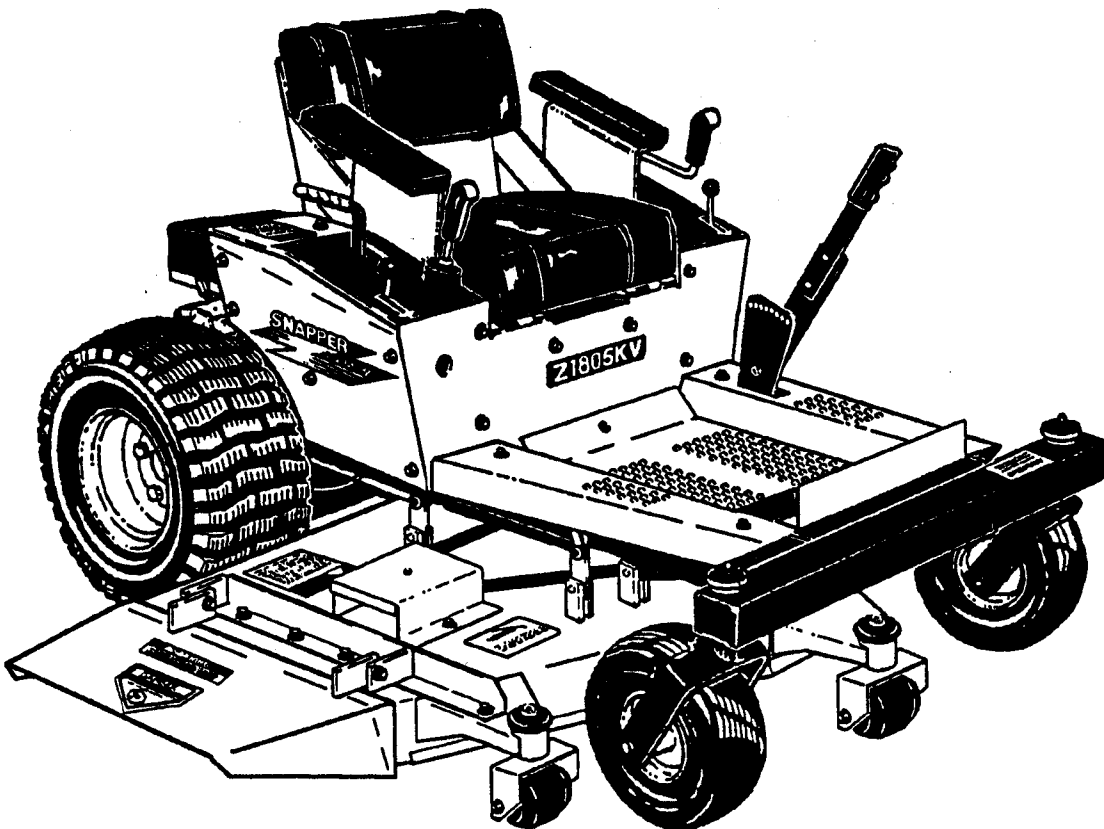


Safety Instructions & Operators Manual

SNAPPER®

ZERO TURN RADIUS MOWER

MODELS Z1805KV, Z2205KV



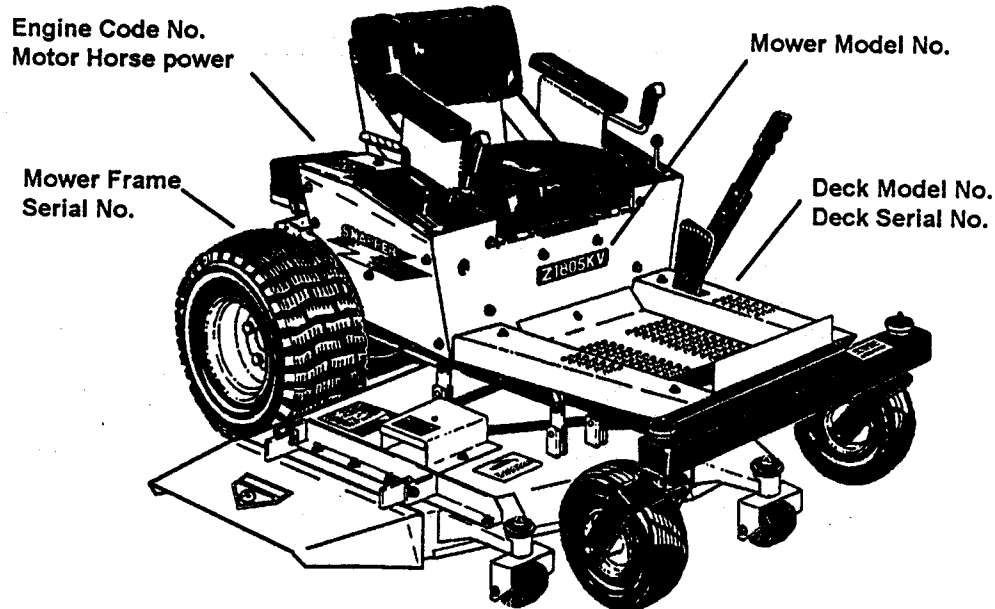
Thank you for buying a **SNAPPER** product. Your **SNAPPER** Zero Tuning Radius Mower was designed and built to provide long and satisfactory service. Keep in mind that it, like any other mechanical device, can be potentially dangerous if used improperly and no accident prevention program can be successful without the wholehearted co-operation of the person responsible for the operation of the equipment. Study this manual and pay particular attention to the important Safety Precautions on pages 1-3. Following these instructions will help you continue to enjoy the trouble free performance expected of a **SNAPPER** product.

SNAPPER POWER EQUIPMENT
McDonough, GA 30253

MANUAL #62505
(I/R 8/95)
P-11077

SERIAL NUMBER LOCATIONS

1. Mower frame serial number is located on right rear side of frame beside engine.
2. Deck serial number is located on left front side of mower deck housing
3. Engine code number is located on the front left of blower housing on 18 and 22 h.p. engines.



RECORD OF PURCHASE

DATE PURCHASED _____ MOWER MODEL _____

MOWER PURCHASED FROM _____
Dealer name and phone number

MOWER FRAME SERIAL NUMBER _____

MOWER DECK SERIAL NUMBER _____

ENGINE CODE NUMBER _____

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SAFETY

ACCIDENT PATTERNS TO AVOID

- I. **CONTACT WITH THE ROTATING BLADE** – This accident usually happens when the operator is clearing the discharge chute of grass, (especially when the grass is wet), or when the operator adjusts the machine without turning it off and waiting for the blades to completely stop
- II. **PROPELLED OBJECTS** – Sticks, rocks, wires, and other objects can be propelled out through the discharge chute or from under the mower housing. Bystanders are particularly vulnerable.
- III. **GRASS CATCHER OR GUARD** – The mower shall not be operated without either the entire grass catcher or guard in place.
- IV. **OVERTURNING** – This happens when riding mowers are used on steep slopes, embankments or hills. The operator in these cases can come in contact with the blades or sustain injuries during a fall.
- V. **MOWER RUNNING OVER THE VICTIM** – This usually happens when a riding mower is driven in reverse. The accident victims are most often young children whom, unseen by the operator of the mower, were in the area being mowed.


AT **SNAPPER**, WE SHARE YOUR DESIRE TO PROTECT YOURSELF, YOUR FAMILY, YOUR FRIENDS AND YOUR NEIGHBORS FROM ACCIDENTAL INJURY. OBSERVING AND ENFORCING THE FOLLOWING GUIDELINES WILL HELP TO INSURE THE SAFETY OF EVERYONE.

PLEASE BE CAREFUL!

SAFETY INSTRUCTIONS AND RECOMMENDATIONS

1. **PEOPLE WHO OPERATE, SERVICE, OR ARE OTHERWISE ASSOCIATED** with the **Snapper** Zero Turning Radius Mower should be trained in its proper use and warned of its dangers. Before operating, adjusting, or servicing the **Snapper** Zero Turning Radius Mower they should read and understand this entire manual and the owner's engine manual.
2. **AVOID CONTACT WITH MOVING PARTS.** Keep hands and feet from under mowing deck and away from blades at all times. Turn engine (motor) off if you must unclog the chute.
3. **AVOID HILLS AND SLOPES.** Use extreme caution when mowing up or down slopes. **NEVER** mow across the face of a slope. If a slope must be ascended, back up the slope; drive forward when descending. Reduce speed and use caution to start, stop and maneuver. To prevent loss of control on a slope avoid sharp turns, sudden changes in direction, and sudden stops and starts.
4. **DISENGAGE POWER TO MOWER BEFORE BACKING UP.** Do not mow in reverse unless **ABSOLUTELY** necessary and then only after turning around and observing the entire area behind the mower. Go slowly. Most "running over victim" accidents occur in reverse.

5. **BEGINNING OPERATORS SHOULD LEARN HOW TO STEER** the *Snapper* Zero Turning Radius Mower before attempting to mow. Start with slow engine speed and drive without the blades engaged in an open area until comfortable with the machine.
6. **KNOW HOW TO STOP QUICKLY.** Know the location and operation of every control, especially how to brake and how to disengage the mower blades.
7. **DO NOT MOVE JOYSTICK CONTROL LEVER** from forward position to reverse position rapidly. The speed and/or direction of travel is affected instantly by movement of the Joystick.
8. **DO NOT ALLOW CHILDREN TO OPERATE MOWER.** Do not allow others who have not had instruction to operate mower.
9. **ALWAYS TURN ENGINE OFF AND REMOVE KEY** before leaving the mower to prevent children and inexperienced operators from starting the engine. Never leave the mower unattended with engine running. Always wait for all moving parts and all sounds to stop before leaving operator's seat.
10. **WEAR STURDY, ROUGH-SOLED WORK SHOES AND CLOSE-FITTING SLACKS AND SHIRTS.** Never operate mower in bare feet, sandals or sneakers.
11. **NEVER CARRY PASSENGERS.**
12. **KNOW THE AREA YOU ARE TO MOW.** Watch for hidden danger such as rocks, roots, sticks, holes, bumps, and drop-offs, etc. Before mowing, pick up all debris in area to be mowed. Sharp and hard objects can be propelled at a high speed and can act like shrapnel. Walk through tall grass **BEFORE MOWING** to make sure there are no hidden danger. Mow higher than desired in tall grass to expose any hidden objects and/or obstacles, clean the area, and then mow to the desired height.
13. **NEVER REFUEL A MOWER INDOORS.** Allow the engine time to cool before refueling. Unseen vapors may be ignited by a spark. Always clean up spilled gasoline. Never run the engine indoors in a garage or any other closed building. Allow engine to cool before storing in any enclosure. The engine exhaust and gasoline fumes are dangerous.
14. **NEVER REMOVE THE FUEL CAP** or add gasoline to a running or hot engine that has not been allowed to cool for several minutes after running. Always make sure the gas cap is in place.
15. **DO NOT SMOKE AROUND THE MOWER** or the gasoline storage container. Gasoline fumes can easily ignite.
16. **KEEP GASOLINE IN A WELL-VENTILATED AREA** away from your living quarters and in tightly-capped safety cans. Never store mower with gasoline in the tank inside a building where fumes may reach open flame or spark.
17. **DISENGAGE BLADES, STOP ENGINE AND REMOVE IGNITION KEY** before any servicing. Be sure all moving parts and all sounds have stopped. Let engine cool and disconnect the spark plugs so the engine cannot start by accident. A **SLIGHT ROTATION OF THE BLADES SHOULD START THE ENGINE.**
18. **KEEP ALL NUTS, BOLTS, AND SCREWS TIGHT** to be sure equipment is in safe working condition, especially blade mounting bolts.

- 
19. **VEHICLE SHOULD BE STOPPED AND INSPECTED FOR DAMAGE** after striking a foreign object and the damage should be repaired before restarting and operating the equipment. Stop immediately and check for damage or loose parts if mower should start vibrating.
 20. **DISENGAGE BLADES BEFORE DRIVING ACROSS WALKS** or projecting objects.
 21. **KEEP SAFETY DEVICES AND GUARDS IN PLACE.** If any of the safety switches become inoperable, have then repaired immediately.
 22. **DO NOT STEP OR STAND ON THE MOWER HOUSING.** Step or stand only on the foot deck.
 23. **WATCH OUT FOR TRAFFIC** near roadways and when crossing roads.
 24. **THIS MACHINE IS NOT MEANT FOR HIGHWAY OR STREET USE.** It is not a recreational vehicle and it should not be operated as such.
 25. **DO NOT USE MOWER WHEN GRASS IS WET OR SLIPPERY.**
 26. **MOW ONLY DURING DAYLIGHT.**
 27. **ALWAYS DISENGAGE THE MOWER BLADE CLUTCH** when transporting.

SAFETY INTERLOCK SYSTEM



Your **Snapper** Zero Turning Radius Mower is equipped with switches interlocked for your safety.

1. The mower blades must be disengaged before engine will start.
2. The Joystick control lever must be in neutral "DOWN" position before the engine will start.
3. The engine will stop if the mower blade clutch is engaged when the operator leaves the driver's seat.
4. The engine will stop if the Joystick control lever is not in the neutral "DOWN" position when the operator leaves the driver's seat.
5. The engine will stop if the brake is "SET" and the Joystick control lever is moved to the "UP" position.
6. The engine will stop if the brake is "SET" and the mower blade clutch is engaged.

<p>DO NOT OPERATE MOWER IF SAFETY SWITCHES ARE NOT OPERATING PROPERLY</p>
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START UP AND OPERATION

CHECKLIST BEFORE OPERATION

1. Make sure fuel tank is full. Use regular unleaded gasoline (see engine owner's manual for more details).



WARNING



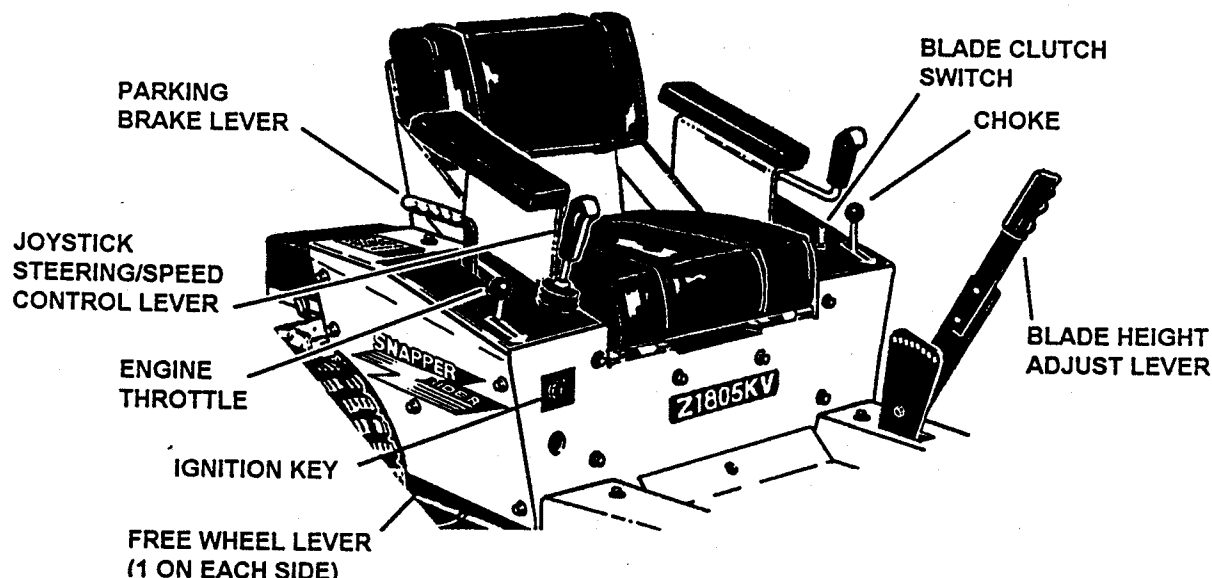
**HANDLE GASOLINE WITH CARE – IT IS HIGHLY FLAMMABLE.
DO NOT SMOKE. ENGINE SHOULD BE OFF AND COOL.
USE APPROVED GAS CONTAINER. NEVER FILL TANK INDOORS.
WIPE UP ANY SPILLS. REPLACE CAP TIGHTLY.**

2. Make sure dirt and foreign matter is kept out of gas tank. Use a clean funnel and gas can.
3. Do not mix oil with gasoline.
4. Do not use white, high test or premium gasoline. Do not use de-icers, carburetor cleaners, or other such additives.
5. Check the crankcase oil level. Make sure the engine is off. The mower should be parked on a level area. Do not overfill. (See your engine manual for more detailed instruction.)
6. Check the hydrostatic transmission oil level. (See "Maintenance" section of this manual.)
7. Check battery fluid level.
8. Inspect V-belts.
9. Check tire pressure:

	Front tires		Rear tires
Models Z1805KV, Z2205KV -----	16 psi	-----	16 psi
10. Make sure underside of mower deck is free of grass.
11. Make sure mower blades are sharp and secured tightly.
12. Clean the air intake screen on the engine if necessary.
13. Perform any other maintenance as it becomes necessary. (See the "Maintenance" section of this manual.)

IMPORTANT: Before cutting grass, clutch must be broken-in as follows: With engine at full RPM engage deck until blades come to full speed and then disengage until blades come to a complete stop. Repeat 10 times to seat clutch properly.

CONTROL LOCATIONS



WARNING



AVOID INHALING EXHAUST FUMES – CARBON MONOXIDE GAS IS COLORLESS AND ODORLESS, AND CAN CAUSE UNCONSCIOUSNESS, AND IS POTENTIALLY LETHAL. DO NOT RUN LAWN MOWER IN GARAGE OR OTHER CONFINED AREA.

OPERATION

1. MOVE JOYSTICK CONTROL LEVER TO neutral "DOWN" position by centering it and pushing down.
2. SET PARKING BRAKE. Pull rearward to set.
3. DISENGAGE MOWER BLADE CLUTCH by moving clutch switch to "OFF" position.
4. SET ENGINE CHOKE CONTROL for cold starts to full position.
5. SET ENGINE THROTTLE TO 1/2 THROTTLE.
6. TURN IGNITION KEY to "START" position and release to "RUN" as soon as engine starts. NOTE: Prolonged cranking will damage starter motor and shorten the battery life.
7. ADJUST ENGINE THROTTLE AND CHOKE for desired engine smoothness and speed. NOTE: When mowing, always run engine at full throttle.
8. RELEASE PARKING BRAKE. Push brake lever forward to release.

IMPORTANT: If the operator is inexperienced with the Joystick zero turning steering/speed control, he/she should follow these recommendations: Disengage the mower blades. Go very slowly until thoroughly familiar with the machine. Keep away from fences, buildings, and other obstructions. While becoming familiar with the machine, move the Joystick Control Lever smoothly and slowly. Practice until operation is smooth and efficient.

9. **TO DRIVE:** Move the Joystick steering/speed control lever to the "UP" position. Move the Joystick forward to move forward. Increasing forward movement of the Joystick will increase the speed of travel. To reverse the direction, pull the Joystick slightly back. To turn, move the Joystick toward the direction you want to turn. To turn on a zero radius axis, go slowly and move the Joystick to the side you wish to turn and slightly to the rearward at the same time.



CAUTION



FOR SMOOTH, SAFE OPERATION, MOVE THE JOYSTICK IN A GENTLE, SLOW MOTION. NEVER PULL OR PUSH THE JOYSTICK RAPIDLY, ESPECIALLY ON GRADES.

10. **BRAKING:** To brake mower, gently move the Joystick in the direction opposite to travel. If the parking brake is engaged with the Joystick in the "UP" position the engine will stop.
11. **CUTTING HEIGHT ADJUSTMENT:** Move the Cut Height Lever to the left to clear the peg holes. Adjust "HIGHER" by moving the lever rearwards. Adjust "LOWER" by pushing the lever forward. Reset the Cut Height Lever in the peg hole.
12. **ENGAGE MOWER BLADE CLUTCH:** Set the Blade Clutch Switch to the "ON" position. The engine will not start if the blade clutch is engaged. If the operator is not in the seat, the engine will stop if the clutch is engaged.



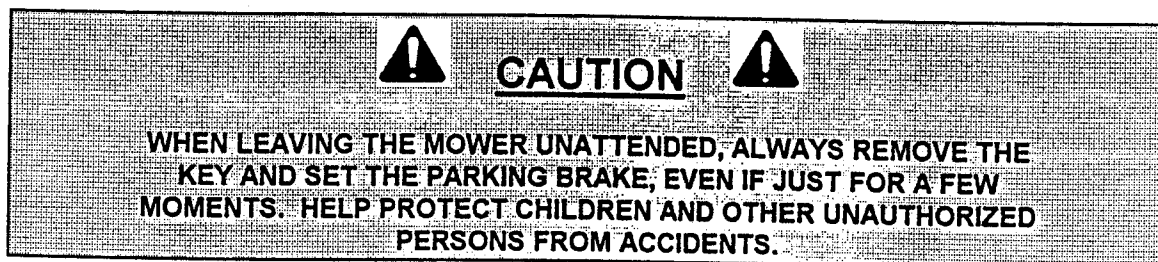
CAUTION



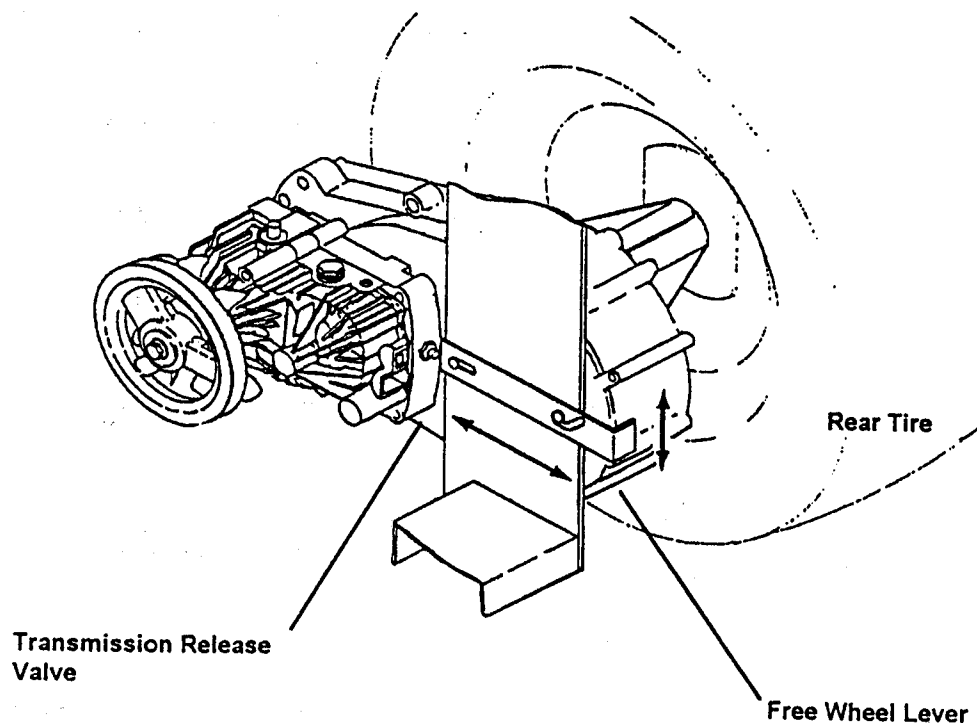
AVOID HILL AND SLOPES. USE EXTREME CAUTION WHEN MOWING UP OR DOWN SLOPES. NEVER MOW ACROSS THE FACE OF A SLOPE. IF A SLOPE MUST BE ASCENDED, BACK UP THE SLOPE; DRIVE FORWARD WHEN DESCENDING.

13. TO STOP:

- A. Move Joystick to neutral position and then to the "DOWN" position.
- B. Set the parking brake.
- C. Disengage the mower blade clutch by moving the clutch to the "OFF" position.
- D. Slow engine speed with throttle to slowest position.
- E. Turn ignition key to "OFF" (left) position.
- F. Remove the key and wait for all movement and all sound to cease before dismounting.



14. TO FREE WHEEL MACHINE: UNLOCK TRANSMISSION: The transmission release levers are located on each side of the mower behind the seat in front of the engine and below the engine mounting plate. Lift the levers slightly, push them to the rear and down to release the transmissions for free wheeling. To engage the transmissions lift the levers slightly, pull them forward and then down. NOTE: The tractor should never be pulled at more than 2 miles per hour or for any appreciable distance.



MOWING RECOMMENDATIONS

1. Keep mower blades sharp.
2. Make sure deck and discharge are clean.



CAUTION



**POWER MUST BE OFF TO CLEAN DISCHARGE CHUTE.
TURN ENGINE OFF AND WAIT FOR ALL MOVING PARTS TO STOP.**

3. When mowing tall grass, make two passes, mowing off 1/2 of the desired cut on the first pass, and then the desired height the second pass. Check for hidden dangers first.
4. Go slowly for trimming.
5. Always cut grass with the engine at full throttle speed. This "ENGINE" speed allows the cutting blades to operate at optimum cutting speed. Control "GROUND" speed with the Joystick.
6. Vary ground speed to suit conditions (i.e. go slower in tall thick grass, on hills, wet conditions, ect.).

TRACTOR SPECIFICATIONS

Length

Models Z1805KV, Z2205KV ----- 74"

Width

Models Z1805KV, Z2205KV ----- 46"

Height

Models Z1805KV, Z2205KV ----- 42"

Weight

Models Z1805KV, Z2205KV ----- Approx. 650 lbs.

Fuel Tank

Models Z1805KV, Z2205KV ----- Approx. 5 gallons

Hydrostats

Models Z1805KV, Z2205KV ----- (2) Hydro-Gear
BDU-10L

Engine

Models Z1805KV -----18 h.p. Kohler Command
Models Z2205KV -----22 h.p. Kohler Command

Engine to Hydrostat belt (Kevlar)

Models Z1805KV, Z2205KV ----- P/N 62465

Tires

	Front	Rear
Models Z1805KV, Z2205KV -----	13-6.00 X 5	20-10.00 X 10

DECK SPECIFICATIONS

	----- Decks -----				
Models -----	Z4202M	Z4802M	Z4804M	Z6002M	Z6004M
Cutting Width	42"	48"	48"	60"	60"
Cutting Height	----- 1.75" to 4" -----				
Blades	(3) 15"	(----- (3) 17" -----)	(----- (3) 21" -----)		
Overall width including chute	53"	(----- 59" -----)	(----- 75" -----)		
Engine to mower					
Deck Belt P/N	79779	79779	79779	79781	79781
Mower deck Belt P/N	79778	79777	79777	79186	79186
Mat'l. Thickness	14 GA.	(----- 12 GA. -----)			
Reinforcement Plate	(----- 3/16" -----)				
Spindle bearings	(----- 25mm -----)				
Fits tractors	(----- Z1805KV, Z2205KV -----)				

NOTE: Tractors should be matched to deck to insure sufficient power is available for the intended usage.

MAINTENANCE



CAUTION



**BEFORE PERFORMING ANY MAINTENANCE, TURN OFF ENGINE
REMOVE KEY AND DISCONNECT SPARK PLUGS. USE EXTREME
CARE WHEN WORKING ON MACHINERY. DO NOT WEAR WATCHES
OR JEWELRY. DO NOT WEAR LOOSE FITTING CLOTHES, AND
OBSERVE ALL COMMON SAFETY PRACTICES WITH TOOLS.**

MAINTENANCE SCHEDULE

SERVICE	WHEN
Check crankcase oil level	before each use
Clean grass from Hydrostat fans and cooling fans	before each use
Check air intake screen	after each use
Clean grass under deck	after each use
Check tire pressure	every 10 hours
Check battery fluid	every 10 hours
Sharpen mower blades	every 10 hours
Clean air filter element	every 10 hours
Check Hydrostatic transmission fluid	every 25 hours
Change Hydrostat oil and oil filter	every 500 hours (100 hours break-in)
Check adjustment of P.T.O. clutch	every 50 hours (or if blades do not stop within 7 seconds from switch disengagement)
Check drive belts	every 50 hours 3 on Z1805KV, Z2205KV (20 hours break-in)
Change engine crankcase oil and filter	see engine owners manual
Replace air filter element	annually or 500 hours
Check spark plugs	annually or 500 hours
Service battery	annually or 500 hours

Replace decals when illegible. Write factory for free replacement.

MAINTENANCE INSTRUCTIONS

1. ENGINE:

For complete maintenance and operating information for your engine, please refer to your engine operating and maintenance instructions furnished by the engine manufacturer and included in your **Snapper** Zero Turning Radius Mower information packet.

NOTE: Air intake screen must be kept clean. If plugged, engine may be seriously damaged by over heating.

2. BATTERY:



CAUTION



BATTERY ELECTROLYTE IS A POISONOUS AND CORROSIVE SULFURIC ACID SOLUTION. AVOID SPILLING ON SKIN, EYES, AND CLOTHING.

Keep the electrolyte level above the plates in each cell by adding distilled water as it becomes necessary. Add water just before operating the mower to mix the water with the solution. Be careful not to overfill the battery -- the electrolyte solution is corrosive and can cause damage to surrounding metal parts if it should spill. When taking the battery out of the mower for servicing, make sure to connect the cables to the battery exactly as they were prior to removal. Always disconnect the ground (-) wire first and always reconnect the ground (-) wire last.

Keep the battery clean. Remove the corrosion around the battery terminals by applying a solution of one part baking soda to four parts water. Coat all exposed terminal surfaces with a light layer of grease or petroleum jelly to prevent corrosion.

NOTE: At temperatures below 32 degrees F (0 deg C) the full charge state must be maintained to prevent cell electrolyte from freezing and causing permanent battery damage.

TIRES:

Correct tire pressure is essential for efficient operation of the mower. Check tire pressure as requested in the maintenance schedule.
Inflate tires to the pressures listed below:

Tire Pressure:

Front tires

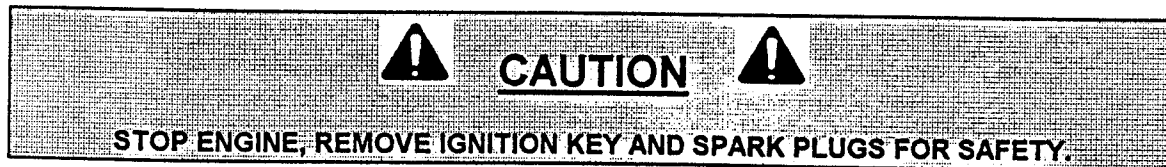
Rear tires

Models Z1805KV, Z2205KV ----- 16 psi ----- 16 psi

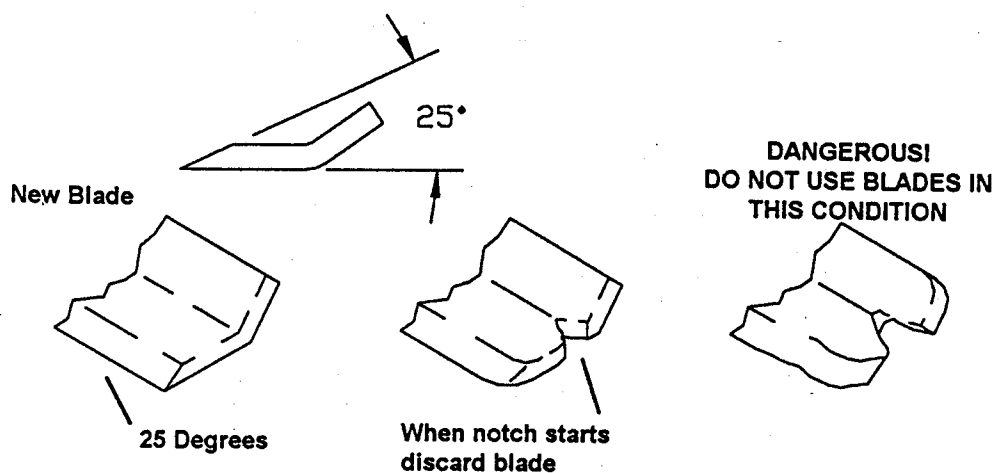
Lug nuts should be checked regularly for tightness.

4. MOWER BLADES:

Check sharpness of mower blades after every 10 hours of operation. To sharpen blades proceed as follows:



- A. Remove bolt, lockwasher, and cup washer mounting blade on shaft. Remove blade.
- B. Blades should be discarded when worn excessively. See sketch.



- C. Sharpen blades with a hand file, electric grinder or blade sharpener. Wear gloves and eye protection when sharpening. Grind blade at original 25 degree bevel.
- D. Check balance of blade by positioning the blade on a nail or blade balance pedestal. Grind the blade on the end that is heavier until both sides balance.
- E. Install blade, cup washer, lockwasher, and bolt. Make sure to tighten bolt to 60 ft.lbs.

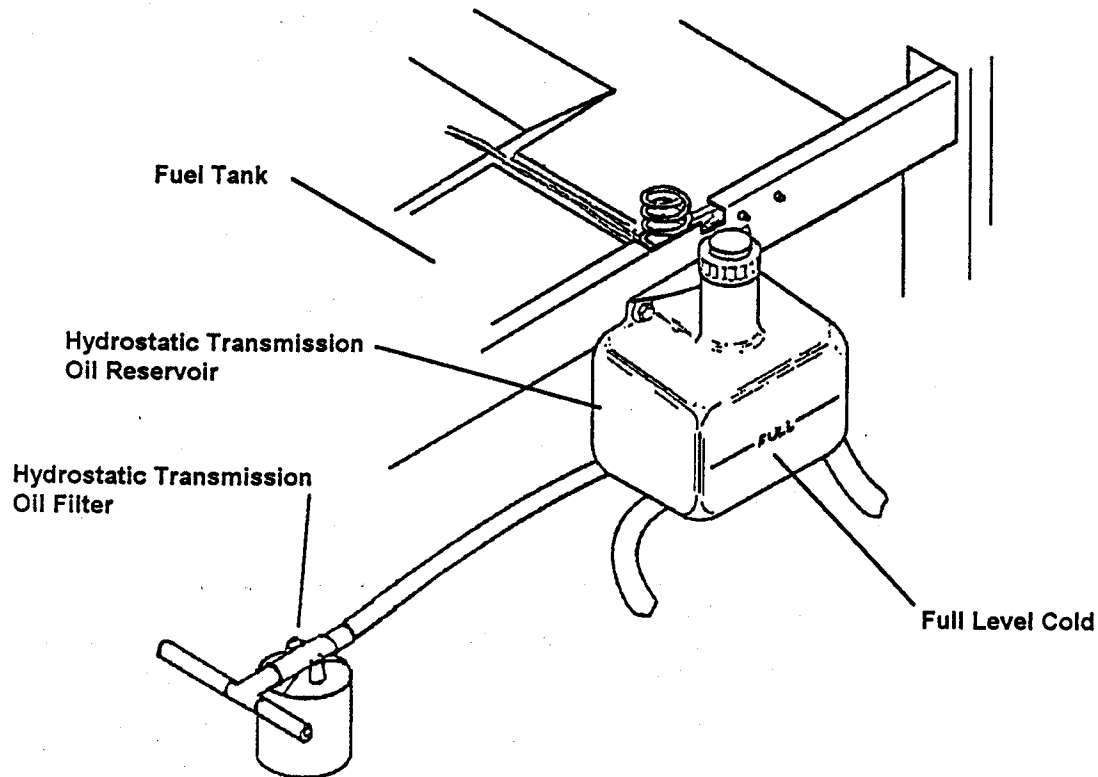
5. V-BELTS:

There are 3 V-belts on your *Snapper* Zero Turning Radius Mower models Z1805KV, Z2205KV. They should be checked every 50 hours. Replace any belts found to be in poor condition. All belts are equipped with spring loaded belt tighteners and do not require tightening adjustments.

6. LUBRICATION:

- A. Engine: Follow engine manufacturer's recommendation.
- B. Deck Spindles: Lubricate with 3 "shots" only, every 100 hours.
- C. Hydrostatic Transmission & Filter: Follow instructions listed below.

**DIRT OR WATER IN OIL CAN RUIN
THE HYDROSTATIC TRANSMISSIONS**



Check the oil level in hydrostat transmission oil reservoir after every 25 hours of usage. Do not remove the reservoir cap to check the oil level as this allows dirt to enter the transmission. Replenish as needed with 20W-50 Motor Oil.

If oil is needed:

- a. Wipe area of oil reservoir cap clean of any dirt or debris.
- b. Remove oil reservoir cap.
- c. Fill to line marked on reservoir. **DO NOT OVER FILL.**
- d. When checking oil level be very careful to keep the reservoir clean and to fill only with clean oil.

Change the oil in the reservoir and hydrostat transmission filter after the first 100 hours of use. Then every 500 hours after that. Remove the filter and be sure all oil has drained from the reservoir. Replace with new filter (P/N 62294) and 20W-50 Motor Oil.

7. JOYSTICK NEUTRAL ADJUSTMENT:

With the engine running, if the machine travels in either direction when the Joystick is in the neutral "DOWN" position, stop the engine, elevate the rear wheels clear of the ground and adjust as follows:

- a. Remove the right hand fender skirt exposing the Joystick assembly.
- b. Start the engine.

Large Adjustments:

- c. Remove the cross bolt, nut and spacers.
- d. Loosen the turnbuckle nut and adjust turnbuckle until the cross bolt and spacer can be reinstalled without the wheels turning. NOTE: The outside cable controls the right wheel and the inside cable controls the left wheel.

Fine Adjustments:

- f. Adjust the cable mounting nuts up or down on the cable until the wheels stop turning.
- g. Stop the engine and reassemble the fender skirt.

8. JOYSTICK DETENT ADJUSTMENT:

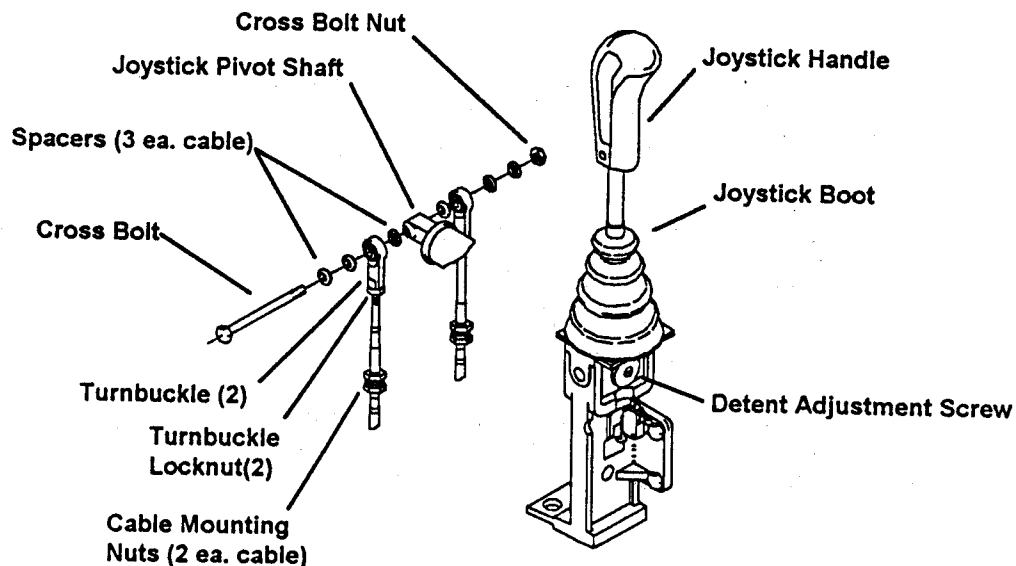
If the Joystick does not lock in the "UP" position, turn the detent adjustment screw clockwise until a desirable locking action is obtained. If the Joystick is hard to slide up and down, turn the detent adjustment screw counter-clockwise until a desirable sliding action is obtained.

9. JOYSTICK SENSITIVITY ADJUSTMENT:

To change the sideways turning response adjust as follows:

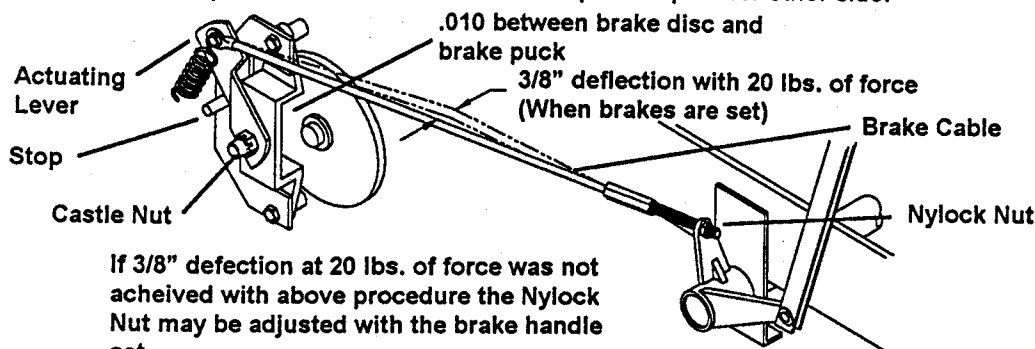
- a. Remove the right hand fender skirt exposing Joystick assembly.
- b. Remove the cross bolt, nut, and spacers.
- c. Reassemble spacers as desired. (2) spacers between the turnbuckle and joystick pivot shaft quicken the response, (1) slows the response.

NOTE: It is important that there is a spacer on each side of the turnbuckles to prevent damage to the turnbuckles or cables.



10. PARKING BRAKE ADJUSTMENT:

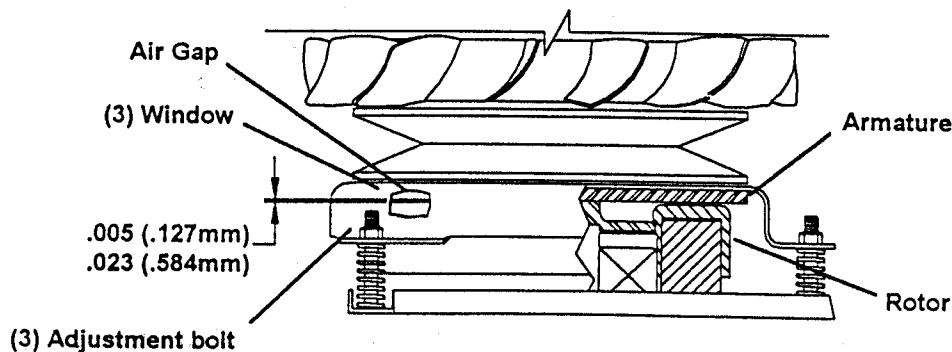
With the brake handle in the "RELEASE" position and the actuating lever against the stop. Remove the cotter pin from the castle nut. Insert a 0.010 feeler gauge between the brake disc and the brake puck. Tighten the castle nut with the feeler gauge inserted until the gauge fits snugly between the disc and puck. The gap should not be so tight that the feeler gauge cannot be reinserted after removal. Back the castle nut to the closest pin hole and reinsert the cotter pin. Repeat for other side.



11. ELECTRIC P.T.O. CLUTCH ADJUSTMENT:

Readjustment of the air gap between the friction surfaces to compensate for the wear that has taken place.

- Elevate rear of tractor and locate electric clutch on motor shaft.
- Locate the three windows in the brake plate, one near each adjustment nut.
- Insert a 0.012 inch (.305mm) feeler gauge into one of the three windows. Be careful to position the feeler gauge between the rotor and armature faces. (See illustration)
- Tighten the adjusting nut adjacent to the window with the feeler gauge inserted until the gauge fits snugly between the rotor and armature. The air gap should not be so tight that the feeler gauge cannot be reinserted after removal. Repeat steps c and d at the other two windows.
- Recheck the air gap at each window and make minor adjustments as necessary to achieve a consistent 0.012 inch (.305mm) air gap.
- Remove the feeler gauge and rotate the rotor by hand, checking for rotor/armature drag. The rotor should rotate freely with no sound of drag. If rotor/armature drag is present, repeat steps b thru e.
- After rotating the rotor, verify the air gap by rechecking it with feeler gauges. The air gap should fall between 0.005 (.127mm) and 0.023 (.584mm). This change in air gap after rotating the rotor is normal. If the air gap does not fall with tolerance, repeat procedure.



HYDROSTATIC TRANSMISSION:

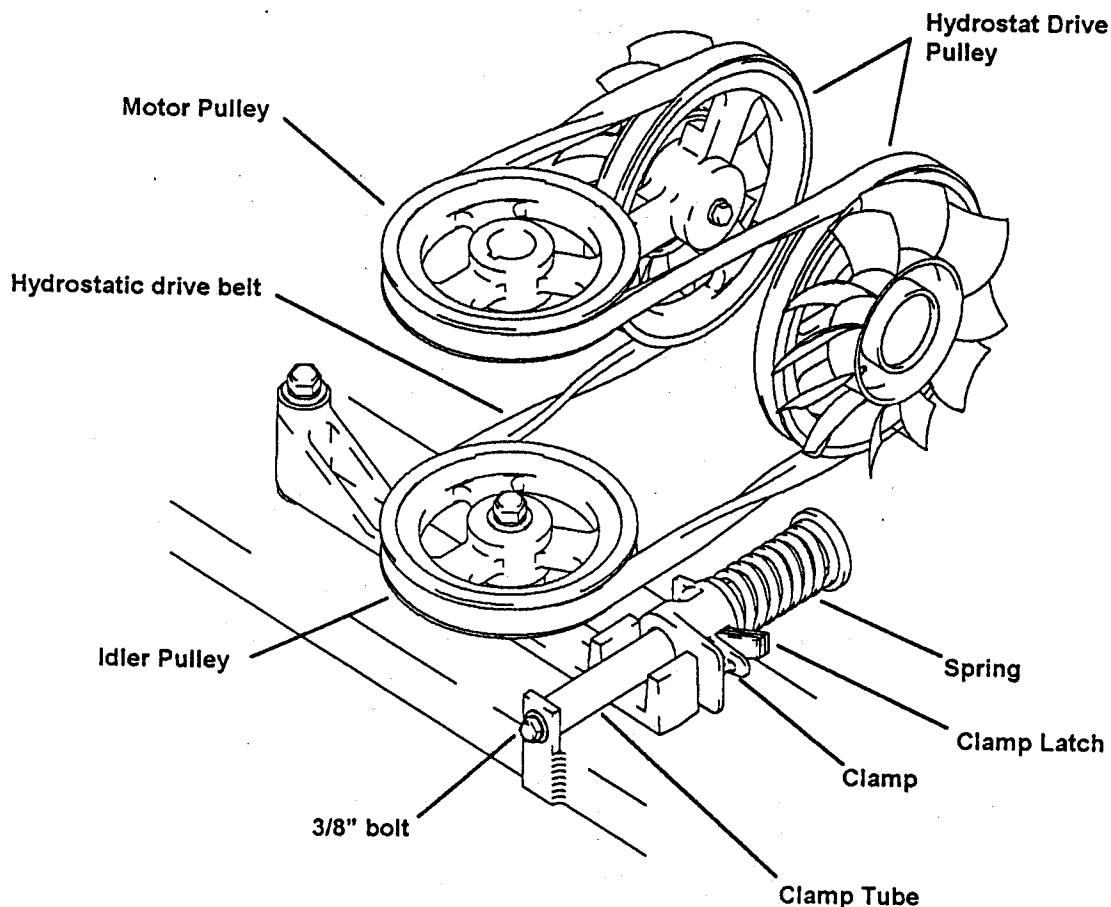
Before each use, check to be sure that the cooling fins of the hydrostatic transmissions are clean. Excessive accumulation of oil, dirt, or trash may cause the transmissions to overheat. **NEVER WASH ACROSS TOP OF RESERVOIR** with water or steam. Fill reservoir as required per the maintenance schedule listed in this book.

13. HYDROSTAT DRIVE BELT REPLACEMENT PROCEDURE:

The hydrostat drive is equipped with an automatic, anti-backlash belt take-up

- a. Loosen the 3/8" bolt at the front of the assembly until the tension is off the spring.
- b. Squeeze clamp latch and slide the clamp back toward the rear of the tractor, to the edge of the tube it slides on.
- c. Remove old belt if required. Replace with new belt.
- d. With the clamp slid all the way back to the edge of the tube, retighten the 3/8" bolt completely.

NOTE: Over tensioning and damage to the belt will occur if the clamp is not slid back to the back of the clamp tube.



14. ANTI-SCALPER ROLLER BOLTS:

Scalper roller bolts should be tightened until the spacer bushing will not turn relative to the scalper bracket to prevent undue wear on the end of the spacer bushing and the scalper bracket. The proper torque is 20 ft.lbs.

TROUBLE SHOOTING CHECK LIST

1. **ENGINE WON'T TURN OVER:**
 - Mower blades engaged ----- disengage blades
 - Drive not in neutral ----- move Joystick to neutral "DOWN" position
 - Blown fuse ----- replace fuse
 - Dead battery ----- charge or replace
 - Solenoid ----- consult dealer
 - Ignition switch ----- consult dealer
 - Starter ----- consult dealer

2. **ENGINE WILL TURN OVER BUT WON'T START:**
 - No gas ----- refuel
 - clean or replace fuel filters
 - Over or under choked ----- adjust choke
 - Spark plug not firing ----- check spark plug
 - condition and reset gap*
 - Carburetor maladjustment ----- reset carburetor adjustment*
 - Ignition switch ----- consult dealer

3. **HARD TO START ENGINE:**
 - Fuel line clogged ----- clean fuel line and check fuel filter
 - Faulty fuel pump ----- consult dealer
 - Spark plug wire loose or grounded ----- check spark plug wires
 - Spark plug(s) faulty or improperly gapped ----- check spark plug
 - condition and reset gap*
 - Electronic Ignition defective ----- consult dealer
 - Dirty or maladjusted carburetor ----- readjust carburetor*
 - consult dealer for carburetor service

4. **ENGINE STARTS BUT CUTS OUT:**
 - Water in gasoline ----- drain old gasoline and replace with new gasoline
 - clean carburetor bowl
 - Clogged fuel line ----- check fuel filter
 - clean fuel line
 - Vent in fuel cap plugged ----- check vent
 - Faulty fuel pump ----- consult dealer
 - Maladjusted carburetor ----- readjust carburetor*
 - Engine dies when raising Joystick ----- parking brake set
 - release brake

5. **ENGINE KNOCKS:**
 - Low oil level ----- check and add oil
 - Ignition timing off ----- consult dealer
 - fuel octane too low ----- drain and replace with
 - higher octane gasoline
 - Over heated engine ----- shut off engine and allow to cool

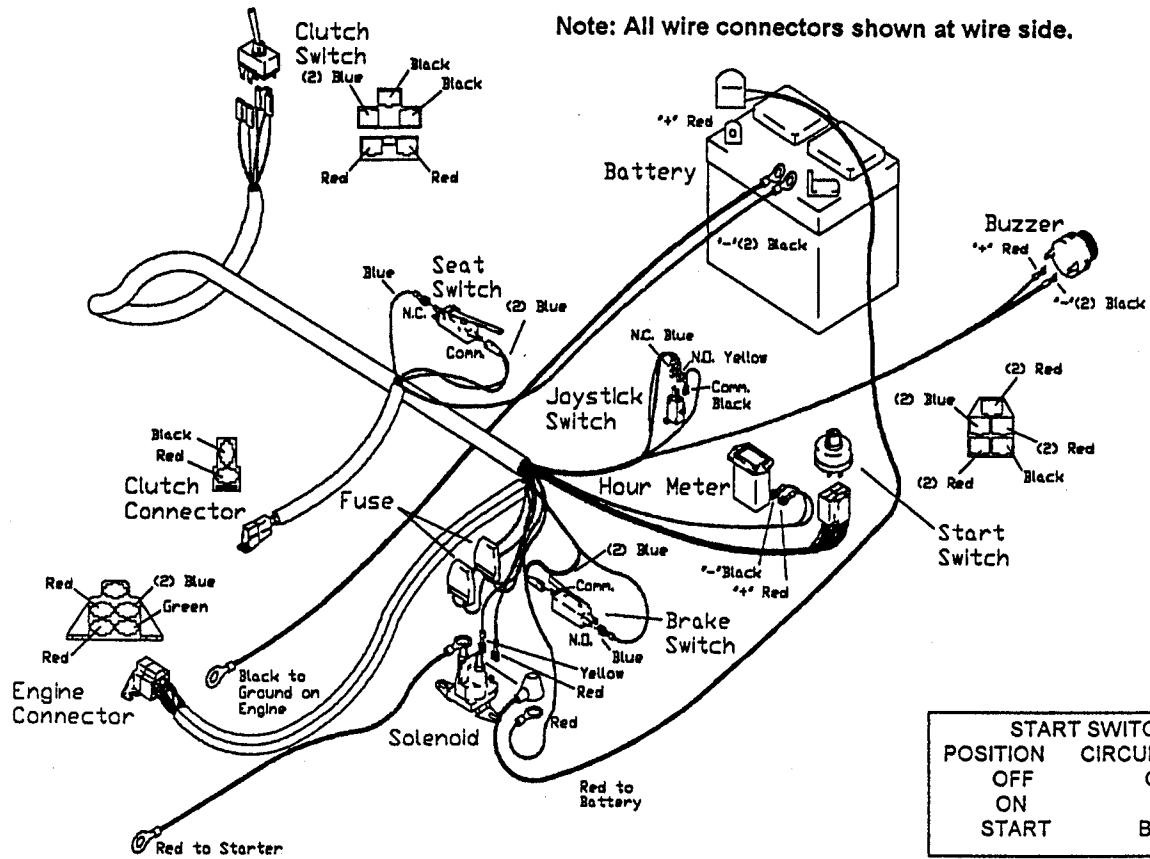
* See engine manual for engine adjustments.

6. **ENGINE SOMETIMES SKIPS AT HIGHER SPEEDS:**
 Incorrect Ignition Timing ----- consult dealer
 Carburetor maladjusted ----- readjust carburetor
 Faulty spark plugs ----- check spark plug
 ----- condition and reset gap*
 Bouncing off seat safety switch ----- slow down on rough terrain
7. **ENGINE OVER HEATED:**
 Air intake screen or fins clogged ----- clean intake screen and fins
 Fuel mixture too lean ----- readjust carburetor*
 Oil level too low or too high ----- adjust oil level
 Improper ignition timing ----- consult dealer
 Running engine too slow ----- run engine faster
 (NOTE: Always mow at full throttle setting.)
8. **ENGINE IDLES POORLY:**
 Carburetor maladjustment ----- readjust carburetor
 Improper spark plug gap ----- check and re-gap plug*
9. **ENGINE BACKFIRES:**
 Carburetor maladjustment ----- readjust carburetor*
10. **ENGINE RUNS BUT MOWER WON'T MOVE FORWARD:**
 Drive belt broken or slipping ----- replace drive belt
 Shift linkage cable disconnected ----- reconnect
 Transmission shift arm disconnected ----- reconnect
 Transmission oil low ----- add oil
 Transmission locks in free wheel position ----- put in lock position (see pg. 7)
 Hydrostat oil filter plugged ----- replace filter
 Bad transmission ----- consult dealer
 Gear mating transmission/gearbox disconnected ----- consult dealer
11. **MOWER LOSES POWER OR TRANSMISSIONS OVER HEATS:**
 Hydrostat transmission oil too low or too high ----- add oil
 ----- OR drain oil as needed
 Transmission damage ----- consult dealer
 Transmission blowing oil out cap ----- overfilled or water
 ----- contaminated
12. **ENGINE STALLS WHEN BLADES ARE ENGAGED:**
 Operator not on seat ----- sit on seat
 Faulty interlock system ----- consult dealer
 Bad blade spindle bearing ----- consult dealer
 Deck drive belt not properly routed ----- reroute
 Blades blocked by foreign material ----- clean under deck

* See engine manual for engine adjustments.

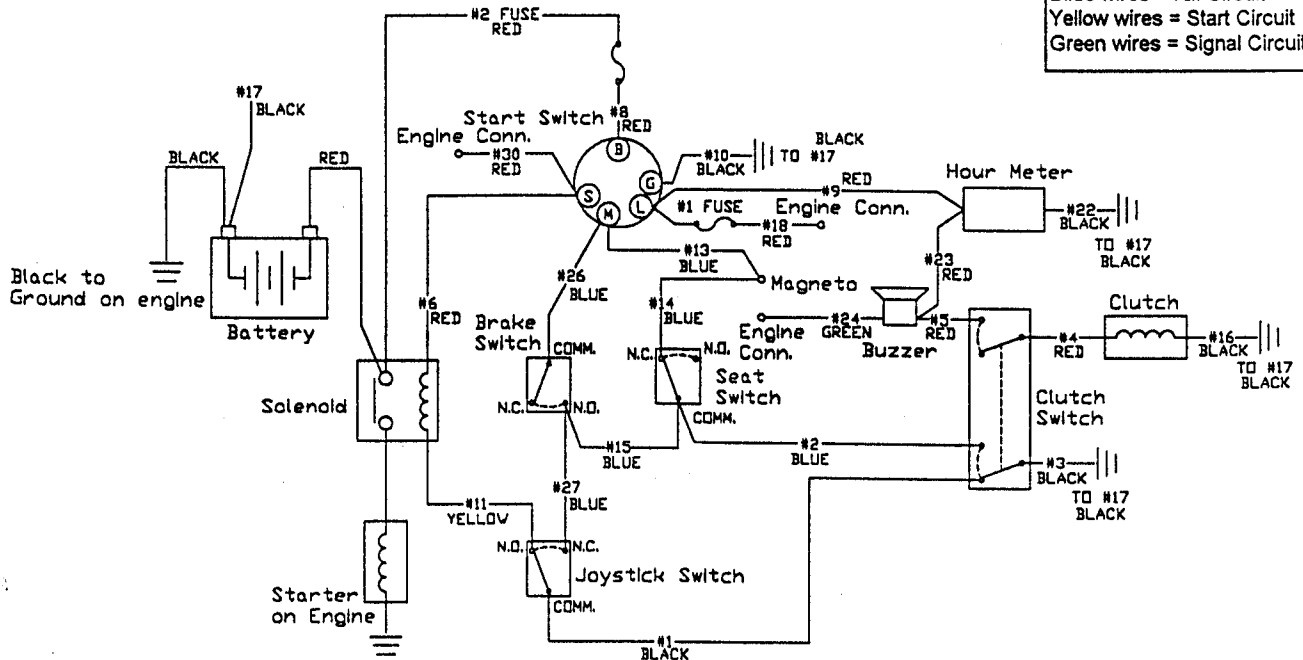
WIRING SCHEMATIC: 18 & 22 H.P. MODELS

Note: All wire connectors shown at wire side.



START SWITCH	
POSITION	CIRCUIT MAKE
OFF	G+M
ON	B+L
START	B+L+S

Black wires = Ground
Red wires = Power
Blue wires = Kill Circuit
Yellow wires = Start Circuit
Green wires = Signal Circuit



NOTES

10-11-11 (01/11/11)

SNAPPER POWER EQUIPMENT

McDonough, GA 30253



WARNING:

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.