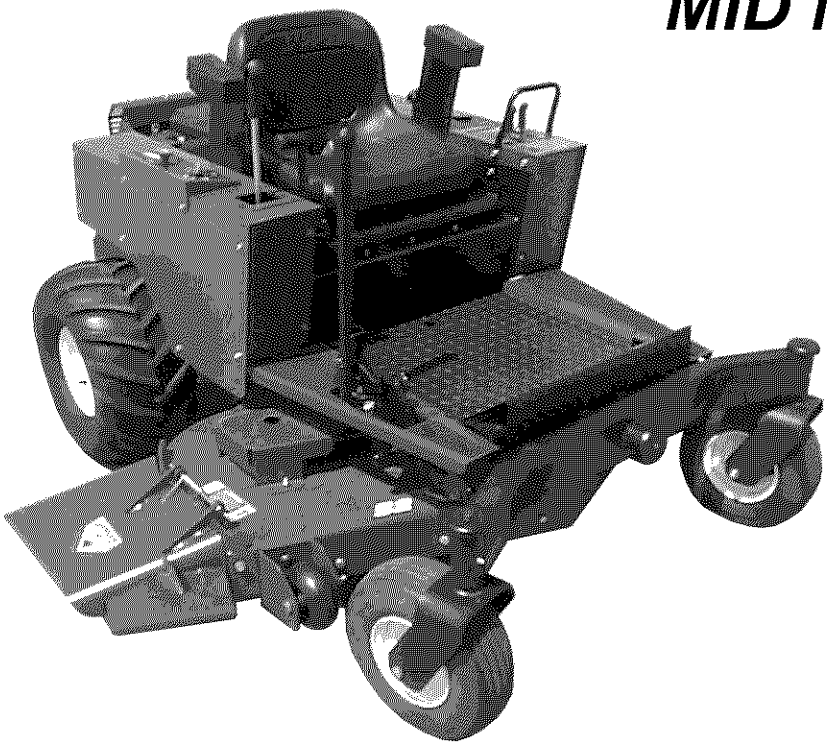
Safety Instructions & Operator's Manual for

SNAPPER®

MID MOUNT Z-RIDER ZERO TURNING HYDRO DRIVE SERIES 1



POWER UNIT MODELS
MZM2301KH

MOWER UNIT MODELS	
ZM5202M	*ZM6102M*
MZM5203M	

MODEL NUMBER EXPLANATION

M	Z	M	23	01	KH

MODEL DESIGNATION
DRIVE SYSTEM TYPE
MOWER ORIENTATION
ENGINE TYPE
SERIES DESIGNATION
ENGINE HP

POWER UNIT

M – Middle Market	23 – Engine Horse Power	01 – Series Designation	KH – Kohler Engine
Z – Zero Turning – Hydro Drive			
M – Mid Mount Mower			

MOWER UNIT

Z – Zero Turning – Hydro Drive	52 – Mower Cutting Width	02 – Series Designation	M – Mower Deck
M – Mid Mount Mower	61 – Mower Cutting Width	03 -- Series Designation	

Thank you for buying a SNAPPER Product! Before operating your machine, 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!

SNAPPER® McDonough, GA., 30253 U.S.A.

MANUAL No. 7-5167 (I.R. 8/30/02)

Section 1 - FAMILIARIZATION

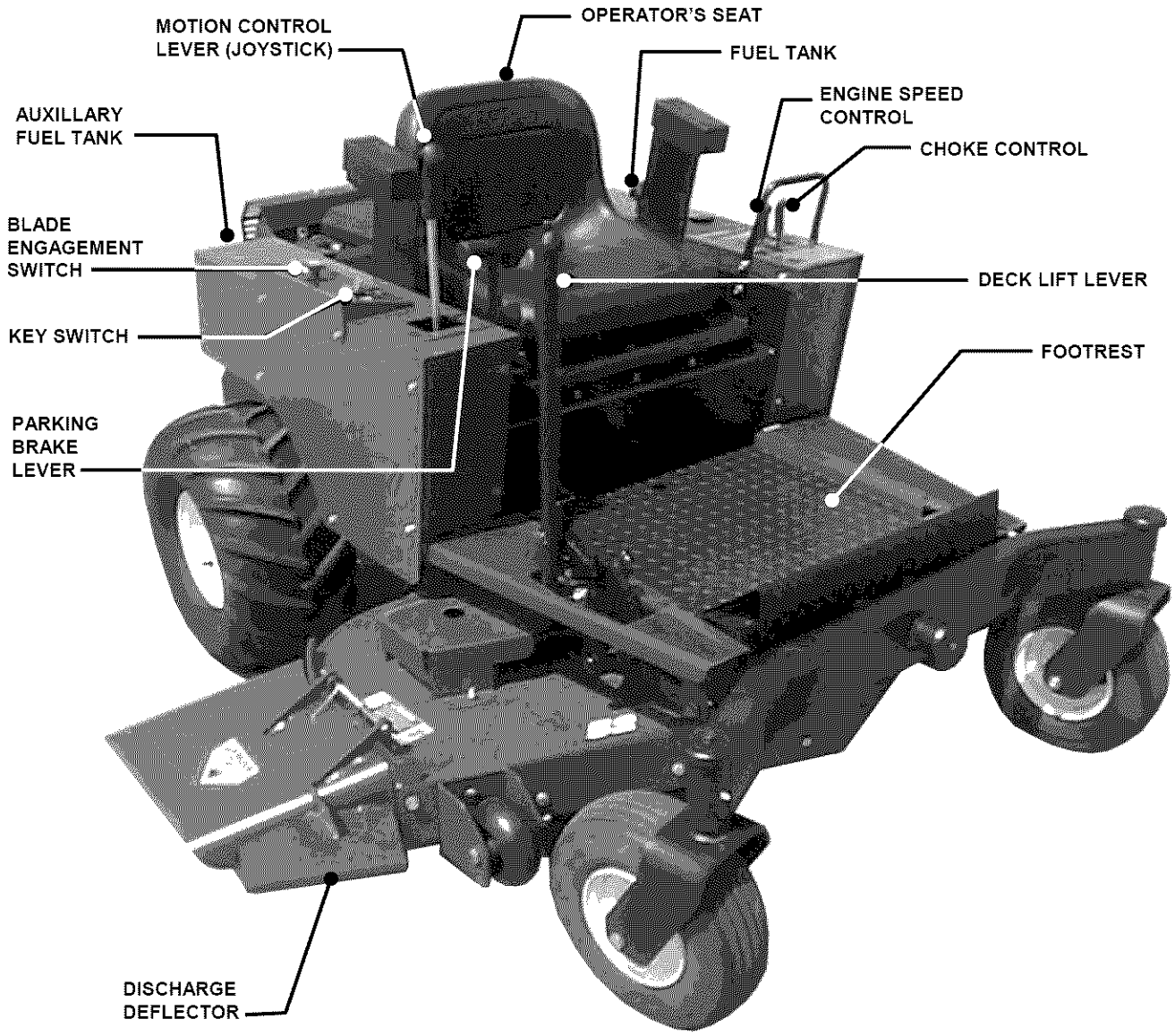


FIGURE 1.1

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

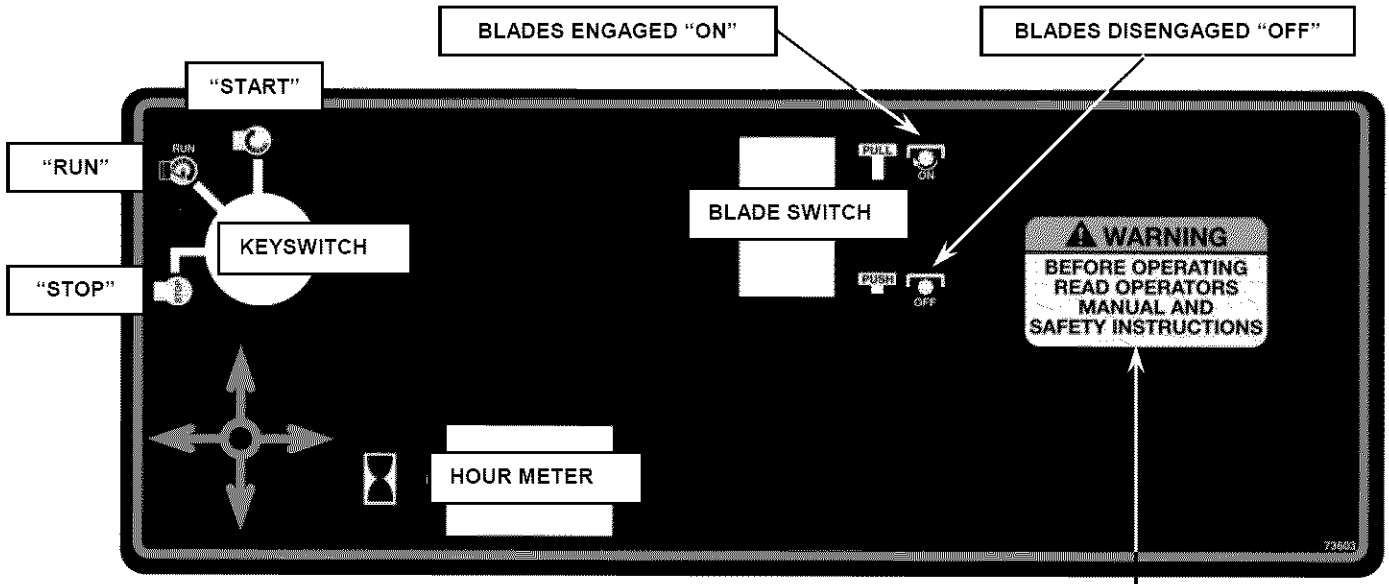
1.1 INTRODUCTION

This manual has been prepared for the operator's of the SNAPPER MID MOUNT Z-RIDER. Its purpose, aside from recommending standard operating procedures 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 thru 4 of this manual and All SAFETY messages on the MID MOUNT Z-RIDER and its attachments before operating. SNAPPER recommends returning the MID MOUNT Z-RIDER to an authorized SNAPPER dealer annually for inspection and addition of any new devices which might upgrade the safety of the mower.

1.2 NOMENCLATURE

The nomenclature information above, Figure 1.1, shows the essential parts of the SNAPPER MID MOUNT Z-RIDER. It is recommended that all operators of this equipment become thoroughly familiar with the controls, components, and operation of this machine 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. For the nearest SNAPPER dealer in your area, check the yellow pages under the heading LAWN MOWERS. For engine parts and service, look for the engine manufacturer's dealers under the heading, ENGINES - gasoline.

Section 2 – SAFETY MESSAGES AND SYMBOLS



DANGER! ROTATING BLADES
KEEP CHILDREN AND OTHERS OUT OF MOWING AREA

DANGER! ROTATING BLADES

Section 4 - MAINTENANCE

4.3.3. RIDING MOWER - LUBRICATION

1. Front Wheel Bearings

Lubricate with Kendall NLGI No. 2 lithium grease or equivalent, from a grease gun. See Figure 4.5.

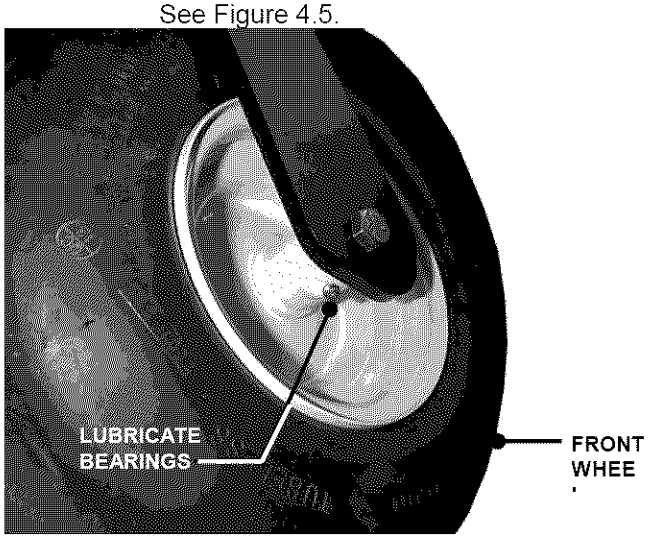
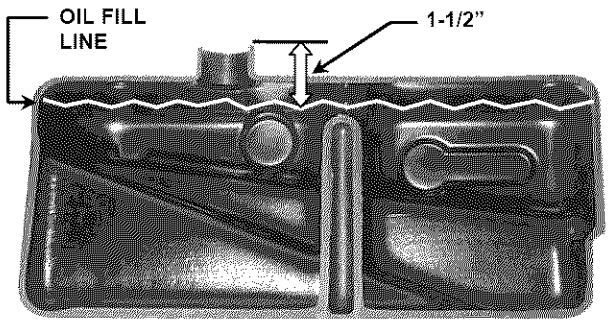


FIGURE 4.5

2. Transaxle

Check the level of fluid in both of the fluid reservoirs. Wipe away all dirt and debris from around reservoir cap before removing. Oil must remain absolutely clean! Check with machine on a level surface with engine "OFF". Fill reservoir as needed to bring level up to 1-1/2 inches below the top of the filler neck. Use clean, fresh premium hydraulic oil having a viscosity equivalent to SAE 20W20, SAE 30 or SAE40. The fluid should be chemically stable, incorporating rust and oxidation inhibitors. Make sure funnels, pouring spouts and oil can are completely clean. Reinstall reservoir cap. See Figure 3.6. **IMPORTANT:** DO NOT remove or service the transaxle fluid filters. This service should be made periodically by an authorized SNAPPER dealer. See the service schedule to determine the recommended change interval.



HYDRAULIC OIL RESERVOIR

IMPORTANT: FLUID LEVEL MUST BE ABOVE TOP OF BAFFLE. RESERVOIR CAPACITY IS ONE (1) GALLON. DO NOT OVERFILL.

FIGURE 4.6

3. Power Transfer Shaft

Lubricate power transfer shaft with Kendall NLGI No. 2 lithium grease or equivalent, from a grease gun. See Figure 4.7.

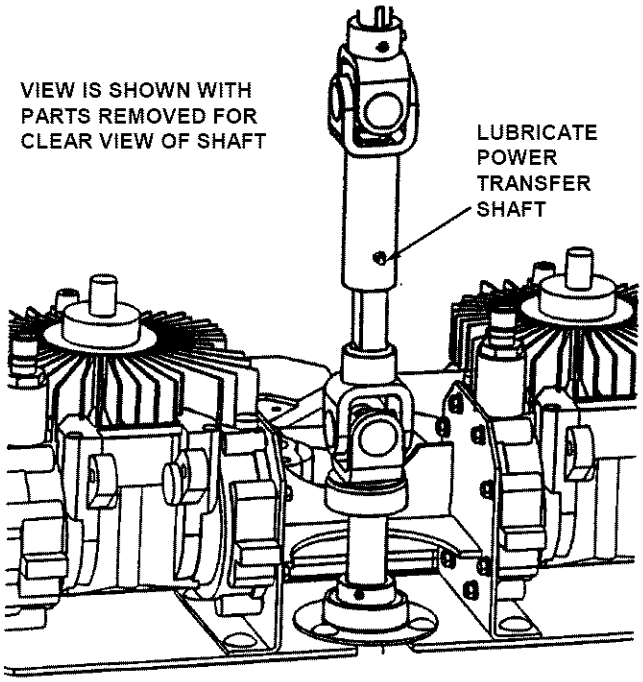


FIGURE 4.7

4. Other Lubrication Points

Lubricate machine caster wheel shafts, traction drive shaft and mower deck idler arm with Kendall NLGI No. 2 lithium grease or equivalent, from a grease gun.

4.4 BEFORE OPERATING MACHINE

1. Clean all dirt and debris from around the two hydraulic fluid reservoirs. Especially around the top and cap area.

2. Clean all dirt and debris from the cooling fins on the engine and from both hydraulic pumps.

4.5 ANNUALLY (END OF EACH SEASON)

Perform all maintenance as described in Section "AFTER EVERY 25 OPERATING HOURS".

4.5.1. ENGINE

Service engine according to engine owner's manual.

(Continued on next Page)

Section 5 - ADJUSTMENTS & REPAIR

5.5.2. BLADE SHARPENING

1. Remove blade. See Figure 5.5.

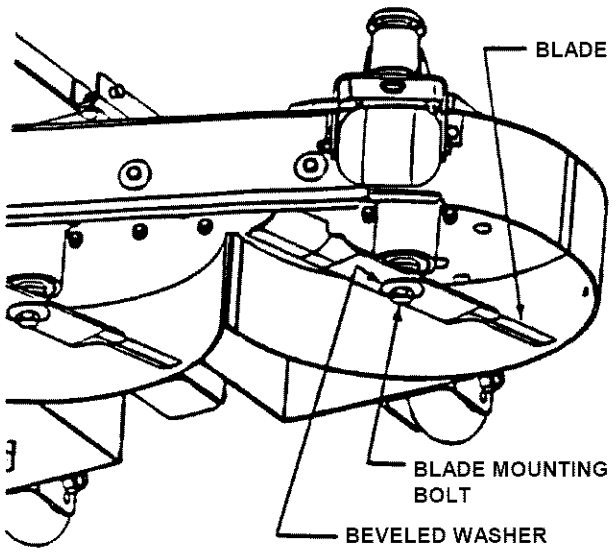


FIGURE 5.5

2. Inspect condition of blade. See Figure 4.4.
3. If blade is in good condition, sharpen at 22 to 28 degrees. DO NOT sharpen beyond original cutting edge. See Figure 5.6.

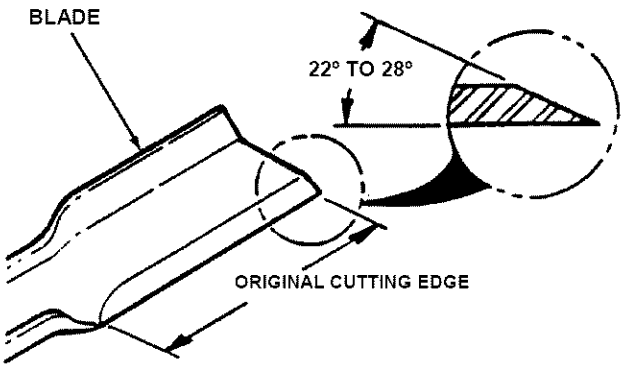


FIGURE 5.6

4. Check blade balance after sharpening. If necessary, correct blade balance by grinding the heavy end of blade.

IMPORTANT: Blade balancing should be performed by a qualified dealer.

5. Reinstall blade. See Figure 5.5. Torque blade mounting bolts to recommended range of 70 to 80 ft. lbs.

5.6 MOWER DRIVE BELT REPLACEMENT

Inspect mower drive belt. Replace belt if it shows signs of excessive wear, damage and/or is broken.

5.6.1. BELT REMOVAL

1. Remove power unit foot rest.
2. Remove old belt.

5.6.2. BELT REPLACEMENT

1. Route belt around blade pulleys and idler pulley in same the position as old belt was removed. It may be necessary to use a pry bar to pull idler pulley back to install belt. See Figure 5.7.
2. Reinstall power unit foot rest.

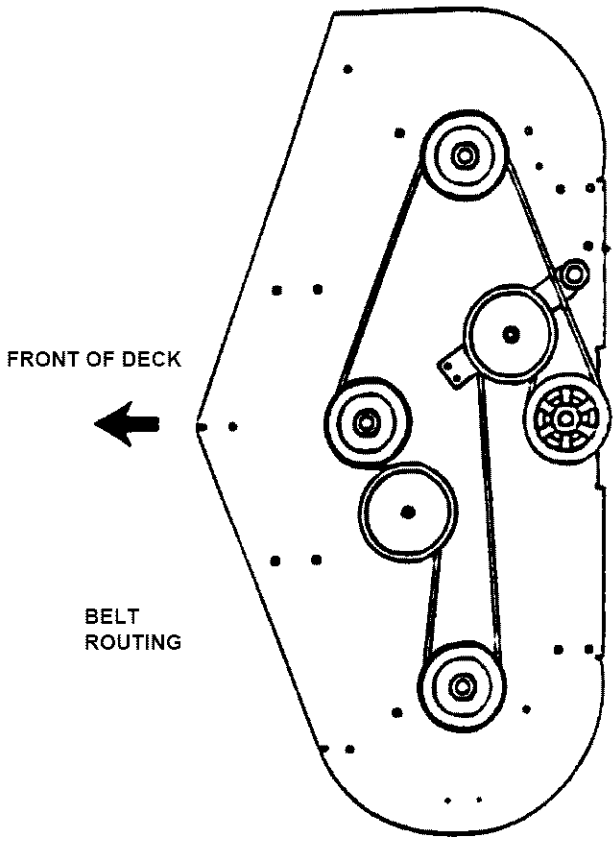


FIGURE 5.7

Section 5 - ADJUSTMENTS & REPAIR

WARNING

Shield the positive terminal with terminal cover located on battery harness. This prevents metal from touching the positive terminal, which could cause sparks. Cables must be connected to battery terminals in the proper position. RED (Positive) cable must go to the (+) terminal. BLACK (Negative) cable must go to the (-) terminal.

5.7 BATTERY

5.7.1. BATTERY REMOVAL

1. Remove battery retainer.

2. Slide terminal cover away from positive terminal.

3. Observe and note cable positions on battery. See Figure 5.8.

4. Disconnect cables from battery terminals, disconnecting BLACK (Negative) cable first, then disconnect RED (Positive) last. Retain mounting bolts and nuts.

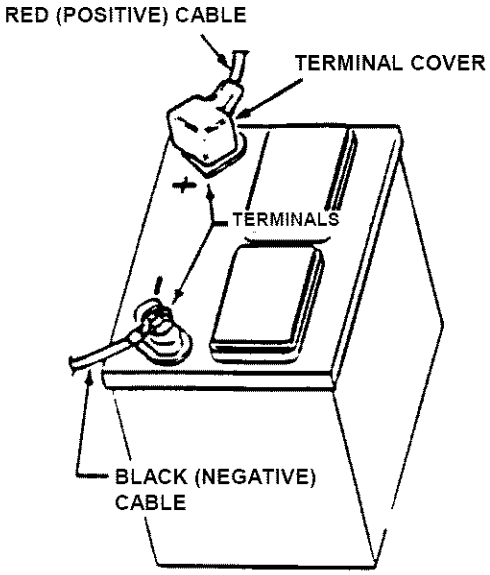


FIGURE 5.8

5.7.2. BATTERY INSTALLATION

1. Position battery into battery compartment.

2. Connect cables to battery terminals. Connect RED (Positive) cable first. Connect BLACK (Negative) cable last.

3. Reinstall battery retainer and positive terminal cover. See Figure 5.9

5.7.3. BATTERY SERVICE

1. Remove battery.

2. Place battery in a well ventilated area on a level surface.

3. Using distilled water, refill cells as required to cover cell plates.

4. With cell caps removed, connect battery charger to battery terminals. RED to positive (+) terminal and BLACK to negative (-) terminal.

5. Slow charge battery at 1 amp for 10 hours. An alternative fast charge should be no more than 2.5 amps for four hours.

6. If battery will not accept charge or is partially charged after 10 hours of charging at 1 amp, replace with new battery.

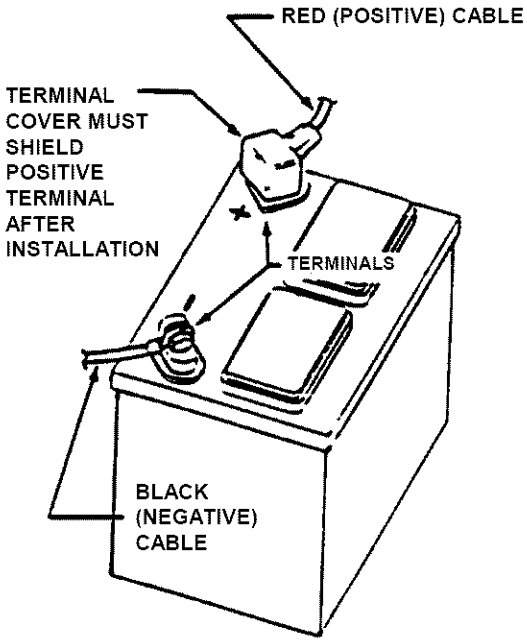


FIGURE 5.9

WARNING

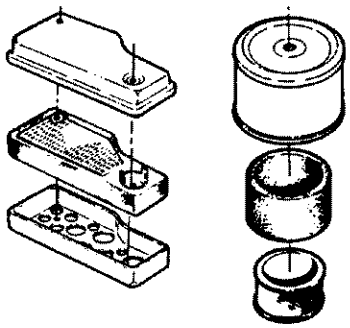
The electrolyte (acid) produces a highly explosive gas. Keep all sparks, flame and fire away from area when charging battery or when handling electrolyte or battery. Electrolyte (acid) is a highly corrosive liquid. Wear eye protection. Wash affected areas immediately after having eye or skin contact with electrolyte (acid). Battery acid is corrosive. Rinse empty acid containers with water and mutilate before discarding. If acid is spilled on battery, bench, or clothing, etc., Flush with clear water and neutralize with baking soda.

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Starter Will Not Crank Engine	1. Battery dead.	1. Service battery.
	2. Blown fuse.	2. Replace fuse.
	3. Electrical connections loose or corroded.	3. Clean and check connections for good contact.
	4. Defective ignition switch.	4. Contact authorized **SNAPPER** dealer.
Engine Will Not Start	1. Blade engagement switch in the "ON" position.	1. Move blade engagement switch to "OFF".
	2. Park brake not set.	2. Set park brake.
	3. Fuel tank empty.	3. Fill fuel tank with fresh fuel.
	4. Engine needs choking.	4. Move choke control to "CHOKE" position.
	5. Spark plug wire disconnected.	5. Place spark plug wire onto spark plug.
	6. Battery weak or dead.	6. Service battery.
	7. Faulty parking brake, blade or ignition switch.	7. Contact authorized **SNAPPER** dealer.
Engine Stalls After Running	1. Operator not in seat.	1. Sit in operator's seat.
	2. Choke control in the "CHOKE" position.	2. Move choke control to "OFF" position.
	3. Fuel tank empty.	3. Fill with fuel to proper level.
	4. Engine air pre-cleaner and or air cleaner dirty.	4. Clean free of all debris.
	5. Spark plug defective or gap set improperly.	5. Service spark plug.
	6. Fuel filter stopped up.	6. Replace fuel filter.
	7. Water, debris or stale fuel in fuel system.	7. Drain and clean fuel system.
Engine Loses Power	1. Excessive load on engine.	1. Lessen load.
	2. Engine air pre-cleaner or air cleaner dirty.	2. Clean or replace filters.
	3. Engine oil level low.	3. Fill with engine oil to proper level.
	4. Engine cooling fins & air intake screen excessively dirty.	4. Clean cooling fins, air intake screen of all debris.
	5. Spark plug faulty.	5. Service spark plug.
	6. Water, debris or stale fuel in fuel system.	6. Drain and clean fuel system.
Engine Backfires When Turned To "STOP"	1. Throttle control set too "FAST".	1. Set throttle control to "SLOW" and allow engine to idle. Then, turn key to "OFF".
Excessive Vibration	1. Damaged or bent mower blades.	1. Service mower blade(s).
	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.

(Trouble Shooting Continued on Next Page)

PRIMARY MAINTENANCE

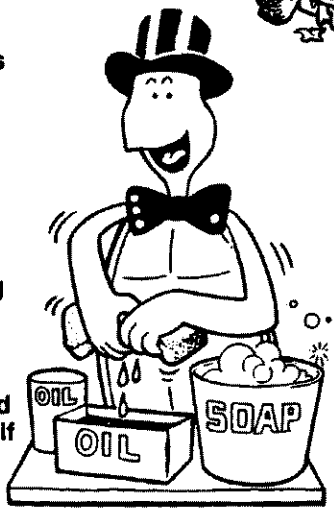


Generally, wash foam-type filters in a dishwashing detergent and water solution. Rinse and wring dry, then saturate with oil and squeeze out excess. *Failure to re-oil this type filter will ruin the engine.*

Clean paper elements by tapping lightly. Blowing with air will rupture paper elements.

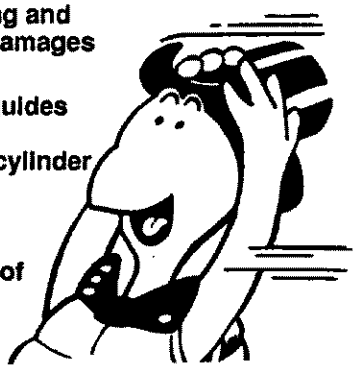
Use a flashlight to detect clogged or torn paper elements - replace if damaged in any way.

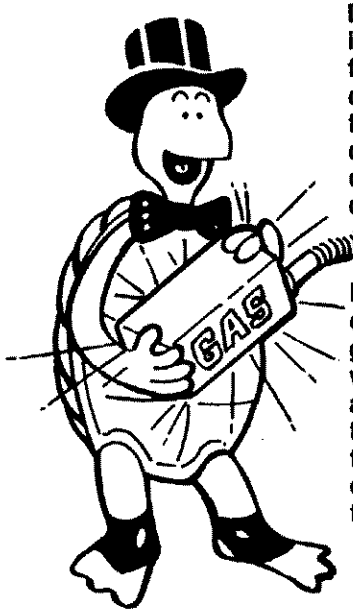
Air is also needed to keep your engine cool. Dirt, dust & debris build up to restrict and clog cooling air intake screens and fins. Clean screens and fins at frequent intervals. The engine blower housing and shrouds should be removed at least once each season or more often under dry, dusty conditions for a thorough cleaning of fins.



Failure to keep external surfaces clean not only presents fire hazards, but causes overheating and resulting engine damages such as:

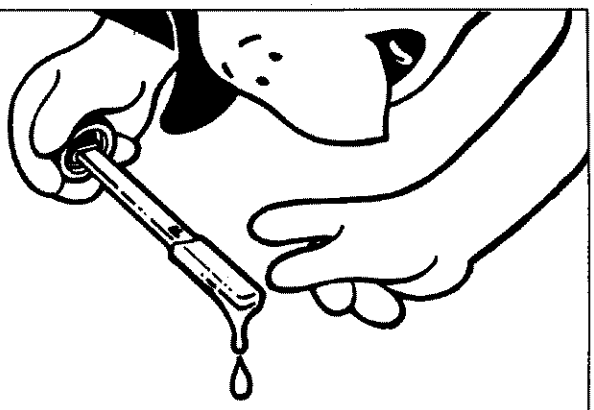
1. distorted valve guides
2. sticking valves
3. scuffed, scored cylinder walls
4. overspeeding
5. loss of power
6. complete failure of engine.





Dirt can also be introduced into an engine in dirty fuel from a contaminated container. Always use clean fresh fuel from a clean container to guard against dirt, sludge and water contamination.

Be aware that fuel breaks down in storage and forms gummy compounds which will block carburetor passages. Never use fuel more than 3 months old. Drain tank then run the engine out of fuel before storing during the off-season.



An engine must also have proper lubrication. All engines use some oil. On 4-cycle engines, CHECK OIL LEVEL BEFORE EACH START-UP. Wipe area clean around the oil check plug or dipstick opening to keep dirt from falling into the engine when checking the oil. Always check with the machine on a level surface. On engines with dipstick, keep the level up to, but not over, the FULL mark. When adding oil, allow time for all of the oil to flow down the fill tube to prevent a false full reading when the level could actually be low and result in engine damage.

Safety Instructions & Operator's Manual for

SNAPPER®

MID MOUNT Z-RIDER ZERO TURNING HYDRO DRIVE SERIES 1

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.

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