

**HONDA**

**Power**

**Equipment**

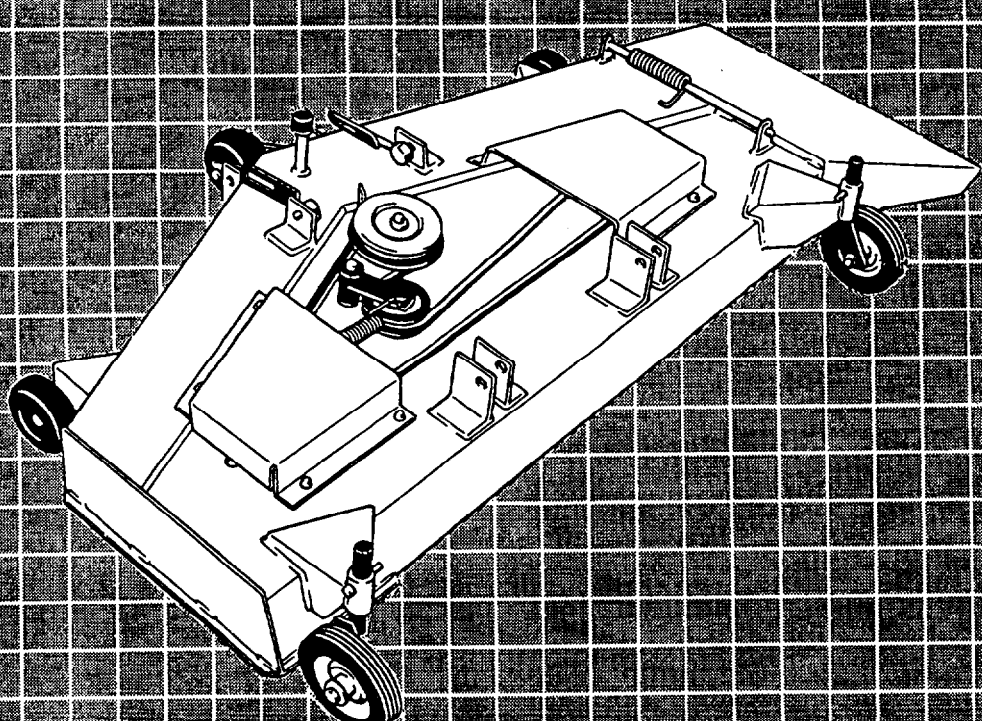
# **OPERATOR'S MANUAL**

## **MID-MOUNT ROTARY MOWER**

### **MODEL MM52**

for

### **HONDA H5518 MULTI-PURPOSE TRACTOR**





### TO THE OWNER

Read this manual before operating your mower. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference.

The mower you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the mower as specified. Observe all safety information in this manual and safety decals on the mower and tractor.

For service, your authorized dealer has trained mechanics, genuine service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine service parts. Substitute parts may not meet standards required for safe and satisfactory operation. Record the serial number of your mower:

Model MM52 Rotary Mower

Serial Number \_\_\_\_\_  
(see Safety Decal page for location)

Provide this information to your dealer to obtain correct repair parts.

Throughout this manual, the term NOTICE is used to indicate that failure to observe this instruction can cause damage to equipment. The terms CAUTION, WARNING and DANGER are used in conjunction with the Safety-Alert Symbol, (a triangle with an exclamation mark), to indicate the degree of hazard for items of personal safety.

**The Safety-Alert Symbol means ATTENTION! BECOME ALERT!  
YOUR SAFETY IS INVOLVED!**

**⚠ CAUTION** Denotes a reminder of safety practices or directs attention to unsafe practices which could result in personal injury if proper precautions are not taken.

**⚠ WARNING** Denotes a hazard exists which can result in injury or death if proper precautions are not taken.

**⚠ DANGER** Denotes an extreme intrinsic hazard exists which would result in high probability of death or irreparable injury if proper precautions are not taken.




# INTRODUCTION

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## GENERAL INFORMATION

The purpose of this manual is to assist the operator in maintaining and operating this mower. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance. These operating and maintenance instructions have been compiled from extensive field experience and engineering data. Some information may be general in nature due to unknown and varying conditions. However, you should be able to develop operating procedures suitable to your particular situation.

The illustrations and data used in this manual were current at the time of printing, but due to possible in-line production changes, your machine may vary slightly in detail. We reserve the right to redesign and change the machine as may be necessary without notification.

** WARNING** Some illustrations in this manual show the mower with safety shields removed to provide a better view. The mower should never be operated with any safety shielding removed.

Throughout this manual, references are made to right and left directions. These are determined by standing behind the equipment and facing the direction of forward travel. Blade rotation is clockwise as viewed from the top of the mower.



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## **SAFETY INFORMATION**

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Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment. It has been said 'The best safety device is an informed, careful operator.' We ask you to be that kind of an operator.

### **SAFETY RULES ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**

The designed and tested safety of this equipment depends on it being operated within the limitations explained in this manual.

#### **Training**

- Safety instructions are important! Read this manual, the tractor manual and all safety rules.
- Know your controls and how to stop tractor engine and mower quickly in an emergency.
- Operators must be instructed in and be capable of the safe operation of the equipment, its attachments and all controls. Do not allow anyone to operate this equipment without proper instructions,
- Keep hands and body away from pressurized lines. Use paper or cardboard, not body parts to check for leaks. Hydraulic fluid (oil) under pressure will penetrate skin causing serious injury.
- Make sure that all operating and service personnel know that in the event hydraulic fluid penetrates skin, it must be surgically removed within a few hours by a doctor familiar with this form of injury, or gangrene may result.
- Do not allow children or unqualified persons to operate equipment.



### Preparation

- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hands, hearing and head.
- Ensure that mower is properly mounted, adjusted and in good operating condition.
- Remove accumulated debris from mower to avoid fire hazard.
- Ensure all safety decals are installed and in good condition. (See Safety Decals section for location drawing.)
- Ensure shields and guards are properly installed and in good condition.
- Inspect area to be cut and remove stones, branches or other hard objects that might be thrown, causing injury or damage.

### Operational Safety

- You may not be able to stop the tractor safely if the clutch or brake pedal mechanisms are improperly adjusted, allowing them to contact mower components.
- When the mower lift stops are installed as instructed in this manual, properly adjusted clutch and brake pedal mechanisms will not contact mower components. You should frequently check that the tractor clutch and brake pedal mechanisms are in adjustment.
- If the clutch or brake pedal mechanisms can contact mower components, do not operate until properly adjusted.  
Do not operate mower unless discharge chute is installed.  
Keep bystanders away from equipment while it is in operation.

Never direct discharge toward anyone.

Operate only in daylight or good artificial light. Keep hands and feet away from mower while tractor engine is running.

- Stay clear of all moving parts.
- If your tractor is equipped with a ROPS, you must wear your seat belt.
- No riders are allowed on tractor or mower.
- Start engine from operator's seat after disengaging tractor PTO and placing transmission in neutral.
- Always sit in tractor seat when starting the engine or operating controls.
- Disengage power-takeoff, shift tractor into neutral, and place all controls in neutral before starting tractor engine.  
Make sure area behind you is clear before operating in reverse.  
Do not operate on steep slopes.  
Do not stop, start or change directions suddenly on slopes.  
Use extreme care and reduce ground speed on slopes and rough terrain.
- Watch for hidden hazards on the terrain during operation.
- Stop mower and tractor immediately upon striking an obstruction. Turn off engine, remove key, inspect and repair any damage before resuming operation.
- Before working underneath, raise mower, and block securely. Hydraulic system leak down and failure of mechanical or hydraulic system can cause equipment to drop.
- Disengage power to mower, lower mower to ground, stop engine, set parking brake and remove key before dismounting tractor.

## **SAFETY INFORMATION**

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### **Maintenance Safety**

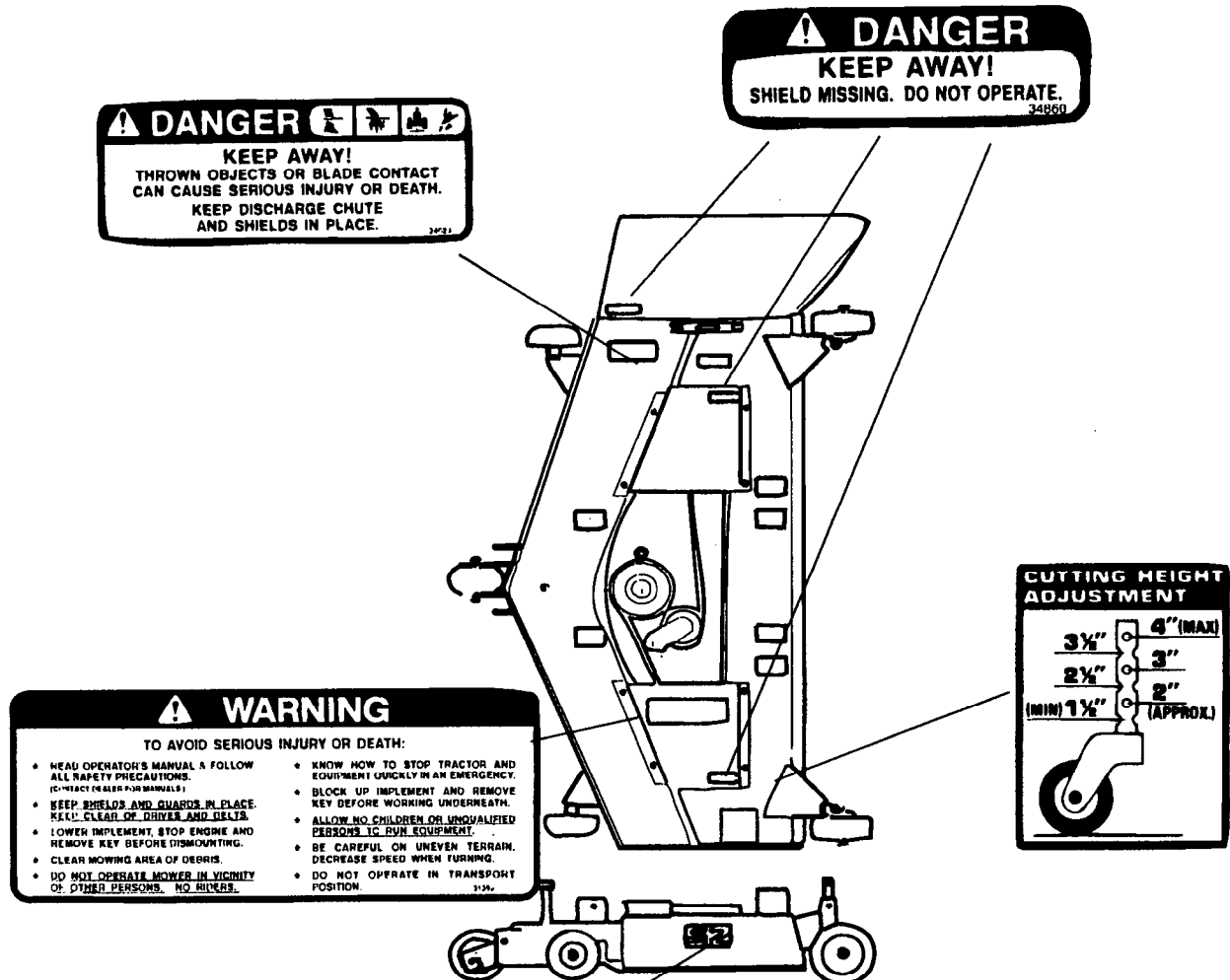
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hands, hearing and head.
- Lower mower to ground or block securely, turn tractor engine off, before performing any service or maintenance.
- Never perform service or maintenance with tractor engine running.
- Before working underneath, raise mower, and block securely. Hydraulic system leak down and failure of mechanical or hydraulic system can cause equipment to drop.
- Keep all persons away from operator control area while performing adjustments, service or maintenance.
- Frequently check blades. They should be sharp, free of nicks and cracks and securely fastened.
- Use a new Nylok blade bolt when you replace the blade. Do not substitute any bolt for the special blade bolt. It is self-locking, meeting the non-loosening requirements for this application.
- Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications and may be dangerous.
- Tighten all bolts, nuts and screws, and check that all cotter pins are installed securely to ensure mower is in a safe condition before operating.
- Ensure all safety decals are installed and in good condition. (See Safety Decals section for location drawing.)
- Ensure shields and guards are properly installed and in good condition.

### **Storage**

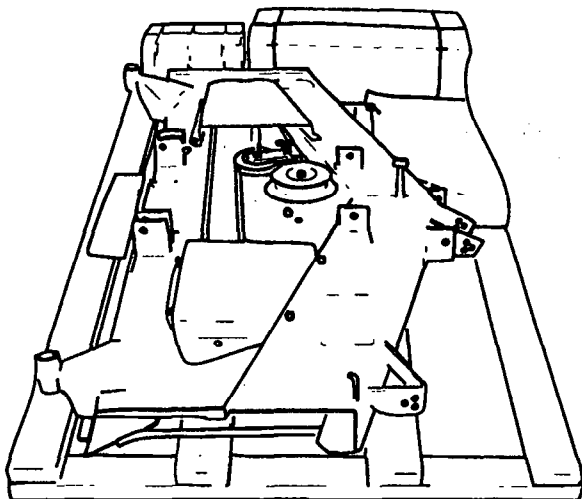
Block mower securely for storage.

## Safety Decals

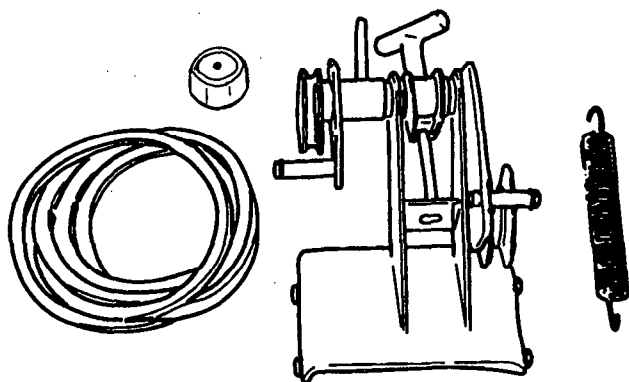
Replace immediately if damaged.



# 52



**Mower Deck**



**Front Tensioner**

### DEALER SET-UP INSTRUCTIONS

Assembly of this mower is the responsibility of the dealer. The mower should be delivered to the owner completely assembled, lubricated and adjusted for normal mowing conditions.

Using these instructions, set mower up as received from the factory.

Complete Check Lists on Page 10 when set-up is complete.

The mower is shipped partially assembled. Assembly will be easier if components are aligned and loosely assembled before tightening hardware. Recommended torque values for hardware are included in the assembly instructions.

Select a suitable working area. Open parts boxes and lay out parts and hardware to make location easy. Refer to illustrations, accompanying text, parts lists and exploded view drawings.

**⚠ CAUTION** Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hands, hearing and head.

### ⚠ WARNING

- Before working underneath, raise mower, and block securely. Hydraulic system leak down and failure of mechanical or hydraulic system can cause equipment to drop.
- Keep all persons away from operator control area while performing adjustments, service or maintenance.
- To prevent accidental start-up, remove the ignition switch key and disconnect the spark plug caps before installing the mower.

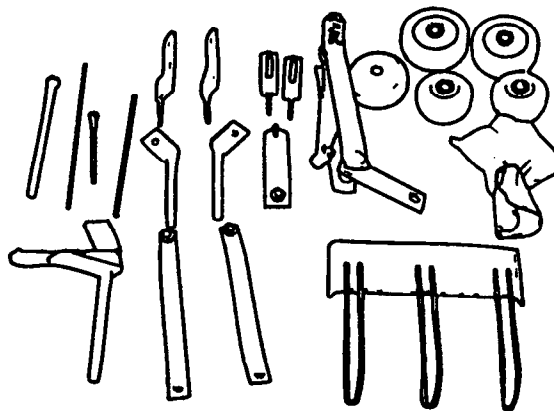
### CHECKING PARTS

The mower assembly kit contains the following parts.

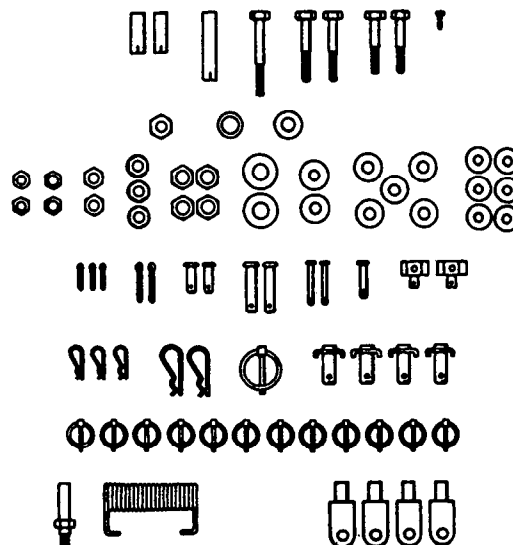
- Mower deck
- Box containing lift linkage
- Bag containing hardware

Remove the mower deck from pallet. Cut packing straps holding parts box. Packing list is contained in both the crate holding the mower, and in the parts box in the crate. Before assembling check for missing or damaged parts.

Install with the tractor on level ground. Lock the parking brake, set the transmission lever in "N" (Neutral) and the front and rear PTO levers in the "OFF" positions.



**Parts in Lift Linkage Box**



**Parts in Hardware Bag**

## **SET-UP AND ASSEMBLY**

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### **Pre-Delivery Check List (Dealer Responsibility)**

1. Inspect the mower thoroughly after assembly to ensure it is set up properly before delivering it to the customer. The following check lists are a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.
2. Check all bolts to be sure they are correctly torqued.
3. Check that all linchpins are properly installed.
4. Lubricate all grease fittings; check to make sure a small amount of grease comes out of seal.
5. Check that blades have been properly installed.

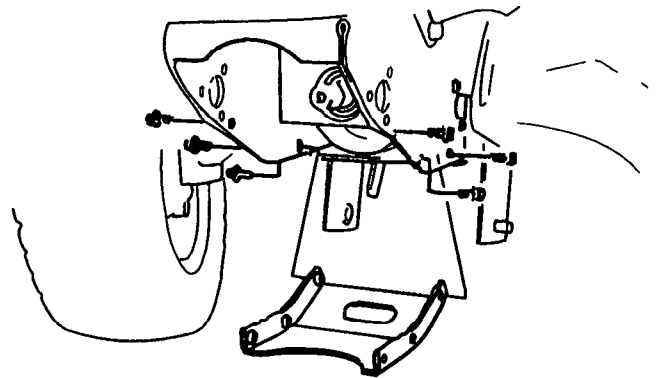
### **Delivery Check List (Dealer Responsibility)**

1. Check mower attitude and belt alignment.
2. Check that mower lift is properly adjusted. (See Assembly instructions.)
3. Show customer how to make adjustments.
4. Explain importance of lubrication to customer and point out lubrication points on mower.
5. Point out safety features, shielding and options.
6. Present the Operator's Manual, and ask customer to become familiar with all sections.

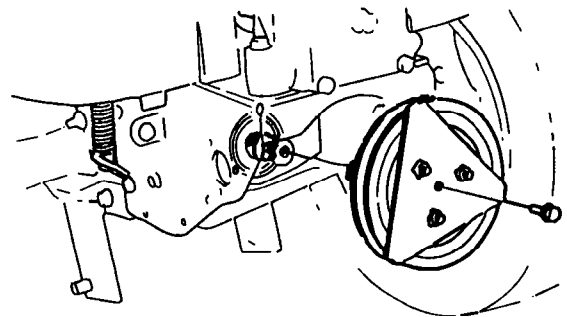
### INSTALLING FRONT TENSIONER BRACKET

**NOTE:** Some tractors may already have pulley and front tensioner guard installed. If not installed, the front pulley, tensioner guard and front hitch pivots come as spare parts with the tractor. Locate them before beginning assembly. If already installed, proceed to installation of front tensioner.

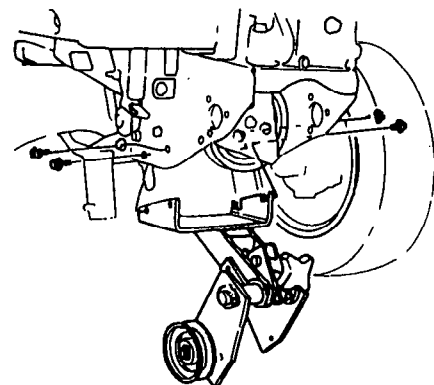
1. Remove and retain the lower front PTO cover by removing the six 8 x 16 flange bolts.



2. Install the drive pulley (comes with tractor) on the front PTO shaft using special 8 x 20 mm flange (shouldered) bolt. Tighten the bolt to 2.2 kg-m (16 ft-lb).



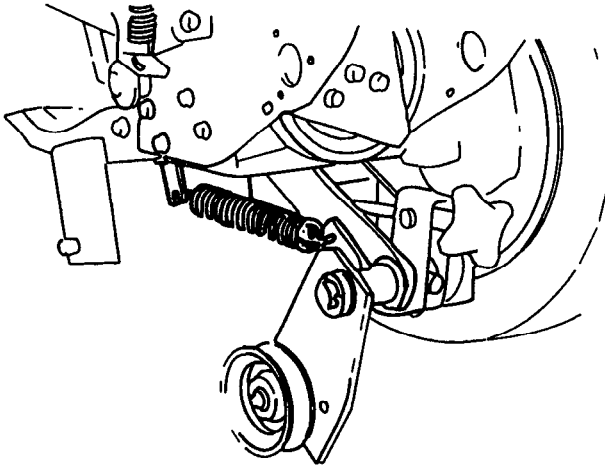
3. Position the front tensioner bracket on the frame beneath the front PTO. Install left side (from operator's point of view) using two 8 x 16 mm flange bolts removed from lower PTO cover. Install right side with two 8 x 16 mm knock bolts (special stepped flange bolt). Tighten to 2.2 kg-m (16 ft-lb).



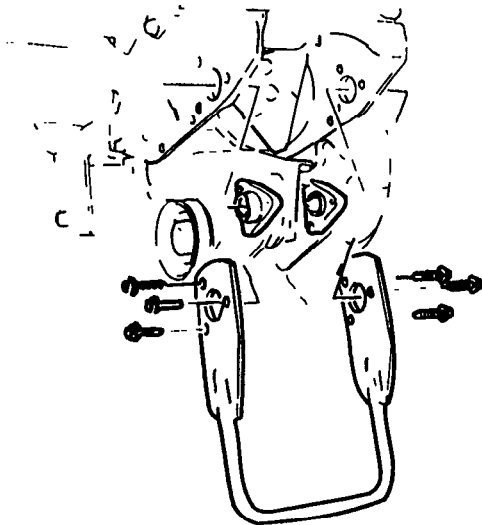
## INSTALLING MOWER

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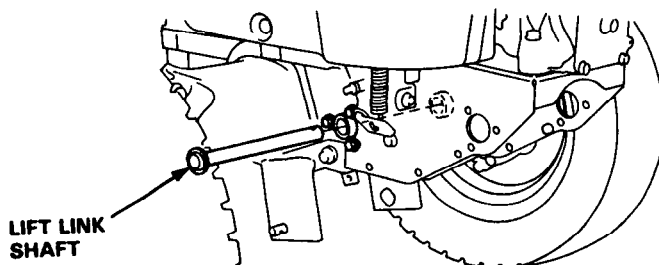
**NOTE:** Push downward on the front tensioner adjusting knob to hold the bracket firmly against the frame. Tighten the bolts to specified torque. Retain the remaining four bolts for later use.



4. Insert front hook of the tensioner spring into the hole in the tensioner arm. The rear hook of the tensioner spring inserts into projecting bracket on tractor frame.



5. Install the front hitch pivots onto the frame from the inside (may already be installed). Install the tensioner guard on the frame from the outside as shown. Front hitch pivots insert through bracket from inside and retain tensioner guard.



6. Loosen the six 8 x 20 mm flange bolts fastening the right and left link pivots. Slide the lift link shaft through the holes in the pivots as shown. Retighten the 8 x 20 mm flange bolts securely. Recommended Grease: Multipurpose grease.



## INSTALLING LIFT LINK

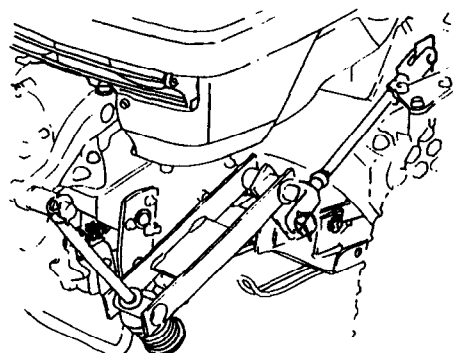
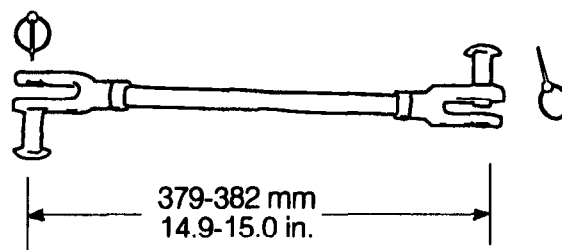
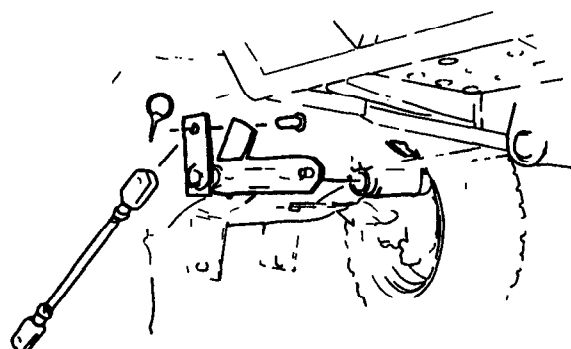
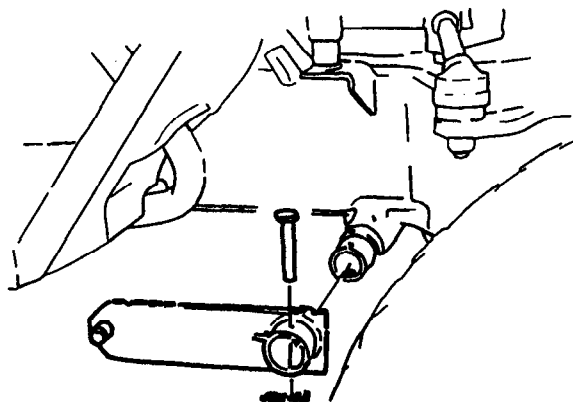
**⚠ CAUTION** Wear heavy gloves to protect your hands when installing lift link kit and mower deck.

1. Grease the lift arm shaft thoroughly, then insert through the pivot bosses on the main frame from the left side.
2. Slide the right lift arm onto the end of the lift arm shaft. Install the lift arm pin through the lift arm shaft and secure with lock pin.
3. Assemble the deck lift rod using turnbuckle shaft with two threaded ends and indentation in middle, two .625 in. nuts and two .625 in. clevis.

**NOTE:** One end of turnbuckle shaft, one clevis and one locking nut are LEFT HAND THREAD. Note the dashed marks on the left hand thread clevis to identify. Do not cross-thread. Screw on both ends of clevis to same depth, so that in adjusting, one end does not come loose.

Adjust the length of the deck lift rod to 379-382 mm (14.9-15.0 in) measured eye to eye.

4. Lubricate the lift arm pin with grease, then insert the threaded end of the lift arm pin through the front link arm and install the lock nut on the end of the pivot. Tighten the lock nut securely.
5. Slide the lift link assembly with flat washer onto the link shaft projecting from the frame. Simultaneously, slide the hole in the front part of the lift link assembly over the lift arm pin. Attach link assembly to link shaft with plain washer and lock pin. Attach front of lift link assembly with plain washer and cotter pin.
6. Install the deck lift rod between the left lift arm and the front link (passing below front axle) using two anti-rotation pins installed from inside. Secure with two linchpins installed from top to bottom.



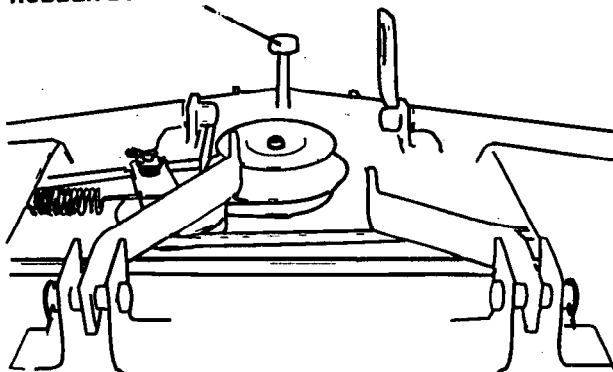
### ASSEMBLING MOWER DECK

#### Installing Discharge Cover

Install the discharge cover using discharge adaptor pin, spring and two split pins. Discharge adapter pin has one end tapered for ease of insertion. Use hammer to tap pin through bracket to slot where spring rests. Install spring by resting one end against discharge cover, and using box end wrench to twist other end of spring in half turn as illustrated. This will apply pressure to keep discharge cover down. Tap discharge adapter pin through the spring and the rest of the channel. Secure with spring pins.

Install rubber bumper onto stopper post welded to front top of mower deck using  $\frac{1}{4} \times \frac{3}{4}$ " bolt and flatwasher.

RUBBER BUMPER



#### Installing Rear Deck Links

Install the rear deck links on rear brackets of mower deck as shown. Rear deck links install so that the bosses fit into the brackets on the deck and forward ends of the links are closer together than the rear. Secure with clevis pin inserted through bracket, rear link, and plain washer. Insert linchpin from top to bottom to lock.

### Installing Wheels On Mower

**⚠ WARNING** Support mower deck solidly while installing wheels and keep fingers and feet clear of deck until wheels are firmly on ground.

1. Using steel pry-bar or jack, raise back edge of mower deck and use wood block in rear center to support deck at least 6 inches high. Keep fingers and feet from under deck until it is firmly supported.

NOTE: There are three wheel sleeves, two of the same length, and one longer. Keep the longest one to assemble the front anti-scalping roller.

2. Install rear gauge wheels by inserting a sleeve into each wheel, then insert a 1/2 x 3-1/2 in. bolt with a 1/2 in. plain washer through the sleeve. Insert the gauge wheel assemblies onto the wheel supports and retain with a 1/2 in. lock nut.

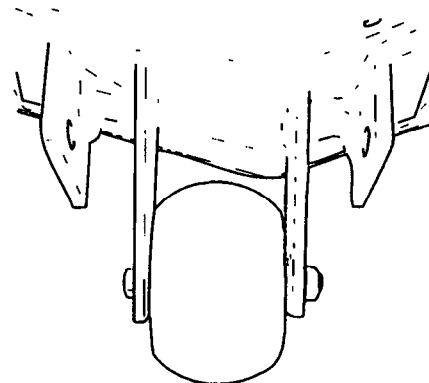
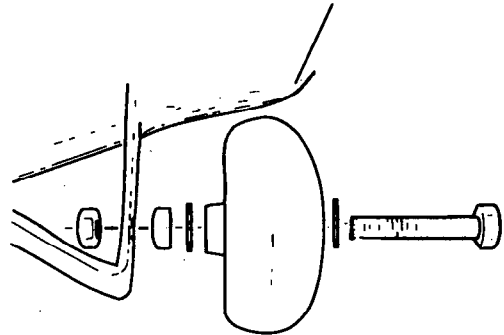
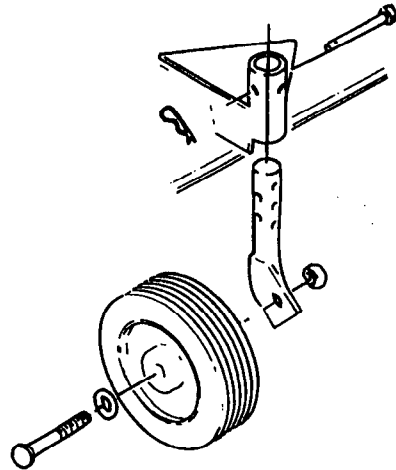
Insert the wheel supports into the wheel support brackets on the rear of the mower deck. Retain the wheel brackets with locking pins in the 2-1/2 in. position.

3. Remove wood block from rear of mower and lower until wheels touch. Raise front edge of mower and insert wood block to support it. Keep fingers and feet from underneath mower deck until firmly supported.

4. Assemble the two front anti-scalping rollers using a 3-1/4 in. bolt, two 1/2 in. washers (one on each side of roller) and a 1/2 in nut. Ensure that the roller is not pinched between the two washers. The roller must spin freely.

Install the assemblies onto the anti-scalping brackets in the bottom hole using 1/2 in. flanged locknuts.

5. Insert longest sleeve into front anti-scalping roller. Place roller between flanges of front anti-scalping roller bracket. Insert longest bolt through bottom hole in bracket and sleeve. Secure with flanged lock nut.



## INSTALLING MOWER

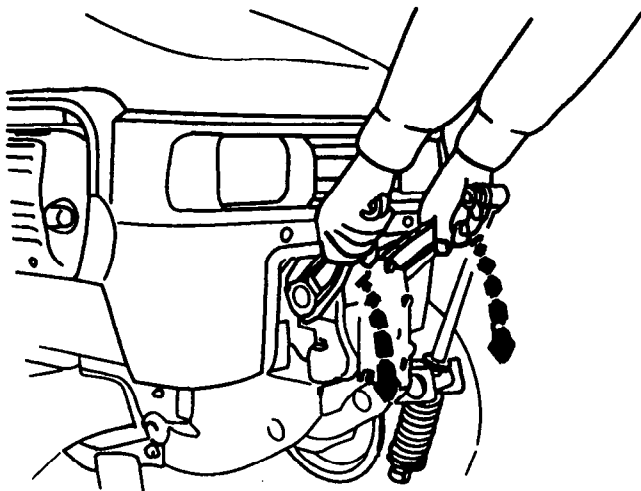
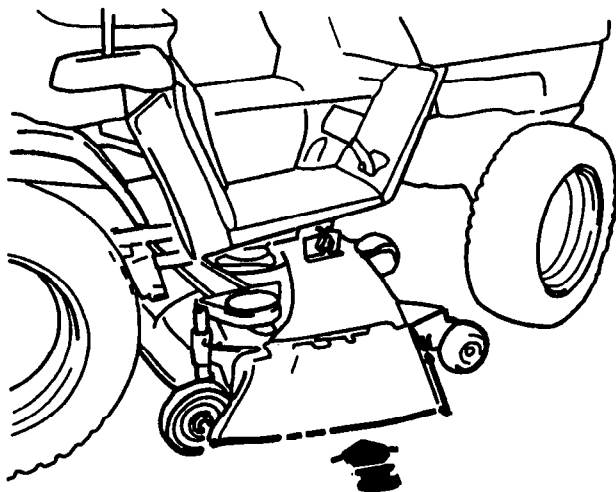
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### INSTALLING MOWER DECK

#### Positioning Mower Under Tractor

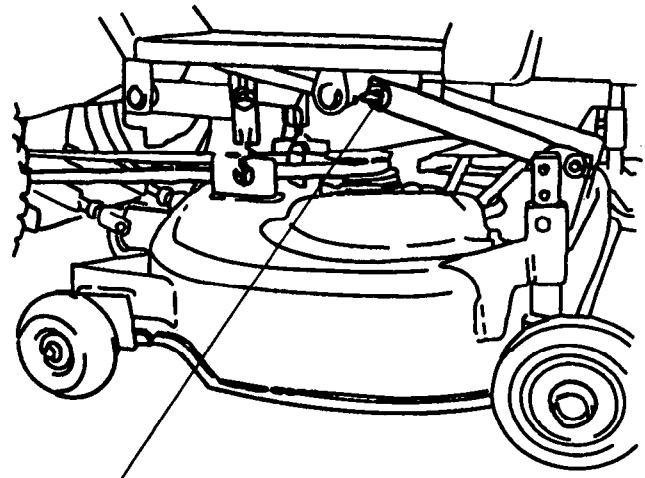
1. Connect the spark plug caps to the spark plugs (if removed) and insert the ignition key in the ignition switch. Check that the hydraulic lift lever is in NEUTRAL. Start the engine and move the hydraulic cylinder selector lever (if installed) to the FRONT position. Raise the lift arm fully with the Lift Selector Lever.
2. Turn the Lowering Speed Adjusting knob fully clockwise to lock the lift arm up. Stop the engine. Remove the key from the engine switch and disconnect the spark plug caps.
3. Turn the steering wheel to the extreme left to allow clearance for the mower deck. To avoid obstructions, make sure rear deck links are forward, towards front of mower. Roll and push the mower deck under the tractor from the right side; return the steering wheel to the straight-ahead position.
4. Return lift arms to down position to complete hookup of mower. Turn the Lowering Speed Adjusting knob fully counter-clockwise ("FAST" direction). Move the Lift Selector Lever to "DOWN", and push the front lift arm completely down by hand.

**NOTE:** If arm does not move, Lowering Speed Adjusting knob is not fully counter-clockwise. Turn to release, then push down on lift arms as illustrated.



### Attaching Rear Mower Deck Links

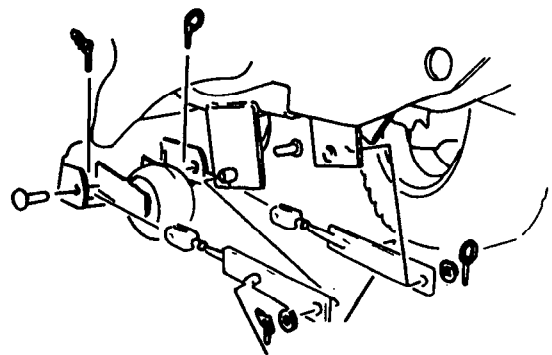
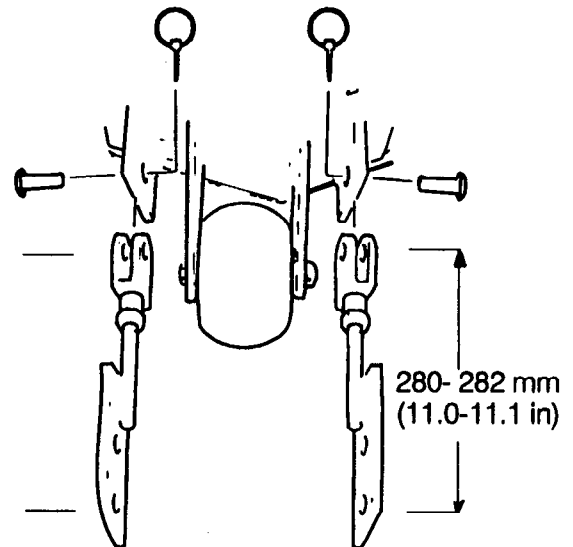
1. Roll mower forward or backward or tug from side to side as necessary to line up holes in rear mower deck link with holes in bracket under tractor. Bracket is difficult to recognize at first, look for hole just behind the main mounting bracket along centerline of tractor.
2. Grease the rear link shaft (long shaft with two holes in either end for linchpins) then slide it horizontally through the holes in rear deck links and holes in the bracket as shown. Start by hand, but it may be necessary to tap with hammer to complete. Secure both sides with linchpins.



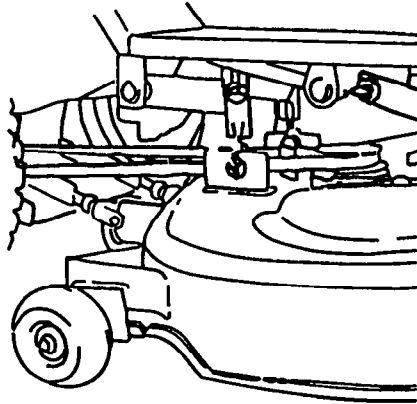
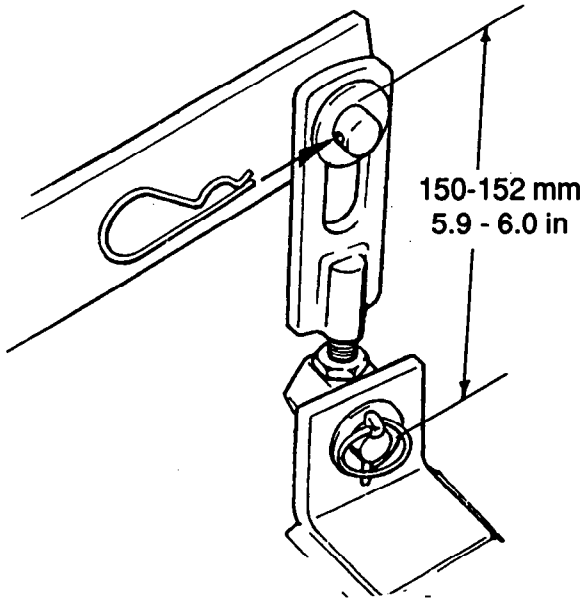
*Insert Rear Link Shaft*

### Attaching Front Deck Links To Mower

1. Turn the two clevis to adjust the length of the front deck links to 280-282 mm (11.0-11.1 in) measured from eye to eye, then tighten the lock nut securely.
2. Raise the front of the mower deck a few inches with steel pry bar, block of wood or jack to align the holes in the links and brackets.
3. Fasten front link to mower deck by inserting clevis on projecting bracket on front of mower. Secure by passing anti-rotation pin through clevis and bracket and insert linchpin.
4. Fasten other end of front link to projecting bracket on front of tractor, fitting upper hole in deck link over projecting stud on bracket. Secure with linchpin. Repeat for other side. Remove support from front of mower deck.

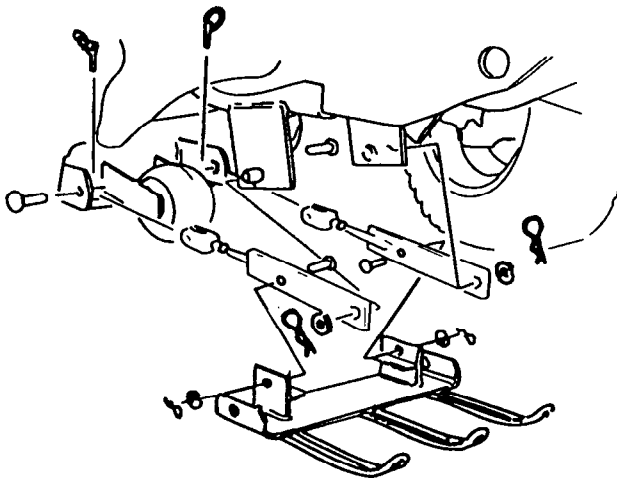


## INSTALLING MOWER



### Attaching Lift Plates

1. Screw mower deck lift plates into adjustable pins as illustrated. Turn to adjust the length of the mower deck lift plates to 150-152 mm (5.9-6.0 in), then tighten the nuts securely. Install the mower deck lift plates on the mower deck with 5/8 in. plain washers and lock pins.
2. Raise the right mower deck lift plate to the lift arms installed earlier on the lift arm shaft assembly. Lift arms will be directly above the lift plate. Maneuver the mower deck lift plate over the projecting stud on the lift arm. Secure with 5/8 in. plain washer and lock pin. Install the left mower deck lift plate the same way.



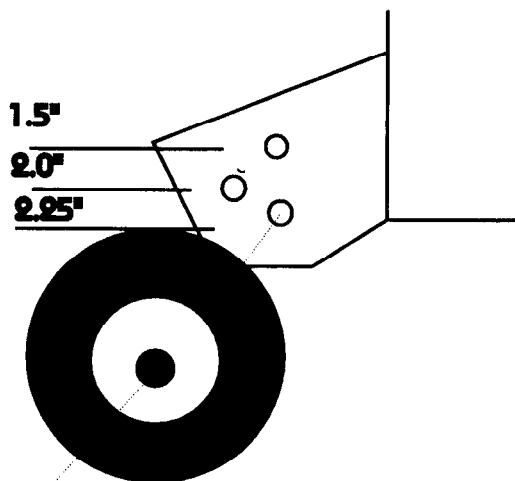
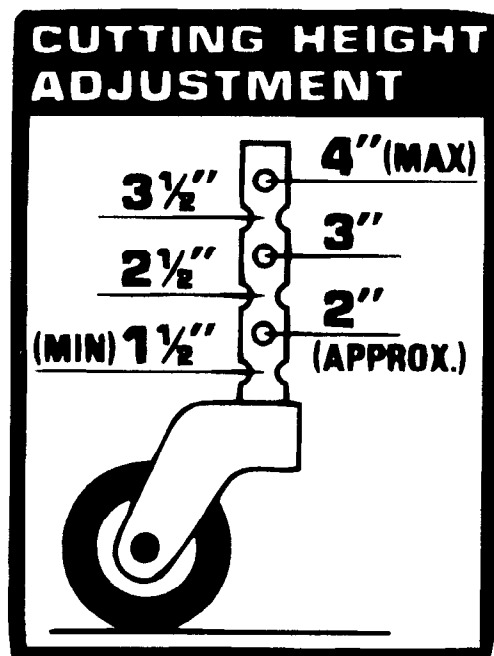
### Attaching Front Link Protector

Position the front link protector on link arms. Insert clevis pin through hole in front link protector bracket and front link from the inside. Secure with 1/2 in. plain washer and lock pin. Repeat for other side.

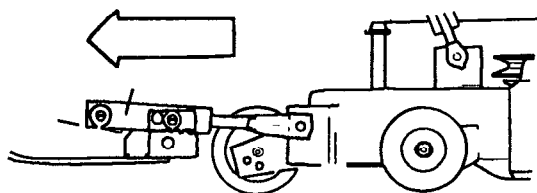
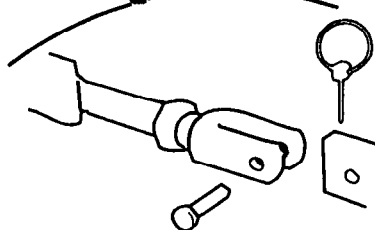
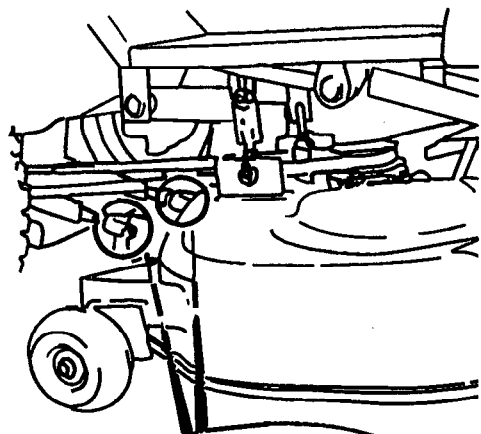
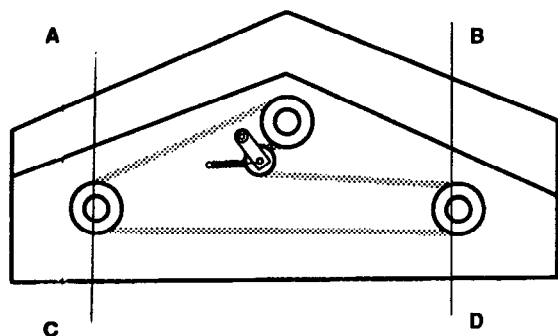
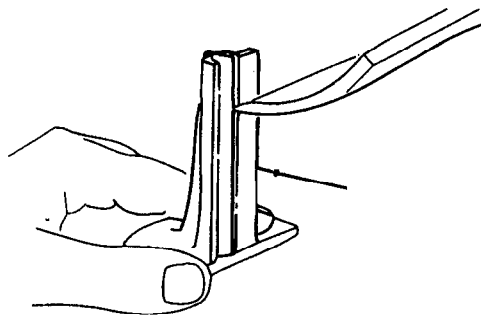
## LEVELING MOWER DECK

1. Place the tractor on a firm, level surface and set the parking brake. Make certain that tractor tires are inflated to proper pressure. See Tractor Owner's Manual for information on inflation.
2. Check that the gauge rollers and front anti-scalping rollers are set on 2.5 in. position (one hole showing on wheel support). If not, raise the mower deck with the Lift Selector lever set to "UP".
3. When lift arms are fully raised, turn the Lowering Speed Adjusting knob fully clockwise to lock the deck in position.
4. Stop the engine and remove the key; adjust wheels to the 2.5 in. position.
5. Return the Lowering Speed Adjusting knob to its original position; lower the mower deck fully.

**⚠ CAUTION** If the Lift Selector Lever is set to "DOWN" the mower deck will automatically lower to the ground as the Lowering Speed Adjusting knob is turned counter-clockwise. Keep clear of the deck.



## INSTALLING MOWER



### Front to Back Leveling

1. Set the left and right mower blades so that they face front and rear. Measure the distance to the ground from front and rear of blades.

NOTE: This measurement can be made with a steel tape or by using the Blade Height Gauge, an optional HONDA part (#07JPJ-750010A) available at your HONDA Multipurpose Tractor Dealer.

With the gauge wheels set at the 2½" position, and the two outside blades positioned as shown, the blade height at points A and B should be 64 - 70 mm (2.52 - 2.76 in). The blade height at points C and D should be slightly higher by about 3 mm (.1 in). The blade height should be the same for left and right blades.

2. If distance at front of blade tip is too great or too small, adjust as follows: (Perform this before connecting drive belt). Tip up front of deck with steel pry bar and support front of deck with wooden block.
3. Remove the linchpin and clevis pin from the right and left front links. Loosen the nuts which hold the clevis tight. Turn both clevis an equal number of full turns so that both will be set at same length.  
NOTE: Turning the clevis "OUT" lowers the front clearance; "IN" raises the clearance. Each turn changes height by just over 1 mm (1/32 in).
4. If right and left blade heights are not equal, add or subtract turns to make equal.
5. After completing adjustment, tighten nut holding clevis in place, reinsert clevis pin and secure with linchpin



### INSTALLING DECK BELT

**⚠ WARNING** Never attempt to change drive belts while the engine is running. Remove the ignition switch key from the ignition and disconnect the spark plug caps to prevent accidental start up.

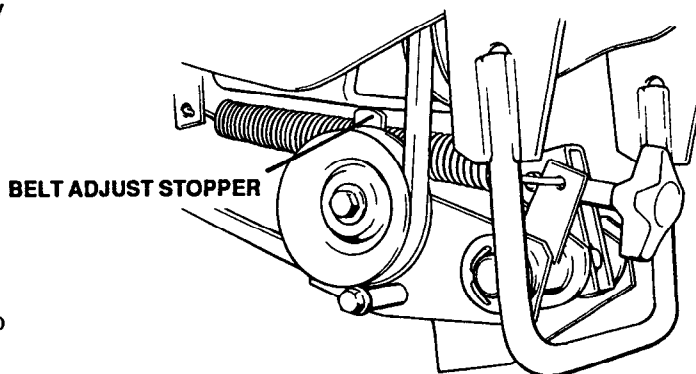
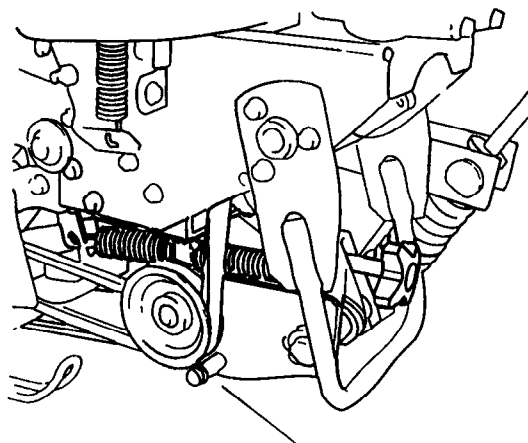
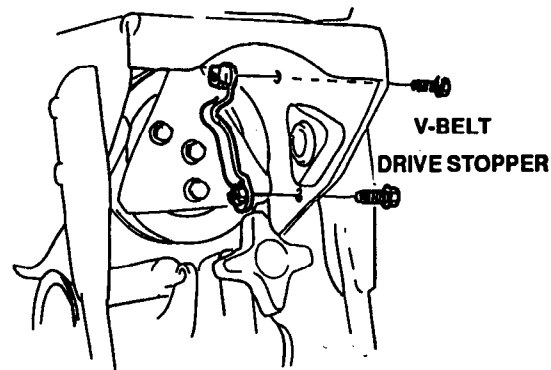
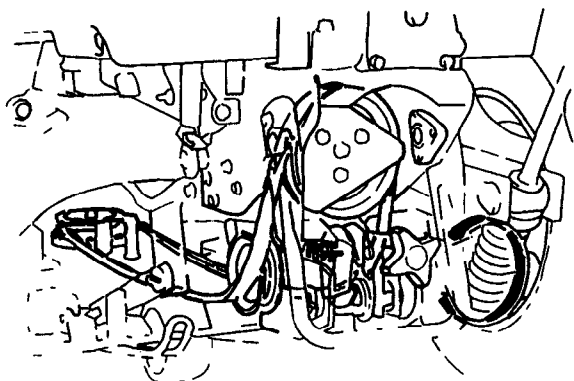
1. Loosen the Belt Tension Adjusting knob fully. Place the V-belt on the PTO drive pulley, then on the mower drive pulley as illustrated.
2. Push up on drive belt tensioner to ease installation, then place the belt on the pulley on the tensioner side (right). Next, place belt on the pulley on the left side.
3. Position the V-belt drive stopper (comes with tractor) onto the frame as shown using one 10 x 20 flange bolt and one 8 x 16 flange bolt. Tighten bolts to 2.2 Kg-m (16 ft-lb).
4. Install the belt stopper collars on each side of the tensioner frame using 8 x 45 mm flange bolts. Tighten bolts to 2.2 Kg-m (16 ft-lb).

**NOTE:** Check that the belt is properly installed on the pulley with a 90° twist between the drive pulley and the idler pulley. Be sure the "V" of the belt goes in the "V" of the pulley.

5. Reconnect spark plugs. Start the engine, move the hydraulic cylinder selector lever (if so equipped) to "FRONT". Move Lift Sector lever to "UP" and raise the mower deck fully.

**NOTE:** Deck must be in fully raised position to properly set belt tension.

6. Turn the Lowering Speed Adjusting knob fully clockwise to prevent the deck from lowering.
7. Stop the engine and remove the key from the engine switch.
8. Adjust the Belt Tension Knob until the stopper of the tension arm just contacts the frame as illustrated.
9. Return the Lowering Speed Adjusting knob to the original position.



## INSTALLING MOWER

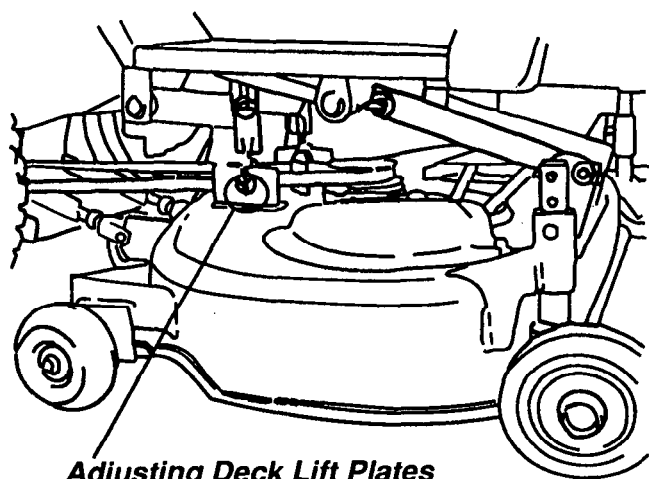
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### Adjusting Lifting Height With Lift Plate

1. Place the tractor on a firm, level surface. Apply and lock the parking brake.
2. Start the engine, move the Hydraulic Cylinder Selector Lever (if installed) to FRONT. Set Lift Selector lever to "UP" and raise the mower deck fully.
3. When mower is fully raised, turn the Lowering Speed Adjusting knob fully clockwise to lock hydraulic system.
4. Stop the engine and remove the key from the ignition switch.

**⚠ CAUTION** If the Lift Selector Lever is set to "DOWN" the mower deck will automatically lower to the ground as the Lowering Speed Adjusting knob is turned counterclockwise. Keep clear of the deck.

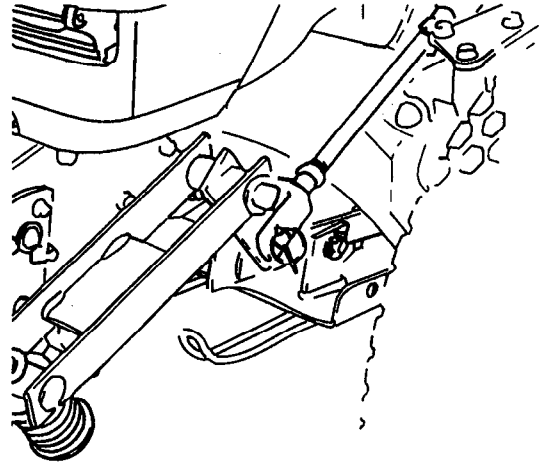
5. Set a wood block under the deck to hold it 4 or more inches off the ground, if it should descend. Measure from mower deck to ground. If measurement is less than 109 mm (4.3 in) shorten the mower deck lift plates to raise the deck higher. When raised to the maximum position, the mower should be 109-113 mm (4.3-4.5 in) off the ground. Measure both sides to be sure they are equal.
6. If shortening the mower deck lift plates is necessary, lower deck by moving Lift Selector Lever to "DOWN". Mower will descend as the Lowering Speed Adjusting knob is turned counterclockwise.
7. Remove lock pin holding lift plate onto stud on lift arm. Pull the lift plate towards you. This will free lift plate so that it can turn to adjust. Screw the lift plate in to shorten it, which will increase the mower deck lift height. [Each turn will shorten by about 3 mm]. Shorten or lengthen the plates as necessary to make both sides equal.
6. After adjusting length of lift plates, replace plate on stud, and lock with lock pin. Start engine, raise mower, turn Lowering Speed Adjusting knob fully clockwise to lock and repeat adjustment. If deck cannot be raised to 109 mm, see next section on adjusting lift rod.



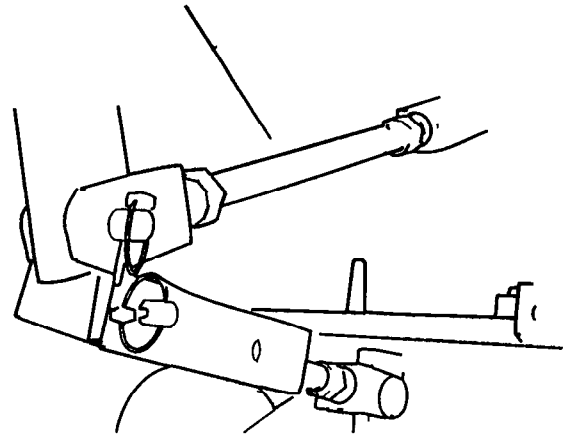
**Adjusting Deck Lift Plates**

### Mower Deck Lift Rod

1. If the height of the mower deck is less than 109 mm (4.3 in), adjust the mower deck lift rod until the height is between 109 to 113 mm (4.3 to 4.5 in). The mower deck lift rod is adjusted as follows: With deck in the lowered position, back off on lock nuts on lift rod. Rod is designed as a turnbuckle. Use a wrench on the flats of the rod to turn it.
2. Turn the rod clockwise to tighten, thus increasing the lift height of the deck. Turn it counter-clockwise to loosen. After adjustment, tighten the lock nuts securely.
3. Do not shorten the mower deck lift rod to less than 379 mm (14.9 in) when first adjusting deck. If the height of the mower blade is below 109 mm (4.3 in) when the mower deck lift rod is 379 mm (14.9 in) long, first use the mower deck lift plates to adjust the deck height.
4. If the mower cannot be raised to 109 mm (4.3 in) using the deck lift plates, then adjust the length of the mower deck lift rod.

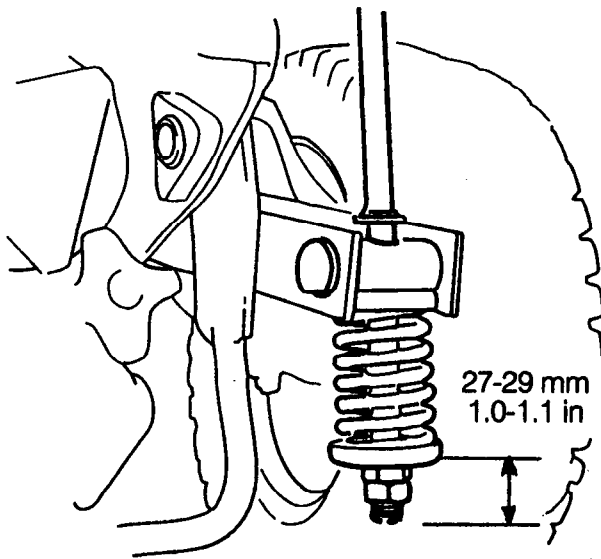


**Adjusting Point**



## INSTALLING MOWER

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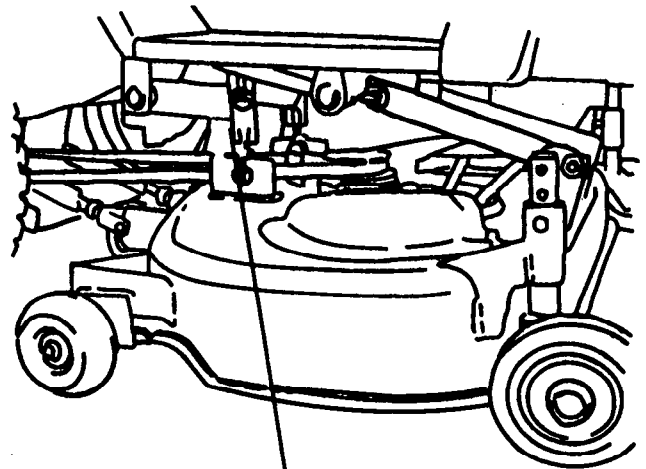
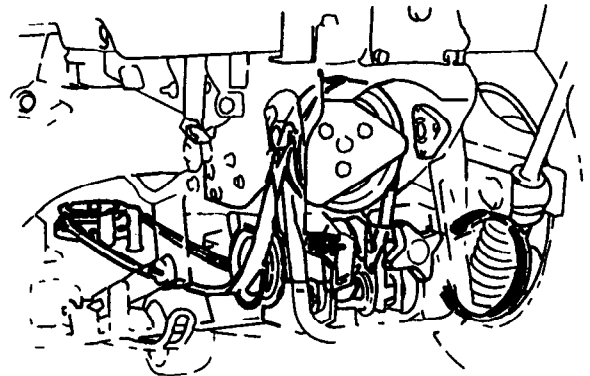


### Lift Link Rod

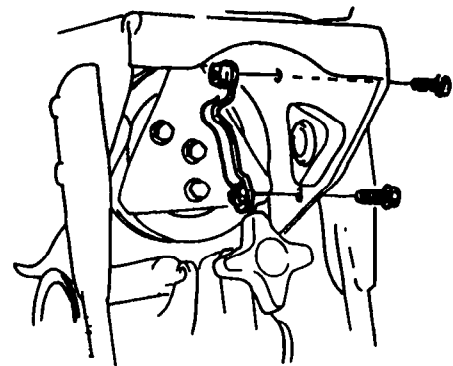
1. Check that the distance between the end of the rod and the bottom washer is 27-29 mm (1.0-1.1 in).
2. To adjust, loosen the lock nut and turn the adjusting nut. After adjustment, retighten the lock nut securely.

### DETACHING MOWER

1. Start the engine and move the Hydraulic Cylinder Control lever (if installed) to "FRONT". Move Lift Selector Lever to "UP". Stop engine and remove key and disconnect spark plugs.
2. Set gauge wheel at rear to 1-1/2 in. and lower the deck.
3. Start engine and lower deck. Stop engine, remove key, disconnect spark plugs.
4. Remove mower deck drive belt from driven pulley on deck by removing front tensioner belt stopper, belt stopper collar, and loosening front tensioner adjusting knob. Remove belt from front tensioner to create slack for driven pulley. (See Maintenance section for detailed description.)
5. Remove lock pins holding front deck lift plates and slip lift plates off projecting stud on tractor frame.
6. Remove belt guard.

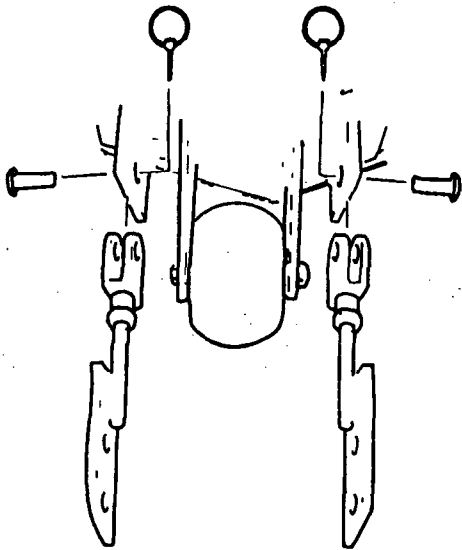


**Remove lock pins**

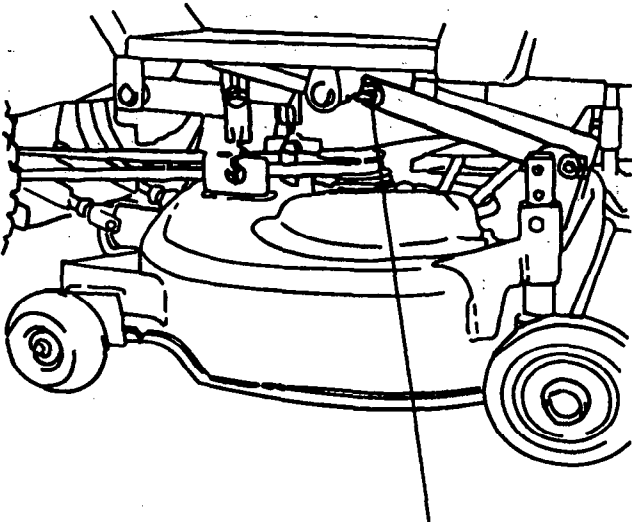


## INSTALLING MOWER

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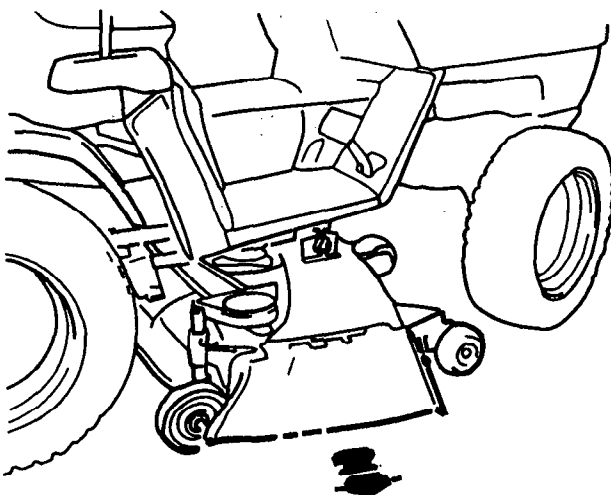


7. Use steel pry bar or jack to raise front of deck slightly. Pull linchpins holding front deck links to projecting bracket on deck. Lower deck to ground.



8. Pull lock pin holding rear deck links to rear deck link shaft. Use drift pin to tap out rear deck link shaft. Lower rear deck links to deck as shaft is withdrawn.

***Remove linchpins and link shaft***



9. Turn steering wheel to extreme left. Pull mower deck from right side of tractor.

For safe and efficient mowing, always make a pre-operation inspection before starting:

Inspect the tractor on level ground. Set the parking brake, put the transmission lever in "N" (NEUTRAL) and PTO clutch lever in the "OFF" and the lift lever in the center (NEUTRAL) positions. Disconnect the spark plug cap and remove the key to prevent accidental engine start-up.

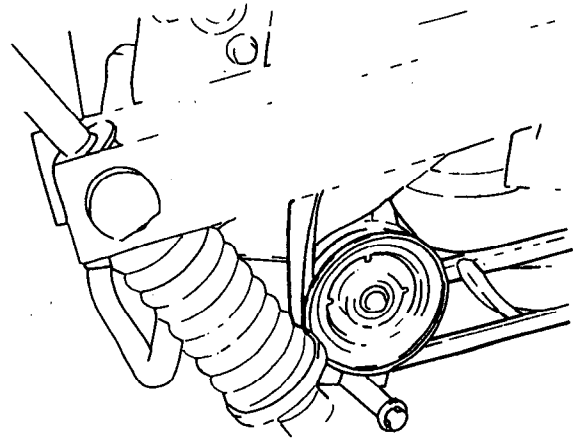
**⚠ WARNING** Never run the engine in an enclosed area. Be sure to provide adequate ventilation. Exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and lead to death.

### CLEANING MOWER DECK (EXTERIOR)

1. Check that the mower deck is lowered fully.
2. Remove grass and other foreign matter from the mower deck.

### DECK DRIVE BELT

Lower the mower deck fully, remove the ignition key and disconnect the spark plug caps. Visually inspect the drive belt for wear, cracks or other faults. If the drive belt is faulty, follow the replacement procedure described on Page 39.

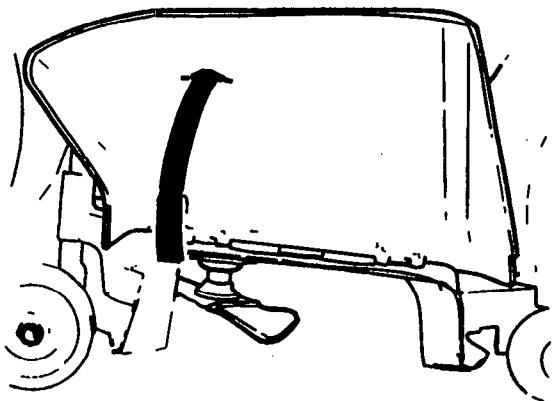


## PRE-OPERATION CHECKS

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### CHECKING BLADE CONDITION

Before each use, check each mower blade for damage or abnormal wear.



1. Start the engine and set Hydraulic Cylinder Selector lever (if installed) to "FRONT". Raise the mower deck fully with the Lift Selector lever. Turn the Lowering Speed Control knob fully clockwise to prevent descent. Do not over-tighten the knob.

**⚠ WARNING** Severe personal injury can result if a piece of blade breaks off and is thrown from under the mower deck.

- Never operate the tractor with a worn or damaged blade.
- Never operate the tractor with a blade that is cracked or notched at the base of its upturned edge.

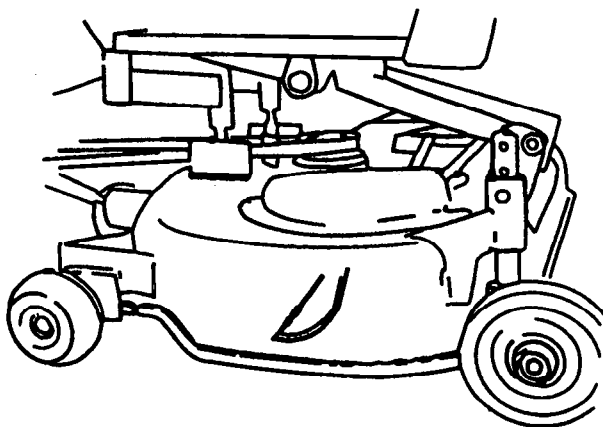
2. Push the Lift Selector lever toward "DOWN" to be sure that the mower deck is locked in the fully raised position. Mower should not descend.

3. Set Lift Selector lever back to "NEUTRAL".

**⚠ WARNING** To avoid personal injury:

- Remove the Ignition key to prevent accidental starting.
- Wear heavy gloves to protect your hands from the mower blades.
- Place a block under the mower deck to prevent it from lowering unexpectedly.
- Stop the engine, remove the Ignition key and disconnect the spark plug caps.

4. Inspect each of the blades for cracks, bending or signs of wear. The right and center blades can be seen from under the right side of the mower deck. The left blade can be seen from under the left front edge of the mower deck. Turn the blades 180° to inspect the opposite side.





## PRE-OPERATION CHECKS

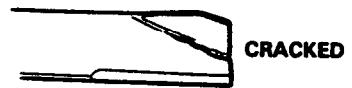
If any of the blades show signs of damage or excessive wear, a more thorough inspection is necessary (see Page 25 for Mower Deck Removal). A dull blade can be sharpened, but a blade that is worn out, bent, cracked or otherwise damaged must be replaced. If a blade needs sharpening or replacement, take the mower deck to your authorized HONDA Multipurpose tractor dealer. Or if you have the proper tools, you can remove and install the blade yourself.

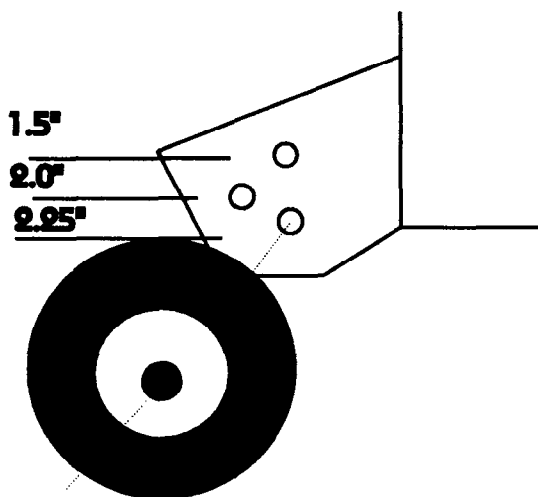
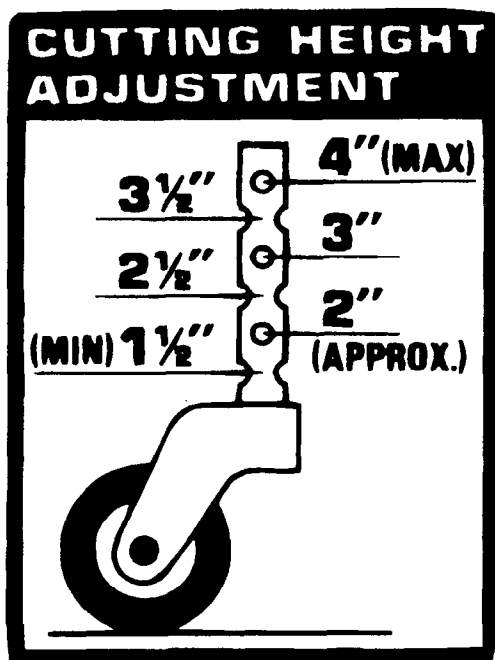
### NOTICE

- Use a genuine HONDA replacement blade or equivalent.
- To reduce the possibility of weakening the blade or causing imbalance or poor cutting performance, sharpening should be performed by an authorized HONDA Multipurpose Tractor dealer.

5. When you have completed the blade inspection, return the Lowering Speed Adjust knob to its original position.

**⚠ CAUTION** If the Lift Selector Lever is set to "DOWN" the mower deck will automatically lower to the ground as the Lowering Speed Adjusting knob is turned counterclockwise. Keep clear of the deck.





### ADJUSTING CUTTING HEIGHT

1. Park the tractor on a level surface and set the parking brake.
2. Make sure the Main Transmission Lever is in "NEUTRAL" and the PTO levers are "OFF" and the lift lever is in the center (NEUTRAL) position.
3. Start the engine, move the hydraulic cylinder selector lever (if installed) to "FRONT" and raise the mower deck fully with the Lift Selector lever.
4. Turn the Lowering Speed Adjust knob fully clockwise to lock the hydraulic system.
5. Set the Lift Selector lever to "DOWN" to be sure the mower deck is locked in the fully raised position. Deck should not descend. Return the lift lever to "NEUTRAL" and then stop the engine and remove the ignition key.

**⚠ WARNING** Be sure all moving parts have stopped before adjusting cutting height. Contacting moving parts can cause injury.

6. Remove the locking pin from the gauge wheel and set the wheel for the desired cutting height.
7. Repeat the adjustment procedure for the other gauge wheel.

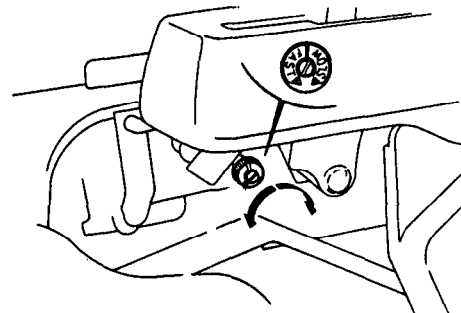
**NOTE:** Both gauge wheels must be set to the same height.

8. If necessary, remove the nut and bolt from left, right and center anti-scalp rollers, and set the anti-scalp rollers for the desired cutting height. This height is determined by which hole is used in anti-scalp wheel brackets. As illustrated, top hole sets height of 1.5 in, middle hole 2 in and bottom hole 2 1/2 in. Make sure to set all anti-scalp rollers to same height.
9. Insert the bolt into the anti-scalp roller bracket and secure it with the nut.

**LOWERING SPEED ADJUSTMENT**

1. Adjust how quickly the deck descends by turning the Lowering Speed Adjusting knob. Adjustment is normal if it takes 1-2 seconds for the mower deck to lower from the highest position to the ground.
2. Turning the knob clockwise toward "SLOW" will decrease the speed, and turning it counter-clockwise toward "FAST" will increase the speed.

NOTE: Uneven mowing may result if the descent speed is too slow.



# OPERATION

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## STARTING

1. Start the engine. With parking brake set, depress the clutch pedal and place the main and auxiliary transmission levers in the desired gear range for mowing.
2. Lower the mower deck and advance throttle to increase engine speed. Always mow at full throttle for best cut quality.
3. Depress the brake pedal and release the parking brake lock lever.
4. Slowly move the front PTO lever to "ON" position. The mower blades will start to rotate.

## STOPPING

### In An Emergency

1. Turn the engine switch to "OFF".
2. Depress clutch and brake pedal.

### In Normal Use

1. Move throttle to "SLOW".  
Depress clutch and brake pedals simultaneously  
Move Main Transmission lever to "NEUTRAL".
2. Shift PTO lever to "OFF" position.
3. Turn engine switch to "OFF". Remove key from ignition.
4. Press down on Parking Brake Lock Lever while depressing brake pedal to set parking brake.

## MOWING

Before operating this tractor you should read and understand the Safety Information on Pages 4-6.

When mowing tall grass, make a first pass with the deck fully raised. This will help to expose any hidden obstacles. When you are sure that the area is completely cleared, mow again at the desired height.

**NOTICE** If the tractor should accidentally get caught on an unseen object (rock, root, hole, etc.), do not attempt to ride over the obstruction or turn the steering wheel to free the mower. These actions can damage the steering mechanism or the deck.

### Mowing Tips

1. Mow at full throttle for best cut quality. The lawn may not be trimmed uniformly at medium or low engine speeds.
2. Observe the following when mowing:

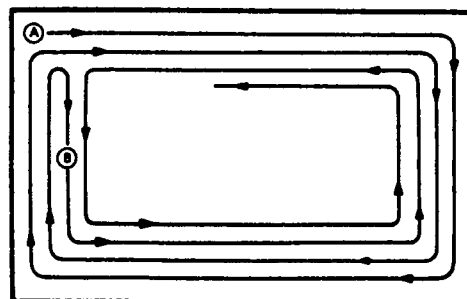
4th gear	Heavy cutting or trimming
5/6th gear	Normal cutting
7th gear	Light cutting or transporting
8th gear	Use only for transporting
3. If grass is exceptionally tall, set deck to highest position on first pass, then mow again with deck set to desired height. Also allow the lawn to dry thoroughly before you use the mower. To cut a thick or lush lawn, mow in a lower gear or cut twice.
4. Always turn counter-clockwise at low ground speed when cutting close to trees, posts, sprinklers, walls, etc.
5. You may cut the lawn too short when the lawn is thick or wet, and/or the ground is soft as the gauge wheels may sink into soft ground.
6. Increase the cutting height if the lawn is spindly and the surface is uneven.

## CUTTING PATTERNS

These cutting patterns are only recommended for a flat, level lawn surface.

### In a small area

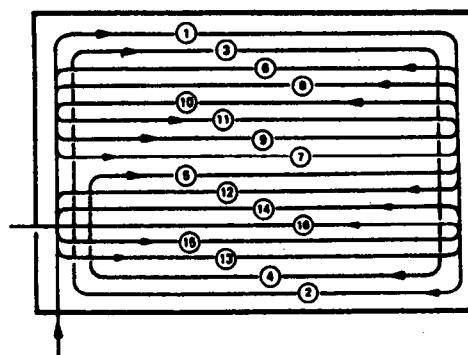
First make 2 or 3 turns in a clockwise direction. Then turn around and continue cutting in the reverse direction.



**Small Area Cutting Pattern**

### In a large area

The first round of cuts is the key to making a neat finish. First, make 2 or 3 turns in a clockwise direction. As you reach the center of the area, turn to the right and continue cutting in the reverse direction until you have finished the upper half of the area. Cut the grass in the remaining half in a counter-clockwise direction.



**Large Area Cutting Pattern**

### Mowing unsquare areas

If your mowing area is not square or four-sided, divide the area into several blocks so you can mow in a neat mowing pattern.

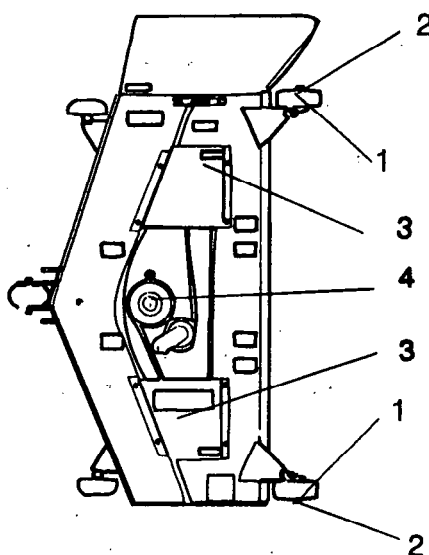
### Overlapping on straightaways

Be sure that each mowing lane overlaps sufficiently. The recommended overlap width is between 4-6 inches or approximately the width of one of the mower's front tires.

### Overlapping in curves and turns

When cutting in curves and turns, shift to a slower speed and be sure to overlap the previous cut by 20-50% or approximately half the width of the mower.

## MAINTENANCE



**Lubrication Points**

Ref. No.	Item Description	Frequency
1.	Rear Gauge Wheel Shaft	8 hrs
2.	Gauge Wheel	8 hrs
3.	Blade Spindles (outside)	24 hrs
4.	Blade Spindle (center)	24 hrs

Front Tensioner Pulley Shaft	24 hrs
Front Driven Pulley Shaft	24 hrs
Front PTO shaft	50 hrs
Lift linkage shafts and pivots	100 hrs

### LUBRICATION INFORMATION

1. Do not let grease or oil collect on or around parts, particularly when operating in sandy areas.
2. The accompanying illustration shows lubrication points. The chart gives the frequency of lubrication in operating hours, based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication. Some reference numbers have more than one location; be sure you lubricate all locations.
3. In addition to the lubrication points shown, at least once a year, oil the mower lift pivot points.
4. Use a good quality SAE Multipurpose grade grease at grease fitting locations. Be sure to clean fittings thoroughly before attaching grease gun.
5. Use SAE 30W oil in areas without grease fittings.

### Maintenance Schedule

Periodic maintenance and adjustment are necessary to keep the tractor in good operating condition. Service and inspect according to the Maintenance Schedule.

Item	Operation	Service Period			
		Each Use	First 20 Hrs	Every 50 Hrs	Refer To Page
Mower Deck Exterior	Clean	X			27, 41
Deck Drive Belt	Check	X			27, 39
Blade Condition	Check	X			28, 36
Blade Bolt Tightness	Check		X	X	38
Blade Belt	Check			X	40
Mower Deck (inside)	Clean			X	41

### Weekly Check

1. Check all nuts and fasteners for tightness.
2. Note any joints or lubrication points needing grease. Pay special attention to blade spindles, the rear deck lift joints and the rear gauge wheels. Use SAE Multi-purpose grade grease.

**⚠ WARNING** To avoid carbon monoxide poisoning, shut off the engine before performing any maintenance. If you run the engine in an area that is confined, or even partially enclosed, the air you breathe will contain a dangerous amount of exhaust gas. If the engine must be run for any reason, be sure the area is well ventilated.

- To avoid serious burns, allow engine to cool before performing maintenance
- Shut off engine and set the parking brake before performing any maintenance.
- To prevent accidental start-up, remove the ignition switch key and disconnect the spark plug caps.
- The tractor and mower should be serviced by an authorized HONDA multipurpose tractor dealer unless the owner has proper tools, service data and is mechanically inclined.

### BLADE SERVICING

Inspect blades for condition and proper installation each time before operation. Replace any blade that is bent, excessively nicked, worn or has any other damage. Small nicks can be ground out when sharpening.

#### Blade Removal

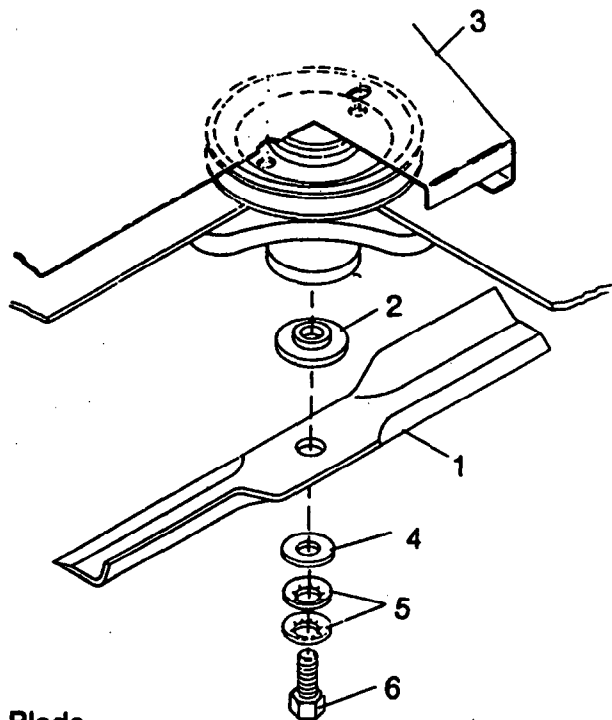
1. Always wear heavy gloves when working near the blade. Secure the movement of the blade with a block of wood.
2. Remove the special Nylock blade bolt (RIGHT HAND THREADS). Remove the cup washers, 5/8" flat washer and blade. The shoulder washer normally does not come off unless intentionally removed.

#### Blade Installation

1. Install the shoulder washer (if removed).
2. Check the orientation of the blade and make sure the cutting edge is positioned to lead in a clockwise rotation, as viewed from the top of the mower.
3. Inspect the condition of the cup washers. Replace the cup washers if they appeared burned or flat.

**CAUTION** Use a new Nylok blade bolt when you replace the blade. Do not substitute any other bolt for the special blade bolt. It is self-locking, meeting the non-loosening requirements for this application.

4. Install two cup washers on bolt. Install washer and blade on bolt. Remember bolt has right hand threads; install bolt and blade assembly into spindle. Torque bolt to 23.5 kg/m (170 ft/lbs).



1. Blade
2. Shoulder washer
3. Left belt shield
4. 5/8" Standard flat washer
5. Cup washers
6. Blade bolt, special Nylock (right hand threads)

#### **Blade Assembly**



## Sharpening Blades

1. Remove blades.
2. Always sharpen both ends equally to maintain balance. Follow original sharpening pattern. Do not sharpen blade to a razor edge. Leave from 1/32 in. to 1/16 in. blunt edge. Do not sharpen back side.

**NOTICE** When sharpening blades be sure to balance them. Unbalanced blades will cause excessive vibration which can damage blade spindle bearings. Vibration may also cause structural cracks in mower components.

1. Test balance by placing the clean, sharpened blade on a screwdriver. A balanced blade will stay horizontal. If one end of the blade dips, grind or file the heavy end until good balance is achieved.

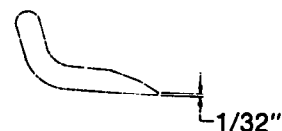
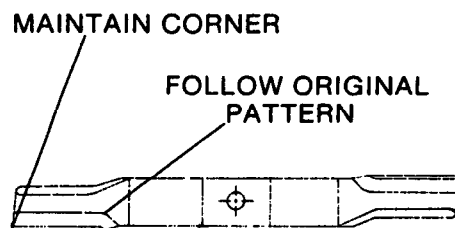
## BLADE INSPECTION

Before each use, check each mower blade for damage or abnormal wear.

1. Start the engine and raise the mower deck fully with the Lift Control Lever set to "UP". Turn the Lowering Speed Control knob fully clockwise to prevent descent. Do not overtighten the knob.
2. Stop the engine and remove the ignition key. Block deck with wood block to prevent lowering.
3. Inspect each of the blades for cracks, bending or signs of wear. The right and center blades can be seen under the right side of the mower deck. The left blade can be seen from under the left front edge of the mower deck. Turn the blades 180° to inspect the opposite side.

### **⚠ WARNING**

- Severe personal injury can result if a piece of blade breaks off and is thrown from under the mower deck.
- Never operate the tractor with a worn or damaged blade.
- Never operate the tractor with a blade that is cracked or notched at the base of its upturned edge.



**Blade Sharpening**



**NORMAL**



**BENT**

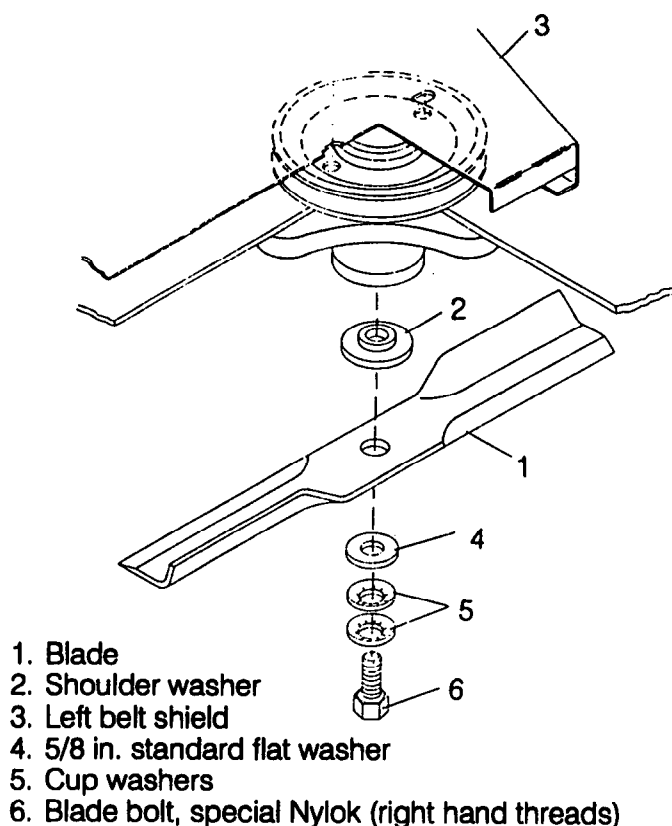


**EXCESSIVELY WORN**



**CRACKED**

**Blade Condition**



### Blade Assembly

#### Blade Installation

1. Install shoulder washer (if removed) small end up. Make sure blade cutting edge is positioned to lead in clockwise rotation, as viewed from top of mower.
2. Excessive blade slippage can cause cup washers to burn and lose their clamping force. Inspect cup washers to determine if they are burned or have lost their clamping force. Replace as necessary.

#### **CAUTION**

- We recommend you install a new Nylok blade bolt when you replace the blade.
- Do not substitute just any bolt for the special blade bolt. It is self-locking, meeting the non-loosening requirements for this application.

3. Install two cup washers on bolt.
4. Install washer and blade on bolt.
5. Install bolt and blade assembly in to spindle.

**CAUTION** Your dealer can supply genuine HONDA replacement blades. They are made of special steel alloys and subjected to rigid heat-treat and inspection requirements. Substitute blades may not meet these rigid specifications and **MAY BE DANGEROUS.**

6. Torque bolt to 23.4 kg-m (170 ft-lbs).

## SPINDLE REPAIR

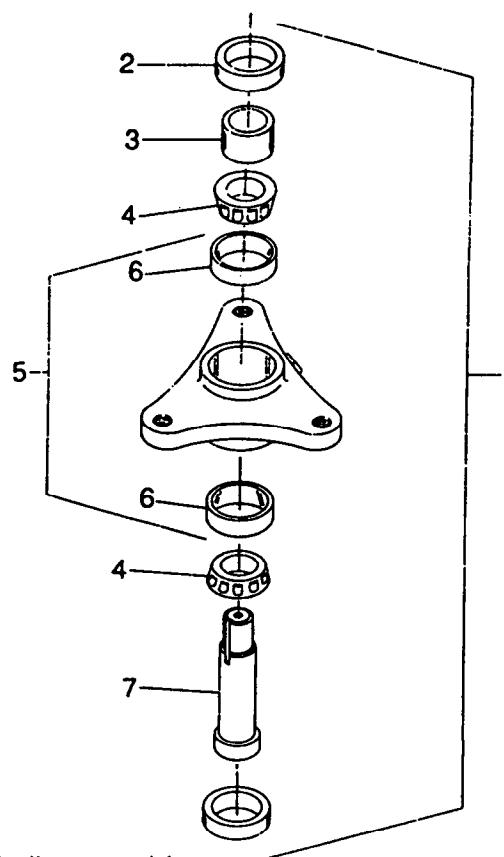
### Blade Spindle Removal

1. Remove blade from spindle.
2. Remove belt shield.
3. Remove belt from pulleys.
4. Remove bolt and flat washer from top of spindle shaft.
5. Disassemble split taper bushing (located on top of pulley) by removing the two bolts and inserting them into the threaded holes in bushing flange. Tighten bolts alternately to remove split taper bushing. Remove pulley.
6. Remove three bolts attaching spindle to mower frame and remove spindle.

### Spindle Repair Tips

1. As a reference point, the top of spindle housing is the short portion.
2. To minimize wear, bearing cups, cones and sleeves are press fit to shaft and will require a press or similar device for removal.
3. When disassembling, support housing casting to prevent damage.
4. Remove bearing cups by placing a punch in housing slots and drive cup out. Alternate punch positions from side to side. Use care to prevent housing damage.
5. Bore-tite™ sealant is used on the outer diameter of the seals. Substitute seals may not meet original equipment specifications and could cause leakage.

Bore-tite is a registered trademark of Chicago Rawhide Industries.

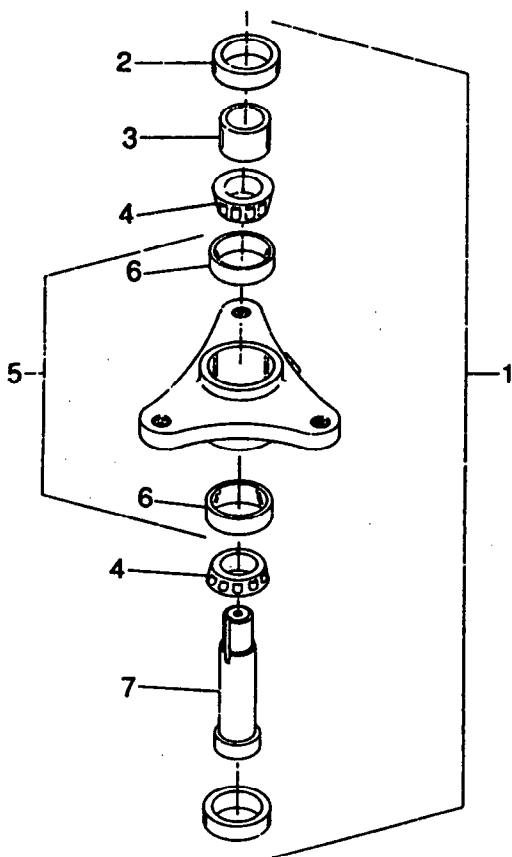


1. Spindle assembly
2. Seal
3. Sleeve
4. Bearing cone
5. Housing and cups
6. Cup
7. Shaft

### Spindle Assembly

## MAINTENANCE

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- 1. Spindle assembly
- 2. Seal
- 3. Sleeve
- 4. Bearing cone
- 5. Housing and cups
- 6. Cup
- 7. Shaft

### ***Spindle Assembly***

### **Blade Spindle Disassembly**

1. Support spindle in a press and push shaft down through housing.
2. Remove seals from housing.
3. Remove bearing cups from housing as described in Spindle Repair Tips section.
4. Remove bearing cone from shaft.

## Blade Spindle Assembly

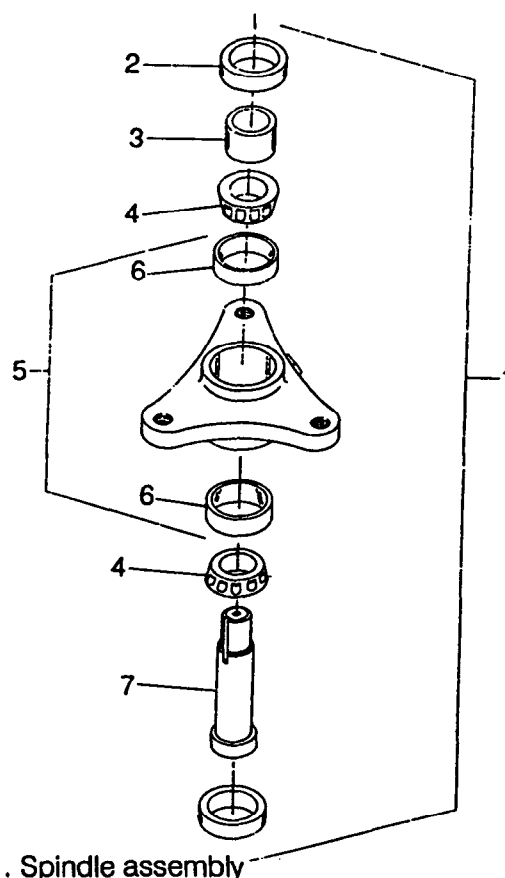
1. Bearing cups and cones are designed to work together. It is important to position them so bearing cone taper mates with bearing cup taper.
2. Lubricate new cups with a light oil. Place them in spindle housing so they will mate with cones. Seat cups against machined shoulder of housing with a press or by placing a large drift on the flat lip and driving them into housing.
3. Place bottom bearing cone onto spindle shaft with taper up. Seat on bottom shoulder of shaft with a press.
4. Insert shaft and bearing cone assembly through bottom of housing. Fill housing cavity with a lithium grease of #2 consistency with a MOLY (molybdenum disulfide) additive.
5. Place top bearing cone on shaft to mate with top bearing cup.

**NOTICE** Bearing adjustment is set by pressing sleeve against bearing cone until proper adjustment is attained.

6. Install sleeve on shaft and press sleeve and bearing cone onto shaft until all bearing free play is removed and there is a slight drag (similar to adjusting the front wheel bearings on an automobile). Check by spinning spindle. It should turn freely.
6. Be careful not to over-tighten bearings. Proper bearing adjustment is essential to good bearing life.
7. Should you over-tighten bearings, hold spindle housing and rap spindle shaft with a lead hammer to loosen bearings. Readjust bearings until proper setting is obtained.

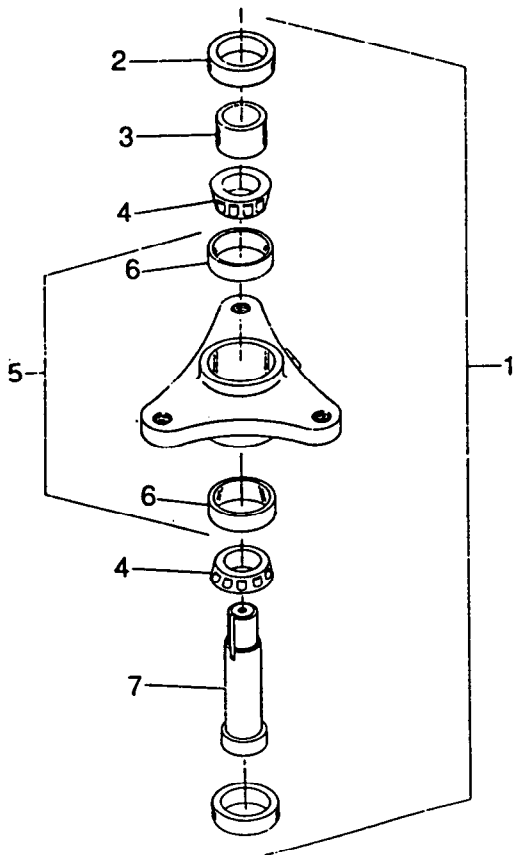
**NOTICE** Improper positioning of seals can cause seal failure.

8. Proper seal installation is important. An improperly installed seal will leak and could cause bearing failure.
9. Pull the rubber portion of seal back and locate spring.



1. Spindle assembly
2. Seal
3. Sleeve
4. Bearing cone
5. Housing and cups
6. Cup
7. Shaft

## Spindle Assembly



1. Spindle assembly
2. Seal
3. Sleeve
4. Bearing cone
5. Housing and cups
6. Cup
7. Shaft

### *Spindle Assembly*

10. Apply a thin coat of lubricant to bottom seal (2) and install with spring up toward center of housing.

11. Place bottom seal squarely on housing. Select a piece of pipe or tubing with an OD that will set on outside edge of seal. A tube that is too small will bow seal cage.

12. Carefully press seal into housing, preventing distortion to metal seal cage. Seal should seat firmly and squarely against machined shoulder in housing.

13. Make sure seal lip did not roll under. Distortion to seal cage or damage to seal lip will cause seal to leak. Damaged seals must be replaced.

14. Apply a thin coat of lubricant to top seal (2) and install with spring up away from center of housing. Top seal should be flush with top of housing.

15. Lubricate spindle with a lithium grease of #2 consistency with a MOLY (molybdenum disulfide) additive. Vent top seal with a blunt edged tool such as a letter opener while filling with grease. Rotate housing on spindle shaft, checking for free movement.

### **Blade Spindle Installation**

1. Insert spindle through bottom of mower deck and install three mounting bolts. Be sure to position grease fittings toward lubrication access areas. Refer to lubrication chart.

**NOTICE** Pulley installation sequence is very important for bearing life. Follow the sequence exactly.

2. Install pulley and split taper bushing with integral key on spindle shaft. Install bolt and flat washer in top of spindle shaft. Torque this bolt to 1.7 kg/cm (12 ft/lbs), then alternately tighten split taper bushing bolts to 1.7 kg/cm (12 ft/lbs).

### REPLACING THE BELTS

One of the major causes of belt failure is improper installation. Before a new belt is installed, check pulley shafts and bearings for wear. Check pulley grooves for cleanliness. Make sure spindles turn freely and without wobble. If grooves require cleaning, moisten a cloth with a non-flammable, non-toxic degreasing agent or commercial detergent and water.

Avoid excessive force during installation. Do not use tools to pry belt into pulley groove. Do not roll belt over pulleys to install. This can cause hidden damage and premature belt failure.

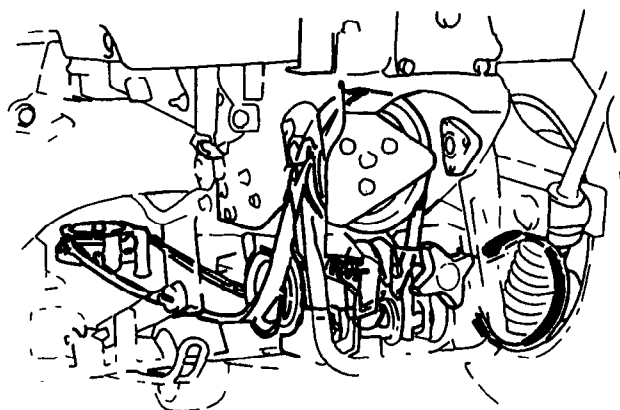
#### Drive Belt Replacement

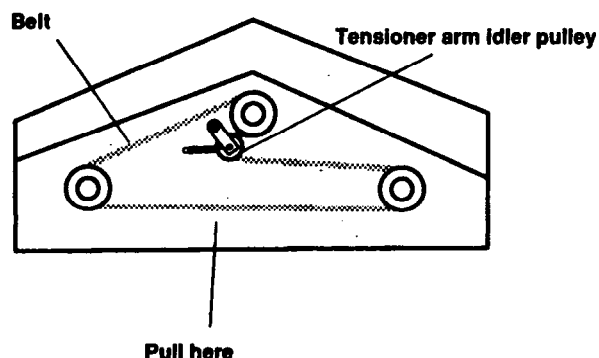
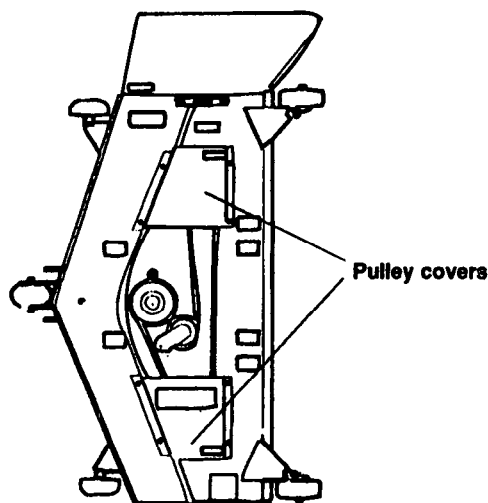
1. Set the rear gauge wheel to 1-1/2 in. position (see Wheel Adjustments). Turn Lowering Speed Adjusting knob counter-clockwise towards "FAST" and lower deck.

#### **A WARNING**

- To prevent accidental start-up, remove the ignition switch key and disconnect the spark plug caps before installing the mower.
- Wear gloves when installing belt. Be careful. Do not allow your fingers to be caught between belt and pulley.
- Use care when installing or removing belt from spring-loaded idler. Springs store energy when extended and, if released suddenly, can cause personal injury.

2. Remove belt stopper from front tensioning guide, and belt stopper collars and two bolts 10 mm x 20 mm and 8 x 16 mm flange bolt
3. Turning counterclockwise, loosen the belt tension adjust knob fully. Push up on the left tensioner pulley to gain some slack in the belt. Pull belt off left side pulley and remove it from remaining pulleys starting with the one on the opposite side.
4. Installation sequence is the reverse of disassembly. After installing, check that belt is fully seated in V-groves of pulley.
5. Adjust the amount of slack in the belt as described on Page 21.





### Blade Belt Replacement

1. Remove the mower deck from the tractor.
  2. Remove the four 5/16 in. nuts holding down the left and right mower pulley covers. Clean out any grass or debris.
  3. Check the belt for wear or cracks.
  4. If necessary to replace the belt, grasp it midway between the right and left deck pulleys. As you face the deck from the REAR, pull the belt towards you and to the left. This will create slack in the belt as the tensioner pulley moves. With the slack you have created, slip the belt off the left deck pulley. Next remove belt from right pulley.
  5. Pull back on tensioner arm to release pressure on tensioner arm spring. Unhook and remove tensioner arm spring. Remove the spring pin holding the tensioner arm to mower deck. Lift arm and remove, allowing belt to slip free.
  6. Slip V-belt off remaining pulleys.
  7. Install new V-belt in the reverse order of removal. Start with the driven pulley in center of deck, then install tensioner arm, washer, felt seal and spring pin. Install tensioner arm spring, then pass V-belt over left pulley and right pulley.
- ⚠ WARNING** If the belt is not released slowly, the idler pulley will move suddenly and could injure your hand. Be sure to reinstall right and left pulley covers after changing belt. Failure to use pulley covers can cause serious personal injury.
8. Reinstall mower pulley covers using the four 5/16 in. nuts removed earlier.



### CLEANING MOWER DECK

1. Remove the mower from the tractor.
2. Remove the four 5/16 in. nuts holding down the pulley covers and remove the left and right pulley covers.
3. Remove grass and other foreign matter from inside the covers.
4. Using a jack or other lifting mechanism, raise deck a foot or more off the ground. Place two wooden blocks in front and support deck firmly. Clean off accumulated grass and other debris, making sure to keep fingers away from blades.

**NOTICE:** Do not use water or hose to clean under deck just after mowing. Water on hot blade spindle bearings will cause premature wear. Wait until bearings have cooled.

5. Install the mower back on the tractor.

**NOTE:** After pushing deck under tractor and before installing, make sure that lift arms are all the way down. Put Lift Selector Lever in Down position and turn Lowering speed Adjustment Knob to "FAST", then pull arms down by hand to test.

## STORAGE

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### STORAGE

1. Remove the mower deck from the tractor.
2. Turn the mower deck upside down. Clean the underside of the deck with water and dry thoroughly.
3. For longer service and greater efficiency, keep the underside of the mower housing clean and free of accumulated grass clippings by washing it down with a hose after use and/or cleaning it with a wire brush and scraper. Remove any rust and apply a rust-resistant paint. Cleaning and rust prevention are especially important before seasonal storage.

**NOTICE** Washing the deck directly after use can cause premature bearing wear. Allow the deck to cool before washing, then run the deck to remove any excess moisture.

### PROBLEM

### SOLUTION

#### BELT SLIPPAGE

- |  |  |
|--|--|
| 1. Mower overloading; material too tall or heavy | 1. Reduce tractor speed but operate at full throttle. Cut material twice: one high pass, then mow at desired height, Cut a partial swath.  |
| 2. Oil on belt from over-lubrication             | 2. Be careful not to over-lubricate. Clean lubricant from belt and pulleys with clean rag. Replace oil-soaked belt.  |
| 3. Belt hung up or rubbing                       | 3. Check belt for free travel in pulleys and belt guides. Check under mower and around blade spindle shafts for wire, rags or other foreign material. Clean all material from under mower. |
| 4. Belt or pulleys worn out                      | 4. If belt rides in bottom of pulley groove, either belt or pulley is worn and must be replaced.   |

#### FRAYED EDGES ON COVER

- |                                     |   |
|-------------------------------------|---|
| 1. Belt misaligned or rubbing guide | 1. Re-align belt or guide. Be sure belt doesn't rub any other part while running. |
|-------------------------------------|---|

#### BELT ROLL-OVER

- |                       |  |
|-----------------------|--|
| 1. Damaged belt       | 1. Lay belt flat on floor. If belt does not lie flat (has humps or twists), indicating broken or stretched cords, it must be replaced. |
| 2. Worn pulley groove | 2. Replace pulley.   |

#### BELT DAMAGE

- |   |                  |
|---|------------------|
| 1. Roll-over, high shock loads or installation damage | 1. Replace belt. |
|---|------------------|

#### BELT BREAKAGE

- |                        |  |
|------------------------|--|
| 1. High shock loads    | 1. Avoid abusive mowing. Avoid hitting the ground or obstructions.                               |
| 2. Belt came off drive | 2. Check drive alignment for foreign material in grooves. Avoid hitting solid objects or ground. |

# **TROUBLESHOOTING**

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## **PROBLEM**

## **SOLUTION**

### **POOR FINISHING/APPEARANCE**

- |                                   |  |
|-----------------------------------|--|
| 1. Tractor speed too fast         | 1. Shift to lower gear.  |
| 2. Grass accumulation inside deck | 2. Clean deck underside.                                       |
| 3. Dull Blade                     | 3. Have the blades sharpened or replaced.                      |
| 4. Tires improperly inflated      | 4. Check the tire inflation.                                   |
| 5. Mower not level                | 5. Level or see authorized HONDA Multi-purpose Tractor dealer. |
| 6. Wrong mower deck height        | 6. Change to proper height.                                    |
| 7. Engine speed too low           | 7. Run at full throttle.                                       |

### **BLADES DO NOT ROTATE OR STOP**

- |  |  |
|--|--|
| 1. Blade drive belt worn or broken             | 1. Replace with new belt.                                  |
| 2. PTO lever cable faulty or out of adjustment | 2. See your authorized HONDA multi-purpose tractor dealer. |
| 3. Faulty PTO                                  | 3. See your authorized HONDA multi-purpose tractor dealer. |

### **CLOGGED MOWER DECK DISCHARGE CHUTE**

- |                         |  |
|-------------------------|--|
| 1. Wrong blades         | 1. Use genuine HONDA blades or equivalent.   |
| 2. Deck too low         | 2. Raise deck and adjust deck height properly.   |
| 3. Engine overloaded    | 3. Operate at full throttle. Use lower speed range. Set mower deck higher than desired height for first pass, then cut to desired height on second pass. |
| 4. Lawn wet or watered  | 4. Allow to dry before cutting.  |
| 5. Lawn too tall        | 5. Set mower deck higher than desired height for first pass, then cut to desired height on second pass.  |
| 6. Engine speed too low | 6. Run at full throttle.   |

### **DEEP CUT**

- |                             |                                 |
|-----------------------------|---------------------------------|
| 1. Cutting height too low   | 1. Increase to proper height.   |
| 2. Tractor speed too high   | 2. Lower to proper speed.       |
| 3. Uneven surface           | 3. Change cutting pattern.      |
| 4. Rough and uneven surface | 4. Adjust with height adjuster. |

### **EXCESSIVE VIBRATION**

- |  |  |
|--|--|
| 1. Unbalanced blades                     | 1. Balance.  |
| 2. Drive/blade belt damaged              | 2. Replace.  |
| 3. Pulley(s) damaged or out of alignment | 3. See your authorized HONDA multi-purpose tractor dealer. |

### **ENGINE SPEED DROPS EXCESSIVELY UNDER LOADS**

- |  |                          |
|--|--------------------------|
| 1. Engine speed too low                                    | 1. Run at full throttle. |
| 2. Tractor speed too fast                                  | 2. Shift to lower gear.  |
| 3. Pebbles or other foreign matter are stuck in mower deck | 3. Remove.               |

## SPECIFICATIONS

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Model	MM52
Overall length	1050 mm (41.3 in)
Overall width	1675 mm (66 in)
Mowing width	1320 mm (52 in)
Weight (including link)	120 kg (266 lbs)
Cutting height range	1-1/2 in. to 4 in.
Number of blades	3
Blade length	456 mm (18 in)
Left and center blade speed	3355 rpm
Right blade speed	3700 rpm
Gauge wheels	(2) 152.4 mm (6 in) diameter
Deck lifting/lowering	Hydraulic
Deck mounting	4 point linkage

## **WARRANTY SERVICE**

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### **OWNER SATISFACTION**

Your satisfaction and goodwill are important to your dealer and to us. All HONDA warranty details are explained in the Distributor's Limited Warranty. Normally, any problems concerning the product will be handled by your dealer's service department. If you have a warranty problem that has not been handled to your satisfaction, we suggest you take the following action:

- Discuss your problem with a member of dealership management. Often complaints can be quickly resolved at that level. If the problem has already been reviewed with the Service Manager, contact the owner of the dealership or the General Manager.
- If your problem still has not been resolved to your satisfaction, contact the Power Equipment Customer Service Department of American Honda Motor Co., Inc.

AMERICAN HONDA MOTOR CO., INC.  
Power Equipment Customer Service Dept.  
Duluth, Georgia 30136-9421  
Telephone: (404) 497-6400

We will need the following information in order to assist you:

- Your name, address and telephone number
- Product model and serial number
- Date of purchase
- Dealer name and address
- Nature of problem

After reviewing all the facts involved, you will be advised of what action can be taken. Please bear in mind that your problem will likely be resolved at the dealership, using the dealer's facilities, equipment and personnel, so it is very important that your initial contacts be with the dealer.

Your purchase of a HONDA product is greatly appreciated by both your dealer and American Honda Motor Co., Inc. We want to assist you in every way possible to assure your satisfaction with your purchase.



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