

DR[®] TRIMMER/MOWER™

SAFETY & OPERATING INSTRUCTIONS



Model:
PILOT
PILOT XT

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 TRIMMER/MOWER.

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Conventions used in this manual

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 your 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.

OUTDOOR POWER	
MODEL/MODELO/	XXXXXXX
MODELE	
SERIAL NO	XXXXXXX
N° DE SERIE	SERIAL #
NU DE SERIE	
POWER (KW)	XXXXXXX
WEIGHT (KG)	XXXXXXX
ITEM #	XXXXXXX
MANUFACTURED DATE	XXXXXXX
DR POWER EQUIPMENT 800 HINESBURG ROAD SOUTH BURLINGTON, VERMONT 05403	
COUNTRY OF ORIGIN	XXXXXXX
	XXXXXXX

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.

Chapter 1: General Safety Rules

! WARNING

Read this safety & operating Instructions manual before you use the DR TRIMMER/MOWER. 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

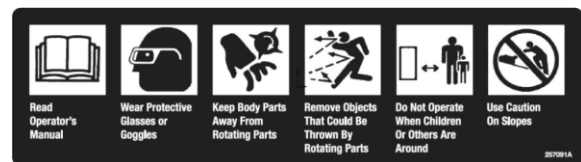
Your DR TRIMMER/MOWER carries prominent labels as reminders for its proper and safe use. Shown below are copies of the Safety and Information labels that appear on the equipment. Take a moment to study them and make a note of their location on your DR TRIMMER/MOWER as you set up and before you operate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



#136491



#137581



#257091

Protecting Yourself and Those around You

! WARNING

This is a high-powered machine, with moving parts operating with high energy at high speeds. 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 using this machine:

- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.
- Always wear protective goggles or safety glasses with side shields while mowing to protect your eyes from possible thrown debris.
- Avoid wearing loose clothing or jewelry, which can catch on the mower's moving parts.
- We recommend wearing gloves while mowing. Be sure your gloves fit properly and do not have loose cuffs or drawstrings.
- Wear shoes with non-slip treads when using your DR TRIMMER/MOWER. If you have safety shoes, we recommend wearing them. Do not use the machine while barefoot or wearing sandals with exposed toes or heels.
- Wear long pants while operating the DR TRIMMER/MOWER.
- Use ear protectors or ear plugs rated for at least 20 dba to protect your hearing.
- Keep bystanders at least 50 feet away from your work area at all times. The tips of the cutting cords on the DR TRIMMER/MOWER can throw sticks, small stones, gravel, and bits of debris over long distances at great velocity. Do not travel over loose materials such as gravel or mulch with the trimmer head spinning. Doing so could cause personal injury or property damage from thrown objects. Release the bail bar to stop the spinning cords and shut off the engine when another person or pet approaches.
- Never tamper with safety devices. Check their proper operation regularly.
- Never operate the machine when under the influence of alcohol, drugs, or medication.
- In an emergency, to quickly stop the cutting cords, remove your hand from the bail bar.

Operating the Mower Safely

WARNING

This is a high-powered machine, with moving parts operating with high energy at high speeds. 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 using this machine:

- Never allow people who are unfamiliar with these instructions to use the DR TRIMMER/MOWER. 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 on or under the mower deck in the path of the spinning cords, belt, pulleys, or near the discharge opening while the engine is running. Keep area of discharge clear of people, animals, buildings, glass, or anything else that will obstruct clear discharge, cause injury, or damage.
- Your DR TRIMMER/MOWER is a powerful tool, not a plaything. Exercise extreme caution at all times. The design of your machine is for trimming and mowing grass, weeds, and other growth as specified in this manual. Do not use it for any other purpose.
- Whenever you leave the operating position to make adjustments, change cords or if you have to remove grass or debris from the underside of the deck, always shut off the engine and wait five minutes to allow parts to cool. Disconnect the spark plug wire and keep the wire away from the spark plug to prevent accidental starting.
- When operating over uneven terrain and slopes, use extreme caution to ensure solid and firm footing. Keep a firm hold on the handlebar and walk, never run.
- Stop the cutting cords when crossing gravel drives, walks, or roads.
- Never operate your unit on a slippery, wet, or muddy surface. Exercise caution to avoid slipping or falling.
- Always operate the mower from behind the handlebar. Never pass or stand on the discharge side of the machine when the engine is running or cutting cords are spinning.
- Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the DR TRIMMER/MOWER. This includes all shields and guards. Modifications to your machine could cause personal injuries and property damage and will void your warranty.
- If the cutting cords strike a foreign object or if your machine should start making an unusual noise or vibration, stop the engine and wait five minutes for all moving parts to come to a complete stop and cool. Vibration is generally a warning of trouble. Disconnect the spark plug wire and inspect for damage. Clean and repair and/or replace damaged parts.
- While using the DR TRIMMER/MOWER, 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. Make sure that you have 100% control of the mower at all times.
- Watch for traffic when mowing near roadways.
- Use the machine only in daylight.
- Be cautious when using your DR TRIMMER/MOWER around fencing, wires, ropes, and hoses. It is possible that these and other debris can become wound around the line plates of the machine, potentially damaging the bearings or injuring you.
- Do not operate the DR TRIMMER/MOWER on slopes greater than 20 degrees.
- Keep all nuts and bolts tight and keep the equipment in good operating condition.

Safety for Children and Pets

WARNING

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

- Keep children and pets out of the working area and under the watchful care of a responsible adult.
- Be alert and turn the machine off if children or pets enter the work area.
- Never allow children to operate the DR TRIMMER/MOWER.
- 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.
 - Replace rubber fuel lines and grommets when worn or damaged and after 5 years of use.
 - Fill the gasoline tank outdoors with the engine off and allow the engine to cool completely. Don't handle gasoline if you or anyone nearby is smoking, or if you're near anything that could cause it to ignite or explode. Reinstall the fuel tank Cap and fuel container cap 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 in any enclosure. Never store a machine that has gas in the tank, or a fuel container, near an open flame or spark such as a water heater, space heater, clothes dryer or furnace.
 - Never make adjustments or repairs with the engine running. Shut down the engine, wait 5 minutes, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting before making adjustments or repairs.
 - Never tamper with the engine's governor setting. The governor controls the maximum safe operation speed and protects the engine. Over-speeding the engine is dangerous and will cause damage to the engine and to the other moving parts of the machine. If required, see your authorized dealer for engine governor adjustments.
 - Keep combustible substances away from the engine when it is hot.
 - Never cover the machine while the muffler is still hot.
 - Do not 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 the air filter.
 - The muffler and engine become very hot with use and can cause a severe burn; do not touch. Allow the engine to cool before refueling, doing maintenance, or making adjustments.
 - Do not mow in the rain. Water on the spark plug may cause the engine to stall.
 - Keep combustible substances away from the engine when it is hot.
 - Never cover the machine while the muffler is still hot.
-

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® TRIMMER/MOWERS 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.

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 DR TRIMMER/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 TRIMMER/MOWER

It may be helpful to familiarize yourself with the controls and features of your DR TRIMMER/MOWER 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 TRIMMER/MOWER Controls and Features

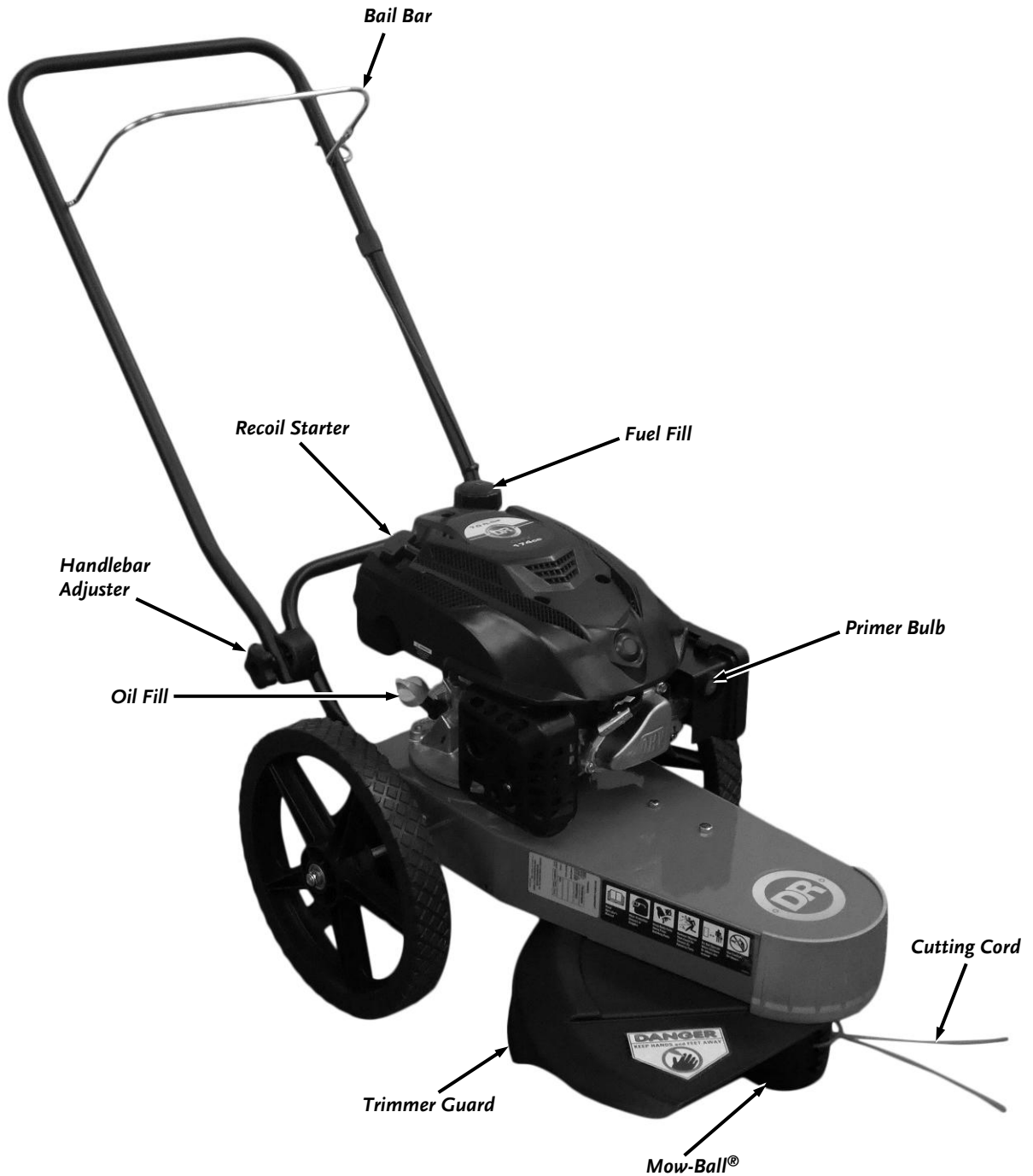


Figure 1

Specifications

Engine	DR 7.0 ft-lbs Torque, Manual Start, See Engine Owners Manual for details
Engine Speed	3500 rpm
Cutting Width	22"
Cutting Height	5 Heights, 1.5" to 3.5"
Cutting Speed	3800 RPM
Cord Size	Green .155" Round, Blue .175" Spiral, 25" Long
Belt	V-Belt, 3L440R
Wheels	14" x 1.75" Wide, Resin, Steel Bearings
Frame	14 Gage Steel
Mow-Ball	4" Diameter, Super-Tough Nylon
Machine Dimensions	50.2" L x 21.6" W x 37.9" H
Machine Weight	55 Lbs
Accessories	12" Beaver Blade, DR DuraBlade, and Weather Cover

Hardware Supplied in Hardware Bag (for machines shipped with Wheels uninstalled)

Part#	Description	Qty
15233	Nut, Nylon Lock, 7/16-20, LP	2

Installing the Wheels (if Wheels were shipped uninstalled)

Tool needed:

- 5/8" Wrench

1. Remove the Locknuts from the Hardware Bag.
2. Slide the wheel onto the axle with the plastic hub facing out (**Figure 2**).
3. Install a 7/16-20 Locknut with a 5/8" Wrench.
4. Repeat for the other wheel.

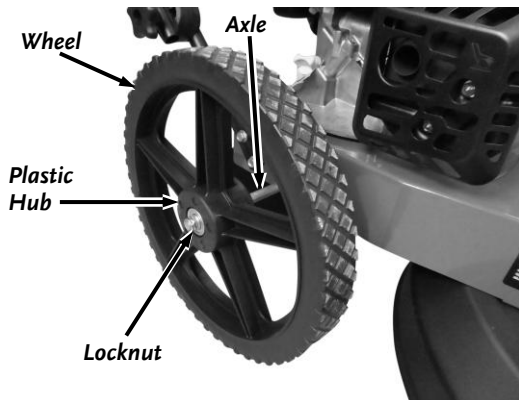


Figure 2

NOTICE

The Lower Handlebar may have been loosened during shipping. Make sure that the Bolts attaching the Lower Handlebar to the Frame are tight.

Adjusting the DR TRIMMER/MOWER Handlebar

Tool needed:

- 1/2" Wrench

Check the tightness of the four Bolts that secure the Lower Handlebar to the Frame using a 1/2" Wrench (**Figure 3**).

The Handlebar folds down for easy storage and the DR TRIMMER/MOWER is shipped to you with them folded.

Note: Ensure that the teeth of the Handlebar Adjusters mesh correctly as you tighten the Knobs in the following step.

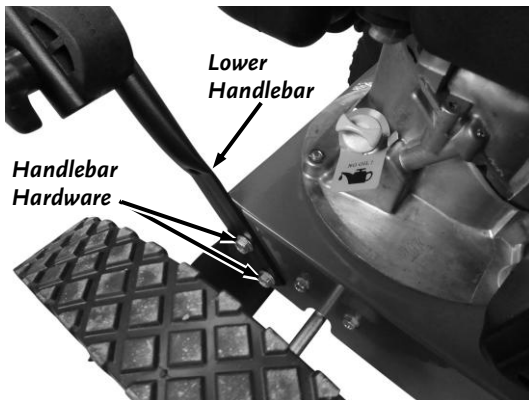


Figure 3

1. Loosen both the Adjustment Knobs and move the Handlebar up or down until the Notches on the Adjusters are aligned on both sides and tighten the Knobs (**Figure 4**). This puts the Handlebar at a comfortable operating position for many people.

Note: It is important to find a Handlebar height that allows the Mow-Ball® to comfortably hover just above the ground. When in use, proper adjustment is critical to best performance. You may find you like different Handlebar heights for different mowing conditions.

2. For other Handlebar height settings, loosen the Knobs, move the Handlebar up or down until you are comfortable, and then tighten the Adjustment Knobs securely. Take note of how many teeth you have moved away from the aligned notches to align both sides.

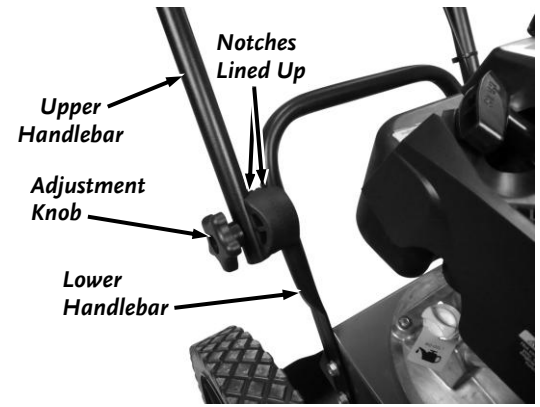


Figure 4

Installing the Cutting Cords

Note: Soaking the Cutting Cords and trimming the ends at an angle will make installation easier.

1. Insert the ends of one Cord into the side openings in the Line Plate (**Figure 5**).
2. Push the Cord through until the ends come out the center hole in the Line Plate. Adjust the Cord so the tips are even. If you have trouble getting the Cord ends to go into the side openings and out the center, use Pliers to push in to get them started.
3. Pull the Cord ends under the loop and push the loop up into the Line Plate groove above them (**Figure 6**) and then pull tight.
4. Repeat to install a second Cord on the opposite side of that same Line Plate.

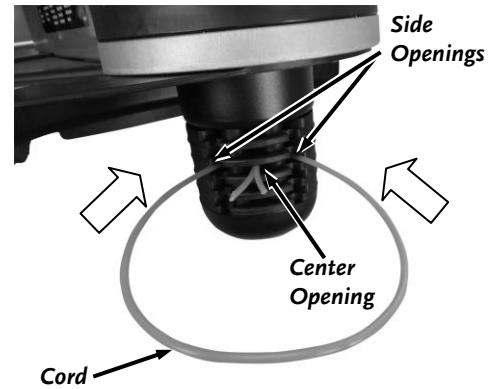


Figure 5

NOTICE

If the tips of the cords are not even, it can cause unbalance of the trimmer and will result in increased vibration.

Figure 7 illustrates Cords installed in a Line Plate. It shows the Line Plate from a top view. It may look complicated, but once you have done it a couple of times, it's easy. There are two installation points on each Line Plate. Each point is 180 degrees apart. Always install two Cords, one opposite the other.

Extending Cutting Cord Life

- **STORE YOUR CORD OUT OF THE SUN.** UV can damage your cord causing premature wear.
- **KEEP YOUR CORD HYDRATED.** It is best to soak your cord in water for at least 3 days before using.

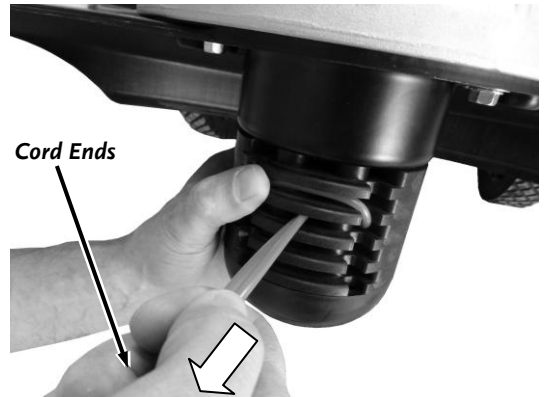


Figure 6

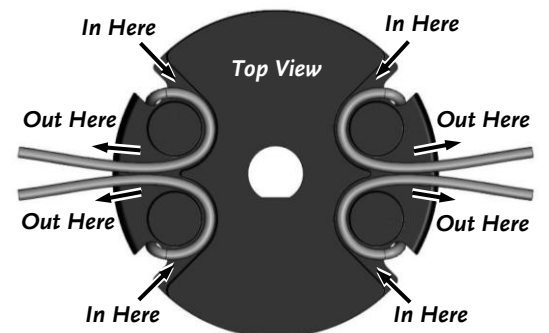


Figure 7

Adding Oil and Gasoline

Note: Refer to the Engine Manufacturers Manual for more detailed Engine information.

Tip: To avoid confusion, we recommend leaving the caps ON the Fuel and Oil Fills until you are ready to pour either gasoline or oil into the correct Fill.

Note: You will need approximately 10 to 17 ounces of SAE 30 high detergent oil depending on Engine type. Use only SAE 30 high detergent oil classified "For Service SF, SG, SH, SJ" or higher. Do not use special additives. Other types of oil could cause problems with the operation of your machine. Please refer to your Engine Owner's Manual for detailed information on oil quantity and cold temperature oil specifications.

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 get an accurate reading when checking the oil level:
 - The machine should be on a level surface.
 - The dipstick should not be screwed down to ensure an accurate oil level reading.

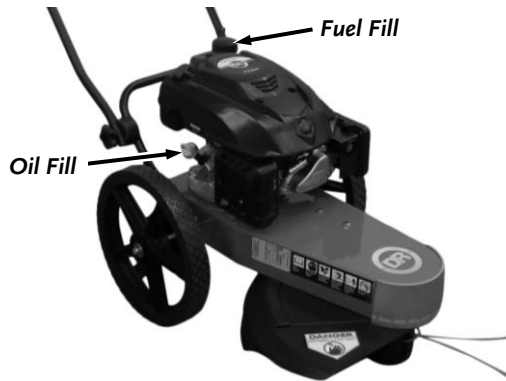


Figure 8

1. Place the machine on a level surface and initially add 1/2 of the SAE 30 High Detergent oil into the Oil Fill (**Figure 8**) and wait one minute for the oil to settle.
2. Insert the Dipstick, but do NOT fully screw it down to check the reading. Continue adding a few ounces of oil at a time, rechecking the Dipstick until the oil reaches the fill mark. Be careful not to overfill.

! WARNING

Fill the fuel tank outdoors or in a well-ventilated area, away from sparks, open flames, pilot lights, heat, and other ignition sources.

3. Fill the Fuel Tank with fresh, unleaded gas (with a minimum of 85 Octane and no more than 10% Ethanol), to not more than 1/4" from the bottom of the Fill Neck to allow for Fuel expansion. Be careful not to overfill and make sure to reinstall the Cap before starting the Engine. See your Engine Owner's Manual for more information.

Note: To refill the Fuel Tank, turn the Engine OFF, and let the Engine cool at least two minutes before removing the Fuel Fill Cap.

Chapter 3: Operating the DR TRIMMER/MOWER

! WARNING

- The design of your machine is for trimming and mowing grass, weeds, and other growth as specified in this manual. Do not use it for any other purpose as it could cause serious injury.
- Contact with internal rotating parts will cause serious personal injury. Never put hands, face, feet, or clothing under the trimmer/mower deck or discharge opening at any time.
- Before performing any adjustments to the trimmer cords or any other procedure or inspection, stop the engine, wait five minutes to allow parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.

Before Starting the Engine

1. Check the oil level every time you use the DR TRIMMER/MOWER (**Figure 9**).
2. Check the fuel level.
3. Remove any debris buildup from the top of the Engine and the underside of the machine.

Note: See the Engine Manual for more detailed and specific information on operating the Engine.

Starting

1. Push the Primer Bulb in and release 3 times (**Figure 9**).

Note: The Primer Bulb should not need to be pushed if the Engine is already warm.

2. Pull the Bail Bar and hold it against the Handlebar (**Figure 10**).
3. Grasp the Recoil Starter Handle and slowly pull until you feel resistance. Let the cord retract a little bit and then pull the cord rapidly to start the Engine. One or two pulls usually starts the DR TRIMMER/MOWER.

Stopping the Engine

1. Release the Bail Bar to stop the Engine.

Engaging the Trimmer Head

1. The Trimmer Head is always engaged when the Bail Bar is held against the Handlebar with the Engine running.

! CAUTION

It is important for proper operation to keep the top of the engine clear of grass and debris so the engine can pull air through to stay cool. If the top of the engine is clogged then the engine could overheat causing engine damage.

Stopping the Cords from Spinning

1. Release the Bail Bar from the Handlebar. The Engine will stop and the Trimmer Head will stop spinning.

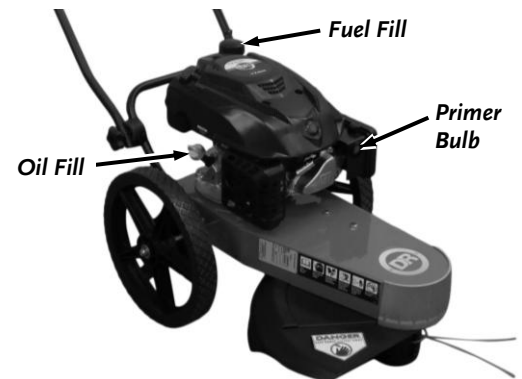


Figure 9

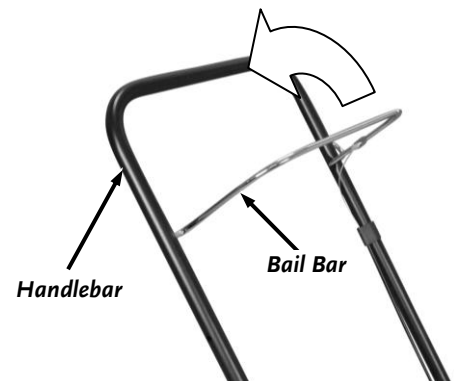


Figure 10

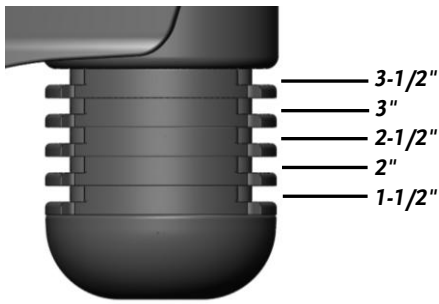


Figure 11

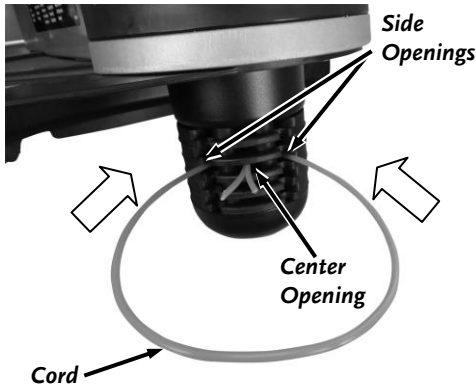


Figure 12

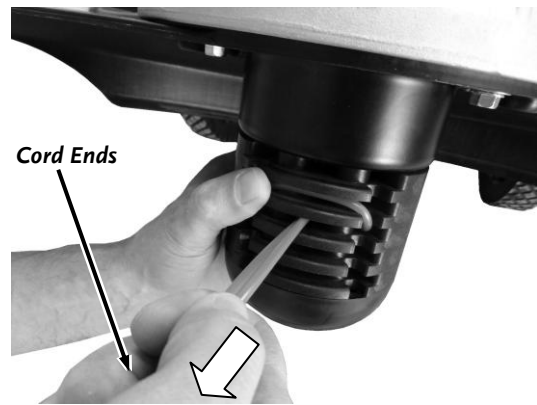


Figure 13

Setting the Cutting Height

Setting the Cutting Height is easy. Cutting heights range in 1/2-inch increments from 1-1/2 inches (minimum) when using the bottom Line Plate, to approximately 3-1/2 inches when using the top Line Plate (**Figure 11**).

Install the Cutting Cords in the Line Plate that gives you the desired cutting height.

Installing the Cutting Cords

! WARNING

Before installing the Trimmer Cords, release the Bail Bar to stop the engine and Trimmer Head, wait five minutes to allow parts to cool and disconnect the spark plug wire, keeping it away from the spark plug.

NOTICE

Running the trimmer with only one cord installed, cords of unequal length or cords installed at other than 180 degrees apart can cause excessive vibration and may damage the machine.

1. Insert the ends of the Cord into the side openings in the Line Plate (**Figure 12**).
2. Push the Cord through until the ends come out the center opening in the Line Plate. Adjust the ends so the tips are even.
3. Pull the ends of the Cord under the loop and push the loop up into the Line Plate groove above them (**Figure 13**) and then pull the ends tight.

For more detailed information refer to "Installing the Cutting Cords" section in Chapter 2.

Note: After you install the Cords, and before trimming, run the engine for a few seconds so the Cords pull tight and are set into the Line Plates.

Cord Tips

We ship two (2) thicknesses of Cutting Cord with your DR TRIMMER/MOWER.

The Cords are Blue (175-mil) and Green (155-mil). Because conditions and vegetation vary so much, you should experiment with Cord weights (diameters) to discover what works best for your particular mowing and trimming situations. Here are a few things to keep in mind:

- If you buy Cutting Cord in rolls, cut it in 25" lengths. Cut them at an angle so they will be easier to install.
- Soak your Cutting Cord in a bucket of room temperature water for a few days before use to make it more pliable. Storing the Cord in a plastic bag with a damp sponge or cloth will help keep it pliable
- Cord life depends on trimming conditions. Replace Cords when they become broken or frayed.
- The smallest diameter Cord capable of cutting the material at hand combined with the fastest Engine speed usually provides the best grass trimming performance. When you need more power for thicker growth such as berry canes, brambles, thistles, or ragweed, you may want to use the 175-mil Cord in combination with the highest Engine speed.
- Ease the ends of the Cord into heavy growth and move slowly through thick growth. If there are woody weeds in the material you are cutting, the cutting Cords may wrap around the stalks they cannot cut, and pull away from the Trimmer Head.
- Please note that installing more than two (2) Cords at a time does not improve trimming performance, in fact, it can lessen it. Adding additional Cords creates drag on the Trimmer Head, robs the Engine of power, and may cause wrapping. Installing two (2) Cords, 180 degrees apart, on the same line plate, is the best method for optimal trimming performance.
- When replacing Cords, do it one at a time and use the old Cord to mark the position for the new Cord that you are replacing.
- If the Cord breaks off flush at the Line Plate, use needle nose pliers to pull out the old Cord.
- UV light can degrade cord, store out of direct sunlight.

The Mow-Ball®

Allow the front end of the machine to rest lightly on the Mow-Ball® or keep the mow ball raised slightly above the ground as you are trimming. When mowing the Mow-Ball should glide on the ground as you maneuver the machine. To achieve the best and smoothest cut, do not lift up on the Handlebar while operating your DR TRIMMER/MOWER. Lifting the Handlebar will force weight down on the Mow-Ball®. This uses more energy, slows the cutting, and produces an unsatisfactory cut (**Figure 14**).



Figure 14

Obstacles

Dealing with obstacles in the terrain is easy with your new DR TRIMMER/MOWER. The following section explains how to approach most common obstacles.

WARNING

The trimmer engine's power can easily throw stones, sticks, and other debris at great velocity, which could cause personal injury or property damage. Do not run the machine over gravel driveways or over loose stones or mulch with the trimmer head spinning.



Figure 15

Tip: The DR TRIMMER/MOWER discharges cut material to the right. Always try to cut and trim with the uncut tall grass or weeds on the left.

- Always check your work area before trimming and remove any debris that might tangle or damage the machine.
- If you do run into debris and the Trimmer becomes tangled, release the Bail Bar to turn off the Engine and disconnect the Spark Plug wire before attempting to untangle the machine.
- For the neatest appearance, do your trimming first to discharge clippings away from borders and shrubs, then do your mowing.
- Many owners like to mow easy, open areas with their regular riding or walk-behind mower and finish trimming all the odd and hard-to-reach spots with the DR TRIMMER/MOWER (**Figure 15**).

Heavy Growth

- Take your time in heavy growth.
- Be sure to keep uncut material to your left, maintaining a clear discharge area to your right (**Figure 16**).
- If the machine cannot do it all in one pass, overlap half of the cutting swath.
- If the grass is very thick and heavy, try raising the Trimmer Head off the ground a few inches by pushing down on the Handlebar. Cut the material at this height, and then make a second pass with the Mow-Ball® close to the ground.
- Ease the DR TRIMMER/MOWER into denser growth. If the material is too tough or woody to cut, the Cutting Cords will wrap around it, wear down, or even break off.
- Sometimes the growth is so heavy that you cannot mow it in rows. Use a forward and back “vacuum cleaner” motion in these cases.

Tip: Use the “two pass”, one half overlap method, whenever possible.



Figure 16

Wet Conditions

CAUTION

Make sure of your footing when operating in wet conditions.

Because there is no housing to restrict the flow of cut material, you can also use your DR TRIMMER/MOWER to mow wet or heavy growth. You can use the DR in damp conditions, after a rain, or in the early morning dew without clogging or stalling. You can also mow wet areas such as ditches and around ponds (Figure 17).

Note: NEVER mow in the rain. Water on the Spark Plug may cause the Engine to stall.



Figure 17

Very Dry Conditions

NOTICE

Frequently remove debris from the recoil guard on top of the engine and the cooling fins on the front of the engine to prevent overheating and engine damage.

When trimming and mowing in very dry conditions, be extra cautious of cut grass, chaff, weeds, seeds, etc., accumulating on the Engine, especially around the Recoil-Starter Housing and Engine Cooling Fins. Please see the Engine Owner's Manual for more detailed information on cleaning the Air Intake, Air Filter, and Cooling System on the Engine.

Slopes

CAUTION

Make sure of your footing when operating on slopes.

You can trim and mow on slopes up to 20 degrees. Continuous use on slopes steeper than 20 degrees may deprive the Engine of adequate lubrication, and damage components.

Windrows

The DR TRIMMER/MOWER Cutting Cords cut even tall grass in just one pass, so you can collect clippings and leaves for mulch without raking. The machine ejects cut material to its right side, so you can use it like a lawn broom to make windrows for easy clean-up.

Firebreaks

Use your Trimmer as a labor saving tool to cut material when creating firebreaks.

Garden Clean-Up

The DR TRIMMER/MOWER is perfect for cutting down dead perennials, annuals, and wildflowers, saving you hours of hand pruning and deadheading. You can also re-cut downed material a second time to create mulch for garden beds.

Chapter 4: Maintaining the DR TRIMMER/MOWER

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 (5) minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.

Regular Maintenance Checklist

Note: Consider that the service intervals shown are the maximum under normal operating conditions. Increase frequencies under extremely dirty or dusty conditions.

PROCEDURE	BEFORE EACH USE	EVERY 25 HOURS	EVERY 50 HOURS	EVERY 100 HOURS
Check Engine Oil Level and add as needed.	▲			
Clean Engine Exterior, Cooling Fins and remove collected grass trimmings.*	▲			
Check General Equipment Condition, e.g. Nuts, Bolts, Welds, etc.	▲			
Check Air Filter for debris and clean or replace as needed.	▲			
Replace broken or frayed Cutting Cords.	▲			
Check the Mow-Ball® Line Plates for excessive wear.	▲			
Check the Trimmer Belt for wear, damage and stretching.		▲		
Lubricate Engine to Bail Bar Cable with SAE 30 Oil.		▲		
Change the Engine Oil	1 st time 5 hours	▲		
Replace the Engine Air Filter Cartridge and foam Pre Filter if equipped.		▲		
Remove the Trimmer Guard and clean out any collected debris		▲		
Replace the Trimmer Belt			▲	
Replace the Spark Plug.				▲

* Cleaning the top of the Engine during use is critical for proper air flow. Keeping the Engine clear of debris is necessary for optimum performance.

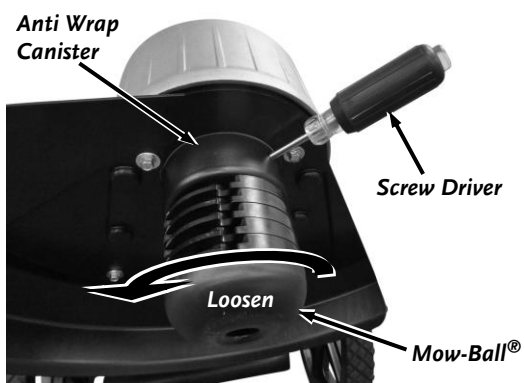


Figure 18

Replacing the Mow-Ball® or Line Plates

Tools and Supplies Needed:

- Phillips head Screwdriver with at least a 6" shank
- Gloves

Disassembly

1. Align the hole in the Anti Wrap Canister with the hole in the internal housing at the location shown (**Figure 18**).
2. Insert a Philips Head Screwdriver into the hole in the Anti Wrap Canister and the hole in the internal Housing.
3. Rotate the Mow-Ball® Assembly until the Screw Driver slides into a hole in the shaft, locking it into place.

4. Looking down at the top of the Frame, turn the Mow-Ball® clockwise until it unscrews completely from the Bearing Housing.

Note: If the Mow-Ball® continues to turn, but does not come off, check to be sure that you locked the Screwdriver into the shaft.

If the Mow-Ball will not turn by hand a 9/16" Socket can be used on the Bolt (inside the bottom of the Mow-Ball) to loosen it. You may need to clean grass or debris out of the recess first.

5. Slide the Line Plates, Anti Wrap Canister and Spacer off the Shaft (**Figure 19**).

Assembly

NOTICE

Improper installation can cause damage to the trimmer bearings. Follow these directions carefully to protect your machine from damage. Reassemble the components in the order shown in **figure 19**.

1. Place the Spacer and Anti Wrap Canister (with the lip facing up) onto the Shaft (**Figure 19**).
2. Ensure the Line Plates are facing top side up as shown. Align the flats at the center of the Line Plates with the flat on the shaft as you slide them onto the Shaft. Ensure the Tabs on the underside of the Line Plates are fully into the holes on the tops of the Line Plates so they will fit together tightly.
3. Place the head of the Mow-Ball® Bolt so it is sitting in the hex cavity at the bottom of the Mow-Ball®.
4. Looking down at the top of the Frame, hold the Bolt Head in place with your finger and turn the Mow-Ball® counterclockwise to start the Bolt into the Shaft.
5. Tighten the assembly securely by turning the Mow-Ball® counterclockwise when looking down on the top of the Frame.
6. Remove the Screwdriver.

Note: When finished there should be no gaps between any of the components.

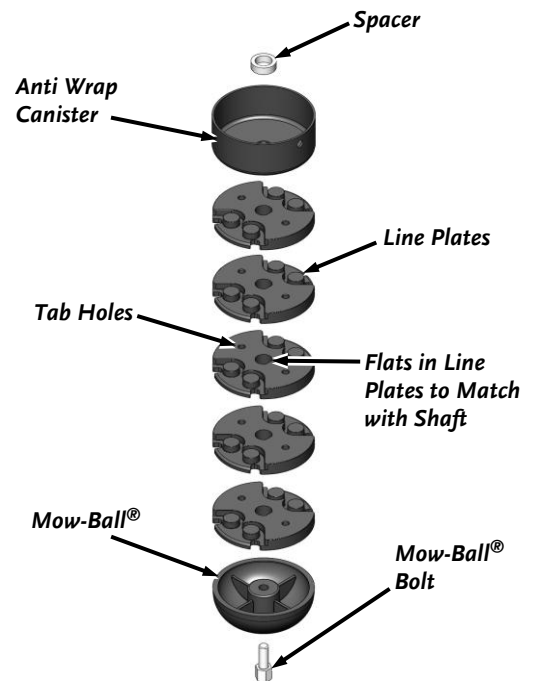


Figure 19

! WARNING

Always make sure you remove the screwdriver from the head assembly when finished. Failure to remove the screwdriver could cause injury when the head assembly is engaged.

Replacing the Trimmer Belt

NOTICE

Use only DR belts on your machine. Do not use hardware store variety belts.

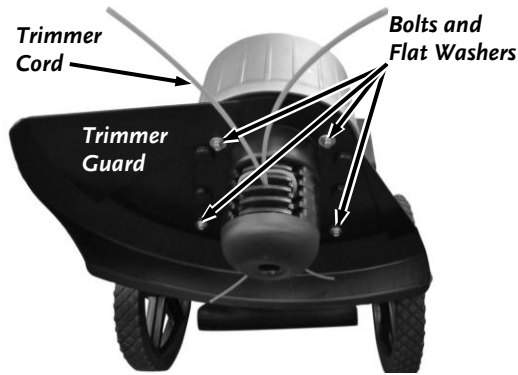


Figure 20

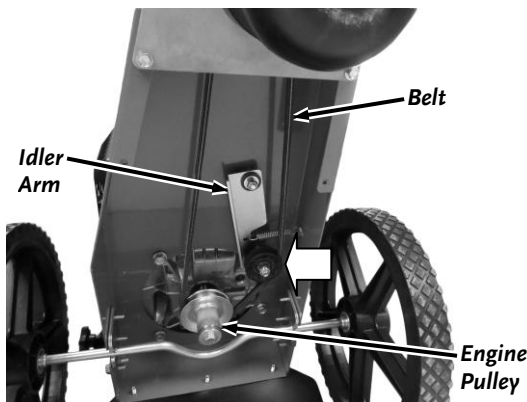


Figure 21

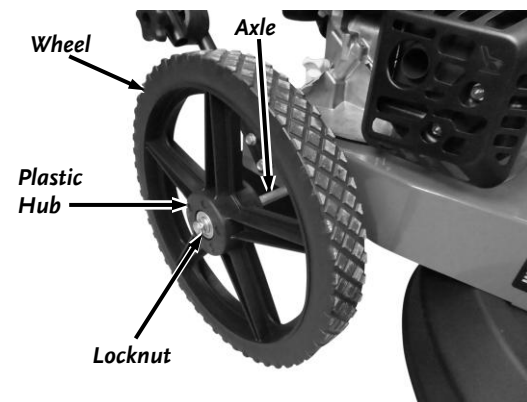


Figure 22

Tools and Supplies needed:

- 3/8" Wrench

1. Tip the machine back to access the underside.
2. Remove the Trimmer Cords from the Head Assembly.
3. Remove the four Trimmer Guard Bolts and Flat Washers with a 3/8" Wrench. Remove the Trimmer Guard (**Figure 20**).
4. Move the Idler Arm away from the Belt and lift the Belt off the Idler Pulley (**Figure 21**).
5. Remove the Belt from around the Engine and Head Assembly Pulleys.
6. Install a new DR Drive Belt around the Engine and Head Assembly Pulleys.
7. Move the Idler in and install the Belt onto the Idler Pulley.
8. Position the Trimmer Guard and secure with the four Bolts and Flat Washers using the 3/8" Wrench (**Figure 20**).
9. Install the Trimmer Cord and tip the Trimmer down on the Head Assembly.

Replacing the Wheels

Tool needed:

- 5/8" Wrench

1. Block and stabilize the machine so that the Wheels are off the ground.
2. Remove the Locknut using a 5/8" Wrench (**Figure 22**).
3. Slide the Wheel off the Axle.
4. Install the new Wheel and secure with the Locknut.
5. Repeat for the other Wheel.

Changing the Engine Oil

Note: Remove the oil when the Engine is warm. Warm oil vacuums more quickly and completely.

Preferred Method

Tools and Supplies needed:

- SAE 30 HD Oil (refer to your Engine Owner's Manual for quantity required)
- Small Engine Oil Extractor
- Rags

1. Remove the Oil Cap/Dipstick and position the tube of the Extractor into the Oil Cap/Dipstick hole (**Figure 23**).
2. Remove the Oil as described in the Oil Extractor instructions.
3. Refill the Engine using SAE 30 HD oil to the level indicated on the Dipstick.
4. Replace the Oil Cap/Dipstick when finished.

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

Alternate Method

Tools and Supplies needed:

- SAE 30 HD Oil (refer to your Engine Owner's Manual for quantity required)
- Approved Oil Container
- Rags
- Wooden pallet or workbench

1. For convenience, place the machine up on a wooden pallet or workbench.
2. Remove the right side Wheel as described in "Replacing the Wheels" on page 18.
3. Remove the Oil Cap/Dipstick and position an approved oil container near the Oil Cap/Dipstick (**Figure 23**).
4. Securely tighten the Gas Fill Cap.
5. Using the handle of the DR TRIMMER/MOWER, tip the machine to drain the oil out through the Oil Cap/Dipstick hole into the approved oil container.
6. Refill the Engine using SAE 30 HD oil to the level indicated on the Dipstick.
7. Replace the Oil Cap/Dipstick when finished.

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

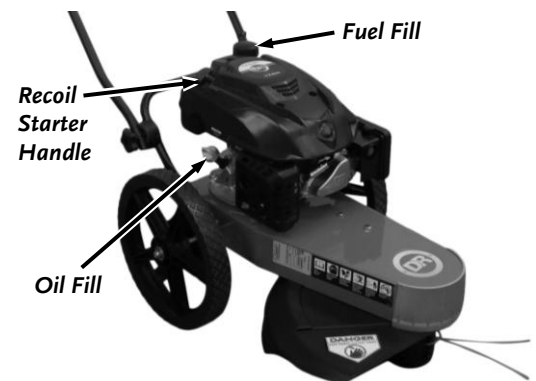


Figure 23

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.

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.

Troubleshooting Table

SYMPTOM	POSSIBLE CAUSE
<i>Recoil will not pull out or is difficult to pull.</i>	<ul style="list-style-type: none"> ⇒ Check the Engine oil level, the Engine may be seized. ⇒ There may be an oil compression lock in the Cylinder. Take out the Spark Plug; hold a rag over the Spark Plug hole and pull the Recoil Cord several times to blow out any oil in the Cylinder. Wipe off the Spark Plug and reinstall it. ⇒ The Recoil may be broken or jammed. Try to turn the Engine pulley by hand, with the Spark Plug wire removed. If it turns, the Recoil is broken or jammed. Visit our web site at www.DRPower.com or call 1-800-DR-OWNER (376-9637) for assistance.
<p><i>The Engine will not start.</i></p> <p><i>(Please refer to the Engine Owner's Manual for Engine-specific procedures.)</i></p>	<ul style="list-style-type: none"> ⇒ Check for proper attachment of the Spark Plug wire. ⇒ Check that the Engine has the right amount of clean oil. If the oil is dirty, change it following the procedure on page 19. ⇒ You should be using fresh, clean, unleaded gas with no more than 10% Ethanol. If the gas is old, change it. Use a fuel stabilizer if you keep gas longer than one month. ⇒ Check that the Air Filter is clean. If it is dirty, change it following the procedure in the Engine Owner's Manual. ⇒ Make sure that the Spark Plug is clean. If the Spark Plug is dirty or cracked, change it. If it's oily, leave it out, hold a rag over the Spark Plug hole and pull the Recoil Cord several times to blow out any oil in the Cylinder, then wipe off the Spark Plug and reinsert it. ⇒ If the Engine still will not start, visit our web site at www.DRPower.com or call 1-800-DR-OWNER (376-9637) for assistance.
<i>Engine smokes.</i>	<ul style="list-style-type: none"> ⇒ Check the oil level and adjust as needed. ⇒ You may be operating the machine on too great an incline. (See Slopes on page 15) ⇒ Check the Air Filter and clean or replace if needed. ⇒ You may be using the wrong oil - too light for the temperature. Refer to your Engine Owner's Manual for detailed information. ⇒ Clean the Engine cooling fins and the carburetor housing if they are dirty. ⇒ If the Engine still smokes, visit our web site at www.DRPower.com or call 1-800-DR-OWNER (376-9637) for assistance.

Troubleshooting Table (Continued)

SYMPTOM	POSSIBLE CAUSE
<p><i>The Engine lacks power or is not running smoothly.</i></p> <p><i>(Please refer to the Engine Owner's Manual for Engine-specific procedures.)</i></p>	<ul style="list-style-type: none"> ⇒ Check for debris (hay seed, etc.) clogging the Air Filter Intake and clean out as required. ⇒ The Engine's Blower Housing, Throttle Linkage, and Cooling Fins should be free of debris. Clean them following the instructions in the Engine Owner's Manual. ⇒ Check that the Air Filter is clean. If it is dirty, change it following the procedure in the Engine Owner's Manual. ⇒ Remove the Spark Plug wire and dry the connection with a rag. ⇒ The Spark Plug may be dirty or cracked, change it. If it's oily, leave it out, hold a rag over the Spark Plug hole and pull the Recoil Cord several times to blow out any oil in the Cylinder, then wipe off the Spark Plug and reinsert it. ⇒ You should be using fresh, clean, unleaded gas with no more than 10% Ethanol. If it is old, change it. Use a fuel stabilizer if you keep gas longer than one month. ⇒ Check that the Engine has the right amount of clean oil. If it is dirty, change it following the procedure on page 19. ⇒ If your Engine still lacks power, visit our web site at www.DRPower.com or call 1-800-DR-OWNER (376-9637) for assistance.
<p><i>The Trimmer Head won't spin or lacks power.</i></p>	<ul style="list-style-type: none"> ⇒ The Belt may be worn or frayed; if so, replace it. ⇒ If none of the above helps, visit our web site at www.DRPower.com or call 1-800-DR-OWNER (376-9637) for assistance.
<p><i>The cutting Cords are difficult to install.</i></p>	<ul style="list-style-type: none"> ⇒ The Cords may be dry. Soak them in a bucket of water for a few days before installing. ⇒ The ends are too flat. Trim the ends of the Cord at an angle
<p><i>The cutting Cords are breaking.</i></p>	<ul style="list-style-type: none"> ⇒ The Cords may be too dry. Store Cords in a plastic bag with a damp sponge or cloth to make them less prone to breaking or soak them in a bucket of water for a few days. ⇒ You may be trying to do too much too fast. Ease into the material you are cutting; let the Cord tips do the work. Take small bites of tall or tough vegetation. Cut half a swath at a time, keeping the cut area to the discharge or right side of the Trimmer. Go over tall material twice, the first time with the Trimmer Head tilted up and back; the second time with the Mow-Ball® on the ground. ⇒ Make sure that you are not hitting the Cords against a stone or a chain-link fence. The Cords won't last as long against obstacles as in the open. Work on controlling the cutting pattern. With practice, you'll learn to cut closer to obstacles without hitting them. ⇒ If none of the above helps, visit our web site at www.DRPower.com or call 1-800-DR-OWNER (376-9637) for assistance.
<p><i>The cutting Cords are pulling out.</i></p>	<ul style="list-style-type: none"> ⇒ You may be moving too fast into tough, woody growth. In doing so, the Cords may wrap on stalks and pull out. Check the operating tips in the section above on breaking Cords. ⇒ Make sure that you are not trying to cut material too heavy for the Cord. The design of your Trimmer is to cut green material up to about the thickness of a pencil. ⇒ If none of the above helps, visit our web site at www.DRPower.com or call 1-800-DR-OWNER (376-9637) for assistance.
<p><i>The Mow-Ball® is wearing too quickly.</i></p>	<ul style="list-style-type: none"> ⇒ You may be pushing the Trimmer Head down into the ground. The DR TRIMMER/MOWER works best with a light touch, with the Mow-Ball® resting easily on the ground or slightly raised. ⇒ You may be hitting the Mow-Ball® against rocks, concrete driveways or other hard obstacles. Try approaching them slowly, and from different directions, to avoid unnecessary wear. ⇒ If none of the above helps, visit our web site at www.DRPower.com or call 1-800-DR-OWNER (376-9637) for assistance.

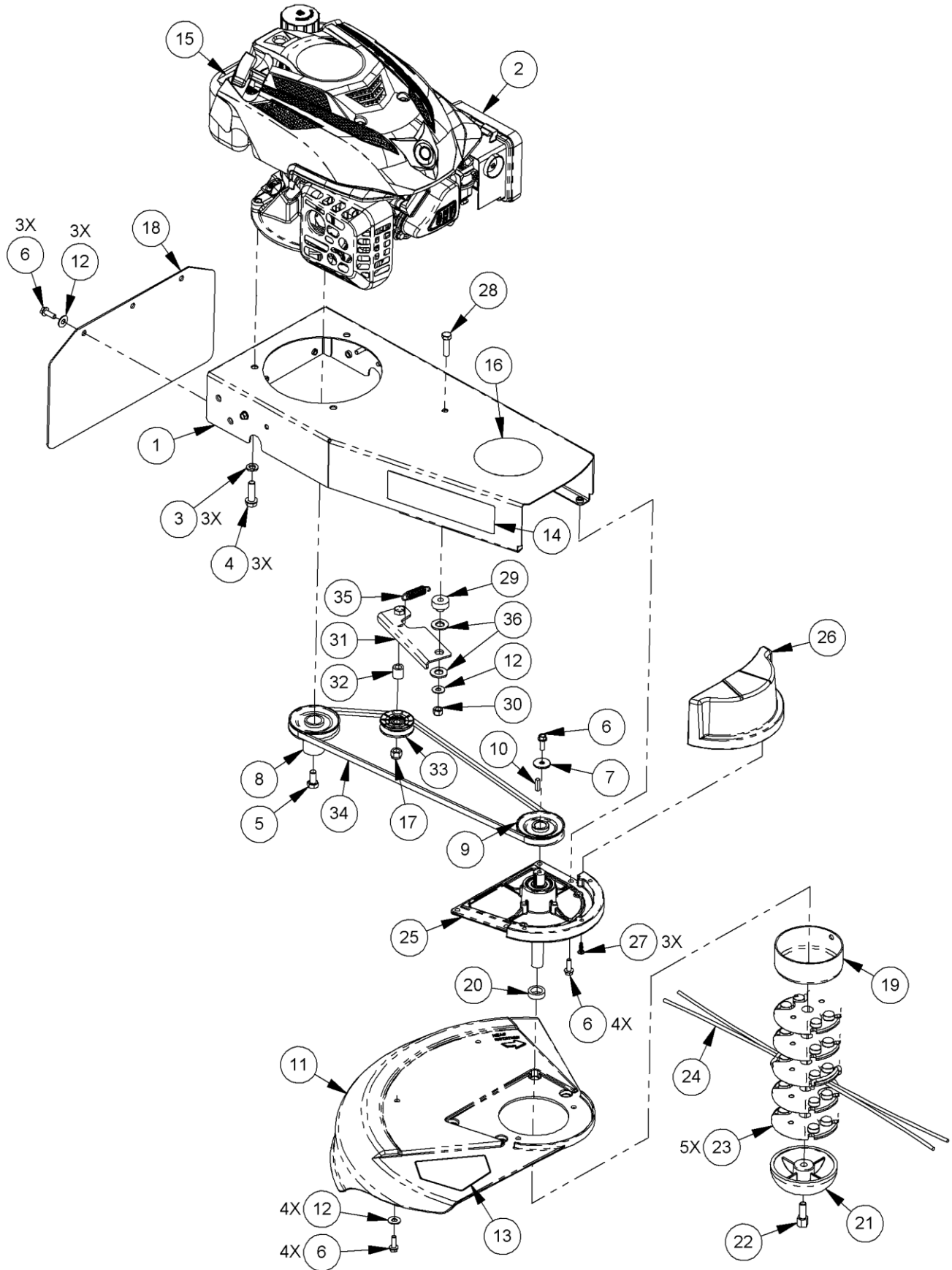
Chapter 6: Parts Lists and Schematic Diagrams

Parts List – Main Frame Assembly

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

Ref#	Part#	Description	Ref#	Part#	Description
1	387781	Frame w/Labels (Pilot)	20	310991	Spacer, .680" X .984" X .310", ZP
	311301	Frame w/Labels (Pilot XT)	21	311011	Mow Ball, Hex Bolt
2	10000030750	Engine w/Labels, DR 7.0 TQ MS	22	313011	Bolt, 3/8-16 X 1", GR5, ZP, High Hd
3	180811	Washer, Lock, 3/8", Medium Split	23	344541	Plate, Line Spacer, D Bore
4	375891	Screw, 3/8 - 16 X 1 1/2"	24	311021	Cord Pack, 25", 12 Pcs
5	111551	Bolt, HCS, 3/8-24 X .75", GR2, ZP	25	376241	Spindle (Pilot)
6	311171	Bolt, HWH, 1/4 - 20 x .75", Taptite		310961	Spindle (Pilot XT)
7	126971	Washer, Fender 1/4" ID X 1" OD	26	335781	Cover, Spindle (Pilot only)
8	310871	Pulley, Drive, 3L V-Belt, 7/8" Shaft	27	323421	Screw, 10-14 X 5/8", Plastite, 48-2 (Pilot only)
9	310941	Pulley, Drive, 3L V-Belt, .67" Shaft (Pilot)	28	123361	Bolt, HCS, 5/16-18 X 1.25", GR5, ZP
	A0000318129	Pulley, 3" OD, .67" ID, 3L, Sym (Pilot XT)	29	A0000253449	Standoff, Clutch Arm
10	119141	Key, Sq, 3/16" X 1"	30	110761	Nut, Nylon Lock, 5/16-18, ZP
11	311041	Guard, Trimmer	31	376071	Arm, Idler
12	112381	Washer, Flat, 1/4"	32	376081	Spacer, .385" X .62" X .66", ZP
13	136491	Label, Danger	33	310921	Pulley, Idler, 3L V-Belt, 2.0" OD
14	257091	Label, Safety Icons	34	376091	Belt, V, 3L440R
15	137581	Label, Check Oil, 2.75" X .63"	35	335951	Spring, E, .5" OD, .063" Wire, 2.0"L, ZP
16	A0000188794	Label, DR Logo, 4"	36	143751	Washer, .505" ID X 1.0" OD
17	110751	Nut, Nylon Lock 3/8-16, ZP	Not Shown		
18	376251	Guard, Debris		A0000175253	Label, Pilot
19	310981	Can, Anti-Wrap		A0001311426	Label, Pilot XT

Schematic – Main Frame Assembly

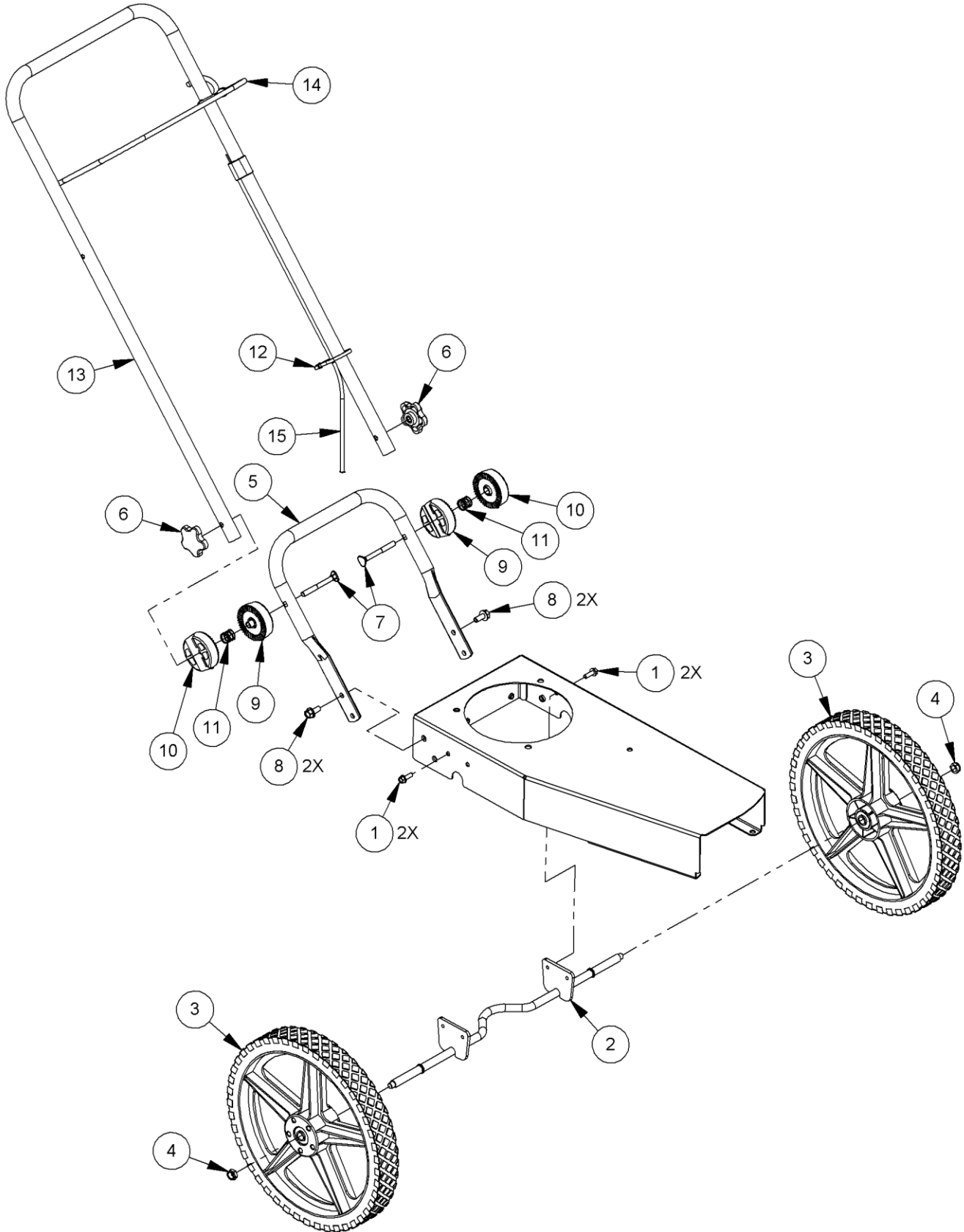


Parts List – Handlebar and Axle Assembly

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	311171	Bolt, HWH, 1/4 - 20 X .75", Taptite	9	191351	Adjuster, Handlebar, Inside
2	A0000255795	Axle, Welded	10	143731	Adjuster, Handlebar, Outside
3	311081	Wheel, 14", 5 Spoke	11	143931	Spring, C, .72" OD X .063" Wire X .625"
4	152331	Nut, Nylon Lock, 7/16-20, Low Profile	12	112141	Cable Tie, 7-1/2" Long
5	311101	Handlebar, Lower	13	311111	Handlebar, Upper (Narrow)
6	311121	Knob, 2.25" Dia, 5/16-18 Insert		371781	Handlebar, Upper (Wide)
7	144641	Bolt, C-Hd, 5/16-18 X 3.0"	14	311131	Bail Bar, Straight (Narrow)
8	311161	Screw, HWH, 5/16-18 X 3/4", Taptite		371791	Bail Bar, Straight (Wide)
			15	335941	Cable, Engine to Bail Bar

Schematic – Handlebar and Axle Assembly



Notes:

DR[®] TRIMMER/MOWER™



2-Year Limited Warranty

Terms and Conditions

The DR[®] TRIMMER/MOWER 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. The engine manufacturer warrants the engine separately.

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[®] TRIMMER/MOWER 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[®] TRIMMER/MOWER 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 Cutting Cords, Air Filter, Mow-Ball[®], Debris Guard, Trimmer Guard 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[®] TRIMMER/MOWER.

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 TRIMMER/MOWER

To help maintain your DR TRIMMER/MOWER 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 and wait five minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.

- [] OIL: With the machine on a level surface, check the Engine oil level with the Dipstick and add more if necessary (only add oil to the level indicated on the Dipstick - do not overfill). Use SAE 30 high detergent motor oil.
- [] GAS: Fill the Fuel Tank with clean, fresh, unleaded gasoline with no more than 10% Ethanol.
- [] ENGINE AIR COOLING SYSTEM: It is very important to keep the Engine clean of debris. Remove grass and other built-up materials from the Air Intake Screen before, during, and after you mow. Regularly remove debris from the Blower Housing and Cooling Fins. A dirty Engine retains heat and can cause damage to the internal Engine parts.
- [] CUTTING CORDS: Replace broken or frayed Cords.
- [] MOW-BALL® and LINE PLATES: Check the Mow-Ball® and Line Plates for wear and replace as needed.
- [] GENERAL CONDITION: Check the general condition of the machine, e.g.; nuts, bolts, welds etc.

End of Season and Storage

Note: Please refer to the Engine Owner's Manual for engine-specific procedures.

WARNING

- Before performing any maintenance procedure or inspection, stop the engine and wait five minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.
 - Never store the DR TRIMMER/MOWER with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters, clothes dryers and the like. If you are going to drain the fuel tank, do this outdoors. Allow the engine to cool before storing in any enclosure.
 - When not in use, your DR TRIMMER/MOWER should be stored out of the reach of children and in a dry location.
-
- Check the Belt for wear.
 - Change the Engine oil. This will help to eliminate sludge and acids in the Engine.
 - Remove the Spark Plug and pour about 1 ounce of motor oil into the cylinder hole. Reinstall 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 Engine Air Filter.
 - Clean any dirt and debris from the cylinder head cooling fins, carburetor linkage, blower housing, debris screen, and muffler area of the Engine.
 - Remove any wrapped weeds from the Mow-Ball®, Wheel Spokes, and Axle. Clean grass and debris from the top and underneath the Trimmer Frame.
 - Check to make sure the operator controls are moving freely. Lubricate the Bail Bar Cable.
 - If your Engine has a Fuel Filter, replace it.
 - If your DR TRIMMER/MOWER 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 with no more than 10% Ethanol and add the appropriate amount of stabilizer or gasoline additive. Run the Engine for a short time to allow the additive to circulate.



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