

DR® REAR TINE ROTOTILLER

SAFETY & OPERATING INSTRUCTIONS



Model:
XD20

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® XD20.

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Conventions used in this manual

⚠ WARNING

This indicates a hazardous situation, which, if not followed, 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 (**Figure 1**). An Order Number is used to check and maintain your order history and is located on the upper left portion of 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.

Additional Information and Potential Changes

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

California Proposition 65

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

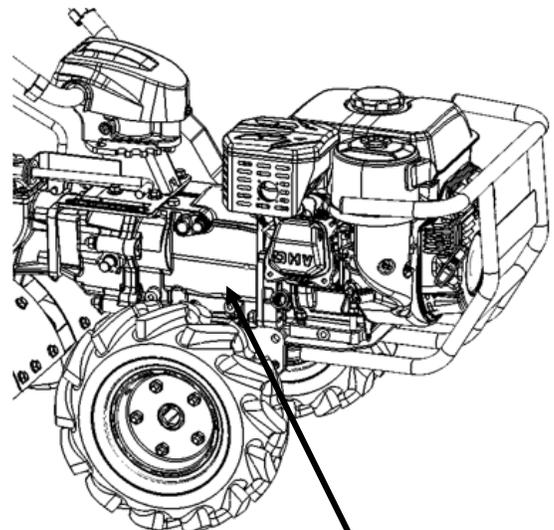


Figure 1

DR POWER EQUIPMENT
600 Hinesburg Rd,
So. Burlington, VT 05403
1-800-DR-OWNER DRpower.com

SERIAL #: RD1001001

416271

! WARNING

Read this safety & operating Instructions manual before you use the DR® XD20. 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.

Engine Manual

The Engine Manufacturer is responsible for all engine related issues regarding performance, power rating, specifications, warranty and service. Please refer to the Engine Manufacturer's owner/operator's manual, packed separately with your unit, for more information.

Emission Control System

This equipment or its engine may include exhaust and evaporative emission control system components required to meet U.S. Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB) regulations. Tampering with emission controls and components by unauthorized personnel may result in severe fines or penalties. Emission controls and components can only be adjusted by an authorized engine manufacturer's service center.

Labels

Your DR® PRO XD20 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 DR® PRO XD20 as you set up and before you operate the unit. Replace damaged or missing safety and information labels immediately.



#415151



#406681



#136831



#A0009493481



#250441



#A0009493479

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. Always take the following precautions when operating this machine:

- Dress properly when using your DR® XD20
 - Wear long, heavy pants, work boots, and work gloves.
 - Do not wear loose clothing, short pants, or jewelry of any kind.
 - Secure long hair so it is above shoulder level.
 - Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.
 - If you have safety shoes, we recommend wearing them.
 - Do not use the machine while barefoot or wearing open sandals.
 - Protect eyes, face, and head from objects that may be thrown from the unit.
 - Always wear safety goggles or safety glasses with side shields when operating.
 - 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 DR® XD20. 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.
 - To be safe, do not operate the machine near small children or pets, and never allow children to operate the DR® XD20.
 - Do not operate the machine while under the influence of drugs, alcohol, or any medication that could affect your ability to use it properly.
 - The muffler and engine become very hot and can cause a severe burn; do not touch.
 - Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the DR® XD20. This includes all shields and guards. Modifications to your machine could cause personal injuries and will void your warranty.
-

Safety with 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 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® XD20 engine if children or pets enter the work area.
 - Before, and while moving backwards, look behind, and down for small children and pets.
 - Never allow children to operate the DR® XD20.
 - 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 them 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. Never operate the DR® XD20 without the fuel cap securely in place.
- Never overfill the fuel tank. Because engine heat can cause fuel to expand, never fill the tank more than ½" below the bottom of the filler neck. This will provide space for fuel expansion.
- If you spill gasoline, do not attempt to start the engine. Move the machine away from the area of the spill and avoid creating any source of ignition until the gas vapors have dissipated. Wipe up any spilled fuel to prevent a fire hazard and properly dispose of the waste.
- Allow the engine to cool completely before storing the DR® XD20 in any enclosure. Never store the machine with gas in the tank or a fuel container near an open flame or spark, such as a water heater.
- Never make adjustments or repairs with the engine running. Disconnect the spark plug wire and keep the wire away from the spark plug to prevent accidental starting.
- Never check for an ignition spark with the spark plug or spark plug wire removed. Use an approved spark tester.
- Never tamper with safety devices. Check their proper operation regularly.
- Do not change the engine governor settings or modify the engine speed. Modifications will void your warranty.
- To reduce fire hazard, keep the engine cooling fan and muffler area free of debris build-up such as leaves, grass, oil, grease or any other combustible material.
- 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 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.
- Check fuel lines and fittings frequently for cracks or leaks, replace if necessary.
- Replace rubber fuel lines and grommets when worn or damaged and after 5 years of use.

WARNING

Inspect your Machine

- Check your DR® XD20 before starting it. Keep guards in place and in working order. Make sure all nuts, bolts, etc., are securely tightened.
- Never operate the machine when it is in need of repair or is in poor mechanical condition. Replace damaged, missing, or failed parts before using it. Check for fuel leaks. Keep the machine in safe working condition.
- Do not use the machine if the engine's switch does not turn off the engine when running. Any gasoline powered machine that can't be controlled with the engine switch is dangerous and must be replaced.
- Regularly check to see that keys and adjusting wrenches are removed from the machine area before starting it. A wrench or a key that is left attached to a rotating part of the machine may result in personal injury.
- Avoid accidental starting. Be sure the engine's On/Off switch is off before transporting the machine or performing any maintenance or service on the unit. Transporting or performing maintenance or service on a machine with its switch on invites accidents.
- If the machine should start to vibrate abnormally, stop the engine (motor) and check immediately for the cause. Vibration is generally a warning sign of trouble.

Engine Safety

WARNING

- Your DR® XD20 is equipped with an internal combustion engine. Do not use on, or near, forest-covered or brush-covered land unless the exhaust system is equipped with a spark arrester meeting applicable local, state, or federal laws.
- In the state of California, a spark arrester is required by law. Other states have similar laws. A spark arrester, if used, must be maintained in effective working order by the operator.
- Never start or run the engine inside a closed area. The exhaust fumes are dangerous, containing carbon monoxide, an odorless and deadly gas. Operate this unit only in a well-ventilated outdoor area.
- Do not tamper with the engine in an effort to get it to run at higher speeds. The maximum engine speed is preset by the manufacturer and is within safety limits. See engine manual.
- Keep a Class B fire extinguisher on hand when operating this machine in dry areas as a precautionary measure.

General Safety

WARNING

The DR® XD20 must be operated safely to prevent or minimize the risk of minor or moderate injury. Unsafe operation can create a number of hazards for you. Always take the following precautions when operating this machine:

- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.
- Your DR® XD20 is not a plaything. Exercise extreme caution at all times. The design of this machine is to till soil. Do not use it for any other purpose.
- Give complete and undivided attention to the job at hand. Before you use your new machine, be sure you know how to disengage the tines and stop the DR® XD20 at a moment's notice.
- Always operate the DR® XD20 from behind the handlebars, never from the side.
- Never use the DR® XD20 to drag or tow items.
- Use caution when moving downhill and braking.
- Never allow people or pets to ride in the DR® XD20.
- 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 damaged parts. Clean and repair and/or replace damaged parts.
- Built-in safety features, such as the operator presence system, are effective only when maintained and kept in place.
- 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 only approved DR® parts.
- Use the DR® XD20 only in daylight.
- While using the machine, 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 machine at all times.
- Never leave the DR® XD20 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.

WARNING

- Thoroughly inspect the area to be tilled, and remove all debris and hard or sharp objects such as stones, sticks, glass, wire, bones, etc. Do not operate tiller in soil with large rocks and foreign objects which can damage the machine.
- Do not till above underground electric cables, telephone lines, water lines, gas lines, pipes, or hoses. If in doubt, contact your utility or telephone company to locate underground services.
- Keep all bystanders, children, and pets at least 75 feet (23m) away. If you are approached, stop the unit immediately.
- This unit has a clutch. Squeeze the drive control handle lever and check that it returns automatically to the neutral position. If it does not, have unit adjusted by qualified repair personnel.
- Disengage drive control handle lever before starting the engine.
- Start the engine carefully according to instructions and with feet well away from the tines.
- The tines remain stationary when the clutch is disengaged. If it does not, have unit adjusted by qualified repair personnel.
- Always operate the machine from behind, never pass or stand in front of the machine when the engine is running.
- Always hold the unit with both hands when operating. Keep a firm grip on the grips. Be aware that the machine may unexpectedly bounce upward or jump forward if the tines should strike buried obstacles such as large stones, roots, or stumps.
- If the unit strikes a foreign object, stop the engine, disconnect the spark plug, thoroughly inspect the machine for any damage, and repair the damage before restarting and operating the machine.
- Use extreme caution when in reverse or pulling the machine towards you.
- Do not overload the machine capacity by tilling too deep in a single pass or at too fast a rate.
- Never operate the tiller at high transport speeds on hard or slippery surfaces.
- Be careful when tilling in hard ground. The tines may catch in the ground and propel the tiller forward. If this occurs, let go of the handlebars and do not restrain the machine.
- Use caution when tilling near fences, buildings and underground utilities. Rotating tines can cause property damage or personal injury.
- Exercise extreme caution when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.
- Never leave the operating position when the engine is running.
- Always stop the engine when tilling is delayed or when walking from one tilling location to another.
- Keep unit clean of vegetation and other materials. They may become lodged between the tines. Stop the engine and disconnect the spark plug before unclogging the tines.
- To reduce exposure to vibration, limit the hours of operation and take periodic breaks to minimize repetition and rest your hands. Reduce the speed and force in which you do the repetitive movement. Try to fill each day with jobs where operating hand-held power equipment is not required.

Adding Oil and Break in Period

NOTICE

- Your XD20 Tiller requires 10W-30 lubrication oil added to the Engine, Transmission and Tine Gearbox.
- Failure to add oil to these components WILL result in severe damage and loss of function.
- A break in period must be followed to ensure proper function and longevity of the XD20 Tiller.
- Refer to page 16 in Chapter 2 for fill locations and oil volume.
- Refer to page 21 in Chapter 3 for the break in period.

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® XD20 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® XD20 in a safe manner. Contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance.

Additional Information and Potential Changes

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Chapter 2: Setting Up the DR® XD20

It may be helpful to familiarize yourself with the controls and features of your DR® XD20 as shown in **Figure 2** before beginning these procedures. If you have any questions at all, please feel free to contact us at www.DRpower.com.

DR® XD20 Controls and Features

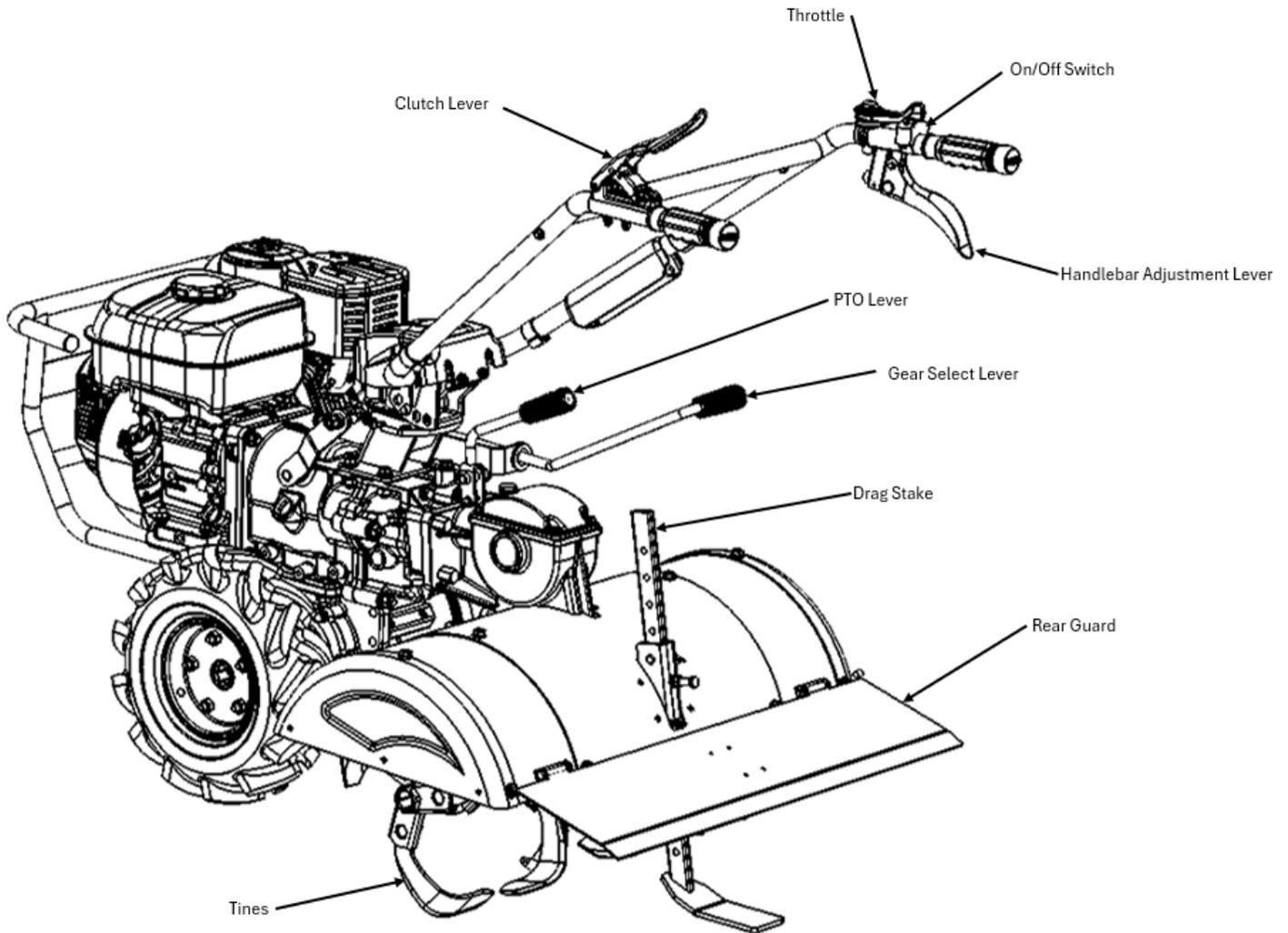


Figure 2

Specifications

Model	XD20
Engine	Honda
Displacement	270 cc
Start Type	Recoil
Fuel Tank Size	1.4 gal (5.3 L)
Transmission	Manual Gear
Speeds	2 Forward / 1 Reverse
Tire Size	14" x 6"
Tines	14 Bolo Tines
Tine Direction	Simultaneous Dual Rotation
Tine Diameter	12.5"
Depth Adjustments	8 Positions
Tine RPM	240 RPM
Tilling Width	20"
Tilling Depth	6.5" Max Working Depth
Product Weight	267 lbs

Assembling the DR® XD20

Contents Supplied:

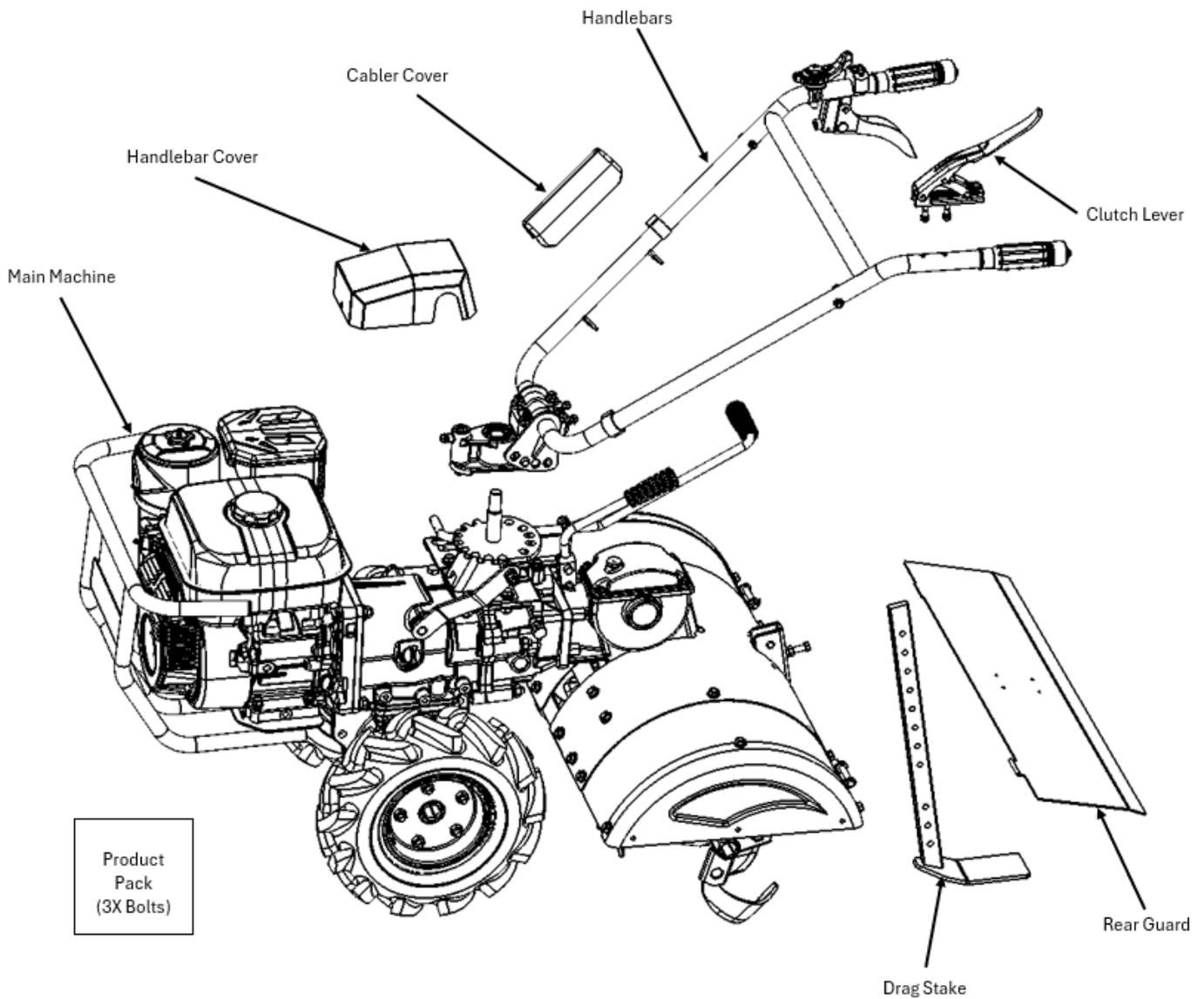


Figure 3

Tools & Supplies Needed:

- Two 13mm Wrenches or Sockets
- 10mm Wrench or Socket
- 30mm Wrench or Socket

Parts Supplied in Product Package (Figure 4 and list below):

Item #	Part #	Description	Qty
1.....	A0009386697	M6 x 12 Hex Bolt	3

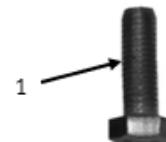


Figure 4

Compare the contents of the shipping crate with **Figure 3** and **Figure 4** and the “**Parts Supplied in Product Package**” list above. If you have any questions, please contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance.

Operation Handle

Tools & Supplies Needed:

- 30mm Wrench or Socket

1. Remove the M20 Nut, Lock Washer and Washer from the Threaded Shaft.
2. Align the Bearing in the Handle Assembly over the Threaded shaft.
3. Install the Flat Washer onto the Threaded Shaft.
4. Install the Lock Washer onto the Threaded Shaft.
5. Install the M20 Nut using a 30mm Wrench or Socket, tighten securely. **(Figure 5)**

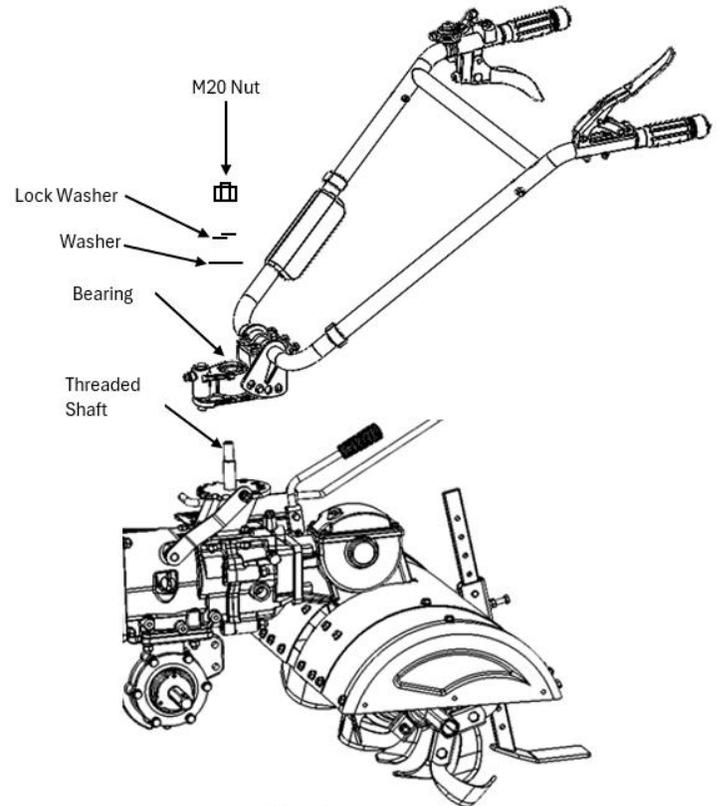


Figure 5

Wheels

1. Ensure the Directional Tread on each Wheel is toward the front of the machine. **(Figure 6)**
2. Slide the Wheel's Hexagonal tube over the Hexagonal Axle Shaft. **(Figure 6)**
3. Install the Clevis Pin through the desired hole on the hexagonal tube.
4. Install the Hairpin Cotter Pin through the small hole in the Clevis Pin.
5. Repeat for the other Wheel.

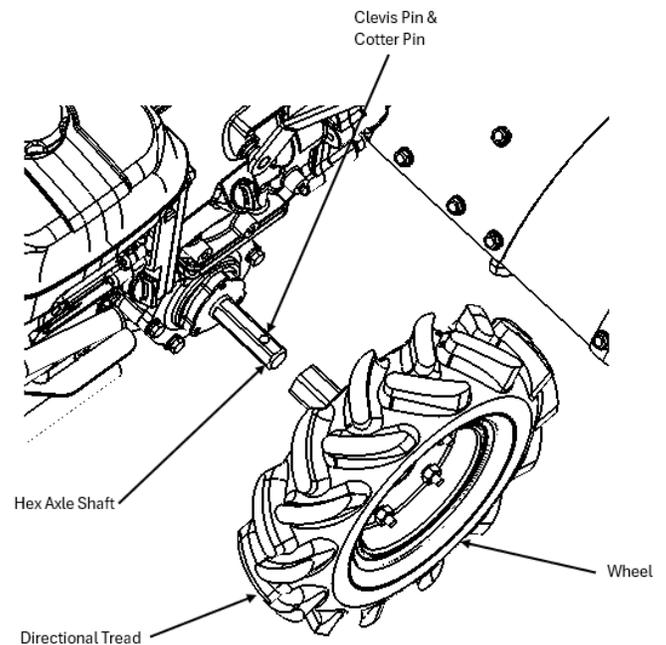


Figure 6

Handlebar Cover

Tools & Supplies Needed:

- 10mm Wrench or Socket
1. Align the Handlebar Cover over the Pivot Assembly (**Figure 7**).
 2. Install the three M6 x 12 Hex Bolts and tighten using a 10mm Wrench or Socket.

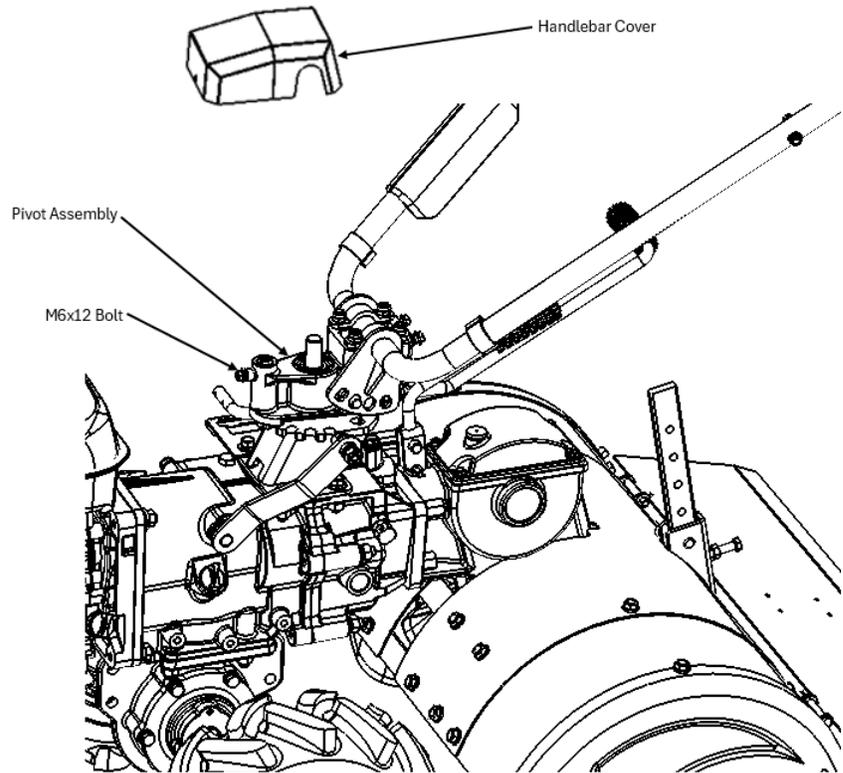


Figure 7

Clutch Lever

Tools & Supplies Needed:

- 10mm Wrench or Socket
1. Install the Clutch Lever Studs into the two holes on the Handlebar (**Figure 8**).
 2. Install the two M6 Nuts and tighten using a 10mm Wrench or Socket.

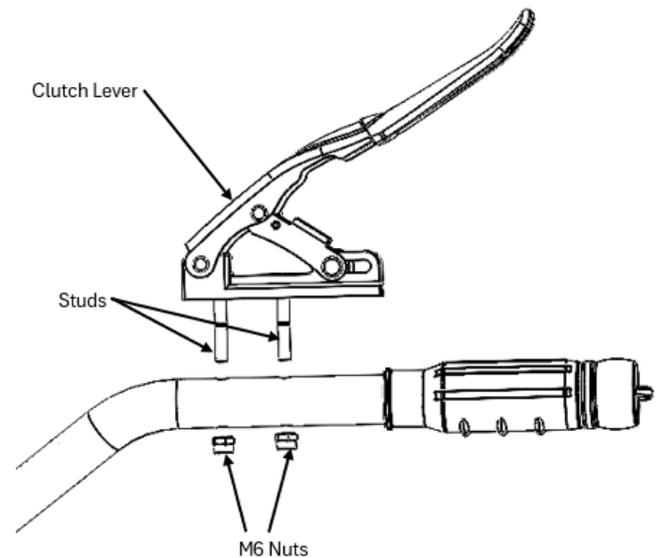


Figure 8

Drag Stake

3. Hold the machine leaning forward.
4. Remove the Hairpin Cotter Pin and Clevis Pin.
5. Install the Drag Stake in the orientation shown in **(Figure 9)**.
6. Re-install the Clevis Pin and Hairpin Cotter Pin.
7. Adjust the Drag Stake to the desired depth of tilling.

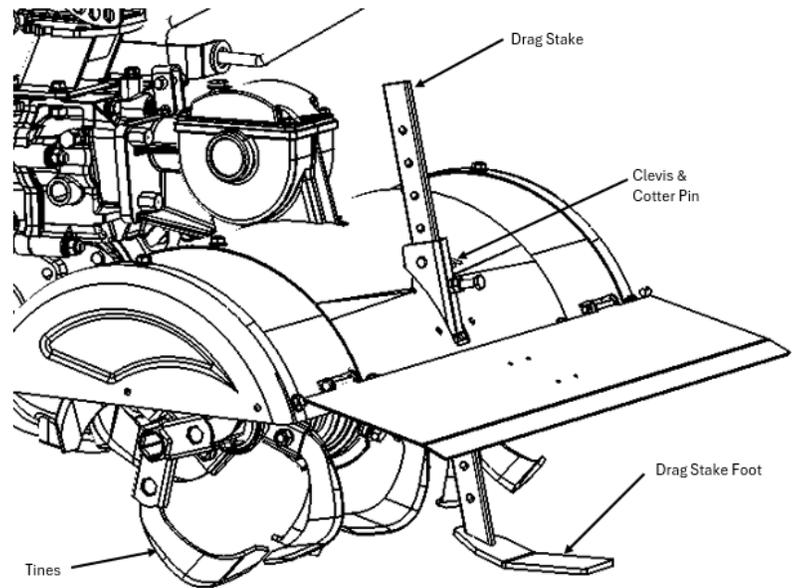


Figure 9

Rear Guard

Tools & Supplies Needed:

- 13mm Wrench or Socket
- 10mm Wrench or Socket

1. Remove the hardware from the Rear Guard using 10mm and 13mm Wrenches **(Figure 10)**.
2. Align the tube sections of the Rear Guard inside the U-shaped brackets on the Tine Housing.
3. Re-install and tighten the hardware using 10mm and 13mm Wrenches.
4. Ensure the Rear Guard moves freely. Do not overtighten the bolts.

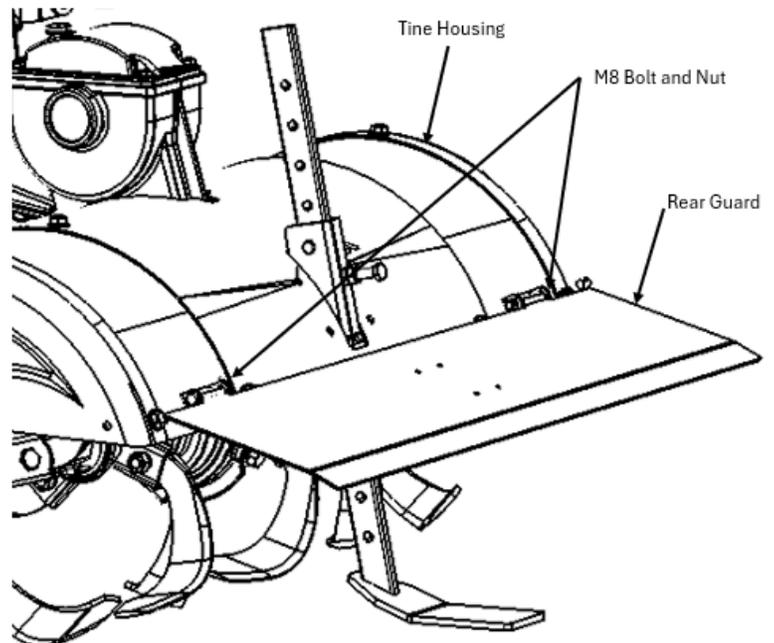


Figure 10

ADD OIL TO ENGINE

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 dipstick frequently to avoid overfilling.

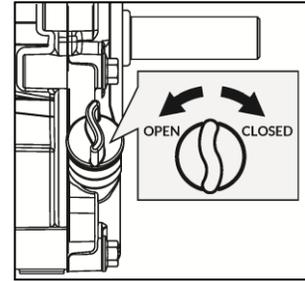
To get an accurate reading when checking the oil level:

- The machine should be on a level surface.
- The dipstick should NOT be screwed down.

1. Make sure the DR® XD20 is on a flat, clean surface.
2. Use blocks or equivalent to ensure the Engine is level before adding oil.

Note: The Engine must be level when adding and checking oil level for an accurate reading.

3. Remove the oil fill cap/dipstick to add oil.
4. Using a funnel, add oil up to the FULL mark on the dipstick. (See engine manual for oil capacity, oil recommendation, and location of fill cap).



WARNING

DO NOT OVERFILL! Check engine oil level daily and add as needed

ADD OIL TO TRANSMISSION

NOTICE

You must add oil to the Transmission before starting the engine. This machine is shipped without oil. Traces of oil may be in the Transmission from factory testing, but you must add oil before starting the engine. Fill the reservoir slowly, checking the dipstick 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.

1. Make sure the DR® XD20 is on a flat, clean surface.
2. Use blocks or equivalent to ensure the DR® XD20 is level before adding oil.

Note: The Tiller must be level when adding and checking oil level for an accurate reading.

3. Remove the oil fill cap/dipstick to add oil (**Figure 11**).
4. Using a funnel, add 2 quarts of 10W30 oil up to the FULL mark on the dipstick.

! WARNING

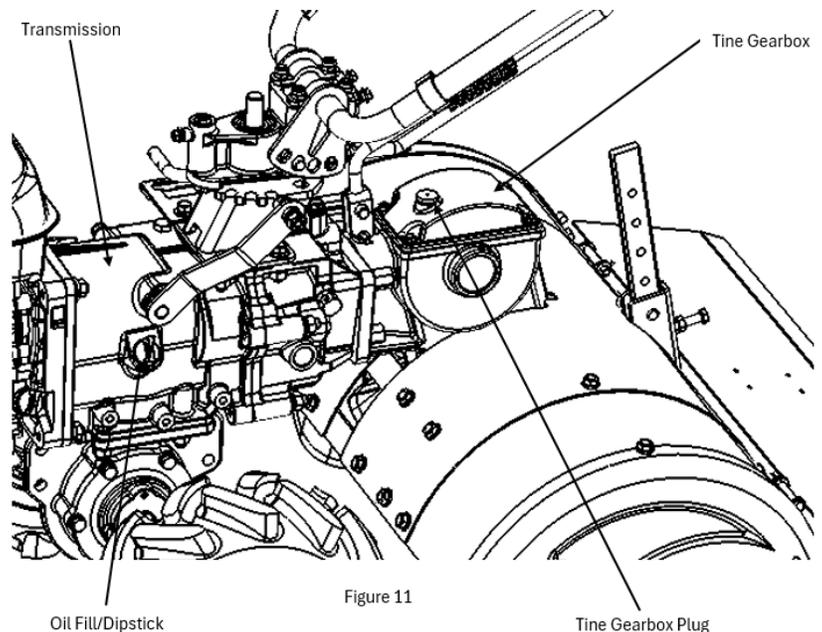
DO NOT OVERFILL! Check transmission oil level monthly and add as needed

ADD OIL TO TINE GEARBOX

NOTICE

You must add oil to the Tine Gearbox before starting the engine. This machine is shipped without oil. Traces of oil may be in the Tine Gearbox from factory testing, but you must add oil before starting the engine.

1. Remove the Plug at the top of the Tine Gearbox (**Figure 11**).
2. Using a funnel, add 20 Ounces of 10W30 oil to the Tine Gearbox.
3. Replace the Plug.



 WARNING

Fill the fuel tank outdoors, never indoors. Gasoline vapors can ignite if they collect inside an enclosure. Explosion can result.

 WARNING**IMPORTANT: DO NOT OVERFILL!**

This equipment and/or its engine may include evaporative emissions control system components, required to meet EPA and/or CARB regulations, that will only function properly when the fuel tank has been filled to the recommended level. Overfilling may cause permanent damage to evaporative emissions control system components. Filling to the recommended level ensures a vapor gap required to allow for fuel expansion. Pay close attention while filling the fuel tank to ensure that the recommended fuel level inside the tank is not exceeded. Use a portable gasoline container with an appropriately sized dispensing spout when filling the tank. Do not use a funnel or other device that obstructs the view of the tank filling process.

 WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Use extreme care when handling gasoline.

ADD GASOLINE TO ENGINE

1. The Engine must be off and allowed to cool at least five minutes before adding fuel
2. Remove the Fuel Filler Cap and fill the tank. (See Engine Manual for fuel capacity, fuel recommendation, and location of fuel cap).
3. Reinstall the Fuel Cap and tighten. Always clean up spilled fuel.

Chapter 3: Operating the DR® XD20

It may be helpful to better familiarize yourself with the features of your DR® XD20 by reviewing **Figure 2** in **Chapter 2** and the following definitions before beginning the "Operation" steps outlined in this chapter.

Definitions

SHIFT LEVER

WARNING

Always release the drive control lever before moving shift lever to another position. Failure to do so will result in damage to DR® XD20

The shift lever has 4 positions: reverse, neutral, "1" for operating the tines and "2" for transport only (do not engage the tines).

- Moving the shift lever upward to the "1" position will cause tiller to move forward at its lower speed setting. This is the speed setting to till in.
- Moving the shift lever further upward to the "2" position will cause the tiller to move forward at its higher speed setting. *It is not recommended to engage the tines in this setting.*
- SECOND (2) - Move the shift lever indicator to "2" position. Engage the clutch lever and tiller will move forward.
- FIRST (1) – Move the shift lever indicator to "1" position. Engage the clutch lever and the tiller will move forward.
- NEUTRAL (N) - Release the clutch lever to stop movement, then move the shift lever indicator to "N" position.
- REVERSE (R) - Move the shift lever indicator to "R" position. Engage the drive control bar and tiller will move backward.

PTO LEVER

The PTO lever has two positions, UP and DOWN. The lever must be in the DOWN position for the tines to engage and rotate. Pull the lever UP to disengage the tines.

CLUTCH LEVER

The Clutch Lever engages or disengages the Clutch which connects the Engine to the Transmission. Used to engage Traction Drive and Tines (in conjunction with the PTO Lever).

ON/OFF SWITCH

ON allows the unit to be started and run. OFF shuts off the Engine.

HANDLEBAR ADJUSTMENT LEVER

A single lever controls both the height adjustment and side-to-side adjustment of the Handlebars.

WARNING

The PTO and Clutch levers should be disengaged prior to adjusting the handlebars. Ensure the handlebars are rigidly locked in position prior to engaging the PTO and/or Clutch levers.

DEPTH STAKE

Controls depth at which tiller will dig.

REAR GUARD

Levels tilled soil.

RECOIL STARTER HANDLE

The Recoil Starter Handle is used to start the Engine.

FUEL SHUT-OFF VALVE

The fuel shut-off has two positions.

- **CLOSED**  Use this position to service, transport, or to store the unit.
- **OPEN**  Use this position to run the unit.

THROTTLE CONTROL

The throttle control regulates the speed of the engine, and moves between **FAST** , **SLOW** , and **STOP** positions. When the throttle control is moved to the **STOP** position, the engine will **STOP**.

CHOKE CONTROL

The Choke Control is used to choke the Carburetor and assist in starting the Engine. The Choke Control slides between the **CHOKE CLOSED**  and **CHOKE OPEN**  positions.

! WARNING Never use choke to stop engine.

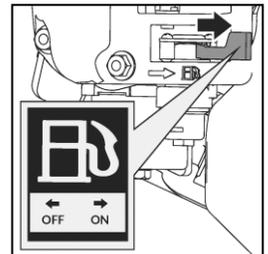
Operation

STARTING THE ENGINE

! WARNING

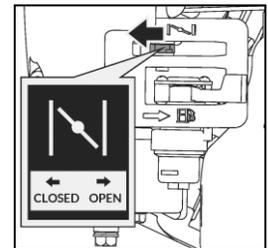
The engine is shipped without oil. Do not start the engine before adding oil. Refer to Chapter 2 of this manual and your Engine Manual for oil quantity and specifications.

1. Move the fuel shut-off valve to the ON position.
2. Move the Choke Lever to the CLOSED position.
 - If the Engine is hot, closing the Choke is not necessary.
3. Move the Throttle Control Lever slightly forward to about 1/4 of the way (slightly toward the fast position).
4. Slowly pull the Starter Cord until you feel resistance, then pull quickly to start the Engine. Continue holding the Cord in your hand as you allow it to recoil back into position.



! WARNING

Rapid retraction of the starter cord (kickback) will pull your hand and arm toward the engine faster than you can let go. Broken bones, fractures, bruises, or sprains could result.



5. After the Engine starts and the Choke is CLOSED, the Engine will soon begin to run rough. Adjust the Choke to the right until the Engine runs smoother. Continue this process until the Engine runs well with the Choke Lever fully in the CLOSED position.

TINE OPERATION - SHIFT LEVER

1. Always release the Clutch Lever before moving the Shift Lever and/or the PTO lever into another position.
2. Tine movement is achieved by moving PTO lever down and then engaging the Clutch Lever.

FORWARD - WHEELS ONLY/TINES STOPPED

1. Release the Clutch Lever and move the PTO lever up to disengage the tines. Select either 1 or 2 on the Gear Select Lever for the desired transport speed.

REVERSE - WHEELS ONLY/TINES STOPPED

1. Release the clutch lever
2. Move the PTO lever up to disengage. Do not engage the tines in reverse.
3. Move throttle control to "SLOW"  position.
4. Move shift lever indicator to "R" (Reverse) position.
5. Engage the Clutch Lever and tiller will move backward.

If you find the Shift Lever difficult to move or find it hard to shift gears, try the following:

- Rock the tiller forward and backward using the handles.
- Briefly engage the Clutch Lever and release

2

1

N

R

#A0009495408

WARNING

Do not stand directly behind tiller while in reverse.

DEPTH STAKE

The Depth Stake (*Figure 12*) can be raised or lowered to allow you more versatile tilling and cultivating, or to more easily transport your tiller.

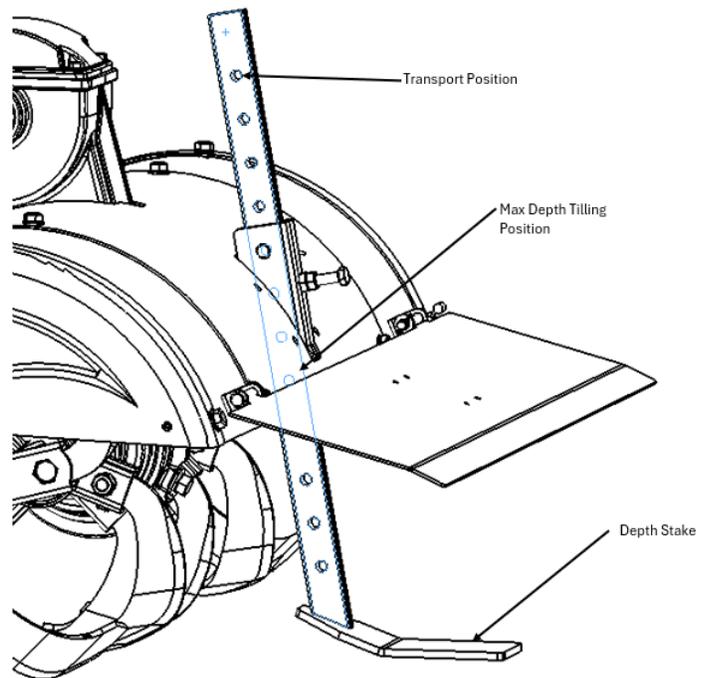


Figure 12

TILLING

Tilling is digging in, turning over and breaking up garden soil to prepare a seedbed for planting. Best tilling depth is 4" (100mm) to 6" (150mm). A tiller will also clear the soil of unwanted vegetation. The decomposition of this vegetation matter enriched the soil.

Avoid tilling soil that is too dry, as it will pulverize and produce a dust that will not hold water. Water a few days before tilling. Also, tilling soil that is too wet will produce unsatisfactory clods. Wait a day or two after heavy rain for the soil to dry.

Better growth will be obtained if an area is tilled properly and used soon after tilling to preserve the moisture content.

The type of soil and working conditions will determine the actual setting of the tilling depth. In some soils, the desired depth is reached in the first pass over garden. In other soils, the desired depth is obtained by going over the garden two or three times. In the later case, the depth stake should be lowered before each succeeding pass over the garden. Passes should be made across the length and width of the garden, alternately. Do not try to dig too deeply in the first pass. If the machine jumps or bucks, allow the unit to move forward at a slightly faster rate.

If the tiller stops forward motion and tries to dig in one spot, rock the handles from side to side to start it moving forward again.

Rocks should be removed from the garden area.

- Place the Depth Stake Pin in the hole corresponding to the desired tilling depth.
- Place the Shift Lever in the "1" position.
- Move the PTO lever DOWN to engage.
- Engage the Clutch Lever to begin tilling.
- Move the Throttle Control to "FAST"  position for deep tilling. To cultivate, Throttle Control can be set at any desired speed, depending on how fast or slow you wish to cultivate.

WARNING

IMPORTANT: Always release the Clutch Lever before moving Shift Lever into another position.

TURNING

- Release the Clutch Lever.
- Move Throttle Control to "SLOW"  position.
- Move the PTO Lever up to disengage the tines. Tines will not turn.
- Lift Handle to raise tines out of ground.
- Swing the Handle in the opposite direction you wish to turn, being careful to keep feet and legs away from tines.
- When you have completed your turn-around, engage the PTO lever, place the Shift Lever in the "1" (tilling speed) position and move the Throttle Control to the desired speed. To begin tilling engage the Clutch Lever.

STOPPING THE TINES AND DRIVE

- Release Clutch Lever to stop movement.
- Move the PTO Lever up to disengage the tines.
- Move Shift Lever to "N" (neutral) position.

BREAK-IN PERIOD

To ensure optimal performance of the tiller it is recommended that a break-in procedure be followed.

1. Confirm the engine and transmission oil is filled to the recommendations in the Engine Manual and this manual.
2. Run the tiller with no load for 1 hour.
3. Use the tiller under a light load for an additional 4 hours. Transport and tilling established gardens are considered light use.
4. After 5 hours change the engine and transmission oil.

After the 5 hour break in and oil change the tiller is now ready for normal use.

TRANSPORT AROUND THE YARD

- Remove the Depth Stake Cotter Pin and Clevis Pin. Move the Depth Stake down to the second top hole for transporting the tiller. This prevents tines from scuffing the ground.
- Place Shift Lever indicator in “2” position for transporting at a higher speed.
- Move the PTO Lever upward to disengage the tines.
- Move the Throttle Lever to the SLOW  position.
- Engage the Clutch Lever to begin moving forward. Tines will not turn.
- Move Throttle Control to desired speed.

IDLE SPEED

Set the Throttle Control Lever to the SLOW position to reduce stress on the engine when work is not being performed. Lowering the engine speed will help extend the life of the engine, as well as conserve fuel and reduce noise level.

STOP ENGINE

To stop the engine in an emergency, simply turn the engine switch to the OFF position. Under normal conditions, use the following procedure:

1. Move the throttle lever to the SLOW  position.
2. Let the engine idle for one or two minutes.
3. Turn the engine switch to the OFF position.
4. Turn the fuel valve lever to the OFF  position.

WARNING

Sudden stopping at a high speed under a heavy load is not recommended. Engine damage may result.

WARNING

Do not move the choke control to CLOSE to stop the engine. Backfire or engine damage may occur.

WARNING

Before lifting or transporting, allow engine and muffler to cool. Disconnect sparkplug wire. Drain gasoline from fuel tank.

Chapter 4: Maintaining the DR® XD20

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.

WARNING

When performing any maintenance, you must first shut off the engine, wait five minutes to allow parts to cool and disconnect the spark plug wire, keeping it away from the spark plug.

PREVENTIVE MAINTENANCE

1. Turn off the Engine and disengage all command levers. The Engine must be cool.
 2. Keep the Engine's Throttle Lever in its SLOW position and remove the spark plug wire from the spark plug and secure.
 3. Inspect the general condition of the Tiller. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, and any other condition that may affect its safe operation.
 4. Use a soft brush, vacuum or compressed air to remove all contaminants from the machine. Then use high quality light oil to lubricate all moving parts.
 5. Replace the spark plug wire.
-

NOTICE

Never use a "pressure washer" to clean your DR® XD20. Water can penetrate tight areas of the machine and its transmission case and cause damage to spindles, gears, bearings, or the engine. The use of pressure washers will result in shortened life and reduce serviceability.

GEARBOX

The transmission requires periodic maintenance. Check the oil level after every 25 hours of use. Change the transmission oil after 100 hours of use, or two years, whichever comes first.

TINE GEARBOX

The Tine Gearbox requires periodic maintenance. Change the Tine Gearbox oil after 100 hours of use, or two years, whichever comes first.

GENERAL LUBRICATION

Lightly lubricate all moving parts of the machine at the end of the season or every 25 operating hours.

ENGINE MAINTENANCE

For information on engine maintenance, refer to the Engine Manual included with your unit. Your engine manual provides detailed information and a maintenance schedule for performing maintenance tasks.

ADJUSTING CLUTCH

Tools & Supplies Needed:

- 8mm Wrench

If Clutch appears to be slipping, or the tiller lacks power follow these steps to adjust the cable tension. (**Figure 13**)

1. Mark the position of the wire end of the Clutch Cable in the Clutch Cable Retainer.
2. Loosen the jam nut and bolt at the Clutch Cable Retainer using an 8mm Wrench.
3. If the Clutch is loose or slipping the Clutch Lever Arm will need to move towards the Clutch Cable Retainer. If the Clutch is too tight, the Clutch Lever arm will need to move away from the Clutch Cable Retainer.

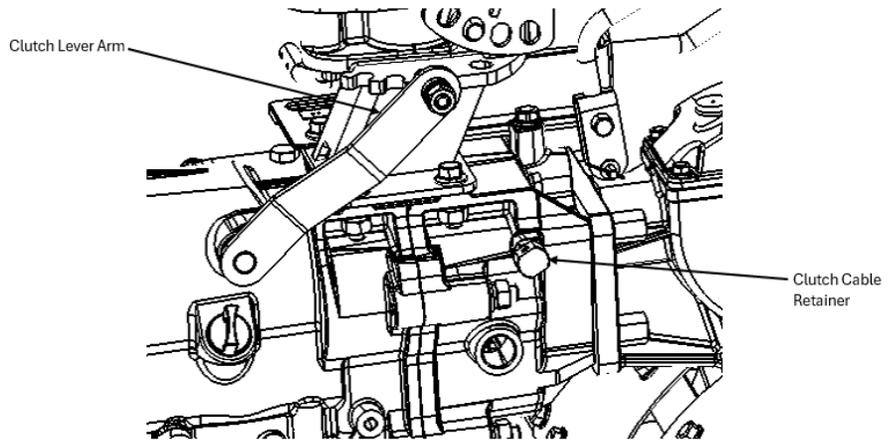


Figure 13

Note: If the wheels or tines turn without engaging the Clutch Lever then the Clutch Cable is too tight.

4. Start with small (1/8 inch), incremental adjustments on the Clutch Cable.
5. Tighten the Bolt and Jam Nut at the Clutch Cable Retainer using an 8mm Wrench.

REPLACING THE TINES

Tools & Supplies Needed:

- 16mm Wrench

1. Place the Depth Stake in the Transport Position to lift the tines off of the ground.
2. Remove the M10 Nut from tine retaining bolt using a 16mm Wrench. (**Figure 14**)
3. Remove the Lock Washer and Bolt from the Tine Holder.
4. Remove the Tine.

Note: The Tines are intended to break before damage to the tiller occurs. Avoid tilling around obstacles and large rocks when possible. Remove rocks from the area being tilled as soon as possible. Check the Tines often when tilling in rocky soil.

Note: The rate at which the tines wear is heavily dependent on soil conditions. Abrasive, sandy soils will cause the tines to wear the fastest. It is recommended to replace the tines after 50 hours of use in sandy soil, or after 100 hours of use in clay or loamy soil.

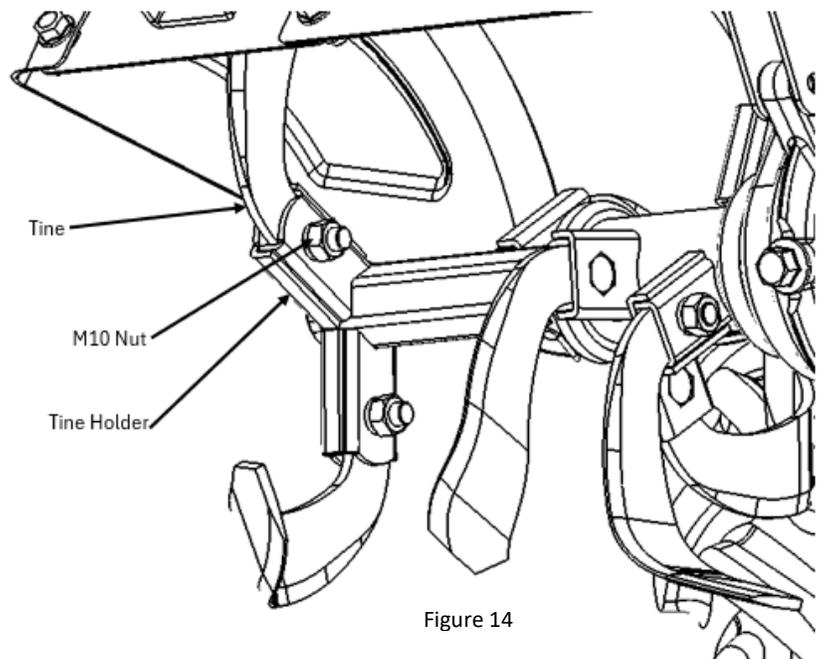


Figure 14

Chapter 5: Storing the DR® XD20

If the DR® XD20 will not be used for a period longer than 30 days, follow the steps below to prepare your unit for storage.

1. Drain the fuel tank completely. Stored fuel containing ethanol or MTBE can start to go stale in 30 days. Stale fuel has high gum content and can clog the carburetor and restrict fuel flow.
2. Start the engine and run until it stops. This helps prevent gum deposits from forming inside the carburetor and possible engine damage.
3. While the engine is still warm, drain the oil from the engine. Refill with fresh oil of the grade recommended in the Engine Manual.
4. Use clean cloth to clean off the outside of the machine and to keep the air vents free of obstructions.

NOTICE

Do not use strong detergents or petroleum based cleaners when cleaning plastic parts. Chemicals can damage plastics.

5. Inspect for any loose or damaged parts. Repair or replace damaged parts and tighten loose screws, nuts or bolts.
6. Store your unit on flat ground in a clean, dry building that has good ventilation.

WARNING

Do not store the machine with fuel in a non-ventilated area where fuel fumes may reach flame, sparks, pilot lights or any ignition sources.

Chapter 6: Troubleshooting the DR® XD20

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

When performing any maintenance, you must first shut off the engine, set the parking brake, wait five minutes to allow parts to cool and disconnect the spark plug wire, keeping it away from the spark plug.

Troubleshooting Table

SYMPTOM	POSSIBLE CAUSE	POSSIBLE REMEDY
Engine fails to start	<ul style="list-style-type: none"> ⇒ Spark plug wire is disconnected ⇒ Out of fuel or stale fuel ⇒ Engine and/or Fuel valve is not in On position ⇒ Choke lever is not in CLOSE position ⇒ blocked fuel line ⇒ Fouled spark plug ⇒ Engine flooding 	<ul style="list-style-type: none"> ⇒ Attach spark plug wire securely to spark plug ⇒ Fill with clean, fresh gasoline ⇒ Engine and Fuel valve must be in On position ⇒ Choke level must be in CLOSE position for a cold start ⇒ Clean fuel line ⇒ Clean, adjust gap, or replace ⇒ Wait a few minutes to restart, but do not prime
Engine runs erratically	<ul style="list-style-type: none"> ⇒ Spark plug wire is loose ⇒ Unit running with Choke lever in CLOSE position ⇒ Blocked fuel line or stale fuel ⇒ Vent plugged ⇒ Water or dirt in fuel system ⇒ Dirty air cleaner ⇒ Improper carburetor adjustment. 	<ul style="list-style-type: none"> ⇒ Connect and tighten spark plug wire ⇒ Move choke lever to OPEN position ⇒ Clean fuel line. Fill tank with clean, fresh gasoline ⇒ Clear vent ⇒ Drain fuel tank. Refill with fresh fuel ⇒ Clean or replace air cleaner ⇒ Refer to engine manual
Engine overheats.	<ul style="list-style-type: none"> ⇒ Engine oil level low ⇒ Dirty air cleaner ⇒ Air flow restricted ⇒ Carburetor not adjusted properly 	<ul style="list-style-type: none"> ⇒ Fill crankcase with proper oil ⇒ Clean air cleaner ⇒ Remove housing and clean ⇒ Refer to engine manual
Engine speed does not increase properly when throttle control is adjusted.	<ul style="list-style-type: none"> ⇒ Debris interfering with throttle linkage. ⇒ Improper throttle linkage adjustment 	<ul style="list-style-type: none"> ⇒ Clean dirt and debris. ⇒ Refer to Engine Manual to check and adjust throttle linkage.
Tiller moves forward during starting	<ul style="list-style-type: none"> ⇒ Tine gear select lever not in neutral position. 	<ul style="list-style-type: none"> ⇒ Tine gear select lever must be set to neutral to start the engine.
Tiller is difficult to control when tilling (machine jumps or lurches forward).	<ul style="list-style-type: none"> ⇒ Improper tilling depth setting. ⇒ Too high engine speed on hard ground. 	<ul style="list-style-type: none"> ⇒ Raise the tines for shallower tilling by raising the depth regulator rod. ⇒ Set the throttle lever at lower speed.
Tines do not engage.	<ul style="list-style-type: none"> ⇒ Foreign object lodged in tines. ⇒ Tine bolt missing. ⇒ PTO connection broken 	<ul style="list-style-type: none"> ⇒ Stop tiller completely, check and discard foreign object. ⇒ Replace tine bolt(s).

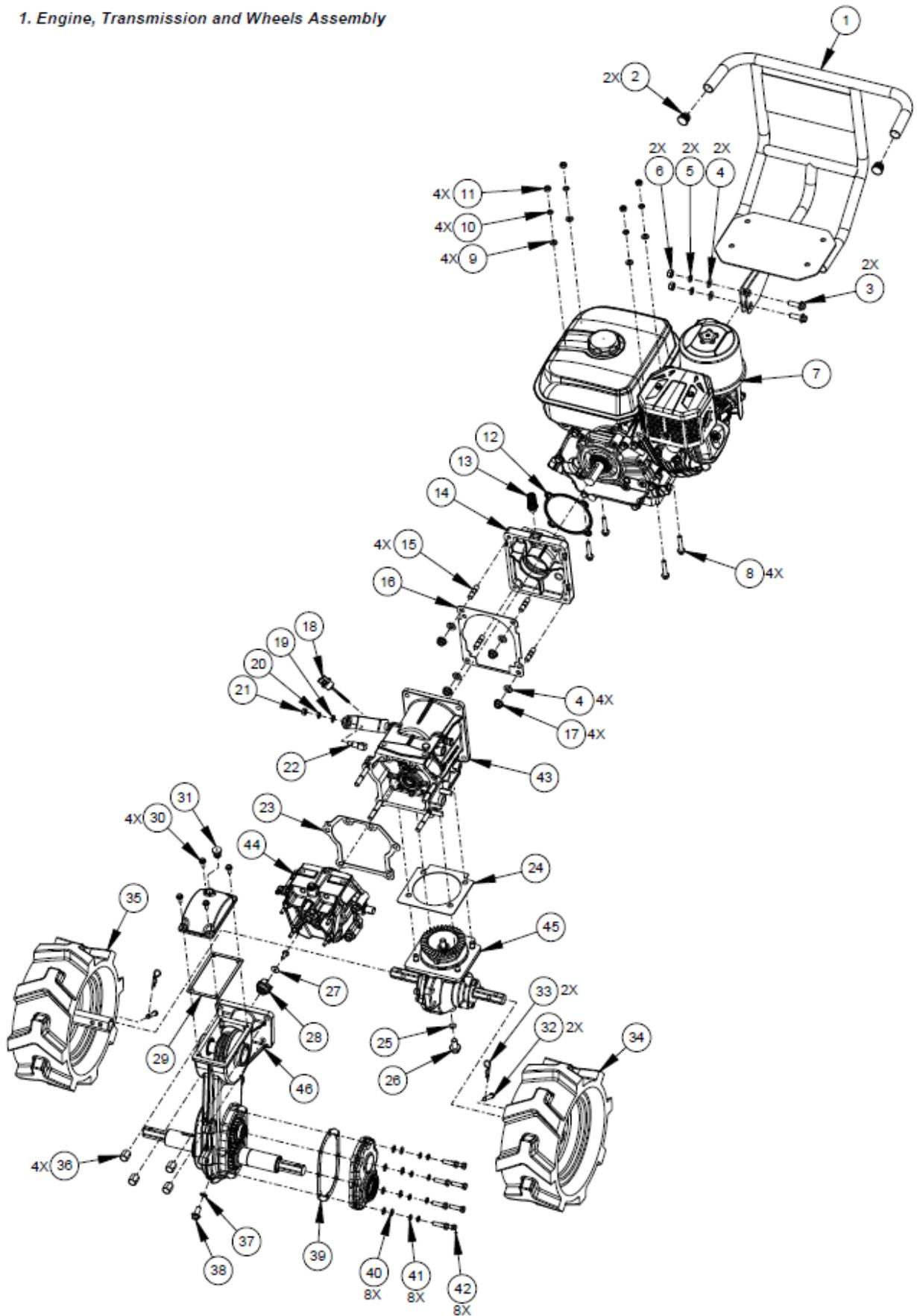
Parts List – Engine, Transmission and Wheels Assembly

Note: Part numbers listed are available through DR Power Equipment. Not all parts appear on all diagrams.

<u>Ref#</u>	<u>Part#</u>	<u>Description</u>
1	A0009611263	BUMPER, XD20
2	A0009793942	CAP PLUG
3	A0009611274	BOLT M10X30
4	A0009611268	WASHER FLAT 10MM
5	A0009611273	WASHER LOCK 10MM
6	A0009621243	NUT M10
7	A0009386601	ENGINE-HONDA GX270
8	A0009611272	BOLT M8X45
9	A0009611275	WASHER FLAT 8MM
10	A0009611277	WASHER LOCK 8MM
11	A0009611519	NUT M8
12	A0009611265	GASKET-ENGINE-XD20
13	A0009793946	TRANSMISSION VENT
14	A0009611264	FLANGE PLATE-XD20
15	A0009611271	STUD M10X40
16	A0009611266	GASKET-TRANSMISSION-XD20
17	A0009611267	FLANGE NUT M10
18	A0009617332	DIPSTICK TRANS
19	A0009617772	WASHER FLAT 8MM
20	A0009611277	WASHER LOCK 8MM
21	A0009611519	NUT M8
22	A0009617331	SEAT CLUTCH CABLE
23	A0009617774	GASKET REAR TRANSMISSION
24	A0009617778	GASKET CASE
25	A0009617777	O-RING 10.2X2.65MM
26	A0009617776	DRAIN PLUG TRANSMISSION
27	A0009621232	WASHER 6MM
28	A0009621231	CLUTCH DOG
29	A0009617790	GASKET TINE GEARBOX TOP
30	A0009615381	BOLT M6X16
31	A0009617779	PLUG VENT
32	A0009386685	PIN-CLEVIS 8MM X 43MM
33	A0009386689	PIN-HAIRPIN-COTTER XD20
34	A0009430092	WHEEL-RT-150MM-XD20
35	A0009430093	WHEEL-LT-150MM-XD20
36	A0009617775	NUT M10X21
37	A0009621234	DRAIN PLUG GASKET
38	A0009621233	DRAIN PLUG TINES
39	A0009617788	GASKET TINE GEARBOX SIDE
40	A0009617772	WASHER FLAT 8MM
41	A0009611277	WASHER LOCK 8MM
42	A0000938005	BOLT-M8 X 30
43	A0009623444	TRANSMISSION ASSY FRONT
44	A0009623445	TRANSMISSION ASSY REAR
45	A0009623446	DRIVE FINAL ASSY
46	A0009623447	GEARBOX TINES ASSY

Schematic

1. Engine, Transmission and Wheels Assembly



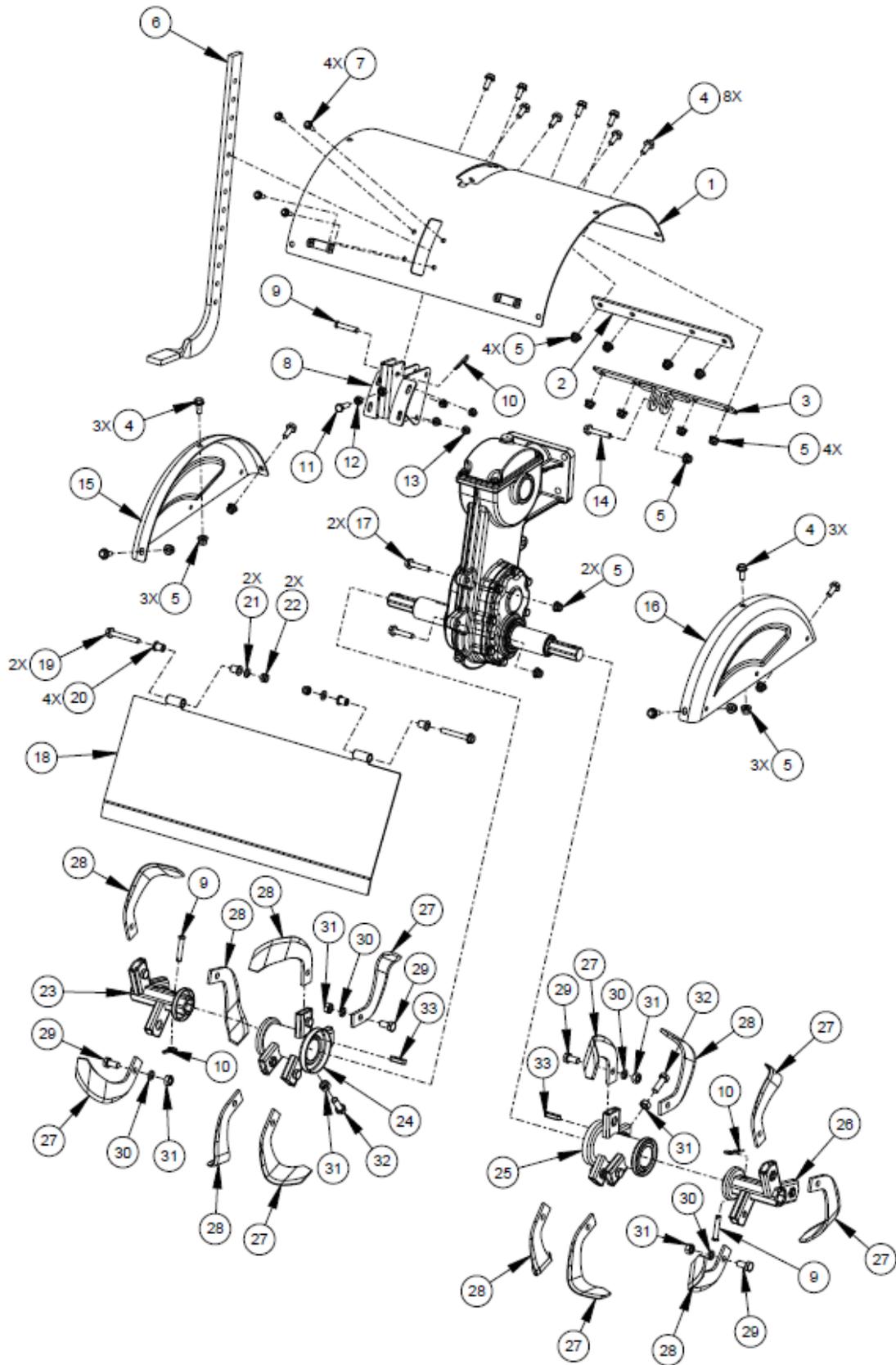
Parts List – Fender, Drag Stake and Tines Assembly

Note: Part numbers listed are available through DR Power Equipment. Not all parts appear on all diagrams.

<u>Ref#</u>	<u>Part#</u>	<u>Description</u>
1	A0009617321	SHROUD TINES XD20
2	A0009617322	PLATE FENDER
3	A0009617320	BRACKET FENDER
4	A0009621258	BOLT M8X20
5	A0009745592	NUT FLANGE NYLOCK M8
6	A0009617328	STAKE DRAG XD20
7	A0009621267	BOLT M6X20
8	A0009617317	BRACKET DRAG STAKE
9	A0009386685	PIN-CLEVIS 8MM X 43MM
10	A0009386689	PIN-HAIRPIN-COTTER XD20
11	A0009621272	BOLT M8X25
12	A0009611519	NUT M8
13	A0009745590	NUT FLANGE NYLOCK M6
14	A0009621268	BOLT M8X45
15	A0009617314	FENDER LT XD20
16	A0009617318	FENDER RT XD20
17	A0009621261	BOLT M8X40
18	A0009617316	GUARD REAR XD20
19	A0009621260	BOLT M8X60
20	A0009617315	SPACER FENDER
21	A0009617772	WASHER FLAT 8MM
22	A0009745588	NUT NYLOCK M8
23	A0009617313	HOLDER TINE EXTERNAL LT
24	A0009617312	HOLDER TINE INTERNAL LT
25	A0009617310	HOLDER TINE INTERNAL RT
26	A0009617306	HOLDER TINE EXTERNAL RT
27	A0009617301	TINE RIGHT XD20
28	A0009617308	TINE RIGHT XD20
29	A0009621247	BOLT M10X25
30	A0009621249	WASHER LOCK M10
31	A0009621243	NUT M10
32	A0009621253	BOLT M10X30
33	A0009621251	KEY FLAT M8X7X32

Schematic

2. Fender, Drag Stake and Tines Assembly



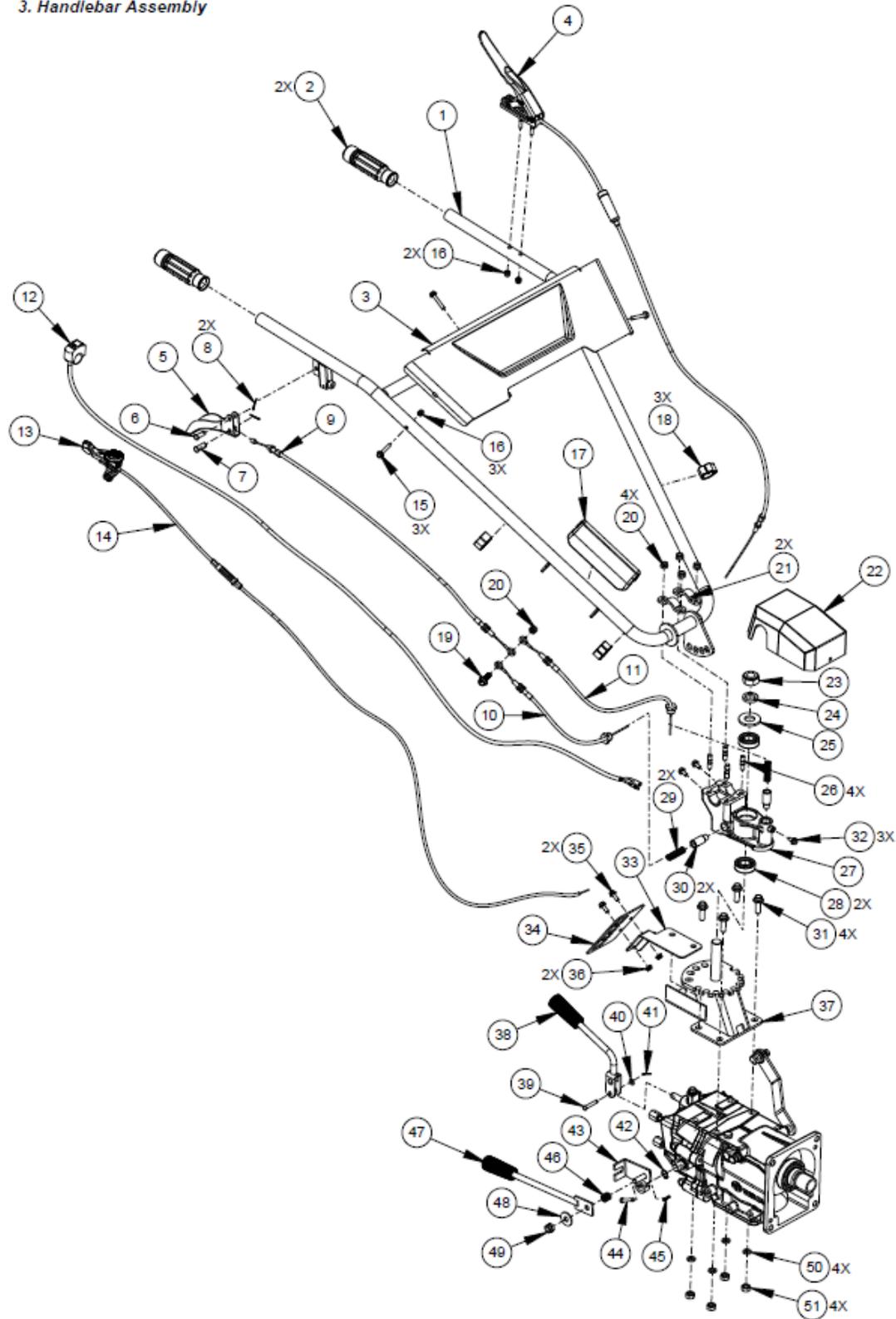
Parts List – Handlebar Assembly

Note: Part numbers listed are available through DR Power Equipment. Not all parts appear on all diagrams.

<u>Ref#</u>	<u>Part#</u>	<u>Description</u>
1	A0009612013	HANDLEBAR XD20
2	A0009612024	GRIP XD20
3	A0009612028	CONTROL PANEL XD20
4	A0009612026	CLUTCH LEVER ASSY
5	A0009612255	LEVER HANDLEBAR ADJUST
6	A0009612256	PIN 7X24MM
7	A0009612257	PIN 10X24MM
8	A0009612260	PIN COTTER 2X20MM
9	A0009612258	CABLE HANDLEBAR ADJUST
10	A0009614727	CABLE HEIGHT ADJUST
11	A0009614728	CABLE ROTATION ADJUST
12	A0009612254	ON/OFF SWITCH XD20
13	A0009612251	THROTTLE XD20
14	A0009612261	CABLE THROTTLE XD20
15	A0009612022	BOLT M6X35
16	A0009621238	NUT M6
17	A0009614715	COVER CABLE
18	A0009612020	CLAMP CABLE 25MM
19	A0009614718	BOLT M8X25
20	A0009745588	NUT NYLOCK M8
21	A0009614719	BUSHING HANDLEBAR
22	A0009614721	COVER HANDLEBAR
23	A0009615371	NUT M20
24	A0009615373	WASHER LOCK 20MM
25	A0009615374	WASHER THK 20.5MM
26	A0009612017	STUD M8X24
27	A0009612014	HANDLEBAR SEAT XD20
28	A0009612016	BEARING 6004-2Z
29	A0009614724	SPRING HANDLEBAR ADJUST
30	A0009614729	DETENT HANDLEBAR ADJUST
31	A0009615375	BOLT M10X30
32	A0009386697	BOLT-HEX HEAD-M6X12
33	A0009615378	BRACKET HANDLE SEAT
34	A0009615380	BRACKET GEAR POSITION
35	A0009615381	BOLT M6X16
36	A0009789577	NUT FLANGE M6
37	A0009615379	PIVOT HANDLEBAR
38	A0009615389	LEVER PTO ASSY
39	A0009615390	PIN 6X35
40	A0009615395	WASHER 6MM
41	A0009615391	PIN COTTER 1.6X20MM
42	A0009885679	CIRCLIP
43	A0009885682	BRACKET SHIFT ARM
44	A0009885678	PIN 6X35MM
45	A0009887053	HAIRPIN COTTER
46	A0009615397	SPRING GEAR SELECT
47	A0009615396	HANDLE GEAR SELECT
48	A0009621246	WASHER M10
49	A0009789578	NUT NYLOCK M10
50	A0009621240	WASHER LOCK 10MM
51	A0009621243	NUT M10

Schematic

3. Handlebar Assembly



Labels not shown in Schematic

A0001001634	Label, California Preempt
A0009510183	Label, PTO Engage XD20
A0009495408	Label, Gear Selector
A0009495244	Label, Tine Rotation XD20
A0009493481	Label, Free Hand Placement
A0009493479	Label, Clutch Engage
A0009040669	Label, Bumper XD20
A0009040665	Label, Cover Branding Label XD20
A0001645286	Label, Console Branding
10000036023	Label, PROP 65 Warning
416271	Label, Tiler Serial Number
415151	Label, DRT Warning
406681	Label, Tiller Safety Icons
250441	Label, Pinch Point Warning
136831	Label, Hot Surface

DR[®] XD20



2-Year Limited Warranty

Terms and Conditions

The **DR[®] XD20** is warranted for two (2) years against defects in materials or workmanship when put to ordinary and normal consumer use as well as commercial use.

For the purposes of all the above warranties, “ordinary and normal consumer use” and “commercial use” does not include misuse, accidents or damage due to inadequate maintenance.

DR Power Equipment certifies that the **DR[®] XD20** 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 as well as commercial use. DR Power Equipment limits the implied warranties of merchantability and fitness in duration to a period of two (2) years for all emissions related components. The Engine manufacturer warrants the Engine separately.

The 2-Year Limited Warranty on the **DR[®] XD20** 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 Drive Belt, Tines, Depth Stake, Shear Pins, Spark Plug and Air Filter. 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[®] XD20**.

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® XD20

WARNING

When performing any maintenance, you must first shut off the engine, wait five minutes to allow parts to cool and disconnect the spark plug wire, keeping it away from the spark plug.

To help maintain your DR® XD20 for optimum performance, we recommend you follow this checklist each time you use your machine.

- [] OIL: With the machine on a level surface, remove the Oil Fill Cap and check the oil level. Fill the reservoir according to the Dipstick with 10W30 motor oil.
- [] GAS: Fill the Fuel Tank with fresh, unleaded gasoline.
- [] ENGINE: It is very important to keep the Engine clean. Remove dirt and other debris from the Engine Cooling Fins and Debris Guard. A dirty Engine retains heat and can cause damage to internal Engine components.
- [] AIR FILTER: A clean Air Filter will mean a much easier starting and cooler running Engine. Please refer to your Engine Owner's Manual for instructions on cleaning the Air Filter.
- [] TIRES: Check the Tires for wear.

End of Season and Storage

WARNING

When performing any maintenance, you must first shut off the engine, wait five minutes to allow parts to cool and disconnect the spark plug wire, keeping it away from the spark plug.

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

Change the oil; this will help to eliminate sludge and acids in the Engine.

If your DR XD20 will be idle for more than 30 days, we recommend using a gas stabilizer or draining the fuel system. 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.

Remove the Spark Plug and pour about 1 ounce of motor oil into the cylinder hole. Replace the Plug and pull the Recoil Starter Rope until you feel strong resistance. This will coat the piston and seat the valves to prevent moisture buildup.

Clean and/or replace the Air Filter(s).

Clean dirt and debris from the cylinder head cooling fins, carburetor linkage, blower housing, rotating screen, and muffler area of the Engine.

Check to make sure the operator controls are moving freely. Lubricate the Throttle Lever Cable and Drive Clutch Control cable with 10W30 Oil if necessary.