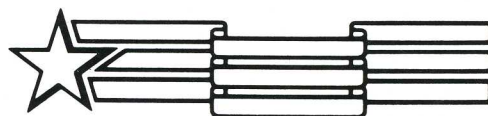




# Ingersoll

FRONT CUT MOWER  
5018  
Operator's Manual 8-57440



QUALITY IN THE AMERICAN TRADITION

Ingersoll Equipment Co., Inc.

Winneconne, Wisconsin 54986-9576



**This Safety Alert Symbol Indicates Important Safety Messages In This Manual When You See This Symbol Carefully Read The Message That Follows and Be Alert To The Possibility Of Personal Injury Or Death**

**IF THIS MACHINE IS USED BY AN EMPLOYEE OR IS LOANED OR RENTED, MAKE ABSOLUTELY CERTAIN THAT THE OPERATOR(S), PRIOR TO OPERATING:**

- 1. IS INSTRUCTED IN SAFE AND PROPER USE.**
- 2. REVIEWS AND UNDERSTANDS THE MANUAL(S) PERTAINING TO THE MACHINE.**

751253



## **WARNING**

### **BEFORE STARTING ENGINE**

**STUDY OPERATOR'S MANUAL SAFETY MESSAGES  
READ ALL SAFETY SIGNS ON MACHINE  
CLEAR THE AREA OF OTHER PERSONS**

### **LEARN & PRACTICE SAFE USE OF CONTROLS BEFORE OPERATING**

IT IS YOUR RESPONSIBILITY TO UNDERSTAND AND FOLLOW MANUFACTURER'S INSTRUCTIONS ON MACHINE OPERATION, SERVICE, AND TO OBSERVE PERTINENT LAWS AND REGULATIONS. OPERATOR AND SERVICE MANUALS MAY BE OBTAINED FROM YOUR EQUIPMENT DEALER.



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## MODEL

Model 5018 - 18 HP  
Kohler Air-cooled  
2 Cylinder Gas

TRACTOR:	Model Number	_____
	Serial Number	_____
DECK:	Model Number	_____
	Serial Number	_____
ENGINE:	Make	_____
	Model Number	_____
	Code Number	_____
	Type Number	_____

## SAFETY ALERT SYMBOL AND NOTATIONS

The following safety notations are used throughout this manual to call attention to special information or operating procedures. Understand the message in each notation and be alert to unsafe conditions and the possibility of personal injury.

NOTE points out general reference information regarding proper operation and maintenance practices.

### Important

An IMPORTANT statement indicates specific procedures or information that is required to prevent damage to the machine or its attachments.



This safety alert symbol is used to attract your attention! PERSONAL SAFETY IS INVOLVED! When you see this symbol - BECOME ALERT - HEED ITS MESSAGE.



### Caution

A CAUTION identifies safe operating practices or indicates unsafe conditions that could result in personal injury.



### Warning

A WARNING describes a condition where failure to follow the instructions could result in severe personal injury.



### Danger

A DANGER designates a condition where failure to follow instructions or heed warning will most likely result in serious personal injury or death.



# SAFETY FIRST

NOTE: DO NOT ATTEMPT TO START THE ENGINE UNTIL YOU HAVE READ THE ENGINE MANUAL.



THIS IS A SAFETY ALERT SYMBOL USED TO ALERT YOU TO POSSIBLE DANGER TO YOUR OR SOMEONE ELSE'S PERSONAL SAFETY. WHEN YOU SEE THIS SYMBOL, BE ALERT TO THE ACCOMPANYING MESSAGES IN THIS MANUAL.



## Caution

Your INGERSOLL Mower is equipped with an Ignition Interlock Safety System. This system is designed to protect the operator and others in the immediate area by preventing the engine from starting when the PTO switch is on or the lever lock is not in the locked position. This system should always be operative.

Listed below are a common set of rules you should read and follow, REMEMBER, your safety and the safety of others depends on the operator's awareness and adherence to these basic rules.

1. Remove all debris from area to be mowed. Keep persons and pets away from mowing area. Although area has been supposedly cleared of all debris, small objects may have been overlooked and may be discharged or thrown by mowing parts - causing injury to people, pets, property or to the mower.
2. To start the engine (A) lock steering levers in neutral (B) disengage PTO switch.
3. Never place hands or feet under deck while engine is running.
4. Never fill the fuel tank while the engine is hot. Wipe off any fuel that might have spilled. Replace fuel cap on tank.
5. Only persons thoroughly acquainted with rules of safety operation should be permitted to use the mower. Never allow a small child to operate, or be in the operating area of power equipment.
6. DO NOT attempt to get off or on mower when mower deck is engaged and engine is running. Wait until mower blades stop turning before getting on or off mower. Make sure the PTO is disengaged before parking mower.
7. Keep blades sharp and properly balanced. If your equipment should start vibrating, stop the engine and check for damaged or loose parts. Vibration is generally a warning of trouble.
8. When putting on new blades, make sure they are tight.
9. DO NOT attempt to clean deck housing, or to otherwise clean, adjust or repair machine before stopping mower engine. FOR YOUR OWN SAFETY, remove ignition key and disengage PTO switch.
10. Always keep all shields and guards in place. Mower must never be operated with any shields or guards removed.
11. Never leave machine running unattended. Remove key from ignition switch to prevent children from starting the mower.
12. Never run engine inside a building without proper ventilation.
13. ALWAYS operate the machine with the deck in the lowered position.
14. Always drive slowly over varied terrain to prevent tipping the mower.
15. DO NOT operate the mower at high speed going downhill and DO NOT TURN SHARP CORNERS WHILE GOING DOWNHILL. NOTE: The hydraulic pumps produce braking action when steering levers are moved toward neutral; this procedure is recommended for braking action.
16. DO NOT operate mower on inclines greater than 25%.
17. Always observe traffic laws while driving machine from one location to another.

18. Always stop the engine and inspect the machine after striking a foreign object. If damage is found, repair the machine immediately.
19. Keep all caution and safety decals legible at all times. Replace any that are damaged.

In addition to the above safety procedures for operation of the mower, the following precautions should be observed when using fuel. Its improper use, handling and storage can be dangerous:

ALWAYS USE AN APPROVED CONTAINER. PLACE CONTAINER OUT OF REACH OF CHILDREN.

NEVER ADD FUEL TO A RUNNING OR HOT ENGINE.

FILL TANK OUT OF DOORS AND WIPE UP ANY SPILLED FUEL.

POSITIVELY NO SMOKING.

## DEALER PREPARATION FOR OPERATION

**CUSTOMER NOTE:** Your INGERSOLL Dealer is expected to complete these preparation steps and review important information, including this manual, with you before or upon delivery of this unit.

The preparation information is included here so that you and your dealer may review it together.

**NOTE:** All reference to "Left", "Right", "Front" and "Rear" are from operator's position when seated.

### SEAT

Remove band from seat, raise seat lid and bolt seat to lid using lockwashers and nuts supplied. Check to see that wires to seat switch are connected.

### BATTERY

Battery is shipped without electrolyte. After removing battery from tractor, fill each cell with electrolyte to level indicator.

PERFORM ALL STEPS outlined in the Machine Check List on Page 5.

## IGNITION INTERLOCK SAFETY SYSTEM



### Danger

Failure of Ignition Interlock Safety System, together with improper operation of unit, could result in severe personal injury.

Check the Interlock Safety System to make sure it is functioning properly. Engine must not start unless steering

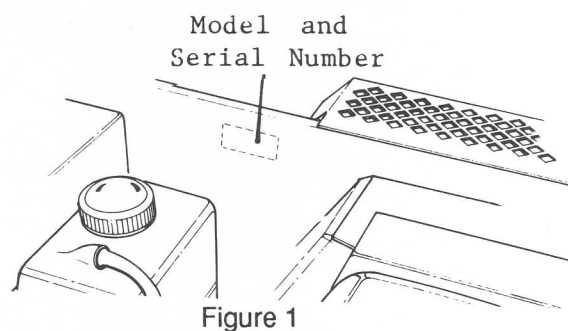
lever lock is locked and PTO switch is off. Engine must stop if operator leaves the seat when lever lock is unlocked.

## INSTALL DECK

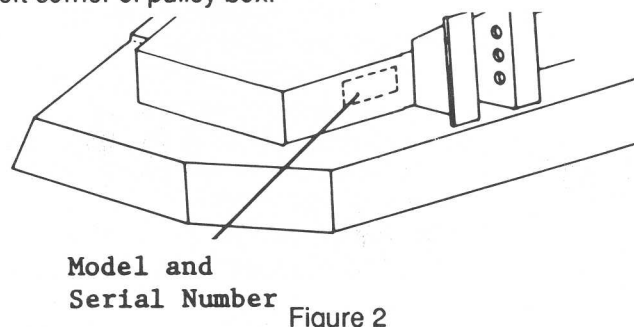
Refer to Installation of Deck to Tractor Section of operator's manual for instructions, See Page 16.

## SERIAL NUMBERS

Warranty is registered under Model and Serial Number found on the left side of the body under the seat lid.



The deck model and serial number is found on the back left corner of pulley box.





## DELIVERY

Using the operator's manual, instruct the customer on controls and operation of unit. Emphasize safety and discuss the Safety Precautions.

## Important

Remind the customer to change oil in engine crankcase and engine oil filter after first 5 hours. Adjust deck belts and deck drive belt after 2 hours of operation.

## MACHINE CHECK LIST

The following list should be acknowledged before a new machine is put into service:

1. Check engine oil level (See engine manual for recommendations).
2. Check oil level in hydrostatic system. The oil reservoir on the Regular Models (Plastic Reservoir) should be kept 1/2 full when oil is cold. On Commercial Model (with Metal Reservoir behind gas tank) oil level should be between 1" and 1 1/2" below top of tank when cold.
3. Fill fuel tank with fresh clean gasoline.
4. Check tension on deck drive belt and deck belts. These belts should have a 1/2" deflection on the longest span when 5 pounds of pressure is applied.
5. Check pump drive belt idler to see that it operates freely and applies tension on belt.
6. Check pressure in all tires (See Tire Pressure Chart, Figure 2A). The tire pressure must be the same in each drive wheel. This also applies to the deck gauge wheels.

TIRE	PRESSURE PSI
Drive Wheels	10 to 14
Tail Wheel	10 to 18
Gauge Wheels	8 to 14

Figure 2A

## MACHINE OPERATION

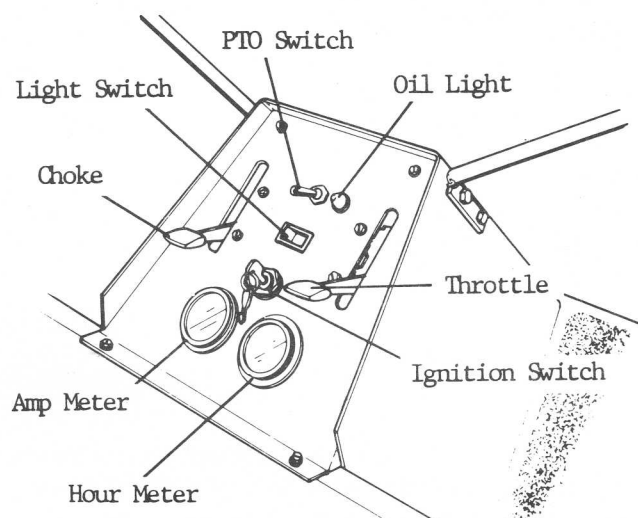


Figure 3

## STARTING AND STOPPING THE ENGINE

NOTE: The engine starter will not engage unless the steering levers are LOCKED in neutral and the PTO switch is in the OFF position. This is identified as the IGNITION INTERLOCK SAFETY SYSTEM.



### Warning

Never operate machine with Ignition Interlock Safety System disconnected, bypassed or malfunctioning.



### Warning

Engine exhaust gases contain poisonous carbon monoxide. Avoid inhaling fumes and never run the engine in a closed building or confined area.

1. Move the choke to the CLOSED position. On a warm engine (normal operating temperature) place the choke in the OPEN position.
2. Open throttle midway between SLOW and FAST position.
3. Turn key to START. Return key to ON when engine starts.
4. Gradually return the choke to the OPEN position after the engine starts and warms up.



## Caution

Do not crank the engine continuously for more than 10 seconds at a time. If the engine does not start, allow a 60 second cool-down period between starting attempts. Failure to follow these guidelines can burn out the starter motor.



## Caution

Always start the engine with the park brake on.

## TO STOP THE ENGINE

1. Run the engine at half throttle for a minimum of 15 seconds under no load to cool it down.
2. Turn ignition key to OFF and remove the key.

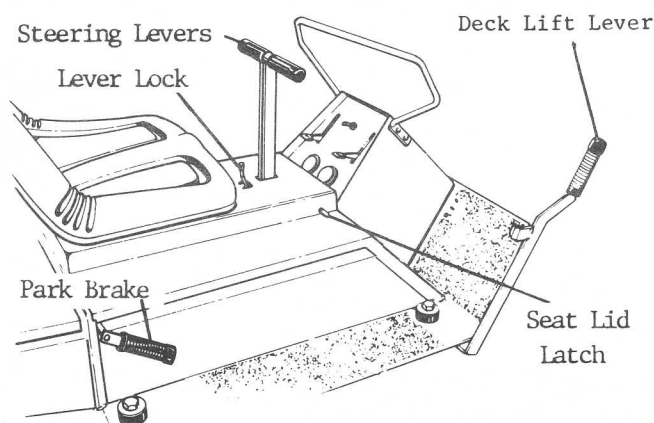


Figure 4

## DRIVING

After starting engine, place parking brake in run and unlock lever lock. If the lever lock is unlocked while the parking brake is on, it will kill the engine. Steering levers control forward and reverse movement as well as turning and braking. Each lever controls the direction of the corresponding drive wheel. To turn the machine to the right, move the right lever back and/or left lever forward. To turn the machine to the left, move the left lever back and/or the right lever forward.



## Caution

Any sudden movement of levers will result in sudden braking or opposite direction of travel.

## BRAKING

Forward or reverse movement is slowed or stopped by returning the steering levers toward the neutral position.

## ENGAGING PTO

The PTO switch, at the upper center of the dash panel, activates the electric clutch. To engage, set the engine throttle to 1/3 speed and pull out and up on PTO switch.



## Warning

Operator must be in the seat for the PTO to activate. When rotary mower is being used, extreme care must be taken not to direct discharge in the direction of persons or pets.

Again, the PTO will only activate if seated in operator's seat and the deck safety switch is plugged in.

## LIFTING THE ATTACHMENTS



## Warning

Never travel at road speeds with attachment in raised position.

The attachments for the tractor are raised and lowered by a hand lever located at the right front of the tractor. By pulling the lift lever back and down, it can be latched under the body frame to hold the attachment in the raised position for service and to clear obstacles.

An optional electric lift can be installed by which the attachment is raised and lowered by a two-way switch located on the dash. When operating with an electric lift, the lift should be fully extended, or all the way down, to allow the attachment to float.



## TILTING DECK FOR SERVICE

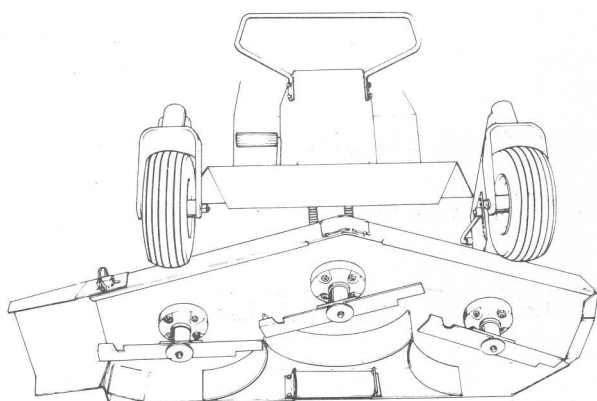


Figure 5



### Warning

Never handle the deck while the tractor engine is running.

1. SHUT THE ENGINE OFF and remove the key.
2. Stand in front of the deck facing tractor. Push on lift lever enough to remove the 2 deck pins.
3. Push on lift lever to raise deck a little and with the other hand raise the front of the deck into an upright position. Release the lift lever and lower the deck to the ground.
4. Place one of the deck pins in the hole to lock the deck up (Figure 6).
5. To lower the deck, remove deck pin and lower front of the deck to the ground. Push on the lift lever and replace deck pins at desired cutting height.

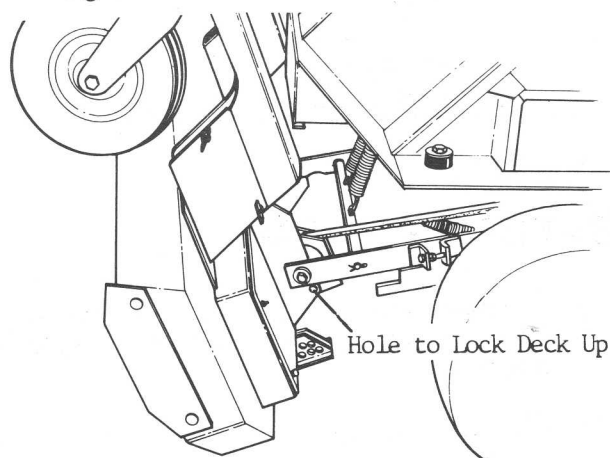


Figure 6

## LUBRICATION AND MAINTENANCE



### Warning

When servicing machine, stop engine, remove key and engage lever lock and parking brake.

Routine lubrication and maintenance is the most important step toward low upkeep, long machine life, satisfactory service and a quality mowing.

### QUICK REFERENCE MAINTENANCE SCHEDULE

REF.	SERVICE AT INTERVALS INDICATED	DAILY PRESTART	DAILY AFTER STOPPING	EVERY					ANNUALLY OR 100 HR.
				4 HR.	8 HR.	25 HR.	40 HR.	50 HR.	
A	Verify Ignition Interlock Safety System	X							
A	Check Engine Oil Level	X		X					
A	Check Fuel Level	X		X					
A	Check Hydraulic Oil Level	X							
A	Clean Oil Cooler (1)	X		X					
A	Visually Inspect Tractor	X							
A	Visually Inspect Tires	X							
A	Clean Underside of Deck		X						
A	Lube Deck Gauge Wheels				X				
A	Lube Tail Wheels				X				
B	Clean Air Filter Element (1)					X			
A	Lube Gauge Wheel Fork Tubes						X		
A	Lube Tail Wheel Fork Tube						X		
A	Check Grease in Gearbox								X
A	Lube Spindle Housing				X				
A	Check Battery and Connections						X		
C	Change Engine Oil (2)							X	
C	Change Engine Oil Filter (2)							X	
B	Clean Air Filter Paper Cartridge (1)								X
A	Check Tire Pressure With Gauge								X
A	Torque Wheel Nuts								X

#### NOTES:

- (1) More often under dusty conditions and when mower is equipped with center discharge deck
- (2) Initial oil and filter change is at 5 hours

#### REFERENCE:

- A - See Owner's Manual  
 B - See Engine Manual  
 C - See Both Owner's and Engine Manuals

Figure 7

## IGNITION INTERLOCK SAFETY SYSTEM

Check tractor Ignition Interlock Safety System daily, prior to operation. This system is important to the safety of persons in the area. It should be repaired immediately if malfunctioning. To check the system follow these steps:

1. Begin with parking brake engaged, PTO switch off and lever lock engaged.
2. Disengage lever lock and turn the ignition key to start position. The starter motor should not respond.
3. Lock the lever lock and turn PTO switch on and turn ignition key to start position. Starter motor should not respond.



If starter responds to either of these tests, turn off ignition and make corrections immediately. Otherwise, proceed with other preoperative checks.

## SEAT SWITCH

The seat switch should be checked before each operation. The machine should not be operated with an inoperative switch. To check seat switch:

1. Start engine while seated in operator's seat. Unlock the lever lock and raise from the seat - the engine should quit.
2. Return the lever lock to lock position and restart engine. Engage PTO switch and raise from the seat - the deck should disengage.

If engine fails to quit or deck does not disengage, turn off ignition switch and correct immediately.

## BREAK-IN SERVICES

A new engine requires special break-in maintenance services. Read the appropriate section of the owner's manual. Engine oil and filter should be changed after the first 5 hours of operation.

## ENGINE OIL SYSTEM

Check engine oil level at the start of each day and again after 4 hours of operation. Oil must always be between the marks on the dipstick.

Change engine oil after the first 5 hours of operation. Refer to engine manual for oil change intervals after the initial change.

To change oil, park tractor on level surface, remove ignition key, lock the lever lock and apply parking brake. Remove drain plug from bottom of engine. Remove oil filter (which is located in front of engine). Lubricate gasket on new filter with new engine oil and install. Tighten filter by hand only. Replace oil drain plug.

Add new oil through oil port plug. When adding new oil, check level with dipstick (DO NOT OVERFILL). See engine manual for oil capacity, API service class and viscosity.



## Warning

During normal operation oil heats to a level that may cause severe burns. Allow engine to cool before servicing.

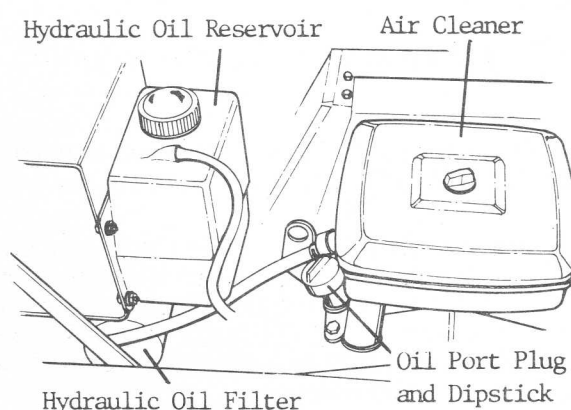


Figure 8

## HYDRAULIC SYSTEM



## Caution

Care must be taken to keep any dirt or moisture from entering the hydraulic system. Minute amounts of either will greatly reduce the life of the components.

The hydraulic system reservoir is located under the seat lid (plastic tank) on Regular Model and under the back cover (metal tank) on the Commercial Model.

Check hydraulic oil level daily. Oil level in plastic tank should be half full, in metal tank 1" to 1 1/2" below top of tank.

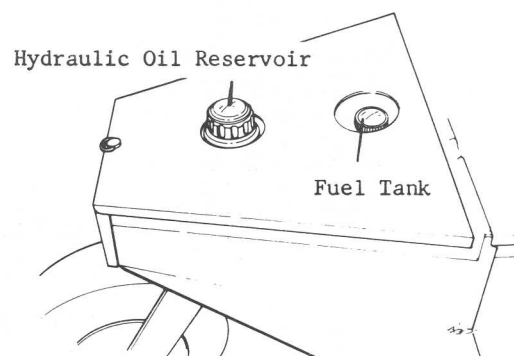


Figure 9



## Caution

Use only 20W hydraulic fluid in the hydraulic system.

NORMALLY no hydraulic filter change should be required during the life of the drive system.

NOTE: Exception to the above is made if the tractor drive performance becomes sluggish in which case it is recommended that the filter be changed. Great care must be taken to insure that **ALL PARTICLES** that may cause contamination to the system be removed from around filter and housing before removal.

To clean around filter before removal use a solvent and brush to remove soil and dirt. Then use compressed air to final clean the area.

Only filters supplied from INGERSOLL should be used as they have been precleaned.

When a leak is detected in the hydraulic system, stop the machine at once and repair the leak. Once repaired, refill hydraulic reservoir.



## Caution

The hydraulic oil cooler must be kept clean. Failure to do so will cause the oil to over heat and greatly reduce the life of the hydrostatic pumps.

The hydraulic oil cooler may be cleaned utilizing compressed air (maximum pressure of 100 PSI). More frequent cleaning is required when the mower is equipped with the center discharge deck.

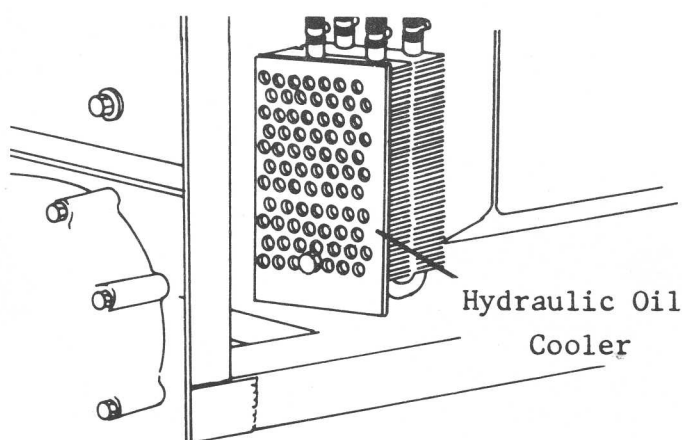


Figure 9A



## Warning

Hydraulic oil escaping under pressure can penetrate skin. Before applying pressure to hydraulic system, make sure all connections are tight and all hoses and lines are in good condition. To find a leak under pressure, use a piece of cardboard or wood - NEVER use your hands. Lower all attachments, shut engine off and remove key before opening any hydraulic lines. Eye protection should be worn when servicing hydraulic system.

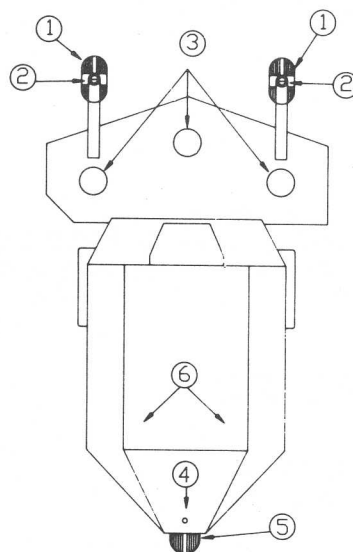
It is important to keep the transmission pump's fins and cooling fans clean at all times. If a cooling fan becomes damaged it should be replaced with a new one.

## LUBRICATION

There are 9 grease zerks on the machine. The deck gauge wheel axles (2 zerks) and tail wheel axle (1 zerk) should be greased every 8 hours. The spindles (3 zerks), gauge wheel fork tubes (2 zerks) and tail wheel fork tube (1 zerk) should be greased every 40 hours.

Use a SAE multi-purpose gun grease on all zerks. Do not use more than one or two pumps from grease gun each time.

LUBRICATION REFERENCE GUIDE		
1	Gauge Wheel Axle Bearings	8 Hrs.
2	Gauge Wheel Fork Bearings	40 Hrs.
3	Spindle Bearings	8 Hrs.
4	Tail Wheel Fork Bearings	40 Hrs.
5	Tail Wheel Axle Bearings	8 Hrs.
6	Cross Shaft Bearings	40 Hrs.





## DECK GEARBOX

The gearbox is shipped filled with synthetic grease. It should be kept full at all times. If grease should be needed, use Mobil Mobilith SHC 460 synthetic lubricating grease or its equivalent. Use a grease gun to fill the box until grease appears from the vent plug.

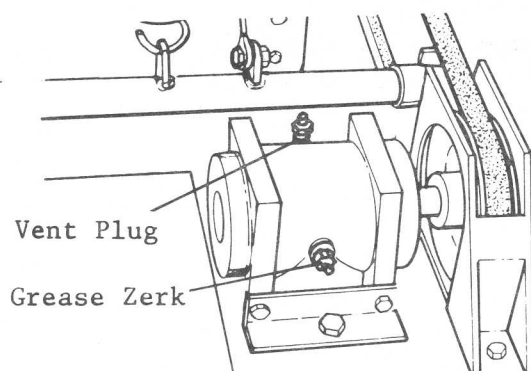


Figure 10A

## COOLING SYSTEM



### Warning

Never attempt to clean or make adjustments on the engine while it is running.

Grass, chaff or dirt may clog the rotating screen and the air cooling system. Yearly or every 100 hours remove cooling shrouds and clean cooling fins. Also clean dust, dirt and oil from external surfaces of engine which can cause improper cooling. In extremely dusty or dirty conditions, or when the mower is equipped with the center discharge deck, clean more often.

### Important

Do not operate engine without cooling shrouds installed. Operating the engine without cooling shrouds will cause engine damage due to overheating.

## ENGINE AIR FILTER

Clean and reoil foam precleaner every 25 hours. Every 100 hours the paper cartridge should be removed and cleaned. Perform these procedures more often in dusty conditions. See your engine manual for further instructions on air cleaner care.

## FUEL SYSTEM

The fuel tank is located under the tail cover just back of the operator's seat. Capacity of the fuel tank is 5 gallons. Always keep and use clean, fresh fuel. Regular UN-LEADED gasoline with a minimum 87 octane rating is recommended. Leaded gasoline may be used if unleaded is not available.

NOTE: WE DO NOT recommend the use of gasoline which contains alcohol, such as gasohol. However, if gasoline with alcohol is used, it MUST NOT contain more than 10% Ethanol and MUST be removed from engine during storage. DO NOT use gasoline containing Methanol.



### Warning

Observe usual fuel handling precautions. Do not smoke while refueling. Do not fill tank with engine running or while engine is hot. Allow engine to cool before storing machine inside a building. Keep fuel away from open flame or spark. Read and observe all safety precautions in this manual.

An inline fuel filter is located under the seat lid between the engine and fuel tank. If the filter becomes plugged, it should be replaced.

There is a fuel shutoff valve located on the bottom of the fuel tank. This valve should be closed to prevent fuel loss when changing filters, doing other engine work or transporting the machine.

## ELECTRICAL SYSTEM

The electrical system is 12 volt, negative ground. Factory installed battery is a size U1 L9, 235 CCA. The battery is located under tail cover of the tractor.

Check battery connections every 40 hours to ensure they are clean and tight. At the same time check for proper electrolyte level.



### Warning

When charging battery, keep away from open flame or sparks. Do not breathe the battery fumes. Avoid skin contact with battery acid. Wear eye protection. If contact does occur, flush area with cold water and consult a physician.



## Warning

When jump starting a low or dead battery, follow these procedures to avoid sparks that could cause battery gases to explode:

1. Attach the first jumper cable from the positive (+) terminal of the good battery to the positive (+) terminal of the dead battery.
2. Attach the second jumper cable from the negative (-) terminal of the good battery to the FRAME OF THE UNIT WITH THE DEAD BATTERY.

A 30 amp fuse, located under the seat lid next to the starter solenoid on the back of the engine compartment, protects the electrical system. If there is an overload on the circuit, the fuse will blow. The cause of the blown fuse should be located and fixed before a new fuse is installed.

## EXTERIOR SURFACE

Exterior surface of tractor should be washed regularly (a minimum of monthly) but more often in corrosive environments. Spray paint is available from your dealer to cover scrapes and chips and to protect against rust.

Mower deck should be cleaned after each cutting for best cutting results. If cleaned before clippings have dried, water pressure from a garden hose can be used to clean underside of deck housing. If clippings have dried, a putty knife may be used to remove accumulation from under the deck.

Every 40 hours remove the deck covers and clean debris from pulley box. Do not operate machine without covers in place. To tilt the deck for cleaning, see Machine Operation Section, TILTING DECK FOR SERVICE.

## TIRES AND WHEELS

Visually inspect tires daily. Check tire pressure with gauge every 100 hours or whenever tires appear low. Tire pressure in both drive tires should be equal and set at 10 to 14 PSI. Tail wheel tire pressure should be 10 to 18 PSI. The deck gauge wheel tire pressure may vary depending on ground conditions - a minimum of 8 PSI to a maximum of 14 PSI may be used. Always keep pressure equal in gauge wheels to maintain even cutting.

## STEERING CABLE ADJUSTMENT

Tractor has been preadjusted at the factory so that it will not creep forward or backward when engine is running and

lever lock engaged. However, if tractor should begin to creep, the situation may be corrected as follows:



## Warning

Do not attempt to adjust steering cables until you have read this entire section. Stop engine while placing the tractor on blocks.

1. Block up tractor so that both drive wheels do not touch ground and are free to move. Block tail wheel and gauge wheels so that tractor will not fall from blocks.
2. Run engine and move steering levers back and forth.
3. Lock steering levers in neutral.
4. Drive wheels should not be turning. If they are, raise seat lid and adjust steering cable by loosening nuts on end of cable.

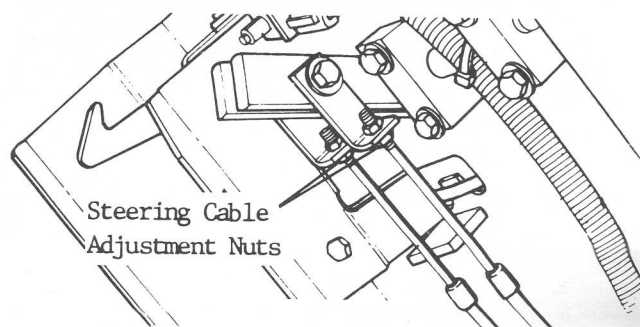


Figure 11

5. Adjust cable so drive wheels are not turning.
6. Lower seat lid and wiggle levers in lock position. If drive wheels do not turn, proceed with Step 7. If wheels turn, repeat Steps 4 and 5.
7. Shut the engine off. Unlock the steering levers and place the levers in the full forward position. The levers must rest against the front edge of the notch in the seat lid (See Figure 11A). If levers do rest against the front edge of the notch, proceed to Step 9, if not, perform Step 8.



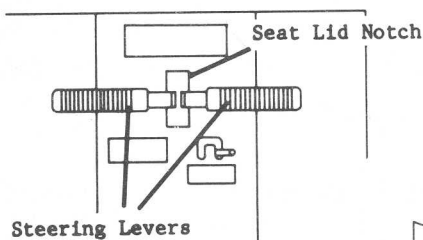


Figure 11A

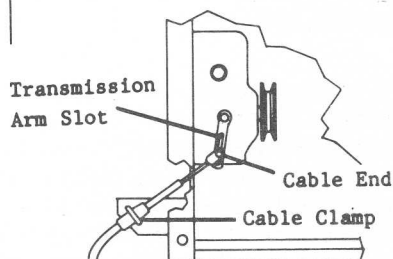


Figure 11B

8. If the steering levers will not rest against the front edge of the notch in the seat lid, the cables must be repositioned to prevent cable breakage. To correct, loosen the cable clamp at the base bracket (See Figure 11B) and pull the cable away from the transmission arm as far as possible and retighten the clamp. If the steering lever still will not bottom out in the notch, the cable clamp holes will need to be elongated. Once the cables are set where they do not bottom out, repeat Steps 4 through 5 to reset neutral.
9. Unblock the machine and test drive. The machine should drive in a straight line with the steering levers held even with each other. If it does, adjustments have been completed. If the machine veers to one direction, proceed to Step 10.
10. To make the machine drive in a straight line, loosen the bolt on the cable end at the transmission arm on the side that the tractor veers toward. Slide the cable end forward in arm slot 1/8 to 1/4 inch and retighten bolt (See Figure 11B). Test drive machine again to check if further adjustment is needed. Once the machine is driving straight, you will need to repeat Steps 4 through 5 to reset neutral.
11. Raise seat lid and make sure cable nuts are tight. Adjustment is complete.

NOTE: If there is not enough adjustment to cables at the steering levers, adjustment can also be made on the steering cable at the transmission arm.

## BRAKE ADJUSTMENT

Occasionally test the brake for proper adjustment by backing the machine onto a 25° incline. With engine running, engage lever lock and apply parking brake. The tractor should remain in position. If not, follow these steps to adjust brake:

1. Block up side of tractor that does not hold.
2. Apply parking brake.
3. Shorten brake linkage rod by turning locknut clockwise (Figure 12) until wheel cannot be turned by hand.
4. Repeat above steps on the other side if needed.

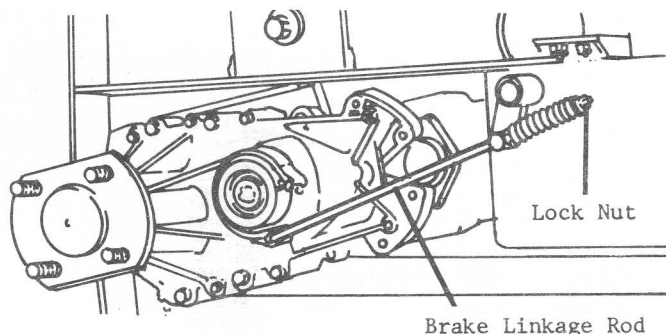


Figure 12

The incline test should be repeated after adjustments have been made on the parking brake.

## ELECTRIC CLUTCH ADJUSTMENT

It may become necessary to adjust the electric clutch. One sign that the clutch clearance is too wide is when the clutch will engage when the tractor is cool, but will not when it is warm.

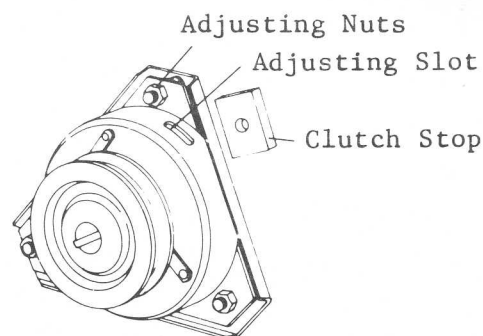


Figure 13A

To adjust clutch, follow these steps:

1. Unplug electrical connector to clutch.
2. Remove clutch stop so the clutch body can be rotated.

3. Place a .012 feeler gauge in the oblong slot by the adjusting bolt. Adjust so that the gauge starts to drag. Adjust all three bolts the same.
4. Once adjustments are made, all three points should be checked again because adjusting one may change the others.
5. Reinstall the clutch stop and plug in the electrical connector.

## DECK HEIGHT ADJUSTMENT

Cutting height of all decks on all air-cooled models is 1" to 4". Place mower on level surface. Turn ignition key off and remove key.



### Warning

Stop the engine. Make sure the PTO switch is off. Engage lever lock and remove ignition key before getting off machine.

Raise deck and lock in the raised position. Remove the gauge wheel wing bolts and move gauge wheels up or down to desired height. Replace wing bolts and tighten handle nuts. Remove rear deck pins and adjust back of deck. For best cutting results, in most conditions, the back of the deck should be 1/8" to 1/4" higher than the front.

Lower the deck to the ground and check cutting height.

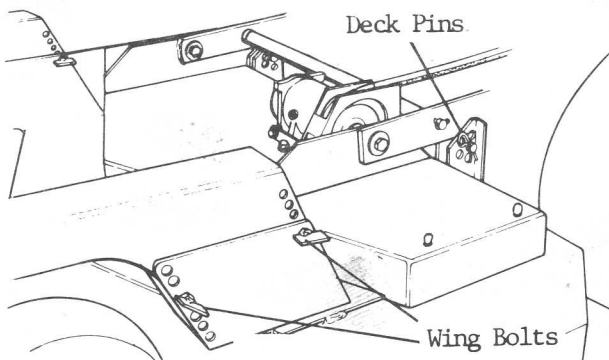


Figure 14

## BLADE CARE

For best results, cutting blades must be kept sharp.



### Danger

Never work with blades while engine is running or the PTO switch is on. Engage lever lock and remove ignition key.

To service blades, tilt and lock the deck up to remove blades. Do not sharpen blades while on the deck. Blades may be sharpened on a grinder or by filing. When grinding, care should be taken to maintain blade balance. A balancer should be used to check blade balance before reinstallation on mower. Unbalanced or bent blades will cause excessive vibration and decrease the life of the deck parts.

Remount the blades making sure the convex side of spring washer is away from blade.



### Warning

Do not use any form of heat to straighten a bent blade. Do not weld a cracked or broken blade. Replace it.

## BELT ADJUSTMENT



### Warning

Never check or adjust any belts with engine running or the PTO switch on.

NOTE: DO NOT over tighten any belt. A belt that is too tight will run hotter, create unnecessary side pressure on bearings and cause premature failure of both the belt and bearings.

## DECK DRIVE BELT

Follow these steps to adjust deck belts:

1. Loosen the two deck arm retaining bolts on both arms.
2. Turn adjusting bolt counterclockwise to tighten belt. BOTH ARMS MUST BE KEPT AT THE SAME LENGTH. Deflection from center line should be 1/2" with 5 pounds of pull on deck drive belt.
3. Hold deck arms so that they are straight while retightening the deck retainer bolts.



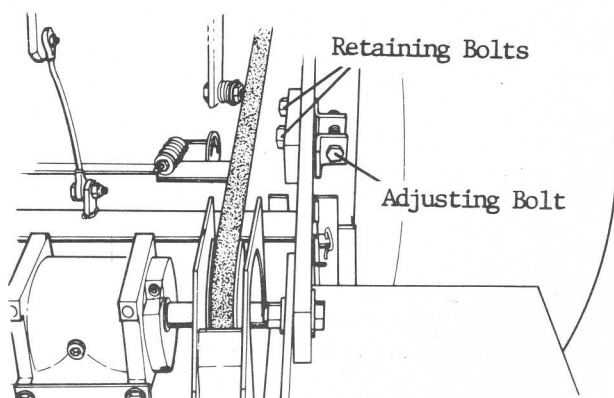


Figure 15

To Replace Deck Drive Belt:

1. Loosen deck arm retainer bolts on left-hand arm. Turn adjusting bolt clockwise to loosen deck drive belt.
2. Remove belt guard from gearbox mount.
3. Remove cross bar pin from left-hand arm.



## Caution

Care must be taken when removing cross bar pin as the deck springs will cause the cross bar to fly up when pin is removed.

4. Remove belt and install new belt.
5. Reverse Steps 1 through 3.
6. Adjust tension on belt (See instructions above). Tension on new belts should be checked after 2 hours of operation.

## DECK BELTS

Care should be taken to keep tension equal on both deck belts on the 42" deck. Follow these steps to adjust deck belts:

1. Remove deck covers.
2. Loosen nut on belt tightener retainer bolt.
3. Adjust tightener bolt to obtain proper tension on belt. Deflection on longest span of belt should be 1/2" to 5/8" with 5 pounds of pull on deck belts.
4. Retighten retainer bolt and replace covers.

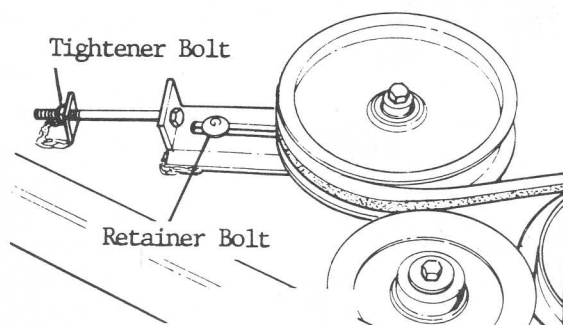


Figure 16

To Replace Deck Belts:

1. Loosen deck drive belt (See Deck Drive Belt Section).
2. Remove deck covers.
3. Loosen belt tightener retainer bolt and tightener adjustment bolt.
4. Unbolt gearbox mount from deck and remove belts from under gearbox pulley.
5. Remove old belts from spindle pulleys.
6. Replace with INGERSOLL replacement belts.
7. Place belts in right grooves on the gearbox pulley and rebolt gearbox mount.
8. Adjust belts (See instructions above). Tension on new belts should be checked after 2 hours of operation.
9. Replace deck covers.
10. Adjust deck drive belt (See Deck Drive Belt Section).

## PUMP DRIVE BELT

The pump drive belt is kept tight by a spring loaded idler. No adjusting is necessary, but the idler should be checked periodically to see that it slides properly.

To Replace Pump Drive Belt:

1. Remove belt retainer from engine pulley.
2. Remove belt retainer from pump pulley.

3. Remove 1 1/16" spacer from between pump fan and pump cross shaft.
4. Apply parking brake and lock.
5. Remove belt from engine pulley and then from pump pulley and fan.
6. Install new belt over pump pulley, then engine pulley and reverse steps above.

## STORAGE

### End of Season Machine Care:

When storing tractor at end of season, the following steps should be taken to insure readiness for the next mowing season:

1. Remove all grass, dirt and trash from tractor and deck. Wash both the tractor and deck, including the underside of deck.
2. Check thoroughly for any worn or damaged parts that need replacing - order them from your dealer.
3. Thoroughly lubricate machine according to lubrication instructions.
4. Lightly oil the underside of deck to prevent rusting.
5. Drain fuel tank and run engine to remove all gas from the carburetor.
6. Perform separate engine preparations as outlined in engine owner's manual.
7. Protect battery from freezing temperatures. Occasionally recharging battery during storage will extend battery life.
8. Store tractor in a dry place away from sparks or flame.

## MOVING TRACTOR WITH ENGINE INOPERATIVE

Sundstrand pumps have a dump valve located on the front of the pump. It is activated by a lever located at lower front of the base (See Figure 17). To engage the dump valves, push the dump valve lever past the lever stop and push the lever down. To reactivate the pumps, push the dump valve lever past the lever stop and raise the lever so that it rests on the top of the lever stop.

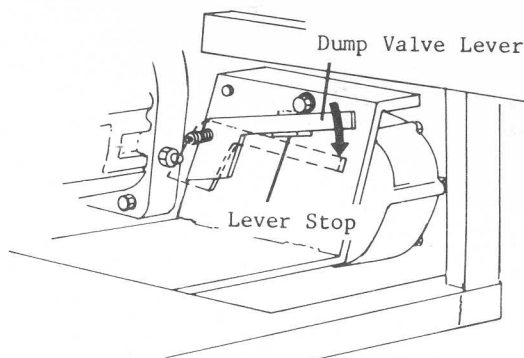


Figure 17

## INSTALLATION OF 42", 52" and 62" DECKS

The following steps are suggested for installation of the deck:

1. Remove deck from the packing crate and place on level surface in front of tractor.
2. Remove the two 1/2" bolts and bushings from the deck mounts. Remove 1/2" deck pins from deck adjustment holes in back of deck.
3. Remove belt guard from deck gearbox pulley.
4. Push both arms down at the same time to align holes in arms with the holes in the deck mounts. Once arms are down, one arm may be released while you place the bolt and bushing in the first arm. Push the other arm back down and install bolt and bushing.

NOTE: If machine is equipped with an electric lift, it must be run to its lowest position before you can attach arms to the deck.

NOTE: If machine is equipped with a hydraulic lift, lower arms by starting tractor, placing control valve in the float position and pushing down on lift arms.

5. Place deck drive belt over the gearbox pulley and replace belt guard.
6. Raise deck lift arms enough to install deck pins at desired cutting height.
7. Raise the deck with lift arms and lock in the raised position. Install the front gauge wheels and mounts at desired cutting height.
8. Lower deck to ground and adjust deck drive belt (See Belt Adjustment Section).



9. Install Fas-tatch foot guard and plug the deck safety wires into the deck safety switch.
10. Check blade bolts to be sure they are tight. Also remove pulley box covers and check the deck belt tension.

NOTE: Tail Weight Kit for 62" Deck

62" decks are shipped with a 39 pound weight kit. The weights are to be added to the 45 pound tail weight shipped with the tractor.

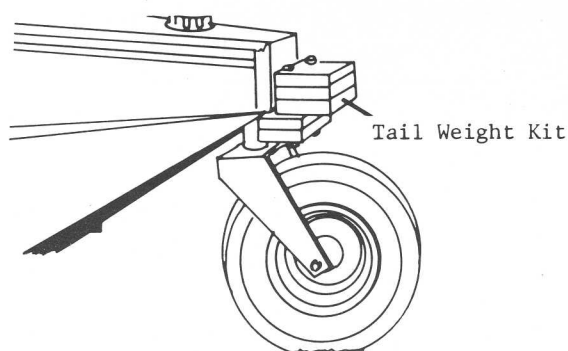


Figure 18

1. After installing the tail weight to the tractor, bolt the 3 individual weights to the tail weight with bolts supplied.



## Warning

When running the deck be sure that the area is clear of persons and pets. Only operate the deck while sitting in the operator's seat.

## DUAL TAIL WHEEL KIT

NOTE: If machine is equipped with a tail weight, it must be removed to mount the dual tail wheels.

1. Place jack under back of tractor base and raise tail wheel high enough to remove fork from tail wheel fork tube.
2. Remove 1" set collar from top of tail wheel fork shaft. Filing the burr left by the setscrew from the fork shaft will ease the fork removal. Drive the two bearings from the tail wheel fork tube.
3. Install dual tail wheel mount placing two 5/16" x 3/4" bolts through the back plate of body and dual tail wheel mount. Place tube block into tail wheel fork tube. Run 1/2" bolt down through tube block and dual tail wheel mount. Tighten all bolts to mount.
4. Place dual tail wheel axle into mount with long end of tube to front. Install 1" pivot axle and lock with setscrew.
5. Install tail wheel forks and tail wheels. Lock setscrews.
6. Lower machine to ground and check to see if tractor is level from front to back. If not, adjust collars up or down on tail wheel forks to level tractor.

## TRACTOR TROUBLESHOOTING GUIDE

SYMPTOMS	PROBABLE CAUSES	SUGGESTED REMEDIES
Starter Does Not Crank	Ignition Interlock Safety System not Engaged	Engage System
	PTO Switch in ON Position	Put Switch in OFF Position
	Weak or Dead Battery	Recharge or Replace Battery
	Fuse Blown	Replace Fuse
	For Additional Causes	See Engine Manual
Engine Cranks But Does Not Start	No Gas or Line Plugged	Fill Tank or Replace Line
	No Fire at Spark Plug	Clean or Replace Spark Plug
	Numerous Other Causes	See Engine Manual or Dealer
Engine Runs with Loss of Power or Excessive Black Exhaust	Restriction in Air Cleaner	Service Air Cleaner
	Poor Compression or Timing	See Engine Manual or Dealer
Tractor Jerky When Starting or Tractor Operates in One Direction Only	Steering Cables Need Adjustment	Adjust Cables
	Pump or Wheel Motor Faulty	See Your Dealer
	Oil has been Contaminated with Water or Dirt	Drain Oil From System and Replace or See Your Dealer
Hydraulic System Operating Hot	Damaged or Broken Fan	Replace Fan
	Cooling Fins Plugged	Clean Cooling Fins
	Hydraulic Pump Faulty	See Your Dealer
Tractor Creeps When Steering Levers are in Neutral	Steering Cables Out of Adjustment	Adjust Steering Cables
Tractor Creeps or Veers in One Direction	Steering Cables Out of Adjustment	Adjust Steering Cables
	Wheel Motor Faulty	See Your Dealer
	Hydraulic Pump Faulty	See Your Dealer
Tractor Creeps With Parking Brake On	Brake Out of Adjustment	Adjust Parking Brake
Engine Overheating	Intake Screen Clogged	Clean Screen
	Cooling Fins Clogged	See Engine Manual for Cleaning
Engine Oil Pressure Low	Low Oil Level	Add Oil
	Oil Sending Unit Faulty	See Your Dealer
	Oil Diluted or Grade Too Light	Change Oil and Check for Source of Contamination
Amp Meter Shows Discharge	Wiring Defective	See Your Dealer
	Alternator Defective	See Your Dealer
High Oil Consumption Engine Knocks and Other Engine Noises	Numerous Causes	See Engine Manual
Electric Clutch Will Not Engage	Deck Safety Wires Not Plugged In	Plug Wires In
	Loose or Faulty Wiring	Check Wiring
	Seat Switch Faulty	Change Seat Switch
	Clutch Out of Adjustment	Adjust Clutch
Grass Cut Uneven	Deck Height Adjustment Not Even on Both Sides	Adjust Height
	Tire Pressure Uneven	Check Tire Pressure
	Blade Bent	Replace Blade



## SPECIFICATIONS

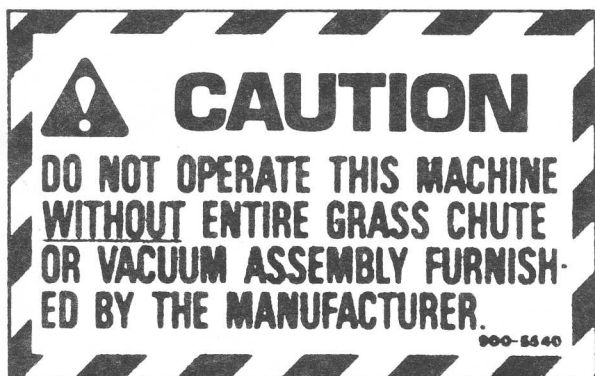
Tractor Model	5018
Engine Make	Kohler
Type, 4 Cycle	2 Cylinder Gas
Horsepower	18
Displacement	42.2 Cu. In. 692 cc
Maximum RPM	3450
Starting System	12 Volt Key and Solenoid
Fuel Tank Capacity	5 Gallon
Battery	12 Volt 235 CCA Size U1 L9
Transmission	Sundstrand BDU-10L
Final Drive	Agri-Fab ZT
Steering	Hand Lever Control Individual Wheel
Brake	Dynamic Braking Through Drive
Parking Brake	Band
Clutch	Electric
Attachment Drive	1 - B Belt
MPH Forward & Reverse	0-7 MPH
Turning Radius	Zero
Tire Size, Drive	18 x 9.50-8 42" Deck 18 x 6.50-8
Tire Size, Tail	16 x 6.50-8
Seat	Vinyl Adjustable with Optional Arm Rests
Wheel Base	42"
Height, Tractor	45"
Width, Tractor	50"
Length, Tractor	57"
Weight, Tractor (Shipping)	695 Lbs.
Available Deck Widths	42", 52", 62"
Standard Features	Manual Deck Lift (Optional Electric) Tilt Back Deck Ignition Interlock Safety System Hour and Amp Meter Dual Headlights 84 Lb. Rear Frame Weight

## DECK DECALS

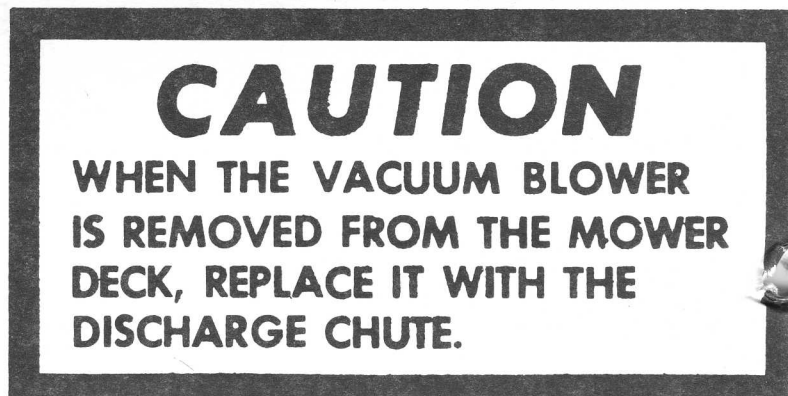
These decals have been placed on the deck to instruct the operator and to warn of safety hazards. It is very important that they be in place and visible at all times. Replace damaged or missing decals immediately! Order by the part numbers shown below.



C37491



C37493



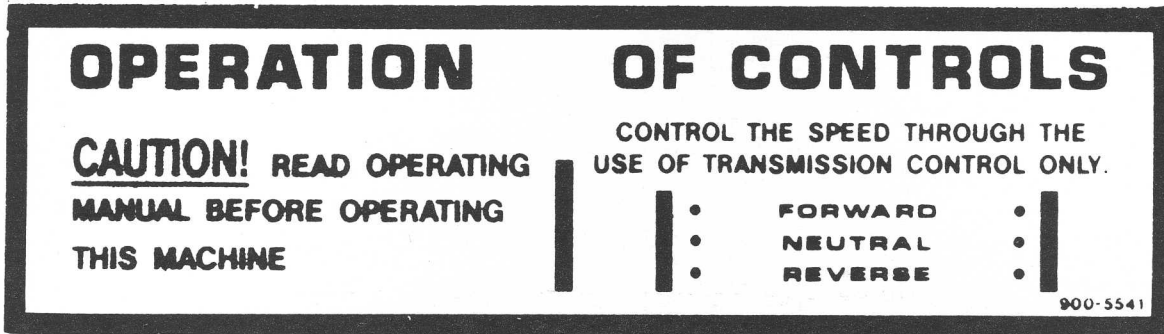
C37492



C37494



These decals have been placed on the tractor to instruct the operator and to warn of safety hazards. It is very important that they be in place and visible at all times. Replace damaged or missing decals immediately! Order by the part numbers shown below.



C37495



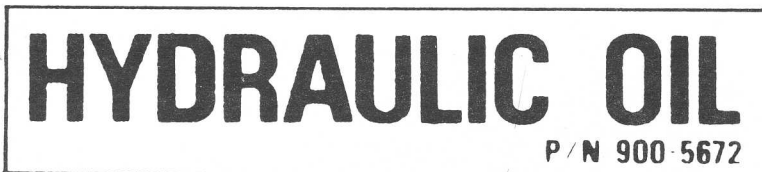
C37496



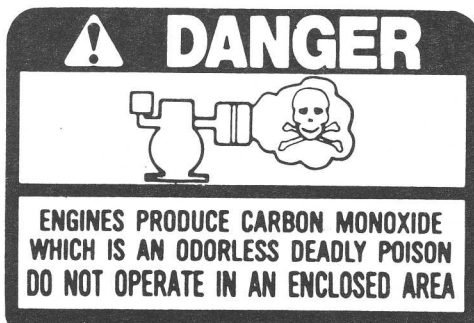
C37497



C37498

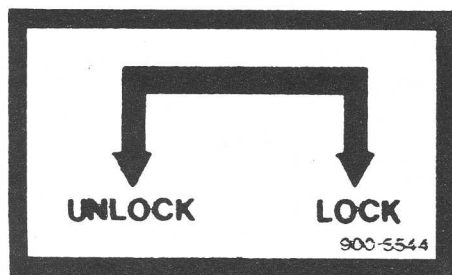


C37499

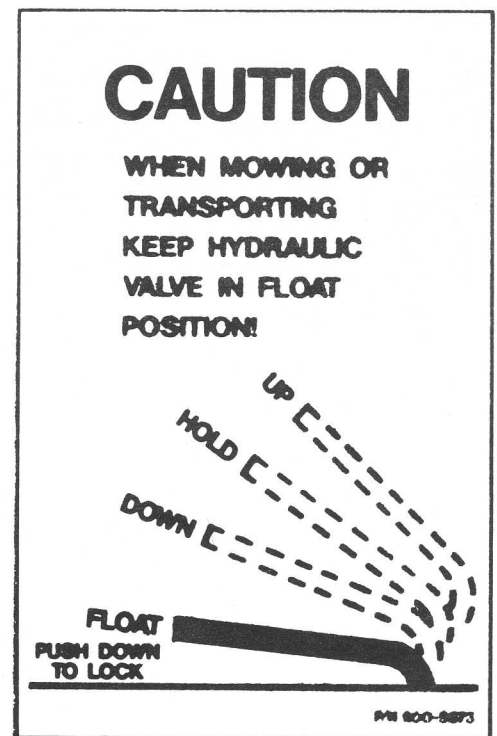


C37500

Decal, Dash  
C37501



C37502



C37503



C37504

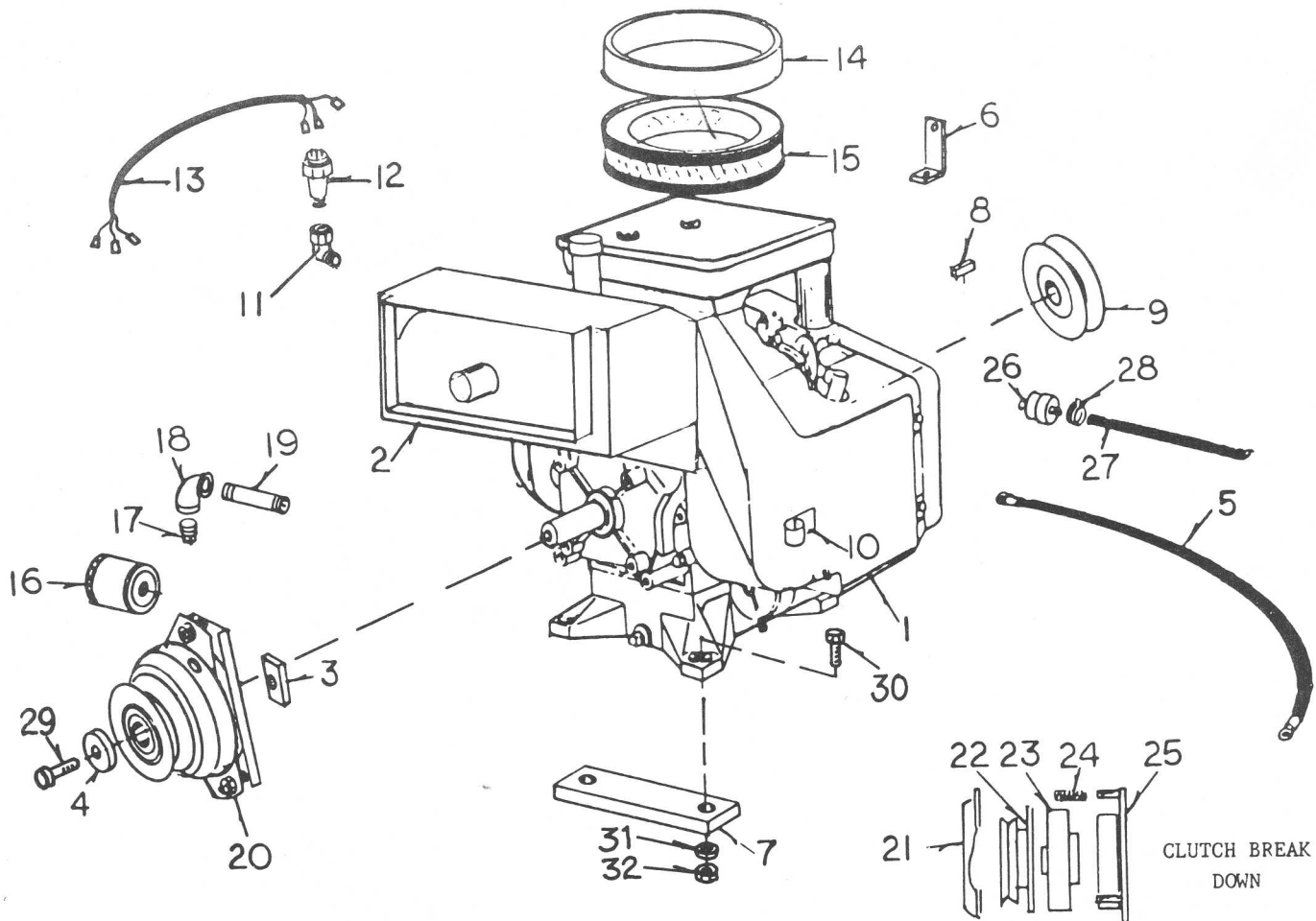




# KOHLER ENGINE PARTS

Item	Part No.	Description	Qty.
1		Kohler Magnum 18 HP, Model M18QS, Spec. No. 24532	1
2		Air Duct	1
3		Clutch Stop (1800 & 1890)	2
		Clutch Stop (2000)	1
4		Clutch Retainer Washer	1
5		Starter Cable	1
6		Wire Standoff (1800 & 1890)	4
		Wire Standoff (2000)	2
7		Spacer	2
8		Key, 1/4" x 1/4" x 1"	1
9		Pulley, Single A (1800 & 1890)	1
		Pulley, Double A (2000)	1
10		Starter Wire Retainer	1
11		Street Elbow, 1/8" x 90°	1
12		Oil Sending Unit	1
13		Wire Harness (Oil Sending Unit)	1
14	C37566	Precleaner	1
15	C37567	Air Cleaner Cartridge	1

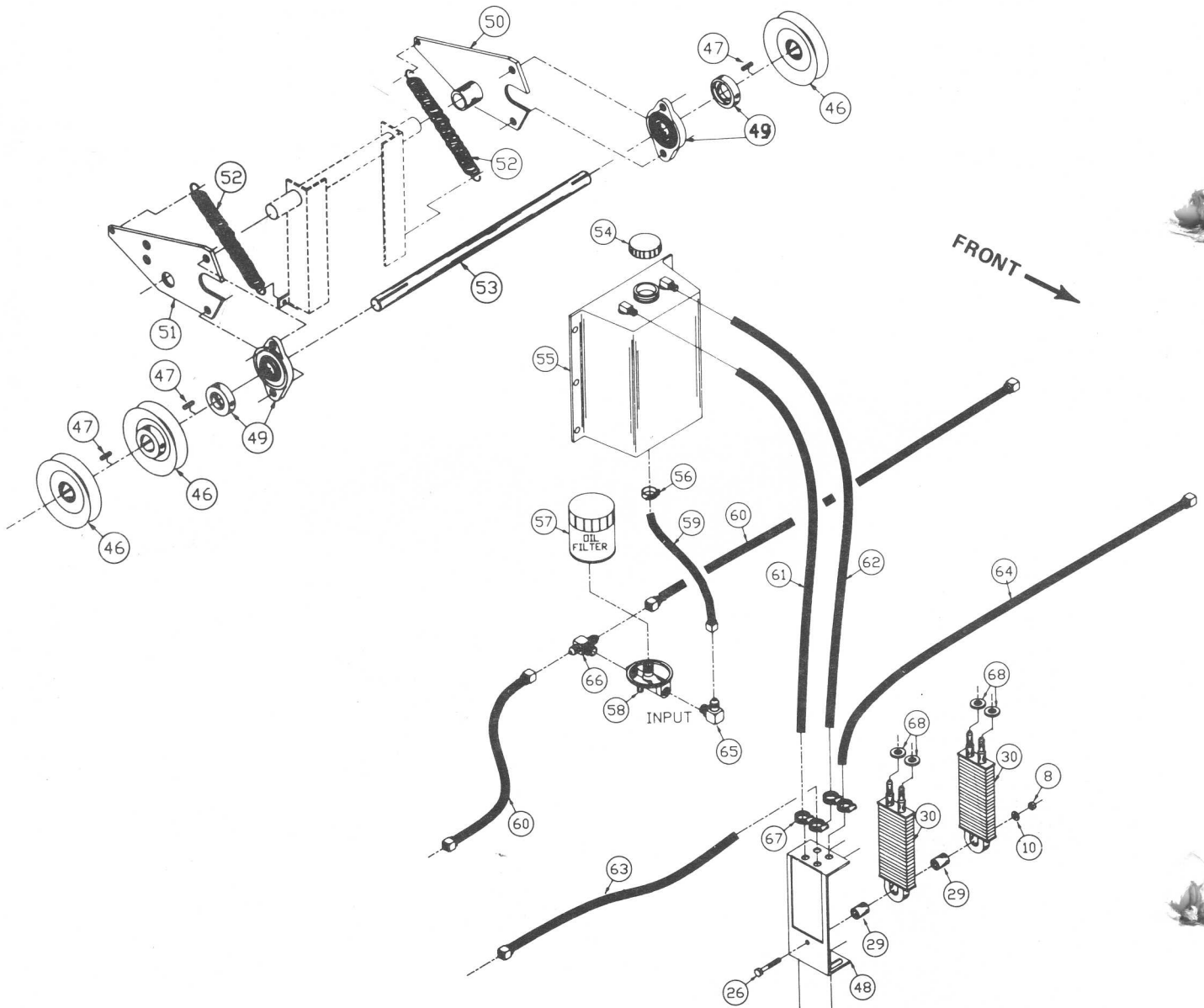
Item	Part No.	Description	Qty.
16	C37568	Oil Filter	1
17		Plug, 3/8"	1
18		Elbow, 3/8" x 90°	1
19		Nipple, 3/8" x 4"	1
20		Clutch, Complete (1800 & 1890)	1
		Clutch, Complete (2000)	1
21		Clutch Brake	1
22		Clutch Armature (1800 & 1890)	1
		Clutch Armature (2000)	1
23		Clutch Rotor	1
24		Spring & Nut Set (3 ea.)	1
25		Clutch Coil	1
26		Fuel Filter	1
27		Fuel Line	1
28		Fuel Line Clamp	1
29		Hex Capscrew, 7/16-20 x 1 1/2", GR5	1
30		Hex Capscrew, 5/16-18 x 1 1/2", GR5	4
31		Lockwasher, 5/16"	4
32		Hex Nut, 5/16-18	4



# AGRI-FAB SUNDSTRAND DRIVE ASSEMBLY

Illustration No. 3  
Hydraulic System Parts & Cross Shaft Parts

Item	Part No.	Description	Qty.	Item	Part No.	Description	Qty.
8		Elastic Stop Nut, 1/4-20	1	55		Oil Tank, SA	1
10		Flatwasher, 1/4"	1	56		Hose Clamp, 5/8"	1
26		Hex Bolt, 1/4-20 x 2 1/4", GR5	1	57	C37637	Filter Element	1
29		Rubber Bushing	2	58		Filter Head, #6 Ports	1
30		Oil Cooler	2	59		Hose Assembly, 5/8" x 11"	1
46		Pulley, 4" x 3/4" ID	3	60		Hose Assembly, 3/8" x 13"	2
47		Key, 3/16" x 3/16" x 1"	3	61		Hose, 3/8" x 25"	1
48		Oil Cooler Mount	1	62		Hose, 3/8" x 27"	1
49		2-Bolt Flanged Bearing, 3/4", FB160 x 3/4" Hub City	2	63		Hose Assembly, 3/8" x 38"	1
50		Cross Shaft Bearing Mount, LH	1	64		Hose Assembly, 3/8" x 24"	1
51		Cross Shaft Bearing Mount, RH	1	65		Male Tube, 90° Male O-ring Adapter	1
52		Extension Spring, 1" x 7 1/4", 11 GA	2	66		Male O-ring, Male Tube Tee	1
53		Drive Cross Shaft	1	67		Hose Clamp, 3/8"	4
54		Oil Tank Cap	1	68		Grommet, 1/2" ID x 1" OD	4





## LIMITED 2 YEAR MAGNUM ENGINE WARRANTY

We warrant to the original consumer that each new MAGNUM engine sold by us will be free from manufacturing defects in materials or workmanship in normal service for a period of two (2) years from date of purchase, provided it is operated and maintained in accordance with Kohler Co.'s instructions and manuals.

Our obligation under this warranty is expressly limited, at our option, to the replacement or repair at Kohler Co., Kohler, Wisconsin, 53044, or at a service facility designated by us, of such part or parts as inspection shall disclose to have been defective.

### EXCLUSIONS:

This warranty does not apply to defects caused by casualty or unreasonable use, including faulty repairs by others and failure to provide reasonable and necessary maintenance.

The following items are not covered by this warranty:

Engine accessories, such as fuel tanks, clutches, transmissions, power drive assemblies, and batteries, unless supplied or installed by Kohler Co. These are subject to the warranties, if any, of their manufacturers.

WE SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND, including but not limited to labor costs or transportation charges in connection with the replacement or repair of defective parts.

ANY IMPLIED OR STATUTORY WARRANTIES, INCLUDING WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. We make no other express warranty, nor is anyone authorized to make any in our behalf.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

### TO OBTAIN WARRANTY SERVICE:

Purchaser must bring the engine to an authorized Kohler service facility. For the facility nearest you, consult your Yellow Pages or write Kohler Co., Attn: Engine Warranty Service Dept., Kohler, Wisconsin 53044

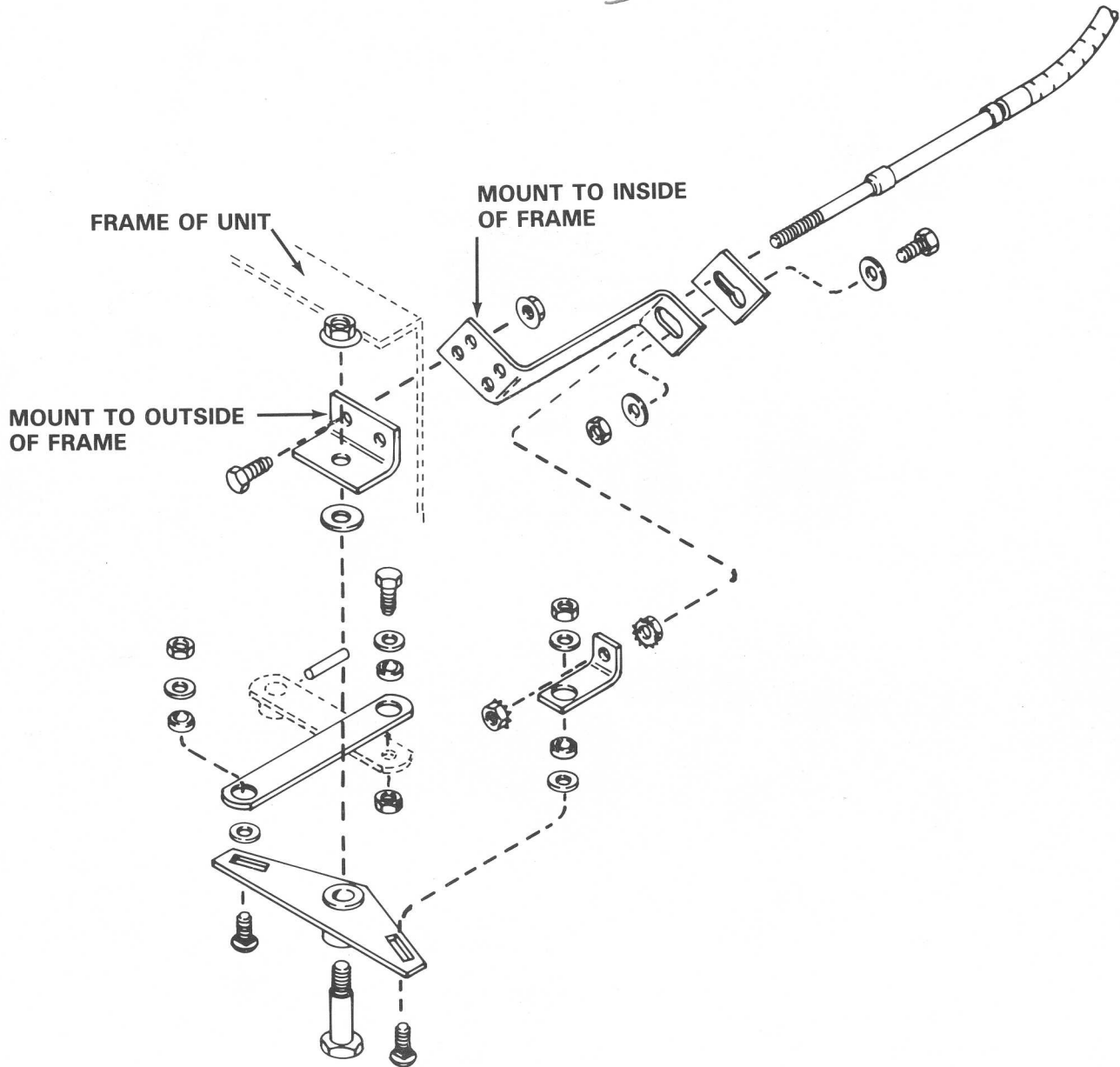
ENGINE DIVISION, KOHLER CO., KOHLER, WISCONSIN 53044

# OPERATOR'S MANUAL SUPPLEMENT

## STEERING CABLE

### BELL CRANK ASSEMBLY

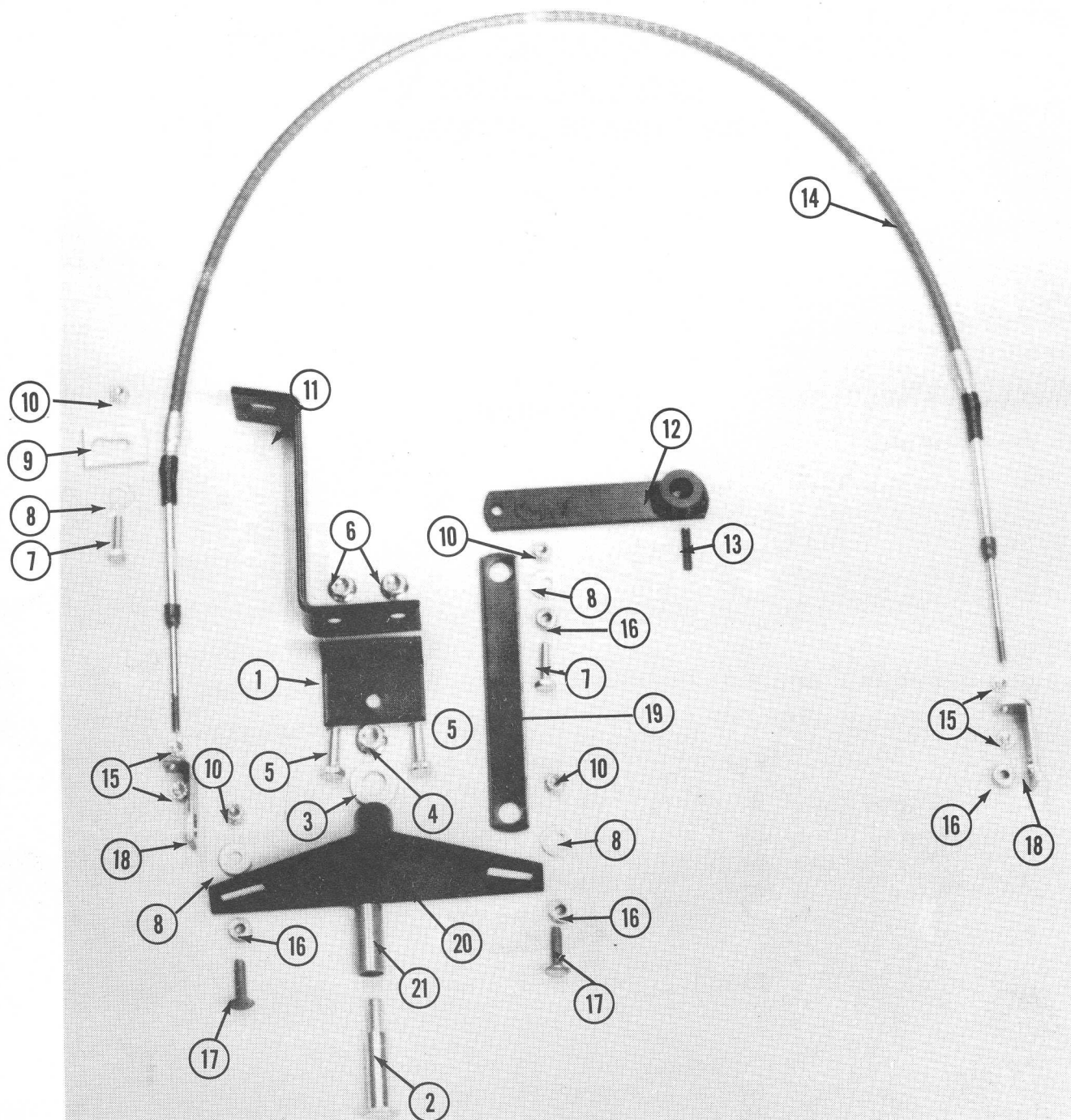
5018



LEFT HAND SIDE

Parts List On Reverse Side





## PARTS LIST

KEY NO.	PART NO.	DESCRIPTION	QTY.	KEY NO.	PART NO.	DESCRIPTION	QTY.
1.	C42901	BELL CRANK MOUNTING BRACKET	2	12.	C42904	TRANSMISSION ARM WELDMENT	2
2.	C16745	SHOULDER BOLT	2	13.	C34173	SPRING PIN 5 X 26 MM	2
3.	195-533	1/2 INCH FLAT WASHER	2	14.	C42894	STEERING CABLE 46 INCHES	2
4.	131-1352	NUT 3/8-16 HEX FLANGE TOP LOCK	2	15.	193-1000	NUT #10-32 HEX INTEGRAL STAR	8
5.	113-103	BOLT 5/16-18 X 1 HEX HEAD	4	16.	C42895	BUSHING	8
6.	131-911	NUT 5/16-18 HEX FLANGE LOCK SERR	4	17.	111-111	CARRIAGE BOLT 1/4-20 X 1	4
7.	113-4	BOLT 1/4-20 X 1 HEX HEAD	4	18.	C42896	STEERING CABLE BRACKET END	4
8.	195-102	WASHER 1/4 FLAT	4	19.	C42897	CONTROL LINK	2
9.	C42903	CABLE MOUNTING PLATE	2	20.	C42898	BELL CRANK	2
10.	131-71	NUT 1/4-20 HEX NYLON LOCK	8	21.	C16714	BUSHING (PRESSED INTO BELL CRANK)	2
11.	C42902	CABLE MOUNTING BRACKET	2				



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