

# CROFTSMON®

# MODEL NUMBER 917.251630 OWNER'S MANUAL

- Assembly
- Operation
- Customer Responsibilities
- Service and Adjustments
- Repair Parts







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.

CAUTION: Read and follow all safety rules and instructions before operating this equipment. FOR CONSUMER ASSISTANCE HOT LINE, CALL THIS TOLL FREE NUMBER: 1-800-659-5917

Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A.

# SAFETY RULES

# Safe Operation Practices for Ride-On Mowers



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.

#### **GENERAL OPERATION** Ι.

- 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

#### II. SLOPE OPERATION

Slopes are a major factor related to loss-of-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.

#### 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. ٠
- 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.



Look for this symbol to point out important safety precautions. It means CAUTION!!! BECOME ALERT!!! YOUR SAFETY IS INVOLVED.



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

# 🔒 WARNING 🏔

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

**CONGRATULATIONS** on your purchase of a Sears 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 your nearest Sears Authorized Service Center/Department. We have competent, welltrained 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".

MODEL	
 NUMBER	917.251630
SERIAL	
NUMBER	

DATE OF PURCHASE

THE MODEL AND SERIAL NUMBERS WILL BE FOUND ON A PLATE UNDER THE SEAT.

YOU SHOULD RECORD BOTH SERIAL NUMBER AND DATE OF PURCHASE AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

# MAINTENANCE AGREEMENT

A Sears Maintenance Agreement is available on this product. Contact your nearest Sears store for details.

# **CUSTOMER RESPONSIBILITIES**

- · Read and observe the safety rules.
- Follow a regular schedule in maintaining, caring for and using your tractor.
- Follow the instructions under "Customer Responsibilities" 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

# PRODUCT SPECIFICATIONS

20 5
3.5 GALLONS UNLEADED REGULAR
SAE 10W30 (above 32°F) SAE 5W-30 (below 32°F)
W/ FILTER: 4.2 PINTS W/O FILTER: 3.7 PINTS
CHAMPION RC12YC
NOT ADJUSTABLE
Forward         LO         HI           1st         0.7         1.7           2nd         1.4         3.3           3rd         2.3         5.4           Reverse         0.9         2.1
4 QUARTS SAE 30 API-SF/SG
FRONT: 14 PSI REAR: 10 PSI
15 AMPS @ 3600 RPM
AMP/HR: 35 MIN. CCA: 280 CASE SIZE: U1R
30-35 FT. LBS.

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 Authorized Service Center/ Department (See REPAIR PARTS section of this manual).

# LIMITED TWO YEAR 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 found to be defective in material or workmanship.

This Warranty does not cover:

- Expendable items which become worn during normal use, such as blades, spark plugs, air cleaners, belts, etc.
- Tire replacement or repair caused by punctures from outside objects, such as nails, thorns, stumps, or glass.
- Repairs necessary because of operator abuse, negligence, improper storage or accident or the failure to maintain the
- equipment according to the instructions contained in the owner's manual.
- Riding equipment used for commercial or rental purposes

# LIMITED 90 DAY 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.

IN-HOME WARRANTY SERVICE ON YOUR CRAFTSMAN RIDING EQUIPMENT IS AVAILABLE AT NO-CHARGE FOR 30 DAYS FROM THE DATE OF PURCHASE. PLEASE CONTACT YOUR NEAREST SERVICE CENTER. AFTER 30 DAYS FROM THE DATE OF PURCHASE, WARRANTY SERVICE IS AVAILABLE BY TAKING YOUR CRAFTSMAN RIDING EQUIPMENT TO YOUR NEAREST SEARS SERVICE CENTER. (IN-HOME WARRANTY SERVICE WILL STILL BE AVAILABLE AFTER 30 DAYS FROM THE DATE OF PURCHASE BUT A STANDARD TRIP CHARGE WILL APPLY.) THIS WARRANTY APPLIES ONLY WHILE THIS PRODUCT IS IN THE UNITED STATES.

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

#### SEARS, ROEBUCK AND CO., D/817 WA, HOFFMAN ESTATES, IL 60179

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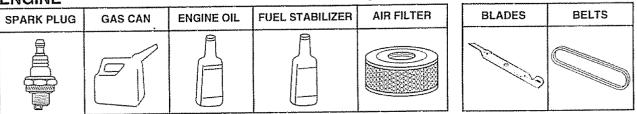
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# ACCESSORIES AND ATTACHMENTS

These accessories and attachments were available through most Sears retail outlets and service centers when the tractor was purchased. Most Sears stores can order these items for you when you provide the model number of your tractor.

#### ENGINE

#### MAINTENANCE



#### PERFORMANCE

Sears offers a wide variety of attachments that fit your tractor. Many of these are listed below with brief explanations of how they can help you. This list was current at the time of publication; however, it may change in future years - more attachments may be added, changes may be made in these attachments, or some may no longer be available or fit your model. Contact your nearest Sears store for the accessories and attachments that are available for your tractor.

Most of these attachments do not require additional hitches or conversion kits (those that do are indicated) and are designed for easy attaching and detaching.

**AERATOR** promotes deep root growth for a healthy lawn. Tapered 2.5-inch steel spikes mounted on 10-inch diameter discs puncture holes in soil at close intervals to let moisture soak in. Steel weight tray for increased penetration.

BUMPER protects front end of tractor from damage

CARTS make hauling easy Variety of sizes available, plus accessories such as side panel kits, tool caddy, cart cover, protective mat and dolly.

**CORING AERATOR** takes small plugs out of soil to allow moisture and nutrients to reach grass roots 36-inch swath 24 hardened steel coring tips. 150 lb. capacity weight tray.

**DISC HARROW** has 2 gangs of 4 steel blades that angle from 10 to 20 degrees, 40 inches wide. Can hook 2 units in tandem. (Requires sleeve hitch.)

**DOZER BLADE** removes snow; grades dirt, sand and gravel. 48 inches wide, 17 inches high, clears 44-inch path when angled. Master lift control lever for operator ease. Spring trip for snow removal on uneven pavement; built-in float for blade to follow ground contour. Reversible, replaceable scraper bar (Use with tire chains and wheel weights and/or rear drawbar weight)

EASY OIL DRAIN VALVE makes oil changes easier, faster.

FRONT NOSE ROLLER canters in front of mower deck to reduce chances of "scalping" on uneven terrain.

GANG HITCH lets you tow 2 or 3 pull-behind attachments at once, such as sweepers, dethatchers, aerators (not for use with rollers, carts or other heavy attachments)

MULCH RAKE/DETHATCHER loosens soil and flips thatch and matted leaves to lawn surface for easy pickup Twenty spring tine teeth Useful to prepare bare areas for seeding. Available for front or rear mounting. HIGH PERFORMANCE REEL-ACTION SPRING TINE DETHATCHER covers 36-inch wide path and tosses thatch into large hopper. Mounts behind tractor.

**PLOW** turns soil 6 inches deep, cuts 10-inch furrow. Crank adjustment controls depth, 3-position yoke sets width. Heavy steel landside for straight furrowing. (Requires sleeve hitch.)

**RAMP TOPS AND FEET** let you load and unload tractor from a pickup truck. Use with 2 x 8 or 2 x 10 lumber

REAR GRADER BLADE is 42 inches wide and operated from driver's seat. Reversible steel blade can be angled at 30 degrees for grading Reverses for pushing snow backwards (Requires sleeve hitch)

**ROLLER** for smoother lawn surface. 36-inch wide, 18-inch diameter water-tight drum holds up to 390 lbs. of weight. Rounded edges prevent harm to turf Adjustable scraper automatically cleans drum

**SLEEVE CULTIVATOR** is 43 inches wide. Prepares ground for seeding, helps weed control. Steel frame holds 5 adjustable sweeps. Adjusts vertically, horizontally. (Requires sleeve hitch.) **Optional accessory:** steel furrow opener for wider openings for potatoes, corn, and other deep-seeded crops.

SLEEVE HITCH for use with master lift system. Single pin couples/ uncouples.

**SNOWTHROWER** has 42-inch swath. Drum-type auger handles powdery and wet/heavy snow. Mounts easily with simple pin arrangement. Discharge chute adjusts from tractor seat 6-inch diameter spout discharges snow 10 to 50 feet Lift controlled at tractor seat (Use with chains and wheel weights and/or rear drawbar weight)

SPRAYERS use 12-volt DC electric motor that connects to the tractor battery or other 12-volt source. Includes booms for automatic spraying and hand held wand for spot spraying Wand has adjustable spray pattern. For applying herbicides, insecticides, fungicides and liquid fertilizers

SPREADER/SEEDERS make seeding, fertilizing, and weed killing easy. Broadcast spreaders are also useful for granular de-icers and sand.

SWEEPERS let you collect grass clippings and leaves.

TILLER has 8 hp engine to prepare seed beds, cultivate, and compost garden residue. Chain-drive transmission Six 11-inch diameter one piece heat-treated steel tines. Tills 30-inch path (Requires sleeve hitch) Or use 5 hp tow-behind TILLER with 36-inch swath to prepare seed beds, cultivate and compost garden residue. Tiller has its own built-in lift and depth control system and does NOT require a sleeve hitch Fits any lawn, yard or garden tractor. Simply hook up to the tractor drawbar and go! **Optional accessories** for 5 hp tiller convert unit for dethatching, aerating, hilling...without tools

TIRE CHAINS are heavy duty; closely spaced extra-large cross links give smooth ride, outstanding traction.

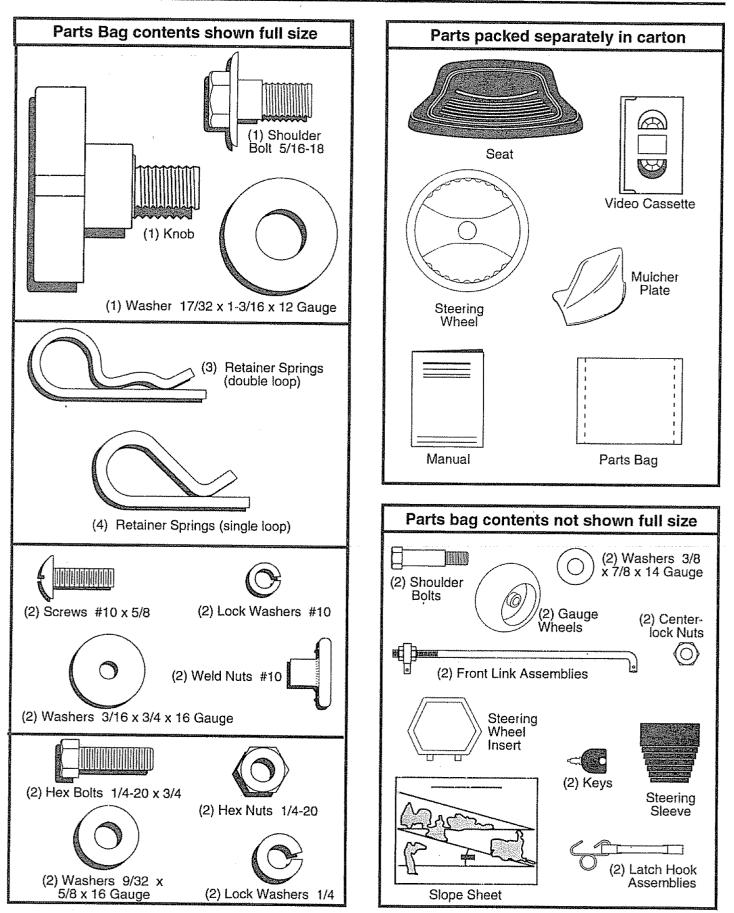
TRACTOR CAB has heavy duty vinyl fabric over tubular steel frame, ABS plastic top; clear plastic windshield offers 360 degree visibility. Hinged metal doors with catch. Keeps operator warm and dry Remove vinyl sides and windshields for use as sun protector in summer. Optional accessories include: tinted/tempered solid safety glass windshield with hand operated wiper; 12-volt amber caution light for mounting on cab top.

VACS for powerful collection of heavy grass clippings and leaves. Optional wand attachment to pick up debris in hard-to-reach places VAC/CHIPPER includes a chipper-shredder.

WEIGHT BRACKET for drawbar for snow removal applications. Can be mounted on front of tractor for plowing applications. Uses (1) 55 lb. weight.

WHEEL WEIGHTS for rear wheels provide needed traction for snow removal or dozing heavy materials.

# **CONTENTS OF HARDWARE PACK**



Your new tractor has been assembled at the factory with exception of those parts left unassembled for shipping purposes. To ensure safe and proper operation of your tractor all parts and hardware you assemble must be tightened securely. Use the correct tools as necessary to insure proper tightness.

# **TOOLS REQUIRED FOR ASSEMBLY**

A socket wrench set will make assembly easier. Standard wrench sizes are listed.

- (2) 7/16" wrenches (1) Tire pressure gauge
- (1) 9/16" wrench (1) Utility knife
- (1) 1/2" wrench (1) 3/4" socket w/drive ratchet
- (1) Phillips screwdriver

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**

- Remove all accessible loose parts and parts cartons from carton (See page 6).
- Cut, from top to bottom, along lines on all four corners of carton, and lay panels flat.
- Remove mower and packing materials.
- Check for any additional loose parts or cartons and remove.

# **BEFORE ROLLING TRACTOR OFF SKID**

#### ATTACH STEERING WHEEL (See Fig. 1)

- Remove hex bolt, lock washer and large flat washer from steering shaft.
- Position front wheels of the tractor so they are pointing straight forward.
- Slide steering sleeve over steering shaft.
- Position steering wheel so cross bars are horizontal (left to right) and slide onto steering wheel adapter.
- Secure steering wheel to steering shaft with hex bolt, lock washer and large flat washer previously removed. Tighten securely.
- Snap steering wheel insert into center of steering wheel.
- Remove protective plastic from tractor hood and grill.

**IMPORTANT:** CHECK FOR AND REMOVE ANY STAPLES IN SKID THAT MAY PUNCTURE TIRES WHERE TRACTOR IS TO ROLL OFF SKID.

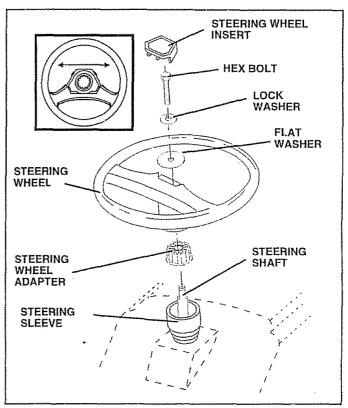


FIG. 1

# 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.
- Release parking brake by depressing clutch/brake pedal.
- Place gearshift lever in neutral (N) position.
- Roll tractor backwards off skid.

### **CONNECT BATTERY (See Fig. 2)**



CAUTION: Do not short battery terminals. Before connecting battery, remove metal bracelets, wristwatch bands, rings, etc.

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

- Lift hood to raised position.
- Open terminal access doors, remove terminal protective caps and discard.
- 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.
- First connect RED battery cable to positive (+) battery terminal with hex bolt, flat washer, lock washer and hex nut as shown. Tighten securely.
- Connect BLACK grounding cable to negative (-) battery terminal with remaining hex bolt, flat washer, lock washer and hex nut. Tighten securely.
- Close terminal access doors.

Use terminal access doors for:

- Inspection for secure connections (to tighten hardware).
- Inspection for corrosion.
- Testing battery.
- Jumping (if required).
- Periodic charging.

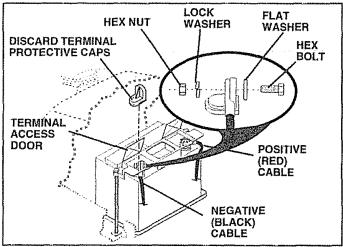


FIG. 2

### **INSTALL SEAT (See Fig. 3)**

Adjust seat before tightening adjustment knob.

- · Remove cardboard packing on seat pan.
- · Place seat on seat pan and assemble shoulder bolt.
- Assemble adjustment knob and flat washer loosely. Do not tighten.
- Tighten shoulder bolt securely.
- Lower seat into operating position and sit on seat.
- Slide seat until a comfortable position is reached which allows you to press clutch/brake pedal all the way down.
- Get off seat without moving its adjusted position.
- Raise seat and tighten adjustment knob securely.

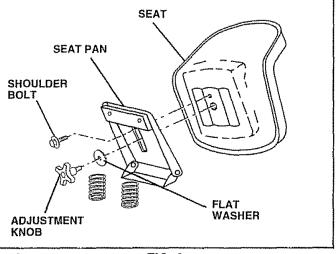


FIG. 3

#### **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" on page 3 of this manual.

#### 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.

#### **INSTALL MOWER AND DRIVE BELT (See** Figs: 4 and 7)

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

- ø Cut and remove ties securing anti-sway bar and belts. Swing anti-sway bar to left side of mower deck.
- Slide mower under tractor with discharge guard to right side of tractor.

**IMPORTANT: CHECK BELT FOR PROPER ROUTING IN** ALL MOWER PULLEY GROOVES. INSTALL BELT INTO ELECTRIC CLUTCH PULLEY GROOVE.

- Install one front link in top hole of the R.H. front mower bracket and R.H. front suspension bracket. Retain with two single loop retainer springs as shown.
- Install second front link in L.H. front suspension bracket ø only and retain with single loop retainer spring as shown.
- Turn height adjustment knob counterclockwise until it stops.
- Lower mower linkage with attachment lift control.
- Place the L.H. suspension arm on inward pointing deck pin. If necessary, rock and raise front of mower to align deck pin with the hole in suspension arm.
- Slide left side of mower back and install the unattached front link in top hole of the L.H. front mower bracket. Retain with single loop retainer spring as shown.

- Place the R.H. suspension arm on inward pointing deck pin. If necessary, rock and raise front of mower to align deck pin with the hole in suspension arm.
- Connect anti-sway bar to chassis bracket under left footrest and retain with double loop retainer spring.
- Retain both suspension arms to deck pins with double loop retainer springs.
- Turn height adjustment knob clockwise to remove slack from mower suspension.
- Raise mower to highest position.
- Assemble gauge wheels (See "TO ADJUST GAUGE WHEELS" in the Operation section of this manual).

#### CHECK MOWER LEVELNESS

For best cutting results, mower 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, mower drive, and mower blade drive belts in the Service and Adjustments section of this manual. Verify that the belts are routed correctly.

FRONT

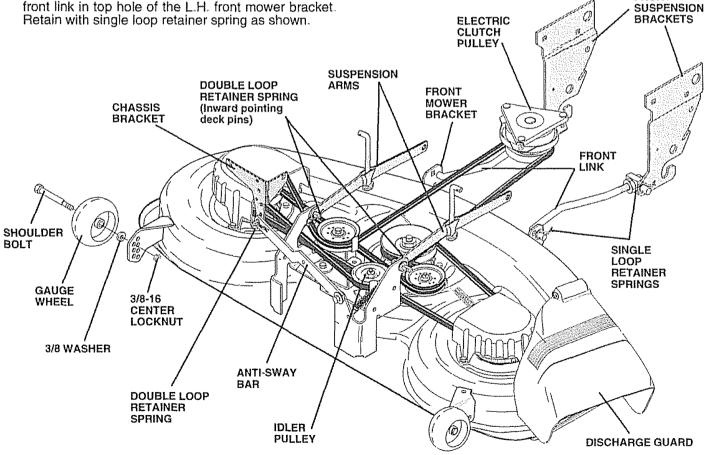


FIG. 4

# INSTALL MULCHER PLATE (See Figs. 5A and 5B)

 Install two latch hooks to mulcher plate using screw, washer, lock washer, and weld nut as shown.

**NOTE:** Pre-assemble weld nut to latch hook by inserting weld nut from the top with hook pointing down.

- Tighten hardware securely.
- Raise and hold deflector shield in upright position.
- Place front of mulcher plate over front of mower deck opening and slide into place, as shown.
- Hook front latch into hole on front of mower deck.
- Hook rear latch into hole on back of mower deck.



CAUTION: Do not remove discharge guard from mower. Raise and hold guard when attaching mulcher plate and allow it to rest on plate while in operation.

# TO CONVERT TO BAGGING OR DISCHARGING

Simply remove mulcher plate and store in a safe place. Your mower is now ready for discharging or installation of optional grass catcher accessory.

**NOTE:** It is not necessary to change blades. The mulcher blades are designed for discharging and bagging also.

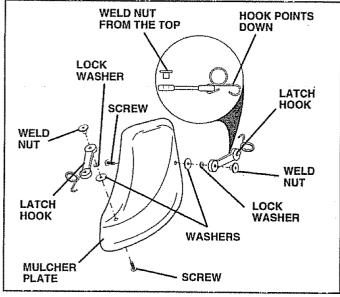


FIG. 5A

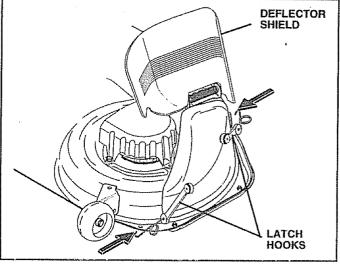


FIG. 5B

# ✓ CHECKLIST

BEFORE YOU OPERATE AND ENJOY YOUR NEW TRACTOR, WE WISH TO ASSURE THAT YOU RECEIVE THE BEST PERFORMANCE AND SATISFACTION FROM THIS QUALITY PRODUCT.

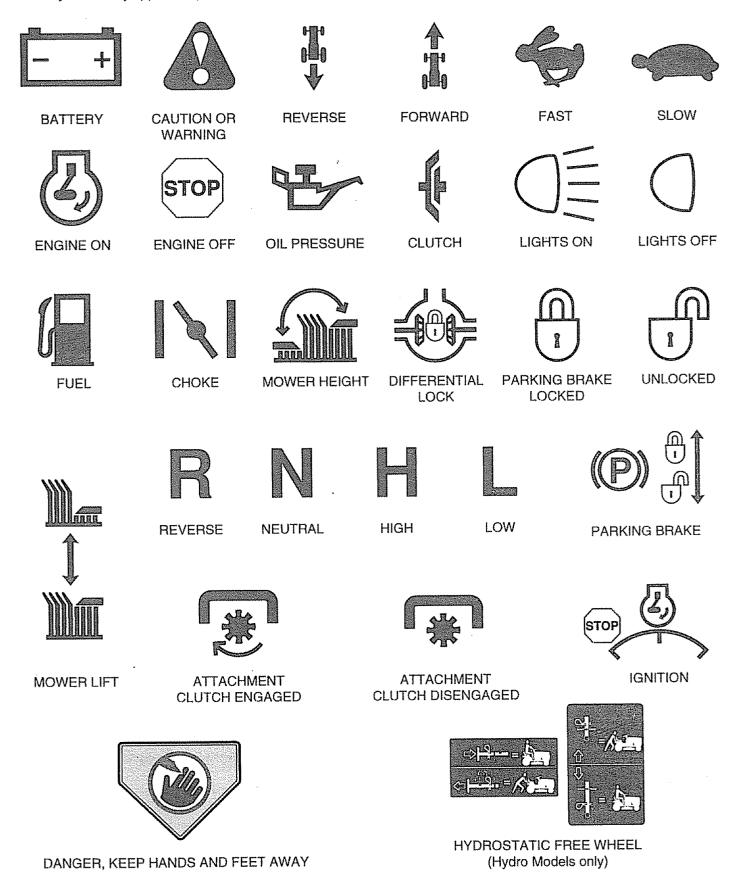
PLEASE REVIEW THE FOLLOWING CHECKLIST:

- 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.

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.

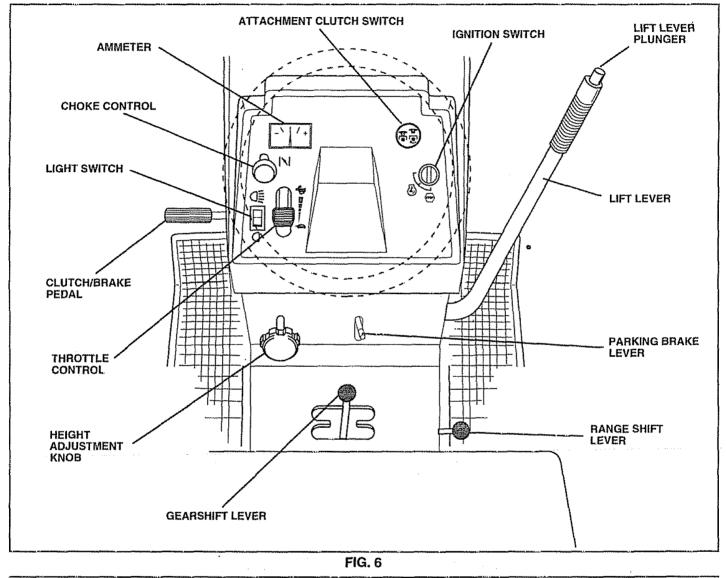
These symbols may appear on your tractor or in literature supplied with the product. Learn and understand their meaning.



# 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 mower blades or other attachments mounted to your tractor.

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

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

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

**GEARSHIFT LEVER -** Selects the speed and direction of tractor.

THROTTLE CONTROL - Used to control engine speed.

**RANGE SHIFT LEVER** - Allows high (H) or low (L) speed for all forward and reverse gears.

IGNITION SWITCH - Used to start and stop the engine.

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

LIGHT SWITCH - Turns the headlights on and off.

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

**CHOKE CONTROL** - Used when starting a cold engine. **HEIGHT ADJUSTMENT KNOB** - Used to adjust the mower height.

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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 a wide vision safety mask over the spectacles or standard safety glasses.

# HOW TO USE YOUR TRACTOR

# TO SET PARKING BRAKE (See Fig. 7)

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 into full "BRAKE" position and hold.
- Place parking brake lever in "ENGAGED" position and release pressure from clutch/brake pedal. Pedal should remain in "BRAKE" position. Make sure parking brake will hold tractor secure.

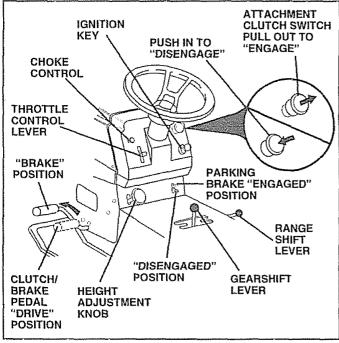


FIG. 7

### STOPPING (See Fig. 7)

MOWER BLADES -

• Move attachment clutch switch to "DISENGAGED" position.

**GROUND DRIVE -**

- Depress clutch/brake pedal into full "BRAKE" position.
- Move gearshift lever to neutral (N) position.

ENGINE -

Move throttle control to slow (<) position.</li>

- Turn ignition key to "OFF" position and remove key. Always remove key when leaving tractor to prevent unauthorized use.
- Never use choke to stop engine.

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



CAUTION: Always stop tractor completely, as described above, before leaving the operator's position; to empty grass catcher, etc.

# TO USE THROTTLE CONTROL (See Fig. 7)

Always operate engine at full throttle.

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

### TO USE CHOKE CONTROL (See Fig. 7)

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 (See Fig. 7)

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

- Start tractor with clutch/brake pedal depressed and gearshift lever in neutral (N) position.
- Move gearshift and range shift levers to desired position.

• Slowly release clutch/brake pedal to start movement. IMPORTANT: BRING TRACTOR TO A COMPLETE STOP BEFORE SHIFTING OR CHANGING GEARS. FAILURE TO DO SO WILL SHORTEN THE USEFUL LIFE OF YOUR TRANSAXLE.

#### TO ADJUST MOWER CUTTING HEIGHT (See Fig. 7)

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

- Turn knob counterclockwise (\*) to lower cutting height.

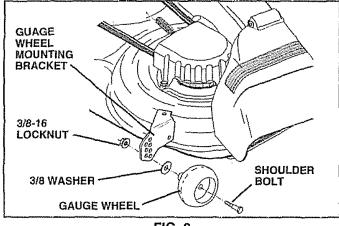
The cutting height range is approximately 1-1/4" to 4-1/4". The heights are measured from the ground to the blade tip with the engine not running. These heights are approximate and may vary depending upon soil conditions, height of grass and types of grass being mowed.

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

### TO ADJUST GAUGE WHEELS (See Fig. 8)

Adjust gauge wheels with tractor on a flat level surface.

- Adjust mower to desired cutting height (See "TO AD-JUST MOWER CUTTING HEIGHT" in the Operation section of this manual).
- With mower in desired height of cut position, gauge wheels should be assembled so they are slightly off the ground. Install gauge wheel in appropriate hole with shoulder bolt, 3/8 washer, and 3/8-16 locknut and tighten securely.
- Repeat for opposite side installing gauge wheel in same adjustment hole.



**FIG. 8** 

### TO OPERATE MOWER (See Figs. 6 and 7)

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.

- Select desired height of cut.
- Lower mower with attachment lift control.
- Start mower blades by engaging attachment clutch control.
- TO STOP MOWER BLADES disengage attachment clutch control.



CAUTION: Do not operate the mower with out either the entire grass catcher, on mow ers so equipped, or the discharge guard in place.

### **TO OPERATE ON HILLS**



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

- 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 gearshift lever to 1st gear and range shift lever to low (L) position. Be sure you have allowed room for tractor to roll slightly as you restart movement.
- To restart movement, slowly release parking brake and clutch/brake pedal.
- Make all turns slowly.

### **TO TRANSPORT**

- Raise attachment lift to highest position with attachment lift control.
- When pushing or towing your tractor, be sure gearshift lever is in neutral (N) position.

• Do not push or tow tractor at more than five (5) MPH. 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.).

# **BEFORE STARTING THE ENGINE**

#### **CHECK ENGINE OIL LEVEL (See Fig. 9)**

- The engine in your tractor has been shipped, from the factory, already filled with summer weight oil.
- Check engine oil with tractor on level ground.
- Unthread and remove oil fill cap/dipstick; wipe oil off. Reinsert the dipstick into the tube and rest oil fill cap on the tube. Do not thread the cap onto the tube. Remove and read oil level. If necessary, add oil until "FULL" mark on dipstick is reached. Do not overfill.
- For cold weather operation you should change oil for easier starting (See "OIL VISCOSITY CHART" in the Customer Responsibilities section of this manual).
- To change engine oil, see the Customer Responsibilities section in this manual.

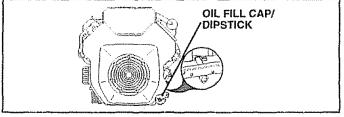


FIG. 9

#### ADD GASOLINE

 Fill fuel tank. 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.

**IMPORTANT:** WHEN OPERATING IN TEMPERATURES BELOW 32°F(0°C), USE FRESH, CLEAN WINTER GRADE GASOLINE TO HELP INSURE GOOD COLD WEATHER STARTING.

**WARNING**: Experience indicates that alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. 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.



CAUTION: Fill to bottom of gas tank filler neck. Do not overfill. Wipe off any spilled oil or fuel. Do not store, spill or use gasoline near an open flame.

### TO START ENGINE (See Fig. 7)

This engine on this product is designed for maximum performance and life if operated with the choke  $(|\setminus|)$  fully open and the throttle control in the fast () position. To open the choke fully requires an engine warm-up period of several seconds to several minutes, depending on the temperature.

After starting the engine, first open the choke slowly until the engine just begins to run smoothly. Then open the choke in small steps, allowing the engine to accept small changes in speed and load, until the choke is fully open.

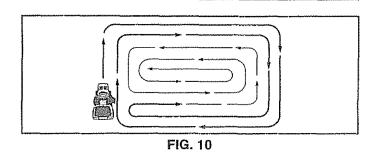
During engine warm-up, the equipment can be operated. When starting engine for the first time or if engine has run out of fuel, it will take extra cranking time to move fuel from the tank to the engine.

- · Depress clutch/brake pedal and set parking brake.
- Place gearshift lever in neutral (N) position.
- Move attachment clutch to "DISENGAGED" position.
- Pull choke control out to choke (|\]) position for cold engine start. For warm engine start do not use choke control.
- Move throttle control to midway between fast () and slow () positions.
- 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 engine does not start after several attempts, move throttle control to fast () position, wait a few minutes and try again.
- When engine starts, slowly push choke control in.
- Move throttle control to fast ( ) position.
- Allow engine to warm up for a few minutes before engaging drive or attachments.

**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.

# **MOWING TIPS**

- Tire chains cannot be used when the mower housing is attached to tractor.
- Mower should be properly leveled for best mowing performance. See "TO LEVEL MOWER HOUSING" in the Service and Adjustments section of this manual.
- The left hand side of mower should be used for trimming.
- Drive so that clippings are discharged onto the area that has been cut. Have the cut area to the right of the machine. 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 (See Fig. 10).



- 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.

#### **MULCHING MOWING TIPS**

**IMPORTANT:** FOR BEST PERFORMANCE, KEEP MOWER HOUSING FREE OF BUILT-UP GRASS AND TRASH. CLEAN AFTER EACH USE.

- The special mulching blade will recut the grass clippings many times and reduce them in size so that as they fall onto the lawn they will disperse into the grass and not be noticed. Also, the mulched grass will biodegrade quickly to provide nutrients for the lawn. Always mulch with your highest engine (blade) speed as this will provide the best recutting action of the blades.
- Avoid cutting your lawn when it is wet. Wet grass tends to form clumps and interferes with the mulching action. The best time to mow your lawn is the early afternoon. At this time the grass has dried and the newly cut area will not be exposed to the direct sun.
- For best results, adjust the mower cutting height so that the mower cuts off only the top one-third of the grass blades (See Fig. 11). For extremely heavy mulching, reduce your width of cut on each pass and mow slowly.

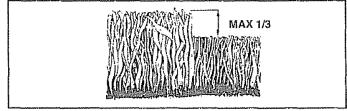


FIG. 11

- Certain types of grass and grass conditions may require that an area be mulched a second time to completely hide the clippings. When doing a second cut, mow across or perpendicular to the first cut path.
- Change your cutting pattern from week to week. Mow north to south one week then change to east to west the next week. This will help prevent matting and graining of the lawn.

#### **CUSTOMER RESPONSIBILITIES** EVERY 100 HOURS EVERY 25 HOURS ENERY SO HOURS BEFORESTORAGE EVERY 8 HOURS EVENYSEASON FIRST 2 HOURS MAINTENANCE SCHEDULE BEFOREEACH FILL IN DATES AS YOU COMPLETE **REGULAR SERVICE** SERVICE DATES 6 ø **Check Brake Operation** Bre **Check Tire Pressure** ø Т Check for Loose Fasteners A 67 ₽¢¢ R Sharpen/Replace Mower Blades 1 × 4 A C/ Lubrication Chart 200 С Check Battery Level/Recharge 6 Т 0 **Clean Battery and Terminals** 1 ø R Check Transaxle Cooling C. Adjust Blade Belt(s) Tension 6 5 Adjust Motion Drive Belt(s) Tension 5 **Check Engine Oil Level** 1 de la B.m 6 **Change Engine Oil** ø V1,2,3 Clean Air Filter V 2 E V 2 **Clean Air Screen** N G Inspect Muffler/Spark Arrester 1 Replace Oil Filter (If equipped) V1.2 Ν **Clean Engine Cooling Fins** V2 E 6 **Replace Spark Plug** V **Replace Air Filter Paper Cartridge** V2 **Replace Fuel Filter**

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

2 - Service more often when operating in dirty or dusty conditions

3 - If equipped with oil filter, change oil every 50 hours

4 - Replace blades more often when mowing in sandy sol

# **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.

All adjustments in the Service and Adjustments section of this manual should be checked at least once each season.

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

#### **BEFORE EACH USE**

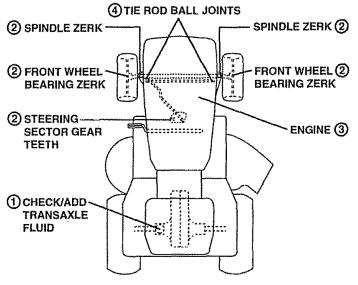
- Check engine oil level.
- Check brake operation.
- Check tire pressure.
- Check for loose fasteners.

**IMPORTANT:** DO NOT OIL OR GREASE THE PIVOT POINTS WHICH HAVE SPECIAL NYLON BEARINGS. VISCOUS LUBRICANTS WILL ATTRACT DUST AND DIRT THAT WILL SHORTEN THE LIFE OF THE SELF-LUBRICATING BEARINGS. IF YOU FEEL THEY MUST BE LUBRICATED, USE ONLY A DRY, POWDERED GRAPHITE TYPE LUBRICANT SPARINGLY. 5 - If equipped with adjustable system

6 - Not required if equipped with maintenance-free battery

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

# LUBRICATION CHART



(1) SAE 30 MOTOR OIL API - SF/SG

**② GENERAL PURPOSE GREASE** 

(3) REFER TO CUSTOMER RESPONSIBILITIES "ENGINE" SECTION (4) SPRAY SILICONE LUBRICANT (MOVE BOOTS TO LUBRICATE)

# CUSTOMER RESPONSIBILITIES

# TRACTOR

Always observe safety rules when performing any maintenance.

# **BRAKE OPERATION**

If unit requires more than six (6) feet stopping distance at high speed in highest gear, then brake must be adjusted. (See "TO ADJUST BRAKE" in the Service and Adjustments section of this manual).

# TIRES

- Maintain proper air pressure in all tires (See "PROD-UCT SPECIFICATIONS" on page 3 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.

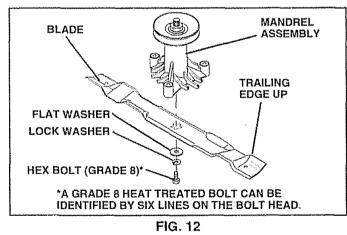
# **BLADE CARE**

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

# **BLADE REMOVAL (See Fig. 12)**

- Raise mower to highest position to allow access to blades.
- Remove hex bolt, lock washer and flat washer securing blade.
- Install new or resharpened blade with trailing edge up towards deck as shown.
- Reassemble hex bolt, lock washer and flat washer in exact order as shown.
- Tighten bolt securely (30-35 Ft. Lbs. torque).
- IMPORTANT: BLADE BOLT IS GRADE 8 HEAT TREATED.

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



# TO SHARPEN BLADE (See Fig. 13)

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).
- 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.

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

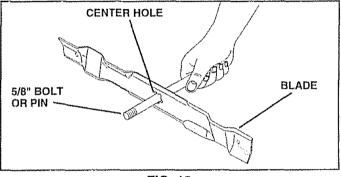


FIG. 13

## **V-BELTS**

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

# TRANSAXLE COOLING

Keep transaxle free from build-up of dirt and chaff which can restrict cooling.

#### CHECK TRANSAXLE OIL LEVEL. (See Fig. 14)

- Block up rear axle securely.
- Remove left rear wheel by removing hub bolts.
- Remove filler plug from transaxle. Oil level must be even with plug threads. If necessary, fill with SAE 30 motor oil, API-SF or SG. Replace filler plug.
- Reassemble wheel to hub.
- For approximate capacity see "PRODUCT SPECIFI-CATIONS" on page 3 of this manual.

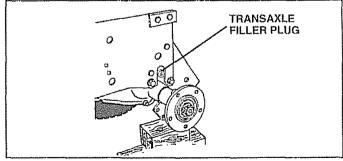


FIG. 14

# **CUSTOMER RESPONSIBILITIES**

### 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 (See "CONNECT BAT-TERY" in the Assembly section of this manual).
- Recharge at 6-10 amperes for 1 hour.

TO CLEAN BATTERY AND TERMINALS

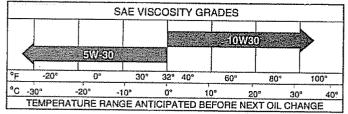
Corrosion and dirt on the battery and terminals can cause the battery to "leak" power.

- Remove terminal guard.
- Disconnect BLACK battery cable first then RED battery cable and remove battery from tractor.
- Wash battery with solution of four tablespoons of baking soda to one gallon of water. Be careful not to get the soda solution into the cells.
- Rinse the battery with plain water and dry.
- Clean terminals and battery cable ends with wire brush until bright.
- Coat terminals with grease or petroleum jelly.
- Reinstall battery (See "CONNECT BATTERY" in the Assembly section of this manual).

# ENGINE

### LUBRICATION

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



**NOTE:** Although multi-viscosity oils (5W30, 10W30 etc.) improve starting in cold weather, these multi-viscosity oils will result in increased oil consumption when used above 32°F. Check your engine oil level more frequently to avoid possible engine damage from running low on oil.

Change the oil after the first two hours of operation and every 50 hours thereafter 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. Tighten oil fill cap/dipstick securely each time you check the oil level.

#### TO CHANGE ENGINE OIL (See Fig. 15)

Determine temperature range expected before oil change. All oil must meet API service classification SF or SG.

- 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.
- Remove drain plug.
- After oil has drained completely, replace oil drain plug and tighten securely.
- Refill engine with oil through oil fill dipstick tube. Pour slowly. Do not overfill. For approximate capacity see "PRODUCT SPECIFICATIONS" on page 3 of this manual.
- 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.

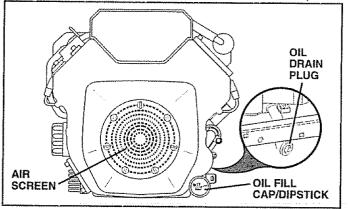


FIG. 15

### CLEAN AIR SCREEN (See Fig. 15)

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.

# CUSTOMER RESPONSIBILITIES

### AIR FILTER (See Fig. 16)

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.

- Loosen knob and remove cover.
- TO SERVICE PRE-CLEANER
- Slide foam pre-cleaner off cartridge.
- Wash it in liquid detergent and water.
- Squeeze it dry in a clean cloth.
- Saturate it in engine oil. Wrap it in clean, absorbent cloth and squeeze to remove excess oil.

TO SERVICE CARTRIDGE

- Remove nut and cartridge plate.
- Gently tap the flat side of the paper cartridge to dislodge dirt. Do not wash the paper cartridge or use pressurized air, as this will damage the cartridge. Replace a dirty, bent, or damaged cartridge.
- Reinstall the pre-cleaner (cleaned and oiled) over the paper cartridge.

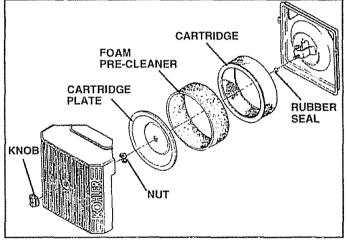


FIG. 16

- Check rubber seal for damage and proper position around stud. Replace if necessary.
- · Reassemble air cleaner, cartridge plate, and nut.
- Reinstall air cleaner cover and secure by tightening knob.

### MUFFLER

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

### SPARK PLUGS

Replace spark plugs at the beginning of each mowing season or after every 100 hours of operation, whichever comes first. Spark plug type and gap setting are shown in "PRODUCT SPECIFICATIONS" on page 3 of this manual.

### 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.

# IN-LINE FUEL FILTER (See Fig. 17)

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

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

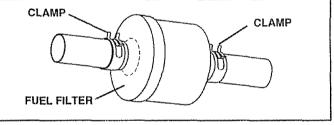


FIG. 17

# 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 to clean your tractor unless the electrical system, muffler, air filter and carburetor are covered to keep water out. Water in engine can result in a shortened engine life.

#### CAUTION: BEFORE PERFORMING ANY SERVICE OR ADJUSTMENTS:

- Depress clutch/brake pedal fully and set parking brake. ø
- Place gearshift lever in neutral (N) position. a
  - Place attachment clutch in "DISENGAGED" position.
- Turn ignition key "OFF" and remove key.
  - Make sure the blades and all moving parts have completely stopped.
- Disconnect spark plug wire from spark plug and place wire where it cannot come in contact ø with plug.

#### TO REMOVE MOWER (See Fig. 18)

- Place attachment clutch in "DISENGAGED" position.
- Turn height adjustment knob to lowest setting.
- Lower mower to its lowest position.
- Remove retainer spring holding anti-swaybar to chassis bracket and disengage anti-swaybar from bracket.
- Remove retainer springs from suspension arms at deck and disengage arms from deck.
- Raise attachment lift to its highest position.
- Remove two retainer springs from each front link and remove links.
- Slide mower forward and remove belt from electric clutch pulley.
- Slide mower out from under right side of tractor.

**IMPORTANT: IF AN ATTACHMENT OTHER THAN THE** MOWER DECK IS TO BE MOUNTED ON THE TRACTOR, REMOVE THE FRONT LINKS.

### TO INSTALL MOWER

Follow procedure described in "INSTALL MOWER AND DRIVE BELT" in the Assembly section of this manual.

### TO LEVEL MOWER HOUSING

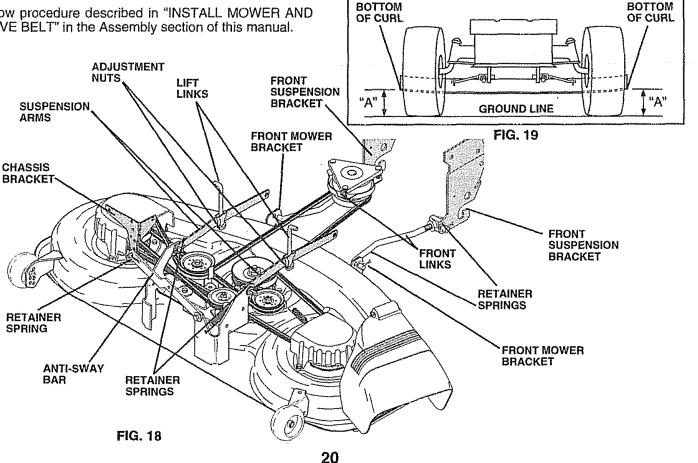
Adjust the mower while tractor is parked on level ground or driveway. Make sure tires are properly inflated (See "PRODÚCT SPECIFICATIONS" on page 3 of this manual). If tires are over or underinflated, you will not properly adjust your mower.

SIDE-TO-SIDE ADJUSTMENT (See Figs. 18 and 19)

- Raise mower to its highest position.
- Measure height from bottom of deck curl 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.
- 0 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.



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FRONT-TO-BACK ADJUSTMENT (See Figs. 20 and 21) -IMPORTANT: DECK MUST BE LEVEL SIDE-TO-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 housing should be adjusted so the front is approximately 1/8" to 1/2" lower than the rear when the mower is in its highest position.

Check adjustment on right side of tractor. Measure distance "F" directly in front of and behind the mandrel at bottom edge of mower housing as shown.

- Before making any necessary adjustments, check that both front links are equal in length.
- If links are not equal in length, adjust one link to same 0 length as other link.
- To lower front of mower housing, loosen nut "G" on both
- front links an equal number of turns When distance "F" is 1/8" to 1/2" lower at front than rear, tighten nut "H" against trunnion on both front links.
- To raise front of mower housing, loosen nut "H" from trunnion on both front links. Tighten nut "G" on both front links an equal number of turns.
- When distance "F" is 1/8" to 1/2" lower at front than rear, tighten nut "H" against trunnion on both front links.

NOTE: Each full turn of nut "G" will change dim. "F" by approximately 3/8".

Recheck side-to-side adjustment.

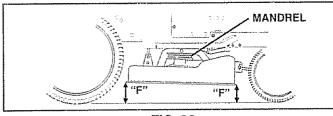
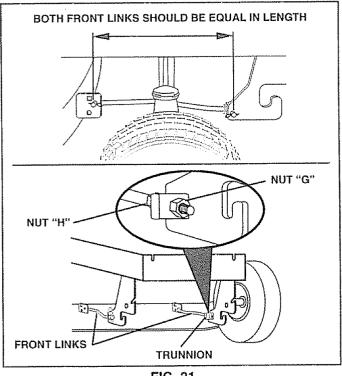


FIG. 20



# TO REPLACE MOWER DRIVE BELT

MOWER DRIVE BELT REMOVAL (See Fig. 22) -

- Park tractor on a level surface. Engage parking brake. ٠
- Remove four screws from L.H. mandrel cover and remove cover.
- Roll belt over the top of L.H. mandrel pulley.
- Remove belt from electric clutch pulley.
- Remove belt from idler pulleys.
- Remove any dirt or grass clippings which may have accumulated around mandrels and entire upper deck surface:
- Check primary idler arm and two idlers to see that they rotate freely.
- Be sure spring is securely hooked to primary idler arm and bolt in mower housing.

MOWER DRIVE BELT INSTALLATION (See Fig. 22) -

- Install belt in both idlers. Make sure belt is in both belt keepers at the idlers as shown.
- Install new belt onto electric clutch pulley. •

Reassemble L.H. mandrel cover.

- Roll belt into upper groove of L.H. mandrel pulley.
- Carefully check belt routing making sure belt is in the ٥ grooves correctly and inside belt keepers

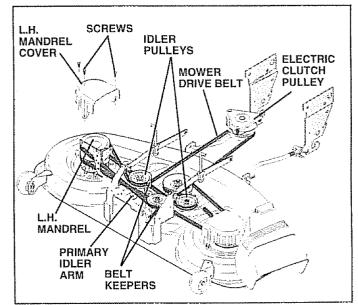
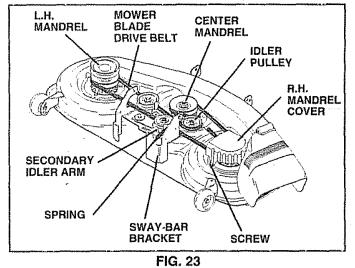


FIG. 22

# TO REPLACE MOWER BLADE DRIVE BELT (See Fig. 23)

Park the tractor on level surface. Engage parking brake.

- Remove mower drive belt (See "TO REPLACE MOWER DRIVE BELT" in this section of this manual).
- Remove mower (See "TO REMOVE MOWER" in this section of this manual).
- Remove four screws from R.H. mandrel cover and remove cover. Unhook spring from bolt on mower housing.
- Carefully roll belt off R.H. mandrel pulley.
- Remove belt from center mandrel pulley, idler pulley, and L.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 to see that they rotate freely.
- Be sure spring is hooked in secondary idler arm and sway-bar bracket.
- Install new belt in lower groove of L.H. mandrel pulley, idler pulley, and center mandrel pulley as shown.
- Roll belt over R.H. mandrel pulley. Make sure belt is in all grooves properly.
- Reconnect spring to bolt in mower housing and reinstall R.H. mandrel cover.
- Reinstall mower to tractor (See "TO INSTALL MOWER" in the Assembly section of this manual).
- Reassemble mower drive belt (See "TO REPLACE MOWER DRIVE BELT" in this section of this manual).

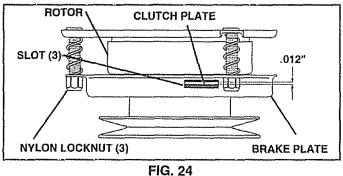


# TO ADJUST ATTACHMENT CLUTCH (See Fig. 24)

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

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

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



### TO ADJUST BRAKE (See Fig. 25)

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

If tractor requires more than six (6) feet stopping distance at high speed in highest gear, then brake must be adjusted.

- Depress clutch/brake pedal and engage parking brake.
- Measure distance between brake operating arm and nut "A" on brake rod.
- If distance is other than 1-3/4", loosen jam nut and turn nut "A" until distance becomes 1-3/4". Retighten jam nut against nut "A".
- Road test tractor for proper stopping distance as stated above. Readjust if necessary. If stopping distance is still greater than six (6) feet in highest gear, further maintenance is necessary. Contact your nearest authorized service center/department.

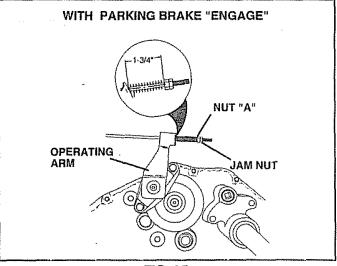


FIG. 25

### TO REPLACE MOTION DRIVE BELT (See Fig. 26)

Park the tractor on level surface. Engage parking brake. For ease of service there is a belt installation guide decal on bottom of left footrest. It is not necessary to remove mower.

BELT REMOVAL -

- Engage parking brake (creates slack in belt).
- Remove mower drive belt from electric clutch pulley only (See "TO REPLACE MOWER DRIVE BELT" in this section of this manual).
- Roll motion drive belt off transaxle pulley.
- Roll belt off clutching idler pulleys, then off engine pulley and front V-idler pulley.
- Pull belt out of all belt keepers.

**BELT INSTALLATION -**

- Place V part of belt into grooves on engine pulley and front V-idler, making sure to route belt inside of belt keepers.
- Put belt coming from V-idler above midspan belt keeper, then onto clutching idler pulleys as shown.
- Make sure V part of belt engages V-idler.
- Place belt around transaxle pulley, beginning at top. V part of belt should engage transaxle pulley.
- Place long lower section of belt through loop in midspan belt keeper.
- Check to be sure belt is on proper side of all belt keepers.
- · Reinstall mower drive belt onto electric clutch pulley.

IMPORTANT: CHECK BRAKE ADJUSTMENT.

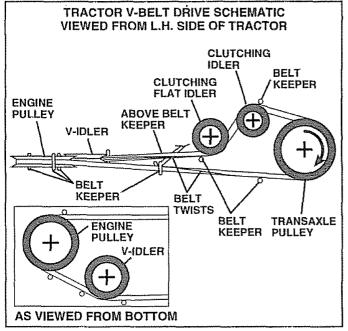


FIG. 26

### TO ADJUST STEERING WHEEL ALIGNMENT

If steering wheel crossbars are not horizontal (left to right) when wheels are positioned straight forward, remove steering wheel and reassemble per instructions in the Assembly section of this manual.

### FRONT WHEEL TOE-IN ADJUSTMENT

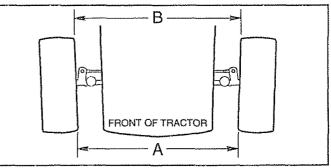
Front wheel toe-in is required for proper steering operation. Toe-in was set at the factory and adjustment should not be necessary. If parts in the front axle or steering mechanism have been replaced or damaged, check toe-in and adjust if necessary.

TO CHECK TOE-IN (See Fig. 27) -

- Position front wheels straight ahead.
- Measure distance between wheels at front and rear of tires (dimensions "A" and "B").
- Front dimension."A" should be 1/8" to 1/4" less than rear dimension "B".

TO ADJUST TOE-IN (See Figs. 27 and 28) -

- Loosen jam nuts at adjustment sleeves on tie rod.
- Adjust tie rod until dimension "A" is 1/8" to 1/4" less than dimension "B".
- Tighten jam nuts securely.





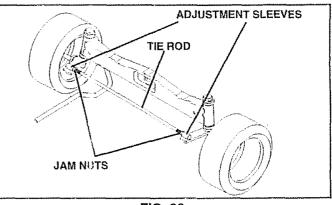


FIG. 28

#### FRONT WHEEL CAMBER

The front wheel camber is not adjustable on your tractor. If damage has occurred to affect the front wheel camber, contact your nearest authorized service center/department.

### TO REMOVE WHEEL FOR REPAIRS

FRONT WHEEL (See Fig. 29) -

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

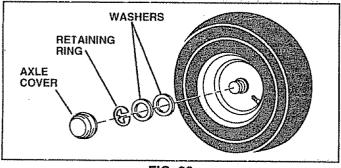


FIG. 29

**REAR WHEEL -**

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

# TO START ENGINE WITH A WEAK BATTERY (See Figs. 30)



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

**IMPORTANT:** YOUR TRACTOR IS EQUIPPED WITH A 12 VOLT NEGATIVE GROUNDED SYSTEM. THE OTHER VEHICLE MUST ALSO BE A 12 VOLT NEGATIVE GROUNDED SYSTEM. DO NOT USE YOUR TRACTOR BATTERY TO START OTHER VEHICLES.

TO ATTACH JUMPER CABLES -

- Connect each end of the RED cable to the POSITIVE (+) terminal of each battery, taking care not to short against chassis.
- Connect one end of the BLACK cable to the NEGA-TIVE (-) terminal of fully charged battery.
- Connect the other end of the BLACK cable to a panel bolt on the left side of the tractor, away from fuel tank and battery.

TO REMOVE CABLES, REVERSE ORDER -

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

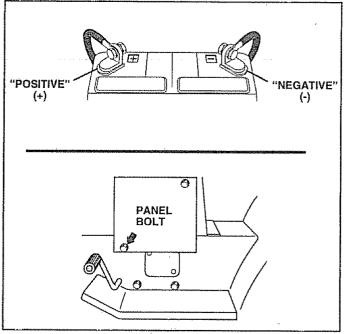


FIG. 30

# TO REPLACE HEADLIGHT BULB

- Raise hood.
- Pull bulb holder out of the hole in the backside of the grill.
- Replace bulb in holder and push bulb holder securely back into the hole in the backside of the grill.
- 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 Repair Parts section of this manual.

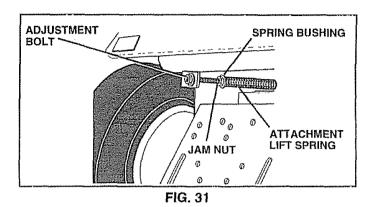
### **TO REPLACE FUSE**

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

# TO ADJUST ATTACHMENT LIFT SPRING (See Fig. 31)

- While holding spring bushing with wrench, loosen jam nut.
- Turn adjustment bolt clockwise to extend spring and reduce lift effort (for heavier attachments).
- Turn adjustment bolt counterclockwise for lighter attachments.
- Retighten jam nut against spring bushing.

**IMPORTANT:** DO NOT ADJUST FOR MAXIMUM SPRING TENSION WHEN USING LIGHT ATTACHMENTS SUCH AS A MOWER. ADJUST LIFT LEVER SPRING TO AID IN LIFTING ATTACHMENT. DO NOT OVERPOWER SPRING. WHEN REMOVING ATTACHMENT, ALWAYS ADJUST SPRING TENSION TO ITS LOWEST POSITION.



# TO REMOVE HOOD AND GRILL ASSEMBLY (See Fig. 32)

- Raise hood.
- Unsnap headlight wire connector.
- Stand in front of tractor. Grasp hood at sides, tilt toward engine and lift off of tractor.
- To replace, reverse above procedure.

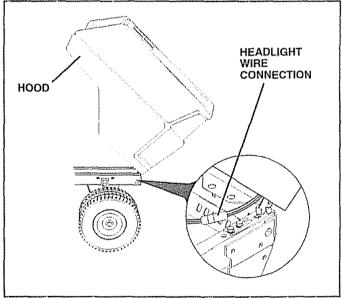


FIG. 32

#### ENGINE TO ADJUST THROTTLE CONTROL CABLE (See Fig. 33)

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:

- 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.

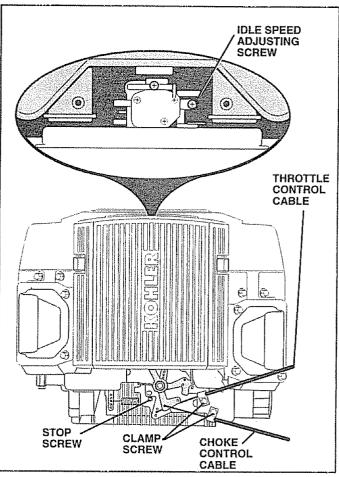


FIG. 33

# TO ADJUST CHOKE CONTROL (See Figs. 33 and 34)

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 Customer Responsibilities 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.

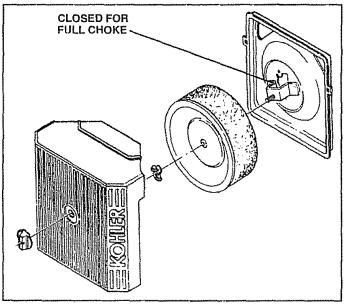


FIG. 34

#### TO ADJUST CARBURETOR (See Fig. 33)

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:

- Be sure you have a clean air filter and the throttle control cable is adjusted properly (see above).
- Start engine and allow to warm for five minutes. Make final adjustments with engine running and shift/motion control lever in neutral (N) position.
- 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 1200 RPM. If engine idles too slow or fast, turn idle speed adjusting screw in or out until correct idle is attained.

**NOTE:** The carburetor on this engine is low emission. It is equipped with an idle fuel needle with a limiter cap and is not adjustable. Do not attempt to remove the limiter cap. The limiter cap cannot be removed without breaking the adjusting needle.

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 YOUR NEAREST AUTHORIZED SERVICE CENTER/ DEPARTMENT, 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.



CAUTION: 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 Customer Responsibilities section of this manual).
- Inspect and replace belts, if necessary (See belt replacement instructions in the Service and Adjustments section of this manual).
- Lubricate as shown in the Customer Responsibilities 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.
- 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 Customer Responsibilities section of this manual).
- After cleaning, leave cables disconnected and place cables where they cannot come in contact with battery terminals.
- Be sure battery drain tube is securely attached.
- 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 FILTER, FUEL HOSE, OR TANK DURING STORAGE. ALSO, EXPERIENCE INDICATES THAT ALCOHOL BLENDED FUELS (CALLED GASOHOL OR USING ETHANOL OR METHANOL) CAN ATTRACT MOISTURE WHICH LEADS TO SEPARATION AND FORMATION OF ACIDS DURING STORAGE. ACIDIC GAS CAN DAMAGE THE FUEL SYSTEM OF AN ENGINE WHILE IN STORAGE.

- Drain the fuel tank.
- Start the engine and let 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 drain 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 Customer Responsibilities section of this manual).

#### **CYLINDERS**

- Remove spark plug(s).
- Pour one ounce of oil through spark plug hole(s) into cylinder(s).
- Turn Ignition key to "START" position for a few seconds to distribute oil.
- 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 POINTS

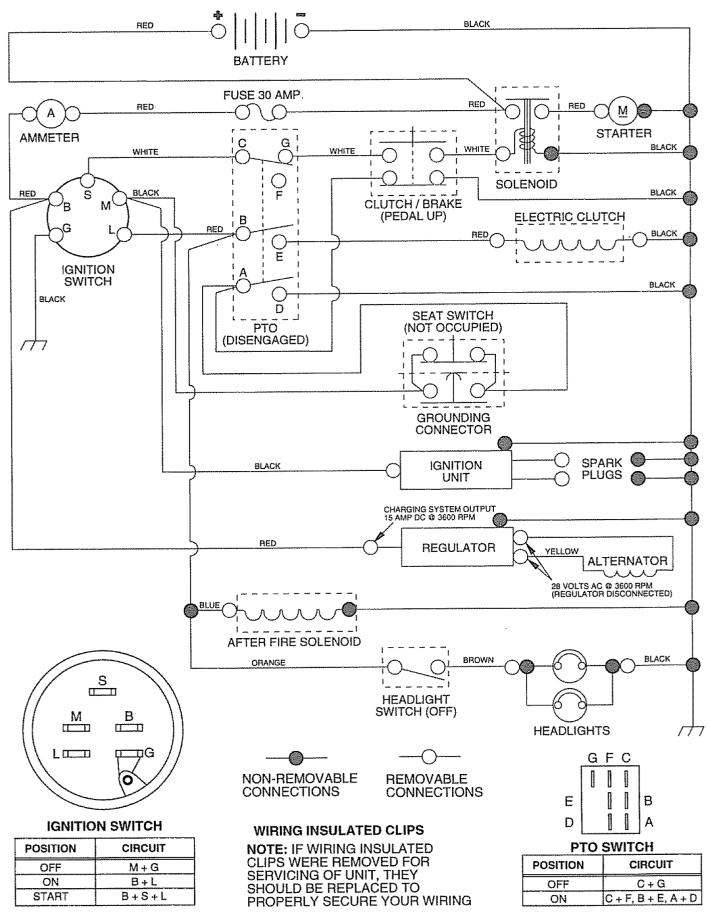
PROBLEM	CAUSE	CORRECTION		
Will not start	<ol> <li>Out of fuel.</li> <li>Engine not "CHOKED" property.</li> <li>Engine flooded.</li> <li>Bad spark plug.</li> <li>Dirty air filter.</li> <li>Dirty fuel filter.</li> <li>Water in fuel.</li> <li>Loose or damaged wiring.</li> <li>Carburetor out of adjustment.</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>Drain fuel tank and carburetor, refill tank with frest gasoline and replace fuel filter</li> <li>Check all wiring</li> <li>Contact an authorized service center/department.</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>Drain fuel tank and refill with fresh gasoline</li> <li>Check all wiring</li> <li>Contact an authorized service center/department.</li> <li>Contact an authorized service center/department.</li> </ol>		
Engine will not turn over	<ol> <li>Clutch/brake pedal not depressed</li> <li>Attachment clutch is engaged.</li> <li>Weak or dead battery.</li> <li>Blown fuse.</li> <li>Corroded battery terminals.</li> <li>Loose or damaged wiring.</li> <li>Faulty ignition switch.</li> <li>Faulty solenoid or starter.</li> <li>Faulty operator presence switch(es).</li> </ol>	<ol> <li>Depress clutch/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 an authorized service center/department.</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> <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> </ol>	<ol> <li>Set in "Higher Cut" position/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> <li>Clean and regap or change spark plug.</li> <li>Replace fuel filter</li> <li>Drain fuel tank and refill with fresh gasoline.</li> <li>Drain fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter.</li> <li>Connect and tighten spark plug wire.</li> <li>Clean/replace muffler.</li> <li>Clean/replace muffler.</li> <li>Check all wiring</li> <li>Contact an authorized service center/department.</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>Replace blade mandrel.</li> <li>Tighten loose part(s). Replace damaged parts.</li> </ol>		

# **TROUBLESHOOTING POINTS**

PROBLEM	CAUSE	CORRECTION		
Engine continues to run when operator leaves seat with attachment clutch engaged	1. Faulty operator-safety presence control system.	<ol> <li>Check wiring, switches and connections. If not corrected, contact an authorized service center/ department.</li> </ol>		
Poor cut - uneven	<ol> <li>Worn, bent or loose blade.</li> <li>Mower deck not level</li> <li>Buildup of grass, leaves, and trash under mower.</li> <li>Bent blade mandrel.</li> <li>Clogged mower deck vent holes from buildup 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>Replace blade mandrel</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>Replace blade mandrel.</li> </ol>		
Poor grass discharge	<ol> <li>Engine speed too slow.</li> <li>Travel speed too fast.</li> <li>Wet grass.</li> <li>Mower deck not level.</li> <li>Low/uneven tire alr 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>Place throttle control in "FAST" position.</li> <li>Shift to slower speed.</li> <li>Allow grass to dry before mowing.</li> <li>Level mower deck.</li> <li>Check tires for proper air pressure.</li> <li>Replace/sharpen blade. Tighten blade bolt</li> <li>Clean underside of mower housing.</li> <li>Replace mower drive belt.</li> <li>Replace mower drive belt.</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) 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).</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>		
Engine "backfires" when turning engine 'OFF"	<ol> <li>Engine throttle control not set at "SLOW" position for 30 seconds before stopping engine.</li> </ol>	<ol> <li>Move throttle control to "SLOW" position and allow to idle for 30 seconds before stopping engine.</li> </ol>		

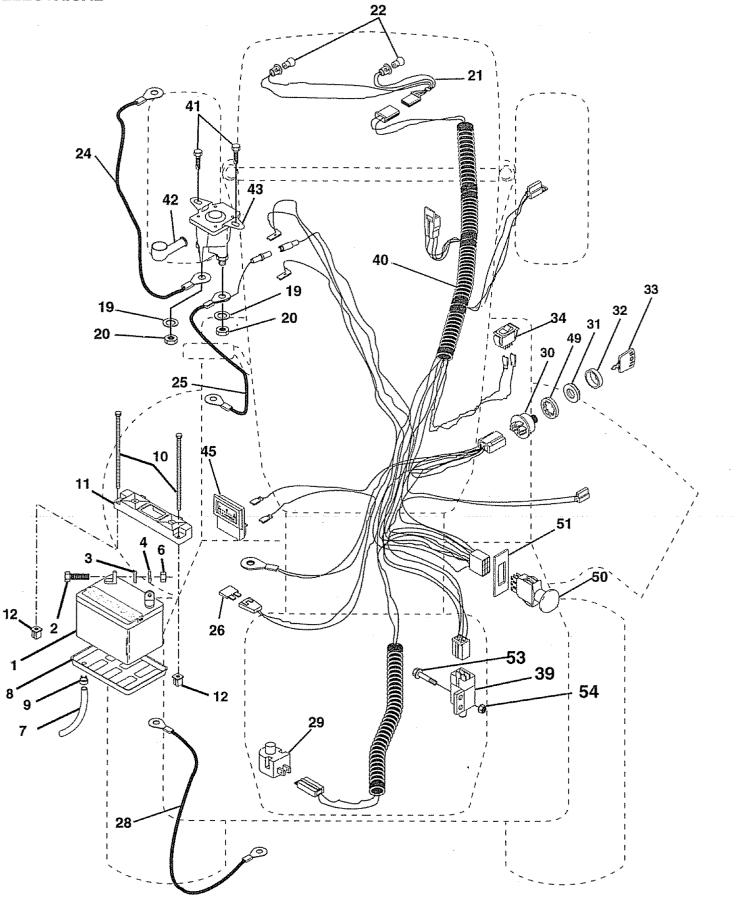
# **TRACTOR - MODEL NUMBER 917.251630**

### SCHEMATIC



# TRACTOR - - MODEL NUMBER 917.251630

### ELECTRICAL



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# TRACTOR - - MODEL NUMBER 917.251630

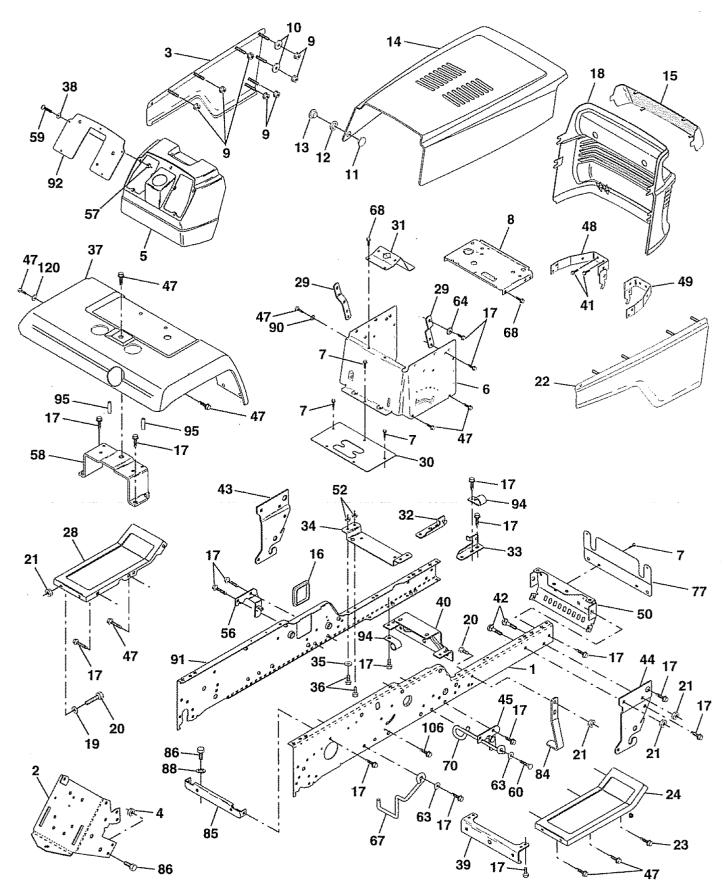
### ELECTRICAL

KEY NO.	PART NO.	DESCRIPTION
19 20 21 22 24 25 26 29 30 31 22 33 40 41 42 43 45 49	4152J 4014J 146686 108824X 6408R 121305X 144921 140400 141226 140403 110712X 109553X 146071 17720408 131563 145673 122822X 11151000 146283 140405	Battery Bolt Hex Head 1/4-20 x 3/4 Washer, Lock 1/4 Washer 9/32 x 5/8 x 16 Ga. Nut Fin Hex 1/4-20 Tube Plastic Tray, Battery Clamp, Hose Bolt 1/4-20 x 7.5 Zinc Hold down Battery Dash Mount Nut Push Nylon 1/4" Washer, Lock 1/4 Nut, Jam Hex 1/4-20 Harness Socket Light W/4152J Bulb Light Cable, Battery Cable, Battery Fuse Cable, Ground Switch, Plunger Switch, Ign Nut, Ignition Switch Cover Switch Key Key, Ignition Switch, Light Switch, Interlock Harness Ign. Screw 1/4-20 x 1/2 Cover, Terminal Solenoid Ammeter Washer, Lock Internal Tooth 5/8 Switch, PTO Ring Retainer PTO Screw Hex Washer Hd #10-32 x 1/2 Nut Keps #10-32

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

# **TRACTOR - - MODEL NUMBER 917.251630**

### **CHASSIS AND ENCLOSURES**



### TRACTOR - - MODEL NUMBER 917.251630

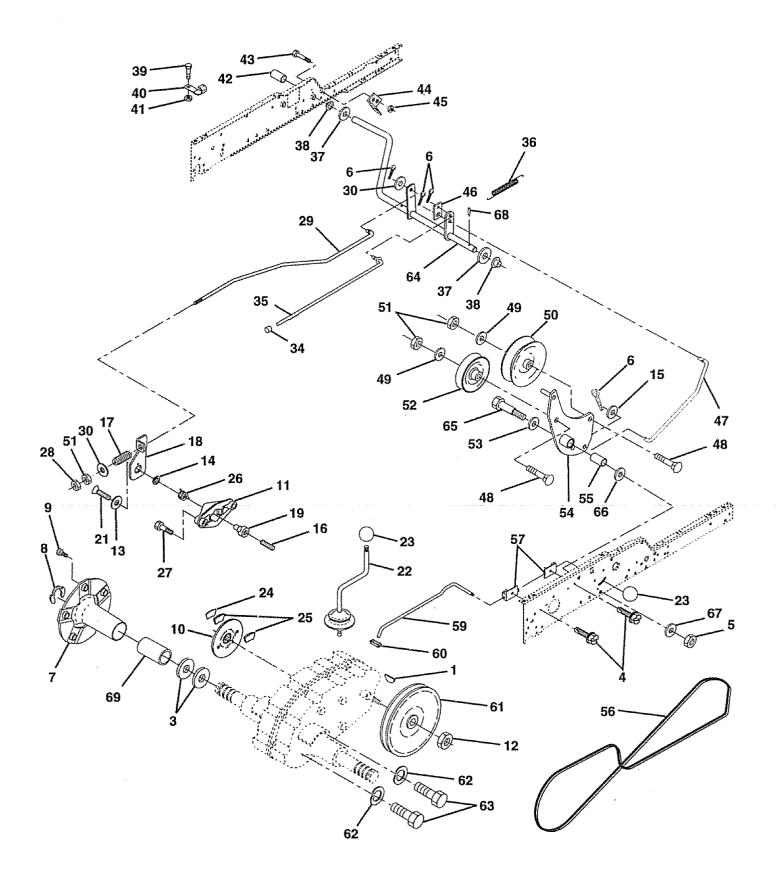
### **CHASSIS AND ENCLOSURES**

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 10 1 1 1 2 3 4 5 6 7 8 9 10 1 1 1 2 3 4 5 6 7 8 9 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	150253 140506 136671X558 73800700 145203 150273 17720408 145166 108067X 19092016 137270 137269 137271 136673X558 136374 121794X 17490612 136373X428 19131312 STD523710 STD541437 136670X558 17490616 145243X558 145244X558 145244X558 145244X558 145349 145051X014 145183 141315 141314 142131 19111116 74780512 121642X558	Rail, Frame RH Drawbar, Gt Panel Asm., Side LH Nut, Lock Hex 7/16 Unc Dash Plastic Black Dash Asm., Lower Screw, Thd Cut 1/4-20 x 1/2 Support, Dash 1-Pc. Battery Nut, Pal Washer 9/32 x 1-1/4 x 16 Ga. Rivet, Ratchet Male Washer, Nylon Rivet, Ratchet Female Hood Asm., Pnt Lens, Bar Clear Cover, Access Screw, Thdrol 3/8-16 x 3/4 Grille Washer 13/32 x 13/16 x 12 Ga. Bolt, Fin Hex 3/8-16 x 1 Nut, Crownlock 3/8-16 Unc Panel Asm., Side RH Screw Thdrol. 3/8-16 x Ty-tt Footrest, LH Bracket, Support 1-Pc Steering VGT Bracket, Support 1-Pc Steering VGT Bracket Asm., Frame Pivot Lh Bracket Asm., Frame Pivot Rh Bracket, Engine Support Rear Washer 11/32 x 11/16 x 16 Ga. Bolt, Fin Hex 5/16-18 x 3/4 Fender, Pnt.	40 41 42 43 44 45 47 48 9 52 56 57 85 9 60 63 67 68 77 85 86 88 90 91 92 94 95 106	NO. 142132 17580408 STD533710 136939 136940 138460 17490608 142133 142134 136575 STD541431 138461 73640400 137113 74180412 17490620 19131614 144283 140737 17490508 137159 137308 142992 144911 74760716 STD551143 STD551237 150851 143485X013 100207K 105531X 138776 19131616 8022J	DESCRIPTION Bracket, Support Axle/Engine Screw Tap Tite 1/4-20 x 1/2 Bolt, Carriage 3/8-16 x 1 Bracket, Spnsn Front Lh Bracket, Spnsn Front Rh Bracket Asm., Susp Chassis Rh Screw Thdrol 3/8-16 x 1/2 Bracket Asm., Pivot Hood Lh Bracket Asm., Pivot Hood Rh Bracket Asm., Pivot Hood Rh Bracket, Chassis Front Nut, Crownlock 5/16-18 Bracket Asm., Susp Chassis Lh Nut, Keps Hex 1/4-20 Bracket Asm., Susp Chassis Lh Nut, Keps Hex 1/4-20 Bracket Asm., Fender Screw, Mach Cr 1/4-20 x 3/4 Screw Thdrol 3/8-16 x 1-1/4 Washer 13/32 x 1 x 14 Ga. Washer, Serrated Disc 13/32 x 1 Guide, Belt T/A Screw, Thd 5/16-18 x 1/2 Guide, Belt Mid Span Shield, Front Stop, Over Center Mower Bracket, Support Transaxle Bolt, Fin Hex 7/16-14 Unc x 1 Washer Lock Hvy HLCL Spr 7/16 Washer, Lock External Tooth 3/8 Rail, Frame Lh Plate, Silkscreen Dash Clip, Fuel Line Push Nut, Nylon Screw, Thdrol Hex Head Zinc Mwr Washer 13/32 x 1 x 16 Ga. Plug, Hole
38 39	19091216 136961	Washer 9/32 x 3/4 x 16 Ga. Bracket, Axle Front	NOT	E: All compor 1 inch = 25	ent dimensions given in U.S. inches .4 mm

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TRACTOR - - MODEL NUMBER 917.251630

### **GROUND DRIVE**



## **TRACTOR - - MODEL NUMBER 917.251630**

#### **GROUND DRIVE**

KEY NO.	PART NO.	DESCRIPTION	KEY NO.
$\begin{array}{c}1&3&4&5&6&7\\&&9&0&1&1&2&3&4&5&6&7\\&&9&0&1&1&2&1&2&1&2&2&2&2&2&2&2&2&2&2&2&2&2$	9858M1 7563R 17490508 STD541437 STD561210 149176 12000034 140080 142509 136927 9204H 139419 138901 STD551037 143012 126909X 137104 136926 23260412 633A109 106932X 136925 136923 137552 17490528 STD541237 137213 19131616 124236X 137648 149412	Key, Woodruff Washer, Thrust, Axle Screw, Thdrol. 5/16-18 x 1/2 Tyt Nut, Crownlock 3/8-16 Pin, Cotter Wheel, Hub Assembly Klip, Ring Bolt, Hub Disc, Brake Yoke, Brake Disc Locknut 1/2-20 Washer, Special Bushing Washer 13/32 x 13/16 x 16 Ga. Set, Screw 1/4-28 x 3/4 Spring Lever, Brake Cam, Brake Disc Screw, Flat Head 1/4-28 x 3/4 Gearshift, Lever Assembly Knob Support, Puck Brake Puck, Brake Top Spring, Return Screw, Hex Wsh Thd. 5/16-18 x 1- 3/4 Nut, Hex Jam 3/8-16 Brake, Rod Washer 13/32 x 1 x 16 Ga. Cap, Plunger Rod, Parking Brake Spring, Ground Drive	38       15         39       74         40       53         41       73         42       83         43       74         44       10         45       73         46       14         47       13         48       72         49       19         50       53         51       52         53       55         57       14         59       12         61       13         62       57         63       74         64       13         65       67         68       51         69       13         NOTE:       13
37	121749X	Washer 25/32 x 1-1/4 x 16 Ga.	NOTE:

KEY NO.	PART NO.	DESCRIPTION		
$\begin{array}{c} 445\\ 456\\ 789\\ 5555\\ 555\\ 556\\ 666\\ 666\\ 666\\ 67\end{array}$	150035 74321016 5304J 73631000 8883R 74760412 104601X 73800400 145170 138228 72110614 19131413 131494 STD541437 139123 207J 138390 105706X 137153 141756 122253X 122268X 137524 STD551143 74760720 137649 67609 140296 19131312 5142H 136327	Nyliner Screw, Fin. #10-24 x 1 Actuator, Interlock Switch Locknut #10-24 Cover, Pedal Bolt, Hex 1/4-20 x 3/4 Bracket, Interlock Locknut w/Insert 1/4-20 Retainer, Spring Clutch Rod Bolt, Carriage 3/8-16 x 1-3/4 Gr. 5 Washer 13/32 x 7/8 x 13 Ga. Pulley, Idler, Flat Locknut, Hex 3/8-16 Pulley, Idler, Grooved Washer, Hardened Clutch, Arm Assembly Bearing, Idler V-Belt Bracket, Shift Rod, Hi-Lo Shift Rod, Hi-Lo Spring Clip, Connecting Link Pulley, Transaxle Washer, Lock 7/16 Bolt, Fin Hex 7/16-14 x 1-1/4 Shaft, Clutch/Brake Pedal Bolt, Shoulder Washer, Hardened Washer, Flat Pin, Roll Hub, Cover		
NOTE: All component dimensions given in U.S. inches				

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

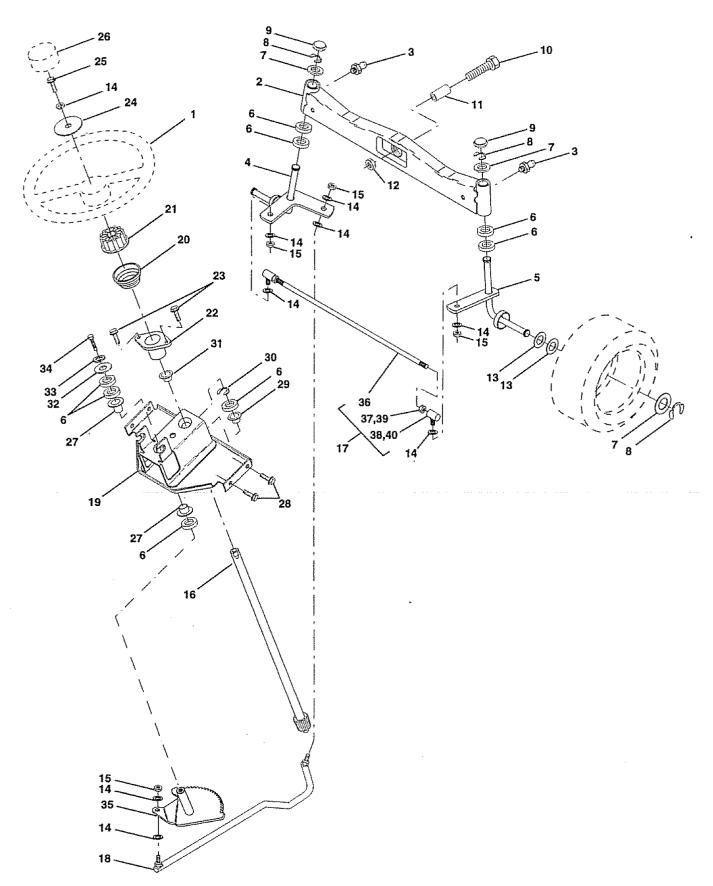
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TRACTOR - - MODEL NUMBER 917.251630

## STEERING ASSEMBLY



## TRACTOR - - MODEL NUMBER 917.251630

#### STEERING ASSEMBLY

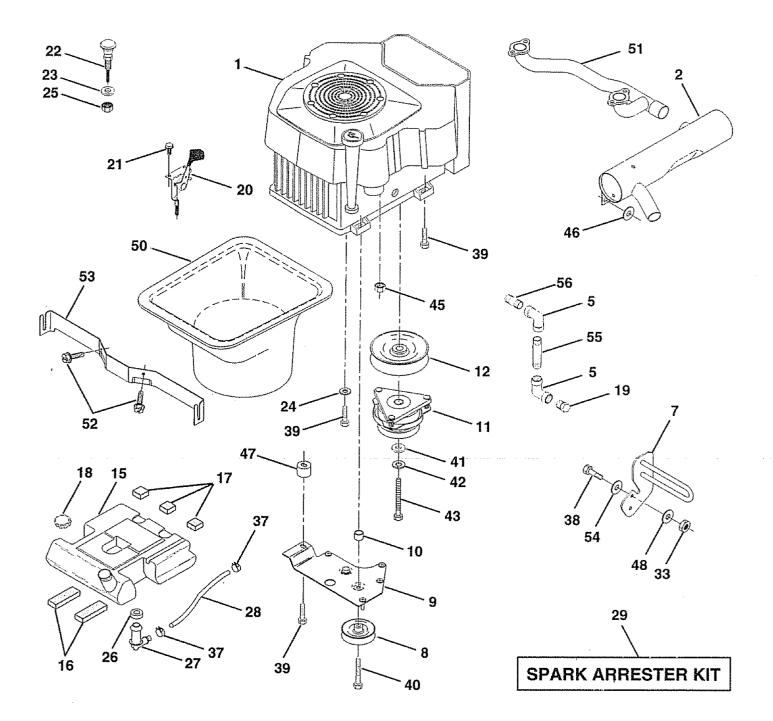
KEY PART

KEY NO.	PART NO.	DESCRIPTION
14 15 16 17	73610600 145103 137347	Wheel, Steering Axle Asm., Front Fitting, Grease Spindle Asm, LH Spindle Asm., RH Bearing, Race Thrust Harden Washer 25/32 x 1-5/8 x 16 Ga. Ring, Klip #T5304-75 Cap, Spindle Bolt, Fin Hex 5/8-11 x 2-3/4 Spacer, Brg. Axle Front Nut, Lock Flange 5/8-11 Unc Washer 25/32 x 1-1/4 x 16 Ga. Washer, Lock Hvy HIcl Spr 3/8 Nut, Fin Hex 3/8-24 Unf Shaft Asm., Steering Rod Asm., Tie Ball J Ball Vgt (Inc. Key No. 36-40)
26 27 28 29 30 31 32 33 34 35 36	100711L 1554J STD611005 19133808 STD523710 126805X 3366R 17490612 104239X 12000034 138136 19111610 STD551131 STD523107 138059 137156 73360600 109850X	Draglink, Ball Joint Solid Vgt Support Asm., Steering Vgt Column, Steering Adapter, Wheel Steering Bushing, Strg. Blk Screw, Slftp #10-16 x 1/2 Ty-b Washer 13/32 x 2-3/8 x 8 Ga. Bolt, Fin Hex 3/8-16 x 1 Gr. 5 Cap , Wheel Steering Bearing, Col. Strg. Screw, Thdrol 3/8-16 x 3/4 Bearing, Flange Ring, Klip Truarc #5304-75 Bushing, Nyliner Snap Washer 11/32 x 1 x 10 Ga. Washer, Lock Hvy HIcl Spr 5/16 Bolt, Hex Hd 5/16-18 x 3/4 Gear, Sector Steering Tie Rod Jam Nut RH Thread Joint Asm. Ball RH Thread Joint Asm. Ball LH Thread

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

TRACTOR - - MODEL NUMBER 917.251630

#### ENGINE



## **TRACTOR - - MODEL NUMBER 917.251630**

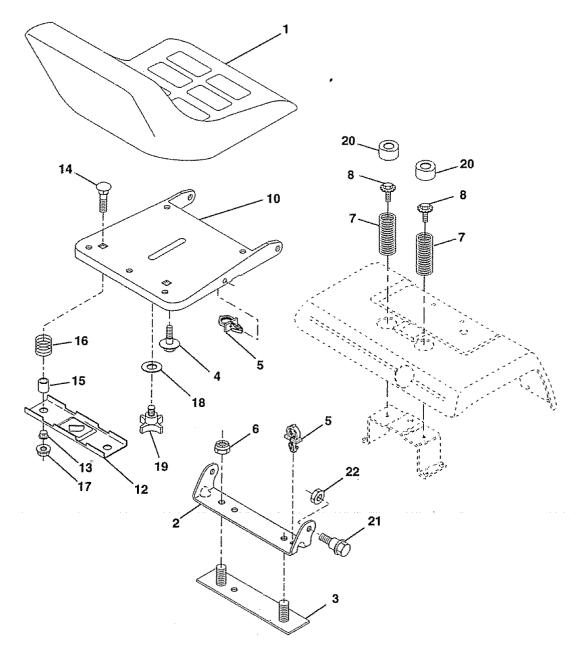
#### ENGINE

KEY NO.	PART NO.	DESCRIPTION
1	152949	Engine Kohler Cv20S, 20.5 Hp Cmd, PS-65538
2 5	152947	Muffler Asm
5	13200300	Elbow STD 90 Degree 3/8-18 NPT
7 8	151396 121361X	Muffler Asm Guard Pulley V-Idler
9	145109	Stop Keeper Asm VGT
10	105432X	Bushing
11	140923	Clutch Electric
12 15	143996 151346	Pulley Engine VGT Elect Clutch Tank Fuel Rear 3.50 YT/GT 96
16	109227X	Pad Spacer
17 18	106082X	Pad Spacer
		Cap Asm Fuel W/Gauge Vented
19	13290300	Plug Oil Drain (Order From Engine Manufacturer)
20	132755	Control Throttle
21	17720410	Screw Hex Thd Cut 1/4-20 X 5/8
22	132779	Control Choke
23 24	19132616 11050600	Washer 13/32 X 1- 5/8 X 16 Ga Lockwasher Ext Tooth 3/8
25	73920600	Nut Fin Hex 3/8-24 UNF
26	3645J	Bushing
27	139277	Stem Tank Fuel
28 29	7834R 132920	Fuel Line Spark Arrester Kit
33	73800600	Nut Lock Hex w/lns_ 3/8-16
37	123487X	Clamp Hose
38	74780624	Bolt Fin Hex 3/8 - 16 x 1-1/2
39 40	17490636 17490664	Screw TT 3/8-16 x 2-1/4 Unc Screw TT 3/8-16 x 4
40	126197X	Washer 1-1/2 OD X 15/32 ID X .250
42	10040700	Washer Lock 7/16
43	150280	Bolt Hex 7/16-20 X 4-1/4 5 Ga. 1.38
45 46	128861 19131616	Nut Flange 1/4-20 Unc Starter Nut Washer 13/32 x 1 x 16 Ga.
40	142040	Spacer Engine
48	19132007	Washer 13/32 x 1-1/4 x 7 Ga.
50	143020	Duct Air
51 52	152946 17580408	Pipe Crossover Screw Tap 1/4 - 20 x 1/2
52 53	143528	Bracket Duct Air Rear Sup
54.	19131414	Washer Flat 13/32 x 7/8 x 14 Ga.
55	13090336	Nipple Pipe 3/8NPT X 4-1/2
56	13090308	Elbow Nipple Pipe 3/8 x 1

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

TRACTOR - - MODEL NUMBER 917.251630

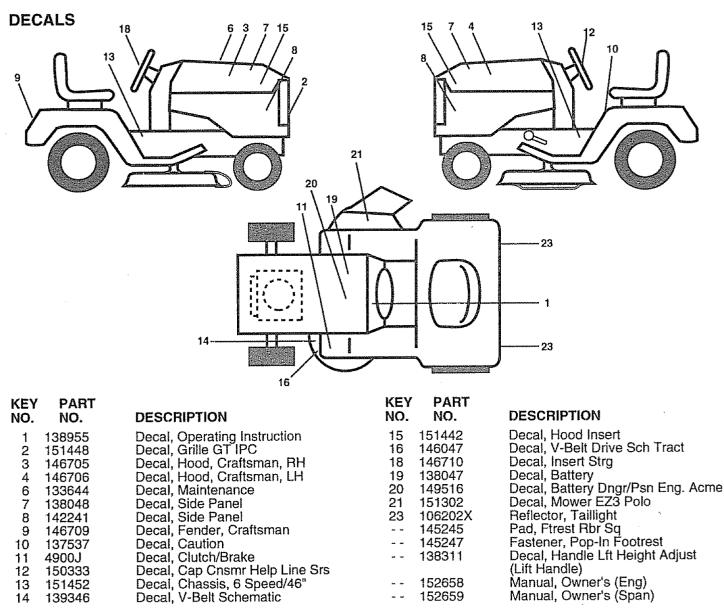
#### SEAT ASSEMBLY



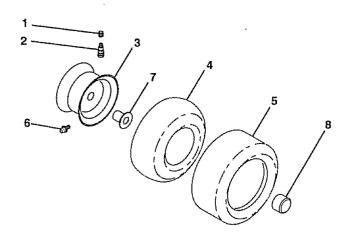
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1 ·	140124	Seat	14	72050411	Bolt, Carriage 1/4-20 X 1-3/8
2	140551	Bracket, Pivot Seat	15	121249X	Spacer, Split
3	140675	Strap, Fender	16	123740X	Spring, Cprsn
4	127018X	Bolt, Shoulder 5/16-18 x .62	17	123976X	Nut, Lock 1/4 Lge Flg Gr. 5
5	145006	Clip, Push In Hinged	18	19171912	Washer 17/32 x 1-3/16 x 12 Ga.
6	STD541437	Nut, Crownlock 3/8-16 Unc	19	120068X	Knob, Seat 1/2-13 Unc
7	124181X	Spring, Seat Cprsn	20	124238X	Cap, Spring Seat
8	150176	Bolt 5/16-18 UNC X 3/4 W/Sems	21	139888	Bolt, Shoulder 5/16-18
10	140552	Pan, Seat	22	STD541431	Nut, Crownlock 5/16-18 Unc
12	121246X	Bracket, Mounting Switch			
13	121248X	Bushing, Snap	NOT	E: All comport 1 inch = 25	nent dimensions given in U.S. inches 5.4 mm

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TRACTOR - - MODEL NUMBER 917.251630



#### WHEELS & TIRES

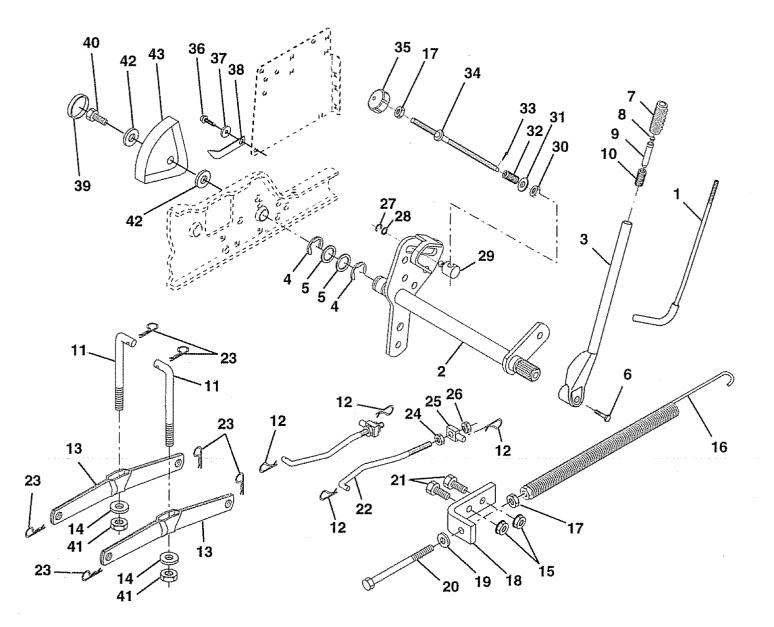


KEY NO.	PART NO.	DESCRIPTION
1	59192	Cap, Valve, Tire
2 3	65139	Stem, Valve
3	106228X427	Rim Assembly, Front
	106277X427	Rim Assembly, Rear
4	8134H	Tube, Front (Service Item Only)
	7154J	Tube, Rear (Service Item Only)
5	106230X	Tire, Front
	105588X	Tire, Rear
6	278H	Fitting, Grease (Front Wheel Only)
	6856M	Fitting, Grease
7	9040H	Bearing, Flange (Front Wheel Only)
8	104757X	Cap, Axle (Front Wheel Only)
~ ~	144334	Sealant, Tire (10 oz. Tube)

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

TRACTOR - - MODEL NUMBER 917.251630

## LIFT ASSEMBLY



## TRACTOR - - MODEL NUMBER 917.251630

#### LIFT ASSEMBLY

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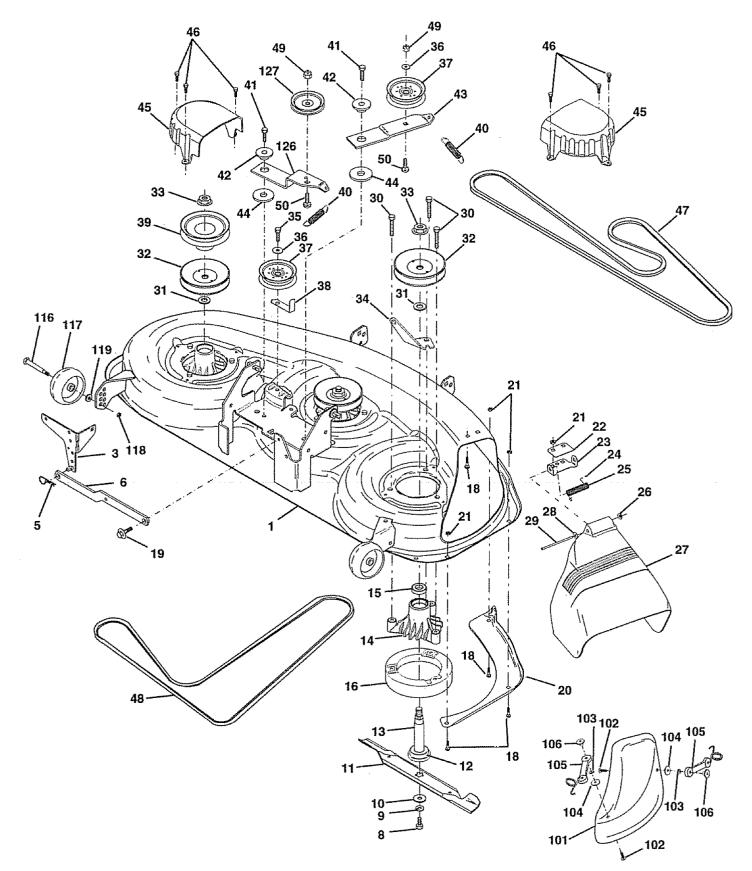
	PART NO.	DESCRIPTION
NO. 1234567890112345678901123456789012222426789012334567890	NO. 121006X 145542 121002X 12000022 19292016 74780624 125631X 122365X 122364X 2876H 146704 3146R 139868 140302 73680600 674A247 73350600 674A247 73350600 143363 19131316 5328J 74760616 127218 4939M 73350800 130171 73800800 130171 73800800 1200037 19151216 110810X 110807X 19131016 137150 76020308 137167 138057 17490612 120529X 123933X505 123935X	DESCRIPTION Rod Asm., Lever Shaft Asm., Lift Vgt Lever Asm., Lift Rh E-Ring Truarc #5133-87 Washer 29/32 x 1-1/4 x 16 Ga. Bolt, Fin Hex 3/8-16 x 1-1/2 Grip, Handle Fluted Button, Plunger Plunger, Lever Lift Spring 2-1/8" Link Lift Retainer, Spring Arm, Suspension Vgt Bearing Nut, Crownlock 3/8-16 Unc Spring Asm., Assist Lift Nut, Hex Jam 3/8-16 Unc Bracket, Spring Assist Washer 13/32 x 13/16 x 16 Ga. Bolt, Adjust Spring Assist Bolt, Fin Hex 3/8-16 x 1 Link, Front Retainer, Spring Nut, Jam Hex 1/2-13 Unc Trunnion Nut, Lock W/Wsh 1/2-13 Unc Ring, Klip #T5304-37 Washer 15/32 x 3/4 x 16 Ga. Trunnion, Dp Stop Dbl Thds Plt Nut, Special Washer 13/32 x 1/2 Rod, Adj Lift Knob, Inf 3/8-16 Unc Screw, Thdrol 3/8-16 x 3/4 Washer, Nylon Pointer, Pnt Height Indicator Plug, Hole Screw, Thdrol 5/16-18 x 3/4 Tyt Nut, Crownlock 3/8-24 Washer 11/32 x 1-1/2 x 10 Ga.
43	123934X	Scale, Indicator Height

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

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TRACTOR - - MODEL NUMBER 917.251630

## **MOWER DECK**



## TRACTOR - - MODEL NUMBER 917.251630

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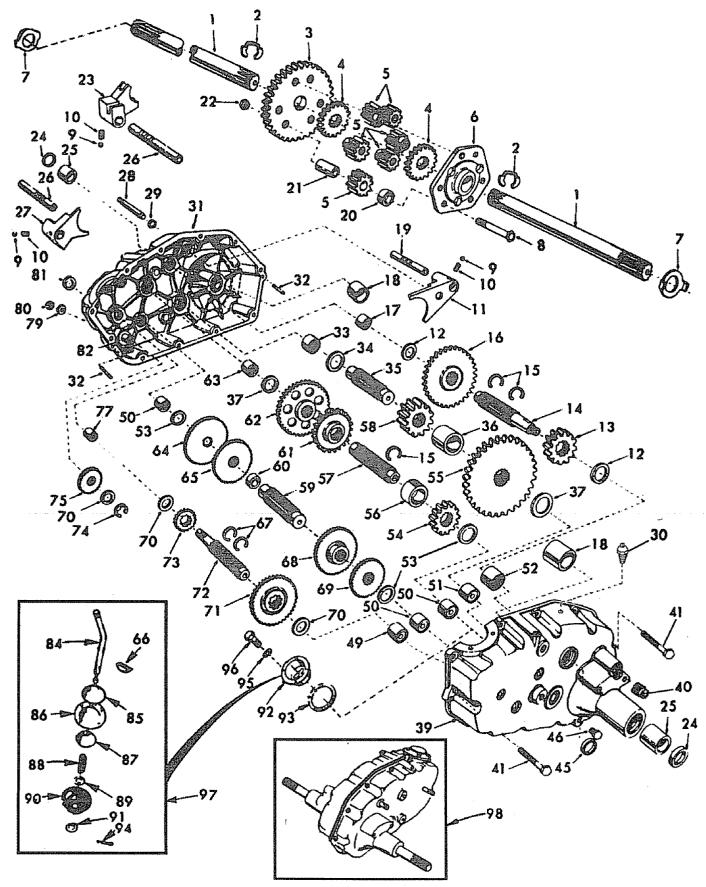
## MOWER DECK

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	145008	Housing, Mower 46"	37	131494	Pulley, Idler, Flat
3	138457	Bracket Asm., Sway Bar	38	137554	Keeper, Belt, Idler
5	STD624008	Retainer Spring	39	144917	Pulley, Idler, Driven
6	130832	Arm, Suspension, Rear (Sway Bar)	40	137273	Spring, Secondary 44/46/50 Vent
8	850857	Bolt, Patched 3/8-24 x 1-1/4 Gr. 8	41	17490620 122052X	Screw, Thdroll 3/8-16 x 1-1/4 Tytt
9	STD551137	Washer, Lock Hvy., Unplated 3/8	42 43	144949	Spacer, Retainer Arm, Idler Secondary
10	140296	Washer, Hard Blade, Mower Vented	43	133943	Washer, Hardened
11	152443	Blade Mulching	45	145059	Cover, Mandrel Deck
12	129895	Bearing, Ball, Mandrel #6204	46	137729	Screw, Thdroll. 1/4-20 x 5/8
13	137553	Shaft Asm. w/Lower Bearing	47	144959	V-Belt, Mower, Secondary
		(Includes Key No. 12)		148763	V-Belt, Mower, Primary
14	137152	Housing, Mandrel	49		Nut, Crownlock 3/8-16 UNC
15	110485X	Bearing, Ball, Mandrel		72110612	Bolt, Carriage 3/8-16 x 1-1/2 Gr. 5
16	140329	Stripper, Mower Round		145579	Cover, Mulching
18	72140505	Bolt, Carriage 5/16-18 x 5/8		71161010	Screw
19	132827	Bolt, Hex Head, Shoulder 5/16-18		10071000	Washer, Lock #10
20	145055	Baffle, Vortex Mower 46"		19061216	Washer
21	STD541431	Nut, Crownlock 5/16-18 UNC		130758 2029J	Latch Asm. Bagger Nut, Weld
22	134753	Stiffener, Bracket		137644	Bolt, Shoulder
23 24	131267 105304X	Bracket, Deflector Cap, Sleeve		133957	Gauge Wheel
24	149287	Spring, Torsion, Deflector		73930600	Nut, Centerlock 3/8-16 UNC
26	110452X	Nut, Push		STD551037	Washer 3/8 x 7/8 x 14 Ga.
27	145325	Shield, Deflector Mower		144948	Arm, Idler, Primary Deck 46"
28	19111016	Washer 11/32 x 5/8 x 16 Ga.		146763	Pulley, Idler, V-Groove Dim. 4.25
29	131491	Rod, Hinge		147401	Mower Service 46" (Standard Deck
30	138776	Screw, Hex Head, Thdroll			<ul> <li>Order separately mulching</li> </ul>
31	129963	Washer, Spacer Mower Vented			components Key Nos. 101-106)
32	129207	Pulley, Mandrel		143651	Mandrel Asm 44/50 Service
33	137266	Nut, Flg. Top Lock Cntr. 9/16			(Includes Key Nos. 8-10, 12-15, 31
34	144945	Anchor, Spring Deck 46"			and 33)
35	17490628	Screw, Thdroll 3/8-16 x 1-3/4 Tytt	NO.		nent dimensions given in U.S. inches
36	STD551037	Washer 13/32 x 13/16 x 16 Ga.		1 inch = 25	.4 mm

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**TRACTOR - - MODEL NUMBER 917.251630** 

TRANSAXLE



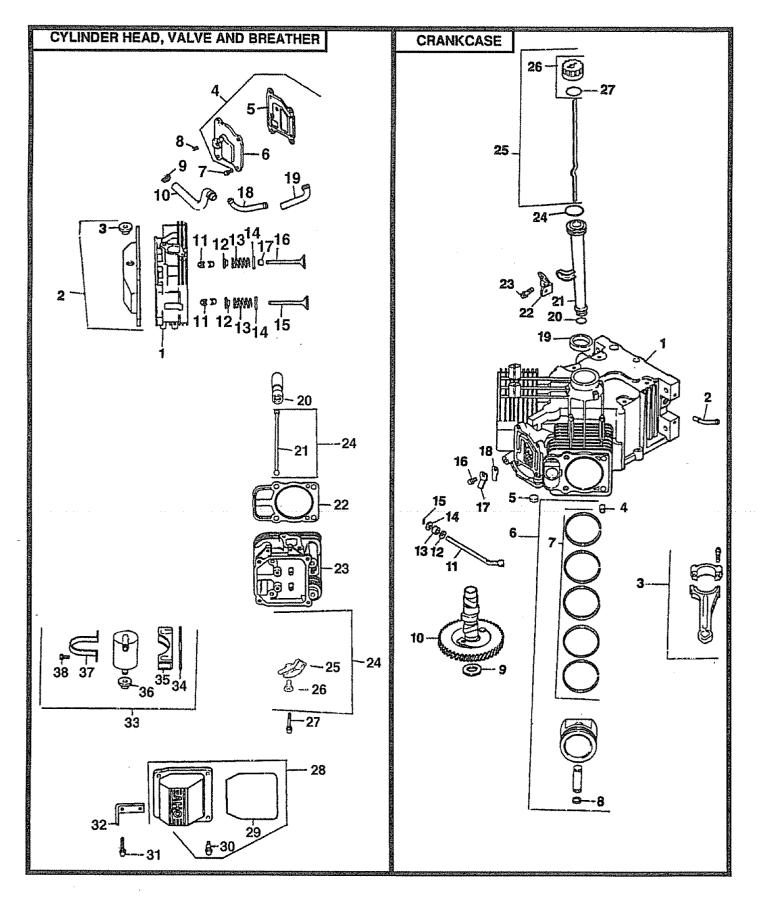
## TRACTOR - - MODEL NUMBER 917.251630

#### TRANSAXLE

	PART NO.	DESCRIPTION		PART NO.	DESCRIPTION
1	4197R	Axle Shaft	52	8119M	Needle Bearing
2	12000034	Retaining Ring	53	4220R	Thrust Bearing Race
З	4199R	Final Drive Gear	54	4209R	3rd Reduction Pinion, Low
4	4216R	Differential Gear	55	4213R	4th Reduction Gear
5	4215R	Differential Pinion	56	4442R	3rd Reduction Pinion Spacer
6	4217R	Differential Carrier	57	4195R	2nd Reduction Gear Shaft
7	6256H	Axle Thrust Washer	58	4214R	Final Drive Pinion
8	74020652	Bolt, Hex Head 3/8-24 x 3-1/4		4194R	1st Reduction Gear Shaft
_	maaatt	(1" Thread Length)		7528R	1st Reduction Shaft Spacer
.9	7392M	Steel Ball	61	4208R	3rd Reduction Plnion High
10	137261	Spring Shift Fork Detent		4207R	2nd Reduction Gear
11	4985R	Shift Fork, High-Low Range		7398H	Needle Bearing
12	6266H	Thrust Bearing Race	64	4203R	Low Speed Gear and 2nd
13	4212R	4th Reduction Pinion			Reduction Pinion Cluster
14	137125	Shaft, Brake	65	4204R	Reverse Gear
15	6276H	Snap Ring, Crescent Type	66	2898J	Key, Hi-Pro 1/8 x 17/32
16 17	633A63 8118M	High-Low Range Gears	67	12000033	Klip Ring
18	8740H1	Needle Bearing Sintered Iron Bearing	68	4205R	Intermediate Speed Gear
19	122238X	Shift Fork Shaft, High-Low Range		4206R 1370H	High Speed Gear
20	4218R	Differential Pinion Spacer	71	633A69	Thrust Bearing Race
21	6252H1	Differential Pinion Bushing	71	033409	Intermediate and High Speed Cluster Pinions
22	7810H	Gripco Centerlock Nut 3/8-24	72	139120	Input Shaft
23	6262H	Shift Fork PH	73	4201R	Low Speed Pinion
24	7393R	Oil Seal	74	12000008	E-Ring
25	992R1	Sintered Iron Bearing	75	1153R	Reverse Idler Gear
26	139111	Shift Fork Shaft	77	6803J	Needle Bearing
27	4986R	Shift Fork, L.H.	79	1167R	Sealing Washer
28	122254X	Shift Shaft, High-Low Range		73360700	Nut, Hex, Jam 7/16-20
29	6269H	Oil Seal	81	6270H	Oil Seal
30	5855H	Pressure Relief Valve	82	136984	Reverse Idler Shaft
31	139538	Gearcase, Reverse Idler Shaft and		5384J	Gearshift Lever, Bent
		Bearings, R.H. (Includes Key No.'s		2978J	Gearshift Cap
~~	007711	17,18, 25, 33, 50, 63, 77 and 82)		633A85	Gearshift Ball Cover and Pin
32	6277H	Dowel Pin	87		Shift Lever Guide Ball, Keyed
33	4225R	Needle Bearing		4924H	Spring
34 35	7396H	Thrust Bearing Race		19151516	Washer 15/32 x 15/16 x 16 Gauge
36	4198R 4200R	4th Reduction Gear Shaft	90	110542X	Shift Mechanism Seal
37	7395H	4th Reduction Gear Spacer	91	19181511	Washer 9/16 x 15/16 x 12 Gauge
39	139536	Thrust Bearing Race Gearcase and Bearings, L.H.	92 93	75J	Gearshift Gate and Reinforcement
00	100000	(Includes Key Numbers 18, 25, 49,	93 94	6274H 76020412	Shift Ball Cover Gasket Cotter Pin 1/8 x 3/4
		50 (2), 51 and 52)	94 95	10040500	Washer, Lock 5/16
40	13320400	Pipe Plug 1/2-14 N.P.T.	96	74760514	Bolt, Hex Head 5/16-18 UNC x 7/8
41	17580520	Bolt, Hex 5/16-18 UNC x 1-1/4	97	633A109	Gearshift Lever Assembly
45	6271H	Oil Seal	98	139535	Transaxle Assembly
46	13060200	Pipe Plug 1/4-18 N.P.T.	υç	, 30300	(Less Brake Drum and Shift Lever)
49	4895H	Needle Bearing			The many multiplicity multiplicity of the second states and a seco
50	4222R	Needle Bearing	NOT	E: All compon	ent dimensions given in U.S. inches
51	1529R	Needle Bearing		1 inch = 25.	4 mm

# REPAIR PARTS TRACTOR - - MODEL NUMBER 917.251630

KOHLER ENGINE - MODEL NUMBER CV20S, TYPE NUMBER 65538



#### TRACTOR - - MODEL NUMBER 917.251630

#### **KOHLER ENGINE - MODEL NUMBER CV20S, TYPE NUMBER 65538**

#### **CYLINDER HEAD/VALVE/BREATHER**

**KEY PART** DESCRIPTION NO. NO. Head Assembly, #1 Cylinder Kit, Valve Cover, Breather 24 318 11 1 24 755 76 2 (Includes Key #3, 29 thru 30) Grommet, Rubber 25 313 02 3 24 033 03 Kit, Breather Cover with Gasket 4 (Includes Key Numbers 5 and 6) 5 24 041 23 Gasket, Breather Cover, Breather 6 24 096 15 Screw Hex Flange M6 x 1.0 x 20 7 M-0645020 (4) Plug, Hex Head, Allen head X-75-23 8 1/8 N.Pipe Clamp, Hose (2) Hose, Breather 9 X-426-9 24 326 14 10 Kit, Retainer (4) 12 755 03 11 Cap, Valve Spring (4) 12 173 01 12 Spring, Valve (4) Retainer, Spring (4) Valve, Exhaust, Standard Size (2) Valve, Exhaust, 25 Oversize (2) 24 089 02 13 235011 14 24 016 01 15 24 016 02 Valve, Intake, Standard Size (2) Valve, Intake, .25 Oversize (2) Seal, Valve Stem (2) 24 017 01 16 24 017 02 24 032 05 17 Fitting Hose, Breather Lifter, Valve (4) Rod, Push (4) 18 24 294 06 24 326 13 19 12 351 01 20 24 411 05 21 Gasket, Cylinder Head (2) 22 24 041 08 Head Assembly, #2 Cylinder 23 24 318 12 Kit, Valve Train 24 24 755 66 (Includes Key Numbers 21, 25-26) Arm, Rocker (4) 25 25 186 01 Pivot, Rocker Arm (4) 24 599 01 26 Screw Hex Flange M6 x 1.0 x 34 27 M-0640034 (4)24 755 74 Kit, Valve Cover, Plain 28 (Includes Key Numbers 34 thru 36) Ò-Ring 29 24 153 12 Screw, Shoulder (4) 30 24 086 32 Screw Hex Flange M10 x 1.5 x 90 12 086 16 31 (8)24 445 01 Strap, Lifting 32 Kit, Breather Separator 33 24 755 57 (Includes Key Numbers 34 thru 38) Spacer 34 24 112 12 24 126 44 Bracket, Breather Separator 35 Grommet, Rubber 36 25 313 02 Strap, Breather Separator 37 24 445 02 Screw Hex Flange M5 x 0.8 x 16 38 M-0545016 (2)

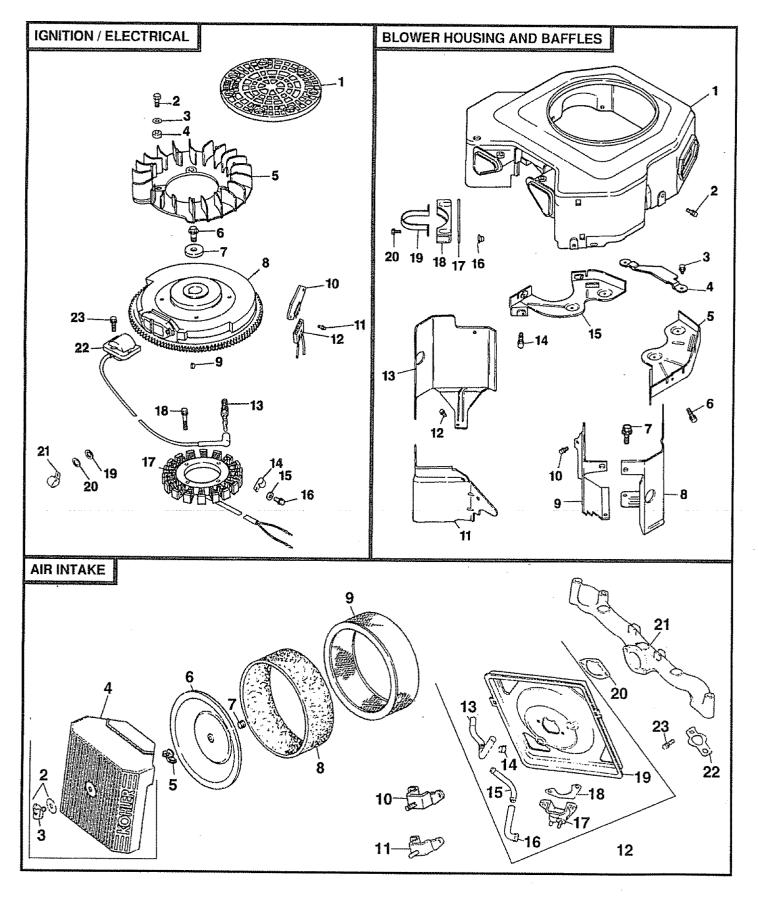
#### CRANKCASE

KEY NO.	PART NO.	DESCRIPTION
1	24 522 05	Cylinder Block (Use Mini Block)
2	24 294 03	Fitting
3	24 067 05 24 067 06	Connecting Rod (Standard) (2) Connecting Rod (.25) (2)
4	12 380 03	Pin, Dowel Locating (6)
5	52 139 09	Plug, Cup
6	24 874 01	Piston with Ring Set (Standard) (2)
	24 874 02 24 874 03	Piston with Ring Set (.25) (2) Piston with Ring Set (.50) (2)
7	24 108 01	Ring Set (Standard) (2)
,	24 108 02	Ring Set (.25) (2)
	24 108 03	Ring Set (.50) (2) Retainer, Piston Pin (4)
8	24 018 01	Retainer, Piston Pin (4)
9	12 422 10 12 422 09	Shim, Camshaft, Yellow Shim, Camshaft, Red
	12 422 00	(As Required)
	12 422 13	Shim, Camshaft, Black
		(As Required)
	12 422 07	Shim, Camshaft, White
	12 422 08	(As Required) Shim, Camshaft, Blue
	Cha Statu CO	(As Required)
	12 422 11	Shim, Camshaft, Green
	10 400 10	(As Required)
	12 422 12	Shim, Camshaft, Grey (As Required)
10	24 010 03	Camshaft
11	24 144 01	Shaft, Governor Cross
12	M0631005	Washer, Plain 6mm
13	12 032 01 X-25-102	Seal, Governor Cross Shaft
14	12 380 04	Washer, Plain 1/4 Pin, Hitch
16	M-0545010	Screw, Hex Flange
		M5 x 0.8 x 10 (2)
17	24 018 04	Retainer, Reed (2)
18 19	24 402 05 24 032 01	Reed, Breather (2) Seal, Oil, Front
20	12 153 01	O-Ring, Lower Oil Fill Tube
21	12 123 04	Tube, Oil Fill
22	24 126 19	Bracket, Oil Fill Tube
23	M-0545016	Screw, Hex Flange
24	12 153 02	M5 x 0.8 x 16 O-Ring, upper Oil Fill Tube
25		Dipstick Assembly (Includes 26-27)
26	25 755 13	Kit, Oil Fill Cap (Includes 27)
27	12 153 03	O-Ring, Dipstick

NOTE: All component dimensions given in U.S. inches

1 inch = 25.4 mm

## TRACTOR - - MODEL NUMBER 917.251630 KOHLER ENGINE - MODEL NUMBER CV20S, TYPE NUMBER 65538



#### TRACTOR - - MODEL NUMBER 917.251630

## KOHLER ENGINE - MODEL NUMBER CV20S, TYPE NUMBER 65538

#### **IGNITION/ELECTRICAL**

KEY NO.	PART NO.	DESCRIPTION
1 2	24 162 17 M-0403025	Screen, Grass Screw, Hex, Cap M4 x 0.7 x 24 (4)
4	X-25-92 24 112 04 24 157 03 M-0639016 12 112 01	Washer, Plain 3/16 (4) Spacer, Fan (4) Fan Screw Hex, Flange M6 x 1.0 x 16 (4) Spacer, Fan (4)
8 9	24 025 04 X-42-15 25 403 03	Flywheel Assembly Key Rectifier-Regulator
11	24 086 18 236602	Screw, Phillips (2) Hcl. 11-16 x 7/8 Connector, Rectifier-Regulator, 3 Contact
14	12 132 02 48 154 02 12 468 03	Spark Plug (2) Clip, Cable Washer, Plain 3/8
16	12 086 14 24 085 01	Screw, Hex, Flange M10 x 1.5 x 46 Stator, 15 Amp
18	M-0548025	Screw, Hex, Cap M5 x 0.8 x 25 (2)
20 21	X-25-63 X-25-92 235173	Washer, Plain 1/4 (2) Washer, Plain 3/8 (2) Clip, Cable
23	24 584 01 SM-0545020 ILLUSTRATED	Module, Ignition (2) Screw, Hex, Flange M5 x 0.8 x 20 (4)
	24 176 12 25 518 28	Harness, Wire Lead, Black (4", 18 Gauge, Insulated Grip Barrel Eyelets)
	24 113 18	Decal, Grass Screen

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

## KEY PART

1	24 027 20	Housing, Blower
2	M-0545016	Screw, Hex Flange M5 x 0.8 x 16 (3)
3	M-0645016	Screw, Hex Flange M6 x 1.0 x 16 (4)
4	24 314 05	Guard, Flywheel
5	24 146 02	Plate, Backing, # 2 Side
6	M-0545020	Screw, Hex Flange M5 x 0.8 x 20 (2)
7	M-0551016	Screw, Hex Flange M5 x 0.8 x 14
8	24 063 20	Baffle, Cylinder Barrel, # 2 Side
9	24 063 14	Baffle, Valley, # 2 Side
10	M-0545010	Screw, Hex Flange M5 x 0.8 x 10 (2)
11	24 063 23	Baffle, Valley, # 1 Side

DESCRIPTION

12 13	M-0545016 24 063 30	Screw, Hex Flange M5 x 0.8 x 16 (2) Baffle, Cylinder Barrel, # 1 Side
	M-0645016	Screw, Hex Flange M6 x 1.0 x 16 (2)
15	24 146 08	Plate, Backing, # 1 Side
• -	24 100 02	Nut, Plastic (2)
17	24 112 12	Spacer
18	24 126 44	Bracket, Breather Separator
19	24 445 02	Strap, Breather
	24 086 27	Screw, Hex Caps 8-18 x 1/2 (2)
NOT	ILLUSTRATE	
	24 100 01	Nut, Plastic (3)
		(Included with Blower Housing)
	24 100 02	Nut, Plastic (2)
		(Included with Blower Housing)
· ·	25 139 16	Plug, Button 9/16
		(Included with Blower Housing)

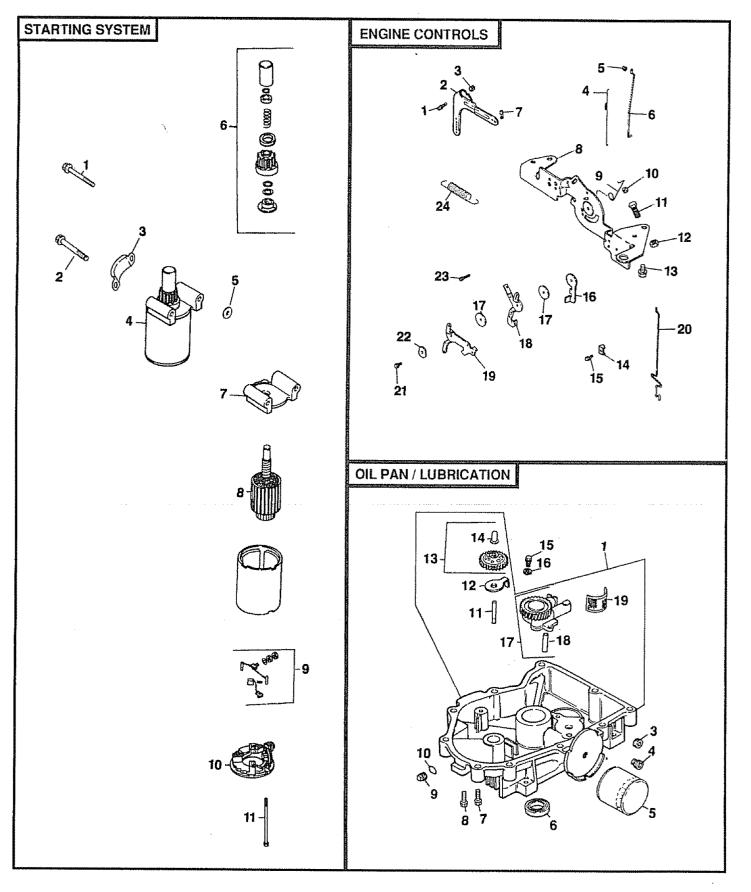
#### **AIR INTAKE**

KEY NO.	PART NO.	DESCRIPTION
1	24 743 05	Kit, Air Cleaner Cover (Includes Key Numbers 2-4, 10-11)
2	24 755 91	Kit, Knob w/Gasket (Includes Key Number 3)
6 7 8 9 10 11	25 341 02 24 096 24 12 100 01 24 096 01 24 032 03 24 083 02 47 083 03 24 126 21 24 126 43 24 755 86	Kunber 3) Knob, Cover Cover, Air Cleaner Wing Nut Cover, Inner Air Cleaner Seal, Air Intake Element, Air Cleaner Bracket, Air Cleaner Bracket, Air Cleaner Bracket, Air Cleaner Kit, Air Cleaner Base (Includes Key
14 15 16 17 18 19 20 21 22 23	24 326 13 X-426-9 24 294 06 24 326 14 24 109 03 24 041 13 24 094 02 24 041 14 24 164 06 24 041 01 M-0651055 ILLUSTRATED 12 113 53	Numbers 13-20) Hose, Breather Clamp, Hose (2) Fitting Hose, Breather Cup, Fuel Spitback Gasket, Fuel Spitback Cup Base, Air Cleaner Gasket, Air Cleaner Base Manifold, Intake Gasket, Intake Manifold (2) Screw, Hex Flange M6 x 1.0 x 55 (4)

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

## TRACTOR - - MODEL NUMBER 917.251630

KOHLER ENGINE - MODEL NUMBER CV20S, TYPE NUMBER 65538



#### TRACTOR - - MODEL NUMBER 917.251630

#### **KOHLER ENGINE - MODEL NUMBER CV20S, TYPE NUMBER 65538**

#### STARTING SYSTEM

#### **ENGINE CONTROLS**

**KEY PART** NO. NO. DESCRIPTION Screw, Hex Flange M8 x 1.25 x 70 Screw, Hex Flange M8 x 1.25 x 80 M-0839070 1 2 M-0839080 Cover, Pinion Starter Assembly (Includes 6-11) Washer, Plain 11/32 (3) Kit, Drive End 3 24 096 05 4 25 098 03 5 12 468 01 6 7 12 755 54 12 227 06 Cap, Drive End 45 170 03 Armature 8 Kit, Brush and Spring 9 82 755 28 Cap, Commutator End 10 12 227 11 Bolt, Hex Flange 1/4-20x4-5/8 (2) 11 12 086 25

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

KEY NO.	PART NO.	DESCRIPTION
1	24 199 07	Oil Pan Assembly (Includes Key Numbers 11-14 and 17-19)
3	X-75-32	Plug, Hex, Countersunk, 3/8 N.P.T.F.
4	24 136 01	Nipple, Oil Filter
	12 050 01	Filter, Oil
	52 032 08	Seal, Oil (PTO End)
	24 086 17	Screw, Hex Flange M8 x 1.25 x 45
8		Screw, Hex Flange M8x1.25x45 (9)
	X-75-10	Plug, Solid, Square Head, 3/8
	24 153 08	O-Ring
	12 144 02	Shaft, Governor Gear
	52 448 02	Tab, Locking
13	24 043 12	Kit, Governor Gear with Pin
		(Includes Key Number 13)
14	12 380 01	Pin, Governor Regulating
15	M-0645025	Screw, Hex Flange M6 x 1.0 x 25 (2)
16		Washer, Plain 6mm (2)
	24 393 08	Oil Pump Assembly (Includes 17)
18	24 123 05	Tube, Oil Pickup
19	25 162 07	Screen, Oil

#### KEY PART NO. NO.

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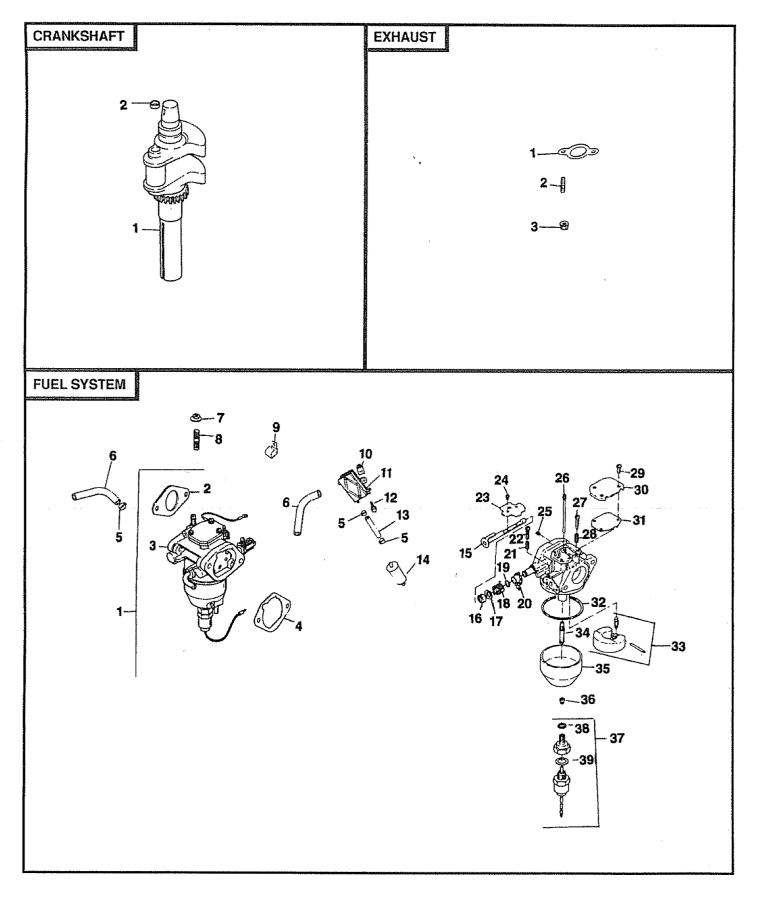
DESCRIPTION

3 4 5	SM-0642025 24 090 14 M-0641060 24 089 01 25 158 08 24 079 04	Screw, Hex Flange M6 x 1.0 x 25 Lever, Governor Nut, Hex Flange M6 x 1.0 Spring, Linkage Bushing, Linkage Retaining Linkage, Throttle
	25 158 11	Bushing, Throttle Linkage
8	24 126 13	Bracket, Control
	24 089 03	Spring, Choke Return
	M-0547050	Locknut, Hex M5 x 0.8
11	M-0545016	Screw, Hex Flange M5 x 0.8 x 16
12	M-0446030	Nut, Hex M4 x 0.7
	M-0645016	Screw, Hex Flange M6x1.0 x 16 (4)
	12 237 01	Clamp, Cable (2)
	M-0545016	Screw, Hex Flange M5x0.8 x 16 (2)
	24 090 07	Lever, Throttle Actuator
17	24 468 01	Washer, Plain 5.5mm (3)
	24 090 13	Lever, Throttle Control
	24 090 05	Lever, Choke
	24 079 05	Linkage, Choke
	SM-0545020	Screw, Hex Flange M5 x 0.8 x 20
	41 468 03	Washer, Spring 1/4
	M-0403025	Screw, Hex Cap M4 x 0.7 x 24
24	24 089 18	Spring, Governor 25

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

## TRACTOR - - MODEL NUMBER 917.251630

## KOHLER ENGINE - MODEL NUMBER CV20S, TYPE NUMBER 65538



## TRACTOR - - MODEL NUMBER 917.251630

## KOHLER ENGINE - MODEL NUMBER CV20S, TYPE NUMBER 65538

#### **FUEL SYSTEM**

#### CRANKSHAFT

**KEY PART** 

KEY NO.	PART NO.	DESCRIPTION
1	24 853 25	Kit, Carburetor with Gasket (Includes Key Numbers 2 thru 4)
2 3	24 041 15 24 053 25	Gasket, Carburetor Carburetor Assembly (For Information Only, Not Available
$\begin{array}{c} 13\\ 14\\ 15\\ 16\\ 17\\ 18\\ 90\\ 12\\ 23\\ 45\\ 26\\ 78\\ 90\\ 12\\ 33\\ 33\\ 35\\ 67\\ 8\end{array}$	$\begin{array}{c} 24 \ 144 \ 15\\ 24 \ 468 \ 05\\ 24 \ 241 \ 01\\ 24 \ 089 \ 22\\ 24 \ 141 \ 04\\ 24 \ 090 \ 10\\ 24 \ 089 \ 24\\ 24 \ 089 \ 24\\ 24 \ 086 \ 19\\ 24 \ 146 \ 13\\ 24 \ 086 \ 20\\ 24 \ 337 \ 27\\ 24 \ 337 \ 11\\ 24 \ 086 \ 22\\ 24 \ 086 \ 21\ 21\\ 24 \ 086 \ 21\ 21\\ 24 \ 086 \ 21\ 21\ 24\ 086 \ 21\ 21\ 24\ 24\ 24\ 24\ 24\ 24\ 24\ 24\ 24\ 24$	Separately) (Includes 15-39) Gasket, Air Cleaner Base Clamp, Hose (6) Line, Fuel, 10-5/8" (2) Nut Hex, Flange M6 x 1.0 (2) Stud M6 x 1.0 x 95 (2) Clip, Cable Nut, Plastic (2) Pump, Fuel, Pulse Screw, Hex Cap Head M6x1.7x18 (2) Line, Fuel, 13-1/2" Filter, Fuel Shaft, Choke Washer, Felt 5.7 mm Collar, Choke Spring, Choke Lever Lever, Choke Spring, Throttle Adjust Screw Screw, Throttle Adjust Screw Screw, Throttle Adjust Choke Plate Screw, Throttle and Choke Shaft (4) Jet, Air Bleed Jet, Slow Screw, Idle Adjust Screw Screw, Idle Adjust Screw Screw, Idle Adjust Screw Screw, Sems, Pan Hd M4x0.7x8 (3) Cover, Passage Gasket, Float Chamber Kit, Float Repair Nozzle, Main Chamber, Float Jet, Main Kit, Solenoid Valve (Includes 38-39) Gasket, Chamber Screw
39 NOT	ILLUSTRATED 24 041 15	Gasket, Carburetor
	24 757 06 24 755 25	Kit, Carburetor Repair Kit, High Altitude (1500-3000 Meters)
	24 755 26	(isto-stob Meters) Kit, High Altitude (Over 3000 Meters)

	NO.	DESCRIPTION
1 2	24 014 72 52 139 09	Cranksháft Plug, Cup
EXH	AUST	
	PART NO.	DESCRIPTION
1	24 041 02	Gasket, Exhaust (2)
2	M-0829033	Stud
З	M-0841080	M8 x 1.25 x 33 (4) Nut, Hex Flange

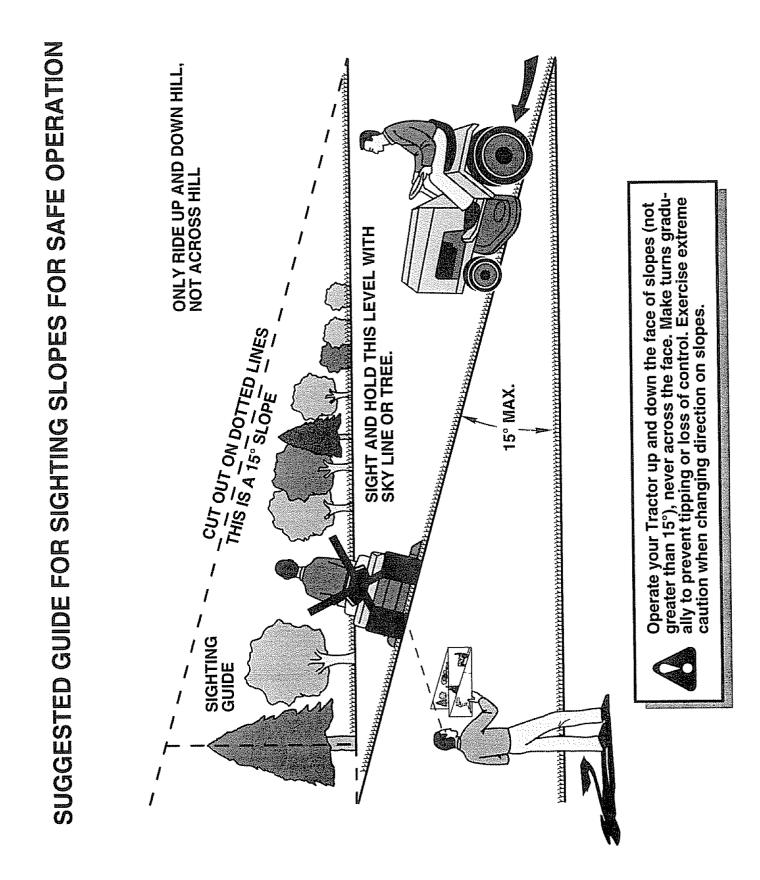
#### NOT ILLUSTRATED

# KEY PART<br/>NO.DESCRIPTION--24 522 16Short Block--24 755 03Gasket Set--24 782 05MiniblockRPM Settings:Low Speed: 1150-1650<br/>High Speed: 3200-3400

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

M8 x 1.25 (4)

# SERVICE NOTES





# OWNER'S MANUAL

MODEL NO. 917.251630

#### IF YOU NEED REPAIR SERVICE OR PARTS:

FOR REPAIR SERVICE, CALL THIS TOLL FREE NUMBER:

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- MODEL NUMBER 917.251630
- ENGINE MODEL NO. CV20S-65538
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