is a powerful tool, not a plaything. Exercise extreme caution at all times. The design of this machine is to blow debris. Do not use it for any other purpose.
- Know how to stop the machine quickly.
- Never allow people or pets to ride on the DR WALK BEHIND BLOWER.
- Never operate the blower near hot or burning debris or any toxic or explosive materials.
- If the machine should start making an unusual noise or vibration, stop the engine and wait five minutes to cool. Vibration is generally a warning of trouble. Disconnect the spark plug wire and inspect for any worn or broken parts, loose hardware, or loose engine mounting bolts. Clean and repair and/or replace damaged parts.
- Always shut off the DR WALK BEHIND BLOWER engine, wait five minutes to cool, and disconnect the spark plug wire before attempting to inspect or maintain the machine.
- Always keep the equipment in a good safe operating condition. Always make certain nuts and bolts are tight and always use the supplied self-locking hardware; do not substitute.
- Use the DR WALK BEHIND BLOWER only in daylight.
- While using the blower, do not hurry or take things for granted. When in doubt about the equipment or your surroundings, stop the machine and take the time to look things over.
- Never leave the machine unattended with the engine running.
- Do not operate the machine when under the influence of alcohol, drugs, or medication.
- See manufacturer's instructions for proper operation and installation of accessories. Only use accessories approved by DR Power Equipment.

A Note to All Users

Under California law, and the laws of some other states, you are not permitted to operate an internal combustion engine using hydrocarbon fuels without an engine spark arrester. This also applies to operation on US Forest Lands. All DR WALK BEHIND BLOWERS shipped to California, New Mexico and Washington State are provided with spark arresters. Failure of the owner or operator to maintain this equipment in compliance with state regulations is a misdemeanor under California law and may be in violation of other state and/or federal regulations. Contact your State Park Association or the appropriate state organization for specific information in your area.

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No list of warnings and cautions can be all-inclusive. If situations occur that are not covered by this manual, the operator must apply common sense and operate this machine in a safe manner. Contact us at www.DRpower.com or call 1 (800) DR-owner (376-9637) for assistance.

Chapter 2: Setting Up the DR® WALK BEHIND BLOWER

It may be helpful to familiarize yourself with the controls and features of your DR WALK BEHIND BLOWER as shown in Figure 2 before beginning these procedures. If you have any questions at all, please feel free to contact us at www.DRpower.com.

DR WALK BEHIND BLOWER Controls and Features

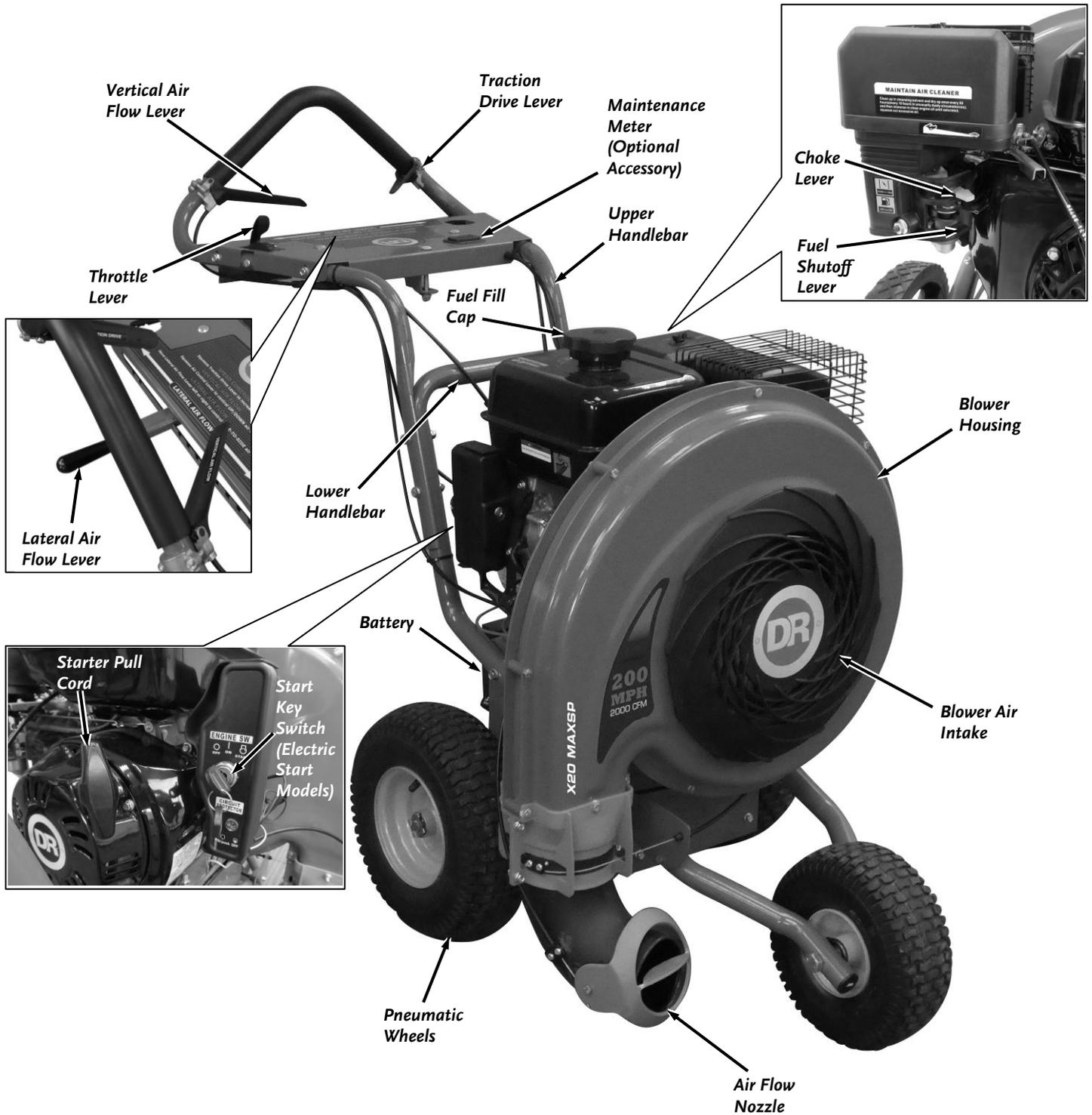


Figure 2

Specifications

Model	X20 MAX	X20 MAXSP
Engine	See Engine Owners Manual	See Engine Owners Manual
CFM	2000	2000
MPH	200	200
Horizontal Rotation	90° left to 90° right	90° left to 90° right
Vertical Rotation	50	50
Nozzle Control	Remote	Remote
Drive	Push	Self Propelled, Variable Speed
Wheel Size	12" x 4.5", 10" x 3.5"	12" x 4.5", 10" x 3.5"
Frame	12 GA Steel	12 GA Steel
Machine Weight	165	175
Machine Dimensions	43"H x 57"L x 27"W	43"H x 57"L x 27"W

Assembling the DR WALK BEHIND BLOWER

The machine is shipped with the Handlebar disconnected. You will need to install the Handlebar to the machine before use.

Parts Supplied in Product Package (Figure 3 and list below):

Item #	Part #	Description	Qty
1	333321	Nut, Nylon Lock, Flanged, 5/16-18.....	4
2	385991	Bolt, Hex, Flange, 5/16-18 X 1-3/4", GR5, ZP	4

Tools Needed:

- Two 1/2" Wrenches

1. Pull the Upper Handlebar Assembly from its shipped location and position the Upper Handlebar Assembly onto the Lower Handlebar (Figure 4).
2. Secure the Handlebar with the Bolts and Locknuts from the product package using two 1/2" Wrenches.
3. Refer to the "Adding Engine Oil and Gasoline" section on the next page to continue setting up the machine.



Figure 3

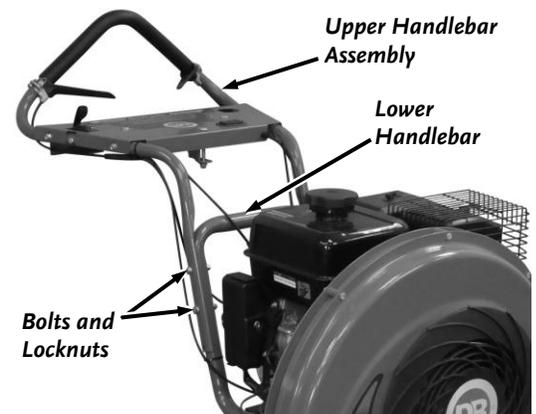


Figure 4

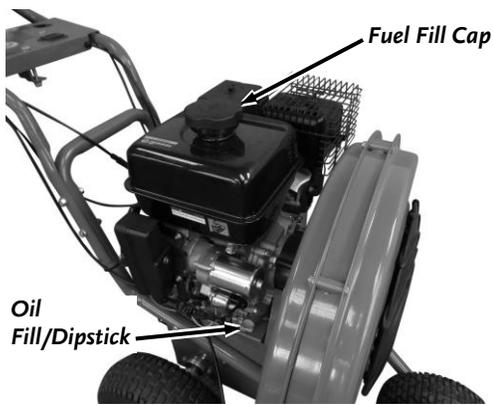


Figure 5

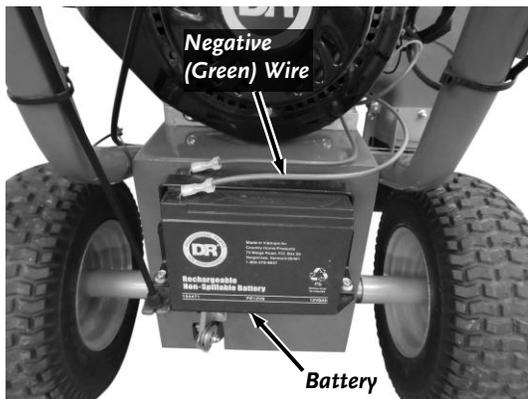


Figure 6

Adding Engine Oil and Gasoline

Adding Oil

NOTICE

You must add Oil before starting the Engine. This machine is shipped without Oil. Traces of Oil may be in the reservoir from factory testing, but **you must add Oil before starting the engine**. Fill the reservoir slowly, checking the level frequently to avoid overfilling.

1. Remove the Oil Fill/Dipstick from the right hand side of the engine and wipe the Oil off using a clean Rag (**Figure 5**).
2. Fill the engine with Oil until the Oil level is about a 1/4" below the top of the oil fill opening.

Note: Add oil slowly and wait several minutes for oil to settle before rechecking oil level.

3. Insert the Oil Fill/Dipstick but do not screw it in.
4. Remove the Dipstick and check the Oil level. Add oil as needed for correct level.
5. Replace and tighten the Oil Fill/Dipstick when finished.

Adding Gasoline

1. Remove the Cap from the Fuel Tank and insert a clean Funnel (**Figure 5**).
2. Fill the fuel tank with fresh, clean Gasoline to 1 inch below the bottom of the filler neck to provide space for any fuel expansion.
3. Reinstall the Fuel Fill Cap securely and wipe up any spilled gasoline.

Connecting the Battery (electric start models)

1. Install the Negative (Green) Battery Wire onto the Negative Battery Terminal (**Figure 6**).

Chapter 3: Operating the DR® WALK BEHIND BLOWER

It may be helpful to better familiarize yourself with the features of your DR WALK BEHIND BLOWER by reviewing **Figure 2** in Chapter 2 before beginning the steps outlined in this chapter. Always refer to the Engine manual for more specific Engine information.

Starting the Engine

Manual Start

1. Make sure the Fuel Shutoff Lever is in the “ON” position (**Figure 7**).
2. Move the Choke Lever to the left to the choke position (leave in the run position to the right if the engine is already warm).
3. Adjust the Throttle Lever to the halfway position (**Figure 8**).
4. Turn the On/Off Switch to the “ON” position (**Figure 9**).
5. Slowly pull the Starter Cord until you feel resistance, then pull quickly. The Cord will recoil back into position.
6. When the Choke is on, the Engine will soon begin to run rough (**Figure 7**). Adjust the Choke to the right until the engine runs smoother. Continue this process until the engine runs well with the Choke Lever fully in the run position.

Note: Ensure that the Choke Lever is always in the right “Run” position for operation.

Electric Start

1. Make sure the Fuel Shutoff Lever is in the “ON” position (**Figure 7**).
2. Adjust the Throttle Lever to the halfway position (**Figure 8**).
3. Turn the Key Switch to the “START” position (**Figure 10**). As soon as the Engine starts, release the Key, and it will return to the RUN position.
4. When the Choke is on, the Engine will soon begin to run rough (**Figure 7**). Adjust the Choke to the right until the engine runs smoother. Continue this process until the engine runs well with the Choke Lever fully in the run position.

Note: Ensure that the Choke Lever is always in the right “Run” position for operation.

Stopping the Engine (Manual Start Model)

1. Slowly move the Throttle Lever to the IDLE (Turtle) position (**Figure 8**).
2. Turn the On/Off Switch to the “OFF” position (**Figure 9**).

Stopping the Engine (Electric Start Model)

1. Slowly move the Throttle Lever to the IDLE (Turtle) position (**Figure 8**).
2. Turn the Key Switch to the “OFF” position (**Figure 10**)



Figure 7



Figure 8

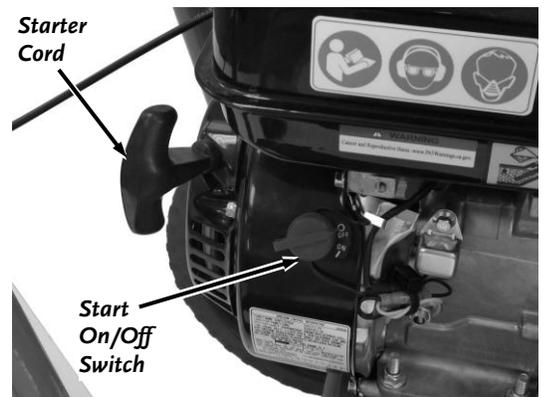


Figure 9

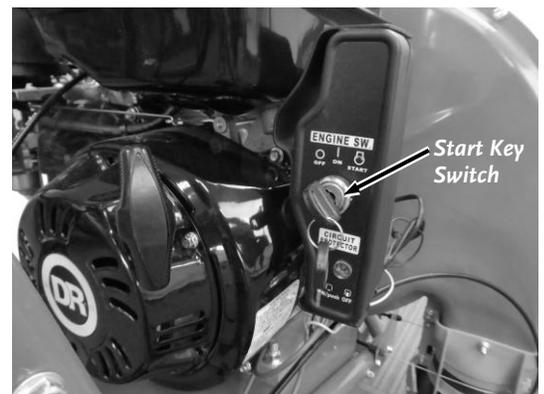


Figure 10

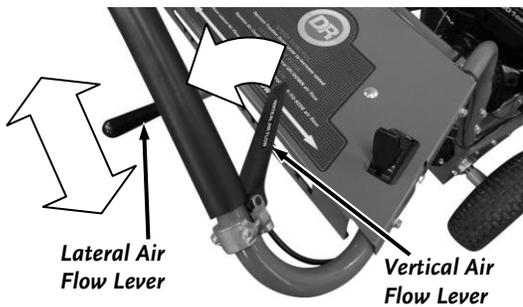


Figure 11

Adjusting Air Flow

Vertical Air Flow Adjustment

1. Squeeze the Vertical Airflow Handle to the Handlebar to adjust the Air Flow Direction down (**Figure 11**).
1. Release the Vertical Airflow Handle from the Handlebar to adjust the Air Flow Direction up.

Lateral Air Flow Adjustment

1. Move the Lateral Airflow Lever to the left to adjust the Air Flow Direction to the left (**Figure 11**).
2. Move the Lateral Airflow Lever to the right to adjust the Air Flow Direction to the right.

Operating the Traction Drive (Self-Propelled Model)

1. Squeeze and hold the Traction Drive Lever against the handlebar to engage the wheels (**Figure 12**).

Note: The Lever can be held at different locations between fully depressed and fully released to vary speeds as needed.

2. Release the Traction Drive Lever to disengage the wheels. The engine will continue to run, but the forward motion will stop.

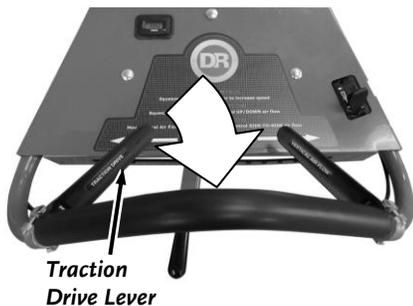


Figure 12

Traction Drive Operating Tips

- Forward momentum may cause the machine to gradually coast to a stop after Traction Drive Lever is released.
- To make a turn, first raise the front wheel slightly off the ground by pushing down on the handle bar. Then, steer the machine to turn. The rear wheel on the inside of the turn will rotate more slowly while the outside rear wheel powers the machine through the turn.

Operating Safety

! WARNING

- The operation of any WALK BEHIND BLOWER can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear the safety glasses or eye shields before operating the machine.
- Only operate your WALK BEHIND BLOWER from the rear behind the Handlebars. If it is necessary for any reason to inspect or repair any part of the machine where a moving part can come in contact with your body or clothing, stop the engine, allow it to cool, disconnect the spark plug wire from the spark plug and move it away from the spark plug before attempting any inspection or repairs.

Chapter 4: Maintaining the DR® WALK BEHIND BLOWER

Regular maintenance is the way to ensure the best performance and long life of your machine. Please refer to this manual and the engine manufacturer's owner's manual for maintenance procedures. Service intervals listed in the checklist below supersede those listed in the engine manufacturer's owner's manual.

WARNING

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

Regular Maintenance Checklist

PROCEDURE	BEFORE EACH USE	EVERY 25 HOURS	EVERY 50 HOURS
Check Engine Oil Level	▲		
Check Fuel Level	▲		
Check General Equipment Condition	▲		
Check Tire Pressure	▲		
Check Belt for Wear or Damage	▲		
Clean Air Filter		▲	
Clean Engine Exterior & Cooling Fins		▲	
Change Engine Oil	1 st time 5 hours	▲	
Replace Spark Plug			▲
Replace Air Filter			▲

Changing Engine Oil

Tools and Supplies needed:

- SAE 30 High Detergent (HD) Oil (for winter use, use SAE 5W – 30W)
- Rag
- Liquid Vac Oil Drainer, item #215811 (optional accessory, available at DR Power Equipment)

1. Remove the Oil Dipstick/Fill Cap and vacuum the oil from the Engine through the Dipstick Tube using the recommended oil drainer (**Figure 13**).
2. Replace the oil as described in “Adding Oil and Gasoline” in Chapter 2.

Note: Be sure to use environmentally safe disposal procedures in the disposing of the used oil.

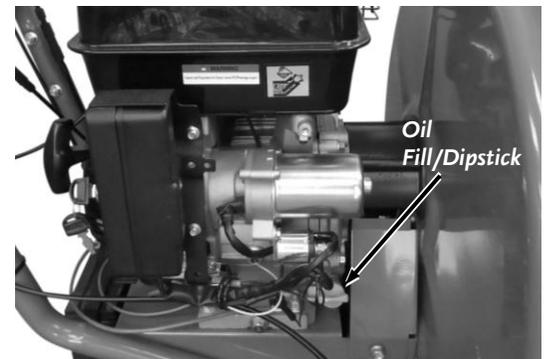


Figure 13

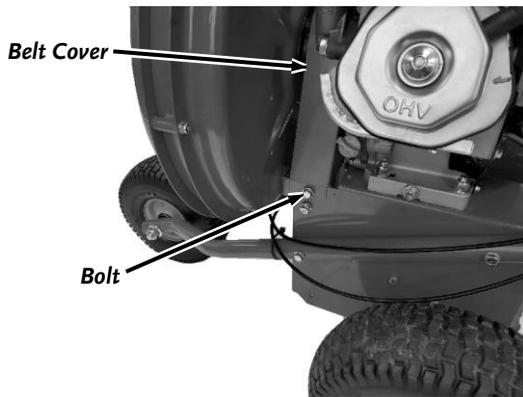


Figure 14

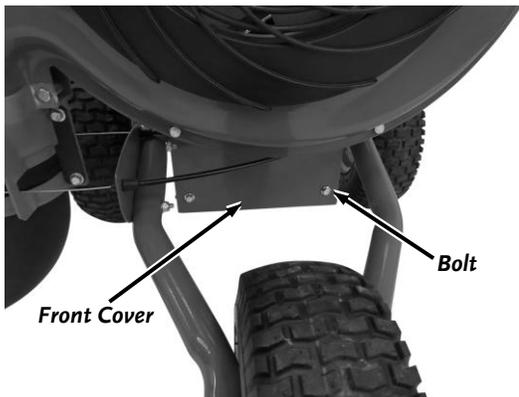


Figure 15

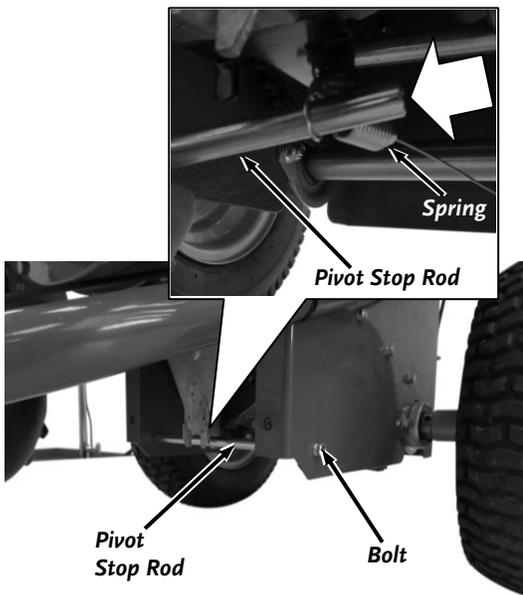


Figure 16

Replacing the Belt

Tools and Supplies Needed:

- 1/2" Wrench
- 3/8" Wrench
- 10mm Wrench
- 13mm Wrench
- Small Locking Pliers
- Diagonal Cutters (or equivalent)
- New DR Linked Belt
- Needle Nose Pliers

Removing the Old Belt

Note: The machine can be carefully tipped back onto the Handlebars for better access underneath. You must move the Lateral Airflow Lever to the side before tipping the machine back.

1. Remove the two Bolts that secure the Belt Cover using a 1/2" Wrench and remove the Cover (**Figure 14**).
2. Remove the two Bolts that secure the Front Cover using a 3/8" Wrench and remove the Cover (**Figure 15**).
3. Remove the two Bolts that secure the Pivot Stop Rod using a 10mm Wrench and slide the Rod out of the Spring end as you remove the Rod (**Figure 16**).
4. Remove the two Bolts that secure the Drive Pulley Assembly using a 13mm Wrench (**Figure 17**).

Note: You may need to use small Locking Pliers to hold the Rod from turning while the Bolts are being removed.

5. Rotate the Drive Pulley Assembly sideways and lift up to relieve tension on the Belt. Remove the Belt from the bottom of the Drive Pulley.
6. Let the Drive Pulley Assembly rest inside the Frame.

Note: Ensure that the Spacer that is on the left side of the Drive Pulley Shaft stays in place for installation.

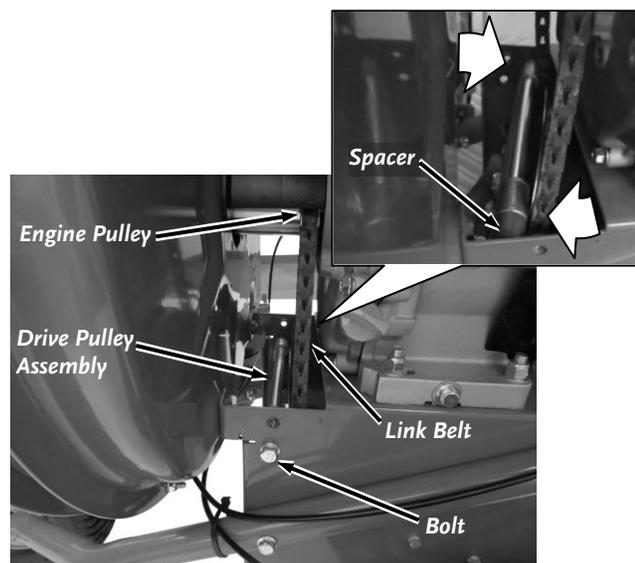


Figure 17

- Look closely at the Belt from the left side of the machine to find a small black arrow (**Figure 18**). The black arrow shows the direction of rotation. The arrow would be pointing up when viewed from this left side of the machine. The new Belt will need to be installed in the same direction for the Belt to work properly.

Note: Another way to quickly tell what direction the Belt should be assembled is to see what direction the “V” shaped opening is pointing. The “V” is pointing down when viewed from the left side of the machine.

- Cut the old Belt to be replaced using Diagonal Cutters or equivalent and remove Belt from the Engine Pulley (**Figure 17**).

Note: You may want to practice assembling the Belt out of the machine before it is in placed inside where there is limited access. See the following section “Assembling the Belt Links”.

Assembling the Belt Links

This section explains the assembly of the Belt Links and is for reference when installing the Belt onto the machine.

The Belt can be assembled by hand but if you are having difficulty twisting the Tabs, Needle Nose Pliers can be used. Be careful not to damage the Tabs when using the Pliers.

- Turn the Belt inside out so the inside Tabs are facing out (**Figure 19**).
- Twist the Tab end sideways and insert it through the two Slots until it comes out the other side (**Figure 20**).
- Twist the end of the Tab to lock it into position (**Figure 21**).
- Twist the second Tab sideways and insert it into the slot of the single Link at the end.
- Twist the Tab back to the locking position (**Figure 22**).
- Flip the Belt back to be right side out (**Figure 23**).

Note: The Belt must be disassembled before it can be installed around the Engine Pulley in the next section.

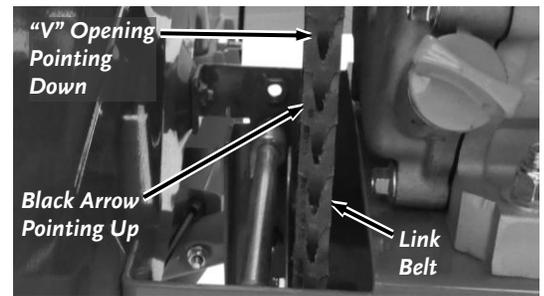
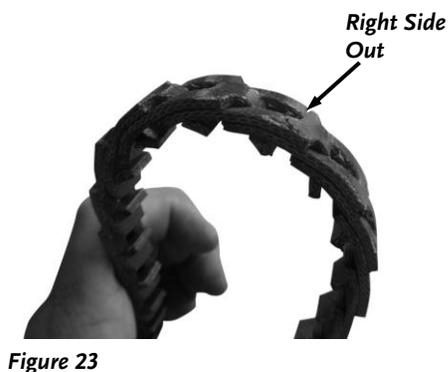


Figure 18

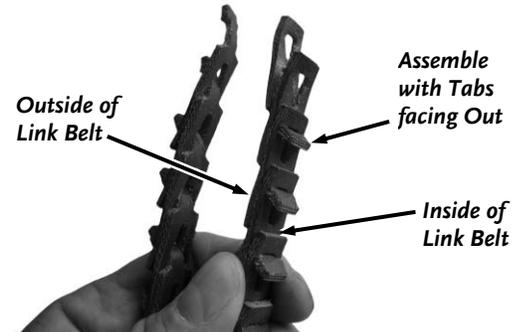


Figure 19

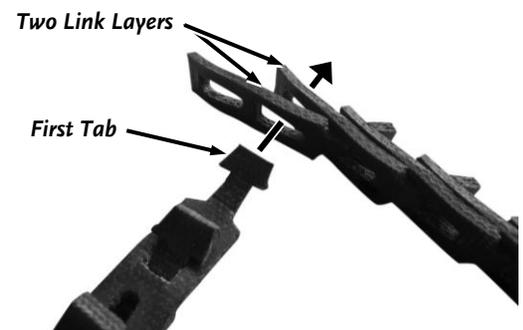


Figure 20

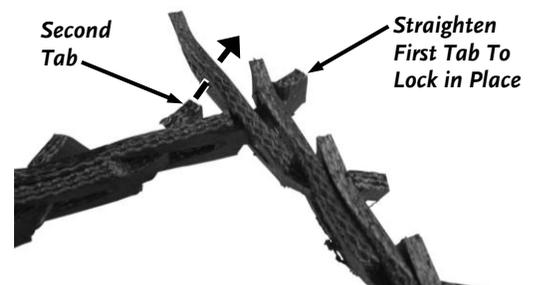


Figure 21

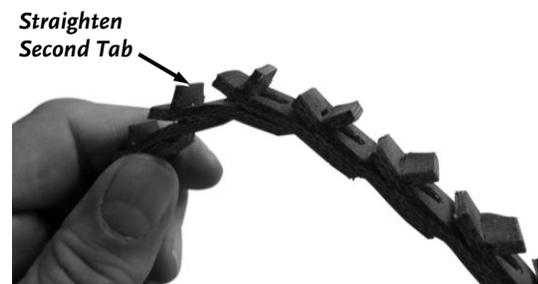


Figure 22

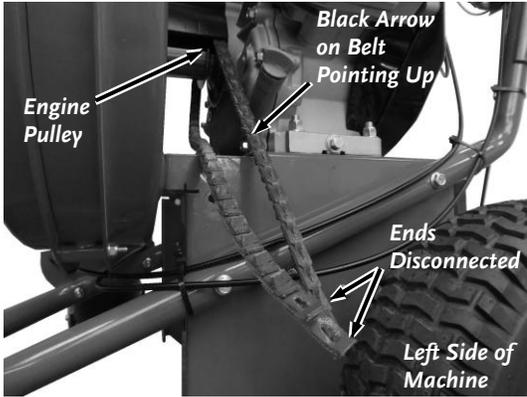


Figure 24

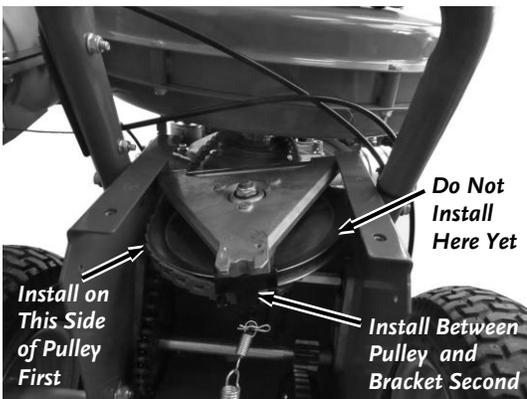


Figure 25

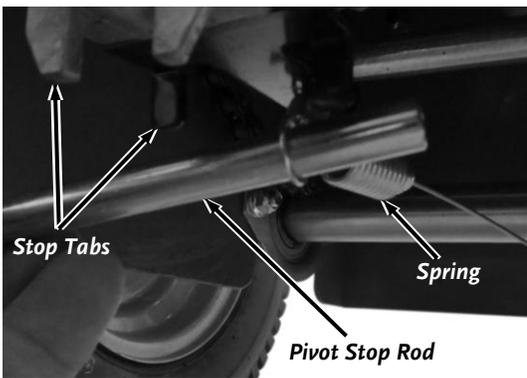


Figure 26

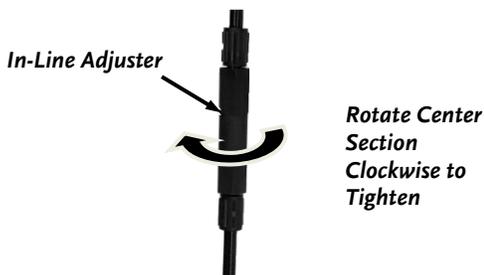


Figure 27

Installing the Belt

1. Install the end of the Belt around the Engine Pulley from the left side of the machine with the small black arrow on the Belt pointing up (**Figure 24**).
2. Assemble the end of the Belt as described in “Assembling the Belt Links” section on the previous page.
3. Position the Belt around the right side of the Drive Pulley First and between the Pulley and Bracket second (**Figure 25**).

Note: Do not install the Belt into the left side Pulley groove at this time so the Drive Pulley Assembly can be installed easier in the next step.

4. Install the Drive Pulley Assembly to the frame with the two Bolts (Ensure the Spacer is in place) (**Figure 17**).
5. Install the Pivot Stop Rod (**Figure 16**) ensuring that the Rod goes through the Spring at the bottom of the Drive Pulley Assembly and the Rod is between the Tabs (**Figure 26**).
6. Install the Front Cover with the top lip facing forward (**Figure 15**).
7. Install the Belt Cover (**Figure 14**).

Horizontal Air Discharge - Inline Cable Adjustment

Your Cables may need to be adjusted if:

- There is looseness at the Lever: The Chute is not moving immediately when you move the Lever. There is some slack in the line that needs to be removed.
- The Chute isn't rotating 180 degrees. There is some slack in the line that needs to be removed.
- The Lever is difficult to move: The Cables are set too tight, causing friction and resistance in the system. Lengthen the cable/s to relieve the tension.

1. Locate the Inline Adjusters along the right and left Handlebar (**Figure 27**).

Note: You may need to tighten or loosen both Inline Adjusters or tighten one and loosen the other to get the desired result.

2. Rotate the center portion clockwise while holding the ends stationary to expand the Inline Adjuster and remove slack from the cable.
3. Rotate the center portion counterclockwise while holding the ends stationary to shorten the Inline Adjuster and add length to the cable.

Vertical Air Discharge - Inline Cable Adjustment

If the Vertical rotation seems to be lessening, tighten Inline Adjuster as described above (**Figure 27**).

Traction Drive - Inline Cable Adjustment

If the Traction Drive is slipping excessively, tighten Inline Adjuster as described above (**Figure 27**).

Battery Care (electric start machines)

Proper care can extend the life of a Battery. Follow these recommendations to ensure your Battery's best performance and long life:

- Do not allow the Battery charge to get too low. If the machine is not used, charge the Battery every 4 – 6 weeks. Operate the Engine for at least 45 minutes to maintain proper Battery charge.
- Store an unused Battery in a dry area that does not freeze.
- Do not charge an already charged Battery. In theory, you cannot overcharge our Battery with a trickle Charger; however, when a Battery is fully charged and the Charger is still on, it generates heat that could be harmful to the Battery. A fully charged Battery will read 12V-13.2V with a Voltmeter.
- Do not continue to crank the Engine when the Battery charge is low.

Disposing of the Battery Responsibly

The Battery is a sealed lead-acid Battery. Recycle or dispose of it in an environmentally sound way.

- Do not dispose of a lead-acid Battery in a fire; the Battery may explode or leak.
- Do not dispose of a lead-acid Battery in your regular, household trash. Law in most areas prohibits incinerating, disposing in a landfill, or mixing a sealed lead-acid Battery with household trash.

Charging the Battery

Operate the Engine for at least 45 minutes to maintain proper Battery charge. If the Battery loses its charge, you'll need to use a trickle Charger (like the DR Battery Charger) to recharge it. The Charger should have an output of 12 volts at no more than 2 amps.

- At 1 amp, you may have to charge the Battery for as long as 48 hours.
- At 2 amps, you may have to charge the Battery for as long as 24 hours.

Note: *The charging system of a running engine is designed to maintain a battery's present charge. Starting a machine that has a significantly discharged or dead Battery using the Recoil Starter or Jumper Cables will not recharge the Battery.*

To connect a Battery Charger to your DR WALK BEHIND BLOWER, follow the steps listed below.

1. Detach the two (2) Battery wires going to the Battery on your DR WALK BEHIND BLOWER.
2. Attach the black (-) Battery Charger wire to the Battery negative (-) terminal, and attach the red (+) Battery Charger wire to the Battery positive (+) terminal.
3. Plug the Battery Charger into an outlet.

NOTICE

When you are finished charging the battery, disconnect the charger from the outlet first, then disconnect the battery charger wires from the battery. If you leave the battery charger wires connected to the battery, the battery will discharge itself back into the charger.

Recycling a Used Battery

NOTICE

Please dispose of used batteries responsibly, according to your local hazardous materials regulations. Never throw away used batteries in your household trash.

Please dispose of your used Batteries responsibly by recycling them. Call your local Solid Waste Management District or your local waste handler to locate the collection site nearest you. Some collection sites recycle Batteries year-round; others collect them periodically. You can also visit the Web site of Earth 911 for more information [www.earth911.org].

For a fee, you can recycle your Batteries with the International Metals Reclamation Company. Visit them at www.inmetco.com for Battery Recycling and contact info.

To learn more about hazardous waste recycling, visit the Web site for Battery Council International [www.batterycouncil.org] or for the Environmental Protection Agency [www.epa.gov].

Chapter 5: Troubleshooting

Most problems are easy to fix. Consult the Troubleshooting Table below for common problems and their solutions. If you continue to experience problems, contact us at www.DRpower.com or call toll-free 1-800-DR-OWNER (376-9637) for support.

Troubleshooting Table

SYMPTOM	POSSIBLE CAUSE; CORRECTIVE ACTION
<i>Engine fails to start</i>	<ul style="list-style-type: none"> ⇒ Fuel tank empty; Fill tank with clean, fresh fuel. ⇒ Spark plug wire disconnected; Connect wire to spark plug. ⇒ Faulty spark plug; Clean, adjust gap or replace the spark plug.
<i>Loss of power, operation erratic</i>	<ul style="list-style-type: none"> ⇒ Spark plug wire loose; Connect and tighten spark plug wire. ⇒ Running on “CHOKE”; Move choke lever to “RUN” position. ⇒ Blocked fuel line or stale fuel; Clean fuel line; fill tank with clean, fresh gasoline. ⇒ Water or dirt in fuel system; Disconnect fuel line at carburetor to drain fuel tank. ⇒ Carburetor out of adjustment; Contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance. ⇒ Dirty air cleaner; Clean or replace air filter.
<i>Engine overheats</i>	<ul style="list-style-type: none"> ⇒ Carburetor not adjusted properly; Contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance. ⇒ Engine oil level low; Fill crankcase with proper oil. ⇒ Internal engine cooling fan not working properly due to debris buildup over engine crank cover; Clean debris away from engine crank cover for improved air circulation.
<i>Excessive vibration.</i>	<ul style="list-style-type: none"> ⇒ Loose parts or damaged impeller assembly; Stop engine immediately and disconnect spark plug wire. Tighten all bolts & nuts. Make all necessary repairs. If vibration continues, contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance.
<i>Traction Drive not working (X20 MAXSP Model)</i>	<ul style="list-style-type: none"> ⇒ Belt is stretched; Replace Belt or remove a link from the belt to make it tighter. ⇒ Friction Wheel is wet or dirty; Clean Friction Wheel. ⇒ Cable is loose; Inline Adjuster needs to be tightened
<i>Horizontal discharge not rotating 180 degrees</i>	<ul style="list-style-type: none"> ⇒ Control cables are loose; Tighten inline adjusters.
<i>Vertical discharge not rotating to full range</i>	<ul style="list-style-type: none"> ⇒ Control cable is loose; Tighten inline adjuster. ⇒ Debris in the assembly; Inspect and clean as needed.

Chapter 6: Parts Lists, Schematic Diagrams

Parts List – HANDLEBAR ASSEMBLY

Note: Part numbers listed are available through DR Power Equipment.

Ref#	Part#	Description	Ref#	Part#	Description
1	333311	Nut, Nylon Lock, Flanged, 1/4-20	21	10000039547	Weldment, Handle, Horizontal Control
2	333321	Nut, Nylon Lock, Flanged, 5/16-18	22	A0000010325	Bracket, Horizontal Cable Mount
3	A0000222854	Bolt, Hex, Flange, 1/4-20 X 2", ZP	23	10000039103	Tube, Handle
4	143971	Throttle control w/ cable	24	370521	Lever W/ Label, Cable, Black (Only Qty 1 for Non Self-Propelled Model)
5	A0000057791	Bolt, 5/8-11 X 7", Hex, ZP	25	10000039143	Bracket, Control Panel
6	A0000222860	Bolt, Hex, Flanged, 1/4-20 X 1-3/4", GR5, ZP	26	10000039134	Tube, Lower Body
7	385991	Bolt, Hex, Flange, 5/16-18 X 1-3/4", GR5, ZP	27	10000043278	Pulley, Handle Cable
8	333371	Nut, Nylon Lock, Flanged, 5/8-11	28	10000040883	Wheel, 10" X 3.5", Pneumatic
9	370511	Collar, Lever, 1", Threaded	29	10000043110	Cable, Horizontal Air Control
10	179231	Screw, SHCS, M6 X 25mm	30	A0000295747	Frame with Labels
11	396181	Knob, Tapered, Plastic	31	402891	Bolt, M6 X 12
12	109131	Bolt, Carr, 5/16-18 X 1.5", ZP	32	401331	Pulley Set, Frame
13	110691	Nut, Finish, 5/16-18	33	401341	Sleeve, Shaft
14	A0000274534	Spring, Handle	34	401361	Pulley Wire, Drive Engagement
15	A0000222872	Bolt, Carriage, 5/16-18 X 3-1/2", ZP	35	402911	Bolt, M6 X 20
16	151311	Plug, Hour Meter Hole, 2" X 1-1/4"	36	403131	Nut, Jam, M6
17	A0000203139	Label, Console (Self-Propelled Model)	37	G081783	Washer, Flat, 7/16", Steel, Zinc
	A0000203138	Label, Console (Non Self-Propelled Model)	38	A0000222858	Bolt, Hex, Flange, 5/16-18 X 5/8", ZP
18	A0000203144	Label, Traction Drive (Self-Propelled Model)	39	A0000268281	Label, Hand Entanglement, Gears (Self-Propelled Model)
19	A0000203145	Label, Vertical Airflow	Not Shown		
20	A0000211293	Spacer, Pulley		10000043066	Cable, Transmission
				10000043067	Cable, Vertical Air Flow

Parts List – BLOWER ASSEMBLY

Note: Part numbers listed are available through DR Power Equipment.

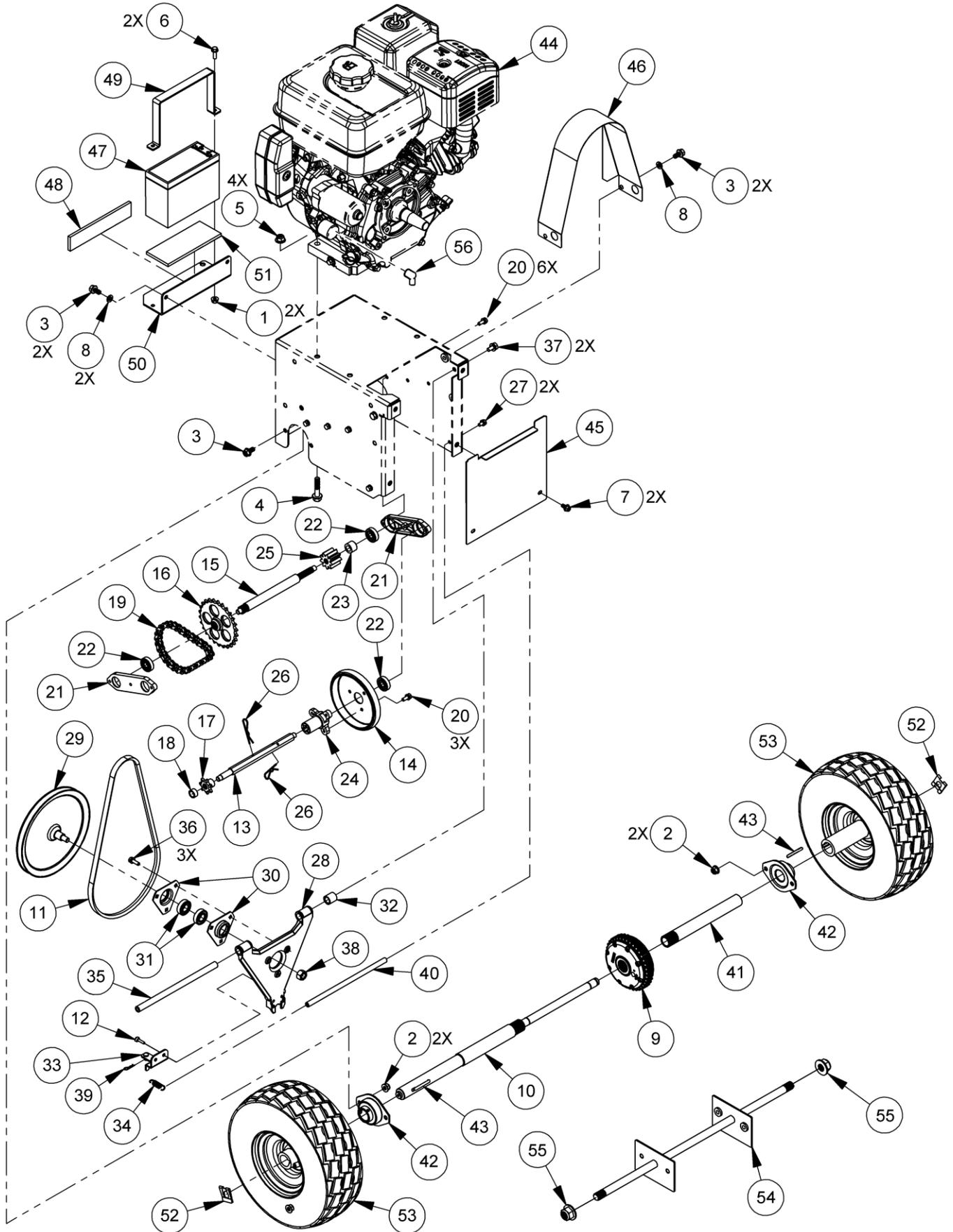
<u>Ref#</u>	<u>Part#</u>	<u>Description</u>	<u>Ref#</u>	<u>Part#</u>	<u>Description</u>
1	333311	Nut, Nylon Lock, Flanged, 1/4-20	15	10000039115	Vertical Deflector
2	A0000222854	Bolt, Hex, Flange, 1/4-20 X 2, ZP	16	10000039135	Adapter, Discharge
3	A0000222860	Bolt, Hex, Flanged, 1/4-20 X 1-3/4", GR5, ZP	17	10000039161	Chute, 90 Degree, Discharge
4	152501	Bolt, HCS, 1/4-20 X 3/4", Flngd, GR2 ZP	18	A0000051172	Plate, Cable Mount
5	A0000057766	Bolt-Hex, 1/4-20 X 5.5in, ZP	19	10000039441	Plate, Rotation Stop
6	A0000222864	Bolt, HCS, 5/16-24 X 4", GR5, ZP	20	10000039121	Impeller, Blower
7	10000035990	Bolt, HHCS, 1/4-20 X .50", Flanged, GR5, ZP	21	10000039963	Spacer, Impeller
8	321221	Washer, 5/16" ID, 2.0" OD, 0.13"T	22	10000038847	Housing, Front Impeller
9	350321	Washer, Lock, 5/16, GR8 Split, ZP	23	A0000295743	Housing, Rear Impeller, w/Labels
10	350311	Bolt, HCS, 5/16-24 X 3.0", Gr8, YZP	24	10000039160	Spacer Weldment, Housing
11	A0000222884	Bolt, Shoulder, 5/16 X 1/2", 1/4-20 X 7/16", Steel	25	10000038836	Cover, Air Intake
12	10000047829	Screw, #10 X 3/8", Phl, Thread forming	26	A0000256673	Label, Warning, Discharge
13	A0000256659	Label, General Safety	27	10000043229	Spring, Torsion, Right Wound
14	10000043215	Torsion Spring, Left Wound	28	A0000222874	Nut, Nylon Lock, 1/4-20, Thin, ZP
			29	A0000629438	Label, X20 MAXSP
				A0000629434	Label, X20 MAX
			30	A0000203142	Label, 2000 CFM 200 MPH
			31	A0000215817	Label, DR Logo, 4.5", Red

Parts List – DRIVE ASSEMBLY (Self Propelled Models unless Specified)

Note: Part numbers listed are available through DR Power Equipment.

Ref#	Part#	Description	Ref#	Part#	Description
1	333311	Nut, Nylon Lock, Flanged, 1/4-20	32	40187	Sleeve, Support Friction Disc
2	333321	Nut, Nylon Lock, Flanged, 5/16-18	33	40191	Bracket, Drive Cable
3	OH7027	Bolt, HCS, Flange, 5/16-18 X 5/8", ZP	34	40192	Spring, Friction Disc
4	385961	Bolt, Hex, Flange, 3/8-16 X 1-3/4", GR5, ZP	35	40193	Strut, Friction Disc Support
5	333331	Nut, Nylon Lock, Flanged, 3/8-16	36	40292	Bolt, M6 X 20
6	152501	Bolt, HCS, 1/4-20 X 3/4", Flanged, GR2, ZP	37	40298	Bolt, M8 X 16
7	10000035990	Bolt, HHCS, 1/4-20 X .50", Flanged, GR5, ZP	38	40312	Nut, Jam, M12
8	350321	Washer, Lock, 5/16, GR8 Split, ZP	39	40316	Pin, Cotter, 1.5" x 25"
9	10000039419	Differential, Di-300	40	40131	Strut, Frame Assembly
10	10000039470	Shaft, Rear, Main	41	10000039398	Shaft, Rear, Wrap
11	10000043224	Belt, Blower, Self-Propel	42	258021	Bearing, Stamped Flange, 1" Bore
12	40290	Bolt, M6 X 16	43	401691	Flat Key, 6 X 4 X 45
13	40156	Shaft, Hexagon Drive	44	A0000040503	Engine, DR, 13.28 Tq, E/S, 50st/CE
14	40155	Friction Disc Wheel		A0000040493	Engine, DR, 13.28 Tq, M/S, 50st/CE (Non Self-Propelled Model)
15	40157	Shaft, Transit	45	10000039145	Bracket, Body, Cover (Self-Propelled and Non-Self Propelled Models)
16	40158	Sprocket, Large Drive	46	10000038487	Guard, Belt (Self-Propelled and Non-Self Propelled Models)
17	40159	Sprocket, Small Drive	47	134471	Battery, 12V, 9Ah
18	40160	Sleeve, 12 X 15 X 8	48	143861	Pad, Battery
19	40161	Chain, Drive, 085-32	49	242301	Strap, Battery, 9Ah
20	40290	Bolt, M6 X 16	50	A0000214946	Bracket, Battery, Blower
21	40148	Bearing Seat, Drive	51	286971	Pad, Battery, 2.5" X 6.125"
22	40149	Bearing, Ball, 6200	52	401631	Clip, Wheel
23	40152	Sleeve, 15 X 20 X 15	53	10000040837	Wheel & Tire, 13 X 5.00-6
24	40153	Seat, Friction Wheel		10000039450	Wheel, 12", Pneumatic, .625" Shaft (Non Self Propelled Model)
25	40154	Gear, Small Drive	54	10000040370	Shaft, Rear (Non Self-Propelled Model)
26	40317	Pin, Cotter, Auger Drive	55	333371	Nut, Nylon Lock, 5/8-11 (Non Self-Propelled Model)
27	40289	Bolt, M6 X 12	56	294871	Boot, Rubber, Red (Self-Propelled and Non-Self Propelled Models)
28	40186	Bracket, Drive			
29	40182	Pulley, Drive			
30	40183	Bearing Seat, Delta			
31	40184	Bearing, Ball, 6002			

Schematic – DRIVE ASSEMBLY (Self Propelled Models unless Specified in Parts List)



DR® WALK BEHIND BLOWER



2-Year Limited Warranty

Terms and Conditions

The DR® WALK BEHIND BLOWER is warranted for two (2) years against defects in materials or workmanship when put to ordinary and normal consumer use; ninety (90) days for any other use.

For the purposes of all the above warranties, "ordinary and normal consumer use" refers to non-commercial residential use and does not include misuse, accidents or damage due to inadequate maintenance.

DR Power Equipment certifies that the DR® WALK BEHIND BLOWER is fit for ordinary purposes for which a product of this type is used. DR Power Equipment however, limits the implied warranties of merchantability and fitness in duration to a period of two (2) years in consumer use, ninety (90) days for any other use.

The 2-Year Limited Warranty on the DR® WALK BEHIND BLOWER starts on the date the machine ships from our factory. The 2-Year Limited Warranty is applicable only to the original owner.

The warranty holder is responsible for the performance of the required maintenance as defined by the manufacturer's owner's manuals. The warranty holder is responsible for replacement of normally wearing parts such as the Belt, Filters, Battery and Spark Plug. Accessories to the machine are not covered by this warranty.

During the warranty period, the warranty holder is responsible for the machine transportation charges, if required. During the warranty period, warranty parts will be shipped by standard method at no charge to the warranty holder. Expedited shipping of warranty parts is the responsibility of the warranty holder.

SOME STATES DO NOT ALLOW LIMITATIONS ON THE LENGTH OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

DR Power Equipment shall not be liable under any circumstances for any **incidental or consequential damages or expenses** of any kind, including, but not limited to, cost of equipment rentals, loss of profit, or cost of hiring services to perform tasks normally performed by the DR® WALK BEHIND BLOWER.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

Notes:

Daily Checklist for the DR WALK BEHIND BLOWER

To help maintain your DR WALK BEHIND BLOWER for optimum performance, we recommend you follow this checklist each time you use your machine.

WARNING

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

- Check the engine oil level.
- Check Fuel Level
- Check the general condition of the machine, e.g.; nuts, bolts, welds, etc.
- Check and clean Engine Fins and controls of Debris.

End of Season and Storage

WARNING

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

- If your machine will be idle for more than 30 days, we recommend using a gas stabilizer. This will prevent sediment from gumming up the Carburetor. If there is dirt or moisture in the gas or tank, remove it by draining the tank. Completely fill the tank with fresh, unleaded gas and add the appropriate amount of stabilizer or gasoline additive. Run the Engine for a short time to allow the additive to circulate.
- Change Engine Oil.
- Clean dirt and debris from the Cylinder Head Cooling Fins and Muffler area of the Engine.
- Remove the Spark Plug and pour about 1 ounce of motor oil into the Cylinder hole. Replace the Plug and pull the Recoil Starter Rope until you feel strong resistance. This will coat the piston and seat the valves to prevent moisture buildup.
- Clean or replace the Air Filter.
- Clean the exterior of the unit to remove all dirt, grease, and any other foreign material. To prevent rust, touch up painted surfaces that have been scratched or chipped.
- For Electric-Start models, store the Battery in a dry area that will not freeze. If you will not use the machine over a long period, charge the Battery every four to six weeks.
- If possible, store the machine in a dry, protected place. If it is necessary to store the machine outside, cover it with a protective material (especially the Engine and Housing).



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