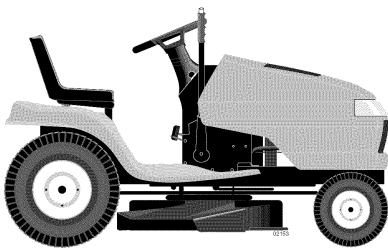
**Owner's Manual** 

# **CRAFTSMAN**<sup>®</sup>

# LAWN TRACTOR

26.0 HP, 48" Mower Electric Start Automatic Transmission

Model No. 917.275901





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.

**EXAMPLING:** 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.

**EXARNING:** 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 on the machine and in the manual before starting.
- Do not put hands or feet near rotating parts or under the machine. Keep clear of the discharge opening at all times.
- 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 blades.
- Be sure the area is clear of bystanders before operating. 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.

- Never direct discharged material toward anyone. Avoid discharging material against a wall or obstruction. Material may ricochet back toward the operator. Stop the blades when crossing gravel surfaces.
- Do not operate machine without the entire grass catcher, discharge guard, or other safety devices in place and working.
- Slow down before turning.
- Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove keys before dismounting.
- Disengage blades when not mowing. Shut off engine and wait for all parts to come to a complete stop before cleaning the machine, removing the grass catcher, or unclogging the discharge guard.
- Operate machine 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.
- Always wear eye protection when operating machine.
- 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.
- Follow the manufacturer's recommendation for wheel weights or counterweights.
- 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 build-up 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 loss of control and tip-over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

- Mow up and down slopes, not across.
- Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Choose a low ground speed so that you will not have to stop or shift while on the slope.
- Do not mow on wet grass. Tires may lose traction.
   Always keep the machine in gear when going down slopes. Do not shift to neutral and coast downhill.
- Avoid starting, stopping, or turning on a slope. If the tires lose traction, disengage the blades and proceed slowly straight down the slope.
- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to roll over.
- Use extra care while operating machine with grass catchers or other attachments; they can affect the stability of the machine. Do no use on steep slopes.
- Do not try to stabilize the machine by putting your foot on the ground.
- Do not mow near drop-offs, ditches, or embankments. The machine could suddenly roll over if a wheel is over the edge or if the edge caves in.

#### **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 in the watchful care of a responsible adult other than the operator.
- Be alert and turn machine off if a child enters the area.
- Before and while backing, look behind and down for small children.

- Never carry children, even with the blades shut off. They may fall off and be seriously injured or interfere with safe machine operation. Children who have been given rides in the past may suddenly appear in the mowing area for another ride and be run over or backed over by the machine.
- Never allow children to operate the machine.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may block your view of a child.

#### **IV. TOWING**

- Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the hitch point.
- Follow the manufacturer's recommendation for weight limits for towed equipment and towing on slopes.
- Never allow children or others in or on towed equipment.
- On slopes, the weight of the towed equipment may cause loss of traction and loss of control.
- Travel slowly and allow extra distance to stop.

#### V. SERVICE SAFE HANDLING OF GASOLINE

To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.

- Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
- Use only approved gasoline container.
- Never remove gas cap or add fuel with the engine running. Allow engine to cool before refueling.
- Never fuel the machine indoors.
- Never store the machine or fuel container where there is an open flame, spark, or pilot light such as on a water heater or other appliances.
- Never fill containers inside a vehicle or on a truck or trailer bed with plastic liner. Always place containers on the ground away from your vehicle when filling.

# SAFETY RULES

- Remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment with a portable container, rather than from a gasoline dispenser nozzle.
- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
- If fuel is spilled on clothing, change clothing immediately.
- Never overfill fuel tank. Replace gas cap and tighten securely.

#### **GENERAL SERVICE**

- Never operate machine in a closed area.
- Keep all nuts and bolts tight to be sure the equipment is in safe working 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 and remove any fuel-soaked debris. Allow machine to cool before storing.
- If you strike a foreign object, stop and inspect the machine. Repair, if necessary, before restarting.
- Never make any adjustments or repairs with the engine running.
- Check grass catcher components and the discharge guard frequently and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp. Wrap the blade or wear gloves, and use extra caution when servicing them.
- Check brake operation frequently. Adjust and service as required.
- Maintain or replace safety and instruction labels, as necessary.







- Be sure the area is clear of bystanders before operating. 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.
- Never carry children, even with the blades shut off. They may fall off and be seriously injured or interfere with safe machine operation. Children who have been given rides in the past may suddenly appear in the mowing area for another ride and be run over or backed over by the machine.
- Keep children out of the mowing area and in the watchful care of a responsible adult other than the operator.
- Be alert and turn machine off if a child enters the area.

- Before and while backing, look behind and down for small children.
- Mow up and down slopes (15° Max), not across.
- Choose a low ground speed so that you will not have to stop or shift while on the slope.
- Avoid starting, stopping, or turning on a slope. If the 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:	4 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 F	RC12YC		
Ground Speed (MPH):	Forward: Reverse:	0 – 5.5 0 – 2.4		
Tire Pressure:	Front: Rear:	14 PSI 10 PSI		
Charging System:15 Amps @ 3600 RPM				
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.
- 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.

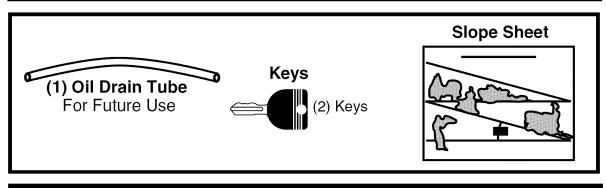
Once you purchase the Agreement, a simple phone call is all that it takes for you to schedule service. You can call anytime day or night, or schedule a service appointment online.

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.

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

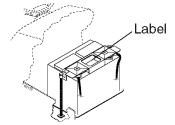
#### **UNPACK CARTON**

- 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 staplesin skid that may puncture tires where tractor is to roll off skid.

#### **CHECK BATTERY**

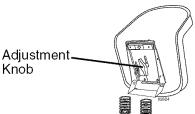
1. Lift hood to raised position. **NOTE:** If this battery is put into service after month and year indicated on label (label located between terminals) charge battery for minimum of one hour at 6-10 amps. (See "BATTERY" in Maintenance section of this manual for charging instructions).



#### ADJUST SEAT

- 1. Raise seat and loosen adjustment knob.
- 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 adjusted 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)

- 1. Press lift lever plunger and raise attachment lift lever to its highest position.
- 2. Release parking brake by depressing clutch/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.
- Place freewheel control in "transmission engaged" position (see "TO TRANSPORT" in Operation section of this manual).
- 4. Sit on seat in operating position, depress clutch/brake pedal and set the parking brake.
- 5. Place motion control lever in neutral (N) position.
- 6. Press lift lever plunger and raise attachment lift lever to its highest position.
- 7. Start the engine. After engine has started, move throttle control to idle position.
- 8. Release parking brake.
- 9. Slowly move the motion control lever forward and slowly drive tractor off skid.
- 10. Apply brake to stop tractor, set parking brake and place motion control lever in neutral position.
- 11. 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).

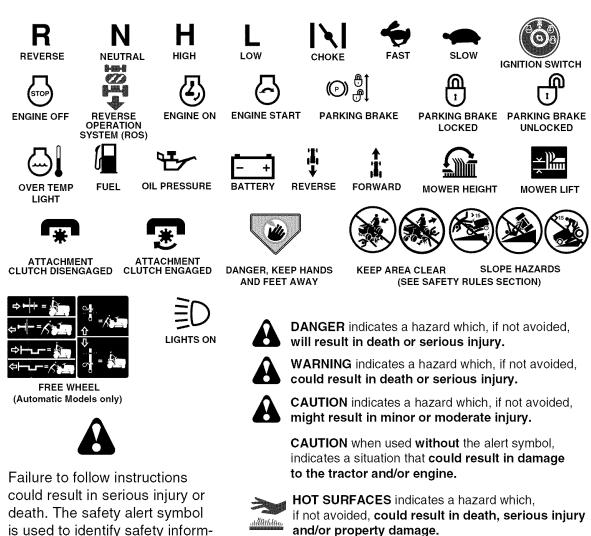
While learning how to use your tractor, pay extra attention to the following important items:

✓ 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.
- ✓ Be sure Operator Presence System and Reverse Operation System (ROS) are working properly (See the Operation and Maintenance sections in this manual).
- ✓ 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.



*j*e

ation about hazards which can

result in death, serious injury

and/or property damage.

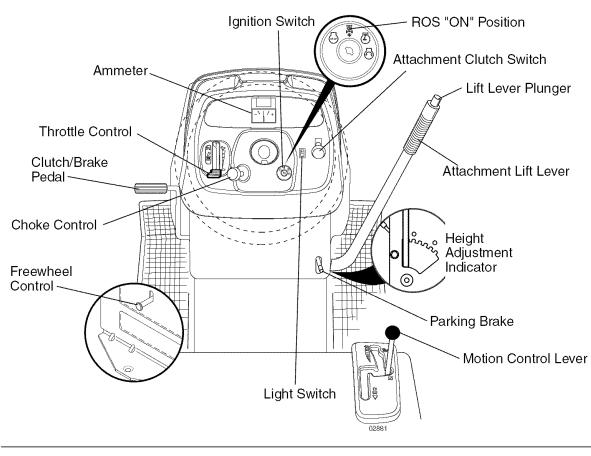
and/or property damage. FIRE indicates a hazard which, if not avoided,



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.

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

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

**ATTACHMENT LIFT LEVER** - Used to raise, lower and adjust the mower deck or other attachments mounted to your tractor. **CHOKE CONTROL** - Used when starting a cold engine.

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

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

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

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

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

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

**PARKING BRAKE** - Locks clutch/brake into the brake position.

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

**REVERSE OPERATION SYSTEM (ROS) "ON" POSITON** - Allows operation of mower deck or other powered attachment while in reverse.

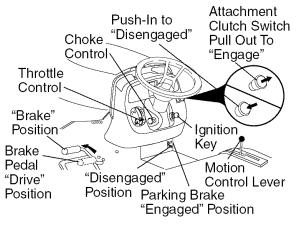


The operation of any tractor can result in foreign objects thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields while operating your tractor or performing any adjustments or repairs. We recommend standard safety glasses or a wide vision safety mask worn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

- 1. Depress clutch/brake pedal all the way down and hold.
- Pull parking brake lever up and release pressure from clutch/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 clutch/ brake pedal all the way down.
- Move motion control lever to neutral (N) position.

**IMPORTANT:** The motion control lever does not return to neutral (N) position when the clutch/brake pedal is 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.

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

#### 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 bagging and 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

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 position of the attachment lift lever determines the cutting height.

- Grasp lift lever.
- Press plunger with thumb and move lever to desired position.

The cutting height range is approximately 1-1/2 to 4". 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.

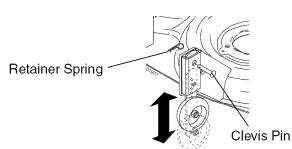
- The average lawn should be cut to approximately 2-1/2 inches during the cool season and to over 3 inches during hot months. For healthier and better looking lawns, mow often and after moderate growth.
- For best cutting performance, grass over 6 inches in height should be mowed twice. Make the first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



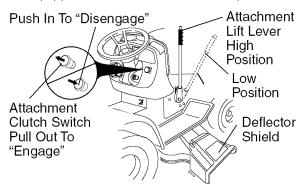
#### TO OPERATE MOWER

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. Start mower blades by engaging attachment clutch control.

## TO STOP MOWER BLADES -

disengage attachment clutch control. **CAUTION:** Do not operate the mower without either the entire grass catcher, on mowers so equipped, or the deflector shield in place.



#### **REVERSE OPERATION SYSTEM (ROS)**

Your tractor is equipped with a Reverse Operation System (ROS). Any attempt by the operator to travel in the reverse direction with the attachment clutch engaged will shut off the engine unless ignition key is placed in the ROS "ON" position.

**AWARNING:** Backing up with the attachment clutch engaged while mowing is strongly discouraged. Turning the ROS "ON", to allow reverse operation with the attachment clutch engaged, should only be done when the operator decides it is necessary to reposition the machine with the attachment engaged. **Do not mow in reverse unless absolutely necessary**.

USING THE REVERSE OPERATION SYSTEM -

- 1. Move motion control lever to neutral (N) position.
- With engine running, turn ignition key counterclockwise to ROS "ON" position.
- 3. Look down and behind before backing.
- 4. Slowly move motion control lever to reverse (R) position to start movement.
- 5. When use of the ROS is no longer needed, turn the ignition key clockwise to engine "ON" position.

ROS "ON" Position

Engine "ON" Position (Normal Operating)





#### 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 slowing is necessary, move throttle control lever to slower position.
- If stopping is absolutely necessary, push clutch/brake pedal quickly to brake position and engage parking brake.
- Move motion control lever to neutral (N) position.

**IMPORTANT:** The motion control lever does not return to neutral (N) position when the clutch/brake pedal is depressed.

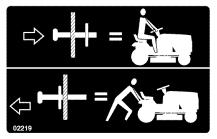
- To restart movement, slowly release parking brake and clutch/brake pedal.
- Slowly move motion control lever to slowest setting.
- Make all turns slowly.

#### **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.

- Raise attachment lift to highest position with attachment lift control.
- 2. Pull freewheel control out and down 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.
- 2. 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 tank 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 below 32°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 13<sup>additional information.</sup>

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.
- 2. Sit on seat in operating position, depress clutch/brake pedal and set parking brake.
- 3. Place motion control lever in neutral (N) position.
- 4. Move attachment clutch to disengaged position.
- 5. Move throttle control to fast position
- 6. 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.

7. 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)

- 8. 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)

8. 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.

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.
- 2. Place the motion control lever in neutral. Release the parking brake and let the clutch/brake slowly return to operating position.
- 3. 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

**CAUTION:** 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.
- 2. 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. With motion control lever in neutral (N) position, slowly disengage clutch/brake pedal.

4. 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.

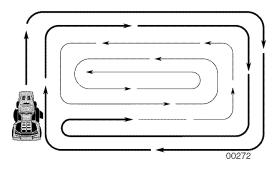
**NOTE:** During this step there will be no movement of drive wheels. The air is being removed from hydraulic drive system.

- 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).
- Sitting in the tractor seat, start engine. After the engine is running, move throttle control to half (1/2) speed. With motion control lever in neutral (N) position, slowly disengage clutch/brake pedal.
- 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**

- 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 LL IN DATES YOU COMPLETE GULAR SERVICE	.E	SEFORE F	EACHUS EVERY P	HOURS	SHOUR SHOURS	SHOUP VERY	OO HOU	SEASON SEASON SEFORE S	TORAGE SERVIC	E DATES
	Check Brake Operation	V	V	Í					ſ		
	Check Tire Pressure	V	1								
т	Check Operator Presence and ROS Systems	~									
R	Check for Loose Fasteners	V				<b>V</b> 5		V			
A	Sharpen/Replace Mower Blades			<b>V</b> 3							
T	Lubrication Chart			~				V			
ò	Check Battery Level			14							
Ř	Clean Battery and Terminals			V				V			
	Check Transaxle Cooling			~							
	Check V-Belts					V					
	Check Engine Oil Level	V	V								
	Change Engine Oil (with oil filter)				1.2	2		V			
Е	Change Engine Oil (without oil filter)			V 1,2				V			
Ň	Clean Air Filter			<b>V</b> <sub>2</sub>							
Ģ	Clean Air Screen			<b>V</b> 2							
	Inspect Muffler/Spark Arrester				V						
N E	Replace Oil Filter (If equipped)					1,2					
-	Clean Engine Cooling Fins					V 2					
	Replace Spark Plug					~	V				
	Replace Air Filter Paper Cartridge					1/2					
	Replace Fuel Filter	1	1			-	~		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.

## **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.

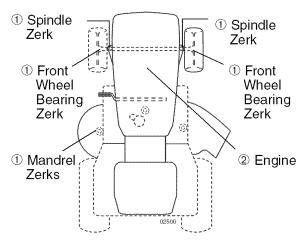
#### **BEFORE EACH USE**

- 1. Check engine oil level.
- 2. Check brake operation.
- 3. Check tire pressure.
- 4. Check operator presence and ROS systems for proper operation.
- 5. Check for loose fasteners.

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.

5 - Tighten front axle pivot bolt to 35 ft.-lbs. maximum. Do not overtighten.

#### **LUBRICATION CHART**



1 General Purpose Grease

2 Refer to Maintenance "ENGINE" Section

**IMPORTANT:** Do not oil or grease the pivot points which have special nylon bear-ings. 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 AND REVERSE OPERATION SYSTEM (ROS)

Be sure operator presence and reverse operation 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 the attachment clutch control is in the disengaged position.

CHECK OPERATOR PRESENCE SYSTEM

- 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.

ROS "ON" Position

Engine "ON" Position (Normal Operating)





# CHECK REVERSE OPERATION (ROS) SYSTEM

- When the engine is running with the ignition switch in the engine "ON" position and the attachment clutch engaged, any attempt by the operator to shift into reverse should shut off the engine.
- When the engine is running with the ignition switch in the ROS "ON" position and the attachment clutch engaged, any attempt by the operator to shift into reverse should NOT shut off the engine.

#### **BLADE CARE**

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

**A** CAUTION: Use only a replacement blade approved by the manufacturer of your tractor. Using a blade not approved by the manufacturer of your tractor is hazardous, could damage your tractor and void your warranty.

#### **BLADE REMOVAL**

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

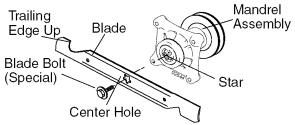
**NOTE:** Protect your hands with gloves and/or wrap blade with heavy cloth.

- 2. 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

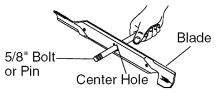
**NOTE:** We do not recommend sharpening blade - but if you do, be sure the blade is balanced.

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.

- 1. Remove terminal guard.
- 2. 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 jelly.
- 6. 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

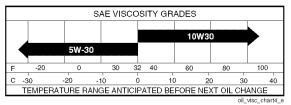
The transaxle was sealed at the factory and fluid maintenance is not required for the life of the transaxle. Should the transaxle ever leak or require servicing, contact a sears or other qualified service center.

#### **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.



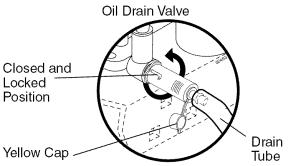
Change the oil after every 25 hours of operation or at least once a year if the tractor is not used for 25 hours in one year. Check the crankcase oil level before starting the engine and after each eight (8) hours of operation.

#### 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.

- 1. Remove oil fill cap/dipstick. Be careful not to allow dirt to enter the engine when changing oil.
- Remove yellow cap from end of drain valve and install the drain tube onto the fitting.



- 3. Unlock drain valve by pushing inward slightly and turning counterclockwise.
- 4. To open, pull out on the drain valve.
- 5. After oil has drained completely, close and lock the drain valve by pushing inward and turning clockwise until the pin is in the locked position as shown.
- 6. Remove the drain tube and replace the cap onto the end of the drain valve.
- 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.
- 8. Use gauge on oil fill cap/dipstick for checking level. For accurate reading, tighten dipstick cap securely onto the tube before removing dipstick. 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.

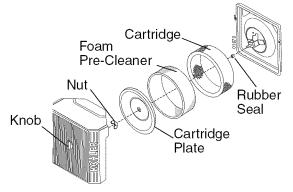
5. Saturate it in engine oil. Wrap it in clean, absorbent cloth and squeeze to remove excess oil.

#### 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.
- 5. 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.

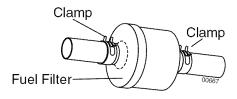
#### SPARK PLUG(S)

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 SER-VICE OR ADJUSTMENTS:

- 1. Depress clutch/brake pedal fully and set parking brake.
- 2. Place motion control lever in neutral (N) position.
- 3. Place attachment clutch in "DISENGAGED" position.
- 4. Turn ignition key to "STOP" and remove key.
- 5. Make sure the blades and all moving parts have completely stopped.
- 6. 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.
- 4. Disengage belt tension rod from lock bracket.

**ACAUTION:** Rod is spring loaded. Have a tight grip on rod and release slowly.

- 5. Remove retainer spring holding anti-swaybar to chassis bracket and disengage anti-sway bar from bracket.
- 6. Remove four retainer springs from front plate assembly and remove plate.
- 7. Remove retainer springs from suspension arms at deck and disengage arms from deck.
- 8. Raise attachment lift to its highest position.
- 9. Slide mower forward and remove belt from electric clutch pulley.
- 10. Slide mower out from under right side of tractor.

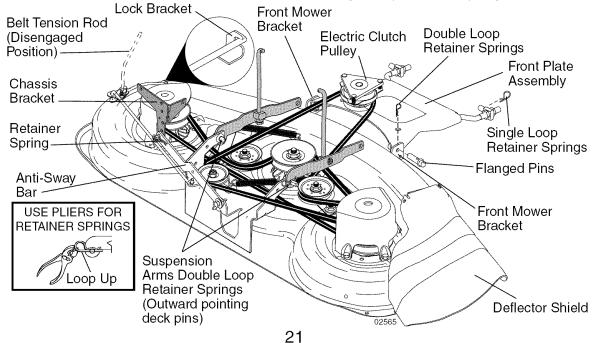
#### TO INSTALL MOWER

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

- 1. 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. Be sure belt tension rod is in disengaged position.
- 6. 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.
- 8. 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 assembly and mower brackets.

**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.

10. Engage belt tension rod by pushing rod into locking bracket.

**ACAUTION:** Belt tension rod is spring loaded. Have a tight grip on rod and engage slowly.

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

#### **TO LEVEL MOWER HOUSING**

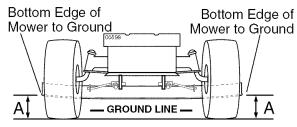
Adjust the mower while tractor is parked on level ground or driveway. Make sure tires are properly inflated (See "PROD-UCT SPECIFICATIONS" section of this manual). If tires are over or underinflated, you will not properly adjust your mower.

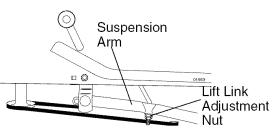
SIDE-TO-SIDE ADJUSTMENT

- 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.

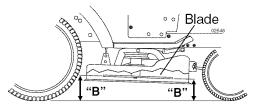
**CAUTION:** Blades are sharp. Protect your hands with gloves and/or wrap blade with heavy cloth.

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 distance "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

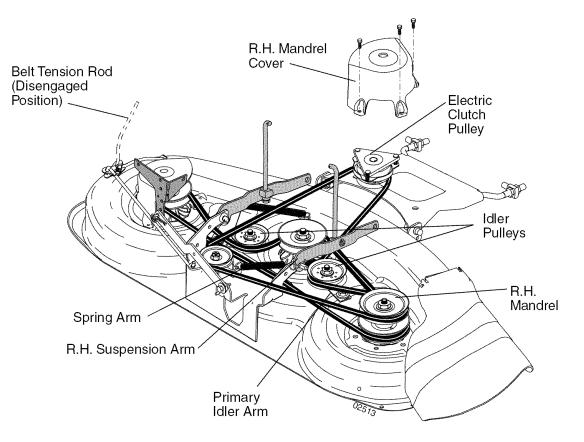
- 1. Park tractor on a level surface. Engage parking brake.
- 2. Lower mower to its lowest position.
- 3. Disengage belt tension rod from lock bracket.

**ACAUTION:** Rod is spring loaded. Have a firm grip on rod and release slowly.

- 4. Remove screws from R.H. mandrel cover and remove cover.
- 5. 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.
- 7. Carefully roll belt over the top of R.H. mandrel pulley.
- 8. Remove belt from electric clutch pulley.
- 9. Remove belt from idler pulleys.
- 10. Check primary idler arm and two idlers to see that they rotate freely.
- 11. Be sure spring is securely hooked to primary idler arm and spring arm.

#### MOWER DRIVE BELT INSTALLATION

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



#### TO REPLACE MOWER BLADE (SECONDARY) DRIVE BELT

Park the tractor on level surface. Engage parking brake.

- 1. 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

- 7. 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.

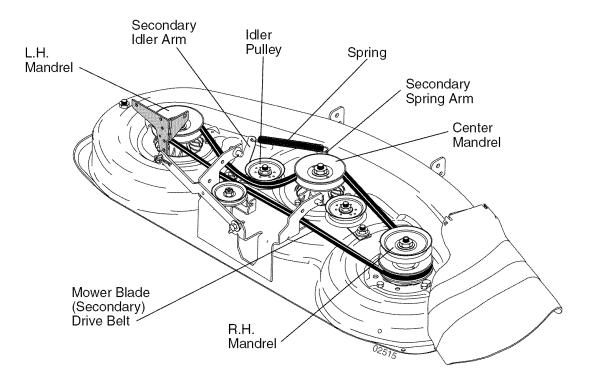
- 10. Check secondary idler arm and idler pulley to see that they rotate freely.
- 11. Be sure spring is hooked in secondary idler arm and secondary spring arm.

#### 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.
- 16. 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 CHECK AND ADJUST BRAKE

Your tractor is equipped with an adjustable brake system which is mounted on the right side of the transaxle.

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

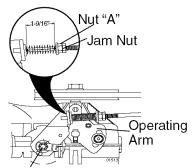
- 1. Park tractor on a level, dry concrete or paved surface, depress clutch/brake pedal all the way down and engage parking brake.
- 2. Disengage transmission by placing freewheel control in "transmission disengaged" position. Pull freewheel control out and into the slot and release so it is held in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

- 1. Depress clutch/brake pedal all the way down and engage parking brake.
- 2. Measure distance between brake operating arm and nut "A" on brake rod.
- If distance is other than 1-9/16", loosen jam nut and turn nut "A" until distance becomes 1-9/16". Retighten jam nut against nut "A".
- 4. Engage transmission by placing freewheel control in "transmission engaged" position.
- Road test tractor for proper stopping distance as stated above. Readjust if necessary. If stopping distance is still greater than five (5) feet in highest gear, further maintenance is necessary. Replace brake pads or contact a Sears or other qualified service center.

#### With parking brake "Engaged"



Do not touch this nut. If further brake adjustment is necessary contact a Sears or other qualified service center.

#### TO REPLACE MOTION DRIVE BELT

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

#### **BELT REMOVAL -**

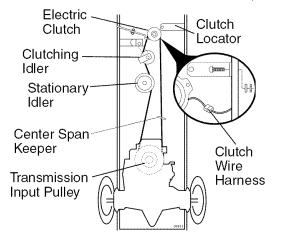
1. Remove mower (See "TO REMOVE MOWER" in this section of manual).

**NOTE:** Observe entire motion drive belt and position of all belt guides and keepers.

- 2. Disconnect clutch wire harness.
- 3. Remove clutch locator.
- 4. Remove belt from stationary idler and clutching idler.
- 5. Remove belt downward from engine pulley and around electric clutch.
- Pull belt slack toward rear of tractor. Carefully remove belt upwards from transmission input pulley and over cooling fan blades.
- 7. Remove belt from center span keeper and pull belt away from tractor.

#### **BELT INSTALLATION -**

- 1. Carefully work new belt down around transmission cooling fan and onto the input pulley.
- 2. Slide belt into the center span keeper.
- 3. Pull belt toward front of tractor and roll belt around electric clutch and onto engine pulley.
- 4. Install belt through stationary idler and clutching idler.
- 5. Reinstall clutch locator and tighten nut securely.
- 6. Reconnect clutch harness.
- 7. Make sure belt is in all pulley grooves and inside all belt guides and keepers.
- 8. Install mower (See "TO INSTALL MOWER" in this section of manual).



#### **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 TRANS-MISSION" 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 your nearest Sears or other qualified service center.

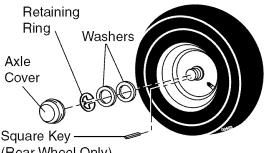
#### TO REMOVE WHEEL FOR REPAIRS

- 1. Block up axle securely.
- 2. Remove axle cover, retaining ring and washers to allow wheel removal (rear wheels have a square key - Do not lose).
- 3. Repair tire and reassemble.

**NOTE:** On rear wheels only: align grooves in rear wheel hub and axle. Insert square kev.

- 4. Replace washers and snap retaining ring securely in axle groove.
- 5. Replace axle cover.

**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.



# (Rear Wheel Only)

#### TO START ENGINE WITH A WEAK BAT-TERY

**AWARNING:** 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 "BAT-TERY" in the Maintenance section of this manual).

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

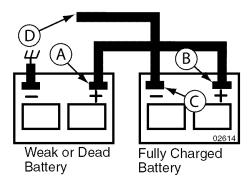
**IMPORTANT**: Your tractor is equipped with a 12 volt system. The other vehicle must also be a 12 volt system. Do not use your tractor battery to start other vehicles.

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.
- 2. Connect one end of the BLACK cable to the NEGATIVE (-) terminal (C) of fully charged battery.
- 3. 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.
- 2. RED cable last from both batteries.



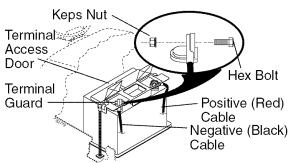
#### **REPLACING BATTERY**

**AWARNING:** 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 aroundina.

- 1. Lift hood to raised position.
- 2. Remove terminal guard.

- 3. 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.
- 6. 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.

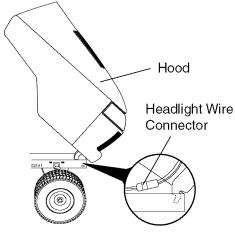
• Check wiring. See electrical wiring diagram in the Repair Parts section.

#### TO REPLACE FUSE

Replace with 20 amp automotive-type plug-in fuse. The fuse holder is located behind the dash.

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

- 1. 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.



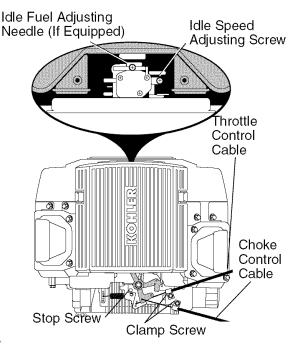
#### ENGINE

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:

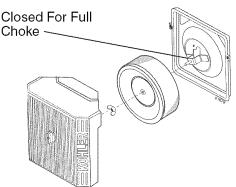
- 1. With engine not running, move throttle control lever to fast position.
- Check that speed control lever is against stop screw. If it is not, loosen casing clamp screw and pull throttle cable until lever is against screw. Tighten clamp screw securely.



#### 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:

- 1. 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).
- 3. 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 -

- 1. 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).
- 2. With engine off turn idle fuel adjusting needle **in** (clockwise) closing it finger tight and then turn **out** (counterclockwise) 1 turn.

#### FINAL SETTING -

1. 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.

- 2. <u>Idle speed setting</u> 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.
- 4. 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.

- 1. Clean entire tractor (See "CLEANING" in the Maintenance section of this manual).
- 2. 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.
- 4. 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 deposits from forming in essential fuel system parts such as carburetor, fuel hose, or tank during storage. Also, 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.

#### PROBLEM CAUSE CORRECTION Will not start 1. Out of fuel. 1. Fill fuel tank. Engine not "CHOKED" 2. See "TO START ENGINE" in properly. Operation section. 3. Engine flooded. 3. Wait several minutes before attempting to start. 4. Bad spark plug. 4. Replace spark plug. 5. Dirty air filter. 5. Clean/replace air filter. 6. Dirty fuel filter. 6. Replace fuel filter. 7. Water in fuel. 7. Empty fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter. 8. Loose or damaged wiring. 8. Check all wiring. 9. See "To Adjust Carburetor" 9. Carburetor out of adjustment. in Service and Adjustments section. 10. Contact a Sears or other 10. Engine valves out of adjustment. qualified service center. Hard to start 1. Dirty air filter. 1. Clean/replace air filter. 2. Bad spark plug. 2. Replace spark plug. 3. Recharge or replace battery. 3. Weak or dead battery. 4. Dirty fuel filter. 4. Replace fuel filter. 5. Stale or dirty fuel. 5. Empty fuel tank and refill tank with fresh, clean gasoline. 6. Loose or damaged wiring. 6. Check all wiring. 7. Carburetor out of adjustment. 7. See "To Adjust Carburetor" in Service and Adjustments section. 8. Contact a Sears or other 8. Engine valves out of qualified service center. adjustment. Engine will not 1. Brake pedal not depressed. 1. Depress brake pedal. 2. Disengage attachment clutch. turn over 2. Attachment clutch is engaged. 3. Recharge or replace battery. 3. Weak or dead battery. 4. Blown fuse. 4. Replace fuse. 5. Clean battery terminals. 5. Corroded battery terminals. 6. Loose or damaged wiring. 6. Check all wiring. 7. Check/replace ignition switch. 7. Faulty ignition switch. 8. Faulty solenoid or starter. 8. Check/replace solenoid or starter. 9. Faulty operator presence 9. Contact a Sears or other switch(es). qualified service center. Engine clicks but 1. Weak or dead battery. 1. Recharge or replace battery. will not start 2. Corroded battery terminals. 2. Clean battery terminals. 3. Loose or damaged wiring. 3. Check all wiring. 4. Faulty solenoid or starter. 4. Check/replace solenoid or starter. Loss of power 1. Cutting too much grass/too 1. Raise cutting height/reduce fast. speed. 2. Throttle in "CHOKE" position. 2. Adjust throttle control. 3. Build-up of grass, leaves and 3. Clean underside of mower trash under mower. housing. 4. Dirty air filter. 4. Clean/replace air filter. 5. Low oil level/dirty oil. 5. Check oil level/change oil. 6. Clean and regap or change 6. Faulty spark plug. spark plug.

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

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See appropriate section in manual unless directed to Sears service center

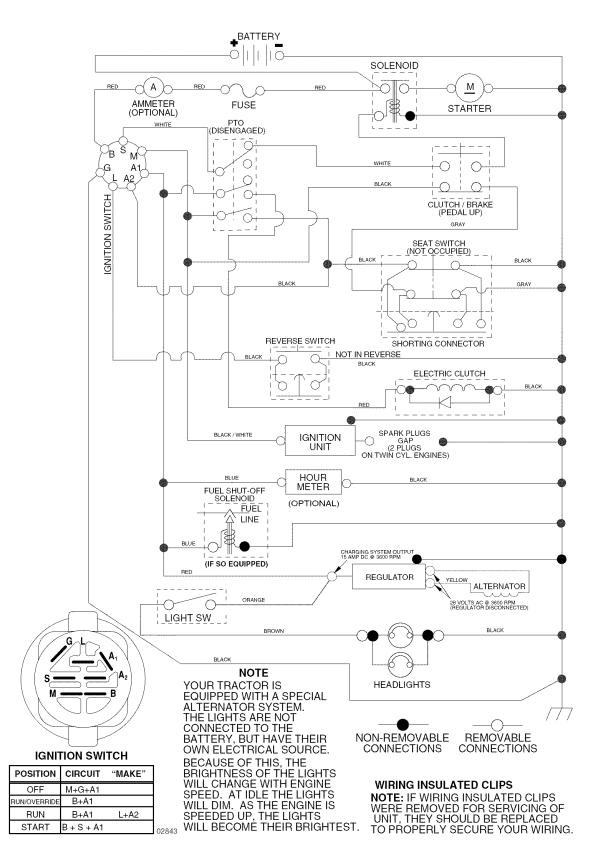
PROBLEM	CAUSE	CORRECTION
Loss of power (continued)	<ul> <li>7. Dirty fuel filter.</li> <li>8. Stale or dirty fuel.</li> <li>9. Water in fuel.</li> <li>10. Spark plug wire loose.</li> <li>11. Dirty engine air screen/fins.</li> <li>12. Dirty/clogged muffler.</li> <li>13. Loose or damaged wiring.</li> <li>14. Carburetor out of adjustment</li> <li>15. Engine valves out of adjustment.</li> </ul>	<ol> <li>Replace fuel filter.</li> <li>Empty fuel tank and refill tank with fresh, clean gasoline.</li> <li>Empty fuel tank and car buretor, refill tank with fresh gasoline and replace fuel filter.</li> <li>Connect and tighten spark plug wire.</li> <li>Clean engine air screen/fins.</li> <li>Clean/replace muffler.</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>
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 dies when tractor is shifted into reverse	<ol> <li>Reverse operation system (ROS) is not "ON" while mower or other attachment is engaged.</li> </ol>	<ol> <li>Turn ignition key to ROS "ON" position. See Operation section.</li> </ol>
Engine continues to run when operator leaves seat with attachment clutch engaged	<ol> <li>Faulty operator-safety presence control system.</li> </ol>	<ol> <li>Check wiring, switches and connections. If not corrected, contact a Sears or other qualified service center.</li> </ol>
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>
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 qualified service center.</li> </ol>

#### TROUBLESHOOTING CHART:

See appropriate section in manual unless directed to Sears service center

PROBLEM	CAUSE	CORRECTION
Poor grass discharge	<ol> <li>Engine speed too slow.</li> <li>Travel speed too fast.</li> </ol>	<ol> <li>Place throttle control in "FAST" position.</li> <li>Shift to slower speed.</li> </ol>
	3. Wet grass.	<ol> <li>Allow grass to dry before mowing.</li> </ol>
	<ol> <li>Mower deck not level.</li> <li>Low/uneven tire air pressure.</li> </ol>	<ol> <li>Level mower deck.</li> <li>Check tires for proper air pressure.</li> </ol>
	6. Worn, bent or loose blade.	<ol> <li>Replace/sharpen blade. Tighten blade bolt.</li> </ol>
	<ol> <li>Buildup of grass, leaves and trash under mower.</li> <li>Mower drive belt worn.</li> </ol>	<ol> <li>Clean underside of mower housing.</li> <li>Replace mower drive belt.</li> </ol>
	9. Blades improperly installed.	<ol> <li>Reinstall blades sharp edge down.</li> </ol>
	10. Improper blades used. 11. Clogged mower deck vent	10. Replace with blades listed in this manual. 11. Clean around mandrels to
	holes from buildup of grass, leaves, and trash around mandrels.	open vent holes.
Headlight(s) not working (if so equipped)	<ol> <li>Light 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 light 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> </ol>	<ol> <li>Replace battery.</li> <li>Check/clean all connections.</li> <li>Replace regulator.</li> </ol>
	4. Faulty alternator.	4. Replace alternator.
Loss of drive	<ol> <li>Freewheel control in "disengaged" position.</li> <li>Motion drive belt worn, damaged, or broken.</li> </ol>	<ol> <li>Place freewheel control in "engaged" position.</li> <li>Replace motion drive belt.</li> </ol>
	<ol> <li>Air trapped in transmission during shipment or servicing.</li> </ol>	3. Purge transmission.
Engine "backfires" when turning engine "OFF"	<ol> <li>Engine throttle control not set between half and full speed (fast) position before stopping engine.</li> </ol>	between half and full speed

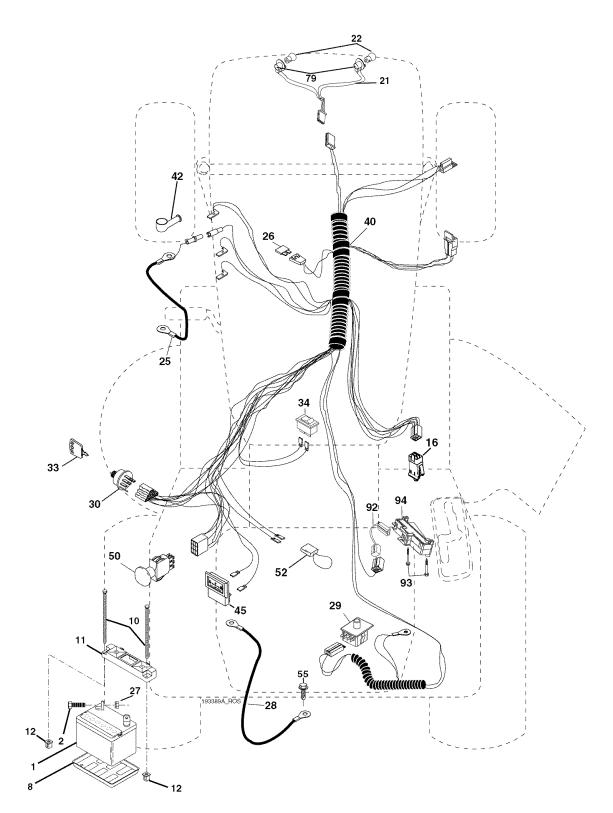
SCHEMATIC



# **REPAIR PARTS**

TRACTOR - - MODEL NUMBER 917.275901

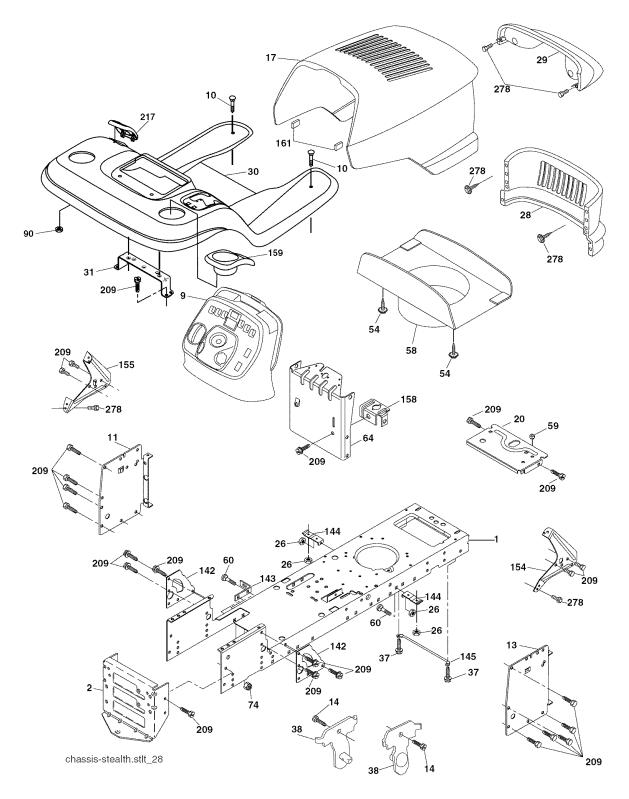
ELECTRICAL



KEY NO.	PART NO.	DESCRIPTION
$\begin{array}{c} 1 \\ 2 \\ 8 \\ 10 \\ 11 \\ 12 \\ 25 \\ 26 \\ 27 \\ 28 \\ 29 \\ 303 \\ 34 \\ 42 \\ 45 \\ 52 \\ 55 \\ 79 \\ 92 \\ 39 \\ 4\end{array}$	186846 175158 73510400 145491 192749 193350 140403 110712X 193389 154336 122822X 174652 141940 17490508 175242	Battery Bolt Hex 1/4-20 x 3/4 Tray Battery Bolt Btr Front 1/4-20 x 7-1/2 Holddown Battery Front Mount Nut Push Nylon Battery Front 1/4 Switch Interlock Harness Light Bulb Light Cable Battery Fuse Nut Keps Hex 1/4-20 unc Cable Ground Switch Seat Switch Ignition Key Molded Switch Light / Reset Harness Ignition Cover Terminal Ammeter Switch PTO Protection Wire Loop Screw Thdrol 5/16-18 x 1/2 Socket Asm Bulb Twistlock Harness Pigtail Reverse Switch Screw Plastite 10-14 x 2.0 Module Reverse ROS

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

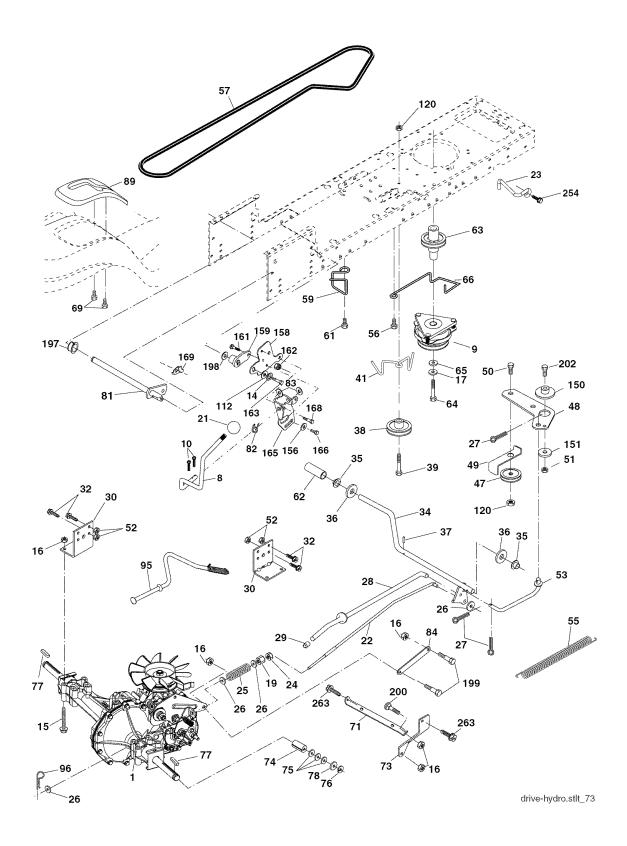
#### TRACTOR - - MODEL NUMBER 917.275901 CHASSIS AND ENCLOSURES



# TRACTOR - - MODEL NUMBER 917.275901 CHASSIS AND ENCLOSURES

KEY	PART	
NO.	NO.	DESCRIPTION
1	174619	Chassis
2	176554	Drawbar
9	193636X428	Dash
10	72140608	Bolt RDHD SQNK 3/8-16 x 1
11	167203	Panel Dash LH
13		Panel Dash RH
14	17490608	Screw Thdrol 3/8-16 x 1/2
17		Hood Assembly
20	162026	Plate Battery
26	STD541437	
28	174515X615	
29	161840	Lens Bar
30		Fender/Footrest
31	139976	Bracket Fender/Support
37	17490508	Screw Thdrol 5/16-18 x 1/2 TYT
38 54	175710 192512	Bracket Asm Pivot Mower Rear Screw Hex Wshd 10-32 x 5/8
54 58	175351	Duct Hood
58 59	187495	Bushing 1.375 OD
60	STD533707	Bolt Rdhd Sqnk 3/8-16 unc x 3/4
64	174997	Dash Lower
74	STD541437	Nut Crownlock 3/8-16 unc
90	124346X	Nut Self-Thd Wsh-Hd 1/4 Zinc
142	175702	Plate Reinforcement
143	186689	Bracket Swaybar Chassis
144	175582	Bracket Footrest
145	156524	Rod Pivot Chassis/Hood
154	161897	Bracket Dash Rh
155	161900	Bracket Dash Lh
158	162037	Parking Brake Bkrt
159	191120X428	
161	164655	Bumper Extrusion .600 x 3.50
209	17000612	Screw Hexwsh Thdr 3/8-16 x 3/4
217	179132X428	Console Fuel Window
278	191611	Screw 10 x 3/4 Single Lead-Hex

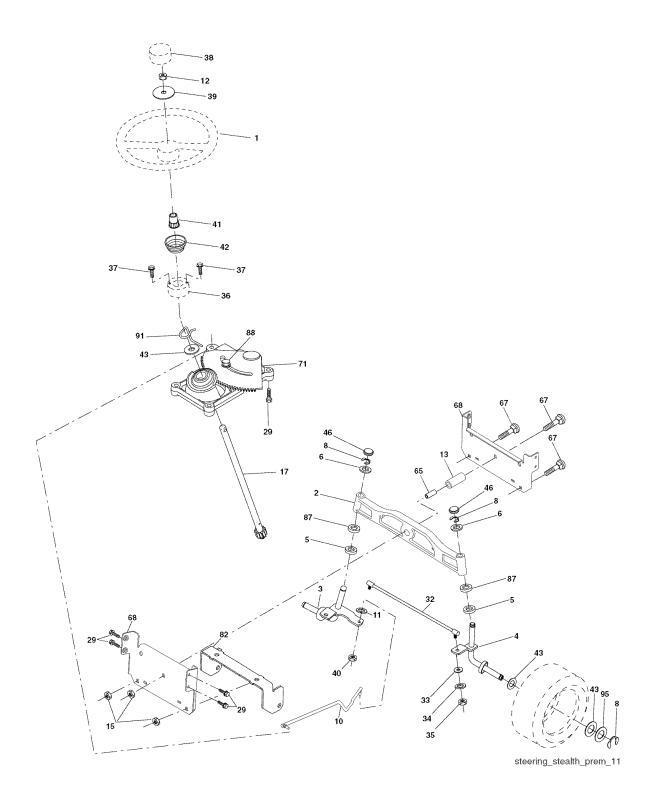
**NOTE:** All component dimensions given in U.S. inches 1 inch = 25.4 mm



# TRACTOR - - MODEL NUMBER 917.275901

# **GROUND DRIVE**

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
	NO. 192502 179334 STD561210 STD551131 74490544 STD541431 126197X STD541437 130564 169498 190736	Transaxle, HydroGear, Model 314-0510 (See Break down) Rod Shift Fend. Clutch Electric Pin Cotter 1/8 x 1 Washer Lock Hvy 1/4 Bolt Hex Flghd 5/16-18 Gr. 5 Nut Lock Hex W/Ins. 5/16-18 unc Washer 1-1/2 OD x 15/32 ID x.250 Nut Lock Hex W/Wsh 3/8-16 unc Knob Rod, Brake Bracket Anti-Rotation Nut, Hex Jam 3/8-16 unc Spring, Brake Rod Washer Pin Cotter 1/8 x 3/4 CAD. Rod, Parking Brake Knob Brake Parking Bracket, Transaxle Bolt Hex Hd 5/16-18 unc x 3/4 Shaft, Foot Pedal Bearing, Nylon		NO. 173937 STD551143 154778 142432 169183 169182 137057 121749X STD581075 123583X 121748X 165596 165711 19171216 169594 192387X428 170201	Bolt Hex 7/16-20 x 4 x Gr. 5-1.5
55 56 57 59 61 62 63	17060620 140294 169691 17120614 123533X 174607	Screw 3/8-16 x 1-1/4 V-Belt, Ground Drive Keeper, Center Span Screw 3/8-16 x .875 Cover, Pedal Pulley, Engine	200 202 254 263 <b>NOTE</b>	72140508 STD533110 17000616 17000612 :: All compone	Bolt Shoulder 5/16-18 unc Bolt Rdhd Sqnk 5/16-18 unc x 1 Bolt Carr Sh 3/8-16 x 1-3/4 Gr. 5 Screw 3/8-16 x 1 SMGML Screw 3/8-16 x .75 nt dimensions given in U.S. inches
			i inch	= 25.4 mm	

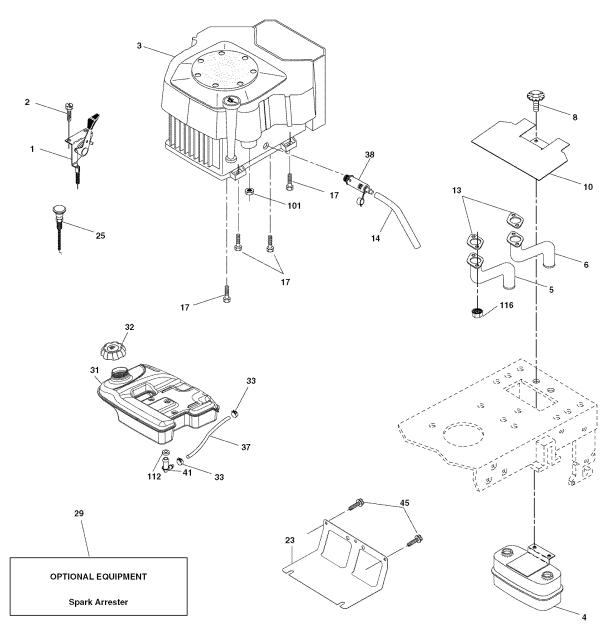


TRACTOR - - MODEL NUMBER 917.275901 STEERING ASSEMBLY

KEY NO.	PART NO.	DESCRIPTION
1	186094X428	Wheel Steering
2	184706	Axle Asm
3	169840	Spindle Asm LH
4	169839	Spindle Asm RH
5	6266H	Bearing Race Thrust Harden
6	121748X	Washer 25/32 x 1-5/8 x 16 Ga.
8	12000029	Ring Klip #t5304-75
10	175121	Link Drag
11	STD551137	Washer Lock Hvy Hlcl Spr 3/8
12	73940800	Nut Hex Jam Toplock 1/2-20 unf
13	136518	Spacer Bearing Axle Front
15	145212	Nut Hex Flange Lock
17	177883	Shaft Asm Steering
29 32	17000612 180580	Screw 3/8-16 x 3/4 Rod Tie
32 33	19121414	Washer 3/8 x 7/8 x 14 Ga.
33	10040600	Washer Lock Hvy Hici Spr. 3/8
35	73540600	Nut Crownlock 3/8-24
36	155105	Bushing Strg
37	152927	Screw
38		Insert Cap Strg Wheel
39	19183812	Washer 9/16 ID x 2-3/8 OD 12 Ga.
40	73540600	Nut Crownlock 3/8-24
41	186737	Adaptor Wheel Strg
42	163888X428	Boot Steering
43	121749X	Washer 25/32 1 1/4 x 16 Ga.
46	184946X505	Cap Spindle
65	160367	Spacer Brace Axle
67	72110618	Bolt Rdhd Sq 3/8-16 unc x 2-1/4
68	169827	Axle Brace
71	175146	Steering Asm.
82	169835	Bracket Susp. Chassis Front
87	173966	Washer Flat .781 x 1-1/2 x .15
88	175118	Bolt Shoulder 7/16-20 unc
91	175553	Clip Steering
95	188967	Washer Harden .793 x 1.637 x .060

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

# TRACTOR - - MODEL NUMBER 917.275901

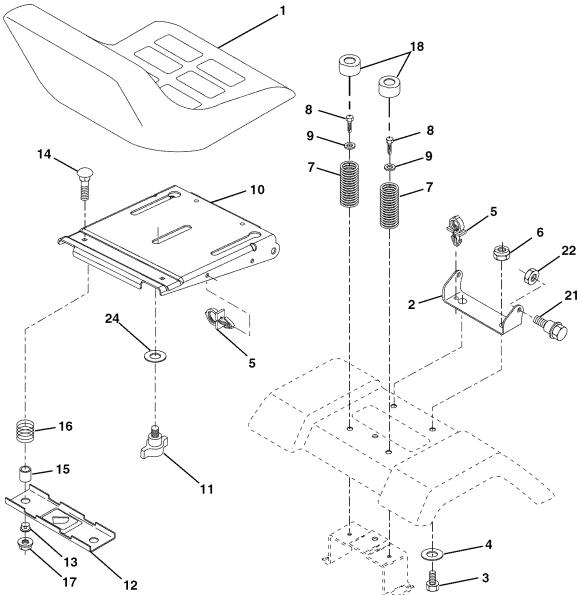


engine-ko.twin\_18

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
140.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1	175439X505	Control Throttle	25	187768X505	Choke Control
2	191611	Screw 10 x 3/4 Single Lead-Hex	29	137180	Kit Spark Arrestor (Flat Scrn)
3		Engine, Kohler Model CV730-	31	179022	Tank Fuel 4.0 Rear
		0043 (See Breakdown)	32	179124X428	Cap Asm Fuel
4	149723	Muffler Asm Twin Lo-Tone	33	123487X	Clamp Hose Black
5	146699	Pipe Exhaust LH	37	8543R	Line Fuel
6	146700	Pipe Exhaust RH	38	181654	Plug Drain Oil
8	171877	Bolt 5/16-18 unc x 3/4 w/Sems	41	139277	Stem Tank Fuel
10	146629	Shield	45	17000612	Screw Hexwsh Thdr 3/8-16 x 3/4
13		Muffler Gasket (Order from	101	M73030800	Nut Flange Toplock M8-1.25
		Engine Mfgr.)	112	3645J	Bushing
14	<b>1</b> 48456	Tube Drain Óil Easy	116	184362	Nut Hex Flange Toplock M8-1.25
17	17060624	Screw Thdrol 3/8-16 x 1-1/2	NOTE		0
23	169837	Shield Heat		1  an compone	ent dimensions given in U.S. Lmm

42<sup>inches 1 inch = 25.4 mm</sup>

# TRACTOR - - MODEL NUMBER 917.275901 SEAT ASSEMBLY



seat_	lt.	kn	ol	o_	8
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KEY	PART	
NO.	NO.	DESCRIPTION
1	180598	Seat
2	180166	Bracket Pivot Seat
3	STD523710	Bolt Fin Hex 3/8-16 unc x 1
4	19131610	Washer 13/32 x 1 x 10 Ga
5	145006	Clip Push-In
6	STD541437	Nut Hex w/Ins 3/8-16 unc
7	124181X	Spring Seat Cprsn
8	17000616	Screw 3/8-16 x 1-1/2
9	19131614	Washer 13/32 x 1 x 14 Ga.
10	180186	Pan Seat
11	166369	Knob Seat Adj Wingnut
12	174648	Bracket Mounting Switch

KEY NO.	PART NO.	DESCRIPTION
13	121248X	Bushing Snap Blk Nyl 50 Id
14	72050412	Bolt Rdhd Sqnk 1/4-20 x 1-1/2
15	121249X	Spacer Split
16	123740X	Spring Cprsn
17	123976X	Nut Lock 1/4 Lge Flg Gr. 5 Zinc
18	124238X	Cap Spring Seat
21	171852	Bolt Shoulder 5/16-18 unc
22	STD541431	Nut Hex Lock W/Ins 5/16-18
24	19171912	Washer 17/32 x 1-3/16 x 12 Ga.

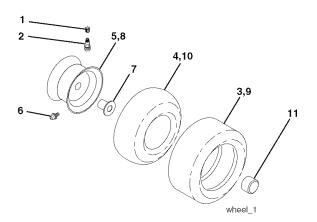
NOTE: All component dimensions given in U.S. inches 1 inch = 25.4 mm

KEY PART	KEY PART	

KEY	PART	
NO.	NO.	DESCRIPTION
1	187407	Decal Reflector LH
2	138047	Decal Battery Diehard Sears
3	194023	Decal Hood RH
4	194024	Decal Hood LH
5	194027	Decal Fender Craftsman
6	193645	Decal Dash
7	177918	Decal Engine
8	178455	Decal Deck Caution
9	169239	Decal Replacement Hood
10	156439	Decal Fender Danger
11	169189	Decal Panel Dash
12	178482	Decal Mower Heavy-Duty
13	133644	Decal Customer Resp.

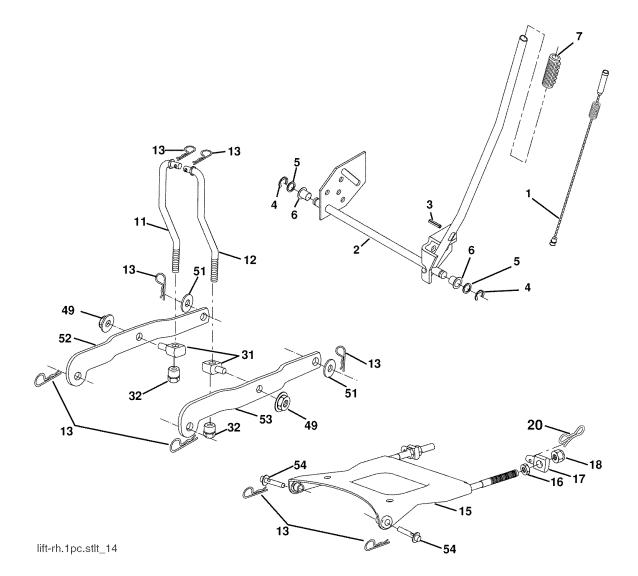
KEY NO.	PART NO.	DESCRIPTION
14	175291	Decal V-Belt Schematic
15	187408	Decal Reflector RH
16	164065	Decal Steering Wheel
17	177914	Decal Engine
18	193307	Decal Fender Opr.
20	149516	Decal Battery
21	194025	Decal Hood Side Panel
23	194270	Decal Engine
	184310X428	Pad Footrest LH
	184311X428	Pad Footrest RH
	166960	Decal Bypass
	199016	Manual Öwner's English
	199017	Manual Owner's Spanish

WHEELS & TIRES



KEY NO.	PART NO.	DESCRIPTION	
1	59192	Cap Valve Tire	
2	65139	Stem Valve	
3	106222X	Tire F Ts 15 x 6.0 - 6 Service	
4	59904	Tube Front (Service Item Only)	
5	106732X417	Rim Asm 6" front Service	
6	278H	Fitting Grease (Front Wheel Only)	
7	9040H	Bearing Flange (Front Wheel	
		Only)	
8	106108X417	Rim Asm 8" rear Service	
9	138468	Tire R Ts 20 x 8-8 C Service	
10	7152J	Tube Rear (Service Item Only)	
11	104757X428	Cap Axle Blk 1.50 x 1.00	
	144334	Sealant, Tire (10 oz. Tube)	
NOTE: All component dimensions given in U.S. inches			

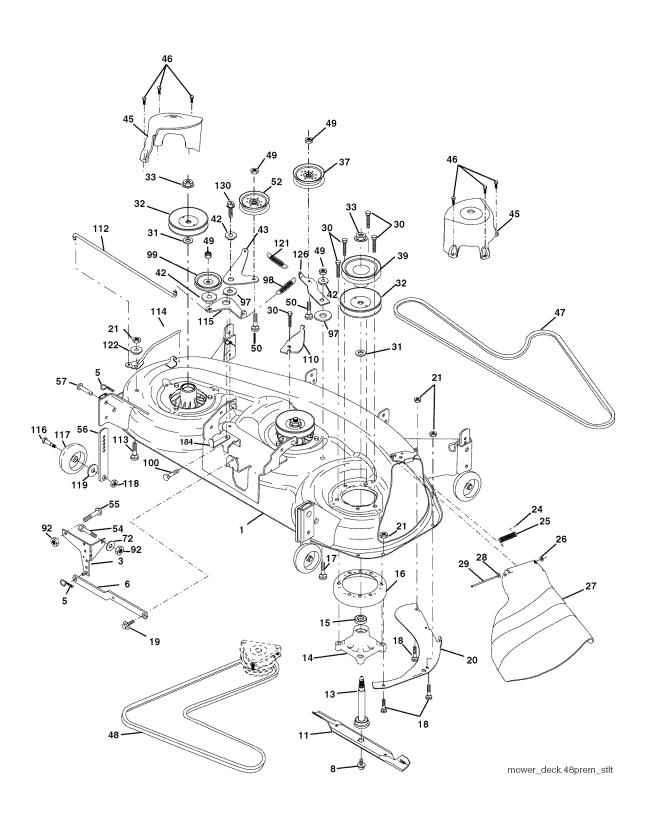
IOTE: All component dimensions given in U.S. inche 1 inch = 25.4 mm



KEY NO.	PART NO.	DESCRIPTION
1	197980	Plunger Assembly
2	198070	Shaft Assembly, Lift
3	188822	Pin Groove
4	12000002	E-Ring
5	19211621	Washer 21/32 x 1 x 21 Ga.
6	120183X	Bearing Nylon
7	175830	Grip Handle Fluted
11	175370	Link Lift L.H.
12	175371	Link Lift R.H.
13	4939M	Retainer Spring
15	175562	Plate Asm. Susp. Front
16	73350800	Nut Hex Jam 1/2-13 unc
17	175689	Trunnion Front Susp

KEY NO.	PART NO.	DESCRIPTION
18	73800800	Nut Lock w/Wsh 1/2-13 unc
20	194209	Pin Cotter 7/16 Bow Tie Lock
31	176205	Trunnion
32	175994	Nut Link Lift
49	145212	Nut Hexflange Lock
51	19171416	Washer 17/32 x 7/8 x 16 Ga.
52	175378	Arm Suspension LH
53	175802	Arm Suspension RH
54	175560	Pin Flange

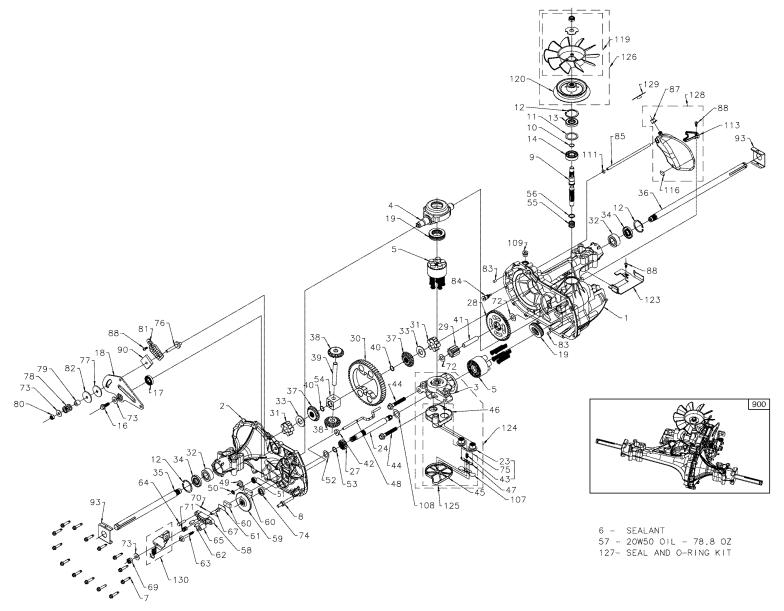
**NOTE:** All component dimensions given in U.S. inches 1 inch = 25.4 mm



# TRACTOR - - MODEL NUMBER 917.275901

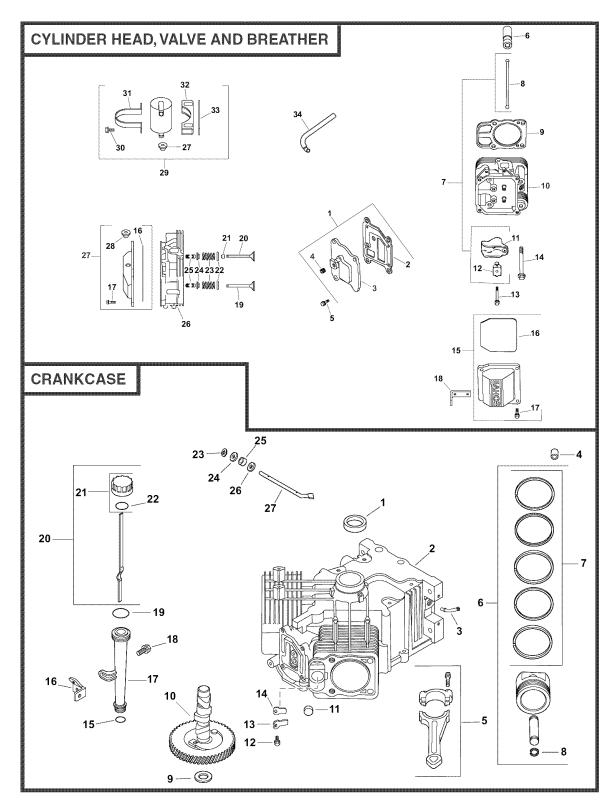
# **MOWER DECK**

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	180358	Deck Weldment Mower 48	46	137729	Screw, Thdroll. 1/4-20 x 5/8
3	138017	Bracket Asm., Sway Bar	47	180808	V-Belt, Mower, Secondary
5	4939M	Retainer Spring	48	174368	V-Belt, Mower, Primary
6	178024	Arm, Suspension, Rear Sway Bar	49	73900600	Nut, Lock 3/8-16 unc
0	174000	Deck Bolt 7/16 Asm. Blade	50 52	72110612 175820	Bolt, Carr. 3/8-16 x 1-1/2 Gr. 5
8	174365		52 54	74780616	Pulley Idler Flat Bolt Fin Hex 3/8-16 x 1
		(The following blades are avail able)	54 55	72140608	Bolt Carriage Sqnk. 3/8-16 x 1
11	180054	Blade, 48" Hi-Lift (For bagging	56	155986	Bar Pht Adj.
	100034	and discharging)	57	156941	Pin Head Rivet
	173921	Blade, 48" Mulching (For mulching	72	19131312	Washer 13/32 x 13/16 x 12 Ga.
	170021	mowers only)	92	73800600	Nut Lock Hex 3/8-16
13	174360	Shaft Asm. w/Lower Bearing	97	178515	Washer Hardened
14	174358	Mandrel Asm. Housing	98	179479	Spring Primary Drive
15	110485X	Bearing, Ball, Mandrel	99	189993	Pulley Idler"V"
16	174493	Stripper Mandrel Deck	100	72110616	Bolt RDHD Sqnk 3/8-16 unc x 2
17	72110610	Bolt RDHD Sq Neck 3/8-16 x 1.25	110	175016	Arm Spring Break
18	72140505	Bolt, Carriage 5/16-18 x 5/8	112	174387	Link Tension Relief Lever
19	132827	Bolt, Hex Hd, Shoulder 5/16-18	113	72110506	Bolt 5/16-18 x 3/4
20	174378	Baffle, Vortex Mower	114	174384	Tension Asm. Relief Lever
21	73680500	Nut, Crownlock 5/16-18 unc	115	174609	Arm Spring Tension Relief
24 25	105304X 178102	Cap, Sleeve	116 117	193406 174873	Bolt, Shoulder
25 26	110452X	Spring, Torsion Nut, Push	117	73930600	Gauge Wheel Nut, Centerlock 3/8-16 unc
27		Deflector Shield	119	19121414	Washer 3/8 x 7/8 x 14 Ga.
28	19111016	Washer 11/32 x 5/8 x 16 Ga.	121	174371	Spring Secondary Drive
29	131491	Rod, Hinge	122	174606	Bushing Pivot Tension Relief
30	173984	Screw, Thdroll Washer Head	126	174372	Arm, Idler, Primary Deck
31	187690	Washer, Spacer	130	17000616	Screw 3/8-16 x 1.0
32	153535	Pulley, Mandrel	184	173979	Keeper Belt Idler
33	178342	Nut, Flg. Top Lock Cntr. 9/16		174356	Mandrel Asm. Service
37	177968	Pulley, Idler, Flat			(Includes Key Nos. 13-15 and 33)
39	174375	Pulley, Idler, Driven		181579	Relplacement Mower, Complete
42	165723	Spacer, Retainer			
43	174373	Arm, Idler Secondary	NOTE	E: All compon	ent dimensions given in U.S.inches
45	180806	Cover, Mandrel Deck		1  inch = 25.4	l mm



# TRACTOR - - MODEL NUMBER 917.275901 HYDRO TRANSAXLE - - MODEL NUMBER 314-0510-20

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	170351	Kit, Main Housing	64	142892	Bolt, Nylok
2	170352	Main Housing, Machined Bushing .865 X .985 X .790 Kit, Side Housing Side Housing, Machined Bushing .865 X .985 X .790 Bushing .624 X .719 X .562	65 67 69 70 71 72	170411 170413 170415 170416 170417 170418	Spacer, Brake Torsion Spring Bolt, Square Head - Brake Nut, Castle 5/16-24 Pin, Cotter 3/32x3/4 Brake Spring Washer (310,0750)
3	170353	Kit, Center Section Center Section, Machined	73 74	142884 170419	Washer (310-0750) Washer, Flat Seal, Oil
4 5	170354 169898	Bushing .707 X .788 X .591 Swashplate, Trunnion Machined Kit, Cylinder Block (10cc) Block - Cylinder Piston Spring, Compression	75 76 77 78 79 80	170420 170421 170422 142969 142980 150778	Ass'y Check Plug Bolt, Stud 5/16-24 Puck, Friction Spring Spacer Nut, Nylon Insert Hex Lock
6 7 8 9 10	178322 170356 170357 170358 170359	Washer Thrust Sealant Tube Hexflange Screw 1/4-20 X 1.25 Stud, 5/16-24 Hex Double End Shaft, Input Retaining Ring	81 82 83 84 85	170423 170424 161168 170425 170426	5/16-24 Wedge, Friction Clip, Washer Pin Fitting, 5/16 X Sae 5/32 Tube Hose, Expansion Tank
11 12 13	170360 169870 170361	Spacer Retaining Ring Seal, Lip .67 X 1.58 X .276	87 88 90	173160 178334 170430	Cap, Vent Bolt, Self Tapping (BDR) Puck, Inner Wedge
14 16 17	173158 170362 170363	Bearing, Ball 6203 (BDR) Hex Flange Head Screw 1/4-20 X 1.25 Seal, Lip 18 X 32 X 7	93 107 108	170431 170432 170433	Spring Clip, Housing Deflector Washer, Motor Shaft .71ID X 1.15OD X .03 Thick
18 19 23 24 27	170364 173159 170365 170366 170367	Arm, Control Bearing, Thrust (10cc) Check Plug Assembly Shaft Motor Gear, Pinion, 13t	109 111 113 119	170434 170435 170437 191031	Plug, Straight Thread 9/16-18 O-ring .7 X .301 ID Bracket, Support Expansion Tank Kit, Fan - Washer - Nut Fan, 7 In Hex Lock Nut 1/2-20(Nylon Insert)
28 29 30	170368 170369 170370	10t / 48t Gear Gear, 10t Jackshaft 60t Bullgear	120	188312	Washer, or Slotted, .53 X 1.63 X .06 Pulley
31 32 33	170371 170389 142991	Sleeve Bearing .75 X 1.75 X .625 Sleeve Bearing (Outboard) .75 X 1.575 X .625 Washer	123 124	178800 170444	Belt Ќeeper Kit, Center Section Filter Bypass Center Section Machining Base Filter W/ Poppet Check Plug
34 35 36 37	170390 170391 170392 150792	Lip Seal, Axle Shaft Shaft, Axle (Keyed, R.h.) Shaft, Axle (Keyed, L.h.) Gear, Splined Diff. (210-1000 & 310-0750)			Assembly, 027 Washer Check Plug Assembly, Washer Spring, Bypass Actuator, Bypass Deflector Bottom, Filter Bushing, .707 X .788 X .591
38 39	150793 150809	Gear, Miter Diff. (210-1000 & 310-0750) Differential Shaft (310-0750)	125	170445	Kit, Filter Bottom, Filter Spring, Bypass Actuator, Bypass Deflector Base, Filter W/ Poppet
40 41 42	170393 170394 170395	Retaining Ring Pin, Jackshaft Magnet, Ring	126	191028	Kit, Fan/pulley Hex Jam 1/20-20 (Nylon Inser) Washer, OD Slotted, .53 X 1.63 X .06 Fan, 7 In Pulley
43 44 45 46 47	170396 150797 170397 170398 170399	Spring, Bypass Bolt 3/8-24 X 2-1/2 Filter Base, Filter Actuator, Bypass	127	170447	Kit, Seal Lip Seal .67 X 1.58 X .276, Lip Seal 18 X 32 X 7 Lip Seal .706 X 1.584 X .25 Lip Seal .741 X .250 X .250 Tc Oil Seal .625 X 1.0 X .25
48 49 50 51 52 53	170400 170401 170402 170403 170404 170405	Rod, Bypass Actuator Arm, Bypass Retaining Ring .25 External Seal, Lip .741 X .25 X .25 Washer, Flat 0.050" (210-1000) Retaining Ring	128	173165	O-ring .07 X .301 ID Kit, Expansion Tank Tank, Expansion Cap, Vent Bolt, Self Tapping 10-32 X 1/2 Bracket, Support Expansion Tank
54 55 56 57 58	170406 142977 142978  142929	Bearing, Center Block Spring, Helical Compression Washer, Block Thrust 20W-50 Oil Kit, Brake Yoke	129 130	191032 186352	Silicon Sponge 1/2 X 1/2 X 3/16 Cap, Expansion Tank Shipping Kit, Brake Arm And Spring Arm, Brake Spring, Brake Arm Bias
59 60 61	170408 142883 142882	Rotor, Brake Brake Puck Brake Puck Plate	900	166768	Instruction Sheet Transaxle
62 63	170409 170410	Pin, Brake Actuating Hfhcs 1/4-20 X 2 W/patch, Special Flange	NOT	E: All compor 1 inch = 25	nent dimensions given in U.S. inches 5.4 mm



#### HEAD/VALVE/BREATHER

KEY NO.	PART NO. DESCRIPTION
1	24-033-03-SKit, breather cover w/gasket
2 3 4 5	(Includes 2-4) 24-041-51-SGasket, breather 24-096-87-SCover, breather 25-139-60-SPlug, allen hd. 1/8" M-645020-SScrew, hex. flange M6x1.0x20
6 7	(4) 25-351-01-SLifter, valve (4) 24-755-66-SKit, valve train (Includes 8,11,12)
8 9	24-411-05-SRod, push (4) 24-841-03-SKit, cylinder head gasket (2) (Includes head mounting hardware)
10 11 12 13	24-318-72-SHead assembly, #2 cylinder 25-186-01-SArm, rocker (4) 24-599-01-SPivot, rocker arm (4) 66-086-07-SScrew, hex. flange (4)
14	12-086-16-SScrew, hex. flange M10x1.5x90 (8)
15	24-755-141-SKit, valve cover - plain (Includes 16,17)
16 17	24-153-28-SO-Ring M-651030-SScrew, hex. flange M6x1.0x30 (4)
18 19	24-445-01-SStrap, lifting 24-016-01-SValve, exhaust (Std.) (2) 24-016-02-SValve, exhaust (.25) (2)
20	24-017-01-SValve, intake (Std.) (2 24-017-02-SValve, intake (.25) (2)
21 22 23	66-032-05-SSeal, valve stem (2) 235011-S Retainer, spring (4) 24-089-02-SSpring, valve (4)
24 25	12-173-01-SCap, valve spring (4) 12-755-03-SKit, retainer (4)
26 27	24-318-69-SHead assembly, #1 cylinder 24-755-142-SKit, valve cover - breather (Includes 16,17,28)
28 29	25-313-03-SGrommet, rubber 24-755-57-SKit, breather separator (Includes 28,30-33)
30	M-545016-SScrew, hex. flange M5x0.8x16 (2)
31 32 33	24-445-02-SST-7, breather 24-126-44-SBracket, breather separator 24-112-12-SSpacer

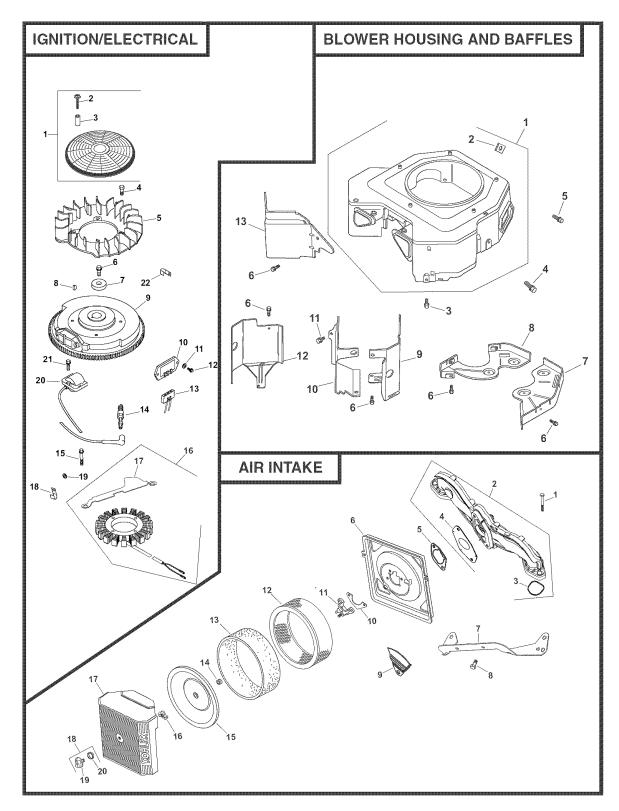
33 24-112-12-SSpacer
34 24-326-74-SHose, breather

### CRANKCASE

KEY NO.	PART NO.	DESCRIPTION
1	24-032-01-SS	Seal, front oil
2		Crankcase
3	24-294-13-SF	(USE: Miniblock 24 782 23)
4	24-380-13-SF	Pin, locating (6)
5	24-067-13-SC	Connecting Rod (Std.) (2)
6	24-067-14-SC	Connecting Rod (.25) (2) Piston w/Ring Set (Std.) (2)
0	24-074-00-3F	(Includes 7, 8)
	24-874-16-SF	Piston w/Ring Set (.08) (2)
	24-874-20-SF	Piston w/Ring Set (.25) (2)
7	24 874 21-SF 24-108-05-SF	Piston w/Ring Set (.50) (2)
'	24-108-06-SF	Ring Set (Stď. & .0̀8) (2́) ´́ Ring Set (.25) (2)
	24-108-07-SF	Ring Set (.50) (2)
8 9	24-018-01-SF	Retainer, pistón pin (4)
9	12-422-09-33	Shim, camshaft (A.R.) Shim, camshaft (A.R.)
	12-422-07-SS	Shim, camshaft (A.R.)
	12-422-08-SS	Shim, camshaft (A.R.)
	12-422-10-55	Shim, camshaft ` Shim, camshaft (A.R.)
	12-422-12-55	Shim, camshaft (A.R.)
10	24-012-16-SC	Camshaft
11 12	52-139-09-SF	Plug, cup Screw, hex. flange M5x0.8x10
12	WI-545010-53	(2)
13	24-018-04-SF	Retainer, reed (2)
14	24-402-05-SF	Reed, breather (2)
15 16	24-126-19-SE	D-Ring, lower oil fill tube Bracket, oil fill tube
17	12-123-04-ST	ube, oil fill
18	M-545016-SS	Screw, hex. flange M5x0.8x16
19 20	12-153-02-SC	D-Ring, upper oil fill tube Dipstick assembly (Includes 21,
20	24-030-04-3L	22)
21	24-755-46-Sk	Kit, óil fill cap (Includes 22)
22	25-153-02-SC	D-Ring, dipstick
23 24	24-018-09-SF M-931010-SV	Retainer, ring Vasher, nylon (top)
25	28-032-09-SS	Seal, governor cross shaft
26	24-468-15-SV	Vasher (bottom)

27 24-144-38-SShaft, governor cross

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



#### **IGNITION/ELECTRICAL**

KEY NO.	PART NO.	DESCRIPTION
1	54-755-15-S	Kit, grass screen (Includes 2,3,and 24 113 18- S)
2 3 4 5 6	25 086 117-S 24-112-04-S 25-086-47-S 24-157-08-S 12-086-14-S	Screw, hex. cap M4x0.7x25 (4) Spacer, grass screen (4) Bolt, shoulder M6x1.0x16 (4) Fan Screw, hex. flange M10x1.5x46
7 8 10 11 12	12-468-03-S X-42-15-S 24-025-01-S 41-403-09-S X-25-92-S 24-086-18-S	Washer, plain 3/8" Key Flywheel Rectifier-regulator Washer, plain 3/16" (2) Screw, phillips hd. 11-16x7/8
13 14 15 16	236602-S 12-132-02-S M-548025-S 54-755-09-S	(2) Connector (3 contact) Spark Plug (2) Screw, hex. cap M5x0.8x25 (2) Kit, 15 amp stator (Includes 17)
17 18 19 20 21 22	235173-S 48-154-02-S X-25-63-S 24-584-01-S M-545020-S	Bracket, stator wire Clip, cable Clip, cable Washer, plain 1/4" Module, ignition (2) Screw, hex. flange M5x0.8x20 (4)
ΝΟΤ	ILLUSTRATE	
		Bracket, ground strap
	25-468-07-S 24-176-82-S	Harness, wiring

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

#### **BLOWER HOUSING & BAFFLES**

#### **KEY PART** NO. NO. DESCRIPTION 1 24-027-114-S Housing, blower (Includes 2, 24-096-85-S & 25-086-91-S) 2 24-100-01-S Nut, plastic (2) Screw, hex. flange M5x0.8x20 3 M-545020-S (4)M-545016-S 4 Screw, hex. flange M5x0.8x16 (3) Screw, hex. flange M5x0.8x16 Screw, hex. flange M6x1.0x16 5 M-551016-S M-645016-S 6 (6) 7 24-146-18-S Plate, backing - # 2 side Plate, backing - # 1 side Baffle, cylinder barrel-# 2 side 24-146-20-S 8 24-063-39-S 9 24-063-60-S Baffle, valley - #1 side 10 Screw, hex. flange M5x0.8x10 M-545010-S 11 (2) 24-063-58-S Báffle, cylinder barrel-# 1 side 12 24-063-69-S Baffle, valley - #2 side 13 NOT ILLUSTRATED

24-096-85-S	Cover, blower housing
25-086-91-S	Screw, tapping
	Decal. clear lamination

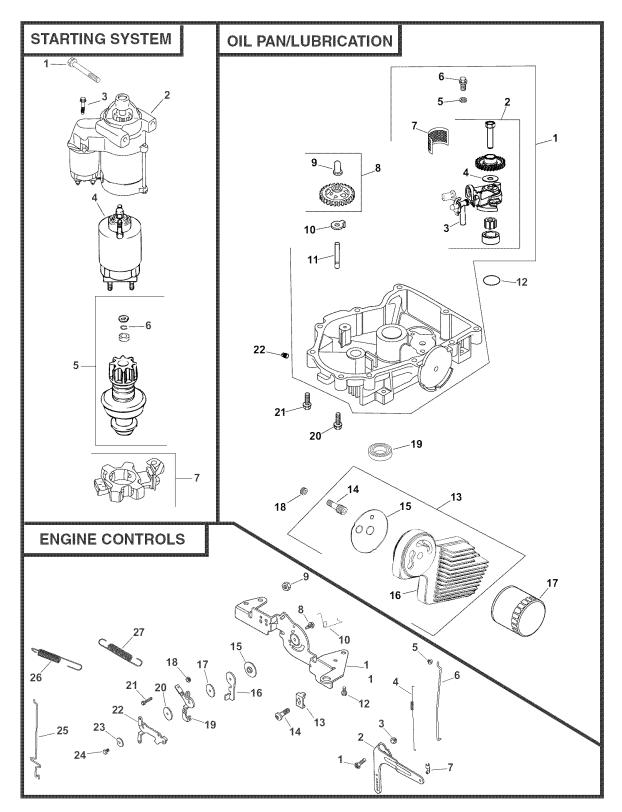
#### **AIR INTAKE/FILTRATION**

#### **KEY PART** NO. NO. DESCRIPTION

- 1 M-651040-S Screw, hex. flange M6x1.0x40 (4)
- 2 24-164-51-S Manifold, intake (Includes 3,4) 3
  - 24 153 27-S O-Ring, intake port (2)
- 4 24 041 52-S Gasket, carburetor
- 5 24-041-14-S Gasket, air cleaner base
- 6 24-094-34-S Base, air cleaner 7
- 24 126 130-S Bracket, air cleaner base 8 M-545010-S Screw, hex. flange M5x0.8x10
- Baffle, fuel spit-back 9 24-063-51-S
- 24-041-13-S Gasket, fuel spit-back cup 10
- Cup, fuel spit-back Element, air cleaner 24-109-09-S 11
- 12 24-083-03-S 24-083-05-S Precleaner, element 13
- 14 231032-S Seal, breather
- Cover, inner air cleaner 24-096-01-S 15
- 12-100-01-S Wing Nut 16
- 24-096-67-S Cover, air cleaner 17
- 18 54-755-01-S Kit, knob w/seal
  - (Includes 19,20)
- 19 25-341-04-S Knob, cover

20 24-153-20-S O-Ring

**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		Starter, solenoid shift assembly (Includes 3-7)
3	25 086 113-S	Screw, external forx. hd.
4	25-435-04-S	Kit, solenoid (Includes 3)
5	25-755-33-S	Kit, pinion drive (Includes 6)
6	25 141 05-S	Ring
7	25-221-01-S	Kit, brush

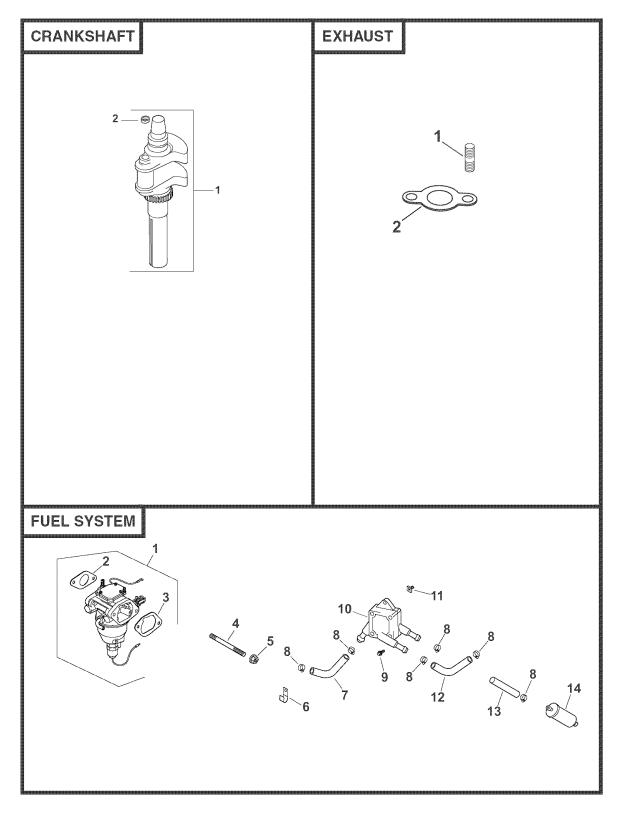
#### **ENGINE CONTROLS**

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

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

KEY NO.	PART NO.	DESCRIPTION
1	24-199-07-S	Pan assembly, oil (Includes 2-11,16)
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 pick-up Washer, plain 6 mm (2) Screw, hex. flange M6x1.0x25 (2)
7 8	24-162-26-S 24-043-12-S	Kir, governor gear w/pin (Includes 9)
9 10 11 12 13 14 15 16 17 18 19 20	12-380-01-S 24 448 02-S 12-144-02-S 24-153-08-S 24-755-52-S 24-136-05-S 24-041-29-S 24-041-29-S 24-594-24-S 52-050-02-S 25-139-62-S 52-032-08-S 24-086-17-S	Pin, governor regulating Tab, locking Shaft, governor gear O-Ring Kit, oil cooler (Includes 14-16) Nipple, oil filter Gasket, oil filter adapter Cooler assembly, oil Filter, oil Plug, hex. ctsk. 3/8" Seal, oil (PTO end) Screw, hex. flange M8x1.25x45
21	24-086-16-S	Screw, hex. flange M8x1.25x45 (9)
22	25-139-57-S	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

- 24-014-42-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) 25-072-04-S Stud, M8x1.25x33 (4) 1 2
- PA-CV730-0043Replacement Engine 24 522 327 Short Block 24-782-23 Miniblock - -
- -- -
- 24-755-113-S Gasket Set - -

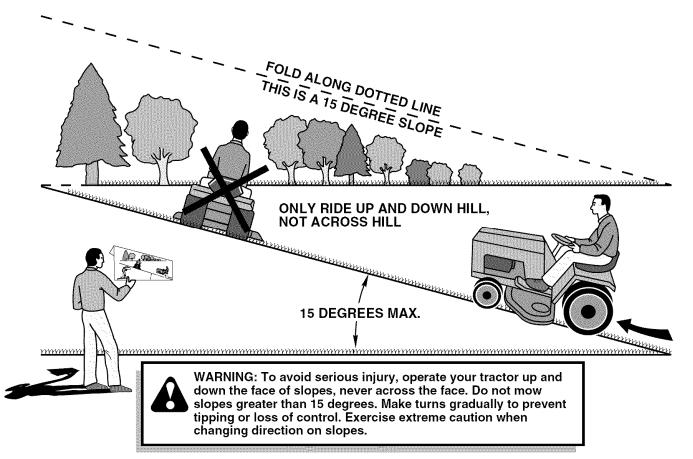
#### FUEL SYSTEM

KEY NO.	PART NO.	DESCRIPTION
1	24-853-102-S	Kit, carburetor w/gaskets (Includes 2,3)
2	24-041-52-S	Gasket, carburetor
2 3 4 5	24-041-14-S	Gasket, air cleaner base
4	M-629095-S	Stud, M6x1.0x95 (2)
	M-641060-S	Nut, hex. flange M6x1.0 (2)
6	47-154-01-S	Clip, cable
7	52-353-22-S	Line, fuel 12-1/2" (pump to carb)
8	25-237-14-S	Clamp, hose (6)
9	24-086-12-S	Screw, hex. cap M6x1.7x18 (2)
10	24-393-16-S	Pump, fuel - pulse
11	24-100-01-S	Nut, plastic (2)
12	24-353-12-S	Line, fuel 10-5/8" (pump to pulse fitting)
13	15-353-04-S	Line, fuel 11-1/2"
14	24-050-02-S	Filter, fuel
NOT	ILLUSTRATE	כ
	24-234-02-S	Bowl, fuel
	24-757-18-S	Kit, overhaul w/gaskets
	24-757-19-S	Kit, choke repair w/gaskets
	24-757-20-S	Kit, gasket
	24-757-22-S	Kit, solenoid replacement w/gaskets

**NOTE:** All component dimensions given in U.S. inches1 inch = 25.4 mm

# 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.
- 4. Compare the angle of the fold with the slope of the hill.

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