

Green Machine®

OPERATOR'S MANUAL

Walk Behind Mowers

Models 2100P UT26500
2100SP UT26501

SERIAL NO.

IMPORTANT NOTE: USE THE ABOVE BOX TO FILL IN YOUR MODEL'S SERIAL NUMBER FOR YOUR RECORDS.

ASSEMBLY AND OPERATING INSTRUCTIONS

GREEN MACHINE® - LIMITED WARRANTY

The manufacturer warrants to the original retail purchaser that this Product is free from defects in material and workmanship and agrees to repair or replace, at Manufacturer's discretion, any defective product free of charge within these time periods from the date of purchase:

- **Two years, if the Product is used for personal, family, or household use;**
- **One year, if the Product is used for commercial or any other use.**

This warranty is not transferable and does not cover damage resulting from defects other than in material or workmanship, or damage caused by unreasonable use, including the failure to provide reasonable and necessary maintenance. Also, the warranty obligations do not apply to conditions resulting from misuse, alteration or accident. In addition, this warranty does not cover general check-ups on electrical equipment, tune-ups on gasoline engines, or replacement of non-defective parts (such as electrical brushes, cables, plugs, spark plug, filters, starter ropes, etc.) that may wear and need to be replaced with reasonable use within the warranty period or which may require replacement in connection with normal maintenance. This warranty applies only to products sold within the United States of America, the District of Columbia, Canada, Mexico, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, the Canal Zone, or American Samoa.

SAVE YOUR SALES SLIP

Proof of purchase in the form of your dated sales receipt, cash register slip, etc. showing the serial number and the model of your Product will be required before our dealers can perform warranty service on the Product. You must at your own expense, arrange to deliver or ship the Product for warranty repairs and arrange for pickup or return of the Product after repairs have been made.

This warranty does not apply to any trade accessory, engine, or electric motor which is separately warranted by another manufacturer and not manufactured by the manufacturer.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY OR OTHERWISE, APPLICABLE TO THIS PRODUCT, SHALL BE LIMITED IN DURATION TO THE DURATION OF THIS LIMITED WARRANTY. THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. ALSO, SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

HOW TO OBTAIN WARRANTY SERVICE

Warranty service can be obtained from a Green Machine® dealer authorized to make warranty repairs. If you need warranty service, check first with the dealer from whom you purchased the Product. **FOR WARRANTY SERVICE INFORMATION OUTSIDE THE USA AND CANADA, PLEASE CONTACT YOUR LOCAL GREEN MACHINE® DEALER.**

The manufacturer will not make any reimbursements for warranty service, except to Green Machine® dealers authorized to make warranty repairs. You must present your sales receipt when making any claim for warranty service.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This warranty is given by Homelite, Inc. Post Office Box 7047, Charlotte, North Carolina 28241.

Green Machine®
by **John Deere**

P.O. Box 7047
14401 Carowinds Blvd.
Charlotte, N.C. 28241

P/N GX 10026

FOREWORD

We are pleased that you have chosen a Green Machine® product to assist you with your work. Your Green Machine® product was assembled using the latest manufacturing methods and materials to bring you a product of the highest quality.

This Owner's Manual is provided to aid you in the proper assembly and the safe, reliable operation of your new Green Machine® product. Read it and become thoroughly familiar with the proper operating procedures before you first use this product. Make sure anyone who operates your Green Machine® product is fully acquainted with the proper operating procedures. Careful assembly, safe operation and proper maintenance in accordance with this Operator's Manual will provide you with maximum performance and product life.

This manual should be considered a permanent part of your machine and should remain with the machine when you sell it.

Measurements in this manual are U.S. customary units and their metric equivalents.

RIGHT - HAND and LEFT - HAND sides are determined by the operator facing in the direction of travel.

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NOTE: THIS WALK BEHIND MOWER DOES NOT INCLUDE A SPARK ARRESTER INSTALLED ON THE MUFFLER. LOCAL, STATE, OR FEDERAL LAWS MAY REQUIRE THE USE OF A SPARK ARRESTER. CONSULT THE APPROPRIATE AUTHORITIES FOR FURTHER INFORMATION CONCERNING SPARK ARRESTERS. IF YOUR UNIT REQUIRES A SPARK ARRESTER, CONTACT YOUR LOCAL GREEN MACHINE® DEALER.



Indicates
Warning,
Danger, and
Caution.



SAFETY

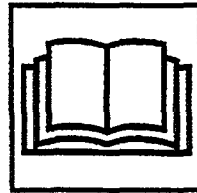
Operate Safely

- Inspect machine before you operate. Be sure hardware is tight. Repair or replace damaged, badly worn, or missing parts. Be sure proper guards, plates, grass catcher, or other safety protective devices are in good condition and fastened in place. Make any necessary adjustments before you operate. Use only Green Machine® replacement parts. Failure to do so may cause poor performance, possible injury, and may void your warranty.
- Clear work area of all objects, people, and pets before mowing.
- If you hit an object, stop machine and inspect. Keep machine properly maintained. Keep all shields and guards in place.
- DO NOT leave machine unattended when it is running.
- Only operate during daylight or with good artificial light.
- Be careful of traffic when operating near or crossing roadways.
- Be sure of footing. Be especially careful when you pull machine backwards with the engine running.
- Mow across a hill - not up and down. Be careful when you change direction on a slope. Do not mow excessively steep slopes.
- DO NOT mow wet grass. Reduced traction could cause you to slip.
- Stop the blade when crossing gravel drives, walks, or roads.
- Keep a firm hold on the machine handle.



Rotating Blades Are Dangerous

- Children are attracted to mowing activity, stay alert to their presence.
- Turn machine off if a child enters the mowing area.
- Use extra care when you come to blind corners, shrubs, trees, or other objects that may block your vision.
- DO NOT let children or untrained persons operate the machine.
- Shut off engine when you are not mowing.
- Keep hands, feet, and clothing away from rotating blade.



Operator Training Required

- Study operation section of this manual before operating the machine.
- Operate machine in an open, unobstructed area under the direction of an experienced operator.
- Learn the use of all controls.

Wear Appropriate Clothing

1. Wear close fitting clothing and safety equipment appropriate for the job.
2. Loud noise can cause impairment or loss of hearing, wear a suitable protective device such as earplugs.
3. Do not wear radio or music headphones while operating the machine. Safe operation requires your full attention.
4. Always wear safety glasses or an eye shield when you operate mower to protect your eyes from thrown foreign objects. Always wear eye protection when you make an adjustment or repair to the machine.

Environmental Awareness

1. Do not fill the engine's fuel tank completely full.
2. Drain fuel for winter storage.
3. Use only unleaded gasoline.
4. Service the air cleaner regularly.
5. Change oil regularly.
6. Tune-up the engine regularly.
7. Keep equipment in efficient operating condition.
8. Dispose of used engine oil properly.



Before Mowing...

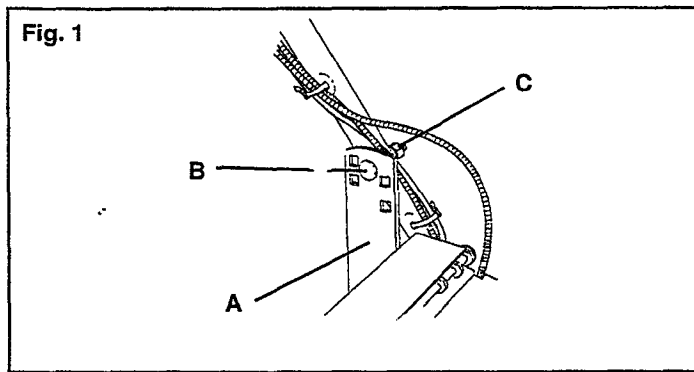
1. Be sure to dress correctly. Wear hard shoes, not sandals or tennis shoes.
2. Examine the blade for bends, cracks, or damage. Blade must be replaced with a factory replacement blade.
3. Fill the fuel tank outdoors. Clean off spilled fuel from engine and mower.
4. Read and follow this Operator's Manual, the instructions with the engine, and the instructions with any attachments. Operator's Manual instructions are for your safety and the safety of others.
5. Exhaust fumes are dangerous. Start the engine outdoors.
6. Make sure all safety devices are in place and working correctly.
7. Wet grass can be dangerous. Let the grass dry before mowing or driving mower.
8. Instruct children and others to keep away from the work area.
9. Never cut the grass without good light.
10. Pick up loose objects. Remove them from the mowing area.

ASSEMBLY

Fasten Lower Handle to Bracket

IMPORTANT: DO NOT crimp cables.

1. Put five-hole bracket (A) INSIDE handle on each side. (See Fig. 1)
2. Install M8 x 40 round-head bolt (B) through desired square hole in bracket and through the handle on each side. Use same square hole on each side.
3. Install lock nut (C) on each bolt.

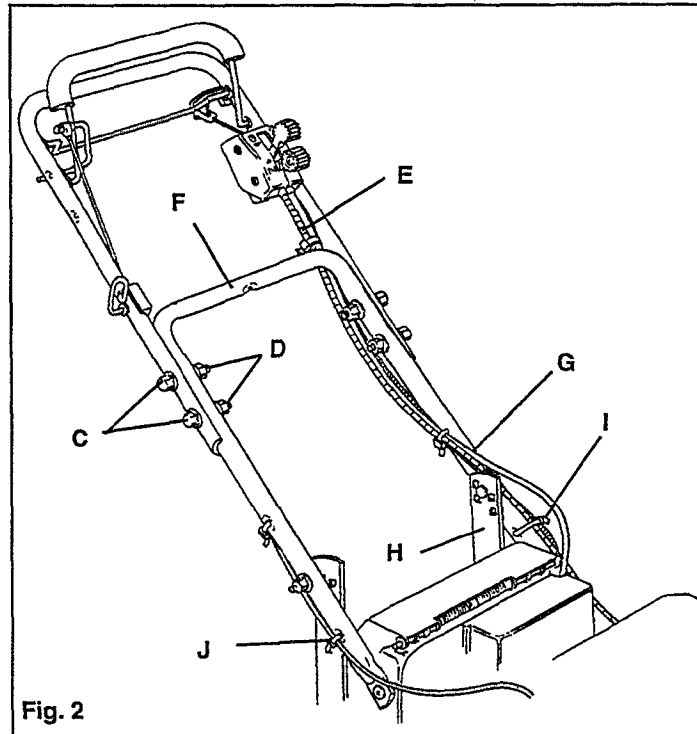


Fasten Upper Handle to Lower Handle

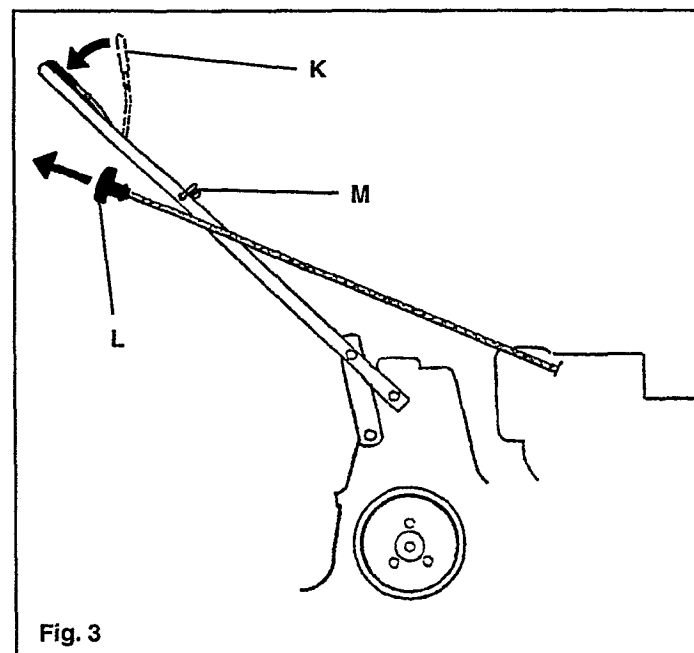


CAUTION: When you pull starter handle, blade also turns and engine may start. Before you pull starter handle, ENGAGE blade control lever by holding lever against handle.

1. Align upper handle with lower handle as shown in Fig. 2.
2. Hold handle and install two M8 x 40 hex-head bolts and lock nuts (D) on each side.
3. Check cable routing:
 - Cables at E MUST BE under cross bar (F).
 - Cables at G MUST BE on top of handle and outside bracket (H).
 - Install tie strap (I) through hole in handle, then around upper half of handle and two cables.
 - Install tie strap (J) through hole in handle, around cable and lower half of handle.



4. Hold blade lever (K) to handle and slowly pull starter handle (L) to rear and install in bracket (M). (See Fig. 3)

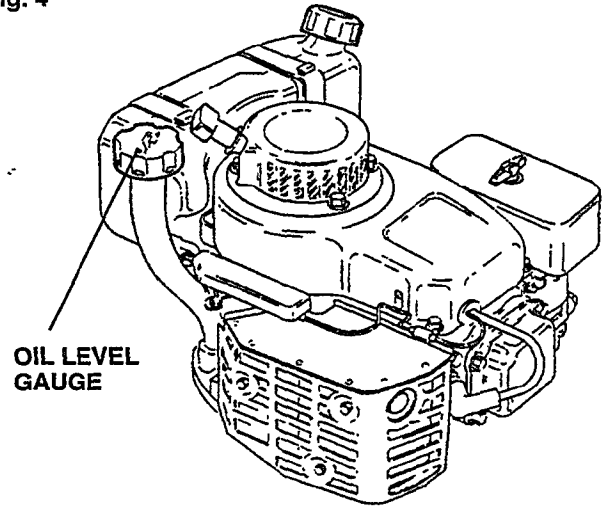


IMPORTANT: Engine is shipped without oil.
You must add oil before you run engine.

Remove red NO OIL TAG from the engine.
See Fig. 4 for oil level gauge location.

Add oil per Engine Instruction Manual.

Fig. 4



NOTE: Refer to engine instruction manual for oil recommendations.

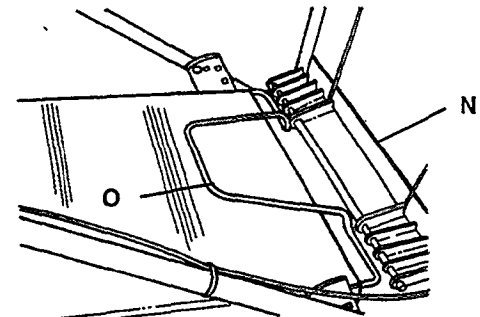


CAUTION: Do not operate mower unless grass bag, chute, or mulch plug is held in place by door.

To install the Grass Bag proceed as follows:

1. Lift and hold the black door (N) on the rear of the mower. (See Fig. 5)
2. Grasp handle (O) and install the bag as shown.
3. Lower door to hold bag in place.

Fig. 5



CAUTION: Do not operate mower unless you have read and fully understand the SAFETY and OPERATION Sections of this guide.

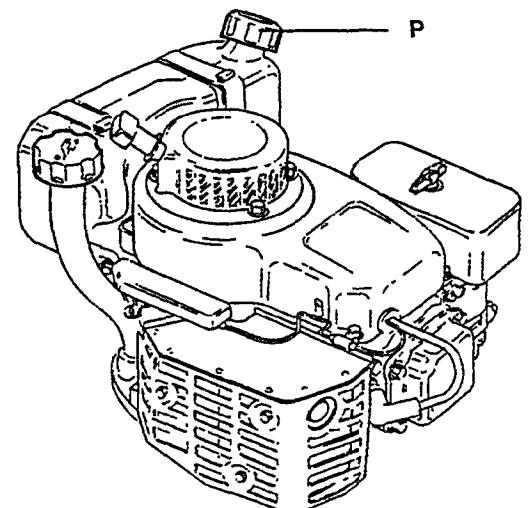


CAUTION: Handle fuel carefully. Do not smoke while fueling. Fill tank outdoors. Do not refuel while engine is running. If using a funnel be sure it is made of plastic. Use only clean fuel and clean approved containers.

To fill the fuel tank, proceed as follows:

1. Remove fuel tank cap (P). (See Fig. 6)
- IMPORTANT:** Do not fill tank to the top. Fuel can expand.
2. Fill fuel tank. Use gasoline rated at a minimum of 87 octane.
 3. Fasten fuel tank cap.
 4. Wipe up any spilled fuel.

Fig. 6



TRANSPORTING MOWER

See Engine Instruction Manual for fuel pet cock location.

IMPORTANT: Turn fuel pet cock to the **CLOSED** position.

To help prevent fuel from flowing into the engine when transporting the mower, turn the fuel pet cock to the **CLOSED** position.

OPERATION

Adjust Cutting Height



CAUTION: Engine must not be running while you adjust cutting height.

To adjust the mower cutting height proceed as follows:

1. Lift lower handle bar slightly to take some weight off the wheel.
2. Move wheel lever (A) to desired position. (See Fig. 7 & 8)
3. Adjust all levers to the same height except for lowest cutting height.
4. To adjust the mower to the lowest cutting height, put front wheel levers in 1/2" (13mm) notch (1) and rear wheel levers in 1" (25mm) notch (2).

See the following chart for a guide to height notch and corresponding cutting height:

Key	Cutting Height	
(1)	1/2"	(13 mm)
(2)	1"	(25 mm)
(3)	1-1/2"	(38 mm)
(4)	2"	(50 mm)
(5)	2-1/2"	(64 mm)
(6)	3"	(75 mm)
(7)	3-1/2"	(90 mm)

Fig. 7

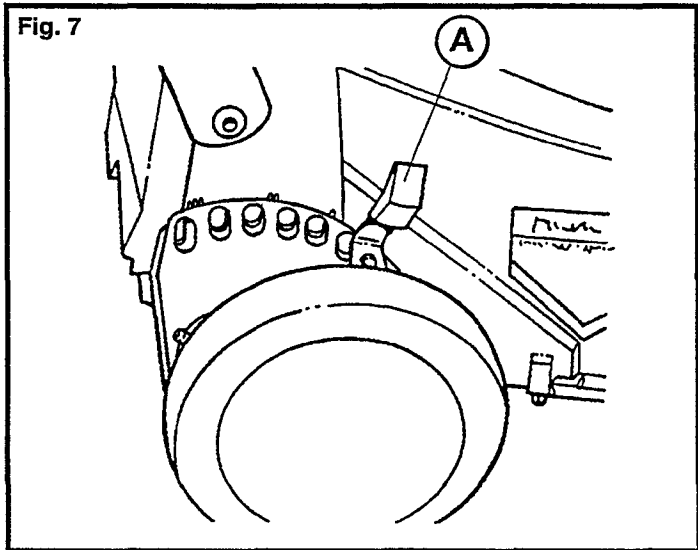
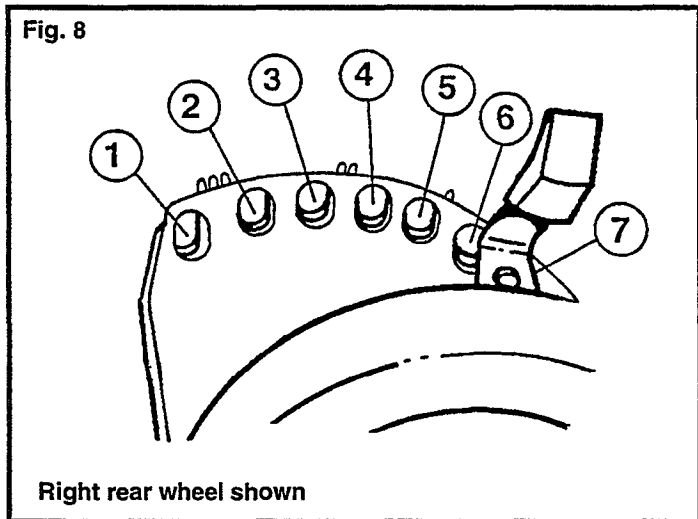


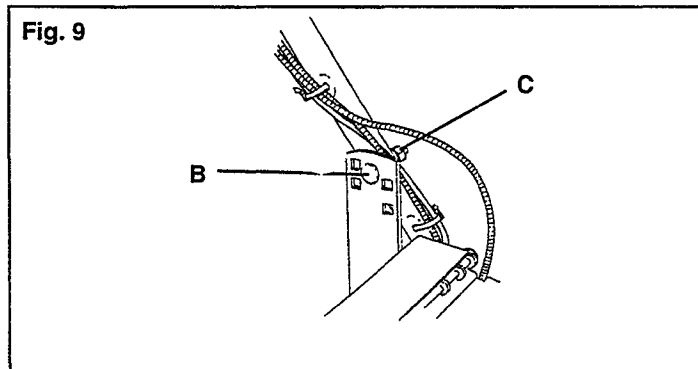
Fig. 8

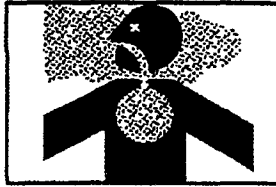


Adjust Handle Height

1. Remove bolt (B) and lock nut (C) from each side of handle. (See Fig. 9)
2. Install bolt through desired square hole in bracket and through the handle on each side. Use same square hole on each side.
3. Install lock nut on each bolt.



Fig. 9





CAUTION: Engine exhaust fumes can cause sickness or death! Run engine only in a well ventilated area.
Do not run engine indoors.

Starting Engine

1. Turn fuel pet cock (fuel shut off valve) to open position.
2. Hold blade control lever (D) against handle (E). (See Fig. 10)
3. Move throttle lever (F):
 - COLD ENGINE: Pull lever backward to the CHOKE  position.
 - WARM ENGINE: Move lever to the FAST  position.

NOTE: Do not try to start engine with blade in heavy grass.

4. Pull starter handle until you feel resistance. Then pull fast and steady.
5. When the engine starts, return the handle slowly until it is in the bracket. Do not let starter rope snap back.

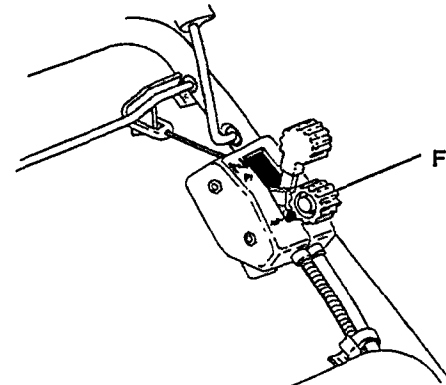
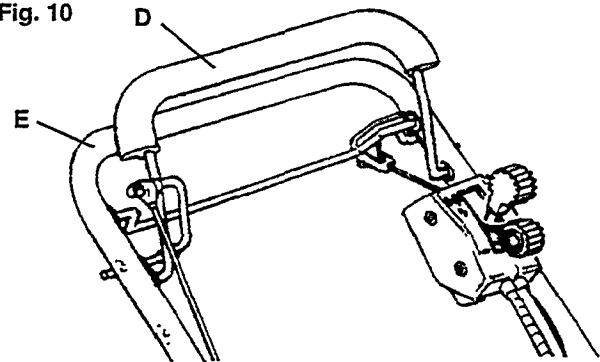


CAUTION:

When engine is running, the blade is turning! Keep hands, feet and clothing away from blade. If blade does not stop within 3 seconds after you release blade control lever, see your local Green Machine dealer.



Fig. 10



Forward Travel

TO TRAVEL FORWARD:

Pull and hold traction clutch lever (G) against handle (H). (See Fig. 11)

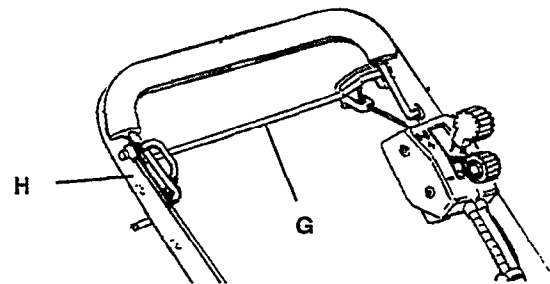
TO STOP FORWARD TRAVEL:

Release lever (G).

Release lever before you make a turn.

NOTE: Rear wheels will make a clicking noise when you push mower forward.

Fig. 11

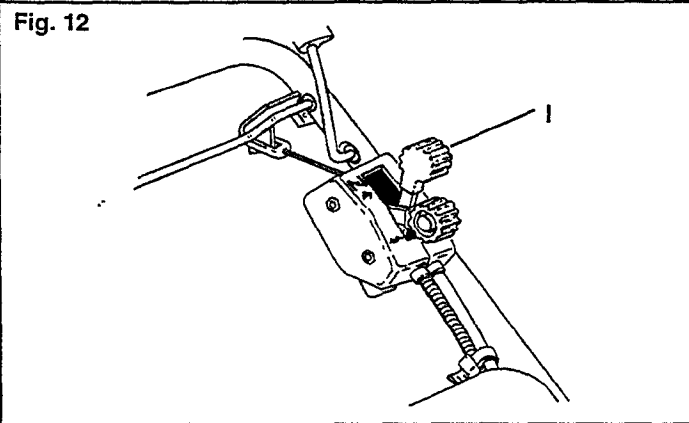


Travel Speeds


To change travel speed:

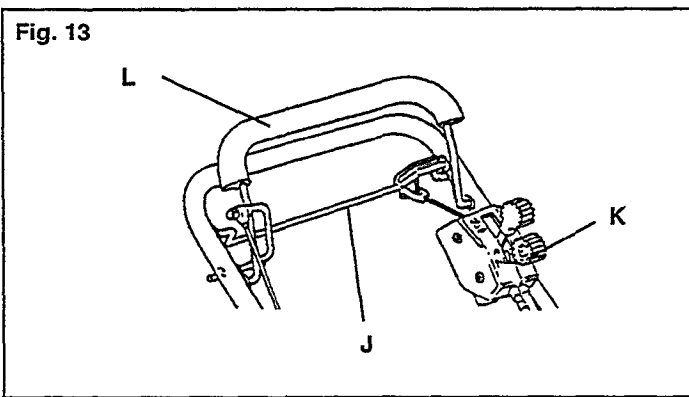
- STOP FORWARD TRAVEL.
- Move gear shift lever (I) to desired position. (See Fig. 12)
- ENGAGE traction clutch lever.

Gear	Travel speed mph (Km/h)
1	1.3 (2.0)
2	2.0 (3.2)
3	2.6 (3.9)
4	3.1 (4.9)
5	4.4 (7.0)




Stopping Engine

1. Release traction clutch lever (J). (See Fig. 13)
2. Pull throttle lever (K) to the SLOW  position.
3. Release blade control lever (L).
4. Engine and blade must stop within 3 seconds. If not, see your local Green Machine dealer.



Emergency Stopping

Release both the blade control lever and the traction clutch lever. This will stop the mower, blade, and engine.

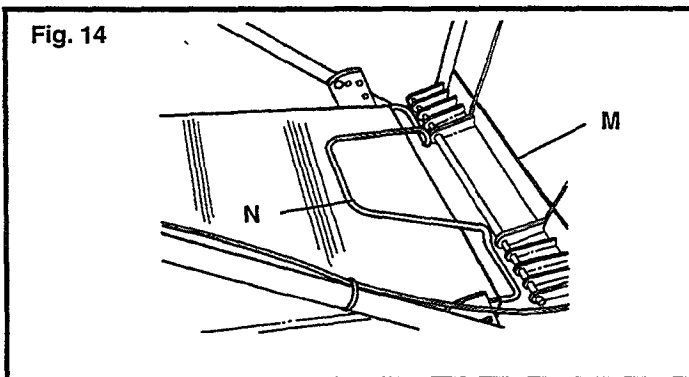


CAUTION: Do not operate mower, unless grass bag, chute (optional), or mulch plug (optional) is held in place by door. Before you empty bag, STOP MOWER, BLADE and ENGINE.

Using Grass Bag

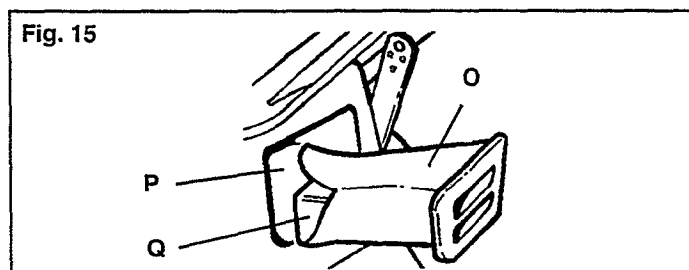
1. Lift door (M) Grasp handle (N). Lift bag off mower. (See Fig. 14).
2. Empty contents of bag and reinstall before mowing.

NOTE: Bag may wear and deteriorate. Check condition of bag often. Always replace with John Deere bag to comply with safety specifications.



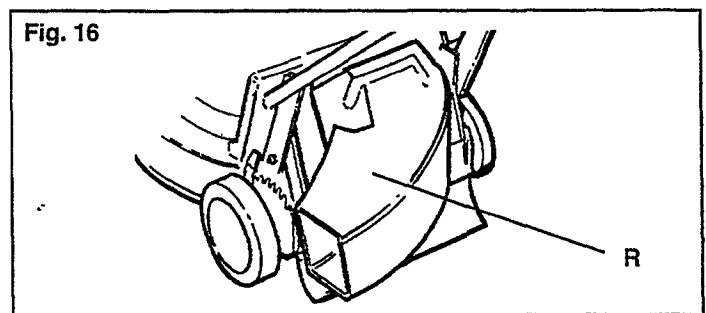
Using Mulch Plug (Optional)

1. Stop engine. Lift up and hold door. (See Fig. 15)
2. Remove grass bag.
3. Install plug (O) in opening (P) with (Q) facing left.
4. Push and rotate plug to the left until it is seated.
5. Lower door.



Using Discharge Chute (Optional)

1. Stop engine. Lift up and hold door. (See Fig. 16)
2. Remove grass bag.
3. Install chute (R). Lower door to hold chute in position.



LAWN CARE

Mowing Tips

- Before mowing, be sure deck is leveled and mower wheels are in the proper position.
- When you mow an area for the first time, travel SLOW and cut HIGH so you can:
 - Learn the terrain.
 - Learn the best mowing pattern.
 - Help prevent hitting objects hidden in the grass.
- Mow grass only when it is dry: Wet grass may plug mower and leave a trail of grass clumps.
- Mow grass often: Short grass clippings will decay quickly.
- Mow at full throttle for best performance.
- Use a travel speed that fits the conditions:
 - Travel SLOW when you mow thick, tall grass.
 - FAST travel or sharp turns may produce stripes or uneven cut. Slow down. Short, fast turns may scuff ground and pull grass out by the roots.
 - Travel at MODERATE speed when you mow a thin stand of grass.
- Mow often enough so you cut only 1/3 of grass blade in one mowing. Cutting grass too short may kill grass and let weeds grow easily.
- Aerate lawn to help stimulate soil organisms and root growth.

Trimming Tips

- Mow slowly. Avoid hitting trees, bushes, etc.
- If ground slopes up to a tree or bush, you may have to approach the tree or bush straight-on to avoid scalping.

To Avoid Scalping

- Pay attention to the way you mow: you can eliminate scalping.
- If mower scalps easily, cutting height may be too low for ground conditions - especially on lawns with many small mounds and ridges.
- Rear gauge wheels must be adjusted correctly.
- Mow over ridges and through shallow ditches straight-on, not at an angle.
- Keep blade sharp: A dull blade will tear grass; tips of grass will then turn brown.
- Check lawn regularly for uneven cut. If cut is uneven:
 - Mower may not be level. Adjust cutting height levers.
 - Slow down before you make a turn.
 - Sharpen blade often.

Bagging Tips

- For best performance, bagger needs good airflow. To help increase airflow:
 - Keep underside of deck and chute clean.
 - Cut grass high.
 - Mow at full throttle.
 - Clean bag often with water from garden hose, from outside to inside of bag. Let bag dry before use.

IMPORTANT: DO NOT leave clippings in bag:

- Moisture may damage bag.
- Damp clippings are a fire hazard.

- Check clippings in bag often. When bag is full:
 - Mower may leave a trail of clippings.
 - Clippings may blow to side.
 - Top of bag will deflate.

Bagging And Composting

- Many communities will no longer haul lawn clippings and leaves to landfills. Bagging and composting clippings and leaves is one way to solve this problem.
- Clippings from grass bag may also be used as mulch, or sheet compost, between garden rows and around trees and shrubs. This mulch will:
 - Keep weeds from growing.
 - Add nutrients to soil as it decays.
 - Help keep soil temperature down during hot weather.
- You may compost clippings and leaves in various ways. See garden magazines or clubs for information, or go to your local library for help.
- Finished compost is crumbly. It is rich in soil nutrients, and can be spread on your lawn. Compost may also be worked into soil. It adds humus to soil and improves soil texture, making soil looser and easier to work.

Mulching Tips

- Advantages:
 - You do not have to rake or bag grass or leaves.
 - Lawn holds moisture better during dry weather.
 - Soil temperatures stay down during hot weather.
 - Mulch adds nutrients to soil, and reduces need for fertilizer.
- Mulching does not make thatch. Frequent shallow watering and fertilizer application produce thatch from roots that grow close to surface.
- Be careful when you mulch leaves in Fall. Grass needs sunlight in Fall to help store food for Winter. A thick layer of mulched leaves can prevent sunlight from getting to grass and smother it. You may have to mow with grass bag to remove this layer.
- Mulch only when the grass and leaves are dry.
- Mulching wet or damp grass or leaves may cause problems:
 - Clippings and leaves may build up on the underside of the mower deck.
 - Cut grass and leaves may form clumps.
 - Clippings and leaves may not be cut into small bits.
 - Engine may work harder and use more fuel.
- Cut only top 1/3 of grass at a time.
- Use a different mowing pattern each time you mow. Overlap mowing paths 2-4 in. (50-100 mm).
- Slow down. Mulching takes more power.
- Keep blades sharp. Check them often.
- Clean underside of deck after each use.

After Mowing

- STOP engine. Let it cool. This will help prevent starting a fire when you store the mower.
- Remove and shake bag to remove all clippings. This will help to prevent deterioration of bag and starting a fire.
- Clean top of deck, engine, and chute with brush or compressed air, if possible. This will help to prevent buildup and starting a fire.
- Disconnect spark plug wire. Turn mower on its side with air cleaner up. Remove mulch plug.
- Spray under deck with water under pressure to remove corrosive lawn chemicals and buildup.
- Install bag. Put mower in safe storage.

SERVICE MACHINE SAFELY

Practice Safe Maintenance

- Understand service procedure before doing work. Keep area clean and dry.
- Never lubricate or service machine while it is moving. Keep safety devices in place and in working condition. Keep hardware tight.
- To prevent them from getting caught, keep hands, feet, clothing, jewelry, and long hair away from any moving parts.
- Before servicing machine, disengage all power and stop the engine. Let engine cool.
- Securely support any machine elements that must be raised for service work.
- Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.
- Unauthorized modifications to the machine may impair its function and safety.



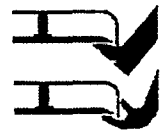
Wear Appropriate Clothing

- Wear close fitting clothing and safety equipment appropriate for the job.
- Loud noise can cause impairment or loss of hearing, wear a suitable protective device such as earplugs.
- Do not wear radio or music headphones while servicing the machine. Safe service requires your full attention.



Avoid Injury From Contacting Blades

- Before you unplug or adjust machine:
 - STOP the engine.
 - Wait for blades to STOP.
 - Keep hands, feet and clothing away from blades when engine is running.



SERVICE

Service Intervals

BEFORE EACH USE	<ul style="list-style-type: none"> • Check oil level. • Lubricate rear axle bushings.
AFTER EACH USE	<ul style="list-style-type: none"> • Clean the mower.
25 HOURS	<ul style="list-style-type: none"> • Tighten blade bolts. • Clean belt and transmission area.
400 HOURS	<ul style="list-style-type: none"> • Clean and lubricate rear axle key.
For all engine maintenance (engine oil, air filters, etc.) see Engine Instruction Manual.	

DATE	SERVICE PERFORMED

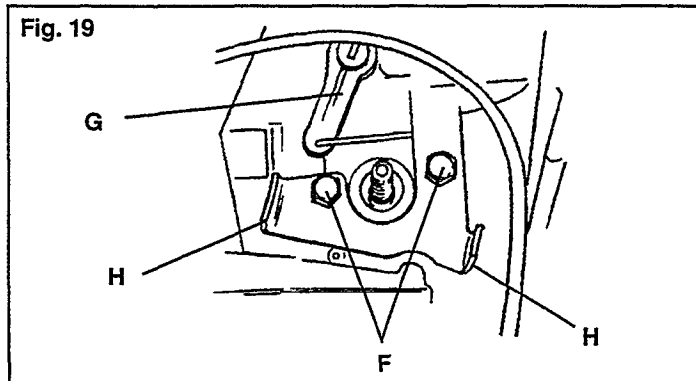
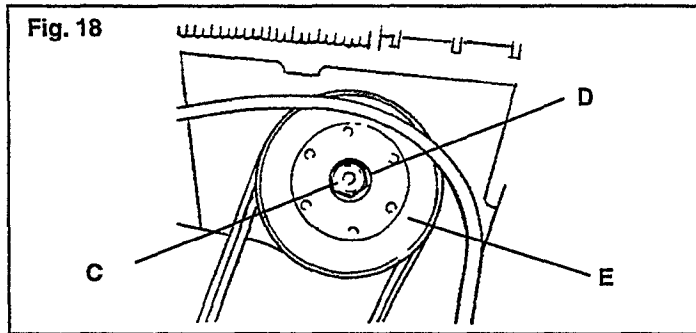
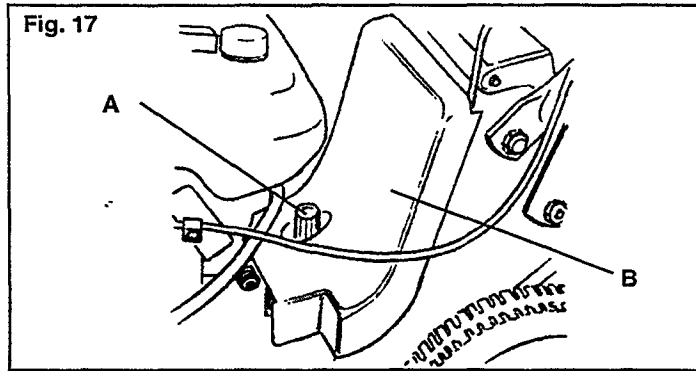
SERVICE

Adjusting Speed Select Cable

NOTE: Adjust cable:

- When gear(s) do not ENGAGE.
- When travel speed slows in a gear.

1. Remove knob (A) and belt shield (B). (See Fig. 17)
2. Move shift lever to 5th GEAR.
3. Remove nut (C), washer (D), and pulley (E). (See Fig. 18)
4. Loosen cable clamp cap screws (F). (See Fig. 19)
5. Move and hold arm (G) as far away from clamp as possible.
6. Tighten clamp.
7. Install pulley and belt. Belt must be inside both guides (H).
8. Install washer and nut. Tighten nut to 22 ft-lb (30 N•m).
9. Install shield and knob.



Adjusting Traction Clutch

NOTE: When mower slows as it goes uphill, clutch needs adjustment.

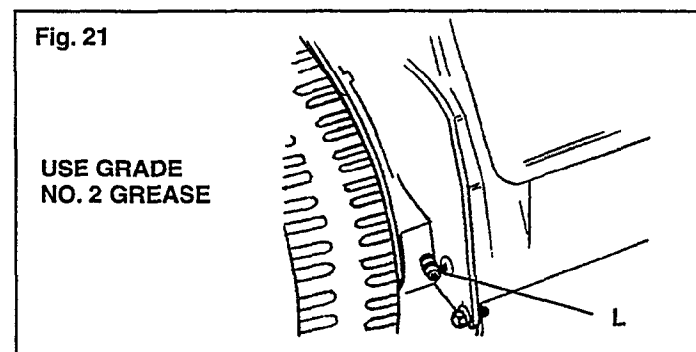
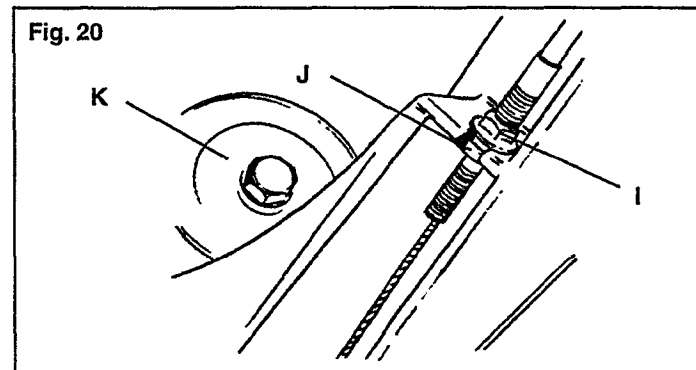
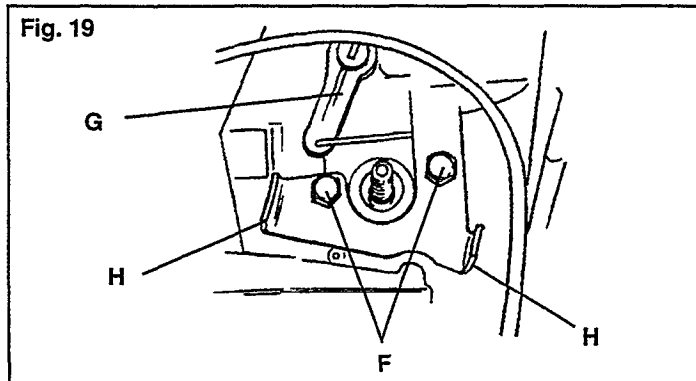


CAUTION: Do not operate mower without belt shield.

Before you adjust clutch:

- STOP engine. Let it cool.
- Keep people and pets away from mower.
- Keep hands and tools away from belt area when engine is running.

1. Remove knob (A) and shield (B). (See Fig. 17)
2. Loosen nut (I). (See Fig. 20)
3. Turn nut (J) DOWN 1/8 in. (3 mm).
4. Tighten nut (I).
5. Check clutch action:
 - Put mower on a hard surface with front wheels against a wall or curb.
 - Start engine.
 - ENGAGE traction clutch lever. Rear wheels should spin. If not, repeat Steps 2-5 until wheels spin.
6. If pulley (K) turns when engine is running and clutch lever is DISENGAGED:
 - Stop engine.
 - Turn nut (I) UP.
 - Tighten nut (J).
 - Repeat this procedure until pulley does not turn.
7. Install shield and knob.



Lubricate Rear Axle Bushings

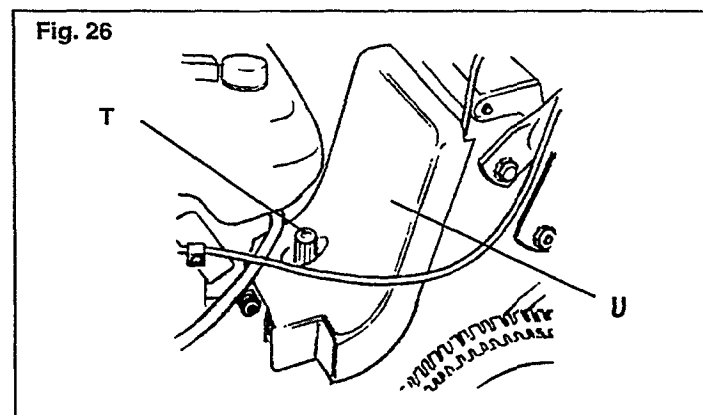
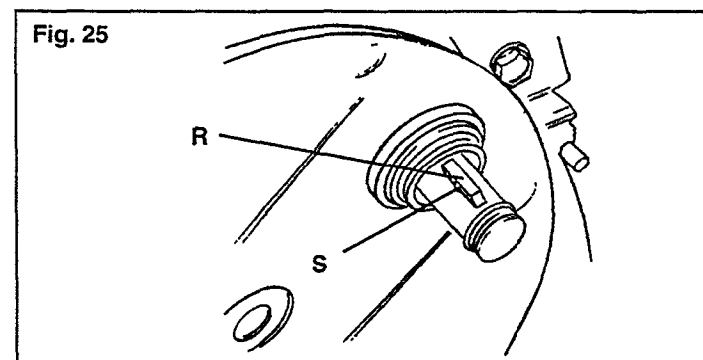
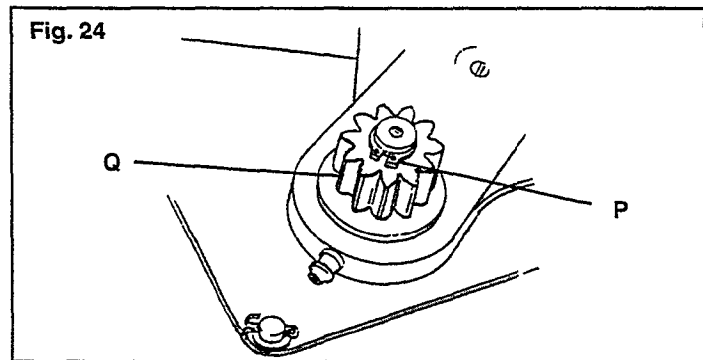
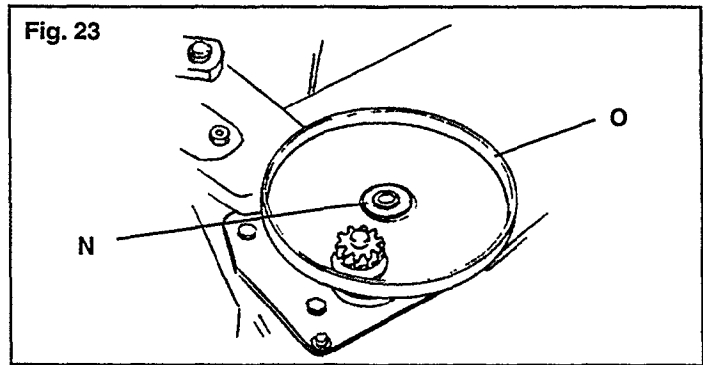
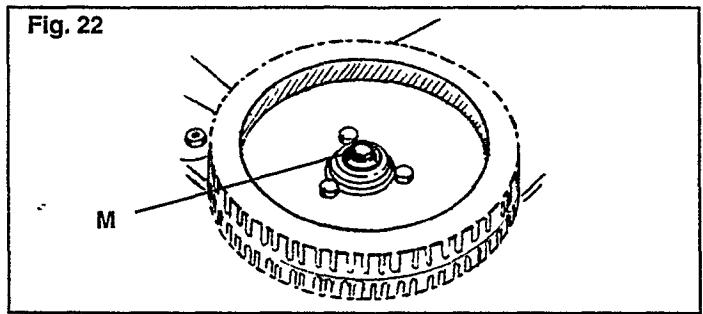
1. Wipe grease fittings (L) clean. (See Fig. 21)
2. Lubricate bearing through grease fitting (L) on each side with one shot of Grade No. 2 grease.

SERVICE

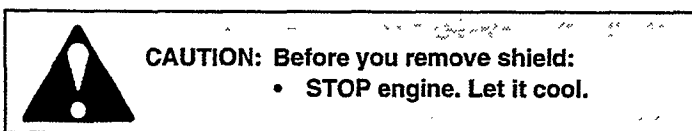
Clean And Lubricate Rear Axle Key

NOTE: Clean key when mower will not self-propel.

1. Lift and block rear of mower.
2. Remove bolt (M) and wheel from each side. (See Fig. 22)
3. Remove two washers (N) and housing (O). (See Fig. 23)
4. Remove snap ring (P) from right side (See Fig. 24):
 - On left side, remove snap ring and spacer.
 - On right side (shown), spacer is inside of gear.
5. Turn gear (Q) so it ratchets and pull it from shaft.
6. Remove key (R) and spring (S). (See Fig. 25)
7. Clean debris from key and keyway.
8. Lubricate key, keyway, and inside of gear with Grade No. 2 grease.
9. Install spring and key.
10. Install gear and spacer:
 - Left Side: Install gear, flat side first, then install spacer and snap ring.
 - Right Side: Install spacer, then install gear with flat side out. Fasten gear with snap ring.
11. Turn each gear. They must ratchet freely.
12. Install housing and washers. Install wheel and bolt on each side.
13. Remove blocks and lower mower.



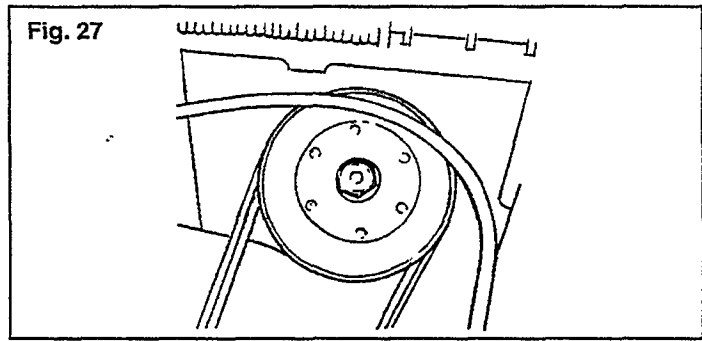
Cleaning Belt And Transmission Area



1. Remove knob (T) and shield (U). (See Fig. 26)

SERVICE

2. Remove clippings from belt area and top of transmission. (See Fig. 27)
3. Install shield.



Cleaning Mower



CAUTION: Before you clean mower:

- STOP engine. Let it cool.
- Disconnect spark plug wire.
- Turn mower onto its RIGHT side.

IMPORTANT: To help prevent mower damage:
Let mower cool before washing.

- Clean engine and top of the deck.
- Check and clean cooling fins, if necessary.
- Grass clippings can build up in belt and transmission area. If necessary, remove belt shield and clean this area. (See CLEAN BELT AND TRANSMISSION AREA in this section.)
- If you operate the mower in dusty conditions, see Engine Instruction Manual for cleaning air filter.
- Remove mulch plug. Spray under the deck with water under pressure to remove corrosive lawn chemicals and grass buildup.
- Remove and shake bag to remove clippings.
- If bag is caked with grass on the inside, use water under pressure to clean bag. Direct water from outside to inside of bag.

Check, Tighten, and Remove Blade



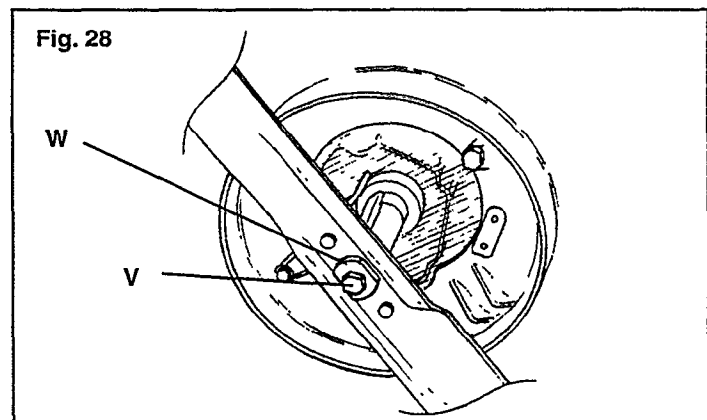
CAUTION: Service blade safely:

- STOP engine. Let it cool.
- Disconnect spark plug wire.
- Wear gloves or wrap blade with rag.

IMPORTANT: To help prevent air cleaner damage and hard starting, turn mower of LEFT SIDE.

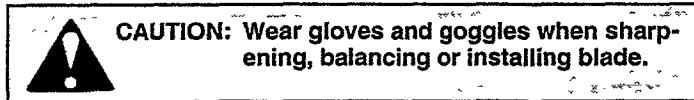
1. Tighten bolt (V) to 35 lb-ft (47 N•m).
2. Check Blade: Replace damaged blade. Sharpen dull blade.
3. Remove blade: Remove bolt (V), washer (W), and blade. (See Fig. 28)

NOTE: Make sure blade tip wing points up and cupped side of washer is against blade.



SERVICE

Sharpen Blade



Sharpen blade: Keep original bevel (X). (See Fig. 29)

IMPORTANT: Balance blade after you sharpen it. an unbalanced blade may cause excessive vibration.

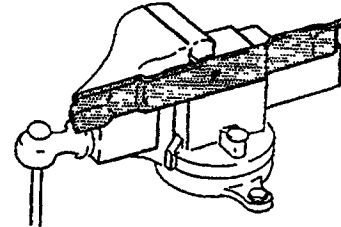
Balance and Install Blade

1. Clean blade. Put it on a nail in vise or on a wall. Heavy end of blade will drop. Grind bevel of heavy end. Do not change bevel. Check balance again. (See Fig. 30)
2. Install blade, washer (cupped side against blade), and bolt.
3. Tighten bolt to 35 lb-ft (47 N•m).

Fig. 29




Fig. 30



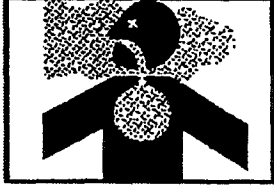
IF	CHECK
ENGINE WILL NOT START	<ol style="list-style-type: none"> 1. Fuel tank is empty. 2. Stale or dirty fuel. 3. Disconnected or dirty spark plug. 4. Throttle lever not in fast position.
ENGINE START HARD OR LOSES POWER	<ol style="list-style-type: none"> 1. Dirty fuel tank cap vents. 2. Stale or dirty fuel 3. Dirty air cleaner element. 4. Disconnected or dirty spark plug.
ENGINE RUNS ROUGH	<ol style="list-style-type: none"> 1. Carburetor needs to be cleaned. 2. Disconnected or dirty spark plug. 3. Throttle lever not in fast position. 4. Dirty cooling fins. 5. Dirty air cleaner element.
ENGINE OVERHEATS	Dirty blower housing and cooling fins.
ENGINE VIBRATES TOO MUCH	<ol style="list-style-type: none"> 1. Loose blade bolt. 2. Blade dull or not balanced.
MOWER PUSHES OR PULLS HARD	<ol style="list-style-type: none"> 1. Rear axle not lubricated. 2. Traction clutch needs adjustment.
MOWER MOWS UNEVENLY	<ol style="list-style-type: none"> 1. Pushing mower (2100P) too fast. 2. Mowing too fast around corners and mowing pattern not changed. 3. Wheel levers not adjusted in the same position. 4. Blade dull or not balanced.
DISCHARGE CHUTE PLUGS	<ol style="list-style-type: none"> 1. Grass not dry. 2. Cutting height not raised high enough. 3. Dirty of full grass bag. 4. Mowing too fast. 5. Engine not in full throttle position.
MOWER JERKS OR WILL NOT SELF-PROPEL (2100SP)	<ol style="list-style-type: none"> 1. Traction belt broken. 2. Traction clutch not adjusted. 3. Dirty transmission. 4. Gear shift lever not in gear.
MULCHED GRASS APPEARANCE IS POOR: CLUMPS, EXCESSIVE CLIPPINGS, ROUGH CUT, ETC:	<ol style="list-style-type: none"> 1. Grass not dry. 2. Mowing too fast. 3. Engine not in full throttle position. 4. Blade dull or not balanced. 4. Cutting height set too low.

STORING MACHINE

Storing Mower Safely



CAUTION: Engine exhaust fumes can cause sickness or death.



- If it is necessary to run an engine in an enclosed area, use an exhaust pipe extension to remove the fumes. Always try to work in a well ventilated area.
- **DO NOT** store mower with fuel in the tank inside a building where fumes may reach an open flame or spark.
- Allow engine to cool before storing in any enclosure.

Storing Mower

IMPORTANT: Use gasoline stabilizer: It helps prevent varnishing and plugging of carburetor jets. Either of these could cause engine to run lean, and result in piston seizure and engine failure. Follow directions on stabilizer can.

1. Clean engine and top of deck.
2. Remove belt shield.
3. Clean belt and transmission area. Install shield.
4. Disconnect spark plug wire. Turn mower on its side with air cleaner up.
5. Remove mulch plug. Clean underside of deck with water pressure to remove grass buildup, lawn chemicals, and fertilizer.
6. Lower mower to the ground.
7. We recommend stabilization of fuel with an anti-oxidant fuel stabilizer, such as STA-BIL, a product of Gold Eagle Co., Chicago, IL 60632. Unstabilized fuel will stay fresh for only up to three months and should not be used after that time.
8. Lubricate rear axle bushings.
9. Remove bolts and fold handles down, if desired. Do not crimp cables.
10. Do not store mower with fuel in tank in a building where fumes may reach an open flame or spark.

Remove Mower From Storage

1. Unfold handles. Tighten bolts. Do not crimp cables.
2. Fill fuel tank with fresh gasoline.
3. Check engine oil level.
4. Connect wire to spark plug.
5. Inspect shields, safety devices and hardware.
6. Lubricate rear axle bushings.
7. Run engine at the HALF-THROTTLE position briefly.

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