

# OPERATOR'S MANUAL

BELT BP87 DAYCO

# KUBOTA

## DIESEL LAWN AND GARDEN TRACTOR

*Mower*

*Model- RC-44-G*

*Serial No. 16861*

MODEL G6200H  
G5200H  
G4200H  
G4200  
G3200

*3.2 Qt  
Engine Oil  
with Filter*



F-3046

READ AND SAVE THIS BOOK



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# ABBREVIATIONS LIST

Abbreviations	Definitions
2WD	Two Wheel Drive
4WD	Four Wheel Drive
API	American Petroleum Institute
ASAE	American Society of Agricultural Engineers, USA
ASTM.	American Society for Testing and Materials, USA
DIN	Deutsches Institut für Normung, GERMANY
DT	Dual Traction
HST	Hydrostatic Transmission
PT	Permanent Type (=Ethylene glycol anti-freeze)
PTO	Power Take Off
ROPS	Roll-Over Protective Structures
RPM	Revolutions Per Minute
SAE	Society of Automotive Engineers
SMV	Slow Moving Vehicle
SPT	Semi-Permanent Type
UDT	KUBOTA UDT fluid (Transmission-hydraulic fluid)

# FOREWORD

You are now the proud owner of a KUBOTA DIESEL LAWN AND GARDEN TRACTOR. This tractor is a product of Kubota quality engineering and manufacturing. It is made of the finest materials and under rigid quality control system. It will give you long, satisfactory service. To obtain the best use of your tractor, please read this manual carefully. It will help you become familiar with the operation of the tractor and contains many helpful hints about tractor maintenance. It is Kubota's policy to utilize as quickly as possible every advance in our research. The immediate use of new techniques in the manufacture of products may cause some small parts of this manual to be outdated. Kubota distributors and dealers will have the most up-to-date information. Please do not hesitate to consult with them.



## SAFETY ALERT SYMBOL

This is the industry "Safety Alert Symbol." This symbol is used to call your attention to items or operations that could be dangerous to you or other persons using this equipment. Please read these messages and follow these instructions carefully.

It is essential that you read the instructions and safety regulations before you attempt to assemble or use this unit.

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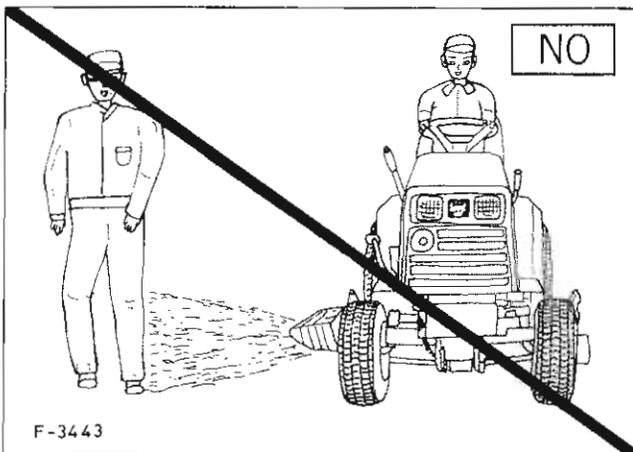
# 1. FOR SAFE OPERATION

## 1. BEFORE STARTING

- (1) Read this OPERATOR'S MANUAL and instructions furnished with attachments before attempting to start and operate the tractor.
- (2) Know the controls and how to stop quickly.
- (3) Read and observe the safety decals on the tractor and equipment.
- (4) Always wear well fitted, belted clothing when operating tractor. Loose clothing should not be worn because of danger of catching them in moving parts or controls.
- (5) Do not allow children to operate the machine. Do not allow adults to operate it without proper instruction.
- (6) Do not carry passengers. Do not mow when children and others are around.
- (7) Clear the work area of objects (wires, rocks, etc.) that might be picked up and thrown.

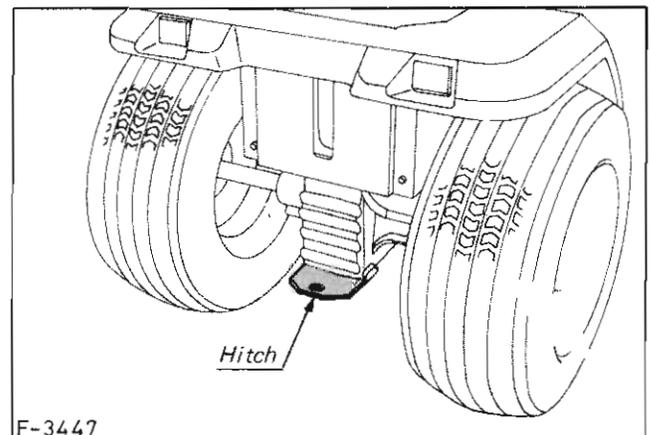
## 2. OPERATION

- (1) Sit in the operator's seat, disengage all attachment clutches and shift into neutral before attempting to start the engine.
- (2) Watch where you are going at all times. Watch for and avoid obstacles.
- (3) Do not operate where machine could tip or slip.
- (4) When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the vehicle while in operation.

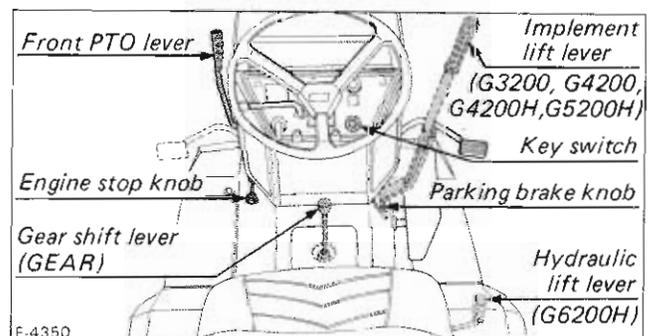


- (5) Mow only in daylight or in good artificial light.
- (6) Be sure blade and engine are stopped before placing hands or feet near blade.
- (7) Never make a cutting height adjustment while the engine is running if the operator must dismount to do so.
- (8) Shut the engine off and wait for all movement to stop when removing grass catcher or unclogging chute.
- (9) Know what is behind you and disengage power to mower before backing up. Do not mow in reverse unless absolutely necessary and then only after observation of the entire area behind the mower.

- (10) Always back-up when going up a slope. Driving forward could cause the tractor to tip over backward. Stay off hills and slopes too steep for safe operation.
- (11) Do not stop or start suddenly when going uphill or downhill. Mow up and down the face of slopes: never across the face.
- (12) If machine stops going uphill, stop blade and back slowly down.
- (13) Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing direction on slopes.
- (14) Stay alert for holes in the terrain and other hidden hazards. Keep away from drop-offs.
- (15) Use care when pulling loads.
  - a. Use only approved hitch points.
  - b. Limit loads to those you can safely control.
  - c. Do not turn sharply. Use care when backing.
  - d. Use front ballast or wheel weights when suggested in this operator's manual.



- (16) Watch out for traffic when crossing or near roadways.
- (17) Disengage power to attachment(s) and stop the engine before leaving the operator's position.
- (18) Take all possible precautions when leaving the vehicle unattended, by disengaging the power take-off, lowering the attachment(s), shifting into neutral, setting the parking brake, stopping the engine and removing the key.



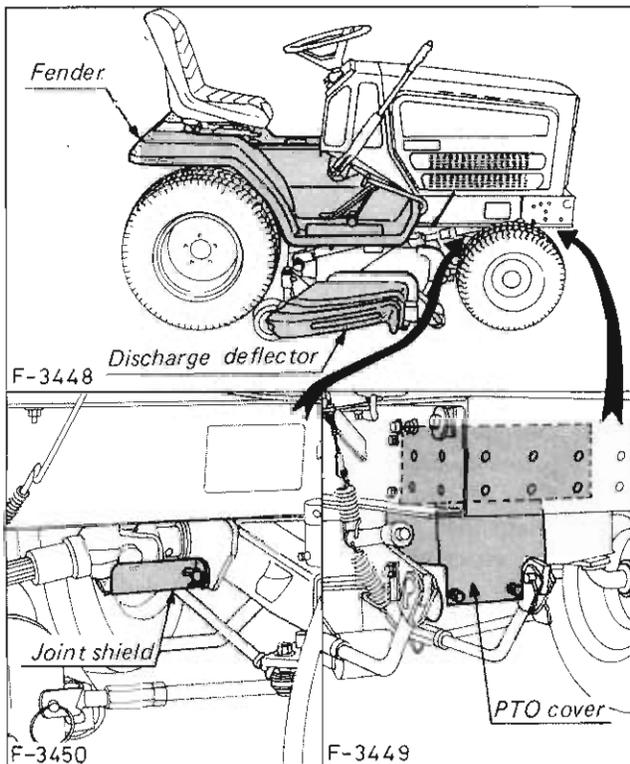
- (19) Do not start engine by shorting across starter terminals. Machine may start in the gear and move if normal starting circuitry is bypassed.
- (20) Use an approved fuel container.
- (21) Do not remove the fuel cap or add fuel to tank when engine is hot or running.  
Allow engine to cool for several minutes.
- (22) Do not fill the tank indoors and always clean up spilled fuel.
- (23) Do not "ride" the brake pedal. Use brake for stopping only.

### 3. TRANSPORTING SAFETY

- (1) Disengage power to attachment(s) when transporting or not in use.
- (2) It is recommended that this machine not be used on public roads. If it must be transported, use a pick-up truck or suitable trailer.

### 4. MAINTENANCE SAFETY

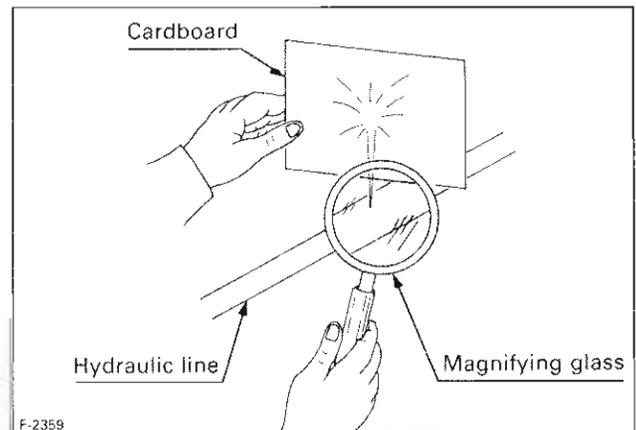
- (1) Disengage power to attachment(s), stop the engine and remove the key before making any repairs or adjustments.
- (2) Keep the vehicle and attachments in good operating condition and keep safety devices in place and in working condition.



- (3) Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- (4) Check the blade mounting bolts for proper tightness at frequent intervals.

- (5) The vehicle and attachments should be stopped and inspected for damage after striking a foreign object, and the damage must be repaired before restarting and operating the equipment.
- (6) Follow the maintenance recommendations. See "Maintenance and Lubrication".
- (7) It is recommended that your machine be thoroughly inspected at least once a year by an authorized Kubota Dealer.
- (8) After operating the tractor or engine, never touch engine parts until they have had sufficient time to cool.
- (9) Do not change the engine governor setting or overspeed the engine.
- (10) Under normal usage, grass catcher bag material is subject to deterioration and wear. When using grass catcher, check bag frequently for deterioration and wear and replace worn bags. Check that replacement bags comply with the original manufacturer's recommendations or specifications.
- (11) High pressure fluids.

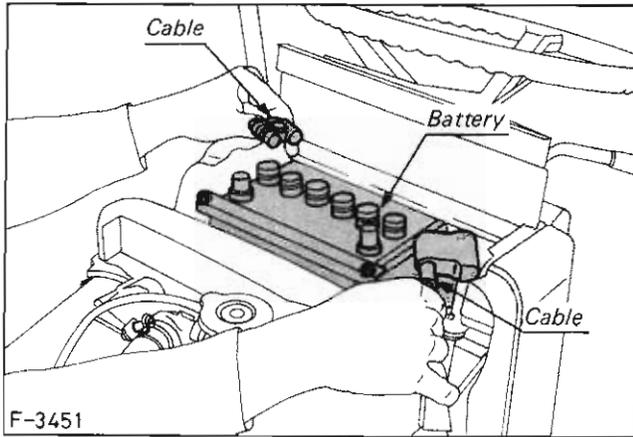
Escaping hydraulic fluid under pressure can have sufficient force to penetrate skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure that all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Don't use hands to search for suspected leaks, use a piece of cardboard or wood.



If injured by escaping fluid, see a doctor at once. Serious infection or reaction may result if proper medical treatment is not administered immediately.

### 5. STORAGE SAFETY

- (1) Keep the machine and supply of fuel in locked storage to prevent children or others from playing or tampering with them. Always remove the ignition key when machine is stored. When machine is to be stored for an extended time, disconnect battery cables or remove the battery. Always remove the negative(-) cable first and reinstall the negative(-) cable last.



- (2) Do not store the machine with fuel in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
- (3) To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.
- (4) To reduce fire hazard, keep engine free of grass, leaves, or excessive grease.

## 6. SAFETY LABELS

### ① Code No. 66041-4713-3



### CAUTION

#### TO AVOID PERSONAL INJURY:

1. Read Operator's Manual.
2. Know location and function of all controls.
3. Keep safety devices (guards, shields, and switches) in place and working.
4. Remove objects that could be thrown by blade.
5. Before starting engine, make certain PTO is OFF and everyone is at a safe distance from machine.
6. Never permit passengers on tractor.
7. Always look behind machine before backing.
8. Do not operate where machine could tip or slip.
9. If machine stops going uphill, stop blade and back slowly down.
10. Be sure blade and engine are stopped before placing hands or feet near blade.
11. Before dismounting, turn off Front PTO, lower implement, shift into neutral, set parking brake, stop engine and remove the key.
12. This tractor is not for street or highway use.

### ② Code No. 35820-9863-1



### WARNING

#### AVOID POSSIBLE INJURY OR DEATH FROM A MACHINE RUNAWAY.

1. Do not start engine by shorting across starter terminals. Machine may start in gear and move if normal starting circuitry is bypassed.
2. Start engine only from operator's seat with transmission and PTO in neutral. NEVER start engine while standing on ground.

### ③ Code No. 66041-4719-2 (HST) Code No. 66031-4741-1 (GEAR)

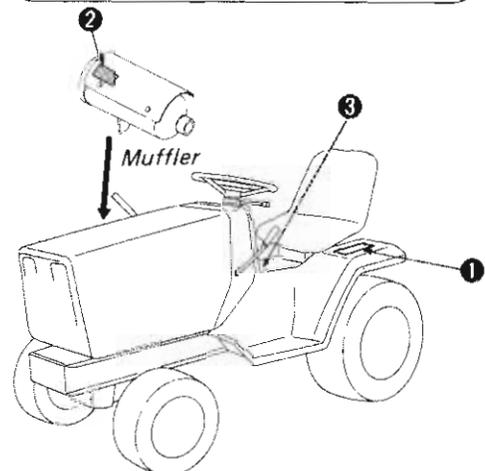


### CAUTION

Do not "ride" the brake pedal.  
Use brake for stopping only.

### CARE OF SAFETY SIGNS

- (1) Keep safety signs clean and free from obstructing material.
- (2) Clean safety signs with soap and water, followed by drying with cloth.
- (3) Replace damaged or missing safety signs with new safety signs from your Kubota dealer.
- (4) If a component with safety sign(s) affixed is replaced with new part, make sure new safety sign(s) are attached in same location as the replaced component.
- (5) Mount new safety signs by applying on a clean dry surface and pressing any bubbles to outside edge.



## 2. SERVICING OF TRACTOR

Your dealer is interested in your new tractor and has the desire to help you get the most value from it. After reading this manual thoroughly, you will find that you can do many of the regular service jobs quickly and easily.

However, when in need of parts or major service, be sure to see your KUBOTA dealer. When in need of parts, be prepared to give your dealer both the tractor and engine serial numbers.

Locate the serial numbers now and record them in the space provided.

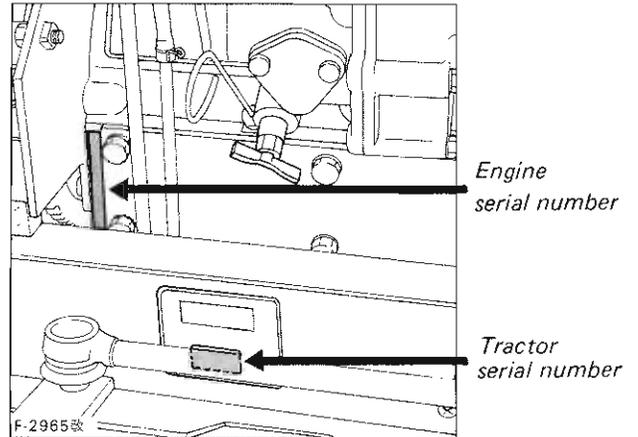
### KUBOTA G3200/G4200/G4200H/G5200H/G6200H TRACTOR

Tractor Serial No. \_\_\_\_\_

Engine Serial No. \_\_\_\_\_

Date of Purchase \_\_\_\_\_

(To be filled in by purchaser)

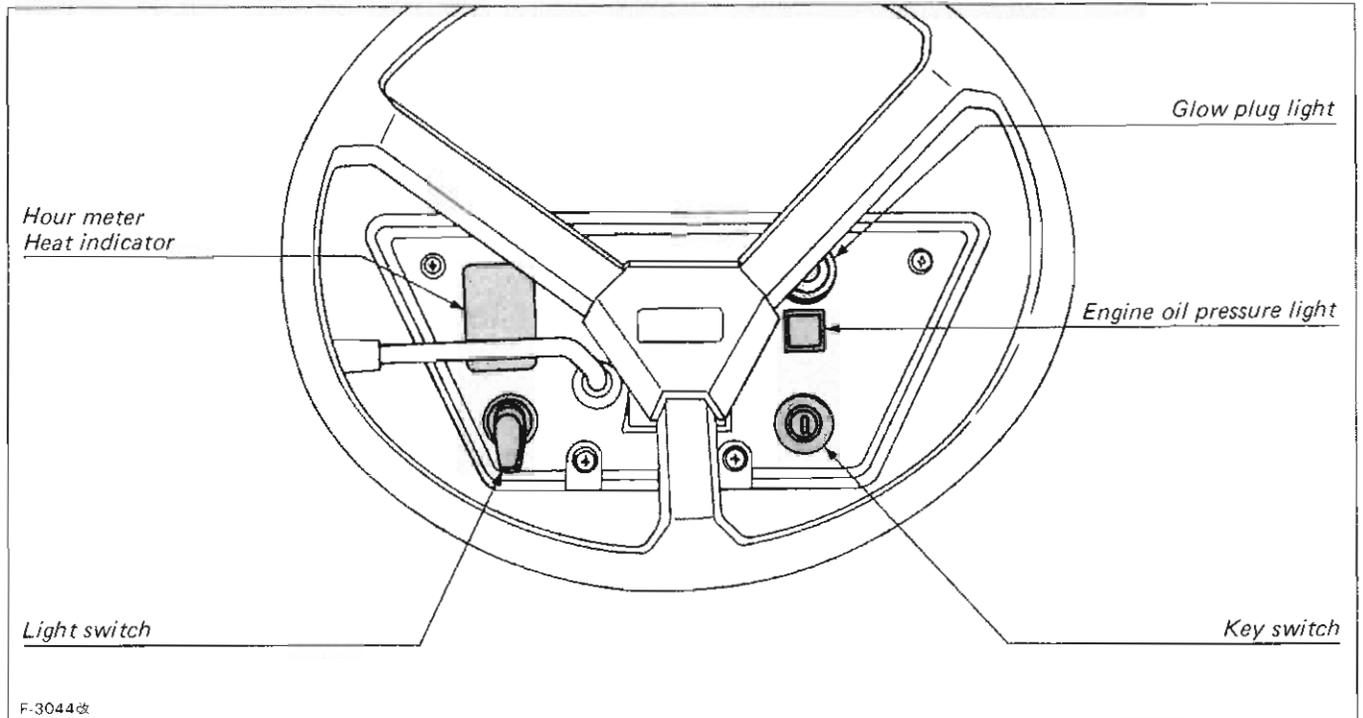


# 3. SPECIFICATIONS

Model:	G3200	G4200	G4200H	G5200H	G6200H
Engine:	KUBOTA Z400	KUBOTA Z430		KUBOTA D600	KUBOTA D640
Type	Vertical, water cooled, 4 cycle diesel engine				
Cylinder	2			3	
Total displacement	400cm <sup>3</sup> (24.4 cu.in.)	425cm <sup>3</sup> (25.9 cu.in.)		600cm <sup>3</sup> (36.6 cu.in.)	638cm <sup>3</sup> (38.9 cu.in.)
Gross power and revolutions	7.4 kW/53.7 r/s (10HP/3200 rpm)	8.8 kW/53.7 r/s (12HP/3200 rpm)		10.3 kW/53.7 r/s (14HP/3200 rpm)	11.8 kW/53.7 r/s (16HP/3200 rpm)
Cylinder bore and stroke	64 x 62.2mm (2.52 x 2.45 in.)	66 x 62.2mm (2.60 x 2.45 in.)		64 x 62.2mm (2.52 x 2.45 in.)	66 x 62.2mm (2.60 x 2.45 in.)
Fuel	Diesel fuel No. 1 [below -10°C (14°F)] Diesel fuel No. 2 [above -10°C (14°F)]				
Starter	Electric starter with battery, glow plug, 12V, 0.7kW				12V, 0.8kW
Lubrication	Forced lubrication by trochoid pump				
Cooling	Water with pressurized radiator				
Battery	12V, 35 Ah				12V, 45 Ah
Capacity:					
Fuel tank	8ℓ (2.1 U.S. gals.)				
Engine crankcase	2.0ℓ (2.1 U.S. qts.)			3.0ℓ (3.2 U.S. qts.)	
Engine coolant	1.9ℓ (2.0 U.S. qts.)			2.1ℓ (2.2 U.S. qts.)	
Transmission case	8.0ℓ (8.5 U.S. qts.)		7.0ℓ (7.5 U.S. qts.)		7.5ℓ (8.0 U.S. qts.)
Front PTO shaft	U.S.A. No.5				
Direction of revolution	Clockwise viewed from rear				
Revolution	45.7 r/s (2740 rpm)				
PTO clutch	Belt				
Clutch	Dry double plate type				
Transmission	Gear shift		Hydrostatic transmission		
Speeds	F1: 1.4 km/h (0.9 mph) F2: 3.9 km/h (2.4 mph) F3: 7.5 km/h (4.7 mph) R1: 3.9 km/h (2.4 mph)		F: 0 to 10.5 km/h (0 to 6.5 mph) R: 0 to 5.2 km/h (0 to 3.2 mph)		
Brake	Internal expanding type				
Tires	Front	16 x 6.50-8			
	Rear	23 x 10.50-12			
Dimensions:					
Overall length	1800mm (70.9 in.)				
Overall width	960mm, 1020mm (37.8 in., 40.2 in.)				
Overall height	1150mm (45.3 in.)				
Wheel base	1200mm (47.2 in.)				
Min. ground clearance	170mm ( 6.7 in.)				
Tread	Front	740mm (29.1 in.)			
	Rear	695mm, 755mm (27.4 in., 29.7 in.)			
Weight:	310 kg (683.5 lbs.)		315 kg (694.5 lbs.)	325 kg (716.5 lbs.)	335 kg (738.5 lbs.)

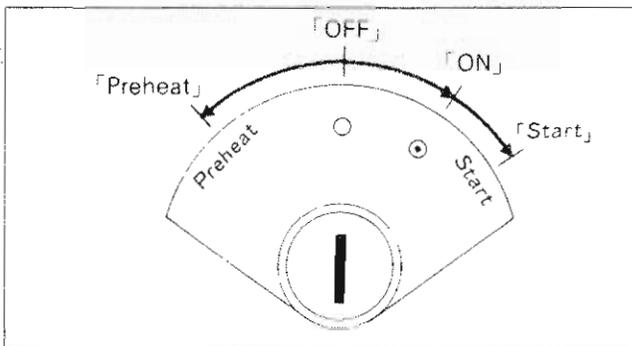
# 4. INSTRUMENT PANEL AND CONTROLS

## 4.1 INSTRUMENT PANEL



### ■ Key Switch

Inserting the key and turning it one click to the right closes the electrical circuit and lights up the engine oil pressure light (RED). Depress the clutch pedal to disengage the clutch (GEAR). Next, turning the key left activates the glow plug (preheating coil) to preheat the combustion chamber. After the glow plug light has turned red and the engine has preheated completely, turn the key switch right and the starting motor will rotate and the engine will then start. Release the key switch and it will return to the on position "⊙".



### ■ Glow Plug Light

Turn the key switch left and the glow plug light will begin to turn red, indicating that the engine is preheating.

### ■ Hour Meter/Heat indicator

#### Hour Meter

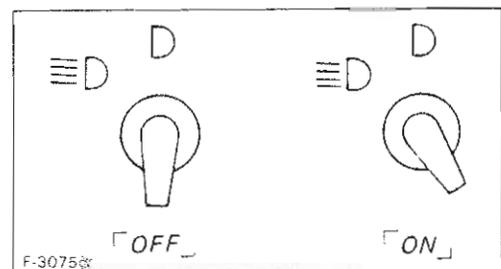
As the hour meter works electrically, it starts to work when the key switch is turned to ON or PREHEAT.

#### Heat indicator

This gauge indicates the temperature of the coolant.

### ■ Light Switch

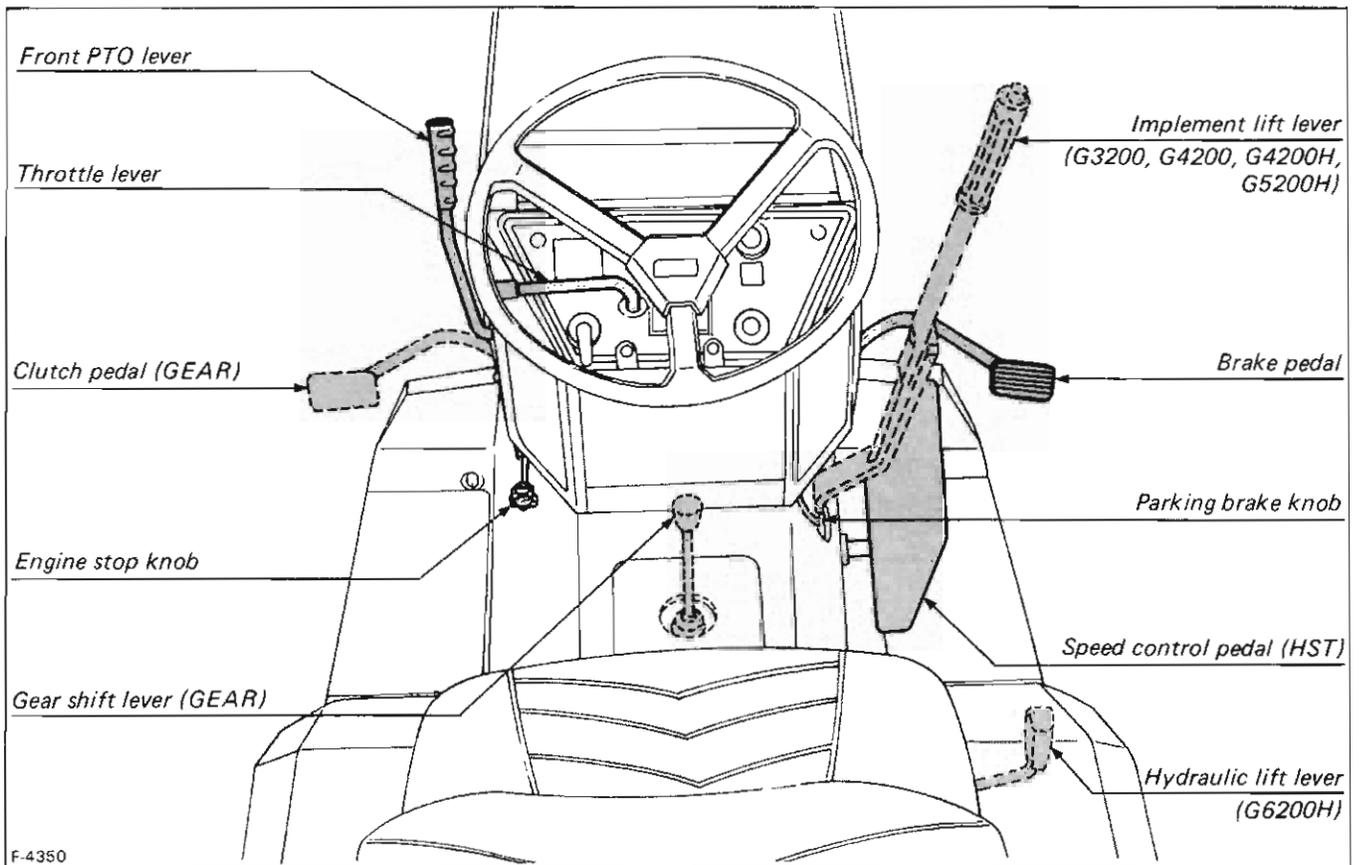
Turning the light switch counterclockwise illuminates the headlights.



### ■ Engine Oil Pressure Light (RED)

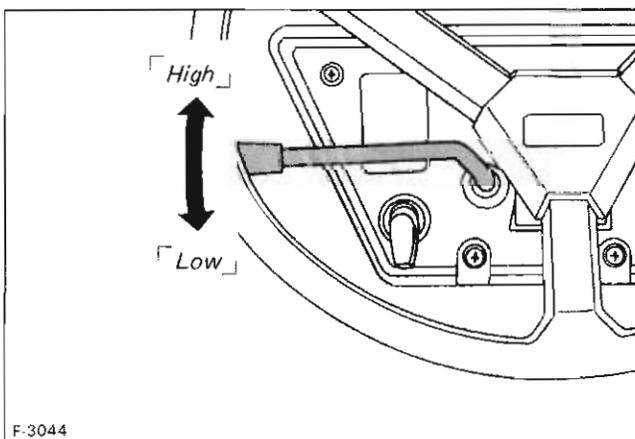
The engine oil pressure light indicates low engine oil pressure when the light is on and proper engine oil pressure when the light is off. The light will glow red when the starter switch is turned on. This indicates the light and electrical wiring are okay. The light should go out after engine starts. If light remains on, stop engine and determine cause.

## 4.2 CONTROLS



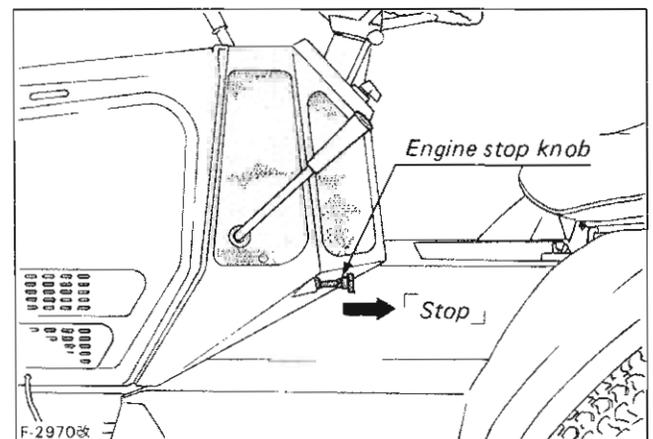
### ■ Throttle Lever

Moving the throttle lever backward decreases the engine speed and moving it forward increases the engine speed.



### ■ Engine Stop Knob

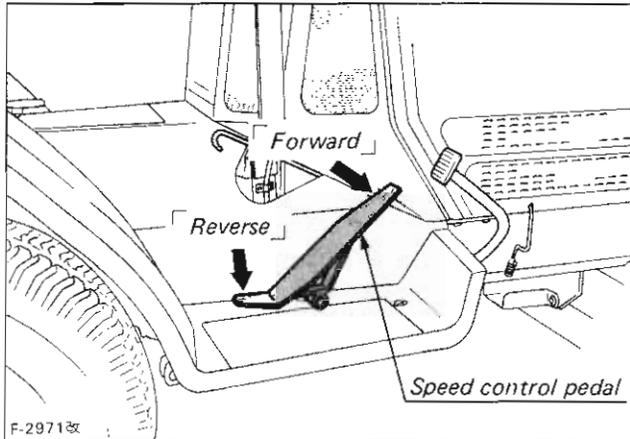
To stop the engine, pull the engine stop knob completely and hold it until the engine stops.



### ■ Speed Control Pedal (HST)

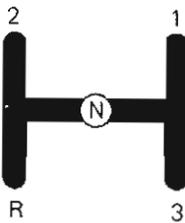
Depress the speed control pedal with your right foot to move forward or backward.

**NOTE:** When the parking brake is applied, the speed control pedal is locked in the neutral position.



### ■ Gear Shift Lever (GEAR)

The gear shift lever positions are of H-configuration.



### ■ Clutch Pedal (GEAR)

Fully depressing the pedal disengages the clutch.

**NOTE:** When the parking brake is applied and the clutch is disengaged, the clutch pedal is locked in the depressed position.

#### IMPORTANT:

- (1) The clutch pedal must be quickly disengaged and slowly engaged.
- (2) Never operate tractor with your foot resting on the clutch pedal.

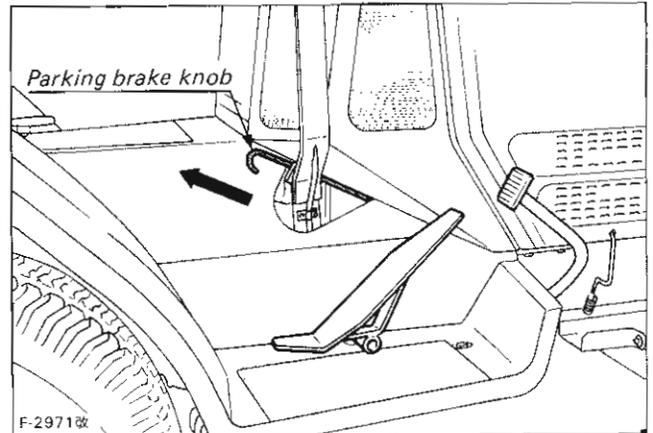
### ■ Brake Pedal

To apply the rear brakes, depress the brake pedal.

### ■ Parking Brake Knob

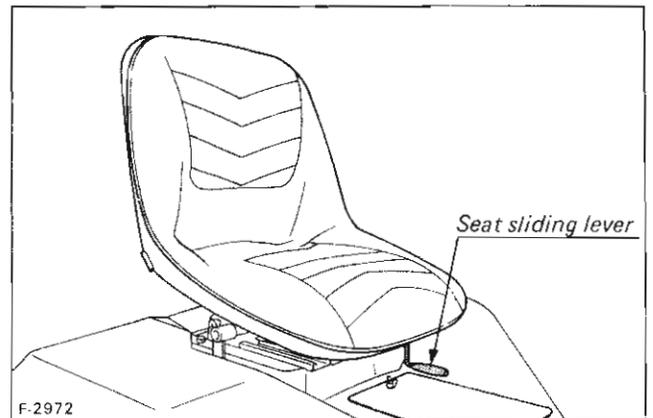
To apply the parking brake, depress the brake pedal and pull the parking brake knob.

To release the parking brake, step on the brake pedal again.



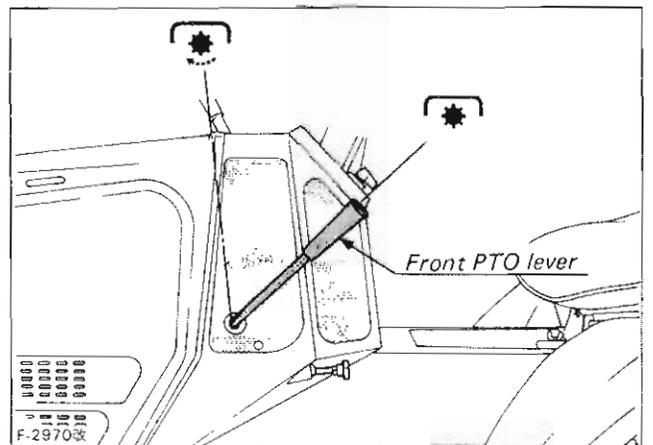
### ■ Seat

The operator's seat position can be adjusted forward and backward in 60mm (2.4 in.) range by pulling the seat sliding lever.



### ■ Front PTO Lever

To drive the front PTO, place the front PTO lever to the forward position.

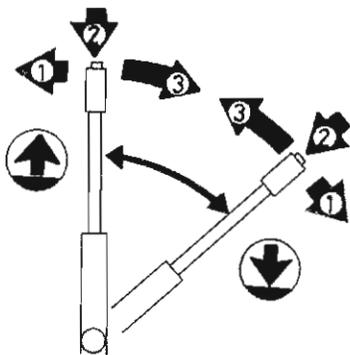
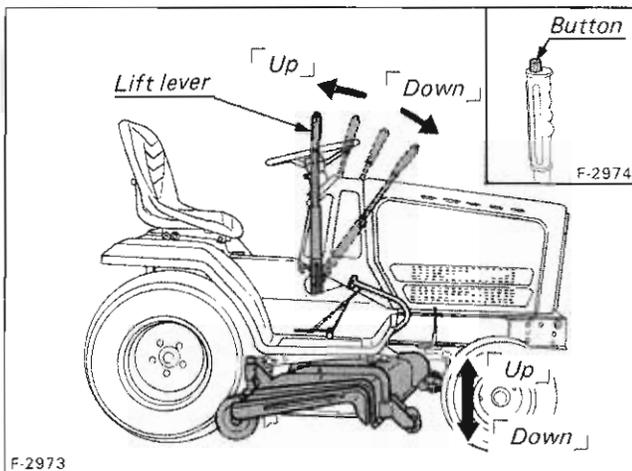


- (1) If you get off the seat while the front PTO is running, the engine stops automatically. (Seat safety control)
- (2) Before starting the engine, pull the front PTO lever to the neutral position. If it is at the forward position, the starter will not run.

**NOTE:** These are built-in safety features.

### ■ Lift Lever (G3200, G4200, G4200H, G5200H)

The lift lever is used to raise and lower implements used with the tractor (ex. Mower). To raise the implement, push the button at the top of the lift lever, and pull the lever rearward.



- (1) To lock the lever, release the button. The lever can be locked in 4 positions.
- (2) Use the higher settings for mowing in a rough area or when mowing high grass.
- (3) The low setting is the float position and allows the implement to follow the ground contour. Use this setting for smooth lawns where short grass is desired.

### ■ Hydraulic lift lever (G6200H)

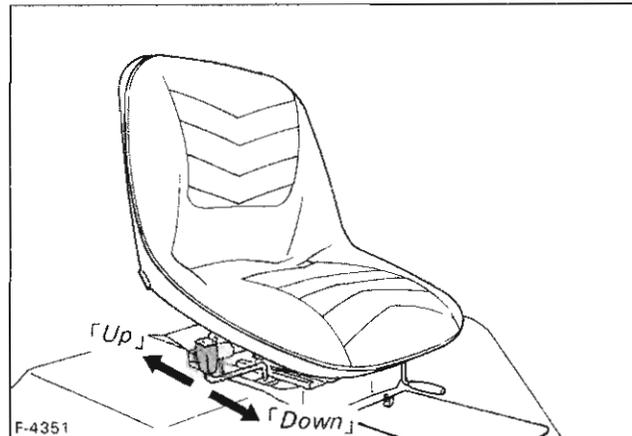
The hydraulic lift lever is used to raise and lower implement used with the tractor (ex. Mower).

To lower implement, push the lever forward.

To raise it, pull the lever back.

### IMPORTANT:

- Do not operate until the engine is well warmed up. If operation is attempted while the engine is still cold, the hydraulic mechanism will not properly function and its service life will be shortened.



### ■ Ballast

Ballast can be added to the front of the tractor to maintain stability and steering control.



#### CAUTION:

- (1) Add front ballast to increase front end stability and help prevent possible front end tip up.
- (2) Always back up when going up a slope. Driving forward could cause the tractor to tip over backward. Stay off hills and slopes too steep for safe operation.

Front ballast is added for stability and steering control when heavy rear mounted equipment such as the rotary tiller is installed.

Front ballast also compensates for weight transferred to the rear wheels by the draft of towed implements through the hitch.

Add additional front ballast, if necessary, for stability and safety during transport of heavy rear mounted equipment. Front end ballast may not always maintain the required stability if the tractor is driven too fast over rough ground with heavy rear mounted equipment in the raised position. Use care and drive slowly under these conditions.

Code No. G8050

Limit ballast to tractor operating capacity. Be sure to remove ballast when it is not needed.

### IMPORTANT:

- The maximum front axle load must not exceed 300kg (660 lbs.). The maximum rear axle load must not exceed 550kg (1210 lbs.). And the maximum total weight must not exceed 700kg (1540 lbs.). Damage to the tractor may occur if these weights are exceeded.

# 5. OPERATING INSTRUCTIONS

## ■ Pre-Start Checks

Prior to starting the engine, make pre-start checks according to the Maintenance Schedule on page 11 to 12.

## 5.1 OPERATING THE ENGINE



### CAUTION:

- (1) Do not start the engine in a closed room. The air will be polluted with exhaust gas which is very dangerous.
- (2) Read the Caution label located on the tractor.
- (3) Be sure to set the gear shift lever and front PTO lever to the "neutral" positions before starting the engine.

## ■ Starting

- (1) Sit on the operator's seat.
- (2) (HST) Remove your foot from the speed control pedal, and place the front PTO lever to the rear position.  
(GEAR) Place the gear shift lever to the neutral position and the front PTO lever to the rear position.
- (3) Set the throttle lever 1/2 of the way forward, and push the engine stop knob.
- (4) Turn the key switch to the on position.
- (5) Make sure that the engine oil pressure light is on.
- (6) Fully depress the clutch pedal (GEAR).
- (7) Turn the key switch left, waiting for the glow plug light to turn red.

Though the glow plug lamp turns red in about 10 seconds, it takes at least 20 seconds until the preheating coil in the combustion chamber is fully heated. The lower the ambient temperature, the longer the preheating time. For the necessary preheating time, refer to the table below:

Temperature	Preheating Time
Over 0° (32°F)	20 – 30 sec.
0 to -5° (32 to 23°F)	40 – 60 sec.

- (8) Turn the key switch to the start position and the starter will turn and the engine should start.
- (9) Make sure that the engine oil pressure light has gone off. If the light remains on, immediately stop the engine and check the lubrication system.
- (10) Perform warm-up operations by running the engine at the medium speed.

### IMPORTANT:

- (1) Do not turn the key switch while the engine is running.
- (2) When the temperature is below 0°C (32°F), keep the engine at medium speed to warm up the lubricant of engine and transmission at least 10 minutes. If the tractor is operated before the lubricant of engine and transmission is warm enough, the tractor life will be shortened.
- (3) Do not operate the tractor under full load condition until it is sufficiently warmed up.
- (4) Do not use starting fluid.

### IMPORTANT:

- When the ambient temperature is less than -15°C (5°F), remove the battery from the tractor and store it somewhere warm until next operation.

## ■ Stopping

- (1) Slow down the engine by moving the throttle lever backward.
- (2) Pull the engine stop knob completely and hold it until the engine stops.
- (3) Turn the key switch off and pull the key out of the switch.

## 5.2 OPERATING THE TRACTOR (HST TYPE)



### CAUTION:

- (1) Do not allow any person other than the driver to ride on the tractor.
- (2) Do not drive the tractor close to the edges of ditches or banks which may break under the weight of the tractor, especially when the ground is loose or wet.
- (3) When turning the tractor, be sure to reduce the traveling speed by letting up on the pedal.

## ■ Starting

- (1) Unlock the parking brake.
- (2) Speed up the engine by moving the throttle lever forward.
- (3) Depress the speed control pedal with your right foot to move forward or backward.

### IMPORTANT:

- Never move the tractor with the parking brake on.

## ■ Stopping

- (1) Release the speed control pedal to stop the tractor.
- (2) Slow down the engine.
- (3) Shift front PTO lever to neutral.

## 5.3 OPERATING THE TRACTOR (GEAR TYPE)



### CAUTION:

- (1) Sudden release of the clutch pedal will make the tractor lunge forward.
- (2) Do not allow any person other than the driver to ride on the tractor.
- (3) Do not drive the tractor close to the edges of ditches or banks which may break under the weight of the tractor, especially when the ground is loose or wet.
- (4) When turning the tractor, be sure to reduce the traveling speed by slowing the engine down.

### ■ Starting

- (1) Depress the clutch pedal and disengage the clutch.
- (2) Shift the gear shift lever to the desired speed position.
- (3) Unlock the parking brake.
- (4) Speed up the engine by moving the throttle lever forward.
- (5) Slowly release the clutch pedal.

### IMPORTANT:

- (1) Never move the tractor with the parking brake on.
- (2) Do not drive with your foot resting on the clutch pedal.
- (3) The tractor must be completely stopped to shift gears.

### ■ Stopping

- (1) Slow down the engine
- (2) Step on both the clutch pedal and brake pedal and the tractor will stop.
- (3) Place the gear shift lever to the neutral position and release the clutch pedal.
- (4) Shift front PTO lever to neutral.

### ■ Parking (HST and GEAR TYPE)



### CAUTION:

Before leaving the operator's position:

- (1) Set parking brake.
- (2) Lower the implement to the ground.
- (3) Shut off engine.
- (4) Remove the key from the switch.

### ■ Towing (HST and GEAR TYPE)

#### IMPORTANT:

DO NOT TOW THIS MACHINE.

- Damage to the transmission may result.

## 5.4 CHECK DURING DRIVING

While driving, make the following checks to see that all parts are functioning normally.

### ■ Cooling Water



### WARNING:

- Do not remove radiator fill cap until coolant temperature is below its boiling point. Then loosen cap slightly to the stop to relieve any excess pressure before removing cap completely.

If the temperature of the cooling water rises above 100°C (212°F), the overheat alarm whistles. Immediately stop the engine and exercise the following checks and remedies, with the safety caution in mind.

- (1) Shortage or leakage of the cooling water.
- (2) Foreign matter on the radiator net and dust and dirt between the radiator fins and tube.
- (3) Fan drive belt loose.
- (4) Blockage in the radiator hose.

### ■ Engine Oil Pressure Light

The oil pressure light signals to the operator that the engine oil pressure is below the prescribed level. If the light should go on during operation, immediately stop the engine and check:

- (1) The level of the engine oil (See page 16).
- (2) The conditions of the lubrication system.

### ■ Exhaust Fumes

- (1) Exhaust fumes are colorless in normal operating conditions.
- (2) If the exhaust turns dark continuously during operation, this probably indicates an overload on the engine. In such a case, corrective action should be applied to conditions of operation so that subsequent damage to the engine can be avoided.

### ■ Urgent Stop

Should the following problems take place, immediately stop the engine.

- (1) The engine suddenly slows down or speeds up.
  - (2) Unusual noises are suddenly heard.
  - (3) Exhaust fumes suddenly become very dark.
  - (4) The engine oil pressure light goes on during operation.
- For checks and remedies in the above situations, consult your dealer for instruction.

# 6. MAINTENANCE

## 6.1 DAILY CHECK

To prevent trouble from occurring, it is important to know the conditions of the tractor well. Check it before starting.



### CAUTION:

- Be sure to check and service the tractor on a flat place with the engine shut off and the parking brake on.

- 1) Check the areas where previous trouble was experienced.
- 2) Walking around the tractor:
  - (1) Check the tire pressure, and check for wear and damage. (See page 21)
  - (2) Check for oil and water leaks.
  - (3) Check the engine oil level. (See page 16)
  - (4) Check the amount of transmission fluid. (See page 17)
  - (5) Check fuel level. (See page 14)

### IMPORTANT:

- USE DIESEL FUEL ONLY!

- (6) Check the coolant level in the radiator. (See page 20)
- (7) Check the tractor body for damage and check that all bolts and nuts are tight.
- (8) Clean radiator screen. (See page 21)
- (9) Check brake play. (See page 25)
- (10) Check clutch play. (GEAR) (See page 24)
- 3) While sitting in the operator's seat:
  - (11) Check the speed control pedal, brake pedal and clutch pedal.
  - (12) Check the parking brake.
  - (13) Check the steering wheel.
- 4) Turning the key switch on:
  - (14) Check the performance of the pilot light.
  - (15) Check headlights.
- 5) Starting the engine:
  - (16) Check the color of the exhaust fumes. (See page 11)
  - (17) Check that the safety start switch and seat safety control are working properly. (See page 9) If either of these do not operate properly, contact your Kubota Dealer immediately.

## 6.2 LUBRICANTS

To prevent serious damage to lubricating systems, use genuine KUBOTA fluid or equivalent.

Place	Capacity		Lubricants										
Engine crankcase	G3200 G4200 G4200H	2.0ℓ (2.1 U.S.qts.)	<ul style="list-style-type: none"> <li>● Engine oil: API Service CC or CD Below 15°C (59°F) : SAE 10W-30 Above 15°C (59°F) : SAE30 or 10W-30</li> </ul>										
	G5200H	3.0ℓ (3.2 U.S.qts.)											
Transmission	G3200 G4200	8.0ℓ (8.5 U.S.qts.)	<ul style="list-style-type: none"> <li>● Hydrostatic transmission fluid The fluid listed below or equivalent are recommended.</li> </ul> <table border="1"> <thead> <tr> <th>Maker</th> <th>Brand (Standard)</th> </tr> </thead> <tbody> <tr> <td>KUBOTA</td> <td>UDT hydrostatic transmission fluid</td> </tr> <tr> <td>SHELL</td> <td>DONAX-TD, DONAX-TM</td> </tr> <tr> <td>Mobil</td> <td>Mobil Fluid 350, 423</td> </tr> <tr> <td>Exxon</td> <td>Torque Fluid 56</td> </tr> </tbody> </table>	Maker	Brand (Standard)	KUBOTA	UDT hydrostatic transmission fluid	SHELL	DONAX-TD, DONAX-TM	Mobil	Mobil Fluid 350, 423	Exxon	Torque Fluid 56
	Maker	Brand (Standard)											
	KUBOTA	UDT hydrostatic transmission fluid											
SHELL	DONAX-TD, DONAX-TM												
Mobil	Mobil Fluid 350, 423												
Exxon	Torque Fluid 56												
G4200H G5200H	7.0ℓ (7.5 U.S.qts.)												
G6200H	7.5ℓ (8.0 U.S.qts.)												
King pins Center pin Tension lever Front PTO lever Brake pedal	Moderate Amount		<ul style="list-style-type: none"> <li>● SAE multi-purpose type grease</li> </ul>										
Lift lever shaft Speed control lever shaft Cables Clutch pedal shaft	Moderate Amount		<ul style="list-style-type: none"> <li>● Oil</li> </ul>										

## 6.3 MAINTENANCE CHECK LIST

Frequency of Checks	Check Points	Reference pages
Initial operation	(1) After initial 35 hours of use, change the engine oil.	16
	(2) After initial 100 hours of use, change the transmission oil filter cartridge and clean the strainer. (HST)	17
Weekly (Every 25 hours)	Check fan drive belt tension.	24
	Check transmission fluid level.	17
	Check battery.	22
	Clean radiator core.	20 to 21
Every 2 weeks (Every 50 hours)	Check front PTO belt tension.	25
	Lubricate the following point: <ul style="list-style-type: none"> <li>● Grease: King pin, Front PTO lever, Tension lever, Center pin, Brake pedal</li> <li>● Oil: Lift lever shaft, Speed control pedal shaft, Clutch pedal shaft (GEAR), Cables</li> </ul>	18 to 19
Every 3 weeks (Every 75 hours)	Change engine oil.	16
Every month (Every 100 hours)	Check fuel line.	15
	Check fuel filter.	15
Every 2 months (Every 150 hours)	Change engine oil filter cartridge.	16
Every year (Every 200 hours)	Change transmission fluid.	17
	Change transmission oil filter cartridge. (HST)	18
	Clean strainer. (HST)	18
	Change air cleaner element.	22
Every 2 years (Every 500 hours)	Flush the radiator.	20 to 21
	Change radiator hose and clamp, if necessary.	20
	Change fuel pre-filter.	15
	Change fuel line and clamp, if necessary.	15
	Change hydraulic hose and clamp, if necessary.	—

# 7. CHECK AND MAINTENANCE

## 7.1 FUEL

### ■ Checking and Refueling



#### CAUTION:

- Stop the engine before adding fuel. Keep away from sparks and flames.

#### IMPORTANT:

- USE DIESEL FUEL ONLY!

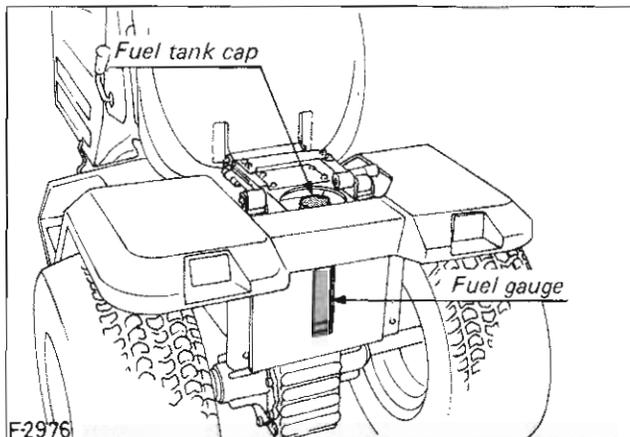
- (1) Check the fuel level. Take care that the fuel tank does not become empty.

Fuel tank capacity	8ℓ (2.1 U.S. gals.)
--------------------	---------------------

- (2) Use No. 2 diesel fuel.
- (3) Use No. 1 diesel fuel if the temperature is below  $-10^{\circ}\text{C}$  ( $14^{\circ}\text{F}$ ).

#### IMPORTANT:

- (1) Always use a strainer in refueling to prevent fuel injection pump contamination.
- (2) Once the fuel tank becomes empty, air is admitted to the fuel system. In such a case, it will be necessary to bleed the fuel system before the engine will start.



### ■ Bleeding the Fuel Lines

Air must be removed:

- (1) When the fuel filter and lines are removed.
- (2) When fuel tank is completely empty.
- (3) After the tractor has not been used for a long period of time.

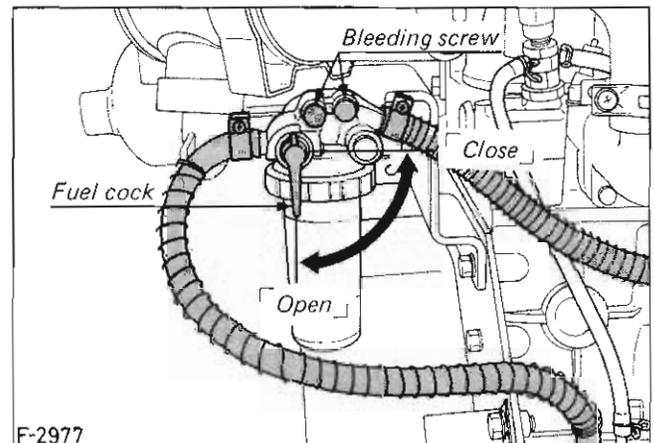
Bleeding procedure is as follows:



#### CAUTION

- Do not bleed the fuel system when the engine is hot.

- (1) Fill the fuel tank with fuel, and open the fuel cock.
- (2) Turn the key switch to the ON position.



- (3) Open the bleeding screws at the top of the filter two turns. When bubbles disappear from fuel coming out of the plug, tighten the bleeding screws.

## ■ Checking Fuel Line



### CAUTION:

- (1) Stop the engine when attempting the check and change prescribed below.
- (2) Never fail to check the fuel line periodically.

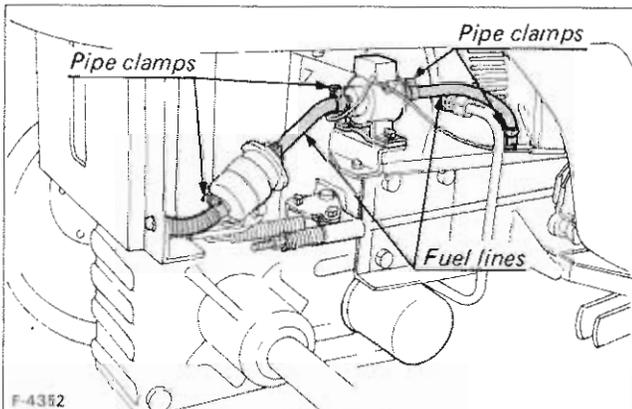
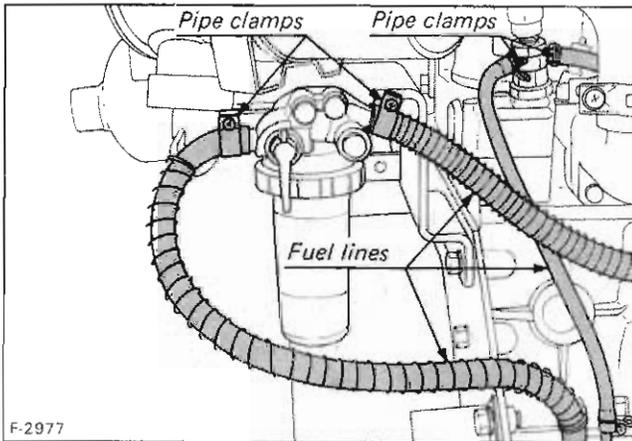
The fuel line is subject to wear and aging, fuel may leak out onto the running engine, causing a fire.

The fuel line connections should be checked every 6 months or 100 service hours, whichever occurs first.

- (1) If the clamp is loose, apply a slight coat of lubricant onto the threads and securely retighten it.
- (2) The fuel line is made of rubber and ages regardless of period of service.
- (3) After inspection, if the fuel line and clamps are found damaged or deteriorated, replace them.
- (4) After the fuel line and clamp have been changed, bleed the fuel system.

### IMPORTANT:

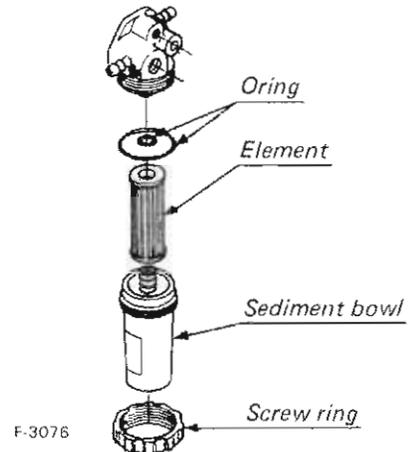
When the fuel line is disconnected for change, close both ends of the fuel line with a piece of clean cloth or paper to prevent dust and dirt from entering. Entrance of dust and dirt causes malfunction of the fuel injection pump. In addition, particular care must be taken not to admit dust and dirt into the fuel pump.



## ■ Cleaning the Fuel Sediment Bowl

Every 100 hours of use, clean the fuel filter. This job should not be done in the field, but in a clean place so as to prevent dust intrusion.

- (1) Close the fuel filter cock.
- (2) Unscrew and remove the screw ring, and rinse the inside with kerosene.
- (3) Take out the element and dip it in the kerosene to rinse.



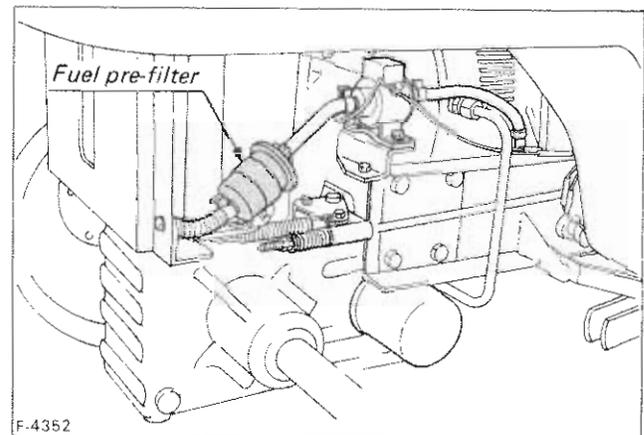
- (4) After cleaning, reassemble the fuel filter, keeping out dust and dirt.
- (5) Bleed the fuel system.

### IMPORTANT:

If dust and dirt enter the fuel, the fuel pump and injection nozzle are subject to quick wear. To prevent this, be sure to clean the fuel sediment bowl periodically.

## ■ Fuel pre-filter

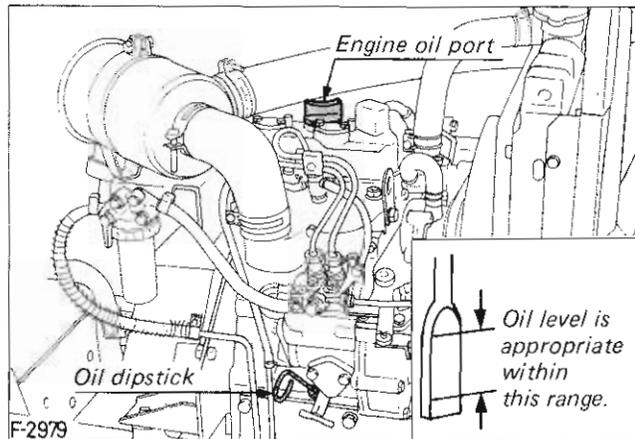
Change fuel pre-filter every 500 hours.



## 7.2 ENGINE OIL

### ■ Oil level check and Replenishment

- (1) Check engine oil before starting the engine or 5 minutes or more after the engine has stopped.
- (2) To check the oil level, draw out the dipstick, wipe it clean, replace it, and draw it out again. Check to see that the oil level is between the two notches.
- (3) If the level is too low, add new oil to the prescribed level at the oil port.



- (4) When using a different brand or viscosity oil from the previous one, remove all of the old oil. Never mix two different types of oil.
- (5) Use the proper Engine Oil SAE according to the ambient temperatures.

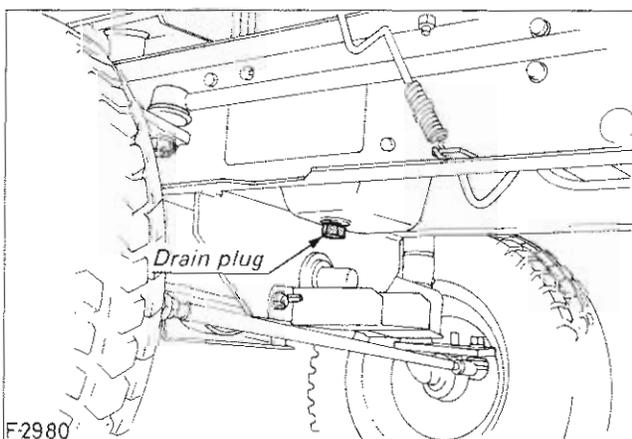
### ■ Engine Oil Change



#### CAUTION:

- Before changing the oil, be sure to stop the engine.

- (1) To change the used oil, remove the drain plug at the bottom of the engine and drain the oil completely. All the used oil can be drained out easily when the engine is still warm.
- (2) Fill with the new oil up the upper notch on the dipstick.



### ■ Engine Oil Filter Cartridge Change



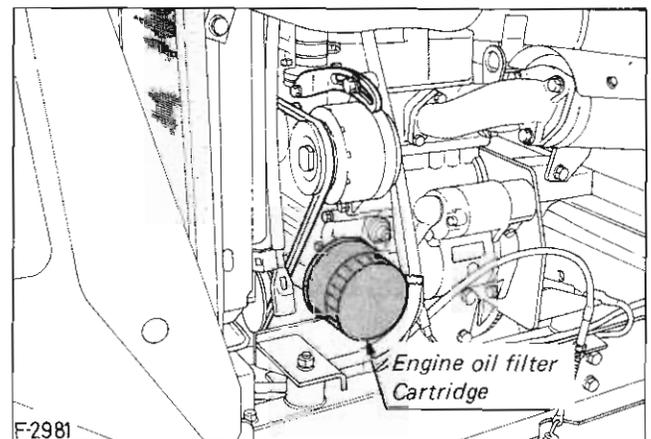
#### CAUTION:

- Be sure to stop the engine before changing the oil filter cartridge.

- (1) The oil filter cartridge must be changed every 150 service hours (Oil Filter Cartridge 15841-3243-1)
- (2) Apply a slight coat of oil onto the cartridge gasket.
- (3) To install the new cartridge, screw it in by hand. Over tightening may cause deformation of rubber gasket.
- (4) After the new cartridge has been replaced, the engine oil level normally lowers a little. Add engine oil to proper level. Check for oil leaks around filter gasket.

#### IMPORTANT:

- To prevent serious damage to the engine, replacement element must be highly efficient. Use only a genuine KUBOTA filter or its equivalent.



## 7.3 TRANSMISSION FLUID

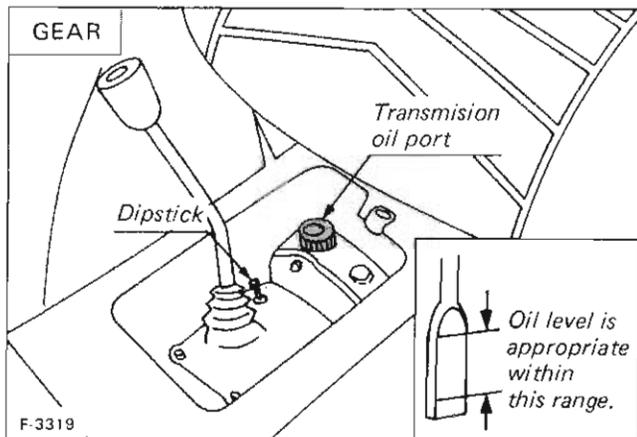
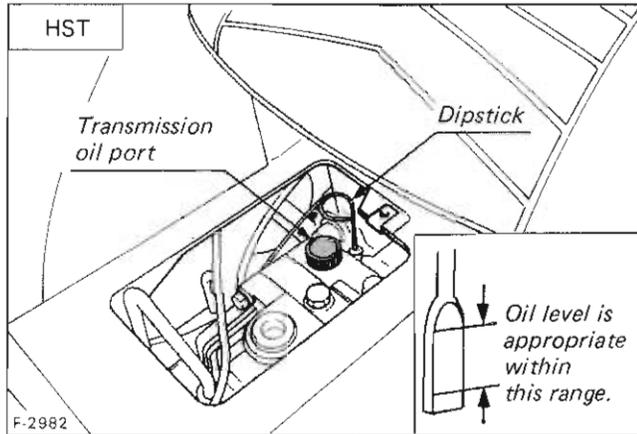


### CAUTION:

- Be sure to stop the engine before checking and changing the transmission fluid.

### ■ Transmission Fluid Check and Replenishment

Draw out the dipstick, wipe it clean, replace it, and draw it out again. Check to see that the fluid level is on the upper notch. If low, replenish through the fluid port. Use UDT hydrostatic transmission fluid or its equivalent.

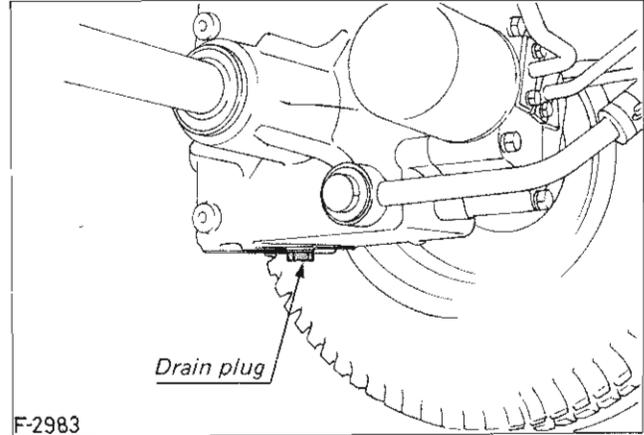


The fluid in the transmission case is also used for the hydrostatic drive system.

- (1) To drain the transmission case, place oil pan underneath the transmission case and remove the drain plug at the bottom of the transmission case.
- (2) After draining, disassemble and clean the strainers and change the oil filter cartridge. After reassembling, fill with UDT hydrostatic transmission fluid.
- (3) After running the engine for a few minutes, stop it and check the oil level again; add oil to the prescribed level.

### IMPORTANT:

- Operate only at low RPM's immediately after changing the transmission fluid and filter cartridge. Keep the engine at medium speed for a few minutes to insure proper lubrication of all parts so there is no damage to transmission.



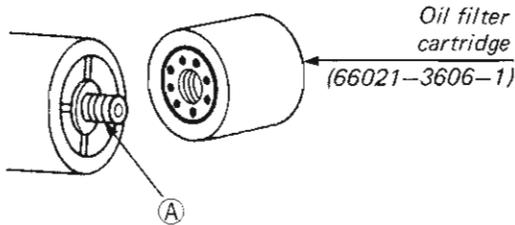
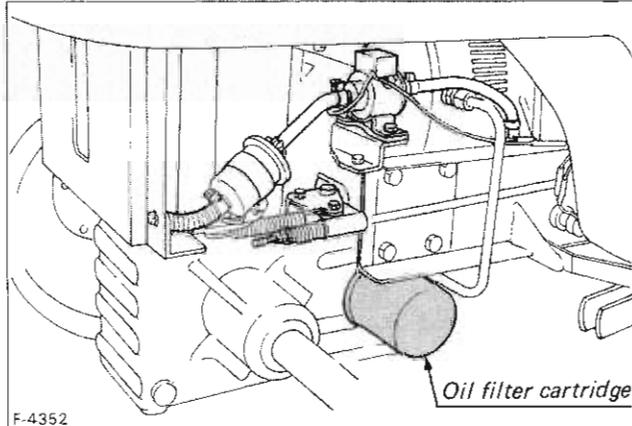
## • Transmission Oil Filter Cartridge Change (HST)



### CAUTION:

- Be sure to stop the engine before changing the oil filters.

- (1) The oil filter cartridge must be changed every 200 service hours.



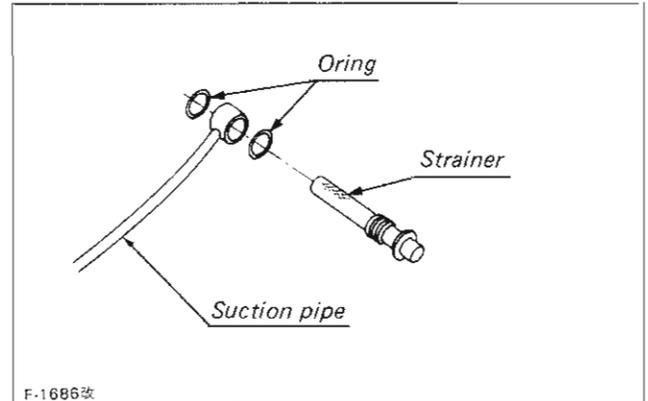
- (2) Remove the oil filter cartridge by using the filter wrench.
- (3) Lightly tighten the screw (A) by using a screwdriver.
- (4) Apply a slight coat of oil onto the cartridge gasket.
- (5) To install the new cartridge, screw it in by hand. Over tightening may cause deformation of rubber gasket.
- (6) After the new cartridge has been replaced, the transmission fluid level normally lowers a little. Add fluid to proper level. Check for oil leaks around filter gasket.

### IMPORTANT:

- (1) To prevent serious damage to a hydraulic system, replacement filter must be a highly efficient, 10  $\mu\text{m}$  filter. Use only a genuine KUBOTA filter or its equivalent.
- (2) When using the auxiliary hydraulics, replace the transmission oil filter after initial 50 service hours.

## ■ Cleaning Hydraulic Oil Strainers (HST)

When changing the transmission fluid, disassemble and clean completely the oil strainers with kerosene. Use care when reassembling to avoid damage to the strainer parts.

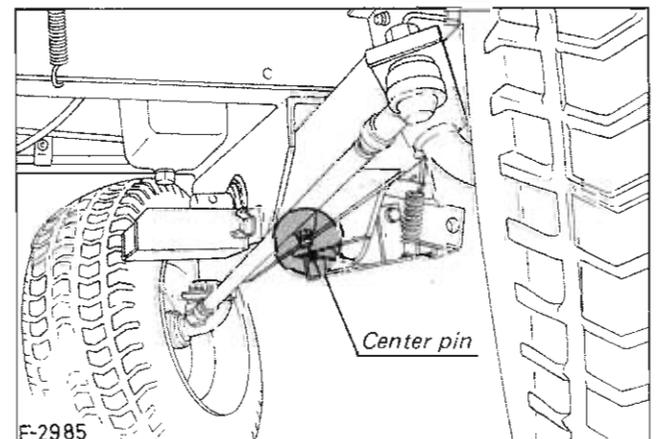
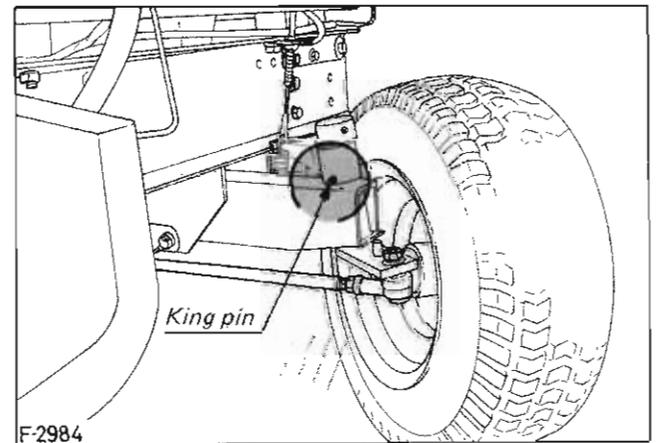


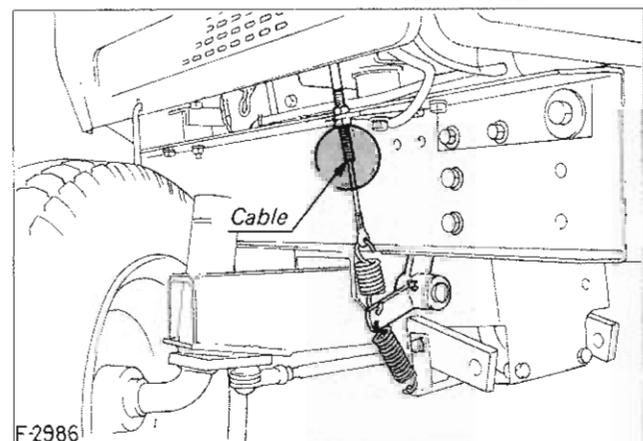
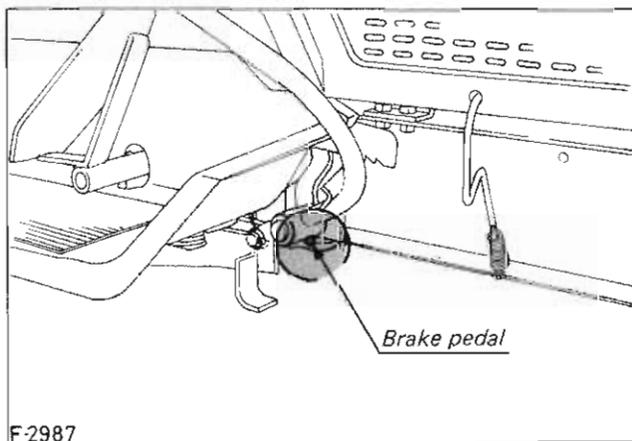
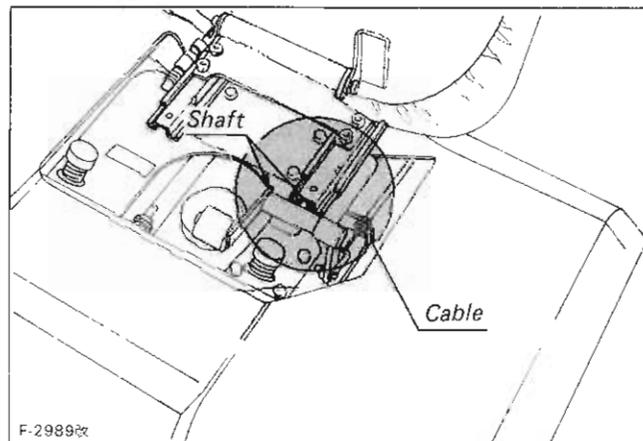
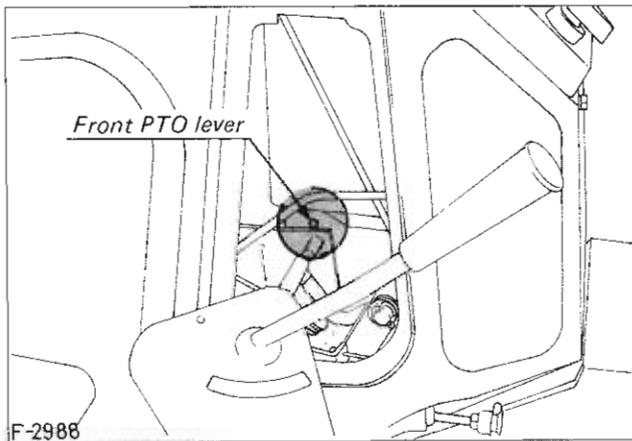
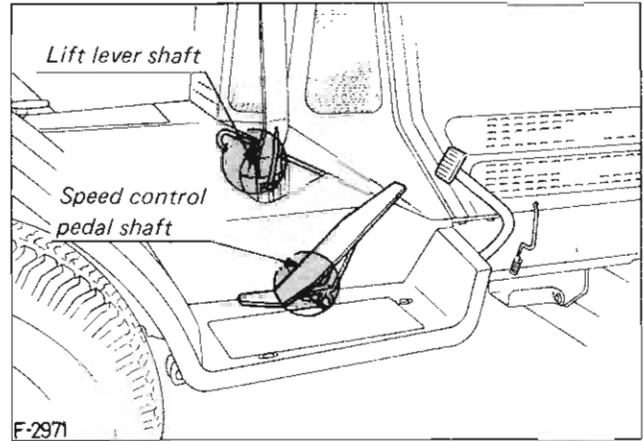
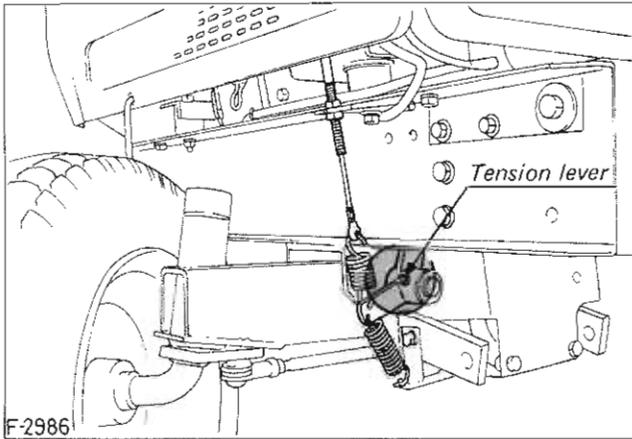
## 7.4 LUBRICATION POINTS BEFORE STARTING

Oil or grease the following points before starting.

### ■ Grease

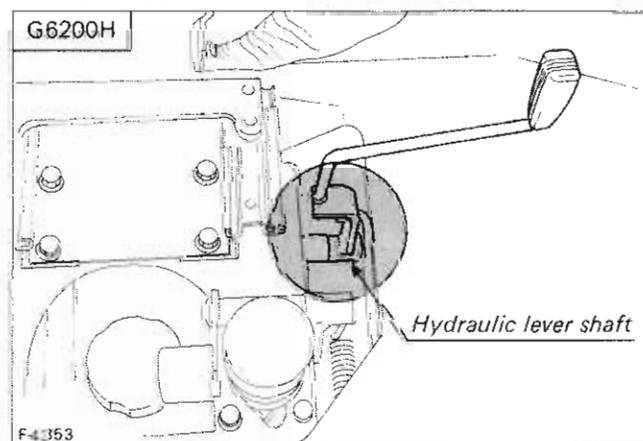
- (1) King pins
- (2) Center pin
- (3) Tension lever
- (4) Front PTO lever
- (5) Brake pedal





■ Oil

- (1) Lift lever shaft
- (2) Speed control pedal shaft
- (3) Cables and shaft
- (4) Clutch pedal shaft (GEAR)

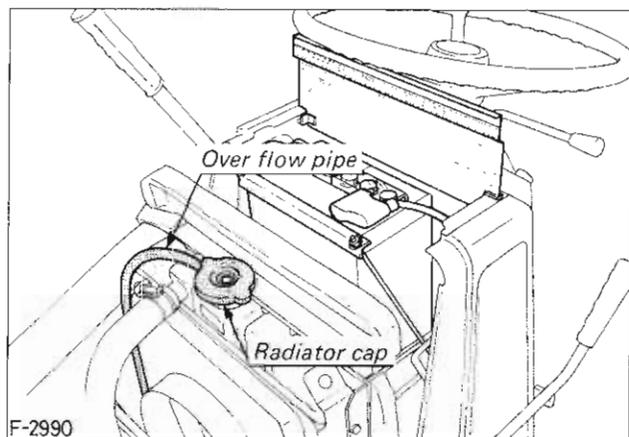


## 7.5 RADIATOR



### WARNING:

- Do not remove radiator fill cap until coolant temperature is below its boiling point. Then loosen cap slightly to the stop to relieve any excess pressure before removing cap completely.

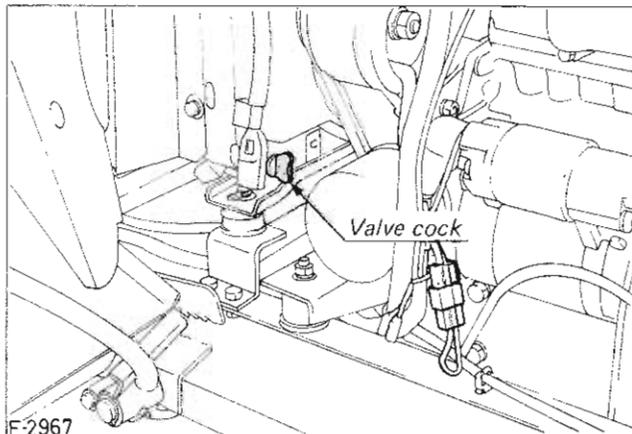
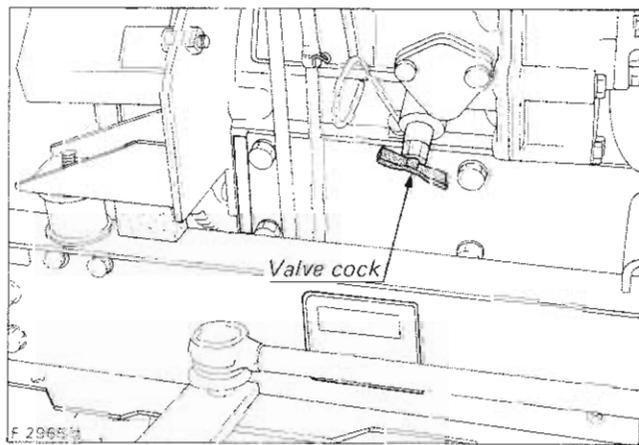


### ■ Checking, Replenishing and Changing Cooling Water

- Remove the radiator cap and check to see that the water level is just below the port. If low, add clean water and anti-freeze.

#### IMPORTANT:

- Use clean, fresh water and antifreeze to fill the radiator.
  - Securely tighten the radiator cap.
- To drain the used coolant, open the drain cocks and remove radiator cap. The radiator cap must be removed to completely drain the radiator.

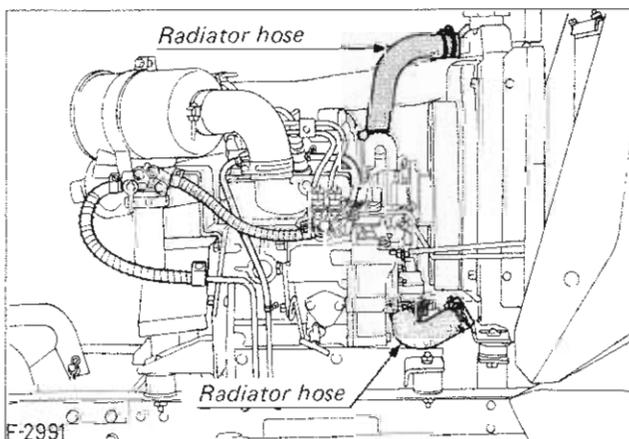


- Be sure to close the radiator cap securely. If the cap is loose or improperly closed, water may leak out and the engine could over heat.
- Radiator should be filled with part anti-freeze and part water at all times as recommended by the anti-freeze manufacturer. The anti-freeze contains a corrosion inhibitor and will allow a higher operating temperature in the radiator during the hot season.
- Do not use an anti-freeze and scale inhibitor at the same time.

### ■ Checking Radiator Hose

Check radiator hose for tightness every 6 months or 150 service hours, whichever occurs first.

- If the clamp is loose, apply a slight coat of oil and securely tighten.
- Replace the radiator hose when deterioration is found. Also change the clamps and securely tighten.



### ■ Kubota Scale Inhibitor No. 11 (Option) (Code No. 10261-9352-3)

- (1) The Kubota Scale Inhibitor No. 11 or its equivalent, prevents scale formation in the coolant. Scale, which builds up in either hard or soft water, sharply reduces cooling efficiency.
- (2) The Scale Inhibitor is effective for 3 months so a complete change of cooling water must be done every 3 months.

### ■ Remediating Water Leakage

- (1) Water leakage can easily be eliminated with the Kubota Radiator Cement No. 40 or its equivalent.
- (2) If water leakage should become extremely excessive, consult your local dealer.

### ■ Cleaning Cooling System

- (1) The water cooling system should be cleaned on the following occasions:
  - Every 500 service hours.
  - When adding anti-freeze solution.
  - When changing from water containing anti-freeze to pure water.
- (2) When cleaning the water cooling system, the Kubota Scale Inhibitor No. 20 or its equivalent, is recommended to effectively wash away the scale build-up.

### ■ Anti-Freeze

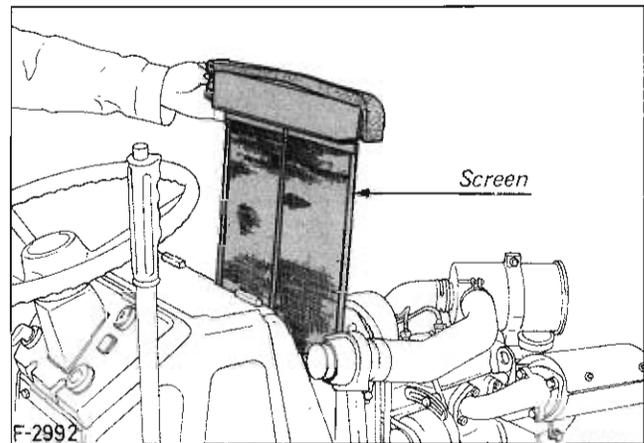
If the cooling water freezes, the engine cylinder and radiator may crack. In cold weather when the temperature drops below 0°C (32°F), drain out the water or add a proper amount of anti-freeze when the tractor is shut down.

- (1) There are two types of anti-freeze solutions, permanent type (PT) and semipermanent type (SPT). For the Kubota engine, be sure to use the permanent type.
- (2) When anti-freeze is used for the first time, drain and flush the cooling system completely.
- (3) Radiator should be filled with an antifreeze and water solution as recommended by the anti-freeze manufacturer. The anti-freeze contains a corrosion inhibitor and will allow a higher operating temperature in the radiator during the hot season.
- (4) Mix the anti-freeze and the water, then pour the mixture into the radiator.
- (5) When the cooling water mixed with antifreeze decrease due to evaporation, replenish with water only. If loss has been due to leaking, add water and antifreeze mixture with the same mix ratio as the original preparation.
- (6) Anti-freeze solutions absorb moisture, so be sure to securely close the container after use.
- (7) Anti-freeze and water should be changed every year.
- (8) Do not use an anti-freeze and a scale inhibitor at the same time. This may cause sludge to form, adversely affecting the engine parts.

### ■ Checking and Cleaning Radiator

Daily or every 5 hours of operation, check to be sure the radiator screen and radiator core are clean. Dirt or chaff on the radiator screen or radiator core decrease cooling performance.

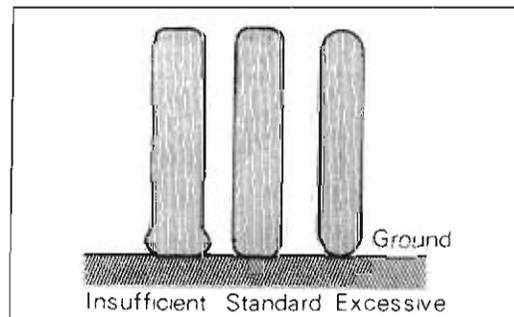
- (1) Remove the radiator screen and remove all foreign material.
- (2) Remove the dust from between the fins and the tube.
- (3) Tighten the fan drive belt as necessary. For this, refer to page 24.
- (4) If scale forms in the tube, clean with the Kubota Scale Inhibitor or its equivalent.



## 7.6 TIRE PRESSURE

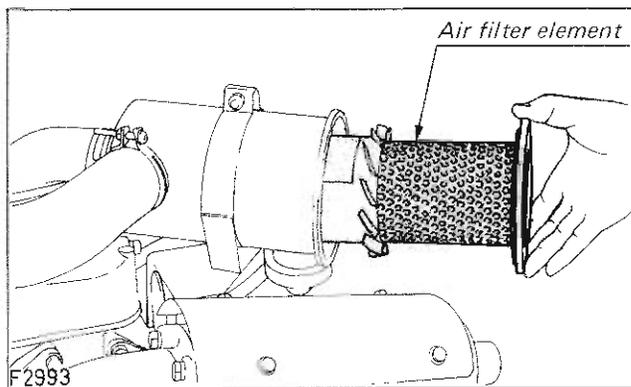
Though the tire pressure is factory-set to the prescribed level, it naturally drops slowly in the course of time. Thus, check it every day and inflate as necessary.

Normal wheel tire pressures	
Front	Rear
100 kPa	70 kPa
14psi	10psi
1.0kgf/cm <sup>2</sup>	0.7kgf/cm <sup>2</sup>



## 7.7 AIR CLEANER

- (1) The air cleaner uses a dry element, never apply oil.
- (2) Do not touch the filter element except in cases where cleaning is required. To clean the element, use clean and dry compressed air on the inside of the element. Air pressure should not exceed 205 kPa (2.1 kgf/cm<sup>2</sup>, 30 psi).
- (3) If the element is stained with carbon or oil, apply one of the following cleaners or equivalent.  
ND-1400 (by Donaldson)
- (4) When cleaning the air filter element, handle with care not to damage it (do not hit it), and reinstall the element correctly.  
The damage of the element may cause serious trouble to the engine.
- (5) Change the element once yearly or every 6th time the air cleaner is cleaned, whichever occurs first.



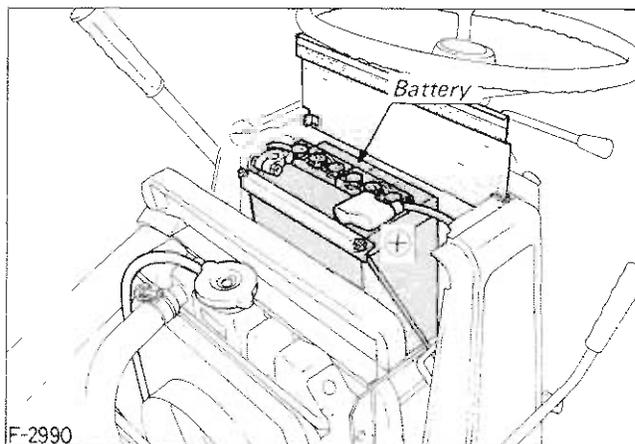
## 7.8 BATTERY



### CAUTION:

- Never take off the battery cap while the engine is running. Keep electrolyte away from eyes, hands and clothes. If you are splattered with it, wash it away completely with water as soon as possible.

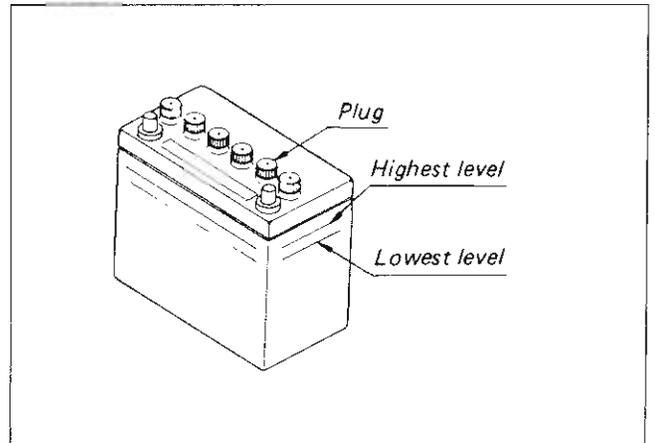
Mishandling the battery shortens the service life and adds to maintenance costs. Be sure to handle it correctly so that it will develop its full potential performance.



### CAUTION:

- Gas given off by batteries is explosive. To avoid injury or battery damage, avoid sparks near the battery.

- (1) If the battery is weak, the engine is difficult to start and the lights become dim. It is important to check the battery daily and recharge before such trouble occurs.
- (2) The water in the electrolyte evaporates during recharging. Liquid shortage damages the battery and excessive liquid spills over and damages the tractor body. If low, be sure to fill up the battery with distilled water only.



- (3) To charge the battery connect the battery positive terminal to the charger positive terminal and the negative to the negative, then recharge in the standard fashion.
- (4) A boost charge is only for emergencies. It partially charges the battery at a high rate and in a short time. When using a boost-charged battery, it is necessary to recharge the battery as early as possible after the operation has been finished. Failure to do this extremely affects the service life.



### CAUTION:

- (1) When connecting the battery, do not reverse the polarities. Connection with reverse polarities will cause spark and troubles to the battery and electrical system in the tractor.
- (2) When disconnecting the cable from the battery, start with the negative terminal first. When connecting, start with the positive terminal first. Reversing the steps may cause short-circuiting, should a metallic tool touch the terminals.

### ■ Direction for Storage

- (1) When shutting down the tractor for long periods of time, remove the battery from the tractor, adjust the electrolyte to the proper level by adding distilled water only and store in a dry place out of direct sunlight.
- (2) The battery self-discharges even while it is stored. Recharge it once a month in hot seasons and once every two months in cold seasons.

#### IMPORTANT:

- The tractor has been shipped with dry-type battery. Yours dealer will fill the battery with electrolyte and charge for initial use.

### ■ Charging Dry Type Battery

#### IMPORTANT:

- Battery must be removed from tractor before filling with electrolyte to prevent damage to tractor from spilled electrolyte.
- (1) Remove vent plugs and discard temporary sealing cardboards and tapes.
  - (2) Fill each cell with electrolyte having a specific gravity given in Table 1 up to highest level marked on the battery case side.

Table 1

	AIR TEMPERATURES	
	TEMPERATE Ordinarily below 20°C (68°F)	TROPICAL Frequently above 20°C (68°F)
sp.gr. of Electrolyte for Filling	1.280	1.260
sp.gr. of Electrolyte when fully charged	1.270 to 1.290	1.250 to 1.270

- (3) After standing 2 or 3 hours correct the electrolyte to former level.
- (4) Connect positive terminal (+) of battery, with positive terminal of D.C. charging unit, and negative terminal (-) with negative terminal.

- (5) Batteries are preferably charged by current showed in Table 2. Keep vent plugs removed during charging.

Table 2

TYPE	Volts (V)	Capacity at 20 H.R (A.H)	Volume of Electrolyte (ℓ)	Normal Charging Rate (A)
NT60-S4L	12	35	2.4	3.5
NT80-S6L	12	45	2.8	4.5

- (6) Check temperature of electrolyte, if it reaches 40°C (105°F) lower the charging rate. When temperature too high, reduce charging rate and charge for a proportionately longer period.
- (7) If the tractor is stored, charge as shown below:

Table 3

Period of storage from manufactured (months)	Recharging (hours)
0 - 6	about 5 hours
6 - 12	10
over 12	30

A battery is fully charged when the cell are all gassing freely and the specific gravity ceases to rise for three consecutive readings taken at one hour intervals. Specific gravity shall then be adjusted to that showed in Table 1.

- (8) Check electrolyte level two hours after charging is finished and correct it if necessary by adding distilled water.

# 8. ADJUSTMENTS



## CAUTION:

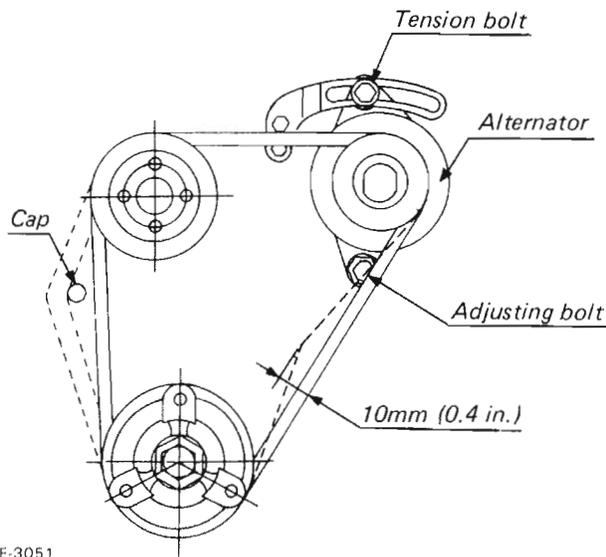
When making adjustments, park the tractor on flat ground, apply the parking brake and stop the engine.

## 8.1 FAN DRIVE BELT TENSION

If the fan drive belt becomes loose, the engine may sometimes overheat. To adjust, loosen bolts and turn the alternator to stretch the belt. After adjustment, securely tighten the bolts.

Moderate belt tension:

The belt should deflect approx. 10mm (0.4 in.) when the center of the belt is depressed with a finger pressure of 98N (10 kgf, 22 lbs).



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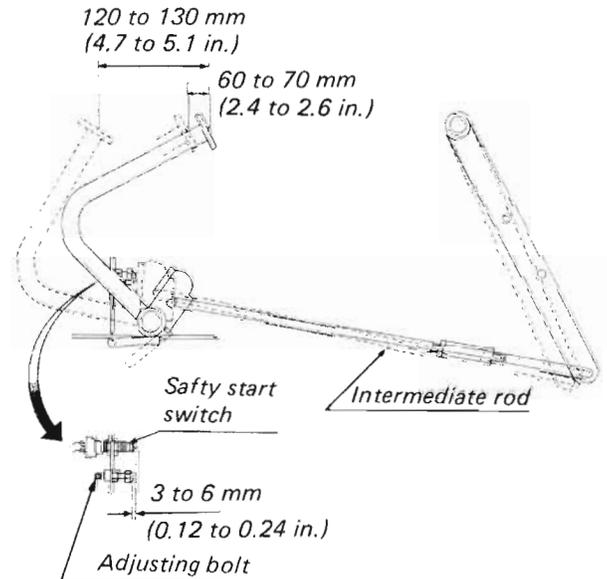
### [IMPORTANT]

- When replacing fan drive belt, be careful not to catch it on the cap under the water pump. See the illustration above.

## 8.2 CLUTCH (GEAR TYPE)

- (1) If the clutch becomes difficult to disengage or clutch free play is not within limits, adjust the length of the intermediate rod. If the clutch free play is excessive, shorten the intermediate rod. If the clutch free play is too little, extend the intermediate rod.
- (2) To adjust pedal travel, loosen the lock nut and turn the adjusting bolt to the limits shown below. Adjust the safety start switch as shown.

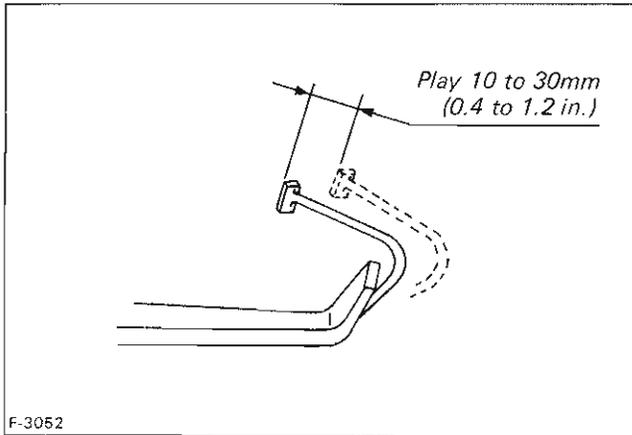
Moderate clutch play ranges from 60 to 70mm (2.4 to 2.6 in.) and moderate clutch travel is 120 to 130mm (4.7 to 5.1 in.). After adjustment tighten the lock nut securely.



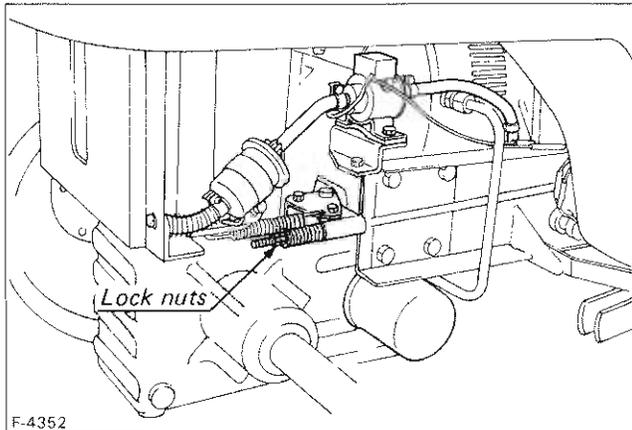
F-3320

### 8.3 BRAKE

Moderate play ranges from 10 to 30mm (0.4 to 1.2 in.). If brake pedal travel becomes too great, loosen the lock nuts and turn the nuts in the desired direction until the proper travel is achieved. After adjustment, securely retighten the nut.



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### 8.4 FRONT PTO BELT TENSION

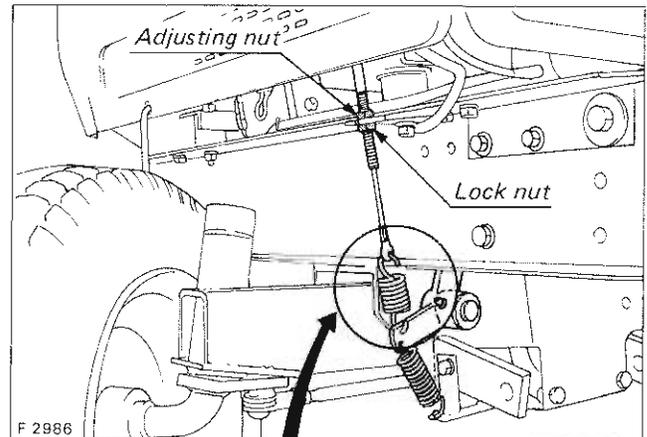


#### CAUTION:

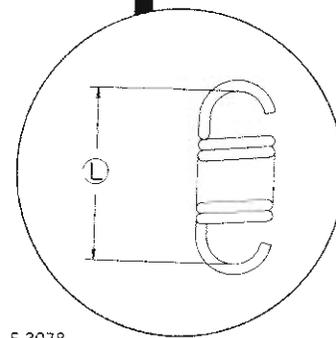
- Always stop the engine, set the parking brake, remove the key, and disengage front PTO lever before working on front PTO.

If the front PTO belts slip when the PTO is operating under load, check the front PTO belt tension and adjust the tension spring length, as explained below.

- Engage front PTO lever.
- Measure tension spring length  $\textcircled{L}$ .
- If  $\textcircled{L}$  is shorter than 65 mm (2.56 in.) adjust it with the tension clutch cable adjusting nut.
  - $\textcircled{L}$  should be 69 to 73mm. (2.72 to 2.87 in.)
- After adjustment tighten the nut securely.
  - When replacing the front PTO belts,  $\textcircled{L}$  should be 74 to 76mm. (2.91 to 2.99 in.)



F 2986



F 3078

#### IMPORTANT:

- When replacing the front PTO belts, be sure to replace the complete set. These belts are a matched set.

# 9. TROUBLESHOOTING

## 9.1 ENGINE TROUBLESHOOTING

If something is wrong with the engine, refer to the table below for the cause and its corrective measure.

Trouble	Cause	Countermeasure
Engine is difficult to start.	<ul style="list-style-type: none"> <li>No fuel flow.</li> </ul>	<ul style="list-style-type: none"> <li>Check the fuel tank and the fuel filter, and remove dirt build-up.</li> <li>Replace filter if necessary.</li> </ul>
	<ul style="list-style-type: none"> <li>Air and water is in the fuel system.</li> </ul>	<ul style="list-style-type: none"> <li>Check to see if the fuel lines are tight. Bleed the fuel system. (See page 14)</li> </ul>
	<ul style="list-style-type: none"> <li>In winter, oil viscosity increases, and engine cranks slow.</li> </ul>	<ul style="list-style-type: none"> <li>Use oils of different viscosities, depending on ambient temperatures.</li> </ul>
	<ul style="list-style-type: none"> <li>Battery is discharged and the engine will not crank.</li> </ul>	<ul style="list-style-type: none"> <li>Charge the battery.</li> <li>In cold weather, always remove the battery, charge it and store it indoors. Install it only when the tractor is going to be used.</li> </ul>
Insufficient engine power.	<ul style="list-style-type: none"> <li>Insufficient fuel.</li> <li>The air cleaner is clogged.</li> </ul>	<ul style="list-style-type: none"> <li>Check the fuel system.</li> <li>Clean the element.</li> </ul>
Engine stops suddenly.	<ul style="list-style-type: none"> <li>Insufficient fuel.</li> </ul>	<ul style="list-style-type: none"> <li>Refuel.</li> <li>Bleed the fuel system.</li> </ul>
Exhaust fumes are colored.	<ul style="list-style-type: none"> <li>Fuel quality is poor.</li> </ul>	<ul style="list-style-type: none"> <li>Change the fuel.</li> </ul>

If you have any questions, contact your Kubota dealer.

## 9.2 TRACTOR TROUBLESHOOTING (HST)

Trouble	Cause	Countermeasure
Tractor operation is not smooth.	<ul style="list-style-type: none"> <li>Hydrostatic transmission fluid is insufficient.</li> <li>Filter is clogged.</li> <li>Strainer is clogged.</li> </ul>	<ul style="list-style-type: none"> <li>Replenish oil.</li> <li>Replace the filter.</li> <li>Clean the strainer.</li> </ul>
Tractor does not move while engine is running.	<ul style="list-style-type: none"> <li>Parking brake is on.</li> <li>Transmission fluid is insufficient.</li> </ul>	<ul style="list-style-type: none"> <li>Release the parking brake.</li> <li>Replenish oil.</li> </ul>
Tractor moves when speed control pedal is not depressed. (Engine is operated.)	<ul style="list-style-type: none"> <li>Hydrostatic lever linkage is not correctly adjusted.</li> </ul>	<ul style="list-style-type: none"> <li>Ask your dealer for hydrostatic lever linkage adjustment or pressure adjustment.</li> </ul>

If you have any questions, contact your Kubota dealer.

### 9.3 BATTERY TROUBLESHOOTING

Trouble	Cause	Countermeasure	Preventive measure
Starter does not function.	<ul style="list-style-type: none"> <li>Battery overused until lights are dim.</li> </ul>	<ul style="list-style-type: none"> <li>Charge battery sufficiently.</li> </ul>	<ul style="list-style-type: none"> <li>Charge the battery properly</li> </ul>
	<ul style="list-style-type: none"> <li>Battery has not been recharged.</li> </ul>		
	<ul style="list-style-type: none"> <li>Poor terminal connection.</li> </ul>	<ul style="list-style-type: none"> <li>Clean the terminal and tighten securely.</li> </ul>	<ul style="list-style-type: none"> <li>Keep the terminal clean and tight. Apply grease and treat with anti-corrosives.</li> </ul>
	<ul style="list-style-type: none"> <li>Battery life expired.</li> </ul>	<ul style="list-style-type: none"> <li>Renew battery.</li> </ul>	
From beginning starter does not function, and lights soon become dim.	<ul style="list-style-type: none"> <li>Insufficient charging.</li> </ul>	<ul style="list-style-type: none"> <li>Charge battery sufficiently.</li> </ul>	<ul style="list-style-type: none"> <li>Battery must be serviced properly before initial use.</li> </ul>
When viewed from top, the top of plates looks whitish.	<ul style="list-style-type: none"> <li>Battery was used with an insufficient amount of electrolyte.</li> </ul>	<ul style="list-style-type: none"> <li>Add distilled water and charge the battery.</li> </ul>	<ul style="list-style-type: none"> <li>Regularly check the electrolyte level.</li> </ul>
	<ul style="list-style-type: none"> <li>Battery was used too much without recharging</li> </ul>	<ul style="list-style-type: none"> <li>Charge battery sufficiently.</li> </ul>	<ul style="list-style-type: none"> <li>Charge the battery properly</li> </ul>
Recharging is impossible.	<ul style="list-style-type: none"> <li>Battery life expired.</li> </ul>	<ul style="list-style-type: none"> <li>Replace battery.</li> </ul>	
Terminals are severely corroded and heat up.	<ul style="list-style-type: none"> <li>Poor terminal connection or stained terminal</li> </ul>	<ul style="list-style-type: none"> <li>Clean the terminal and tighten securely.</li> </ul>	<ul style="list-style-type: none"> <li>Keep the terminal clean and tight. Apply grease and treat with anti-corrosives.</li> </ul>
Battery electrolyte level drops rapidly.	<ul style="list-style-type: none"> <li>There is a crack or pin holes in the electrolytic cells.</li> </ul>	<ul style="list-style-type: none"> <li>Replace battery.</li> </ul>	

If you have any questions, contact your Kubota dealer.

# 10. LONG-TERM STORAGE



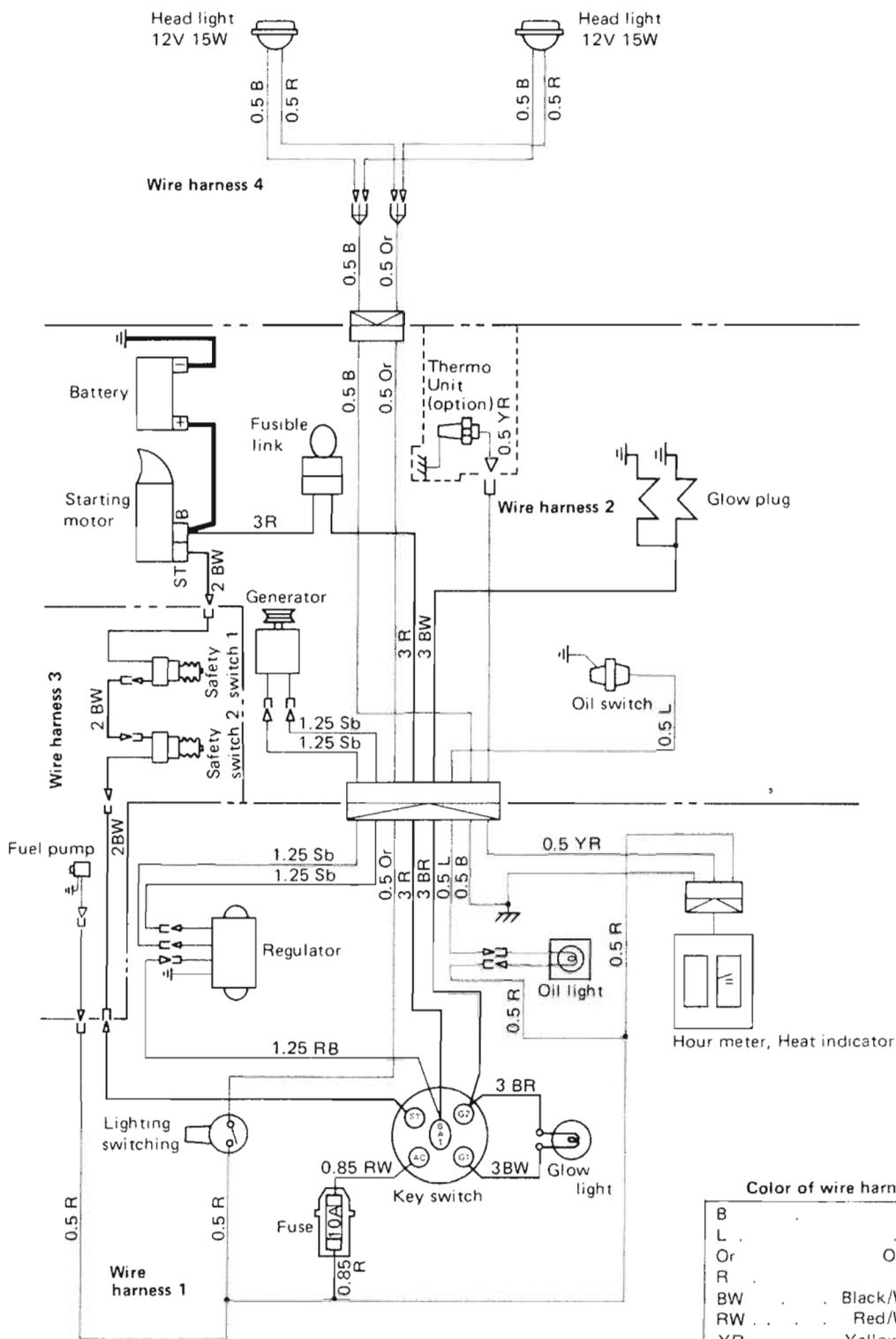
## CAUTION:

- (1) Do not start the engine in a closed room. The air will be polluted with exhaust gas which is very dangerous.
- (2) Do not clean the tractor with engine running.
- (3) When storing, remove the key from the key switch to avoid unauthorized persons from operating the tractor and getting injured.

When the tractor is not going to be operated for two or three months or longer, clean the tractor and perform the following operations before storage.

- (1) Repair the parts where needed.
- (2) Check bolts and nuts, tighten as necessary.
- (3) Apply grease or engine oil to parts most likely to rust.
- (4) Inflate the tires to a little above the standard pressure levels.
- (5) Change the engine oil and run the tractor for five minutes so that the oil circulates through the entire system.
- (6) Drain fuel tank and run engine to eliminate fuel from the lines.
- (7) Drain the cooling system.
- (8) Lock the clutch pedal with the provided wooden block. If the tractor is stored for a long period with the clutch left engaged, the clutch disc may rust, rendering it inoperative. (GEAR)
- (9) Lower the implement to the ground.
- (10) Remove the battery from the tractor, recharge it, adjust the electrolyte to the proper level, and store in a dry place out of direct sunlight.
- (11) The battery runs down over time even while in storage. Recharge it once a month in hot seasons and once every two months in cold seasons.
- (12) Store the tractor where it is dry and sheltered from rain. Further cover the tractor with a tarpaulin.
- (13) When leaving the tractor outdoors, protect the muffler opening from rain.

# 11. WIRING DIAGRAM



**Color of wire harness**

B	Black
L	Blue
Or	Orange
R	Red
BW	Black/White
RW	Red/White
YR	Yellow/Red
Sb.	Skyblue
RL	Red/Blue
RB	Red/Black

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