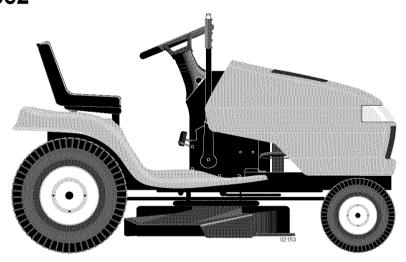
### Owner's Manual

## **CRAFTZMAN®**

## **LAWN TRACTOR**

25.0 HP, 48" Mower Electric Start Automatic Transmission

Model No. **917.273662** 





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

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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.

**AWARNING:** 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.

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

**AWARNING:** 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.

AWARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

#### I. GENERAL OPERATION

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

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

#### II. SLOPE OPERATION

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

#### **SAFETY RULES**

#### DO:

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

#### DO NOT:

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

#### III. CHILDREN

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

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

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

#### IV. SERVICE

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

#### **SAFETY RULES**











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

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

#### **PRODUCT SPECIFICATIONS**

Gasoline Capacity and Type:	4 Gallons Unleaded Regular	
Oil Type (API-SG-SL):	SAE 10W30 (above 32°F) SAE 5W-30 (below 32°F)	
Oil Capacity:	W/Filter: 4.0 Pints W/O Filter: 3.5 Pints	
Spark Plug: (Gap: .030")	Champion RC12YC	
Ground Speed (MPH):	Forward: $0-5.5$ Reverse: $0-2.4$	
Tire Pressure:	Front: 14 PSI Rear: 10 PSI	
Charging System:	15 Amps @ 3600 RPM	
Battery:	Amp/Hr: 35 Min. CCA: 280 Case size: U1R	
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.

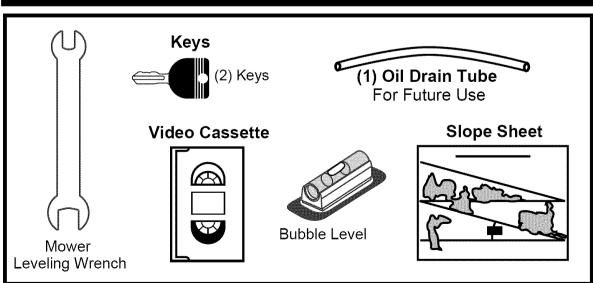
Once you purchase the Agreement, a simple phone call is all that it takes for you to schedule service. You can call anytime day or night, or schedule a service appointment online.

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. Review the video cassette before you begin.

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

## TO REMOVE TRACTOR FROM CARTON

#### **UNPACK CARTON**

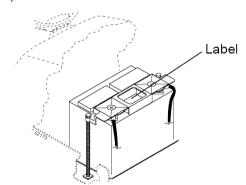
- 1. Cut along dotted lines on all four panels of carton. Remove end panels and lay side panels flat.
- 2. Remove packing materials.
- 3. Remove protective materials from tractor hood and grille.

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

## HOW TO SET UP YOUR TRACTOR CHECK BATTERY

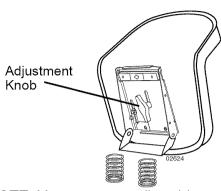
1. Lift hood to raised position.

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



#### **ADJUST SEAT**

- 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.

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

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

- Press lift lever plunger and raise attachment lift lever to its highest position.
- 2. Release parking brake by depressing 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)

**AWARNING:** 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.
- Press lift lever plunger and raise attachment lift lever to its highest position.
- Start the engine. After engine has started, move throttle control to idle position.
- 8. Release parking brake.
- 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.
- ✓ 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.





HIGH























LOCKED



PARKING BRAKE PARKING BRAKE



**FUEL** 



























MOWER LIFT













DANGER, KEEP HANDS AND FEET AWAY

SLOPE HAZARDS KEEP AREA CLEAR (SEE SAFETY RULES SECTION)



**FREE WHEEL** (Automatic Models only)



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



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



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



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

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



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

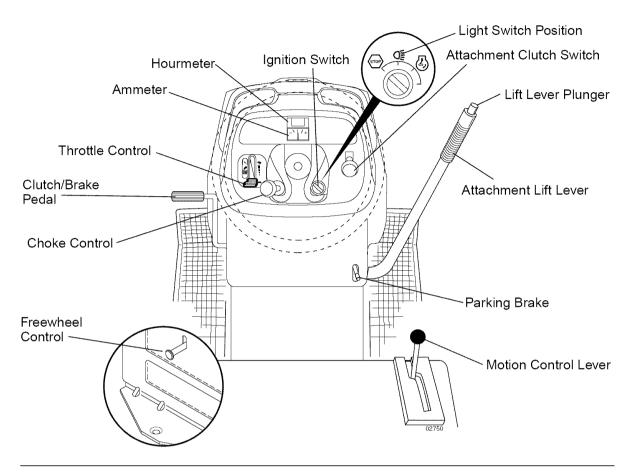


FIRE indicates a hazard which, if not avoided, could result in death, serious injury and/or property damage.

#### KNOW YOUR TRACTOR

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

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



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

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

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

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

**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.

ATTACHMENT LIFT LEVER - Used to raise, lower and adjust the mower deck or other attachments mounted to your tractor. LIFT LEVER PLUNGER - Used to release attachment lift lever when changing its position.

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

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

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

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

**HOURMETER** - Indicates hours of operation.

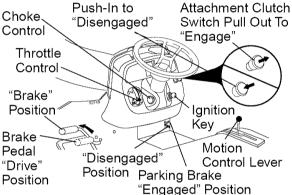


The operation of any tractor can result in foreign objects thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields while operating your tractor or performing any adjustments or repairs. We recommend standard safety glasses or a wide vision safety mask worn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

## HOW TO USE YOUR TRACTOR TO SET PARKING BRAKE

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

- Depress 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.

Acaution: 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.

- 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;

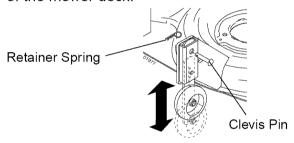
11 the second to desired height.

#### 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.
- 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.



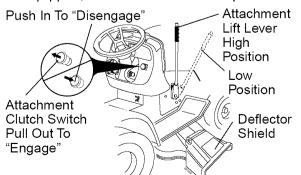
#### TO OPERATE MOWER

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.

- Select desired height of cut.
- Start mower blades by engaging attachment clutch control.

TO STOP MOWER BLADES disengage attachment clutch control.

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



#### TO OPERATE ON HILLS

AWARNING: Do not drive up or down hills with slopes greater than 15° and do not drive across any slope. Use the slope quide 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.

- 1. 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 12 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 additional information.

Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

#### TO START ENGINE

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

- 1. Be sure freewheel control is in the transmission engaged position.
- 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.
- 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.
- Place the motion control lever in neutral. Release the parking brake and let the clutch/brake slowly return to operating position.

- Allow one minute for transmission to warm up. This can be done during the engine warm up period.
- The attachments can be used during the engine warm-up period after the transmission has been warmed up and may require the choke control be pulled out slightly.

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

#### **PURGE TRANSMISSION**

ACAUTION: Never engage or disengage freewheel lever while the engine is running. To ensure proper operation and performance, it is recommended that the transmission be purged before operating tractor for the first time. This procedure will remove any trapped air inside the transmission which may have developed during shipping of your tractor.

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

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

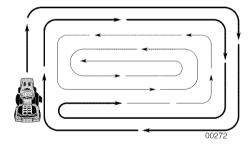
- Move motion control lever to neutral (N) position. Shutoff engine and set parking brake.
- Engage transmission by placing freewheel control in engaged position (See "TO TRANSPORT" in this section of manual).
- Sitting in the tractor seat, start engine. After the engine is running, move throttle control 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	3EFORE	EACH US	HOURS HOURS	SHOUP SHOUP VERY S	S HOUP O HOUP VERY	OO HOU	AS ON SEASONE	SERVI	CE DAT	ES
	Check Brake Operation	~	1									
	Check Tire Pressure	~	<b>/</b>									
Т	Check Operator Presence and Interlock Systems	V										
R	Check for Loose Fasteners	1				<b>1</b> 5		1				
ΙÀ	Sharpen/Replace Mower Blades			<b>1</b> 3								
I۲	Lubrication Chart			1				1				
Ιċ	Check Battery Level			<b>1</b> /4								
R	Clean Battery and Terminals			1				1				
	Check Transaxle Cooling			1								
	Check V-Belts					1						
	Check Engine Oil Level	~	1									
	Change Engine Oil (with oil filter)				1,2	2		1				
lΕ	Change Engine Oil (without oil filter)			<b>✓</b> 1,2				1				
N	Clean Air Filter			<b>1</b> 2								
Ģ	Clean Air Screen			<b>1</b> /2								
ľ	Inspect Muffler/Spark Arrester				1							
ΙË	Replace Oil Filter (If equipped)					1,2						
<sup>-</sup>	Clean Engine Cooling Fins					<b>V</b> 2						Î
	Replace Spark Plug					1	1					3
	Replace Air Filter Paper Cartridge					<b>√</b> 2						
	Replace Fuel Filter						1					0

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

#### **GENERAL RECOMMENDATIONS**

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

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

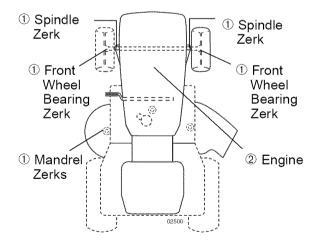
At least once a season, check to see if you should make any of the adjustments described in the Service and Adjustments section of this manual.

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

#### **BEFORE EACH USE**

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

#### 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**

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

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

#### **BLADE CARE**

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

#### **BLADE REMOVAL**

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

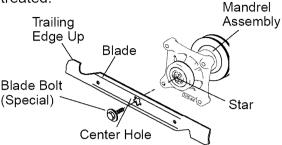
**NOTE:** Protect your hands with gloves and/or wrap blade with heavy cloth.

- Remove blade bolt by turning counterclockwise.
- 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

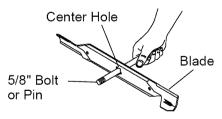
**NOTE:** We do not recommend sharpening blade - but if you do, be sure the blade is balanced.

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.

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**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"

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.
- Clean terminals and battery cable ends with wire brush until bright.
- 5. Coat terminals with grease or petroleum jelly.
- Reinstall battery (See "REPLACING BATTERY" in the SERVICE AND AD-JUSTMENTS section of this manual).

#### TRANSAXLE COOLING

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

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

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

#### TRANSAXLE PUMP FLUID

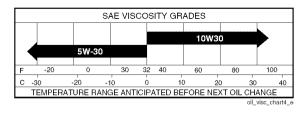
The transaxle was sealed at the factory and fluid maintenance is not required for the life of the transaxle. Should the transaxle ever leak or require servicing, contact a sears or other qualified service center.

#### **V-BELTS**

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

## ENGINE LUBRICATION

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

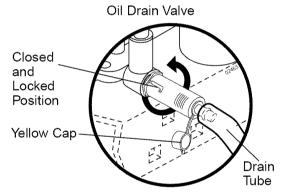


Change the oil after every 50 hours of operation or at least once a year if the tractor is not used for 50 hours in one year. Check the crankcase oil level before starting the engine and after each eight (8) hours of operation.

#### TO CHANGE ENGINE OIL

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

- Be sure tractor is on level surface.
- · Oil will drain more freely when warm.
- · Catch oil in a suitable container.
- Remove oil fill cap/dipstick. Be careful not to allow dirt to enter the engine when changing oil.
- 2. 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. Insert dipstick into the tube and rest the oil fill cap on the tube. Do not thread the cap onto the tube when taking reading. Keep oil at "FULL" line on dipstick. Tighten cap onto the tube securely when finished.

#### **ENGINE OIL FILTER**

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

#### **AIR FILTER**

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

Service air cleaner more often under dusty conditions.

1. Loosen knob and remove cover.

#### TO SERVICE PRE-CLEANER

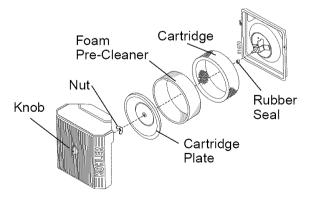
- 2. Slide foam pre-cleaner off cartridge.
- 3. Wash it in liquid detergent and water.
- 4. Squeeze it dry in a clean cloth. Allow it to dry.
- 5. Saturate it in engine oil. Wrap it in clean, absorbent cloth and squeeze to remove excess oil.

#### TO SERVICE CARTRIDGE

Replace a dirty, bent, or damaged cartridge.

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

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

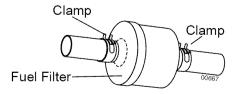
#### SPARK PLUG(S)

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.
- Disengage belt tension rod from lock bracket.

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

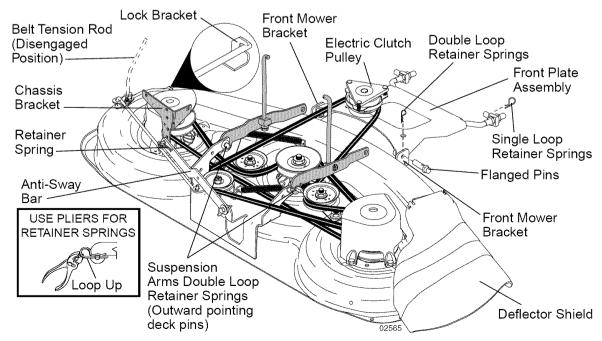
- Remove retainer spring holding anti-swaybar to chassis bracket and disengage anti-sway bar from bracket.
- 6. Remove four retainer springs from front plate assembly and remove plate.

- 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.



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.
- Be sure belt tension rod is in disengaged position.
- 6. Install belt into electric clutch pulley groove.
- 7. 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.
- 9. 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.

 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.
- If equipped, turn height adjustment knob clockwise to remove slack from mower suspension.
- 13. Raise deck to highest position.

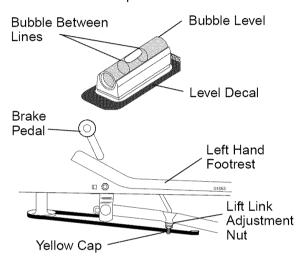
#### TO LEVEL MOWER HOUSING

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

## SIDE-TO-SIDE ADJUSTMENT WITH BUBBLE LEVEL

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

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

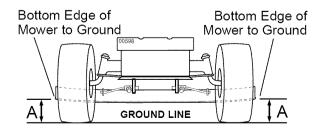


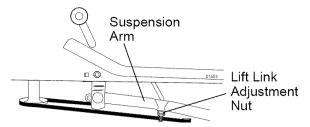
## ALTERNATE SIDE-TO-SIDE ADJUSTMENT METHOD

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

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

Recheck measurements after adjusting.





#### FRONT-TO-BACK ADJUSTMENT

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

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

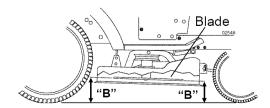
**CAUTION:** Blades are sharp. Protect your hands with gloves and/or wrap blade with heavy cloth.

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

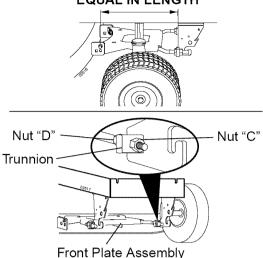
- Before making any necessary adjustments, check that both front plate links are equal in length.
- If links are not equal in length, adjust one link to same length as other link.
- To lower front of blade, loosen nut "C" on both front links an equal number of turns

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

- When distance "B" is 1/8" to 1/2" lower at front than rear, tighten nut "D" against trunnion on both front links.
- To raise front of mower, 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

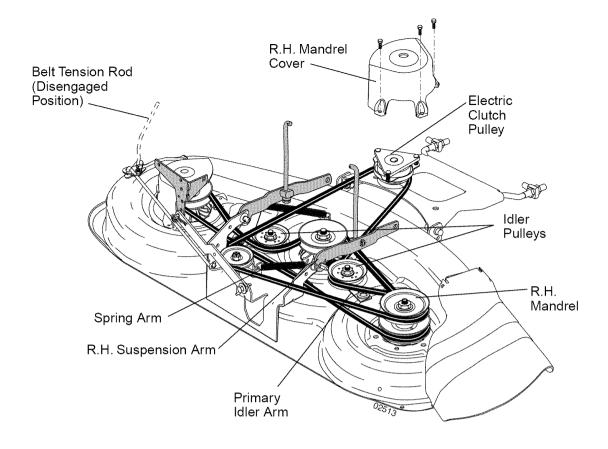
- Park tractor on a level surface. Engage parking brake.
- 2. Lower mower to its lowest position.
- 3. Disengage belt tension rod from lock bracket.

**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 pullev.
- 8. Remove belt from electric clutch pulley.
- 9. Remove belt from idler pullevs.
- 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.
- 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.

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

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

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

## REMOVE MOWER BLADE (SECONDARY) DRIVE BELT

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

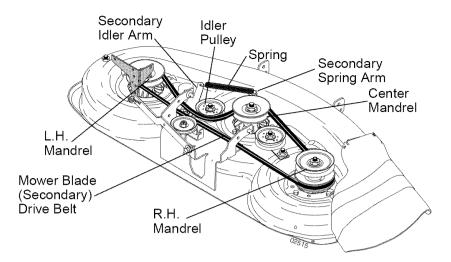
- Check secondary idler arm and idler pulley to see that they rotate freely.
- 11. Be sure spring is hooked in secondary idler arm and secondary spring arm.

## 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

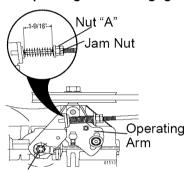
- Park tractor on a level, dry concrete or paved surface, depress clutch/brake pedal all the way down and engage parking brake.
- 2. Disengage transmission by placing freewheel control in "transmission disengaged" position. Pull freewheel control out and into the slot and release so it is held in the 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.
- 3. 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.
- 5. 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 -

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

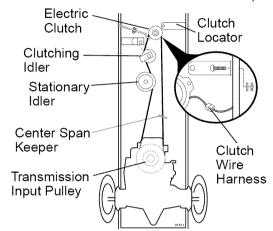
**NOTE:** Observe entire motion drive belt and position of all belt guides and keepers.

- 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 -**

- 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.
- Reinstall clutch locator and tighten nut securely.
- Reconnect clutch harness.
- 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 TRANSMISSION" in the Operation section of this manual.

#### TO ADJUST STEERING WHEEL ALIGN-MENT

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

#### FRONT WHEEL TOE-IN/CAMBER

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

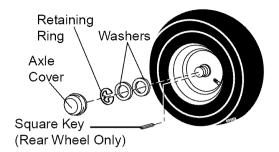
#### TO REMOVE WHEEL FOR REPAIRS

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

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

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



#### 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 "BATTERY" in the Maintenance section of this manual).

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

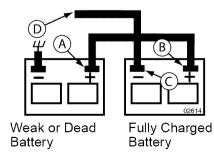
**IMPORTANT**: Your tractor is equipped with a 12 volt system. The other vehicle must also be a 12 volt system. Do not use your tractor battery to start other vehicles.

#### TO ATTACH JUMPER CABLES -

- 1. Connect one end of the RED cable to the POSITIVE (+) terminal of each battery(A-B), taking care not to short against tractor chassis.
- Connect one end of the BLACK cable to the NEGATIVE (-) terminal (C) of fully charged battery.
- Connect the other end of the BLACK cable (D) to good chassis ground, away from fuel tank and battery.

### TO REMOVE CABLES, REVERSE ORDER -

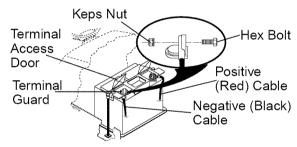
- 1. BLACK cable first from chassis and then from the fully charged battery.
- RED cable last from both batteries.



#### **REPLACING BATTERY**

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 grounding.

- 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.
- First connect RED battery cable to positive (+) battery terminal with hex bolt and keps nut as shown. Tighten securely.
- 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.

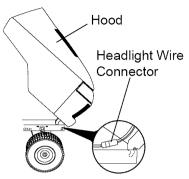
#### TO REPLACE FUSE

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.

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



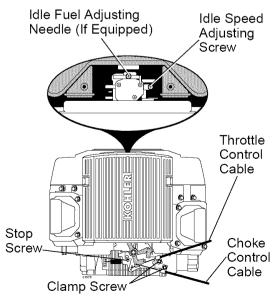
#### **ENGINE**

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

### TO ADJUST THROTTLE CONTROL CABLE

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

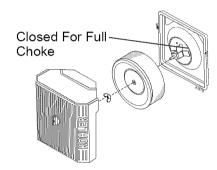
- 1. With engine not running, move throttle control lever to fast position.
- Check that speed control lever is against stop screw. If it is not, loosen casing clamp screw and pull throttle cable until lever is against screw. Tighten clamp screw securely.



#### TO ADJUST CHOKE CONTROL

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

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



#### TO ADJUST CARBURETOR

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

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

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

#### PRELIMINARY SETTING -

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

#### FINAL SETTING -

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.

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

#### **ACCELERATION TEST -**

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

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

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

#### **STORAGE**

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

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

#### **TRACTOR**

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

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

#### **BATTERY**

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

#### **ENGINE**

#### **FUEL SYSTEM**

**IMPORTANT**: It is important to prevent gum 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.

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

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

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

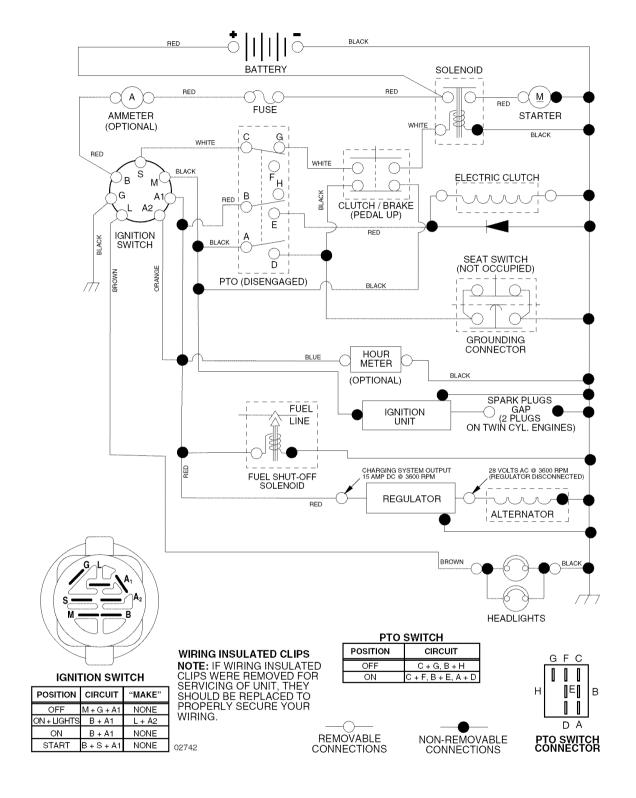
PROBLEM	CAUSE	CORRECTION		
Loss of power (continued)	<ol> <li>Faulty spark plug.</li> <li>Dirty fuel filter.</li> <li>Stale or dirty fuel.</li> <li>Water in fuel.</li> <li>Spark plug wire loose.</li> <li>Dirty engine air screen/fins.</li> <li>Dirty/clogged muffler.</li> <li>Loose or damaged wiring.</li> <li>Carburetor out of adjustment.</li> <li>Engine valves out of adjustment.</li> </ol>	<ol> <li>Clean and regap or change spark plug.</li> <li>Replace fuel filter.</li> <li>Empty fuel tank and refill tank with fresh, clean gasoline.</li> <li>Empty fuel tank and carburetor, 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 continues to run when operator leaves seat with attachment clutch engaged	Faulty operator-safety presence control system.	Check wiring, switches and connections. If not corrected, contact a Sears or other qualified service center.		
Poor cut - uneven	<ol> <li>Worn, bent or loose blade.</li> <li>Mower deck not level.</li> <li>Buildup of grass, leaves, and trash under mower.</li> <li>Bent blade mandrel.</li> <li>Clogged mower deck vent from build-up of grass, leaves, and trash around mandrels.</li> </ol>	<ol> <li>Replace blade. Tighten blade bolt.</li> <li>Level mower deck.</li> <li>Clean underside of mower housing.</li> <li>Contact a Sears or other qualified service center.</li> <li>Clean around mandrels to open vent holes.</li> </ol>		
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>		
Poor grass discharge	<ol> <li>Engine speed too slow.</li> <li>Travel speed too fast.</li> </ol>	Place throttle control in "FAST" position.     Shift to slower speed.		

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

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

#### TRACTOR - - MODEL NUMBER 917.273662

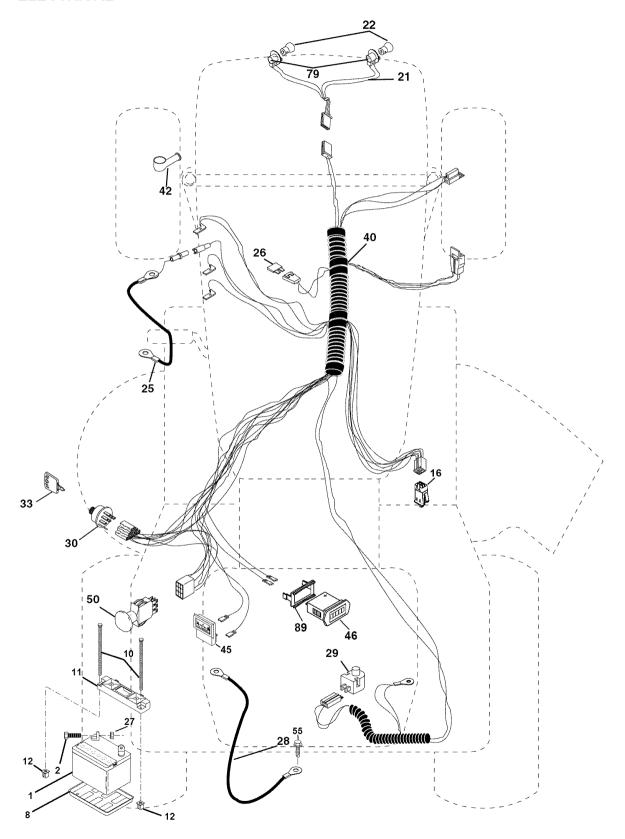
#### **SCHEMATIC**



### **REPAIR PARTS**

#### TRACTOR - - MODEL NUMBER 917.273662

#### **ELECTRICAL**



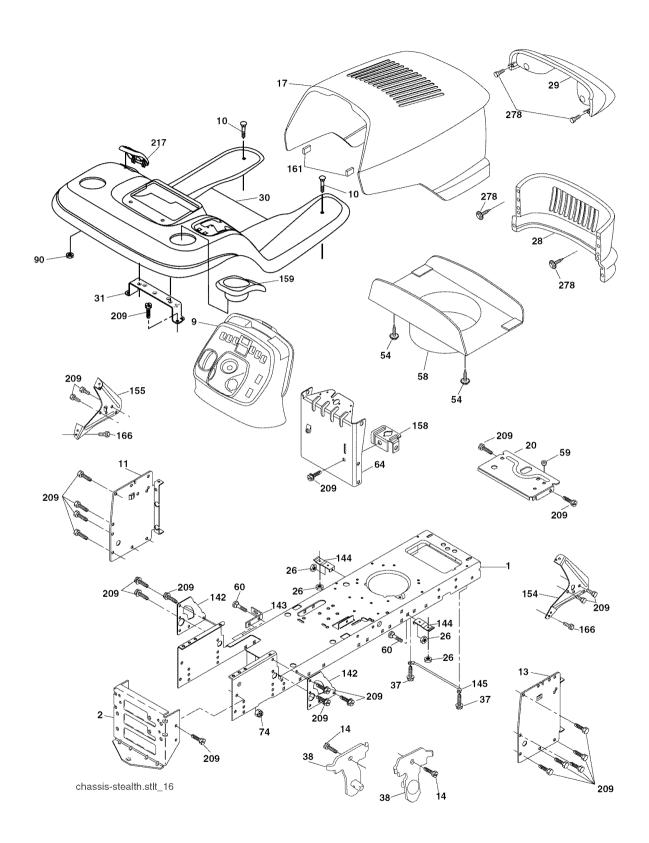
#### TRACTOR - - MODEL NUMBER 917.273662

#### **ELECTRICAL**

KEY NO.	PART NO.	DESCRIPTION
1 2 8 10 11 12 16 21 22 25 26 27 28 29 33 40 42 45 46 50 55 79 89	145769 176138 175688 4152J 186846 175158 73510400 145491 121305X 175566 140403 188031 154336 122822X 169635 174652	Battery Bolt, Hex 1/4-20 x 3/4 Tray, Battery Bolt, Battery, Front 1/4-20 x 7-1/2 Holddown, Battery, Front Nut, Push, Nylon, Battery, Front 1/4 Switch, Interlock Harness, Light Bulb Light #1156 Cable Fuse Nut, Hex, Keps 1/4-20 unc Cable, Ground Switch, Seat NC Gray Switch, Ignition Key Harness, Ignition Cover Terminal Ammeter Hourmeter Switch, PTO Screw, Thd. Roll. 5/16-18 x 1/2 Socket Asm Bulb Twistlock Bracket Snap-in

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

## TRACTOR - - MODEL NUMBER 917.273662 CHASSIS AND ENCLOSURES

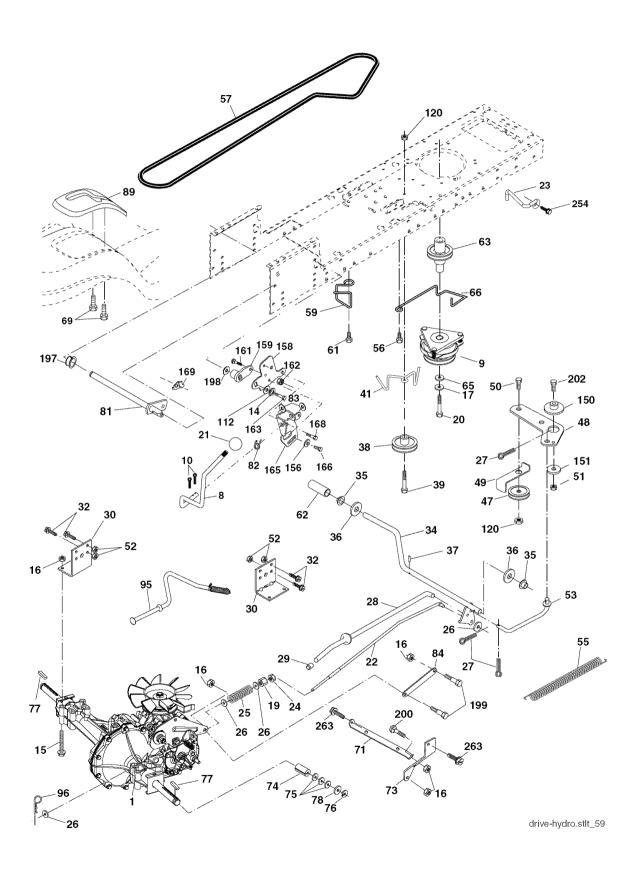


## TRACTOR - - MODEL NUMBER 917.273662 CHASSIS AND ENCLOSURES

KEY	PART	
NO.	NO.	DESCRIPTION
1	174619	Chassis
2	176554	Drawbar
9	187934X428	
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		Locknut, Hex, with Insert 3/8-16 unc
28 29	174515X615 161840	
30		Lens, Bar Fender/Footrest
31	139976	
37	17490508	Bracket, Fender/Support Screw, Thdrol. 5/16-18 x 1/2 TYT
38	175710	Bracket Asm Pivot Mower Rear
54	161464	Screw Hex Wshd 8-18 x 7/8
58	175351	Duct Hood
59	187495	Bushing 1.375 OD
60	STD533707	Bolt Rdhd Sqnk 3/8-16 unc x 3/4
64	174997	Dash Lower
74		Nut Crownlock 3/8-16 unc
90	124346X	Nut Self Thrd Wshd 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		
161	164655	Bumper Extrusion .600 x 3.50
209	17000612	Screw Hexwsh Thdr 3/8-16 x 3/4
217		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

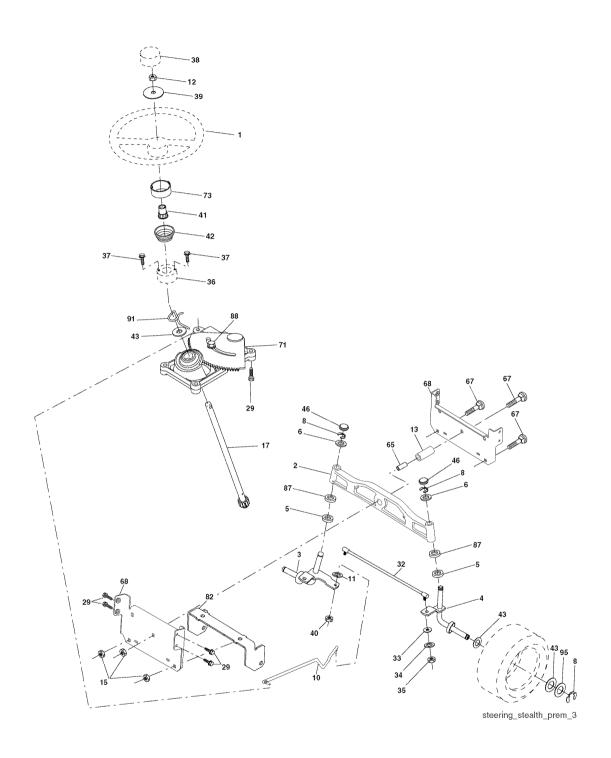
#### **GROUND DRIVE**



## **GROUND DRIVE**

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1		Transaxle, HydroGear, Model Number 314-0510 (See Break	65 66	10040700 154778	Washer Keeper Belt Engine
		down)	69	142432	Screw Hex Wsh Hi-Lo 1/4-1/2 unc
8	165866	Rod Shift Fend.	71	169183	Strap Torque LH
9	179334	Clutch Electric	73	169182	Strap Torque RH
10	76020416	Pin Cotter 1/8 x 1	74	137057	Spacer, Axle
14	10040400	Washer Lock Hvy 1/4	75	121749X	Washer 25/32 x 1-1/4 x 16 Ga.
15	74490544	Bolt Hex Flghd 5/16-18 Gr. 5	76	12000001	E-Ring
16	73800500	Nut Lock Hex W/Ins. 5/16-18 unc	77	123583X	Key, Square
17	126197X	Washer 1-1/2 OD x 15/32 ID x.250	78	121748X	Washer 25/32 x 1-5/8 x 16 Ga.
19	73800600	Nut Lock Hex W/Wsh 3/8-16 unc	81	165596	Shaft Assy. Cross Taper
20	173937	Bolt Hex 7/16-20 x 4 x Gr. 5-1.5	82	165711	Spring Torsion
21	140845	Knob	83	19171216	Washer 17/32 x 3/4 x 16 Ga.
22	169498	Rod, Brake	84	169594	Link Transaxle
23	190736	Bracket Anti-Rotation	89		Console, Shift
24	73350600	Nut, Hex Jam 3/8-16 unc	95	170201	Rod Bypass
25 26	106888X	Spring, Brake Rod	96 112	4497H	Retainer Spring 1" Zinc/Cad Washer 9/32 x 3/4 x 10 Ga.
26 27	19131316 76020412	Washer Pin Cotter 1/8 x 3/4 CAD.	116	19091210 72140608	Bolt RDHD SQNK 3/8-16 unc x 1
28	175765	Rod, Parking Brake	120	73900600	Nut Lock Flg 3/8-16 unc
29	124236X	Knob Brake Parking	150	175456	Spacer Retainer
30	169592	Bracket, Transaxle	151	19133210	Washer 13/32 x 2 x 10 Ga.
32	74760512	Bolt Hex Hd 5/16-18 unc x 3/4	156	166002	Washer 5/16 ID x 1.0 x .125
34	175578	Shaft, Foot Pedal	158	165589	Bracket Shift Mount
35	120183X	Bearing, Nylon	159	183900	Hub Shift
36	19211616	Washer	161	72140406	Bolt Rdhd Sqnk 1/4-20 x 3/4 Gr. 5
37	1572H	Pin, Roll	162	73680400	Nut Crownlock 1/4-20 unc
38	179114	Pulley, Composite	163	74780416	Bolt Hex Fin 1/4-20 unc x 1 Gr. 5
39	72110622	Bolt Rdhd 3/8-16 unc x 2-3/4 Gr. 5	165	165623	Bracket Pivot Lever
41	175556	Keeper, Belt Idler Flat	166	17490510	Screw 5/16-18 x 5/8
47	127783	Pulley, Idler, V-Groove	168	165492	Bolt Shoulder 5/16-18 x .561
48	154407	Bellcrank Clutch Grnd Drw Stl	169	165580	Plate Fastener Cross Shf.
49	123205X	Retainer, Belt	197	169613	Nyliner Snap-in 5/8 ID
50	72110612	Bolt	198	169593	Washer Nyl 7/8 ID x .105"
51 52	73680600	Nut Crownlock 3/8-16 unc	199	169612	Bolt Shoulder 5/16-18 unc
52 53	73680500 105710X	Nut, Crownlock 5/16-18 unc Link, Clutch	200 202	72140508 72110614	Bolt Rdhd Sqnk 5/16-18 unc x 1 Bolt Carr Sh 3/8-16 x 1-3/4 Gr. 5
55 55	105710X 105709X	*	212	145212	
56	17060620	Spring, Return, Clutch Screw 3/8-16 x 1-1/4	254	17000616	Nut HexFlange Lock Screw 3/8-16 x 1
57	140294	V-Belt, Ground Drive	263	17000616	Screw 3/8-16 x .75
59	169691	Keeper, Center Span	200	. / 000012	001044 010-10 X .10
61	17120614	Screw 3/8-16 x .875			
62	123533X	Cover, Pedal	NOTE	: All compone	nt dimensions given in U.S. inches
63	174607	Pulley, Engine		= 25.4 mm	<b>3</b>

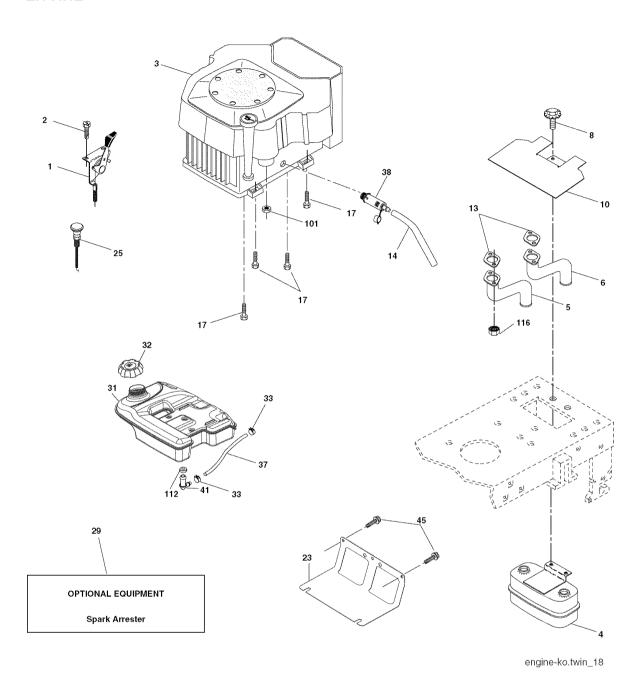
# TRACTOR - - MODEL NUMBER 917.273662 STEERING ASSEMBLY



# TRACTOR - - MODEL NUMBER 917.273662 STEERING ASSEMBLY

KEY	PART	
NO.	NO.	DESCRIPTION
NO.  1 2 3 4 5 6 8 10 1 12 3 3 3 4 5 6 8 10 1 12 3 3 3 4 5 6 6 7 1 3 2 3 3 3 4 5 6 6 7 6 8 7 1 7 3 2 8 7 8 8 7 8 8 7 8 8 8 8 8 8 8 8 8 8 8	159944X428 184706 169840 169839 6266H 121748X 12000029 175121 STD551137 73940800 136518 145212 177883 17000612 180580 19121414 10040600 STD541537 155105 152927 159946X428 19182411 73540600 159945 163888X428 121749X 184946X505 160367 72110618 169827 175146	Wheel Steering Axle Asm Spindle Asm LH Spindle Asm RH Bearing Race Thrust Harden Washer 25/32 x 1-5/8 x 16 Ga. Ring Klip #t5304-75 Link Drag Washer Lock Hvy Hlcl Spr 3/8 Nut Hex Jam Toplock 1/2-20 unf Spacer Bearing Axle Front Nut Hex Flange Lock Shaft Asm. Steering Screw 3/8-16 x 3/4 Rod Tie Washer 3/8 x 7/8 x 14 Ga. Washer Lock Hlcl Spr 3/8 Nut Lock Center 3/8-24 unf Bushing Strg Screw Insert Cap Strg Wh Washer 9/16 ID x 1-1/2 OD 11Ga. Nut Crownlock 3/8-24 Adaptor Wheel Strg Boot Steering Washer 25/32 1 1/4 x 16 Ga.
91 95	175553 188967	Clip Steering Washer Hardened

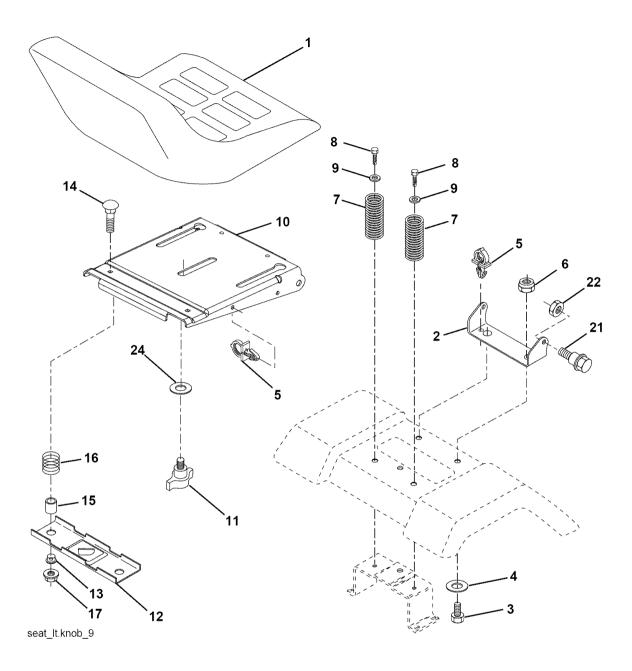
## **ENGINE**



### **ENGINE**

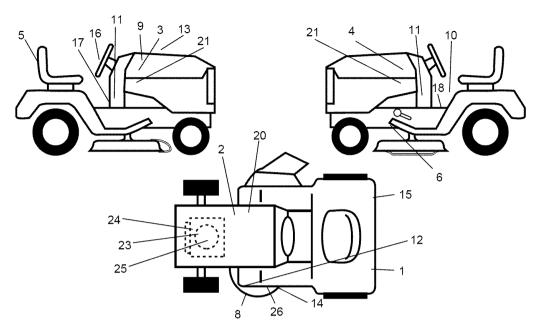
KEY NO.		DESCRIPTION
1		Control Throttle
2	171875	Screw Hwhd Hi-Lo #13-16 x 3/4
3		Engine, Kohler Model CV730-0028 (See Breakdown)
4	149723	Muffler Asm Twin Lo-Tone
5	146699	Pipe Exhaust LH Intek
6	146700	Pipe Exhaust RH Intek
8	171877	Bolt 5/16-18 Unc x 3/4 w/Sems
10	146629	Shield Browning
13		Muffler Gasket (Order from engine Mfgr.)
14	148456	Tube Drain oil
17		Screw Thdrol 3/8-16 x 1-1/2
23		Shield Heat
25		Choke Control
29		Kit Spark Arrestor (Flat Scrn)
31		Tank Fuel 4.0 Rear
32		Cap Asm Fuel
33		Clamp Hose Black
37		Line Fuel
38		Plug Drain Oil Easy
41		Stem Tank Fuel
45		Screw Hexwsh Thdr 3/8-16 x 3/4
	M73030800	Nut
112		Bushing
116	184362	Nut

## SEAT ASSEMBLY



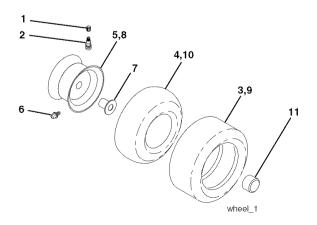
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	180598	Seat	13	121248X	Bushing Snap Blk Nyl 50 Id
2	180166	Bracket Pivot Seat	14	72050412	Bolt Rdhd Sqnk 1/4-20 x 1-1/2
3	STD523710	Bolt Fin Hex 3/8-16 unc x 1	15	121249X	Spacer Split 28x .88 Zinc
4	19131610	Washer 13/32 x 1 x 10 Ga	16	123740X	Spring Cprsn Plate 1.310 Ga
5	145006	Clip Push-In	17	123976X	Nut Lock 1/4 Lge Flg Gr. 5 Zinc
6	STD541437	Nut Hex w/lns. 3/8-16 unc	18	124238X	Cap Spring Seat
7	124181X	Spring Seat Cprsn	21	171852	Bolt Shoulder 5/16-18 unc
8	17000616	Screw 3/8-16 x 1-1/2	22	STD541431	Nut Hex Lock W/Ins 5/16-18
9	19131614	Washer 13/32 x 1 x 14 Ga.	24	19171912	Washer 17/32 x 1-3/16 x 12 Ga.
10	180186	Pan Seat	25	127018X	Bolt Shoulder 5/16-18 x 62
11 12	166369 121246X	Knob Seat Adj. Wingnut Bracket Mounting Switch		E: All compon n = 25.4 mm	ent dimensions given in U.S. inches

## **DECALS**



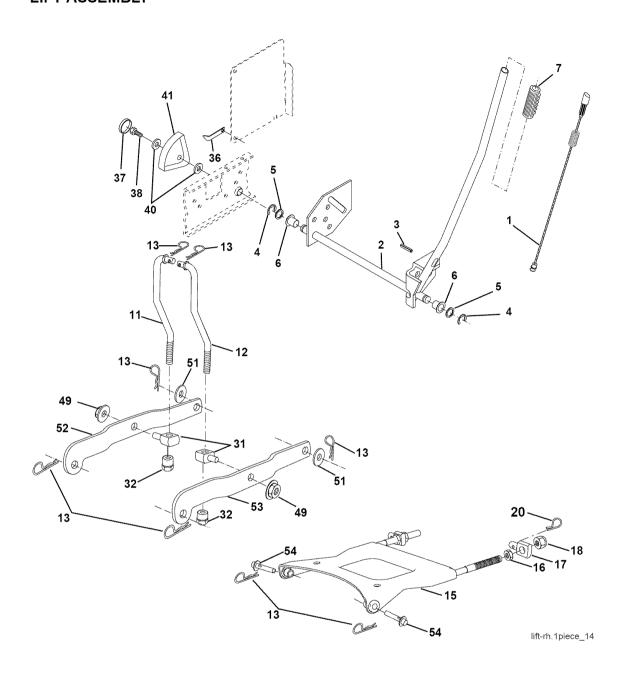
KEY	PART		KEY	PART	
NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1	187407	Reflector, LH	16	164065	Decal, Steering Wheel
2	138047	Decal, Battery, Diehard, Sears	17	164096	Decal, Dash
3	186242	Decal, Hood RH	18	156811	Decal, Fender Opr.
4	186243	Decal, Hood LH	20	149516	Decal, Battery
5	186572	Decal, Seat Craftsman	21	186331	Decal, Hood, Side Panel
6	146046	Decal, V-Belt, Drive Schematic	23	185980	Decal, Engine
8	178455	Decal, Deck, Caution	24	177914	Decal, Engine
9	186573	Decal, Replacement Hood	25	177918	Decal, Engine
10	156439	Decal, Fender, Danger	26	181470	Decal, Deck level
11	177665	Decal, Panel, Dash		184310X428	Pad, Footrest, ST/LT, LH
12	178482	Decal, Mower, Heavy-Duty		184311X428	Pad, Footrest, ST/LT, RH
13	133644	Decal, Replacement Parts		166960	Decal By-Pass
14	175291	Decal, V-Belt, Schematic		191872	Manual, Owner's, English
15	187408	Decal, Reflector, RH		191873	Manual, Owner's, Spanish

## WHEELS & TIRES



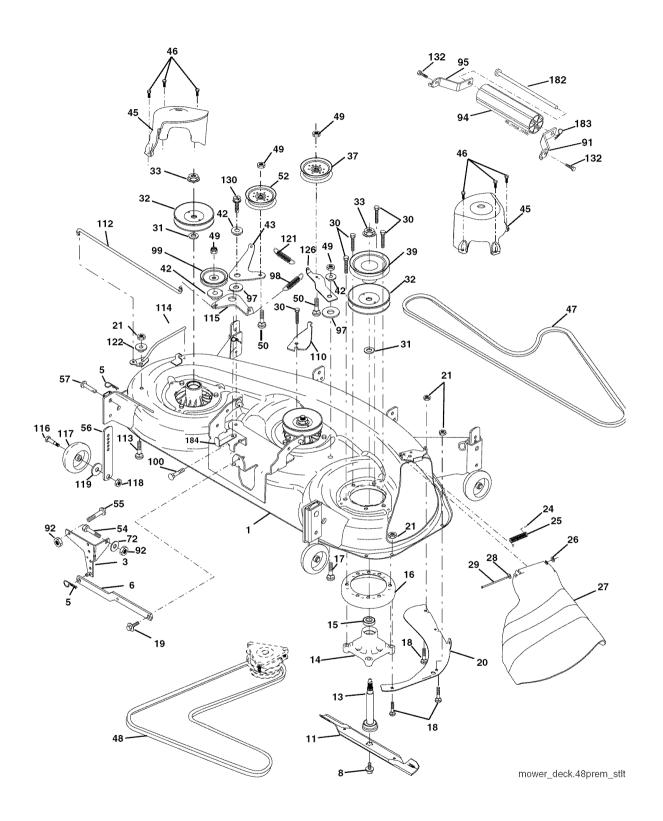
NO.	PART NO.	DESCRIPTION
1 2 3	59192 65139 106222X	Cap Valve Tire Stem Valve Tire F Ts 15 x 6 0 - 6 Service
4 5	59904 106732X624 278H	Tube Front (Service Item Only) Rim Asm 6"front Service
6 7	9040H	Fitting Grease (Front Wheel Only) Bearing Flange (Front Wheel Only)
8 9 10 11	122082X 7152J	Rim Asm 8"rear Service Tire R Ts 20 x 10-8 C Service Tube Rear (Service Item Only) Cap Axle Blk 1 50 x 1 00 Sealant, Tire ( 10 oz. Tube)

# TRACTOR - - MODEL NUMBER 917.273662 LIFT ASSEMBLY



## LIFT ASSEMBLY

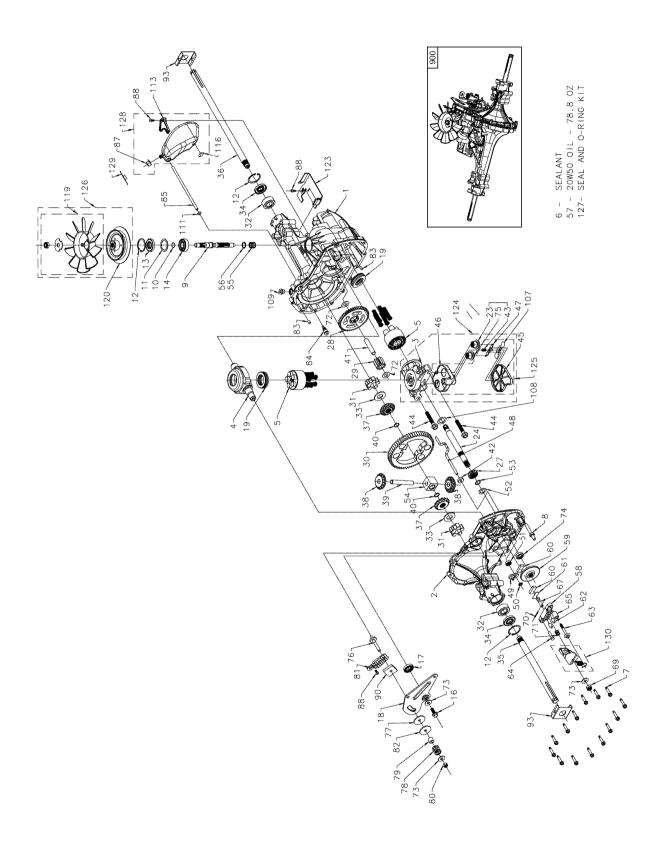
KEY	PART	
NO.	NO.	DESCRIPTION
1	179504	Plunger Assembly
2 3 4 5 6	159476	Shaft Assembly, Lift
3	188822	Pin, Groove
4	12000002	E-Ring
5	19211621	Washer 21/32 x 1 x 21 Ga.
6	120183X	Bearing, Nylon
7	175830	Grip, Handle, Fluted
11	175370	Link, Lift, L.H.
12 13	175371	Link, Lift, R.H.
15 15	4939M 175562	Retainer Spring
16	73350800	Plate Asm Suspension Front Nut Hex Jam 1/2-13 unc
17	175689	Trunnion Front Susp.
18	73800800	Nut Lock w/Wsh 1/2-13 unc
20	163552	Retainer Spring
31	176205	Trunion Sups. Arm.
32	175994	Nut Lift Link 7/16-20
36	155097	Pointer Height Indicator
37	123935X	Plug Hole
38	17060516	Screw 5/16-18 x 1
40	19112410	Washer 11/32 x 1-1/2 x 10 Ga.
41	155098	Indicator Height Stlt
49	145212	Nut Hex/Large Lock
51	19171416	Washer 17/32 x 7/8 x 16 Ga.
52	175378	Arm Suspension Rear LH
53	175802	Arm Suspension Rear RH
54	175560	Pin Flange



### **MOWER DECK**

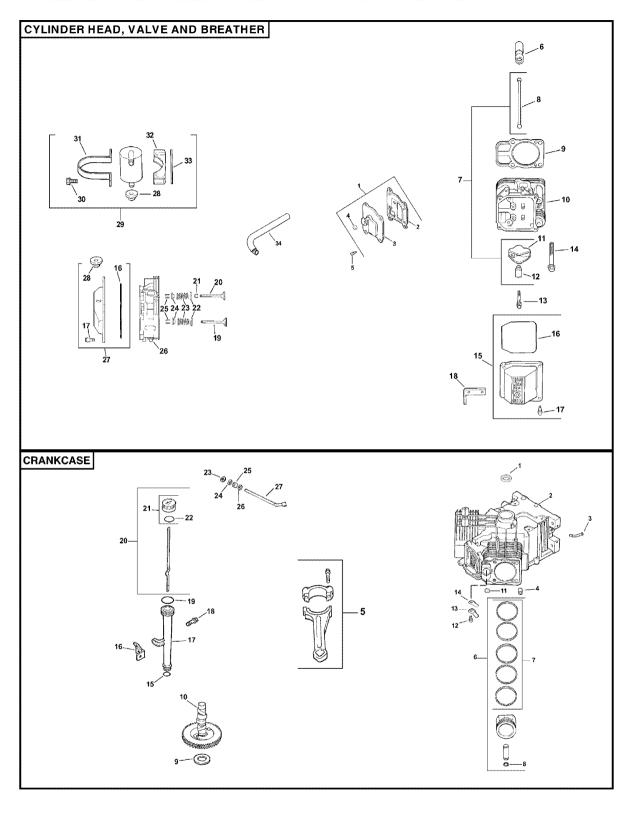
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
4	180358	Deck Weldment Mower 48	54	74780616	Bolt Fin Hex 3/8-16 unc x 1 Gr. 5
1 3	138017	Bracket Asm., Sway Bar	55	72140608	Bolt Rdhd Sqnk 3/8-16 unc x 1
5	4939M	Retainer Spring	56	155986	Bar Pnt Adj.
6	178024	Bar Sway Deck	57	156941	Pin Head Rivet
8	174365	Bolt 7/16 Asm. Blade	72	19131312	Washer 13/32 x 13/16 x 12 Ga.
U	17-300	(The following blades are	91	180535	Bracket Asm Noseroller RH
		available)	92	73800600	Nut Lock Hex w/Ins 3/8-16 unc
11	173921	Blade, 48" Mulching	94	176066	Noseroller
	170021	(For mulching mowers only)	95	180534	Bracket Asm Noseroller LH
	180054	Blade, 48" Hi-Lift	97	178515	Washer Hardened
	10000-1	(For bagging and discharging)	98	179479	Spring Primary Drive
13	174360	Shaft Mandrel Asm. Greaseable	99	184058	Pulley Idler"V"
14	174358	Housing Mandrel	100	72110616	Bolt RDHD Sqnk 3/8-16 unc x 2
15	110485X	Bearing, Ball, Mandrel	110	175016	Arm Spring Secondary
16	174493	Stripper Mandrel Deck	112	174387	Link Tension Relief Lever
17	72110610	Bolt RDHD Sq Neck 3/8-16 x 1.25	113	72110506	Bolt Carr. 5/16-18 x 3/4
18	72140505	Bolt, Carriage 5/16-18 x 5/8	114	174384	Tension Asm Relief Lever
19	132827	Bolt, Hex Hd, Shoulder 5/16-18	115	174609	Arm Spring Tension Relief
20	174378	Baffle, Vortex Mower	116	184219	Bolt, Shoulder
21	73680500	Nut, Crownlock 5/16-18 unc	117	174873	Gauge Wheel
24	105304X	Cap, Sleeve	118	73930600	Nut, Centerlock 3/8-16 unc
25	178102	Spring, Torsion	119	19121414	Washer 3/8 x 7/8 x 14 Ga.
26	110452X	Nut, Push	121	174371	Spring Secondary Drive
27		Deflector Shield	122	174606	Bushing Pivot Tension Relief
28	19111016	Washer 11/32 x 5/8 x 16 Ga.	126	174372	Arm, Idler, Primary Deck
29	131491	Rod, Hinge	130	17000616	Screw 3/8-16 x 1
30	173984	Screw, Thdroll	132	17000612	Screw 3/8-16 x .75
31	187690	Washer, Spacer Mower Vented	182	179127	Rod Roller Nose
32	173436	Pulley, Mandrel	183	163552	Retainer Spring
33	178342	Nut, Flg. Top Lock Cntr. 9/16	184	173979	Keeper Belt Idler
37	177968	Pulley, Idler		174356	Mandrel Asm. Service (Includes
39	174375	Pulley, Idler, Driven		494E70	Key Nos. 13-15)
42 43	165723 174373	Spacer, Retainer Arm, Idler Secondary		181579	Replacement Mower, Complete (Std. Deck - Order separately
45 45	180806	Cover, Mandrel Deck			nose roller components key nos.
46	137729	Screw, Thdroll. 1/4-20 x 5/8			91, 94, 95, 132, 182, and 183)
47	180808	V-Belt, Mower, Secondary			91, 94, 95, 152, 162, and 165)
48	174368	V-Belt, Mower, Primary			
49	73900600	Nut lock 3/8-16 unc			
50	72110612	Bolt, Carr. 3/8-16 x 1-1/2 Gr. 5	NOTE		ent dimensions given in U.S. inches
52	175820	Pulley Idler Flat		1 inch = 25.	4 mm

## TRACTOR - - MODEL NUMBER 917.273662 HYDRO GEAR TRANSAXLE - - MODEL NUMBER 314-0510

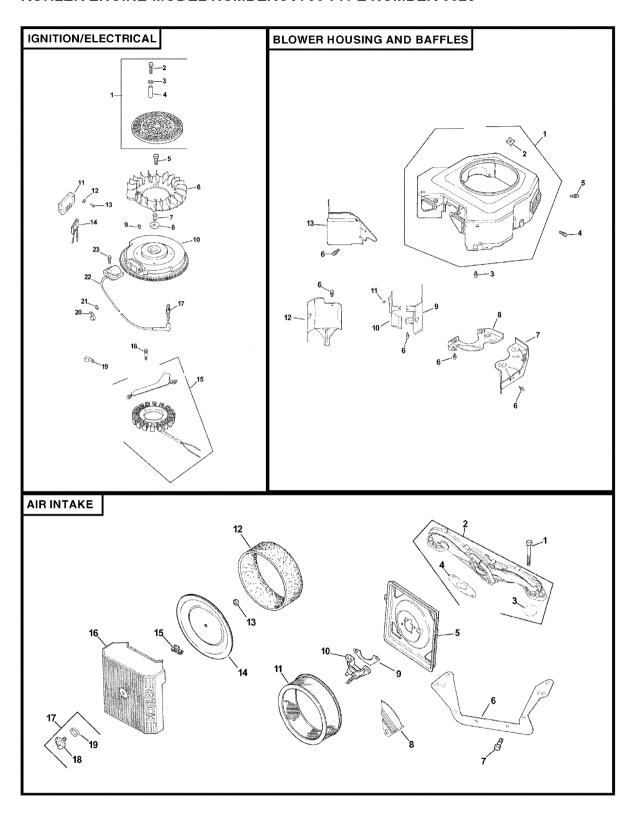


## TRACTOR - - MODEL NUMBER 917.273662 HYDRO GEAR TRANSAXLE - - MODEL NUMBER 314-0510

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1 2 3 4 5 6	170351 170352 170353 170354 169898 170355	Main Housing, Assembly Side Housing, Assembly Center Section, Assembly Swashplate, Trunion Machined Block - Assembly Sealant 10.5 Oz	59 60 61 62 63	170408 142883 142882 142887 170410	Rotor, Brake Brake Puck Puck Plate Brake Actuating Pin Hfhcs 1/4-20x2 W/ Patch,SpecialFlange
7	170356	Hex Flange Screw 1/4-20 X 1.25	64 65	142892 170411	Bolt, 1/4-20 X 1 W/Patch Spacer
8 9 10 11 12 13 14	170357 170358 170359 170360 169870 170361 169869	Stud, 5/16-24 Hex Double End Shaft, Input Ring - Retaining Spacer Ring - Retaining Seal, Lip .67 X 1.58 X .276 Ball Brg 17mm ld X 40mm Od	66 67 68 69 70 71	189386 170413 170414 170415 170416 170417	Spring, Brake Arm Bias Sq. Hd. Bolt 5/16-24-Ribbed Arm, Brake Slotted Hex Nut 5/16-24 Cotter Pin 3/32 X 3/4 Compression Spring Brake Anti-Drag
16	170362	X 12mm Hex Flange Head Screw 5/16-	72	170418	Washer, Ht .5 I.D. X 1 O.D. X .032
17	170363	24X0.75 Lip Seal 18 X 32 X 7	73	142884	Flat - Washer 11/32 I.D. X 7/8 O.D
18 19 23	170364 150771 170365	Arm, Control Bearing, 30x52x13 Thrust Check Plug Assembly, Washer	74 75	170419 170420	Oil Seal .625 X 1.0 X .25 Check Plug Assembly, .027, Washer
24 27 28 29 30 31	170366 170367 170368 170369 170370 170371	Shaft, Motor Gear - Pinion, 13t 10t/48t Gear Gear, 10t Jackshaft 60t Bull Gear Sleeve Bearing .75 X 1.575 X	76 77 78 79 80	170421 170422 142969 142980 150778	Stud, 5/16-24 Friction Pack Puck, .330 X 1.50 X .0975 Spring, Helical Comp Spacer Hex Lock Nut 5/16- 24Unjf(Nylon Insert)
32	170389	.625 SleeveBearing(Outboard)	81 82	170423 170424	Wedge, Friction Pack Clip, Washer .316x1.50x.1046
33	142991	.75x1.750x.625 Washer, 3/4 ld X 1-1/2 Od X	83	161168	(Plated) Pin, Standard Headless
34 35	170390 170391	.13 Thk Lip Seal Axle Seal Shaft, Axle .75 X 11.39 (Key,	84 85 87 88	170425 170426 142917 170429	Fitting, 5/16 Sae 5/32 Tube Hose, Expansion Tank Cap - Poppet Valve Bolt, Self Tapping 10-32 X 1/2
36	170392	R.H.) Shaft, Axle .75 X 16.99 (Key, L.H.)	90 93	170430 170431	Puck, Inner Wedge Spring Clip - Housing Thrust
37 38 39	150792 150793 150809	Miter Gear (Splined) Miter Gear 15t (0.5 ld) Shaft	107 108	170432 170433	Deflector Washer,Motor Shaft .71idx1.15odx.030thk
40 41 42 43	170393 170394 170395 170396	Ring, Spiral Retaining Pin, Jackshaft Magnet, Ring Spring, Bypass	109 111 113	170434 170435 170437	Plug, Sae #6 O-Ring .07 X .301 I.D. Bracket, Support Expansion Tank
44 45	150797 170397	Hydro Mtg Screw 3/8-24 X 2.5 Long Filter	116 119 120	170438 170439 188312	Silicon Sponge Fan, 7 In. Pulley
46 47 48	170398 170399 170400	Base, Filter Actuator, Bypass Rod, Bypass Actuator	121 122	170441 170442	Hex Lock Nut 1/2-20 (Nylon Insert) Washer, Belleville
49 50 51	170401 170402 170403	Arm, Bypass Retaining Ring .250 External Seal, Lip .741 X .250 X .250	123 124	170443 170444	Belt Keeper Center Section-Filter-Bypass Assembly
52	170404	Tc Flat Washer, 5/8 ld X 1.0 Od X .05 Thk	125 126 127	170445 170446 170447	Filter Assembly Fan - Pulley Service Assembly Seal - O-Ring Kit
53 54 55	170405 170406 142977	Retaining Ring Bearing, Center Block Spring - Helical Compression	128 900	173165 166768	Seal - O-Ring Kit Kit, Expansion Tank Transaxle Complete
56 57 58	142978  170407	Washer 20w-50 Oil Brake Yoke		:: All compor s 1 inch = 25.	ent dimensions given in U.S. 4 mm



HEAD	/VALVE/BREA	ATHER	CRA	NKCASE	
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	24-033-03-S	Kit, breather cover w/gasket (Includes 2-4)	1 2	24-032-01-S	Seal, front oil Crankcase
2 3 4 5	24-041-50-S 24-096-87-S 25-139-60-S M-645020-S	Gasket, breather Cover, breather Plug, allen hd. 1/8" Screw, hex. flange M6x1.0x20 (4)	3 4 5	24-294-13-S 24-380-13-S 24-067-13-S 24-067-14-S	(USE: Miniblock 24 782 24) Fitting Pin, locating (6) Connecting Rod (Std.) (2)
6 7	25-351-01-S 24-755-66-S	Lifter, valve (4) Kit, valve train (Includes	6	24-874-08-S	Connecting Rod (.25) (2) Piston w/Ring Set (Std.) (2) (Includes 7, 8)
8 9	24-411-05-S 24-841-03-S	8,11,12) Rod, push (4) Kit, cylinder head gasket (2) (Includes mounting hard ware)	7	24-874-16-S 24-874-20-S 24-874-21-S 24-108-05-S 24-108-06-S	Piston w/Ring Set (.08) (2) Piston w/Ring Set (.25) (2) Piston w/Ring Set (.50) (2) Ring Set (Std. & .08) (2) Ring Set (.25) (2)
10 11 12 13 14	24-318-72-S 25-186-01-S 24-599-01-S 66-086-07-S 12-086-16-S	Head assembly, #2 cylinder Arm, rocker (4) Pivot, rocker arm (4) Screw, hex. flange (4) Screw, hex. flange M10x1.5x90 (8)	8 9	24-108-07-S 24-018-01-S 12-422-09-S 12-422-13-S 12-422-07-S	Ring Set (.50) (2) Retainer, piston pin (4) Shim, camshaft (A.R.) Shim, camshaft (A.R.) Shim, camshaft (A.R.)
15	24-755-74-S	Kit, valve cover - plain (Includes 16,17)		12-422-08-S 12-422-10-S 12-422-11-S	Shim, camshaft (A.R.) Shim, camshaft Shim, camshaft (A.R.)
16 17 18 19	24-153-23-S 24-086-32-S 24-445-01-S 24-016-01-S 24-016-02-S	O-Ring Screw, shoulder (4) Strap, lifting Valve, exhaust (Std.) (2) Valve, exhaust (.25) (2)	10 11 12	12-422-11-S 12-422-12-S 24-012-16-S 52-139-09-S M-545010-S	Shim, camshaft (A.R.) Shim, camshaft (A.R.) Camshaft Plug, cup Screw, hex. flange M5x0.8x10 (2)
20 21 22 23 24	24-017-01-S 24-017-02-S 66-032-05-S 235011-S 24-089-02-S 12-173-01-S	Valve, intake (Std.) (2 Valve, intake (.25) (2) Seal, valve stem (2) Retainer, spring (4) Spring, valve (4) Cap, valve spring (4)	13 14 15 16 17 18	24-018-04-S 24-402-05-S 12-153-01-S 24-126-19-S 12-123-04-S M-545016-S	Retainer, reed (2) Reed, breather (2) O-Ring, lower oil fill tube Bracket, oil fill tube Tube, oil fill Screw, hex. flange
25 26 27	12-755-03-S 24-318-69-S 24-755-76-S	Kit, retainer (4) Head assembly, #1 cylinder Kit, valve cover - breather	19 20	12-153-02-S 24-038-04-S	M5x0.8x16 O-Ring, upper oil fill tube Dipstick assembly (Includes
28 29	25-313-03-S 24-755-57-S	(Incl. 16,17,28) Grommet, rubber Kit, breather separator (Includes 28,30-33)	21 22	24-755-46-S 25-153-02-S	21, 22) Kit, oil fill cap (Includes 22) O-Ring, dipstick
30	M-545016-S	Screw, hex. flange M5x0.8x16 (2)	23 24 25	24-018-09-S M-931010-S 28-032-09-S	Retainer, ring Washer, nylon (top) Seal, governor cross shaft
31 32 33 34	24-445-02-S 24-126-44-S 24-112-12-S 24-326-55-S	Strap, breather Bracket, breather separator Spacer Hose, breath	26 27	24-468-15-S 24-144-38-S	Seal, governor cross shaft Washer (bottom) Shaft, governor cross



#### IGNITION/ELECTRICAL

#### KEY PART **DESCRIPTION** NO. NO. 1 54-755-15-S Kit, grass screen (Includes 2-4, and 24 113 18-2 M-403025-S Screw, hex. cap M4x0.7x25 (4)3 X-25-92-S Washer, plain 5/16" (4) 4 24-112-04-S Spacer, grass screen (4) 5 25-086-47-S Bolt, shoulder M6x1.0x16 (4) 6 24-157-08-S Screw, hex. flange M10x1.5x46 12-086-14-S 8 12-468-03-S Washer, plain 3/8" X-42-15-S Key 24-025-01-S 10 Flywheel 41-403-09-S Réctifier-regulator 11 Washer, plain 3/16" (3) Screw, phillips hd. 11-16x7/8 X-25-92-S 12 24-086-18-S 13 236602-S Cónnector (3 contact) 14 Kit, 15 amp stator (Includes 16) 54-755-09-S 15 24-126-71-S Bracket, stator wire 16 12-132-02-S Spark Plug (2) 17 M-548025-S Screw, hex. cap M5x0.8x25 18 (2) Clip, cable 19 235173-S 48-154-02-S 20 Clip, cable Washer, plain 1/4" Module, ignition (2) Screw, hex. flange X-25-63-S 21 24-584-01-S 22 M-545020-S 23 M5x0.8x20 (4) **NOT ILLUSTRATED** 24-126-137-S Bracket, ground strap Harness, wiring Decal, grass screen 24-176-82-S 24-113-18-S - -

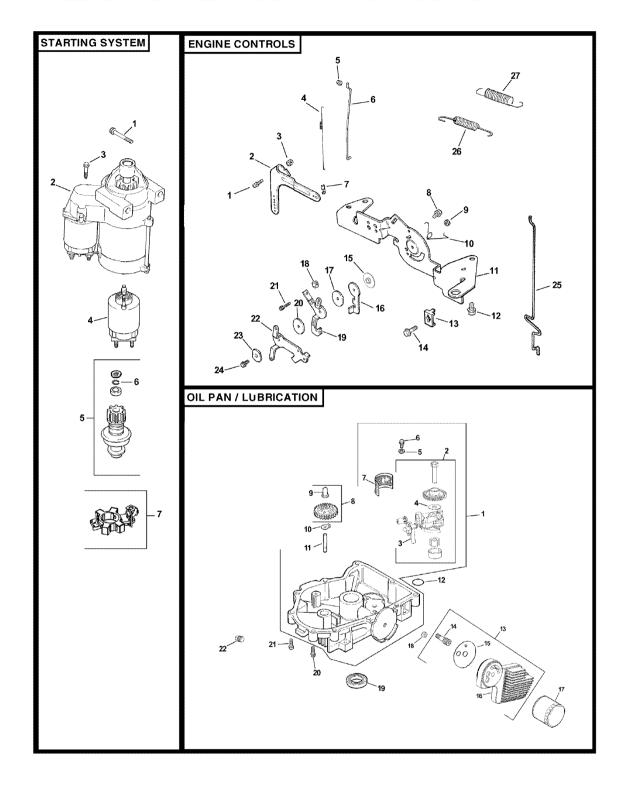
25-454-03-S Tie, wire (3)

## BLOWER HOUSING & BAFFLES

KEY NO.	PART NO.	DESCRIPTION
1	24-027-114-S	Housing, blower (Incl. 2, 24-096-85-S & 25-086-91-S)
2 3	24-100-01-S M-545020-S	Nut plastic (2) Screw, hex. flange M5x0.8x20 (4)
4	M-545016-S	Screw, hex. flange M5x0.8x16 (3)
5	M-551016-S	Screw, hex. flange M5x0.8x16
6	M-645016-S	Screw, hex. flange M6x1.0x16 (6)
7 8 9	24-146-16-S 24-146-20-S 24-063-39-S	Plate, backing - # 2 side Plate, backing - # 1 side Baffle, cylinder barrel-# 2
10 11	24-063-60-S M-545010-S	side Baffle, valley - #1 side Screw, hex. flange M5x0.8x10 (2)
12	24-063-58-S	Baffle, cylinder barrel-# 1 side
	24-063-14-S <b>LLUSTRATED</b>	Baffle, valley - #2 side
	24 096 85-S 25 086 91-S	Cover, blower housing Screw, tapping

### AIR INTAKE/FILTRATION

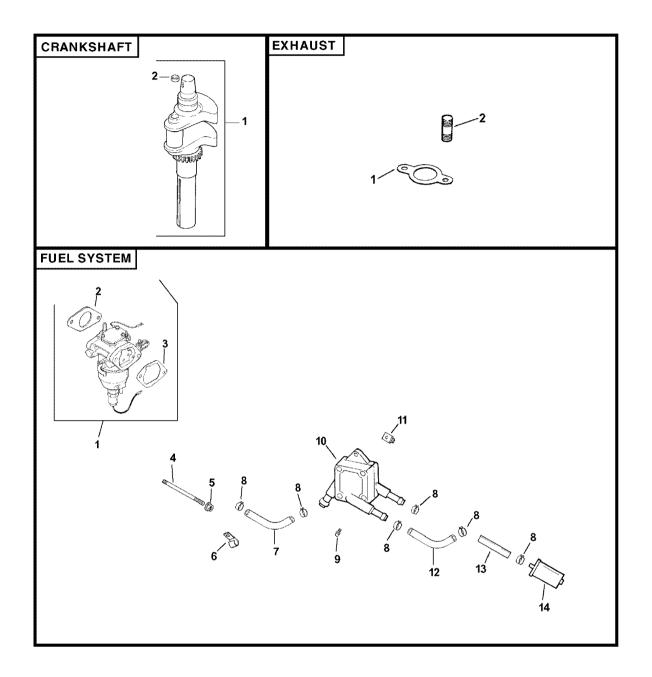
KEY NO.	PART NO.	DESCRIPTION
1	M-651040-S	Screw, hex. flange M6x1.0x40 (4)
2	24-164-51-S	Manifold, intake (Includes 3,4)
3 4 5 6 7 8	24 153 27-S 24 041 52-S 24-041-14-S 24-094-34-S 24 126 130-S M-545010-S	O-Ring, intake port (2) Gasket, carburetor Gasket, air cleaner base Base, air cleaner Bracket, air cleaner base Screw, hex. flange M5x0.8x10 (2)
9 10 11 12 13 14 15 16 17 18	24-063-51-S 24-041-13-S 24-109-09-S 24-083-03-S 24-083-05-S 231032-S 24-096-01-S 12-100-01-S 24-096-67-S 54-755-01-S	Baffle, fuel spit-back Gasket, fuel spit-back cup Cup, fuel spit-back Element, air cleaner Precleaner, element Seal, breather Cover, inner air cleaner Wing Nut Cover, air cleaner Kit, knob w/seal (Includes 19,20)
19 20	20-341-01-S 24-153-20-S	Knob, cover O-Ring



### STARTING SYSTEM

### **OIL PAN/LUBRICATION**

25-086-113-S   Screw, external forx, hd.   3   24-381-11-S   Tube, oil pickup	OTAKTING OTOTEM						
March   Marc			DESCRIPTION			DESCRIPTION	
2 25-098-09-5 Starter, solenoid shift assem bly (Includes 3-7) 3 25 086 113-S Screw, external torx, hd. 4 25-435-04-5 Starter, solenoid (Includes 3) 5 25-755-33-5 Kit, pinion drive (Includes 6) 6 25 141 05-5 Ring 7 25-221-01-5 KEY PART NO. NO.  DESCRIPTION 1 24-211-03-S 2 4-409-33-S Screw, external torx, flange M6x1.0 Spring, linkage retaining Linkage, thext flange M6x1.0 Spring, linkage retaining Linkage, thext flange M5x0.8x16 8 M-547050-S Screw, hex. flange M6x1.0 Spring, linkage retaining Linkage, throttle Bushing, throttle linkage M5x0.8x16 1 24-126-56-S Screw, hex. flange M6x1.0 Spring, look M5x0.8 Spring, choke return Bracket, control Screw, hex. flange M6x1.0 X16 (4) 13 12-237-01-5 Screw, hex. flange M6x1.0 X16 (4) 13 12-237-01-5 Screw, hex. flange M6x1.0 X16 (4) 13 12-237-01-5 Screw, hex. flange M6x1.0 X16 (4) 14 24-086-43-S Screw, hex. flange M6x1.0 X16 (4) 15 24-086-43-S Screw, hex. flange M6x1.0 X16 (4) 16 24-089-03-S Screw, hex. flange M6x1.0 X16 (4) 17 24-126-56-S Screw, hex. flange M6x1.0 X16 (4) 18 12-237-01-S Screw, hex. flange M6x1.0 X16 (4) 19 24-086-43-S Screw, hex. flange M6x1.0 X16 (4) 19 24-086-43-S Screw, hex. flange M6x1.0 X16 (4) 19 24-086-43-S Screw, hex. flange M6x1.0 X16 (4) 19 24-086-3-S Screw, hex. flange M6x1.0 X16 (4) 19 24-0	1	M-839080-S		1	24-199-07-S		
3 25 086 113-S Screw, external torx. 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  KEY PART NO. NO.  DESCRIPTION 1 24-211-03-S Bolt, round head square neck 2 24-090-33-S Lever, governor 3 M-64 1060-S Nut, hex. flange M6x1.0 2 4-408-01-S Spring, linkage retaining 6 24-079-04-S Linkage, throttle 7 25-158-11-S Bushing, Ihrottle linkage 8 M-547050-S Sprack, te.ontrol 9 M-547050-S Spracke, control 1 22-237-01-S Clamp, cable (2) 12 4-086-43-S Spracket, control 12 24-090-47-S Lever, throttle actuator 13 12-237-01-S Clamp, cable (2) 14 24-090-47-S Lever, throttle actuator 17 24-468-01-S Spacer, control assembly lever, throttle actuator 18 M-46303-S Washer, lock 1/4" 18 M-446303-S Washer, plain 5.5 mm 24-090-47-S Lever, throttle actuator 24 4-090-05-S Screw, hex. flange M5x0.8x20 24-090-05-S Lever, choke 24 4-090-05-S Screw, hex. flange M5x0.8x20 22 24-090-05-S Lever, choke 23 41-468-03-S Washer, spring 1/4" 4M-403025-S Screw, hex. cap M4x0.7x25 25 24-079-22-S Linkage, choke	2	25-098-09-S	Starter, solenoid shift assem	2	24-393-37-S	Oil pump assembly (Includes	
REY   PART   10   24-41-03-5   24-090-03-8   24-090-03-8   24-08-01-5   24-18-05-6   34-12-8   34-03-12-8   34-03-12-8   34-043-12-8   34-043-12-8   34-043-12-8   34-043-12-8   34-043-12-8   34-043-12-8   34-043-12-8   34-04-04-12-12-12-12-12-12-12-12-12-12-12-12-12-	4 5 6	25-435-04-S 25-755-33-S 25 141 05-S	Screw, external forx. hd. Kit, solenoid (Includes 3) Kit, pinion drive (Includes 6) Ring	4 5 6	24 153 01-S M-631005-S	Tube, oil pickup O-Ring, oil pick-up Washer, plain 6 mm (2) Screw, hex. flange	
Second   S						Kit, governor gear w/pin	
Tab, focking	ENGI	NE CONTROL	S	9	12-380-01-S	Pin, governor regulating	
24-17-03-33-S			DESCRIPTION	11 12	12-144-02-S	Tab, locking Shaft, governor gear O-Ring	
4 24-089-01-S Spring, linkage 5 25-158-08-S Bushing, linkage retaining Linkage, throttle Linkage, throttle Bushing, throttle linkage 6 24-079-04-S 25-158-11-S Bushing, throttle linkage 7 25-158-11-S Bushing, throttle linkage 8 M-545016-S Screw, hex. flange M5x0.8x16 9 M-547050-S Nut, hex. lock M5x0.8 Spring, choke return Bracket, control 11 24-126-56-S Bracket, control 12 M-645016-S Screw, hex. flange M6x1.0x16 (4) 13 12-237-01-S Clamp, cable (2) 14 24-086-43-S Screw, thread forming (2) 15 24 112 27-S Screw, thread forming (2) 16 24-090-47-S Lever, throttle actuator 17 24 468 20-S Washer, lock 1/4" Nut, hex. M4x0.7 18 M-446030-S Washer, lock 1/4" Nut, hex. M4x0.7 19 24-090-13-S Lever, throttle control 20 24-468-01-S Washer, plain 5.5 mm Screw, hex. flange M5x0.8x20 21 24-079-22-S Linkage, choke  15 24-041-29-S Gasket, oil filter adapter Cocoler assembly, oil 16 24-594-24-S Cooler assembly, oil 17 24-136-05-S Nipple, oil filter adapter 24-041-29-S Gasket, oil filter adapter Cocoler assembly, oil 16 24-594-24-S Cooler assembly, oil 17 24-136-05-S 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	2	24-090-33-S	Lever, governor			Kit, oil cooler (Includes 15-	
9 M-547050-S Nut, hex. lock M5x0.8 10 24-089-03-S Spring, choke return 11 24-126-56-S Bracket, control 12 M-645016-S Screw, hex. flange M6x1.0x16 (4) 13 12-237-01-S Clamp, cable (2) 14 24-086-43-S Spacer, control assembly 15 24 112 27-S Spacer, control assembly 16 24-090-47-S Lever, throttle actuator 17 24 468 20-S Washer, lock 1/4" 18 M-446030-S Nut, hex. M4x0.7 19 24-090-13-S Lever, throttle control 20 24-468-01-S Washer, plain 5.5 mm 21 M-545020-S Screw, hex. flange M5x0.8x20 22 24-090-05-S Lever, choke 23 41-468-03-S Washer, spring 1/4" 24 M-403025-S 24-079-22-S Linkage, choke	7	24-089-01-S 25-158-08-S 24-079-04-S 25-158-11-S	Spring, linkage Bushing, linkage retaining Linkage, throttle Bushing, throttle linkage	16 17 18 19	24-594-24-S 24-136-05-S 25-139-62-S 52-032-08-S	Gásket, oil filter adapter Cooler assembly, oil Nipple, oil filter Plug, hex. ctsk. 3/8" Seal, oil (PTO end)	
12 M-645016-S Screw, hex. flange M6x1.0x16 (4)  13 12-237-01-S Clamp, cable (2) 14 24-086-43-S Screw, thread forming (2) 15 24 112 27-S Spacer, control assembly Lever, throttle actuator 17 24 468 20-S Washer, lock 1/4" 18 M-446030-S Washer, lock 1/4" 19 24-090-13-S Lever, throttle control 20 24-468-01-S Washer, plain 5.5 mm 21 M-545020-S Screw, hex. flange M5x0.8x20  22 24-090-05-S Lever, choke 23 41-468-03-S Washer, spring 1/4" 24 M-403025-S Screw, hex. cap M4x0.7x25 25 24-079-22-S Linkage, choke	10	24-089-03-S	Nut, hex. lock M5x0.8 Spring, choke return			M8x1.25x45 Screw, hex. flange	
13			Screw, hex. flange	22	25-139-57-S	Plug, sq. hd. solid 3/8"	
26 24-089-25-S Spring, governor 27 24-089-55-S Spring, throttle limiter	14 15 16 17 18 19 20 21 22 23 24 25 26	24-086-43-S 24 112 27-S 24-090-47-S 24 468 20-S M-446030-S 24-090-13-S 24-468-01-S M-545020-S 24-090-05-S 41-468-03-S M-403025-S 24-079-22-S 24-089-25-S	Clamp, cable (2) Screw, thread forming (2) Spacer, control assembly Lever, throttle actuator Washer, lock 1/4" Nut, hex. M4x0.7 Lever, throttle control Washer, plain 5.5 mm Screw, hex. flange M5x0.8x20 Lever, choke Washer, spring 1/4" Screw, hex. cap M4x0.7x25 Linkage, choke Spring, governor				



### **CRANKSHAFT**

KEY NO.	PART NO.	DESCRIPTION
1 2	24-014-42-S 52-139-09-S	Crankshaft (Includes 2) Plug, cup

### **EXHAUST**

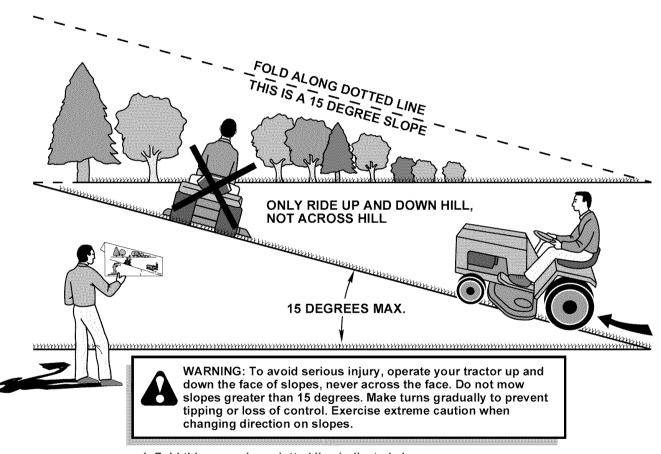
KEY NO.	PART NO.	DESCRIPTION
1	24-041-49-S	Gasket, exhaust (2)
2	25-072-04-S	
	PA-CV730-00°	18Replacement Engine
		Short Block
	24-782-23	Miniblock
	24-755-113-S	Gasket Set

### **FUEL SYSTEM**

KEY NO.	PART NO.	DESCRIPTION
1	24-853-90-S	Kit, carburetor w/gaskets
23456789 1011345	24-041-52-S 24-041-14-S M-629095-S M-641060-S 47-154-01-S 52-353-22-S 25-237-14-S 24-086-12-S 24-393-16-S 24-100-01-S 24-353-03-S 15-353-03-S	(Includes 2,3) Gasket, carburetor Gasket, air cleaner base Stud, M6x1.0x95 (2) Nut, hex. flange M6x1.0 (2) Clip, cable Line, fuel 12-1/2" Clamp, hose (6) Screw, hex. cap M6x1.7x18 (2) Pump, fuel - pulse Nut, plastic (2) Line, fuel 10-5/8" Line, fuel 11-1/2"
15	24-050-02-S	Filter, fuel
NOT	LLUSTRATED 24-234-02-S 24-757-18-S 24-757-19-S 24-757-20-S 24-757-21-S 24-757-22-S	Bowl, fuel Kit, overhaul w/gaskets Kit, choke repair w/gaskets Kit, gasket Kit, accelerator pump repair Kit, solenoid replacement w/gaskets

## **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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