

Safety Instructions & Operator's Manual for **SNAPPER**[®]

EUROPEAN 21" 'EASY LINE' WALK BEHIND MOWERS



MODELS
ESPV21
ESPV21S

MODEL NUMBER EXPLANATION			
E	S	P	V 21 S
EUROPEAN MODEL	MODEL DESIGNATION	SELF-PROPELLED	OPTION DESIGNATION CUTTING WIDTH VARIABLE SPEED
E – European Model	P – Self Propelled Model	V – Variable Speed	21 – 21" Cutting Width
S – 'Easy Line'			S – Swivel Front Wheels

Thank you for buying a SNAPPER Product! Before operating your Walk Behind, read this manual carefully and pay particular attention to the "IMPORTANT SAFETY INSTRUCTIONS" on Pages 2 - 4. Remember that all power equipment can be dangerous if used improperly. Also keep in mind that SAFETY requires careful use in accordance with the operating instructions and common sense.

NOTE: Specifications are correct at time of printing and are subject to change without notice.

* Actual sustained equipment horsepower will likely be lower due to operating limitations and environmental factors.

SNAPPER[®] McDonough, GA., 30253 U.S.A.

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TP 100-5129-01-WB-N



IMPORTANT SAFETY INSTRUCTIONS



WARNING: This powerful cutting machine is capable of amputating hands and feet and can throw objects that can cause injury and damage! Failure to comply with the following SAFETY instructions could result in serious injury or death to the operator or other persons. The owner of the machine must understand these instructions and must allow only persons who understand these instructions to operate machine. Each person operating the machine must be of sound mind and body and must not be under the influence of any substance, which might impair vision, dexterity or judgment. If you have any questions pertaining to your machine which your dealer cannot answer to your satisfaction, call or write the Customer Service Department at SNAPPER, McDonough, Georgia 30253. Phone: (1-800-935-2967).

PROTECTION FOR CHILDREN

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

1. **KEEP** children out of the mowing area and under the watchful care of a responsible adult other than the operator.
2. **DO NOT** allow children in yard when machine is operated and turn machine OFF if anyone enters the area.
3. **DO NOT** allow pre-teenage children to operate machine.
4. **ALLOW** only responsible adults & teenagers with mature judgment under close adult supervision to operate machine.
5. **DO NOT** pull mower backwards unless absolutely necessary. **LOOK** and **SEE** behind and down for children, pets and hazards before and while backing.
6. **USE EXTRA CARE** when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

SLOPE OPERATION

1. Slopes are a major factor related to slip and fall accidents, which can result in severe injury. All slopes require extra caution. If you feel uneasy on a slope, **DO NOT** mow it.
2. Mow across slopes, never up-and-down. Exercise extreme **CAUTION** when changing directions on slopes. **DO NOT** mow steep slopes or other areas where stability or traction is in doubt.
3. Use extra care with grass catchers or other attachments; these affect the handling and the stability of the machine.

PREPARATION

1. Read, understand, and follow instructions and warnings in this manual and on the mower, engine and attachments. Know the controls and the proper use of the mower before starting.
2. Only mature, responsible persons shall operate the machine and only after proper instruction.

PREPARATION

(Continued From Previous Column)

3. Data indicates that operators age 60 and above, are involved in a large percentage of mower-related injuries. These operators should evaluate their ability to operate the mower safely enough to protect themselves and others from serious injury.
4. Handle fuel with extra care. Fuels are flammable and vapors are explosive. Use only an approved fuel container. **DO NOT** remove fuel cap or add fuel with engine running. Add fuel outdoors only with engine stopped and cool. Clean spilled fuel and oil from machine. **DO NOT** smoke.
5. Check the area to be mowed and remove all objects such as toys, wire, rocks, limbs and other objects that could cause injury if thrown by blade or interfere with mowing. Also note the location of holes, stumps, and other possible hazards.
6. Keep people and pets out of the mowing area. Immediately, **STOP** Blade, Stop engine and Stop mower if anyone enters the area.
7. Check shields, deflectors, switches, blade controls and other safety devices frequently for proper operation and location.
8. Make sure all safety decals are clearly legible. Replace if damaged.
9. Protect yourself when mowing and wear safety glasses, long pants and substantial footwear. **DO NOT** mow barefooted or with sandals.
10. Know how to **STOP** blade and engine quickly in preparation for emergencies.
11. Use extra care when loading or unloading the machine into a trailer or truck.
12. Check grass catcher components frequently for signs of wear or deterioration and replace as needed to prevent injury from thrown objects going through weak or torn spots.

SAFE HANDLING OF GASOLINE

- To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive
1. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
 2. Use only an approved fuel container.



IMPORTANT SAFETY INSTRUCTIONS



SAFE HANDLING OF GASOLINE

(Continued From Previous Page)

3. DO NOT remove fuel cap or add fuel with the engine running. Allow the engine to cool before refueling.
4. DO NOT refuel the machine indoors.
5. DO NOT store the machine or fuel container inside where there is an open flame, spark or pilot light such as on a water heater or other appliances.
6. DO NOT fill fuel containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place the containers on the ground away from the vehicle before filling.
7. Remove gas-powered equipment from the vehicle or trailer and refuel it on the ground. If this is not possible, then refuel equipment using a portable container, rather than a gasoline dispenser nozzle.
8. DO NOT start gas powered equipment in enclosed vehicles or trailers.
9. Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. DO NOT use a nozzle lock-open device
10. If fuel is spilled on clothing, change clothing immediately.
11. DO NOT overfill a fuel tank. Replace fuel cap and tighten securely.

OPERATION

1. DO NOT put hands or feet near or under rotating parts. Keep clear of discharge area while engine is running.
2. STOP engine when crossing gravel drives, walks, or roads, and under any conditions where thrown objects might be a hazard.
3. Mow only in daylight or good artificial light.
4. DO NOT operate mower while under the influence of alcohol or drugs.
5. After striking a foreign object or if mower vibrates abnormally, STOP the engine, disconnect and secure spark plug wire. Inspect the mower for any damage and repair the damage before starting.
6. DO NOT mow near drop offs, ditches or embankments. Operator could lose footing or balance.
7. STAY ALERT for holes and other hidden hazards. Tall grass can hide obstacles. Keep away from ditches, washouts, culverts, fences and protruding objects.
8. DO NOT mow on wet grass. Always be sure of your footing. Keep a firm hold on the handle and walk, never run. Slipping could cause injury.
9. ALWAYS stay behind handle when engine (motor) is running.
10. DO NOT leave the machine with the engine running. STOP BLADE and STOP ENGINE before leaving the operators position for any reason.

OPERATION

(Continued From Previous Column)

11. Before cleaning, repairing or inspecting make certain engine, blade and all moving parts have STOPPED. Disconnect and secure spark plug wire away from plug to prevent accidental starting.
12. STOP engine and wait until the blade comes to complete STOP before removing grass bag and/or clearing grass.
13. DO NOT operate mower without the entire grass catcher, discharge guard, rear guard or other safety devices in place and working. DO NOT point discharge at people, passing cars, windows or doors.
14. DO NOT discharge material against a wall or obstruction. Material may ricochet back towards the operator.
15. Slow down before turning.
16. Watch out for traffic when near or crossing roadways.
17. DO NOT operate engine in enclosed areas. Engine exhaust gases contain carbon monoxide, a deadly poison.
18. Only use accessories approved by the manufacturer. See manufacturer's instructions for proper operation and installation of accessories.

MAINTENANCE AND STORAGE

1. DO NOT store mower or fuel container inside where fumes may reach an open flame, spark or pilot light such as in a water heater, furnace, clothes dryer or other gas appliance. Allow engine to cool before storing machine in an enclosure. Store fuel container out of reach of children in a well ventilated, unoccupied building.
2. Keep mower and engine free of grass, leaves or excess grease to reduce fire hazard and engine overheating.
3. When draining fuel tank, drain fuel into an approved container outdoors and away from open flame.
4. Keep all bolts, especially blade bolts, nuts and screws properly tight. Check that all cotter pins are in proper position.
5. Always provide adequate ventilation when running engine. Engine exhaust gases contain carbon monoxide, a deadly poison.
6. Service engine and make adjustments only when engine is stopped. Removed spark plug wire from spark plug and secure wire away from spark plug to prevent accidental starting.
7. DO NOT change engine governor speed settings or overspeed engine.
8. Check grass bag assembly frequently for wear or deterioration to avoid thrown objects and exposure to moving parts. Replace with new bag if loose seams or tears are evident. Replace slider or bag adapter if broken or cracked.



IMPORTANT SAFETY INSTRUCTIONS



MAINTENANCE AND STORAGE

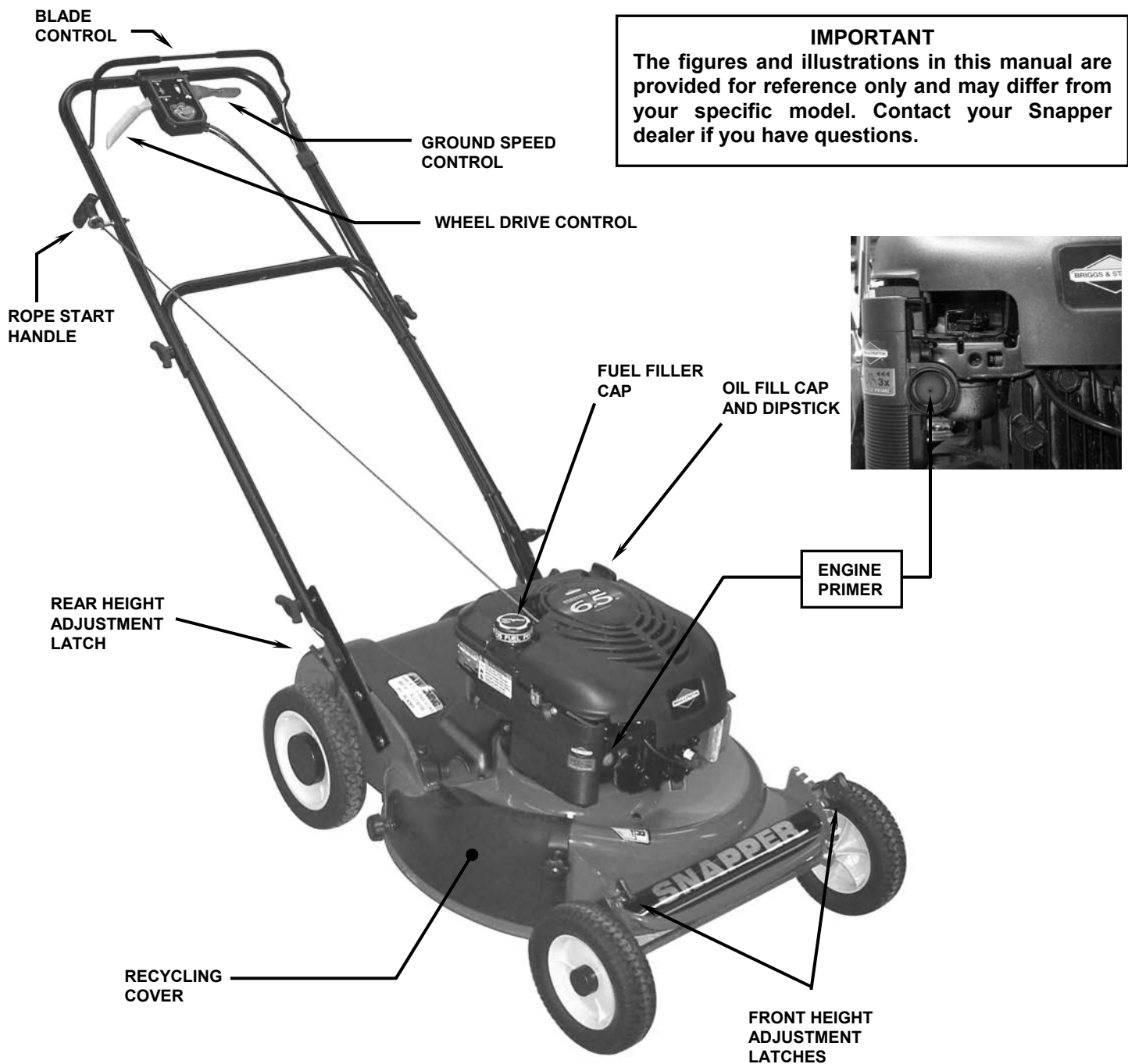
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9. Mower blades are sharp and can cut. Wrap the blades or wear heavy leather gloves and use CAUTION when handling them.
10. DO NOT test for spark by grounding spark plug next to spark plug hole; spark plug could ignite gas exiting engine.
11. Have machine serviced by an authorized SNAPPER dealer at least once a year and have the dealer install any new safety devices.
12. Use only genuine SNAPPER replacement parts to assure that original standards are maintained.

TABLE OF CONTENTS

IMPORTANT SAFETY INSTRUCTIONS.....	2 - 4
TABLE OF CONTENTS.....	5
SECTION 1 - FAMILIARIZATION.....	6
SECTION 2 - OPERATING INSTRUCTIONS.....	7-10
Pre-start Checklist.....	7
Starting & Stopping Engine & Blades	7
Propelling Mower	8
Handle Height Adjustment	8
Cutting Height Adjustment.....	9
Recycling Operation.....	9
Installation of Side Discharge Deflector	10
Installation of Grass Bag Adapter	10
Installation of Grass Bag.....	10
SECTION 3 - MAINTENANCE INSTRUCTIONS	11-12
Change Engine Oil.....	11
Check Mower Blade	11
Check Engine Drive Belt.....	11
Service - Periodic	11
Engine	11
Air Filter.....	11
Engine Oil.....	11
Wheel Drive Components.....	12
Storage Procedure	12
SECTION 4 - ADJUSTMENTS AND REPAIR.....	13-16
Mower Blade Replacement.....	13
Blade Sharpening	13
Wheel Drive Control Adjustment	14
Ground Speed Control Adjustment.....	15
Belt Service	16
Engine Drive Belt Replacement.....	16
Rear Cover Removal & Installation.....	17
TROUBLESHOOTING	18
SERVICE SCHEDULE	19
Maintenance/Replacement Parts	19
DECAL IDENTIFICATION	20-21
CE COMPLIANCE SPECIFICATIONS	21
WARRANTY.....	22

Section 1 - FAMILIARIZATION



IMPORTANT
The figures and illustrations in this manual are provided for reference only and may differ from your specific model. Contact your Snapper dealer if you have questions.

FIGURE 1.1
(MODEL ESPV21 SHOWN)

1.1 INTRODUCTION

This manual has been prepared for the operators of the SNAPPER 'EASY LINE' WALK BEHIND MOWERS. Its purpose, aside from recommending operating and routine service requirements, is to promote safety through the use of accepted operating practices. **Read, Understand and Follow** the "IMPORTANT SAFETY INSTRUCTIONS" on Pages 2 - 4 of this manual and all safety messages on the mower and attachments before operating the mower.

1.2 NOMENCLATURE

The nomenclature drawing above, Figure 1.1, shows the essential parts of the SNAPPER 'EASY LINE' WALK BEHIND MOWERS. It is recommended that all operators of the mower become thoroughly familiar with the controls, parts and operation of the mower before operating. Specific details involving the engine are found in the separate engine owner's manual. Study these manuals before operating and keep both handy for future reference.

Section 2 - OPERATING INSTRUCTIONS

2.1 PRE-START CHECK LIST

Make the following checks and perform the service required before each start-up.

2.1.1. Check guards, deflectors, grass bag, adapter and covers to make sure all are in place and securely tightened.

2.1.2. Check blade control, wheel drive control, and ground speed control to insure they work freely. See Figure 2.1.

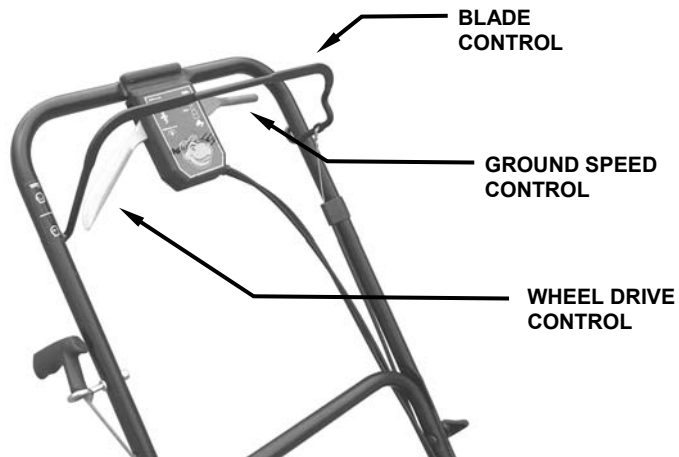


FIGURE 2.1

2.1.3. Check cutting height. Adjust to desired height. Refer to Section 'Cutting Height Adjustment'.

2.1.4. Check engine oil and add oil as needed to bring level up to the full mark. Refer to Engine Owner's Manual for oil specifications. See Figure 2.2.

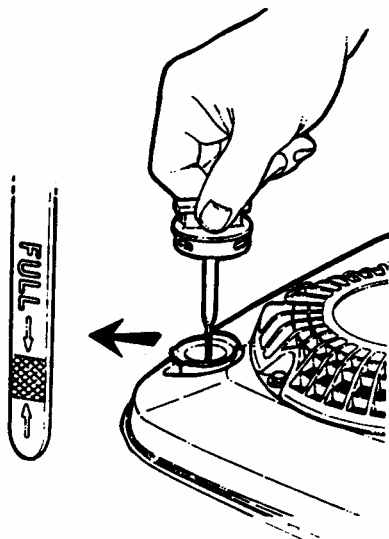


FIGURE 2.2

2.1.5. Add fuel to tank after pushing the mower outside where fumes can safely dissipate. Make sure cap is tightened after refueling. Refer to Engine Owners Manual for specifications.

2.1.6. Clean exterior surfaces of cutting deck and engine of any accumulation of spilled fuel, dirt, grass, oil, etc. Keep engine air intake screen and cooling fins clear at all times.

2.2 STARTING & OPERATION

2.2.1. ENGINE & BLADE

1. Push primer button three times to start a cold engine. See Figure 2.3. **NOTE:** The primer should not be required to restart a warm engine.

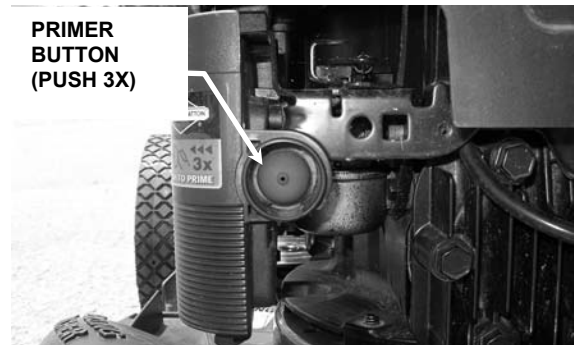


FIGURE 2.3

2. Pull blade control against handle. See Figure 2.4.

3. Start Mower:

Pull rope start handle to crank engine. See Figure 2.4.

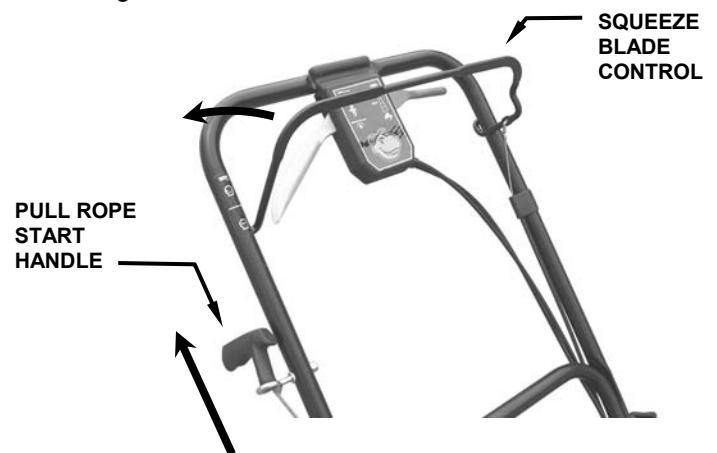


FIGURE 2.4

4. After engine starts, allow a brief warm-up until engine runs smooth before beginning mower operation.

NOTE: To stop the engine (and blade), release the blade control.

Section 2 - OPERATING INSTRUCTIONS

2.2 STARTING & OPERATION

2.2.2. PROPELLING MOWER

1. Start engine. Refer to Section “Starting & Operation – Engine & Blade”.
2. Move ground speed control to the desired speed position. See Figure 2.5.
3. Squeeze wheel drive control against handle to engage wheel drive and propel mower forward. Forward speed can be adjusted while mower is moving by changing position of ground speed control. See Figure 2.5.

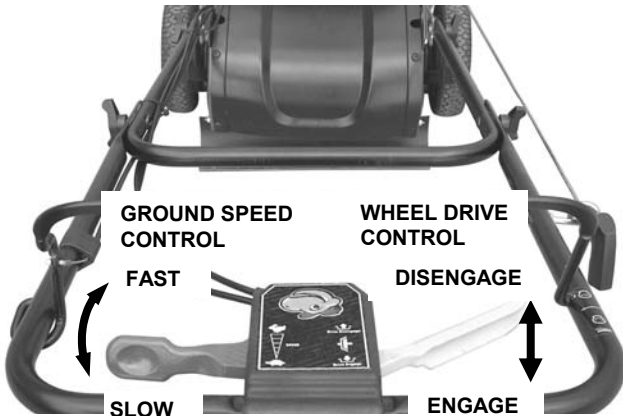


FIGURE 2.5

2.3 STOPPING

Stop forward motion of mower by releasing the wheel drive control. Stop engine and blade by releasing the blade control.

2.3 LOCKING SWIVEL WHEELS (ESPV21S ONLY)

The left front swivel wheel on the ESPV21S can be locked to keep the mower traveling in a straight line:

1. Move mower straight forward to align caster stud pin with notches in swivel locking clip, located above left caster stud. See Figure 2.6.

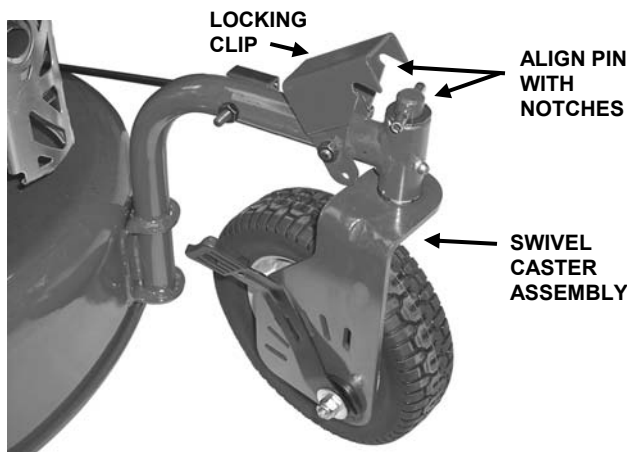


FIGURE 2.6

2. Move swivel caster lock lever, located on left side of handle assembly, to 'LOCK' position to lock clip down over caster stud. See Figure 2.7.
3. To release caster, simply move swivel caster lock lever back from locked position. See Figure 2.7.

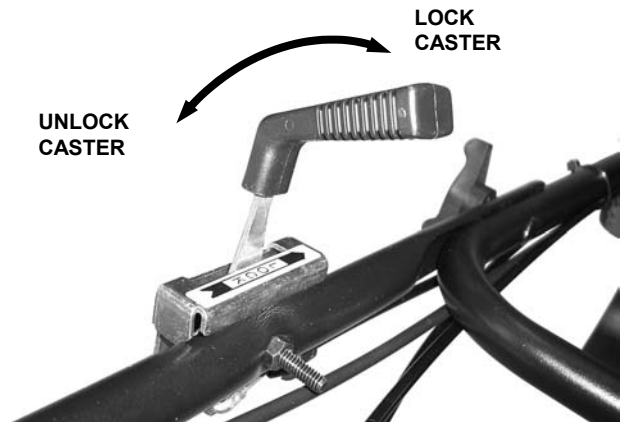


FIGURE 2.7

2.4 HANDLE HEIGHT ADJUSTMENT

The height of the mower handle can be adjusted as follows:

1. Remove T-knobs and carriage bolts securing lower handle to mounting brackets.
2. Align holes in handle assembly with one of three handle height adjustment holes in mounting bracket. See Figure 2.8.
3. Replace removed hardware, tightening securely.

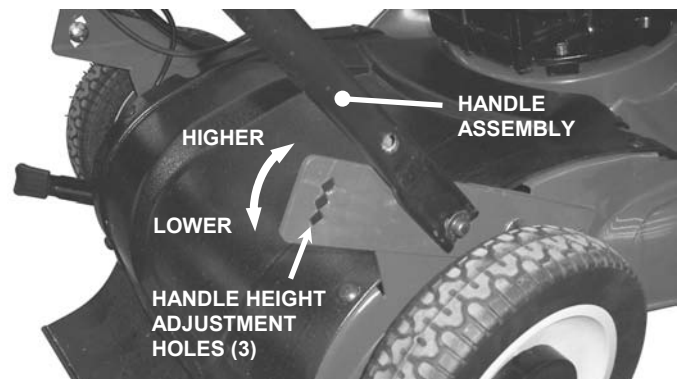


FIGURE 2.8

WARNING

DO NOT attempt any maintenance, adjustments or service with engine and blade running. STOP engine and blade. Disconnect spark plug wire and secure away from spark plug. Engine and components are HOT. Avoid serious burns, allow sufficient time for all components to cool.

Section 2 - OPERATING INSTRUCTIONS

WARNING

DO NOT attempt any maintenance, adjustments or service with engine and blade running. STOP engine and blade. Disconnect spark plug wire and secure away from spark plug. Engine and components are HOT. Avoid serious burns, allow sufficient time for all components to cool.

2.5 CUTTING HEIGHT ADJUSTMENT

1. Pull the height adjusting latch outward and move to desired cutting height. See Figure 2.9.

WARNING

Stop engine and mower blade by releasing the blade control before adjusting cutting height.

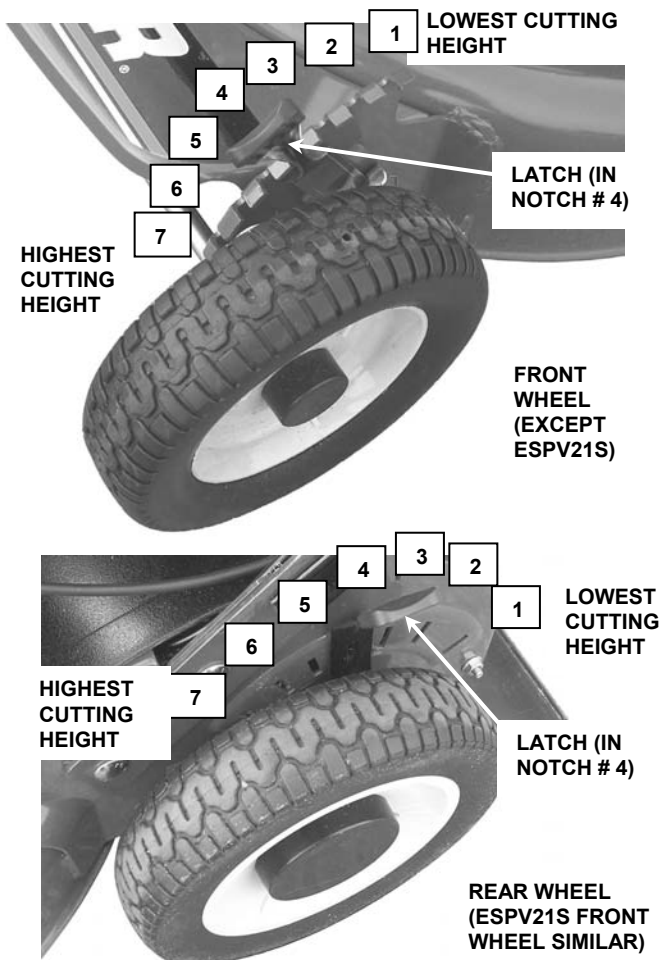


FIGURE 2.9

2. Set all wheels at the same cutting height. The highest cutting position is Notch 7. The lowest cutting position is Notch 1. See Figure 2.10.

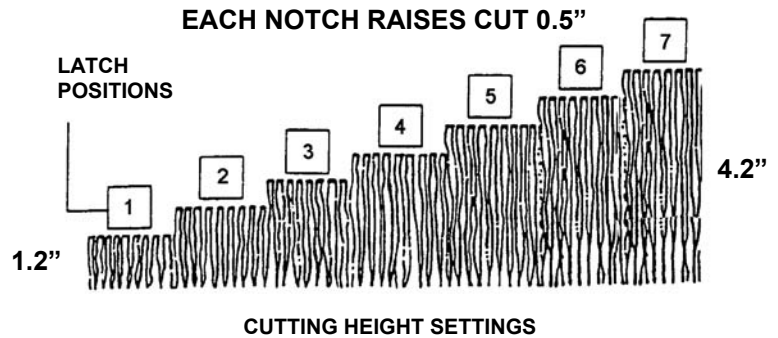


FIGURE 2.10

2.6 RECYCLING OPERATION

NOTE: For best recycling results, cut up to a maximum of 1/3 of grass blade length and recycle ONLY when grass is dry.

1. Set all wheels in the highest cutting position (Notch 7). Refer to Section "Cutting Height Adjustment".
2. Move engine speed control to "FAST" (Rabbit) position.
3. Move ground speed control to slowest speed setting.
4. Proceed mowing slowly. If grass is very dense, lower each rear wheel latch one notch lower than the front wheel latches to improve recycling performance.

NOTE: The recycling cover should remain on the machine at all times, unless alternate discharge operations are desired, such as side discharging or bagging.

TO REMOVE RECYCLING COVER:

Remove knob nuts and internal/external tooth lock washers securing recycling cover to mower deck. Remove cover. See Figure 2.11.



FIGURE 2.11

Section 2 - OPERATING INSTRUCTIONS

WARNING

DO NOT attempt any maintenance, adjustments or service with engine and blade running. STOP engine and blade. Disconnect spark plug wire and secure away from spark plug. Engine and components are HOT. Avoid serious burns, allow sufficient time for all components to cool.

2.6 INSTALLATION OF SIDE DISCHARGE DEFLECTOR

STEP 1: Remove recycling cover. Refer to Section "Recycling Operation".

STEP 2: Install deflector to deck in place of recycling cover, making sure that: 1) front hole on outside front of deflector fits over stud where front of recycling cover was originally secured, 2) slot on top of deflector slips under restraining nut on top of deck (under right front corner of engine), and 3) slot on inside rear of deflector slips onto stud behind rear of discharge opening, where rear of recycling cover was originally secured. Install internal/external tooth lock washers and knob nuts onto studs and tighten securely. See Figure 2.12.

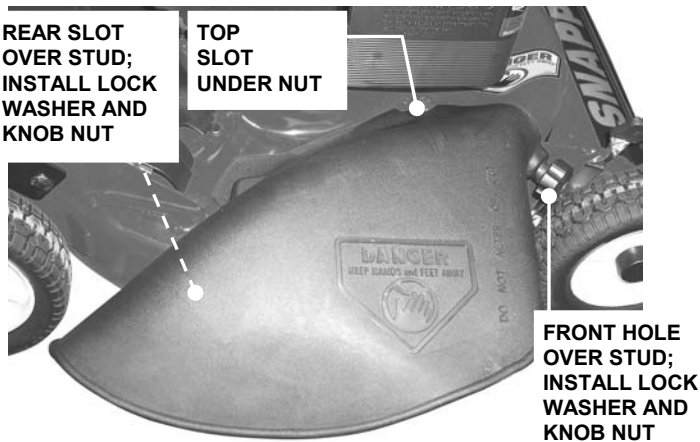


FIGURE 2.12

2.7 INSTALLATION OF GRASS BAG ADAPTER (Optional Accessory on Some Models)

STEP 1: Remove recycling cover. Refer to Section "Recycling Operation".

STEP 2: Install grass bag adapter to the deck in place of recycling cover, making sure that: 1) front hole on outside front of adapter fits over stud where front of recycling cover was originally secured, 2) slot on top of adapter slips under restraining nut on top of deck (under right front corner of engine), and 3) slot on bottom rear of adapter slips onto stud behind rear of discharge opening, where rear of recycling cover was originally secured. Install internal/external tooth lock washers and knob nuts onto studs and tighten securely. See Figure 2.13.

STEP 3: Route recoil rope around outside of rope guide pulley. See Figure 2.13. (NOTE: Recoil rope may need to be slackened. Refer to "Handle Assembly".)

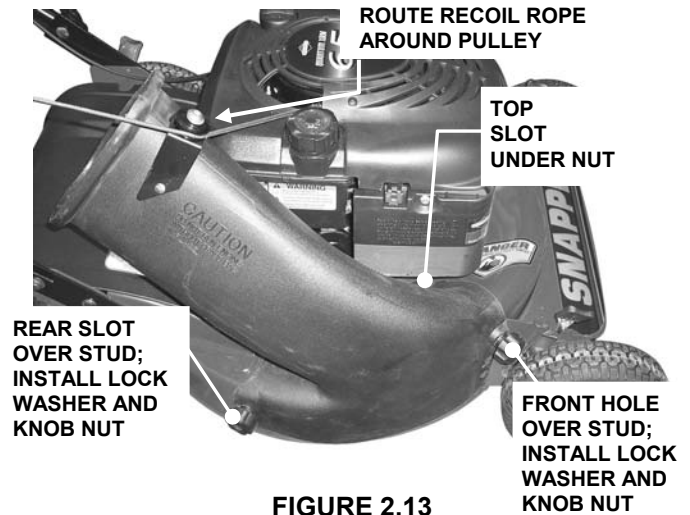


FIGURE 2.13

2.8 INSTALLATION OF GRASS BAG (Door Type Bag)

STEP 1: Install grass bag adapter. Refer to Section "Installation of Grass Bag Adapter".

STEP 2: Install grass bag by opening adapter cover (not shown) and sliding connector over adapter flange. See Figure 2.14.

STEP 3: Attach grass bag hooks over middle handle cross bar. See Figure 2.14.

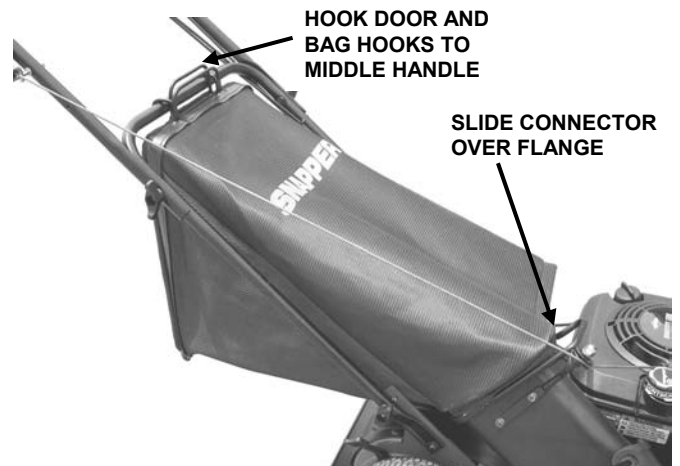


FIGURE 2.14

WARNING

DO NOT operate without entire Grass Catcher or guard in place. Grass Catcher components are subject to deterioration during normal use. Inspect frequently and replace worn or damaged components immediately.

Grass Catcher bags used on SNAPPER products are made of woven fabric, and are subject to deterioration and wear during normal usage. Check condition of bag before each use. Immediately replace worn or damaged catcher bags with only bags recommended by SNAPPER. The grass catcher is optional equipment on some models.

Section 3 – MAINTENANCE

3.1 INTRODUCTION

To retain the quality of the mower, use genuine SNAPPER replacement parts only. Contact a local SNAPPER dealer for parts and service assistance. For the correct part or information for a particular mower, always mention model and serial number.

⚠ WARNING ⚠

DO NOT attempt any maintenance, adjustments or service with engine and blade running. STOP engine and blade. Disconnect spark plug wire and secure away from spark plug. Engine and components are HOT. Avoid serious burns, allow sufficient time for all components to cool. Wear heavy leather gloves when handling or working around cutting blades. Blades are extremely sharp and can cause severe injury.

3.2 SERVICE - AFTER FIRST 5 HOURS

3.2.1. CHANGE ENGINE OIL

IMPORTANT: Drain fuel tank before tipping machine. DO NOT tip machine with carburetor or spark plug down. Oil from crankcase will saturate the air filter and cause the engine to be hard to start or not start at all. If contamination does occur, the air filter will have to be replaced.

1. Refer to Engine Manual for proper oil specifications, procedures and proper service intervals.

For simplest/cleanest oil change, simply turn mower on its side to drain oil, as shown in Figure 3.1. Drain oil through dipstick tube into a container. Allow sufficient time for all oil to drain.

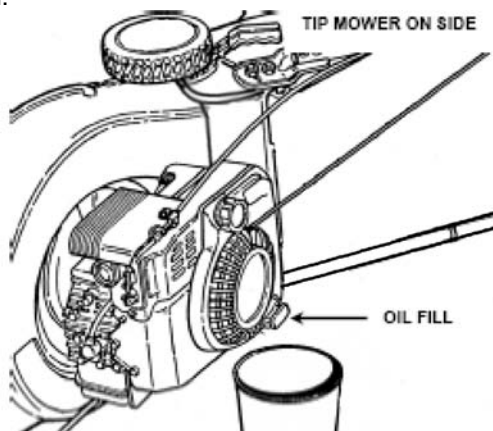


FIGURE 3.1

2. Dispose of drain oil properly.
3. Fill engine with oil as specified in Engine Manual. Do Not overfill.

3.2.2. CHECK MOWER BLADE

1. Disconnect spark plug wire and secure end away from plug.
2. Tilt mower up on its rear wheels for access to the blade cap screw. Do not tilt mower with spark plug or carburetor down. See Figure 3.2.
3. Check torque of blade retaining cap screw. Recommended torque should be 40 ft. lbs. See Figure 3.2.
4. Check blade for sharpness, wear and damage. Refer to Section "Blade Wear Limits".

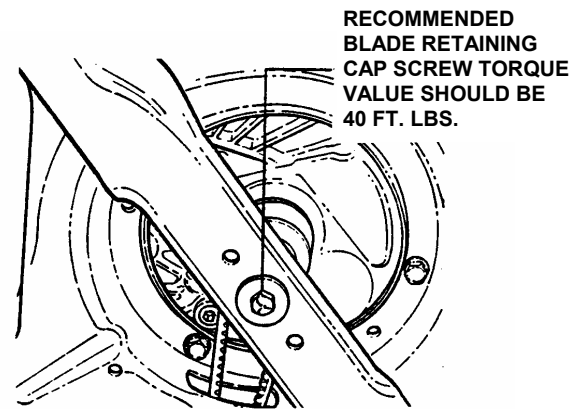


FIGURE 3.2

IMPORTANT: Drain fuel tank before tipping mower. DO NOT tip machine with carburetor or spark plug down. Oil from crankcase will saturate the air filter and cause the engine to be hard to start or not start at all. If contamination does occur, the air filter will have to be replaced.

3.2.3. CHECK ENGINE DRIVE BELT

1. Visually check engine drive belt for cracking, fraying, severed or belt strands exposed. If worn or damaged, replace belt before operating mower.

3.3 SERVICE - PERIODIC

Perform all maintenance as described in the "Service Schedule" section of this manual.

3.3.1. Engine

Service engine according to engine owner's manual.



3.3.2. Air Filter

Refer to engine owner's manual for service instructions.

3.3.3. Engine Oil

Refer to engine owner's manual for service instructions.

Section 3 – MAINTENANCE

 WARNING 
<p>DO NOT attempt any maintenance, adjustments or service with engine and blade running. STOP engine and blade. Disconnect spark plug wire and secure away from spark plug. Engine and components are HOT. Avoid serious burns, allow sufficient time for all components to cool. Wear heavy leather gloves when handling or working around cutting blades. Blades are extremely sharp and can cause severe injury.</p>

3.3.4. Wheel Drive Components

1. Remove rear cover. Refer to Section “Rear Cover Removal & Installation”.
2. Clean debris buildup on or around transmission, axles, idler, pulleys, belt, etc., as well as on underside of cover. Check components for wear or damage. Replace worn or damaged components immediately.
3. Replace rear cover.

IMPORTANT: DO NOT operate mower without rear cover securely in place.

3.4 STORAGE PROCEDURE

Refer to the Engine Owner’s Manual for directions regarding engine storage preparations. Prepare the mower for “end of season” storage as follows:

1. Drain fuel from fuel tank and let engine run until all fuel is out of the carburetor.
2. Disconnect and remove the spark plug wire away from spark plug before any other preparations are made!
3. Tape all openings closed to prevent spraying water into exhaust or air intakes during washing.
4. Tilt mower up on its rear wheels and thoroughly clean the underside of the deck. Do not tilt mower with spark plug or carburetor down. Scrape away any accumulation of grass with a putty knife and or wire brush.
5. Lubricate all exposed metal with a light coating of oil to prevent corrosion.
6. On self-propelled models, move ground speed control back to slow (‘turtle’) position to prevent stretching of belt and/or idler spring.

7. Carefully fold the handles, “flexing” the control cables to prevent cable damage.
8. Store the mower in a shed or other dry area, protected from weather.

Section 4 - REPAIR & ADJUSTMENTS

WARNING

DO NOT attempt any maintenance, adjustments or service with engine and blade running. STOP engine and blade. Disconnect spark plug wire and secure away from spark plug. Engine and components are HOT. Avoid serious burns, allow sufficient time for all components to cool. Wear heavy leather gloves when handling or working around cutting blades. Blades are extremely sharp and can cause severe injury.

4.1 MOWER BLADE REPLACEMENT

4.1.1. STANDARD BLADE WEAR LIMIT

1. Inspect blade frequently for signs of excessive wear or damage. See Figure 4.1.

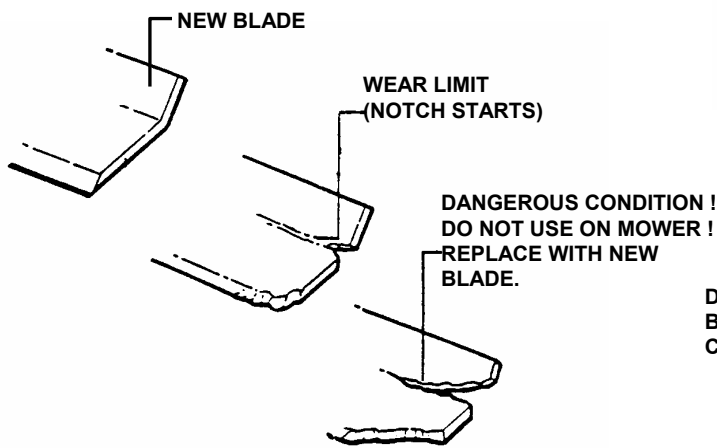


FIGURE 4.1

WARNING

DO NOT use a cutting blade that shows signs of excessive wear or damage. Refer to Section "MOWER BLADE REPLACEMENT" for proper blade inspection and service procedures.

4.1.2. BLADE SHARPENING

1. Disconnect spark plug wire and secure end away from plug.

IMPORTANT: Drain fuel tank before tipping mower. DO NOT tip machine with carburetor or spark plug down. Oil from crankcase will saturate the air filter and cause the engine to be hard to start or not start at all. If contamination does occur, the air filter will have to be replaced.

2. Tilt mower up on its rear wheels. Do not tilt mower with spark plug or carburetor down.
3. Remove blade. See Figure 4.2.

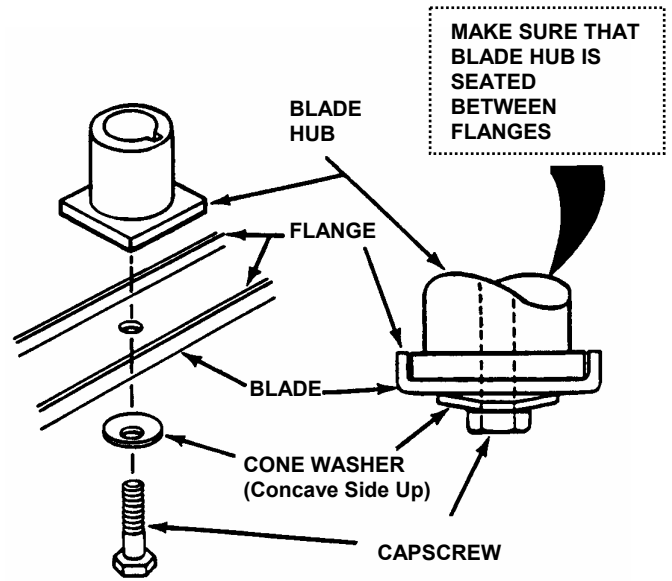


FIGURE 4.2

4. Sharpen blade on a grinding wheel at an angle of 22 to 28 degrees. DO NOT sharpen blade beyond original cutting edge. See Figure 4.3.

DO NOT SHARPEN BEYOND ORIGINAL CUTTING EDGE

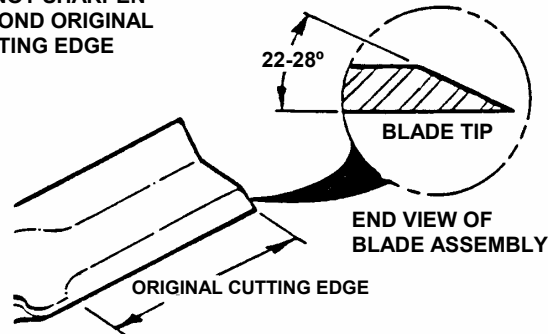


FIGURE 4.3

5. Check blade for balance. If necessary, correct balance by grinding heavy end of blade.
6. Reinstall blade. See Figure 4.2. Check torque of blade retaining cap screw. Recommended torque should be 40 ft. lbs.

Section 4 - REPAIR & ADJUSTMENTS

WARNING
DO NOT attempt any maintenance, adjustments or service with engine and blade running. **STOP** engine and blade. Disconnect spark plug wire and secure away from spark plug. Engine and components are **HOT**. Avoid serious burns, allow sufficient time for all components to cool.

4.2 WHEEL DRIVE CONTROL ADJUSTMENT

The wheel drive control lever should engage the transmission when the lever is squeezed back against the handlebar, and disengage the transmission when the lever is released. See Figure 4.4.

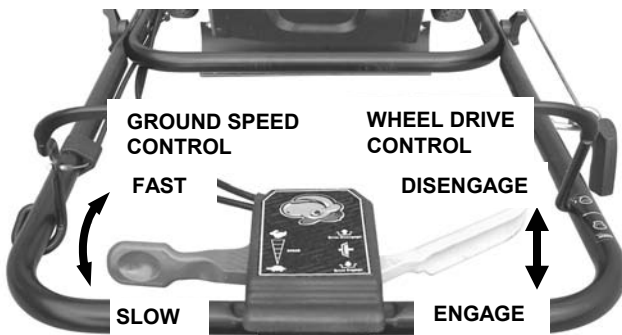


FIGURE 4.4

If the transmission does not fully engage or disengage, adjustment may be performed as follows:

1. Remove rear cover from mower. Refer to Section "Rear Cover Removal & Installation".
2. With wheel drive control lever in 'DISENGAGE' position (see Figure 4.4), spring on end of wheel drive control cable should have no tension. Measure overall length of unextended spring. See Figure 4.5.

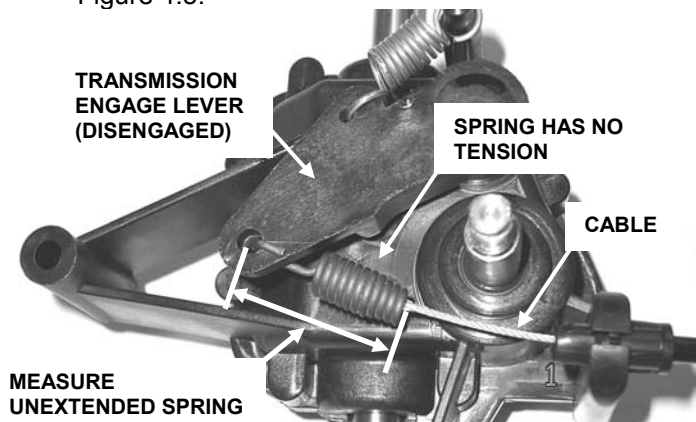
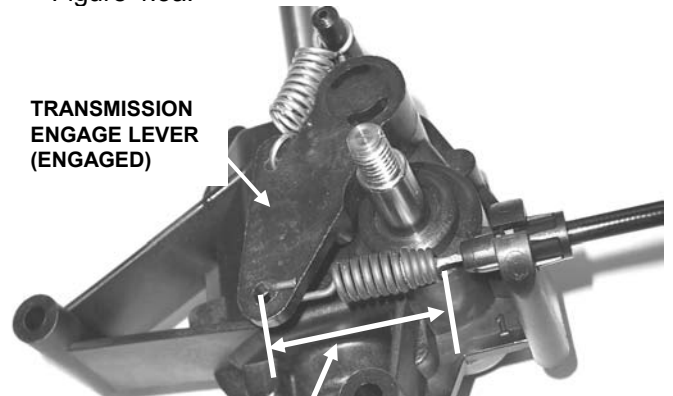


FIGURE 4.5

(Top of transmission; pulley removed for clarity)

3. Engage lever, and roll mower back and forth several times to ensure clutch dogs are fully engaged. With lever engaged, measure length of extended spring. Overall spring length should increase by 0.090 – 0.110" (3/32 – 7/64"). See Figure 4.5a.



EXTENDED SPRING – SHOULD BE LENGTH OF UNEXTENDED SPRING PLUS 0.090 to 0.110" (3/32 to 7/64") EXTENSION

FIGURE 4.5a

4. To adjust spring extension:
 - a. Disengage lever.
 - b. To increase extended spring length, loosen jam nut, and rotate ferrule below adjustment turnbuckle, located on lower end of wheel drive control cable, 1/2 turn out from turnbuckle. Tighten jam nut. See Figure 4.5b.
 - c. To decrease extended spring length, loosen jam nut, and rotate ferrule 1/2 turn in toward turnbuckle. Tighten jam nut. See Figure 4.5b.

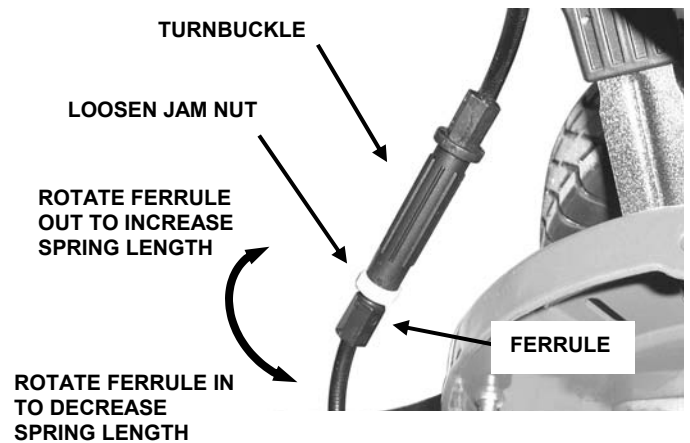


FIGURE 4.5b

5. Engage lever and recheck extended spring length. Repeat step 4 as needed.

IMPORTANT: INCORRECT ADJUSTMENT CAN CAUSE DAMAGE TO THE TRANSMISSION.

Section 4 - REPAIR & ADJUSTMENTS

⚠ WARNING ⚠
DO NOT attempt any maintenance, adjustments or service with engine and blade running. STOP engine and blade. Disconnect spark plug wire and secure away from spark plug. Engine and components are HOT. Avoid serious burns, allow sufficient time for all components to cool.

4.3 GROUND SPEED CONTROL ADJUSTMENT

4.3.1. IDLER SPRING TENSION ADJUSTMENT

Correct idler spring tension assures that mower will achieve fastest attainable speed when ground speed control lever is placed in 'FAST' position.

1. Remove rear cover from mower. Refer to Section "Rear Cover Removal & Installation".
2. Idler spring tension is adjusted properly when:
 - a. With lever in 'SLOW' position (see Figure 4.4), belt is relaxed, and idler spring on end of ground speed control cable has no extension. See Figure 4.6.

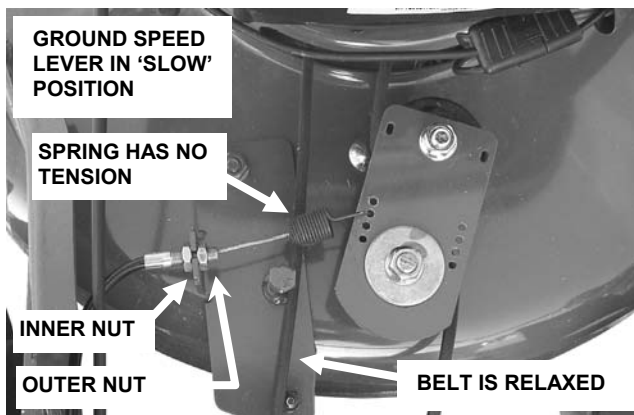


FIGURE 4.6

- b. With lever in 'FAST' position (see Figure 4.4), belt is tight, and idler spring on end of ground speed control cable is extended approx. 1". See Figure 4.7.

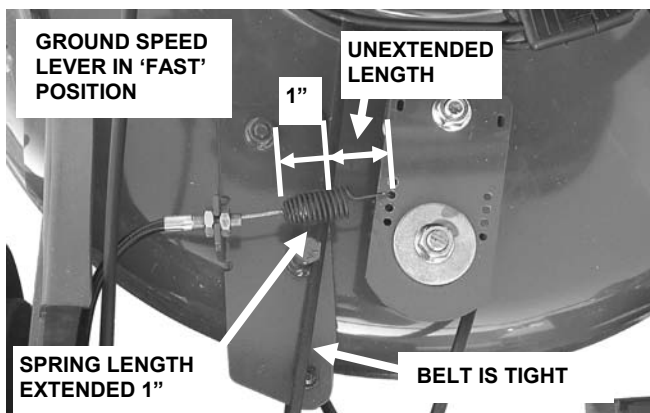


FIGURE 4.7

To adjust idler spring tension:

Loosen outer nut on end of ground speed cable, and run inner nut in toward cable (clockwise) or out from cable (counterclockwise) by 1/2 turn increments until correct adjustments are attained. See Figure 4.6. Be sure to tighten outer nut.

3. Replace rear cover.

4.3.2. MINIMUM GROUND SPEED ADJUSTMENT

If mower is traveling too fast or too slow when ground speed control lever is placed in 'SLOW' position, minimum ground speed can be adjusted.

NOTE: Before adjusting minimum ground speed, be sure idler spring tension is adjusted correctly, as idler spring tension may affect minimum ground speed. Refer to Section "Idler Spring Tension Adjustment".

1. Remove rear cover from mower. Refer to Section "Rear Cover Removal & Installation".
2. Place ground speed control lever in 'SLOW' position. See Figure 4.4.
3. Adjust minimum ground speed:

To decrease minimum ground speed:

Remove end of idler spring from current adjustment hole, and relocate spring one hole closer to idler arm pivot bolt. See Figure 4.7a.

To increase minimum ground speed:

Remove end of idler spring from current adjustment hole, and relocate spring one hole farther from idler arm pivot bolt. See Figure 4.7a.

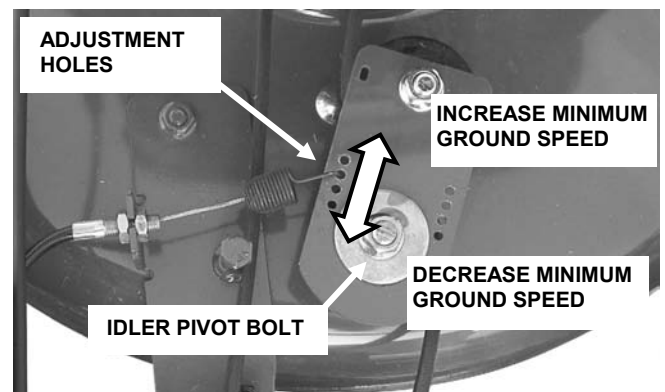


FIGURE 4.7a

NOTE: After adjusting minimum ground speed, readjustment of idler spring tension may be necessary.

4. Replace rear cover.
5. Check minimum ground speed; repeat adjustment as necessary.

THE DRIVE BELT ON THIS UNIT IS SUBJECT TO WEAR, AND SHOULD BE CHECKED REGULARLY. REPLACE A WORN, FRAYED OR DAMAGED BELT IMMEDIATELY.

Section 4 - REPAIR & ADJUSTMENTS

⚠ WARNING ⚠

DO NOT attempt any maintenance, adjustments or service with engine and blade running. STOP engine and blade. Disconnect spark plug wire and secure away from spark plug. Engine and components are HOT. Avoid serious burns, allow sufficient time for all components to cool.

4.4 BELT SERVICE

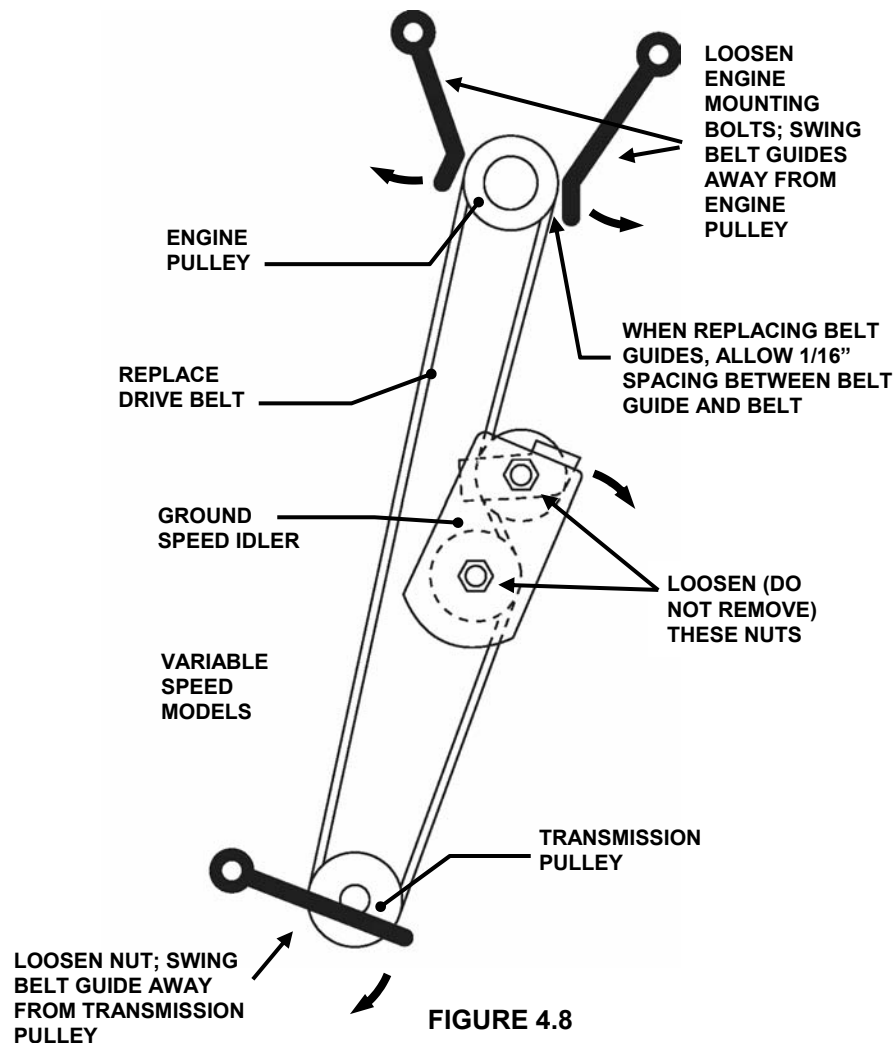
On self-propelled mowers, the engine belt transmits power from the engine to the transmission that powers the rear wheels. Should the belt become worn, it could cause slippage, which would impair mower performance. The condition of the engine belt should be checked after every 25 hours of mower operation.

4.4.1. Engine Drive Belt Replacement

1. Empty fuel tank.
2. Remove blade. Refer to Section "Blade Sharpening".
3. Remove rear cover of mower. Refer to Section "Rear Cover Removal & Installation".

4. Replace belt:

- a. Loosen (do not remove) engine mounting bolts securing belt guides, and swing belt guides out away from engine pulley. Also loosen nut securing transmission belt guide, and swing guide back away from transmission pulley. See Figure 4.8.
- b. Loosen (do not remove) nuts securing ground speed idler pulleys to idler plate to ease removal of belt. See Figure 4.8.
- c. Replace belt, noting belt routing in Figure 4.8.
- d. Replace belt guides, allowing approx 1/16" spacing between guides and belt. Torque engine mounting bolts to 40 ft-lbs. Retighten idler pulley bolts, making sure idler belt guide is aligned as shown in Figure 4.8.
- e. Replace blade and rear cover.



Section 4 - REPAIR & ADJUSTMENTS



WARNING



DO NOT attempt any maintenance, adjustments or service with engine and blade running. STOP engine and blade. Disconnect spark plug wire and secure away from spark plug. Engine and components are HOT. Avoid serious burns, allow sufficient time for all components to cool.

4.5. REAR COVER REMOVAL & INSTALLATION

Removal: Remove six fasteners securing rear cover to machine, and lift cover from machine. See Figure 4.9. Set components aside.

Installation: Replace rear cover, and secure with removed fasteners. See Figure 4.9.

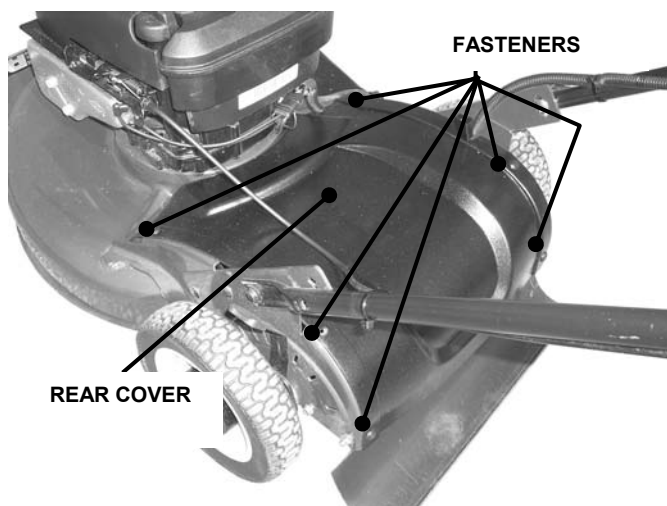


FIGURE 4.9

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Engine Will Not Start Using Recoil Starter	1. Fuel tank empty.	1. Fill fuel tank with fresh fuel.
	2. Engine needs priming.	2. Prime. Check Engine Manual for Instructions.
	3. Spark plug wire disconnected.	3. Place spark plug wire onto spark plug.
Engine Stalls or Stops After Running	1. Blade control is released or is not being held securely against handle.	1. Blade control should be held securely against handle at all times during operation of mower.
	2. Fuel tank empty.	2. Fill with fuel to proper level.
	3. Engine air pre-cleaner and or air cleaner dirty.	3. Clean free of all debris.
	4. Spark plug defective or gap set improperly.	4. Service spark plug.
	5. Water, debris or stale fuel in fuel system.	5. Drain and clean fuel system.
Engine Loses Power	1. Engine air pre-cleaner or air cleaner dirty	1. Clean or replace filters.
	2. Spark plug faulty.	2. Service spark plug.
	3. Water, debris or stale fuel in fuel system.	3. Drain and clean fuel system.
Excessive Vibration	1. Damaged, out of balance or bent mower blade.	1. Service mower blade.
	2. Loose blade components.	2. Service and tighten loose parts.
	3. Loose or missing air lift (if equipped).	3. Replace air lifts. Tighten to proper torque.
	4. Lumpy or frayed belt	4. Replace belt.
Mower Will Not Move Loss Of Traction (Self-Propelled Models)	1. Build-up of debris on or around wheel drive components.	1. Clean debris.
	2. Transmission clutch cable adjustment required.	2. Adjust transmission clutch cable.
	3. Drive belt requires replacement.	3. Replace drive belt.
	4. Damaged transmission.	4. Contact authorized SNAPPER dealer.
Transmission Noise (Self-Propelled Models)	1. Transmission clutch cable adjustment required.	1. Adjust transmission clutch cable.
	2. Damaged transmission.	2. Contact authorized SNAPPER dealer.
Ground Speed Too Fast / Too Slow; Unable to Adjust Ground Speed (Variable-Speed Self-Propelled Models)	1. Build-up of debris on or around ground speed control components.	1. Clean debris.
	2. Ground speed control adjustment required.	2. Adjust ground speed control.
	3. Drive belt requires replacement.	3. Replace drive belt.
	4. Damaged transmission.	4. Contact authorized SNAPPER dealer.
Cutting Grass Improperly	1. Cutting height too low or high.	1. Adjust cutting height.
	2. Forward ground speed too fast.	3. Move ground speed control to a slower speed.
	3. Terraced cut, side to side.	4. Adjust height of cut with height adjust levers.
	4. Excessive deck pitch, front to rear.	5. Adjust height of cut with height adjust levers.
	5. Cutting blade dull or damaged.	6. Sharpen cutting edges or replace blade.
Poor Grass Discharge	1. Forward speed too fast.	1. Move ground speed control to a slower speed.
	2. Grass is wet.	2. Mow when grass is dry.
	3. Excessively worn or damaged blade.	3. Service mower blade.
	4. Build up of grass clippings and debris under deck.	4. Clean deck.
	5. Improper blade installed on deck.	5. Install proper SNAPPER blade.
	6. Blade installed improperly on deck.	6. Install blade properly.
Oil Leaking	1. Leaking engine case.	1. Contact authorized SNAPPER dealer. 2. Check and tighten drain plug. 3. Make sure dip stick or oil filler cap is securely in place.

SERVICE SCHEDULE

ITEM	SERVICE PERFORMED	REF.	EACH USE	5 HRS	25 HRS	50 HRS	100 HRS	EACH SEASON
Engine Oil	Check Oil Level	Page 7	X					
	Initial Oil Change	Page 11		X				
	Periodic Oil Change	Page 11			X*			
Air Pre-Cleaner	Clean Sponge Element	Engine Manual			X**			
Air Cleaner	Clean or Replace	Engine Manual			X**			
Spark Plug	Replace	Engine Manual					X	
Engine Cooling System	Clean Shroud & Fins	Engine Manual					X**	
Drive Belt	Check For Wear And Tension	Pages 11, 16			X	X		X
Mower Blade	Check For Wear, Damage & Replacement	Page 13	X					
Mower Deck	Clean Debris Accumulation	Page 7	X					
Wheel Drive Components	Clean Debris Accumulation; Check for Wear or Damage	Page 12			X			
Transmission Clutch Cable Spring Adjustment	Check & Adjust	Page 14		X	X			X
Front Caster Bushing (Swivel Wheel Models Only)	Lubricate	Page 8			X			

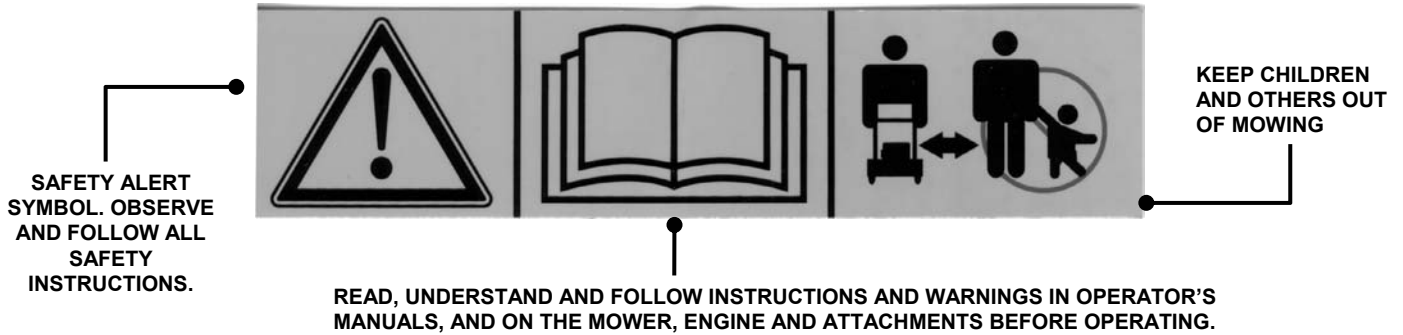
*Change oil every 25 hours when operating under heavy load or high temperatures.

**Clean more often under dusty conditions or when air debris is present

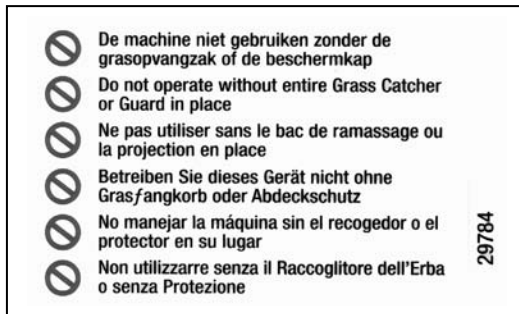
MAINTENANCE/REPLACEMENT PARTS

MAINTENANCE PARTS	
Blade Control Cable	7100074
Wheel Drive Control Cable	7100263
Ground Speed Control Cable	7100264
Cutter Blade (Double Wave)	7100242
Drive Belt	7100058
Parts Manual for 21" Easy Line Walk Behind Mower	7006205
Parts Manual for 21" Easy Line Walk Behind Mower (Swivel-Wheel)	7006206

DECAL IDENTIFICATION



(1) WARNING INSTRUCTIONS.



(2) **WARNING: Do Not operate without entire Grass Catcher or Guard in place.**



(3) **PRIME (on engine):** Use for initial engine starting. Read and follow engine operating and maintenance instructions. Push bulb to prime engine.



(4) **SPARK PLUG:** Warns of potential electrical shock from spark plug while engine is running.



(5) **SPEED SELECTOR:** Shows direction of motion and the ability to select ground speed by moving lever forward or backward.

(6) **CLUTCH:** Moving the lever back toward the handle engages the traction clutch and forward motion starts. When the lever is released, the clutch disengages and forward motion stops.

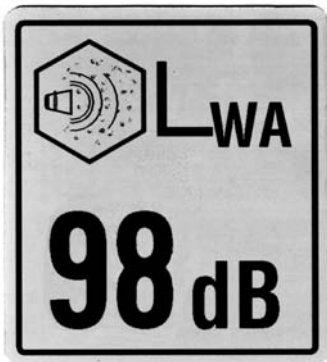
DECAL IDENTIFICATION



(7) OPERATOR PRESENCE CONTROL (OPC): Arrow points to the OPC bail. When bail is rotated rearward, the engine may be started and will run as indicated by the engine with rotating arrow. With the engine running, the blade is rotating as indicated by the cut grass symbol. When the bail is released and rotates forward, the engine will stop.



(9) INJURY WARNING: Indicates possible severe injury from rotating cutting blades.



(8) LWA-98: Indicates European noise level certification.



(10) CE DECAL: Indicates European Certification.

CE COMPLIANCE SPECIFICATIONS

Model	RPM's (Governed)	Kilowatts (kW) (@ Governed RPM's)	Unit Mass (kg)	Sound Power(LWA) (dBA)	Sound Pressure(LPA) (dBA)	Vibration at Handle (m/s ²)
ESPV21	3000	4.8	43	98	84	19.1
ESPV21S	3000	4.8	44	98	84	19.1

SNAPPER®

2 YEAR LIMITED WARRANTY

For two (2) years from purchase date for the original purchaser's residential, non-commercial use, **SNAPPER**, through any authorized **SNAPPER** dealer will replace, free of charge (except for taxes where applicable), any part or parts found upon examination by the factory at McDonough, Georgia, to be defective in material or workmanship or both.

For ninety (90) days from purchase date for the original purchaser's commercial, rental, or other non-residential use, **SNAPPER**, through any authorized **SNAPPER** dealer will replace, free of charge, any part or parts found upon examination by the factory at McDonough, Georgia, to be defective in material or workmanship or both.

All transportation costs incurred by the purchaser in submitting material to an authorized **SNAPPER** dealer for replacement under this warranty must be paid by the purchaser.

This warranty does not apply to certain transmissions, to engines and their components, and batteries, as these items are warranted separately. This warranty does not apply to parts that have been damaged by accident, alteration, abuse, improper lubrication, normal wear, or other cause beyond the control of **SNAPPER**. This warranty does not cover any machine or component part that has been altered or modified changing safety, performance, or durability.

Batteries have a one (1) year warranty period with free replacement if required for one (1) year from the original purchase date. **SNAPPER** will not be responsible for any installation cost incurred. The battery warranty only covers original equipment batteries and does not cover damage to the battery or machine caused by neglect or abuse, destruction by fire, explosion, freezing, overcharging, improper maintenance, or use of improper electrolyte.

There is no other express warranty.

DISCLAIMER OF WARRANTY

Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to two (2) years from purchase date for the original purchaser's residential or other non-commercial use, and ninety (90) days from purchase for the original purchaser's commercial, rental or other non-residential use, and to the extent permitted by law, any and all implied warranties are excluded. This is the exclusive remedy. Liabilities for consequential damages, under any and all warranties are excluded.

Some states do not allow limitations on how long an implied warranty lasts, or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

WARNING: THE USE OF REPLACEMENT PARTS OTHER THAN GENUINE SNAPPER PARTS MAY IMPAIR THE SAFETY OF SNAPPER PRODUCTS AND WILL VOID ANY LIABILITY AND WARRANTY BY SNAPPER ASSOCIATED WITH THE USE OF SUCH PARTS.

IMPORTANT: Please fill out the attached **SNAPPER** Product Registration Card immediately and mail to:
Snapper's Product Registration Center, P.O. Box 1379, McDonough, Georgia 30253

Safety Instructions & Operator's Manual for

SNAPPER®

EUROPEAN 21" 'EASY LINE' WALK BEHIND MOWERS

IMPORTANT

Snapper products are built using engines that meet or exceed all applicable emissions requirements on the date manufactured. The labels on those engines contain very important emissions information and critical safety warnings. Read, Understand, and Follow all warnings and instructions in this manual, the engine manual, and on the machine, engine and attachments. If you have any questions about your Snapper product, contact your local authorized Snapper dealer or contact Snapper Customer Service at Snapper, McDonough, GA. 30253. Phone: (1-800-935-2967).



WARNING

BATTERY POSTS, TERMINALS AND RELATED ACCESSORIES CONTAIN LEAD AND LEAD COMPOUNDS, CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. WASH HANDS AFTER HANDLING.



WARNING

ENGINE EXHAUST, SOME OF ITS CONSTITUENTS, AND CERTAIN VEHICLE COMPONENTS CONTAIN OR EMIT CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR OTHER REPRODUCTIVE HARM.

SNAPPER® McDonough, GA., 30253 U.S.A.