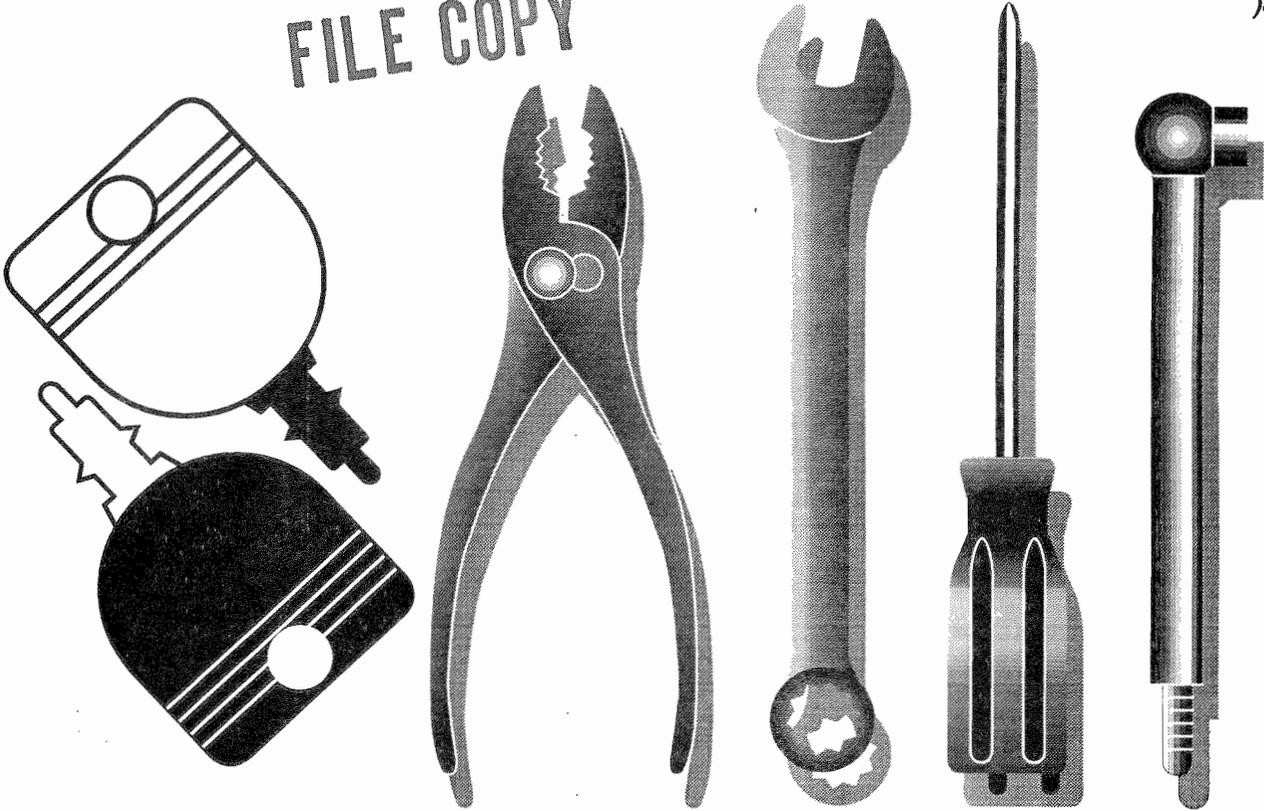


FILE COPY



OWNER'S MANUAL

MODEL NO. HD185H46B

18.5 HP 46 Inch

Tractor

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

For Parts and Service, contact our authorized distributor: call 1-800-849-1297
For Technical Assistance: call 1-800-829-5886

Poulan



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.

I. GENERAL OPERATION

- Read, understand, and follow all instructions in the manual and on the machine before starting.
- Only allow responsible adults, who are familiar with the instructions, to operate the machine.
- Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade.
- Be sure the area is clear of other people before mowing. Stop machine if anyone enters the area.
- Never carry passengers.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Be aware of the mower discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the guard in place.
- Slow down before turning.
- Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove keys before dismounting.
- Turn off blades when not mowing.
- Stop engine before removing grass catcher or unclogging chute.
- Mow only in daylight or good artificial light.
- Do not operate the machine while under the influence of alcohol or drugs.
- Watch for traffic when operating near or crossing roadways.
- Use extra care when loading or unloading the machine into a trailer or truck.

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.
- 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 new tractor. It has been designed, engineered and manufactured to give you the best possible dependability and performance.

Should you experience any problem you cannot easily remedy, please contact your nearest authorized service center/department. We have competent, well-trained technicians and the proper tools to service or repair this tractor.

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

MODEL	
NUMBER	HD185H46B
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.	

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.

PRODUCT SPECIFICATIONS

HORSEPOWER:	18.5
GASOLINE CAPACITY AND TYPE:	3.5 GALLONS UNLEADED REGULAR
OIL TYPE (API-SF/SG/SH):	SAE 30 (above 32°F) SAE 5W-30 (below 32°F)
OIL CAPACITY:	3.5 PINTS 3.0 PINTS
SPARK PLUG: (GAP: .030")	CHAMPION RJ19LM
VALVE CLEARANCE:	INTAKE: .004" - .006" EXHAUST: .007" - .009"
GROUND SPEED (MPH):	FORWARD: 0.0 - 5.5 REVERSE: 0.0 - 2.3
TIRE PRESSURE:	FRONT: 14 PSI REAR: 10 PSI
CHARGING SYSTEM:	3 AMPS BATTERY 5 AMPS HEADLIGHTS
BATTERY:	AMP/HR: 25 MIN. CCA: 190 CASE SIZE: U1R
BLADE BOLT TORQUE:	30-35 FT. LBS.

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

A spark arrester for the muffler is available through your nearest authorized service center/department (See REPAIR PARTS section of this manual).

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.

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LIMITED WARRANTY

The Manufacturer warrants to the original consumer purchaser that this product as manufactured is free from defects in materials and workmanship. For a period of two (2) years from date of purchase by the original consumer purchaser, we will repair or replace, at our option, without charge for parts or labor incurred in replacing parts, any part which we find to be defective due to materials or workmanship. This Warranty is subject to the following limitations and exclusions.

1. This warranty does not apply to the engine, other than AYP manufactured transaxle/transmission components, battery (except as noted below) or components parts thereof. Please refer to the applicable manufacturer's warranty on these items.
 2. Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser. Transportation charges for any parts submitted for replacement under this warranty must be paid by the purchaser unless such return is requested by American Yard Products.
 3. Battery Warranty: On products equipped with a Battery, we will replace, without charge to you, any battery which we find to be defective in manufacture, during the first ninety (90) days of ownership. After ninety (90) days, we will exchange the Battery, charging you 1/12 of the price of a new Battery for each full month from the date of the original sale. Battery must be maintained in accordance with the instructions furnished.
 4. The Warranty period for any products used for rental or commercial purposes is limited to 90 days from the date of original purchase.
 5. This Warranty applies only to products which have been properly assembled, adjusted, operated, and maintained in accordance with the instructions furnished. This Warranty does not apply to any product which has been subjected to alteration, misuse, abuse, improper assembly or installation, delivery damage, or to normal wear of the product.
 6. Exclusions: Excluded from this Warranty are belts, blades, blade adapters, normal wear, normal adjustments, standard hardware and normal maintenance.
 7. In the event you have a claim under this Warranty, you must return the product to an authorized service dealer.
- Should you have any unanswered questions concerning this Warranty, please contact:

American Yard Products
Service Department
P.O. Box 1687
Orangeburg, SC 29116 USA

In Canada contact:
American Yard Products
1580 Trinity Drive, Units 5-8
Mississauga, Ontario
L5T 1L6

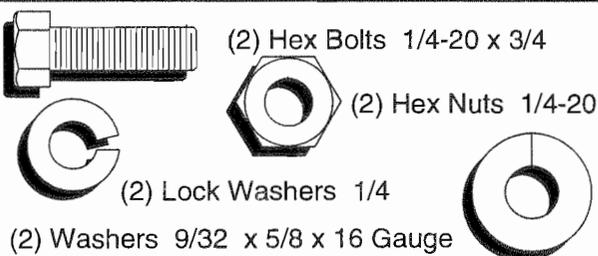
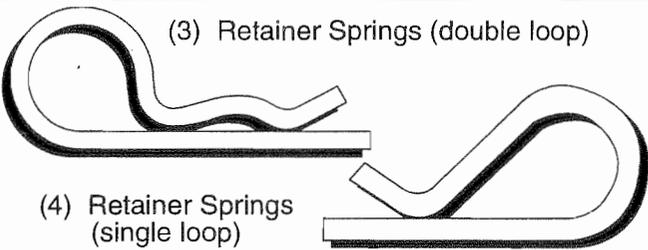
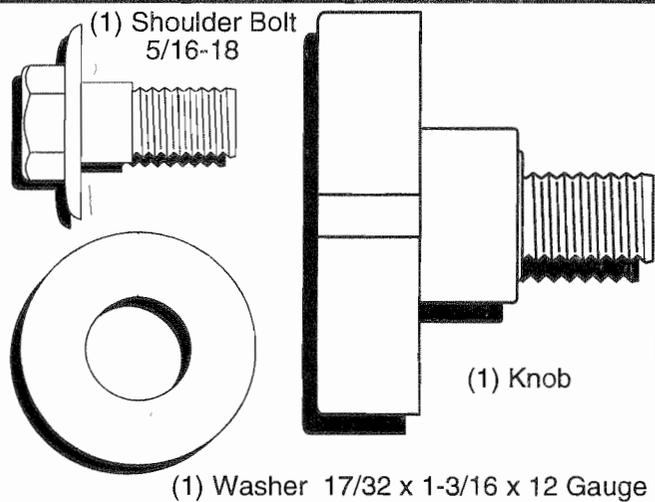
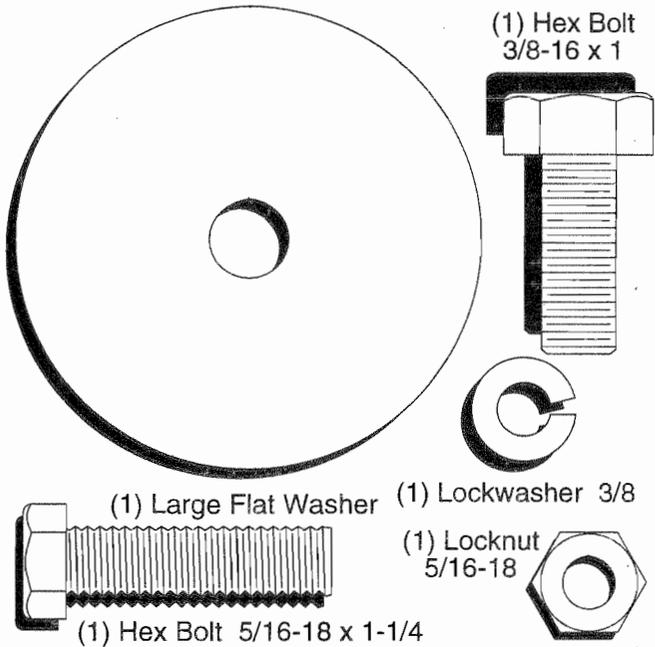
giving the model number, serial number and date of purchase of your product and the name and address of the authorized dealer from whom it was purchased.

THIS WARRANTY DOES NOT APPLY TO INCIDENTAL OR CONSEQUENTIAL DAMAGES AND ANY IMPLIED WARRANTIES ARE LIMITED TO THE SAME TIME PERIODS STATED HEREIN FOR OUR EXPRESSED WARRANTIES. Some areas do not allow the limitation of consequential damages or limitations of how long an implied Warranty may last, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from locale to locale.

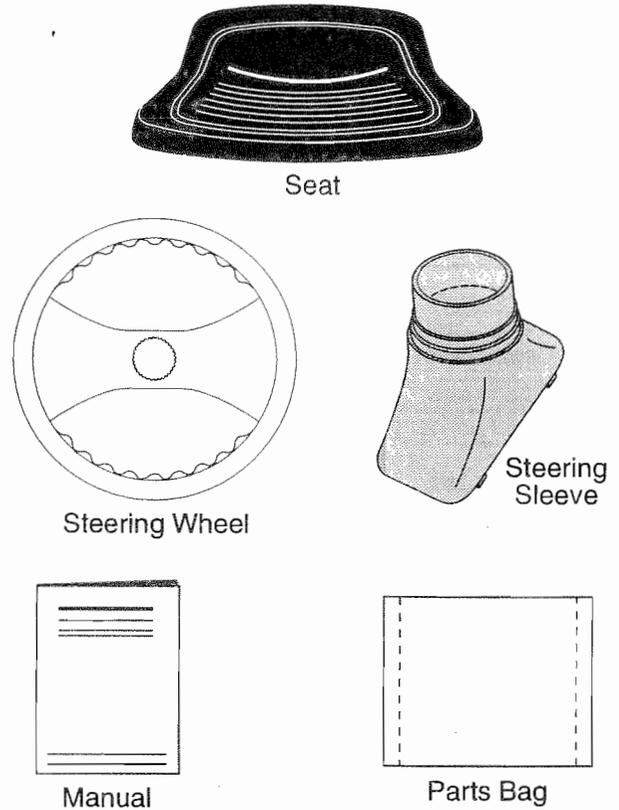
This is a limited Warranty within the meaning of that term as defined in the Magnuson-Moss Act of 1975.

CONTENTS OF HARDWARE PACK

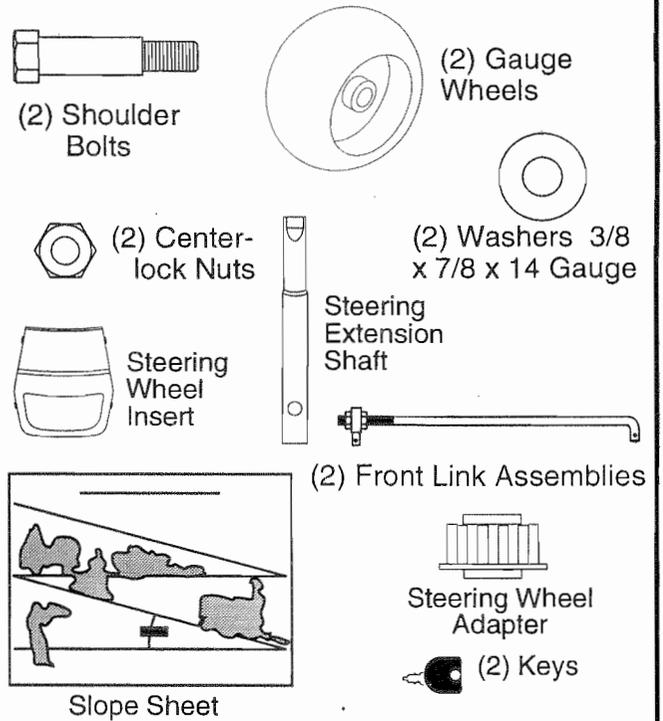
Parts Bag contents shown full size



Parts packed separately in carton



Parts bag contents not shown full size



ASSEMBLY

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.

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

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 5).
- Cut, from top to bottom, along lines on all four corners of carton, and lay panels flat.
- Check for any additional loose parts or cartons and remove.

BEFORE ROLLING TRACTOR OFF SKID

ATTACH STEERING WHEEL (See Fig. 1)

ASSEMBLE EXTENSION SHAFT AND BOOT

- Slide extension shaft onto lower steering shaft. Align mounting holes in extension and lower shafts and install 5/16 hex bolt and locknut. Tighten securely.

IMPORTANT: TIGHTEN BOLT AND NUT SECURELY TO 18-22 FT. LBS TORQUE.

- Place tabs of steering boot over tab slots in dash and push down to secure.

INSTALL STEERING WHEEL

- Position front wheels of the tractor so they are pointing straight forward.
- Slide steering wheel adapter onto steering shaft extension.
- Position steering wheel and sleeve assembly so cross bars are horizontal (left to right) and slide onto adapter.
- Assemble large flat washer, 3/8 lock washer, 3/8 hex bolt and 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.

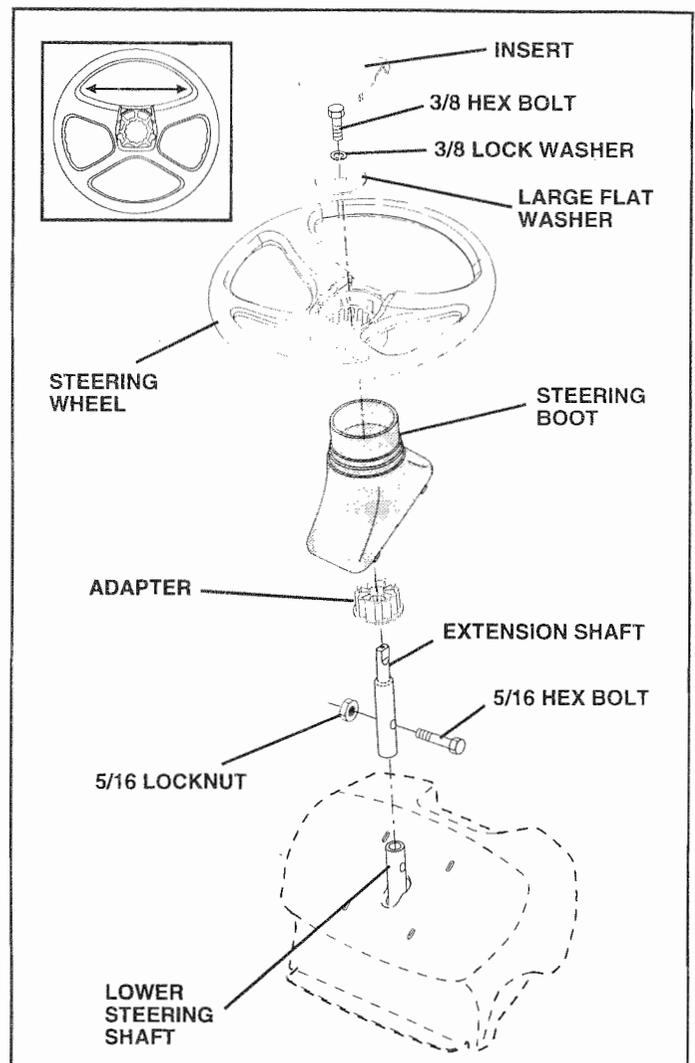


FIG. 1

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 freewheel control in freewheeling position to disengage transmission (See "TO TRANSPORT" in the Operation section of this manual).
- Roll tractor backwards off skid.
- Remove banding holding discharge guard up against tractor.

ASSEMBLY

HOW TO SET UP YOUR TRACTOR

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.

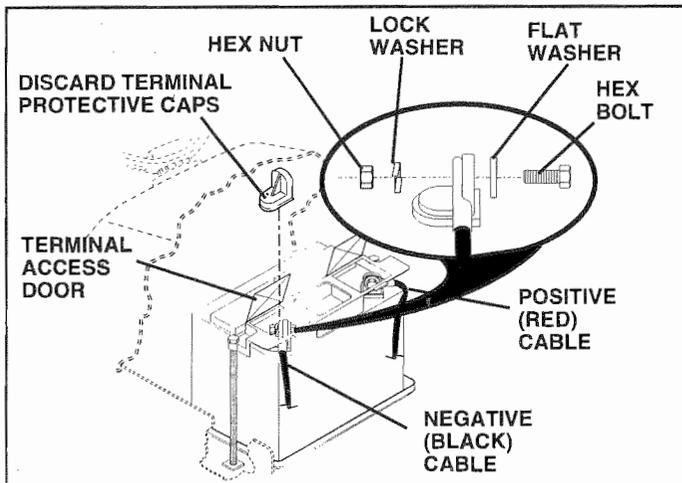


FIG. 2

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.

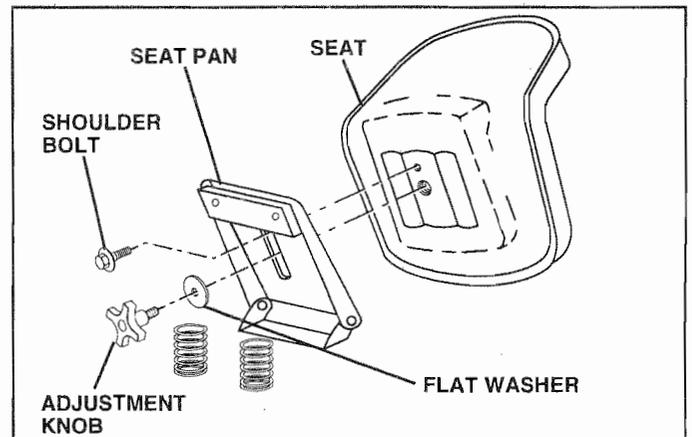


FIG. 3

ASSEMBLY

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.

✓ 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.
- ✓ Before driving tractor, be sure freewheel control is in drive position.

WHILE LEARNING HOW TO USE YOUR TRACTOR, PAY EXTRA ATTENTION TO THE FOLLOWING IMPORTANT ITEMS:

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

ASSEMBLY

INSTALL MOWER AND DRIVE BELT (See Figs. 4 and 5)

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

- 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 ENGINE PULLEY GROOVE.

- Install one front link in top hole of the L.H. front mower bracket and L.H. front suspension bracket. Retain with two single loop retainer springs as shown.
- Install second front link in R.H. front suspension bracket and retain with single loop retainer spring as shown.
- Slide right side of mower back and install link in top hole of R.H. front mower bracket. 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 suspension arms on outward pointing deck pins. If necessary, rock and raise front of mower to align deck pins with the holes in suspension arms. Retain with double loop retainer springs with loops up as shown.

- Connect anti-sway bar to chassis bracket under left footrest and retain with double loop retainer spring.
- Install clutch rod in clutch lever. Secure with retainer spring.
- Turn height adjustment knob clockwise to remove slack from mower suspension.
- Raise deck to highest position.
- Assemble gauge wheels as shown using long shoulder bolts, 3/8 washers, and 3/8-16 center locknuts. Tighten securely.
- Adjust gauge wheels before operating mower as shown 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.

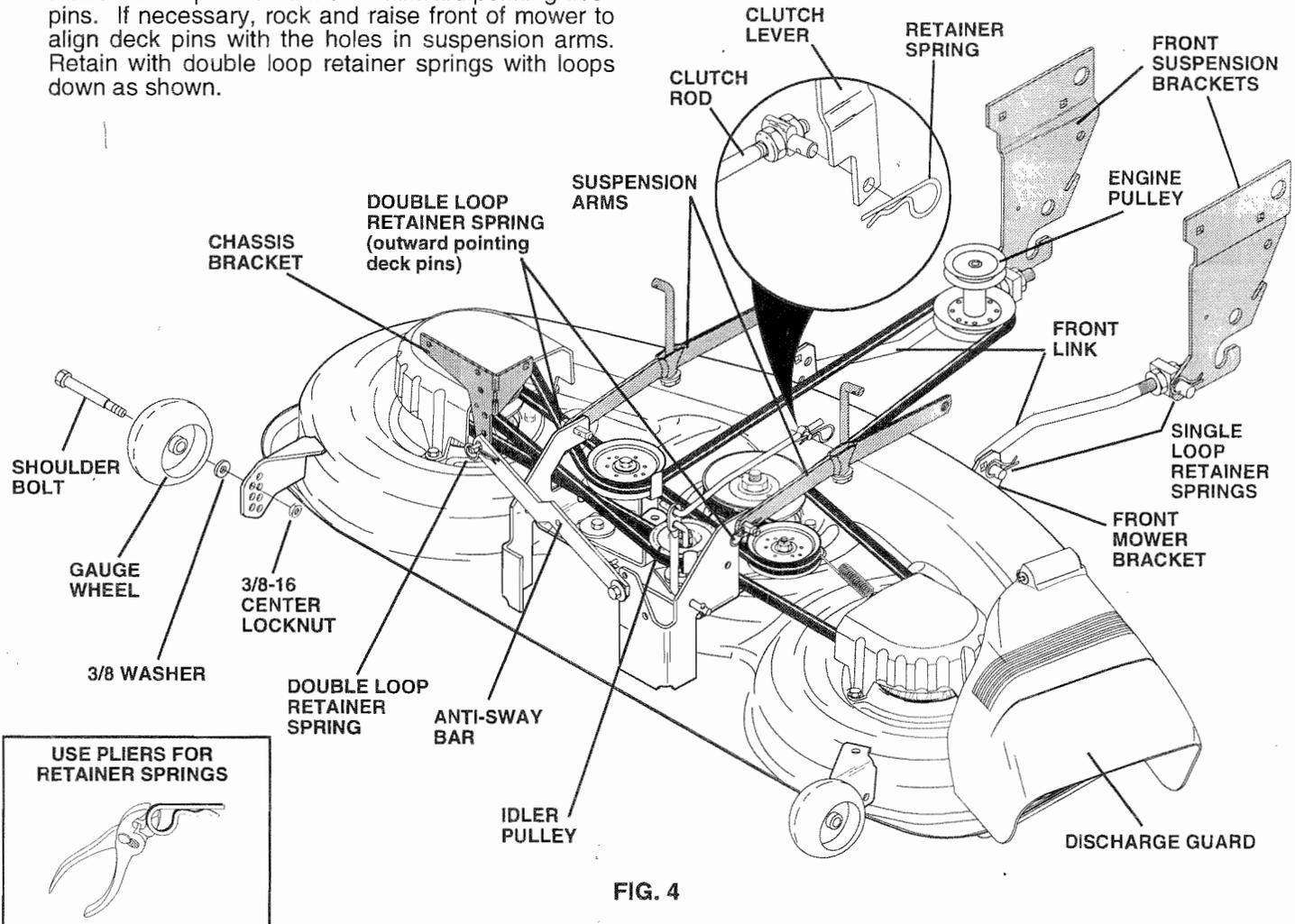
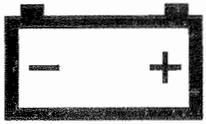


FIG. 4

OPERATION

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



BATTERY



CAUTION OR WARNING



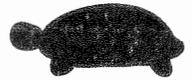
REVERSE



FORWARD



FAST



SLOW



ENGINE ON



ENGINE OFF



OIL PRESSURE



CLUTCH



LIGHTS ON



LIGHTS OFF



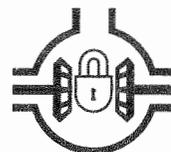
FUEL



CHOKE



MOWER HEIGHT



DIFFERENTIAL LOCK



PARKING BRAKE LOCKED



UNLOCKED



MOWER LIFT

R

REVERSE

N

NEUTRAL

H

HIGH

L

LOW



PARKING BRAKE



ATTACHMENT CLUTCH ENGAGED



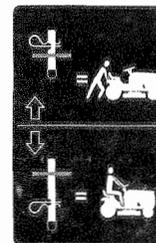
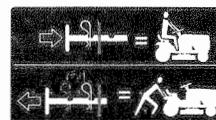
ATTACHMENT CLUTCH DISENGAGED



IGNITION



DANGER, KEEP HANDS AND FEET AWAY



HYDROSTATIC FREE WHEEL
(Hydro Models only)

OPERATION

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.

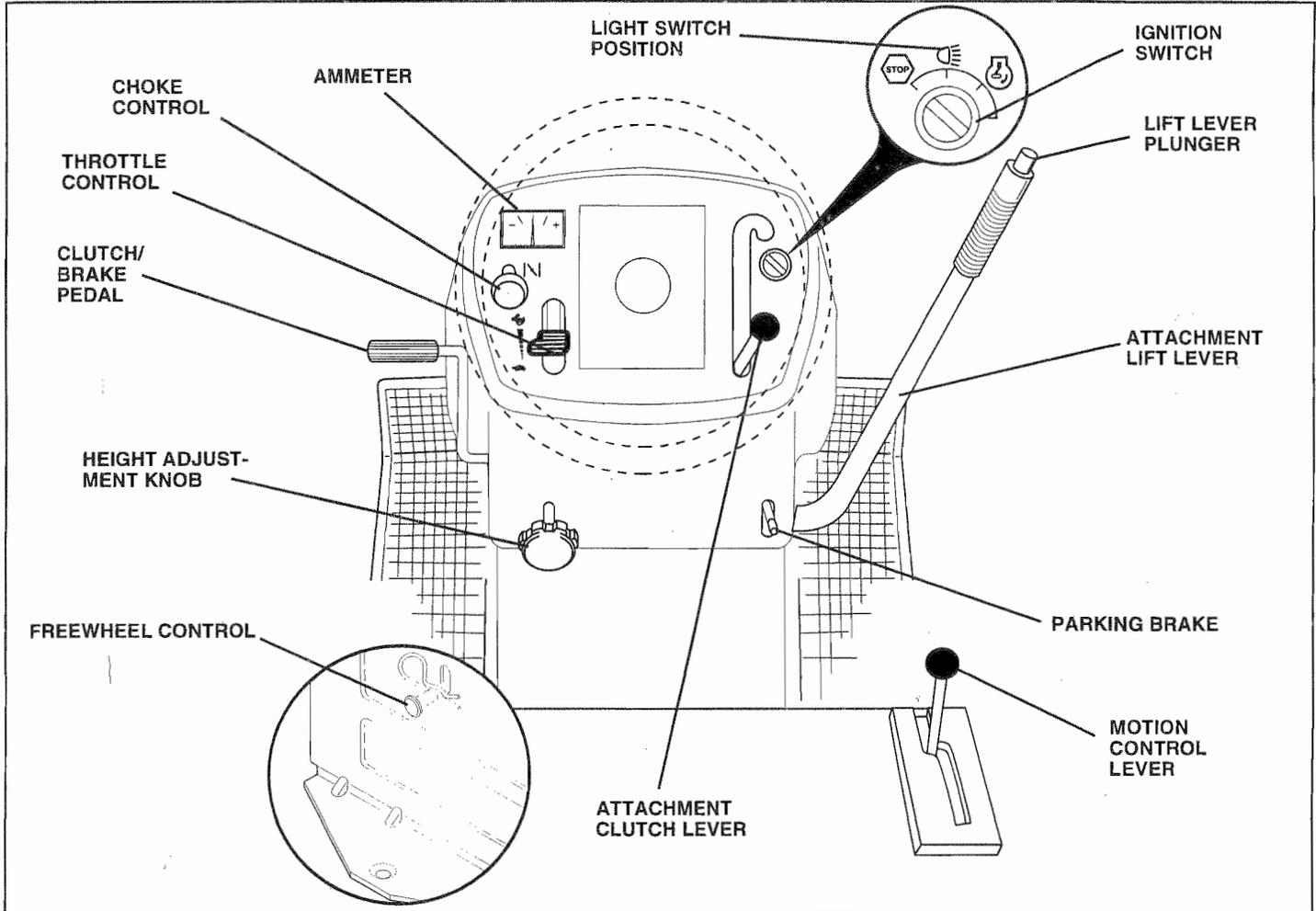


FIG. 5

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

ATTACHMENT CLUTCH LEVER: Used to engage the mower blades, or other attachments mounted to your tractor.

LIGHT SWITCH: Turns the headlights on and off.

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

CHOKE CONTROL - Used when starting a cold engine.

THROTTLE CONTROL - Used to control engine speed.

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

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

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

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

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

IGNITION SWITCH - Used for starting and stopping the engine.

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

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

OPERATION



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

HOW TO USE YOUR TRACTOR

TO SET PARKING BRAKE (See Fig. 6)

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.

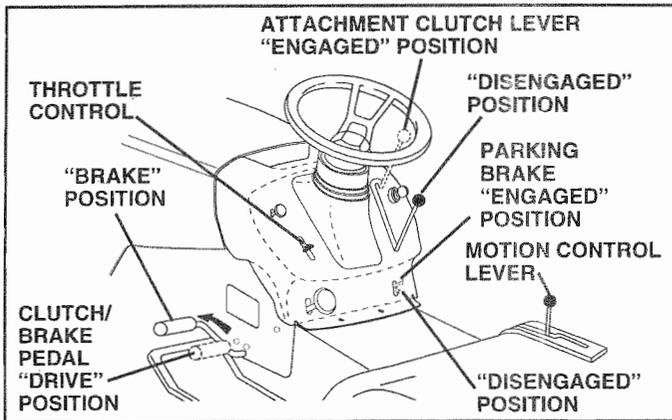


FIG. 6

STOPPING (See Fig. 6)

MOWER BLADES -

- Move attachment clutch lever to "DISENGAGED" position.

GROUND DRIVE -

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

IMPORTANT: THE MOTION CONTROL LEVER DOES NOT RETURN TO NEUTRAL (N) POSITION WHEN THE CLUTCH/BRAKE PEDAL IS DEPRESSED.

ENGINE -

- Move throttle control to slow (🐢) position.

NOTE: Failure to move throttle control to slow (🐢) position and allowing engine to idle before stopping may cause engine to "backfire".

- 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. 6)

Always operate engine at full throttle.

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

TO USE CHOKE CONTROL (See Fig. 6)

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. 6)

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

- Start tractor with motion control lever in neutral (N) position.
- Release parking brake and clutch/brake pedal.
- Slowly move motion control lever to desired position.

TO ADJUST MOWER CUTTING HEIGHT (See Fig. 6)

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

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

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

OPERATION

TO ADJUST GAUGE WHEELS (See Fig. 7)

Adjust gauge wheels with tractor on a flat level surface.

- Adjust mower to desired cutting height (See "TO ADJUST 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.

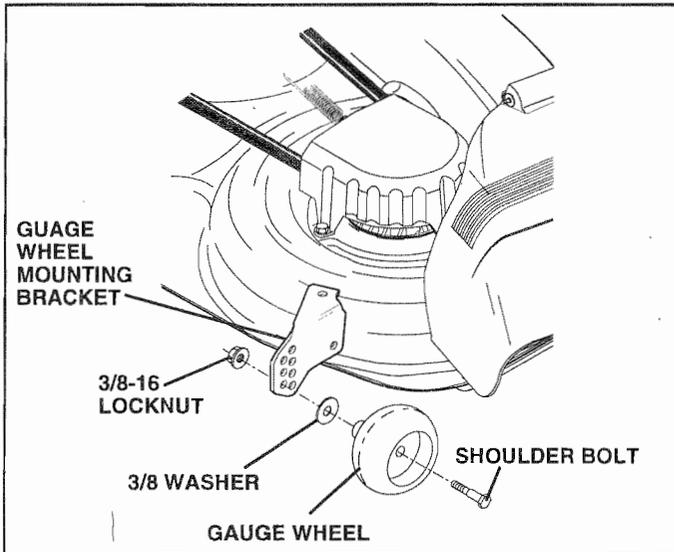


FIG. 7

TO OPERATE MOWER (See Fig. 8)

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.

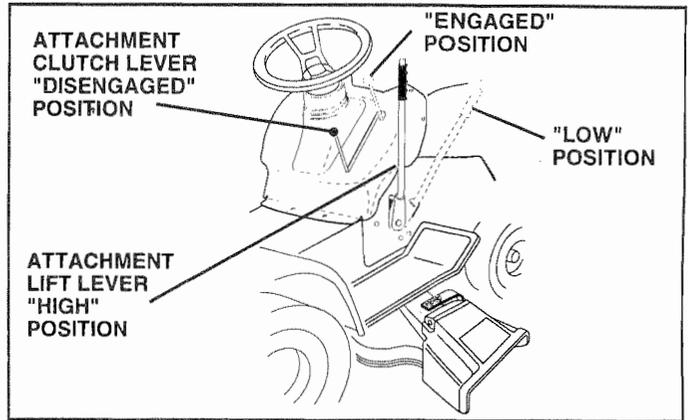
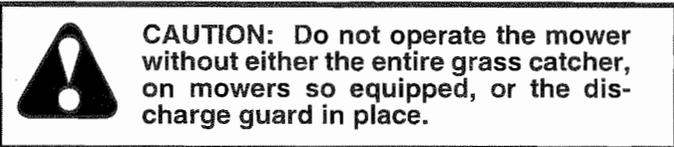
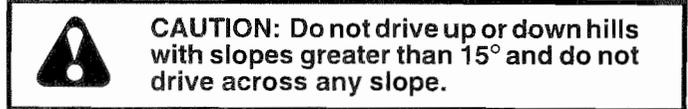


FIG. 8

TO OPERATE ON HILLS



- Choose the slowest speed before starting up or down hills.
- Avoid stopping or changing speed on hills.
- If slowing is necessary, move throttle control lever to slower position.
- If stopping is absolutely necessary, push clutch/brake pedal quickly to brake position and engage parking brake.
- Move motion control lever to neutral (N) position.

IMPORTANT: THE MOTION CONTROL LEVER DOES NOT RETURN TO NEUTRAL (N) POSITION WHEN THE CLUTCH/BRAKE PEDAL IS DEPRESSED.

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

OPERATION

TO TRANSPORT (See Figs. 9 and 5)

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

- Raise attachment lift to highest position with attachment lift control.
- Pull freewheel control knob out and hold in position by inserting retainer spring into forward hole of control rod.
- Do not push or tow tractor at more than two (2) MPH.
- To reengage transmission, reverse above procedure.

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.).

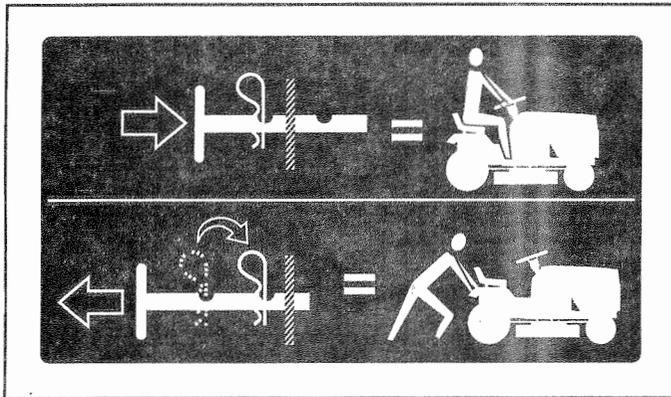


FIG. 9

BEFORE STARTING THE ENGINE

CHECK ENGINE OIL LEVEL (See Fig. 16)

- 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.

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. 6)

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

- Be sure freewheel control is in the transmission engaged position.
- Sit on seat in operating position, depress clutch/brake pedal and set parking brake.
- Place motion control lever in neutral (N) position.
- Move attachment clutch to "DISENGAGED" position.
- Move throttle control to fast (F) position
- Pull choke control out for a cold engine start attempt. For a warm engine start attempt the choke control may not be needed.

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

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

WARM WEATHER STARTING (50° F and above)

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

OPERATION

COLD WEATHER STARTING (50° F and below)

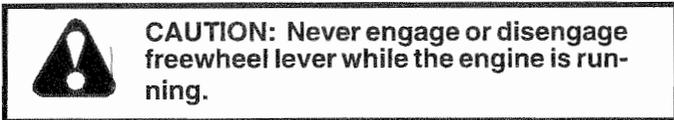
- When engine starts, slowly push choke control in until the engine begins to run smoothly. Continue to push the choke control in small steps allowing the engine to accept small changes in speed and load, until the choke control is fully in. If the engine starts to run roughly, pull the choke control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

HYDROSTATIC TRANSMISSION WARM UP

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

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

PURGE TRANSMISSION



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

IMPORTANT: SHOULD YOUR TRANSMISSION REQUIRE REMOVAL FOR SERVICE OR REPLACEMENT, IT SHOULD BE PURGED AFTER REINSTALLATION BEFORE OPERATING THE TRACTOR.

- Place tractor safely on level surface with engine off and parking brake set.
- Disengage transmission by placing freewheel control in freewheeling position (See "TO TRANSPORT" in this section of manual).
- Sitting in the tractor seat, start engine. After the engine is running, move throttle control to slow (🐢) position. With motion control lever in neutral (N) position, slowly disengage clutch/brake pedal.
- Move motion control lever to full forward position and hold for five (5) seconds. Move lever to full reverse position and hold for five (5) seconds. Repeat this procedure three (3) times.

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

- Move motion control lever to neutral (N) position. Shut-off engine and set parking brake.
- Engage transmission by placing freewheel control in driving position (See "TO TRANSPORT" in this section of manual).
- Sitting in the tractor seat, start engine. After the engine is running, move throttle control to half (1/2) speed. With motion control lever in neutral (N) position, slowly disengage clutch/brake pedal.
- Slowly move motion control lever forward, after the tractor moves approximately five (5) feet, slowly move motion control lever to reverse position. After the tractor moves approximately five (5) feet return the motion control lever to the neutral (N) position. Repeat this procedure with the motion control lever three (3) times.
- Your tractor is now purged and now ready for normal operation.

MOWING TIPS

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

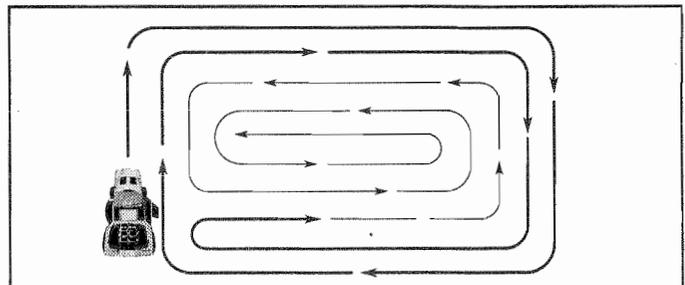


FIG. 10

CUSTOMER RESPONSIBILITIES

MAINTENANCE SCHEDULE									SERVICE DATES				
FILL IN DATES AS YOU COMPLETE REGULAR SERVICE		BEFORE EACH USE	FIRST 2 HOURS	EVERY 8 HOURS	EVERY 25 HOURS	EVERY 50 HOURS	EVERY 100 HOURS	EVERY SEASON	BEFORE STORAGE				
TRACTOR	Check Brake Operation	✓	✓										
	Check Tire Pressure	✓	✓										
	Check for Loose Fasteners	✓					✓ ₇	✓					
	Sharpen/Replace Mower Blades			✓ ₄									
	Lubrication Chart			✓				✓					
	Check Battery Level/Recharge			✓ ₆									
	Clean Battery and Terminals			✓				✓					
	Check Transaxle Cooling			✓									
	Adjust Blade Belt(s) Tension						✓ ₅						
	Adjust Motion Drive Belt(s) Tension						✓ ₅						
ENGINE	Check Engine Oil Level	✓	✓										
	Change Engine Oil		✓	✓ _{1,2,3}				✓					
	Clean Air Filter			✓ ₂									
	Clean Air Screen			✓ ₂									
	Inspect Muffler/Spark Arrester				✓								
	Replace Oil Filter (If equipped)						✓ _{1,2}						
	Clean Engine Cooling Fins						✓ ₂						
	Replace Spark Plug						✓	✓					
	Replace Air Filter Paper Cartridge						✓ ₂						
	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 soil.

- 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.

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.

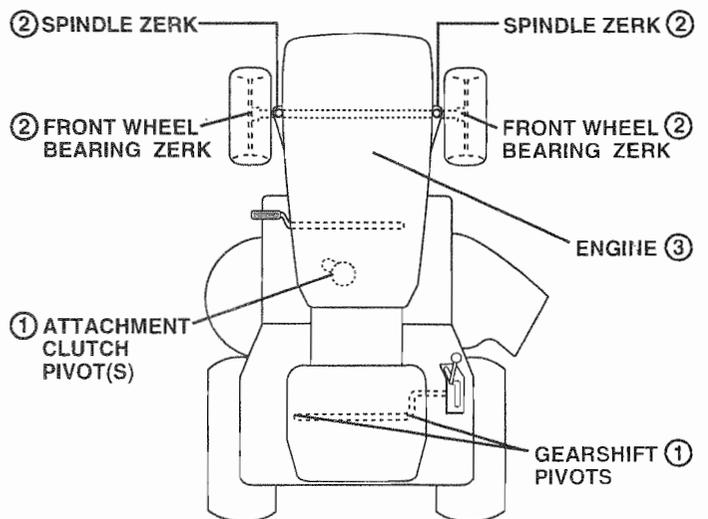
All adjustments in the Service and Adjustments section of this manual should be checked at least once each season.

- 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.

LUBRICATION CHART



① SAE 30 OR 10W30 MOTOR OIL

② GENERAL PURPOSE GREASE

③ REFER TO CUSTOMER RESPONSIBILITIES "ENGINE" SECTION

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

CUSTOMER RESPONSIBILITIES

TRACTOR

Always observe safety rules when performing any maintenance.

BRAKE OPERATION

If tractor 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 "PRODUCT 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.

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

BLADE CARE

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

BLADE REMOVAL (See Fig. 11)

- 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.

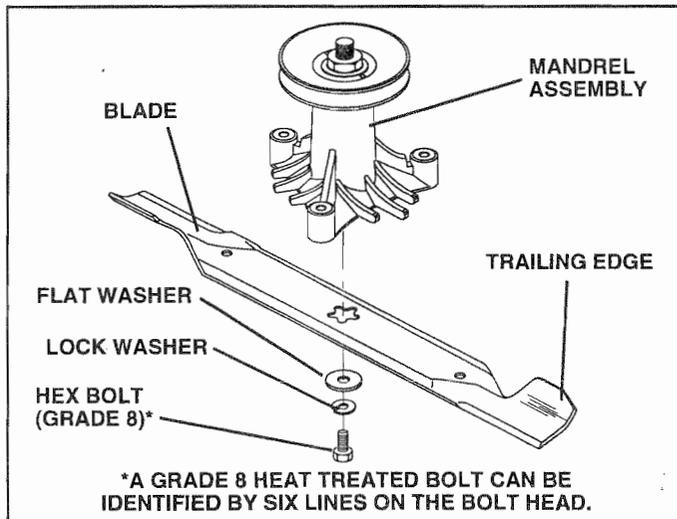


FIG. 11

TO SHARPEN BLADE (See Fig. 12)

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.

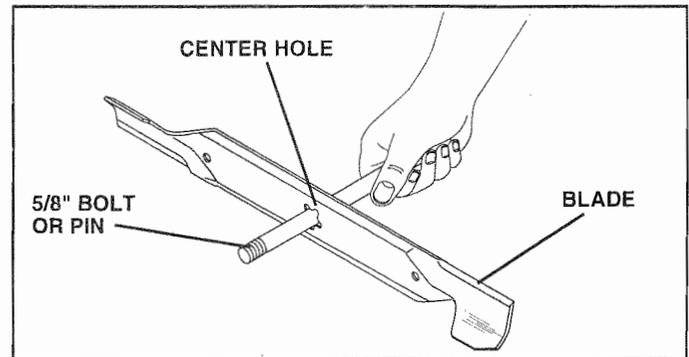


FIG. 12

BATTERY

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

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

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.
- 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).

CUSTOMER RESPONSIBILITIES

AIR FILTER (See Fig. 14)

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.

- Remove knob(s) and 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.
- If very dirty or damaged, replace pre-cleaner.
- Reinstall pre-cleaner over cartridge.
- Reinstall cover and secure with knob(s).

TO SERVICE CARTRIDGE

- Remove wing nuts and cartridge plate.
- Carefully remove cartridge to prevent debris from entering carburetor.
- Clean cartridge by tapping gently on flat surface. If very dirty or damaged, replace cartridge.
- Reinstall cartridge plate, wing nuts, pre-cleaner, cover and secure with knob(s).

IMPORTANT: PETROLEUM SOLVENTS, SUCH AS KEROSENE, ARE NOT TO BE USED TO CLEAN THE CARTRIDGE. THEY MAY CAUSE DETERIORATION OF THE CARTRIDGE. DO NOT OIL CARTRIDGE. DO NOT USE PRESSURIZED AIR TO CLEAN OR DRY CARTRIDGE.

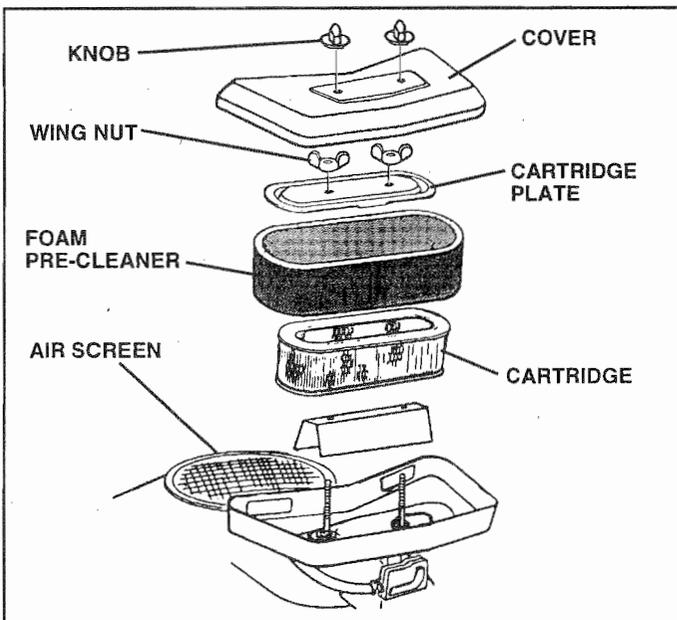


FIG. 14

CLEAN AIR SCREEN (See Fig. 14)

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.

ENGINE COOLING FINS (See Fig. 5)

Remove any dust, dirt or oil from engine cooling fins to prevent engine damage from overheating. Air guide covers must be removed. Remove side panels and hood (See "TO REMOVE HOOD AND GRILL ASSEMBLY" in the Service and Adjustments section of this manual).

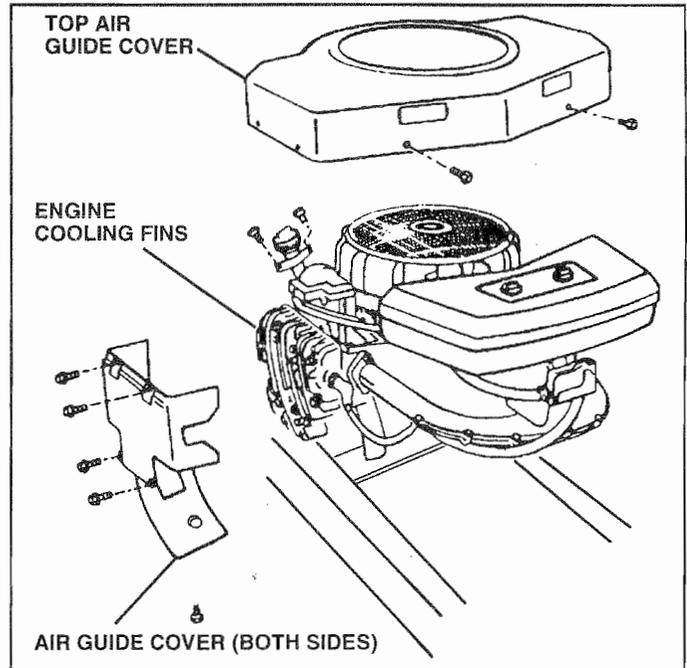


FIG. 15

CUSTOMER RESPONSIBILITIES

ENGINE OIL FILTER (See Fig. 16)

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

- Unscrew old filter by turning counterclockwise. Use a suitable container to catch oil.
- Apply a thin coating of new engine oil to rubber gasket on replacement oil filter.
- Install replacement oil filter by turning clockwise until rubber gasket contacts mounting surface, then tighten filter an additional 1/2 to 3/4 turn.
- Fill crankcase with new oil (See "TO CHANGE ENGINE OIL" in this section of this manual). For approximate capacity see "PRODUCT SPECIFICATIONS" on page 3 of this manual.
- Start engine and check for oil leaks. Correct any leaks before placing engine into full operation.

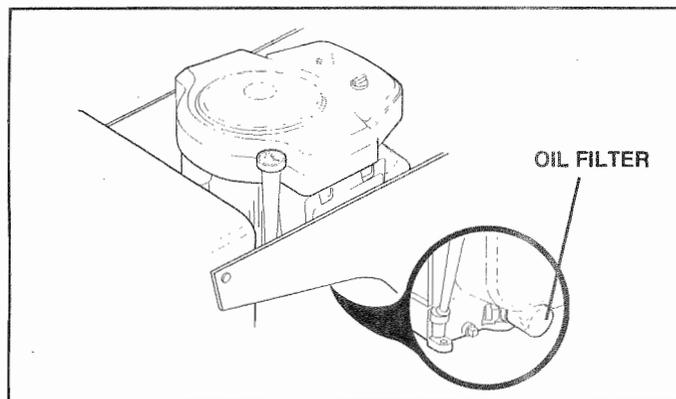


FIG. 16

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 occurs first. Spark plug type and gap setting are shown in "PRODUCT SPECIFICATIONS" on page 2 of this manual.

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.

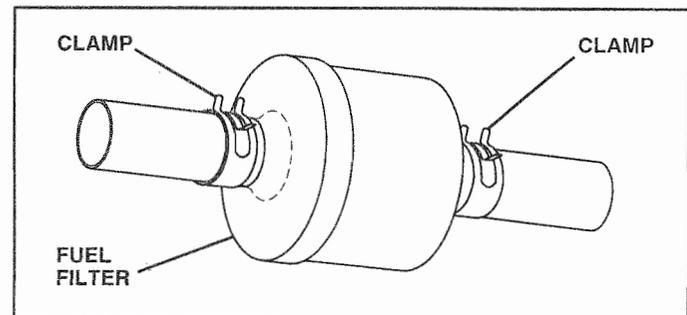


FIG. 17

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.

SERVICE AND ADJUSTMENTS



CAUTION: BEFORE PERFORMING ANY SERVICE OR ADJUSTMENTS:

- Depress clutch/brake pedal fully and set parking brake.
- Place motion control lever in neutral (N) position.
- 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 with plug.

TRACTOR

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.
- Disconnect clutch rod from clutch lever by removing retainer spring.
- 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 engine 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.

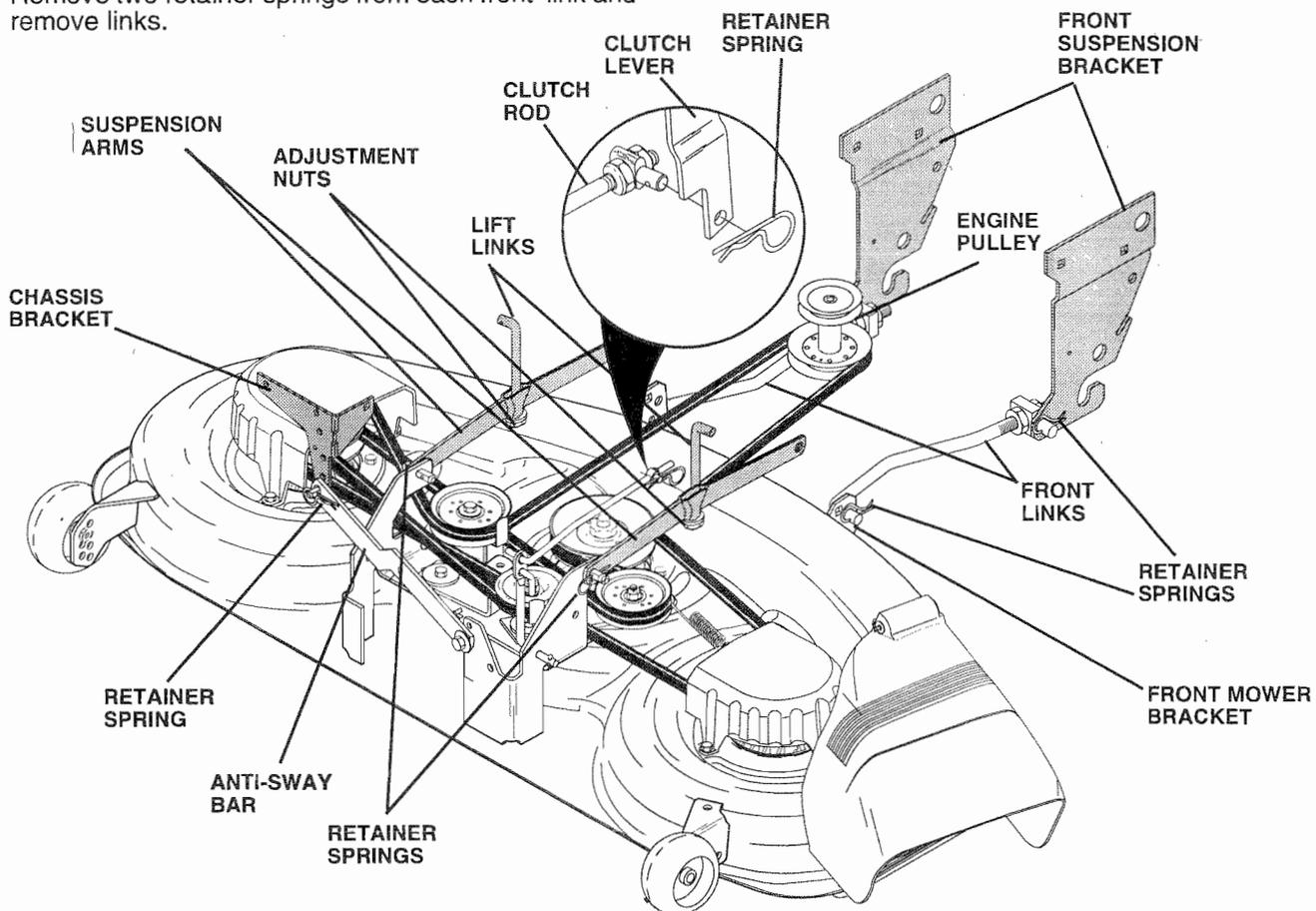


FIG. 18

SERVICE AND ADJUSTMENTS

TO LEVEL MOWER HOUSING

Adjust the mower while tractor is parked on level ground or driveway. Make sure tires are properly inflated (See "PRODUCT SPECIFICATIONS" on page 2 of this manual). If tires are over or underinflated, you will not properly adjust your mower.

SIDE-TO-SIDE ADJUSTMENT (See Figs. 19 and 20)

- Raise mower to its highest position.
- At the midpoint of both sides of mower, measure height from bottom edge of mower to ground. Distance "A" on both sides of mower should be the same or within 1/4" of each other.
- If adjustment is necessary, make adjustment on one side of mower only.
- To raise one side of mower, tighten lift link adjustment nut on that side.
- To lower one side of mower, loosen lift link adjustment nut on that side.

NOTE: Three full turns of adjustment nut will change mower height about 1/8".

- Recheck measurements after adjusting.

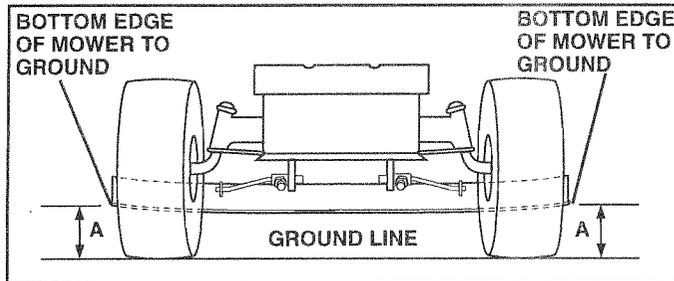


FIG. 19

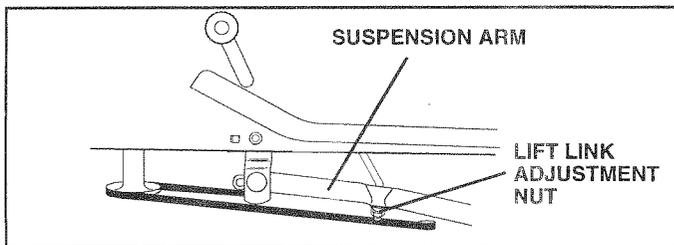


FIG. 20

FRONT-TO-BACK ADJUSTMENT (See Figs. 21 and 22)

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 that 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 "D" directly in front 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. Both links should be

approximately 10-3/8".

- If links are not equal in length, adjust one link to same length as other link.
- To lower front of mower loosen nut "E" on both front links an equal number of turns.
- When distance "D" is 1/8" to 1/2" lower at front than rear, tighten nuts "F" against trunnion on both front links.
- To raise front of mower, loosen nut "F" from trunnion on both front links. Tighten nut "E" on both front links an equal number of turns.
- When distance "D" is 1/8" to 1/2" lower at front than rear, tighten nut "F" against trunnion on both front links.
- Recheck side-to-side adjustment.

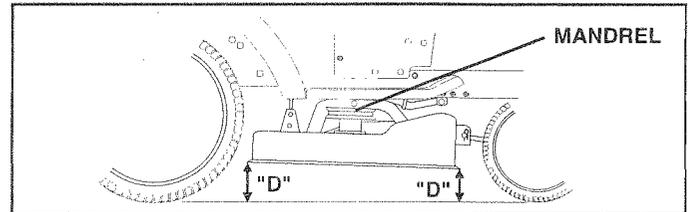


FIG. 21

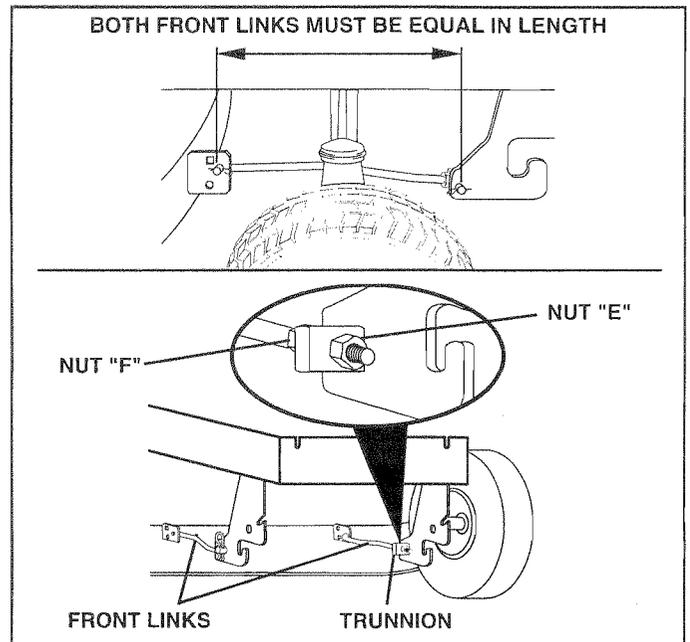


FIG. 22

TO REPLACE MOWER DRIVE BELT

MOWER DRIVE BELT REMOVAL (See Fig. 23) -

- Park tractor on a level surface. Engage parking brake. Disengage attachment clutch control.
- Remove four screws from L.H. mandrel cover and remove cover.
- Roll belt over the top of L.H. mandrel pulley.
- Remove belt from engine pulley.
- Remove belt from idler pulleys.
- Remove any dirt or grass clippings which may have accumulated around mandrels and entire upper deck surface.

SERVICE AND ADJUSTMENTS

- Check primary idler arm and two idlers to see that they rotate freely.

MOWER DRIVE BELT INSTALLATION (See Fig. 23) -

- Install belt in both idlers. Make sure belt is in both belt keepers at the idlers as shown.
- Install new belt onto engine pulley.
- Roll belt into upper groove of L.H. mandrel pulley.
- Carefully check belt routing making sure belt is in the grooves correctly and inside belt keepers.
- Reassemble L.H. mandrel cover.

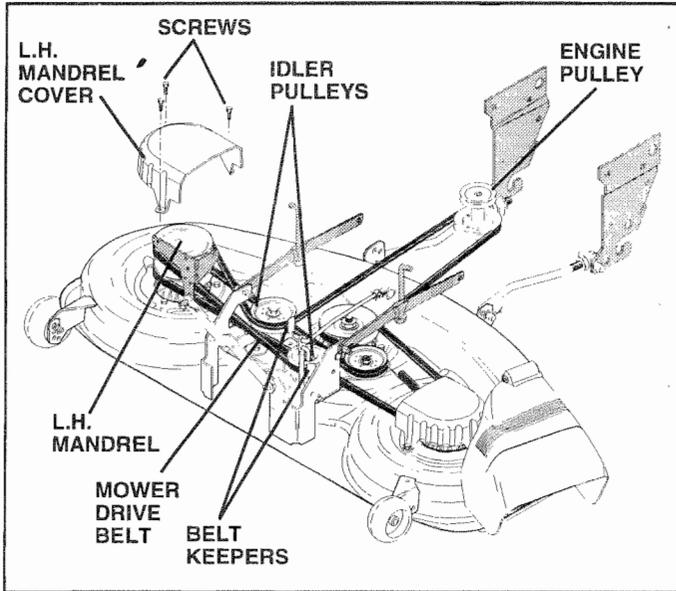


FIG. 23

TO REPLACE MOWER BLADE DRIVE BELT (See Fig. 24)

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.
- 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 secondary clutch rod to pivot rod with retainer spring.
- Reinstall R.H. mandrel cover.

- Reinstall mower to tractor (See "INSTALL MOWER AND DRIVE BELT" in the Assembly section of this manual).
- Reassemble mower drive belt (See "TO REPLACE MOWER DRIVE BELT" in this section of this manual).

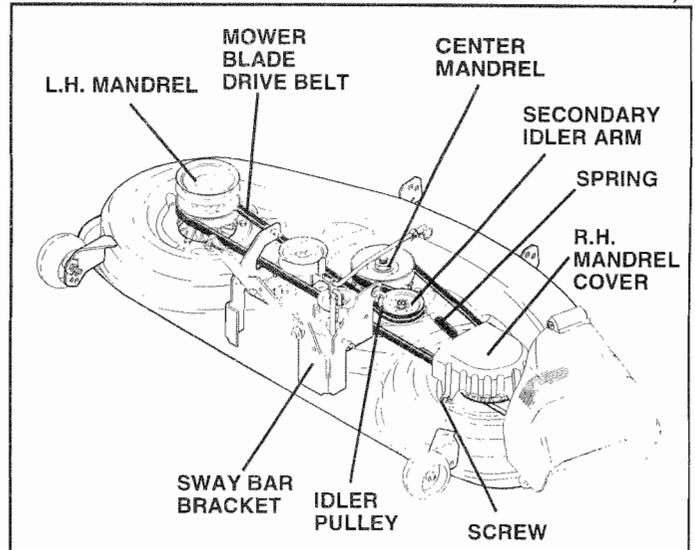


FIG. 24

TO ADJUST BRAKE (See Fig. 25)

Your tractor is equipped with an adjustable brake system which is mounted on the 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 1-1/2", loosen jam nut and turn nut "A" until distance becomes 1-1/2". 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.

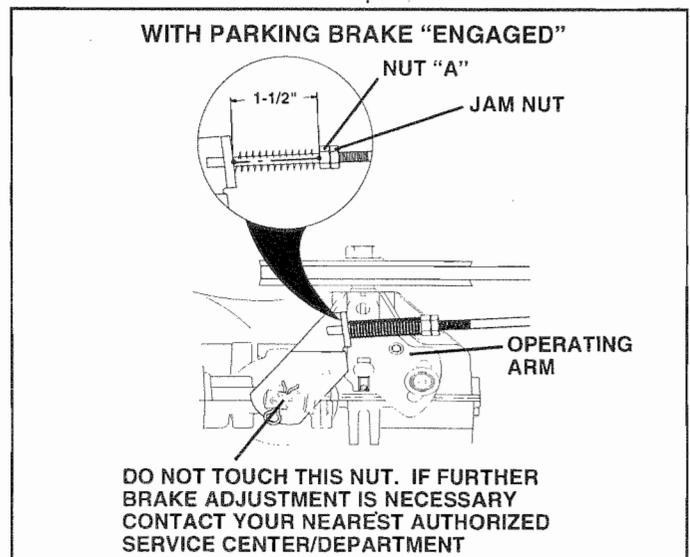


FIG. 25

SERVICE AND ADJUSTMENTS

TO REPLACE MOTION DRIVE BELT (See Fig. 26)

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

- Remove mower (See "TO REMOVE MOWER" in this section of this manual.)
- Remove upper belt keeper.
- Remove belt from stationary idler and clutching idler.
- Pull belt slack toward rear of tractor. Carefully remove belt upwards from transmission input pulley and over cooling fan blades.
- Pull belt toward front of tractor and remove downward from around engine pulley.
- Install new belt by reversing above procedure.

IMPORTANT: MAKE SURE UPPER BELT KEEPER IS POSITIONED PROPERLY BETWEEN LOCATOR TABS.

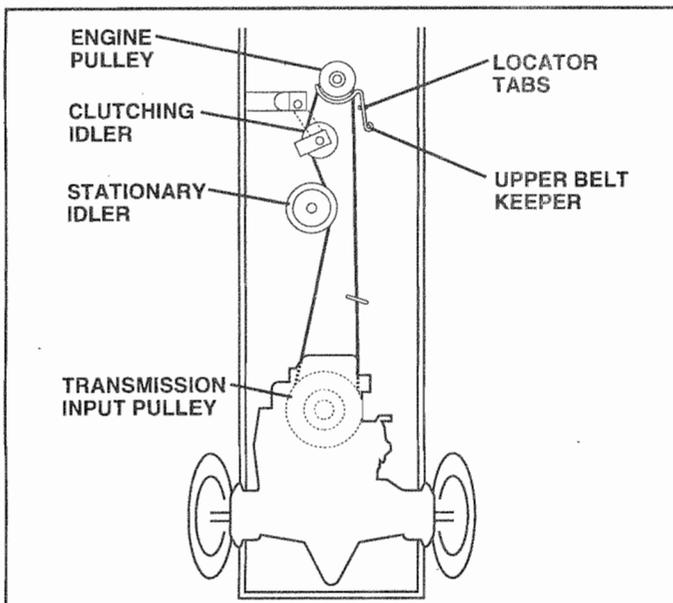


FIG. 26

TO ADJUST MOTION CONTROL LEVER (See Fig. 27)

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

If for any reason the motion control lever will not hold its position while at a selected speed, it may be adjusted at the friction pack located on the right side of transmission.

- Park tractor on level surface. Stop tractor by turning ignition key to "OFF" position, and engage parking brake.
- Adjust motion control lever by tightening adjustment locknut one half (1/2) turn.

NOTE: If for any reason the effort to move the motion control lever becomes too excessive, reverse the above adjustment procedure by loosening locknut 1/4 to 1/2 turn. Road test tractor after adjustment and repeat procedure if necessary.

TRANSMISSION REMOVAL/REPLACEMENT

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

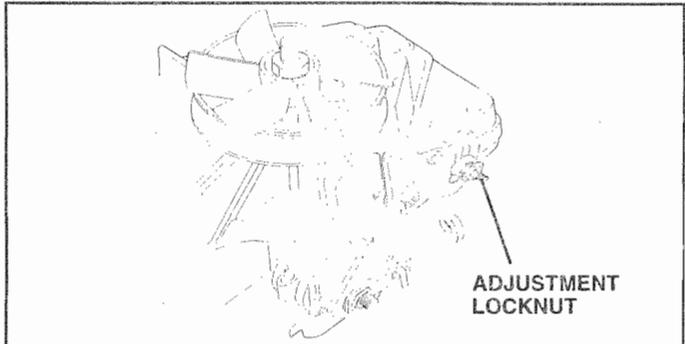


FIG. 27

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/CAMBER

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

TO REMOVE WHEEL FOR REPAIRS (See Fig. 28)

- Block up axle securely.
- Remove axle cover, retaining ring and washers to allow wheel removal (rear wheel contains a square key - Do not lose).
- Repair tire and reassemble.
- On rear wheels only: align grooves in rear wheel hub and axle. Insert square key.
- Replace washers and snap retaining ring securely in axle groove.
- Replace axle cover.

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

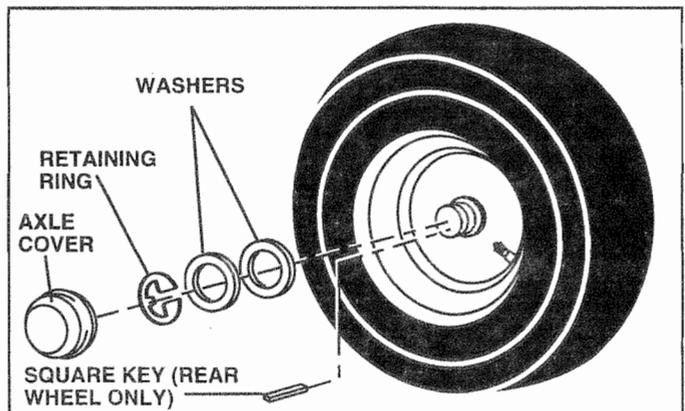


FIG. 28

SERVICE AND ADJUSTMENTS

TO START ENGINE WITH A WEAK BATTERY (See Fig. 29)



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 GROUND SYSTEM. THE OTHER VEHICLE MUST ALSO BE A 12 VOLT NEGATIVE GROUND 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 NEGATIVE (-) terminal of fully charged battery.
- Connect the other end of the BLACK cable to good CHASSIS GROUND, away from fuel tank and battery.

TO REMOVE CABLES, REVERSE ORDER -

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

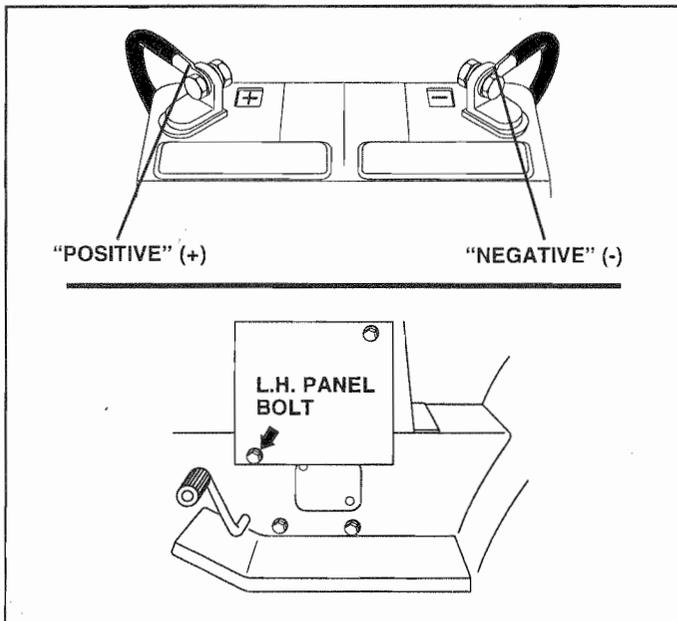


FIG. 29

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 the 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 REMOVE HOOD AND GRILL ASSEMBLY (See Fig. 30)

- 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.

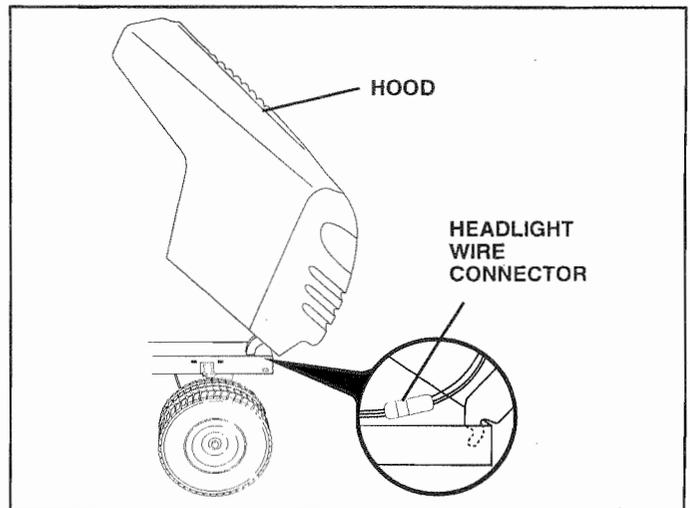


FIG. 30

ENGINE

TO ADJUST THROTTLE CONTROL CABLE (See Fig. 31)

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 swivel is against side of quarter circle. If it is not, loosen cable clamp screw and pull cable back until swivel is against quarter circle. Tighten cable clamp screw securely.

SERVICE AND ADJUSTMENTS

TO ADJUST CHOKE CONTROL (See Fig. 32)

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.

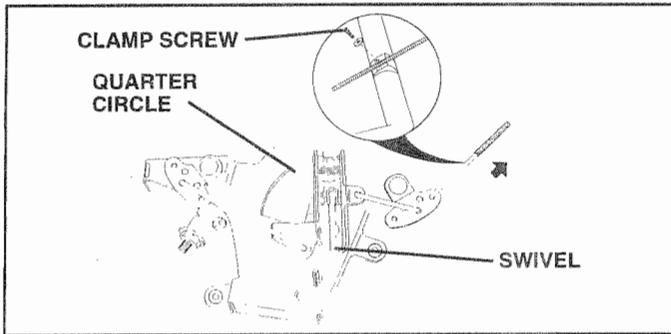


FIG. 31

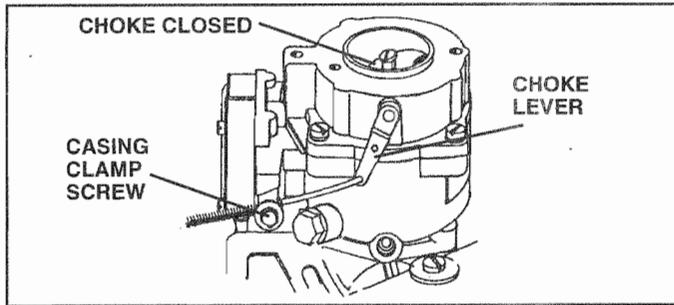


FIG. 32

TO ADJUST CARBURETOR (See Figs. 33 & 34)

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

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

IMPORTANT: DAMAGE TO THE NEEDLES AND THE SEATS IN CARBURETOR MAY RESULT IF SCREW IS TURNED IN TOO TIGHT.

PRELIMINARY SETTING -

- Be sure you have a clean air filter, and the throttle control cable and choke are adjusted properly (see above).

- With engine off turn idle mixture screw **in** (clockwise) closing it finger tight and then turn **out** (counterclockwise) 1-1/4 to 1-1/2 turns.

FINAL SETTING -

- Start engine and allow to warm for five minutes. Make final adjustments with engine running and shift/ motion control lever in neutral (N) position.
- With throttle control lever in slow (☞) position, hold throttle lever against idle speed screw and adjust idle speed screw to obtain 1200 to 1400 RPM.
- While still holding throttle lever against idle speed screw, turn idle mixture screw **in** (clockwise) until engine begins to die and then turn **out** (counterclockwise) until engine runs rough. Turn screw to a point midway between those two positions.
- Continue to hold throttle lever against idle speed screw and adjust idle speed screw to obtain 900 to 1200 RPM. Release throttle lever.

ACCELERATION TEST -

- Move throttle control lever from slow (☞) to fast (☛) position. If engine hesitates or dies, turn idle mixture screw **out** (counterclockwise) 1/8 turn. Repeat test and continue to adjust, if necessary, until engine accelerates smoothly.

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

IMPORTANT: NEVER TAMPER WITH THE ENGINE GOVERNOR, WHICH IS FACTORY SET FOR PROPER ENGINE SPEED. OVERSPEEDING THE ENGINE ABOVE THE FACTORY HIGH SPEED SETTING CAN BE DANGEROUS. IF YOU THINK THE ENGINE-GOVERNED HIGH SPEED NEEDS ADJUSTING, CONTACT YOUR NEAREST AUTHORIZED SERVICE CENTER/ DEPARTMENT, WHICH HAS PROPER EQUIPMENT AND EXPERIENCE TO MAKE ANY NECESSARY ADJUSTMENTS.

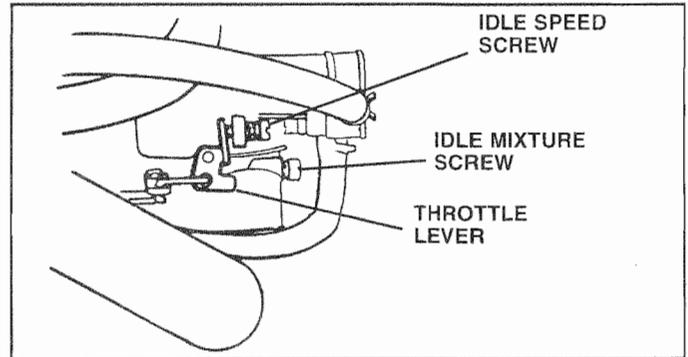


FIG. 33

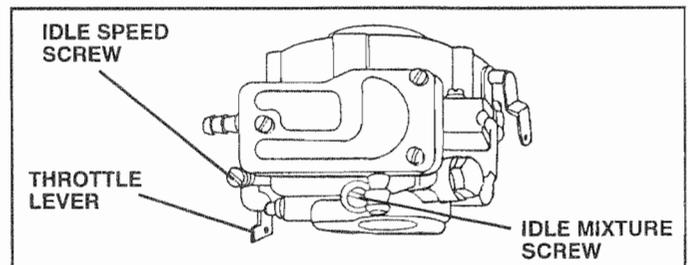


FIG. 34

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 ARE STILL WARM.

TROUBLESHOOTING POINTS

PROBLEM	CAUSE	CORRECTION
Will not start	<ol style="list-style-type: none"> 1. Out of fuel. 2. Engine not "CHOKED" properly. 3. Engine flooded. 4. Bad spark plug. 5. Dirty air filter. 6. Dirty fuel filter. 7. Water in fuel. 8. Loose or damaged wiring. 9. Carburetor out of adjustment. 10. Engine valves out of adjustment. 	<ol style="list-style-type: none"> 1. Fill fuel tank. 2. See "TO START ENGINE" in Operation section. 3. Wait several minutes before attempting to start. 4. Replace spark plug. 5. Clean/replace air filter. 6. Replace fuel filter. 7. Drain fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter. 8. Check all wiring. 9. See "To Adjust Carburetor" in Service Adjustments section. 10. Contact an authorized service center/department.
Hard to start	<ol style="list-style-type: none"> 1. Dirty air filter. 2. Bad spark plug. 3. Weak or dead battery. 4. Dirty fuel filter. 5. Stale or dirty fuel. 6. Loose or damaged wiring. 7. Carburetor out of adjustment. 8. Engine valves out of adjustment. 	<ol style="list-style-type: none"> 1. Clean/replace air filter. 2. Replace spark plug. 3. Recharge or replace battery. 4. Replace fuel filter. 5. Drain fuel tank and refill with fresh gasoline. 6. Check all wiring. 7. See "To Adjust Carburetor" in Service Adjustments section. 8. Contact an authorized service center/department.
Engine will not turn over	<ol style="list-style-type: none"> 1. Clutch/brake pedal not depressed. 2. Attachment clutch is engaged. 3. Weak or dead battery. 4. Blown fuse. 5. Corroded battery terminals. 6. Loose or damaged wiring. 7. Faulty ignition switch. 8. Faulty solenoid or starter. 9. Faulty operator presence switch(es). 	<ol style="list-style-type: none"> 1. Depress clutch/brake pedal. 2. Disengage attachment clutch. 3. Recharge or replace battery. 4. Replace fuse. 5. Clean battery terminals. 6. Check all wiring. 7. Check/replace ignition switch. 8. Check/replace solenoid or starter. 9. Contact an authorized service center/department.
Engine clicks but will not start	<ol style="list-style-type: none"> 1. Weak or dead battery. 2. Corroded battery terminals. 3. Loose or damaged wiring. 4. Faulty solenoid or starter. 	<ol style="list-style-type: none"> 1. Recharge or replace battery. 2. Clean battery terminals. 3. Check all wiring. 4. Check/replace solenoid or starter.
Loss of power	<ol style="list-style-type: none"> 1. Cutting too much grass/too fast. 2. Throttle in "CHOKE" position. 3. Build-up of grass, leaves and trash under mower. 4. Dirty air filter. 5. Low oil level/dirty oil. 6. Faulty spark plug. 7. Dirty fuel filter. 8. Stale or dirty fuel. 9. Water in fuel. 10. Spark plug wire loose. 11. Dirty engine air screen/fins. 12. Dirty/clogged muffler. 13. Loose or damaged wiring. 14. Carburetor out of adjustment. 15. Engine valves out of adjustment. 	<ol style="list-style-type: none"> 1. Set in "Higher Cut" position/reduce speed. 2. Adjust throttle control. 3. Clean underside of mower housing. 4. Clean/replace air filter. 5. Check oil level/change oil. 6. Clean and regap or change spark plug. 7. Replace fuel filter. 8. Drain fuel tank and refill with fresh gasoline. 9. Drain fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter. 10. Connect and tighten spark plug wire. 11. Clean engine air screen/fins. 12. Clean/replace muffler. 13. Check all wiring. 14. See "To Adjust Carburetor" in Service Adjustments section. 15. Contact an authorized service center/department.
Excessive vibration	<ol style="list-style-type: none"> 1. Worn, bent or loose blade. 2. Bent blade mandrel. 3. Loose/damaged part(s). 	<ol style="list-style-type: none"> 1. Replace blade. Tighten blade bolt. 2. Replace blade mandrel. 3. Tighten loose part(s). Replace damaged parts.

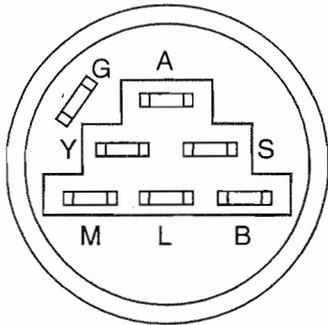
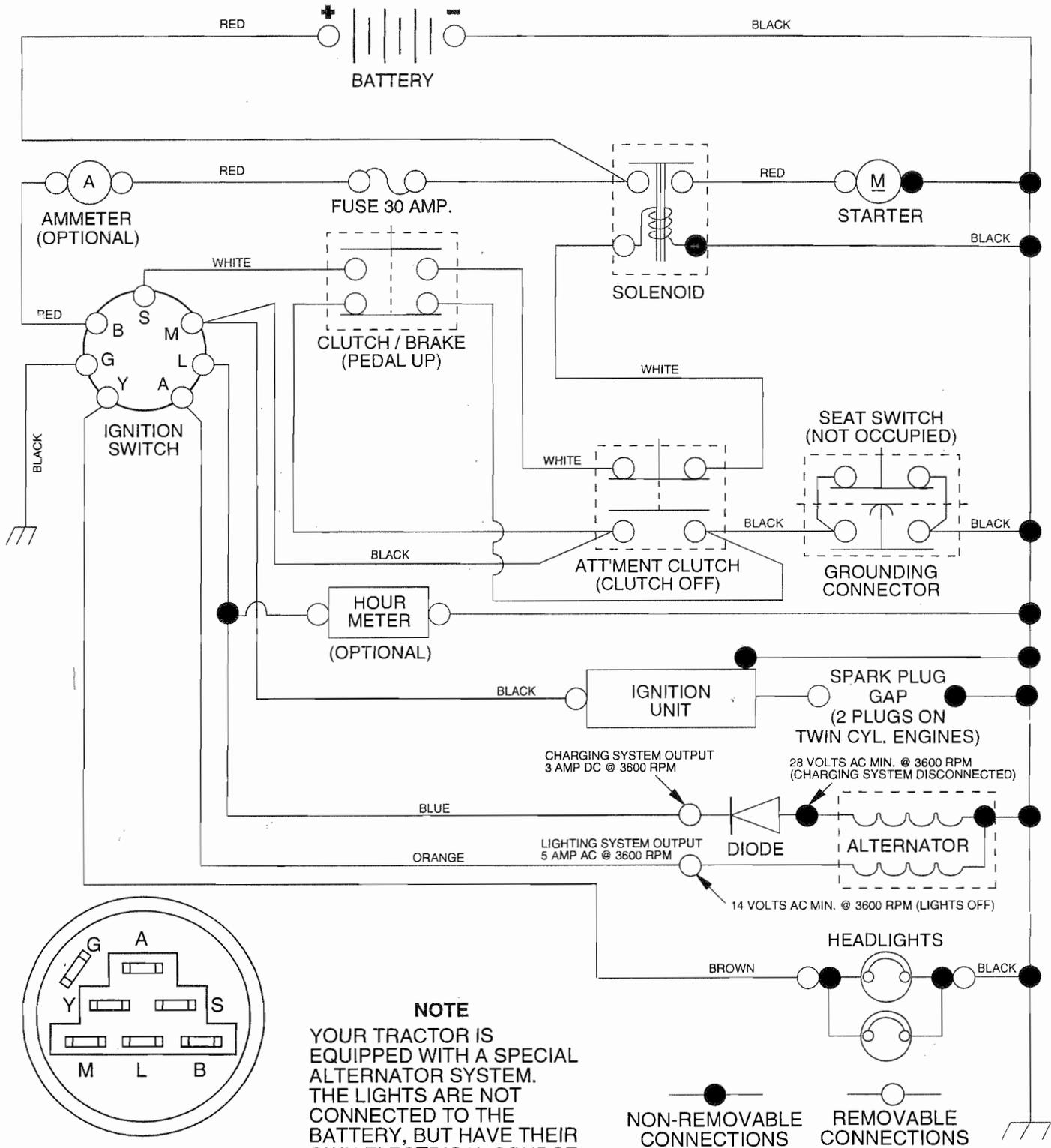
TROUBLESHOOTING POINTS

PROBLEM	CAUSE	CORRECTION
Engine continues to run when operator leaves seat with attachment clutch engaged	<ol style="list-style-type: none"> 1. Faulty operator-safety presence control system. 	<ol style="list-style-type: none"> 1. Check wiring, switches and connections. If not corrected, contact an authorized service center/department.
Poor cut - uneven	<ol style="list-style-type: none"> 1. Worn, bent or loose blade. 2. Mower deck not level. 3. Buildup of grass, leaves, and trash under mower. 4. Bent blade mandrel. 5. Clogged mower deck vent holes from buildup of grass, leaves, and trash around mandrels. 	<ol style="list-style-type: none"> 1. Replace blade. Tighten blade bolt. 2. Level mower deck. 3. Clean underside of mower housing. 4. Replace blade mandrel. 5. Clean around mandrels to open vent holes.
Mower blades will not rotate	<ol style="list-style-type: none"> 1. Obstruction in clutch mechanism. 2. Worn/damaged mower drive belt. 3. Frozen idler pulley. 4. Frozen blade mandrel. 	<ol style="list-style-type: none"> 1. Remove obstruction. 2. Replace mower drive belt. 3. Replace idler pulley. 4. Replace blade mandrel.
Poor grass discharge	<ol style="list-style-type: none"> 1. Engine speed too slow. 2. Travel speed too fast. 3. Wet grass. 4. Mower deck not level. 5. Low/uneven tire air pressure. 6. Worn, bent or loose blade. 7. Buildup of grass, leaves and trash under mower. 8. Mower drive belt worn. 9. Blades improperly installed. 10. Improper blades used. 11. Clogged mower deck vent holes from buildup of grass, leaves, and trash around mandrels. 	<ol style="list-style-type: none"> 1. Place throttle control in "FAST" position. 2. Shift to slower speed. 3. Allow grass to dry before mowing. 4. Level mower deck. 5. Check tires for proper air pressure. 6. Replace/sharpen blade. Tighten blade bolt. 7. Clean underside of mower housing. 8. Replace mower drive belt. 9. Reinstall blades sharp edge down. 10. Replace with blades listed in this manual. 11. Clean around mandrels to open vent holes.
Headlight(s) not working (if so equipped)	<ol style="list-style-type: none"> 1. Switch is "OFF". 2. Bulb(s) burned out. 3. Faulty light switch. 4. Loose or damaged wiring. 5. Blown fuse. 	<ol style="list-style-type: none"> 1. Turn switch "ON". 2. Replace bulb(s). 3. Check/replace light switch. 4. Check wiring and connections. 5. Replace fuse.
Battery will not charge	<ol style="list-style-type: none"> 1. Bad battery cell(s). 2. Poor cable connections. 3. Faulty regulator (if so equipped). 4. Faulty alternator. 	<ol style="list-style-type: none"> 1. Replace battery. 2. Check/clean all connections. 3. Replace regulator. 4. Replace alternator.
Loss of drive	<ol style="list-style-type: none"> 1. Freewheel control in "disengaged" position. 2. Motion drive belt worn, damaged, or broken. 3. Air trapped in transmission during shipment or servicing. 	<ol style="list-style-type: none"> 1. Place freewheel control in "engaged" position. 2. Replace motion drive belt. 3. Purge transmission.
Engine "backfires" when turning engine "OFF"	<ol style="list-style-type: none"> 1. Engine throttle control not set at "SLOW" position for 30 seconds before stopping engine. 	<ol style="list-style-type: none"> 1. Move throttle control to "SLOW" position and allow to idle for 30 seconds before stopping engine.

SERVICE NOTES

TRACTOR -- MODEL NUMBER HD185H46B

SCHEMATIC



IGNITION SWITCH

POSITION	CIRCUIT	"MAKE"
OFF	G + M + L	NONE
RUN/LIGHT	B + L	A + Y
RUN	B + L	NONE
START	B + L + S	NONE

NOTE
 YOUR TRACTOR IS EQUIPPED WITH A SPECIAL ALTERNATOR SYSTEM. THE LIGHTS ARE NOT CONNECTED TO THE BATTERY, BUT HAVE THEIR OWN ELECTRICAL SOURCE. BECAUSE OF THIS, THE BRIGHTNESS OF THE LIGHTS WILL CHANGE WITH ENGINE SPEED. AT IDLE THE LIGHTS WILL DIM. AS THE ENGINE IS SPEEDED UP, THE LIGHTS WILL BECOME THEIR BRIGHTEST.

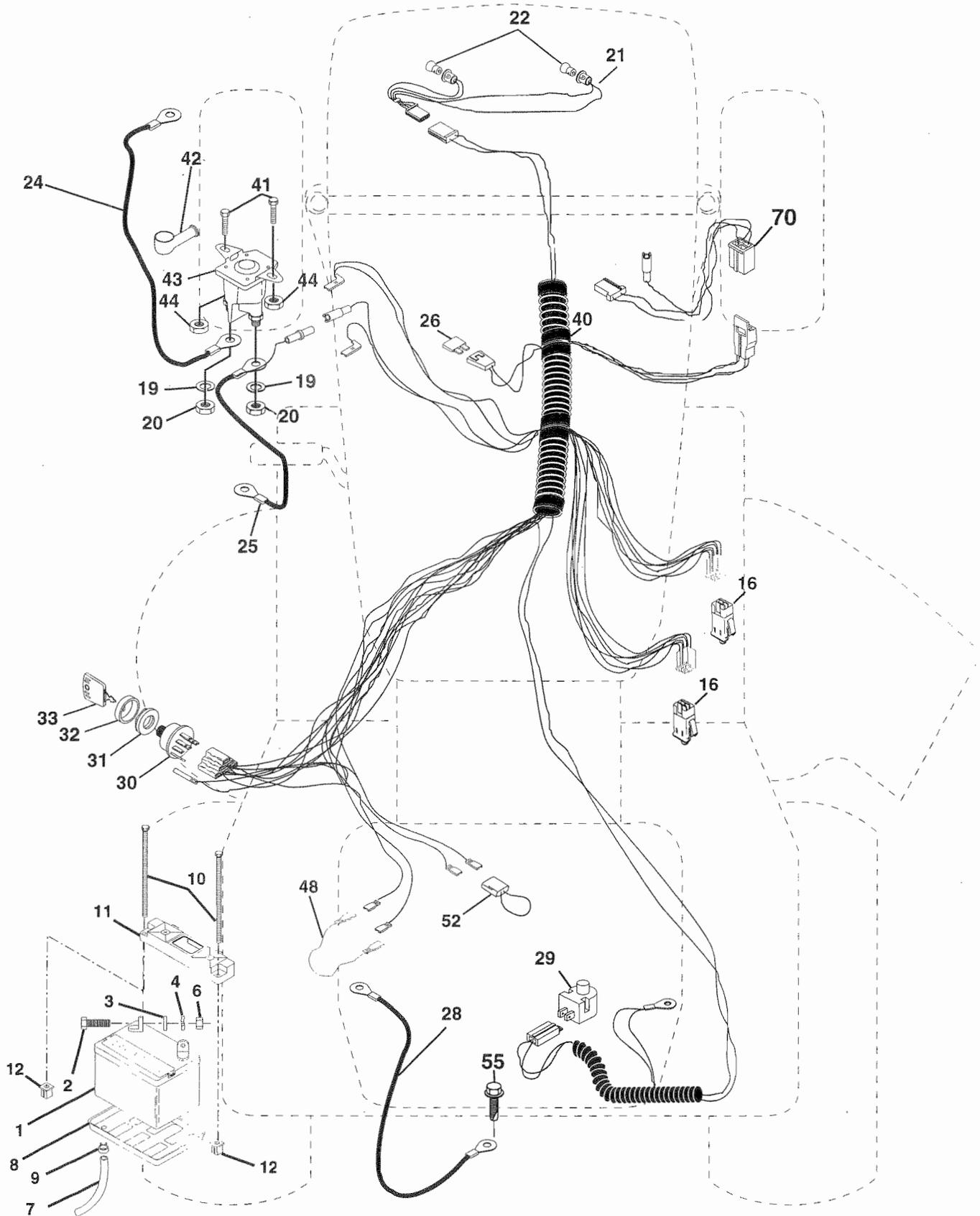
NON-REMOVABLE CONNECTIONS REMOVABLE CONNECTIONS

WIRING INSULATED CLIPS
NOTE: IF WIRING INSULATED CLIPS WERE REMOVED FOR SERVICING OF UNIT, THEY SHOULD BE REPLACED TO PROPERLY SECURE YOUR WIRING.

REPAIR PARTS

TRACTOR -- MODEL NUMBER HD185H46B

ELECTRICAL



REPAIR PARTS

TRACTOR -- MODEL NUMBER HD185H46B

ELECTRICAL

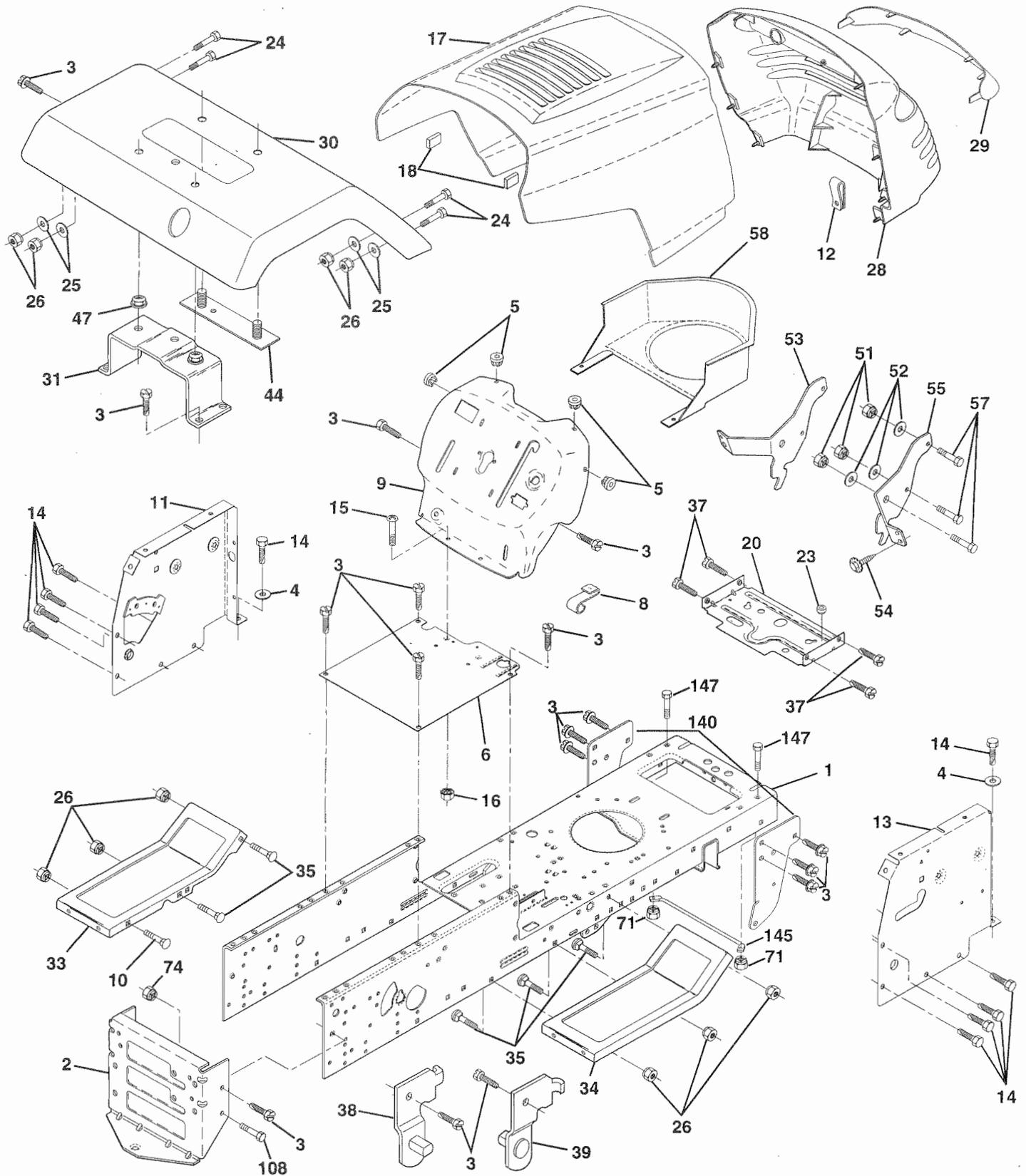
KEY PART NO. NO.	DESCRIPTION
1 146140	Battery 12 Volt 30 amp
2 74760412	Bolt Hex Hd 1/4-20unc X 3/4
3 19091016	Washer 9/32 X 5/8 X 16 Ga
4 10040400	Washer Lock Hvy Helical 1/4
6 73220400	Nut Fin Hex 1/4-20 Unc
7 7697J	Tube Plastic 46"
8 7603J	Tray Battery 7 80 X 5 25 Blk
9 109596X	Clamp Hose Olive
10 145211	Bolt RdHd Sqnk 1/4-20 x 7-1/2
11 150109	Holddown Battery Front Mount
12 145769	Nut Push Nylon 1/4 Battery
16 153664	Switch Interlock Push-In
19 10090400	Washer Lock 1/4
20 73350400	Nut Jam Hex 1/4-20 Unc
21 136850	Harness Asm Light W/4152j
22 4152J	Bulb Light #1156
24 4799J	Cable Ground 6 Ga black
25 146148	Cable Battery 6 Ga 22" red
26 108824X	Fuse 30 AMP Auto Green
28 145491	Cable Battery 6 Ga 21" black
29 121305X	Switch Plunger
30 140301	Switch Ign 3 pos
31 124211	Nut Ignition
32 141226	Cover Sw Key Blk 1 25 Text SLT
33 122147X	Key Ign Molded
40 156442	Harness Ign
41 71110408	Bolt Fin Hex 1/4-20uncx1/2 Gr5
42 131563	Cover Terminal Red
43 145673	Solenoid
44 73640400	Nut Keps Hex 1/4-20 Unc
45 121433X	Ammeter Rectangular
52 141940	Protection Wire Loop
55 17490508	Screw Thdrol 5/16-18 x 1/2 Tyt
70 140413	Harness Engine B&S

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

REPAIR PARTS

TRACTOR - - MODEL NUMBER HD185H46B

CHASSIS AND ENCLOSURES



REPAIR PARTS

TRACTOR - - MODEL NUMBER HD185H46B

CHASSIS AND ENCLOSURES

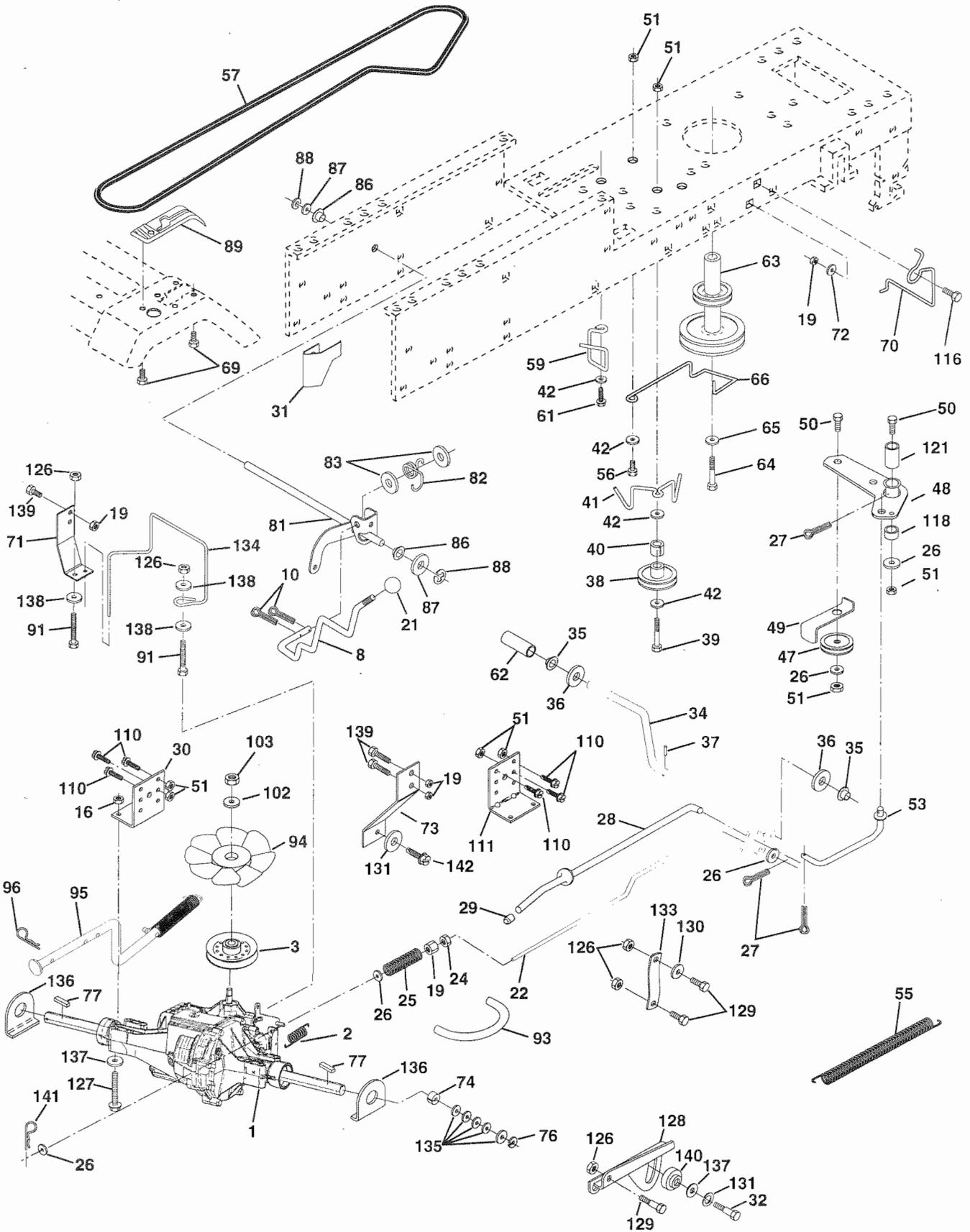
KEY NO.	PART NO.	DESCRIPTION
1	159530	Chassis Wldmt.
2	140356	Drawbar Stretch 94
3	17490612	Screw Thdrol. 3/8-16 x 3/4 Ty-Tt
4	19131216	Washer 13/32 x 3/4 x 16 Ga.
5	155272	Bumper Hood/Dash
6	155923	Saddle Fender Shift Flat
8	126471X	Clip Insulator
9	147633X011	Dash Private Label
10	72140608	Bolt RdHd Sqnk. 3/8-16 Unc x 1
11	156682	Panel Asm. Dash Lh
12	145660	Clip Tinnerman Grile P/L
13	157230	Panel Dash Rh
14	17490608	Screw Thdrol. 3/8-16 x 1/2 Ty-Tt
15	74180512	Screw Mach Trhd 5/16-18 Unc x 3/4
16	73510500	Nut Keps 5/16-18 Unc
17	139394X428	Hood Pnt Steel Private Label
18	126938X	Bumper Hood
20	156437	Plate Mtg Battery/Fuel Tank
23	124028X	Bushing Snap Nyl. Blk Fuel Line
24	74780616	Bolt Fin Hex 3/8-16 Unc x 1 Gr. 5
25	19131312	Washer 13/32 x 13/16 x 12 Ga.
26	73800600	Nut Lock Hex w/Insert 3/8-16 UNC
28	157373	Grill Private Lable Blk
29	140273	Lens Grille Private label
30	140002X428	Fender Asm LT w/Shift MS-428
31	137113	Bracket Fender
33	145244X428	Footrest Pnt. Lh Ms-428
34	145243X428	Footrest Pnt. Rh Ms-428
35	72110606	Bolt RdHd Sht. Sqnk. 3/8-16 x 3/4
37	17490508	Screw Thdrol. 5/16-18 x 1/2 Tyt
38	139886	Bracket Asm. Pvt. Lh Mwr. Rear
39	139887	Bracket Asm. Pvt. Rh Mwr. Rear
44	140675	Strap Asm. Fender
47	105531X	Nut Push Nylon
51	73800400	Nut Lock Hex W/Ins. 1/4-20
52	19091416	Washer 9/32 x 7/8 x 16 Ga.
53	144697	Bracket Grille LH
54	17030814	Screw Lock Spider #8 x 7/8
55	144696	Bracket, Grille RH
57	74780412	Bolt Fin Hex 1/4-20 x .75
58	140547	Air Duct Private Label
71	73680400	Nut Crownlock 1/4-20 UNC
74	73680600	Nut Crownlock 3/8-16 UNC
108	74760612	Bolt, Fin Hex 3/8-16 UNC x 3.4
140	158418	Bracket Suspension Front
145	156524	Rod Pivot Chassis/Hood
147	74760412	Bolt Hex Hd 1/4-20 UNC x 3/4

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

REPAIR PARTS

TRACTOR -- MODEL NUMBER HD185H46B

DRIVE



REPAIR PARTS

TRACTOR - - MODEL NUMBER HD185H46B

DRIVE

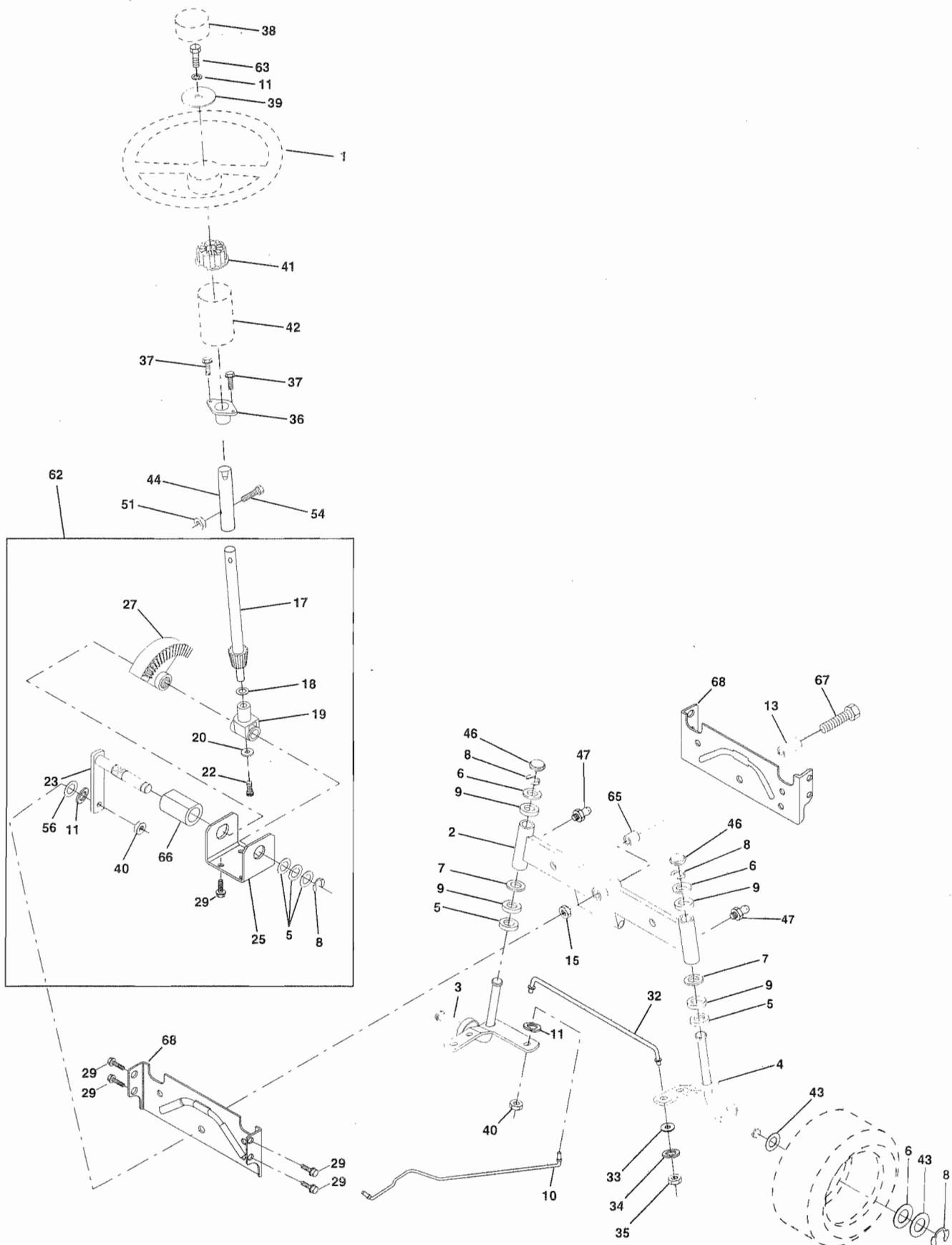
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	157981	Transaxle (See Breakdown) Hydro	72	19132012	Washer 13/32 x 1-1/4 x 12 Gauge
		Gear Model Number 314-3000	73	158282	Strap Torque Rh Hydro
2	142431	Spring, Return, Brake	74	159140	Spacer Axle Hydro 300
3	143995	Pulley, Transaxle	76	12000053	E-Ring
6	17490512	Screw Thdrol 5/16-18 x 3/4	77	9396E	Key, Square
8	141002	Rod Shift Hydro YT	81	158281	Shaft Asm. Cross Hydro 20" Tires
10	76020416	Pin Cotter 1/8 x 1 CAD	82	123782X	Spring Torsion T/A
16	73800500	Nut Lock Hex W/Ins. 5/16-18 Unc	83	19171216	Washer 17/32 x 3/4 x 16 Ga.
19	73800600	Nut Lock Hex W/Wsh 3/8-16 Unc	86	71208	Bushing Rod Strig. 629/632 ID
21	106933X	Knob, Deluxe 1/2-13	87	19212016	Washer 21/32 x 1-1/4 x 16 Ga.
22	158274	Rod, Brake Hydro	88	12000008	Ring Klip #5304-62
24	73350600	Nut, Hex Jam 3/8-16 Unc	89	151146	Console, Shift
25	106888X	Spring, Brake Rod	91	74780536	Bolt Fin Hex 5/16-18 x 2-1/4
26	19131316	Washer	93	142564	Line Fuel Hydro 4"
27	76020412	Pin Cotter 1/8 x 3/4 CAD.	94	140462	Fan, Hydro 7"
28	145204	Rod, Parking Brake	95	158508	Control Bypass Hydro 20" Tires
29	71673	Cap, Parking Brake	96	4497H	Retainer Spring 1" Zinc/Cad
30	123780X	Bracket, Transaxle	100	19111216	Washer 11/32 x 3/4 x 16 Ga.
31	123791X	Keeper Belt Lh	102	141322	Washer Bellville .501D x 1.50D
32	74760512	Bolt Hex Hd 5/16-18 Unc x 3/4	103	73940800	Nut Hex Jam Toplock 1/4-20 Unf
34	155071	Shaft, Foot Pedal	110	74760612	Bolt Fin Hex 3/8-16 UNC x 3/4
35	120183X	Bearing, Nylon	111	123776X	Bracket Transaxle RH
36	19211616	Washer	116	72110610	Bolt Rdhd Sqnk 3/8-16 x 1.25
37	1572H	Pin, Roll	118	154774	Spacer Bellcrank
38	123674X	Pulley, Idler, Flat	121	154419	Nyliner Clutching STL
39	74760644	Bolt	126	1685H	Nut Lock 5/16-18 NC Thd
40	4470J	Spacer, Split	127	74780548	Bolt Hex Fig Hd 5/16-18 UNC x 3 Gr. 5
41	154777	Keeper, Belt Retainer	128	158284	Bracket Neutral Adjust HG-3000
42	19131312	Washer 13/32 x 13/16 x 12 Gauge	129	105529X	Bolt shoulder 5/16-18 UNC Blkz
47	127783	Pulley, Idler, V-Groove	130	19111610	Washer Shim .53 x 1.25 x .0598
48	154604	Bellcrank Assembly	131	10140500	Washer Lock 5/16 NDM PLTD
49	123205X	Retainer, Belt	132	19171512	Washer 17/32 x 15/32 x 15/16 x 12 Ga.
50	74760624	Bolt	133	159697	Link Shift Hydro 3000
51	73680600	Nut Crownlock 3/8-16 UNC	134	158278	Keeper Belt RH Hydro 3000
53	105710X	Link, Clutch	135	123800X	Washer 1-1/32 x 1-5/8 x 16 Ga.
55	105709X	Spring, Return, Clutch	136	158531	Washer Axle Hydro 3000
56	74760620	Bolt Hex 3/8-16 x 1-1/4	137	19111212	Washer 11/32 x 3/4 x 12 Ga.
57	137675	V-Belt, Ground Drive	138	19112016	Washer 11/32 x 1.25 x 16 Ga.
59	140312	Keeper, Center Span	139	74780612	Bolt Fin Hex 3/8-16 UNC x 3/4 Gr. 5
61	17490612	Screw Thdrol. 3/8-16 x 3/4 Ty. TT	140	4475J	Bushing Pinion Sector
62	8883R	Cover, Pedal	141	159197	Pin Hitch 1-3-16 Zinc Yellow
63	140186	Pulley, Engine	142	74330516	bolt 5/16 x 24 x 1
64	71170764	Bolt Hex 7/16-20 X 4 Gr. 5			
65	10040700	Washer			
66	154778	Keeper Belt Engine			
69	142432	Screw			
70	156470	Keeper Belt Engine RH			
71	158283	Strap Torque Lh Hydro			

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

REPAIR PARTS

TRACTOR - - MODEL NUMBER HD185H46B

STEERING ASSEMBLY



REPAIR PARTS

TRACTOR - - MODEL NUMBER HD185H46B

STEERING ASSEMBLY

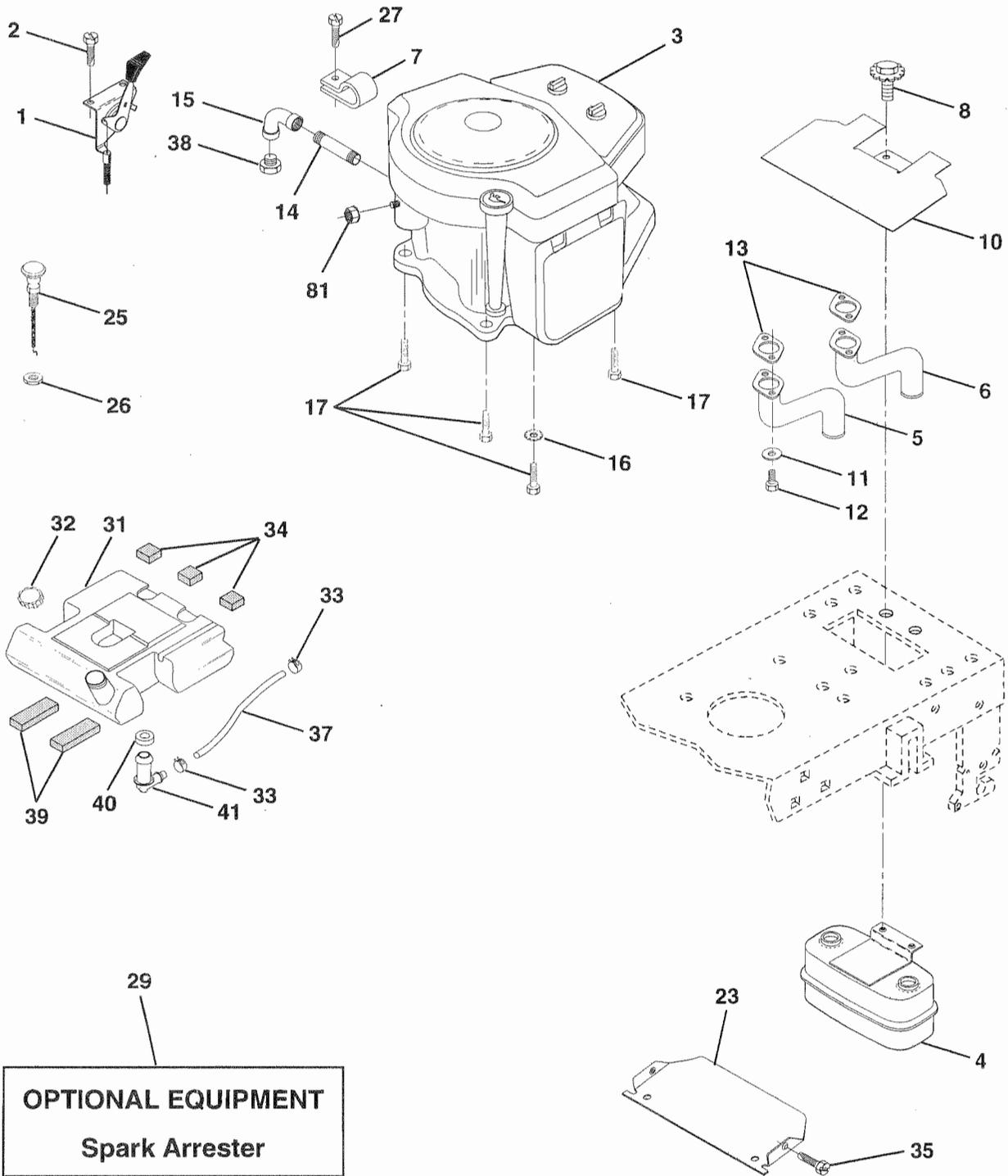
KEY NO.	PART NO.	DESCRIPTION
1	140044	Wheel Steering Ayp/kelch Blk
2	154427	Axle Asm Fr
3	156486	Spindle Asm LH
4	157475	Spindle Asm RH
5	6266H	Bearing Race Thrust Harden
6	121748X	Washer 25/32 X 1-5/8 X 16 Ga
7	19272016	Washer 27/32 X 1-1/4 X 16 Ga
8	12000029	Ring Klip #t5304-75
9	3366R	Bearing Col Strg Blk
10	156438	Link Drag Extended Stamped
11	10040600	Washer Lock Hvy Hlcl Spr 3/8
13	154779	Bearing Axle
15	73901000	Nut Lock Flange 5/8-11 Unc
17	156546	Shaft Asm Strg
18	57079	Washer Thrust 515x 750x 033
19	124035X	Support Shaft
20	126684X	Washer Shim 1/4 X 5/8 X 062
22	71200410	Screw Hex Socket 1/4-20 x 5/8
23	127501	Shaft Asm Pittman
25	154406	Bracket Steering
27	136874	Gear Sector 22 Teeth
29	17490612	Screw Thdrol 3/8-16x3/4 Ty-tt
32	139929	Rod Tie Wire Form 19 75 Mech
33	19111216	Washer 11/32 x 3/4 x 16 Ga.
34	10040500	Washer Lock Hvy Hlcl Spr 5/16
35	73810500	Locknut 5/16-24 UNF
36	155099	Bushing Steering
37	152927	Screw
38	140045	Cap Wheel Steer Ayp
39	19133808	Washer 13/32 x 2-3/8 x 8 Ga
40	7810H	Nut Lock Center 3/8-24 Unf
41	100711L	Adapter Wheel Strg
42	145054	Boot Dash P/L Steering
43	121749X	Washer 25/32 X 1 1/4 X 16 Ga
44	153720	Extension Steering
46	121232X	Cap Spindle Fr Top Blk
47	6855M	Fitting Grease
51	73800500	Nut Lock Hex W/Ins. 5/16-18 Unc P
54	74780520	Bolt Fin Hex 5/16-18 Unc P
56	19131210	Washer 13/32 x 3/4 x 10 Ga.
62	156594	Kit Steering Assembly Service
63	74780616	Bolt Fin Hex 3/8-16unc x 1 Gr. 5
65	154780	Spacer Axle
66	154404	Bearing Arm Pittman
67	74781044	Bolt Fin Hex 5/8-11 Unc x 2-3/4
68	154429	Brace Axle

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

REPAIR PARTS

TRACTOR - - MODEL NUMBER HD185H46B

ENGINE



REPAIR PARTS

TRACTOR - - MODEL NUMBER HD185H46B

ENGINE

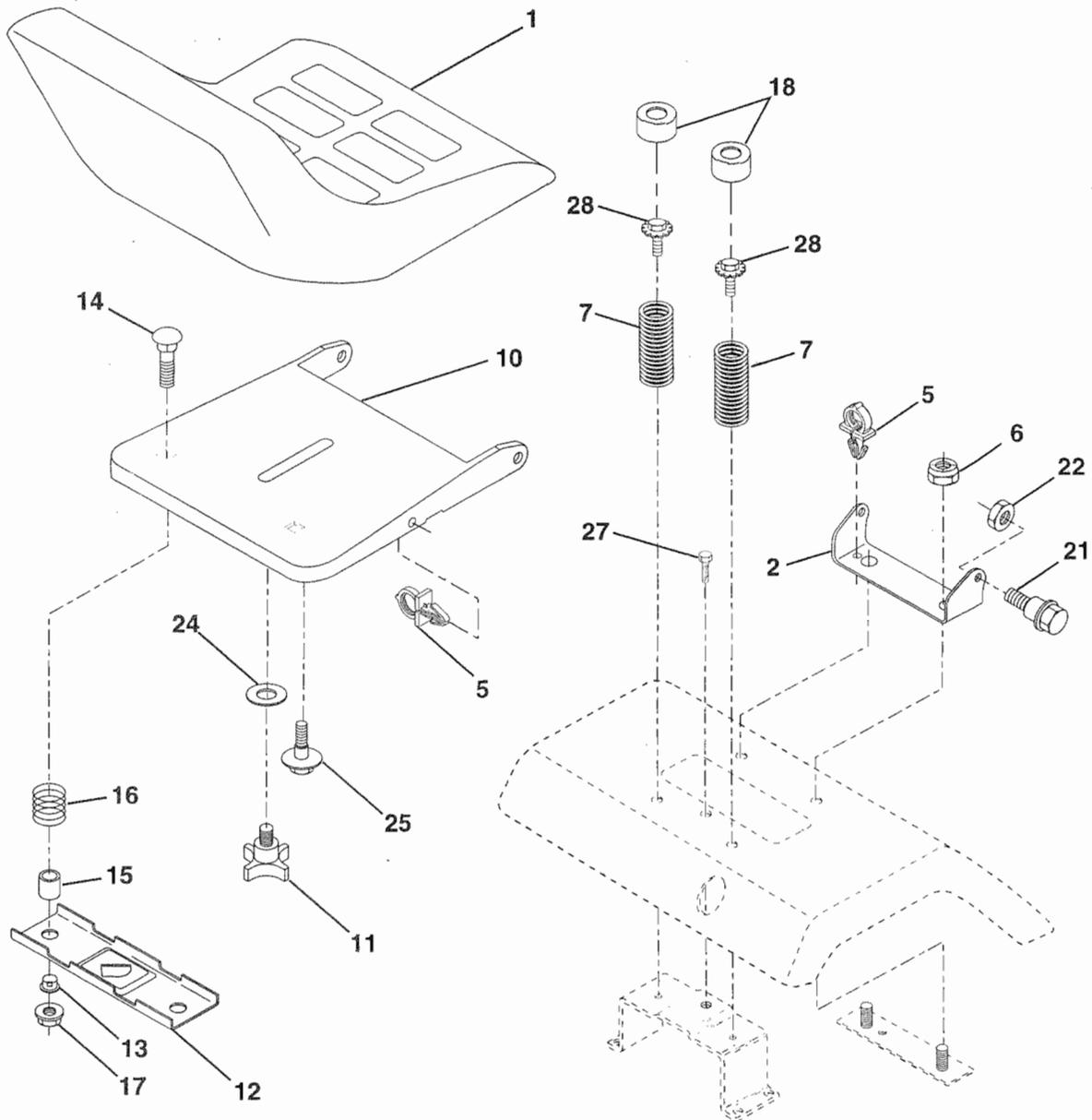
KEY NO.	PART NO.	DESCRIPTION
1	141295	Control Throt 35.5 LH Flag
2	17720410	Screw Hex Thd Cut 1/4-20x5/8 T
3	-----	Engine, Briggs Model No. 42D777
4	149723	Muffler Asm Twin Lo-Tone
5	144068	Exhaust Asm RH B&S 18 HP Vert
6	144069	Exhaust Asm LH B&S 18 HP Vert
7	138129	Clamp Tube Double Engine
8	150176	Bolt 5/16-18 UNC x 3/4 w/ Sems
10	145552	Shield Heat
11	10040400	Washer Lock Hvy Helical 1/4
12	74780412	Bolt Fin Hex 1/4-20unc X .75
13	272250	Gasket Muffler #272250
14	13280336	Nipple Pipe 4-1/2"
15	13200300	Elbow Std 90 Degree 3/8-18 Npt
16	11050600	Washer Lock Ext Tooth 3/8
17	17490624	Screw Thdrol 3/8-16 X 1-1/2 Tt
23	156123	Shield Browning
25	145996	Control Choke
26	73920600	Nut Keps 3/8-24 Unf
27	152927	Screw TT #10-32 x 5 x 3/8 Flange
29	137180	Kit Spark Arrestor
31	151346	Tank Fuel
32	140527	Cap Asm Fuel
33	123487X	Clamp Hose Blk
34	106082X	Pad Spacer
35	17490512	Screw Thdrol 5/16-18 x 3/4
37	8543R	Line Fuel 54"
38	-----	Plug Oil Drain (Order From Engine Manufacturer)
39	109227X	Pad Idler
40	3645J	Bushing
41	139277	Stem Fuel Tank
81	128861	Nut Flange 1/4-20 Starter Nut

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

TRACTOR - - MODEL NUMBER HD185H46B

SEAT ASSEMBLY



KEY NO.	PART NO.	DESCRIPTION
1	140118	Seat
2	140551	Bracket Pnt Pivot Seat (blk)
5	145006	Clip Push-In
6	STD541437	Nut Lock Hex W/Ins 3/8 -16 UNC
7	124181X	Spring Seat Cprsn 2 250 Blk Zi
10	155925	Pan Pnt Seat (blk)
11	120068X	Knob Seat 1/2-1/3 UNC
12	121246X	Bracket Pnt Mounting Switch
13	121248X	Bushing Snap Blk Nyl 50 Id
14	72050411	Bolt Rdhd Sht Nk 1/4-20x1-3/8
15	121249X	Spacer Split 28 X 88

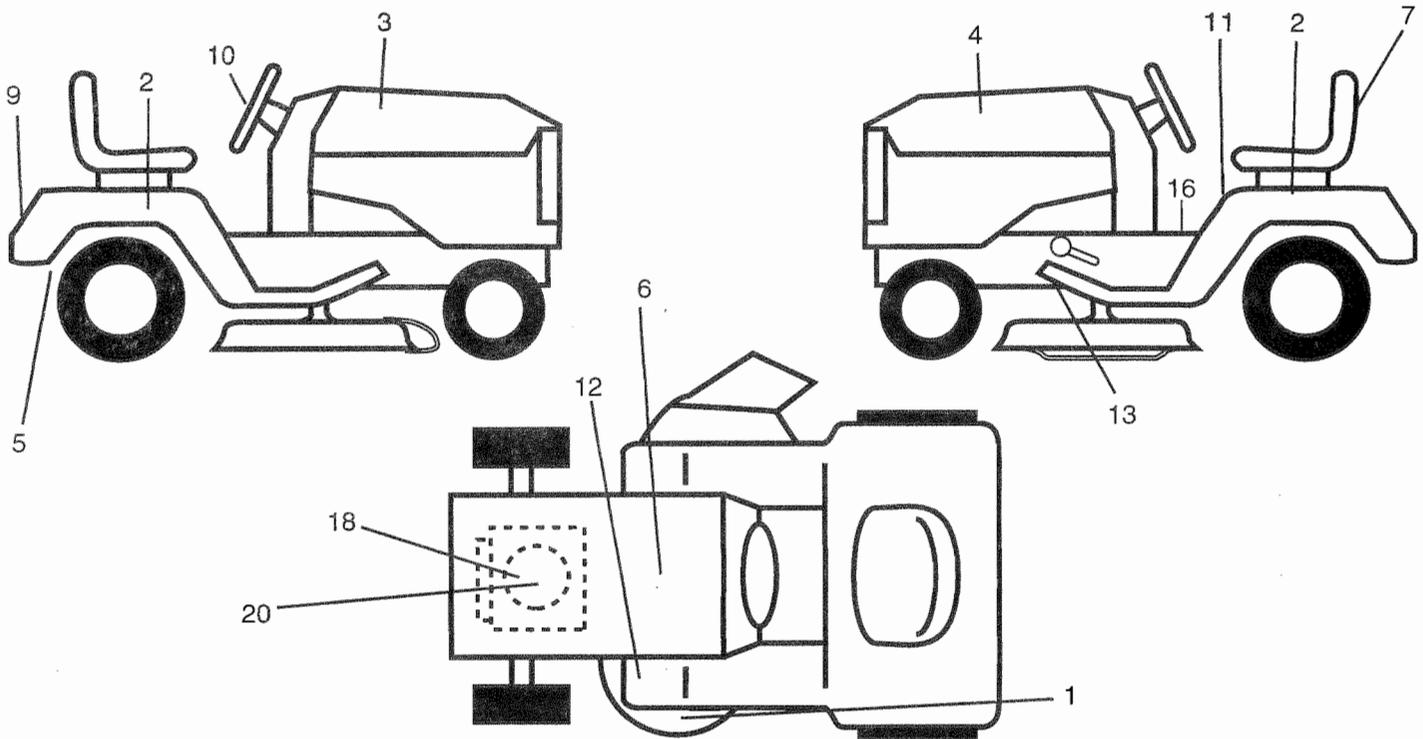
KEY NO.	PART NO.	DESCRIPTION
16	123740X	Spring Cprsn
17	123976X	Nut Lock 1/4 Lge Flg Gr 5 Zinc
18	124238X	Cap Spring Seat
21	153236	Bolt Shoulder 5/16-18 Unc Blkz-2A
22	STD541431	Nut Lock Hex W/Ins 5/16-18
24	19171912	Washer 17/32 X 1-3/16 X 12 Ga
25	127018X	Bolt Shoulder 5/16-18 X 62
27	17490608	Screw Thdrol. 3/8-16 x 1/2
28	150176	Bolt 5/16 -18 UNC X 3/4 W/Sems

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

TRACTOR -- MODEL NUMBER HD185H46B

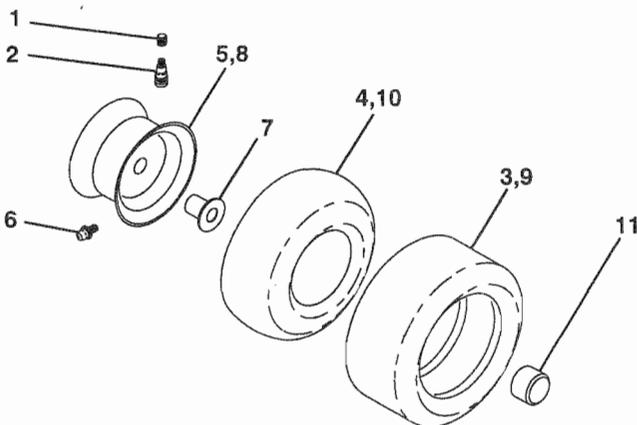
DECALS



KEY NO.	PART NO.	DESCRIPTION
1	158169	Decal Deck Mul/Bag
2	158434	Decal Fend Side Auto
3	158432	Decal Hood RH
4	158433	Decal Hood LH
5	142341	Decal Drawbar Cntrl Mvt Hyd Lt
6	145005	Decal Bat Dan/Poi P/L Sym
7	158317	Decal Seat Replcmnt
9	158166	Decal Fender Logo
10	158168	Decal Cap Strg

KEY NO.	PART NO.	DESCRIPTION
11	157141	Decal Danger English/Spanish
12	141897	Decal Clutch/Brake English/Spanish
13	139346	Decal V-Belt Dr Sch Tractor E
16	158181	Decal Sdl Oper Inst.
18	273284	Decal HP Engine
20	158318	Decal Replcmnt Engine
--	133671	Pad Footrest
--	138311	Decal Handle Lft Height Adjust
--	159759	Manual Owner's English
--	159760	Manual Owner's Spanish

WHEELS AND TIRES



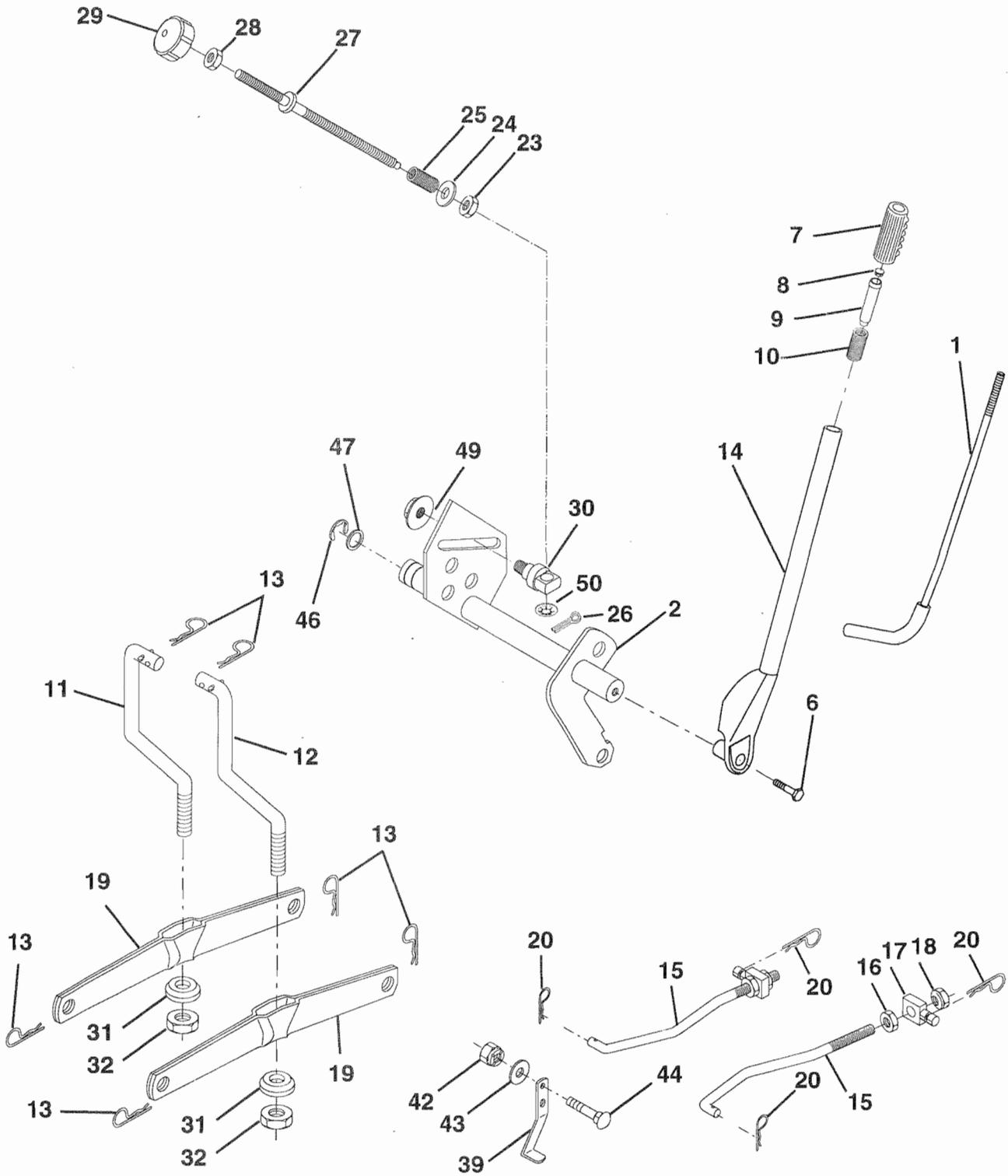
KEY NO.	PART NO.	DESCRIPTION
1	59192	Cap Valve Tire
2	65139	Stem Valve
3	106230X	Tire F Ts 16 X 6 5 - 8 Service
4	59904	Tube Front (Service Item Only)
5	106228X427	Rim Asm 8" front White Service
6	278H	Fitting Grease (Front Wheel Only)
7	9040H	Bearing Flange (Front Wheel Only)
8	124074X427	Rim Asm 12" rear White Service
9	124106X	Tire R Ts 23 x 8.5 x 12 C Service
10	7154J	Tube Rear (Service Item Only)
11	104757X	Cap Axle Blk 1 50 X 1 00
--	144334	Sealant, Tire (10 oz. Tube)

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

TRACTOR - - MODEL NUMBER HD185H46B

LIFT



REPAIR PARTS

TRACTOR - - MODEL NUMBER HD185H46B

LIFT

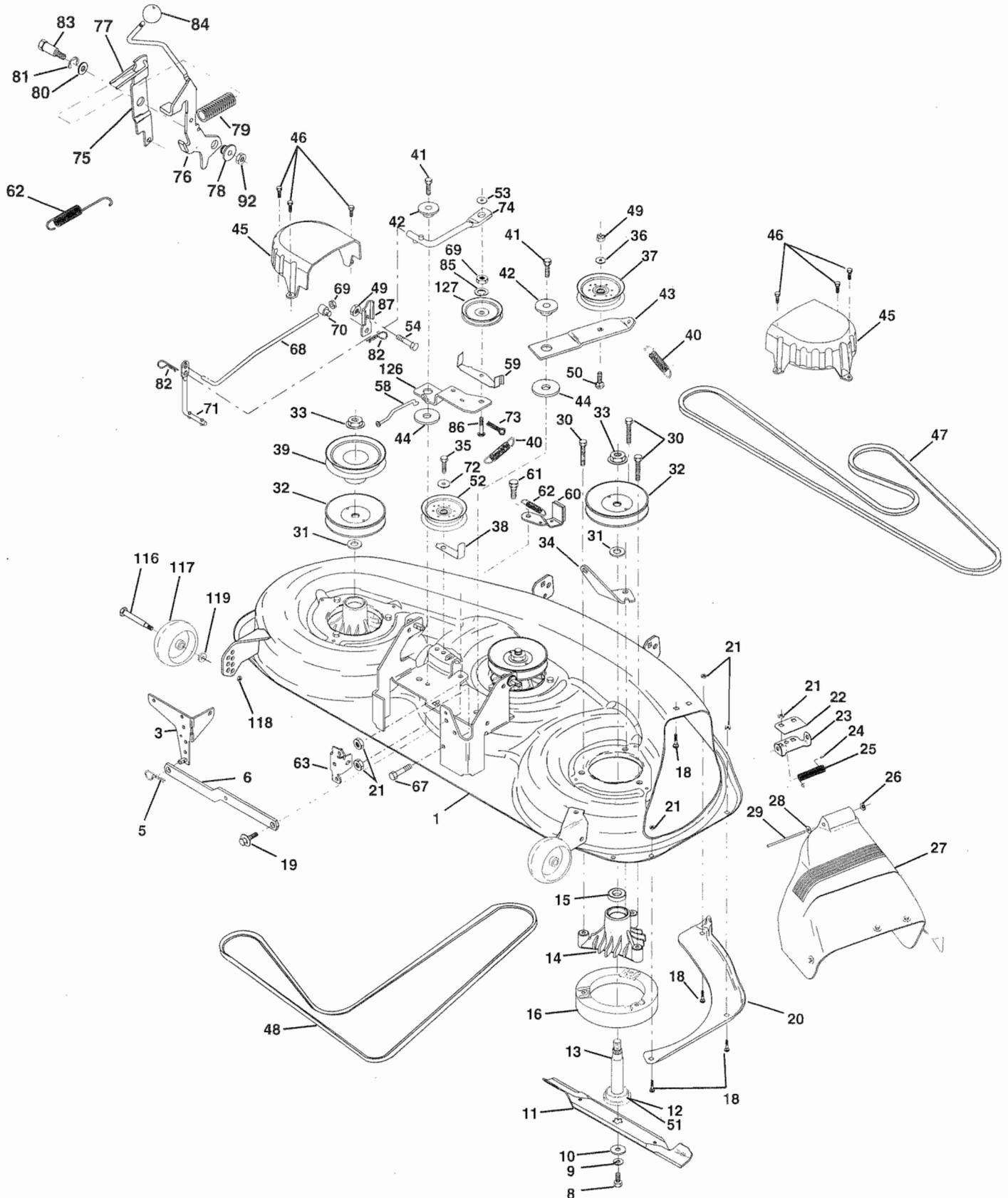
KEY NO.	PART NO.	DESCRIPTION
1	121006X	Rod, Lever
2	140673	Shaft, Lift
6	74780624	Bolt Hex 3/8-16 x 1-1/2
7	109413X	Grip, Handle
8	124526X	Button, Plunger
9	122364X	Plunger, Lever
10	2876H	Spring
11	145537	Link, Lift, LH
12	145536	Link, Lift, RH
13	4939M	Retainer, Spring
14	121002X	Lever, Lift (Includes Key No. 1)
15	127218	Link Front
16	73350800	Nut, Hex, Jam 1/3-13 UNC
17	130171	Trunnion, Blk Zinc
18	73800800	Nut, Lock W/Wsh 1/2-13
19	139868	Arm, Suspension
20	3146R	Retainer Spring
23	110807X	Nut, Hex, Special
24	19131016	Washer 13/32 x 5/8 x 16 Gauge
25	2876H	Spring
26	7602308	Pin, Cotter 3/32 x 1/2
27	126971X	Rod, Adjust, Lift
28	73350600	Nut, Hex, Jam 3/8-16
29	138057	Knob, Infinite Height Adjustment
30	150233	Trunnion
31	140302	Bearing Pvt Lift Spherical
32	73540600	Nut, Crownlock 3/8-24
39	142992	Stop Over Center
42	73680600	Nut Crownlock 3/8-16 UNC
43	19131612	Washer 13/32 x 1 x 12 Ga.
44	72240608	Bolt Carriage 3/8-16 x 1.00
46	12000022	E-Ring
47	19292016	Washer 29/32 x 1-1/4 x 16 Gauge
49	145212	Nut Hex Flange Lock
50	110452X	Nut Push Phos & Oil

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

TRACTOR - - MODEL NUMBER HD185H46B

MOWER DECK



REPAIR PARTS

TRACTOR -- MODEL NUMBER HD185H46B

MOWER DECK

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	156948	Deck Asm., Mower 46"	49	73680600	Nut, Crownlock 3/8-16 UNC
3	138457	Bracket Asm., Sway Bar	50	72110612	Bolt, Carriage 3/8-16 x 1-1/2 Gr. 5
5	4939M	Retainer Spring	51	153390	Washer Felt
6	130832	Arm, Suspension, Rear (Sway Bar)	52	156493	Pulley Idler
8	850857	Bolt, Patched 3/8-24 x 1-1/4 Gr. 8	58	156488	Link Brake 46"
9	10030600	Washer, Lock Hvy., Unplated 3/8	59	157034	Guide Belt 46"
10	140296	Washer, Hard Blade, Mower Vented	60	156722	Arm Asm Brake
11	157353	Blade, 46" Mower Deck	61	139888	Bolt Shld 5/16-18 Ty TT
12	129895	Bearing, Ball, Mandrel #6204	62	131870	Spring Return
13	137553	Shaft Asm. w/Lower Bearing (Includes Key No. 12)	63	156473	Bracket Clutch Rod Pivot
14	137152	Housing, Mandrel	67	74760512	Bolt Hex Hd 5/16-18 UNC x 3/4
15	110485X	Bearing, Ball, Mandrel	68	156487	Rod Clutch
16	140329	Stripper, Mower Round	69	73350600	Nut Hex Jam 3/8-16 UNC
18	72140505	Bolt, Carriage 5/16-18 x 5/8	70	142028	Trunnion Adj
19	132827	Bolt, Hex Head, Shoulder 5/16-18	71	133551	Rod Pivot w/Nibs
20	145055	Baffle, Vortex Mower 46"	72	19131312	Washer 13/32 x 13/16 x 12 Ga.
21	73680500	Nut, Crownlock 5/16-18 UNC	73	76020412	Pin Cotter 1/8 x 3/4
22	134753	Stiffener, Bracket	74	156474	Link Clutch 46"
23	131267	Bracket, Deflector	75	127847	Arm Clutch Secondary
24	105304X	Cap, Sleeve	76	154809	Lever Asm. Clutch Pri Plm Stlt
25	123713X	Spring, Torsion, Deflector	77	127845	Keeper Spring
26	110452X	Nut, Push	78	127498	Bushing .747 O.D. x .794 Lg Brass
27	157788	Shield, Deflector Mower	79	153701	Spring Mower Clutch
28	19111016	Washer 11/32 x 5/8 x 16 Ga.	80	121748X	Washer 25/32 x 1-5/8 x 16 Ga.
29	131491	Rod, Hinge	81	1200029	Ring Klip
30	138776	Screw, Hex Head, Thdroll	82	4497H	Retainer Spring 1"
31	129963	Washer, Spacer Mower Vented	83	128903	Bolt Shoulder 3/8-16 UNC
32	153531	Pulley, Mandrel	84	106932X	Knob Rd 3/8-16 Plstc Thds
33	137266	Nut, Flg. Top Lock Cntr. 9/16	85	10040600	Washer Lock Hvy Hlcl Spr. 3/8
34	144945	Anchor, Spring Deck 46"	86	158565	Bolt Carr Sh 3/8-16 x 2 Gr. 5
35	17490628	Screw, Thdroll 3/8-16 x 1-3/4 Tytt	87	158373	Bracket Extension
36	19131316	Washer 13/32 x 13/16 x 16 Ga.	88	74780616	Bolt Fin Hex 3/8-16 UNC x 1 Gr. 5
37	131494	Pulley, Idler, Flat	92	73800600	Nut Lock Hex w/ Ins 3/8-16 UNC
38	156086	Keeper, Belt, Idler	116	146851	Bolt, Shoulder
39	144917	Pulley, Idler, Driven	117	146850	Gauge Wheel, Medium
40	137273	Spring, Secondary 44/46/50 Vent	118	73930600	Nut, Centerlock 3/8-16 UNC
41	17490620	Screw, Thdroll 3/8-16 x 1-1/4 Tytt	119	19121414	Washer 3/8 x 7/8 x 14 Ga.
42	122052X	Spacer, Retainer	126	156472	Arm, Idler, Primary Deck 46"
43	144949	Arm, Idler Secondary	127	146763	Pulley, Idler, V-Groove Dim. 4.25
44	133943	Washer, Hardened	--	157612	Deck Complete (Std. Deck-Order separately gauge wheel components Key Nos. 116-118)
45	145059	Cover, Mandrel Deck			
46	137729	Screw, Thdroll. 1/4-20 x 5/8			
47	144959	V-Belt, Mower, Secondary			
48	158818	V-Belt, Mower, Primary			

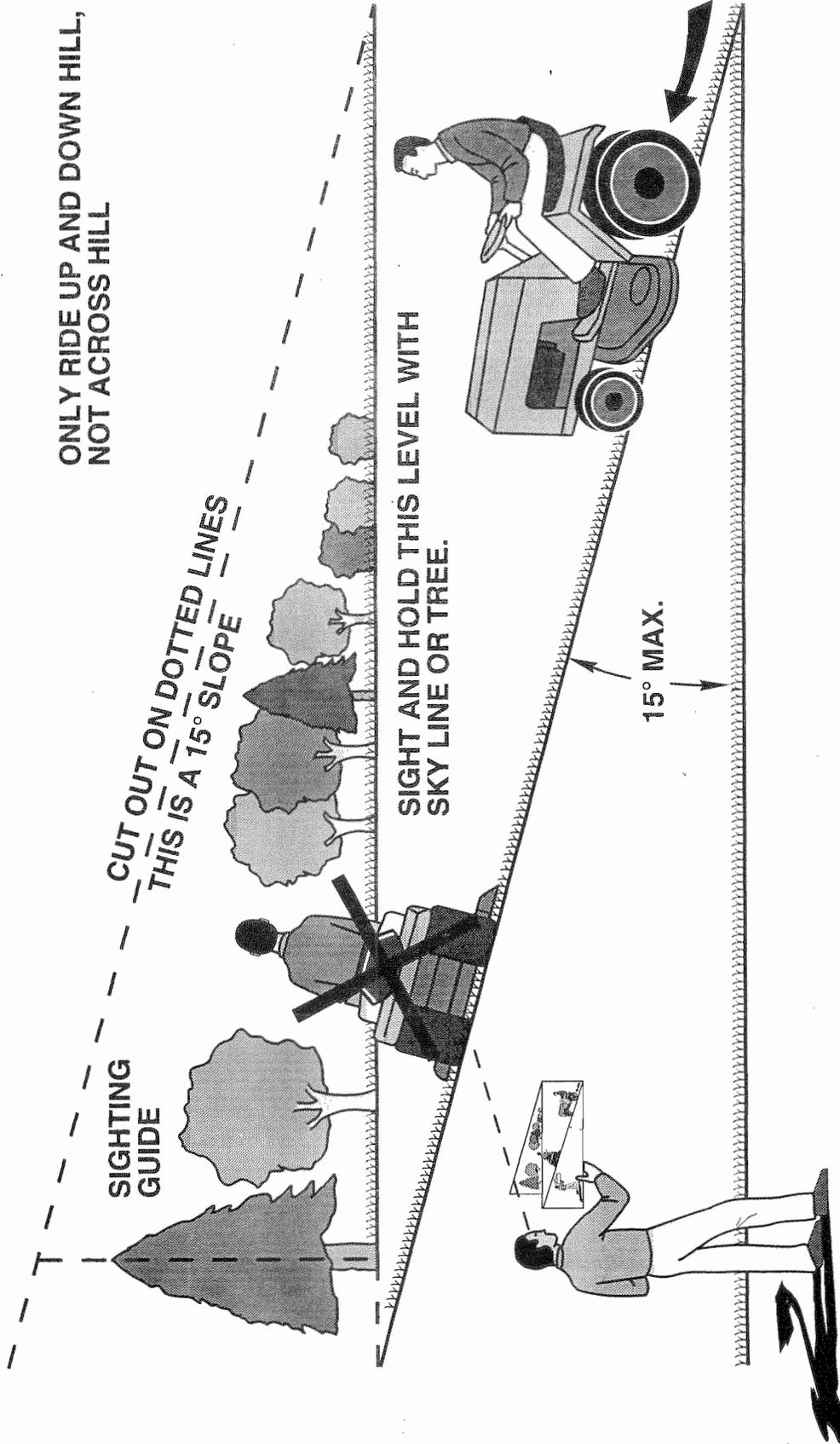
NOTE: All component dimensions given in U.S. inches
1 inch = 25.4 mm

SERVICE NOTES

SERVICE NOTES

SERVICE NOTES

SUGGESTED GUIDE FOR SIGHTING SLOPES FOR SAFE OPERATION



 Operate your Tractor up and down the face of slopes (not greater than 15°), never across the face. Make turns gradually to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.

Poulan