

DR[®] *ALL-TERRAIN*[®] FIELD and BRUSH MOWER

Safety & Operating Instructions



Please read through these Operating Instructions and the Engine Manufacturer's Owner's Manual to become familiar with the basic features of the DR[®] *ALL-TERRAIN*[®] FIELD and BRUSH MOWER before operating it.

THANK YOU!

And congratulations on your purchase of a new DR[®] FIELD and BRUSH MOWER!

We have done our utmost to ensure that your DR[®] FIELD and BRUSH MOWER will be one of the most trouble-free and satisfying pieces of equipment you have ever owned. Please let us know of any questions or problems you may have. We want to answer or correct them as quickly as possible. (When you do call or write, please have your serial number and/or order number handy—it will speed things up!) We also hope to hear from you on how much you like your new helper.

And, please tell your friends about your new DR[®] FIELD and BRUSH MOWER! Having DR[®] Owners spread the word about our products and our way of doing business is the best advertising we can have, and the best way to help us provide even better service in the years to come.

Thanks once again!

Bill Lockwood

for all of us at...
COUNTRY HOME PRODUCTS[®]

We Want You to be Totally Satisfied

The DR[®] FIELD and BRUSH MOWER is designed to provide year after year of trouble-free performance. To ensure that you are totally satisfied with this important purchase, we offer the following three-part Assurance of Satisfaction:

1. THE DR[®] FIELD and BRUSH MOWER is GUARANTEED FOR ONE FULL YEAR against defects in materials and workmanship in consumer use. If you believe that a part is defective, please write or call us immediately. We will do our best to remedy the problem, including repairing or replacing defective parts as quickly as possible. In rental and commercial use the machine is guaranteed for 90 days. The engine is guaranteed separately by the manufacturer:
Kawasaki Engine: Two years in consumer use, two years in commercial use.
Tecumseh Engine: Two years in consumer use, one year in commercial use.
Briggs & Stratton 10.5 HP Engines: Two years in consumer use, one year in commercial use.
Briggs & Stratton 8.0 HP Engines: Two years in consumer use, 90 days in commercial use.
2. IF WITHIN THE FIRST 30 DAYS of actual hands-on use you have questions or you are less than 100% satisfied with your DR[®] FIELD and BRUSH MOWER, please write or call us at 1-800-DR-OWNER (376-9637). We'll do everything possible to answer your questions or make things right—even if it means that you return your DR[®] FIELD and BRUSH MOWER for a full refund of its purchase price, shipping costs included. (Refund on shipping is for standard method, and applies to the contiguous United States and Canada only.)
3. We operate, for our Owners, a 7-Day-a-Week Customer Service Department with well-trained and friendly folks whose sole job it is to ensure that you get any help you need...parts that need to be replaced...or questions answered courteously and as promptly as possible.

For future reference when dealing with your warranty, save the packing list from the outside of the DR[®] FIELD and BRUSH MOWER box and keep it in a safe place. Also, please fill out the information below.

Name Purchased Under: _____

Order Number: _____ Serial Number: _____

Date Purchased: ____/____/____

Table of Contents

SAFETY INFORMATION	3
DRESS APPROPRIATELY	3
PREPARATION	3
OPERATING THE MACHINE SAFELY	3
WARNING TO ALL CALIFORNIA AND OTHER USERS	4
BEFORE STARTING	5
CHECK THE OIL AND ADD GAS.....	5
CHECK THE TIRE PRESSURE.....	5
CONTROLS & FEATURES	6
OPERATING INSTRUCTIONS	7
BEFORE STARTING THE ENGINE.....	7
STARTING THE ENGINE	7
ENGAGING THE WHEEL DRIVE	7
ENGAGING THE BLADE	7
STOPPING THE BLADE.....	8
STOPPING THE ENGINE.....	8
LOCKING THE WHEEL DIFFERENTIAL	9
SLOPES	9
IF THE MACHINE GETS HUNG UP.....	10
CUTTING BRUSH & SAPLINGS	10
REVERSE.....	10
CUTTING IN WET & HEAVY GROWTH	10
ENGINE MAINTENANCE	SEE ENGINE MANUFACTURER'S OWNER'S MANUAL
GENERAL MAINTENANCE	11
LUBRICATION	11
BATTERY	13
BELTS	14
BLADE	17
DIFFERENTIAL	18
DRIVE CHAIN.....	19
WHEEL CLUTCH	20
BLADE ENGAGEMENT CABLE	21
TRANSMISSION	21
TO REMOVE THE WHEELS	21
END OF SEASON & STORAGE	22
TROUBLESHOOTING	23
PARTS LIST	25
MAIN FRAME ASSEMBLY	27
WHEEL/AXLE ASSEMBLY	28
HANDLEBAR ASSEMBLY	29
BRUSH MOWER DECK ASSEMBLY	30
WIRING DIAGRAMS	31
DAILY CHECK LIST FOR THE DR® FIELD AND BRUSH MOWER	BACK COVER

Safety Information

We want you to enjoy years of productive use from your DR[®] FIELD and BRUSH MOWER. We don't want you to get injured, so please take a few moments to read the following guidelines for safely operating your new machine.

Dress Appropriately

- Wear safety glasses while mowing to protect your eyes from thrown objects.
- Wear shoes with non-slip treads when using your DR[®] FIELD and BRUSH MOWER. If you have safety shoes, we recommend that you wear them. Do not use the machine while barefoot or wearing open sandals.
- Wear long pants while mowing, and avoid loose clothing or jewelry, which might get caught in brush or on the mower's moving parts.
- Use ear muffs or ear plugs to protect your valuable hearing.
- We recommend wearing gloves while mowing.

Preparation

- Read these Safety & Operating Instructions as well as the engine manufacturer's owner's manual before you use the DR[®] FIELD and BRUSH MOWER. Become familiar with the controls, engine and service recommendations to ensure the best performance from your machine.
- Inspect the area you'll be working in for hidden objects such as large rocks, logs, rope, wire, garden tools, etc., and remove these obstacles before mowing. Mowing over such obstacles could damage the machine and cause injury.
- Mow only during the daylight hours.
- Fill the gasoline tank outdoors with the engine off. 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.

Operating the Machine Safely

- Keep bystanders at least 100 feet away from your work area at all times. Objects can be thrown far from the mower and at great speeds. To be safe, do not operate the machine near small children or pets, and never allow children to operate the mower. Disengage the blade and stop the engine when another person approaches.
- Be sure all blade and wheel controls are DISENGAGED before attempting to start the engine. Engage and disengage the blade a few times to get used to it before mowing.
- NEVER remove the shields from the mower, or alter the deck in any way.
- Keep your hands and feet away from the blade, belts, chains, blade pulleys, and concealed areas while the engine is running. NEVER reach under the deck or grab hold of the deck deflector when the engine is running.
- ALWAYS shut off the engine and remove the spark plug wire prior to making any adjustments to the machine. If you have to stop to remove grass or debris from the underside of the deck, always disconnect the spark plug wire first.

- The exhaust area on the engine becomes very hot. Allow the engine to cool before doing maintenance or making adjustments.
- Keep combustible substances away from the engine when it is hot.
- When operating over uneven terrain and slopes, use EXTREME CAUTION and make sure you're on firm footing at all times.
- Use extra caution when mowing in wet, slippery conditions.
- ALWAYS OPERATE THE MOWER FROM BEHIND. Never pass or stand on the discharge (right) side or in front of machine when the engine is running.
- DO NOT, under any conditions, remove, cut, bend, weld or otherwise alter standard parts on your DR[®] FIELD and BRUSH MOWER. This includes all shields and guards. Unauthorized modifications can make the equipment unsafe and may void your warranty.
- While using the DR[®] FIELD and BRUSH MOWER, don't 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.
- **Some state and local regulations require the use of a spark arrester on gas powered engines. Contact your local fire marshal or forest service for specific information pertaining to your area. If you are required to use a spark arrester, please contact one of our Customer Service Representatives TOLL FREE 1(800)DR-OWNER (376-9637) for assistance in obtaining and installing one.**

Warning to All California and Other 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. All DR[®] FIELD and BRUSH MOWERS shipped to California and Washington state are provided with spark arresters. Failure of the owner/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 local fire marshal or forest service for specific information in your area.

Before Starting

Your DR[®] FIELD and BRUSH MOWER is shipped completely assembled. Just CHECK THE OIL LEVEL AND ADD GAS, and you're ready to go!

Supplies Needed:

- SAE30 HD (High Detergent) oil (if needed)
- fresh unleaded gas

Check the Oil and Add Gas

1. Place the machine on a level surface and check the oil level. Add SAE30 HD (high detergent) oil if needed.

Note: The dipstick on the Briggs & Stratton and Tecumseh models needs to be screwed in completely to get an accurate oil level reading.

The dipstick on the Kawasaki model should not be screwed in to get an accurate oil level reading.

2. Fill the gas tank with clean, unleaded gasoline.

Note: See your Engine Manufacturer's Owner's Manual for more detailed fuel and oil recommendations.

3. Open the fuel shut-off valve.

- On Briggs and Stratton models, the red fuel shut-off valve is on the fuel line near the bottom of the gas tank (*Figure 1*). Turn the valve 90 degrees to open.
- On Tecumseh and Kawasaki models, the red fuel shut-off valve is on the fuel line near the corner of the black chain drive box (*Figure 2*). Turn the valve 90 degrees to open.

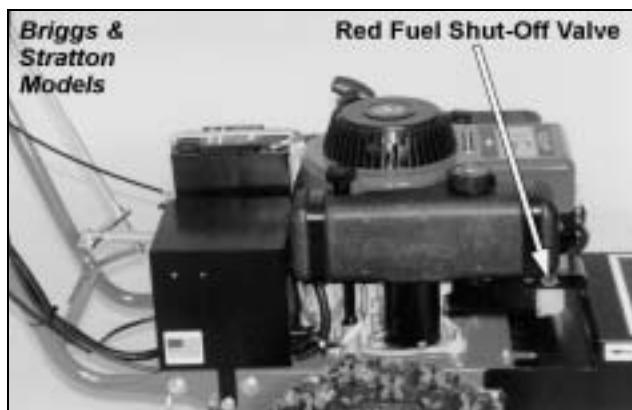


Figure 1

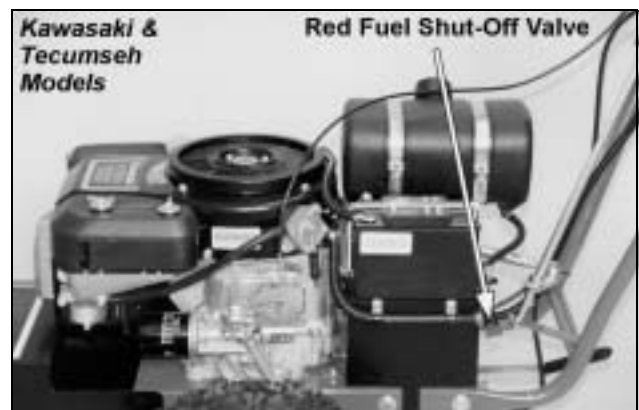


Figure 2

Check the Tire Pressure

There should be 14 psi in each tire.

Controls & Features

Note: Kawasaki Model shown.

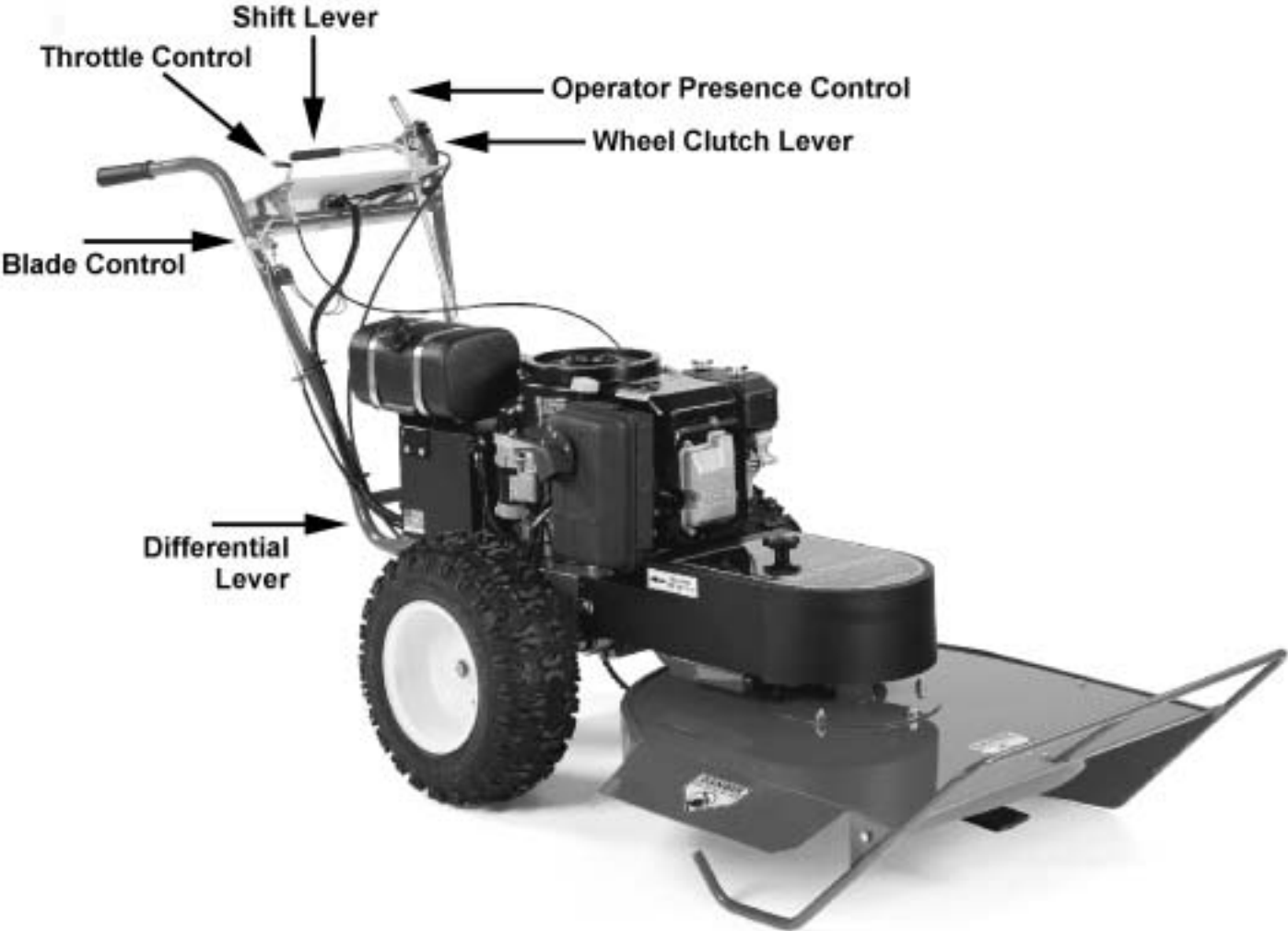


Figure 3

Operating Instructions

Before Starting the Engine

1. Check the oil level every time you use the machine.
2. Check the gas level.
3. Open the fuel shut-off valve.

Starting the Engine

Electric-Starting

1. Move the throttle to the CHOKE position (to the RUN position if the engine is already warm).
2. Turn the key to START and hold it until the engine starts.
3. Release the key, it will snap to the RUN position.
4. Move the throttle to the RUN position.

Manual-Starting (ATM10S Briggs & Stratton Model only)

1. Move the throttle to the CHOKE position (to the RUN position if the engine is already warm).
2. Turn the key to START.
3. Pull the recoil rope slowly until you feel resistance, then pull with a rapid stroke to start the engine.
4. Move the throttle to the RUN position.

Engaging the Wheel Drive

The DR[®] FIELD and BRUSH MOWER has a four-speed forward transmission and single-speed reverse. Forward speeds range from 1.4 mph in first gear to 4.3 mph in fourth gear. Use the lower gears for mowing in thick, woody vegetation and the higher gears for wide-open areas and lighter vegetation, or as "travel gears." Reverse is ideal for maneuvering in tight spots.

Note: Always release the wheel clutch lever when shifting gears.

1. Move the shift lever to the desired gear.
2. Gently squeeze the wheel clutch lever to engage a gear.

Engaging the Blade

1. Hold down the operator presence lever.
2. Engage the blade control lever.

Note: If you engage the blade control lever before holding down the operator presence lever the engine will shut off.

Stopping the Blade

Push the blade control lever forward to OFF.

Note: Releasing the operator presence lever while the blade is engaged will cause the engine to shut off.

Stopping the Engine

1. Push the blade control lever forward to OFF.
2. Move the shift lever to N (neutral).
3. Move the throttle control to IDLE.
4. Turn the key to OFF and remove it for safety.

Tips for Best Performance

Locking the Wheel Differential

In rough or wet terrain, or on moderate slopes, you can lock the wheel differential, so both wheels turn together with improved traction.

To lock the wheel differential, move the lever between the lower handlebars to the right (*Figure 4*).

Note: When mowing with the wheel differential locked you may find it more difficult to turn and maneuver.



Figure 4

Slopes

- We do not recommend using the DR[®] FIELD and BRUSH MOWER continuously on slopes greater than 25 degrees. Doing so could deprive the engine of oil and cause it to overheat.
- When moving across moderate slopes, in ditches, etc., locking the differential will improve traction (*Figure 6*).
- Note that the mowing deck pivots from side to side (12 degrees in either direction), which helps avoid scalping, and keeps the weight balanced over the drive wheels when operating on uneven terrain (*Figure 5*).
- Please read the safety information beginning on page 1.



Figure 5



Figure 6

If the machine gets hung up...

- Disengage the blade. Do not try to free the machine from stumps or debris while the blade is engaged.
- Try putting the machine in reverse and backing away from the obstacle.
- Try pushing down on the handlebars to lift the mowing deck over the obstacle (*Figure 7*).
- If you need to leave the operating position, first put the machine in "N" (neutral), turn the engine off and disconnect the spark plug wire.



Figure 7

Caution: DO NOT touch the exhaust areas when reaching for the spark plug—they are very hot.

Cutting Brush & Saplings

- When cutting woody material, small saplings, etc., allow the machine to ride up and over material slowly. Adjust your forward speed to varying conditions (*Figure 8*).
- After cutting brush, etc., you may want to mow over it again to remove any remaining branches. It works best to mow from the trunk end toward the top as brush lies on the ground.



Figure 8

Reverse

- Be very careful of your footing when operating the machine in reverse. Know what's behind you and take your time.
- The blade will engage in reverse, however, we don't recommend continuous mowing in reverse. Mow in the forward gears, using reverse for maneuvering.
- If you find it difficult to shift into reverse, lightly "feather" the clutch lever as you pull the shift lever into reverse, then quickly release the clutch lever.

Cutting in Wet & Heavy Growth

- Be very careful of your footing when mowing in wet conditions. Avoid steep slopes and other slippery areas.
- Use a lower, slower speed.

General Maintenance

For Engine Maintenance, Please Refer to the Engine Manufacturer's Owner's Manual.

IMPORTANT: Because of the demanding conditions the DR® ALL-TERRAIN™ FIELD and BRUSH MOWER is used in, air filters and oil should be changed more frequently than is recommended in your Engine Manufacturer's Owner's Manual. Please follow these recommendations:

Paper Air Filter: Should be replaced every 25 hours of operation.

Oil: Should be drained and replaced every 25 hours of operation.

Regular maintenance ensures the best performance from your machine. Follow these instructions as well as the recommendations in the Engine Manufacturer's Owner's Manual to keep your DR® FIELD and BRUSH MOWER in top condition. Use the daily checklist on the back cover of this manual whenever you operate your mower.

⚠ WARNING: Some of the following procedures require access to the underside of the machine. Before you tip the machine on its side with the discharge chute facing up, you must drain the oil and gas, and remove the air filters.

Lubrication

Your DR® FIELD & BRUSH MOWER is greased at the factory. You do not need to lubricate it for the first 25 hours of use.

Tools Needed:

- flexible hose grease gun
- Lithium grease
- FLUID FILM® or WD-40® lubricant

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

Grease Fittings

1. There are three grease fittings below the black belt guard that need maintenance:
 - The mower pivot tube (*Figure 9*) should have 1-2 pumps of grease every 25 operating hours.
 - The belt idler arm (*Figure 9*) should have 1-2 pumps of grease every 25 operating hours.

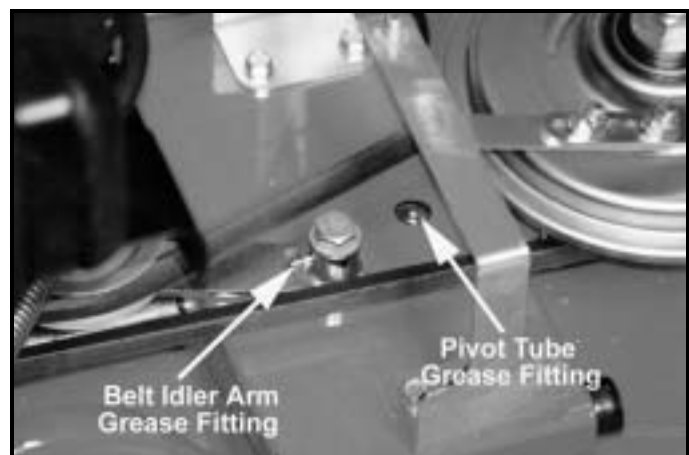


Figure 9

- The mower spindle (*Figure 10*) should have 3-4 pumps every 100 operating hours.

Note: Over greasing will cause grease to leak out of the seals onto the mower drive belt. Unless instructed otherwise, pump only until you feel slight resistance (1-2 pumps).

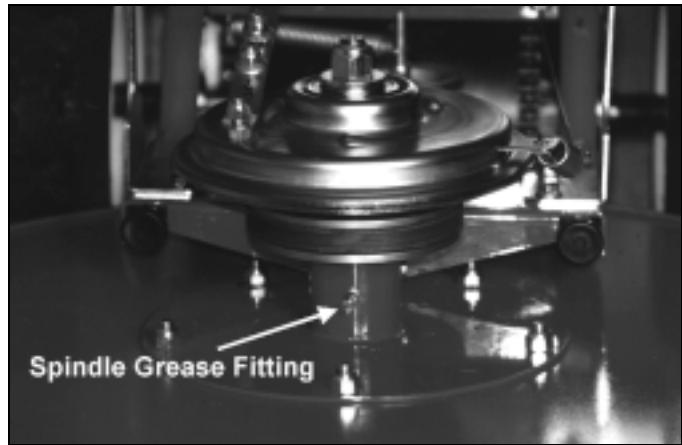


Figure 10

2. The following areas should be lubricated with FLUID FILM[®] or comparable lubricant every 10 to 20 operating hours—more often if the machine is operated in extremely dusty conditions:

- The differential fork at both ends (*Figure 11*).
- The axle above the hub where the spring is (*Figure 11*).
- The drive chain and the chain adjuster slide plate (*Figure 12*).

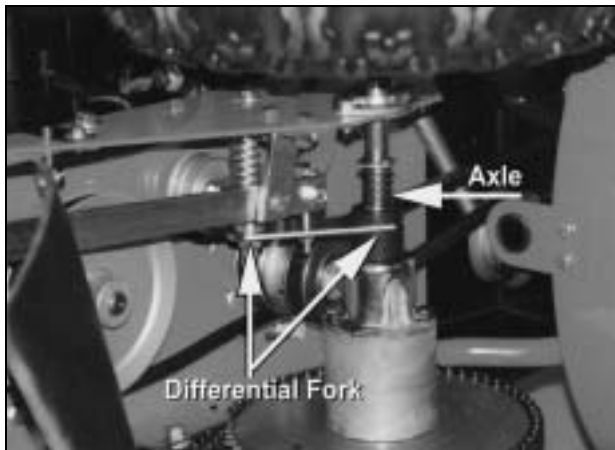


Figure 11

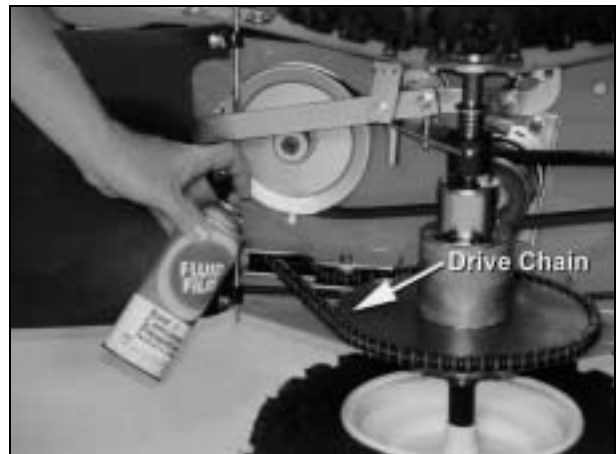


Figure 12

Battery

Electric-Starting Models

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

- Do not allow the battery charge to get too low. If the machine is not used, the battery should be charged every 4 – 6 weeks.
- Store an unused battery in a dry area that does not freeze.
- Do not charge an already charged battery. In theory, our battery can not be overcharged with a trickle charger; however, when a battery is fully charged and the charger is still on, it generates heat that could be harmful to the battery. A fully charged battery will read 12V-13.2V with a voltmeter.
- Do not continue to crank your engine with a low battery.

Charging the Battery

If the battery loses its charge, you'll need to use a trickle charger (like the DR[®] Battery Charger) to recharge it. The charger should have an output of 12 volts at no more than 6-8 amps.

- At 1 amp the battery may need to be charged for as much as 48 hours.
- At 2 amps the battery may need to be charged for as much as 24 hours.
- At 6-8 amps the battery will be charged in 2 to 3 hours.

Caution: At 6-8 amps a battery can overcharge.

Note: Using the recoil starter (ATM10E Briggs & Stratton model only) and then running the engine will not recharge a dead battery.

Belts

To Remove the Blade Belt

Tools Needed:

- 1/2" socket with extension
- 1/2" wrench
- vise grip pliers

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

1. Remove the black belt guard: Unscrew the black knob, lift the cover and pull up and back to remove it.
2. Using a 1/2" wrench or socket, remove the lock nut on the anti-rotation strap and pull the strap away from the post (*Figure 13*).
3. Rotate the clutch counterclockwise to release the tension on the blade clutch spring.
4. Remove the blade clutch spring (*Figure 14*). Remove the extension spring (*Figure 16*). You can use vise grip pliers to remove the spring or make a simple wire pull as illustrated in *Figures 15 & 16*.

Caution: The extension spring (*Figure 16*) has considerable tension.

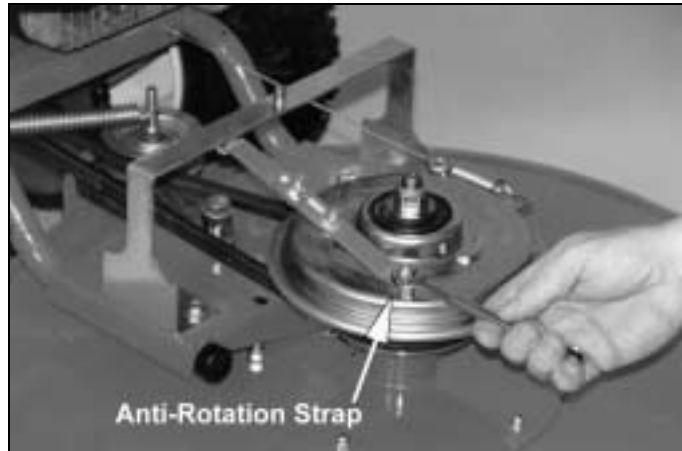


Figure 13

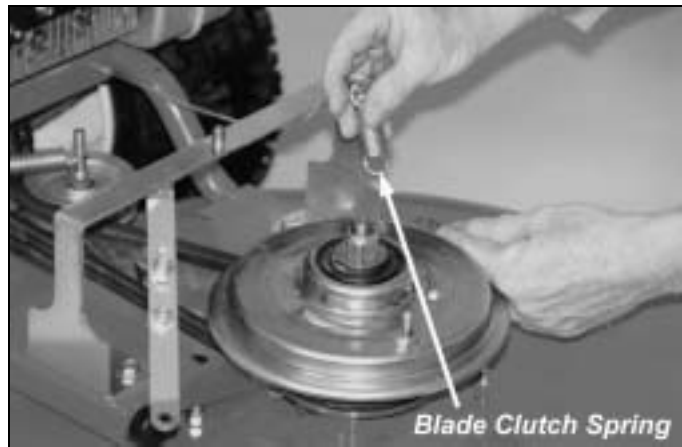


Figure 14



Figure 15

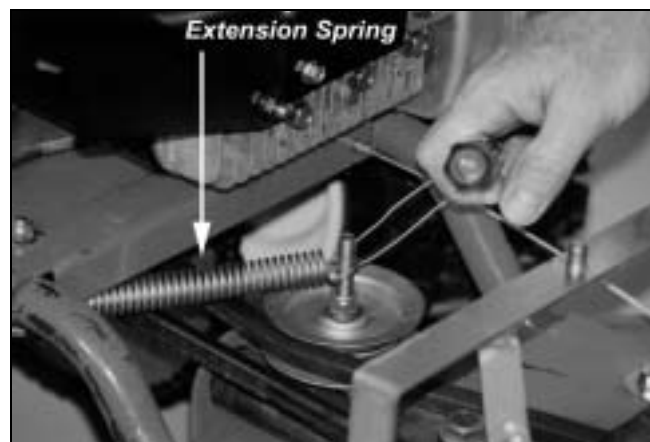


Figure 16

5. Remove the 5/16" x 2" cap screw from the pivot tube (*Figure 17*).
6. Push the deck back to create slack on the belt. Then pull the belt forward and drop it down off the blade clutch pulley.
7. Twist the other end of the belt and drop it off the 3" engine pulley (*Figure 18*).
8. Remove the belt.

To Replace the Blade Belt

Tools Needed:

- 1/2" socket with extension
- 1/2" wrench
- vise grip pliers

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

1. Keep the mower deck back and mount the new belt over the two pulleys (*Figures 17 & 18*).
2. Pull the mower deck forward.
3. Push the pivot washer back toward the engine (it should be between the cap screw and the frame).
4. Replace the 5/16" x 2" cap screw on the pivot tube (*Figure 17*). Tighten until you see 3-4 threads outside of the nut—do not over tighten.

Note: If you can't get the cap screw through the pivot tube, you can use a piece of wood to push the deck forward so the holes line up (*Figure 19*).

5. Replace the extension spring (*Figure 16*).
6. Replace the blade clutch spring (*Figure 14*).
7. Replace the anti-rotation strap (*Figure 13*).

Note: Only turn the nut on the anti-rotation strap until one or two threads show—it is not meant to be tightened down.

8. Replace the black belt guard and screw the black knob into place.



Figure 17

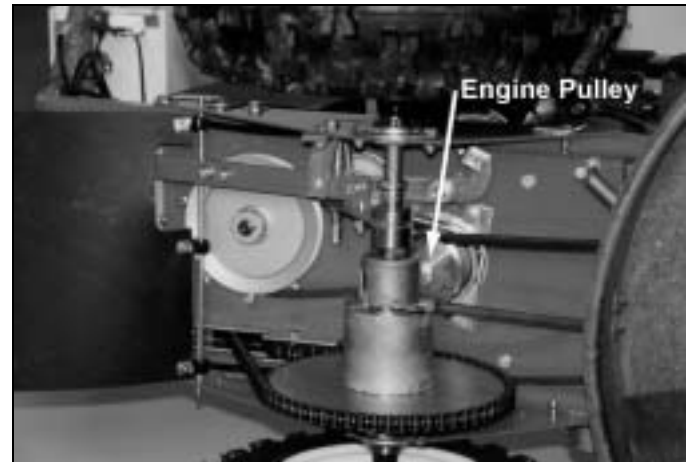


Figure 18

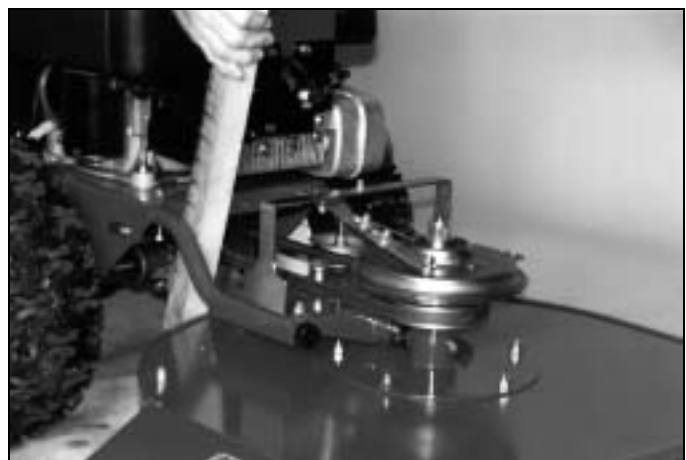


Figure 19

To Remove the Drive Belt

Tools Needed:

- 7/16" socket
- 1/2" socket
- 5/8" wrench

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

1. Drain the oil and gas and remove the air filters.
2. Remove the black belt guard. Unscrew the black knob, lift the cover and pull back and up to remove it.
3. Remove the blade belt. (*Follow the instructions on page 14.*)
4. Turn the machine onto its left side, with the discharge chute facing up.
5. With a 7/16" socket, remove the two belt retainers from the 6" transmission pulley. There is one on the rear of the pulley and one on the side (*Figure 20*). Be careful not to lose the retainers or washers.
6. With a 1/2" socket, loosen the two lock nuts that hold the belt guide (2-3 turns, don't remove them) and pull the belt guide back (*Figure 21*).
7. Push the 2-1/4" clutch idler pulley to the outside of the frame and start guiding the belt off the 6" transmission pulley. Using a 5/8" wrench (on the Kawasaki use a 14mm wrench), rotate the crankshaft bolt on the engine clockwise (counterclockwise on the Briggs & Stratton manual-starting engine) while continuing to guide the belt off (*Figure 22*).

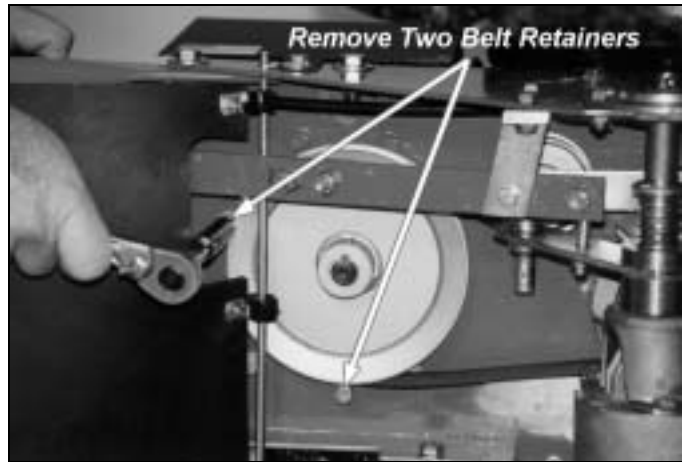


Figure 20



Figure 21

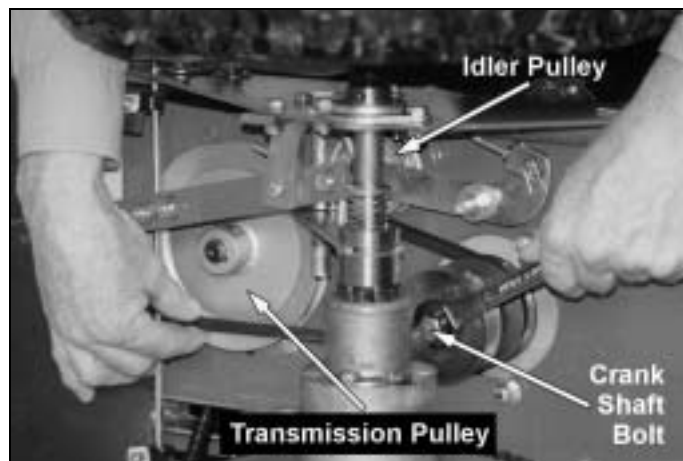


Figure 22

To Replace the Drive Belt

Tools Needed:

- 7/16" socket
- 1/2" socket
- 5/8" wrench

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

1. Mount the new belt over the 6" transmission pulley (*Figure 22*).
2. Place the belt in the belt guide and slide the belt guide forward, making sure it is under the flat washers. Position the belt with a 1/16" to 1/8" space between the pulley and the belt guide. Tighten the belt guide (*Figure 21*).
3. Replace the two belt retainers and washers on the 6" transmission pulley (*Figure 20*).
4. Reinstall the blade belt. (*See the instructions on page 15.*)
5. Turn the machine upright.

Note: You may need to adjust the wheel clutch cable after replacing the belt. See the instructions on page 20.

Blade

To Replace the Blade

Tools Needed:

- 15/16" wrench or socket
- air wrench if available
- rag or gloves to handle the blade

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

Note: You may need a length of pipe to fit over the wrench for more leverage when removing the blade nut.

1. Block the blade with a piece of wood between the blade and the skid on the chute side of the deck (*Figure 23*).
2. Remove the blade lock nut (right-hand, regular thread) and washer.

Caution: Be careful not to get cut when pushing or pulling the wrench next to the blade.

3. Remove the blade.

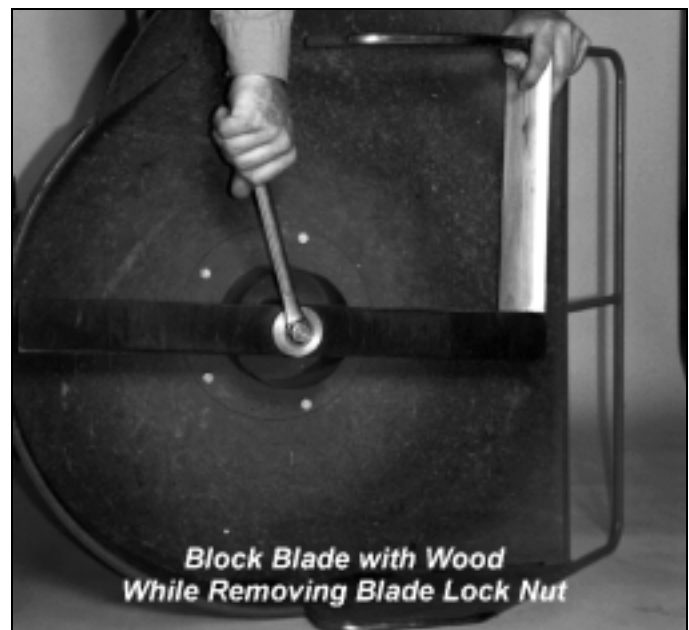


Figure 23

4. Mount the new blade, washer and lock nut.

Note: Be sure the blade is seated completely over the small ridge in the spindle hub before tightening the lock nut (*Figure 24*).

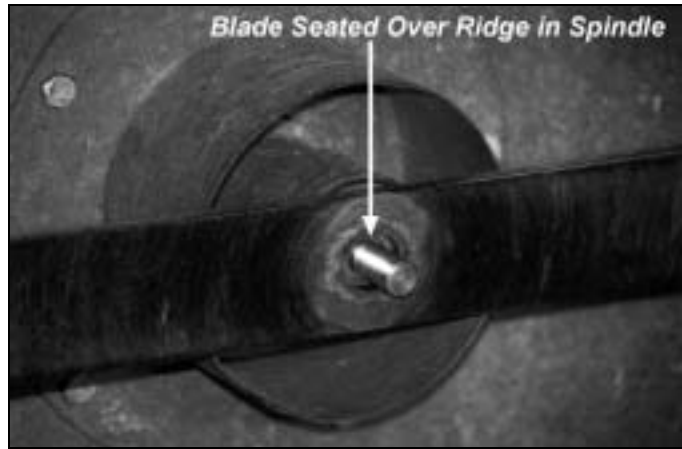


Figure 24

Differential

It is important to keep the differential parts lubricated. See page 12 for maintenance instructions.

To Adjust the Differential

If the differential locks while in the disengaged position, follow the instructions below to adjust it.

Tools Needed:

- (2) 1/2" deep well wrenches or sockets
- screwdriver

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

1. Loosen the bolt in *Figure 25* about 1/2 turn.
2. With a screwdriver, push the shift support toward the axle as far as it will go and tighten the bolt (*Figure 25*).
3. Engage and disengage the differential lever a few times, then check the clearance between the hub sleeve and the hub bell. There should be 1/8" clearance when the lever is disengaged (*Figure 26*).
4. If needed, adjust the nut in *Figure 26* and repeat steps 3 and 4 to get the proper measurement.

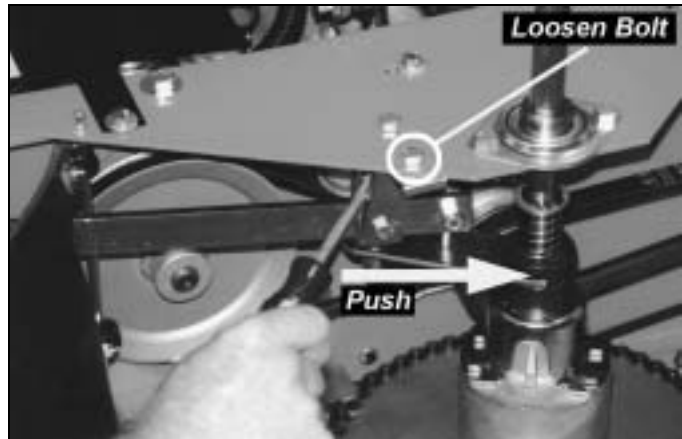


Figure 25

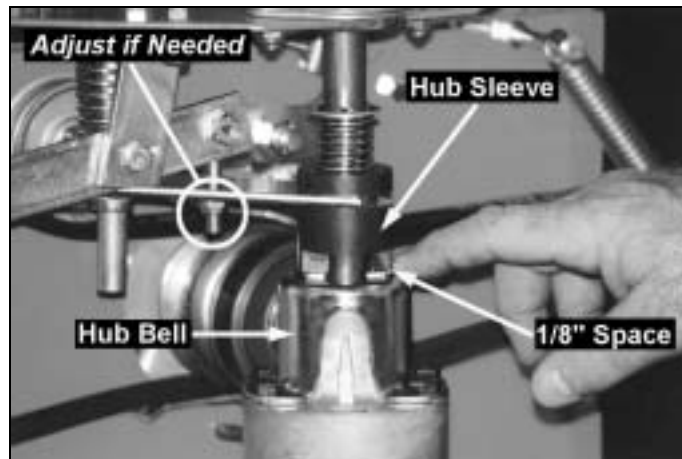


Figure 26

Drive Chain

To Adjust the Drive Chain

This adjustment should be done after the 1st, 3rd, 5th and 10th hours of use, then every subsequent ten hours of use, to remove any slack or looseness from the chain.

Tools Needed:

- (2) 1/2" wrenches

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

1. Loosen the outer nut on the chain adjustment bolt so you can access the inner nut (*Figure 27*).
2. Tighten the inner nut by hand or with a 1/2" wrench until it is snug against the frame (*Figure 27*).
3. With the machine in Neutral, roll it back and forth several times to remove any play in the chain, then recheck the adjustment. When you push in the center of the chain it should not move more than 1/2".
4. When the adjustment is correct, with two 1/2" wrenches, hold the inner nut in place and tighten the outer nut firmly against it.
5. Check and tighten the innermost nut on the adjustment bolt (look under the machine, it's the nut that sits against the chain adjuster bracket). This nut must be tight against the bracket.

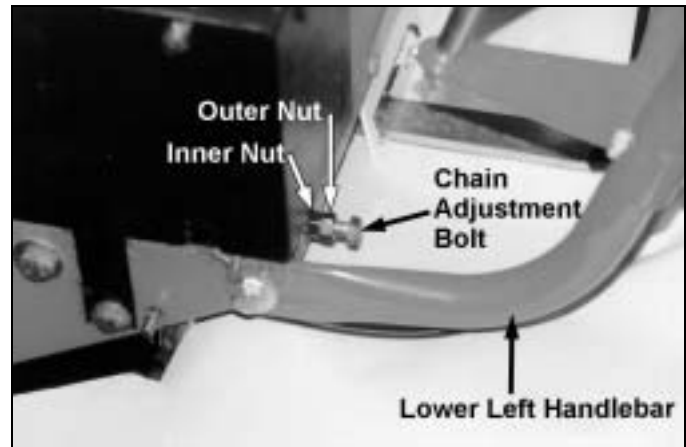


Figure 27

IMPORTANT!: DO NOT try to adjust the chain adjustment bolt—only the three nuts.

To Replace the Drive Chain

Tools & Supplies Needed:

- Chain: Part #131081
- 7/16" wrench
- flat-head screwdriver
- pliers

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

1. Remove the lock nuts from the access door and remove it (*Figure 28*).

Note: On the Kawasaki and Tecumseh engines you'll need to move the fuel line and clamps off the studs before removing the access door.



Figure 28

2. Loosen (don't remove) the chain drive adjustment bolt See instructions on Page 19. This will take tension off the chain and make it easier to remove.
3. Remove the master chain link (*Figure 29*). First remove the lock clip (A) with a flat-head screwdriver and pliers. You'll need to lift one side and rotate the clip to get it off the master link. Next remove the side plate (B). Then remove the master chain link.
4. Slowly feed the chain out.
5. Mount the new chain.
6. Add the master chain link.
7. Replace the access door and tighten the lock nuts.
8. Readjust the chain drive adjustment bolt (*page 19, Figure 27*).

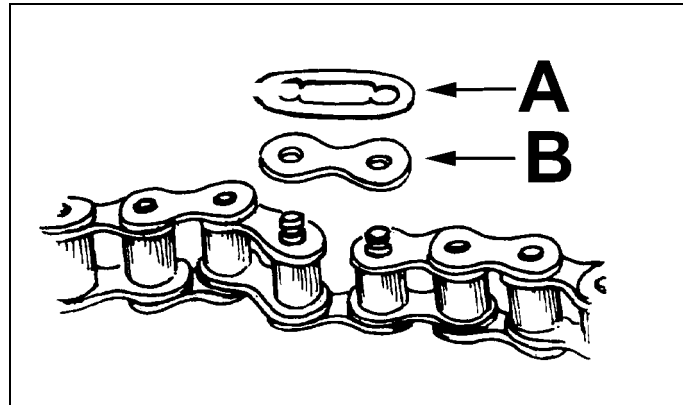


Figure 29

Wheel Clutch

When properly adjusted, tension on the wheel clutch lever should increase when the lever is about parallel to (almost touching) the handlebar grip.

Tools Needed:

- 7/16" wrench

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

1. Find the wheel clutch adjustment cap screw on the right side of the frame near the oil drain plug (*Figure 30*).
2. Loosen the cap screw 1/2 to 1 turn. Slide it back in the slot to tighten the clutch lever then tighten the cap screw.



Figure 30

Blade Engagement Cable

If the blade won't cut, or seems to slip in heavy material, check the blade engagement cable. Remove the black belt guard and measure the length of the blade clutch spring (the spring that attaches the cable to the blade clutch) (*Figure 31*). When the blade is engaged (lever pulled back) the spring should measure 3-1/2" to 3-3/4".

Note: Do not adjust the spring longer than 3-3/4".

Tools Needed:

- 1/2" open-end wrench

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

1. On the right handlebar there is a bracket with two nuts (one on each side) for adjusting the blade engagement cable (*Figure 32*). Loosen the nuts and push the threaded cable housing down about 1/8" at a time into the bracket. Check the spring measurement again and adjust as needed.
2. Retighten the nuts.

Transmission

The transmission is maintenance-free and does not need additional lubrication.

To Remove the Wheels

Tools Needed:

- flat head screwdriver

⚠ WARNING: Always remove the spark plug wire before servicing your machine.

1. Block the machine so the wheel to be removed is off the ground.
2. Rotate the tire so the key slot is facing upwards.
3. Use the screwdriver to remove the U-shaped lock ring (*Figure 33*), remove the washer and slide the wheel off.

Note: Be careful not to lose the key.

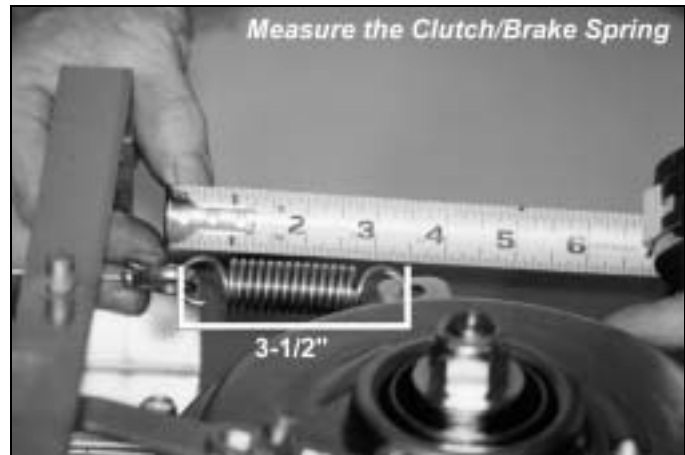


Figure 31




Figure 32



Figure 33

End of Season & Storage

 **WARNING:** Always remove the spark plug wire before servicing your machine.

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

- Change the oil.
- 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/replace the air filters.
- Clean dirt and debris from the cylinder head cooling fins, blower housing, debris screen and muffler area of the engine.
- If your engine has a fuel filter, replace it.
- If your DR[®] FIELD and BRUSH MOWER will be idle for more than 30 days, we recommend using a gas stabilizer. This will prevent the carburetor from gumming up. If there is dirt or moisture in the gas, 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. Close the gas shut-off valve to prevent carburetor overflow and leakage.
- Store the battery in a dry area that does not freeze. If the machine is not used over a long period, the battery should be charged every three months. See page 13.
- Remove any wrapped weeds from the blade bearing housing. Clean grass and debris from the top and underneath the mower deck with a stiff brush.
- Check the blade for nicks and wear. Remove the blade and sharpen, or have it professionally sharpened if needed.

Troubleshooting

⚠ WARNING: Always disengage the blade, turn off the engine and remove the spark plug wire before servicing your machine.

Please refer to the Engine Manufacturer's Owner's Manual for specific engine maintenance and troubleshooting information.

Belts	
<i>The belt frays or rolls over the pulley</i>	<ul style="list-style-type: none"> ⇒ A pulley groove may be nicked. Check the belt for wear and hard spots. File off any nicks on the pulley. ⇒ The belt may be stretched. Replace it.
Blade	
<i>The cut material is not being properly discharged out of the right side of the machine</i>	⇒ The discharge may be blocked. Disengage the blade, turn off the engine, disconnect the spark plug and check for debris.
<i>Heavier growth gets hung up under machine and does not discharge</i>	⇒ Try removing the baffle under the front of the mowing deck.
<i>The blade is not cutting or is loose</i>	⇒ The blade may not be seated properly. Loosen the blade nut, reset the blade and tighten the nut.
Differential	
<i>Differential locks when not in engaged position</i>	⇒ Follow the adjustment instructions on page 18.
Engine	
<i>Recoil will not pull out or is difficult to pull. (Briggs & Stratton Engine, Models ATM10S and ATM10E only)</i>	<ul style="list-style-type: none"> ⇒ Check that the blade lever is in the disengaged position. ⇒ The recoil may be broken or jammed. Try to turn the engine pulley by hand, with the spark plug wire off. If it turns, the recoil is broken or jammed.
<i>Engine won't start</i>	<ul style="list-style-type: none"> ⇒ Check for adequate, fresh fuel. ⇒ Check that the fuel valve is turned on. ⇒ Check the fuel filter to see if it is clear. Remove the line from the engine side of the filter. If gas flows freely, it's OK. ⇒ Check the throttle adjustment and travel. ⇒ Is the blade engagement lever down (disengaged)? It should be. ⇒ Check the spark plug. ⇒ Tecumseh and Kawasaki engines have a 10 amp fuse on the wiring harness. Check the fuse and replace if needed. <u><i>Electric-Starting Models:</i></u> ⇒ Check the wire connections—especially the ground connection, the large green wire coming from the battery where it connects to the engine.

<i>Engine won't start (continued)</i>	<ul style="list-style-type: none"> ⇒ Check the wire connections to the solenoid. Disconnect the green battery ground wire first to avoid sparks. Check to be sure that all of the connections are tight. Reconnect the battery ground wire. ⇒ Check the ground connection on the solenoid (ATM10E, 125) where it's bolted to the frame. Using a wrench or socket, spin the bolts and tighten them to ensure a good connection to the frame.
<i>Engine lacks power</i>	<ul style="list-style-type: none"> ⇒ Check the throttle travel and adjustment. ⇒ Clean or replace the air filter if needed. ⇒ Check the spark plug and replace if needed. ⇒ Add clean, fresh, unleaded gas. ⇒ Check the oil level and adjust as needed.
<i>Engine skips, pops, misses, shakes</i>	<ul style="list-style-type: none"> ⇒ Check the spark plug and replace if needed. ⇒ Clean or replace the air filter if needed. ⇒ Check the vent holes in the fuel cap — clean them if they're clogged. ⇒ Replace gas with fresh, unleaded fuel.
<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. ⇒ 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 Manufacturer's Owner's Manual for detailed information. ⇒ Clean the cooling fins if they're dirty.
Transmission	
<i>Machine is hard to get into reverse</i>	<ul style="list-style-type: none"> ⇒ If you find it difficult to shift into reverse, lightly pull the clutch lever as you pull the shift lever into reverse then quickly release the clutch lever.
Wheels	
<i>Wheels are slipping</i> <i>Wheels pulling left or right</i>	<ul style="list-style-type: none"> ⇒ Try engaging the wheel differential. ⇒ Check the tire pressure. There should be 14 psi in each tire.

For technical assistance call Toll-Free 1(800)DR-OWNER (376-9637).

Parts List

Please refer to the schematic drawings starting on page 27.

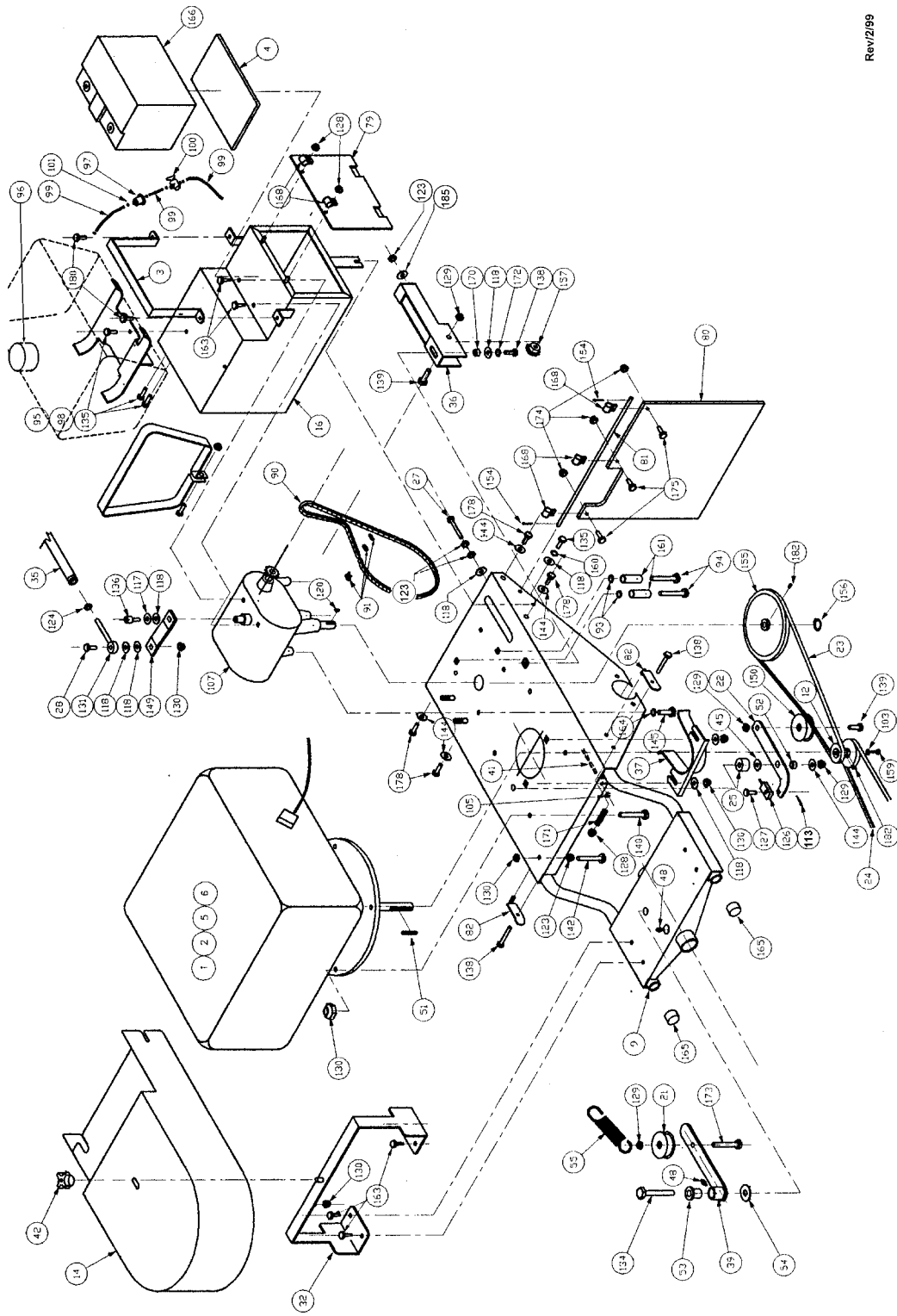
Note: Not all parts listed appear on the drawings.

Ref#	Part#	Description	Ref#	Part#	Description
1	100831	10.5 HP IC B&S Electric-Start Engine	44	100641	Cap, Mower Engagement Lever
2	100841	10.5 HP IC B&S Manual-Start Engine	45	101801	Nylon Washer 1" x .505" x .125"
3	124511	Battery Clamp	46	101861	Positive Wire, KAW, 23" Red
4	101341	Battery Pad	47	101561	Spacer .75" x 1" x 1.7"
5	100861	12.5 HP OHV TEC Engine	48	101891	Grease Fitting 1/4"-28
6	100851	14.0 HP OHV KAW Engine	49	135971	Flexible Conduit, Split - 7/16" X 30"
9	100971	Main Frame	50	101551	Solenoid - Briggs electric, Tecumseh
10	124521	Handlebar Assembly, Manual	51	106361	Key, 1/4" x 1/4" x 2-1/4"
10	125071	Handlebar Assembly, Electric	52	100601	Bushing 1/2" OD x 3/8" ID
11	101261	Shift Lever	53	100611	Idler Arm Bushing
12	101401	3" Blade Drive Pulley	54	101791	Flat Washer 1/2" ID
13	100731	Brush Deck, 26" (shell only)	55	101621	Extension Spring 5"
14	101001	Belt Guard	56	100961	Shift Fork
15	100471	Upper Bearing	57	101061	Shift Fork Guide
16	101011	Chain Guard	58	101271	Shift Lever, Differential
17	100481	Air Tip Blade 26"	59	101371	Shift Lever Plate
17	100491	Brush Blade 26"	60	101191	Key 3/16" x 2", SQ.
18	101511	Spindle Shaft	61	100581	Blade Clutch Brake
19	100411	Spindle Housing Assembly	62	101741	Washer 1-1/2" x .640" x 1/4"
20	101771	Blade Washer	63	101751	Washer 1-1/2" x .765" x 1/4"
21	101411	Idler Pulley	64	130491	Differential w/Sprocket - 54 tooth
22	100231	Clutch Idler Arm	65	101501	Machine Screw 3/8"-16 x 1-1/2"
23	101731	Drive Belt 1/2" x 30"	66	100591	Bushing .375" OD x .265" ID
24	101721	Blade Belt 5/8" x 56"	67	101471	Bolt, HHCS, 5/16" x 2-1/4"
25	101571	Steel Spacer	68	100441	Wire Harness B&S – Electric-Start
26	101311	Blade Lock Nut 5/8"-11	69	100451	Wire Harness KAW
27	127471	5/16" x 3-1/4" Chain adjuster bolt	70	100461	Wire Harness TEC
28	101461	Bolt, HHCS, 5/16" x 1-1/4"	71	100431	Wire Harness B&S Manual-Start
29	101251	Operator Presence Lever	72	101871	Green Safety Switch Wire 15"
30	101651	Momentary Switch BLACK	73	101841	Green Negative Wire 23"
31	101661	Momentary Switch RED	74	101831	Green Negative Wire 16"
32	100551	Belt Guard Bracket	75	101851	Red Positive Wire 20"
33	100241	Shift Rod Arm	77	101821	Red/Black Alternator Wire 12"
34	101241	Blade Control Lever	79	100761	Access Door
35	101441	Tie Rod	80	101021	Stone Guard
36	100201	Chain Adjuster	81	101431	Stone Guard Rod
37	101051	Belt Guide	82	100671	Belt Guard Clip
38	100561	Cable Adjustment Bracket	83	101671	Spring Link Switch
39	100221	Blade Idler Arm	84	100211	Anti-wrap
40	101171	Spindle Hub	85	100721	Deck Baffle
41	100621	Blade Engage Cable	86	100571	Deck Support Bracket (Brush Deck)
42	101201	Knob, Belt Guard	87	101521	Pivot Shim
43	100981	Grip, Mower Engagement Lever			

Ref#	Part#	Description	Ref#	Part#	Description
88	101631	Anti-Rotation Strap	136	111501	Bolt, HHCS, 1/4" - 28 x 3/4"
90	131081	Drive Chain, #41, w/Link & 1/2, 54 Tooth Sprocket	138	111491	Bolt, HHCS, 1/4" x 1"
91	110601	Master Link #41	139	111511	Bolt, HHCS, 3/8" x 1-1/2"
91	110591	1/2 Link #41	140	111571	Bolt, HHCS, 5/16" x 1-3/4"
92	136851	Label, Pulley Cover, ATM	141	111581	Bolt, HHCS, 5/16" x 1"
93	101811	Split Lock Washer 1/4"	142	111591	Bolt, HHCS, 5/16" x 2-1/2"
94	101451	Bolt, HHCS, 1/4" x 1-1/2"	143	111421	Bolt, HHCS, 5/16" x 3/4"
95	101681	6 Qt. Fuel Tank	144	112391	Flat Washer 3/8"
96	100631	Fuel Cap - Tecumseh/Kawasaki	145	111741	Screw 8-32 x 1/2"
97	100941	Fuel Filter	146	111701	Washer 3/8"
98	101301	Fuel Tank Mount	147	110221	Shift Handle Grip
99	123451	Fuel Line	148	112111	Throttle Control
100	101711	Shut-Off Valve	149	108791	Shift Arm, Transmission
101	100661	Fuel Line Clamp	150	113071	Idler Pulley 2-1/4"
102	101321	Lock Nut 5/16"-24	151	126971	Fender Washer 1/4" x 1"
103	101761	Washer 1.25" OD	152	111261	Wheel Lock Ring
104	101601	Blade Clutch Spring 2-3/4"	153	110881	Clevis Pin 3/16" x 1-3/4"
105	100771	E Clip	154	109751	Cotter Pin 1/16" x 1/2"
106	100501	Carriage Bolt 5/16"-18 x 1/2"	155	111191	Transmission Pulley 6"
107	101701	Transmission 4 Speed w/ Sprocket	156	111241	Snap Ring
107	127111	Sprocket Only	157	110461	Drive Chain Idler, 10 tooth
108	109421	Clutch Cable Assembly	158	112051	Electric-Start Key Switch
109	108921	Bearing Flange, 2" Hole	159	111341	Cap Screw 7/16" x 3/4"
110	108931	Ball Bearing 3/4" Bore	160	112481	Star Lock Washer 1/4"
111	110281	Handle, Brake/Clutch	161	111871	Spacer 1/4" x 1"
112	112461	Nylon Washer, .39 ID x 1 OD	163	111731	Screw 5/16" x 1/2"
113	110921	Cotter Pin 1/16" x 3/4"	164	112431	Split Lock Washer 5/16"
114	131111	Tire/Wheel, TERR, 18"	165	109481	Round Cap 1"
115	106381	Key 3/16" SQ x 1-1/2"	166	104831	Battery, 12 volt
116	129781	Steel Shim Set	167	112441	Nylon Washer 1/2" ID x 3/4" OD
117	112371	Flat Washer 3/16"	168	115611	Clip
118	112381	Flat Washer 1/4"	169	120891	Switch Spring 1-1/8" long
119	110251	Handle Grip	170	120631	Bushing 1/4"
	110491	Key, Woodruff 3/16" x 3/4"	171	120901	Compression Spring 1"
121	110241	Handle Grip	172	121661	Nylon Washer 1/4" ID, .20 Thick
123	110691	Nut 5/16"-18"	173	114651	Full Thread Cap Screw 3/8" x 3"
124	110781	Nut 5/16"-24"	174	118731	Lock Nut 10-24
125	110681	Nut 10-32	175	120101	Pan Head Screw 10-24
126	109581	Clevis	176	119831	Cap Screw 1/4" x 3/4"
127	110871	Clevis Pin 1/4" x 5/8"	177	104871	Lower Bearing
128	110731	Nylon Lock Nut 1/4"	178	107071	Bolt, HHCS, 3/8" -16 x 1", w/Nut
129	110751	Nylon Lock Nut 3/8" - 16	179	107051	Bolt, HHCS, 5/16" -18 x 3/4", Gr5
130	110761	Nylon Lock Nut 5/16" - 18	180	111471	Bolt, HHCS, 1/4" x 1 1/4"
131	111281	Rod End	181	112061	Manual-Start Key Switch
132	110971	Roll Pin, 3/16" x 1-3/4"	182	111681	Set Screw 1/4" - 20 x 1/4"
133	110961	Roll Pin 3/16" x 1"	184	101291	Differential Lock Spring
134	111441	Bolt, HHCS, 1/2" x 2"	185	112431	5/16" Split Lock Washer
135	114701	Bolt, HHCS, 1/4" - 20 x 1/2"	186	129621	Spacer

Main Frame Assembly

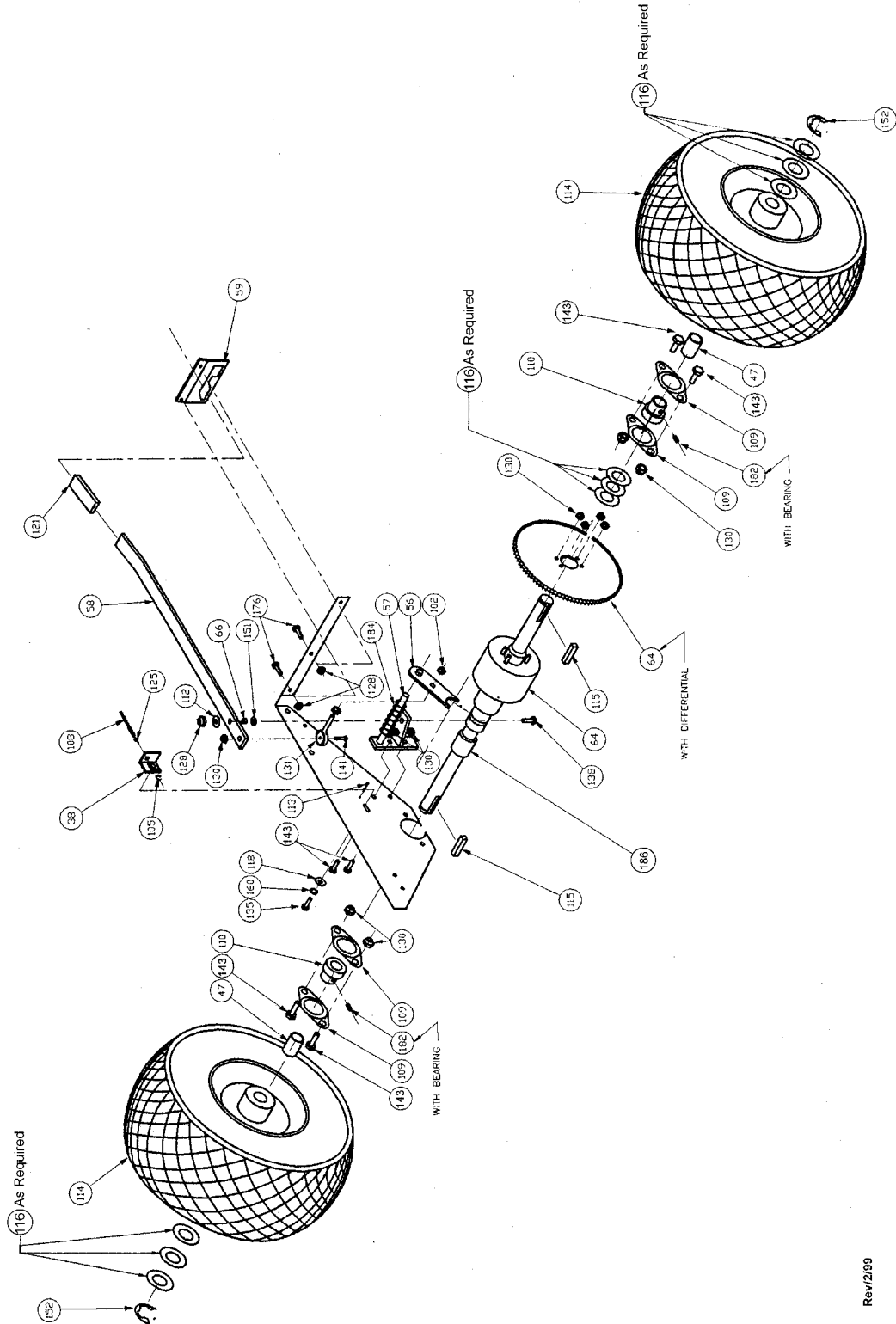
Please Note: The circled numbers match the first column of numbers on the parts list.



Rev/2/89

Wheel/Axle Assembly

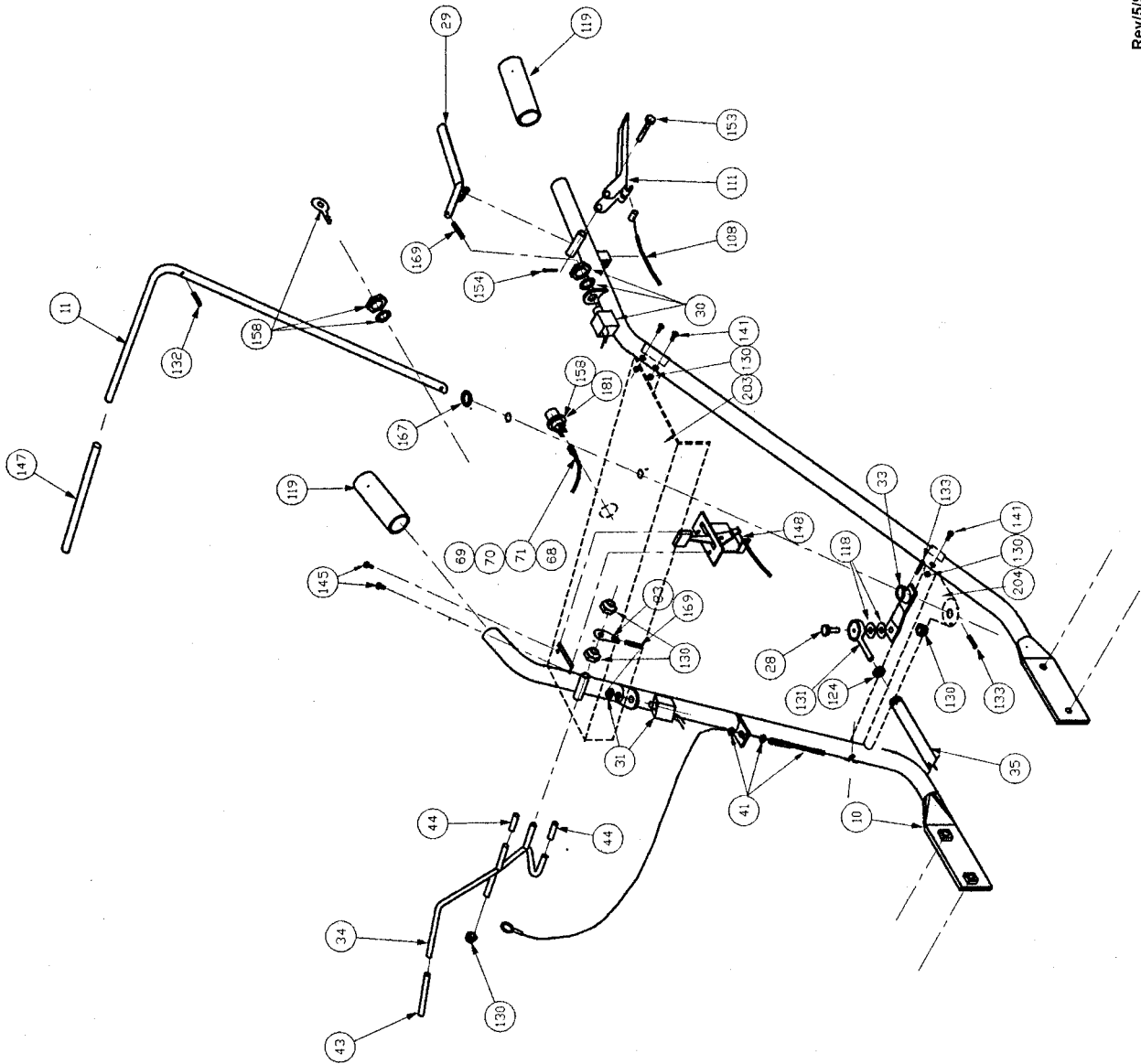
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Rev/2/99

Handlebar Assembly

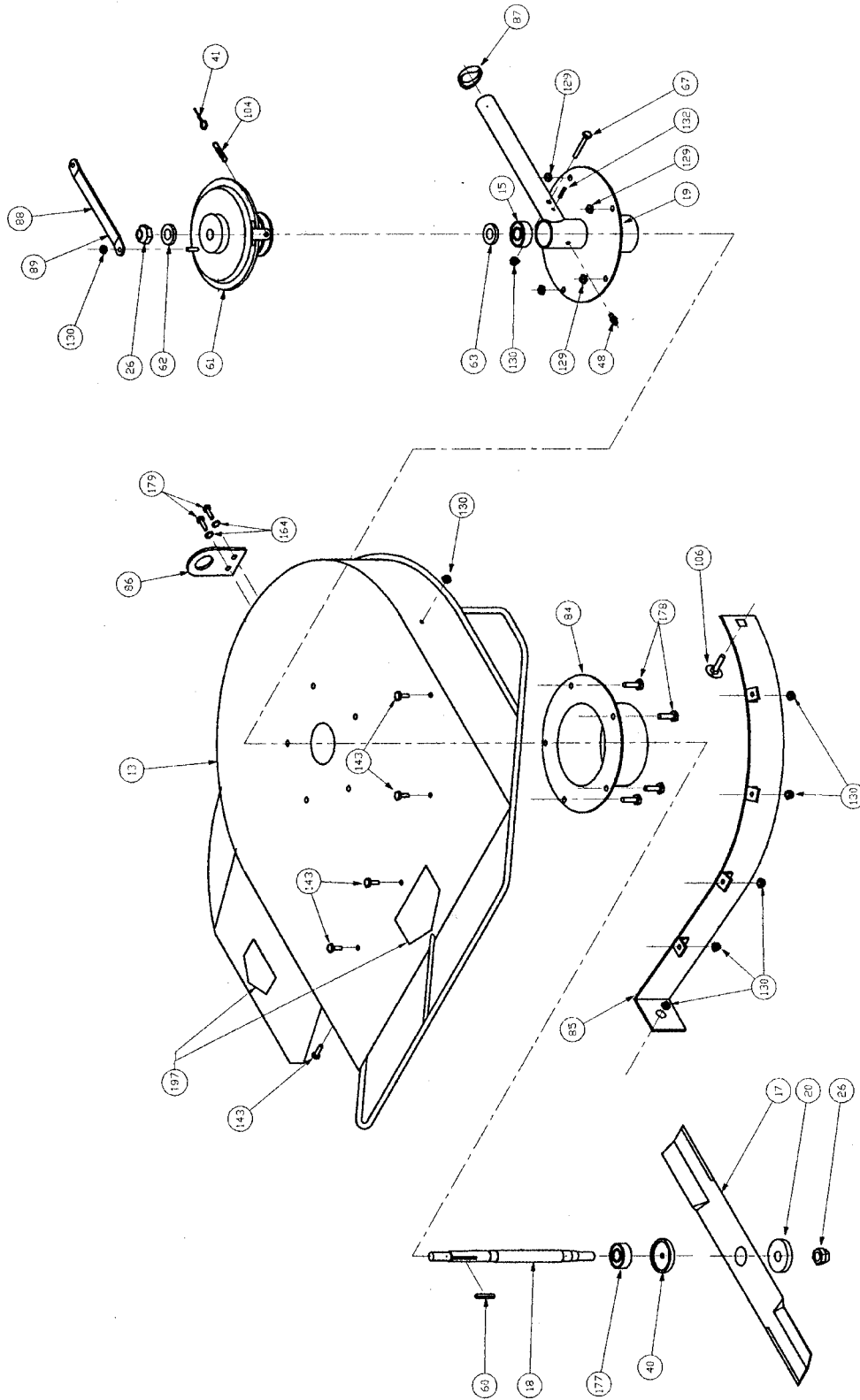
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Rev/15/98

Brush Mower Deck Assembly

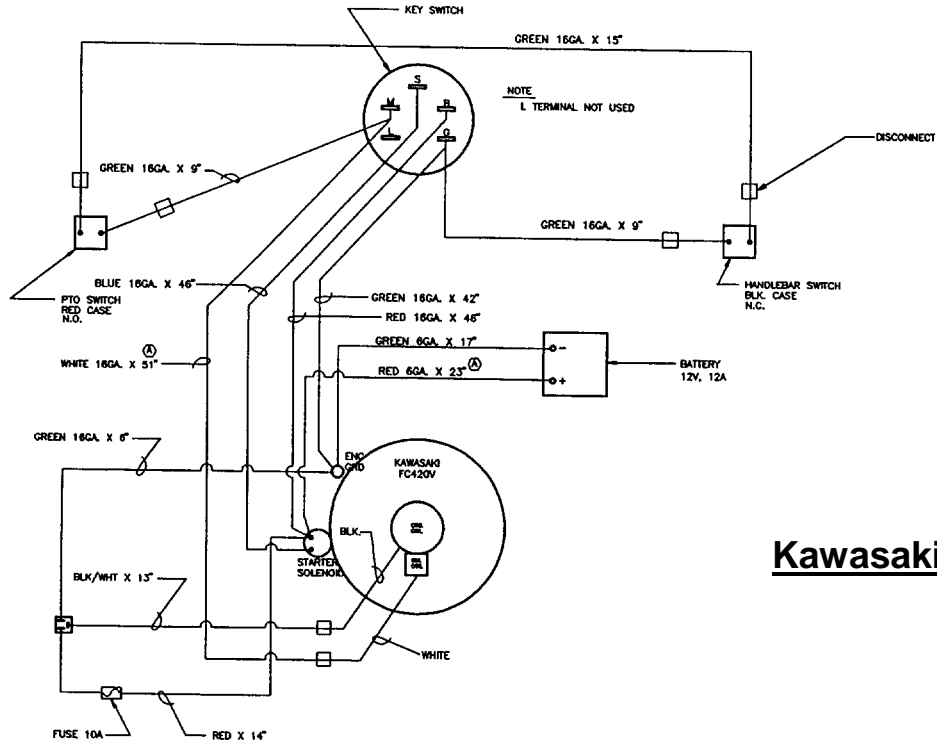
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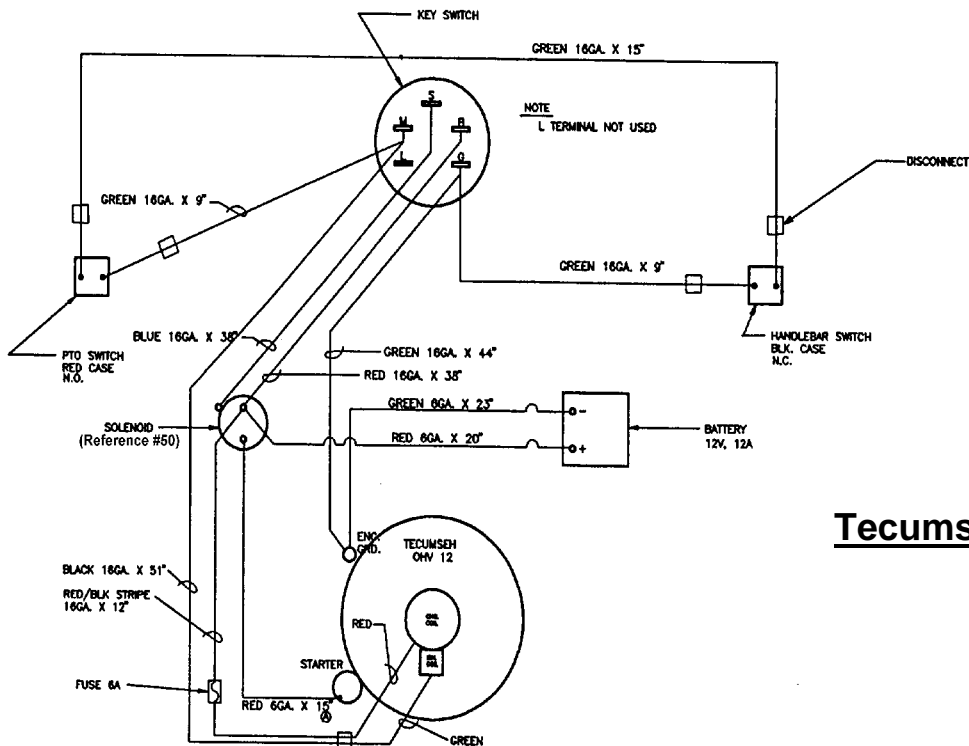
Rev/5/98

Wiring Diagrams

Electric-starting models only



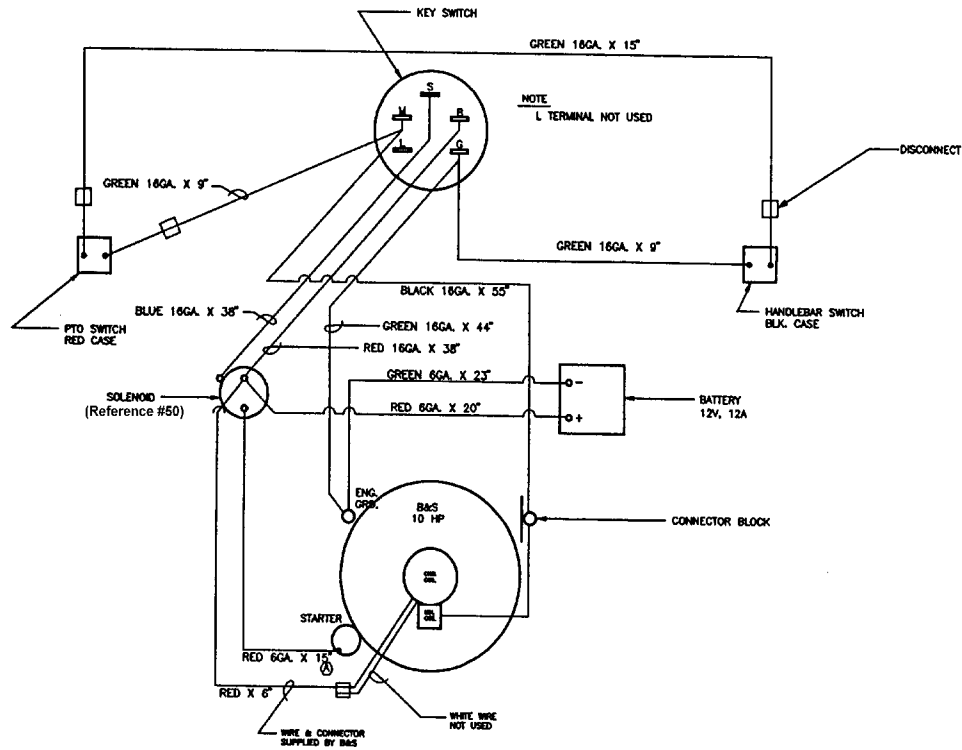
Kawasaki 14.0 HP



Tecumseh 12.5 HP

Wiring Diagrams (cont.)

Electric-starting models only



Briggs & Stratton 10.5 HP

Notes

Notes

Daily Check List for the DR[®] FIELD and BRUSH MOWER

- ✓ **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 SAE30 motor oil.
- ✓ **GAS:** Fill the gas tank with clean, fresh unleaded gasoline, making sure the gas valve on the bottom of the tank is open. Always close the gas valve when storing your machine.
- ✓ **ENGINE:** It is very important to keep the engine clean. Remove grass and other debris from the engine cooling fins and debris guard. A dirty engine retains heat and can cause damage to the internal engine parts.
- ✓ **BELTS:** Check the belts for wear, proper alignment and tension.
- ✓ **BLADE:** Check the blade for tightness, nicks and wear. Remove any wrapped weeds and grass from the blade bearing housing to prevent buildup.

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