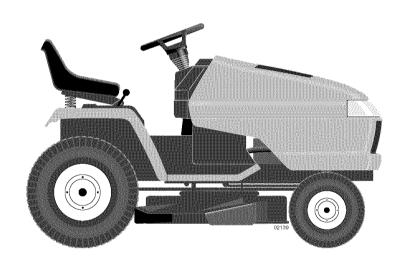
### Owner's Manual

## **CRAFTSMAN®**

## **GARDEN TRACTOR**

25.0 HP, 48" Mower Electric Start Automatic Transmission

Model No. 917.276022





This product has a low emission engine which operates differently from previously built engines. Before you start the engine, read and understand this Owner's Manual.

#### **IMPORTANT:**

Read and follow all Safety Rules and Instructions before operating this equipment. For answers to your questions about this product, Call:

**1-800-659-5917 Sears Craftsman Help Line**5 am - 5 pm, Mon - Sat

Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A. Visit our Craftsman website:www.sears.com/craftsman

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#### **WARRANTY**

#### LIMITED WARRANTY ON CRAFTSMAN RIDING EQUIPMENT

For two (2) years from the date of purchase, if this Craftsman Riding Equipment is maintained, lubricated and tuned up according to the instructions in the owner's manual, Sears will repair or replace free of charge any parts that are found to be defective in material or workmanship according to the guidelines of coverage listed below. Sears will also provide free labor for these applicable warranted parts for the two full years. During the first 30 days of purchase, there will be no charges to service the product at your home for issues covered by this warranty. (See exclusions below). For your convenience, IN HOME warranty service will still be available after the first 30 days of purchase, but a trip charge will apply. This charge will be waived if the Craftsman product is dropped off at an authorized Sears location. For the nearest authorized Sears location, please call 1-800-4-MY-HOME®. This warranty applies only while this product is within the United States.

#### This Warranty does not cover:

- Expendable items which become worn during normal use, including but not limited to blades, spark plugs, air cleaners, belts, and oil filters.
- Standard Maintenance Servicing, oil changes, or tune-ups.
- Tire replacement or repair caused by punctures from outside objects, such as nails, thorns, stumps, or glass.
- Repairs necessary because of operator abuse, including but not limited to, damage caused by towing objects beyond the capability of the riding equipment, impacting objects that bend the frame or crankshaft, or over-speeding the engine.
- Repairs necessary because of operator negligence, including but not limited to, electrical and mechanical damage caused by improper storage, failure to use the proper grade and amount of engine oil, failure to keep the deck clear of flammable debris, or failure to maintain the equipment according to the instructions contained in the owner's manual.
- Engine (fuel system) cleaning or repairs caused by fuel determined to be contaminated or oxidized (stale). In general, fuel should be used within 30 days of its purchase date.
- Normal deterioration and wear of the exterior finishes, or product label replacement.
- Riding equipment used for commercial or rental purposes.

#### LIMITED WARRANTY ON BATTERY

For ninety (90) days from date of purchase, if any battery included with this riding equipment proves defective in material or workmanship and our testing determines the battery will not hold a charge, Sears will replace the battery at no charge. During the first 30 days of purchase, there will be no charges to replace the battery at your HOME. After the first 30 days, for your convenience, IN-HOME warranty service will still be available but a trip charge will apply. This charge will be waived if the Craftsman product is dropped off at an authorized Sears location. For the nearest authorized Sears location, please call 1-800-4-MY-HOME®.

This battery warranty applies only while this product is within the United States.

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

Sears, Roebuck and Co., Dept. 817WA, Hoffman Estates, IL 60179

#### **SAFETY RULES**

**IMPORTANT:** This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

WARNING: In order to prevent accidental starting when setting up, transporting, adjusting or making repairs, always disconnect spark plug wire and place wire where it cannot contact spark plug.

WARNING: Do not coast down a hill in neutral, you may lose control of the tractor.

WARNING: Tow only the attachments that are recommended by and comply with specifications of the manufacturer of your tractor. Use common sense when towing. Operate only at the lowest possible speed when on a slope. Too heavy of a load, while on a slope, is dangerous. Tires can lose traction with the ground and cause you to lose control of your tractor.

**WARNING:** Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**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.** 

#### I. GENERAL OPERATION

- Read, understand, and follow all instructions in the manual and on the machine before starting.
- Only allow responsible adults, who are familiar with the instructions, to operate the machine.
- Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade.
- Be sure the area is clear of other people before mowing. Stop machine if anyone enters the area.
- · Never carry passengers.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.

- Be aware of the mower discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the guard in place.
- Slow down before turning.
- Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove keys before dismounting.
- Turn off blades when not mowing.
- Stop engine before removing grass catcher or unclogging chute.
- Mow only in daylight or good artificial light.
- Do not operate the machine while under the influence of alcohol or drugs.
- Watch for traffic when operating near or crossing roadways.
- Use extra care when loading or unloading the machine into a trailer or truck.
- Data indicates that operators, age 60 years and above, are involved in a large percentage of riding mower-related injuries. These operators should evaluate their ability to operate the riding mower safely enough to protect themselves and others from serious injury.
- Keep machine free of grass, leaves or other debris build-up which can touch hot exhaust / engine parts and burn. Do not allow the mower deck to plow leaves or other debris which can cause buildup to occur. Clean any oil or fuel spillage before operating or storing the machine. Allow machine to cool before storage.

#### II. SLOPE OPERATION

Slopes are a major factor related to lossof-control and tipover accidents, which can result in severe injury or death. All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

#### **SAFETY RULES**

#### DO:

- Mow up and down slopes, not across.
- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts, or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Use slow speed. Choose a low gear so that you will not have to stop or shift while on the slope.
- Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.
- Use extra care with grass catchers or other attachments. These can change the stability of the machine.
- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction.
- Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly straight down the slope.

#### DO NOT:

- Do not turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.
- Do not mow near drop-offs, ditches, or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.
- *Do not* mow on wet grass. Reduced traction could cause sliding.
- Do not try to stabilize the machine by putting your foot on the ground.
- Do not use grass catcher on steep slopes.

#### III. 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.

- Keep children out of the mowing area and under the watchful care of another responsible adult.
- Be alert and turn machine off if children enter the area.
- Before and when backing, look behind and down for small children.

- Never carry children. They may fall off and be seriously injured or interfere with safe machine operation.
- Never allow children to operate the machine.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

#### IV. SERVICE

- Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.
  - Use only an approved container.
  - Never remove gas cap or add fuel with the engine running. Allow engine to cool before refueling. Do not smoke.
  - Never refuel the machine indoors.
  - Never store the machine or fuel container inside where there is an open flame, such as a water heater.
- Never run a machine inside a closed area.
- Keep nuts and bolts, especially blade attachment bolts, tight and keep equipment in good condition.
- Never tamper with safety devices.
   Check their proper operation regularly.
- Keep machine free of grass, leaves, or other debris build-up. Clean oil or fuel spillage. Allow machine to cool before storing.
- Stop and inspect the equipment if you strike an object. Repair, if necessary, before restarting.
- Never make adjustments or repairs with the engine running.
- Grass catcher components are subject to wear, damage, and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check components and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp and can cut.
   Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
- Check brake operation frequently. Adjust and service as required.

#### **SAFETY RULES**











- Be sure the area is clear of other people before mowing. Stop machine if anyone enters the area.
- Never carry passengers or children even with the blades off.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Never carry children. They may fall off and be seriously injured or interfere with safe machine operation.
- Keep children out of the mowing area and under the watchful care of another responsible adult.
- Be alert and turn machine off if children enter the area.
- Before and when backing, look behind and down for small children.
- Mow up and down slopes (15° Max), not across.

- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts, or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Use slow speed. Choose a low gear so that you will not have to stop or shift while on the slope.
- Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly straight down the slope.
- If machine stops while going uphill, disengage blades, shift into reverse and back down slowly.
- Do not turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.

#### PRODUCT SPECIFICATIONS

Gasoline Capacity and Type:	5.0 Gallons Unleaded Regular		
Oil Type (API-SG-SL):	SAE 10W30 (above 32°F SAE 5W-30 (below 32°F)		
Oil Capacity:	W/ Filter: W/O Filter:		
Spark Plug: (Gap: .030")	Champion RC12YC		
Ground Speed (MPH):	Forward: Reverse:	0 – 5.8 0 – 2.1	
Tire Pressure:	Front: Rear:	14 PSI 10PSI	
Charging System	:15 Amps @	3600Rpm	
Battery:	Amp/Hr: Min. CCA: Case size:	280	
Blade Bolt Torque: 45-55 Ft. Lbs.			

**CONGRATULATIONS** on your purchase of a new tractor. It has been designed, engineered and manufactured to give you the best possible dependability and performance.

Should you experience any problem you cannot easily remedy, please contact a Sears or other qualified service center. We have competent, well-trained technicians and the proper tools to service or repair this tractor.

Please read and retain this manual. The instructions will enable you to assemble and maintain your tractor properly. Always observe the "SAFETY RULES".

#### **CUSTOMER RESPONSIBILITIES**

- · Read and observe the safety rules.
- Follow a regular schedule in maintaining, caring for and using your tractor.
- Follow the instructions under "Maintenance" and "Storage" sections of this owner's manual.

▲ WARNING: This tractor is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the state of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest Sears service center (See REPAIR PARTS section of this manual).

## REPAIR PROTECTION AGREEMENTS

Congratulations on making a smart purchase. Your new Craftsman® product is designed and manufactured for years of dependable operation. But like all products, it may require repair from time to time. That's when having a Repair Protection Agreement can save you money and aggravation.

Purchase a Repair Protection Agreement now and protect yourself from unexpected hassle and expense. Here's what's included in the Agreement:

- Expert service by our 12,000 profesional repair specialists.

   Halimited continue and no charge for
- Unlimited service and no charge for parts and labor on all covered repairs.
- Product replacement if your covered product can't be fixed.
- Discount of 10% from regular price of service and service-related parts not covered by the agreement; also, 10% off regular price of preventive maintenance check.
- Fast help by phone phone support from a Sears technician on products requiring in-home repair, plus convenient repair scheduling.

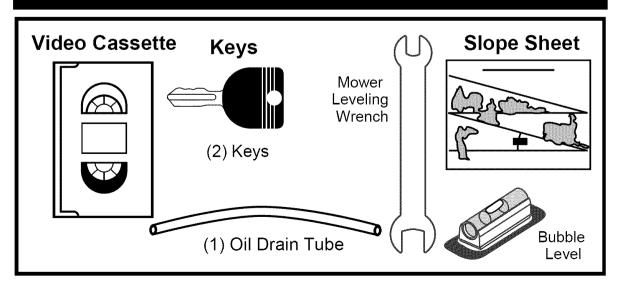
Once you purchase the Agreement, a simple phone call is all that it takes for you to schedule service. You can call anytime day or night, or schedule a service appointment online.

Sears has over 12,000 professional repair specialists, who have access to over 4.5 million quality parts and accessories. That's the kind of professionalism you can count on to help prolong the life of your new purchase for years to come. Purchase your Repair Protection Agreement today! Some limitations and exclusions apply. For prices and additional information call 1-800-827-6655.

#### SEARS INSTALLATION SERVICE

For Sears professional installation of home appliances, garage door openers, water heaters, and other major home items, in the U.S.A. call **1-800-4-MY-HOME**®

#### **PARTS BAG CONTENTS**



#### **ASSEMBLY/PRE-OPERATION**

Your new tractor has been assembled at the factory. Review the video cassette before you begin.

When right or left hand is mentioned in this manual, it means, from your point of view, when you are in the operating position (seated behind the steering wheel).

## TO REMOVE TRACTOR FROM CARTON

#### **UNPACK CARTON**

- 1. Cut along dotted lines on all four panels of carton. Remove end panels and lay side panels flat.
- 2. Remove packing materials.
- 3. Remove protective materials from tractor hood and grille.

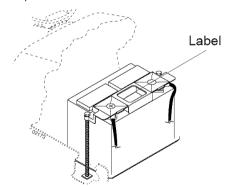
**IMPORTANT:** Check for and remove any staples in skid that may puncture tires where tractor is to roll off skid.

#### HOW TO SET UP YOUR TRACTOR

#### **CHECK BATTERY**

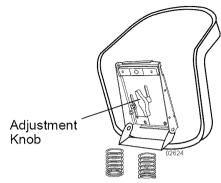
1. Lift hood to raised position.

**NOTE:** If this battery is put into service after month and year indicated on label (label located between terminals) charge battery for minimum of one hour at 6-10 amps. (See "BATTERY" in Maintenance section of this manual for charging instructions).



#### **ADJUST SEAT**

- Raise seat and loosen adjustment knobs.
- 2. Lower seat into operating position and sit in seat.
- 3. Slide seat until a comfortable position is reached which allows you to press clutch/brake pedal all the way down.
- 4. Get off seat without moving its adiusted position.
- 5. Raise seat and tighten adjustment knob securely.



**NOTE:** You may now roll or drive your tractor off the skid. Follow the appropriate instruction below to remove the tractor from the skid.

## TO ROLL TRACTOR OFF SKID (See Operation section for location and function of controls)

- Press lift lever plunger and raise attachment lift lever to its highest position.
- 2. Release parking brake by depressing brake pedal.
- 3. Place freewheel control in transmission disengaged position (See "To Transport" in the Operation section of this manual).
- 4. Roll tractor forward off skid.

## TO DRIVE TRACTOR OFF SKID (See Operation section for location and function of controls)

WARNING: Before starting, read, understand and follow all instructions in the Operation section of this manual. Be sure tractor is in a well-ventilated area. Be sure the area in front of tractor is clear of other people and objects.

- 1. Be sure all the above assembly steps have been completed.
- 2. Check engine oil level and fill fuel tank with gasoline.
- 3. Place freewheel control in "transmission engaged" position (See "To Transport" in the Operation section of this manual).
- 4. Sit on seat in operating position, depress brake pedal and set the parking brake.
- 5. Press lift lever plunger and raise attachment lift lever to its highest position.

- 6. Start the engine. After engine has started, move throttle control to idle position.
- 7. Release parking brake.
- Slowly move the motion control lever forward and slowly drive tractor off skid.
- Apply brake to stop tractor and set parking brake.
- 10. Turn ignition key to "STOP" position. Continue with the instructions that follow.

#### **CHECK TIRE PRESSURE**

The tires on your tractor were overinflated at the factory for shipping purposes. Correct tire pressure is important for best cutting performance.

 Reduce tire pressure to PSI shown in "PRODUCT SPECIFICATIONS" section of this manual.

#### CHECK DECK LEVELNESS

For best cutting results, mower housing should be properly leveled. See "TO LEVEL MOWER HOUSING" in the Service and Adjustments section of this manual.

## CHECK FOR PROPER POSITION OF ALL BELTS

See the figures that are shown for replacing motion and mower blade drive belts in the Service and Adjustments section of this manual. Verify that the belts are routed correctly.

#### CHECK BRAKE SYSTEM

After you learn how to operate your tractor, check to see that the brake is properly adjusted. See "TO ADJUST BRAKE" in the Service and Adjustments section of this manual.

#### **✓ CHECKLIST**

Before you operate your new tractor, we wish to assure that you receive the best performance and satisfaction from this Quality Product.

Please review the following checklist:

- ✓ All assembly instructions have been completed.
- ✓ No remaining loose parts in carton.
- ✓ Battery is properly prepared and charged. (Minimum 1 hour at 6 amps).
- ✓ Seat is adjusted comfortably and tightened securely.
- ✓ All tires are properly inflated. (For shipping purposes, the tires were overinflated at the factory).
- ✓ Be sure mower deck is properly leveled side-to-side/front-to-rear for best cutting results. (Tires must be properly inflated for leveling).
- ✓ Check mower and drive belts. Be sure they are routed properly around pulleys and inside all belt keepers.
- Check wiring. See that all connections are still secure and wires are properly clamped.
- ✓ Before driving tractor, be sure freewheel control is in "transmission engaged" position (see "TO TRANSPORT" in the Operation section of this manual).

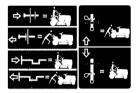
While learning how to use your tractor, pay extra attention to the following important items:

- ✓ Engine oil is at proper level.
- ✓ Fuel tank is filled with fresh, clean, regular unleaded gasoline.
- ✓ Become familiar with all controls, their location and function. Operate them before you start the engine.
- ✓ Be sure brake system is in safe operating condition.
- ✓ It is important to purge the transmission before operating your tractor for the first time. Follow proper starting and transmission purging instructions (See "TO START ENGINE" and "PURGE TRANS-MISSION" in the Operation section of this manual).

#### **OPERATION**

These symbols may appear on your tractor or in literature supplied with the product. Learn and understand their meaning.





FREE WHEEL (Automatic Models only)



Failure to follow instructions could result in serious injury or death. The safety alert symbol is used to identify safety information about hazards which can result in death, serious injury and/or property damage.



**DANGER** indicates a hazard which, if not avoided, will result in death or serious injury.

IGNITION

UNLOCKED

MOWER LIFT



WARNING indicates a hazard which, if not avoided, could result in death or serious injury.



**CAUTION** indicates a hazard which, if not avoided, might result in minor or moderate injury.

**CAUTION** when used without the alert symbol, indicates a situation that could result in damage to the tractor and/or engine.



HOT SURFACES indicates a hazard which, if not avoided, could result in death, serious injury and/or property damage.

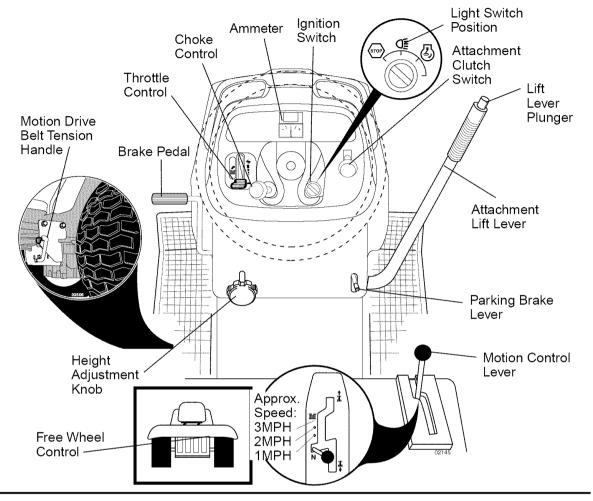


**FIRE** indicates a hazard which, if not avoided, could result in death, serious injury and/or property damage.

#### KNOW YOUR TRACTOR

## READ THIS OWNER'S MANUAL AND SAFETY RULES BEFORE OPERATING YOUR TRACTOR

Compare the illustrations with your tractor to familiarize yourself with the locations of various controls and adjustments. Save this manual for future reference.



Our tractors conform to the safety standards of the American National Standards Institute.

**ATTACHMENT CLUTCH SWITCH** - Used to engage the mower blades, or other attachments mounted to your tractor.

**LIGHT SWITCH POSITION** - Turns the headlights on and off.

**THROTTLE CONTROL** - Used to control engine speed.

**BRAKE PEDAL** - Used for braking the tractor and starting the engine.

**CHOKE CONTROL** - Used when starting a cold engine.

**HEIGHT ADJUSTMENT KNOB** - Used to adjust the mower cutting height.

**IGNITION SWITCH** - Used for starting and stopping the engine.

**ATTACHMENT LIFT LEVER** - Used to raise and lower the mower deck or other attachments mounted to your tractor.

**LIFT LEVER PLUNGER** - Used to release attachment lift lever when changing its position.

**AMMETER** - Indicates charging (+) or discharging (-) of battery.

PARKING BRAKE LEVER - Locks brake pedal into the brake position.

**MOTION CONTROL LEVER** - Selects the speed and direction of tractor.

**FREEWHEEL CONTROL** - Disengages transmission for pushing or slowly towing the tractor with the engine off.

MOTION DRIVE BELT TENSION HAN-

**DLE** - Used when changing motion drive belt and, if necessary, starting engine under extremely cold conditions.

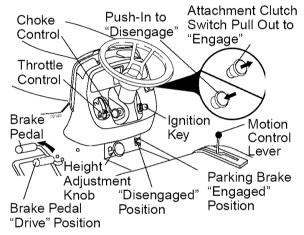


The operation of any tractor can result in foreign objects thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields while operating your tractor or performing any adjustments or repairs. We recommend standard safety glasses or a wide vision safety mask worn over spectacles.

## HOW TO USE YOUR TRACTOR TO SET PARKING BRAKE

Your tractor is equipped with an operator presence sensing switch. When engine is running, any attempt by the operator to leave the seat without first setting the parking brake will shut off the engine.

- Depress brake pedal all the way down and hold.
- Pull parking brake lever up and release pressure from brake pedal. Pedal should remain in brake position. Make sure parking brake will hold tractor secure.



#### **STOPPING**

#### **MOWER BLADES -**

 To stop mower blades, push attachment clutch switch in to disengaged position.

#### **GROUND DRIVE -**

 To stop ground drive, depress brake pedal all the way down.

**IMPORTANT:** The motion control lever returns to neutral (N) position when the brake pedal is fully depressed.

#### **ENGINE** -

 Move throttle control between half and full speed (fast) position.

**NOTE:** Failure to move throttle control between half and full speed (fast) position, before stopping, may cause engine to "backfire".

 Turn ignition key to "STOP" position and remove key. Always remove key when leaving tractor to prevent unauthorized use.  Never use choke to stop engine.
 IMPORTANT: Leaving the ignition switch in any position other than "STOP" will cause the battery to discharge and go dead.

**NOTE:** Under certain conditions when tractor is standing idle with the engine running, hot engine exhaust gases may cause "browning" of grass. To eliminate this possibility, always stop engine when stopping tractor on grass areas.

ACAUTION: Always stop tractor completely, as described above, before leaving the operator's position.

#### TO USE THROTTLE CONTROL

Always operate engine at full throttle.

- Operating engine at less than full throttle reduces the battery charging rate
- Full throttle offers the best mower performance.

#### TO USE CHOKE CONTROL

Use choke control whenever you are starting a cold engine. Do not use to start a warm engine.

• To engage choke control, pull knob out. Slowly push knob in to disengage.

## TO MOVE FORWARD AND BACKWARD

**CAUTION:** Do not attempt to operate motion control lever when the parking brake is set or when the brake pedal is depressed. Doing so may result in misadjustment to the drive control system.

The direction and speed of movement is controlled by the motion control lever.

- 1. Start tractor with motion control lever in neutral (N) position.
- 2. Release parking brake.
- 3. Slowly move motion control lever to desired position.

#### TO ADJUST MOWER CUTTING HEIGHT

The cutting height is controlled by turning the height adjustment knob in desired direction.

- Turn knob clockwise ( ) to raise cutting height.
- Turn knob counterclockwise () to lower cutting height.

The cutting height range is approximately 1-1/2" to 4-1/2". The heights are measured from the ground to the blade tip with the engine not running.

These heights are approximate and may vary depending upon soil conditions, height of grass and types of grass being mowed.

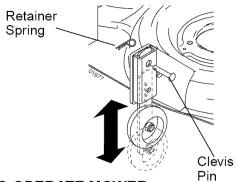
- The average lawn should be cut to approximately 2-1/2 inches during the cool season and to over 3 inches during hot months. For healthier and better looking lawns, mow often and after moderate growth.
- For best cutting performance, grass over 6 inches in height should be mowed twice. Make the first cut relatively high; the second to desired height.

#### TO ADJUST GAUGE WHEELS

Gauge wheels are properly adjusted when they are slightly off the ground when mower is at the desired cutting height in operating position. Gauge wheels then keep the deck in proper position to help prevent scalping in most terrain conditions. **NOTE:** Be sure tractor is on a flat level surface.

- 1. Lower mower and adjust mower to desired cutting height.
- 2. Remove retainer spring and clevis pin which secure each gauge wheel bar.
- 3. Lower gauge wheels to ground. Raise gauge wheels slightly to align holes in bracket and gauge wheel bar and insert clevis pin. Gauge wheels should be slightly off the ground.
- 4. Replace retainer spring into clevis pin.
- 5. Be sure all gauge wheels are in the same setting.

**IMPORTANT:** Be sure to readjust gauge wheels if you change the cutting height of the mower deck.



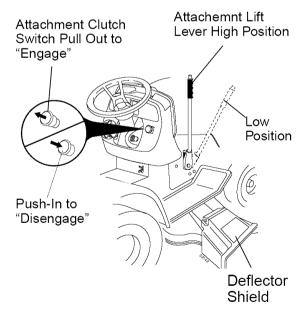
#### TO OPERATE MOWER

Your tractor is equipped with an operator presence sensing switch. Any attempt by the operator to leave the seat with the engine running and the attachment clutch engaged will shut off the engine. You must remain fully and centrally positioned in the seat to prevent the engine from hesitating or cutting off when operating your equipment on rough, rolling terrain or hills.

- 1. Select desired height of cut.
- 2. Lower mower with attachment lift control.
- Start mower blades by engaging attachment clutch control.

TO STOP MOWER BLADES - disengage attachment clutch control.

**ACAUTION:** Do not operate the mower without either the entire grass catcher, on mowers so equipped, or the deflector shield in place.



#### TO OPERATE ON HILLS

**AWARNING**: Do not drive up or down hills with slopes greater than 15° and do not drive across any slope. Use the slope guide provided at the back of this manual.

 Choose the slowest speed before starting up or down hills.

- Avoid stopping or changing speed on hills.
- If stopping is absolutely necessary, push brake pedal quickly to brake position and engage parking brake.

**IMPORTANT:** The motion control lever returns to neutral (N) position when the brake pedal is depressed.

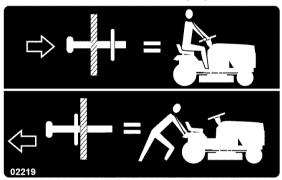
- To restart movement, slowly release parking brake and brake pedal.
- Slowly move motion control lever to slowest setting.
- · Make all turns slowly.

#### **TO TRANSPORT**

When pushing or towing your tractor, be sure to disengage transmission by placing freewheel control in freewheeling position. Freewheel control is located at the rear drawbar of tractor.

- 1. Raise attachment lift to highest position with attachment lift control.
- 2. Pull freewheel control out and into the slot and release so it is held in the disengaged position.
- Do not push or tow tractor at more than two (2) MPH.
- To re-engage transmission, reverse above procedure.

#### Transmission Engaged



**Transmission Disengaged** 

**NOTE**: To protect hood from damage when transporting your tractor on a truck or a trailer, be sure hood is closed and secured to tractor. Use an appropriate means of tying hood to tractor (rope, cord, etc.).

#### TOWING CARTS AND OTHER ATTACH-MENTS

Tow only the attachments that are recommended by and comply with specifications of the manufacturer of your tractor. Use common sense when towing. Too heavy of a load, while on a slope, is dangerous. Tires can lose traction with the ground and cause you to lose control of your tractor.

## BEFORE STARTING THE ENGINE CHECK ENGINE OIL LEVEL

The engine in your tractor has been shipped, from the factory, already filled with summer weight oil.

- 1. Check engine oil with tractor on level ground.
- Unthread and remove oil fill cap/ dipstick; wipe oil off. Reinsert the dipstick into the tube and rest oil fill cap on the tube. Do not thread the cap onto the tube. Remove and read oil level. If necessary, add oil until "FULL" mark on dipstick is reached. Do not overfill.
- For cold weather operation you should change oil for easier starting (See the oil viscosity chart in the Maintenance section of this manual).
- To change engine oil, see the Maintenance section in this manual.

#### **ADD GASOLINE**

 Fill fuel tank to bottom of filler neck. Do not overfill. Use fresh, clean, regular unleaded gasoline with a minimum of 87 octane. (Use of leaded gasoline will increase carbon and lead oxide deposits and reduce valve life). Do not mix oil with gasoline. Purchase fuel in quantities that can be used within 30 days to assure fuel freshness.

**ACAUTION:** Wipe off any spilled oil or fuel. Do not store, spill or use gasoline near an open flame.

**IMPORTANT:** When operating in temperatures below32°F(0°C), use fresh, clean winter grade gasoline to help insure good cold weather starting.

CAUTION: Alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer. Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel next season. See Storage Instructions for additional information. Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

#### TO START ENGINE

When starting the engine for the first time or if the engine has run out of fuel, it will take extra cranking time to move fuel from the tank to the engine.

- 1. Be sure freewheel control is in the transmission engaged position.
- Sit on seat in operating position, depress brake pedal and set parking brake.
- 3. Move attachment clutch to disengaged position.
- Move throttle control to fast position
- Pull choke control out for a cold engine start attempt. For a warm engine start attempt the choke control may not be needed.

**NOTE:** Before starting, read the warm and cold starting procedures below.

6. Insert key into ignition and turn key clockwise to start position and release key as soon as engine starts. Do not run starter continuously for more than fifteen seconds per minute. If the engine does not start after several attempts, push choke control in, wait a few minutes and try again. If engine still does not start, pull the choke control out and retry.

WARM WEATHER STARTING (50° F and above)

- 7. When engine starts, slowly push choke control in until the engine begins to run smoothly. If the engine starts to run roughly, pull the choke control out slightly for a few seconds and then continue to push the control in slowly.
- The attachments and ground drive can now be used. If the engine does not accept the load, restart the engine and allow it to warm up for one minute using the choke as described above.

COLD WEATHER STARTING (50° F and below)

7. When engine starts, slowly push choke control in until the engine begins to run smoothly. Continue to push the choke control in small steps allowing the engine to accept small changes in speed and load, until the choke control is fully in. If the engine starts to run roughly, pull the choke control out slightly for a few seconds and then continue to push the control in slowly. This may require an engine warm-up period from several seconds to several minutes, depending on the temperature.

**NOTE:** In extreme cold conditions, if engine will not start you may need to disengage the motion drive belt as follows:

- Be sure parking brake is engaged.
- Remove retainer spring from the drive belt tension handle to relieve belt tension
- 3. Start engine and allow it to warm up for three (3) minutes.
- Shut-off engine and engage parking brake.
- 5. Engage drive belt tension handle and replace the retainer spring.

AUTOMATIC TRANSMISSION WARM UP Before driving the unit in cold weather, the transmission should be warmed up as follows:

- 1. Be sure the tractor is on level ground.
- Place the motion control lever in neutral. Release the parking brake and let the brake slowly return to operating position.
- Allow one minute for transmission to warm up. This can be done during the engine warm up period.
- The attachments can be used during the engine warm-up period after the transmission has been warmed up and may require the choke control be pulled out slightly.

**NOTE:** If at a high altitude (above 3000 feet) or in cold temperatures (below 32 F) the carburetor fuel mixture may need to be adjusted for best engine performance (see "TO ADJUST CARBURETOR" in the Service and Adjustments section of this manual).

#### PURGE TRANSMISSION

**ACAUTION:** Never engage or disengage freewheel lever while the engine is running.

To ensure proper operation and performance, it is recommended that the transmission be purged before operating tractor for the first time. This procedure will remove any trapped air inside the transmission which may have developed during shipping of your tractor.

**IMPORTANT:** Should your transmission require removal for service or replacement, it should be purged after reinstallation before operating the tractor.

- 1. Place tractor safely on level surface with engine off and parking brake set.
- Disengage transmission by placing freewheel control in disengaged position (See "TO TRANSPORT" in this section of manual).

- 3. Sitting in the tractor seat, start engine. After the engine is running, move throttle control to slow position. Disengage parking brake.
- Move motion control lever to full forward position and hold for five (5) seconds. Move lever to full reverse position and hold for five (5) seconds. Repeat this procedure three (3) times.

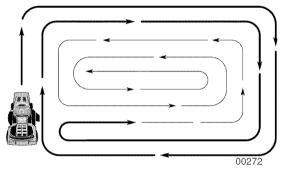
**NOTE:** During this step there will be no movement of drive wheels. The air is being removed from hydraulic drive system.

- 5. Move motion control lever to neutral (N) position. Shutoff engine and set parking brake.
- Engage transmission by placing freewheel control in engaged position (See "TO TRANSPORT" in this section of manual).
- 7. Sitting in the tractor seat, start engine. After the engine is running, move throttle control to half (1/2) speed. Disengage parking brake.
- 8. Slowly move motion control lever forward, after the tractor moves approximately five (5) feet, slowly move motion control lever to reverse position. After the tractor moves approximately five (5) feet return the motion control lever to the neutral (N) position. Repeat this procedure with the motion control lever three (3) times.

Your transmission is now purged and now ready for normal operation.

#### **MOWING TIPS**

- Tire chains cannot be used when the mower housing is attached to tractor.
- Mower should be properly leveled for best mowing performance. See "TO LEVEL MOWER HOUSING" in the Service and Adjustments section of this manual.
- The left hand side of mower should be used for trimming.
- Drive so that clippings are discharged onto the area that has already been cut. Have the cut area to the right of the tractor. This will result in a more even distribution of clippings and more uniform cutting.
- When mowing large areas, start by turning to the right so that clippings will discharge away from shrubs, fences, driveways, etc. After one or two rounds, mow in the opposite direction making left hand turns until finished.



- If grass is extremely tall, it should be mowed twice to reduce load and possible fire hazard from dried clippings.
   Make first cut relatively high; the second to the desired height.
- Do not mow grass when it is wet.
   Wet grass will plug mower and leave undesirable clumps. Allow grass to dry before mowing.
- Always operate engine at full throttle when mowing to assure better mowing performance and proper discharge of material. Regulate ground speed by selecting a low enough gear to give the mower cutting performance as well as the quality of cut desired.
- When operating attachments, select a ground speed that will suit the terrain and give best performance of the attachment being used.

#### **MAINTENANCE**

AS	MAINTENANCE SCHEDUL L IN DATES YOU COMPLETE GULAR SERVICE	E	gEF ORE	EACH U	HOUR	5 HOUR 5 HOUR 5 HOUR 5 EVERY 5	OHOUP OHOUP	S HOLLON	RS SEASON SEFORE	SERVIC	E DATES
	Check Brake Operation	~	1								
	Check Tire Pressure	<b>/</b>	<b>V</b>								
Т	Check Operator Presence and Interlock Systems	V									
R	Check for Loose Fasteners	V				1/5		~			
AC	Sharpen/Replace Mower Blades			<b>1</b> 3							
Ιř	Lubrication Chart			<b>'</b>				1			
Ιċ	Check Battery Level			1/4							
R	Clean Battery and Terminals			<b>'</b>				1			
	Check Transaxle Cooling			1							
	Check V-Belts					<b>V</b>					
	Check Engine Oil Level	1	1								
	Change Engine Oil (with oil filter)				<b>✓</b> 1,2	2		1			
ΙE	Change Engine Oil (without oil filter)			1,2				1			
N	Clean Air Filter			1/2							
Ģ	Clean Air Screen			1/2							
ľ	Inspect Muffler/Spark Arrester				1						
ΙË	Replace Oil Filter (If equipped)					1,2					
I <sup>-</sup>	Clean Engine Cooling Fins					<b>V</b> 2					
	Replace Spark Plug					<b>V</b>	1				
	Replace Air Filter Paper Cartridge					<b>√</b> 2					
	Replace Fuel Filter						1				

- 1 Change more often when operating under a heavy load or
- in high ambient temperatures.

  2 Service more often when operating in dirty or dusty conditions.
- 3 Replace blades more often when mowing in sandy soil.4 Not required if equipped with maintenance-free battery.5 Tighten front axle pivot bolt to 35 ft.-lbs. maximum.
- Do not overtighten.

#### GENERAL RECOMMENDATIONS

The warranty on this tractor does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, operator must maintain tractor as instructed in this manual.

Some adjustments will need to be made periodically to properly maintain your tractor.

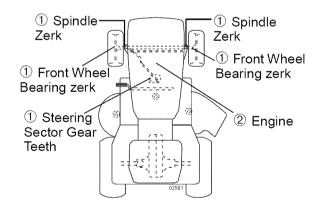
At least once a season, check to see if you should make any of the adjustments described in the Service and Adjustments section of this manual.

 At least once a year you should replace the spark plug, clean or replace air filter, and check blades and belts for wear. A new spark plug and clean air filter assure proper air-fuel mixture and help your engine run better and last longer.

#### BEFORE EACH USE

- Check engine oil level.
- 2. Check brake operation.
- Check tire pressure.
- Check operator presence and interlock systems for proper operation.
- Check for loose fasteners.

#### **LUBRICATION CHART**



- ①General Purpose Grease
- ②Refer to Maintenance "ENGINE" Section

**IMPORTANT:** Do not oil or grease the pivot points which have special nylon bearings. Viscous lubricants will attract dust and dirt that will shorten the life of the self-lubricating bearings. If you feel they must be lubricated, use only a dry, powdered graphite type lubricant sparingly.

#### **TRACTOR**

Always observe safety rules when performing any maintenance.

#### **BRAKE OPERATION**

If tractor requires more than five (5) feet to stop at highest speed in highest gear on a level, dry concrete or paved surface, then brake must be checked and adjusted.(See "TO ADJUST BRAKE" in the Service and Adjustments section of this manual).

#### **TIRES**

- Maintain proper air pressure in all tires (See "PRODUCT SPECIFICATIONS" section of this manual).
- Keep tires free of gasoline, oil, or insect control chemicals which can harm rubber.
- Avoid stumps, stones, deep ruts, sharp objects and other hazards that may cause tire damage.

**NOTE:** To seal tire punctures and prevent flat tires due to slow leaks, tire sealant may be purchased from your local parts dealer. Tire sealant also prevents tire dry rot and corrosion.

#### OPERATOR PRESENCE SYSTEM

Be sure operator presence and interlock systems are working properly. If your tractor does not function as described, repair the problem immediately.

- The engine should not start unless the brake pedal is fully depressed and attachment clutch control is in the disengaged position
- gaged position.
  When the engine is running, any attempt by the operator to leave the seat without first setting the parking brake should shut off the engine.
- When the engine is running and the attachment clutch is engaged, any attempt by the operator to leave the seat should shut off the engine.
- The attachment clutch should never operate unless the operator is in the seat.

#### **BLADE CARE**

For best results mower blades must be kept sharp. Replace bent or damaged blades.

#### **BLADE REMOVAL**

1. Raise mower to highest position to allow access to blades.

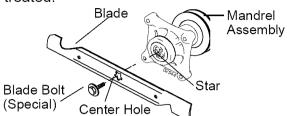
**NOTE:** Protect your hands with gloves and/or wrap blade with heavy cloth.

- Remove blade bolt by turning counterclockwise.
- 3. Install new or resharpened blade with stamped "THIS SIDE UP" facing deck and mandrel assembly.

**IMPORTANT:** To ensure proper assembly, center hole in blade must align with star on mandrel assembly.

4. Install and tighten blade bolt securely (45-55 Ft. Lbs. torque).

**IMPORTANT**: Special blade bolt is heat treated.



#### TO SHARPEN BLADE

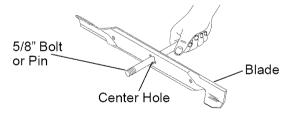
**NOTE:** We do not recommend sharpening blade - but if you do, be sure the blade is balanced.

Care should be taken to keep the blade balanced. An unbalanced blade will cause excessive vibration and eventual damage to mower and engine.

- The blade can be sharpened with a file or on a grinding wheel. Do not attempt to sharpen while on the mower.
- To check blade balance, you will need a 5/8" diameter steel bolt, pin, or a cone balancer. (When using a cone balancer, follow the instructions supplied with balancer.)

**NOTE:** Do not use a nail for balancing blade. The lobes of the center hole may appear to be centered, but are not.

 Slide blade on to an unthreaded portion of the steel bolt or pin and hold the bolt or pin parallel with the ground. If blade is balanced, it should remain in a horizontal position. If either end of the blade moves downward, sharpen the heavy end until the blade is balanced.



#### **BATTERY**

Your tractor has a battery charging system which is sufficient for normal use. However, periodic charging of the battery with an automotive charger will extend its life.

- Keep battery and terminals clean.
- · Keep battery bolts tight.
- Keep small vent holes open.
- Recharge at 6-10 amperes for 1 hour.

**NOTE:** The original equipment battery on your tractor is maintenance free. Do not attempt to open or remove caps or covers.

Adding or checking level of electrolyte is not necessary.

TO CLEAN BATTERY AND TERMINALS Corrosion and dirt on the battery and terminals can cause the battery to "leak" power.

- Remove terminal guard.
- Disconnect BLACK battery cable first then RED battery cable and remove battery from tractor.
- 3. Rinse the battery with plain water and dry.
- 4. Clean terminals and battery cable ends with wire brush until bright.
- 5. Coat terminals with grease or petroleum ielly.
- Reinstall battery (See "REPLACING BATTERY" in the SERVICE AND AD-JUSTMENTS section of this manual).

#### TRANSAXLE COOLING

The transmission fan and cooling fins should be kept clean to assure proper cooling.

Do not attempt to clean fan or transmission while engine is running or while the transmission is hot. To prevent possible damage to seals, do not use high pressure water or steam to clean transaxle.

- Inspect cooling fan to be sure fan blades are intact and clean.
- Inspect cooling fins for dirt, grass clippings and other materials. To prevent damage to seals, do not use compressed air or high pressure sprayer to clean cooling fins.

#### TRANSAXLE PUMP FLUID

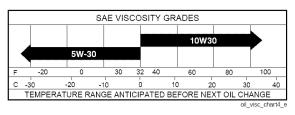
The transaxle was sealed at the factory and fluid maintenance is not required for the life of the transaxle. Should the transaxle ever leak or require servicing, contact a Sears or other qualified service center.

#### V-BELTS

Check V-belts for deterioration and wear after 100 hours of operation and replace if necessary. The belts are not adjustable. Replace belts if they begin to slip from wear.

## ENGINE LUBRICATION

Only use high quality detergent oil rated with API service classification SG-SL. Select the oil's SAE viscosity grade according to your expected operating temperature.

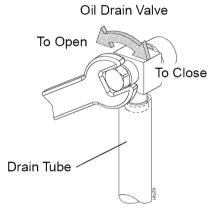


Change the oil after every 50 hours of operation or at least once a year if the tractor is not used for 50 hours in one year. Check the crankcase oil level before starting the engine and after each eight (8) hours of operation.

#### TO CHANGE ENGINE OIL

Determine temperature range expected before oil change. All oil must meet API service classification SG-SL.

- · Be sure tractor is on level surface.
- Oil will drain more freely when warm.
- Catch oil in a suitable container.
- Remove oil fill cap/dipstick. Be careful not to allow dirt to enter the engine when changing oil.
- Install the drain tube onto the fitting.
- Open drain valve by using a 7/16" (11mm) wrench turning counterclockwise.



- 4. After oil has drained completely, close the drain valve turning clockwise. Use the 7/16" (11mm) wrench to apply a small amount of torque to keep it closed. Do not over tighten.
- 5. Remove the drain tube and store in a safe place.
- Refill engine with oil through oil fill dipstick tube. Pour slowly. Do not overfill. For approximate capacity see "PROD-UCT SPECIFICATIONS" section of this manual.
- 7. Use gauge on oil fill cap/dipstick for checking level. Insert dipstick into the tube and rest the oil fill cap on the tube. Do not thread the cap onto the tube when taking reading. Keep oil at "FULL" line on dipstick. Tighten cap onto the tube securely when finished.

#### **ENGINE OIL FILTER**

Replace the engine oil filter every season or every other oil change if the tractor is used more than 100 hours in one year.

#### **AIR FILTER**

Your engine will not run properly using a dirty air filter. Clean the foam pre-cleaner after every 25 hours of operation or every season. Service paper cartridge every 100 hours of operation or every season, whichever occurs first.

Service air cleaner more often under dusty conditions.

1. Loosen knob and remove cover.

#### TO SERVICE PRE-CLEANER

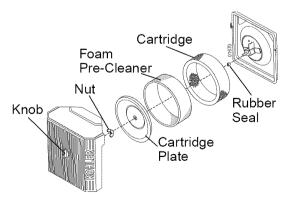
- 2. Slide foam pre-cleaner off cartridge.
- 3. Wash it in liquid detergent and water.
- 4. Squeeze it dry in a clean cloth. Allow it to dry.
- 5. Saturate it in engine oil. Wrap it in clean, absorbent cloth and squeeze to remove excess oil.

#### TO SERVICE CARTRIDGE

Replace a dirty, bent, or damaged cartridge.

**NOTE:** Do not wash the paper cartridge or use pressurized air, as this will damage the cartridge.

- 1. Remove nut and cartridge plate.
- 2. Reinstall the pre-cleaner (cleaned and oiled) over the paper cartridge.
- Check rubber seal for damage and proper position around stud. Replace if necessary.
- 4. Reassemble air cleaner, cartridge plate, and nut.
- Reinstall air cleaner cover and secure by tightening knob.



#### **CLEAN AIR SCREEN**

Air screen must be kept free of dirt and chaff to prevent engine damage from overheating. Clean with a wire brush or compressed air to remove dirt and stubborn dried gum fibers.

#### **CLEAN AIR INTAKE/COOLING AREAS**

To insure proper cooling, make sure the grass screen, cooling fins, and other external surfaces of the engine are kept clean at all times.

Every 100 hours of operation (more often under extremely dusty, dirty conditions), remove the blower housing and other cooling shrouds. Clean the cooling fins and external surfaces as necessary. Make sure the cooling shrouds are reinstalled.

**NOTE:** Operating the engine with a blocked grass screen, dirty or plugged cooling fins, and/or cooling shrouds removed will cause engine damage due to overheating.

#### **MUFFLER**

Inspect and replace corroded muffler and spark arrester (if equipped) as it could create a fire hazard and/or damage.

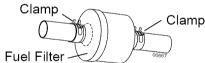
#### SPARK PLUG(S)

Replace spark plug(s) at the beginning of each mowing season or after every 100 hours of operation, whichever occurs first. Spark plug type and gap setting are shown in "PRODUCT SPECIFICATIONS" section of this manual.

#### IN-LINE FUEL FILTER

The fuel filter should be replaced once each season. If fuel filter becomes clogged, obstructing fuel flow to carburetor, replacement is required.

- 1. With engine cool, remove filter and plug fuel line sections.
- 2. Place new fuel filter in position in fuel line with arrow pointing towards carburetor.
- 3. Be sure there are no fuel line leaks and clamps are properly positioned.
- 4. Immediately wipe up any spilled gasoline.



#### **CLEANING**

- Clean engine, battery, seat, finish, etc. of all foreign matter.
- Keep finished surfaces and wheels free of all gasoline, oil, etc.
- Protect painted surfaces with automotive type wax.

We do not recommend using a garden hose or pressure washer to clean your tractor unless the engine and transmission are covered to keep water out. Water in engine or transmission will shorten the useful life of your tractor. Use compressed air or a leaf blower to remove grass, leaves and trash from tractor and mower.

#### **SERVICE AND ADJUSTMENTS**



## WARNING: TO AVOID SERIOUS INJURY, BEFORE PERFORMING ANY SERVICE OR ADJUSTMENTS:

- 1. Depress brake pedal fully and set parking brake.
- 2. Place attachment clutch in "DISENGAGED" position.
- 3. Turn ignition key to "STOP" and remove key.
- 4. Make sure the blades and all moving parts have completely stopped.
- 5. Disconnect spark plug wire from spark plug and place wire where it cannot come in contact with plug.

#### **TRACTOR**

#### TO REMOVE MOWER

- 1. Place attachment clutch in "DISEN-GAGED" position.
- 2. If equipped, turn height adjustment knob to lowest setting.
- 3. Lower mower to its lowest position.
- Remove retainer spring holding anti-sway bar to chassis bracket and disengage anti-sway bar from bracket.
- 5. Remove four retainer springs from front plate assembly and remove plate.
- Remove retainer springs from suspension arms at deck and disengage arms from deck.
- 7. Raise attachment lift to its highest position.
- 8. Slide mower forward and remove belt from electric clutch pulley.
- 9. Slide mower out from under right side of tractor.

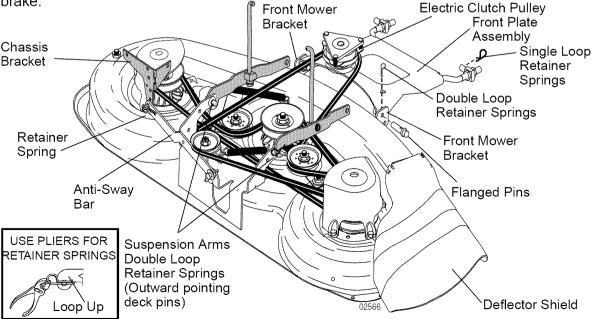
#### TO INSTALL MOWER

Be sure tractor is on level surface and mower suspension arms are raised with attachment lift control. Engage parking brake.

- Swing anti-sway bar to left side of mower deck.
- 2. Slide mower under tractor with deflector shield to right side of tractor.

**IMPORTANT:** Check belt for proper routing in all mower pulley grooves.

- 3. If equipped, turn height adjustment knob counterclockwise until it stops.
- 4. Lower mower linkage with attachment lift control.
- 5. Install belt into electric clutch pulley groove.
- Place the suspension arms on outward pointing deck pins. Retain with double loop retainer spring with loops up as shown.
- Install front plate assembly to tractor suspension brackets and retain with single loop retainer springs as shown.
- Position front plate assembly between front mower brackets. Raise deck and plate assembly to align holes and insert flanged pins. Secure pins with double loop retainer springs between the plate and mower brackets.



20

**NOTE:** To assist in locating hole in flanged pin, the hole in pin is inline with notch on head of pin. If necessary, move mower side-to-side to give space between plate and mower brackets.

**IMPORTANT:** Check belt for proper routing in all mower pulley grooves.

- 9. Connect anti-sway bar to chassis bracket under left footrest and retain with double loop retainer spring.
- 10. If equipped, turn height adjustment knob clockwise to remove slack from mower suspension.
- 11. Raise deck to highest position.

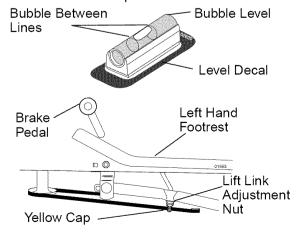
#### TO LEVEL MOWER HOUSING

Adjust the mower while tractor is parked on level ground such as a carport or garage. Make sure tires are properly inflated (See "PRODUCT SPECIFICATIONS" section of this manual). If tires are over or underinflated, you will not properly adjust your mower.

## SIDE-TO-SIDE ADJUSTMENT WITH BUBBLE LEVEL

**NOTE:** If necessary, check side-to-side surface below tractor for levelness with a long board and the bubble level.

- Using the lift lever, place mower in position where no part of the mower, including gauge wheels, is touching the ground.
- From left side of tractor, find the level decal on top of mower and place bubble level on decal as indicated.
- Mower is level side-to-side when bubble is between the two lines in the bubble level.
- If adjustment is necessary, under left hand footrest, turn lift link adjustment nut (above yellow cap) in appropriate direction to bring bubble between the lines in the bubble level.
- Remove bubble level from mower and store in a safe place.

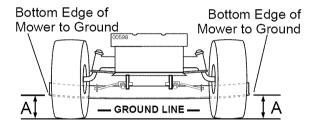


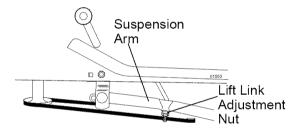
## ALTERNATE SIDE-TO-SIDE ADJUSTMENT METHOD

- · Raise mower to its highest position.
- Measure height from bottom edge of mower to ground level at front corners of mower. Distance "A" on both sides of mower should be the same.
- If adjustment is necessary, make adjustment on one side of mower only.
- To raise one side of mower, tighten lift link adjustment nut on that side.
- To lower one side of mower, loosen lift link adjustment nut on that side.

**NOTE**: Each full turn of adjustment nut will change mower height about 3/16".

· Recheck measurements after adjusting.





#### FRONT-TO-BACK ADJUSTMENT

**IMPORTANT:** Deck must be level sideto-side. If the following front-to-back adjustment is necessary, be sure to adjust both front links equally so mower will stay level side-to-side.

To obtain the best cutting results, the mower blades should be adjusted so the front tip is approximately 1/8" to 1/2" lower than the rear tip when the mower is in its highest position.

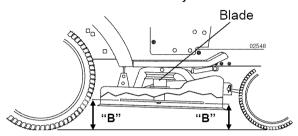
**A** CAUTION: Blades are sharp. Protect your hands with gloves and/or wrap blade with heavy cloth.

Check adjustment on right side of tractor. Position any blade so the tip is pointing straight forward. Measure distance "B" at front and rear tip of blade

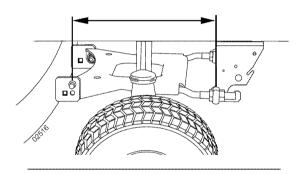
- Before making any necessary adjustments, check that both front plate links are equal in length.
- If links are not equal in length, adjust one link to same length as other link.
- To lower front of blade, loosen nut "C" on both front links an equal number of turns.

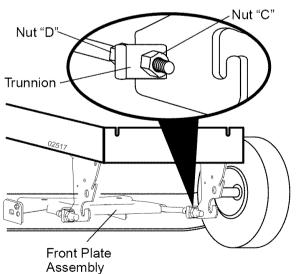
**NOTE:** Each full turn of nut "C" will change dim. "B" by approximately 3/16".

- When distance "B" is 1/8" to 1/2" lower at front than rear, tighten nut "D" against trunnion on both front links.
- To raise front of blade, loosen nut "D" from trunnion on both front links. Tighten nut "C" on both front links an equal number of turns. The two front links must remain equal in length.
- When distance "B" is 1/8" to 1/2" lower at front than rear, tighten nut "D" against trunnion on both front links.
- · Recheck side-to-side adjustment.



### BOTH FRONT PLATE LINKS MUST BE EQUAL IN LENGTH





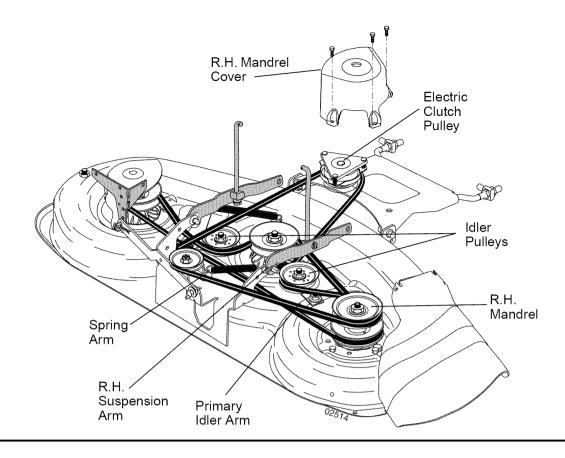
#### TO REPLACE MOWER DRIVE BELT

#### MOWER DRIVE BELT REMOVAL

- 1. Park tractor on a level surface. Engage parking brake.
- 2. Lower mower to its lowest position.
- 3. Remove screws from R.H. mandrel cover and remove cover.
- 4. Remove any dirt or grass clippings which may have accumulated around mandrels and entire upper deck surface.
- Disconnect R.H. suspension arm from rear deck bracket by removing retainer spring.
- 6. Carefully roll belt over the top of R.H. mandrel pulley.
- 7. Remove belt from electric clutch pulley.
- 8. Remove belt from idler pulleys.
- 9. Check primary idler arm and two idlers to see that they rotate freely.
- 10. Be sure spring is securely hooked to primary idler arm and spring arm.

#### MOWER DRIVE BELT INSTALLATION

- 11. Install belt in both idlers.
- Install new belt onto electric clutch pulley.
- 13. Carefully roll belt into upper groove of R.H. mandrel pulley.
- 14. Carefully check belt routing making sure belt is in the grooves correctly.
- 15. Reconnect R.H. suspension arm to rear deck bracket with retainer spring.
- 16. Reassemble R.H. mandrel cover.



#### TO REPLACE MOWER BLADE (SEC-ONDARY) DRIVE BELT

Park the tractor on level surface. Engage parking brake.

- Remove mower (See "TO REMOVE MOWER" in this section of manual).
- 2. Remove screws from R.H. and L.H. mandrel covers and remove covers.

## REMOVE MOWER DRIVE BELT (Refer to "TO REMOVE MOWER DRIVE BELT" illustration in this section of manual).

- 3. Carefully roll belt over the top of R.H. mandrel pulley.
- 4. Remove belt from idler pulleys.
- 5. Check primary idler arm and two idlers to see that they rotate freely.
- 6. Be sure spring is securely hooked to primary idler arm and spring arm.

## REMOVE MOWER BLADE (SECONDARY) DRIVE BELT

- Carefully roll belt off L.H. mandrel pulley.
- 8. Remove belt from center mandrel pulley, idler pulley, and R.H. mandrel pulley.
- 9. Remove any dirt or grass which may have accumulated around mandrels and entire upper deck surface.

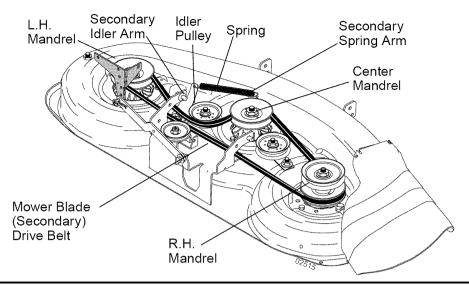
- 10. Check secondary idler arm and idler pulley to see that they rotate freely.
- 11. Be sure spring is hooked in secondary idler arm and secondary spring arm.

## INSTALL NEW MOWER BLADE (SECONDARY) DRIVE BELT

- 12. Install new belt in lower groove of R.H. mandrel pulley, idler pulley, and center mandrel pulley as shown.
- 13. Carefully roll belt over L.H. mandrel pulley. Make sure belt is in all grooves properly.

## REINSTALL MOWER DRIVE BELT (Refer to "TO REMOVE MOWER DRIVE BELT" illustration in this section of manual).

- 14. Install belt into upper groove of R.H. mandrel pulley and around both idlers. Pull belt to front of mower to remove slack.
- 15. Reinstall mandrel covers and securely tighten all screws.
- Carefully check belt routing making sure belt is in all grooves correctly.
- 17. Reinstall mower to tractor (See "TO INSTALL MOWER" in this section of manual).

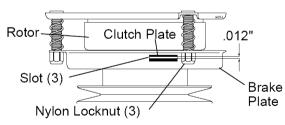


#### TO ADJUST ATTACHMENT CLUTCH

The electric clutch should provide years of service. The clutch has a built-in brake that stops the pulley within 5 seconds. Eventually, the internal brake will wear which may cause the mower blades to not engage, or, to not stop as required. Adjustments should be made by a Sears or other qualified service center.

- 1. Make sure attachment clutch and ignition switches are in "OFF" position.
- 2. Adjust the three nylon locknuts until space between clutch plate and rotor measures .012" at all three slot locations cut in the side of brake plate.

**NOTE:** After installing a new electric clutch, run tractor at full throttle and engage and disengage electric clutch 10 cycles to wear in clutch plate.



#### TO CHECK AND ADJUST BRAKE

If tractor requires more than five (5) feet to stop at highest speed in highest gear on a level, dry concrete or paved surface, then brake must be checked and adjusted.

#### TO CHECK BRAKE

 Park tractor on a level, dry concrete or paved surface, depress clutch/brake pedal all the way down and engage parking brake. 2. Disengage transmission by placing freewheel control in "transmission disengaged" position. Pull freewheel control out and into the slot and release so it is held in the disengaged position.

The rear wheels must lock and skid when you try to manually push the tractor forward. If the rear wheels rotate, the brake needs to be adjusted or the pads need to be replaced.

#### TO ADJUST BRAKE

Contact a Sears or other qualified service center.

#### TO REPLACE MOTION DRIVE BELT

Park the tractor on level surface. Engage parking brake. For ease of service there is a belt installation guide decal on bottom of left footrest.

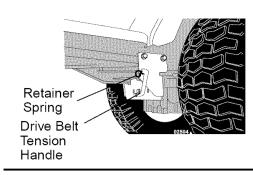
 Remove mower (See "TO REMOVE MOWER" in this section of this manual.)

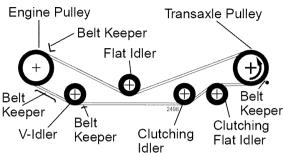
#### **BELT REMOVAL -**

- 2. Create slack in belt by removing retainer spring from drive belt tension handle.
- 3. Remove belt from all idler pulleys, transaxle pulley and then from engine pulley.

#### **BELT INSTALLATION -**

- 1. Install new belt around engine pulley first, then around transaxle pulley and lastly into all the idler pulleys.
- Check to be sure belt is positioned correctly and is on proper side of all belt keepers.
- 3. Engage the drive belt tension handle and replace the retainer spring.
- Reinstall mower.

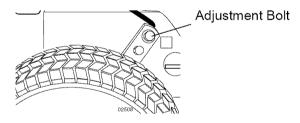




#### TRANSAXLE MOTION CONTROL LE-VER NEUTRAL ADJUSTMENT

The motion control lever has been preset at the factory and adjustment should not be necessary.

- Park Tractor on level surface. Stop tractor by turning ignition key to "OFF" position and engage parking brake.
- 2. Loosen the adjustment bolt in front of the right rear wheel.
- 3. Move motion control lever to the neutral position.
- 4. Tighten the adjustment bolt.



#### TRANSMISSION REMOVAL/ REPLACEMENT

Should your transmission require removal for service or replacement, it should be purged after reinstallation and before operating the tractor. See "PURGE TRANSMISSION" in the Operation section of this manual.

#### TO ADJUST STEERING WHEEL ALIGN-MENT

If steering wheel crossbars are not horizontal (left to right) when wheels are positioned straight forward, remove steering wheel and reassemble with crossbars horizontal. Tighten securely.

#### FRONT WHEEL TOE-IN/CAMBER

The front wheel toe-in and camber are not adjustable on your tractor. If damage has occurred to affect the front wheel toe-in or camber, contact a Sears or other qualified service center.

#### TO REMOVE WHEEL FOR REPAIRS

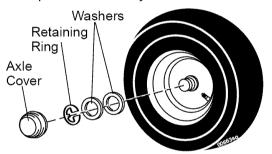
#### FRONT WHEEL -

- Block up axle securely.
- 2. Remove axle cover, retaining ring and washers to allow wheel removal.
- 3. Repair tire and reassemble.
- 4. Replace washers and snap retaining ring securely in axle groove.
- 5. Replace axle cover.

#### **REAR WHEEL -**

- 1. Block rear axle securely.
- Remove five (5) hub bolts to allow wheel removal.
- 3. Repair tire and reassemble. Replace and tighten hub bolts securely.

**NOTE:** To seal tire punctures and prevent flat tires due to slow leaks, purchase and use tire sealant from Sears. Tire sealant also prevents tire dry rot and corrosion.



## TO START ENGINE WITH A WEAK BATTERY

**WARNING:** Lead-acid batteries generate explosive gases. Keep sparks, flame and smoking materials away from batteries. Always wear eye protection when around batteries.

If your battery is too weak to start the engine, it should be recharged. (See "BATTERY" in the MAINTENANCE section of this manual).

If "jumper cables" are used for emergency starting, follow this procedure:

**IMPORTANT**: Your tractor is equipped with a 12 volt system. The other vehicle must also be a 12 volt system. Do not use your tractor battery to start other vehicles.

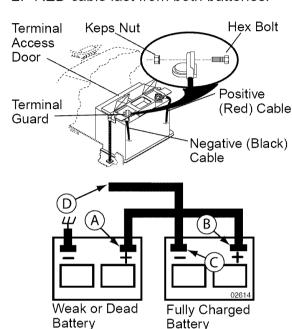
#### TO ATTACH JUMPER CABLES -

 Connect one end of the RED cable to the POSITIVE (+) terminal of each battery(A-B), taking care not to short against tractor chassis.

- Connect one end of the BLACK cable to the NEGATIVE (-) terminal (C) of fully charged battery.
- Connect the other end of the BLACK cable (D) to good chassis ground, away from fuel tank and battery.

### TO REMOVE CABLES, REVERSE ORDER -

- 1. BLACK cable first from chassis and then from the fully charged battery.
- RED cable last from both batteries.



#### REPLACING BATTERY

**WARNING:** Do not short battery terminals by allowing a wrench or any other object to contact both terminals at the same time. Before connecting battery, remove metal bracelets, wristwatch bands, rings, etc.

Positive terminal must be connected first to prevent sparking from accidental grounding.

- 1. Lift hood to raised position.
- 2. Remove terminal guard.
- Disconnect BLACK battery cable then RED battery cable and carefully remove battery from tractor.
- 4. Install new battery with terminals in same position as old battery.
- 5. Reinstall terminal guard.
- First connect RED battery cable to positive (+) battery terminal with hex bolt and keps nut as shown. Tighten securely.
- 7. Connect BLACK grounding cable to negative (-) battery terminal with remaining hex bolt and keps nut. Tighten securely

- 8. Close terminal access doors.
- 9 Close hood

#### TO REPLACE HEADLIGHT BULB

- 1. Raise hood.
- 2. Pull bulb holder out of the hole in the backside of the grill.
- 3. Replace bulb in holder and push bulb holder securely back into the hole in the backside of the grill.
- 4. Close hood.

#### INTERLOCKS AND RELAYS

Loose or damaged wiring may cause your tractor to run poorly, stop running, or prevent it from starting.

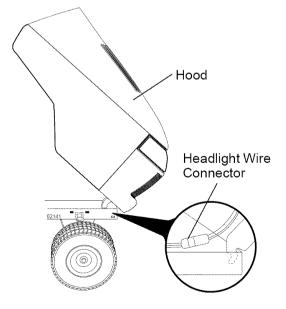
 Check wiring. See electrical wiring diagram in the Repair Parts section.

#### TO REPLACE FUSE

Replace with 30 amp automotive-type plug-in fuse. The fuse holder is located behind the dash.

#### TO REMOVE HOOD AND GRILL AS-SEMBLY

- Raise hood.
- 2. Unsnap headlight wire connector.
- Stand in front of tractor. Grasp hood at sides, tilt toward engine and lift off of tractor.
- 4. When replacing hood, be sure to reconnect the headlight wire connector.



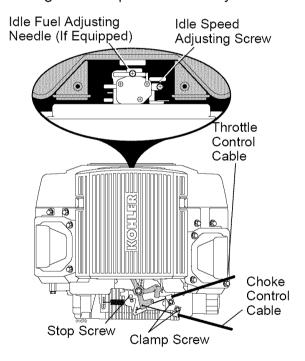
#### **ENGINE**

Maintenance, repair, or replacement of the emission control devices and systems, which are being done at the customers expense, may be performed by any non-road engine repair establishment or individual. Warranty repairs must be performed by an authorized engine manufacturer's service outlet.

## TO ADJUST THROTTLE CONTROL CABLE

The throttle control has been preset at the factory and adjustment should not be necessary. Check adjustment as described below before loosening cable. If adjustment is necessary, proceed as follows:

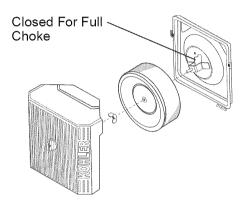
- 1. With engine not running, move throttle control lever to fast position.
- Check that speed control lever is against stop screw. If it is not, loosen casing clamp screw and pull throttle cable until lever is against screw. Tighten clamp screw securely.



#### TO ADJUST CHOKE CONTROL

The choke control has been preset at the factory and adjustment should not be necessary, check adjustment as described below before loosening cable. If adjustment is necessary, proceed as follows:

- With engine not running, move choke control (located on dash panel) to full choke position.
- 2. Remove air cleaner cover, filter and cartridge plate to expose carburetor choke (See "AIR FILTER" in the Maintenance section of this manual).
- Choke should be closed. If it is not, loosen casing clamp screw and move choke cable until choke is completely closed. Tighten casing clamp screw securely.
- 4. Reassemble air cleaner.



#### TO ADJUST CARBURETOR

The carburetor has been present at the factory and adjustment should not be necessary. However, minor adjustment may be required to compensate for differences in fuel, temperature, altitude or load. If the carburetor does need adjustment, proceed as follows:

In general, turning the adjusting needles in (clockwise) decreases the supply of fuel to the engine giving a leaner fuel/air mixture. Turning the adjusting needles out (counterclockwise) increases the supply of fuel to the engine giving a richer fuel/air mixture.

**IMPORTANT:** Damage to the needles and the seats in carburetor may result if screw is turned in too tight.

#### PRELIMINARY SETTING -

 Be sure you have a clean air filter, and the throttle control cable is adjusted properly (see "TO ADJUST THROTTLE CONTROL CABLE" in the Service and Adjustments section of this manual).  With engine off turn idle fuel adjusting needle in (clockwise) closing it finger tight and then turn out (counterclockwise) 1 turn.

#### FINAL SETTING -

 Start engine and allow to warm for five minutes. Make final adjustments with engine running and shift/motion control lever in neutral (N) position.

**NOTE:** The high idle is set at the factory and cannot be adjusted.

- Idle speed setting With throttle control lever in slow position, engine should idle at 1750 RPM. If engine idles too slow or fast, turn idle speed adjusting screw in or out until correct idle is attained.
- 3. <u>Idle fuel needle setting</u> With throttle control lever in slow position, turn idle fuel adjusting needle **in** (clockwise) until engine speed decreases and then turn **out** (counterclockwise) approximately 3/4 turn to obtain the best low speed performance.
- Recheck idle speed. Readjust if necessary.

#### **ACCELERATION TEST -**

 Move throttle control lever from slow to fast position. If engine hesitates or dies, turn idle fuel adjusting needle out (counterclockwise) 1/8 turn. Repeat test and continue to adjust, if necessary, until engine accelerates smoothly.

High speed stop is factory adjusted. Do not adjust-damage may result.

**IMPORTANT:** Never tamper with the engine governor, which is factory set for proper engine speed. Overspeeding the engine above the factory high speed setting can be dangerous. If you think the engine-governed high speed needs adjusting, contact a Sears or other qualified service center, which has proper equipment and experience to make any necessary adjustments.

#### **STORAGE**

Immediately prepare your tractor for storage at the end of the season or if the tractor will not be used for 30 days or more.

**WARNING:** Never store the tractor with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.

#### **TRACTOR**

Remove mower from tractor for winter storage. When mower is to be stored for a period of time, clean it thoroughly, remove all dirt, grease, leaves, etc. Store in a clean, dry area.

- Clean entire tractor (See "CLEANING" in the Maintenance section of this manual).
- Inspect and replace belts, if necessary (See belt replacement instructions in the Service and Adjustments section of this manual).
- 3. Lubricate as shown in the Maintenance section of this manual.
- Be sure that all nuts, bolts and screws are securely fastened. Inspect moving parts for damage, breakage and wear. Replace if necessary.
- 5. Touch up all rusted or chipped paint surfaces; sand lightly before painting.

#### **BATTERY**

- Fully charge the battery for storage.
- After a period of time in storage, battery may require recharging.
- To help prevent corrosion and power leakage during long periods of storage, battery cables should be disconnected and battery cleaned thoroughly (see "TO CLEAN BATTERY AND TERMINALS" in the Maintenance section of this manual).
- After cleaning, leave cables disconnected and place cables where they cannot come in contact with battery terminals.
- If battery is removed from tractor for storage, do not store battery directly on concrete or damp surfaces.

#### **ENGINE**

#### **FUEL SYSTEM**

**IMPORTANT**: It is important to prevent gum deposites from forming in essential fuel system parts such as carburetor, fuel hose, or tank during storage. Also, experiance indicates that alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage.

- Empty the fuel tank by starting the engine and letting it run until the fuel lines and carburetor are empty.
- Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.
- Use fresh fuel next season.

**NOTE:** Fuel stabilizer is an acceptable alternative in minimizing the formation of fuel gum deposits during storage. Add stabilizer to gasoline in fuel tank or storage container. Always follow the mix ratio found on stabilizer container. Run engine at least 10 minutes after adding stabilizer to allow the stabilizer to reach the carburetor. Do not empty the gas tank and carburetor if using fuel stabilizer.

#### **ENGINE OIL**

Drain oil (with engine warm) and replace with clean engine oil. (See "ENGINE" in the Maintenance section of this manual).

#### CYLINDER(S)

- 1. Remove spark plug(s).
- 2. Pour one ounce of oil through spark plug hole(s) into cylinder(s).
- 3. Turn ignition key to "START" position for a few seconds to distribute oil.
- 4. Replace with new spark plug(s).

#### **OTHER**

- Do not store gasoline from one season to another.
- Replace your gasoline can if your can starts to rust. Rust and/or dirt in your gasoline will cause problems.
- If possible, store your tractor indoors and cover it to give protection from dust and dirt.
- Cover your tractor with a suitable protective cover that does not retain moisture. Do not use plastic. Plastic cannot breathe which allows condensation to form and will cause your tractor to rust.

**IMPORTANT**: Never cover tractor while engine and exhaust areas are still warm.

#### TROUBLESHOOTING CHART: See appropriate section in manual unless directed to Sears service center

PROBLEM	CAUSE	CORRECTION
Will not start	<ol> <li>Out of fuel.</li> <li>Engine not "CHOKED" properly.</li> <li>Engine flooded.</li> <li>Bad spark plug.</li> <li>Dirty air filter.</li> <li>Dirty fuel filter.</li> <li>Water in fuel.</li> </ol>	<ol> <li>Fill fuel tank.</li> <li>See "TO START ENGINE" in Operation section.</li> <li>Wait several minutes before attempting to start.</li> <li>Replace spark plug.</li> <li>Clean/replace air filter.</li> <li>Replace fuel filter.</li> <li>Empty fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter.</li> </ol>
	<ul> <li>8. Loose or damaged wiring.</li> <li>9. Carburetor out of adjustment.</li> <li>10. Engine valves out of adjustment.</li> <li>11. Extreme Cold Conditions</li> </ul>	<ul> <li>8. Check all wiring.</li> <li>9. See "To Adjust Carburetor" in Service and Adjustments section.</li> <li>10. Contact a Sears or other qualified service center.</li> <li>11. See "To start engine" in operation section.</li> </ul>
Hard to start	<ol> <li>Dirty air filter.</li> <li>Bad spark plug.</li> <li>Weak or dead battery.</li> <li>Dirty fuel filter.</li> <li>Stale or dirty fuel.</li> <li>Loose or damaged wiring.</li> <li>Carburetor out of adjustment.</li> <li>Engine valves out of adjustment.</li> </ol>	<ol> <li>Clean/replace air filter.</li> <li>Replace spark plug.</li> <li>Recharge or replace battery.</li> <li>Replace fuel filter.</li> <li>Empty fuel tank and refill tank with fresh, clean gasoline.</li> <li>Check all wiring.</li> <li>See "To Adjust Carburetor" in Service and Adjustments section.</li> <li>Contact a Sears or other qualified service center.</li> </ol>
Engine will not turn over	<ol> <li>Brake pedal not depressed</li> <li>Attachment clutch is engaged.</li> <li>Weak or dead battery.</li> <li>Blown fuse.</li> <li>Corroded battery terminals.</li> <li>Loose or damaged wiring.</li> <li>Faulty ignition switch.</li> <li>Faulty solenoid or starter.</li> <li>Faulty operator presence switch(es).</li> </ol>	<ol> <li>Depress brake pedal.</li> <li>Disengage attachment clutch.</li> <li>Recharge or replace battery.</li> <li>Replace fuse.</li> <li>Clean battery terminals.</li> <li>Check all wiring.</li> <li>Check/replace ignition switch.</li> <li>Check/replace solenoid or starter.</li> <li>Contact a Sears or other qualified service center.</li> </ol>
Engine clicks but will not start	<ol> <li>Weak or dead battery.</li> <li>Corroded battery terminals.</li> <li>Loose or damaged wiring.</li> <li>Faulty solenoid or starter.</li> </ol>	<ol> <li>Recharge or replace battery.</li> <li>Clean battery terminals.</li> <li>Check all wiring.</li> <li>Check/replace solenoid or starter.</li> </ol>

#### TROUBLESHOOTING CHART: See appropriate section in manual unless directed to Sears service center

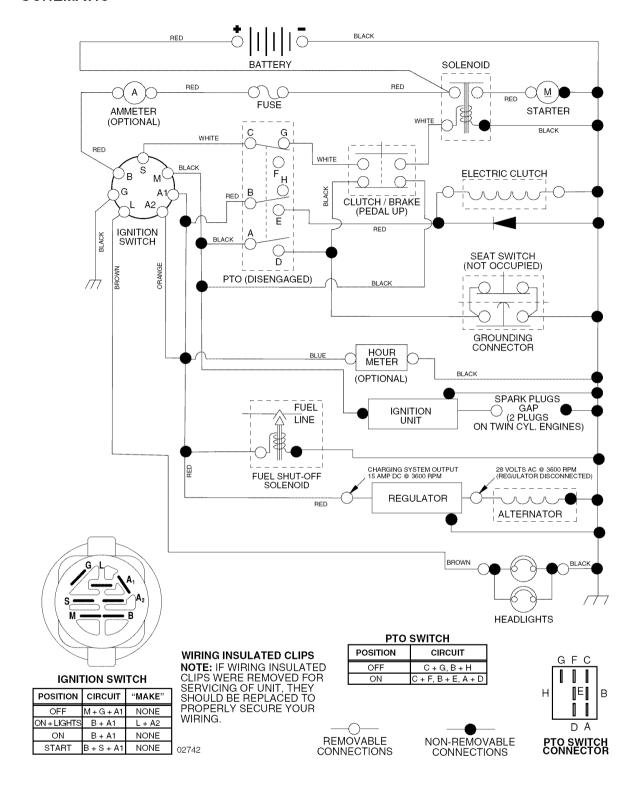
PROBLEM	CAUSE	CORRECTION
Loss of power	Cutting too much grass/too fast.     Throttle in "CHOKE" position.	<ol> <li>Raise cutting height/reduce speed.</li> <li>Adjust throttle control.</li> </ol>
	<ul><li>3. Build-up of grass, leaves and trash under mower.</li><li>4. Dirty air filter.</li><li>5. Low oil level/dirty oil.</li><li>6. Faulty spark plug.</li></ul>	<ol> <li>Clean underside of mower housing.</li> <li>Clean/replace air filter.</li> <li>Check oil level/change oil.</li> <li>Clean and regap or change</li> </ol>
	<ul><li>7. Dirty fuel filter.</li><li>8. Stale or dirty fuel.</li><li>9. Water in fuel.</li></ul>	spark plug. 7. Replace fuel filter. 8. Empty fuel tank and refill tank with fresh, clean gasoline. 9. Empty fuel tank and
	10. Spark plug wire loose.	carburetor, refill tank with fresh gasoline and replace fuel filter. 10.Connect and tighten spark
	<ul><li>11. Dirty engine air screen/fins.</li><li>12. Dirty/clogged muffler.</li><li>13. Loose or damaged wiring.</li></ul>	plug wire.  11. Clean engine air screen/ fins.  12. Clean/replace muffler.  13. Check all wiring.
	<ul><li>14. Carburetor out of adjustment.</li><li>15. Engine valves out of adjustment.</li></ul>	<ul><li>14. See "To Adjust Carburetor" in Service and Adjustments section.</li><li>15. Contact a Sears or other qualified service center.</li></ul>
Excessive vibration	<ol> <li>Worn, bent or loose blade.</li> <li>Bent blade mandrel.</li> <li>Loose/damaged part(s).</li> </ol>	<ol> <li>Replace blade.         Tighten blade bolt.</li> <li>Contact a Sears or other qualified service center.</li> <li>Tighten loose part(s).         Replace damaged parts.</li> </ol>
Engine continues to run when operator leaves seat with attachment clutch engaged	Faulty operator-safety presence control system.	Check wiring, switches and connections. If not corrected, contact a Sears or other qualified service center.
Poor cut - uneven	<ol> <li>Worn, bent or loose blade.</li> <li>Mower deck not level.</li> <li>Buildup of grass, leaves, and trash under mower.</li> <li>Bent blade mandrel.</li> <li>Clogged mower deck vent from build-up of grass, leaves, and trash around mandrels.</li> </ol>	<ol> <li>Replace blade. Tighten blade bolt.</li> <li>Level mower deck.</li> <li>Clean underside of mower housing.</li> <li>Contact a Sears or other qualified service center.</li> <li>Clean around mandrels to open vent holes.</li> </ol>

#### TROUBLESHOOTING CHART: See appropriate section in manual unless directed to Sears service center

PROBLEM	CAUSE	CORRECTION
Mower blades will not rotate	<ol> <li>Obstruction in clutch mechanism.</li> <li>Worn/damaged mower drive belt.</li> <li>Frozen idler pulley.</li> <li>Frozen blade mandrel.</li> </ol>	<ol> <li>Remove obstruction.</li> <li>Replace mower drive belt.</li> <li>Replace idler pulley.</li> <li>Contact a Sears or other</li> </ol>
Poor grass discharge	<ol> <li>Engine speed too slow.</li> <li>Travel speed too fast.</li> <li>Wet grass.</li> <li>Mower deck not level.</li> <li>Low/uneven tire air pressure.</li> <li>Worn, bent or loose blade.</li> <li>Buildup of grass, leaves and trash under mower.</li> <li>Mower drive belt worn.</li> <li>Blades improperly installed.</li> <li>Improper blades used.</li> <li>Clogged mower deck vent holes from buildup of grass, leaves, and trash around mandrels.</li> </ol>	<ol> <li>qualified service center.</li> <li>Place throttle control in "FAST" position.</li> <li>Shift to slower speed.</li> <li>Allow grass to dry before mowing.</li> <li>Level mower deck.</li> <li>Check tires for proper air pressure.</li> <li>Replace/sharpen blade.         <ul> <li>Tighten blade bolt.</li> </ul> </li> <li>Clean underside of mower housing.</li> <li>Replace mower drive belt.</li> <li>Reinstall blades sharp edge down.</li> <li>Replace with blades listed in this manual.</li> <li>Clean around mandrels to open vent holes.</li> </ol>
Headlight(s) not working (if so equipped)	<ol> <li>Switch is "OFF".</li> <li>Bulb(s) or lamp(s) burned out.</li> <li>Faulty light switch.</li> <li>Loose or damaged wiring.</li> <li>Blown fuse.</li> </ol>	<ol> <li>Turn switch "ON".</li> <li>Replace bulb(s) or lamp(s).</li> <li>Check/replace light switch.</li> <li>Check wiring and connections.</li> <li>Replace fuse.</li> </ol>
Battery will not charge	<ol> <li>Bad battery cell(s).</li> <li>Poor cable connections.</li> <li>Faulty regulator (if so equipped).</li> <li>Faulty alternator.</li> </ol>	<ol> <li>Replace battery.</li> <li>Check/clean all connections.</li> <li>Replace regulator.</li> <li>Replace alternator.</li> </ol>
Loss of drive	<ol> <li>Freewheel control in "disengaged" position.</li> <li>Motion drive belt worn, damaged, or broken.</li> <li>Air trapped in transmission during shipment or servicing.</li> </ol>	<ol> <li>Place freewheel control in "engaged" position.</li> <li>Replace motion drive belt.</li> <li>Purge transmission.</li> </ol>
Engine "backfires" when turning engine "OFF"	Engine throttle control not set between half and full speed (fast) position before stopping engine.	between half and full speed

#### TRACTOR -- MODEL NUMBER 917.276022

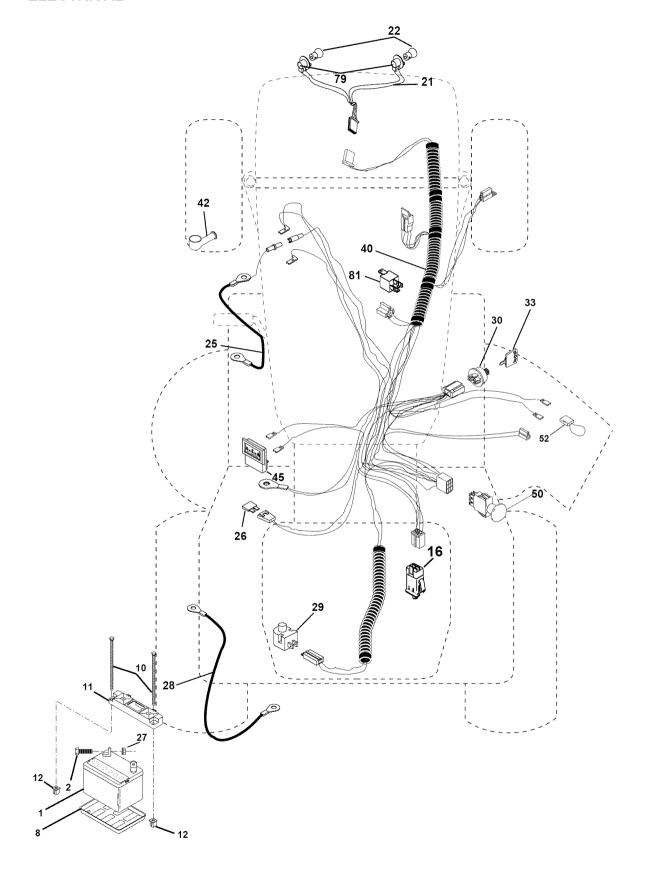
#### **SCHEMATIC**



### REPAIR PARTS

#### TRACTOR -- MODEL NUMBER 917.276022

#### **ELECTRICAL**



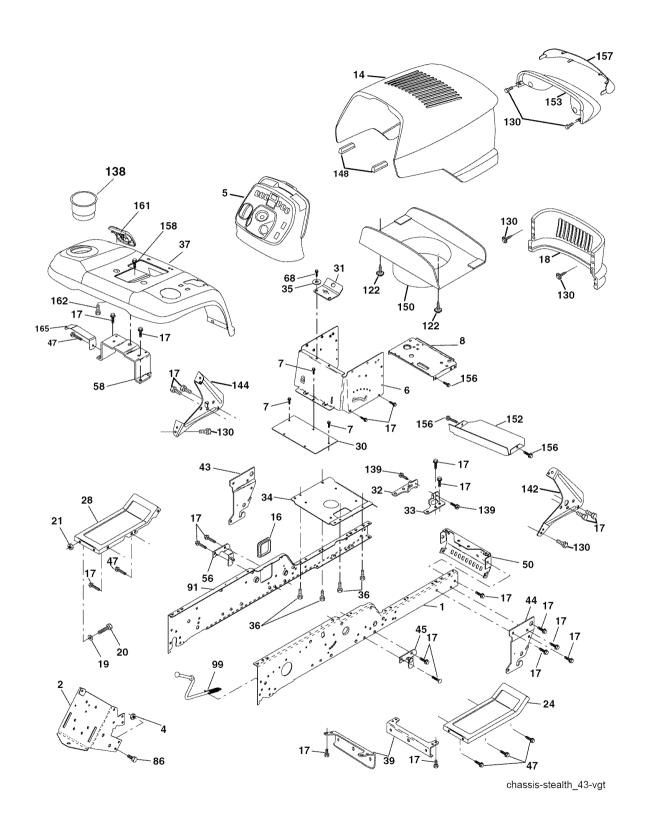
#### **TRACTOR -- MODEL NUMBER 917.276022**

#### **ELECTRICAL**

KEY	PART	
NO.	NO.	DESCRIPTION
1 2 8 10 11 12 16 21 22 25 26 27 28 29 30 33 40 42 45 50 52 79	144927 74760412 7603J 145211 150109 145769 176138 175688 4152J 185456 108824X 73510400 170697 121305X 175566 140403 188032 154336 122822X 174652 141940 175242	Battery Bolt Hex Head 1/4-20 x 3/4 Tray, Battery Bolt 1/4-20 x 7.5 Zinc Hold down Battery Dash Mount Nut Push Nylon 1/4" Switch Interlock Push-In Harness Socket Light W/4152J Bulb Light Cable, Battery Fuse Nut Keps Hex 1/4-20 unc Cable, Ground Switch, Plunger Switch, Ign Key, Ignition Harness Ign. Cover, Terminal Ammeter Switch, PTO Hourmeter Adaptor Bulbholder Asm Incandescent SV
81	109748X	Relay Asm.

**NOTE:** All component dimensions given in U.S. inches 1 inch = 25.4 mm

## TRACTOR -- MODEL NUMBER 917.276022 CHASSIS AND ENCLOSURES

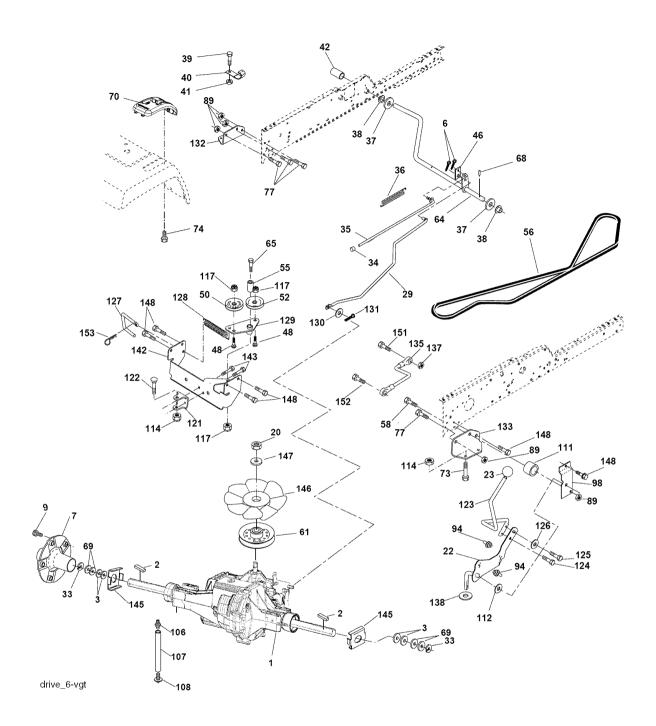


## TRACTOR -- MODEL NUMBER 917.276022 CHASSIS AND ENCLOSURES

KI NO		PART NO.	DESCRIPTION
	O. 20892480236		Rail, Frame RH Drawbar, Gt Nut 7/16-14 Dash Dash, Lower Vgt One Piece Screw, Thd Cut 1/4-20 x 1/2 Support, Battery Hood Asm Cover, Access Screw 3/8-16 x .75 Grille Washer 13/32x13/16 x 12 Ga. Bolt, Fin Hex 3/8-16 x 1 Nut Crownlock 3/8-16 unc Footrest, RH Footrest, LH Saddle, Hydro Brace, Supt 1-pc VGT Bracket, Pivot Chassis Lh Bracket, Pivot Chassis Rh Plate Asm Engine Washer 11/32 x 11/16 x 16 Ga. Screw 5/16-18 x 3/4 Fender Pnt Bracket, Spnsn Front Lh Bracket, Spnsn Front Lh Bracket, Spnsn Front Rh Bracket, Spnsn Front Rh Bracket, Chassis Front Bracket Asm., Susp Chas.Rh Screw Thdrol. 3/8-16 x 1/2 Bracket Asm., Fender Screw Thdrol. 5/16-18 x 1/2 Bolt Fin Hex 7/16-14 unc x 1 Rail, Frame Lh Rod By Pass Screw Hex Wshd 8-18 x 7/8 Screw Hwhd Hi-Lo #13-16 x 3/4
15 16 16 16	1	17670608 179612X428 142432 183554	Screw Thdrol 3/8-16 x 1/2 Console Fuel Window Screw Hex 1/4-1/2 unc Bracket Support Tank
NIC	TE	. All common	ent dimensione siven in LLC

**NOTE:** All component dimensions given in U. S. inches 1 inch = 25.4 mm

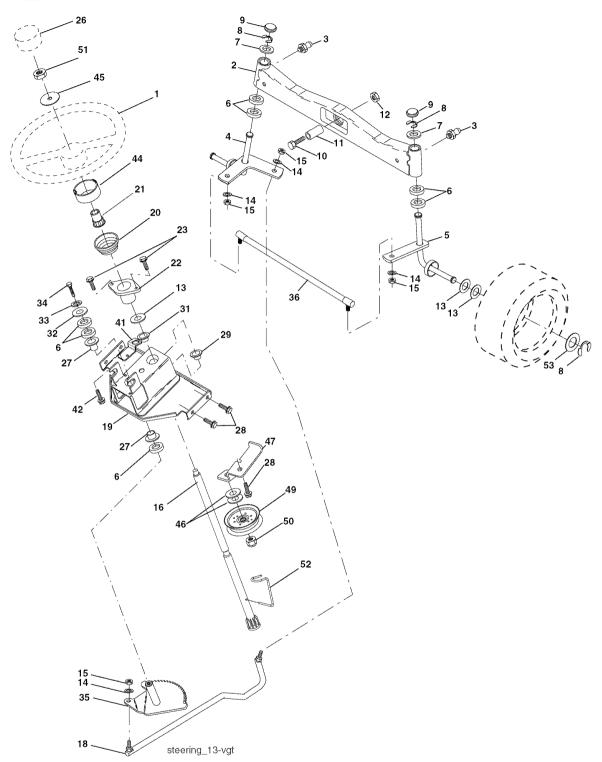
## **GROUND DRIVE**



### **GROUND DRIVE**

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1		Transaxle Hydro Gear	94	133835	Fastener Christmas Tree
_		331-3000 (See Breakdown)	98	141004	Bracket Shift
2	7070E	Key 1/4 x 2.5	106	142918	O-Ring Asm Hydro Gear
3	7563R	Washer Thrust	107	154739	Line Fuel Hydro 15" VGT
6 7	STD561210		108	142917	Cap Asm Vent Hydro Gear 70109
	140507 140080	Wheel, Hub Assembly	111 112	156240 178558	Spacer Shift Lever VGTH
9 20	73940800	Bolt, Hub Nut	114	73800500	Washer Nylon High Temp Nut Lock Hx W/lns 5/16-18 unc
22	180235	Lever Asm Shift Lower	117	73900600	
23	130564	Knob	120	17000612	Nut, Lock Flg. 3/8-16 Screw 3/8-16 x .75
29	176600	Brake, Rod	121	175611	Bracket Strap Torque
33	12000053	Ring E	122	72010520	Bolt RDHD SQ
34	71673	Cap, Parking Brake	122	72010020	5/16-18 unc x 2-1/2
35	137648	Rod, Parking Brake	123	183254	Rod Shift
36	149412	Spring, Drive Ground	124	165492	Bolt Shoulder 5/16-18 x .561
37	121749X	Washer 25/32 x 1-1/4 x 16 Ga.	125	17490510	Screw 5/16-18 x 5/8
38	150035	Nyliner	126	166002	Washer SRRTD
39	74321016	Screw, Fin. #10-24 x 1			5/16ID x 1.0 x .125
40	178575	Actuator, Interlock Switch	127	177362	Link Control Clutch
41	73931000	Nut Centerlock 10-24 unc	128	176624	Spring Drive GRND
42	8883R	Cover, Pedal	129	179473	Bracket Asm Idler Tensioning
46	145170	Retainer, Spring	130	19131016	Washer 13/32 x 5/8 x 16 Ga.
48	72110614	Bolt, 3/8-16 x 1-3/4 Gr. 5	131	76020312	Pin Cotter 3/32 x 3/4
50	131494	Pulley, Idler, Flat	132	175467	Bracket Mtg Hydro 3500 LH VGT
52	127783	Pulley, Idler, Grooved	133	175468	Bracket Mtg Hydro 3500 RH VGT
55	105706X	Bearing, Idler	135	177364	Link Asm Control Hydro 3500
56	161597	V-Belt	137	1685H	Nut Lock 5/16-18 NC Thd
58	74760724	Bolt Fin Hex 7/16-14 x 1-1/2	138	1370H	Washer Thrust 5/8 x 1.10 x 1/32
61	143995	Pulley, Transaxle	142	175469	Strap Torque HG-3500
64 65	176601	Shaft, Clutch/Brake Pedal	143	17000512	Screw Thdrol 5/16-18 x 3/4
65 68	179613	Bolt, Shoulder	145 146	163168 140462	Washer Axle Flange HG-3000
69	STD571812 123800X	Pin, Roll Washer	147	141322	Fan 7" Hydro Washer
70		Console Automatic YT/GT	151	74760514	Bolt Fin Hex 5/16-18 x 7/8
73	74490548	Bolt Hex Fighd 5/16-18 x 3 Gr. 5	152	178705	Bolt Hex 5/16-18 x 1
73 74	142432	Screw Hex Wsh. Hi-Lo 1/4-1/2	153	4997H	Retainer Spring
7 <del>7</del>	74780720	Bolt Hex 7/16-14 x 1-1/4 Gr. 5			·
89	73680700	Nut Crownlock 7/16-14 unc		E: All compor s 1 inch = 25.	nent dimensions given in U.S. 4 mm

## **STEERING**

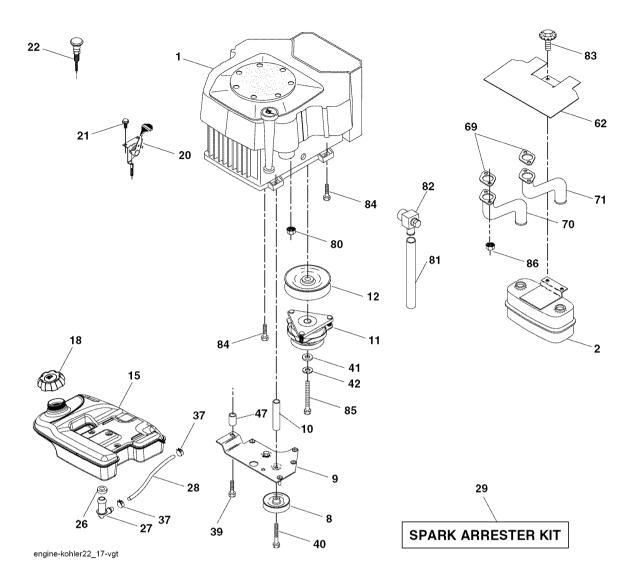


#### **STEERING**

KEY	PART	
NO.	NO.	DESCRIPTION
1	159944X428	Wheel, Steering
2	178557	Axle Asm., Front
3	183226	Fitting, Grease
4	161849	Spindle Asm, LH
5 6	161848 6266H	Spindle Asm., RH Bearing, Race Thrust Harden
7	121748X	Washer 25/32 x 1-5/8 x 16 Ga.
8	12000029	Ring, Klip #T5304-75
9		Cap, Spindle
10	74781044	Bolt, Fin Hex 5/8-11 x 2-3/4
11	136518	Spacer Bearing Axle Front
12	73901000	Nut, Lock Flange 5/8-11 unc
13 14	121749X STD551137	Washer 25/32 x 1-1/4 x 16 Ga.
15	STD531137	Washer, Lock Hvy Hlcl Spr 3/8 Nut, Lock Center 3/8-24 unf
16	186814	Shaft Asm., Steering
18	175572	Draglink Vgt
19	156011	Support Asm., Steering Vgt
20		Boot, Steering
21	159945	Adapter, Wheel Steering
22 23	155105 152927	Bushing, Strg. Blk Screw
26	159946X428	
27	3366R	Bearing, Col. Strg.
28	17000612	Screw, 3/8-16 x 3/4
29	104239X	Bearing, Flange
31	138136	Bushing, Nyliner Snap
32 33	19111610 STD551131	Washer 11/32 x 1 x 10 Ga.
34	74780512	Washer, Lock Hvy Hlcl Spr 5/16 Bolt Fin Hex 5/16-18 unc x 3/4
35	187039	Gear, Sector Steering
36	186799	Tie Rod
41	155246	Bracket Switch Interlock VGT 97
42	17490508	Screw Thdrol 5/16-18 x 1/2 Tyt
44		Extension, Steering
45 46	19182411 19131610	Washer 9/16 x 1-1/20 x 11 Ga. Washer Flat 13/32 x 1 x 10 Ga.
47	179471	Bracket Asm Idler Stationary
49	175820	Pulley Idler Flat
50	73900600	Nut Lock Flg 3/8-16 unc
51	73940800	Nut Hex Jam Toplock 1/2-20 unf
52	175553	Clip Steering .750
53	188967	Washer Hardened

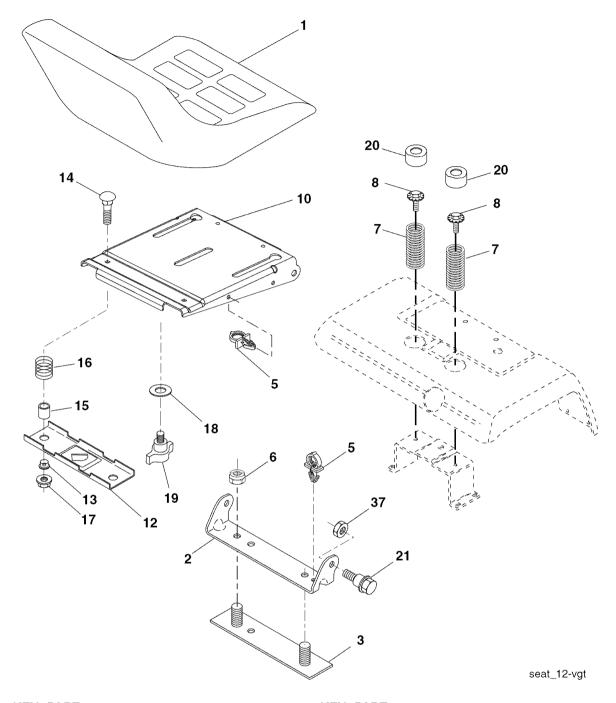
**NOTE:** All component dimensions given in U. S. inches 1 inch = 25.4 mm

### **ENGINE**



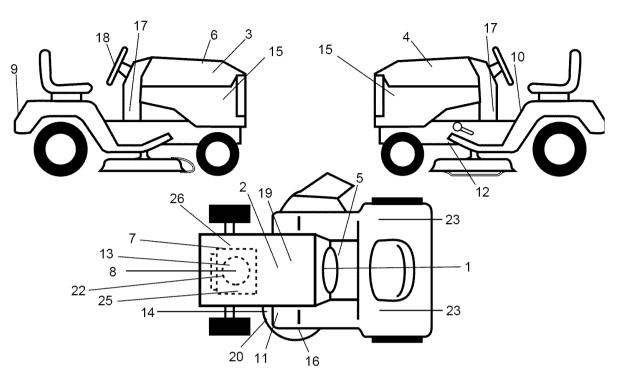
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
, vo.	110.		39	17490636	Screw TT 3/8-16 x 2-1/4 unc
1		Engine (See Breakdown) Kohler Model No. CV730-0029	40	17490664	Screw TT 3/8-16 x 4 unc
2	149723	Muffler	41	126197X	Washer
8	121361X	Pulley V-Idler			1-1/2 OD x 15/32 ID x .250
9	177748	Keeper Asm. Belt Engine	42	STD551143	Washer Lock 7/16
10	175287	Bushing	47	175288	Spacer Engine
11	179335	Clutch Electric	62	146629	Shield Heat Muffler
12	143996	Pulley Engine VGT Elect Clutch	69	24-041-49	Gasket
15	179115	Tank Fuel Rear 5.0 Yt/Gt 96	70	175545	Tube Exhaust LH
18		Cap Asm Fuel W/Gauge	71	175546	Tube Exhaust RH
20		Control Throttle	80 81	M73030800 188800	Nut Flange Tube Drain Oil
21	171875	Screw hwhd Hi-Lo #13-16 x 3/4	82	188799	Valve Oil Drain
22 24	STD551237	Control Choke Washer Ext Tooth 3/8	83	171877	Bolt 5/16-18 unc x 3/4
26	3645J	Bushing	84	17060624	Screw 3/8-16 x 1-1/2
27	139277	Stem Tank Fuel	85	179953	Bolt Hex 7/16 - 20 x 3.75 Gr. 5
28	7834R	Fuel Line	86	184362	Nut Hex Flange Toplock M8-1.25
29	137180	Spark Arrester Kit	NOTE	: All compone	ent dimensions given in U.S.
37	123487X	Clamp Hose			ch = 25.4 mm

## SEAT ASSEMBLY



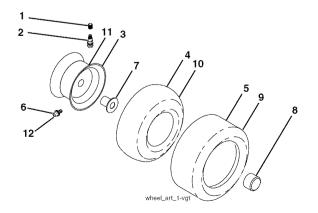
KEY	PART		KEY	PART	
NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1	180598	Seat	15	121249X	Spacer, Split
2	180166	Bracket, Pivot Seat	16	123740X	Spring, Cprsn
3	140675	Strap, Fender Assembly	17	123976X	Nut, Lock 1/4 Lge Flg Gr. 5
5	145006	Clip, Push In, Hinged	18	19171912	Washer 17/32 x 1-3/16 x 12 Ga.
6	STD541437	Nut, Crownlock 3/8-16 unc	19	166369	Knob, Seat
7	124181X	Spring, Seat Cprsn	20	124238X	Cap, Spring Seat
8	171877	Bolt 5/16-18 unc x 3/4 w/Sems	21	171852	Bolt, Shoulder 5/16-18
10	180186	Pan, Seat	37	73800500	Nut, Lock Hx w/lns. 5/16-18
12	121246X	Bracket, Mounting Switch			
13	121248X	Bushing, Snap	NOTE		ent dimensions given in U.S.
14	72050412	Bolt, Carriage 1/4-20 x 1-1/2		inches 1 in-	ch = 25.4 mm

## **DECALS**



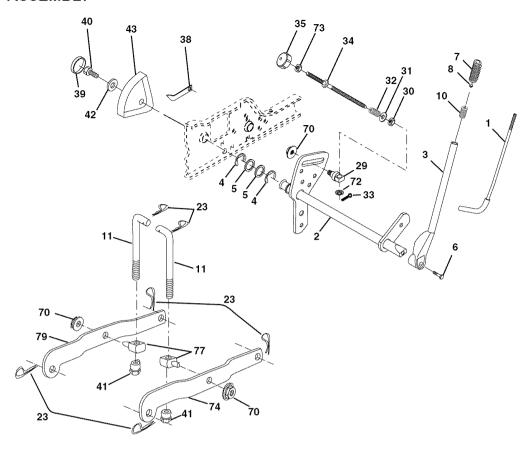
KEY	PART		KEY	PART	
NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1	164094	Decal Dash	16	178482	Decal Deck HVYDTY
2	149516	Decal Battery DNGR/PSN	17	177665	Decal Dash Panel
		ENG Asm	18	164065	Decal Insert Strg
3	186242	Decal Hood RH	19	138047	Decal Battery
4	186243	Decal Hood LH	20	181470	Decal Deck Level
5	140837	Decal Brake Parking Saddle	22	177914	Decal Engine Logo
6	133644	Decal Maintenance	23	106202X	Reflector, Taillight
7	185980	Decal Engine	25	177917	Decal Engine LH
8	177918	Decal Engine	26	177916	Decal Engine RH
9	186572	Decal Fender		179768X428	Pad Footrest LH
10	156439	Decal Fender Danger		166960	Decal Drawbar CNTRL
11	181252	Decal FTREST		179769X428	Pad Footrest RH
12	177554	Decal V-Belt Dr Sch		191267	Owner's Manual, English
13	186403	Decal Replacement		191268	Owner's Manual, Spanish
14	175291	Decal V-Belt Schem			
15	186725	Decal Hood Side Pnl			

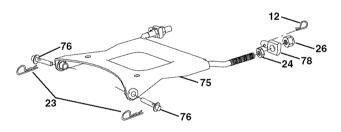
### WHEELS AND TIRES



KEY NO.	PART NO.	DESCRIPTION			
1	59192	Cap Valve Tire			
2 3	65139	Stem Valve			
3	106228X624	Rim Asm Front			
4	8134H	Tube, Front (Service Item Only)			
5	105588X	Tire, Front			
6	278H	Fitting Grease (Front Wheel Only)			
7	9040H	Bearing Flange (Front Wheel Only)			
8	104757X428	Cap Axle (Front Wheel Only)			
9	106230X	Tire Rear			
10	7154J	Tube Rear (Service Item Only)			
11	106277X624	Rim Asm Rear			
12	6856M	Fitting Grease			
	144334	Sealant, Tire ( 10 oz. Tube)			
NOTE: All component dimensions given in U.S.					

## LIFT ASSEMBLY

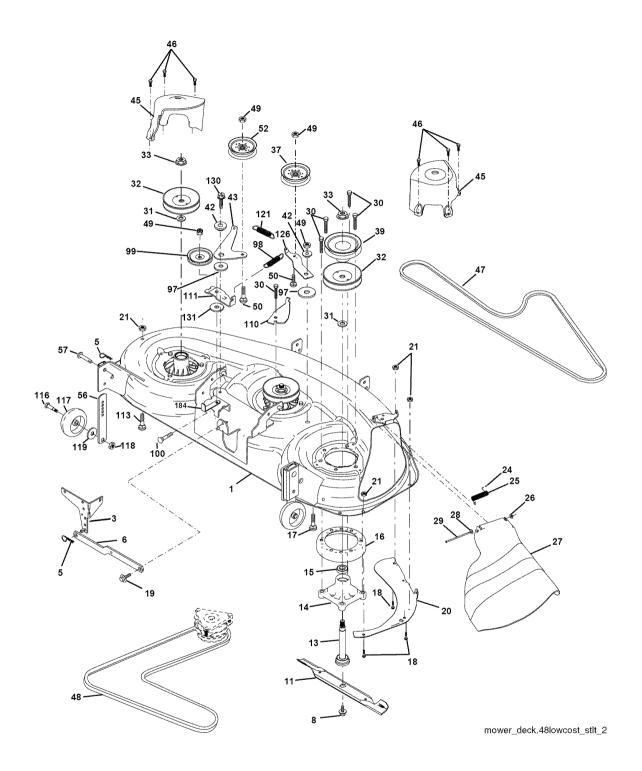




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KEY	PART		KEY	PART	
NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1	121006X	Rod Asm., Lever	35	138057	Knob, Inf 3/8-16 unc
2	180045	Shaft Asm., Lift Vgt	38	155097	Pointer, Height Indicator
3	159189	Lever Asm., Lift Rh	39	123935X	Plug, Hole
4	12000022	E-Ring Truarc #5133-87	40	17060516	Screw Hex Wsh 5/16-18 x 1
5	19292016	Washer 29/32 x 1-1/4 x 16 Ga.	41	175994	Nut, Lift Link 7/16-20
6	71110624	Bolt, Fin Hex 3/8-16 x 1-1/2	42	19112410	Washer 11/32 x 1-1/2 x 10 Ga.
7	175830	Grip, Handle Fluted	43	123934X	Scale, Indicator Height
8	175831X505	Plunger, Button	70	145212	Nut Hex Flange Lock
10	183894	Spring	72	110452X	Nut Push Phos & Oil
11	175375	Link Lift	73	73350600	Nut Hex Jam 3/8-16 unc
12	163552	Retainer Spring	74	175802	Arm Susp. Rear RH
23	STD624008	Retainer, Spring	75	175805	Plate Asm. Susp. Front
24	73350800	Nut, Jam Hex 1/2-13 unc	76	175560	Pin, Flange
26	73680800	Nut Crownlock 1/2-13 unc	77	176205	Trunnion Susp. Arm
29	150233	Trunnion, Infin Height	78	175689	Trunnion Susp. Front
30	110807X	Nut, Special	79	175378	Arm, susp. R LH
31	STD551037	Washer 13/32 x 5/8 x 16 Ga.			
32	137150	Spring, Compression Inf Hgt			
33	STD560907	Pin, Cotter 3/32 x 1/2	NOT	•	nent dimensions given in U.S.
34	137167	Rod, Adj Lift		inches 1 ir	nch = 25.4 mm

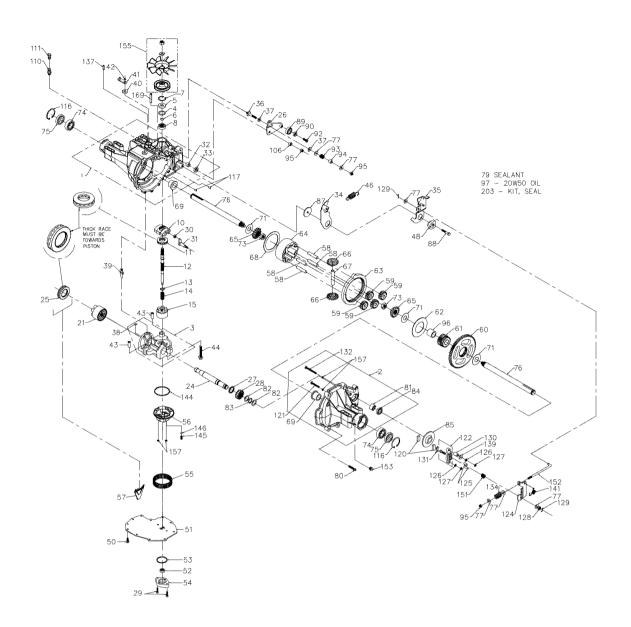
## MOWER DECK



#### **MOWER DECK**

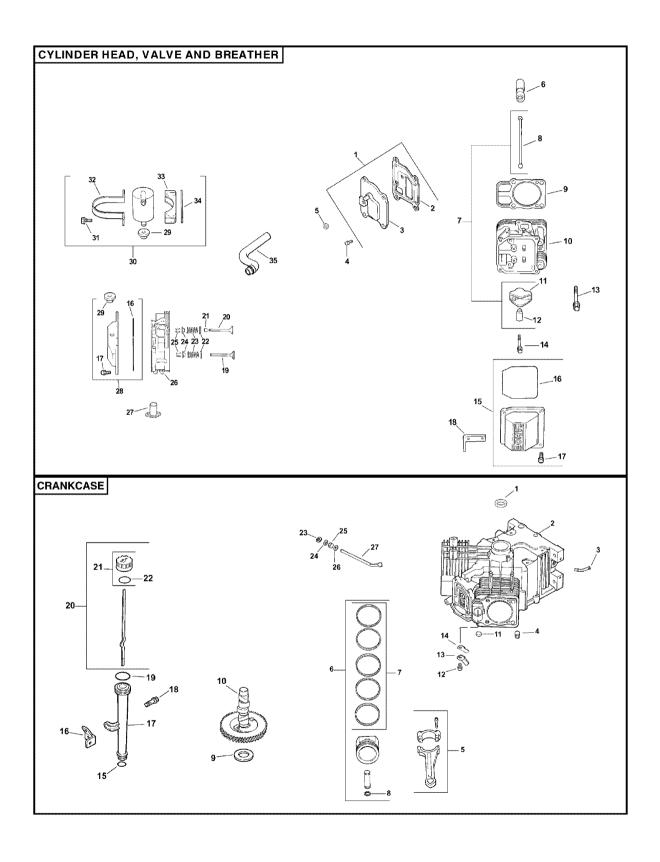
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	180358	Deck Weldment	42	165723	Spacer, Retainer
3	178915	Bracket Asm., Sway Bar	43	174373	Arm, Idler Secondary
3 5	4939M	Retainer Spring	45	180806	Cover, Mandrel Deck
6	178024	Arm, Suspension, Rear	46	137729	Screw, Thdroll. 1/4-20 x 5/8
		(Sway Bar)	47	180808	V-Belt, Mower, Secondary
8	174365	Bolt 7/16 Asm. Blade	48	174368	V-Belt, Mower, Primary
		(The following blades are avail	49	73900600	Nut 3/8-16 unc
		able)	50	72110612	Bolt, Carr. 3/8-16 x 1-1/2 Gr. 5
11	180054	Blade, 48" Hi-lift	52	175820	Pulley Idler Flat
		(For bagging and discharging)	56	155986	Bar Pnt Adj.
	173921	Blade, 48" Mulching	57	156941	Pin Head Rivet
40	171000	(For mulching mowers only)	97	178515	Washer Hardened
13	174360	Shaft Asm. w/Lower Bearing	98	179479	Spring Primary Drive
14	174358	Housing Mandrel	99	184058	Pulley Idler"V"
15 16	110485X	Bearing, Ball, Mandrel	100	72110616	Bolt RDHD Sqnk 3/8-16 unc x 2
17	174493 72110610	Stripper Mandrel Deck	110 111	175016 174610	Arm Spring Secondary
18	72110610	Bolt RDHD Sq Neck 3/8-16 x 1.25 Bolt, Carriage 5/16-18 x 5/8	113	72110506	Arm Spring Fixed Tension Bolt 5/16-18 x 3/4
19	132827	Bolt, Hex Hd, Shoulder 5/16-18	116	184219	Bolt, Shoulder
20	174378	Baffle, Vortex Mower	117	174873	Gauge Wheel
21	73680500	Nut, Crownlock 5/16-18 unc	118	73930600	Nut, Centerlock 3/8-16 unc
24	105304X	Cap, Sleeve	119	19121414	Washer 3/8 x 7/8 x 14 Ga.
25	178102	Spring, Torsion	121	174371	Spring Secondary Drive
26	110452X	Nut. Push	126	174372	Arm, Idler, Primary Deck
27	180655X428	Deflector Shield	130	17000616	Screw 3/8-16 x 1.0.Blk
28	19111016	Washer 11/32 x 5/8 x 16 Ga.	131	19131606	Washer 13/32 x 1/4 x 16 Ga.
29	131491	Rod, Hinge	184	173979	Keeper Belt Idler
30	173984	Screw, Thdroll		174356	Mandrel Asm. Service (Includes
31	187690	Washer, Spacer Mower Vented			Key Nos. 13-15)
32	174346	Pulley, Mandrel		186353	Replacement Mower, Complete
33	178342	Nut, Flg. Top Lock Cntr. 9/16	NOTE	. All compos	nent dimensions given in U.S.
37	177968	Pulley, Idler, 48" Primary		es 1 inch = 25	
39	174375	Pulley, Idler, Driven	HIGH	.5 I IIIOII - 20	7.7 IIIII

## TRACTOR -- MODEL NUMBER 917.276022 TRANSAXLE--MODEL NUMBER 331-3000



## TRACTOR -- MODEL NUMBER 917.276022 TRANSAXLE--MODEL NUMBER 331-3000

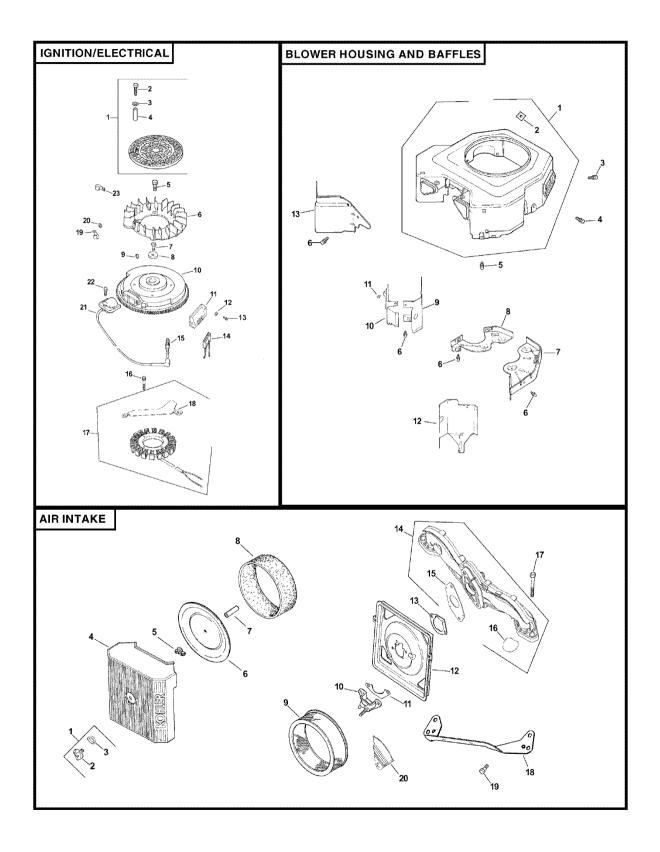
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	161122	Main Housing Assembly	74	169535	Poll Pro 6205 1
2	178317	R.H. Housing Assembly	7 <del>4</del> 75	161157	Ball Brg 6205-1 Seal 1"Id X 2.0472" X 0.375"
3	169522	Center Section Assembly	76	161153	Shaft, Axle
4	161125	Spacer	77	142884	Washer
5	142932	Seal-Lip	79	178322	Gasket Material
6	142928	Wire Retaining Ring	80	161159	Torx Head Screw, 5/16-18
7	142933	Retaining Ring	81	161160	Needle Bearing (Sce1412)
8	142934	Ball Bearing	82	161161	Washer2
9	169523	Cradle Bearing	83	161162	Retaining Ring
10	169524	Variable Swashplate	84	161163	Lip Seal (0.875i.D.X1.3o.D.X0.25
11	150771	Thrust Bearing 30 X 52 X 13	85	161164	Brake Disk
12	161126	Input Shaft	87	178323	Washer
13	142978	Block Thrust Washer	88	178324	Screw 5/16-24
14	142977	Arm - Trunnion	89	178325	Bearing
15	169050	10cc Cylinder Block Assembly	90	178326	Spacer
21	169525	21cc Cylinder Block Assembly	91	169536	Oring, 0.070 X 0.239
24	161127	Output (Motor) Shaft	92	178327	Screw
25	169526	Thrust Bearing 42 X 68 X 16	93	142969	Spring, Friction Pack
26	161128	Control Arm	94	142980	Spacer, Friction Pack
27	161129	Spacer	95	169537	Hex Lock Nut 5/16-24
28 29	161130 169527	16t Pinion Gear	96	169538	Sleeve Bearing
30	142941	Capscrew, M6 X 1-22 Slot Guide	97	150798	Oil
31	161132	Trunnion Arm	106	161166	Spacer, Trunnion
32	161133	Trunnion Bushing	108	178328	Plug
33	142940	Lip Seal	110	142918	Fitting-O Ring Ass'y
34	178318	Arm Return	111	142917	Cap Vent Ass'y
35	178319	Arm Actuating	116	169539	Retaining Ring
36	169528	5/16-24 Stud	117	161168	Std Hdls Pin
37	142967	Puck, Friction	120	142883	Puck, Brake
38	150787	Bypass Plate	121	169540	Rib Neck Bolt, 2"
39	169529	Bypass Actuator	122 124	178329 178330	Brake Yoke Arm, Brake
40	142945	Lip Seal	125	142887	Pins, Brake
41	142952	Bypass Arm	126	161172	Lockwasher, 1/4"
42	142953	Retaining Ring	127	161173	Nut, 1/4-20
43	142965	Pin	128	142885	Nut, Castle
44	150797	Screw	129	142886	Cotter Pin
48	178320	Puck	130	161174	Spacer
50	178343	Screw-Self Tapping	131	142882	Puck Plate
51	169530	Lower Cover	132	169544	Rib Neck Bolt, 3" 1
52	169531	Gerotor Assembly	134	178331	Spring
53 54	144581	O-Ring Gerotor Cover	136	178332	Spring Extension
55	161139 178321	Filter	137	178333	Pin Spring
56	169533	Charge Manifold	138	178334	Bolt Self Tapping
57	161142	Retainer, Motor Bearing	139	161176	Washer, 7/8od X 0.265id X 0.125
58	161143	Pin, Carrier			Thk
59	161144	15t Planet Gear	141	178335	Spring Brake
60	161145	7t Spur Gear	144	169545	O Ring, 2.864 ld X 0.070 Thk
61	161146	21t Sun Gear	145	169546	Spring, Relief
62	161147	Planet Thrust Plate	146	169547	Ball, 7/16
63	161148	51t Ring Gear	151	161181	Comp. Spring, Brake Anti-Drag
64	161149	Planetary Carrier	152 153	178336	Brake Pull Rod
65	161150	Miter Gear, Diff. (Splined)	153 155	142914 178337	Plug, Straight Thread
66	161151	Miter Gear, Diff.	155 157	169548	Kit Fan
67	161152	Shaft, Differential	180	169549	Screw O-Ring Manifold Kit
68	161153	Diff. Thrust Plate	203	178338	Kit Seal
69	169534	Flange Bearing	900	166773	Transaxle, complete
70	161154	Washer	550	100770	nanaano, compiete
71	161155	Washer	NOTE	. All	ant disconsists above to 110 to 1
73	161156	Hex Jam Nut, 5/8-18		:: All compon ı = 25.4 mm	ent dimensions given in U.S. inches



#### HEAD/VALVE/BREATHER

#### CRANKCASE

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1.	24-033-03-S	Kit, breather cover w/gasket (Includes 2, 3)	1. 2.	24-032-01-S	Seal, front oil Crankcase (USE: Miniblock
2. 3. 4.	24-041-50-S 24-096-87-S M-645020-S	Gasket, breather Cover, breather Screw, hex. flange M6x1.0x20 (4)	3. 4. 5.	24-294-13-S 24-380-13-S 24-067-13-S	24 782 14) Fitting Pin, locating (6) Connecting Rod (Std.) (2)
5. 6. 7.	25 139 60-S 25-351-01-S 24-755-66-S	Plug, hex. ctsk. 1/8" Lifter, valve (4) Kit, valve train (Includes 8, 11, 12)	6.	24-067-14-S 24-874-08-S 24-874-16-S	Connecting Rod (.25) (2) Piston w/Ring Set (Std.) (2) (Includes 7, 8) Piston w/Ring Set (.08)
8. 9.	24-411-05-S 24-841-03-S	Rod, push (4) Kit, cylinder head gasket (2) (Includes 13)	7.	24-874-20-S 24-874-21-S 24-108-05-S	Piston w/Ring Set (.06) Piston w/Ring Set (.25) Piston w/Ring Set (.50) Ring Set (Std. & .08) (2)
10. 11. 12.	24-318-72-S 25-186-01-S 24-599-01-S	Head assembly, #2 cylinder Arm, rocker (4) Pivot, rocker arm (4)	8.	24-108-06-S 24-108-07-S 24-018-01-S	Ring Set (.25) Ring Set (.50) Retainer, piston pin (4)
13.	12 086 16-S	Screw, hex. flange M10x1.5x90 (8)	9.	12-422-09-S 12-422-13-S	Shim, camshaft (A.R.) Shim, camshaft (A.R.)
14.	66-086-07-S	Screw, hex. flange M6x1.0x34 (4)		12-422-07-S 12-422-08-S	Shim, camshaft (A.R.) Shim, camshaft (A.R.)
15.		Kit, valve cover - plain (Includes 16,17)		12-422-10-S 12-422-11-S	Shim, camshaft Shim, camshaft (A.R.)
16. 17.	24-153-28-S M-651030-S	O-Ring Screw, hex. flange M6x1.0x30 (4)	10. 11.	12-422-12-S 24-012-16-S 52-139-09-S	Shim, camshaft (A.R.) Camshaft Plug, cup
18. 19.	24-445-01-S 24-016-01-S	Strap, lifting Valve, exhaust (Std.) (2)	12.	M-545010-S	Screw, hex. flange M5x0.8x10 (2)
20.	24-016-02-S 24-017-01-S 24-017-02-S	Valve, exhaust (.25) (2) Valve, intake (Std.) (2) Valve, intake (.25) (2)	13. 14. 15.	24-018-04-S 24-402-05-S 12-153-01-S	Retainer, reed (2) Reed, breather (2) O-Ring, lower oil fill tube
21. 22. 23.	66-032-05-S 235011-S 24-089-02-S	Seal, valve stem (2) Retainer, spring (4)	16. 17.	24-126-19-S 12-123-04-S M-545016-S	Bracket, oil fill tube Tube, oil fill
24. 25. 26.	12-173-01-S 12-755-03-S 24-318-69-S	Spring, valve (4) Cap, valve spring (4) Kit, retainer (4)	18. 19.	12-153-02-S	Screw, hex. flange M5x0.8x16 O-Ring, upper oil fill tube
26. 27.		Head assembly, #1 cylinder Kit, valve cover - breather (Includes 16,17,29)	20. 21.	24-038-04-S 24-755-46-S	Dipstick assembly (Includes 21, 22) Kit, oil fill cap (Includes 22)
28. 29.	25-313-03-S 24-755-57-S	Grommet, rubbér Kit, breather separator (Includes 29,31-34)	22. 23. 24.	25 153 02-S 24-018-09-S M-931010-S	O-Ring, dipstick Ring, retainer Washer, nylon (top)
30.	M-545016-S	Screw, hex. flange M5x0.8x16 (2)	25. 26.	28-032-09-S 24-468-15-S	Seal, governor cross shaft Washer (bottom)
31. 32. 33. 35.	24-445-02-S 24-126-44-S 24-112-12-S 24-326-55-S	Strap, breather Bracket, breather separator Spacer Hose, breather		24-144-38-S E: All compone s 1 inch = 25.4	Shaft, governor cross ent dimensions given in U.S.



#### IGNITION/ELECTRICAL

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1.	54-755-15-S	Kit, grass screen (Includes 2-4, & 24-113-18- S)	1. 2. 3.	24-027-114-S 24-100-01-S M-551016-S	Housing, blower (Includes 2) Nut, plastic (2) Screw, hex. flange
2.	M-403025-S	Screw, hex. cap M4x0.7x25 (4)	4.	M-545016-S	M5x0.8x16 Screw, hex. flange
3. 4. 5.	X-25-92-S 24-112-04-S 25-086-47-S	Washer, plain 5/16" (4) Spacer, grass screen (4) Bolt, shoulder M6x1.0x16 (4)	5.	M-545020-S	M5x0.8x16 (3) Screw, hex. flange M5x0.8x20 (4)
6. 7.	24-157-08-S 12-086-14-S	Fan Screw, hex. flange	6.	M-645016-S	Screw, hex. flange M6x1.0x16 (6)
8. 9.	12-468-03-S X-42-15-S	M10x1.5x46 Washer, plain 3/8" Key	7. 8. 9.	24-146-16-S 24-146-20-S 24-063-39-S	Plate, backing - # 2 side Plate, backing - # 1 side Baffle, cylinder barrel - # 2
10. 11. 12.	24-025-01-S 41-403-09-S X-25-92-S	Flywheel Rectifier-regulator Washer, plain 3/16" (3)	10.	24-063-58-S	side Baffle, cylinder barrel - # 1 side
13.	24-086-18-S	Screw, phillips hd. 11-16x7/8 (2)	11.		Screw, hex. flange M5x0.8x10 (2)
14. 15. 16.	236602-S 12-132-02-S M-548025-S	Connector (3 contact) Spark Plug (2) Screw, hex. cap M5x0.8x25	12. 13.	24-063-14-S 24-063-60-S	Baffle, valley - #2 side Baffle, valley - #1 side
		(2)	NOT	ILLUSTRATED	
17. 18.	54-755-09-S 24 126 71-S	Kit, 15 amp stator (Includes 18) Bracket, stator wire		24-096-85-S 25-086-91-S 25-113-39-S	Cover, blower housing Screw, tapping 10-16x1/2" (2) Decal, clear lamination
19. 20. 21.	48-154-02-S X-25-63-S 24-584-01-S	Clip, cable Washer, plain 1/4"	AIR I	NTAKE/FILTRA	
22.	M-545020-S	Module, ignition (2) Screw, hex flange M5x0.8x20 (4)	KEY NO.	PART NO.	DESCRIPTION
23.	235173-S	Clip, cable	4	E4 755 04 0	120 1 1 20 1

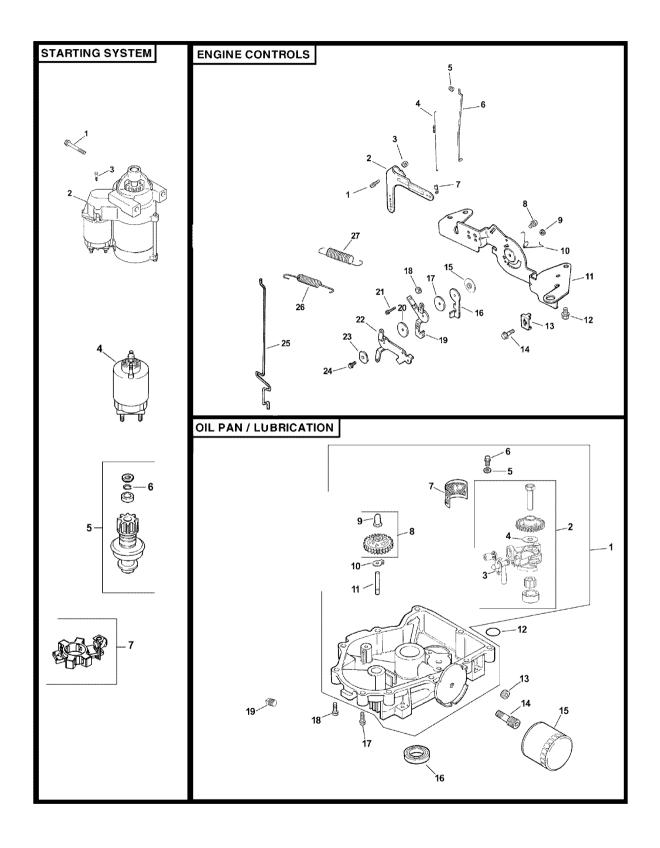
#### **NOT ILLUSTRATED**

24-126-137-S Bracket, ground strap 24-176-82-S Harness, wiring 25-454-03-S Tie, wire (3) 24-113-18-S Decal, grass screen

NO.	NO.	DESCRIPTION
1.	54-755-01-S	Kit, knob with seal (Includes 2,3)
2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14.	20-341-01-S 24-153-20-S 24-096-67-S 12-100-01-S 24-096-01-S 231032-S 24-083-05-S 24-083-03-S 24-109-09-S 24-041-13-S 24-094-34-S 24-041-14-S 24-164-51-S	Knob, cover O-Ring Cover, air cleaner Wing Nut Cover, inner air cleaner Seal, breather Precleaner, element Element, air cleaner Cup, fuel spit-back Gasket, fuel spit-back cup Base, air cleaner Gasket, air cleaner base Manifold, intake (Includes
15.	24 041 52-S	15,16) Gasket, carburetor
16. 17.	24 153 27-S M-651040-S	O-Ring, intake port (2) Screw, hex. flange M6x1.0x40 (4)
18. 19.	24 126 130-S M-545010-S	
20.	24-063-51-S	Baffle, spit-back cup

**BLOWER HOUSING & BAFFLES** 

NOTE: All component dimensions given in U.S. inches 1 inch = 25.4 mm



#### STARTING SYSTEM

KEY NO.	PART NO.	DESCRIPTION
1.	M-839080-S	Screw, hex. flange M8x1.25x80 (2)
2.	25-098-09-S	Starter, solenoid shift (In cludes 3-7)
3.	25 086 113-S	Screw, external torx hd. (3)
4.	25-435-05-S	Kit, solenoid (Includes 3)
5. 6.	25-755-33-S 25-141-05-S	Kit, pinion drive (Includes 6) Ring
7.	25-221-01-S	Kit, brush

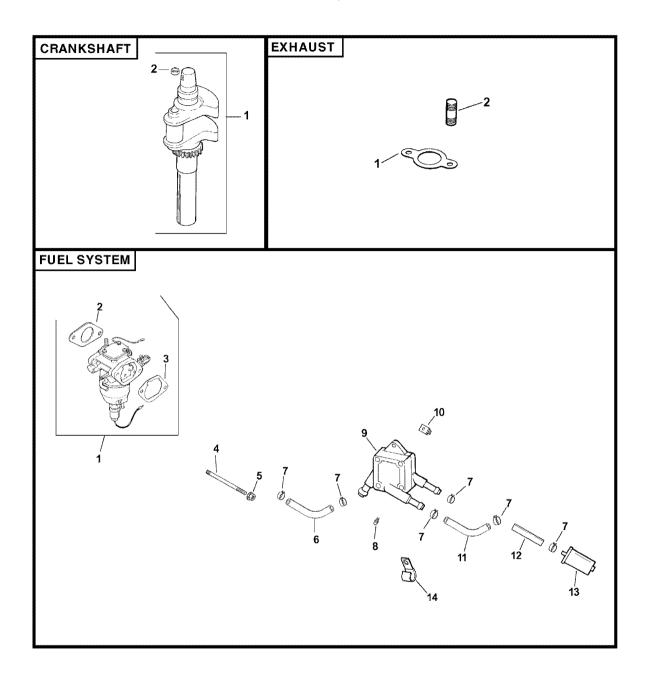
#### **ENGINE CONTROLS**

KEY NO.	PART NO.	DESCRIPTION
1. 2. 3. 4. 5. 6. 7.	24 211 03-S 24-090-33-S M-641060-S 24-089-01-S 25-158-08-S 24-079-04-S 25-158-11-S M-545016-S	Bolt, round head square neck Lever, governor Nut, hex. flange M6x1.0 Spring, linkage Bushing, linkage retaining Linkage, throttle Bushing, throttle linkage Screw, hex. flange M5x0.8x16
9. 10. 11. 12.	M-547050-S 24-089-03-S 24-126-56-S M-645016-S	Nut, hex. lock M5x0.8 Spring, choke return Bracket, control Screw, hex. flange M6x1.0x16 (4)
13. 14.	12-237-01-S 24-086-43-S	Clamp, cable (2) Screw, hex. flange M5x0.8x16 (2)
15. 16. 17. 18. 19. 20. 21.	24-112-27-S 24-090-47-S 24-468-20-S M-446030-S 24-090-13-S 24-468-01-S M-545020-S	Spacer Lever, throttle actuator Washer, plain Nut, hex M4x0.7 Lever, throttle control Washer, plain 5.5 mm (3) Screw, hex. flange M5x0.8x20
22. 23. 24. 25. 26. 27.	24-090-05-S 41-468-03-S M-403025-S 24-079-22-S 24-089-55-S 24-089-25-S	Lever, choke Washer, spring 1/4" Screw, hex. cap M4x0.7x25 Linkage, choke Spring, throttle limiter Spring, governor

#### **OIL PAN/LUBRICATION**

KEY NO.	PART NO.	DESCRIPTION
1.	24-199-07-S	Pan assembly, oil (Includes 2-11)
2.	24-393-37-S	Oil pump assembly (Includes 3,4)
3. 4. 5. 6.	24-381-11-S 24 153 01-S M-631005-S M-645025-S	Tube, oil pickup O-Ring, oil pump Washer, plain 6 mm (2) Screw, hex. flange
7. 8.	24-162-26-S 24-043-12-S	M6x1.0x25 (2) Screen, oil Kit, governor gear w/pin (Includes 9)
12. 13. 14. 15. 16. 17.	12-380-01-S 24-448-01-S 12-144-02-S 24-153-08-S 25-139-62-S 24-136-01-S 52-050-02-S 52-032-08-S 24-086-17-S	Pin, governor regulating Tab, locking Shaft, governor gear O-Ring Plug, hex. ctsk. 3/8" Nipple, oil filter Filter, oil Seal, oil (PTO end) Screw, hex. flange M8x1.25x45
18. 19.	24-086-16-S 25-139-57-S	Screw, hex. flange M8x1.25x45 (9) Plug, sq. hd. solid 3/8" N.P.T.F.

**NOTE:** All component dimensions given in U.S. inches 1 inch = 25.4 mm



#### **CRANKSHAFT**

KEV	DADT	
N⊏ ĭ	PART	
NO.	NO.	DESCRIPTION

24-014-72-S Crankshaft (Includes 2) 52-139-09-S Plug, cup 1. 2.

#### **EXHAUST**

#### KEY PART NO. NO. **DESCRIPTION** 24-041-49-S Gasket, exhaust (2) 1. 2. 25-072-04-S Stud, M8x1.25x33 (4) 24-522-332 24-782-23 24-755-113-S Short Block - -

Miniblock Gasket Set

#### **FUEL SYSTEM**

KEY NO.	PART NO.	DESCRIPTION
NO.	NO.	DESCRIPTION

1.	24-853-90-S	Kit, carburetor w/gaskets
2. 3. 4. 5. 6. 7.	24-041-52-S 24 041 14-S M-629095-S M-641060-S 25-353-03-S 25-237-14-S 24-086-12-S	(Includes 2,3) Gasket, carburetor Gasket, air cleaner base Stud, M6x1.0x95 (2) Nut, hex. flange M6x1.0 (2) Line, fuel 14" Clamp, hose (6) Screw, hex. cap. M6x1.7x18
9. 10. 11. 12. 13. 14.	24-393-16-S 24-100-01-S 24-353-03-S 15-353-04-S 24-050-10-S 47-154-01-S	(2) Pump, fuel - pulse Nut, plastic (2) Line, fuel 10-5/8" Line, fuel 11-1/2" Filter, fuel Clip, cable

#### NOT ILLUSTRATED

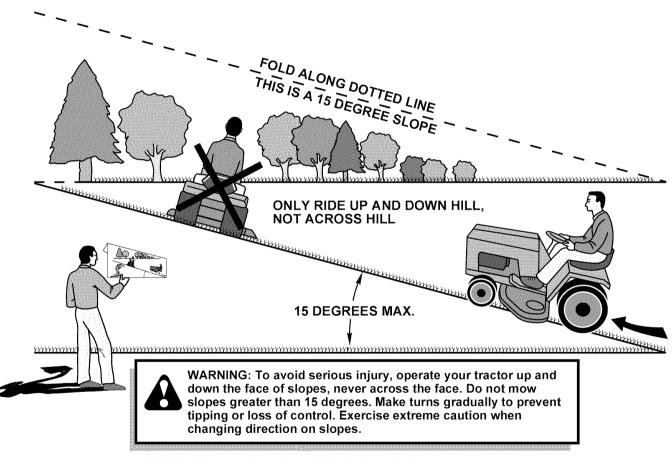
inches 1 inch = 25.4 mm

1101	ILLUUIIKAILU	
	24 234 02-S	Bowl, float
	24 757 18-S	Kit, overhaul
	24 757 19-S	Kit, choke repair
	24 757 20-S	Kit, gasket
	24 757 21-S	Kit, accelerator pump repair
	24 757 22-S	Kit, fuel shutdown solenoid

NOTE: All component dimensions given in U.S.

## SERVICE NOTES

#### SUGGESTED GUIDE FOR SIGHTING SLOPES FOR SAFE OPERATION



- 1. Fold this page along dotted line indicated above.
- 2. Hold page before you so that its left edge is vertically parallel to a tree trunk or other upright structure.
- 3. Sight across the fold in the direction of hill slope you want to measure.
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