

DR[®] LEAF and LAWN VACUUM Self Propelled Model

SAFETY & OPERATING INSTRUCTIONS



Serial No. _____

Order No. _____

Original Language

DR Power Equipment
Toll-free phone: 1-800-DR-OWNER (376-9637)
Fax: 1-802-877-1213
Website: www.DRpower.com

WARNING

Read and understand this manual and all instructions before operating the DR LEAF and LAWN VACUUM.

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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.

Chapter 1: General Safety Rules

WARNING

Read this safety & operating Instructions manual before you use the DR LEAF AND LAWN VACUUM. 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 LEAF and LAWN VACUUM 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 LEAF and LAWN VACUUM as you set up and before you operate the unit. Replace damaged or missing safety and information labels immediately.



Label included with Collection Bag #284681



#282951



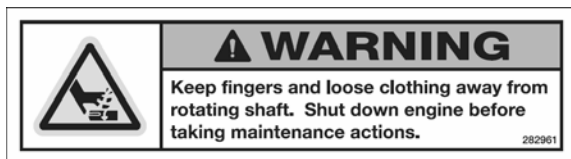
#282971



#127811



#241801



#282961



#285651



#242001

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 vacuum 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 leaf & lawn vacuum. 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 leaf & lawn vacuum. Be sure your gloves fit properly and do not have loose cuffs or drawstrings.
- Always wear gloves when emptying the debris bag.
- After vacuuming glass, bottles or cans, dispose of this waste properly, never in a compost pile.
- We recommend changing the debris bag after vacuuming glass and other debris and before using the system to vacuum material that may be used for compost or mulch.
- 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 vacuum. 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 vacuum. Stop the engine when another person or pet approaches.
- Never use the machine with the debris bag removed.
- 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.
- Clear the work area of objects such as rock, string-like material, wire, rope, or rags. Ingesting these objects into the vacuum could damage the machine and/or cause injury.
- Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the DR walk-behind leaf & lawn vacuum. 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 vacuuming 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 leaf & lawn vacuum engine if children enter the work area.
- Before, and while moving backwards, look behind, and **down** for small children.
- Never allow children to operate the vacuum.
- 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 and empty the debris bag before storing the DR walk-behind leaf & lawn vacuum in any enclosure. Remember, decomposing material generates heat and could start a fire. 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 vacuum it. Always take the following precautions when using this machine on slopes:

Always:

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

General Safety

WARNING

Operating this vacuum 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 vacuum:

- 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 leaf & lawn vacuum is a powerful tool, not a plaything. Exercise extreme caution at all times. The design of this machine is to vacuum debris. Do not use it for any other purpose.
- Know how to stop the vacuum quickly.
- Never allow people or pets to ride on the DR walk-behind leaf & lawn vacuum.
- Never start the engine without the debris bag attached firmly to the discharge tube.
- Never attempt to remove the debris bag while the DR walk-behind leaf & lawn vacuum engine is running. Debris may exit at high velocity out of the openings created in the seams as you unlatch the debris bag.
- Empty the debris bag after each use to prevent spontaneous combustion due to decaying material.
- Do not vacuum in sandy areas where you will vacuum large quantities of sand.
- Never operate the vacuum 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 (5) minutes to cool. Vibration is generally a warning of trouble. Disconnect the spark plug wire and inspect for clogging, damaged, or worn impeller, loose impeller bolt, loose impeller key, or loose engine mounting bolts. Clean and repair and/or replace damaged parts.
- Always shut off the DR walk-behind leaf & lawn vacuum engine, wait five (5) minutes to cool, and disconnect the spark plug wire before attempting to clear any obstructions.
- 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 leaf & lawn vacuum only in daylight.
- While using the vacuum, 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 LEAF and LAWN VACUUMS 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.

Additional Information and Potential Changes

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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 Mower 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® LEAF and LAWN VACUUM

It may be helpful to familiarize yourself with the controls and features of your DR LEAF and LAWN VACUUM as shown in Figure 1 before beginning these procedures. If you have any questions at all, please feel free to contact us at www.DRpower.com.

DR LEAF and LAWN VACUUM Controls and Features

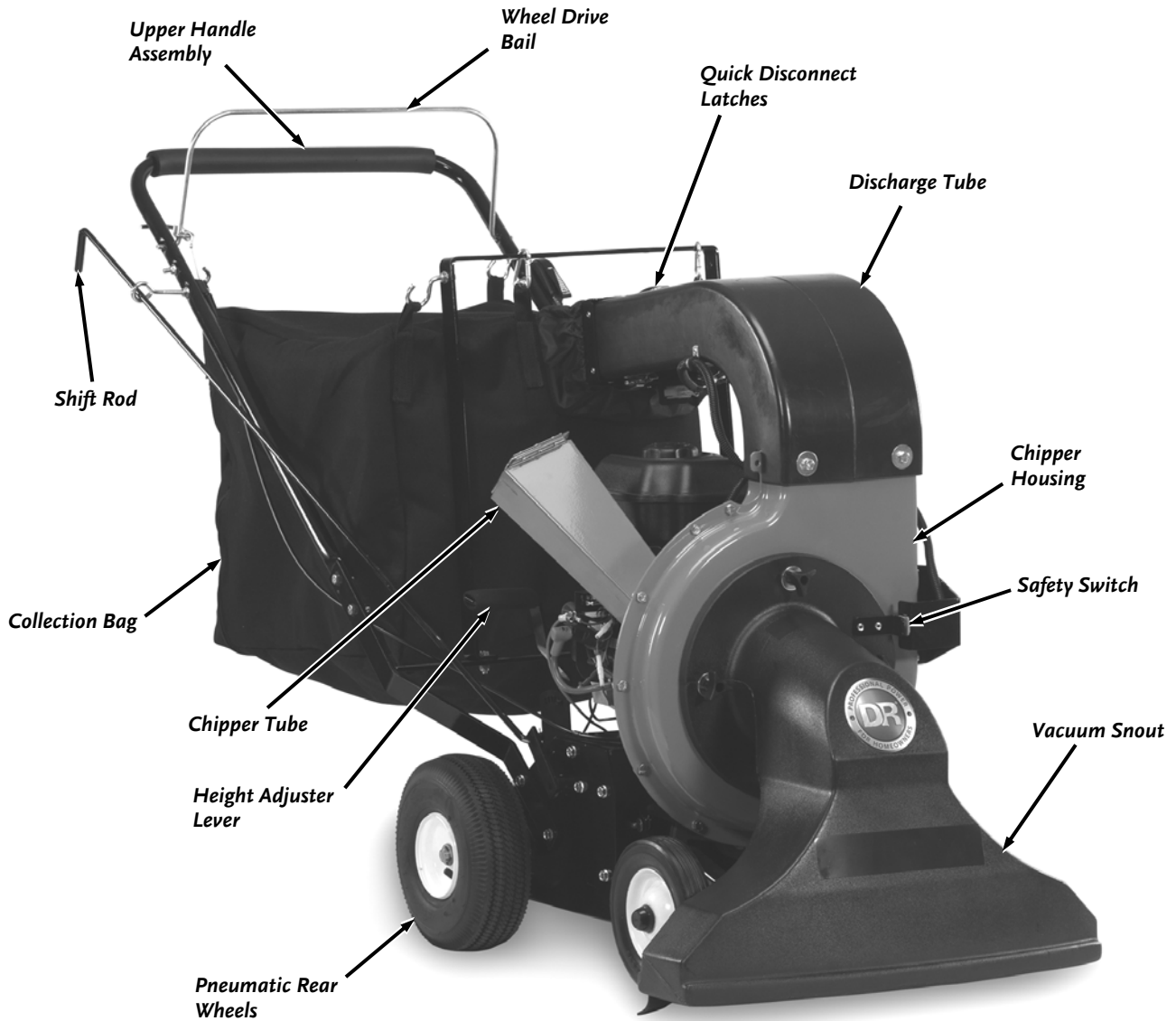


Figure 1

Specifications

	Manual Start	Electric Start
Engine	See Engine Owners Manual	See Engine Owners Manual
Impeller Drive Method	Direct Drive	Direct Drive
Impeller Speed	145 MPH	145 MPH
Chipper Knife Material	Hardened Tool Steel	Hardened Tool Steel
Chipping Capacity	2"	2"
Height Adjustment Range	5/8" to 4"	5/8" to 4"
Collection Bag Volume	4 bushel	4 bushel
Gears	3 forward, 1 reverse	3 forward, 1 reverse
Overall Length	67"	67"
Overall Height	43"	43"
Width	25.5"	25.5"
Machine ship Weight	210 Lbs	231 Lbs

Unpacking the DR LEAF and LAWN VACUUM

Tools Needed:

- Utility Knife

1. Cut open the top of the Box with a Utility Knife and remove all loose parts and the Poly Bag.

NOTE: Some parts may be under the machine or in between the Box dividers.

Shipping Box Contents (Figure 2 and Table Below)



Figure 2

ITEM#	DESCRIPTION
1	LLV Machine (not shown)
2	Bag Hanger Frame, Upper
3	Upper Handle Assembly
4	Bag Hanger Frame, Lower
5	Vacuum Snout
6	Discharge Tube
7	Shift Rod
8	Poly Bag
9	Collection Bag

Poly Bag Contents (Figure 3 and Table Below)



Figure 3

ITEM#	DESCRIPTION
1	Owner's Manual
2	Engine Manual
3	Warranty Card
4	Safety Glasses
5	Hardware Bag
6	Safety Key (Electric start only)

Hardware Bag Contents (Figure 4 and Table Below)

ITEM#	PART #	DESCRIPTION	QTY
1	143401	Nut, Nylon Lock, 1/4-20	1
2	284701	Bolt, Hhcs, 1/4-20 x 2-1/4"	1
3	149651	Washer, Fender, 5/16"	6
4	167791	Bolt, Hhcs, 5/16-18 x 3/4"	4
5	146051	Bolt, Hhcs, 5/16-18 x 1"	10
6	144181	Locknut, Whiz, 5/16-18	5
7	143131	Nut, Nylon Lock, 5/16-18	10
8	149451	Hook, Bag Hanger	3
9	154821	Evebolt, 5/16-18 x 5"	1
10	285641	Knob, Hand, 5/16-18	4
11	145861	Cotter Pin, Hair Spring	1
12	155121	Screw, Self Tapping, 10-32 x 3/8"	1
13	155111	Lock Washer, Split, 5/16"	4
14	145151	Flat Washer, 5/16"	2
15	154801	Flat Washer, 1/4"	1
16	285631	Carabiner	2
17	285651	Label, shift Rod	1

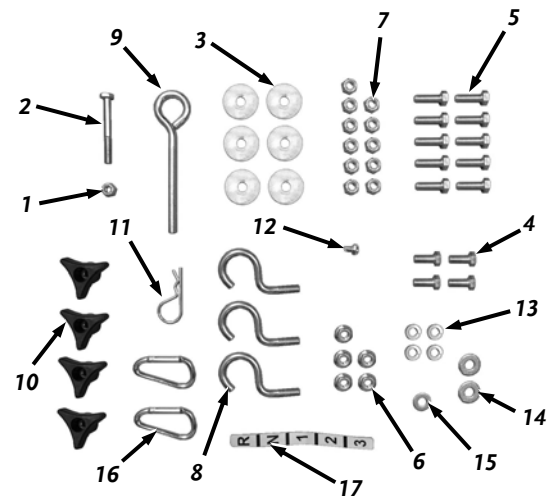


Figure 4

Compare the contents of the Shipping Box, Poly Bag and Hardware Bag with the "Contents" lists above. If you have any questions please contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance.

NOTE: Assembly should be done on a clean, level surface.

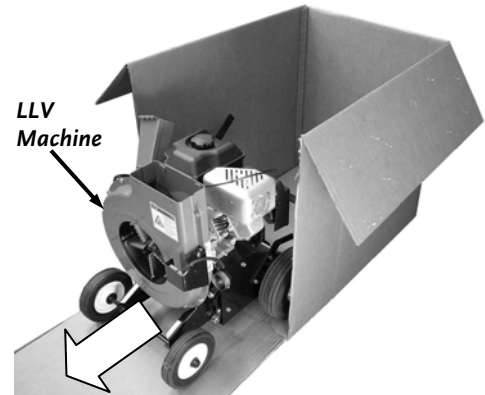


Figure 5

CAUTION

DO NOT try to lift the machine out of the box, it is very heavy and may cause severe injury.

2. Use the utility knife to cut down the two corners one end of the Box, and then roll the machine out (Figure 5).

Assembling the DR LEAF and LAWN VACUUM

Tools Needed:

- 5/16" Wrench
- Two 1/2" Wrenches
- Two 7/16" Wrenches

1. Position the two Lower Bag Hanger Frames onto the cross member of the Lower Handle and loosely install with two 5/16-18 x 1" Bolts and two 5/16-18 Nylon Locknuts using two 1/2" Wrenches (Figure 6).
2. Position the Upper Bag Hanger Frame onto the two Lower Bag Hanger Frames with the top holes facing closer to the rear of the machine. Secure the lower two sets of holes in the Upper Bag Hanger Frame to the Lower Bag Hanger Frames with four 5/16-18 x 1" Bolts and four 5/16-18 Nylon Locknuts using two 1/2" Wrenches. Tighten the Hardware you installed in the previous step.

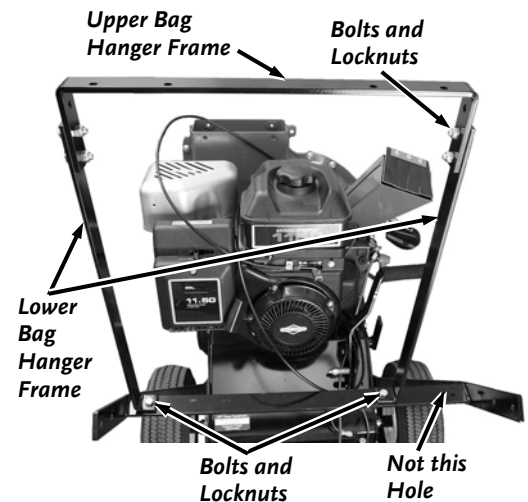


Figure 6

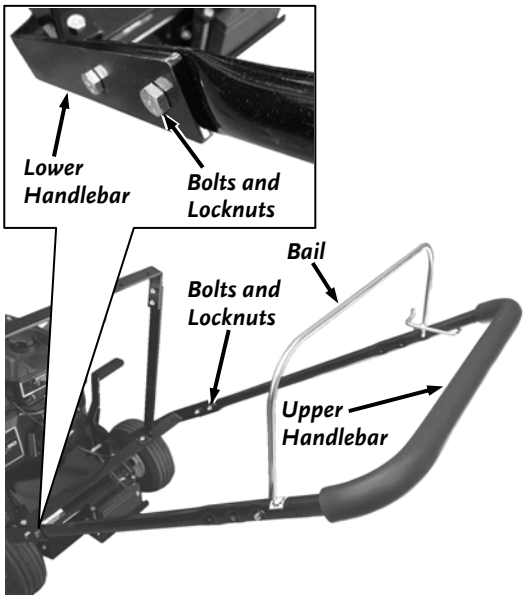


Figure 7

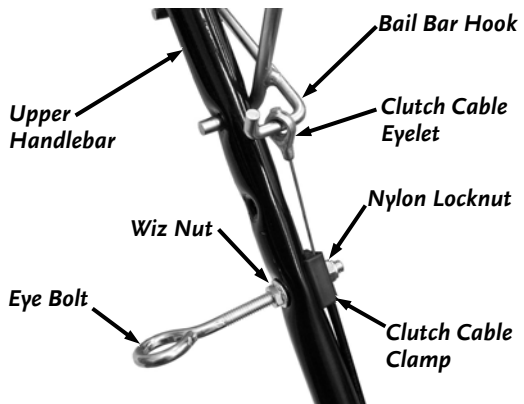


Figure 8

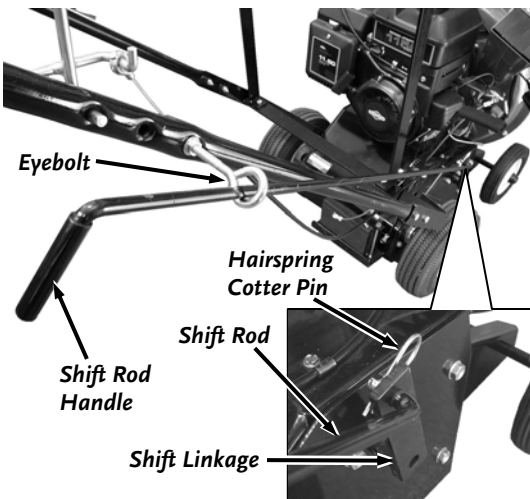


Figure 9

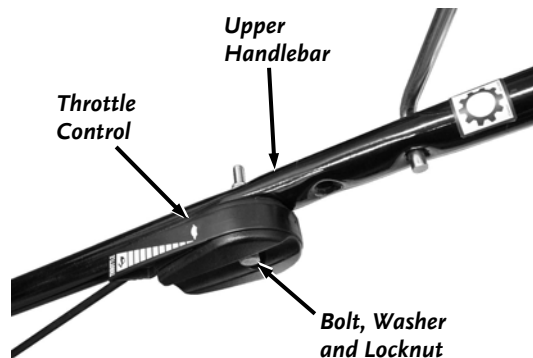


Figure 10

3. Take the Upper Handle Bar Assembly with the Bail on top and slide the flat ends of the Upper Handle inside the Lower Handle. Secure with four 5/16-18 x 1" Bolts and four 5/16-18 Nylon Locknuts (**Figure 7**).
4. Locate the Clutch Cable, which is attached to the LLV machine on the right hand side. Slip the eyelet end on to the front Bail Bar Hook (**Figure 8**).
5. Install a Wiz nut onto the Eyebolt threads (flange facing out) and slide the Eyebolt into the lower hole in the right side of the Upper Handlebar. Position the Clutch Cable Clamp onto the threads of the Eyebolt and screw a 5/16-18 Nylon Locknut on the end of the Eyebolt until about 3 threads come through the Nut. Tighten the Wiz Nut on the outside of the Handlebar to secure the Eyebolt and Clutch Cable to the Handle. Do not over tighten because the Cable Clamp could become damaged.

NOTE: Tension on the Cable is normal, when installed properly the Bail should be "spring loaded" and will return to the up or disengaged position. Make sure to keep the opening of the Eyebolt approximately perpendicular to the angle of the Handles.

6. Slide the shift rod through the eyebolt so that the handle with the rubber grip is at the top (**Figure 9**).
7. Insert the lower end of the Shift Rod through the Shift Linkage at the base of the machine. The Shift Rod is held in place with a Hairspring Cotter Pin, which gets installed in the hole at the lower end of the Shift Rod behind the Shift Linkage.
8. Locate the Throttle Control, which is attached to the LLV machine's Engine on the left hand side. Install the Throttle Cable to the Handle by inserting a 1/4-20 x 1-3/4" Bolt and 1/4" Washer through the Throttle Control and the lower hole on the left hand side of the Handlebar (**Figure 10**). Secure with a 1/4-20 Nylon Locknut.

NOTE: Be careful not to over tighten the Throttle Control Nut. The Bolt also acts as a pivot point for the Throttle Lever, which must be allowed to pivot freely inside the plastic housing.

9. Locate the two Carabiners, three Bag Hanger Hooks and four 5/16-18 Wiz Nuts included in the Bolt Bag. Mount the two upper Hooks through the upper holes in the Handlebar Assembly with the Hooks on the inside (**Figure 11**). Secure with a Wiz Nut on the outside of the Upper Handlebar.
10. Thread a Wiz Nut onto the one remaining Hook as far as it will go on the threads so that the flat side of the Nut is facing away from the Hook (See detail).
11. Insert the Hook into the right side of the Bag Hanger Frame and secure with a Wiz Nut.
12. Install the two Carabiners onto the Bag Hanger Frame with wider side down and clip facing the rear of the machine.
13. Place the Plastic Discharge Tube on top of the Housing (**Figure 12**). Be sure the discharge opening is directed to the rear of the machine and between the Handles. Secure the Tube to the front of the Housing with two 5/16"-18 x 5/8" Bolts, Lock Washers and Fender Washers.
14. Secure the Tube and two Safety Wire Harness Cable Clamps to the rear of the Housing with two 5/16"-18 x 5/8" Bolts, Lock Washers and Flat Washers (not fender washers) (**Figure 13**).
15. Connect the Safety Harness onto the Terminals of the Bag Safety Switch (**Figure 14**) and secure the Cable Clamp to the hole in the side of the Plastic Discharge Tube with the Self Tapping Screw using a 5/16" Wrench.
16. Place the Vacuum Snout onto the front of the Housing (**Figure 15**) so the studs are located in the right hand side of the lower slots (**Detail A**). Slide the Snout to the right and down so the Plunger Bracket on the Snout pushes the Safety Switch in (**Detail B**). Install four 5/16-18 Hand Knobs with Fender Washers onto the studs to secure the Vacuum Snout.

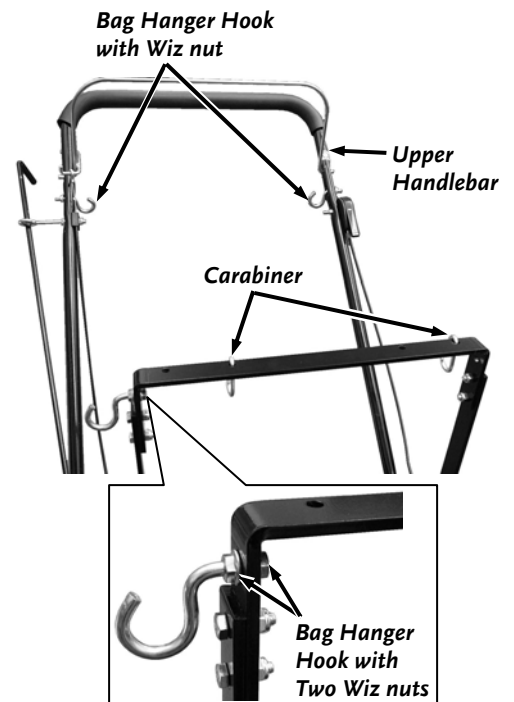


Figure 11

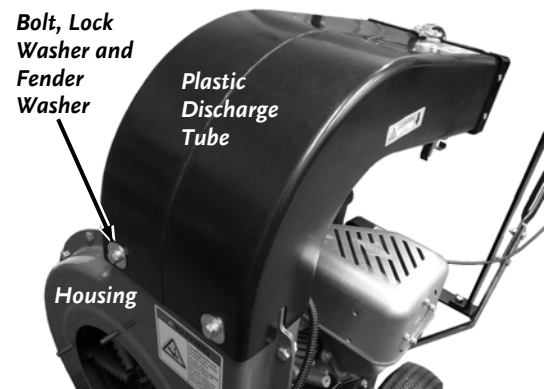


Figure 12

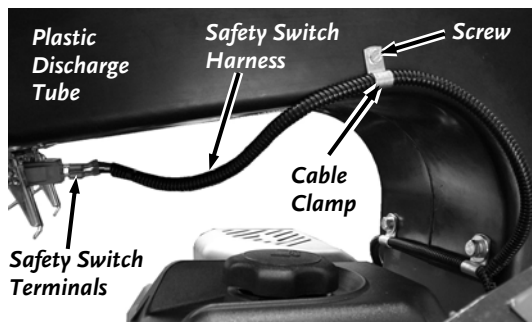


Figure 14

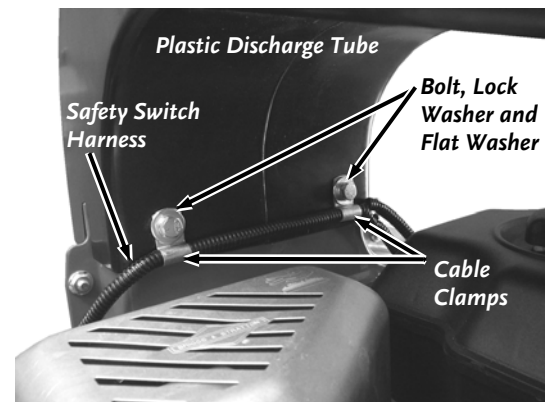


Figure 13

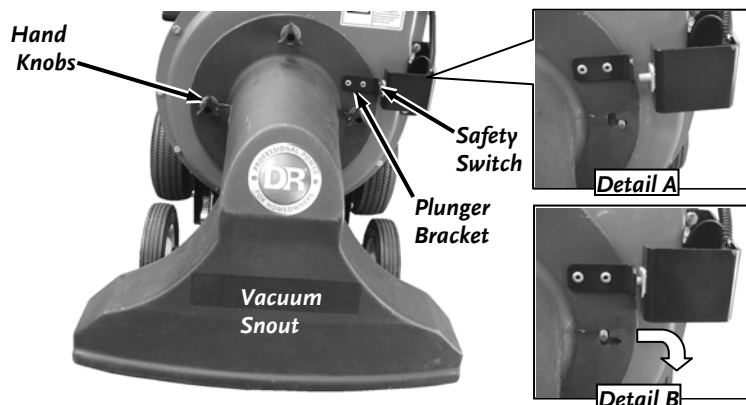


Figure 15

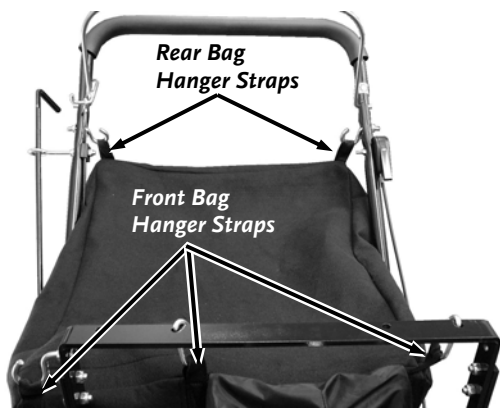


Figure 16

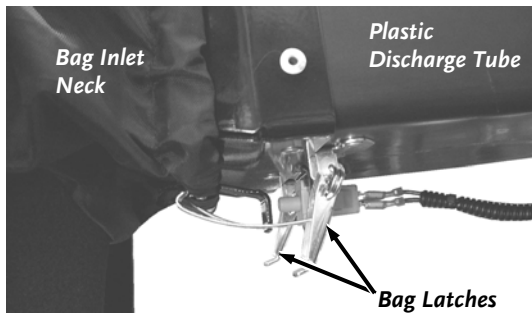


Figure 17

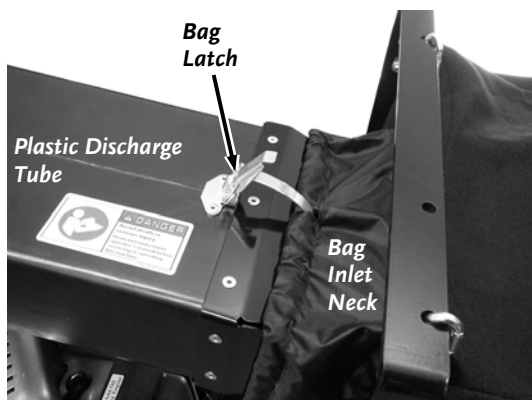


Figure 18

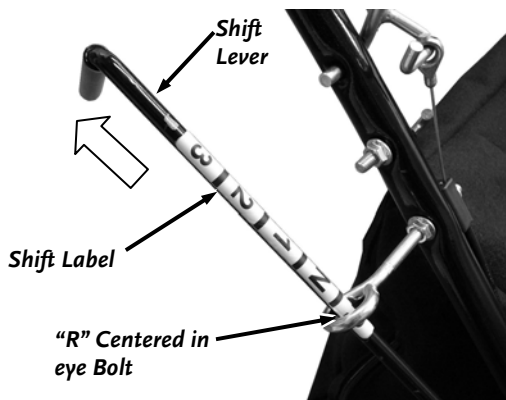


Figure 19

17. Locate the two Bag Hanger Straps on the rear (zipper end) of the Bag. Attach the two Straps to the Hooks near the top of the Handlebar (**Figure 16**).
18. Locate the three Bag Hanger Straps on the front of the Bag and hang them on the Hook on the right side and to the two Carabines at left and center of the Bag Hanger Frame.
19. Slip the Bag Inlet Neck over the Discharge Tube (**Figure 17**).
20. Hook the bottom two Latch Hooks over the Metal Ring in the Bag Inlet and latch them (**Figure 18**).
21. Hook the top Latch over the Metal Ring in the Bag Inlet and close the Latch.
22. Pull the Gear Shift Rod all the way towards you to lock it into the "Reverse" position (**Figure 19**).
23. Install the Shift Position Label onto the Rod with the "R" centered inside the Eyebolt and the "3" closest to the Rubber Handle at the top end of the Rod.

NOTICE

Before starting engine, always check oil level. Refer to the following section

Adding the Engine Oil and Gasoline

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.

To Add Engine Oil

1. Remove the yellow oil fill cap from either side of the engine fill the engine with oil until the oil level is about a 1/4 inch below the top of the yellow oil fill cap opening.

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

2. Replace and tighten the oil fill cap.

Note: the transmission has been factory serviced with "00" grease. No additional lubrication is necessary or recommended.

To Add Gasoline

1. Remove the cap from the fuel tank. Insert a clean funnel into the fuel tank.
2. Fill the fuel tank with fresh, clean unleaded regular automotive gasoline.
3. Fill the fuel tank to 1 inch below the bottom of the filler neck to provide space for any fuel expansion.
4. Reinstall the fuel fill cap securely and wipe up any spilled gasoline.

Your machine is now ready to use.

Chapter 3: Operating The DR LEAF and LAWN VACUUM

It may be helpful to better familiarize yourself with the features of your DR LEAF and LAWN VACUUM by reviewing **Figure 1** 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 Shift Rod is in the N (Neutral) position.
2. Move the Choke Control Lever to the choke position (leave in the run position if the engine is already warm) (**Figure 20A**).
3. Move the throttle control to “FULL SPEED” (rabbit) position (**Figure 21**).
4. Turn the On/Off Switch to the ON position
5. Slowly pull the Starter Cord until you feel resistance, then pull quickly. The Cord will recoil back into position (**Figure 20A**).
6. As the engine warms up, slowly adjust the Choke to the right towards the run position. Wait until the engine runs smoothly before each Choke adjustment.

Starting the Engine (Electric Start)

1. Make sure the Shift Rod is in the N (Neutral) position (**Figure 21**).
2. Move the Choke Control Lever to the choke position (leave in the run position if the engine is already warm) (**Figure 20B**).
3. Move throttle control to “FULL SPEED” (rabbit) position (**Figure 21**).
4. Insert the Safety Key into the slot under the Starter Switch (**Figure 20B**).

NOTE: The Engine will not start or run with the Safety Key removed.

5. Press the Starter Switch fully to the right (start) until the Engine starts and let go of the Switch. The Switch will return to the center (run) position.
6. As the engine warms up, slowly adjust the Choke to the right towards the run position. Wait until the engine runs smoothly before each Choke adjustment.

Stopping the Engine (manual Start)

7. Slowly move the Throttle Control Lever to the “IDLE” position (**Figure 21**).
8. Turn the On/Off Switch to the OFF position (**Figure 20A**).

Stopping the Engine (Electric Start)

1. Slowly move the Throttle Control Lever to the “IDLE” position (**Figure 21**).
2. Turn the Switch to the OFF position (**Figure 20B**).

Operating The Drive System

There are three controls, the Shift Rod, Throttle Control, and the Wheel Drive Bail, that are used to engage and disengage the powered wheels (**Figure 21**). Familiarize yourself with these controls before you start the engine.

- The Shift Rod is used to select one of the following transmission settings: R (Reverse), N (Neutral), and 1,2,3.
- The number settings represent forward speeds ranging from “1” (.7 MPH), “2” (1.0 MPH), “3” (2.4 MPH).

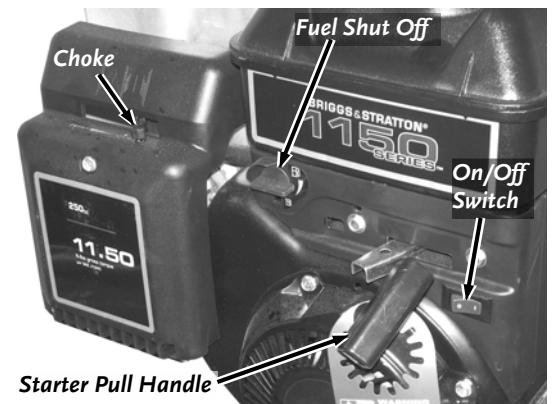


Figure 20A

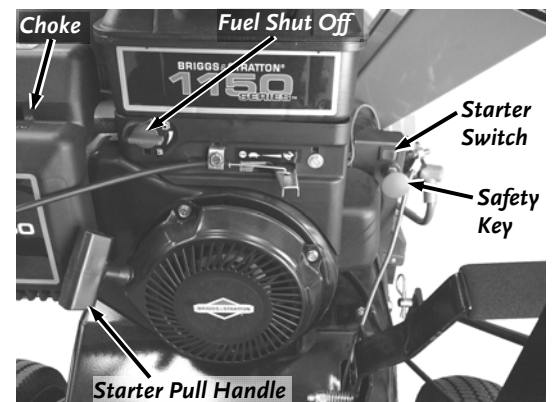


Figure 20B

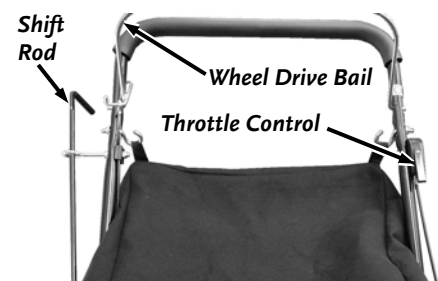


Figure 21

- Shift to N (Neutral) before starting the engine and whenever the machine is stopped.
- Shift to R (Reverse) to move the machine in a reverse direction (.8 MPH).
- Shift to N (Neutral) to move the machine when the engine is not running (free wheeling).
- 1st gear is the slowest speed and is used when vacuuming in difficult conditions such as heavy leaf drop, damp leaves.
- 2nd gear is a medium speed and used for average conditions. This is the gear you should use most of the time.
- 3rd gear is used for transporting the machine to and from your work site.

Wheel Drive Bail

The Wheel Drive Bail is used to engage and disengage the wheels when the Gear Shift Lever is in a forward or reverse gear.

1. Squeeze and hold the bail against the handlebar to ENGAGE the wheels.
2. Release the bail to DISENGAGE the wheels. The engine will continue to run, but the forward and reverse motion will stop.

How To Use The Gear Shift Rod

1. Release or let go of the Wheel Drive Bail.
2. Wait for wheels to stop moving. NEVER shift gears while the wheels are moving as damage to the transmission may result.
3. Shift the Gear Shift Rod by pushing or pulling to the desired setting.

Throttle Control

When vacuuming and shredding, the Throttle Control should be set at full throttle or the fast position. For starting and stopping the engine refer to the start/stop engine sections.

Wheel Drive Operating Tips

- Operate the machine in a large, level, open area until you are familiar with the unit's operation. Begin with 1st gear and gradually work up to 3rd gear.
- To avoid damaging the transmission, always release the WHEEL DRIVE BAIL and wait for the wheels to stop before shifting gears.
- Forward momentum may cause the machine to gradually coast to a stop after the WHEEL DRIVE BAIL is released.
- Engage the WHEEL DRIVE BAIL slowly when starting off in 3rd gear. The machine may hesitate briefly before the wheels begin turning.
- To make a turn, first raise the front wheels 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.
- Shift to the 1st gear if the wheels lose traction when going up a slope (always avoid excessively steep slopes). Before shifting, turn the machine sideways on the slope to prevent rolling of the machine.
- Never go up or down a slope at an angle as the machine may become unstable and tip over. If the machine does tip immediately shut down the engine and move the machine to stable ground. Check for damage and any spilled fluid.
- Never force the shift bar as damage may result. If shifting is difficult, it may be necessary to manually move the machine a few inches forward or backward while trying to move the shift bar.

Installing Or Emptying The Collection Bag

WARNING

Use the bag at all times - failure to do this could cause serious injury.

- Empty the bag as soon as it is full (check by feeling sides of bag). Overfilling the bag will cause the vacuuming performance to decrease or stop completely and could lead to clogging of the discharge tube, snout, or both.
- Empty the bag completely BEFORE storing the machine to prevent premature deterioration of the bag caused from rotting debris and the possibility of a fire occurring as a result of heat generated by decomposing debris.

Bag Maintenance

- Keep the bag clean by occasionally washing it by hand with mild soap and water. A clean bag improves air flow and results in better vacuuming performance. Do not wash the bag in an automatic washer. Do not use a cleaner which contains bleach. Allow the bag to dry thoroughly before storing.

Installation Of The Bag

1. Locate the two bag hanger straps on the rear (zipper end) of the bag. Attach the two straps to the hooks near the top of the handlebar.
2. Locate the three bag hanger straps on the front of the bag and hang them on the hook and two Carabiners on the front frame.
3. Slip the neck over the discharge tube.
4. Hook the bottom two Latches over the Metal Ring in the Bag Inlet but do not close the Latches at this time.
5. Hook the top Latch over the Metal Ring in the Bag Inlet and close the Latch. Close the bottom two Latches.

Emptying The Bag

1. Shut off the engine, disconnect the spark plug wire from the spark plug, and make sure all moving parts have come to a complete stop.
2. Leave the bag in position between the handles. Unzip the back flap and let the debris fall out. You may have to scoop out the remaining debris with a stick.

Clearing The Machine Of Debris, Clogs Or Jams

A clog or jam in the machine can cause the vacuuming and shredding operations to decrease or even stop completely. If clogging occurs, take the following steps:

1. STOP THE ENGINE IMMEDIATELY and disconnect the spark plug wire from the spark plug. Wait for all moving parts to come to a complete stop.
2. Check (and clean, if necessary) the following areas in this order:
 - Check that the collection bag is not overfilled. Remove and empty it.
 - While the bag is removed, check the discharge chute and determine if it is clogged. Use a stick to clear this chute.
 - Next check the vacuum snout. Remove the vacuum snout by removing four Hand Knobs. If clogged or jammed, use a stick to remove debris.
 - While the vacuum snout is removed, you can see if the shredding chamber is clogged. If clogged, remove the debris with a stick.
 - Check the chipper chute for debris.

Adjusting The Vacuum Snout Height

1. The height of the vacuum snout can be adjusted to allow you to vary the suction to meet the surface conditions. For short turf with light leaf fall, it can be lowered to 1-1/4" off the surface. For long turf and heavy leaf fall, it should be raised to the upper setting about 2 3/4 inches.
2. For moving the machine long distances, you will avoid damage to the snout by raising it to the highest setting.
3. **To raise the snout:** Grasp the height adjuster handle, apply pressure away from the adjuster plate and BACK towards the operators position (**Figure 22**).
4. **To lower the snout:** Grasp the height adjuster handle, apply pressure away from the adjuster plate and FORWARD away from the operator's position.

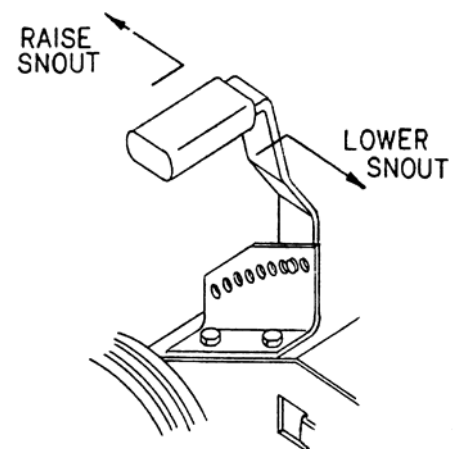


Figure 22

Operating Safety

! WARNING

- The operation of any LEAF and LAWN VACUUM can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear the safety glasses provided with the LEAF and LAWN VACUUM or eye shields before chipping or while performing any adjustments or repairs.
- Only operate your LEAF and LAWN VACUUM from the rear or from the chipper side. 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.



Figure 23

Using The Chipper

- When using the chipper, you can feed branches (up to 2" thick) into the chipper chute for processing by the chipper blade.
- Be sure that the collection bag is empty and in place before chipping.
- Wear safety goggles, gloves, and hearing protection when chipping.
- Start the engine on level ground. Leave the GEAR SHIFT LEVER in N (Neutral).
- To feed materials into the chipper tube, stand a foot or two away from either side of the chipper chute. Do not stand near the hot engine exhaust or muffler (**Figure 23**).
- Use common sense when using the chipper. Learn to recognize the change in sound when the engine is overloading. Pull back on whatever you are chipping if overloading should occur.
- Green or dry branches chip easily and soft wood will chip easier than hard wood. Branches are fed into the chipper chute for chipping. . . one at a time if they are thicker than 1"; several smaller diameter twigs can go together. Since the throat opening is 4 inches wide, some side shoots or side branches may have to be trimmed from the main stalk before chipping. Short stubs of branches may be pushed through the chipper section with the next branch. **NEVER ALLOW YOUR HANDS TO ENTER THE CHIPPER TUBE.** If necessary, push the material further down with a long stick or branch. Be safe, keep your hands away from the chipping blade.
- When chipping branches occasionally a "tail" will be left at the end of the branch (usually green wood), which increases in length as you chip and eventually wraps around the shaft. To avoid this, slowly turn the branch as you feed it into the chipper tube. This will also improve the chipping performance.
- When chipping, frequently empty the bag because of the weight of the accumulative chips.

Using The Vacuum

- Before leaves drop, mow your lawn to the shortest recommended height. Your LLV will vacuum better on short grass.
- A vacuum is designed to be used frequently during periods when leaves are dropping. Do not let leaves get 4" or more deep. The drier the leaves the better.
- The thicker the leaf layer the slower you should proceed. If leaves are wet or matted down use 1st gear, it may be necessary to fluff up leaves before using the vac. If snout clogs try a slower speed.
- Snout height is critical. The snout should ride above the leaf layer to allow proper vacuuming... closer is not always better. The snout flap should scrape the top of the grass.
- You should avoid vacuuming twigs and branches into the snout. This will cause clogging. Process them through the chipper tube.

- Avoid overfilling the vacuum snout. This will cause clogging. Wet and soggy material will also cause clogging. A steady, smaller flow of materials provides the most effective results.
- The bag should not be removed for emptying, simply unzip and dump leaves out. If you wish to move or bag leaves, dump onto a tarp.
- Avoid clogging when vacuuming loose, stringy material such as hay or pine straw, by picking up a small amount at a time. Check and empty the collection bag frequently.
- Use care when vacuuming near plantings, ornamentals, mulches, especially stone and gravel.

 **CAUTION**

If the machine clogs or jams, immediately shut off the engine, wait for all moving parts to come to a complete stop, and disconnect the spark plug wire from the spark plug before machine inspection.

Chapter 4: Maintaining The DR LEAF and LAWN VACUUM

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, shut off the engine, wait for all moving parts to come to a complete stop, and disconnect the spark plug wire 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	▲		
Clean Air Filter		▲	
Clean Engine Exterior & Cooling Fins		▲	
Change Engine Oil	1 st time 5 hours	▲	
Replace Spark Plug			▲
Replace Air Filter			▲

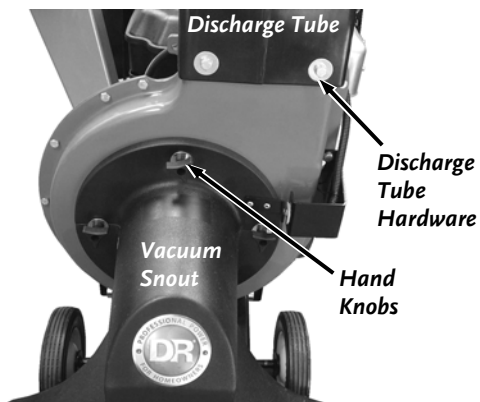


Figure 24

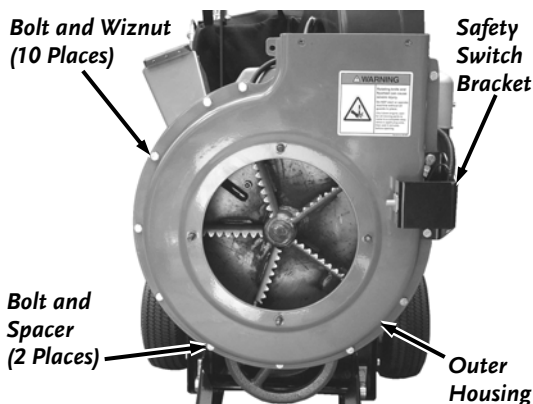


Figure 25

Changing Engine Oil

Check engine oil level regularly - WHILE THE UNIT IS IN A LEVEL POSITION. Check the oil before each usage. Stop engine and wait several minutes before checking oil level. With engine level, the oil must be about a 1/4 inch below the top of the yellow oil fill cap opening. Change oil after the first five hours of operation and every 25 hours thereafter. Refer to the engine manual enclosed with this unit for additional information on your engine.

Replacing the Chipper Blade

Tools and Supplies Needed:

- Two 1/2" Wrenches
- 3/16" Allen Wrench

1. Remove the four Hand Knobs that secure the Vacuum Snout and remove the Snout (**Figure 24**).
2. Remove the Bolts, Lock Washers and Flat Washers that secure the Discharge Tube and set the Tube back out of the way.
3. Remove the two Bolts and Spacers from the bottom of the Housing (**Figure 25**).
4. Remove the ten remaining Bolts and Wiznuts from the Housing.

NOTE: Two of the Bolts and Wiznuts hold the Safety Switch Bracket in place. Simply move the Bracket to the side with the wires still attached.

5. Remove the two Nuts from the Hopper Studs (**Figure 26**).
6. Hold the Bolt Head inside the Housing in place with a 1/2" Wrench or locking Pliers as you remove the Low Profile Locknut (Hopper side) and Hopper together. The Bolt can be left in the Housing.
7. Rotate the Flywheel so the Knife hardware can be accessed from the oval cutout you removed the Hopper from.
8. Use a 3/16" Allen Wrench (Hopper side) and a 1/2" Wrench (Flywheel side) to remove the Knife from the Flywheel.
9. Replace or sharpen knife.

NOTE: Make certain knife is reassembled with the sharp edge toward the slotted opening in the impeller assembly.

10. Reassemble the machine in the reverse order.

Sharpening the Chipper Blade

CAUTION

Discard a cracked or severely nicked knife because it could break apart and damage the machine and cause personal injury.

- Over a period of time, the cutting edge on the chipper cutting knife will dull. The cutting knife must be sharpened or replaced in order to restore performance.
- Sharpen a chipper knife that is dull or that has only small minor nicks. The knife is made from tempered tool steel and is extremely hard - do not attempt to sharpen with a hand file. We recommend that you take the knife to a professional sharpening service or machine shop for proper sharpening. All grinding must be done flat and uniform along the edge. Care must be taken to maintain the same angle on the cutting edge (**Figure 27**).
- Do not reuse a knife that has been sharpened more than 1/8 inch. The removal of this material could affect the balance of the rotor assembly. The rotor assembly will vibrate excessively if it becomes unbalanced.

Bag Maintenance

Keep the bag clean by occasionally washing it by hand with mild soap and water. A clean bag improves air flow and results in better vacuuming performance. Do not wash the bag in an automatic washer. Do not use a cleaner which contains bleach. Allow the bag to dry thoroughly before storing.

Replacing the Belt

1. The Belt can first be pulled from the larger bottom Pulley and then from the smaller top Pulley (**Figure 28**).

NOTE: The Belt Guide will spring away from the top Pulley to allow removal, but you will need to pull it away a bit for Belt installation. The two Belt Guide arms must be on the flat side (outside) of the Belt.

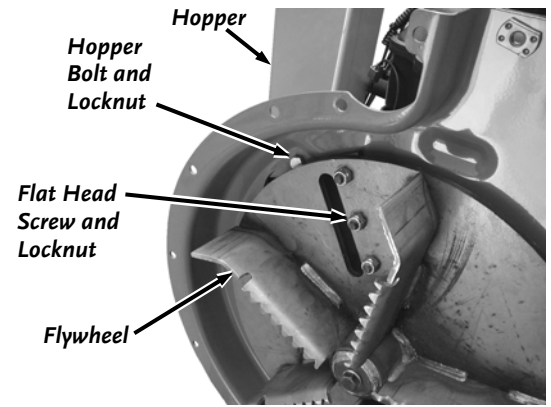


Figure 26

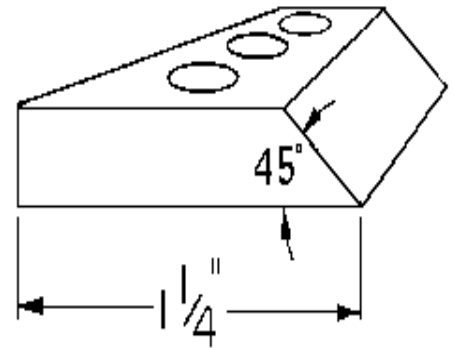


Figure 27

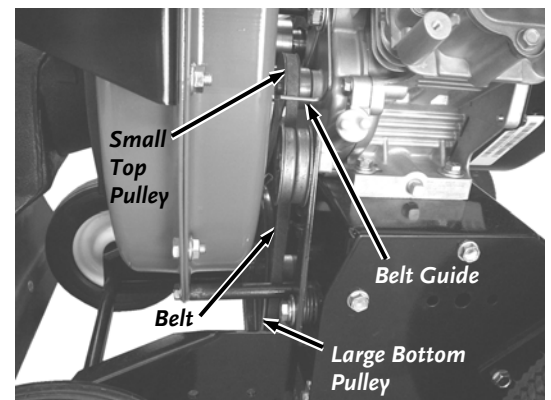


Figure 28

! WARNING

Shut down the engine, remove the spark plug wire and wait 5 minutes for parts to cool before performing before installing the Vacuum Kit.



Figure 29

Tools Needed:

- 5/16" Wrench
- 7/16" Wrench
- Short Flat Head Screwdriver
- Wire Cutters
- Utility Knife

1. Cut the Tape on the Box Flaps with a Utility Knife.
2. Remove the parts from the Box and lay them out on a flat clean area.

Shipping Box Contents (Figure 29 and Table Below)

ITEM#	DESCRIPTION
1	Hose, 6" Dia. X 8' Long
2	Adapter, Vacuum
3	Snout, Pick-up
4	Poly Bag
5	Cable Tie, 32"
6	Handle

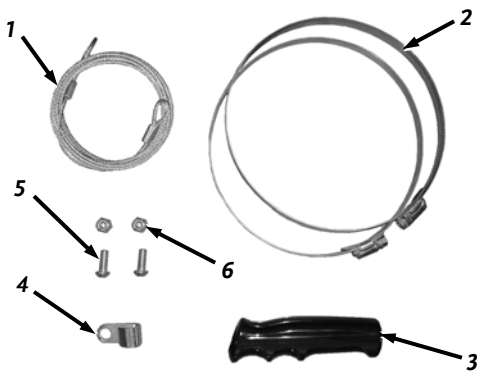


Figure 30

Poly Bag Contents (Figure 30 and Table Below)

ITEM#	DESCRIPTION
1	Tether, Wire
2	Clamp, Hose, 6-1/8"
3	Grip, Handle
4	Guide, Cable
5	Screw, Machine, Rd Hd, 1/4-20 x
6	Nut, Nylon Lock, 1/4-20

Compare the contents of the Shipping Box and Poly with the "Contents" lists above. If you have any questions please contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance.

NOTE: Assembly should be done on a clean, level surface.

3. Unscrew the Hand Knobs and remove the Vacuum Snout from the machine (Figure 31).

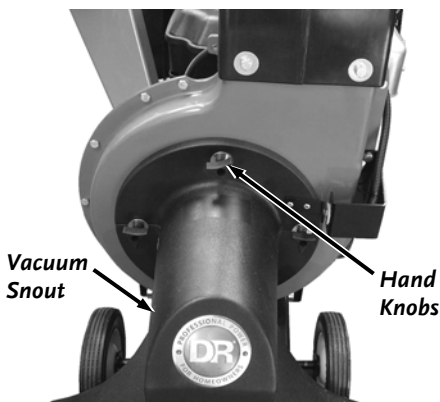


Figure 31

- Place the Vacuum Adapter onto the front of the Housing (**Figure 32**) so the studs are located in the right hand side of the lower slots (**Detail A**). Slide the Adapter to the right and down so the Plunger Bracket on the Adapter pushes the Safety Switch in (**Detail B**).
- Install four 5/16-18 Hand Knobs, with the Cable Guide under the top Knob, onto the studs to secure the Vacuum Adapter.

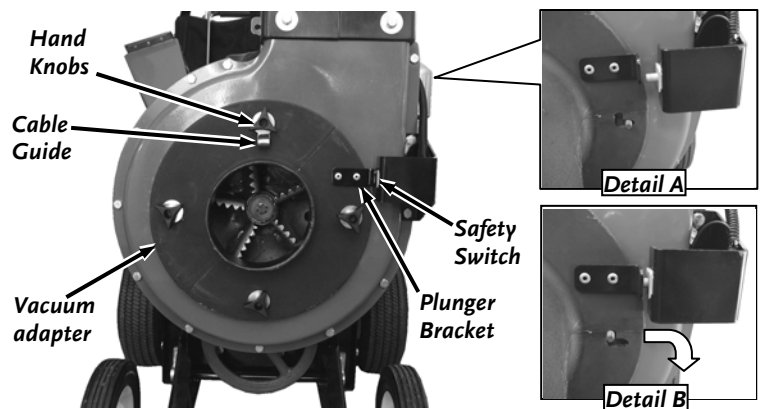


Figure 32

- Secure one end of the Hose onto the Vacuum Adapter with a Hose Clamp using a 5/16" Wrench (**Figure 33**).
- Secure the other end of the Hose onto the Pick-up Snout with a Hose Clamp using a 5/16" Wrench.
- Attach the Handle and the Pick-up Snout loosely together with a Screw (inside snout) and Locknut at the hole at the end of the Handle. Only tighten hand tight for now.
- As you install the next Screw and Locknut, insert the larger loop end of the Wire Tether between the Handle and Pick-up Snout.
- Tighten the two Screws (inside snout) and Locknuts using a Short Flat Head Screwdriver and 7/16" Wrench.
- Hook the small loop end of the Wire Tether onto the Cable Guide.
- Install the three Cable Ties to hold the Wire Tether to the Hose and cut the protruding ends with Wire Cutters.
- Slide the Grip onto the end of the Handle.

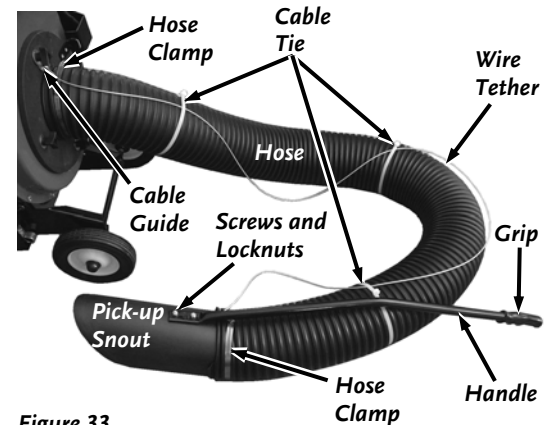


Figure 33

NOTE: The Wire Tether will prevent the Hose from being over extended.

If you have any questions please contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance.

Chapter 6: 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.

WARNING

Shut down the engine, remove the spark plug wire and wait 5 minutes for parts to cool before performing any maintenance procedure or inspection on the Machine.

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 “OFF” 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>Unit does not discharge</i>	<ul style="list-style-type: none"> ⇒ Discharge tube clogged; Stop engine immediately and disconnect spark plug wire. Clean inside of blower housing. See “MAINTENANCE” section of this manual. ⇒ Foreign object lodged in impeller; Stop engine immediately and disconnect spark plug wire. Remove lodged object.
<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>Chipper does not chip</i>	<ul style="list-style-type: none"> ⇒ Solid object jammed in unit; Check & remove any obstruction. ⇒ Broken or missing chipper blade; Replace blade. ⇒ Broken or missing key in rotor assembly; Replace key.
<i>Poor chipping performance</i>	<ul style="list-style-type: none"> ⇒ Dull chipper blade; Sharpen or replace blade. ⇒ Engine not reaching full RPM; contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance. ⇒ Excessively worn engine shaft bearings; contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance. ⇒ Loose bolt on rotor assembly; Tighten bolt. ⇒ Loose chipper blade; Tighten mounting hardware.
<i>Loss of vacuum</i>	<ul style="list-style-type: none"> ⇒ Vacuum snout clogged; Remove & clean. ⇒ Collection bag full; Remove & empty bag. ⇒ Discharge tube clogged; Remove collection bag & clean tube. ⇒ Processing chamber clogged; Remove vacuum snout to clean chamber. ⇒ Engine not reaching full RPM; contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance. ⇒ Fan blades bent or broken; Replace rotor.

Troubleshooting Table (Continued)

WARNING

Shut down the engine, remove the spark plug wire and wait 5 minutes for parts to cool before performing any maintenance procedure or inspection on the vacuum.

SYMPTOM	POSSIBLE CAUSE ; CORRECTIVE ACTION
<i>Loss of traction</i>	<ul style="list-style-type: none">⇒ Drive belt loose; Adjust wheel drive bail cable.⇒ Stretched or broken drive belt; Replace belt.⇒ Wheel drive bail cable tension spring broken; Reconnect spring or replace cable.⇒ Malfunction in transaxle; contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance.
<i>Gear shift lever does not shift</i>	<ul style="list-style-type: none">⇒ Loose gear shift lever; Check connections for loose nuts and bolts.⇒ Broken gear shift linkage; Replace linkage.⇒ Loose transaxle shifting arm; Tighten screw on shifting arm.
<i>Wheels do not stop when Wheel Drive Bail Cable is released</i>	<ul style="list-style-type: none">⇒ Wheel Drive Bail Cable tension spring broken, stretched, or disconnected; Reconnect spring or cable.⇒ Drive belt mis-aligned; Check that belt is properly aligned on pulleys.⇒ Wheel Drive Cable out of adjustment; Adjust cable.⇒ Unit just “creeps”; Shake talcum powder on drive belt.
<i>Product build-up in shredding chamber.</i>	<ul style="list-style-type: none">⇒ Vacuuming too fast; Clean out shredder housing and vacuum at slower speed.

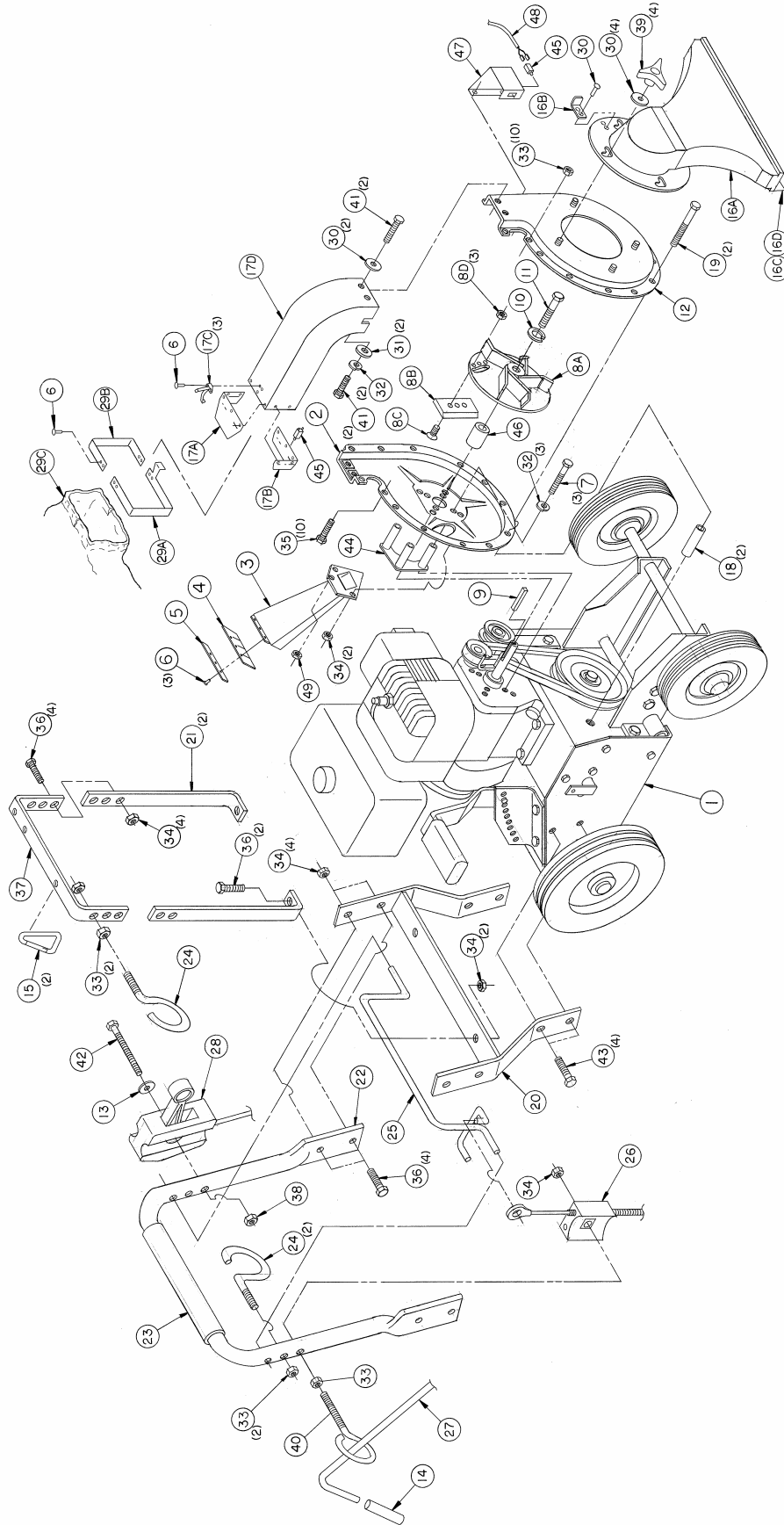
Chapter 7: Parts Lists, Schematic Diagrams And Warranty

Parts List – MAIN ASSEMBLY

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

Ref#	Part#	Description	Ref#	Part#	Description
01	(Ref only)	Drive Train Assembly(see page 26)	27	285911	Rod, Shift
02	284591	Housing Weldment, Engine side	28	215921	Throttle Control
03	284601	Hopper Weldment	29	285931	Bag Assembly, Collection
04	284611	Shield, Blow Back	29A	285721	Bracket, Bag, Left
05	284621	Mount Strip	29B	285731	Bracket, Bag, Right
06	284581	Rivet, 3/16" x 13/32" lg	29C	284681	Bag, Collection
07	284631	Bolt, HHCS, 5/16-24 x 2-1/4", GR5, Pltd	30	149651	Washer, Fender, 5/16", Pltd
08	284641	Complete Impeller Kit (Includes 8A,B,C,D)	31	145151	Washer Flat, 5/16", USS, Pltd.
08A	284351	Shredder Plate Weldment	32	155111	Lock Washer, Med. Split, 5/16", Pltd.
08B	284651	Knife, Chipper	33	144181	Locknut, Whiz, 5/16-18, Pltd.
08C	140671	Screw, Flat Hd. Soc. Cap, 5/16-18 x 1"	34	143131	Locknut, Nylon Lock, 5/16-18, Pltd.
08D	143131	Locknut, Nylon Lock, 5/16-18, Pltd	35	149641	Bolt, HHCS, 5/16-18 x 5/8", GR5, Pltd.
09	144441	Key, 1/4" x 1/4" x 2"	36	146051	Bolt, HHCS, 5/16-18 x 1" GR5, Pltd.
10	216511	Lock Washer, Med. Split, 3/8", Pltd	37	285691	Frame, Bag Hanger, Top
11	202721	Bolt, HHCS, 3/8-24 x 2-1/2", GR8, Blk.	38	143401	Locknut, Nylon Lock, 1/4-20, Pltd.
12	285891	Housing, Inlet	39	285791	Knob, Three, Prong
13	154801	Washer, Flat, 1/4"	40	154821	Eyebolt, 5/16-18 x 5"
14	285661	Grip, Black, 3/8" x 3"	41	167791	Bolt, HHCS, 5/16-18 x 3/4"
15	285631	Carabiner	42	284701	Bolt, HHCS, 1/4-20 x 2-1/4"
16	289031	Snout Assembly, Vacuum Inlet	43	162511	Screw, Self Tapping, 5/16-18 x 3/4"
16A	285951	Snout, Vacuum Inlet	44	285741	Spacer Weldment, Housing
16B	285671	Bracket, Interlock Contact	45	285751	Switch, Plunger
16C	289041	Flap, Snout	46	285761	Spacer, Impeller
16D	289051	Mount, Flap	47	285771	Bracket, Snout Interlock
17	289021	Discharge Chute Assembly	48	285781	Wire Harness, Interlock Switch
17A	285691	Adapter, Bag, Top	49	289061	Nut, Nylon Lock, Low Profile, 5/16-18
17B	285701	Adapter, Bag, Bottom	Labels		
17C	285711	Latch, Draw	242001	Label, Warning, Rotating Knife and Flywheel	
17D	285941	Discharge Chute	241801	Label, Danger, Read Operators Manual	
18	284661	Spacer, Mounting, Lower Housing	282951	Label, Traction Drive	
19	242490	Bolt, HHCS, 5/16-18 x 5-1/4"	282961	Label, Warning, Keep Fingers Away	
20	149431	Handle Weldment, Side	282971	Label, Caution, Hot Surface	
21	285681	Frame, Bag Hanger, Bottom	127811	Label, Warning, Add Oil	
22	284671	Handle, Upper	240531	Label, DR Logo, 4"	
23	289011	Grip, Handle	285651	Label, Shift Rod	
24	149451	Hook, Bag Hanger	--	Label, Warning, Do Not Unzip (comes with Collection Bag #284681)	
25	149411	Bail Weldment			
26	149631	Cable Assembly, Clutch			

Schematic – MAIN ASSEMBLY

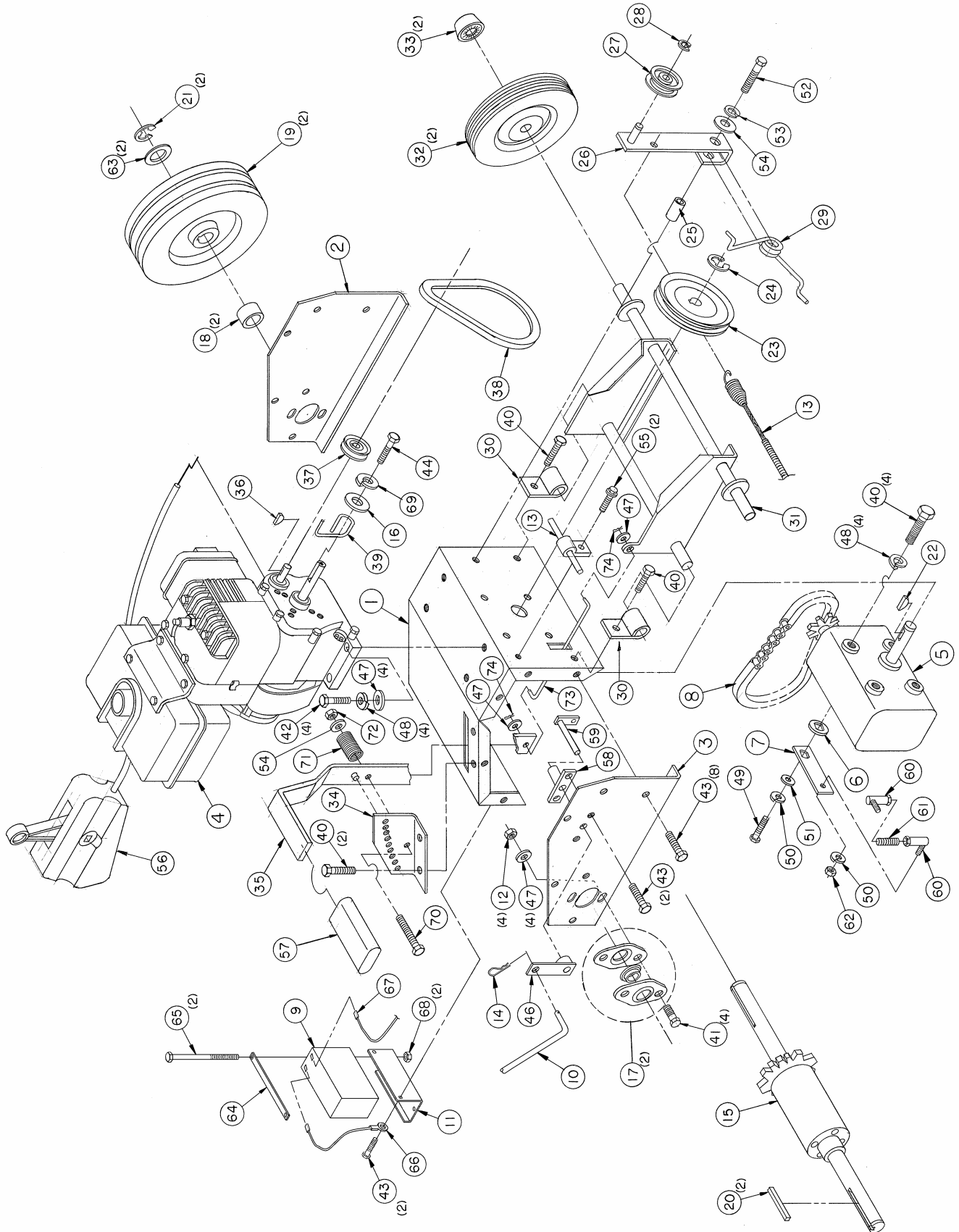


Parts List – DRIVE TRAIN ASSEMBLY

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

Ref#	Part#	Description	Ref#	Part#	Description
01	284271	Base Weldment, Engine	38	289081	V-Belt, 3H330
02	284281	Side Weldment, Left	39	284491	Guide, Belt
03	284291	Side Weldment, Right	40	167791	Bolt, HHCS, 5/16-18 x 3/4", GR 5, Pltd.
04	284301	Engine, B&S, MS	41	146051	Bolt, HHCS, 5/16-18 x 1", GR 5, Pltd.
	285801	Engine, B&S, ES	42	143121	Bolt, HHCS, 5/16-18 x 1-1/4", GR 5, Pltd.
	285811	Engine, B&S, MS, CA	43	289091	Screw, Self-Tapping, 5/16-18 x 3/4"
	285821	Engine, B&S, ES, CA	44	284501	Bolt, HHCS, 5/16-24 x 3/4", GR 5, Pltd
05	284311	Transmission	45	143131	Nut, Nylon Lock, 5/16-18, Pltd.
06	284321	Washer, Shift Lever	46	289101	Shift Arm Weldment, Long
07	284331	Arm, Transmission	47	145151	Washer, Flat, 5/16", USS, Pltd.
08	158491	Chain, #40, .5 Pitch x 24" LG	48	155111	Washer, Lock, Med Split, 5/16", Pltd.
09	285831	Battery (Electric Start Only)	49	284511	Bolt, HHCS, 1/4-28 x 3/4", GR 5, Pltd.
10	285911	Rod, Shift	50	178001	Washer, Lock, Med. Split, 1/4", Pltd.
11	285841	Bracket, Battery (Electric Start Only)	51	154801	Washer, Flat, 1/4", USS, Pltd.
12	143131	Nut, Nylon Lock, 5/16-18	52	217121	Bolt, HHCS, 3/8-16 x 1 3/4", GR 5, Pltd.
13	149631	Cable Assembly, Clutch	53	216511	Washer, Lock, Med. Split, 3/8", Pltd.
14	145861	Cotter Pin, Hair Spring	54	145161	Washer, Flat, 3/8", Pltd.
15	284341	Differential Assembly	55	155121	#10-24 x 1/2" LG Hex Washer Head
16	289071	Washer, Flat, 1/2", USS	56	215921	Control, Throttle
17	284361	Bearing, 2 Hole Flange, 3/4"	57	284521	Grip, Height Adjuster
18	284371	Spacer, Wheel	58	203211	Mount, Shift
19	154971	Wheel, Pneumatic, 4.10/3.50-4	59	203221	Arm, Inner Shift
20	284381	Key, Shaft, 3/16" x 3/16" x 1-1/2"	60	284531	Arm, Linkage
21	205251	E-Ring, 3/4" Dia., Pltd	61	284541	Rod End, 1/4-28
22	284391	Key, Woodruff, 3/16" x 3/4", #606	62	284551	Nut, Hex, 1/4-28
23	163931	Pulley, Transmission	63	284561	Shim, Rear Axle
24	284401	E-Ring, 5/8" Dia., Pltd	64	285851	Hold Down, Bracket (Electric Start Only)
25	203761	Tube, Spacer	65	285861	Bolt, 5/16-18 x 5"
26	284411	Arm Weldment, Idler	66	285871	Cable, Battery, Negative (Electric Start Only)
27	284421	Pulley, Idler			
28	184771	E-Ring, 3/8" Dia., Pltd	67	285881	Cable, Battery, Positive (Electric Start Only)
29	284211	Spring, Torsion			
30	149391	Mount, Pivot	68	285901	Nut, Nylon Lock, 5/16-18
31	284431	Frame, Wheel	69	284201	Washer, Lock, 1/2"
32	284441	Wheel, 8" x 1.75"	70	289111	Bolt, HHCS, 3/8-16 x 2-1/4"
33	154881	Cap, Push Nut	71	289121	Spring
34	284451	Plate, Height Adjuster	72	154481	Nut, Nylon Lock, 3/8-16
35	284461	Lever, Height Adjuster	73	289131	Linkage, Height Adjustable
36	284471	Key, Woodruff, 1/8" x 5/8", #405	74	289141	Cotter Pin, Hair Spring
37	284481	Pulley, Engine, with set screw	--	284571	Cover, Bottom

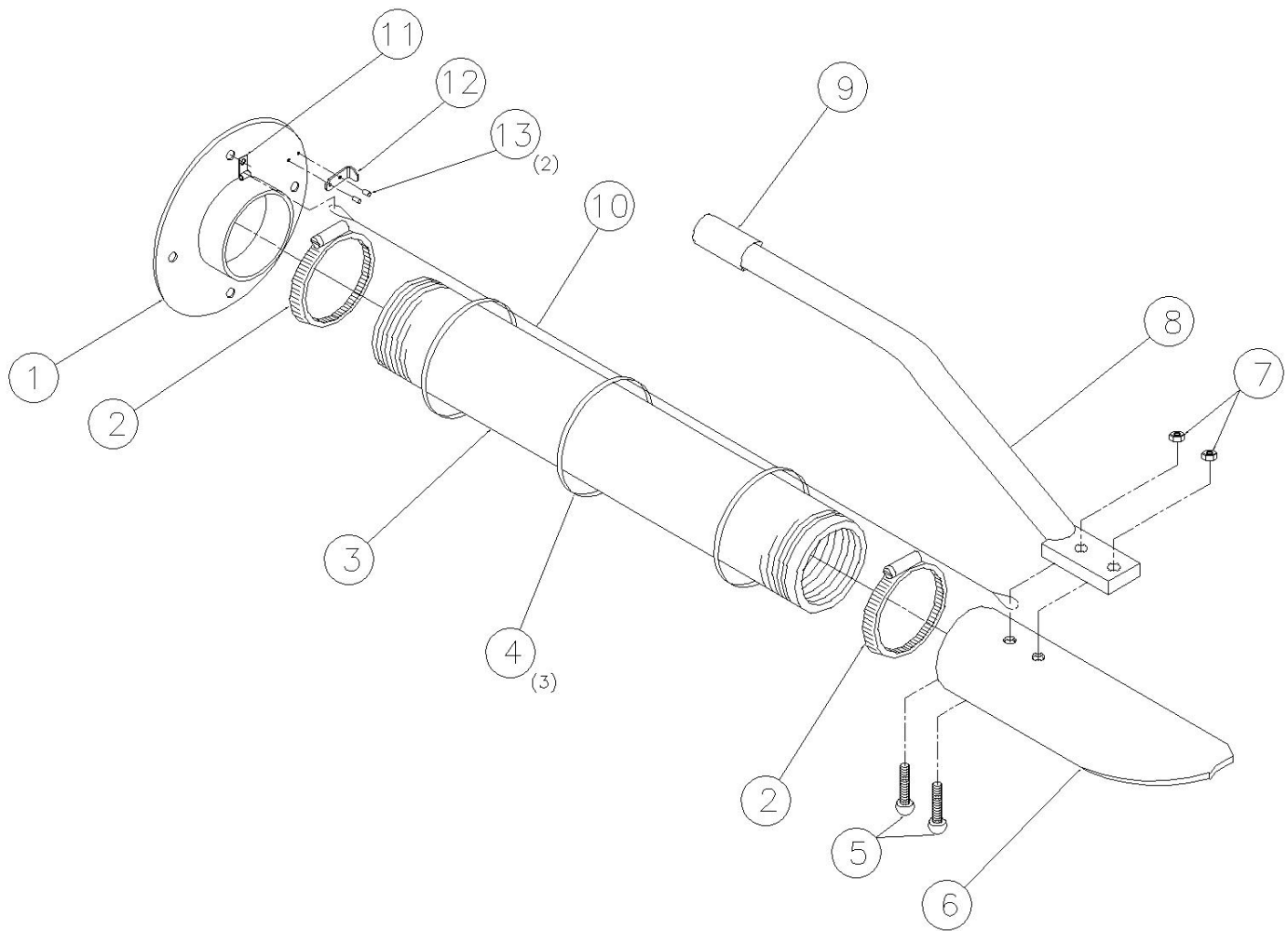
Schematic – DRIVE TRAIN ASSEMBLY



Parts List and Schematic – OPTIONAL VACUUM KIT #284221

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

Ref#	Part#	Description	Ref#	Part#	Description
01	284711	Adapter, Vacuum	08	145451	Handle
02	144401	Clamp, Hose, 6-1/8"	09	144251	Grip, Handle
03	140821	Hose, 6" Dia. X 8' Long	10	145191	Tether, Wire
04	145201	Cable Tie, 32"	11	143061	Guide, Cable
05	145461	Screw, Machine, Rd Hd, 1/4-20 x 3/4"	12	285621	Contact, Interlock
06	145271	Snout, Pick-up	13	284581	Rivet, 3/16"
07	143401	Nut, Nylon Lock, 1/4-20			



Notes:

Notes:

DR[®] LEAF AND LAWN VACUUM



2-Year Limited Warranty

Terms and Conditions

The DR[®] LEAF AND LAWN VACUUM 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[®] LEAF AND LAWN VACUUM 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[®] LEAF AND LAWN VACUUM 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 Air Filter, Batteries, Tires, Debris bags, Spark Plug and Hoses. 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[®] LEAF AND LAWN VACUUM.

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.

Daily Checklist for the DR LEAF and LAWN VACUUM

To help maintain your DR LEAF and LAWN VACUUM for optimum performance, we recommend you follow this checklist each time you use your machine.

! WARNING

Shut down the engine, remove the spark plug wire and wait 5 minutes for parts to cool before performing any maintenance procedure or inspection on the Machine.

- [] Check the engine oil level.
- [] Check Fuel Level
- [] Check the general condition of the Vacuum, e.g.; nuts, bolts, welds, etc.
- [] Check that the Debris Bag is connected at all Hangers, Latches are closed and zipper is fully zipped.
- [] Check for and clean accumulated debris in the Snout or Hopper
- [] Check and clean Engine Fins and controls of Debris.

End of Season and Storage

! WARNING

Shut down the engine, remove the spark plug wire and wait 5 minutes for parts to cool before performing any maintenance procedure or inspection on the Machine.

- If your LEAF & LAWN VACUUM 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, Impeller Housing, Debris Screen, 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.
- Empty and clean the Debris Bag and ensure it is dry.
- 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).



75 MEIGS ROAD, P.O. BOX 25, VERGENNES, VERMONT 05491