

# OPERATOR'S MANUAL

# KUBOTA TRACTOR

MODELS M4700•M5400



F-8698

*READ AND SAVE THIS MANUAL*

**Kubota**



# UNIVERSAL SYMBOLS

As a guide to the operation of your tractor, various universal symbols have been utilized on the instruments and controls. The symbols are shown below with an indication of their meaning.

	Safety Alert Symbol		Remote Cylinder-Retract
	Diesel Fuel		Remote Cylinder-Extend
	Fuel-Level		Steering Wheel-Tilt Control
	Engine-Rotational Speed		Hazard Warning Lights
	Hourmeter/Elapsed Operating Hours		Headlight-Low Beam
	Engine Coolant-Temperature		Headlight-High Beam
	Diesel Preheat/Glow Plugs(Low Temperature Start Aid)		Four-Wheel Drive-On
	Parking Brake		Four-Wheel Drive-Off
	Engine Intake/Combustion Air-Filter		Fast
	Battery Charging Condition		Slow
	Engine Oil-Pressure		Creep
	Turn Signal		Read Operator's Manual
	Engine-Stop		Tractor-Forward Movement-Overhead View of Machine
	Engine Shut-Off Control		Tractor-Rearward Movement-Overhead View of Machine
	Electrical Power off		Engine Speed Control
	Engine-Run		
	Starter Control		
	Power Take-Off Clutch Control-Off Position		
	Power Take-Off Clutch Control-On Position		
	Differential Lock		
	Position Control-Raised Position		
	Position Control-Lowered Position		
	Draft Control-Shallow Position		
	Draft Control-Deep Position		
	3-Point Lowering Speed Control		

# FOREWARD

You are now the proud owner of a KUBOTA Tractor. This tractor is a product of Kubota quality engineering and manufacturing. It is made of the finest materials and under a 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 The immediate use of new techniques in the manufacture of products may cause some small parts of this manual to be outdated.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 FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this unit.



**DANGER :** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



**WARNING :** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

**IMPORTANT :** Indicates that equipment or property damage could result if instructions are not followed.

**NOTE :** Gives helpful information.

# CONTENTS

## **▲ SAFE OPERATION ..... 1**

**SERVICING OF TRACTOR ..... 7**

**SPECIFICATIONS ..... 8**

SPECIFICATION TABLE ..... 8

TRAVELING SPEEDS ..... 9

**IMPLEMENT LIMITATIONS ..... 10**

### **Operation Section**

**INSTRUMENT PANEL AND CONTROLS .... 12**

**PRE-OPERATION CHECK ..... 14**

DAILY CHECK ..... 14

**OPERATING THE ENGINE ..... 15**

STARTING THE ENGINE ..... 15

STOPPING THE ENGINE ..... 18

WARMING UP ..... 18

JUMP STARTING ..... 19

**OPERATING THE TRACTOR ..... 20**

OPERATING NEW TRACTOR ..... 20

STARTING ..... 20

STOPPING ..... 25

CHECK DURING DRIVING ..... 26

PARKING ..... 27

OPERATING TECHNIQUES ..... 28

**PTO ..... 30**

PTO OPERATION ..... 30

**THREE-POINT HITCH & DRAWBAR ..... 31**

3-POINT HITCH ..... 32

DRAWBAR ..... 34

**HYDRAULIC UNIT ..... 35**

3-POINT HITCH CONTROL SYSTEM ..... 35

REMOTE HYDRAULIC  
CONTROL SYSTEM (if equipped) ..... 36

**TIRES, WHEELS AND BALLAST ..... 39**

TIRES ..... 39

WHEEL ADJUSTMENT ..... 39

BALLAST ..... 42

### **Maintenance Section**

**MAINTENANCE ..... 43**

SERVICE INTERVALS ..... 43

LUBRICANTS ..... 44

**PERIODIC SERVICE ..... 45**

HOW TO OPEN THE HOOD ..... 45

DAILY CHECK ..... 45

EVERY 50 HOURS ..... 48

EVERY 100 HOURS ..... 49

EVERY 200 HOURS ..... 53

EVERY 400 HOURS ..... 56

EVERY 600 HOURS ..... 56

EVERY 800 HOURS ..... 57

EVERY 1 YEAR ..... 57

EVERY 2 YEARS ..... 58

SERVICE AS REQUIRED ..... 59

**STORAGE ..... 61**

TRACTOR STORAGE ..... 61

REMOVING THE TRACTOR  
FROM STORAGE ..... 61

**TROUBLESHOOTING ..... 62**

ENGINE TROUBLESHOOTING ..... 62

**OPTIONS ..... 63**



# SAFE OPERATION

Careful operation is your best insurance against an accident.

**Read and understand this section carefully before operating the tractor.**

All operators, no matter how much experience they may have had, should read this and other related manuals before operating the tractor or any implement attached to it. It is the owner's obligation to instruct all operators in safe operation.

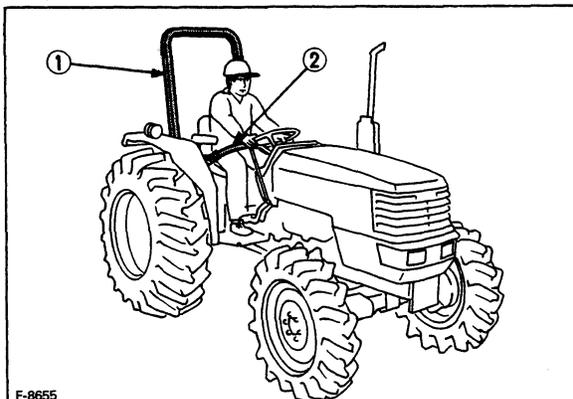
## 1. BEFORE OPERATING THE TRACTOR

1. Know your equipment and its limitations. Read this entire manual before attempting to start and operate the tractor.
2. Pay special attention to the danger, warning and caution labels on the tractor itself.
3. KUBOTA recommends the use of a Roll Over Protective Structures (ROPS) and seat belt in almost all applications. This combination will reduce the risk of serious injury or death, should the tractor be upset.

If the ROPS is loosened or removed for any reason, make sure that all parts are reinstalled correctly before operating the tractor.

Never modify or repair a ROPS because welding, bending, drilling, grinding, or cutting any portion may weaken the structure.

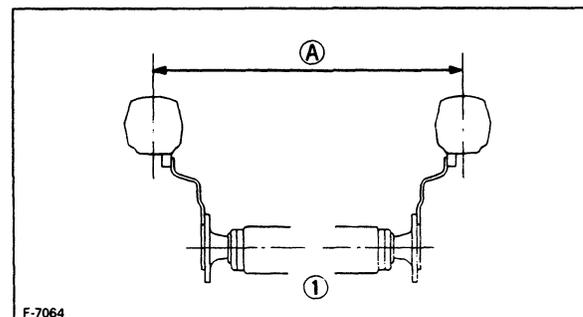
A damaged ROPS structure must be replaced, not repaired or revised. If any structural member of the ROPS is damaged, replace the entire structure at your local KUBOTA dealer.



- (1) ROPS  
(2) Seat belt

4. Always use the seat belt if the tractor has a ROPS. Do not use it if there is no ROPS. Check the seat belt regularly and replace if frayed or damaged.
5. Do not operate tractor or any implement attached to it while under the influence of alcohol, medication, or other substances or while fatigued.

6. Carefully check the vicinity before operating tractor or any implement attached to it. Check for overhead clearance which may interfere with a ROPS. Do not allow any bystanders around or near tractor during operation.
7. Before allowing other people to use your tractor, explain how to operate and have them read this manual before operation.
8. Never wear loose, torn, or bulky clothing around tractor. It may catch on moving parts or controls, leading to the risk of accident. Use additional safety items, e.g. hard hat, safety boots or shoes, eye and hearing protection, gloves, etc., as appropriate or required.
9. Do not allow passengers to ride on any part of the tractor at anytime. The operator must remain in the tractor seat throughout operation.
10. Check brakes, clutch, and other mechanical parts for improper adjustment and wear. Replace worn or damaged parts promptly. Check the tightness of all nuts and bolts regularly. (For further details, see Maintenance section.)
11. Keep your tractor clean. Dirt, grease, and trash accumulations contribute to fires and lead to personal injury.
12. Use only implements meeting the specifications listed under IMPLEMENT LIMITATIONS in this manual and use only implements approved by KUBOTA.
13. Use proper weights to front or rear of tractor to reduce the risk of upsets. When using the front loader, put the implement or ballast on 3-point hitch to improve stability. Follow the safe operating procedures specified in the attached manual to the equipment.
14. The narrower the tread, the greater the risk of a tractor upset. For maximum stability, adjust the wheels to the widest practical tread width. (See "TIRES, WHEELS AND BALLAST" Section)

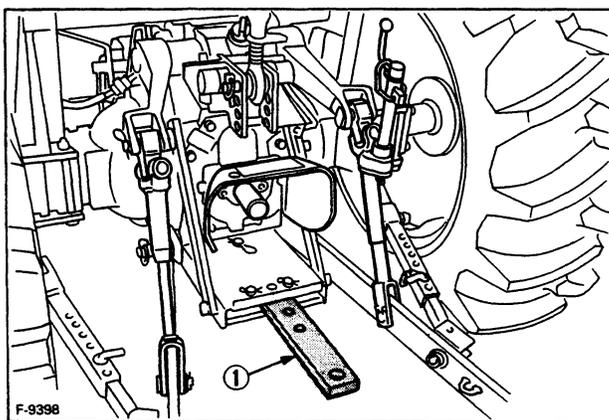


- (1) Rear wheels                      (A) Tread Width

15. Do not modify the tractor if special applications may be unsafe.

## 2. OPERATING THE TRACTOR

1. Never start engine or operate levers from anywhere other than the seat.
2. Before, starting the engine, make sure that all levers (including auxiliary control levers) are in their neutral positions, that the parking brake is engaged, and that both the clutch and the Power Take-Off (PTO) are disengaged.  
Fasten the seat belt if the tractor has a ROPS.
3. Do not start engine by shorting across starter terminals or bypassing the safety start switch. Machine may start in gear and move if normal starting circuitry is bypassed.
4. Pull only from the drawbar. Never hitch to axle housing or any other point except drawbar; such arrangements only increase the risk of serious personal injury or death due to a tractor upset.



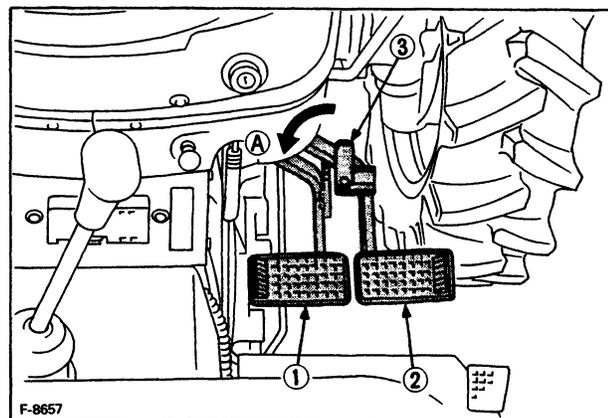
(1) Drawbar

5. Do not operate or idle engine in a non-ventilated area. Carbon monoxide gas is colorless, odorless, and deadly.
6. Keep all shields and guards in place. Replace any that are missing or damaged.
7. Avoid sudden starts. To avoid upsets, slow down when turning, on uneven terrain, and before stopping.
8. The tractor cannot turn with the differential locked and attempting to do so could be dangerous.
9. Do not operate near ditches, holes, embankments, or other terrain features which may collapse under the tractor's weight. The risk of tractor upset is even higher when the ground is loose or wet.
10. Driving forward out of a ditch or mired condition or up a steep slope risks a tractor to be upset backward. Always back out of these situations. Extra caution is required with four-wheel drive models because their higher traction can give the operator false confidence in the tractor's ability to climb slopes.

11. To avoid upsets, always back up steep slopes. Stay off hills and slopes too steep for safe operation.
12. Watch where you are going at all times. Watch for and avoid obstacles. Be alert at row ends, near trees, and other obstructions.
13. When working in groups, always let the others know what you are going to do before you do it.
14. Never "freewheel". Disengaging the clutch or shifting into neutral while descending a slope could lead to a loss of control.
15. Never try to get on or off a moving tractor.

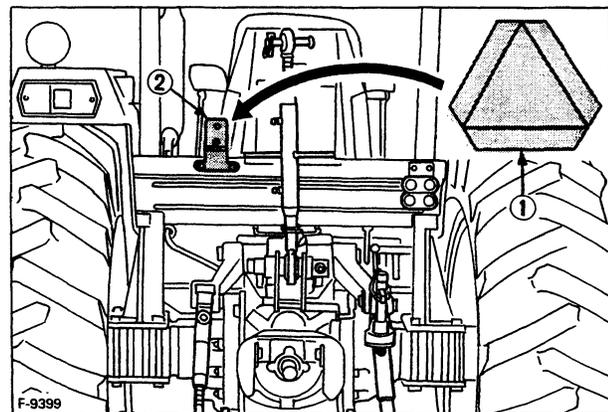
## 3. DRIVING THE TRACTOR ON THE ROAD

1. Lock the two brake pedals together to help assure straight-line stops. Uneven braking at road speeds could cause the tractor to tip over.



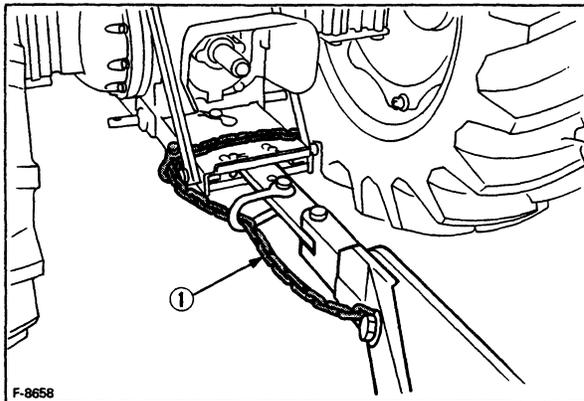
- (1) Brake pedal (LH) (A) Whenever travelling on the road  
 (2) Brake pedal (RH)  
 (3) Brake pedal lock

2. Always slow the tractor down before turning. Turning at high speed may tip the tractor over.
3. Make sure that the Slow Moving Vehicle (SMV) sign is clean and visible. Use hazard lights as required.



- (1) SMV emblem  
 (2) Bracket

4. Observe all local traffic and safety regulations.
5. Turn the headlights on. Dim them when meeting another vehicle.
6. Drive at speeds that allow you to maintain control at all times.
7. Do not apply the differential lock while traveling at road speeds. The tractor may run out of control.
8. Avoid sudden motions of the steering wheel as they can lead to a dangerous loss of stability. The risk is especially great when the tractor is traveling at road speeds.
9. Do not operate an implement while the tractor is on the road. Lock the 3-point hitch in the raised position.
10. When towing other equipment, use a safety chain and place an SMV emblem on it as well.



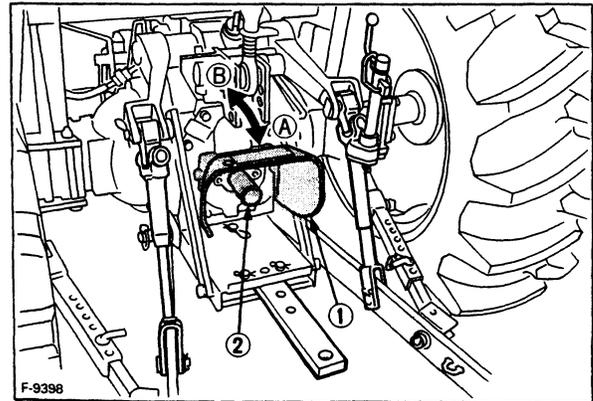
(1) Safety chain

#### 4. PARKING THE TRACTOR

1. Disengage the PTO, lower all implements, place all control levers in their neutral positions, set the parking brake, stop the engine, and remove the key.
2. Make sure that the tractor has come to a complete stop before dismounting.

#### 5. OPERATING THE PTO

1. Wait until all moving components have completely stopped before getting off the tractor, connecting, disconnecting, adjusting, cleaning, or servicing any PTO driven equipment.
2. Keep the PTO shaft cover in place at all times. Replace the PTO shaft cap when the shaft is not in use.

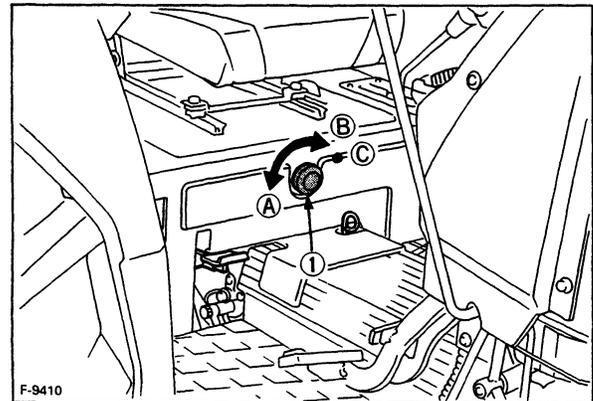


(1) PTO shaft cover (A) "NORMAL POSITION"  
(2) PTO shaft cap (B) "RAISED POSITION"

3. Before installing or using PTO driven equipment, read the manufacturer's manual and review the safety labels attached to the equipment.
4. When operating stationary PTO driven equipment, always apply the tractor parking brake and place chocks behind and in front of the rear wheels. Stay clear of all rotating parts.

#### 6. USING 3-POINT HITCH

1. Use the 3-point hitch only with equipment designed for 3-point hitch usage.
2. When using a 3-point hitch mounted implement, be sure to install the proper counterbalance weight on the front of the tractor.
3. When transporting on the road, set the implement lowering control in the "LOCK" position to hold the implement in the raised position.

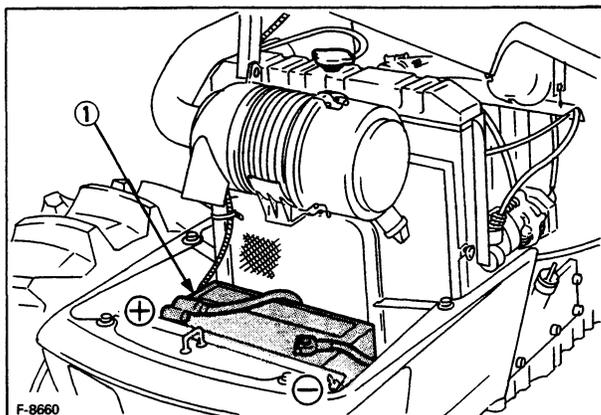


(1) 3-point hitch lowering speed knob (A) "FAST"  
(B) "SLOW"  
(C) "LOCK"

### 7. SERVICING THE TRACTOR

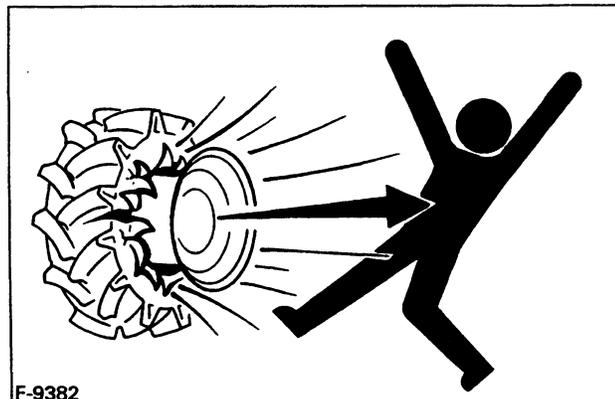
Before servicing the tractor, park it on a firm level surface, set the parking brake, place the gear shift lever in neutral and stop the engine.

1. Allow the tractor time to cool off before working on or near the engine, muffler, radiator, etc.
2. Always stop the engine before refueling. Avoid spills and overfilling.
3. Do not smoke when working around battery or when refueling. Keep all sparks and flames away from battery and fuel tank. The battery presents an explosive hazard because it gives off hydrogen and oxygen .... especially when recharging.
4. Before "jump starting" a dead battery, read and follow all of the instructions.  
(See "JUMP STARTING" in Operating the Engine Section)
5. Keep first aid kit and fire extinguisher handy at all times.
6. Do not remove radiator cap while coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely. If the tractor has a coolant recovery tank, add coolant there instead of to the radiator.
7. Disconnect the battery's ground cable before working on or near electric components.
8. To avoid sparks from an accidental short circuit, always disconnect the battery's ground cable  $\ominus$  first and connect it last.



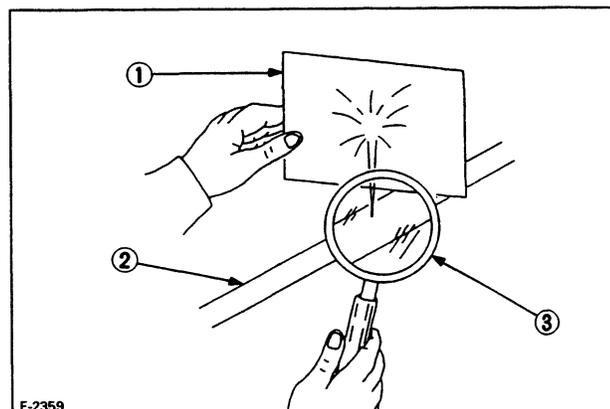
(1) Battery

9. Do not attempt to mount a tire. This should be done by a qualified person with the proper equipment.
10. Always maintain the correct tire pressure. Do not inflate tires above the recommended pressure shown in the operator's manual.



F-9382

11. Securely support the tractor when changing wheels or the wheel tread width.
12. Make sure that wheel bolts have been tightened to the specified torque.
13. Escaping hydraulic fluid under pressure has sufficient force to penetrate skin, causing serious personal injury. Before disconnecting hydraulic lines, be sure to release all residual pressure. Before applying pressure to the hydraulic system, make sure that all connections are tight and that all lines, pipes, and hoses are free of damage.



F-2359

- (1) Cardboard
- (2) Hydraulic line
- (3) Magnifying glass

Fluid escaping from pinholes may be invisible. Do not use hands to search for suspected leaks; Use a piece of cardboard or wood, instead. Use of safety goggles or other eye protection is also highly recommended. If injured by escaping fluid, see a medical doctor at once. This fluid can produce gangrene or severe allergic reaction.

**8. DANGER, WARNING AND CAUTION LABELS**

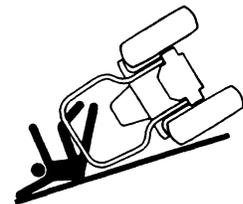
① Part No. TA040-4965-2

	<p><b>⚠ DANGER</b> <span style="float: right;">TA040-49652 ①</span></p>
	<p><b>TO AVOID POSSIBLE INJURY OR DEATH FROM A MACHINE RUNAWAY.</b></p> <ol style="list-style-type: none"> <li>1. Do not start engine by shorting across starter terminals or bypassing the safety start switch. Machine may start in gear and move if normal starting circuitry is bypassed.</li> <li>2. Start engine only from operator's seat with transmission and PTO OFF. Never start engine while standing on the ground.</li> </ol>

⑥ Part No. 32751-4958-1  
Stay clear of engine fan and fanbelt.



② Part No. TA040-4932-2

	<p><b>⚠ WARNING</b></p>
	<p><b>TO AVOID PERSONAL INJURY OR DEATH FROM ROLL-OVER:</b></p> <ol style="list-style-type: none"> <li>1. Kubota recommends the use of a Roll-Over Protective Structures (ROPS) and seat belt in almost all applications</li> <li>2. Remove the ROPS only when it substantially interferes with operation or itself presents a safety risk. (Examples include work in orchards and vineyards.) ALWAYS REINSTALL IT BEFORE USING THE TRACTOR IN OTHER APPLICATIONS.</li> <li>3. Never use just the seat belt or just the ROPS. They must be used together. For further details, consult your Operator's Manual or your local dealer.</li> </ol> <p style="text-align: right;">TA040-49322 ②</p>

⑦ Part No. 32310-4958-1  
Do not touch hot surface like muffler, etc.



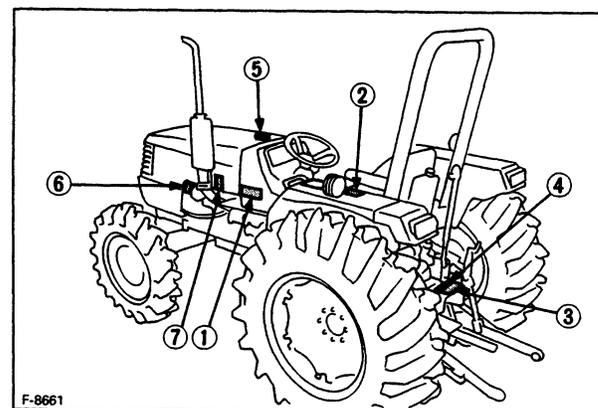
③ Part No. TA040-4959-3

	<p><b>⚠ WARNING</b> <span style="float: right;">TA040-49593 ③</span></p>
	<p><b>TO AVOID PERSONAL INJURY.</b></p> <ol style="list-style-type: none"> <li>1. Keep PTO shield in place at all times.</li> <li>2. Do not operate the PTO at speeds faster than the speed recommended by the implement manufacturer.</li> <li>3. For trailing PTO-driven implements, set drawbar at towing position. (see operator's manual)</li> </ol>

④ Part No. TA040-4935-1

<p><b>⚠ WARNING</b></p>
<p><b>TO AVOID PERSONAL INJURY:</b></p> <ol style="list-style-type: none"> <li>1. Attach pulled or towed loads to the drawbar only.</li> <li>2. Use the 3-point hitch only with equipment designed for 3-point hitch usage.</li> </ol> <p style="text-align: right;">TA040-49351 ④</p>

⑤ Part No. 6C040-4741-2  
No fire



## ⑧ Part No. 35260-3491-3

**⚠ CAUTION**

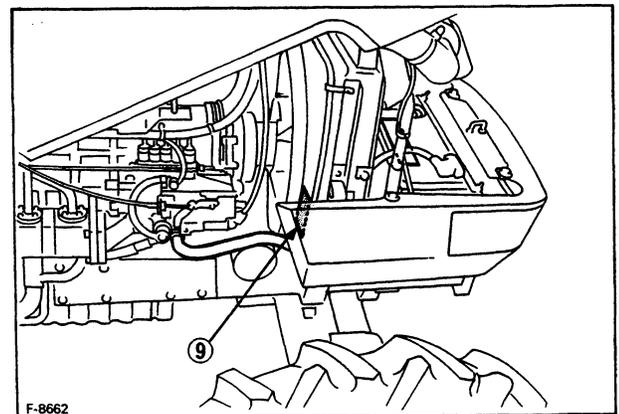
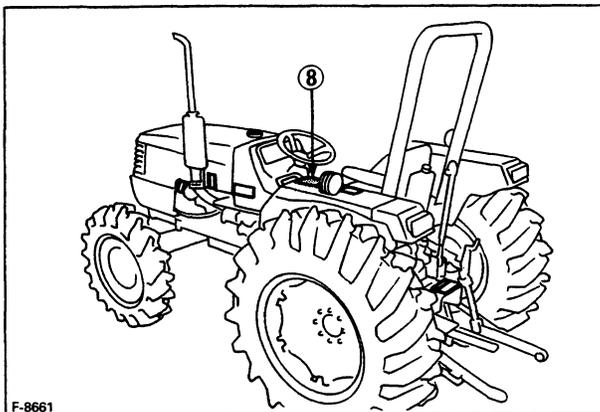
35260-34913⑧

**TO AVOID PERSONAL INJURY:**

1. Read and understand the operator's manual before operation.
2. Before starting the engine, make sure that everyone is at a safe distance from the tractor and that the PTO is OFF.
3. Do not allow passengers on the tractor at any time.
4. Before allowing other people to use the tractor, have them read the operator's manual.
5. Check the tightness of all nuts and bolts regularly.
6. Keep all shields in place and stay away from all moving parts.
7. Lock the two brake pedals together before driving on the road.
8. Slow down for turns, or rough roads, or when applying individual brakes.
9. On public roads use SMV emblem and hazard lights, if required by local traffic and safety regulations.
10. Pull only from the drawbar.
11. Before dismounting, lower the implement, set the parking brake, stop the engine and remove the key.

## ⑨ Part No. TA040-4957-1

Stay clear of engine fan and fanbelt.



### CARE OF DANGER, WARNING AND CAUTION LABELS

1. Keep danger, warning and caution labels clean and free from obstructing material.
2. Clean danger, warning and caution labels with soap and water, dry with a soft cloth.
3. Replace damaged or missing danger, warning and caution labels with new labels from your local KUBOTA dealer.
4. If a component with danger, warning and caution label (s) is replaced with new part, make sure new label (s) is (are) attached in the same location (s) as the replaced component.
5. Mount new danger, warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.

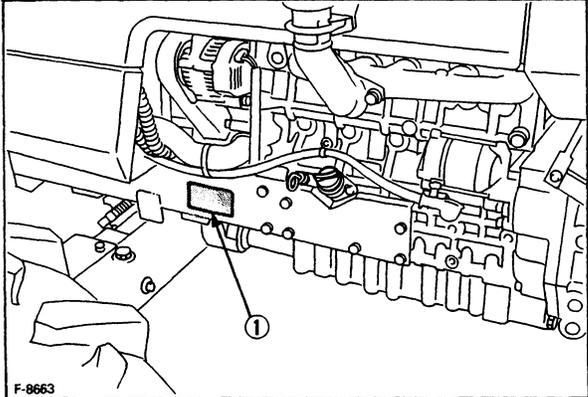
# SERVICING OF TRACTOR

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 some of the regular maintenance yourself. However, when in need of parts or major service, be sure to see your KUBOTA dealer.

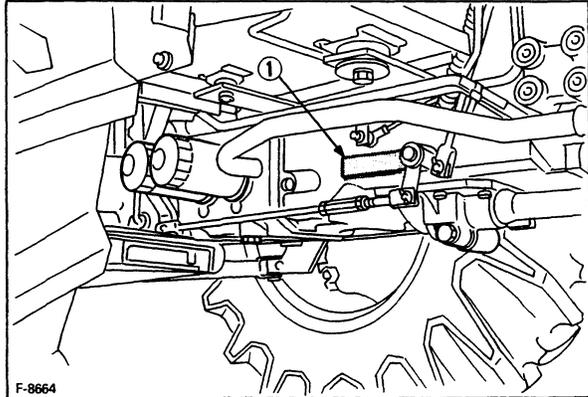
For service, contact the KUBOTA Dealership from which you purchased your tractor or your local KUBOTA dealer.

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.

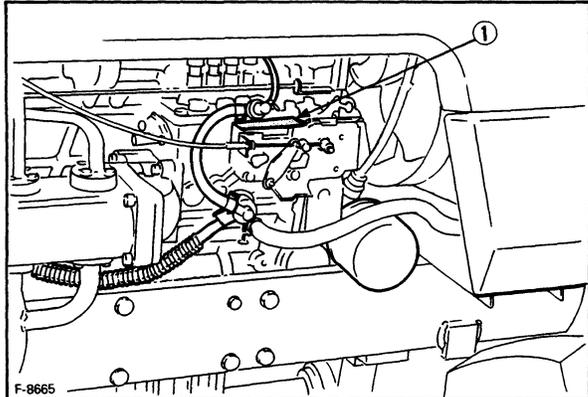
	Type	Serial No.
Tractor	_____	_____
Engine	_____	_____
Date of Purchase	_____	
Name of Dealer	_____	
	(To be filled in by purchaser)	



(1) Tractor identification plate



(1) Tractor serial number



(1) Engine serial number

# SPECIFICATIONS

## SPECIFICATION TABLE

Model			M4700		M5400		
			2WD	4WD	2WD	4WD	
Engine	Model		F2803-LA		F2803-A		
	Type		Vertical, water-cooled 4 cycle diesel engine				
	Number of cylinders		5				
	Total displacement	cm <sup>3</sup> (cu.in.)	2746 (167.6)				
	Bore and stroke	mm(in.)	87×92.4 (3.4×3.6)				
	Net power	kW(HP)	35.1 (47.0)		40.3 (54.0)		
	PTO power (factory observed)	kW(HP)/min <sup>-1</sup> (rpm)	31.3 (42) / 2600		37.3 (50) / 2700		
	Maximum torque	N·m(ft·lbs)/min <sup>-1</sup> (rpm)	158 (116.5) / 1400 to 1600		175 (129.0) / 1400 to 1600		
	Battery capacity		12V, RC:150min, CCA 615A				
	Fuel		Diesel fuel No.1(below -10°C (14°F)), Diesel fuel No.2 (above -10°C (14°F))				
	Fuel tank capacity	L(U.S.gals.)	65 (17.2)				
	Engine oil capacity	L(U.S.qts.)	8 (8.5)				
	Coolant capacity	L(U.S.qts.)	6.2 (6.6)		8.0 (8.5)		
	Dimensions	Overall length		mm(in.)	3495 (137.6)	3405 (134.1)	3495 (137.6)
Overall width (minimum tread)		mm(in.)	1706 (67.2)		1850 (72.8)		
Overall height (with ROPS)		mm(in.)	2357 (93.0)		2375 (93.5)		
Wheel base		mm(in.)	2000 (78.7)				
Tread		Front	mm(in.)	1420 (55.9) to 1820 (71.7)	1330 (52.4) 1430 (56.3)	1420 (55.9) to 1820 (71.7)	1330 (52.4) 1430 (56.3)
		Rear	mm(in.)	1420 (55.9) to 1720 (67.7)			
Minimum ground clearance		mm(in.)	430 (16.9) (BRACKET DRAWBAR)		460 (18.1) (BRACKET DRAWBAR)		
Weight (With ROPS)		kg (lbs.)	1700 (3748)	1800 (3968)	1750 (3858)	1850 (4078)	
Traveling system	Standard tire size	Front tires	6.5-16		9.5-22		
		Rear tires	14.9-28		16.9-28		
	Clutch		Single dry plate				
	Steering		Hydrostatic Power Steering				
Braking system		Multiple Wet disk mechanical					
Differential		Bevel gears with diff. lock					
Hydraulic unit	Hydraulic control system		Position, draft and mix control				
	Pump capacity	L(U.S.qts.)/min	35 (37)		41.5 (43.9)		
	Three point hitch		Category I and II				
	Max. lifting force	At lifting points	kg(lbs.)	1900 (4200) At Lower link end with Links Horizontal			
		24 in. behind lifting point	kg(lbs.)	1500 (3307)			
	System pressure	MPa(kgf/cm <sup>2</sup> )	19.1 (195)				
Traction system		Swinging drawbar, adjustable in direction					
PTO	Live PTO (Independent)	Direction of turning	Clockwise, viewed from tractor rear				
		Standard PTO	540 min <sup>-1</sup> (rpm) at 2295 engine min <sup>-1</sup> (rpm)				

**NOTE:** \* Manufacturer's estimate      The company reserves the right to change the specifications without notice.

## TRAVELING SPEEDS

(At rated engine rpm)

	Model		M4700				M5400			
	Tire size (Rear)		14.9-28		16.9-28		14.9-28		16.9-28	
	Range gear Shift lever	Main gear Shift lever	km/h	mph	km/h	mph	km/h	mph	km/h	mph
<b>Forward</b> 	<b>Creep</b> 	1	0.362	0.225	0.379	0.236	0.376	0.234	0.394	0.245
		2	0.49	0.305	0.513	0.319	0.509	0.316	0.533	0.331
		3	0.746	0.463	0.781	0.485	0.774	0.481	0.811	0.504
		4	1.111	0.690	1.163	0.723	1.154	0.717	1.208	0.751
	<b>Low</b> 	1	2.568	1.596	2.689	1.671	2.667	1.657	2.792	1.735
		2	3.475	2.159	3.639	2.261	3.609	2.243	3.779	2.348
		3	5.288	3.286	5.537	3.441	5.492	3.413	5.750	3.573
		4	7.877	4.895	8.248	5.125	8.180	5.083	8.565	5.322
	<b>High</b> 	1	9.448	5.871	9.893	6.147	9.812	6.097	10.273	6.384
		2	12.787	7.946	13.389	8.320	13.279	8.251	13.904	8.640
		3	19.459	12.091	20.374	12.660	20.207	12.557	21.158	13.147
		4	28.984	18.011	30.348	18.858	30.099	18.703	31.515	19.583
<b>Reverse</b> 	<b>R</b>	1	3.29	2.044	3.445	2.141	3.417	2.123	3.577	2.223
		2	4.453	2.767	4.662	2.897	4.624	2.873	4.841	3.008
		3	6.776	4.21	7.095	4.408	7.036	4.372	7.367	4.578
		4	10.093	6.272	10.568	6.567	10.481	6.513	10.974	6.819

The company reserves the right to change the specifications without notice.

# IMPLEMENT LIMITATIONS

The KUBOTA Tractor has been thoroughly tested for proper performance with implements sold or approved by KUBOTA. Use with implements which exceed the maximum specifications listed below, or which are otherwise unfit for use with the KUBOTA Tractor may result in malfunctions or failures of the tractor, damage to other property and injury to the operator or others. [Any malfunctions or failures of the tractor resulting from use with improper implements are not covered by the warranty.]

	Tread (max. width) with farm tires			Lower link end max. lifting capacity $W_0$
	Front		Rear	
	2WD	4WD		
M4700 M5400	1820 mm (71.7 in.)	1430 mm (56.3 in.)	1720 mm (71.7 in.)	1900 kg (4190 lbs.)

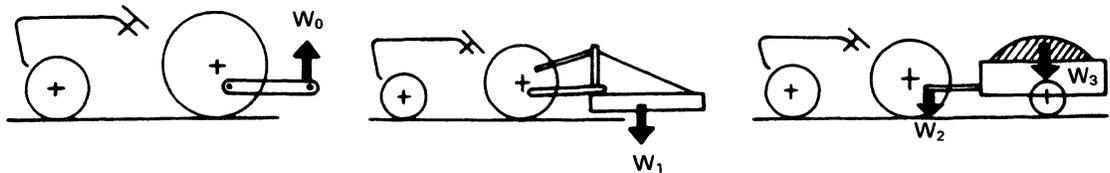
	Actual figures		
	Implement weight $W_1$ and / or size	Max. Drawbar Load $W_2$	Trailer loading weight $W_3$ Max.capacity
M4700	As in the following list (Shown on the next page)	1000 kg (2200 lbs.)	4000 kg (8800 lbs.)
M4700DT			4500 kg (9900 lbs.)
M5400			4000 kg (8800 lbs.)
M5400DT			4500 kg (9900 lbs.)

Lower link end max. hydraulic lifting capacity ..... $W_0$

Implement weight.....The implement's weight which can be put on the lower link:  $W_1$

Max. drawbar load ..... $W_2$

Trailer loading weight .....The max. loading weight for trailer (without trailer's weight):  $W_3$



## NOTE:

- Implement size may vary depending on soil operating conditions.

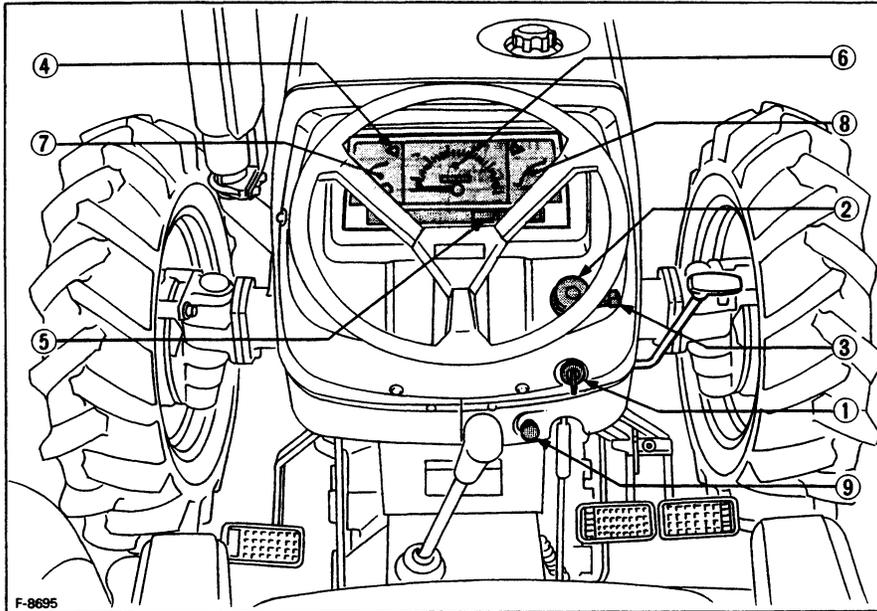
No.	Implement		Remarks		M4700, M5400	
					2WD	4WD
1	Slurry Tank		Max. Tank Capacity	L (gals.)	3000 (790)	
			Max. Load Capacity	kg (lbs.)	4000 (8800)	
2	Trailer		Max. Load Capacity	kg (lbs.)	4000 (8800)	4500 (9900)
			Max. Draw bar Load	kg (lbs.)	1000 (2200)	
3	Mower	Rotary - Cutter -	Max. Cutting Width	mm (in.)	2130 (84)	
		Flail Mower (Heavy)	Max. Weight	kg (lbs.)	540 (1200)	
			Max. Cutting Width	mm (in.)	3050 (120)	
			Max. Weight	kg (lbs.)	800 (1760)	
Sickle Bar	Max. Cutting Width	mm (in.)	2130 (84)			
4	Sprayer		Max. Tank-capacity	Mid	L (gals.)	680 (180)
				Rear 3P	L (gals.)	680 (180)
				Drawbar	L (gals.)	3000 (800)
5	Rotary Tiller		Max. Tilling Width	mm (in.)	2130 (84)	
			Max. Weight	kg (lbs.)	800 (1760)	
6	Moldboard Plow		Max. Size		16 in. x 2 18 in. x 1	14 in. x 3 16 in. x 2 18 in. x 1
			Max. Weight	kg (lbs.) 3P Type	450 (1000)	
7	Disc-harrow	3P Type	Max. Size		18 in. x 24	
			Max. Harrowing Width	mm (in.)	2130 (84)	
			Max. Weight	kg (lbs.)	450 (1000)	
		Drawbar Type	Max. Harrowing Width	mm (in.)	2450 (96)	2750 (108)
8	Disc Plow		Max. Size		24 in. x 3 26 in. x 2	
			Max. Weight	kg (lbs.)	450 (1000)	
9	Sub Soiler		Numbers of Cultivating Tines		2	
			Cultivating Depth	mm (in.)	300 (12)	400 (16)
10	Cultivator		Max. Width	mm (in.)	3050 (120)	3660 (144)
			Number of Rows		4	
			Max. Weight	kg (lbs.)	450 (1000)	
11	Front Blade*		Max. Cutting Width	mm (in.)	1820 (72)	
			Max. Oil Pressure	kgf/cm <sup>2</sup> (psi)	185 (2643)	
12	Rear Blade		Max. Cutting Width	mm (in.)	1820 (72)	
			Max. Oil Pressure	kgf/cm <sup>2</sup> (psi)	185 (2643)	
13	Front Loader*		Max. Lifting Capacity	kgf (lbs.)	1000 (2200)	
			Max. Oil Pressure	kgf/cm <sup>2</sup> (psi)	190 (2702)	
14	Box Blade		Max. Cutting Width	mm (in.)	1820 (72)	
			Max. Weight	kg (lbs.)	450 (1000)	
15	Back Hoe		Max. Digging Depth	mm (in.)	2530 (100)	
			Max. weight	kg (lbs.)	900 (2000)	
16	Snow Blade		Max. Width	mm (in.)	1820 (72)	
			Max. Weight	kg (lbs.)	450 (1000)	

**NOTE:**

- Implement size may vary depending on soil operating conditions.
- \* Must remove front weight with this implement.

# INSTRUMENT PANEL AND CONTROLS

## ■ Instrument Panel, Switches and Hand Controls

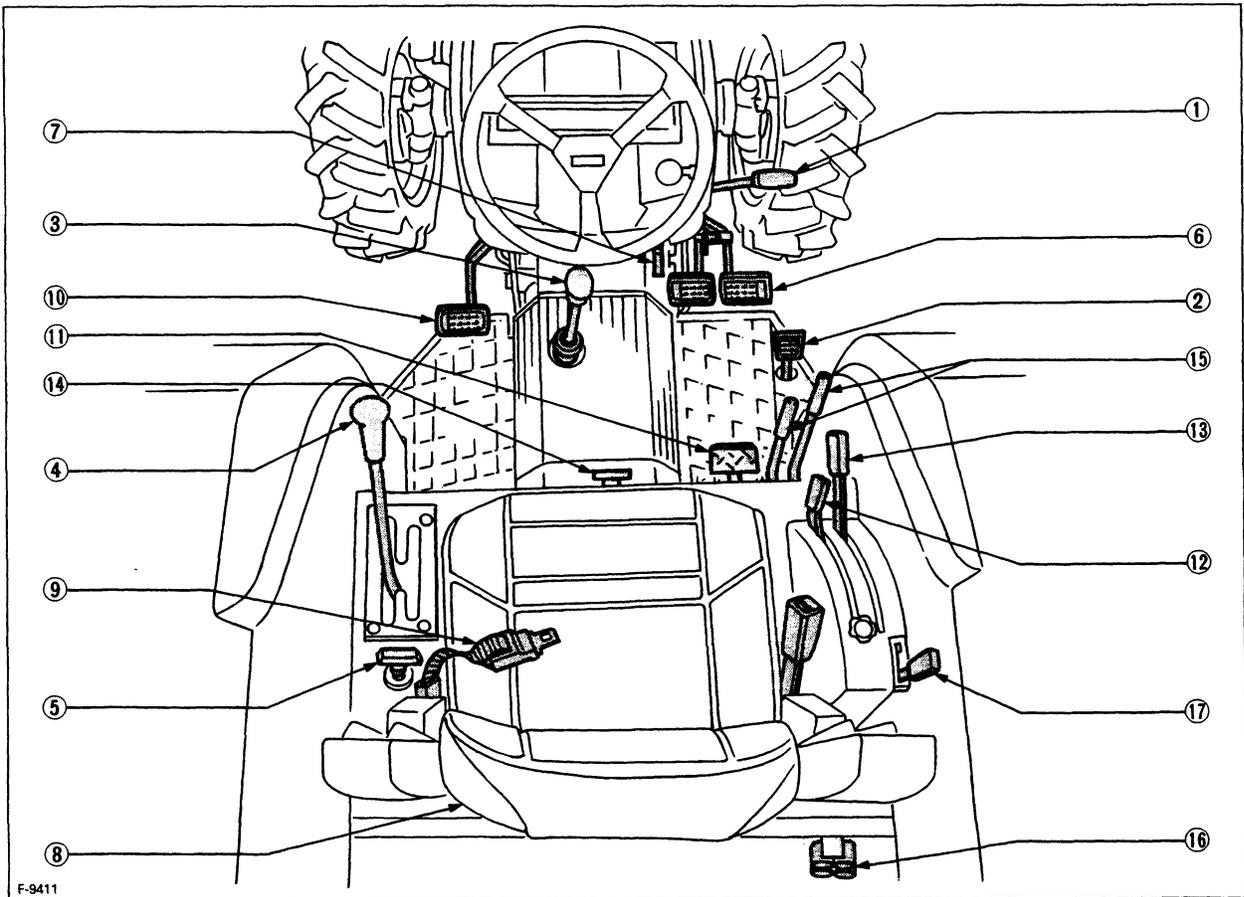


F-8695

### ILLUSTRATED CONTENTS

(1) Key switch .....	17
(2) Head light switch .....	21
(3) Hazard light switch .....	21
(4) Hazard light indicator .....	21
(5) Easy Checker™ .....	17, 26
(6) Hourmeter / Tachometer .....	27
(7) Fuel gauge .....	26
(8) Coolant temperature gauge.....	27
(9) Engine stop knob .....	18

**Foot and Hand Controls**



F-9411

**ILLUSTRATED CONTENTS**

(1) Hand throttle lever .....	16, 25
(2) Foot throttle .....	16, 25
(3) Main gear shift lever .....	16, 23
(4) Range gear shift lever .....	16, 23
(5) Front wheel drive lever .....	24
(6) Brake pedal .....	21
(7) Parking brake lever .....	15, 25
(8) Operator's seat .....	20
(9) Seat belt .....	21

**ILLUSTRATED CONTENTS**

(10) Clutch pedal .....	22
(11) Differential lock pedal .....	28
(12) Draft control lever .....	16, 35
(13) Position control lever .....	16, 35
(14) 3-Point hitch lowering speed knob .....	36
(15) Remote control valve lever (if equipped) .....	36, 37
(16) Remote control valve coupler (if equipped) .....	36, 37
(17) PTO clutch control lever .....	30

# PRE-OPERATION CHECK

## DAILY CHECK

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



### CAUTION

To avoid personal injury:

- Be sure to check and service the tractor on a level surface with the engine shut off and the parking brake "ON".

### Check item

- Walk around inspection
- Check engine oil level
- Check transmission oil level
- Check coolant level
- Clean grill and radiator screen
- Check air cleaner evacuator valve  
(When used in a dusty place)
- Check brake and clutch pedal
- Check indicators, gauges and meter
- Check lights
- Check seat belt and ROPS
- Refuel  
(See "DAILY CHECK" in periodic service section.)
- Care of danger, warning and caution labels  
(See "DANGER, WARNING AND CAUTION LABELS" in safe operation section.)

# OPERATING THE ENGINE



## CAUTION

To avoid personal injury:

- Read "Safe Operation" in the front of this manual.
- Read the danger, warning and caution labels located on the tractor.
- To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.
- Never start engine while standing on ground. Start engine only from operator's seat.

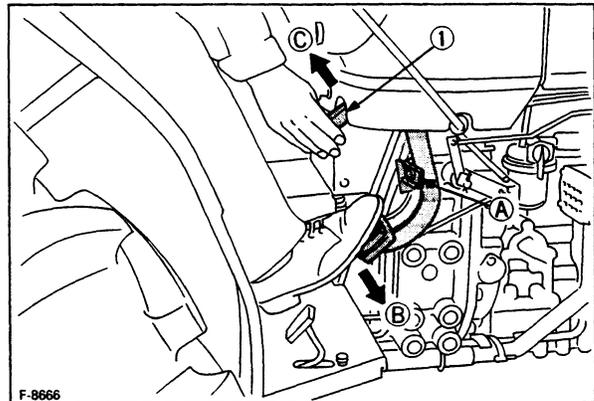
## IMPORTANT:

- Do not use starting fluid or ether.
- When starting the engine after long storage (of more than three months), first pull the engine stop knob and then activate the starter for about ten seconds to allow oil to reach every engine part.
- To protect the battery and the starter, make sure that the starter is not continuously turned for more than 30 seconds.

## STARTING THE ENGINE

### 1. Set the parking brake

1. To set the parking brake;
  - 1) Interlock the brake pedals.
  - 2) Depress the brake pedals.
  - 3) Latch the brake pedals with the parking brake lever.
2. To release the parking brake, depress the brake pedals again.



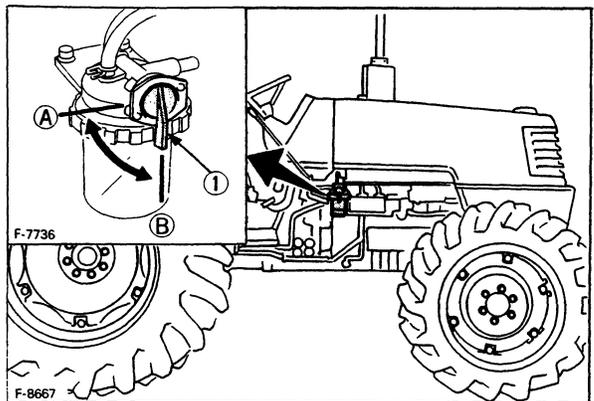
(1) Parking brake lever

(A) Interlock the brake pedals

(B) "DEPRESS"

(C) "PULL"

### 2. Make sure the fuel cock is in the "OPEN" position.



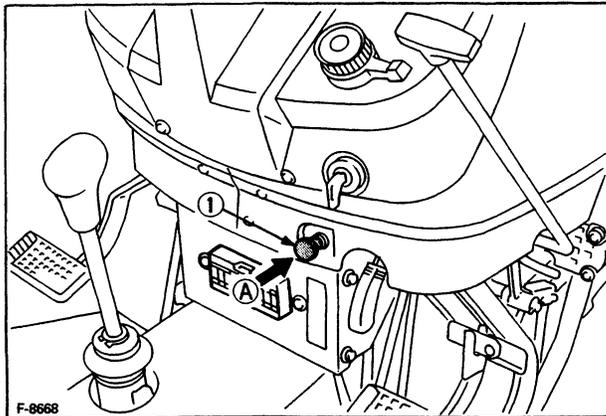
(1) Fuel cock

(A) "CLOSE"

(B) "OPEN"

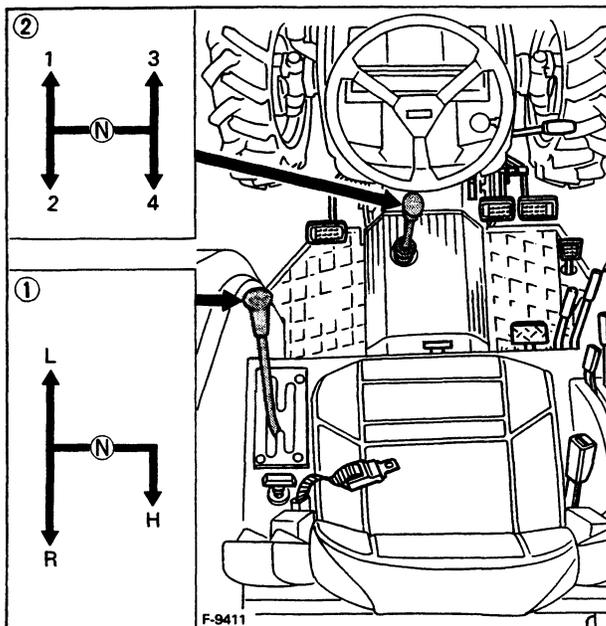
**3. Make sure the engine stop knob is pushed in.**

Push in the engine stop knob if it is pulled out, or the engine will not start.



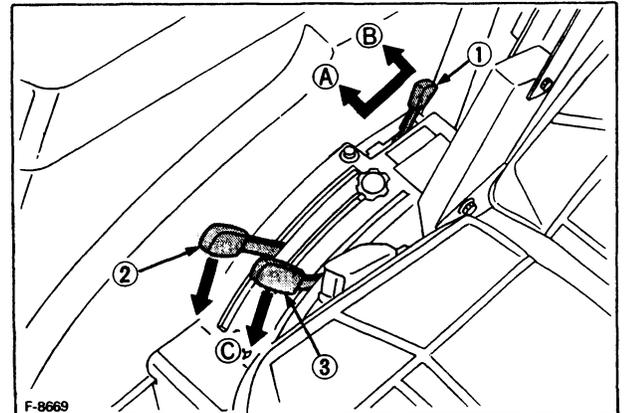
(1) Engine stop knob (A) "PUSH"

**4. Place the shift levers in "NEUTRAL" position.**



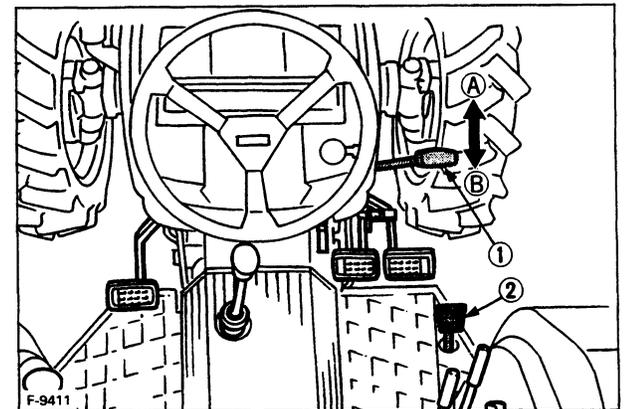
(1) Range gear shift lever (N) "NEUTRAL POSITION"  
(2) Main gear shift lever

**5. Place the PTO clutch control lever in "OFF" position and hydraulic control lever in "LOWEST" position.**



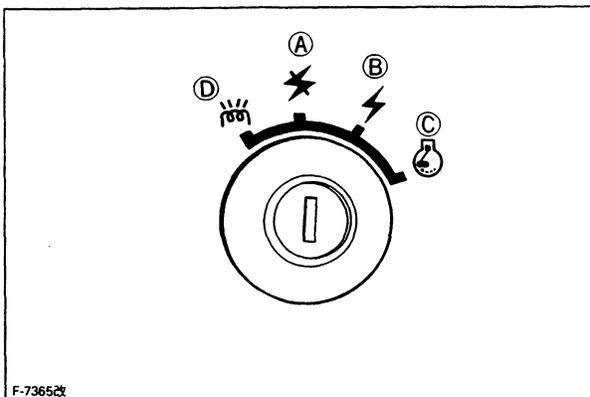
(1) PTO clutch control lever (A) "ON"  
(2) Position control lever (B) "OFF"  
(3) Draft control lever (C) "DOWN"

**6. Set the throttle lever to about 1/2 way.**



(1) Hand throttle lever (A) "INCREASE"  
(2) Foot throttle (B) "DECREASE"

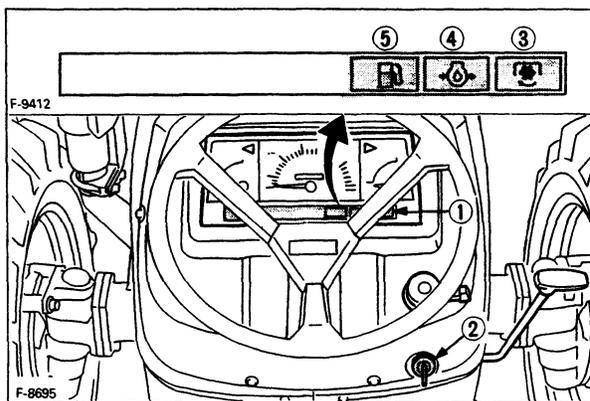
**7. Insert the key into the key switch and turn it "ON".**



- (A) "OFF"
- (B) "ON"
- (C) "START"
- (D) "PREHEAT"

**◆ Check Easy Checker™ lamps:**

1. When the key is turned "ON", (4) (5) lamps should come on. If trouble should occur at any location while the engine is running, the warning lamp corresponding to that location comes on.
2. The PTO warning lamp (3) comes "ON" while PTO clutch control lever is engaged "ON" and goes off when disengaged "OFF" it.



- (1) Easy checker™
- (2) Key switch
- (3) PTO clutch
- (4) Engine oil pressure
- (5) Fuel level

**IMPORTANT:**

- Daily checks with the Easy Checker™ only, are not sufficient. Never fail to conduct daily checks carefully by referring to Daily Check. (See "DAILY CHECK" in Periodic Service Section)

**8. Fully depress the clutch pedal, turn the key to "PREHEAT" position and hold it for about 2 to 3 seconds.**

For the appropriate preheating time, refer to the table below:

Temperature	Preheating Time
Over 0°C (32°F)	2 to 3 sec.
0 to -5°C (32 to 23°F)	5 sec.
-5 to -15°C (23 to 5°F)	10 sec.

**9. Turn the key to "START" position and release when the engine starts.**

**■ Cold Weather Starting**

When the ambient temperature is below -5°C (23°F) and the engine is very cold. (If the engine fails to start after 10 seconds, turn off the key for 30 seconds. Then repeat steps 8 and 9. To protect the battery and the starter, make sure that the starter is not continuously turned for more than 30 seconds.)

**■ Block Heater (Option)**

A block heater is available as an option from your dealer. It will assist you in starting your tractor when the ambient temperature is below -20°C (-4°F).

**IMPORTANT:**

- Because of the safety device, the engine will not start except when the PTO clutch control lever placed in the "OFF" position and range gear shift lever placed in the "NEUTRAL" position.

**10. Check to see that all the lamps on the Easy Checker™ are "OFF".**

If the lamp is still on, immediately stop the engine and determine the cause.

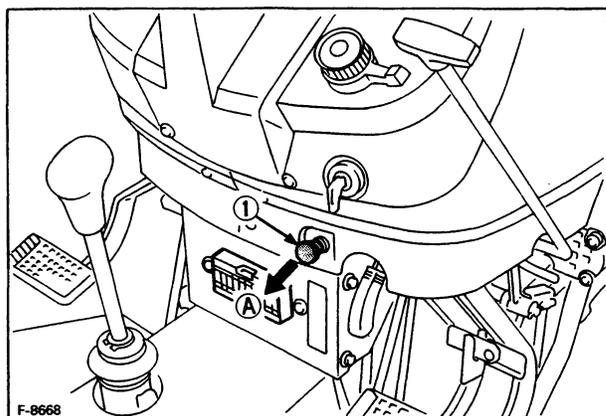
**11. Release the clutch pedal.**

## STOPPING THE ENGINE

1. After slowing the engine to idle, pull the engine stop knob back and hold it until the engine stops.
2. Remove the key.

### NOTE:

- After the engine has stopped, be sure to push the engine stop knob back in, or the engine will not start next time.



(1) Engine stop knob (A) Pull to "STOP"

## WARMING UP



### CAUTION

To avoid personal injury:

- Be sure to set the parking brake during warm-up.

For five minutes after engine start-up, allow engine to warm up without applying any load, this is to allow oil to reach every engine part. If load should be applied to the engine without this warm-up period, trouble such as seizure, breakage or premature wear may develop.

### ■ Warm-up and Transmission Oil in the Low Temperature Range

Hydraulic oil serves as transmission fluid. In cold weather, the oil may be cold with increased viscosity. This can cause delayed oil circulation or abnormally low hydraulic pressure for some time after engine start-up. This in turn can result in trouble in the hydraulic system.

To prevent the above, observe the following instructions:

Warm up the engine at about 50 % of rated rpm according to the table below:

Ambient temperature	Warm-up time requirement
Higher than $-10^{\circ}\text{C}$ ( $14^{\circ}\text{F}$ )	Approx. 5 minutes
$-15$ to $-10^{\circ}\text{C}$ ( $5$ to $14^{\circ}\text{F}$ )	5 to 10 minutes
$-20$ to $-15^{\circ}\text{C}$ ( $-4$ to $5^{\circ}\text{F}$ )	10 to 20 minutes
Below $-20^{\circ}\text{C}$ ( $-4^{\circ}\text{F}$ )	More than 20 minutes

### IMPORTANT:

- Do not operate the tractor under full load condition until it is sufficiently warmed up.

## JUMP STARTING



### CAUTION

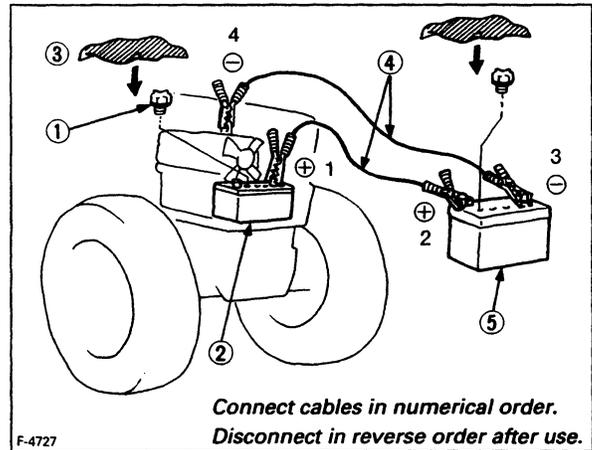
To avoid personal injury:

- Battery gases can explode. Keep cigarettes, sparks, and flames away from battery.
- If tractor battery is frozen, do not jump start engine.
- Do not connect other end of negative ⊖ jumper cable to negative ⊖ terminal of tractor battery.

When jump starting engine, follow the instructions below to safely start the engine.

1. Bring helper vehicle with a battery of the same voltage as disabled tractor within easy cable reach. "THE VEHICLES MUST NOT TOUCH".
2. Engage the parking brakes of both vehicles and put the shift levers in neutral. Shut the engine off.
3. Put on safety goggles and rubber gloves.
4. Remove the vent caps from both batteries. (if equipped)
5. Cover vent holes with damp rags. Do not allow the rag to touch the battery terminals.
6. Attach the red clamp to the positive (red, ⊕ or pos.) terminal of the dead battery and clamp the other end of the same cable to the positive (red, ⊕ or pos.) terminal of the helper battery.
7. Clamp the other cable to the negative (black, ⊖ or neg.) terminal of the helper battery.
8. Clamp the other end to the engine block or frame of the disabled tractor as far from the dead battery as possible.
9. Start the helper vehicle and let its engine run for a few moments. Start the disabled tractor.

10. Disconnect the jumper cables in the exact reverse order of attachment. (Steps 8, 7 and 6).
11. Remove and discard the damp rags. Reinstall the vent caps.



- (1) Remove vent caps (if equipped)
- (2) Dead battery
- (3) Lay a damp rag over open vents
- (4) Jumper cables
- (5) Helper battery

### IMPORTANT:

- This machine has a 12volt negative ⊖ ground starting system.
  - Use only same voltage for jump starting.
  - Use of a higher voltage source on tractors electrical system could result in severe damage to tractors electrical system.
- Use only matching voltage source when "Jump starting" a low or dead battery condition.

# OPERATING THE TRACTOR

## OPERATING NEW TRACTOR

How a new tractor is handled and maintained determines the life of the tractor.

A new tractor just off the factory production line has been, of course, tested, but the various parts are not accustomed to each other, so care should be taken to operate the tractor for the first 50 hours at a slower speed and avoid excessive work or operation until the various parts become "broken-in." The manner in which the tractor is handled during the "breaking-in." period greatly affects the life of your tractor. Therefore, to obtain the maximum performance and the longest life of the tractor, it is very important to properly break-in your tractor. In handling a new tractor, the following precautions should be observed.

### ■ Do not Operate the Tractor at Full Speed for the First 50 Hours.

- Do not start quickly nor apply the brakes suddenly.
- In winter, operate the tractor after fully warming up the engine.
- Do not run the engine at speeds faster than necessary.
- On rough roads, slow down to suitable speeds. Do not operate the tractor at fast speed.

The above precautions are not limited only to new tractors, but to all tractors. But it should be especially observed in the case of new tractors.

### ■ Changing Lubricating Oil for New Tractors

The lubricating oil is especially important in the case of a new tractor. The various parts are not "broken-in" and are not accustomed to each other; small metal grit may develop during the operation of the tractor; and this may wear out or damage the parts. Therefore, care should be taken to change the lubricating oil a little earlier than would ordinarily be required.

For further details of change interval hours. (See "MAINTENANCE" Section)

## STARTING

### 1. Adjusting the Operator's Position.

#### ■ Operator's Seat

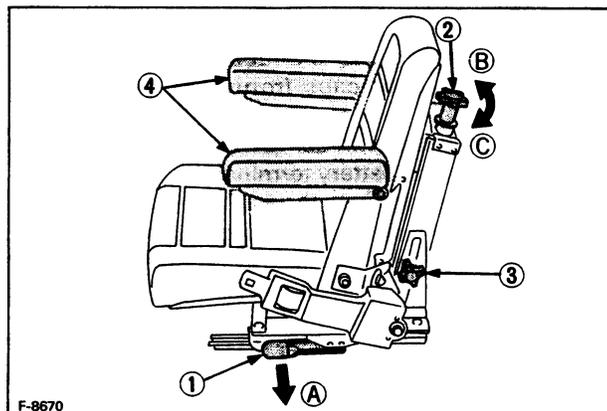


#### CAUTION

To avoid personal injury:

- Make sure that the seat is completely secured after each adjustment.
- Do not allow any person other than the driver to ride on the tractor.

#### ● Adjusting items



- (1) Travel adjust lever (A) "UNLOCK"  
 (2) Suspension adjust knob (B) "TO DECREASE TENSION"  
 (3) Height adjust knob bolt (C) "TO INCREASE TENSION"  
 (4) Arm rest

#### ● Adjustment

1. Unlock the travel adjust lever and slide the seat backward or forward, as required. The seat will lock in position when the lever is released.
2. Turn the knob to achieve the optimum suspension setting.
3. Loosen both knob bolts and lift up or push down, as required.
4. Armrest may be set at upright position if desired.

### ■ Seat Belt

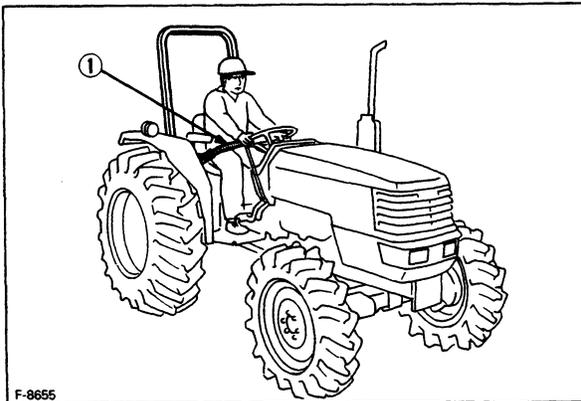


**CAUTION**

To avoid personal injury:

- Always use the seat belt when the ROPS is installed.
- Do not use the seat belt if the tractor is not equipped with ROPS.

Adjust the seat for proper fit and connect to the buckle.



(1) Seat belt

### 2. Selecting Light Switch Positions.

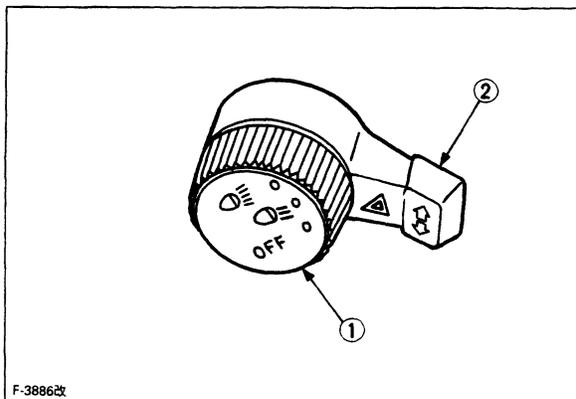
#### ■ Head Light Switch, Hazard Light Switch

OFF ... Head lights OFF.

☰ ... Head lights ON, high beam.

☷ ... Head lights dimmed, low beam.

When hazard light switch is turned to either direction, the hazard lights blink. Hazard light indicators on the instrument panel monitor the hazard lights condition.



(1) Head light switch  
(2) Hazard light switch

### 3. Checking the Brake Pedal.

#### ■ Brake Pedals (Right and Left)

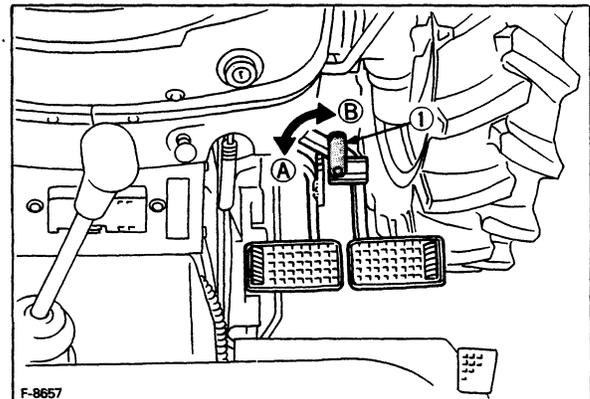


**WARNING**

To avoid personal injury:

- Applying only one rear wheel brake at high speeds could cause the tractor to swerve or roll-over.

1. Before operating the tractor on the road, be sure to interlock the right and left pedals as illustrated below.
2. Use individual brakes to assist in making sharp turns at slow speeds (Field Operation Only). Disengage the brake pedal lock and depress only one brake pedal.
3. Be sure brake pedals have equal adjustment when using locked together.

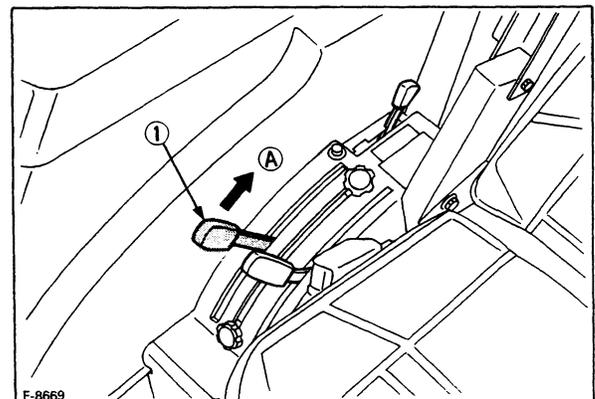


(1) Brake pedal lock

(A) "LOCK"

(B) "RELEASE"

### 4. Raise the Implement. (see "HYDRAULIC UNIT" section)



(1) Position control lever

(A) "UP"

## 5. Depress the Clutch Pedal.

### ■ Clutch Pedal

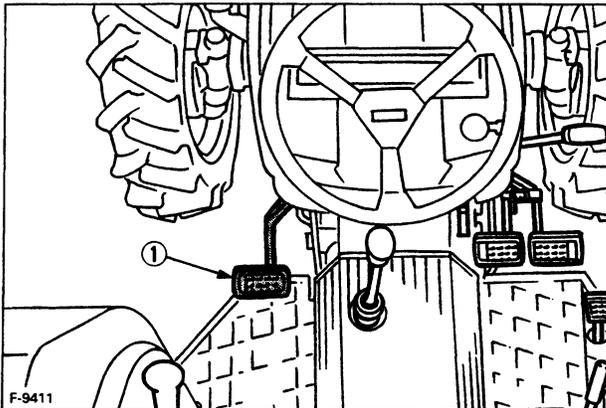


#### CAUTION

To avoid personal injury:

- Sudden release of the clutch may cause the tractor to lunge in an unexpected manner.

The clutch is disengaged when the clutch pedal is fully pressed down.



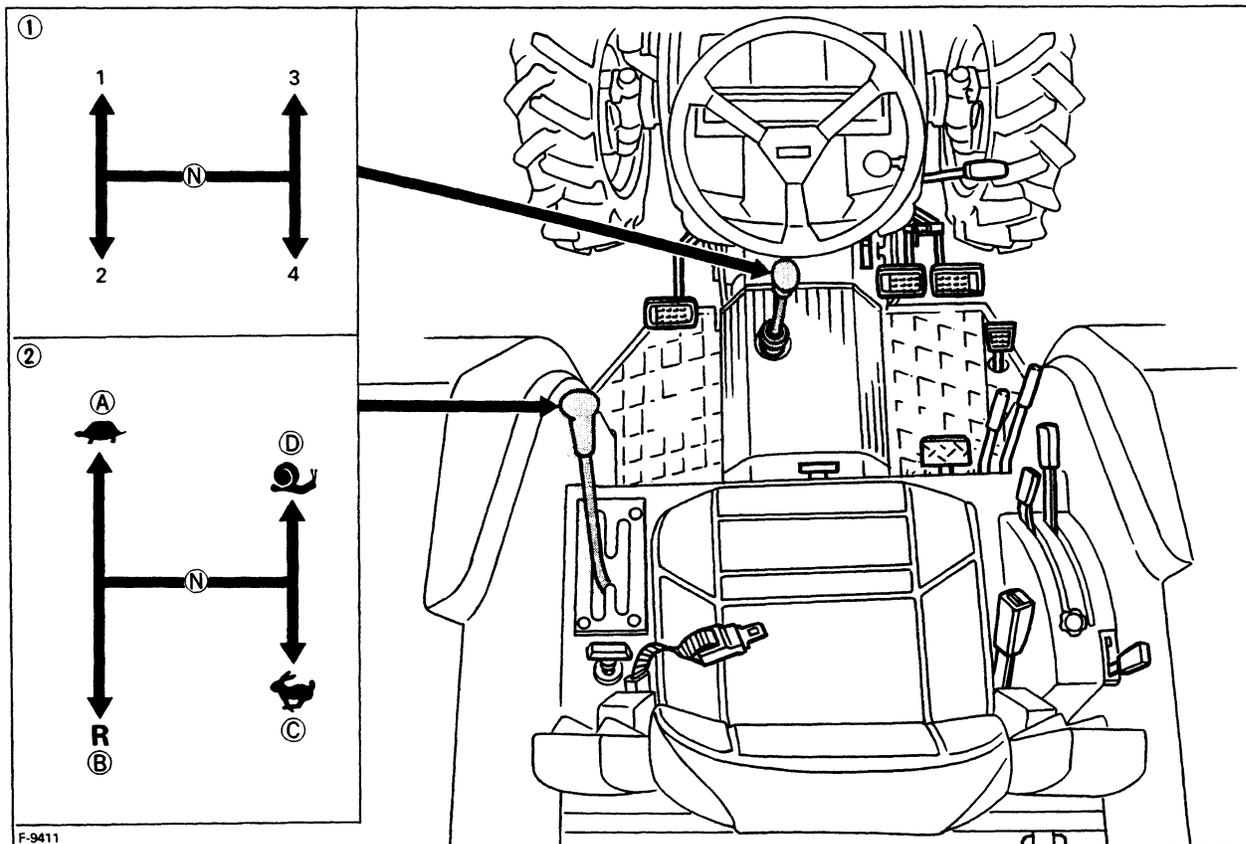
(1) Clutch pedal

#### IMPORTANT:

To help prevent premature clutch wear:

- The clutch pedal must be quickly disengaged and be slowly engaged.
- Avoid operating the tractor with your foot resting on the clutch pedal.
- Select proper gear and engine speeds depending on the type of job.

## 6. Selecting the Travel Speed.



F-9411

- (1) Main gear shift lever  
 (2) Range gear shift lever

- (A) "LOW"  
 (B) "REVERSE"  
 (C) "HIGH"  
 (D) "CREEP (IF EQUIPPED)"  
 (N) "NEUTRAL POSITION"

The main gear shift lever and range gear shift lever pattern are in the form of an "H".

By combination and use of the main gear shift lever and the range gear shift lever, eight forward speeds and four reverse speeds are obtained.

### ■ Main Gear Shift Lever

The main gear shift is partially synchronized allowing to shift on the go between 3rd and 4th speeds and 7th and 8th speeds.

Just depress the clutch and shift, coming to a complete stop is not necessary.

When changing between 1st and 2nd speeds and 5th and 6th speeds, depress the clutch and stop the tractor before shifting.

### NOTE:

- For road travel, start the tractor in a lower gear (7th), and then shift to a higher gear (8th). This will prolong the service life of clutch.

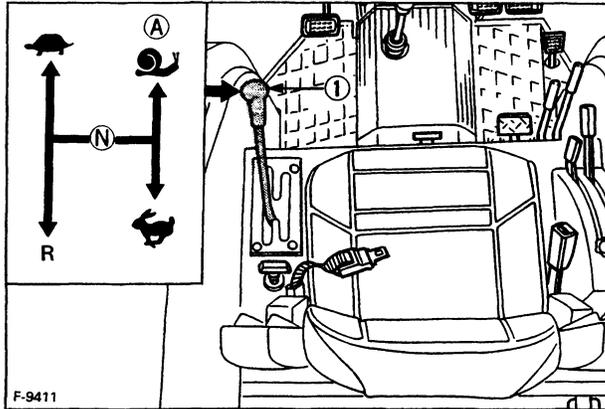
### ■ Range Gear Shift Lever

The range gear shift lever may be shifted between "LOW" and "REVERSE" range while the tractor is moving slowly, but sudden direction change may cause transmission damage.

To change between "HIGH" and "CREEP" ranges, depress the clutch pedal and stop the tractor before shifting.

**Creep Speeds (if equipped)**

Shift the range gear shift lever at "  " to obtain low speeds.  
This shifting requires clutch operation.



(1) Range gear shift lever (A) "LOW"... Creep ON

◆ Creep speed (attained by shifting the range gear shift lever to "  ") should be used only when doing one of the following jobs:

1. Deep rotary-tilling and harrowing
2. Planting
3. Turf application

◆ Creep speed can not be used for any of the following:

1. Pulling a trailer
2. Front-loader operation
3. Front-blade operation
4. Earth-moving
5. Entering and leaving a field
6. Loading onto and unloading from a truck



**CAUTION**

To avoid personal injury:

- When you leave the tractor, be sure to apply the parking brake and stop the engine.
- **IN APPLYING THE BRAKES:**
  - The torque of the wheel axle is extremely high while creep speed is being used. Be sure to step down on the clutch pedal completely before applying the brakes, or they will not work.
  - When starting to operate the tractor, be sure to release the parking brakes. Misuse of the brakes may cause damage to the transmission and is therefore not acceptable to KUBOTA for coverage under the warranty.

**IMPORTANT:**

- Press the clutch pedal completely down and stop the tractor's motion before shifting the range gear shift lever.

**Front Wheel Drive Lever**

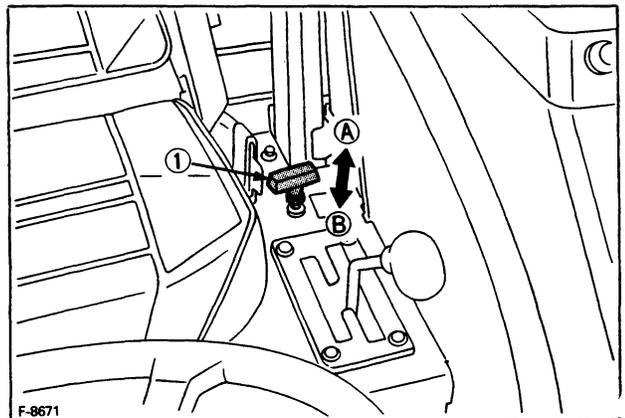


**CAUTION**

To avoid personal injury:

- Do not engage the front wheel drive when traveling at road speed, or the tractor may stop quickly more than expected when applying the brake. An accident may occur if the tractor is suddenly braked.

Use the lever to engage the front wheels with the tractor stopped. Shift the lever to "ON" to engage the front wheel drive.



(1) Front wheel drive lever (A) "ON" (B) "OFF"

**IMPORTANT:**

- Depress the clutch pedal before engaging the front wheel drive lever.
- Tires will wear quickly if front wheel drive is engaged on paved roads.

◆ Front wheel drive is effective for the following jobs:

1. When greater pulling force is needed, such as working in a wet field, when pulling a trailer, or when working with a front-end loader.
2. When working in sandy soil.
3. When working on a hard soil where a rotary tiller might push the tractor forward.

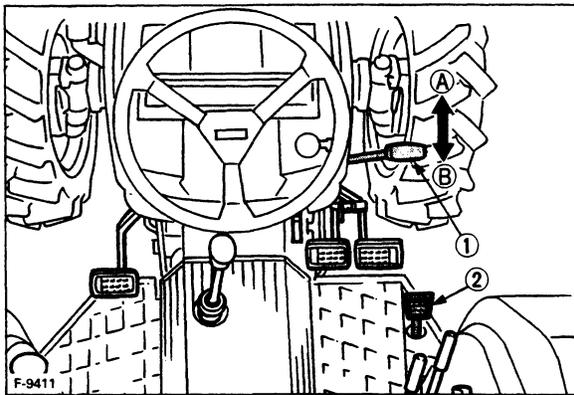
## 7. Accelerate the Engine.

### ■ Hand Throttle Lever

Pulling the throttle lever back decreases engine speed, and pushing it forward increases engine speed.

### ■ Foot Throttle

Use the foot throttle when travelling on the road. Press down on it for higher speed. The foot throttle is interlocked with the hand throttle lever; when using the foot throttle, keep the hand throttle lever in low idling position.



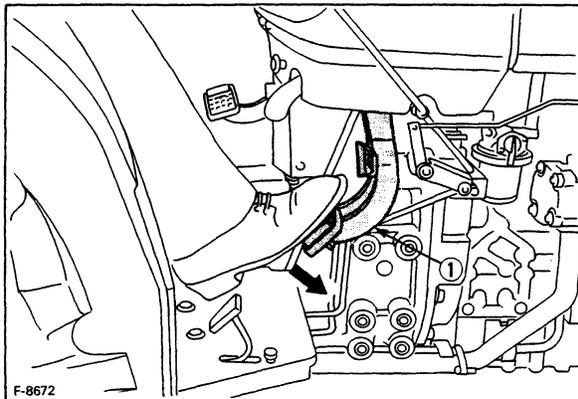
(1) Hand Throttle lever  
(2) Foot Throttle

(A) "INCREASE"  
(B) "DECREASE"

## 8. Unlock the Parking Brake and Slowly Release the Clutch.

### ■ Parking Brake Lever

To release the parking brake, depress the brake pedals again.



(1) Brake pedals

## STOPPING

### ■ Stopping

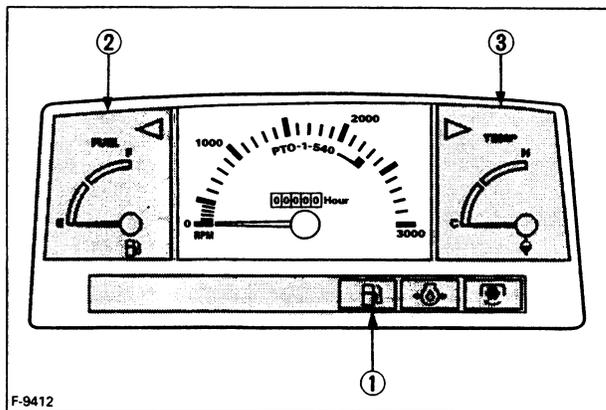
1. Slow the engine down.
2. Step on the clutch and brake pedal.
3. After the tractor has stopped, disengage the PTO, lower the implement, shift the transmission to neutral, release the clutch pedal, set the parking brake.

## CHECK DURING DRIVING

### ■ Immediately Stop the Engine if:

- The engine suddenly slows down or accelerates,
- Unusual noises suddenly appear,
- Exhaust fumes suddenly become very dark,

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



F-9412

- (1) Easy checker™
- (2) Fuel gauge
- (3) Coolant temperature gauge

### ■ Easy Checker™

If the warning lamps in the Easy Checker™ come on during operation, immediately stop the engine, and find the cause as shown below.

Never operate the tractor while Easy Checker™ lamp is on.

#### ⚠ Engine oil pressure.

If the oil pressure in the engine goes below the prescribed level, the warning lamp in the Easy Checker™ will come on.

If this should happen during operation, and it does not go off when the engine is accelerated to more than 1000 rpm, check level of engine oil.

(See "Checking Engine Oil Level" in daily check in periodic service section.)

#### ⛽ Fuel level

If the fuel in the tank goes below the prescribed level, the warning lamp in the Easy Checker™ will come on. (less than 10 L (2.6 gals.))

If this should happen during operation, refuel as soon as possible.

(See "Checking and Refueling" in daily check in periodic service section.)

#### ⚠ Electrical charge

If the alternator is not charging the battery, both engine oil pressure and fuel level warning lamps in the Easy Checker™ will come on.

If this should happen during operation, check the electrical charging system or consult your local KUBOTA dealer.

#### NOTE:

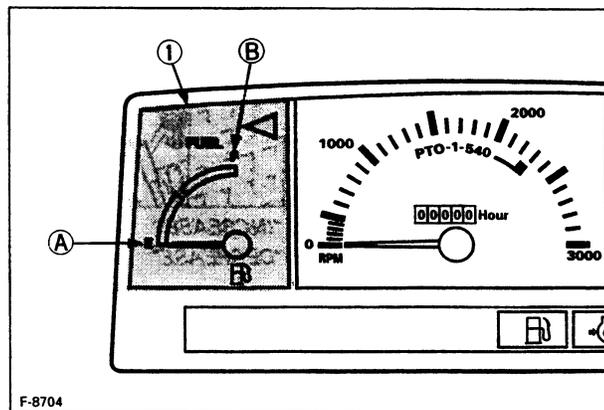
- For checking and servicing of your tractor, consult your local KUBOTA dealer for instructions.

### ■ Fuel Gauge

A needle indicates the amount of fuel left regardless of the key position.

Be careful not to empty the fuel tank. Otherwise air may enter the fuel system.

Should this happen, the system should be bled (See "Bleeding Fuel System" in as required in Periodic Service Section)



F-8704

- (1) Fuel gauge

- (A) "EMPTY"
- (B) "FULL"

### ■ Coolant Temperature Gauge

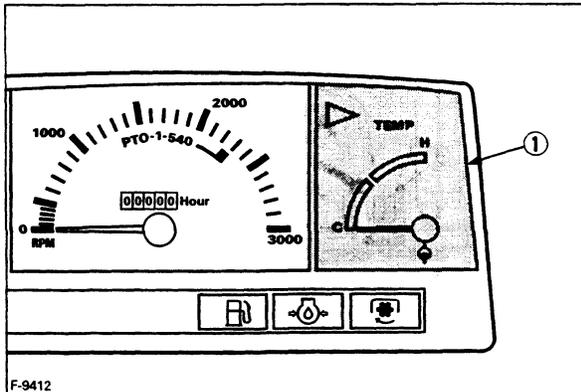


**CAUTION**

To avoid personal injury:

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

1. With the key switch at "ON", this gauge indicates the temperature of the coolant. "C" for "cold" and "H" for "hot."
2. If the indicator reaches the "H" setting (red zone), engine coolant is overheated. Check the tractor by referring to "Troubleshooting" section.



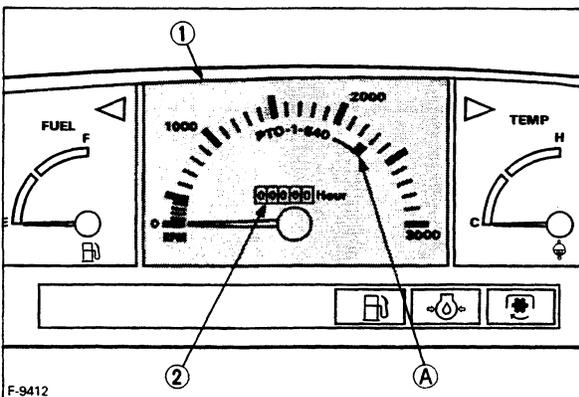
F-9412

(1) Coolant temperature gauge

### ■ Hourmeter/Tachometer

This meter gives readings for engine speed, PTO shaft speed and the hours the tractor has been operated.

1. The tachometer shows the engine speed and corresponding PTO shaft speed.
2. The hourmeter indicates in five digits the hours the tractor has been used; the last digit indicates 1/10 of an hour.



F-9412

(1) Engine revolution

(A) PTO: 540rpm

(2) Hours used

## PARKING

### ■ Parking



**CAUTION**

To avoid personal injury:

- Always set the parking brake and stop the engine before leaving the tractor seat.

1. When parking, be sure to set the parking brake.
2. Before getting off the tractor, disengage the PTO, lower all implements, place all control levers in their neutral positions, set the parking brake, stop the engine and remove the key.
3. If it is necessary to park on an incline, be sure to chock the wheels to prevent accidental rolling of the machine.

## OPERATING TECHNIQUES

### ■ Differential Lock



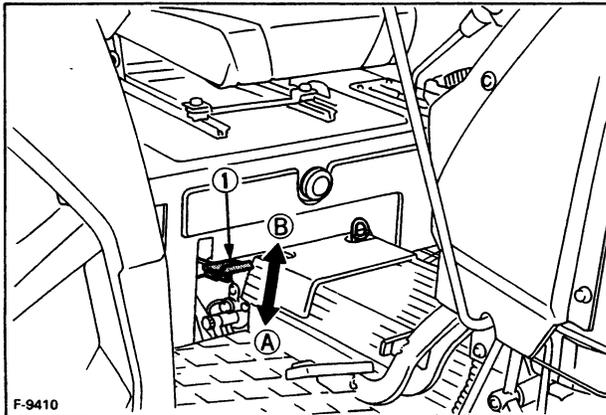
#### WARNING

To avoid personal injury:

- It is extremely dangerous to operate tractor at high speed or attempt to turn the tractor in either direction with differential lock engaged. Be sure to release the lock before making such a turn.

If one of the rear wheels should slip, step on the differential lock pedal. Both wheels will then turn together, reducing slippage.

Differential lock is maintained only while the pedal is depressed.



(1) Differential lock pedal (A) Press to "ENGAGE"  
(B) Release to "DISENGAGE"

#### IMPORTANT:

- To prevent damage to power train, do not engage differential lock when one wheel is spinning and the other is completely stopped.
- When using the differential lock, always slow the engine down.
- If the differential lock cannot be released in the above manner, step lightly on the brake pedals alternately.

### ■ Operating the Tractor on a Road



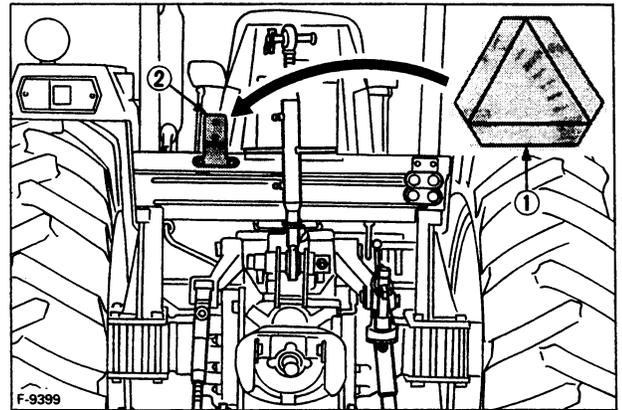
#### CAUTION

To avoid personal injury:

- To help assure straight line stops when driving at transport speeds, lock the brake pedals together. Uneven braking at road speeds could cause the tractor to roll-over.
- When traveling on road with 3-point hitch mounted implement attached, be sure to have sufficient front weight on the tractor to maintain steering ability.

Be sure SMV emblem and warning lamps are clean and visible. If towed or rear-mounted equipment obstructs these safety devices, install SMV emblem and warning lamps on equipment.

Consult your local KUBOTA dealer for further detail.



(1) SMV emblem  
(2) Bracket

## ■ Operating on Slopes and Rough Terrain.



### CAUTION

To avoid personal injury:

- Always back up when going up a steep slope. Driving forward could cause the tractor to tip over backward. Stay off hills and slopes too steep for safe operation.
  - Avoid changing gears when climbing or descending a slope.
  - If operating slope, never disengage the clutch or shift levers to neutral. Doing so could cause loss of control.
  - Do not drive the tractor close to the edges of ditches or banks which may collapse under the weight of the tractor. Especially when the ground is loose or wet.
1. Be sure wheel tread is adjusted to provide maximum stability.  
(See "Wheel Adjustment" in wheels, Tires and Ballast section.)
  2. Slow down for slopes, rough ground, and sharp turns, especially when transporting heavy, rear mounted equipment.
  3. Before descending a slope, shift to a gear low enough to control speed without using brakes.

## ■ Directions for Use of Power Steering

1. Power steering is activated only while the engine is running. Slow engine speeds make the steering a little heavier. While the engine is stopped, the tractor functions in the same manner as tractors without power steering.
2. When the steering wheel is turned all the way to the stop, the relief valve is activated. Do not hold the steering wheel in this position for a long period of time.
3. Avoid turning the steering wheel while the tractor is stopped, or tires and rims may wear out sooner.
4. The power steering mechanism makes the steering easier. Be careful when driving on a road at high speeds.

# PTO

## PTO OPERATION



### CAUTION

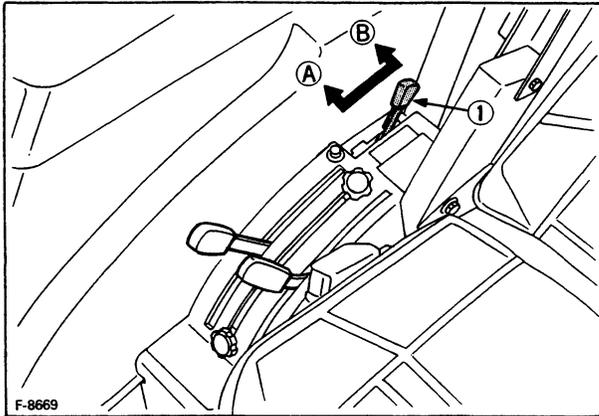
To avoid personal injury:

- Disengage PTO, stop engine, and allow all rotating components to come to a complete stop before connecting, disconnecting, adjusting, or cleaning any PTO driven equipment.

### PTO Clutch Control Lever

1. The tractor has a 540 rpm speed position.
2. The PTO clutch control lever engages or disengages the PTO clutch which gives the PTO independent control.

Shift the lever to "ON" to engage the PTO clutch. Shift the lever to "OFF" to disengage the PTO clutch.



(1) PTO clutch control lever (A) "ON"  
(B) "OFF"

### IMPORTANT:

- To avoid shock loads to the PTO, reduce engine speed when engaging the PTO, then open the throttle to the recommended speed:
- To avoid damage of PTO clutch and implement, shift the PTO clutch control lever slowly, when engaging the PTO clutch. Do not keep the PTO clutch control lever half way.

Engine speed min <sup>-1</sup> (rpm)	Shaft	PTO speed min <sup>-1</sup> (rpm)
2295	6 spline	540

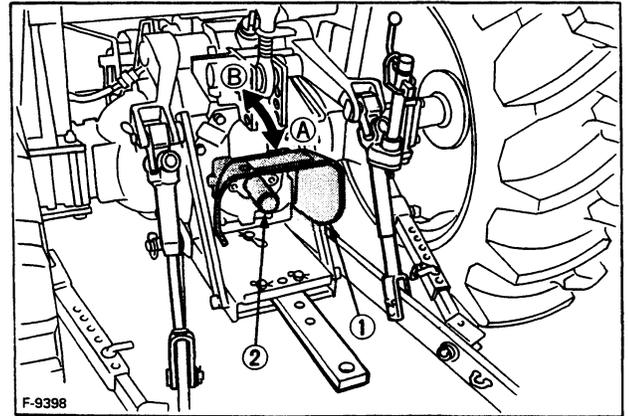
### NOTE:

- There is a PTO-1 (540rpm) indicated mark on the tachometer board.
- Tractor engine will not start if PTO clutch control lever is in the engaged "ON" position.

### PTO Shaft Cover and Shaft Cap

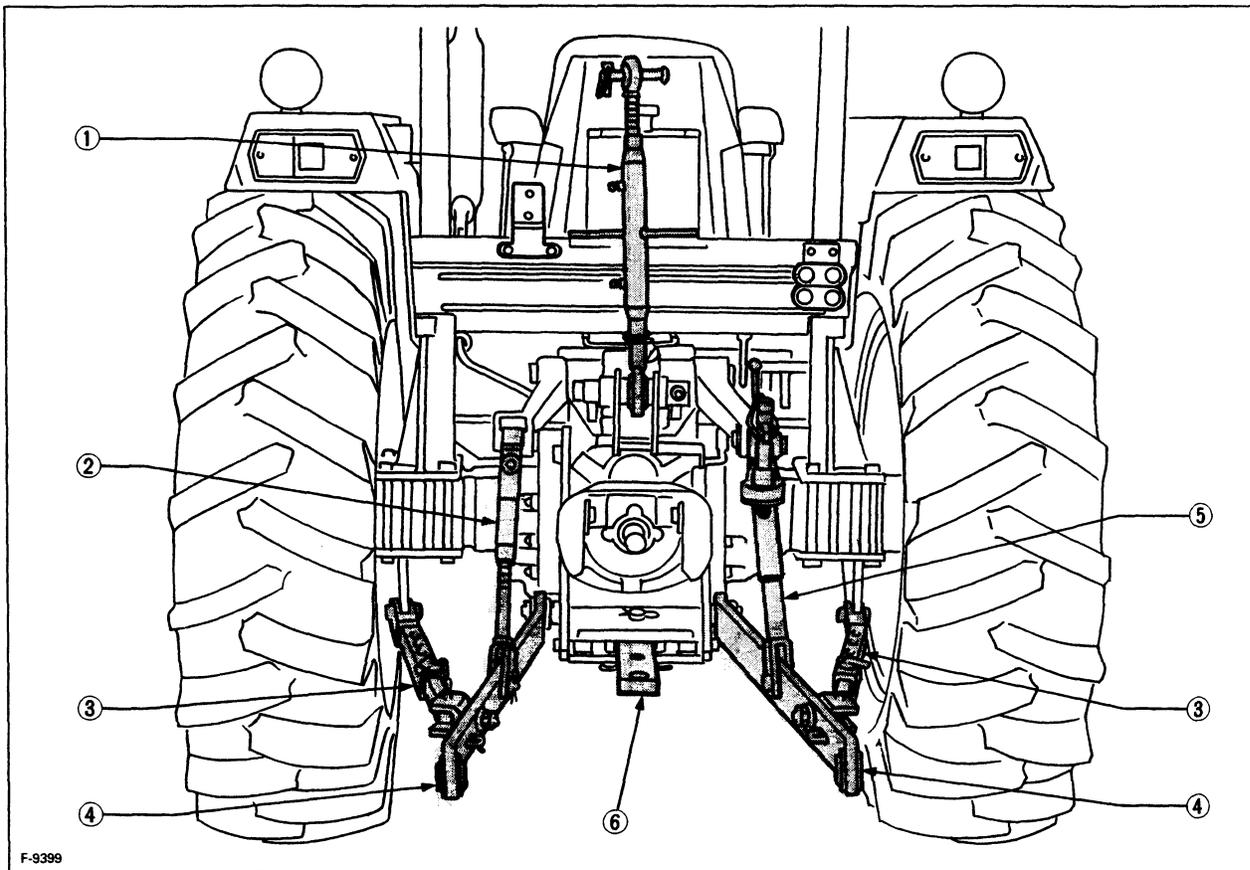
Keep the PTO shaft cover in place at all times. Replace the PTO shaft cap when the PTO is not in use. Before connecting or disconnecting a drive shaft to PTO shaft, be sure engine is "OFF" raise up the PTO shaft cover.

Afterward be sure to return the PTO shaft cover to the "NORMAL POSITION".



(1) PTO shaft cover (A) "NORMAL POSITION"  
(2) PTO shaft cap (B) "RAISED POSITION"

# THREE-POINT HITCH & DRAWBAR



F-9399

- (1) Top link
- (2) Lifting rod (Left)
- (3) Telescopic stabilizers
- (4) Lower link
- (5) Lifting rod (Right)
- (6) Drawbar

## 3-POINT HITCH

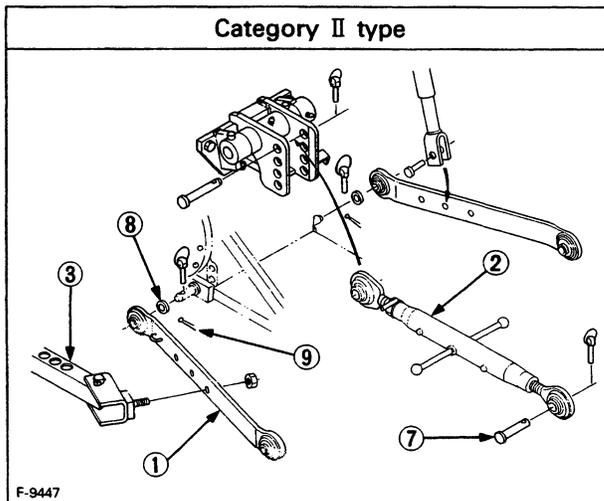
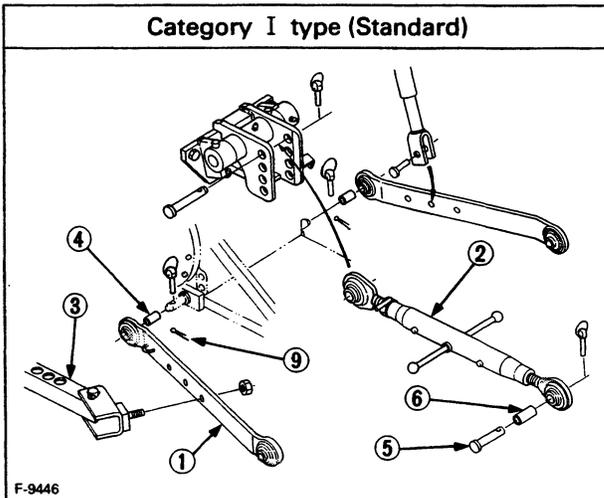
### 1. Make preparations for attaching implement

#### ■ Category I & II

M4700-M5400 have both category I & II. Category 1 type is standard and assemble all parts shown as below. [EXCEPT M5400DT-N]

To change from category I to category II .

1. Reverse lower link position from back to front.
2. Remove adjusting collar from the lower link pin.
3. Add side collar onto the lower link pin.
4. Move the telescopic stabilizer and bolt it to the rear end hole.
5. Repeat the procedure for both right and left lower links.
6. Remove adjusting collar from the rear top link pin.
7. Use the correct rear top link pin for category II .

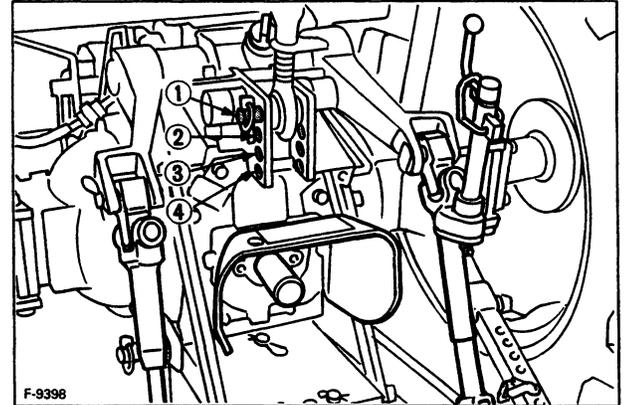


- |                             |                              |
|-----------------------------|------------------------------|
| (1) Lower link              | (6) Collar, top link         |
| (2) Top link                | (7) Top link rear pin ( II ) |
| (3) Telescopic stabilizer   | (8) Collar, side ( II )      |
| (4) Collar, lower link pin  | (9) Split pin                |
| (5) Top link rear pin ( I ) |                              |

#### ■ Selecting the Top Link Mounting Holes

Select the proper set of holes by referring to the "Hydraulic Control Reference Chart" in Hydraulic Unit section.

If the hydraulic unit is set for draft control, draft response is more sensitive when an implement is connected to the lower set of top link mounting holes. If draft control is not required, it is recommended to use the low set (1).



#### ■ Drawbar

Remove the drawbar if close mounted implement is being attached.

## 2. Attaching and detaching implements



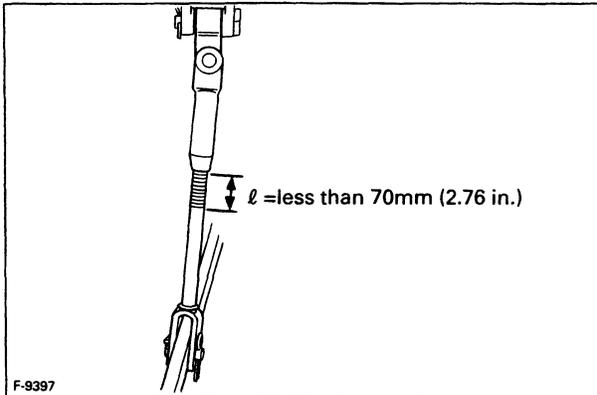
#### CAUTION

To avoid personal injury:

- Be sure to stop the engine.
- Do not stand between tractor and implement unless parking brake is applied.
- Before attaching or detaching implement locate the tractor and implement on a firm level surface.
- Whenever an implement or other attachment is connected to the tractor 3-point hitch, check full range of operation for interference, binding or PTO separation.

**■ Lifting Rod (Left)**

By turning the rod itself, the lifting rod varies its length. The threaded part of the rod should be less than 70 mm (2.76 in.).



F-9397

**■ Lifting rod (right)**

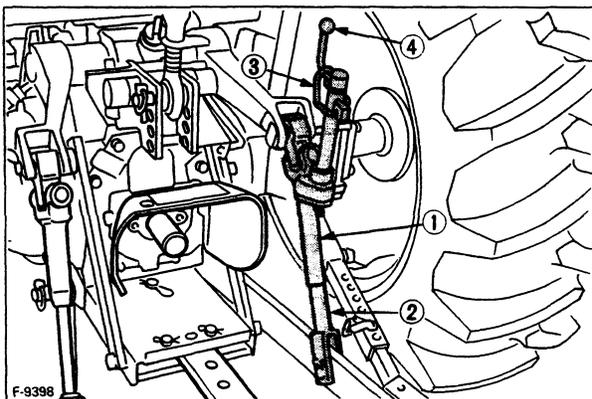
Level a 3-point mounted implement from side to side by turning the adjusting handle to shorten or lengthen the adjustable lifting rod. After adjustment, lock adjusting handle with handle stopper.



**CAUTION**

To avoid personal injury:

- Be careful not to extend the lifting rod (right) to such an extent that it comes out of the cover.



F-9398

- (1) Cover
- (2) Lifting rod (lower)
- (3) Handle stopper
- (4) Adjusting handle

**■ Top Link**

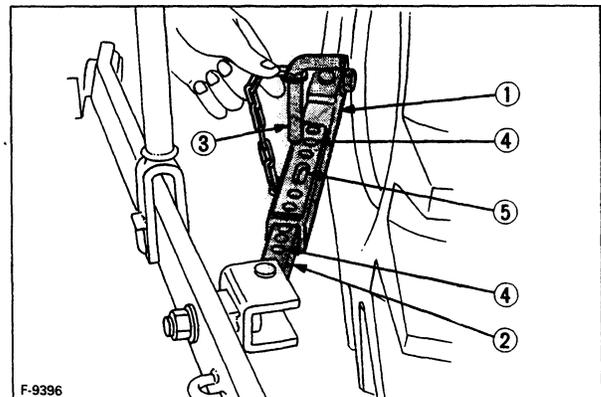
1. Adjust the angle of the implement to the desired position by shortening or lengthening the top link.
2. The proper length of the top-link varies according to the type of implement being used.

**■ Telescopic Stabilizers**

Adjust the telescopic stabilizers to control horizontal sway of the implement.

After satisfactorily aligned, insert the set-pin through any one of the four holes on the outer tube that align with one of the holes on the inner bar, both stabilizers will be locked.

If the set-pin is inserted through the slot to engage one of the holes on the inner tube, a limited degree of sway will be permitted.



F-9396

- (1) Outer tube
- (2) Inner bar
- (3) Set-pin
- (4) Hole
- (5) Slot

## DRAWBAR



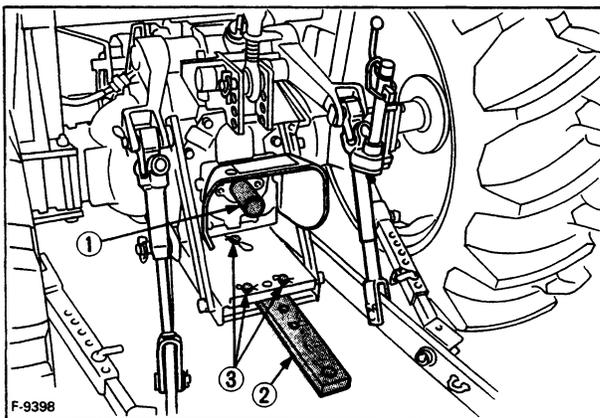
### CAUTION

To avoid personal injury:

- Never pull from the top link, the rear axle or any point above the drawbar. Doing so could cause the tractor to tip over rearward causing personal injury.

### NOTE:

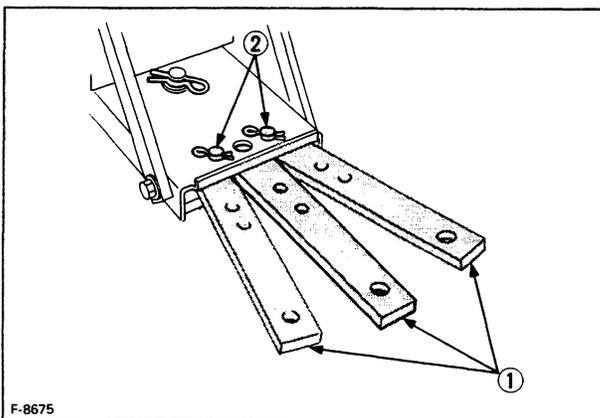
- The drawbar load is referred to "IMPLEMENT LIMITATIONS" section.



- (1) PTO shaft  
(2) Drawbar  
(3) Drawbar pin

### ■ Swing Drawbar

The drawbar can be used in three different ways as illustrated below. Assemble it correctly with drawbar pins.



- (1) Swing drawbar  
(2) Drawbar pin

# HYDRAULIC UNIT

The standard tractor has 5 hydraulic control systems as shown below. Therefore, use the most appropriate system for the implement you are using.

## ◆ 3-Point Hitch Control System

1. Position Control
2. Draft Control
3. Mixed Control
4. Float Control

## ◆ Remote Hydraulic Control System

5. Combined Flow Control

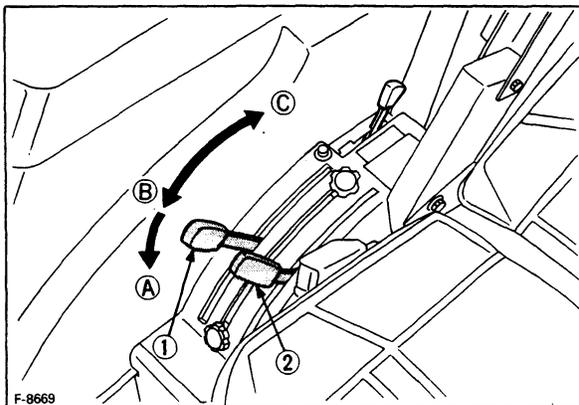
### IMPORTANT

- Do not operate until the engine is warmed up. If operation is attempted when the engine is still cold, the hydraulic system may be damaged.
- If noises are heard when implement is lifting after the hydraulic control lever has been activated, the hydraulic mechanism is not adjusted properly. Unless corrected the unit will be damaged. Contact your KUBOTA dealer for adjustment.

## 3-POINT HITCH CONTROL SYSTEM

### ■ Position Control

This will control the working depth of 3-point hitch mounted implement regardless of the amount of pull required.

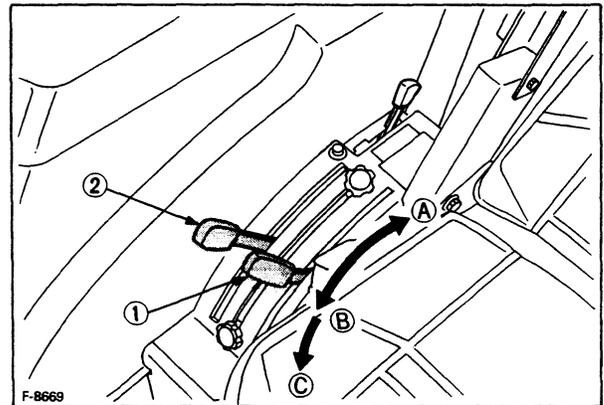


(1) Position control lever (A) "FLOAT"  
 (2) Draft control lever (B) "DOWN"  
 (C) "UP"

### ■ Draft Control

This will control the pull of the 3-point implement. As the load on the 3-point hitch changes due to various soil conditions, the draft control system automatically responds to these changes by either raising or lowering the implements slightly to maintain a constant pull.

Place the draft control lever to the suitable position and set the implement pull with the position control lever.

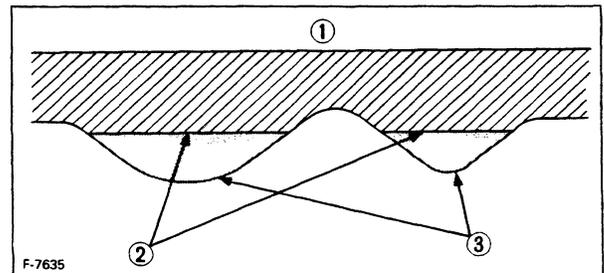


(1) Draft control lever (A) "SENSITIVE"  
 (2) Position control lever (B) "INSENSITIVE"  
 (C) "FLOAT"

### ■ Mixed Control

In draft control, when draft decreases, the implement automatically lowers to increase draft. However, the implement sometimes lowers too much. To limit the degree, the implement can be lowered, set the position control lever at the lowest working depth desired for the implement. Lower the draft control lever to the point where the implement is at the desired depth.

This stops the implement from going too deep and causing loss of traction and ground speed.



(1) Ground surface  
 (2) Implement penetrate limit  
 (3) Light soil

**■ Float Control**

Place both the draft control lever and the position control lever in the float position to make the lower links move freely along with the ground conditions.

**■ 3-point Hitch Lowering Speed**

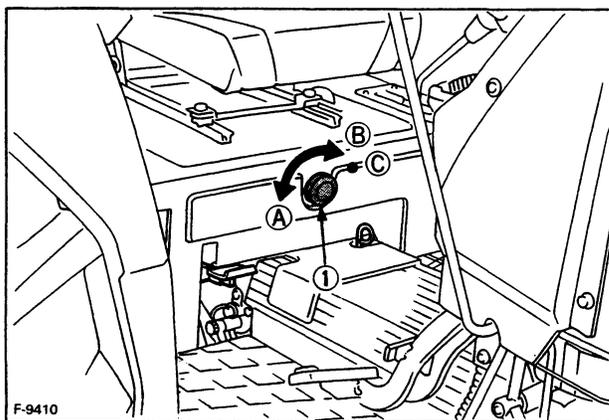


**CAUTION**

To avoid personal injury:

- Fast lowering speed may cause damage or injury. Lowering speed of implement should be adjusted to two or more seconds.

The lowering speed of the 3-point hitch can be controlled by adjusting the 3-point lowering speed knob.



F-9410

(1) 3-Point lowering speed knob (A) "FAST"  
(B) "SLOW"  
(C) "LOCK"

**REMOTE HYDRAULIC CONTROL SYSTEM  
(if equipped)**

**■ Remote Control Valve Coupler  
Connecting and Disconnecting**



**CAUTION**

To avoid personal injury:

- Stop the engine and relieve pressure before connecting or disconnecting lines.
- Do not use your hand to check for leaks.

**◆ Connecting**

1. Clean both couplers.
2. Remove dust plugs.
3. Insert the implement coupler to the tractor hydraulic coupler.
4. Pull the implement coupler slightly to make sure couplers are firmly connected.

**◆ Disconnecting**

1. Lower an implement first to the ground to release hydraulic pressure in the hoses.
2. Clean the couplers.
3. Relieve pressure by moving hydraulic control levers with engine shut off. Pull the hose straight from the hydraulic coupler to release it.
4. Clean oil and dust from the coupler, then replace the dust plugs.

**NOTE:**

- Your local KUBOTA dealer can supply parts to adapt couplers to hydraulic hoses.

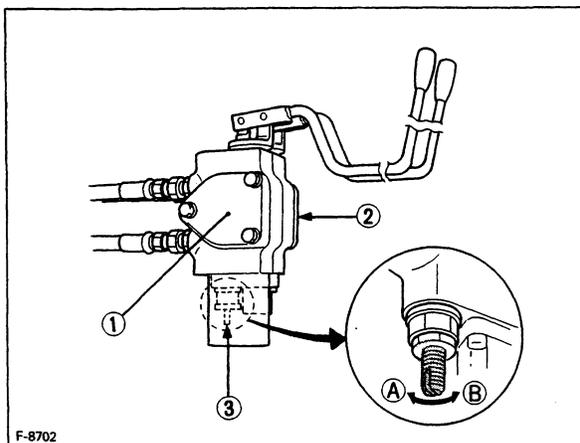
**Remote Control Valve Lever (if equipped)**

The remote control valve lever directs pressurized oil flow to the implement hydraulic system.

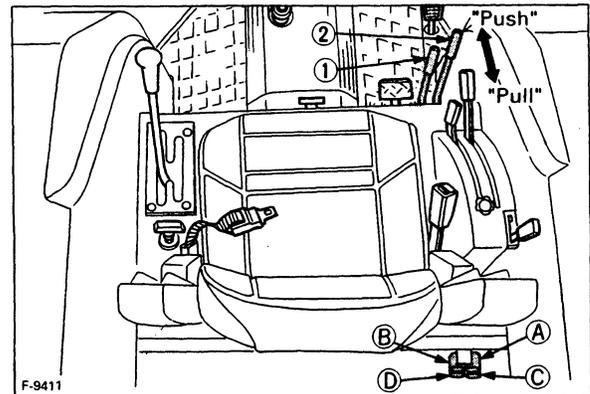
- **Valve with float:**  
This valve may be placed in the float mode with the control lever all the way forward. The cylinder is free to extend or retract, letting implement follow the ground.
- **Single/double acting valve : (mounted inside only)**  
This valve can be utilized as single or double acting valve by adjusting the auxiliary control valve selector knob located on the valve.
  - 1) Turn the auxiliary control valve selector knob clockwise all the way to utilize as double acting valve.
  - 2) Turn the auxiliary control valve selector knob anticlockwise all the way to utilize as single acting valve.
- **Valve with detents and self-cancelling:**  
This valve may be placed in the detent mode. The lever will stay in this position until cylinder reaches end of its stroke. Then it will automatically return to neutral.

**IMPORTANT:**

- Do not hold the lever in the "pull" or "push" position once the remote cylinder has reached the end of the stroke as this will cause oil to flow through the relief valve. Forcing oil through the relief valve for extended periods will overheat the oil.
- When using the tractor hydraulic system to power front loader, do not operate boom and bucket cylinders simultaneously.



- (1) Valve with float or valve with detents and self-cancelling
- (2) Single/double acting valve
- (3) Auxiliary control valve selector knob
- (A) Double acting
- (B) Single acting



- (1) Remote control valve lever ①
- (2) Remote control valve lever ②

Pressure →  
Returning ←

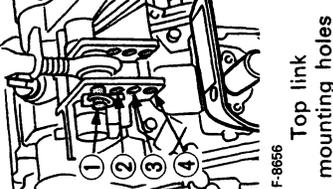
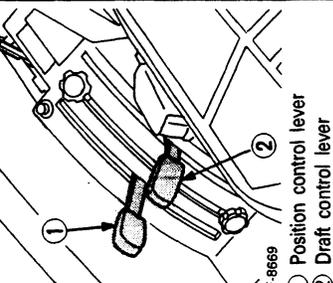
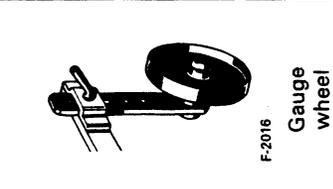
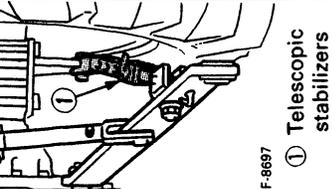
		Double-acting		Single-acting	
		Push	Pull	Push	Pull
Port	(A)	Out →	In ←	—	—
	(B)	In ←	Out →	In ←	Out →

		Push	Pull
		Port	(C)
(D)	In ←		Out →

		Coupler size
Port (A)(B)		PT 1/2
Port (C)(D)		

**Hydraulic Control Unit Use Reference Chart**

In order to handle the hydraulics properly, the operator must be familiar with the following. Though this information may not be applicable to all types of implements and soil conditions, it is useful for general conditions.

Implement	Soil condition	 F-8656 Top link mounting holes	 F-8669 ① Position control lever ② Draft control lever	 F-2016 Gauge wheel	 F-8697 ① Telescopic stabilizers	Remarks
Moldboard plow	Light soil Medium soil Heavy soil	3 or 4 2 or 3 2 or 3	Draft and Mixed control  (Place the draft control lever to the suitable position and set the implement pull with the position control lever)	YES/NO	Loose	Adjust the Telescopic stabilizers so that the implement can move 5 to 6 cm (2.0 to 2.4 in.) laterally. Telescopic stabilizers should be tight enough to prevent excessive implement movement when implement is in raised position.
Disc plow	—	2 or 3 or 4	Position control	YES		
Harrower (spike, springtooth, disc type)	—	2 or 3	Position control	YES/NO	Tighten	With implements with gauge wheels, lower the position control lever all the way.
Sub-soiler .....	—	1	Position control	NO		
Weeder, ridger .....	—		Position control			
Earthmover, digger, scraper, manure fork, rear carrier .....	—		Position control			
Mower (mid-and rear-mount type) Hayrake, tedder .....	—		Position control			

# TIRES, WHEELS AND BALLAST

## TIRES



**WARNING**

To avoid personal injury:

- Do not attempt to mount a tire. This should be done by a qualified person with the proper equipment.
- Always maintain the correct tire pressure.  
Do not inflate tires above the recommended pressure shown in the operator's manual.

**IMPORTANT:**

- Do not use tires larger than specified.
- When you intend to mount different size of tires from equipped ones, consult your dealer about front drive gear ratio for detail.  
Excessive wear of tires may occur due to improper gear ratio.

**Inflation Pressure**

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

	Tire sizes	Inflation Pressure
Front	6.50-16, 6PR	318 kPa(3.25 kgf/cm <sup>2</sup> , 46 psi)
	7.50-16, 6PR	274 kPa(2.8 kgf/cm <sup>2</sup> , 40 psi)
	9.5-20, 6PR	196 kPa(2.0 kgf/cm <sup>2</sup> , 29 psi)
	9.5-22, 6PR	196 kPa(2.0 kgf/cm <sup>2</sup> , 29 psi)
Rear	14.9-28, 6PR	138 kPa(1.4 kgf/cm <sup>2</sup> , 20 psi)
	16.9-28, 6PR	125 kPa(1.2 kgf/cm <sup>2</sup> , 18 psi)

**NOTE:**

- Maintain the maximum pressure in front tires, if using a front loader or when equipped with lots of front weight.

**Dual Tires**

Dual tires are not approved except for turf use.

## WHEEL ADJUSTMENT



**CAUTION**

To avoid personal injury:

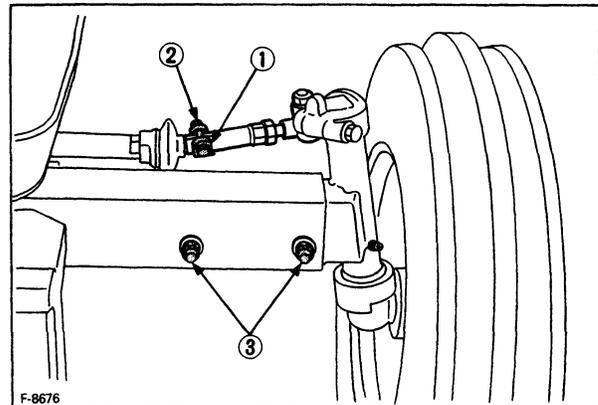
- When working on slopes or when working with trailer, set the wheel tread as wide as practical for maximum stability.
- Support tractor securely on stands before removing a wheel.
- Never operate tractor with a loose rim, wheel, or axle.

**Front Wheels (with two wheel drive)**

Front tread width can be adjusted as shown with the standard equipped tires.

To change the tread width

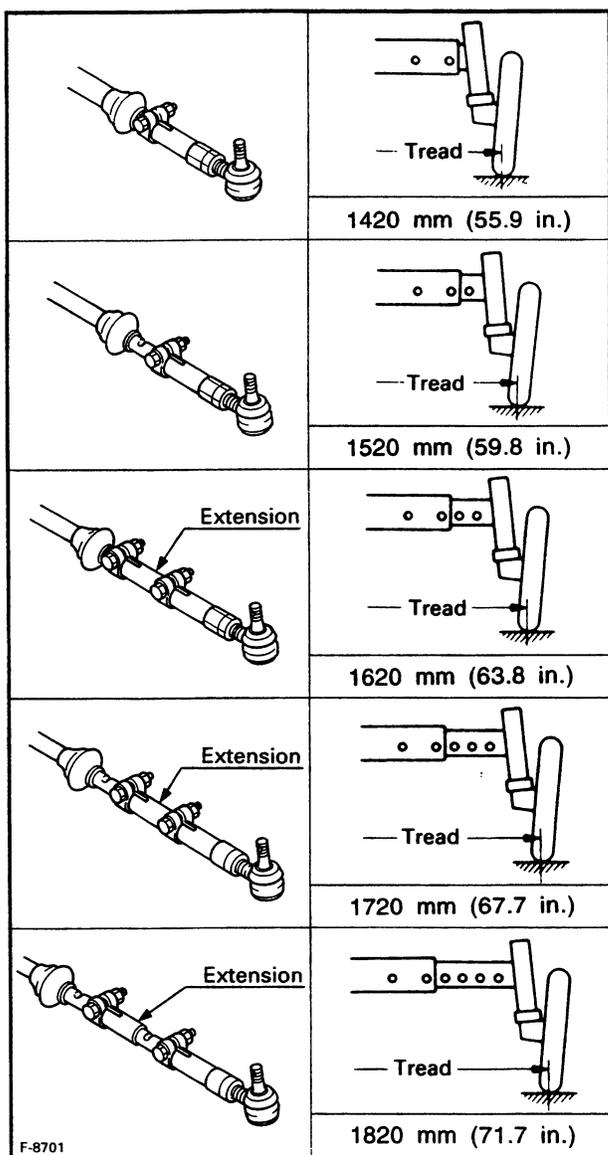
1. Remove the front axle mounting bolts and the tie-rod mounting bolts.
2. Move the front axles (right and left) to the desired position, and tighten the bolts.
3. Adjust the toe-in: [ 2 to 8mm (0.1 to 0.3in.)]



(1) Tie rod clamp

(2) Nut

(3) Bolt 124 to 147 N·m (12.6 to 15.0 kgf·m)  
(91.5 to 108.4 ft·lbs)



**IMPORTANT:**

- The front tread width for the front loader application on 2WD models should not be greater than 1520mm (59.8 in.).

**Front Wheels (with four wheel drive)**

Front tread width can be adjusted as shown with the standard equipped tires.

To change the tread width

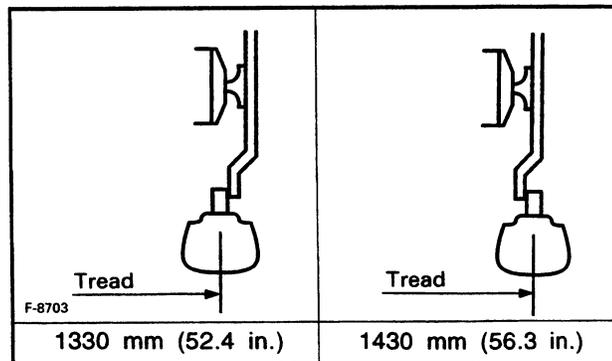
1. Remove the wheel rim and disk mounting bolts.
2. Change the position of the rim and disk (right and left) to the desired position, and tighten the bolts.
3. Adjust the Toe-in [2 to 8mm (0.1 to 0.3 in.)]  
See "TOE-IN" in Check and Maintenance section.

**IMPORTANT:**

- Always attach wheels as shown in the drawing.
- If not attached as illustrated, transmission parts may be damaged.
- When re-fitting or adjusting a wheel, tighten the bolts to the following torques then recheck after driving the tractor 200m (200 yards) and thereafter daily check service.

**NOTE:**

- Wheels with beveled or tapered holes: Use the tapered side of lug nut.



### ■ Rear Wheels

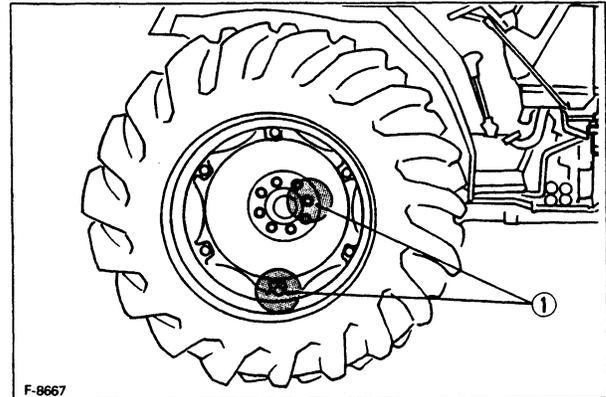
Rear tread width can be adjusted as shown with the standard equipped tires.

To change the tread width

1. Remove the wheel rim and / or disk mounting bolts.
2. Change the position of the rim and / or disk (right and left) to the desired position, and tighten the bolts.

#### IMPORTANT:

- Always attach tires as shown in the drawings.
- If not attached as illustrated, transmission parts may be damaged.
- When re-fitting or adjusting a wheel, tighten the bolts to the following torques then recheck after driving the tractor 200m (200yards) and thereafter daily check service.



(1) 260 to 304 N•m (26.5 to 31.0 kgf•m)  
(191.8 to 224.2 ft•lbs)

14.9-28	1320 mm (52.0 in.)	1420 mm (55.9 in.)	1520 mm (59.8 in.)	1620 mm (63.8 in.)	1720 mm (67.7 in.)
16.9-28	—	1420 mm (55.9 in.)	1520 mm (59.8 in.)	1620 mm (63.8 in.)	1720 mm (67.7 in.)

## BALLAST



### CAUTION

To avoid personal injury:

- Additional ballast will be needed for transporting heavy implements. When the implement is raised, drive slowly over rough ground, regardless of how much ballast is used.
- Do not fill the front wheel with liquid to maintain steering control.

### Rear Ballast

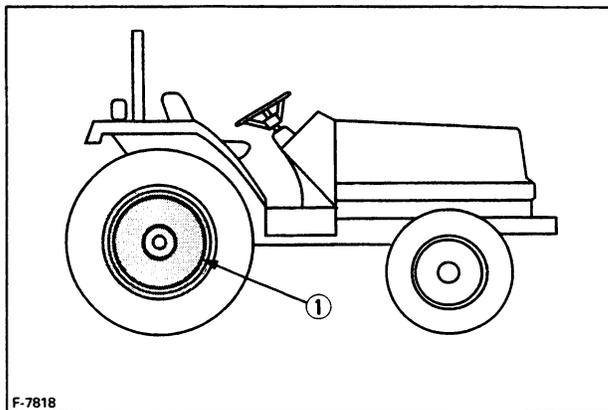
Add weight to rear wheels if needed to improve traction or for stability. The amount of rear ballast should be matched to job and the ballast should be removed when it is not needed.

The weight should be added to the tractor in the form of liquid ballast, rear wheel weights or a combination of both.

### Rear Wheel Weights (option)

The rear wheel weights can be attached to the rear wheel.

See your implement operator's manual for required number of weights or consult your local KUBOTA dealer to use.



F-7818

(1) Rear wheel weights

### IMPORTANT:

- Do not overload tires.
- Add no more weight than indicated in chart.

Maximum weight	72.6 kg × 2 Pieces (320 lbs.)
----------------	----------------------------------

### Liquid Ballast in Rear Tires

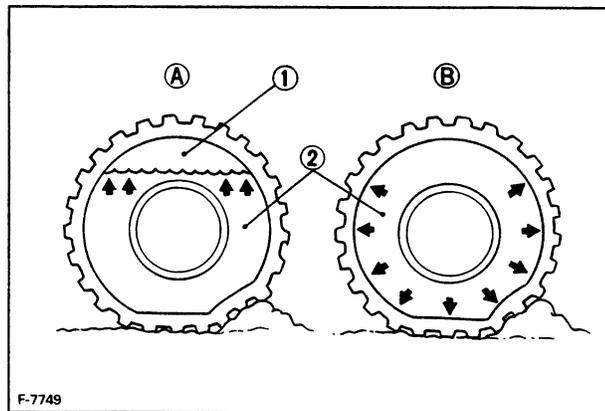
Water and calcium chloride solution provides safe economical ballast. Used properly, it will not damage tires, tubes or rims. The addition of calcium chloride is recommended to prevent the water from freezing. Use of this method of weighting the wheels has the full approval of the tire companies. See your tire dealer for this service.

Liquid weight per tire (75 Percent filled)

Tire sizes	14.9-28	16.9-28
Slush free at $-10^{\circ}\text{C}$ ( $14^{\circ}\text{F}$ ) Solid at $-30^{\circ}\text{C}$ ( $-22^{\circ}\text{F}$ ) [Approx. 1 kg (2 lbs.) $\text{CaCl}_2$ per 4 L (1 gal.) of water]	230 kg (507 lbs.)	295 kg (651 lbs.)
Slush free at $-24^{\circ}\text{C}$ ( $-11^{\circ}\text{F}$ ) Solid at $-47^{\circ}\text{C}$ ( $-53^{\circ}\text{F}$ ) [Approx. 1.5 kg (3.5 lbs.) $\text{CaCl}_2$ per 4 L (1 gal.) of water]	247 kg (545 lbs.)	317 kg (699 lbs.)
Slush free at $-47^{\circ}\text{C}$ ( $-53^{\circ}\text{F}$ ) Solid at $-52^{\circ}\text{C}$ ( $-62^{\circ}\text{F}$ ) [Approx. 2.25 kg (5 lbs.) $\text{CaCl}_2$ per 4 L (1 gal.) of water]	260 kg (574 lbs.)	339 kg (747 lbs.)

### IMPORTANT:

- Do not fill tires with water or solution more than 75% of full capacity (to the valve stem level).



F-7749

- (1) Air                      (A) Correct-75% Air compresses like a cushion  
(2) Water                  (B) Incorrect-100% Full Water can not be compressed

# MAINTENANCE

## SERVICE INTERVALS

No.	Items		Period	Indication on hour meter																Since then	Reference page		
				50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800				
1	Engine oil	Change	◎	○		○		○		○		○		○		○		○		○	every 100 Hr	49	
2	Engine oil filter	Replace	◎			○				○					○					○	every 200 Hr	53	
3	Hydraulic oil filter	Replace	◎			○				○					○					○	every 200 Hr	54	
4	Transmission fluid	Change	◎												○						every 600 Hr	56	
5	Front axle case oil	Change	◎												○						every 600 Hr	57	
6	Front axle pivot	Adjust	◎												○						every 600 Hr	57	
7	Greasing			○		○		○		○		○		○		○		○		○	every 100 Hr	49	
8	Engine start system	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 Hr	48	
9	Wheel bolt torque	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 Hr	48	
10	Battery condition	Check		○		○		○		○		○		○		○		○		○	every 100 Hr	50	
11	Air cleaner element [Double type]	Primary element	Clean		○		○		○		○		○		○		○		○		every 100 Hr*	51	
		Replace																				every 1 year	57
		Secondary element	Replace																				every 1 year
12	Fuel filter element	Clean		○		○		○		○		○		○		○		○		○	every 100 Hr	51	
		Replace																				every 400 Hr	56
13	Fan belt	Adjust		○		○		○		○		○		○		○		○		○	every 100 Hr	52	
14	Clutch	Adjust	◎	○		○		○		○		○		○		○		○		○	every 100 Hr	52	
15	Brake	Adjust		○		○		○		○		○		○		○		○		○	every 100 Hr	53	
16	Radiator hose and clamp	Check				○				○					○					○	every 200 Hr	54	
		Replace																				every 2 years	59
17	Power steering oil line	Check				○				○					○					○	every 200 Hr	55	
		Replace																				every 2 years	59
18	Fuel line	Check				○				○					○					○	every 200 Hr	55	
		Replace																				every 2 years	59
19	Toe-in	adjust				○				○					○					○	every 200 Hr	55	
20	Greasing (2WD front wheel hub)									○										○	every 400 Hr	56	
21	Engine valve clearance	Adjust																		○	every 800 Hr**	57	
22	Cooling system	Flush																			every 2 years	58	
23	Coolant	Change																			every 2 years	58	
24	Fuel system	Bleed																				59	
25	Clutch housing water	Drain																			Service as required	59	
26	Fuse	Replace																				60	
27	Light bulb	Replace																				60	

### IMPORTANT

- The jobs indicated by ◎ must be done by all means 50 hours after the break-in respectively.
- \* Air cleaner should be cleaned more often in dusty conditions than in normal conditions.
- \*\* Consult your local KUBOTA dealer for this service.

## LUBRICANTS

No.	Locations	Capacities		Lubricants						
		M4700	M5400							
1	Fuel	65 L (17.2 U.S.gals.)		No.2-D diesel fuel No.1-D diesel fuel if temperature is below -10°C (14°F)						
2	Coolant	6.2 L (6.6 U.S.qts.)	8.0 L (8.5 U.S.qts.)	Fresh clean water with anti-freeze						
3	Engine crankcase	8 L (8.5 U.S.qts.)		<ul style="list-style-type: none"> <li>Engine oil: API Service Classification CC or CD</li> </ul> <table border="1"> <tr> <td>Above 25°C (77°F)</td> <td>SAE30, SAE10W-30 or 10W-40</td> </tr> <tr> <td>0 to 25°C (32 to 77°F)</td> <td>SAE20, SAE10W-30 or 10W-40</td> </tr> <tr> <td>Below 0°C (32°F)</td> <td>SAE10W, SAE10W-30 or 10W-40</td> </tr> </table>	Above 25°C (77°F)	SAE30, SAE10W-30 or 10W-40	0 to 25°C (32 to 77°F)	SAE20, SAE10W-30 or 10W-40	Below 0°C (32°F)	SAE10W, SAE10W-30 or 10W-40
Above 25°C (77°F)	SAE30, SAE10W-30 or 10W-40									
0 to 25°C (32 to 77°F)	SAE20, SAE10W-30 or 10W-40									
Below 0°C (32°F)	SAE10W, SAE10W-30 or 10W-40									
4	Transmission case	40 L (42.3 U.S.qts.)		<ul style="list-style-type: none"> <li>KUBOTA SUPER UDT fluid*</li> </ul>						
5	Front axle case [4WD]	8.0 L (8.5 U.S.qts.)		<ul style="list-style-type: none"> <li>KUBOTA SUPER UDT Oil or SAE 80-SAE 90 gear oil</li> </ul>						
6	Greasing	No. of greasing points		Capacity	Type of grease					
	Front wheel hub [2WD]	2		Until grease overflows.	Multipurpose type grease					
	Knuckle shaft [2WD]	2								
	Front wheel case support [4WD]	2								
	Front axle support [4WD]	2								
	Top link	2								
	Top link bracket	2								
	Lift rod	1								
	Battery terminal	2		moderate amount						

**NOTE:** \* KUBOTA SUPER UDT...KUBOTA Original Transmission hydraulic fluid

**NOTE:**

- Engine Oil:**  
Oil used in the engine should have an American Petroleum Institute (API) service classification and Proper SAE Engine Oil according to the ambient temperatures as shown above:
- Transmission oil:**  
The oil used to lubricate the transmission is also used as hydraulic fluid. To insure proper operation of the hydraulic system and complete lubrication of the transmission, it is important that a multi-grade transmission fluid be used in this system. We recommend the use of **KUBOTA SUPER UDT** fluid for optimum protection and performance. (Consult your local KUBOTA dealer for further detail.)  
Do not mix different brands together.
- Indicated capacity of water and oil are manufacture's estimate.

# PERIODIC SERVICE

## HOW TO OPEN THE HOOD



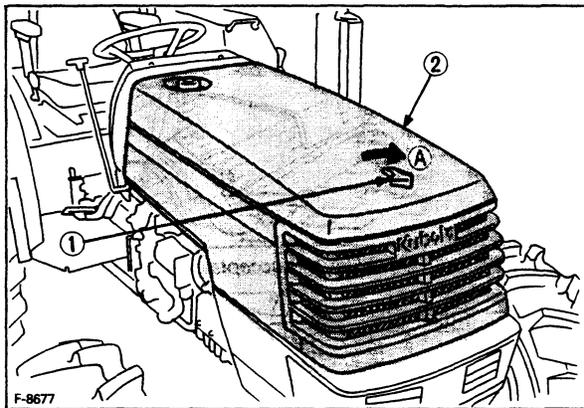
**CAUTION**

To avoid personal injury from contact with moving parts;

- Never open the hood while the engine is running.
- Do not touch muffler or exhaust pipes while they are hot; Severe burns could result.
- Support hood with other hand while unlocking support link.

### ■ Hood

To open the hood, twist the mascot to release the latch and open the hood.

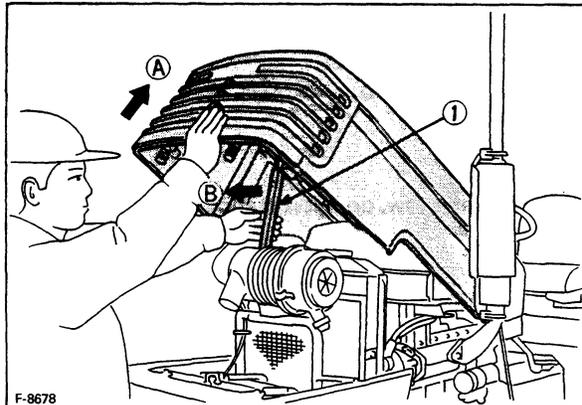


(1) Mascot  
(2) Hood

(A) "OPEN"

**NOTE:**

- To close the hood, hold the hood and release the support link.



(1) Support link

(A) "HOLD"  
(B) "PULL"

## DAILY CHECK

For your own safety and maximum service life of the machine, make a thorough daily inspection before operating the machine to start the engine.



**CAUTION**

To avoid personal injury:

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

### ■ Walk Around Inspection

Look around and under the tractor for such items as loose bolts, trash build-up, oil or coolant leaks, broken or worn parts.

### ■ Checking and Refueling

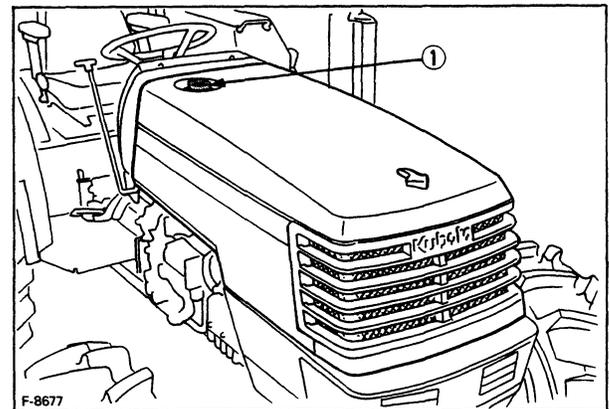


**CAUTION**

To avoid personal injury:

- Do not smoke while refueling.
- Be sure to stop the engine before refueling.

1. Check the amount of fuel by fuel gauge.
2. Fill fuel tank when fuel gauge shows 1/4 or less fuel in tank.
3. Use grade No.2-Diesel fuel at temperatures above -10°C (14°F).  
Use grade No.1-Diesel fuel at temperatures below -10°C (14°F).



(1) Fuel tank cap

Fuel tank capacity	65 L (17.2 U.S.gals.)
--------------------	-----------------------

**IMPORTANT:**

- Do not permit dirt or trash to get into the fuel system.
- Be careful not to let the fuel tank become empty, or air can enter the fuel system, necessitating bleeding before next engine start.
- Be careful not to spill during refueling. If should spill, wipe it off at once, or it may cause a fire.

**NOTE:**

No.2-D is a distillate fuel of lower volatility for engines in industrial and heavy mobile service.

(SAE J313 JUN87)

Grade of Diesel Fuel Oil According to ASTM D975

Flash Point, °C (°F)	Water and Sediment, volume %	Carbon Residue on, 10 percent Residuuum, %	Ash, weight %
Min	Max	Max	Max
52 (125)	0.05	0.35	0.01

Distillation Temperatures, °C (°F) 90% Point		Viscosity Kinematic cSt or mm <sup>2</sup> /s at 40°C		Viscosity Saybolt, SUS at 100°F		Sulfur, weight %	Copper Strip Corrosion	Cetane Number
Min	Max	Min	Max	Min	Max	Max	Max	Min
282 (540)	338 (640)	1.9	4.1	32.6	40.1	0.50	No.3	40

**■ Checking Engine Oil Level**



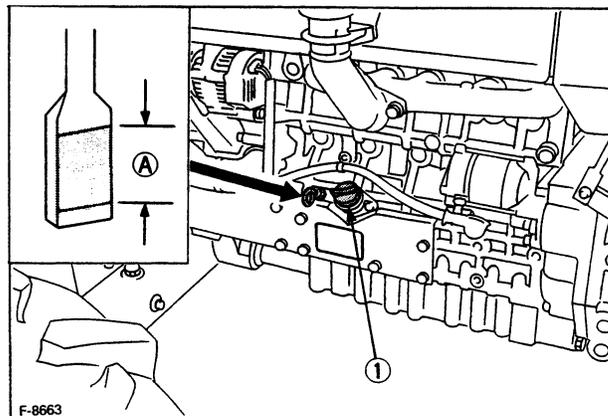
**CAUTION**

To avoid personal injury:

- Be sure to stop the engine before checking the oil level.

1. Park the machine on a flat surface.
2. Check engine oil before starting the engine or 5 minutes or more after the engine has stopped.
3. 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 lies between the two notches. If the level is too low, add new oil to the prescribed level at the oil inlet.

(See "LUBRICANTS" in Maintenance Section)



(1) Oil inlet (A) Oil level is acceptable within this range.

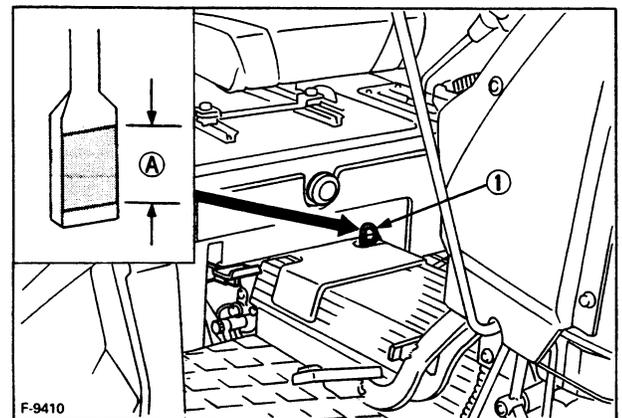
**IMPORTANT:**

- When using an oil of different maker or viscosity from the previous one, remove all of the old oil. Never mix two different types of oil.
- If oil level is low, do not run engine.

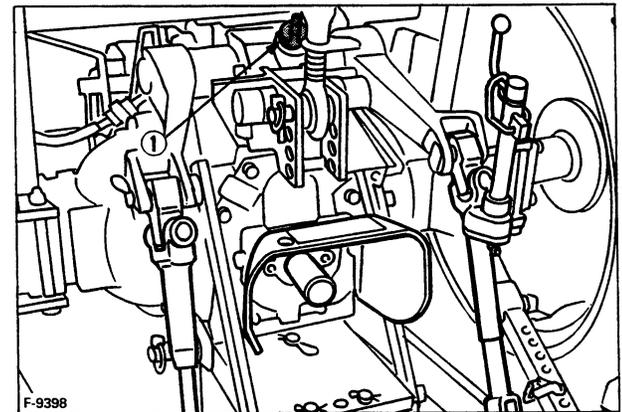
**■ Checking Transmission Fluid Level**

1. Park the machine on a flat surface, lower the implement and shut off engine.
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 lies between the two notches. If the level is too low, add new oil to the prescribed level at the oil inlet.

(See "LUBRICANTS" in Maintenance Section)



(1) Gauge (A) Oil level is acceptable within this range.



(1) Oil filling plug

**IMPORTANT:**

- If oil level is low, do not run engine.

## ■ Checking Coolant Level

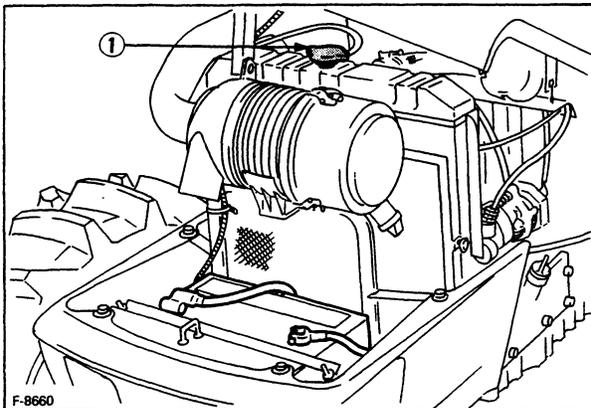


### CAUTION

To avoid personal injury:

- Do not remove the radiator cap when the engine is hot. Then loosen cap slightly to the stop to relieve any excess pressure before removing cap completely.

1. Remove the radiator cap and check to see that the coolant level is just below the port.
2. When the coolant level drops due to evaporation, add water only. In case of leakage, add antifreeze and water in the specified mixing ratio. (See "Flush Cooling System and Changing Coolant" in every 2 years maintenance.)



(1) Radiator cap

### IMPORTANT:

- Use clean, fresh water and anti-freeze to fill the radiator.
- Securely tighten radiator cap. If the cap is loose or improperly closed, water may leak out and the engine could overheat.
- If water should be leak, consult your local KUBOTA dealer.

## ■ Cleaning Grill and Radiator Screen

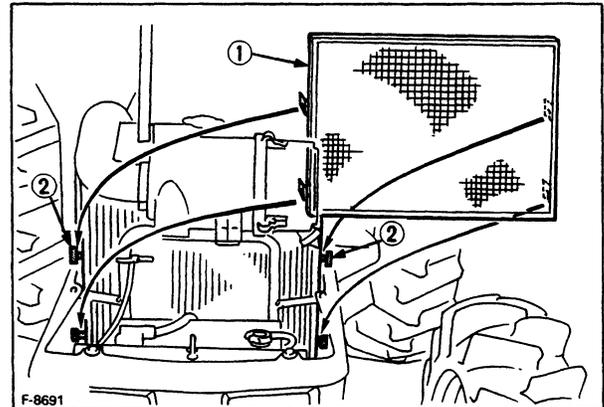


### CAUTION

To avoid personal injury:

- Be sure to stop the engine before removing the screen.

1. Check front grill to be sure it is clean from debris.
2. Detach the screen and remove all the foreign material.



(1) Radiator screen

(2) Bolt

### IMPORTANT:

- Grill and screen must be clean from debris to prevent engine from overheating and to allow good air intake for air cleaner.

## ■ Checking Brake Pedals and Clutch Pedal

1. Inspect the brake and clutch pedals for free travel, and smooth operation.
2. Adjust if incorrect measurement is found: (See "Adjusting Clutch and Brake Pedal" in every 100 hours maintenance.)

### NOTE:

- Brake pedals should be equal when depressed.

## ■ Checking Gauges, Meter and Easy Checker™

1. Inspect the instrument panel for broken gauge(s), meter(s) and Easy Checker™ lamps.
2. Replace if broken.

## ■ Checking Head Light, Hazard Light etc.

1. Inspect the lights for broken bulbs and lenses.
2. Replace if broken.

## ■ Checking Seat Belt and ROPS

1. Always check condition of seat belt and ROPS attaching hardware before operating tractor.
2. Replace if damaged.

## EVERY 50 HOURS

### ■ Checking Engine Start System



**CAUTION**

To avoid personal injury:

- Do not allow anyone near the tractor while testing.
- If the tractor does not pass the test do not operate the tractor.

◆ **Preparation before testing.**

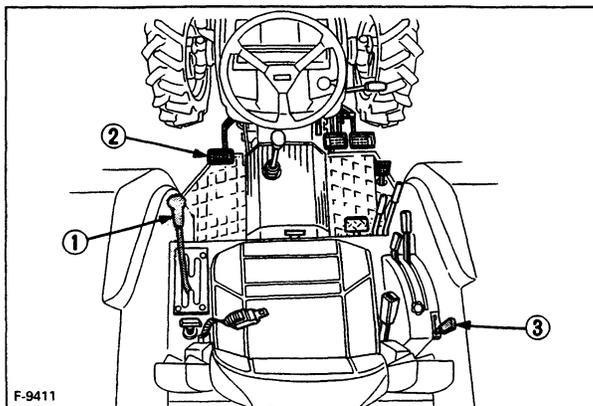
1. Place all control levers in the "NEUTRAL" position.
2. Set the parking brake and stop the engine.

◆ **Test 1 : Switch for the range gear shift lever.**

1. Sit on operator's seat.
2. Shift the range gear shift lever to the desired position.
3. Depress the clutch pedal fully.
4. Disengage the PTO clutch control lever.
5. Pull out the engine stop knob and turn the key to "START" position.
6. The engine must not crank.
7. If it cranks, consult your local KUBOTA dealer for this service.

◆ **Test 2 : Switch for the PTO clutch control lever.**

1. Sit on operator's seat.
2. Engage the PTO clutch control lever.
3. Depress the clutch pedal fully.
4. Shift the range gear shift lever to the neutral position.
5. Pull out the engine stop knob and turn the key to "START" position.
6. The engine must not crank.
7. If it cranks, consult your local KUBOTA dealer for this service.



- (1) Range gear shift lever  
 (2) Clutch pedal  
 (3) PTO clutch control lever

### ■ Checking Wheel Bolt Torque



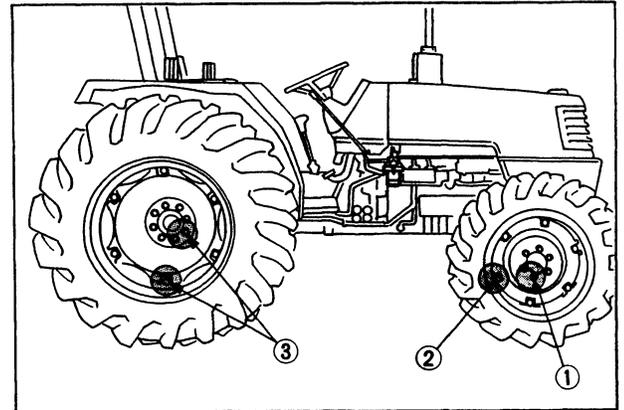
**CAUTION**

To avoid personal injury:

Never operate tractor with a loose rim, wheel, or axle.

- Any time bolts and nuts are loosened, retighten to specified torque.
- Check all bolts and nuts frequently and keep them tight.

Check wheel bolts and nuts regularly especially when new. If there are loosened, tighten as follows.



- (1) 259 to 304 N·m (26.4 to 31.0 kgf·m)  
 (191.0 to 224.2 ft·lbs)  
 (2) 168 to 196 N·m (17.1 to 20.0 kgf·m)  
 (123.9 to 144.6 ft·lbs)  
 (3) 260 to 304 N·m (26.5 to 31.0 kgf·m)  
 (191.8 to 224.2 ft·lbs)

## EVERY 100 HOURS

### ■ Changing Engine Oil



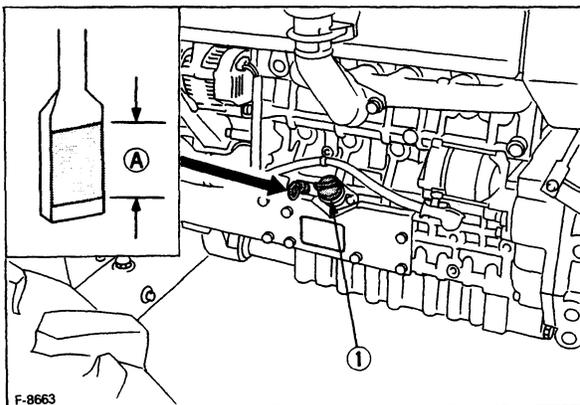
**CAUTION**

To avoid personal injury:

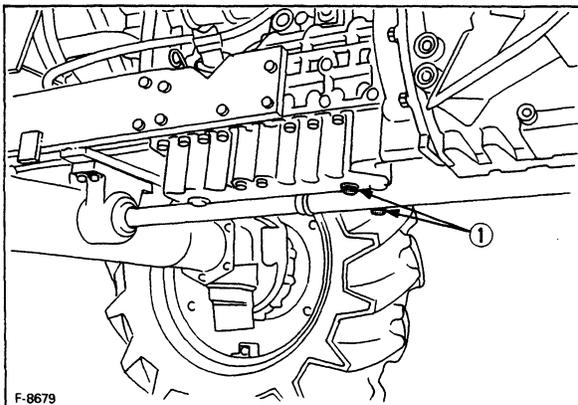
- Be sure to stop the engine before changing the oil.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. To drain the used oil, remove the drain plug at the bottom of the engine and drain the oil completely into the oil pan.  
All the used oil can be drained out easily when the engine is still warm.
2. After draining reinstall the drain plug.
3. Fill with the new oil up to the upper notch on the dipstick.  
(See "LUBRICANTS" in Maintenance Section)

Oil capacity with filter	8.0 L (8.5 U.S.qts.)
--------------------------	----------------------



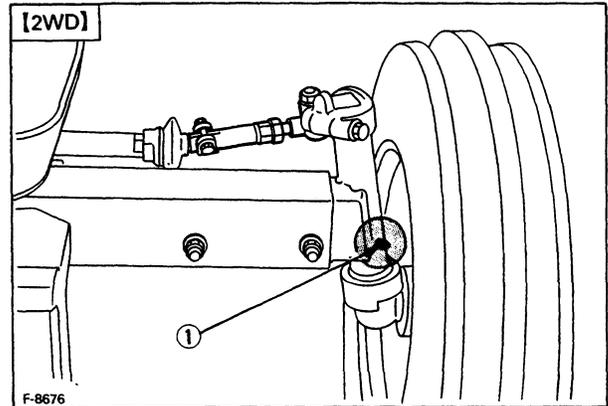
(1) Oil inlet (A) Oil level is acceptable within this range



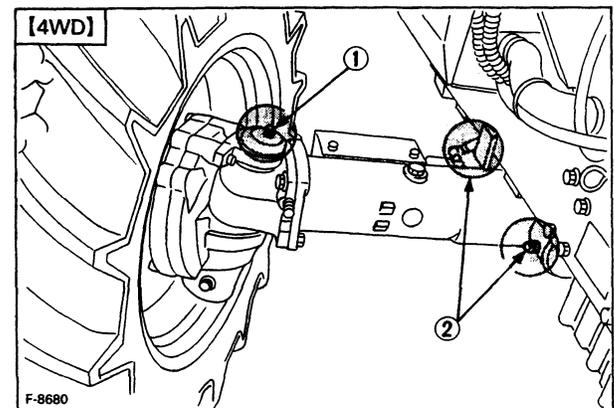
(1) Drain plug

### ■ Lubricating Grease Fittings

Apply a small amount of multipurpose grease to the following points every 100 hours:  
If you operated the machine in extremely wet and muddy conditions, lubricate grease fittings more often.

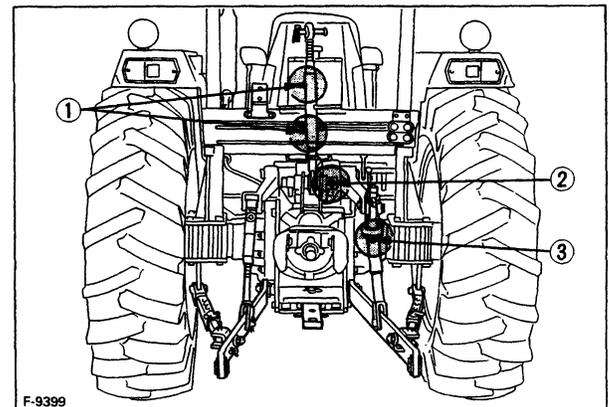


(1) Grease fitting (Knuckle shaft) [RH, LH]



(1) Grease fitting (Front wheel case support) [RH, LH]

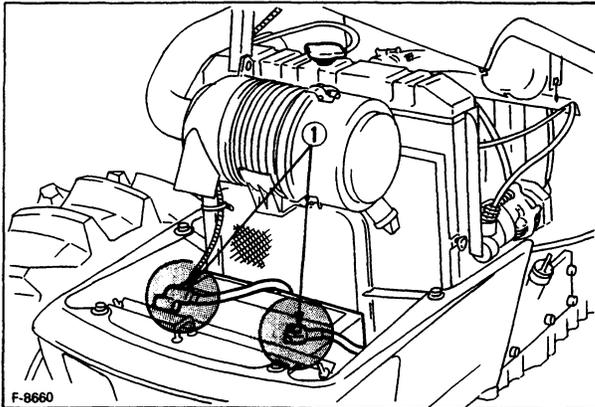
(2) Grease fitting (Front axle support)



(1) Grease fitting (Top link)

(2) Grease fitting (Top link bracket)

(3) Grease fitting (Lifting rod) [RH]



(1) Battery terminals

### ■ Checking Battery Condition

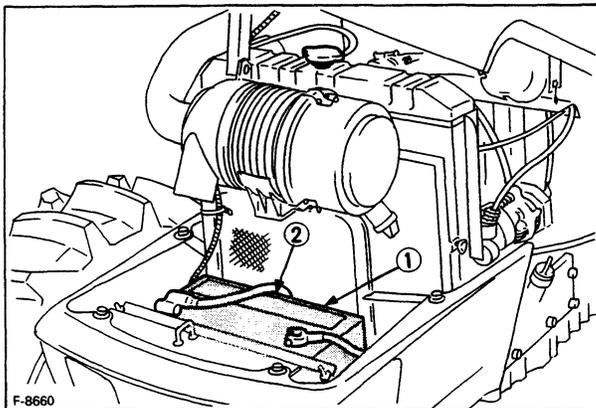


**CAUTION**

To avoid personal injury:

- Never remove 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 immediately.
- Keep open sparks and flames away from the battery at all times. Hydrogen gas mixed with oxygen becomes very explosive.
- Wear eye protection and rubber gloves when working around battery.

1. The original battery is maintenance free type battery.  
When the performance becomes low, consult with your local KUBOTA dealer.
2. Clean the battery surface with a clean cloth.  
Keep the terminals clean and coated with petroleum jelly.



(1) Battery  
(2) Gas vent

### ■ Directions for Storage



**CAUTION**

To avoid personal injury:

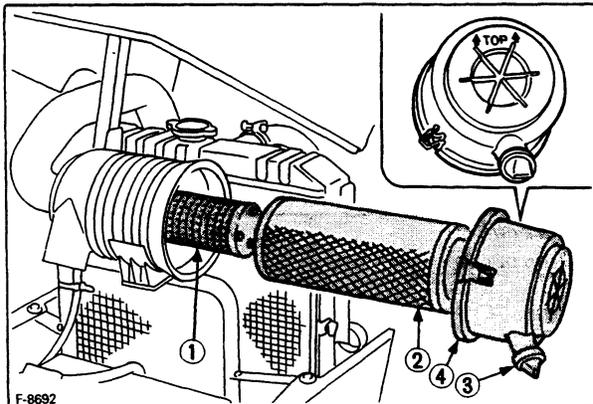
- When connecting the battery, do not reverse the polarities.  
Connection with reverse polarities will cause spark and troubles to the battery and electrical system in the tractor.
- When disconnecting the cable from the battery, start with the negative terminal first.
- When connecting the cable to the battery, start with the positive terminal first.
- Reversing the steps may cause shortcircuiting, should a metallic tool touch the terminals.
- When storing the tractor for long periods of time, remove the battery from the tractor and store in a cool, dry place.

**■ Cleaning Air Cleaner Primary Element**

1. Remove the air cleaner cover and primary element.
2. Clean the primary element if:
  - 1) When dry dust adheres to the element, blow compressed air from the inside turning the element. Pressure of compressed air must be under 686kPa (7kgf/cm<sup>2</sup>, 99 psi).
  - 2) When carbon or oil adheres to the element, soak the element in detergent for 15 minutes then wash it several times in water, rinse with clean water and dry it naturally. After element is fully dried, inspect inside of the element with a light and check if it is damaged or not.
3. Replace air cleaner primary element:  
Once yearly or after every sixth cleaning, whichever comes first.

**NOTE:**

- Check to see if the evacuator valve is blocked with dust.



- F-8692
- (1) Secondary (safety) element
  - (2) Primary element
  - (3) Evacuator Valve
  - (4) Cover

**IMPORTANT:**

- The air cleaner uses a dry element, never apply oil.
- Do not run the engine with filter element removed.
- Be sure to refit the dust cup with the arrow ↑ (on the rear of cup) upright. If the dust cup is improperly fitted, evacuator valve will not function and dust will adhere to the element.
- Do not touch the secondary element except in cases where replacing is required.  
(See "Replacing Air Cleaner Secondary Element" in Every 1 Year maintenance.)

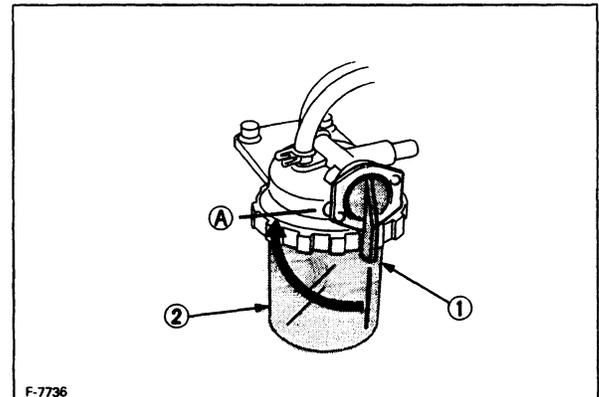
**◆ Evacuator Valve**

Open the evacuator valve once a week under ordinary conditions - or daily when used in a dusty place - to get rid of large particles of dust and dirt.

**■ Cleaning Fuel Filter**

This job should not be done in the field, but in a clean place.

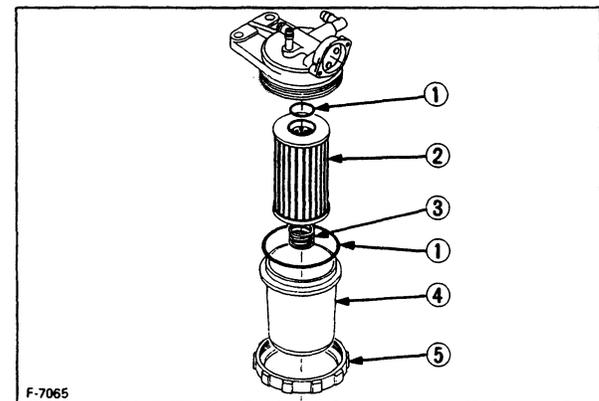
1. Close the fuel filter cock.
2. Unscrew the screw ring and remove the filter bowl, and rinse the inside with kerosene.
3. Take out the element and dip it in the kerosene to rinse.
4. After cleaning, reassemble the fuel filter, keeping out dust and dirt.
5. Bleed the fuel system.  
(See "Bleeding Fuel System" in as required maintenance)



F-7736

- (1) Fuel cock
- (2) Fuel filter bowl

(A) "CLOSE"



F-7065

- (1) O ring
- (2) Filter element
- (3) Spring
- (4) Filter bowl
- (5) Screw ring

**IMPORTANT:**

- If dust and dirt enters the fuel system, the fuel pump and injection nozzles are subject to premature wear. To prevent this, be sure to clean the fuel filter bowl periodically.

### ■ Adjusting Fan Belt Tension



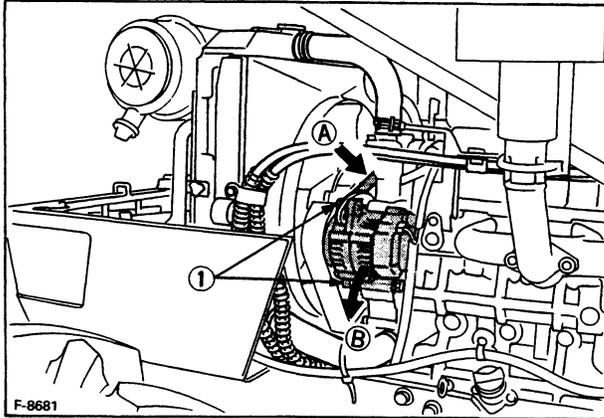
**CAUTION**

To avoid personal injury:

- Be sure to stop the engine before checking belt tension.

Proper fan belt tension	A deflection of between 7 to 9 mm (0.28 to 0.34 in.) the belt is pressed in the middle of the span.
-------------------------	---

1. Stop the engine and remove the key.
2. Apply moderate thumb pressure to belt between pulleys.
3. If tension is incorrect, loosen the alternator mounting bolts and, using a lever placed between the alternator and the engine block, pull the alternator out until the deflection of the belt falls within acceptable limits.
4. Replace fan belt if it is damaged.



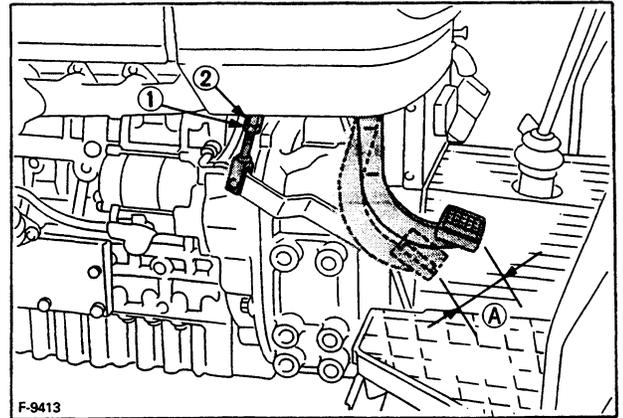
(1) Bolt (A) Check the belt tension (B) To tighten

### ■ Adjusting Clutch Pedal

Proper clutch pedal free travel	35 to 45 mm (1.4 to 1.8 in.) on the pedal
---------------------------------	---

◆ Adjusting procedure

1. Stop the engine and remove the key.
2. Slightly depress the clutch pedal and measure free travel at top of pedal stroke.
3. If adjustment is needed, loosen the lock nut and turn the turnbuckle to adjust the rod length within acceptable limits.
4. Retighten the lock nut.



(1) Lock nut (2) Turn buckle (A) Free travel

## ■ Adjusting Brake Pedal



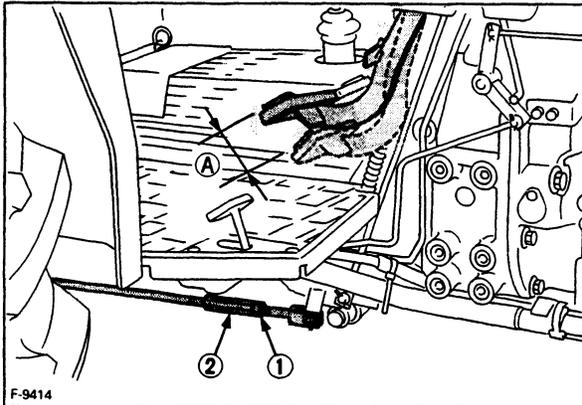
### CAUTION

To avoid personal injury:

- Stop the engine and chock the wheels before checking brake pedal.

Proper brake pedal free travel	35 to 45 mm (1.4 to 1.8 in.) in the pedal.
	Keep the free travel in the right and left brake pedals equal.

1. Release the parking brake.
2. Slightly depress the brake pedals and measure free travel at top of pedal stroke.
3. If adjustment is needed, loosen the lock nut and turn the turnbuckle to adjust the rod length within acceptable limits.
4. Retighten the lock nut.



F-9414

(1) Lock nut  
(2) Turnbuckle

(A) Free travel

## EVERY 200 HOURS

### ■ Replacing Engine Oil Filter

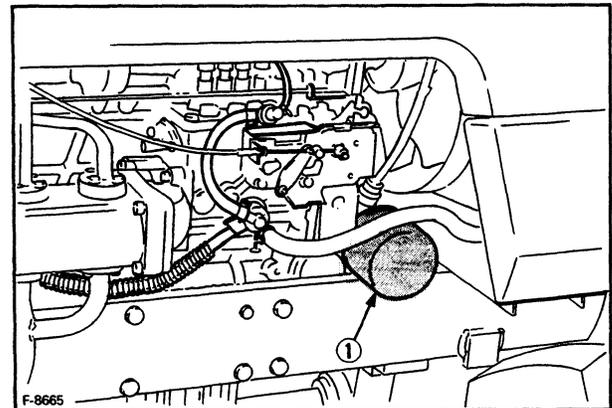


### CAUTION

To avoid personal injury:

- Be sure to stop the engine before changing the oil filter cartridge.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. Remove the oil filter.
2. Put a film of clean engine oil on rubber seal of new filter
3. Tighten the filter quickly until it contacts the mounting surface.  
Tighten filter by hand an additional 1/2 turn only.
4. After the new filter has been replaced, the engine oil normally decreases a little. Make sure that the engine oil does not leak through the seal and be sure to check the oil level on the dipstick. Then, replenish the engine oil up to the prescribed level.



F-8665

(1) Engine oil filter

### IMPORTANT:

- To prevent serious damage to the engine, use only a genuine KUBOTA filter.

## ■ Replacing Hydraulic Oil Filter

### ◆ Cleaning Magnetic Filter

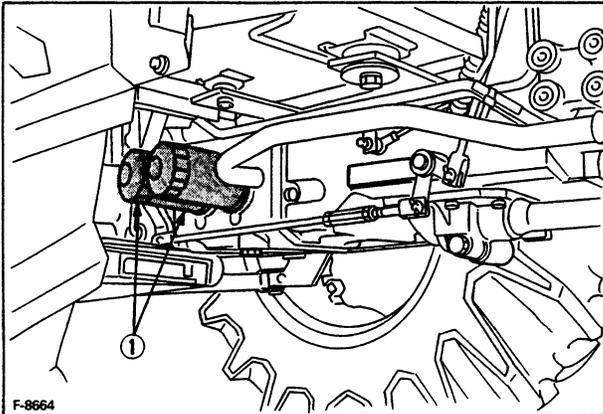


#### CAUTION

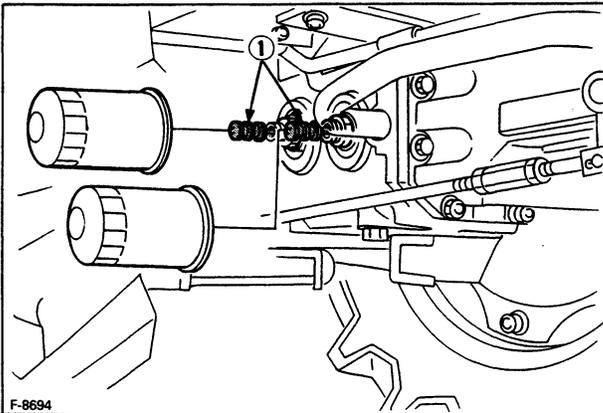
To avoid personal injury:

- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. Remove the two oil filters.
2. Clean off metal filings with clean rags at the magnetic filters.
3. Put a film of clean transmission oil on rubber seal of new filters.
4. Tighten the filter quickly until it contacts the mounting surface.  
Tighten filter by hand an additional 1/2 turn only.
5. After the new filter has been replaced, the transmission fluid level will decrease a little. Make sure that the transmission fluid does not leak through the seal, and check the fluid level.  
Top up if necessary.



(1) Hydraulic Oil filter



(1) Magnetic filter  
(Clean off metal filings)

#### IMPORTANT:

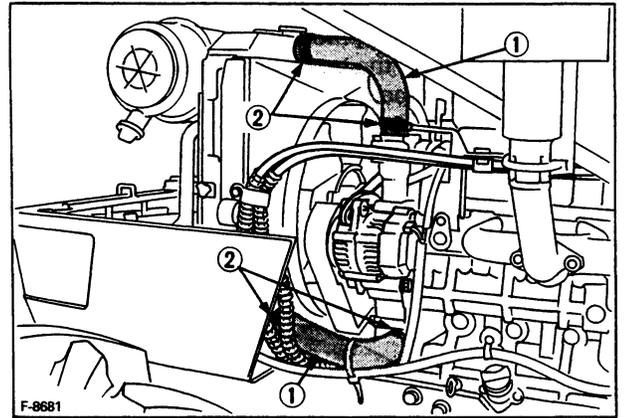
- To prevent serious damage to the hydraulic system, use only a KUBOTA genuine filter.

## ■ Checking Radiator Hose and Clamp

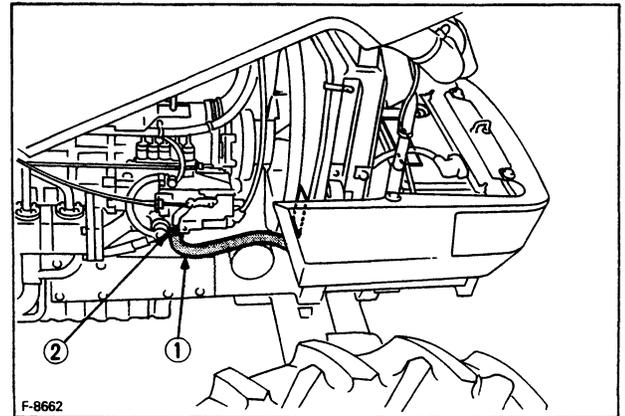
Check to see if radiator hoses are properly fixed every 200 hours of operation or six months, whichever comes first.

1. If hose clamps are loose or water leaks, tighten bands securely.
2. Replace hoses and tighten hose clamps securely, if radiator hoses are swollen, hardened or cracked.

Replace hoses and hose clamps every 2 years or earlier if checked and found that hoses are swollen, hardened or cracked.



F-8681



F-8662

(1) Radiator hoses  
(2) Clamp bands

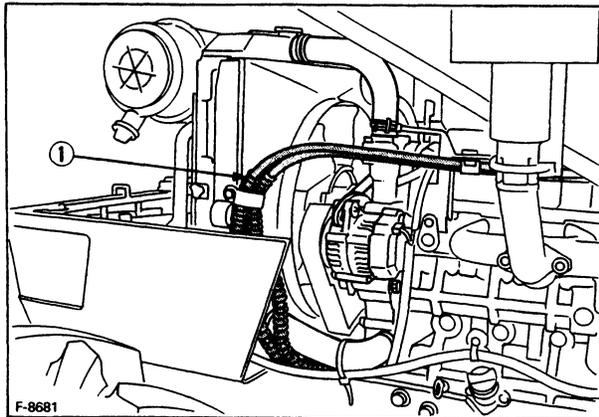
### ◆ Precaution at Overheating

Take the following actions in the event the coolant temperature be nearly or more than the boiling point, what is called "Overheating"

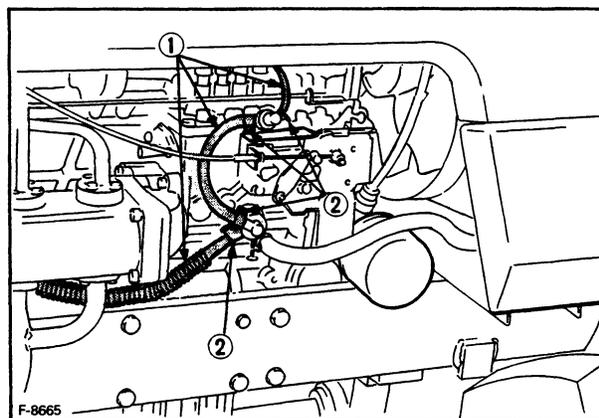
1. Stop the machine operation in a safe place and keep the engine unloaded idling.
2. Don't stop the engine suddenly, but stop it after about 5 minutes of unloaded idling.
3. Keep yourself well away from the machine for further 10 minutes or while the steam blown out.
4. Checking that there gets no danger such as burn, get rid of the causes of overheating according to the manual, see "Troubleshooting" section, And then, start again the engine.

**■ Checking Power Steering Line**  
**■ Checking Fuel Line**

1. Check to see that all lines and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.



(1) Power steering pressure hoses



(1) Fuel lines  
 (2) Clamp bands

**NOTE:**

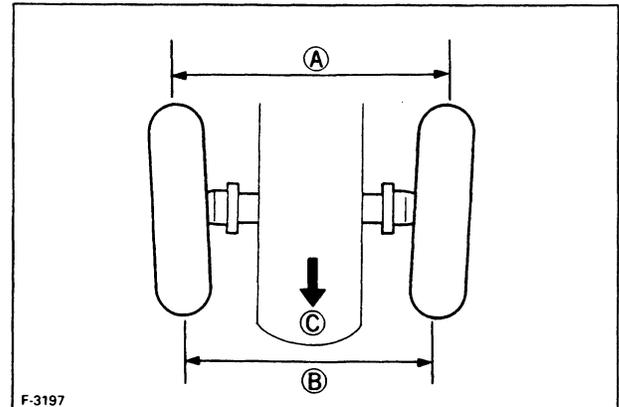
- If the fuel line is removed, be sure to properly bleed the fuel system.  
 (See "Bleeding Fuel System" in as required maintenance)

**■ Adjusting Toe-in**

	Proper toe-in
4WD	2 to 8 mm
2WD	1 to 5 mm

1. Park tractor on a flat place.
2. Turn steering wheel so front wheels are in the straight ahead position.
3. Lower the implement, lock the park brake and stop the engine.
4. Measure distance between tire beads at front of tire, hub height.
5. Measure distance between tire beads at rear of tire, hub height.

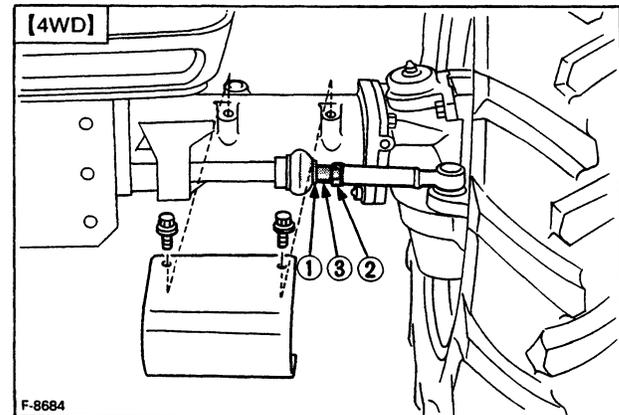
6. Front distance should be shorter than rear distance. If not, adjust tie rod length.



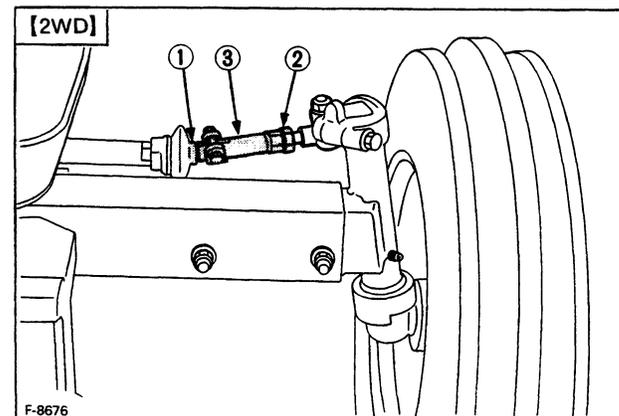
(A) Wheel - to - wheel distance at rear  
 (B) Wheel - to - wheel distance at front  
 (C) "FRONT"

**◆ Adjusting procedures**

1. Detach the snap ring.
2. Loosen the tie-rod nut.
3. Turn the tie-rod joint to adjust the rod length until the proper toe-in measurement is obtained.
4. Retighten the tie-rod nut.
5. Attach the snap ring of the tie-rod joint.



F-8684



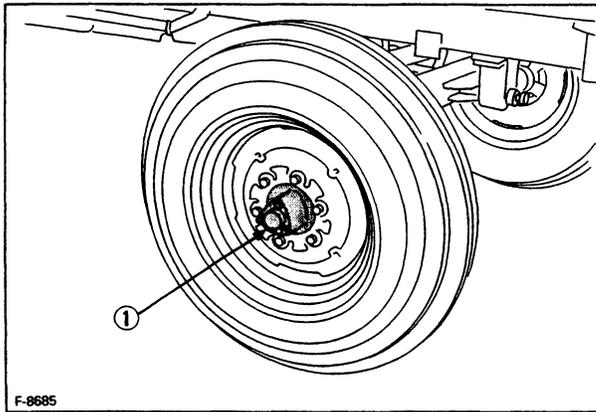
F-8676

(1) Detach the snap ring (2) Tie-rod nut (3) Tie-rod joint

## EVERY 400 HOURS

### ■ Lubricate Grease Fitting (2WD)

Detach the cover, and apply bearing grease.



(1) Front wheel hub cover

### ■ Replacing Fuel Filter Element

(See "Cleaning fuel filter" in every 100 hours maintenance.)

## EVERY 600 HOURS

### ■ Changing Transmission Fluid



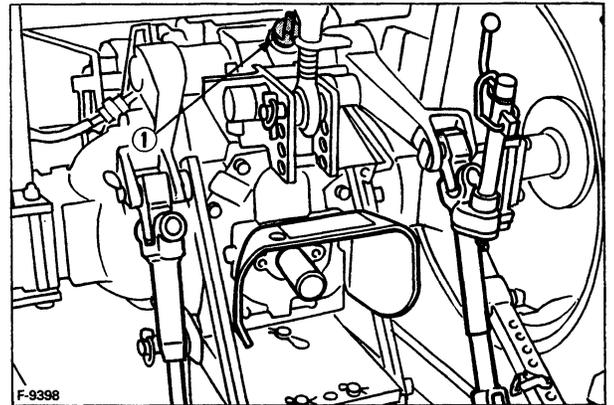
#### CAUTION

To avoid personal injury:

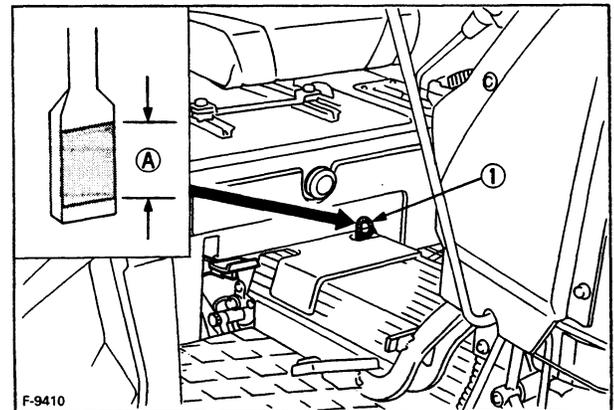
- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. To drain the used oil, remove the drain plug at the bottom of the transmission case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plug.
3. Fill with the new KUBOTA SUPER UDT fluid up to the upper notch on the dipstick.  
(See "LUBRICANTS" in Maintenance Section)
4. After running the engine for a few minutes, stop it and check the oil level again; add oil to prescribed level.

Oil capacity	40 L (42.3 U.S.qts.)
--------------	----------------------

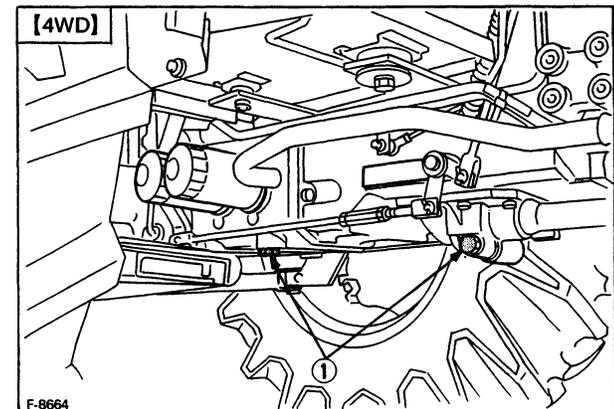


(1) Oil inlet

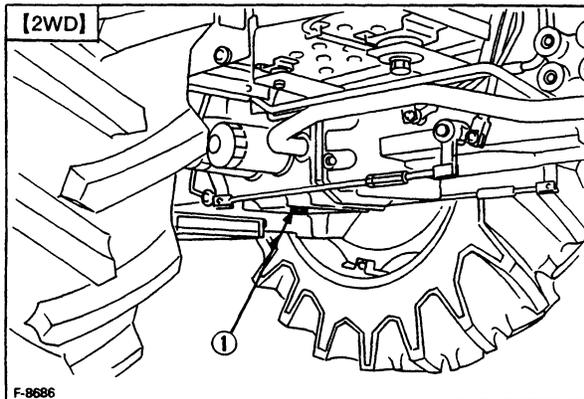


(1) Gauge

(A) Oil level is acceptable within this range.



(1) Drain plugs



(1) Drain plug

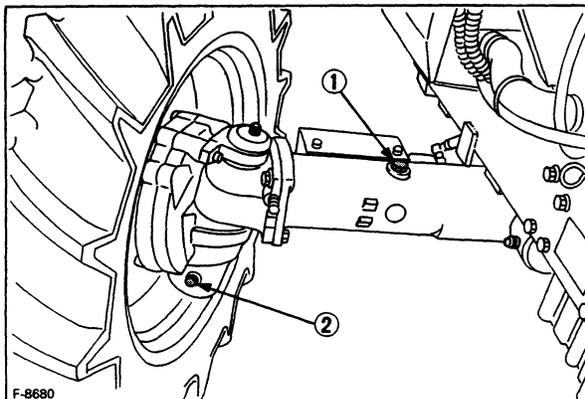
**IMPORTANT:**

- Do not operate the tractor immediately after changing the transmission fluid. Run the engine at medium speed for a few minutes to prevent damage to the transmission.

**Changing Front Axle Case Oil**

1. To drain the used oil, remove the right and left drain plugs and filling plug at the front axle case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plugs.
3. Fill with the new oil.  
(See "LUBRICANTS" in Maintenance Section)
4. After filling reinstall the filling plug.

Oil capacity	8.0 L (8.5 U.S.qts.)
--------------	----------------------



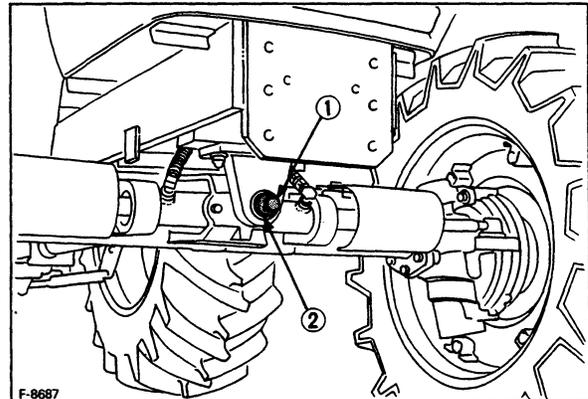
(1) Filling plug  
(2) Drain plug

**Adjusting Front Axle Pivot**

If the front axle pivot pin adjustment is not correct, front wheel vibration can occur causing vibration in the steering wheel.

**Adjusting procedure**

Loosen the lock nut, tighten the adjusting screw all the way, and then loosen the screw by 1/6 turn. Retighten the lock nut.



(1) Adjusting screw  
(2) Lock nut

**EVERY 800 HOURS**

**Adjusting Engine Valve Clearance**

Consult your local KUBOTA dealer for this service.

**EVERY 1 YEAR**

**Replacing Air Cleaner Primary Element and Secondary Element**

(See "Cleaning Air Cleaner Primary Element" in every 100 hours maintenance.)

## EVERY 2 YEARS

### ■ Flush Cooling System and Changing Coolant



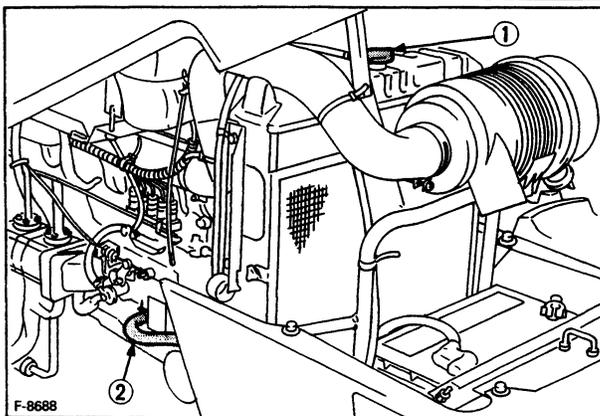
#### CAUTION

To avoid personal injury:

- Do not remove the radiator cap when the engine is hot. Then loosen cap slightly to the stop to relieve any excess pressure before removing cap completely.

1. Stop the engine and let cool down.
2. To drain the coolant, remove the radiator hose and radiator cap. The radiator cap must be removed to completely drain the coolant.
3. After all coolant is drained, install the hose securely.
4. Fill with clean water and cooling system cleaner.
5. Follow directions of the cleaner instruction.
6. After flushing, fill with clean water and anti-freeze until the coolant level is just below the port.
7. Start and operate the engine for few minutes.
8. Stop the engine. Check coolant level and add coolant if necessary.
9. Install the radiator cap securely.

Tractor model	Coolant capacity
M4700	6.2 L (6.6 U.S.qts.)
M5400	8.0 L (8.5 U.S.qts.)



(1) Radiator cap

(2) Radiator hose

#### IMPORTANT:

- Do not start engine without coolant.
- Use clean, fresh water and anti-freeze to fill the radiator.
- When the anti-freeze is mixed with water, the anti-freeze mixing ratio must be less than 50%.
- Securely tighten radiator cap. If the cap is loose or improperly fitted, water may leak out and the engine could overheat.

### ■ Anti-Freeze

If it freezes, cooling water can damage the cylinders and radiator. It is necessary, if the ambient temperature falls below 0°C (32°F), to remove cooling water after operating or to add anti-freeze to it.

1. There are two types of anti-freeze available; use the permanent type (PT) for this engine.
2. Before adding anti-freeze for the first time, clean the radiator interior by pouring fresh water and draining it a few times.
3. The procedure for mixing of water and anti-freeze differs according to the make of the anti-freeze and the ambient temperature, basically it should be referred to SAE J1034 standard, more specifically also to SAE J814c.
4. Mix the anti-freeze with water, and then fill in to the radiator.

Vol % Anti-freeze	Freezing Point		Boiling Point*	
	°F	°C	°F	°C
40	-12	-24	222	106
50	-34	-37	226	108

\* At 760mmHg pressure (atmospheric). A higher boiling point is obtained by using a radiator pressure cap which permits the development of pressure within the cooling system.

#### NOTE:

- The above data represents industry standards that necessitate a minimum glycol content in the concentrated anti-freeze.
- When the cooling water level drops due to evaporation, add water only. In case of leakage, add anti-freeze and water in the specified mixing ratio.
- Anti-freeze absorbs moisture. Keep unused anti-freeze in a tightly sealed container.
- Do not use radiator cleaning agents when anti-freeze has been added to the cooling water. (Anti-freeze contains an anti-corrosive agent, which will react with the radiator cleaning agent forming sludge which will affect the engine parts.)

**■ Replacing Radiator Hose (Water pipes)**

Replace the hoses and clamps.  
 (See "Checking Radiator Hose and Clamp" in every 200 hours maintenance.)

**■ Replacing Power Steering Hose**

Replace the hoses and clamps, if necessary.  
 (See "Checking Power Steering line" in every 200 hours maintenance.)

**■ Replacing Fuel Hose**

Replace the hoses and clamps, if necessary.  
 (See "Checking Fuel line" in every 100 hours maintenance.)

**SERVICE AS REQUIRED**

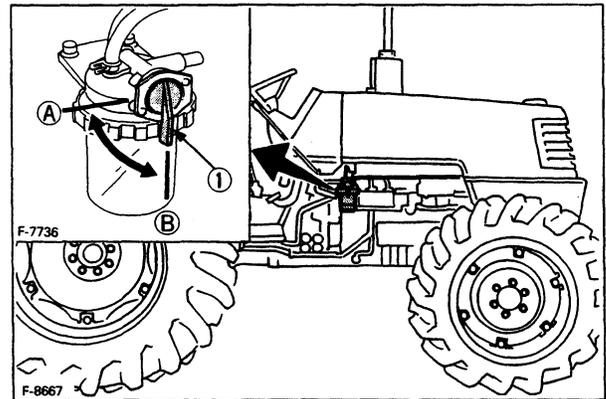
**■ Bleeding Fuel system**

Air must be removed:

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

Bleeding procedure is as follows:

1. Fill the fuel tank with fuel, and open the fuel cock.



(1) Fuel cock

(A) "CLOSE"

(B) "OPEN"

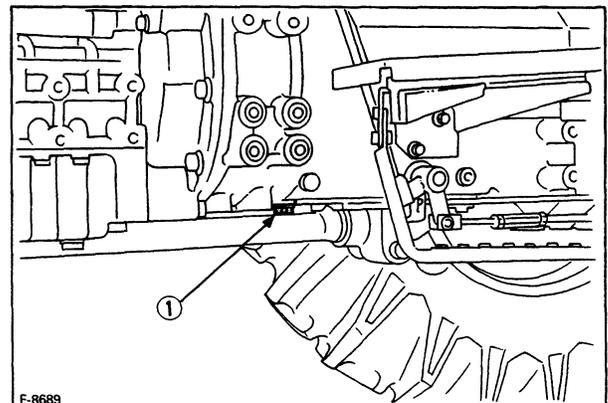
2. Start the engine and run for about 30 seconds, and then stop the engine.

**■ Draining Clutch Housing Water**

The tractor is equipped with drain plug under the clutch housing.

After operating in rain, snow or tractor has been washed, water may get into the clutch housing.

Remove the drain plug and drain the water, then install the plug again.



(1) Water drain plug

### ■ Replacing Fuse

The tractor electrical system is protected from potential damage by fuses.

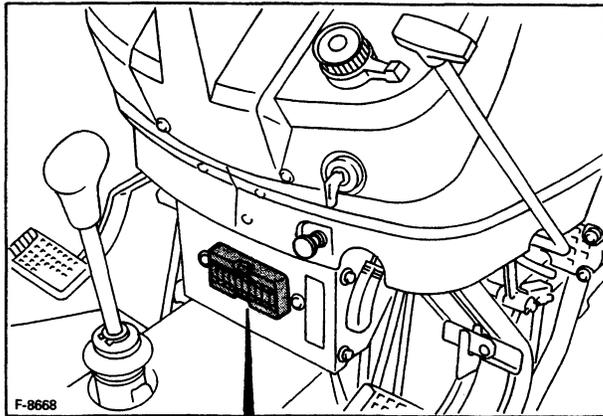
A blown fuse indicates that there is an overload or short somewhere in the electrical system.

If any of the fuses should blow, replace with a new one of the same capacity,

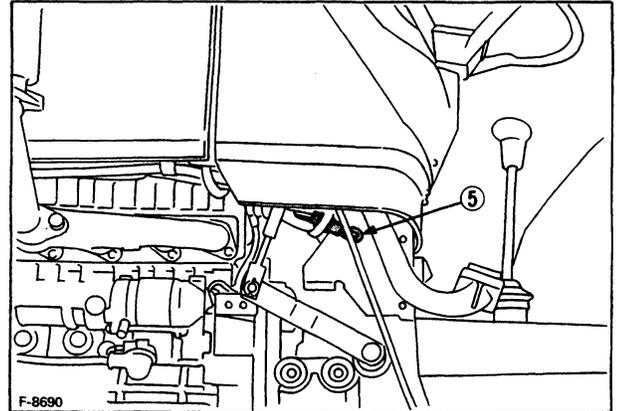
#### IMPORTANT:

- Before replacing a blown fuse, determine why the fuse blew and make any necessary repairs. Failure to follow this procedure may result in serious damage to the tractor electrical system. Refer to the troubleshooting section of this manual or your local KUBOTA dealer for specific information dealing with electrical problems.

If any of them should blow, replace with a new one of the same capacity.



①	②	③	④						
15A	15A	10A	10A						
MAIN KEY	COMBINATION SW	PARKING FLASHER (HAZARD)	WORK LIGHT						
USE SPECIFIED FUSES ONLY.									380



#### ◆ Protected circuit

FUSE No.	CAPACITY (A)	Protected circuit
①	15	Main key
②	15	Combination SW
③	10	Parking · Flasher (Hazard)
④	10	Work Light
⑤	Fusible link	Check circuit against wrong battery connection

### ■ Replacing Light Bulb

1. Head lights.  
Take the bulb out of the light body and replace with a new one.
2. Other lights  
Detach the lens and replace the bulb.

Light	Capacity
Headlights	45W
Tail light	8W
Hazard light	27W
Instrument panel light	3.4W

# STORAGE



## CAUTION

To avoid personal injury:

- Do not clean the machine with engine running.
- To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.
- When storing, remove the key from the key switch to avoid unauthorized persons from operating the tractor and getting injured.

## TRACTOR STORAGE

If you intend to store your tractor for an extended period of time, follow the procedures outlined below. These procedures will insure that the tractor is ready to operate with minimum preparation when it is removed from storage,

1. Check the bolts and nuts for looseness, and tighten if necessary.
2. Apply grease to tractor areas where bare metal will rust also to pivot areas.
3. Detach the weights from the tractor body.
4. Inflate the tires to a pressure a little higher than usual.
5. Change the engine oil and run the engine to circulate oil throughout the engine block and internal moving parts for about five minutes.
6. Pull the engine stop knob all the way out.
7. Keep the PTO clutch control lever at "DISENGAGE" position while tractor is stored for a long period of time.
8. With all implements lowered to the ground, coat any exposed hydraulic cylinder piston rods with grease.
9. Remove the battery from the tractor. Store the battery following the battery storage procedures. (See "Battery condition" in every 100 hours in periodic service section.)
10. Keep the tractor in a dry place where the tractor is sheltered from rain. Cover the tractor.
11. Store the tractor indoors in a dry area that is protected from sunlight and excessive heat. If the tractor must be stored outdoors, cover it with a waterproof tarpaulin.

Jack the tractor up and place blocks under the front and rear axles so that all four tires are off the ground. Keep the tires out of direct sunlight and extreme heat.

## IMPORTANT:

- When washing the tractor, be sure to stop the engine. Allow sufficient time for the engine to cool before washing.
- Cover the tractor after the muffler and the engine have cooled down.

## REMOVING THE TRACTOR FROM STORAGE

1. Check the tire air pressure and inflate the tires if they are low.
2. Jack the tractor up and remove the support blocks from under the front and rear axles.
3. Install the battery.
4. Check the fan belt tension.
5. Check all fluid levels (engine oil, transmission/hydraulic oil, engine coolant and any attached implements).
6. Start the engine. Observe all gauges. If all gauges are functioning properly and reading normal, move the tractor outside. Once outside, park the tractor and let the engine idle for at least five minutes. Shut the engine off and walk around tractor and make a visual inspection looking for evidence of oil or water leaks.
7. With the engine fully warmed up, release the parking brake and test the brakes for proper adjustment as you move forward. Adjust the brakes as necessary.

# TROUBLESHOOTING

## 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 or won't 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. Replace filter if necessary.</li> </ul>
		<ul style="list-style-type: none"> <li>Air or water is in the fuel system.</li> </ul>	<ul style="list-style-type: none"> <li>Check to see if the fuel line coupler bolt and nut are tight.</li> <li>Bleed the fuel system (See "Bleeding Fuel system" in as required maintenance)</li> </ul>
		<ul style="list-style-type: none"> <li>In winter, oil viscosity increases, and engine revolution is slow.</li> </ul>	<ul style="list-style-type: none"> <li>Use oils of different viscosities, depending on ambient temperatures.</li> <li>Use engine block heater. (Option)</li> </ul>
		<ul style="list-style-type: none"> <li>Battery becomes weak and the engine does not turn over quick enough.</li> </ul>	<ul style="list-style-type: none"> <li>Clean battery cables and terminals.</li> <li>Charge the battery.</li> <li>In cold weather, always remove the battery from the engine, charge and store it indoors. Install it on the tractor only when the tractor is going to be used.</li> </ul>
Insufficient engine power.		<ul style="list-style-type: none"> <li>Insufficient of dirty 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 if necessary.</li> </ul>
Exhaust fumes are colored.	Black	<ul style="list-style-type: none"> <li>Fuel quality is poor.</li> <li>Too much oil.</li> </ul>	<ul style="list-style-type: none"> <li>Change the fuel and fuel filter.</li> <li>Check the proper amount of oil.</li> </ul>
	Blue white	<ul style="list-style-type: none"> <li>The inside of exhaust muffler is dumped with fuel.</li> <li>Injection nozzle trouble.</li> <li>Poor quality fuel.</li> </ul>	<ul style="list-style-type: none"> <li>Heat the muffler by applying load to the engine.</li> <li>Check the injection nozzle.</li> <li>Change the fuel and fuel filter.</li> </ul>
Engine overheats.		<ul style="list-style-type: none"> <li>Engine overloaded.</li> </ul>	<ul style="list-style-type: none"> <li>Shift to lower gear or reduce load.</li> </ul>
		<ul style="list-style-type: none"> <li>Low coolant level.</li> </ul>	<ul style="list-style-type: none"> <li>Fill cooling system to the correct level; check radiator and hoses for loose connections or leaks.</li> </ul>
		<ul style="list-style-type: none"> <li>Loose or defective fan belt.</li> </ul>	<ul style="list-style-type: none"> <li>Adjust or replace fan belt.</li> </ul>
		<ul style="list-style-type: none"> <li>Dirty radiator core or grille screens.</li> </ul>	<ul style="list-style-type: none"> <li>Remove all trash.</li> </ul>
		<ul style="list-style-type: none"> <li>Coolant flow route corroded.</li> </ul>	<ul style="list-style-type: none"> <li>Flush cooling system.</li> </ul>

If you have any questions, contact your local KUBOTA dealer.

# OPTIONS

Consult your local KUBOTA dealer for further detail.

- Under Muffler  
For low profile.
- SMV (Slow Moving Vehicle) Emblem:  
To identify slow moving vehicle.
- Work Light  
High visibility for night work.
- Double Acting Remote Hydraulic Control Valve
- Clevis Type Swinging Drawbar
- Rear Wheel Weights.  
For rear ballast.
- Trailer electrical outlet  
For operating remote lighting
- Front bumper
- Front end weights  
For front ballast





---

# Kubota®

## KUBOTA TRACTOR CORPORATION

**CORPORATE OFFICE: 3401 DEL AMO BOULEVARD, TORRANCE, CA 90503**  
WESTERN DIVISION: 6665 Hardaway Road, Stockton, CA 95215 • (209) 931-5051  
CENTRAL DIVISION: 14855 F.A.A. Blvd., Fort Worth, TX 76155 • (817) 571-0900  
NORTHERN DIVISION: 2626 Port Road, Columbus, OH 43217 • (614) 492-1100  
SOUTHEAST DIVISION: 1025 North Brook Parkway, Suwanee, GA 30174 • (770) 995-8855



PRINTED IN U.S.A.

June 2002

Code No. 3A011-99713

