OPERATOR'S MANUAL

KUBOTA TRACTOR

MODELS B6100HST
B7100HST

F-2673

READ AND SAVE THIS BOOK

Kubota

ABBREVIATION LIST

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

FOREWORD

You are now the proud owner of a KUBOTA 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 The immediate use of new techniques in the manufacture of products may cause some small parts of this manual to be outdated.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.

SAFE OPERATION

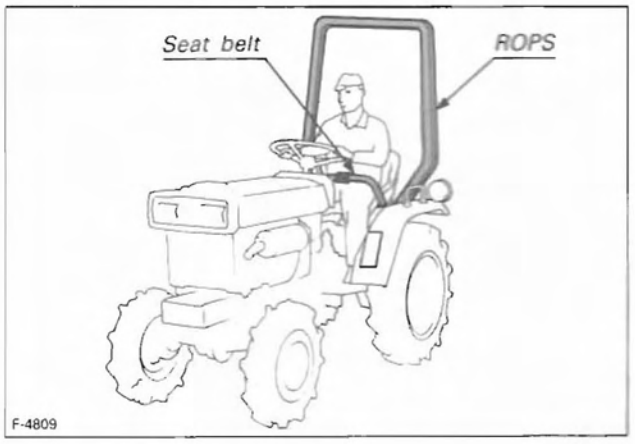
Careful operation is your best insurance against an accident. Read this section carefully before operating the tractor. All operators, no matter how much experience they may have had,should read this and other related manuals before operating tractor or any implement attached to it. It is the owner's legal 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 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.



(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 daily 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.....hard hat, safety boots or shoes, eye and hearing protection, gloves, etc.....as appropriate or required.

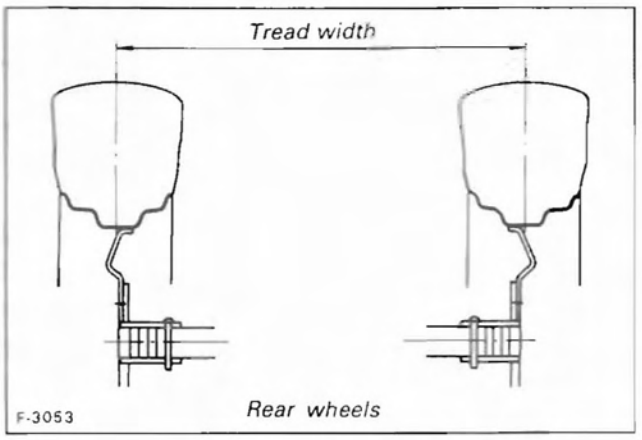
(9) Do not allow passengers or non-qualified operators on the tractor at any time. The operator must remain in the tractor seat throughout operation.

(10) Check brakes, clutch, and other mechanical parts for faulty adjustment and wear. Replace worn or damaged parts promptly. Check the tightness of all nuts and bolts regularly. (For further details, see MAINTENANCE AND ADJUSTMENTS.)

(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. Use proper weights to front or rear of tractor to reduce the risk of upsets. Follow the safe operating procedures specified in the manuals included with the equipment.

(13) The narrower the tread, the greater the risk of a tractor upset. For maximum stability, adjust the wheels to the largest practical tread width. (See page 24).



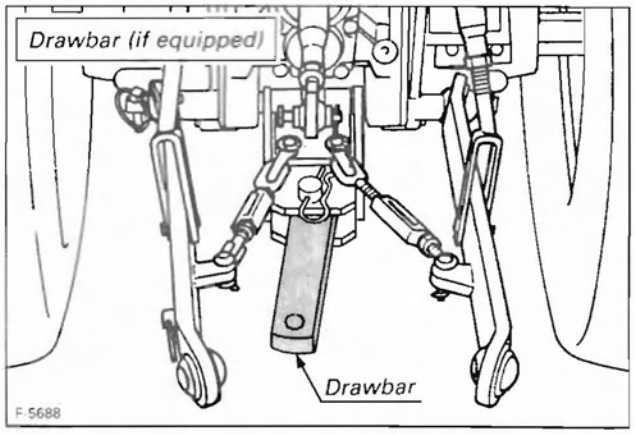
2. OPERATING THE TRACTOR

(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. (fixed or swinging type)



(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 mire or up a steep slope risks a tractor upset backward. Always back out of these situations. Extra caution is required with fourwheel 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.

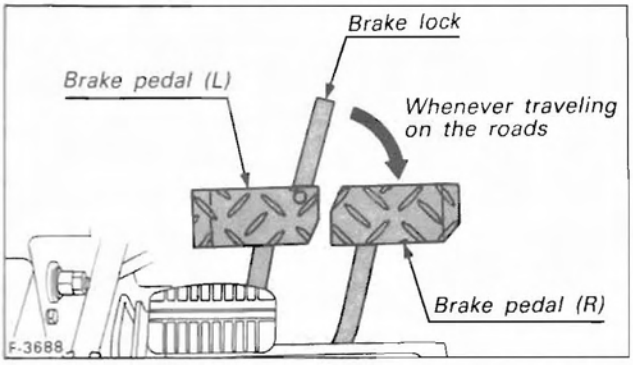
(13) When working in groups, always let the others know what you are going to do before you do it.

(14) Never "freewheel". Disengaging the clutch or shifting into neutral while descending a slope could lead to a ioss of control.

(15) Never try to get on or off a moving tractor.

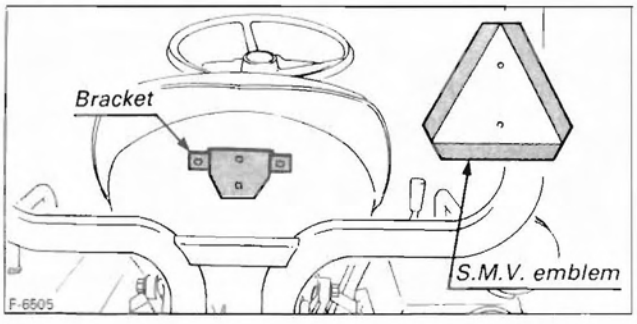
3. DRIVING THE TRACTOR ON THE ROAD

(1) Lock the two brake pedals together to help assure straightline stops. Uneven braking at road speeds could cause the tractor to roll over.



(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) emblem is clean and visible. Use hazard lights as required.



(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 it in the raised position.

(10) When towing other equipment, use a safety chain and place an SMV emblem on it as well.

4. STOPPING THE TRACTOR

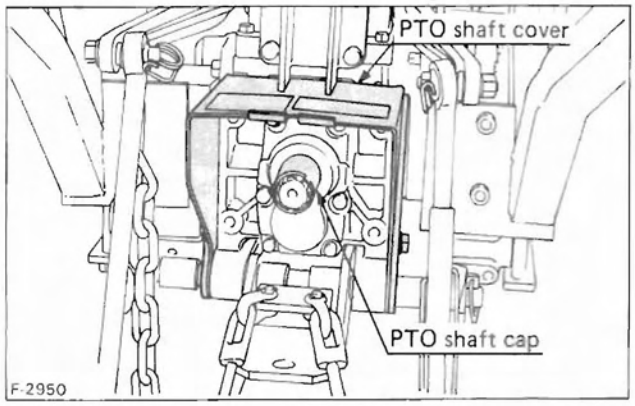
(1) Disengage the PTO, lower all implements, place all control levers in their neutral positions, apply parking brake, turn off the engine, and remove the key.

(2) Make sure that the tractor has come to a complete stop before dismounting.

5. OPERATING THE PTO

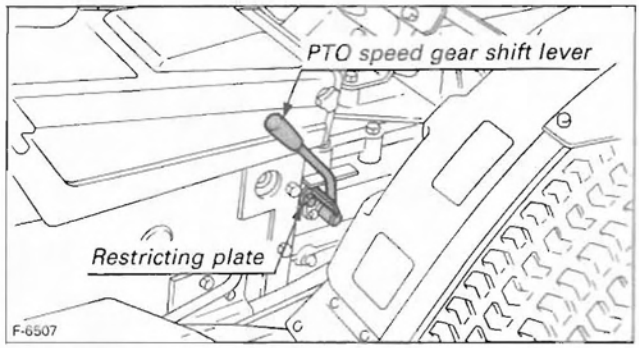
(1) Wait until all moving components have completely stopped before getting off the tractor, connecting, disconnecting, adjusting, cleaning, or servicing any PTO driven equipment.

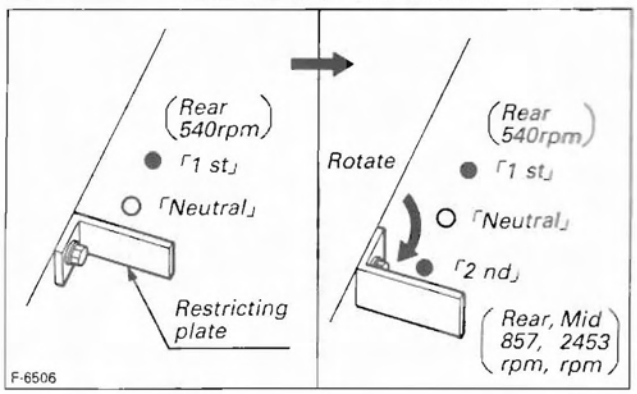
(2) Keep the PTO shaft cover in place at all times. Replace the PTO shaft cap when the shaft is not in use.



(3) Before installing or using PTO driven equipment, read the manufacturer's manual and review the safety labels attached to the equipment.

(4) To prevent PTO driven equipment from racing out of control, stick to the lower (Rear:540rpm) speed unless the higher (Rear:857rpm, Mid:2453rpm) one is specifically recommended as safe by the equipment manufacturer.





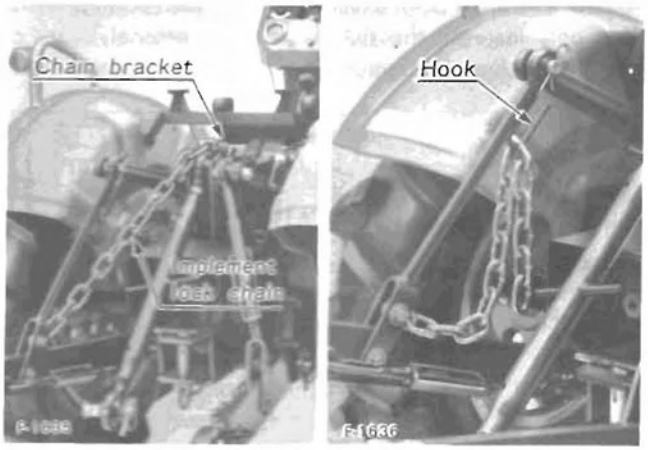
(5) When operating stationary PTO driven equipment, always apply the tractor parking brake and place chocks behind and in front of the rear wheels. Stay clear of all rotating parts.

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 counterballast weight on the front of the tractor.

(3) When transporting on the road,be sure to hook one end of the implement lock chain bracket to hold the implement in the raised position.



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 explosion hazard because it gives off hydrogen and oxygen....especially when recharging.

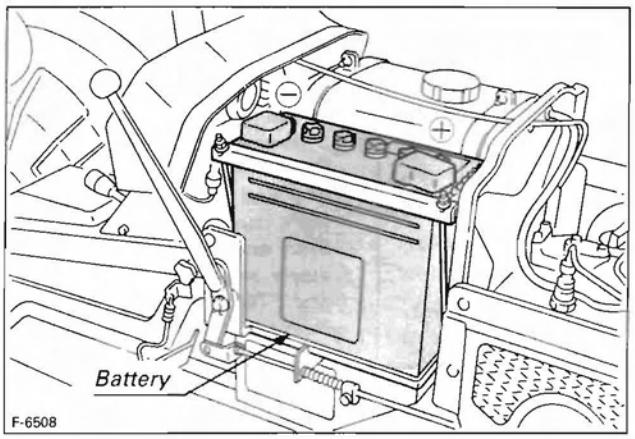
(4) Before "jumping" a dead battery, read and follow all of the instructions.

(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 ⊖ first and connect it last.

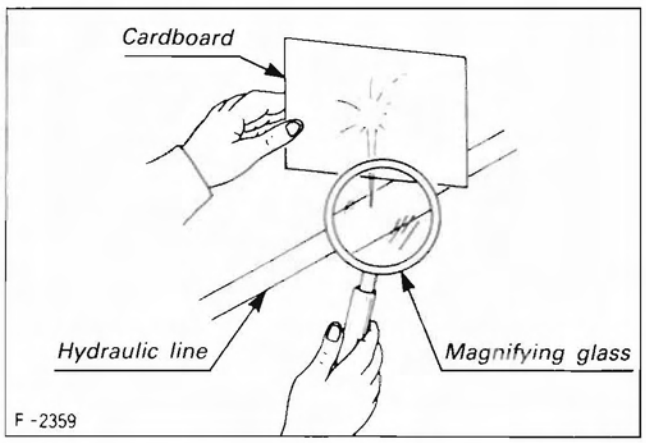


(9) Do not attempt to mount a tire on a rim unless qualified to do so and all proper safety precautions are followed.

(10) Provide adequate support when changing wheels or the wheel tread width.

(11) Make sure that wheel bolts have been tightened to the specified torque.

(12) 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.



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. JUMP STARTING INSTRUCTIONS AND PRECAUTIONS

If ice is present or the battery is cracked, DO NOT ATTEMPT TO "JUMP START" vehicle.

(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. Turn both key switches off.

(3) Put on safety goggles and rubber gloves.

(4) Remove the vent caps from both batteries.

(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.

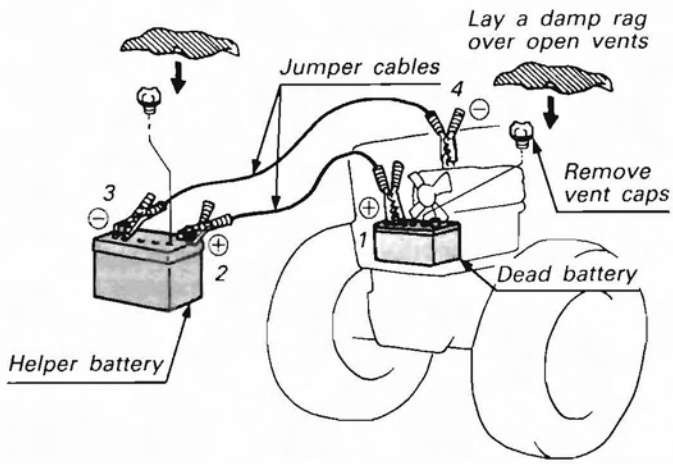
(7) Clamp the other cable to the negative (black, ⊖ or neg.) terminal of the helper battery.

(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.



Connect cables in numerical order. Disconnect in reverse order after use.

9. WARNING AND CAUTION LABELS

❶ Part No. 35260—3491—3

⚠ CAUTION

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.

❺ Part No.35820—9863—3

⚠ WARNING

TO AVOID POSSIBLE INJURY OR DEATH FROM A MACHINE RUN-AWAY:

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.
2. Start engine only from operator's seat with transmission and PTO OFF.
   Never start engine while standing on the ground.

❷ Part No. 35260—2979—1

⚠ WARNING

TO AVOID PERSONAL INJURY:

1. Attach pulled or towed loads to the drawbar only.
2. Use the 3-point hitch only with equipment designed for 3-point hitch usage.

❹ Part No. 35200—2534—1

⚠ WARNING

TO AVOID PERSONAL INJURY:

1. Keep PTO shield in place at all times.
2. Do not operate the PTO at speeds faster than the speed recommended by the implement manufacturer.

❻ Part No. 67061—4724—2

⚠ WARNING

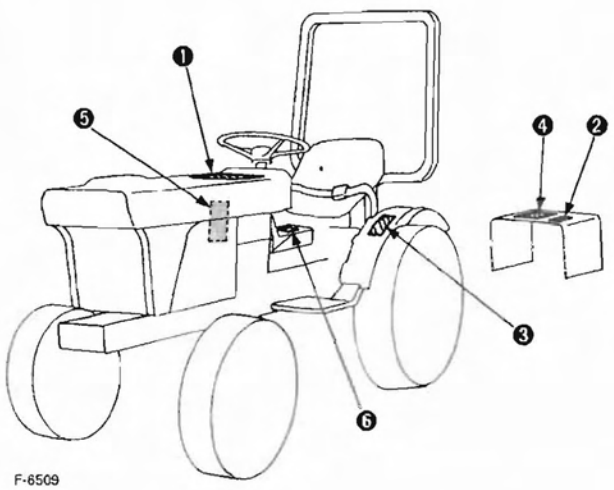
Do not start engine with speed set lever or speed control pedal engaged.

❸ Part No. 35260—2978—2

⚠ WARNING

TO AVOID PERSONAL INJURY OR DEATH FROM ROLL-OVER:

1. Kubota recommends the use of a Roll-Over Protective Structures (ROPS) and seat belt in almost all applications.
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.
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.



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CARE OF WARNING AND CAUTION LABELS

(1) Keep warning and caution labels clean and free from obstructing material.
(2) Clean warning and caution labels with soap and water, dry with a soft cloth.
(3) Replace damaged or missing warning and caution labels with new labels from your KUBOTA dealer.
(4) If a component with warning and caution label (s) affixed 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 warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.

CONTENTS

1. REQUESTING FOR DEALERS SERVICE

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

However, when in need of parts or major service, be sure to see your KUBOTA dealer.

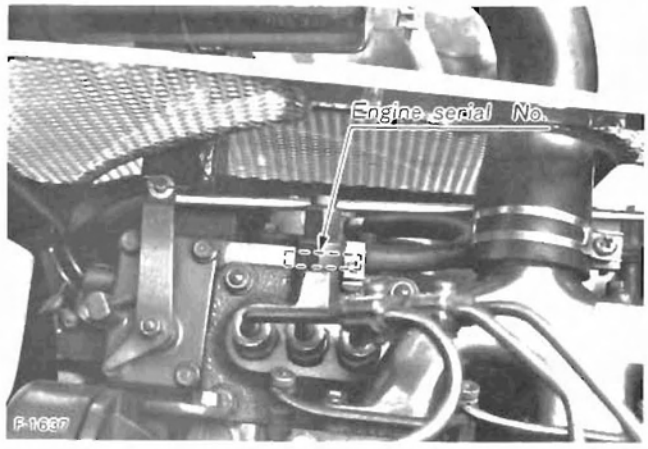
When in need of parts, be prepared to give your dealer both the tractor and engine serial numbers.

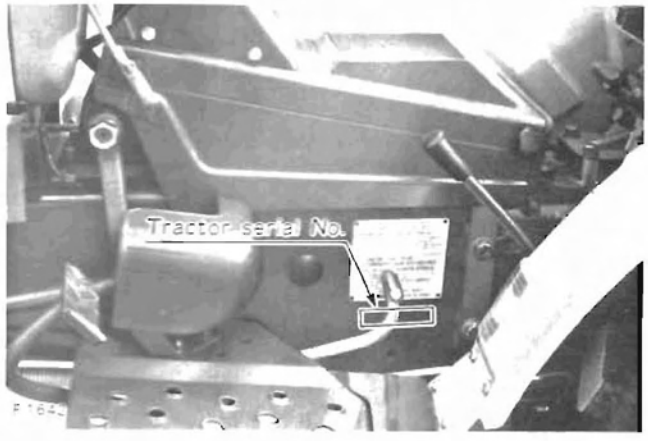
The tractor serial number is located on the clutch housing case, left side. The engine serial number is located on the engine crankcase, right side.

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

KUBOTA B7100HST-D/B7100HST-E
B6100HST-D/B6100HST-E

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





Model:		B6100HST-D (4WD)				
Tires	Front	5–12 (BS)	6–12 (G.Y.)	20.5×8.00–10 (G.Y.)	5–12 (BS)	6–12 (BS)
	Rear	7.2–16 (G.Y.)	8.3–16 (G.Y.)	29×12.50–15(XT) (G.Y.)	7–16 (BS)	8–16 (BS)
Dimensions:						
Overall length		2105mm (82 7/8 in.)	2130mm (83 7/8 in.)	2100mm (82 11/16 in.)	2105mm (82 7/8 in.)	2130mm (83 7/8 in.)
Overall width		1010mm (39 27/32 in.)	1025mm (40 11/32 in.)	1120mm (44 3/32 in.)	980mm (38 19/32 in.)	1005mm (40 15/16 in.)
Overall height with ROPS		1865mm (73 7/16 in.)	1895mm (74 5/8 in.)	1875mm (73 13/16 in.)	1865mm (73 7/16 in.)	1895mm (74 5/8 in.)
Wheel base		1400mm (55 1/8 in.)	1400mm (55 1/8 in.)	1400mm (55 1/8 in.)	1400mm (55 1/8 in.)	1400mm (55 1/8 in.)
Minimum ground clearance		230mm (9 1/16 in.)	240mm (9 7/16 in.)	225mm (8 55/64 in.)	230mm (9 1/16 in.)	240mm (9 7/16 in.)
Treads	Front	785mm (30 57/64 in.)	785mm (30 57/64 in.)	825mm (32 31/64 in.)	785mm (30 57/64 in.)	790mm (31 7/64 in.)
	Rear	725mm (28 35/64 in.)	725mm (28 35/64 in.)		690mm (27 3/16 in.)	690mm (27 11/16 in.)
		775mm (30 31/64 in.)	775mm (30 31/64 in.)	765mm (30 1/8 in.)	740mm (29 1/8 in.)	740mm (29 1/8 in.)
		825mm (32 31/64 in.)	825mm (32 31/64 in.)	815mm (32 3/32 in.)	790mm (31 1/8 in.)	790mm (31 1/8 in.)
Weight:		560 kg (1230 lbs.)				

2. SPECIFICATIONS

Model:	B6100HST-D (4WD)	B6100HST-E (2WD)	B7100HST-D (4WD)	B7100HST-E (2WD)
Engine:	KUBOTA D650-AH		KUBOTA D750-AH	
Type	Vertical, water-cooled, 4-cycle diesel engine			
Cylinders	3			
Total displacement	675cm³ (41.2 cu.in.)		762cm³ (46.5 cu.in.)	
Bare horse power and revolutions	10.3 kW at 46.7 r/s (14 HP at 2800 rpm)		11.7 kW at 46.7 r/s (16 HP at 2800 rpm)	
Cylinder bore and stroke	64 x 70mm (2½ x 2¾ in.)		68 x 70mm (2⅝ x 2¾ in.)	
Fuel	Diesel fuel No. 1 [below −10°C (15°F)], Diesel fuel No. 2 [above −10°C (15°F)]			
Starter	Electric starter with battery, glow plug, 12V, 0.8kW			
Lubrication	Forced lubrication by trochoidal pump			
Cooling	Water with pressurized radiator (natural circulation)			
Battery	12V 45Ah			
Fuel tank capacity	13 ℓ (3.4 U.S.gals.)			
Engine oil tank capacity	3.4 ℓ (3.6 U.S.qts.)			
Engine coolant capacity	4.6 ℓ (4.9 U.S.qts.)			
Transmission oil case capacity	13.5 ℓ (3.6 U.S.gals.)			
PTO Shaft:				
Location	Transmission case rear (rear PTO), Transmission case bottom (mid PTO), Engine front (front PTO)			
Rear PTO:				
Direction of revolution	Clockwise viewed from rear			
Revolutions	2 speeds (9 and 14.3 r/s at 46.7 engine r/s)(540 and 857 rpm at 2800 engine rpm)			
Mid PTO:				
Direction of revolution	Clockwise viewed from front			
Revolutions	1 speed (40.9 r/s at 46.7 engine r/s)(2453 rpm at 2800 engine rpm)			
Clutch:	Dry single plate type			
Steering:	Ball screw type			
Transmission:	Hydrostatic Transmission (HST)			
Speed changes:	2 forward, 2 reverse (High-low gear shift)			
Minimum turning radius:	2.3m (90⅝ in.)	2.1m (82⅔ in.)	2.1m (82⅔ in.)	
Brake:	Internal-expanding type, right and left independent with interlocking device			
Differential device:	Bevel gear type (both for front and rear wheels)	Bevel gear type (only for rear wheels)	Bevel gear type (both for front and rear wheels)	Bevel gear type (only for rear wheels)

Model:		B6100HST-E (2WD)					
Tires	Front	4.00–9 (G.Y.)	6.9–9 (G.Y.)	18X8.50–8 (G.Y.)	4.00–9 (BS)	4.00–9 (BS)	20 x 8.0–10 (BS)
	Rear	7.2–16 (G.Y.)	8.3–16 (G.Y.)	29X12.50–15(XT) (G.Y.)	7–16 (BS)	8–16 (BS)	29 x 12.00–15 (BS)
Dimensions:							
Overall length		2105mm (82 7/8 in.)	2130mm (83 35/64 in.)	2105mm (82 7/8 in.)	2110mm (83 1/16 in.)	2135mm (84 1/16 in.)	2105mm (82 7/8 in.)
Overall width		1010mm (39 23/32 in.)	1025mm (40 23/64 in.)	1120mm (44 3/32 in.)	980mm (38 37/64 in.)	980mm (38 31/64 in.)	1120mm (44 3/32 in.)
Overall height with ROPS		1885mm (74 7/32 in.)	1895mm (74 5/8 in.)	1875mm (73 13/16 in.)	1885mm (74 7/32 in.)	1895mm (74 5/8 in.)	1875mm (73 13/16 in.)
Wheel base		1390mm (54 5/8 in.)	1390mm (54 5/8 in.)	1390mm (54 5/8 in.)	1390mm (54 5/8 in.)	1390mm (54 5/8 in.)	1390mm (54 5/8 in.)
Minimum ground clearance		230mm (9 1/16 in.)	260mm (10 23/64 in.)	240mm (9 29/64 in.)	230mm (9 1/16 in.)	250mm (9 27/32 in.)	250mm (9 27/32 in.)
Treads	Front	685mm (26 31/32 in.)	770mm (30 5/16 in.)	770mm (30 5/16 in.)	685mm (26 31/32 in.)	685mm (26 31/32 in.)	770mm (30 5/16 in.)
	Rear	725mm (28 35/64 in.)	725mm (28 35/64 in.)		690mm (27 3/16 in.)	690mm (27 3/16 in.)	
		775mm (30 33/64 in.)	775mm (30 33/64 in.)	765mm (30 1/8 in.)	740mm (29 1/8 in.)	740mm (29 1/8 in.)	840mm (33 1/16 in.)
		825mm (32 31/64 in.)	825mm (32 31/64 in.)	815mm (32 3/32 in.)	790mm (31 1/8 in.)	790mm (31 1/8 in.)	890mm (35 1/2 in.)
Weight:		500 kg (1100 lbs.)					

Model:		B7100HST-D (4WD)			B7100HST-E (2WD)		
Tires	Front	6–12 (Bridgestone)	6–12 (G.Y.)	20.5×8.00–10 (G.Y.)	4.00–9 (Bridgestone)	6.9–9 (G.Y.)	18×8.50–8 (G.Y.)
	Rear	8–16 (Bridgestone)	8.3–16 (G.Y.)	29×12.50–15(XT) (G.Y.)	8–16 (Bridgestone)	8.3–16 (G.Y.)	29×12.50–15(XT) (G.Y.)
Dimensions:							
Overall length		2130mm (83 $^{55}/_{64}$ in.)	2130mm (83 $^{55}/_{64}$ in.)	2100mm (82 $^{43}/_{64}$ in.)	2135mm (84 $^{1}/_{16}$ in.)	2130mm (83 $^{55}/_{64}$ in.)	2105mm (82 $^{7}/_{8}$ in.)
Overall width		1040mm (40 $^{15}/_{16}$ in.)	1040mm (40 $^{15}/_{16}$ in.)	1140mm (44 $^{7}/_{8}$ in.)	980mm (38 $^{37}/_{64}$ in.)	1025mm (40 $^{21}/_{64}$ in.)	1120mm (44 $^{3}/_{32}$ in.)
Overall height with ROPS		1895mm (74 $^{5}/_{8}$ in.)	1895mm (74 $^{5}/_{8}$ in.)	1875mm (73 $^{13}/_{16}$ in.)	1895mm (74 $^{5}/_{8}$ in.)	1895mm (74 $^{5}/_{8}$ in.)	1875mm (73 $^{13}/_{16}$ in.)
Wheel base		1400mm (55 $^{1}/_{8}$ in.)	1400mm (55 $^{1}/_{8}$ in.)	1400mm (55 $^{1}/_{8}$ in.)	1390mm (54 $^{5}/_{8}$ in.)	1390mm (54 $^{5}/_{8}$ in.)	1390mm (54 $^{5}/_{8}$ in.)
Minimum ground clearance		240mm (9 $^{29}/_{64}$ in.)	240mm (9 $^{29}/_{64}$ in.)	225mm (8 $^{55}/_{64}$ in.)	250mm (9 $^{27}/_{32}$ in.)	260mm (10 $^{7}/_{64}$ in.)	240mm (9 $^{29}/_{64}$ in.)
Treads	Front	850mm (33 $^{15}/_{32}$ in.)	845mm (33 $^{17}/_{64}$ in.)	895mm (35 $^{15}/_{64}$ in.)	685mm (26 $^{31}/_{32}$ in.)	770mm (30 $^{5}/_{16}$ in.)	770mm (30 $^{5}/_{16}$ in.)
	Rear	690mm (27 $^{3}/_{16}$ in.)	725mm (28 $^{35}/_{64}$ in.)		690mm (27 $^{3}/_{16}$ in.)	725mm (28 $^{35}/_{64}$ in.)	
		740mm (29 $^{1}/_{8}$ in.)	775mm (30 $^{33}/_{64}$ in.)	765mm (30 $^{1}/_{8}$ in.)	740mm (29 $^{1}/_{8}$ in.)	775mm (30 $^{33}/_{64}$ in.)	765mm (30 $^{1}/_{8}$ in.)
		790mm (31 $^{1}/_{8}$ in.)	825mm (32 $^{31}/_{64}$ in.)	815mm (32 $^{3}/_{32}$ in.)	790mm (31 $^{1}/_{8}$ in.)	825mm (32 $^{31}/_{64}$ in.)	815mm (32 $^{3}/_{32}$ in.)
Weight:		570 kg (1257 lbs.)			510 kg (1124 lbs.)		

■ Traveling Speeds

High-Low Shift	Traveling Speed			
	Km/h		mph	
	B6100HST-D/E	B7100HST-D/E	B6100HST-D/E	B7100HST-D/E
Forward Low	0 ~ 5.9	0 ~ 5.7	0 ~ 3.6	0 ~ 3.5
Forward High	0 ~ 14.8	0 ~ 14.5	0 ~ 9.2	0 ~ 9.0
Reverse Low	0 ~ 3.9		0 ~ 2.4	
Reverse High	0 ~ 10.0		0 ~ 6.2	

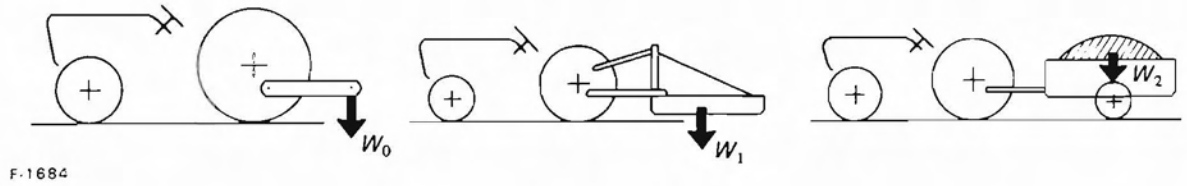
	Rear tires
B7100HST-D/E	8–16 (BS)
B6100HST-D/E	7–16 (BS)

3. SPECIFICATIONS OF IMPLEMENT LIMITATIONS

The Kubota tractor has been thoroughly tested for proper performance with implements sold or approved by us. 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.]

Operating condition	Lower link end max. loading weight W_0	Actual figures	
		Implement weight W_1	Trailer loading weight
General control operation (Flat ground and slope condition)	Below 180 kg (400 lbs.)	As in the following list	Below 500 kg (1100 lbs.) (without brake) Below 1000 kg (2200 lbs.) (with brake)

Lower link end max. loading weight (⊙Lift points) . . .The max. allowable load which can be put on the lower link end: W_0
Implement weight . . . . . .The implement's weight which can be put on the lower link: W_1
Trailer loading weight . . . . . .The max. loading weight for trailer (without trailer's weight): W_2



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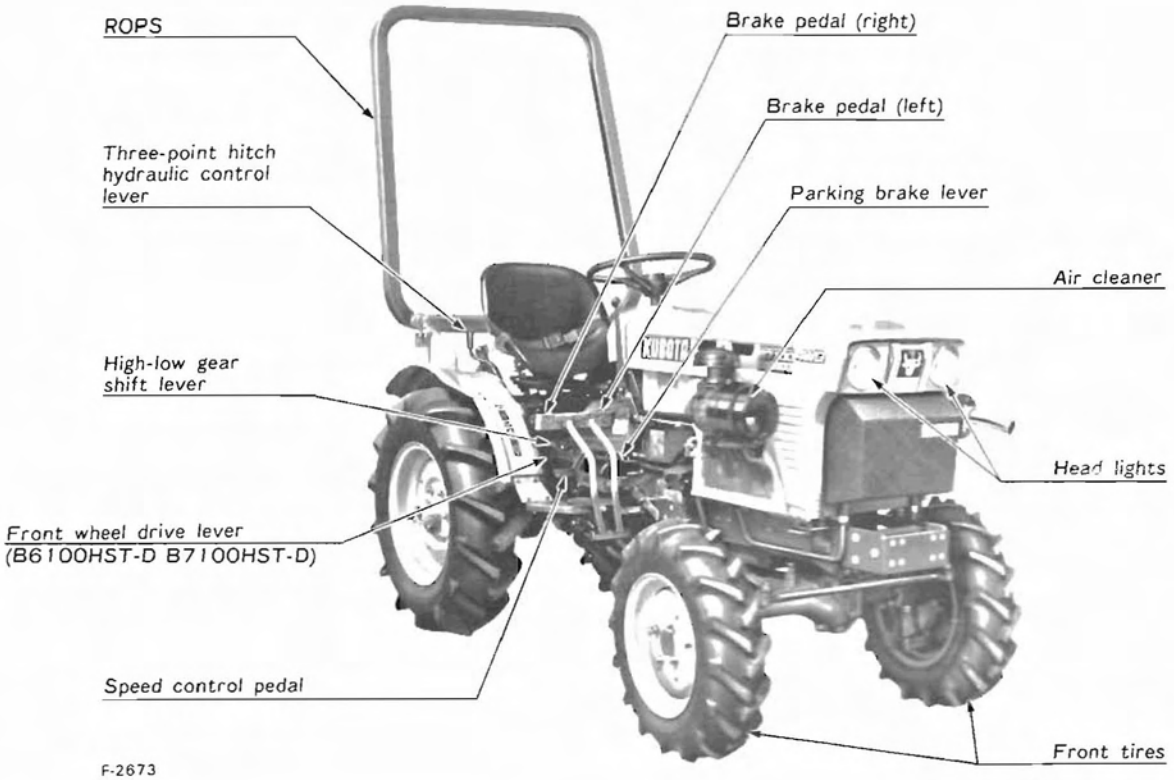
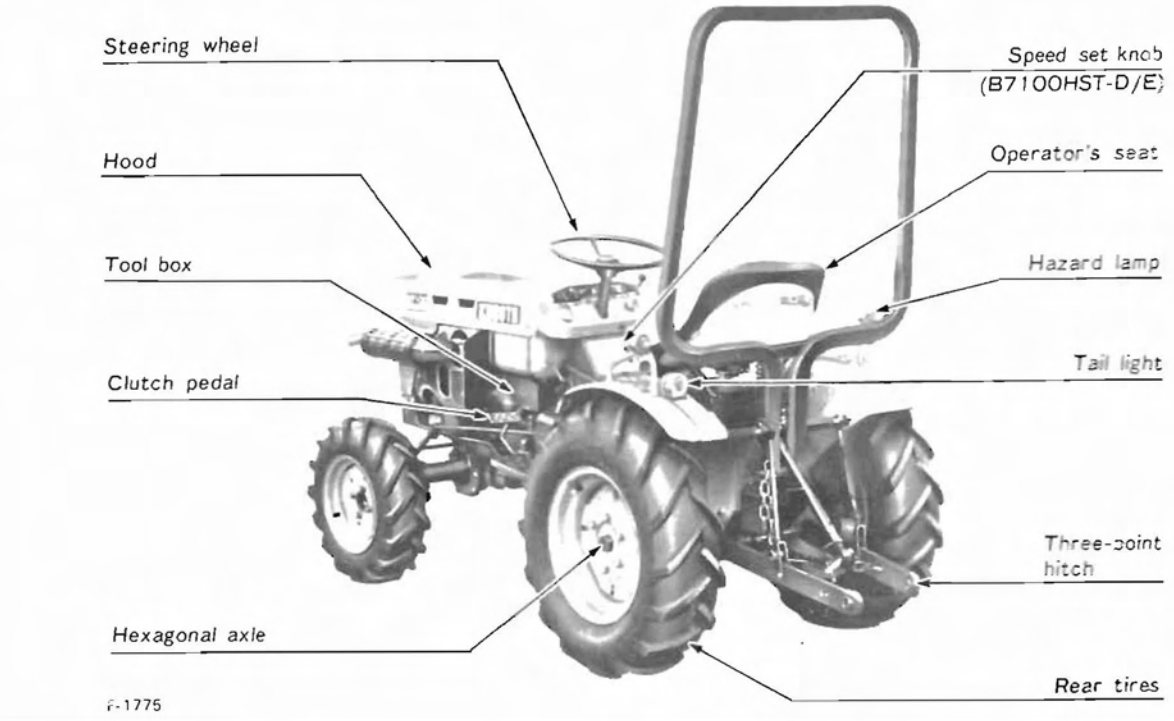
Implement		Remarks	B6100HST	B7100HST
Rotary mower	Rear (1 Blade)	Max. cutting width Max. weight	1070mm (42 in.) 140 kg (300 lbs.)	1070mm (42 in.) 140 kg (300 lbs.)
	Rear Mid (2-3 Blade)	Max. cutting width Max. cutting width Max. weight	1220mm (48 in.) 1220mm (48 in.) 140 kg (300 lbs.)	1220mm (48 in.) 1520mm (60 in.) 140 kg (300 lbs.)
	Sickle bar	Max. cutting width	1220mm (48 in.)	1220mm (48 in.)
Rotary tiller		Max. tilling width Max. weight	1070mm (42 in.) 170 kg (380 lbs.)	1070mm (42 in.) 180 kg (400 lbs.)
Bottom plow		Max. size	300mm (12 in.) x 1	360mm (14 in.) x 1
Disc plow		Max. size	560mm (22 in.) x 1	560mm (22 in.) x 1
Cultivator		Max. size	1220mm (48 in.) (1 row)	1220mm (48 in.) (1 row)
Disc harrow		Max. horrowing width Max. weight	1220mm (48 in.) 90 kg (200 lbs.)	1370mm (54 in.) 140 kg (300 lbs.)
Sprayer		Max. tank capacity	100 ℓ (30 gals.)	110 ℓ (30 gals.)
Front blade		Max. cutting width Sub frame necessary Oil pressure, relief valve	1220mm (48 in.) 11.4 MPa (116 kgf/cm^2, 1650 psi)	1220mm (48 in.) 11.4 MPa (116 kgf/cm^2, 1650 psi)
Rear blade		Max. cutting width Max. weight	1520mm (60 in.) 140 kg (300 lbs.)	1520mm (60 in.) 160 kg (350 lbs.)
Front loader		Max. lifting capacity Max. width Sub frame necessary	227 kg (500 lbs.) 1070mm (42 in.)	227 kg (500 lbs.) 1070mm (42 in.)
Box blade		Max. cutting width Max. weight	1070mm (42 in.) 170 kg (380 lbs.)	1070mm (42 in.) 170 kg (380 lbs.)
Back hoe		Max. digging depth Max. weight Sub frame necessary	1830mm (72 in.) 270 kg (600 lbs.)	1830mm (72 in.) 270 kg (600 lbs.)
Snow blower		Max. working width Max. weight Sub frame necessary	1070mm (42 in.) 160 kg (350 lbs.)	1220mm (48 in.) 160 kg (350 lbs.)
Trailer		Max. load capacity	500 kg (1100 lbs.)	500 kg (1100 lbs.)
Three point lift		Max. load capacity	140 kg (300 lbs.)	180 kg (400 lbs.)

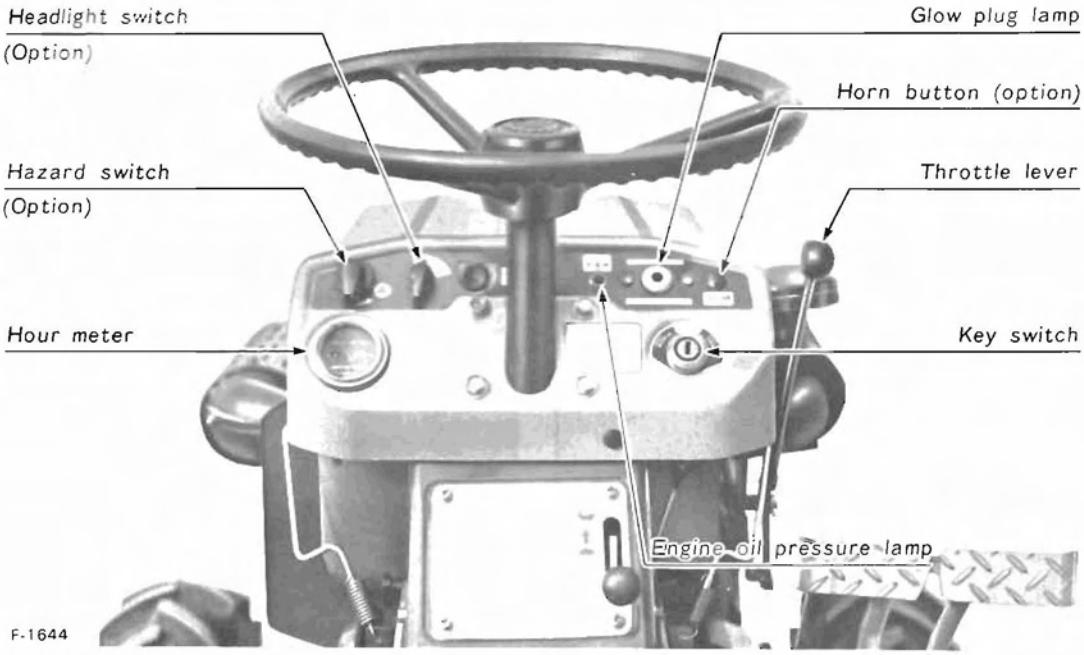
4. MAJOR PARTS IDENTIFICATION





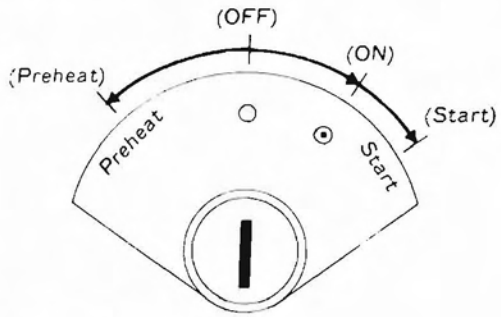
5. INSTRUMENT PANEL AND CONTROLS

5.1 SWITCHES



■ Key Switch

Inserting the key and turning it one click to the right, closes the electrical circuit and lights up the engine oil pressure lamp (RED). Depress the clutch pedal and disengage the clutch. Next, turning the key left activates the glow plug (preheating coil), proceeding to preheat the combustion chamber. After the glow plug lamp has turned red and the engine has been preheated completely, turn the key switch right and the cell starter will start to rotate and the engine should start. Release the key switch and it will return to the ON position ⊙.

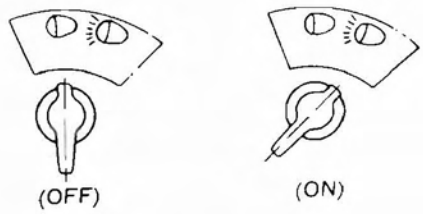


■ Glow Plug Lamp

Turn the key switch left and the glow plug lamp will start turning red, indicating that the engine is preheating.

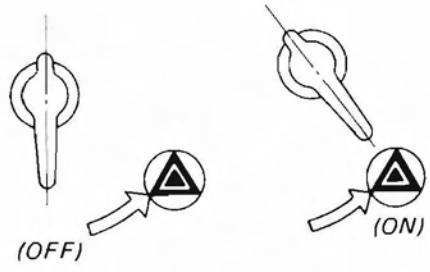
■ Light Switch

Turning the light switch one click to the right illuminates the headlights and taillight (Option).



■ Hazard Lamp Switch (Option)

When the hazard lamp switch is turned counterclockwise, the Hazard Lamp blinks.



■ Horn Button (Option)

Turning the key switch one click to the right then pressing the horn button sounds the horn.

■ Hour Meter

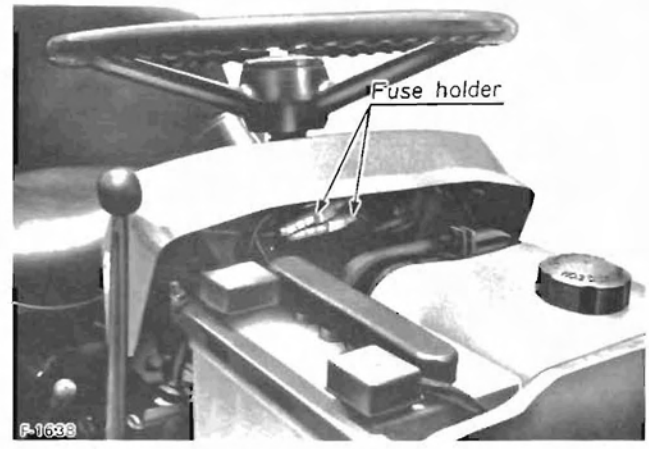
As the hour meter works electrically, it starts to work when the key switch is turned to ON or PREHEAT. When the last figure on white background is multiplied by six, it will show the time in minutes.
For example: 0170 (1) --- 170 hours and 6 minutes used.

■ Engine Oil Pressure Lamp (RED)

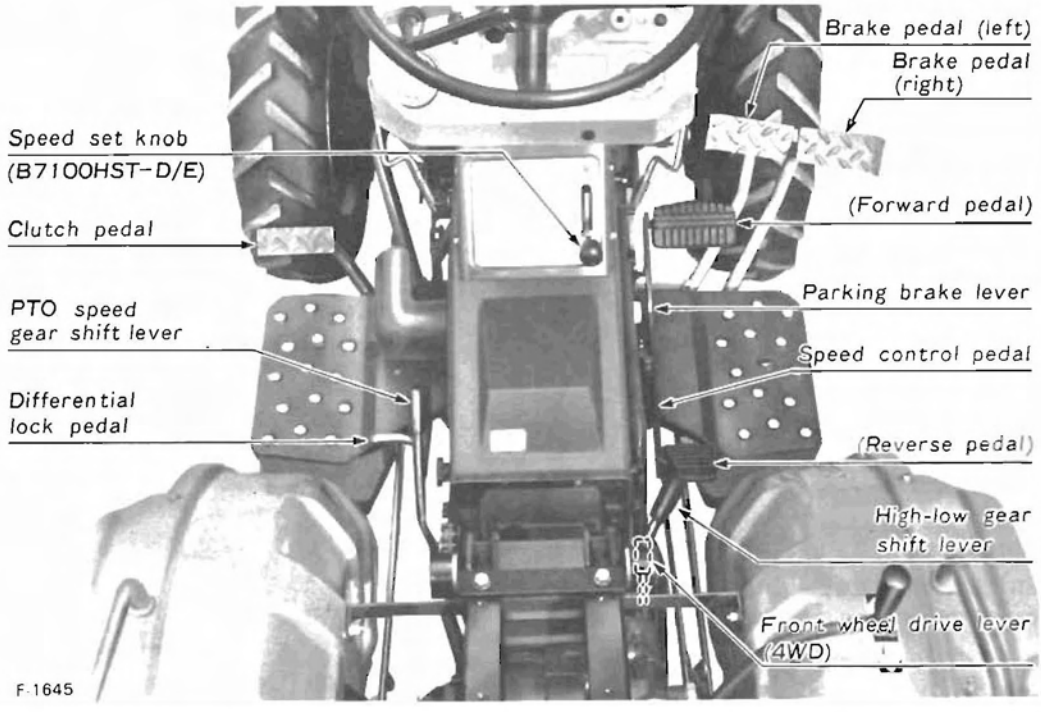
The oil pressure lamp will glow red when the starter switch is turned on. This indicates the light and electrical wiring are functioning properly. The light should go out after engine starts. If light remains on, stop engine and determine cause.

■ Fuses

Opening the bonnet, reveals the 5-ampere and 3-ampere fuses (on the rear of the instrument panel) which safeguards the electrical circuit. When the fuse(s) is blown, examine the cause of the overcurrent, eliminate the trouble and replace with a new fuse. After that, ensure normal amperage. (Spare fuses are provided with new tractor.)

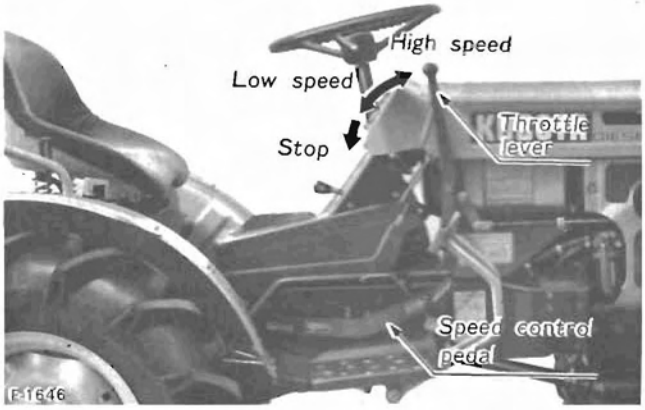


5.2 CONTROLS



■ Throttle Lever

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

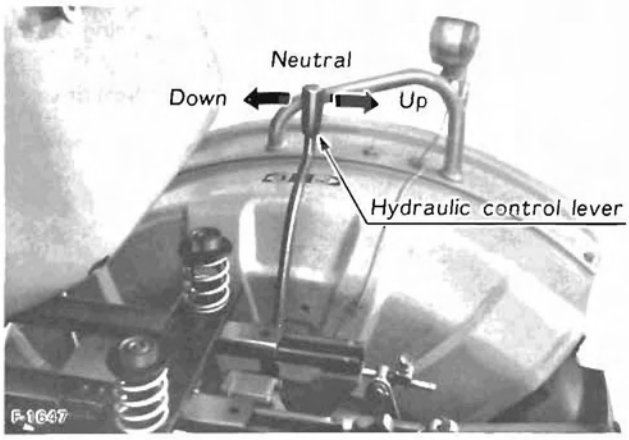


■ Stop the Engine

To stop the engine, pull the throttle lever back completely and hold it until the engine stops.

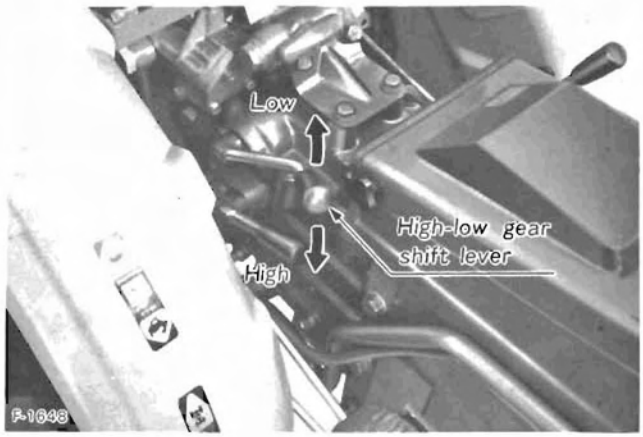
■ Hydraulic Control Lever

Operating the hydraulic control lever actuates the hydraulic lift arm, which controls the elevation of the 3 point hitch mounted implement. Moving the lever forward lowers the implement and moving it backward raises the implement. When the implement reaches the upper or lower limit, the lever automatically returns to the neutral position. In addition, when the lever is brought to the neutral position while the implement is moving up or down, the implement stops and remains at that level.



■ High-Low Gear Shift Lever

The high-Low gear shift lever is used in conjunction with the throttle lever and the speed control pedal to determine the tractor operating speed. It has three positions "Low", "Neutral" and "High". At "Low" position, the transmission gear engagement is for slower tractor speed and greater torque. The "Neutral" position disengages the gears. At "High" position, the transmission gear engagement is for faster tractor speed and less torque.



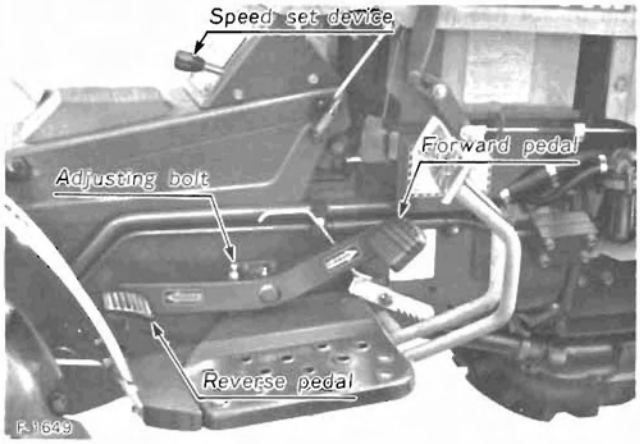
■ Speed Control Pedal

FORWARD PEDAL

Depress the forward pedal with the toe of your right foot to move forward.

REVERSE PEDAL

Depress the reverse pedal with the heel of your right foot to move backward. Speed Set Device must be disengaged before depressing reverse pedal.



■ Speed Set Device (B6100HST-D/E: Option)

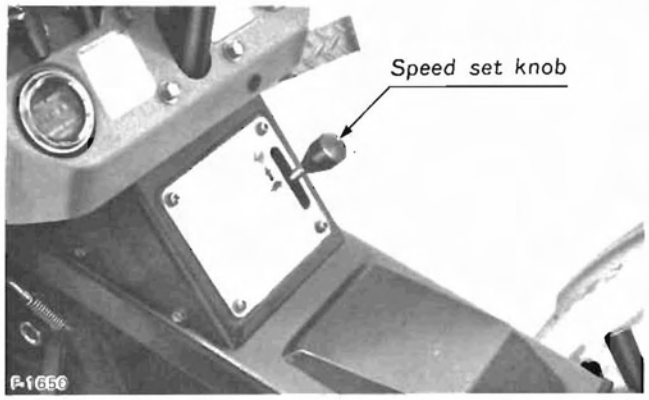
The Speed Set Device is designed for tractor operating efficiency and operator comfort. This device will provide a constant forward operating speed by mechanically holding the speed control pedal at the selected position.

Speed set device can not be set at high speed range.

- To engage Speed Set Device

1. Accelerate speed to desired level using Speed Control Pedal, and move knob forward.
2. Release Speed Control Pedal and desired speed will be maintained.

- To disengage Speed Set Device, move knob to the "Release" position.



■ PTO Speed Gear Shift Lever

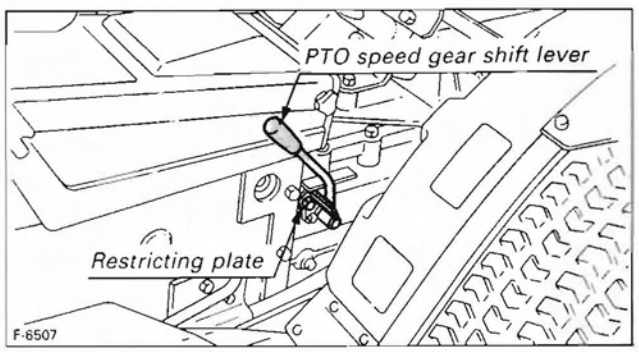
[CAUTION]

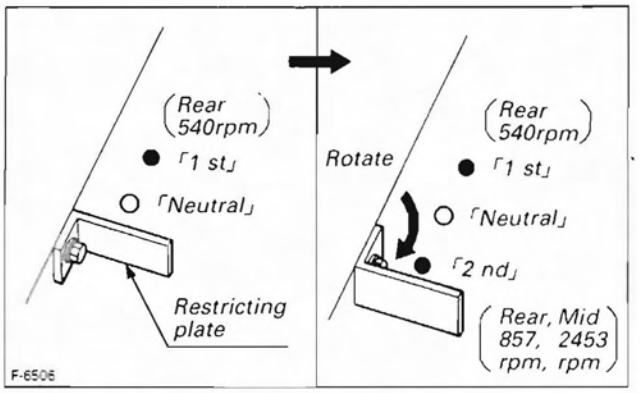
- **To prevent overspeeding a PTO driven implement and possibly causing personal injury, use the 2nd PTO speed only when higher rpm is specifically recommended by the implement manufacturer.**

The tractor has two rear PTO speeds and one mid PTO speed.

1st — Rear — 540 rpm , 2nd —[Rear — 857 rpm / Mid — 2453 rpm]

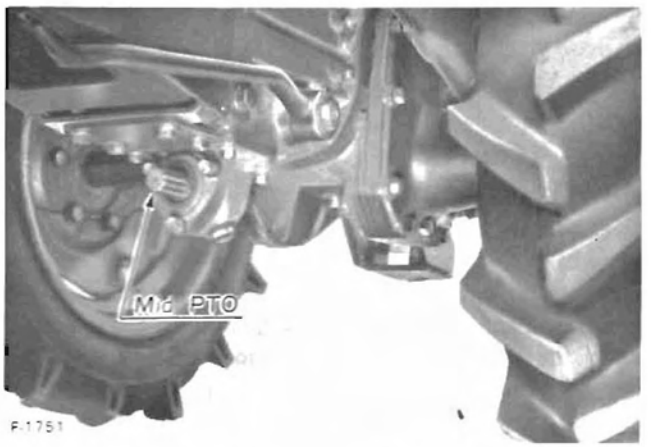
To use 2nd PTO speed, rotate the restricting plate. Replace restricting plate to original position following use of 2nd PTO speed position.





■ Mid PTO

A mid PTO is available for Kubota's mid mount mower. Before using the mid PTO, remove the shaft cover from mid PTO case.



■ Front Wheel Drive Lever (4WD)

The front wheel drive is used when greater traction power is required or to prevent the tractor from lunging during rotary-tilling hard soil.

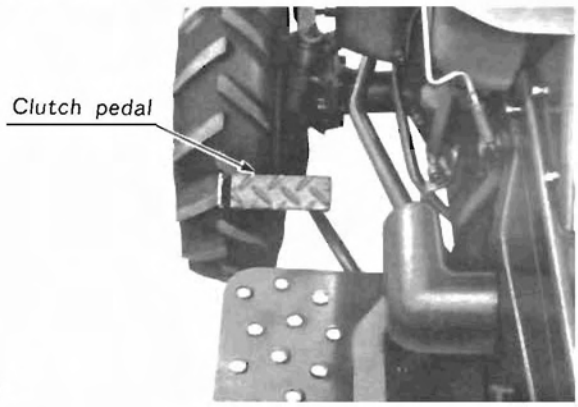
Lowering the lever drives the front wheels—4 wheel drive.

■ Clutch Pedal

Fully stepping on the pedal disengages the clutch off the power transmission.

[IMPORTANT]

(1) The clutch pedal must be quickly disengaged and be slowly engaged.
(2) Never run the machine with your foot placed on the clutch pedal.



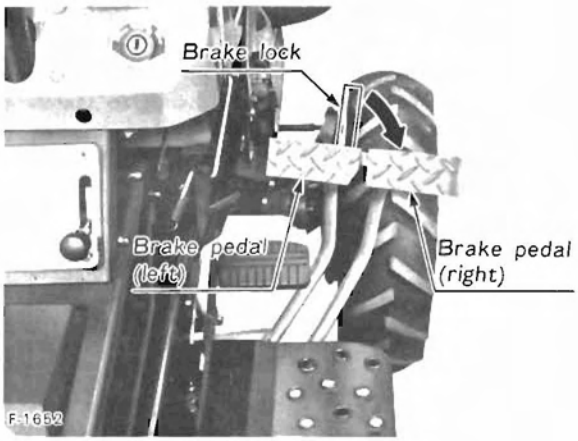
F-1651

■ Brake Pedals (Right and left)

[WARNING]

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

(1) Before operating the tractor on a road, be sure to interlock the right and left pedals as illustrated below.
(2) Use individual brakes only to assist in making sharp turns. Disengage the brake lock and depress only one brake pedal.

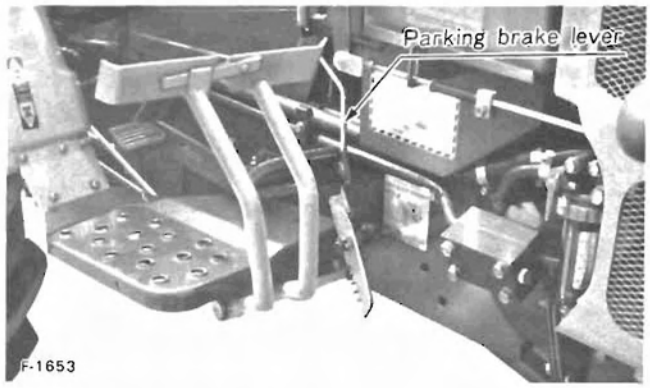


F-1652

■ Parking Brake Lever

(1) To set the park brake:
- interlock the brake pedals
- depress the brake pedals
- latch the brake pedals with the parking brake lever.

(2) To release the parking brake, depress the brake pedals again.



F-1653

■ Differential Lock Pedal

[CAUTION]

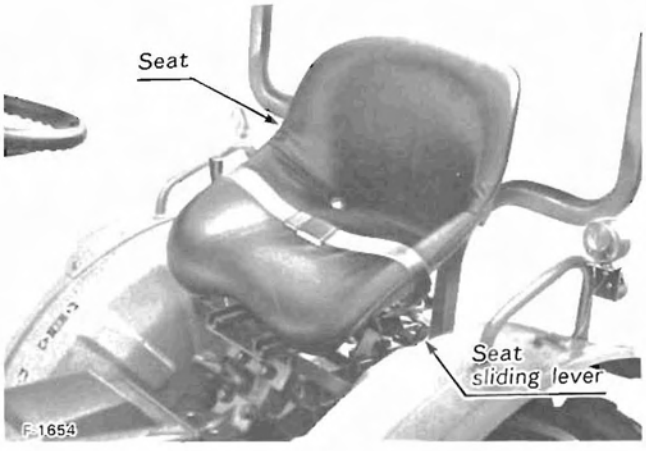
- **Never apply the differential lock when traveling at high speeds. Doing so could cause loss of steering control.**

Differential lock is applied only in cases where: the wheels are likely to slip, only one of the rear wheel slips, or the tractor runs over the field rows.
Lightly stepping on the differential lock pedal with the heel makes the rear wheels run at equal speed. To unlock, just release the pedal.

F-1642

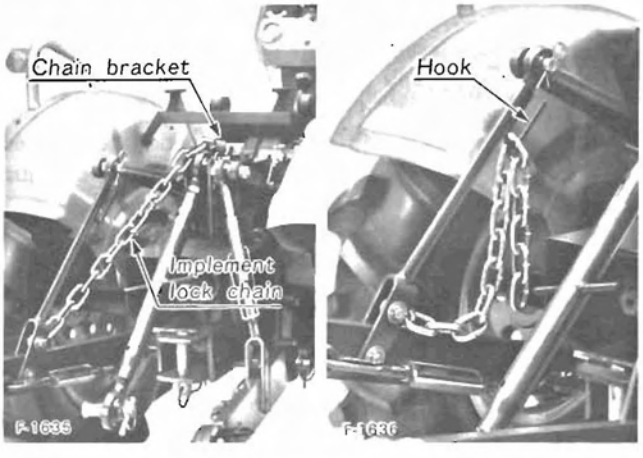
■ Seat

The operator's seat position can be adjusted forward and backward in 120mm (4 ¾ in.) range by pulling the seat sliding lever.



■ Implement Lock Chain

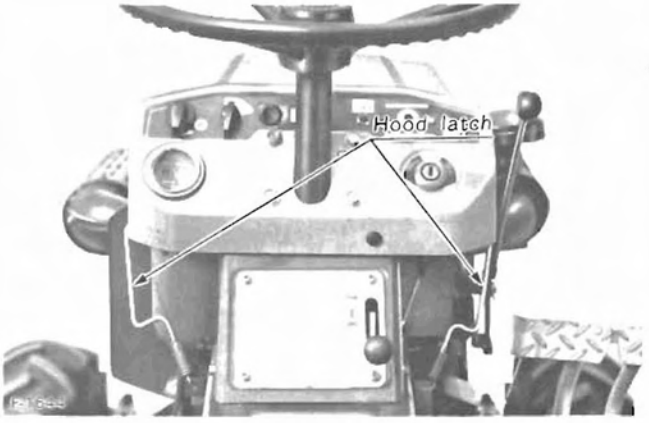
When transporting on the road or checking the implement in the raised position, be sure to hook one end of the implement lock chain on the chain bracket as shown in the picture, to prevent the implement from dropping.
When the chain is not being used, remove it from the bracket, and fasten it to the hook.

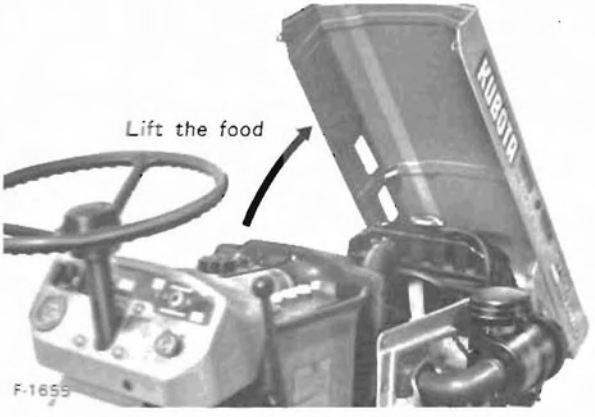


■ How to Open the Hood

[CAUTION]
To avoid personal injury from contact with moving parts;
(1) Never open the hood and remove the engine cover while the engine is running.
(2) Do not touch muffler or exhaust pipes while they are hot; severe burns could result.

To open the hood, remove the hood latch from the right and left sides. Lift the hood from the rear.

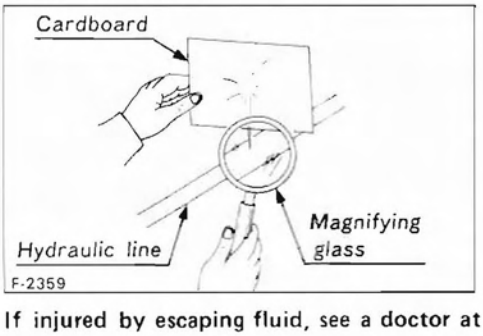




5.3 AUXILIARY HYDRAULICS

[CAUTION]

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

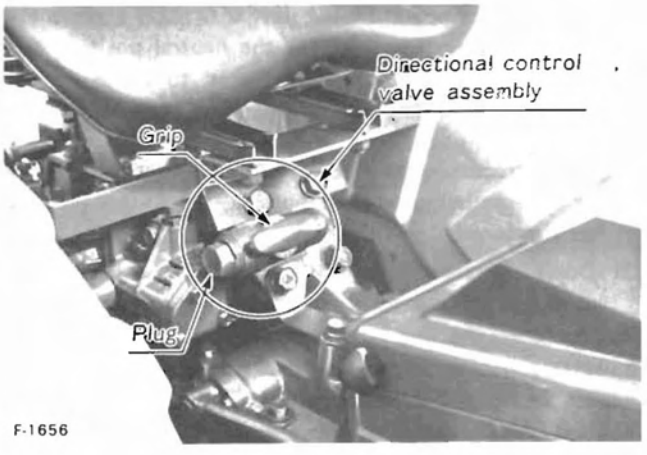


If injured by escaping fluid, see a doctor at once. Serious infection or reaction may result if proper medical treatment is not administered immediately.

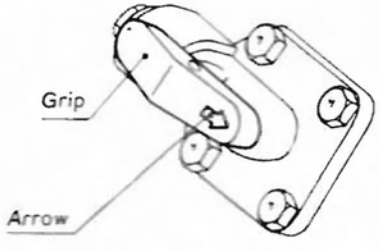
There are two types of hydraulic power take off – hydraulic block and directional control valve.

■ Directional Control Valve

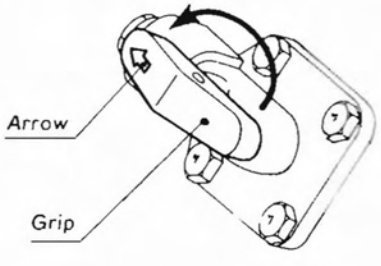
When a hydraulically operated implement is connected to the tractor, oil flow can be switched to the control valve on the implement by means of the grip on the Directional Control valve assembly.



1. With the arrow on the grip in the position shown in the figure, oil flows into the cylinder in the tractor.



2. To permit oil to flow into the control valve on the implement:
   (1) Remove the plug from the Directional Control valve assembly and connect the hose from the implement to the assembly.
   (2) Remove the plug from the case front cover, and connect the return hose from the implement to the cover.
   (3) Move the control lever on the tractor backwards, and turn the grip on the Directional Control valve assembly by 180°. Oil will then flow into the control valve on the implement.



[NOTE]

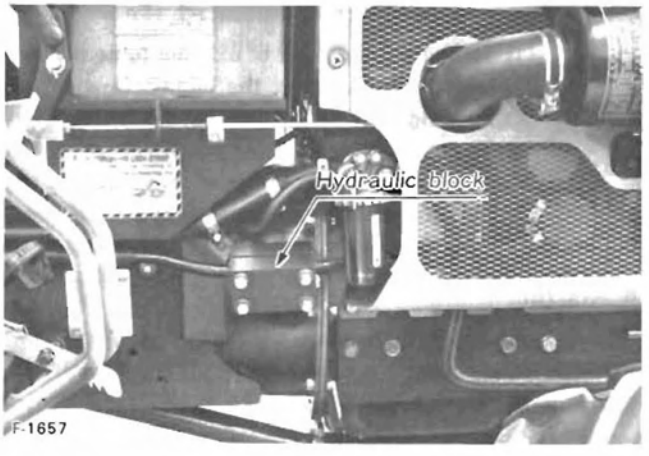
- If an implement (e.g. rotary tiller) or a balance weight is connected to the 3 point hitch of the tractor, lowering the implement or weight will allow easier operation of the directional control valve grip.

■ Hydraulic Block

The hydraulic block must be used only when the simultaneous 3-point hitch operation is needed. For other purposes, the directional control valve must be used.
Be sure to use the control valve of the "Power beyond type" for the operation of the hydraulic block.

[IMPORTANT]

- Clean the tractor in the area of the directional control valve (hydraulic block) before opening the tractor hydraulic system to connect the auxiliary hydraulic system. Insure that the implement hydraulic system is full of hydrostatic transmission fluid so that it is compatible with the fluid in the tractor.



6. OPERATING INSTRUCTIONS

PRE-START CHECKS

Prior to starting the engine, make pre-start checks according to the Maintenance check list on page 17.

[CAUTION]

(1) Read "Safe Operation" in the front of this manual.

(2) Read the Warning and Caution labels located on the tractor.

6.1 OPERATING THE ENGINE

[CAUTION]

(1) To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.

(2) To avoid personal injury, alwavs set gear shift lever and PTO speed gear shift lever to the "neutral" positions before starting the engine.

■ Starting

(1) Sit in the operator's seat. If the tractor is equipped with a ROPS, fasten the seat belt.

(2) Place the PTO speed gear shift lever in the Neutral position.

(3) Place the speed set knob in the "Release" position.

(4) Set the throttle lever to the high position.

(5) Plug the key into the key switch and turn it on.

(6) Make sure that the engine oil pressure lamp is on.

(7) Fully step on the clutch pedal and turn the key switch left, waiting for the glow plug lamp to turn red. Though the glow plug lamp turns red in about 10 seconds, it takes at least 20 seconds until the preheating coil in the combustion chamber is fully heated. The lower the ambient temperature, the longer the preheating time. For the necessary preheating time, refer to the table below:

Temperature	Preheating Time
Over 0°C (32°F)	20 to 30 sec.
0 to −5°C (32 to 23°F)	20 to 60 sec.

(8) Turn the key switch to the start position and the starter will turn and the engine should start.

(9) Make sure that the engine oil pressure lamp has gone off. If the lamp is still on, immediately stop the engine and check the lubrication system.

(10) Perform warm-up operations by running the engine at the medium speed.

[IMPORTANT]

(1) Do not turn the key switch, while the engine is running.

(2) When the temperature is below 0°C (32°F), place the high-low gear shift lever in the neutral position and keep the engine at medium speed to warm up the lubricant of engine and transmission at least 10 minutes.

If the tractor is operated before the lubricant of engine and transmission is warm enough, the tractor life will be shortened.

(3) Don't operate the tractor under full load condition until it is sufficiently warmed up.

(4) Don't use starting fluid to prevent the serious trouble of engine.

[IMPORTANT]

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

■ Stopping

(1) Pull the throttle lever back completely and hold it until the engine stops.

(2) Turn the key switch off and pull the key out of the switch.

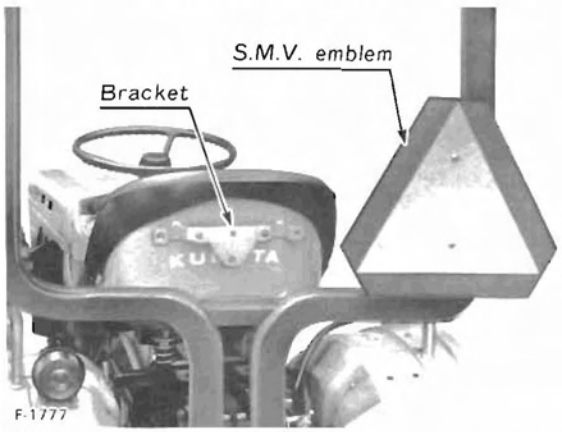
6.2 OPERATING THE TRACTOR

■ Starting

(1) Depress the clutch pedal to disengage the clutch.
(2) Shift the high-low gear shift lever to the desired speed position.
(3) Unlock the parking brake.
(4) Speed up the engine by moving the throttle lever forward.
(5) Slowly release the clutch pedal.
(6) Depress the forward pedal with the toe of your right foot to move forward.
(7) Depress the reverse pedal with the heel of your right foot to move backward.

[CAUTION]

(1) Interlock the right and left brake pedals before starting. Uneven braking results in a sharp turn, which may even turn over the tractor.
(2) Do not allow any person other than the driver to ride on the tractor.
(3) Do not drive the tractor close to the edges of ditches or banks which may break under the weight of the tractor, especially when the ground is loose or wet.
(4) Slow the tractor down to a safe speed before turning.
(5) Do not drive the tractor on the road with the implement in motion.
(6) After the differential lock has been used, be sure to see that it has been released.
(7) When traveling on a road, attach the S.M.V. emblem to the tractor to identify it as a slow moving vehicle.



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[IMPORTANT]

(1) Do not move the tractor with the parking brake on.
(2) Do not operate the tractor with your foot resting on the clutch pedal. This may contribute to premature clutch wear.
(3) High-Low gear shift lever cannot be shifted during driving. To do this, be sure to stop the tractor and disengage the clutch pedal.

■ Speed Set Device (B6100HST-D/E: Option)

(1) To engage speed set device accelerate speed to the desired level, using the speed control pedal, and move the knob forward.
Release the speed control pedal then the desired speed will be maintained.
(2) To disengage the speed set device, move the knob to "Release" position.

[CAUTION]

(1) The only way to disengage the Speed Set Device is to move the knob to the "Release" position by hand.
(2) Speed Set Device must be disengaged before depressing the reverse pedal.
(3) Never use the Speed Set Device when traveling at high speed.

■ 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, pull the parking rod to apply the parking brake.

■ Parking

(1) When parking, be sure to apply 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.

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[CAUTION]

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

6.3 CHECK DURING DRIVING

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

■ Coolant

[CAUTION]

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

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

(1) Shortage or leakage of the coolant.
(2) Foreign matter on the radiator net and dust and dirt between the radiator fins and tube.
(3) Slackness of the fan drive belt.
(4) Blockage in the radiator tube.

■ Engine Oil Pressure Lamp

The pressure lamp signals to the operator that the engine oil pressure is below the prescribed level. If the lamp should go on during driving and off even at more than 1000 rpm (16.7 r/s), immediately stop the engine and check:

(1) The level of the engine oil (See page 20).
(2) The conditions of the lubrication system.

■ Fuel

Do not allow the fuel tank to run dry. Otherwise air may be sucked into the fuel system. Should this happen, the system must be bled. (See page 18).

■ Exhaust Fumes

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

■ Urgent Stop

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

(1) The engine suddenly slows down or speeds up.
(2) Unusual noises are suddenly heard.
(3) Exhaust fumes suddenly become very dark.
(4) The engine oil pilot lamp goes on during operating.

For checks and remedies in the above situations, consult your dealer for instruction.

6.4 DIRECTIONS FOR OPERATING

■ Differential Lock Pedal

Observe the following precautions when applying the differential lock.

(1) Apply the differential lock moderately. Limit its use to the below situations. Note, however, that the differential lock may sometimes be not engaged when the right and left rear wheels are running at the same speed.
   - When the tractor enters or leaves the farm field, it cannot run straight because of excessive individual wheel-spin under difficult or slippery field conditions.
   - One rear wheel is caught in a loose area of the field and the tractor cannot run due to wheel-spin.
   - In the case of plowing, the rear wheel closer to the ridge is caught in the loose soil and is affected by wheel-spin.
(2) The use of the differential lock must be limited to a particular period of time and should not be applied beyond that limit.
(3) When the rear wheel is subjected to excessive loads, even releasing the pedal sometimes may not unlock the differential although the pedal springs back. Should the differential not unlock when turning the tractor, lightly step on the brake pedal opposite to the turn side or else turn back the steering wheel and run the tractor straight. By doing so, the differential can be unlocked. If the brake pedal of the turn side is depressed during turning, the differential lock system takes on an undue load. Avoid such improper operation.

[CAUTION]

- **Do not turn the tractor with differential lock-on, as it is very dangerous.**

7. MAINTENANCE

7.1 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 flat area with the engine shut off and the parking brake on.**

1) Check the parts where there was trouble before.
2) Walking around the tractor;
   (1) Check the tire pressure, and check for wear and damage. (See page 28)
   (2) Check for oil and water leaks.
   (3) Check the engine oil level. (See page 20)
   (4) Check the amount of transmission fluid. (See page 21)
   (5) Check if there is enough fuel. (See page 18)
   (6) Check if there is enough coolant in the radiator. (See page 24)
   (7) Check for dust load on the air cleaner dust cup. (See page 26)
   (8) Check the tractor body for damage and check that all bolts and nuts are tight.
   (9) Check the pilot lamps for failure.
   (10) Check the S.M.V emblem plate for stains and damage.
3) While sitting on the operator's seat;
   (11) Check the speed control pedal, brake pedal and clutch pedal. (See page 31, 32)
   (12) Check the parking brake. (See page 31)
   (13) Check the steering wheel. (See page 32)
4) Turning the key switch on;
   (14) Check the performance of the pilot lamp.
   (15) Check headlights, tail light and hazard lamps.
5) Starting the engine;
   (16) Check the color of the exhaust fumes.

7.2 LUBRICANTS

To prevent serious damage to hydraulic systems, use only KUBOTA genuine fluid or its equivalent.

Place	Capacity	Lubricants
Engine crankcase	3.4 ℓ (3.6 U.S.qts.)	• Engine oil: API Service CC or CD Below 0°C (32°F) SAE10W or 10W–30 0 to 25°C (32 to 77°F) SAE20 or 10W–30 Above 25°C (77°F) SAE30 or 10W–30
Transmission	13.5 ℓ (3.6 U.S.gals.)	See page 39
Front differential case (4WD)	B6100HST: 0.5 ℓ (0.5 U.S.qt.) B7100HST: 1.5 ℓ (1.6 U.S.qts.)	• Gear oil SAE80
Front wheel gear case (Right & left) (4WD)	B6100HST: 0.15 ℓ (0.15 U.S.qt.) B7100HST: 0.5 ℓ (0.5 U.S.qt.)	• Gear oil SAE80
Steering gear box		• Gear oil SAE80

7.3 MAINTENANCE CHECK LIST

Frequency of Checks	Check Points	Reference Pages
Initial operation (initial 60 hours)	During this period, pay special attention to the following. (1) After the initial 35 hours of use, change the engine oil and clean the oil filter. (2) After the initial 50 hours of use, change the transmission fluid and the filter cartridge and clean the strainers. (3) Quick starts or sudden braking should be avoided.	20 21, 22 —
Every 50 hours	Lubricate the following point: King pin, brake pedal shaft, speed control pedal shaft, center pin, interlock rod, front wheel drive lever.	23
Every 75 hours	Change engine oil.	20
Every 100 hours	Clean air cleaner element.	26
	Clean fuel filter.	19
	Check nozzle piece and change it when horsepower drops abnormally.	—
	Check fuel pipe.	19
	Check fan drive belt tension.	31
	Check clutch play.	31
	Check brake play.	31
	Check steering wheel play.	32
Every 150 hours	Change engine oil filter cartridge.	20
Every 200 hours	Check radiator hose.	24
	Change transmission fluid: Transmission case, front differential case (4WD), front wheel gear case (right and left) (4WD). • Change transmission oil filter cartridge. • Clean strainers.	21, 22
Every 500 hours	Clean radiator interior.	24
Every one to two months	Recharge battery if necessary.	26, 27
Every 3 months	Change scale inhibitor and coolant. Not USED	24
Every year or every 6 times of cleaning	Change air cleaner element.	26
Every year	Change anti-freeze and coolant.	24, 25
2 years after purchase	Change battery.	26, 27
	Change radiator hose and clamp.	24
	Change fuel pipe and clamp.	19
	Change hydraulic hoses and clamp.	—

8. CHECK AND MAINTENANCE

8.1 FUEL

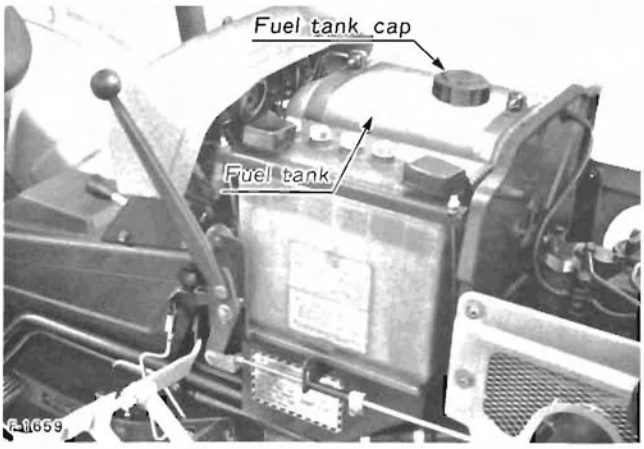
■ Checking and Refueling

[CAUTION]
To avoid personal injury:
- **Stop the engine before adding fuel. Keep away from sparks and flames.**
- **Allow engine to cool before refueling.**

(1) Check the fuel level. Take care that the fuel level does not fall under the prescribed lower limit.

Fuel tank capacity	13 ℓ (3.4 gals.)

(2) Use diesel fuel No.2–D.
(3) No. 1 diesel fuel can be used under the condition that temperature is below – 10°C (15°F).



[IMPORTANT]
(1) Always use a strainer in filling up, or the mingled dust and sand may impair the fuel injection pump.
(2) Once the fuel tank becomes empty air is admitted to the fuel system, in such case, it will be necessary to bleed the fuel system before the engine will start.

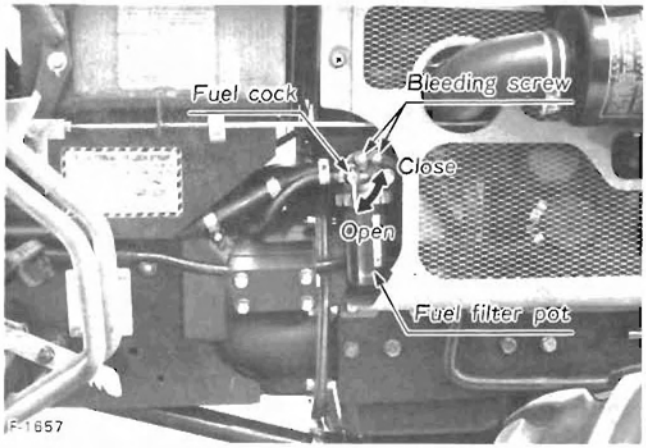
■ Fuel Line Bleeding

Air must be removed:
(1) When the fuel filter and piping are removed.
(2) When fuel is used up.
(3) After the tractor has not been used for a long period of time.

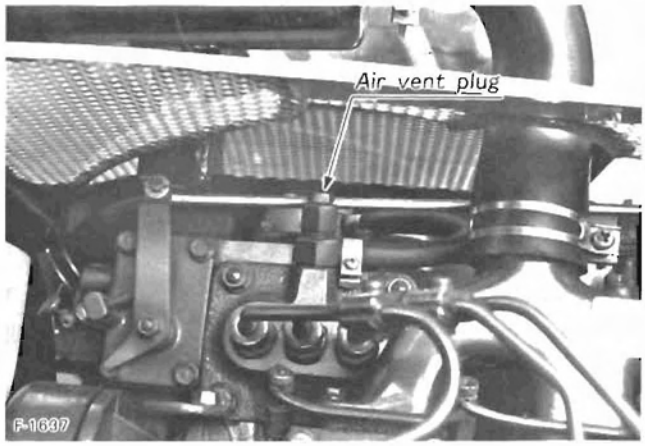
Bleeding procedure is as follows:

[CAUTION]
- **Do not bleed the fuel system when the engine is hot. Fuel may contact hot engine parts resulting in serious personal injury or death from fire.**

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



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



(4) Open the air vent plug on the fuel injection pump.
(5) Pull the throttle lever completely to stop the engine, and start the cell starter for about 10 seconds.

[CAUTION]
- **Be sure to pull the throttle lever back completely before cracking the cell starter.**

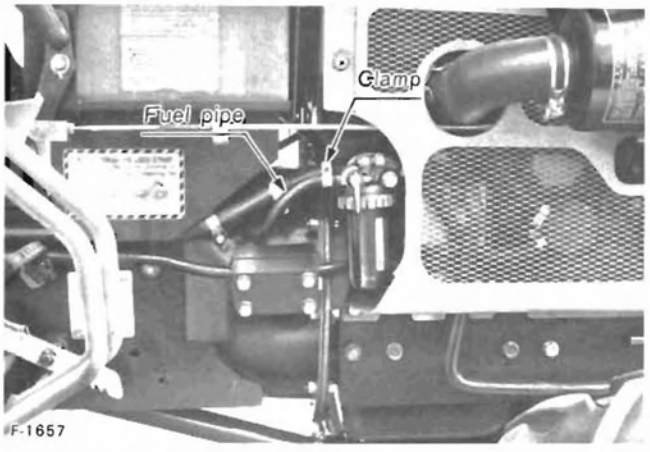
(6) Close the air vent plug when air bubbles disappear from the fuel flowing out.

■ Checking Fuel Pipe

[CAUTION]
To avoid personal injury:
(1) Stop the engine when attempting the check and change prescribed below.
(2) Remember to check the fuel pipe periodically.
The fuel pipe is subject to wear and aging, fuel may leak out onto the running engine, causing a fire.

Although checking the fuel pipe connections is recommended every 100 service hours, it should be done every 6 months if operation does not exceed 100 hours in 6 months.

(1) If the clamp is loose, apply a slight coat of lubricant onto the threads and securely retighten it.

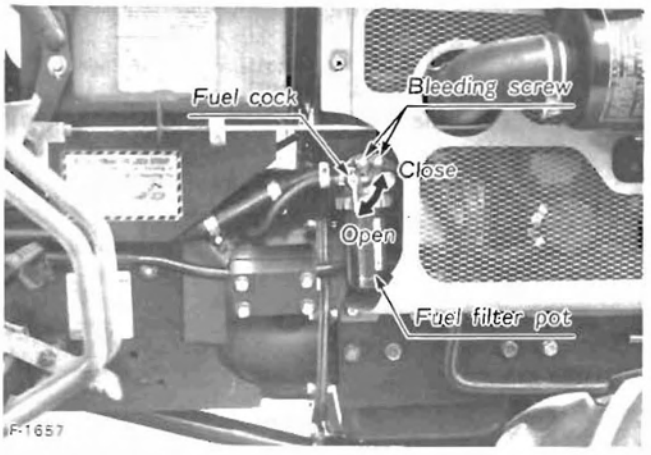


(2) The fuel pipe is made of rubber and ages regardless of period of service. Replace the fuel pipe together with the clamp every two years and securely tighten.
(3) However if the fuel pipe and clamp are found damaged or deteriorated earlier than two years, then change or remedy.
(4) After the fuel pipe and clamp have been changed, bleed the fuel system.

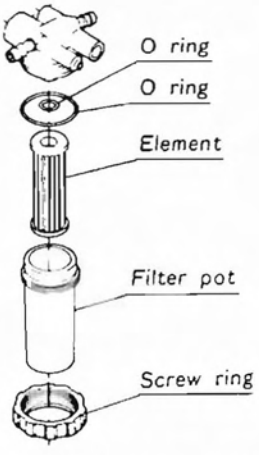
[IMPORTANT]
- When the fuel pipe is disconnected for change, close both ends of the fuel pipe with a piece of clean cloth or paper to prevent dust and dirt from entering. Entrance of dust and dirt causes malfunction of the fuel injection pump. In addition, particular care must be taken not to admit dust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

■ Cleaning the Fuel Filter Pot

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



(2) Unscrew and remove the screw ring, and rinse the inside with kerosene.
(3) Take out the element and dip it in the kerosene to rinse.



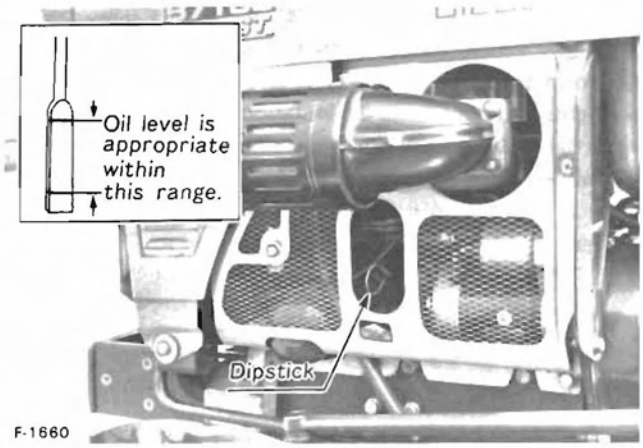
(4) After cleaning, reassemble the fuel filter, keeping out dust and dirt.
(5) To bleed the fuel filter, open the fuel cock and loosen the bleeding screws (two) with two or three turns of a wrench. When air bubbles disappear from the fuel flowing out, retighten the bleeding screws.
(6) Also bleed the injection pump.

[IMPORTANT]
- If dust and dirt enter the fuel, the fuel pump and injection nozzle are subject to quick wear. To prevent this, be sure to clean the fuel filter pot periodically.

8.2 ENGINE OIL

■ Oil Level Check and Replenishment (See page 16)

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



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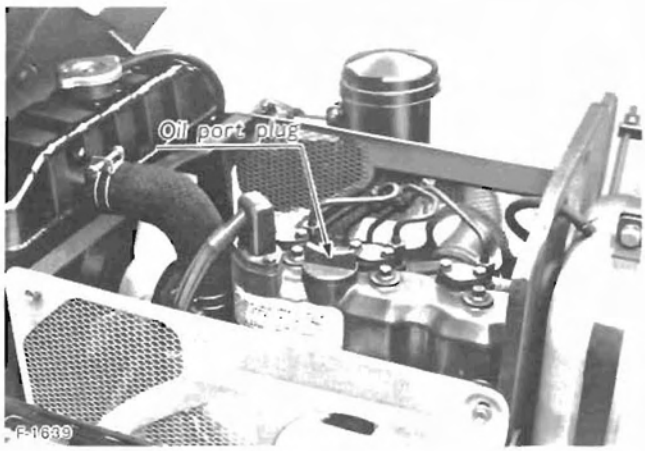

F-1639

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

■ Engine Oil Change

[CAUTION]
- **Before changing the oil, be sure to stop the engine.**

(1) To change the used oil, remove the drain plug at the bottom of the engine and drain the oil completely. All the used oil can be drained out easily when the engine is still warm.

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(2) Fill with the new oil up to the upper notch on the dipstick.

■ Engine Oil Filter Cartridge Change

[CAUTION]
- **Be sure to stop the engine before changing the oil filter cartridge.**

(1) The oil filter cartridge must be changed every 150 service hours.
(2) Apply a slight coat of oil onto the cartridge gasket.
(3) To install the new cartridge, screw it in by hand. Over tightening may cause deformation of rubber gasket.
(4) After the new cartridge has been replaced, the engine oil normally decreases a little. Thus see that the engine oil does not leak through the seal and be sure to read the oil level on the dipstick. Then, replenish the engine oil up to the prescribed level.

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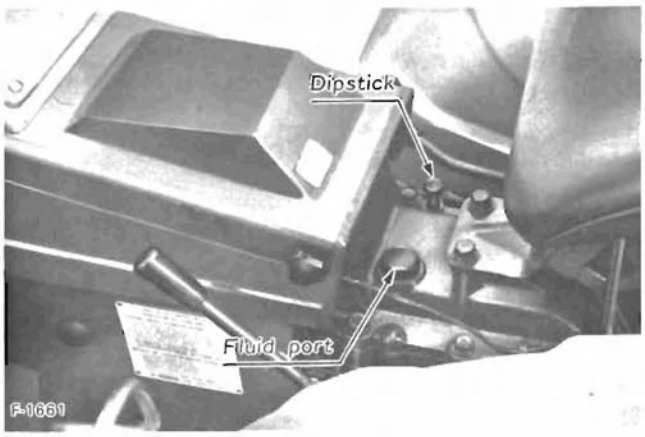
[IMPORTANT]
- To prevent serious damage of the hydraulic system, replacement of element must be highly efficient. Use only a KUBOTA genuine filter or its equivalent.

8. 3 TRANSMISSION FLUID

[CAUTION]
- **Be sure to stop the engine before checking and changing the transmission fluid.**

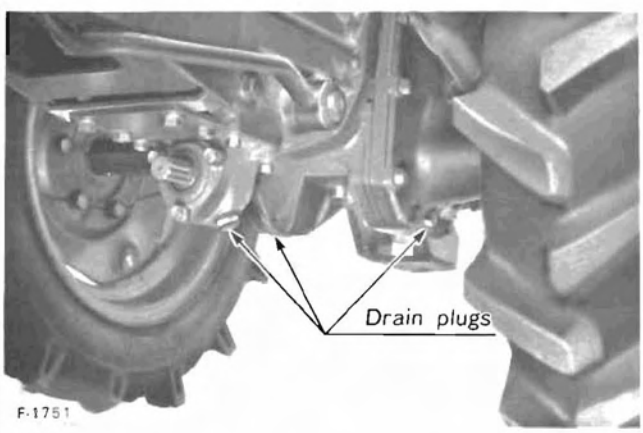
■ Transmission Fluid Check and Replenishment

Draw out the dipstick atop the transmission case and wipe off fluid. Then, replace it and remove it again to see the fluid level. The appropriate fluid level is on the upper notch. If short, replenish through the fluid port.
Use hydrostatic transmission fluid. (See page 16)



■ Transmission Fluid Change

The fluid in the transmission case is also used for the hydraulic drive system.
To drain the transmission case, place a oil pan underneath the transmission case and remove the drain plugs at the bottom of the transmission case.
After draining, disassemble and clean the strainers and change the oil filter cartridge. After reassembling fill with new hydrostatic transmission fluid.

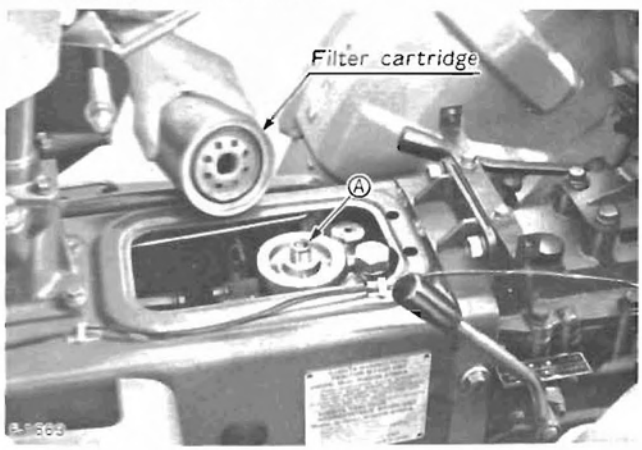


[IMPORTANT]
- Never operate the tractor immediately after changing the transmission fluid and filter cartridge. Keeping the engine at medium speed for a few minutes prevents the damage of transmission.

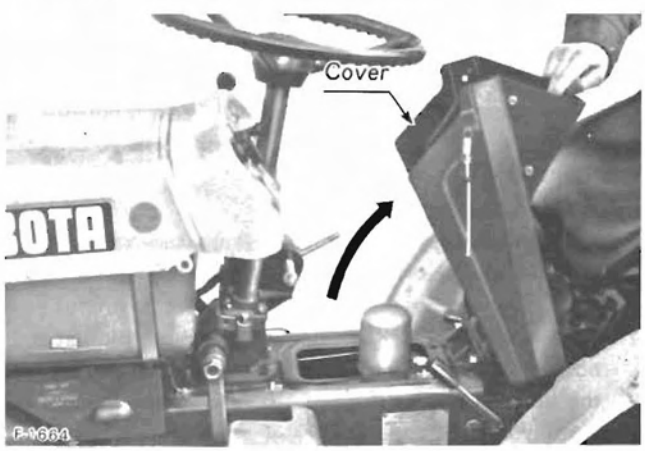
■ Transmission Oil Filter Cartridge Change

[CAUTION]
- **Be sure to stop the engine before changing the oil filters.**

(1) The oil filter cartridge must be changed every 200 service hours.
(2) Remove the 4 bolts which secure the cover. Remove the knob of the speed set device to remove the cover.
(3) Remove the oil filter cartridge by using the filter wrench.
(4) Lightly tighten the screw Ⓐ by using a screwdriver.
(5) Apply a slight coat of oil onto the cartridge gasket.
(6) To install the new cartridge, screw it in **by hand.** Over tightening may cause deformation of rubber gasket.
(7) After the new cartridge has been replaced, the transmission fluid level will become a little lower. Make sure that the transmission fluid does not leak through the seal. Check the fluid level.

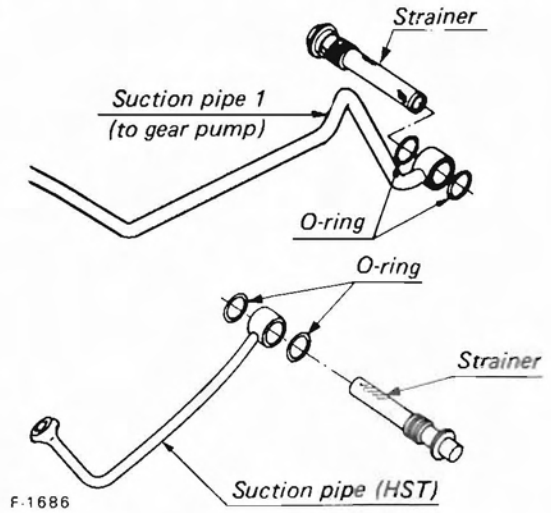


[IMPORTANT]
(1) To prevent serious damage to hydraulic system, replacement of filter must be a highly efficient, 10 μm filter. Use only a KUBOTA genuine filter or its equivalent.
(2) When using the anxiliary nydraulics, replace the transmission oil filter cartridge after initial 50 service hours.



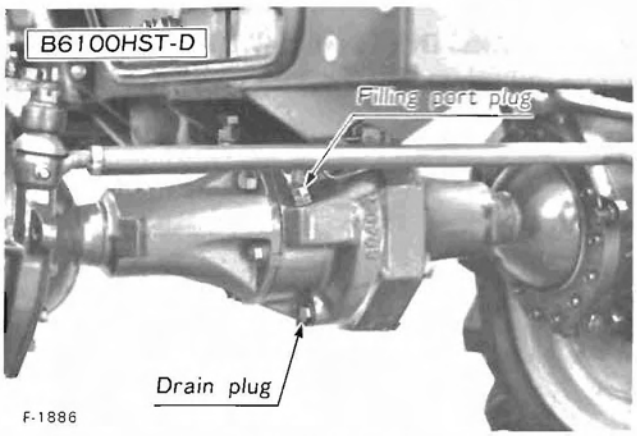
■ Cleaning Strainers
(in changing transmission fluid)

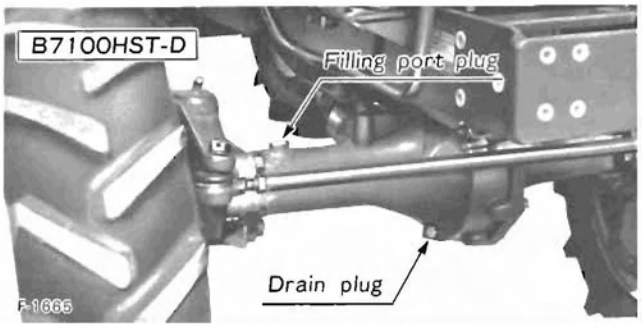
Since the fine dust in the oil could score the component parts of the hydraulic system; precision built to withstand high pressure, the suction pipe ends are provided with oil strainers. When changing the transmission fluid, disassemble and rinse the oil strainers with kerosene to completely clean off dust. For reassembly, take most care not to damage the parts.



8.4 CHANGING FRONT DIFFERENTIAL CASE OIL (4WD) (SEE PAGE 16)

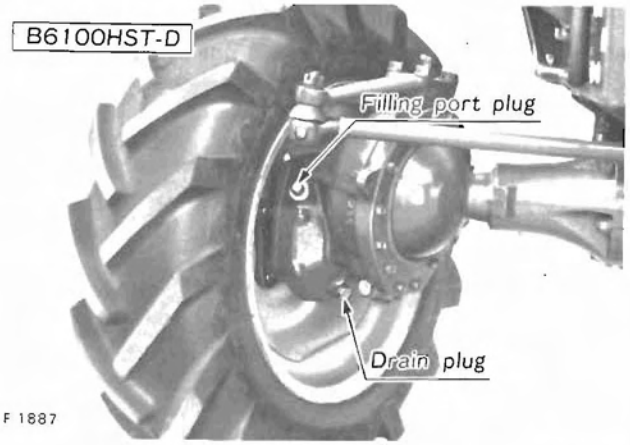
Remove the drain and filling port plugs. After draining, replace the drain plug and fill with new oil.

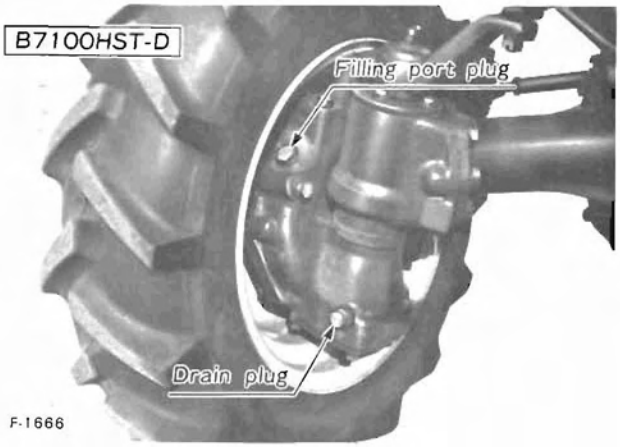




8.5 CHANGING FRONT WHEEL GEAR CASE OIL (RIGHT AND LEFT)(4WD) (SEE PAGE 16)

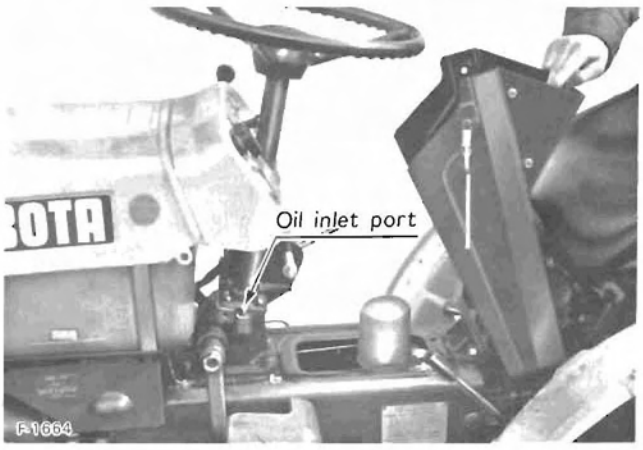
Remove the drain and filling port plugs to drain the used oil. After draining, replace the drain plug and fill with new oil.





8.6 STEERING GEAR BOX OIL (SEE PAGE 16)

If the oil is insufficient, fill with gear lube up to the oil inlet port.

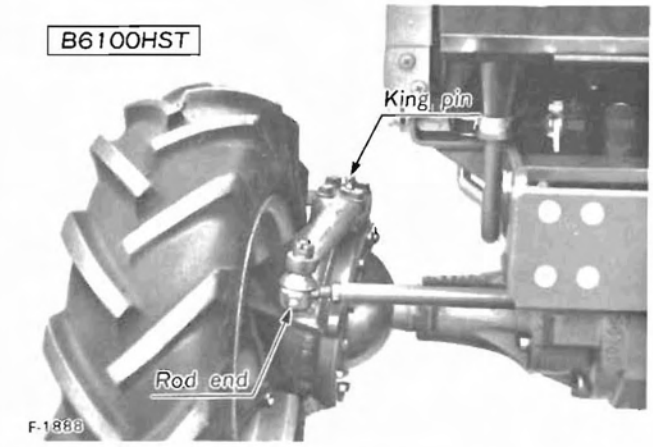


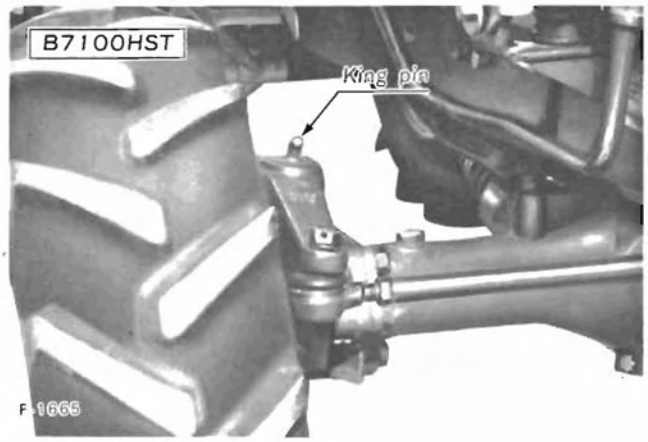
8.7 OILING AND GREASING POINTS BEFORE STARTING

Oil or grease the following points before starting.

■ King Pins and Center Pin

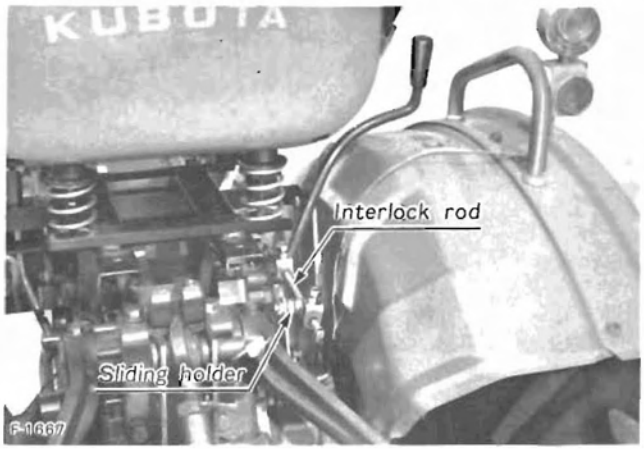
Grease the king pins and center pin, with the grease gun.
(Option)





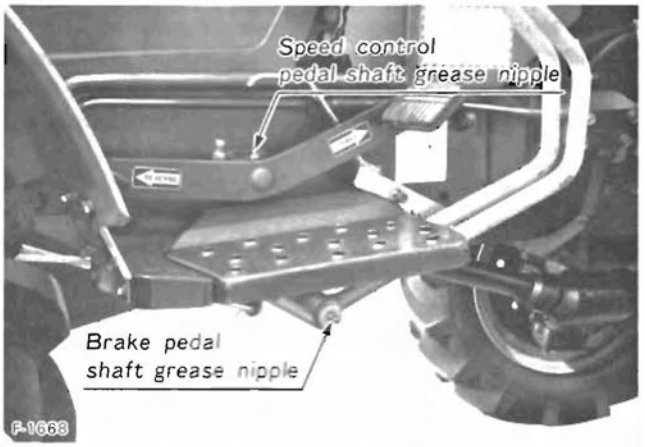
■ Interlock Rod

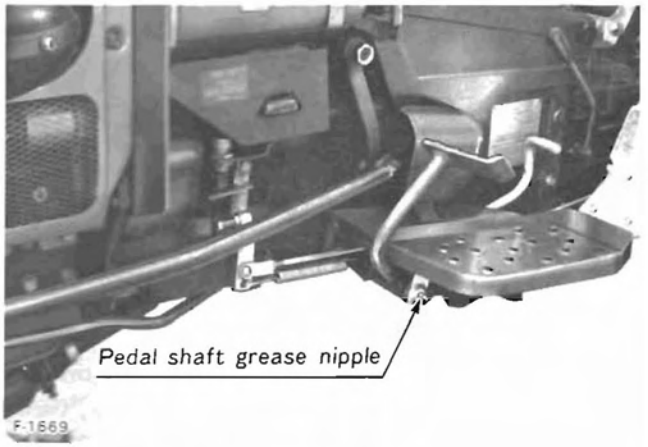
Oil or grease the interlock rod and sliding holder.



■ Pedal Shafts

Grease on both ends of the brake pedal shaft and the speed control pedal shaft.





■ Front Wheel Drive Lever (4WD)

Oil the ball race at the base of the front wheel drive lever, as shown below.

8. 8 RADIATOR

[CAUTION]
To avoid personal injury:
- **Do not remove radiator filler cap untill coolant temperature is below its boiling point. Then loosen cap slightly to the stop to relieve any excess pressure before removing cap completely.**

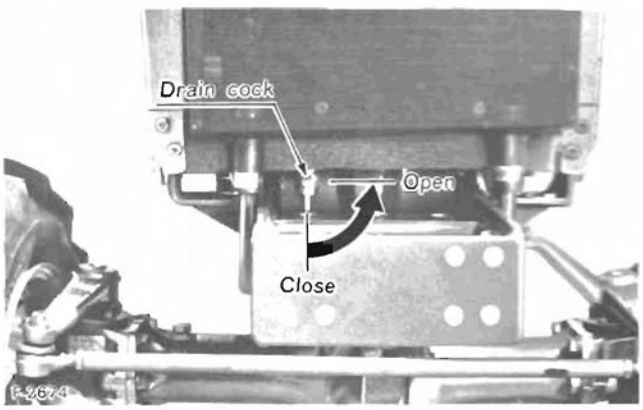
■ Checking, Replenishing and Changing Coolant

(1) Remove the radiator pressure cap and check to see that the coolant level is just below the port. If low, add clean coolant.

Prescribed quantity	4.6 ℓ (4.9 qts.)

[IMPORTANT]
(1) Never replenish with muddy water or salt water.
(2) Securely tighten the pressure cap.

(2) When draining the used coolant, open the water drain cock and the pressure cap at the same time. With the pressure cap closed, complete drainage cannot be achieved.



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

■ Checking Radiator Hoses (Water Pipes)

Check to see if radiator hoses are properly fixed every 200 hours of operation or six months, whichever comes first.
(1) If clamp bands are loose or water leaks, tighten bands securely.
(2) Replace hoses and tighten clamp bands securely, if radiator hoses are swollen, hardened or cracked.

Replace hoses and clamp bands every 2 years or earlier if checked and found that hoses are swoilen, hardened or cracked.

■ 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.

■ Remedying Water Leakage

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

■ Cleaning Cooling System

(1) The water cooling system should be cleaned on the following occasions:
- Every 500 service hours
- When adding an anti-freeze solution.
- When changing from water containing anti-freeze to pure water.

(2) When cleaning the water cooling system, the Kubota Scale Inhibitor No. 20 is recommended to effectively wash away the scale build-up. (Option)

■ Anti-Freeze

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

(1) There are two types of anti-freeze solutions, permanent type (PT) and semi-permanent type (SPT). For the Kubota Engine, be sure to use the permanent type.

(2) When anti-freeze is used for the first time, fill and drain clean water two or three times so as to completely clean the inside of the radiator.

(3) Radiator should be filled with an anti-freeze and water solution as recommended by the anti-freeze manufacturer. The anti-freeze contains a corrosion inhibitor and will allow a higher operating temperature in the radiator during the hot season. Remember that the effective coolant capacity of the radiator is shown on the table below.

Capacity	4.6 ℓ (4.9 qts.)

(4) Mix the anti-freeze and the water, then pour the mixture into the radiator.

(5) When the cooing water mixed with anti-freeze decreases due to evaporation, replenish with water only. If loss has been due to leaking, water and anti-freeze mixture with the same mix ratio as the original preparation.

(6) Anti-freeze solutions absorb moisture, so be sure to securely close the container after use.

(7) Anti-freeze and water should be changed every year.

(8) Do not use an anti-freeze and a scale inhibitor at the same time. This may cause sludge to form, adversely affecting the engine parts.

■ Checking and Cleaning Radiator and Oil Cooler for Preventing from Flooding

Daily or every 5 hours of operation, check to be sure the radiator net, radiator core and oil cooler core are clean.

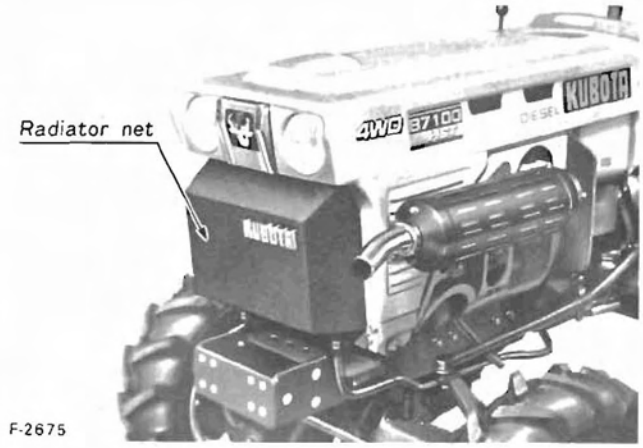
Dirt or chaff to the radiator net, radiator core, or oil cooler core decrease cooling performance.

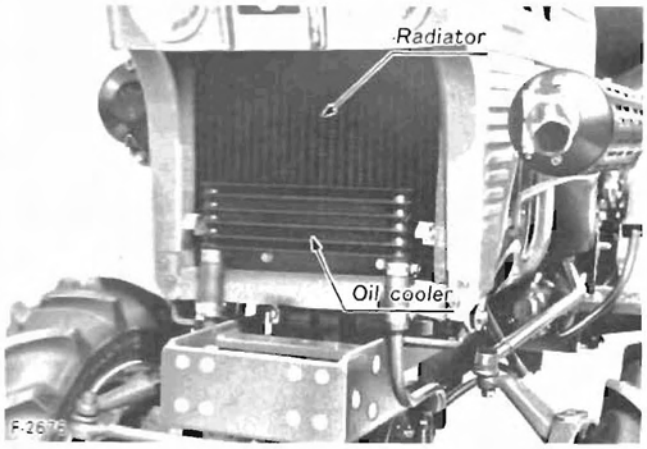
(1) In that case, detach the net and remove all the foreign materials from them.

(2) Remove the dust from between the fins and the tube.

(3) Tighten the fan drive belt as necessary. For this, refer to page 31.

(4) If scale forms in the tube, clean with the scale inhibitor.



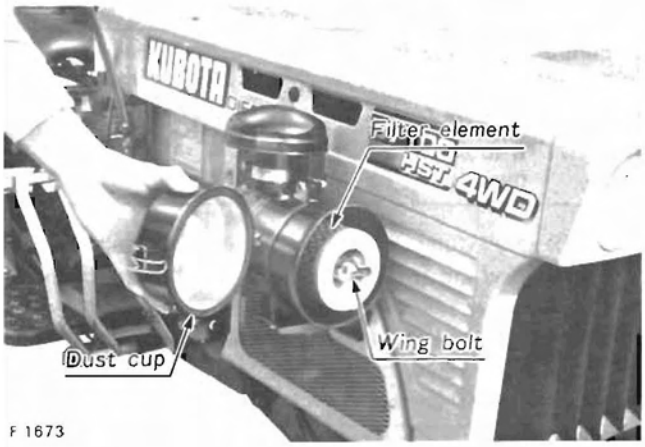


8. 9 AIR CLEANER

(1) The air cleaner uses a dry element, never apply oil.
(2) Do not let dust build up to more than a half of the dust cup. Detach the dust cup and clean out the dust—normally once a week, but everyday if working conditions are especially dusty.
(3) Do not touch the filter element except in cases where cleaning is required.
(4) When cleaning the element, refer to the instructions attached.
(5) If the element is stained with carbon or oil, replace the filter.
(6) Change the element once yearly or every time the air cleaner is rinsed with water (6 times a year).

[IMPORTANT]

- Be sure to refit the dust cup with the arrow ⬆ (on the rear) upright. If the dust cup is improperly fitted, dust passes through the dust cup and directly adheres to the element, badly affecting the service life.



F 1673

8. 10 CLEANING AIR FILTER ELEMENT

To clean the element, use clean dry compressed air on the inside of the element.
Air pressure at the nozzle must not exceed 205 kPa (2.1kgf/cm² ; 30 psi).
Maintain reasonable distance between the nozzle and the filter.

8. 11 BATTERY

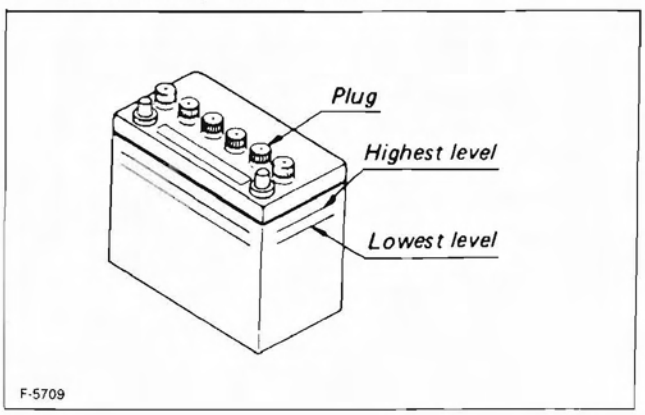
[CAUTION]
To avoid personal injury;
(1) Never remove the battery cap while the engine is running.
Keep electrolyte away from eyes, hands and clothes. If you are spattered with it, flush it away completely with water immediately.
(2) Wear eye protection and rubber gloves when working around batteries.

Mishandling the battery shortens the service life and adds to maintenance costs.

F-1659

[CAUTION]
- **When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.**

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



F-5709

(3) To slow charge the battery, connect the battery positive terminal to the charger positive terminal and the negative to the negative, then recharge in the standard fashion.

(4) A boost charge is only for emergencies. It will partially charge the battery at a high rate and in a short time. When using a boost-charged battery, it is necessary to recharge the battery as early as possible. Failure to do this will shorten the battery's service life.

[CAUTION]

- **To avoid accidental short circuit and injury, be sure to attach the positive cable to the positive terminal before the ground cable is attached to the negative terminal.**

IMPORTANT

- If the tractor is to be operated for a short time without a battery (using a slave battery for starting), do not, under any circumstances, interrupt the circuit by switching off the key switch before stopping the engine by means of fuel pump shut-off knob. Use additional current (lights) while engine is running. Insulate terminal of battery cable before starting by means of slave battery. If this advice is disregarded, damage to alternator and regulator may result.

■ Dry Type Battery Charging

(1) Remove vent plugs and discard temporary sealing tapes.

(2) Fill each cell with electrolyte having a specific gravity given in Table 1 up to the middle levels marked on the battery case side.

Table 1

	AIR TEMPERATURES	
	TEMPERATE Ordinarily below 20°C (68°F)	TROPICAL Frequently above 20°C (68°F)
sp.gr. of Electrolyte for Filling	1.260	1.240
sp.gr. of Electrolyte when fully charged	1.260 to 1.275	1.240 to 1.255

■ Directions for Storage

(1) When storing the tractor for long periods of time, remove the battery from the tractor, adjust the electrolyte to the proper level and store in a cool, dry place.

(2) The battery self-discharges while it is stored. Recharge it once a month in hot seasons and once every two months in cold seasons.

[IMPORTANT]

- The tractor has been shipped with a dry battery. Your dealer will fill it with electrolyte and charge it for initial use.

(3) After standing 2 to 3 hours, adjust the electrolyte to proper level.

(4) Connect positive terminal ⊕ of battery, with positive terminal of D.C. charging unit, and negative terminal ⊖ with negative terminal.

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

Table 2

TYPE	Volts (V)	Number of plate per cell	Capacity at 20 H.R (A.H)	Volume of Electrolyte (ℓ)	Normal Charging Rate (A)
50B24L	12	13	45	2.8	4.5

(6) Check temperature of electrolyte, if it reaches 40°C (105°F), lower the charging rate. When the temperature is too high, reduce charging rate and charge for a longer period.

(7) If the tractor is stored after original charge, periodically recharge as shown below:

Table 3

Period of storage from manufactured (months)	Recharge (hours)
0 to 6	about 3 to 5 hours
6 to 12	10
over 12	30

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

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

8. 12 WHEELS

[CAUTION]

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

(2) Check all bolts frequently and re-tighten to specified torque.

(3) Check wheel tube pin and snap pin for secure set.

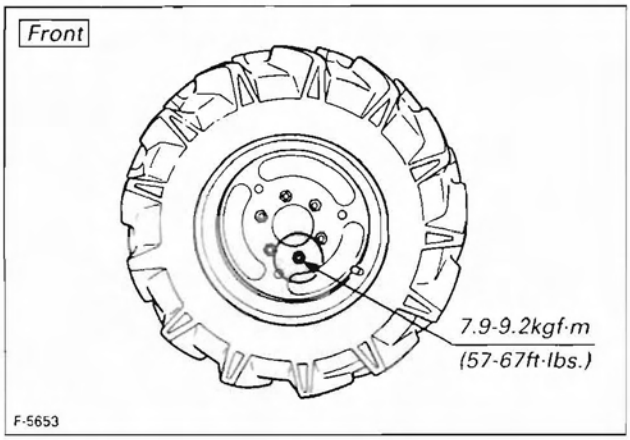
[IMPORTANT]

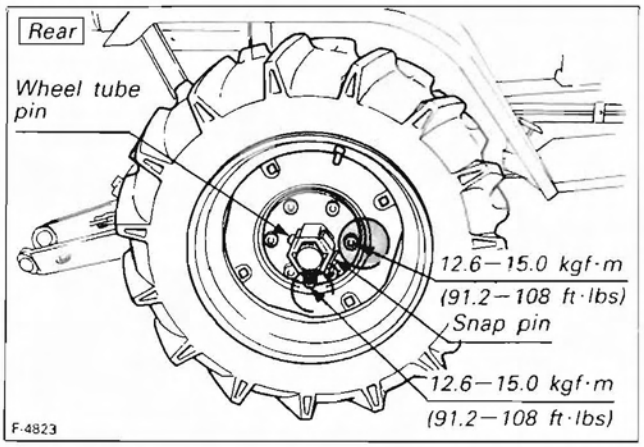
- Re-check after first few hours of operation.

[CAUTION]

(1) When working on slopes or when working with a trailer, set the wheel tread as wide as practical for the job for maximum stability.

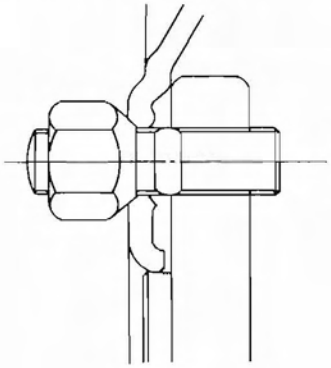
(2) After the change of rear wheel tread, set wheel tube pin and snap pin securely and tighten the nut of the cotter pin to specified torque.





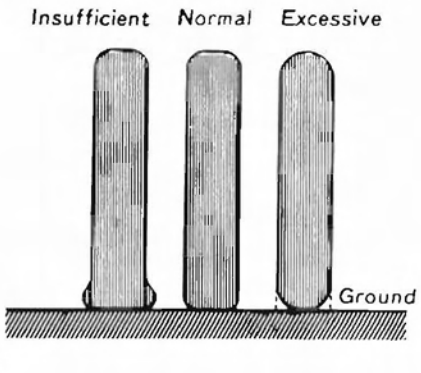
[NOTE]

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



8. 13 TIRES

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. To inflate the wheel tires, use an air compressor or hand pump.



[CAUTION]

- **Do not attempt to mount a tire to the rim. This should be done by a qualified person with the proper equipment.**

[WARNING]

- **Never exceed 241 kPa (2.5 kgf/cm^2, 35 psi) when attempting to seat a bead. If beads have not been seated by the time the pressure reaches 241 kPa (2.5 kgf/cm^2, 35 psi), deflate the assembly, reposition the tire on the rim, relubricate and reinflate. After seating the bead, adjust inflation pressure as recommended in the inflation pressure chart.**

[CAUTION]

- **Use clip on air chuck, extension hose with gauge and stand away from tire while inflating to prevent injury due to blow outs.**

Inflation pressure

Model	Tire Maker	Agricultural tire		Turf tire	
		Front	Rear	Front	Rear
B6100HST-D B7100HST-D (4WD)	Good-Year	6-12-4PR 0.14 to 0.21 MPa 1.4 to 2.1 kgf/cm^2 20 to 30 psi	8.3-16-4PR 0.12 to 0.15 MPa 1.2 to 1.5 kgf/cm^2 17 to 22 psi	20.5 × 8.00-10-4PR 0.14 to 0.16 MPa 1.4 to 1.6 kgf/cm^2 20 to 23 psi	29 × 12.50-15-4PR 0.07 to 0.14 MPa 0.7 to 1.4 kgf/cm^2 10 to 20 psi
			7.2-16-4PR 0.10 to 0.18 MPa 1.0 to 1.8 kgf/cm^2 15 to 26 psi		
	Bridgestone	6-12-2PR 0.08 to 0.10 MPa 0.8 to 1.0 kgf/cm^2 11 to 14 psi	7-16-4PR 0.10 to 0.18 MPa 1.0 to 1.8 kgf/cm^2 15 to 26 psi	20.5 × 8.00-10-4PR 0.14 to 0.16 MPa 1.4 to 1.6 kgf/cm^2 20 to 23 psi	29 × 12.00-15-4PR 0.07 to 0.14 MPa 0.7 to 1.4 kgf/cm^2 10 to 20 psi
		5-12-4PR 0.14 to 0.21 MPa 1.4 to 2.1 kgf/cm^2 20 to 30 psi	8-16-4PR 0.12 to 0.16 MPa 1.2 to 1.6 kgf/cm^2 17 to 23 psi		
B6100HST-E B7100HST-E (2WD)	Good-Year	6.90-9 0.18 to 0.41 MPa 1.8 to 4.2 kgf/cm^2 25 to 60 psi	8.3-16-4PR 0.12 to 0.15 MPa 1.2 to 1.5 kgf/cm^2 17 to 22 psi	20.5 × 8.00-10-4PR 0.14 to 0.16 MPa 1.4 to 1.6 kgf/cm^2 20 to 23 psi	29 × 12.50-15-4PR 0.07 to 0.14 MPa 0.7 to 1.4 kgf/cm^2 10 to 20 psi
		4.00-9-4PR 0.12 to 0.16 MPa 1.2 to 1.6 kgf/cm^2 17 to 23 psi	7.2-16-4PR 0.10 to 0.18 MPa 1.0 to 1.8 kgf/cm^2 15 to 26 psi		
	Bridgestone	4.00-9-4PR 0.12 to 0.16 MPa 1.2 to 1.6 kgf/cm^2 17 to 23 psi	7-16-4PR 0.10 to 0.18 MPa 1.0 to 1.8 kgf/cm^2 15 to 26 psi	20.5 × 8.00-10-4PR 0.14 to 0.16 MPa 1.4 to 1.6 kgf/cm^2 20 to 23 psi	29 × 12.00-15-4PR 0.07 to 0.14 MPa 0.7 to 1.4 kgf/cm^2 10 to 20 psi
			8-16-4PR 0.12 to 0.16 MPa 1.2 to 1.6 kgf/cm^2 17 to 23 psi		

■ **Liquid Weight**

Water and calcium chloride solution is an economical means of adding weight to the wheels. 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. Do not fill any tire more than 75% full (to valve stem level).

8. 14 BALLAST

■ Selecting Front Ballast

Add weight to front end if needed for stability.
Heavy pulling and heavy rear mounted implements tend to lift front wheels. Add enough ballast to maintain steering control and prevent tip over.
Remove weight when it is no longer needed. Front weights are available from your Kubota Dealer.
Your dealer can nelp you decide how much is required for your particular application.

[CAUTION]

- **Additional ballast will be needed for transporting heavy mounted implements. When the implement is raised, drive slowly over rough ground, regardless of how much ballast is used.**

■ Select Rear Ballast Carefully.

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. Rear wheel weights are available or liquid may be added to the rear tires. Consult your Kubota dealer for the correct ballasting necessary for your particular application.

■ Using Liquid Weight 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 also 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. Do not fill any tire more than 75% full (to valve stem level).

Liquid weight per tire (75 Percent filled)

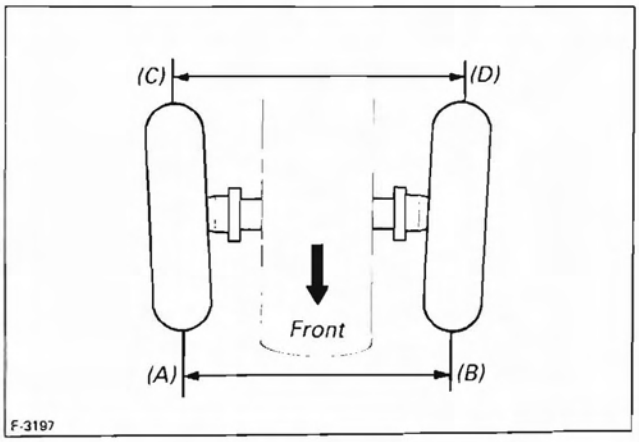
Tire sizes	7—16 7.2—16	8—16 8.3—16
Slush free at −10℃ (13℉) Solid at −30℃ (−23℉) [Approx. 1 kg (2 lbs.) $CaCl_2$ per 4 ℓ (1 gal) of water]	26 kg (57 lbs.)	35 kg (77 lbs.)
Slush free at −24℃ (−12℉) Solid at −47℃ (−52℉) [Approx. 1.5 kg (3.5 lbs.) $CaCl_2$ per 4 ℓ (1 gal) of water]	28 kg (62 lbs.)	37 kg (82 lbs.)
Slush free at −47℃ (−52℉) Solid at −52℃ (−62℉) [Approx. 2.25 kg (5 lbs.) $CaCl_2$ per 4 ℓ (1 gal) of water]	29 kg (64 lbs.)	39 kg (86 lbs.)

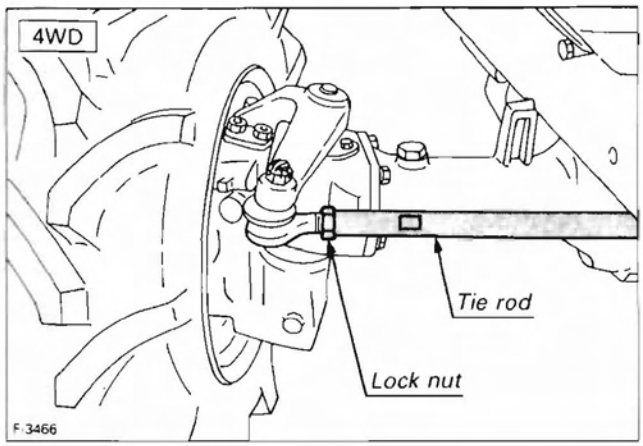
[IMPORTANT]

- Do not fill the following tires with water, or the tires will be damaged.
  4.00—9, 6—12, 20.5×8.00—10, 29×12.50—15
  6.90—9, 18×8.50—8, 20×8.00—10, 29×12.00—15

8. 15 TOE-IN

Toe-in equals distances (C)(D)-(A)(B): 0 to 5mm (0 to 0.2 in.).
To adjust toe-in loosen the lock nut and adjust the length of the tie rod until the proper toe-in measurement is obtained. Retighten the lock nut.





9. ADJUSTMENTS

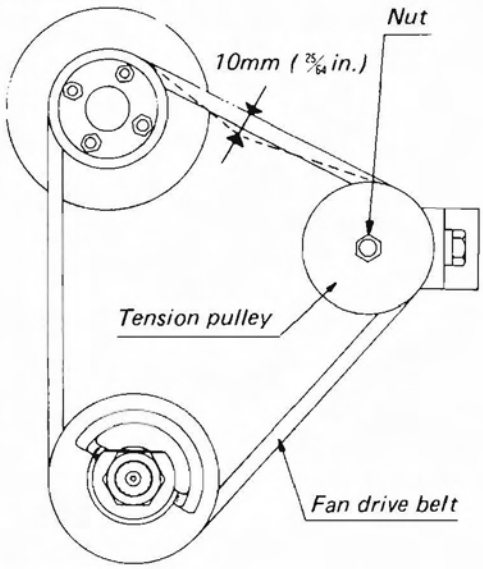
[CAUTION]
To avoid possible tractor run away:
- **When making adjustments, park the tractor on flat ground and apply the parking brake.**

9.1 FAN DRIVE BELT TENSION

If the fan drive belt becomes loose, the engine may overheat. Check the belt tension as shown below. To adjust loosen the adjusting nut and tighten the tension bolt to stretch the belt. After adjustment, securely tighten the adjusting nut.

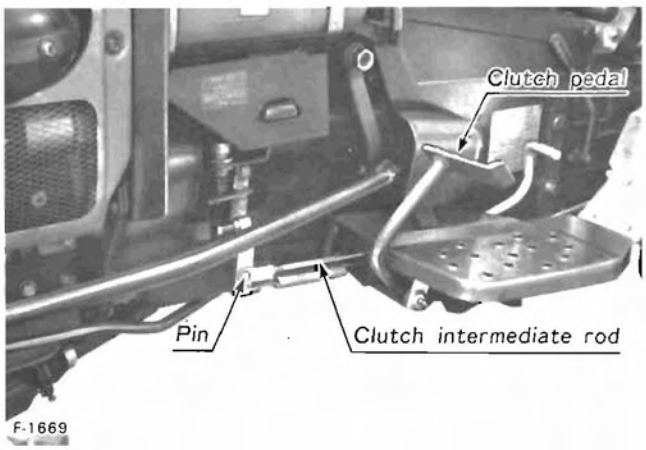
Moderate belt tension:

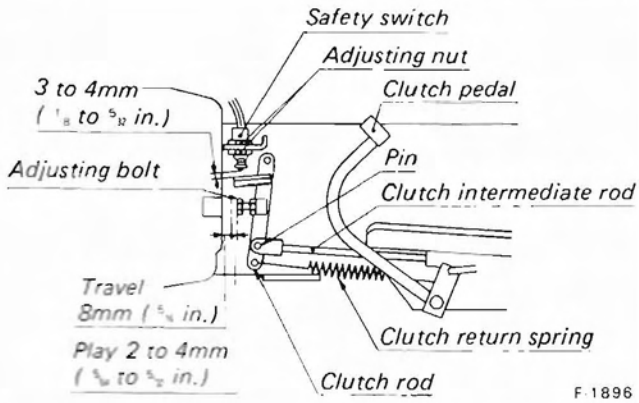
The belt should deflect approx. 10mm (25/64 in.) when the center of the belt is depressed with a finger pressure of 98N (10 kgf, 22 lbs.).



9.2 CLUTCH

Moderate clutch play ranges from 2 to 4mm (5/64 to 5/32 in.) and moderate clutch travel is 8mm (5/16 in.). Refer to the drawing.





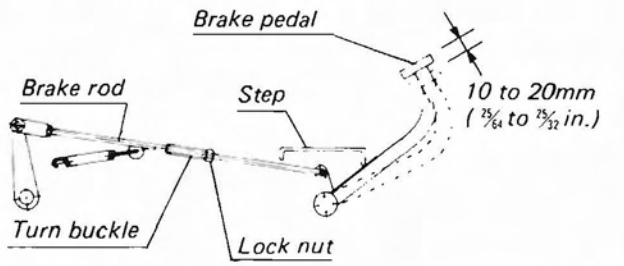
(1) If the clutch becomes difficult to disengage or pedal play decreases, adjust the length of the intermediate rod after removing the pin. When the clutch is difficult to disengage, extend the intermediate rod. When the clutch play is too little, shorten the intermediate rod.

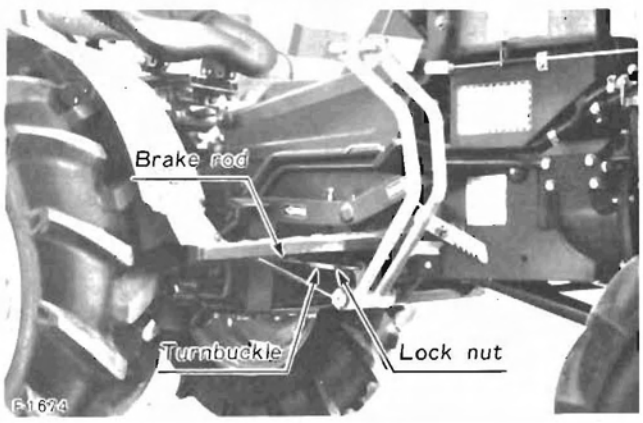
(2) To adjust pedal travel, loosen the lock nut and turn the adjusting bolt to the point where the clutch is disengaged completely.

9.3 BRAKE

If brake pedal travel becomes too great or travel varies too greatly between the right and left pedals, loosen the turnbuckle lock nut and turn the turnbuckle in the desired direction until the proper pedal travel is achieved. Moderate right and left pedal play ranges from 10 to 20mm (25/64 to 25/32 in.).

After adjustment, interlock the right and left brake pedals and finally tighten the lock nut securely.

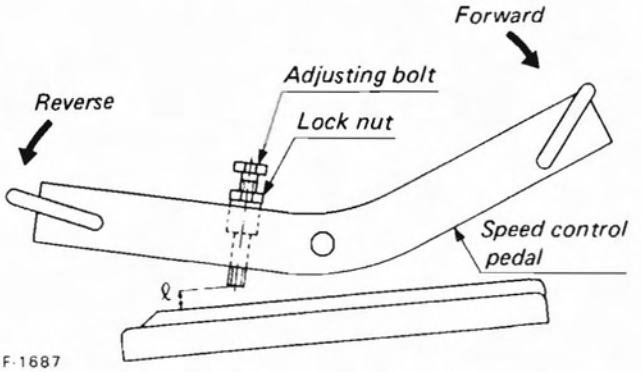




9.4 REVERSE SPEED

The maximum reverse speed has been set at 10km/h (6.2 mph), which is the maximum safe reverse speed.

(1) Loosen the lock nut.
(2) Turn the adjusting bolt to restrict the reverse pedal movement further which lowers the maximum reverse speed. Do not adjust to exceed the reverse maximum speed.
(3) After the adjustment, tighten the lock nut.



F-1687

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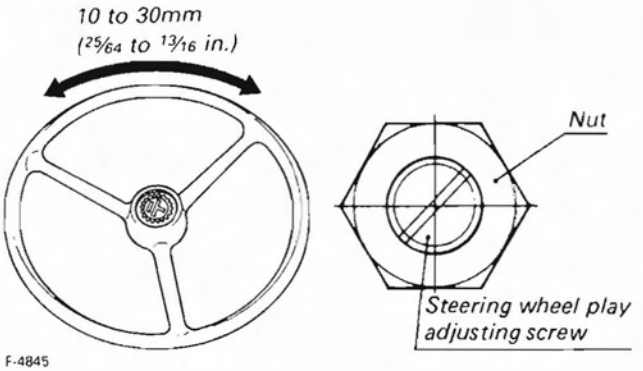
9.5 STEERING WHEEL

Moderate steering wheel play is 10 to 30mm ($^{25}/_{64}$ to $1\,^{3}/_{16}$ in.). To adjust this, loosen the lock nut and turn the adjusting screw to the right. After adjustment, securely retighten the nut.



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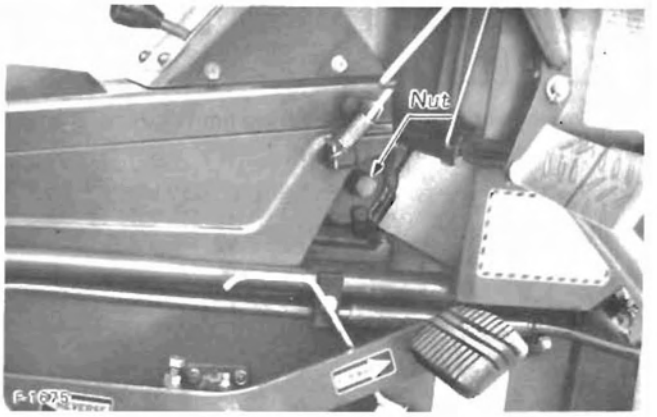
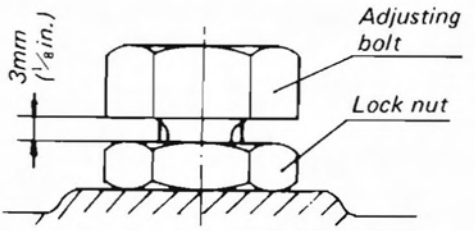


F-1625

9.6 IMPLEMENT LOWERING SPEED

Implement lowering speed can be adjusted in accordance with the type of the implement and operating conditions. To adjust, loosen the lock nut, then tighten or loosen the adjusting bolt on the hydraulic control valve. Tightening the adjusting bolt slows down the lowering speed while loosening it accelerates the speed. After adjustment, securely tighten the lock nut.

Example: The proper lowering speed of a rotary tiller is such that it takes two or three seconds to descend from the top position to the ground.



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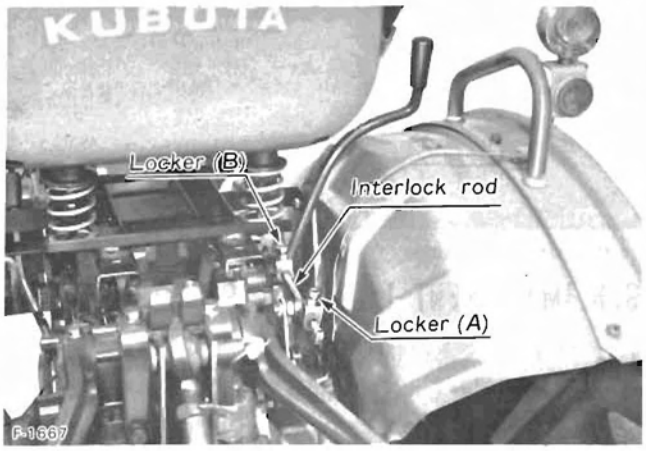
9.7 IMPLEMENT LIFTING AND LOWERING LIMITS

The implement lifting and lowering limits can be changed by shifting the locker (A) or (B).



■ Lower Limit

The lower limit can be changed by shifting the position of the locker (A). Shifting the locker (A) backward lowers the limit and shifting it forward raises the limit.

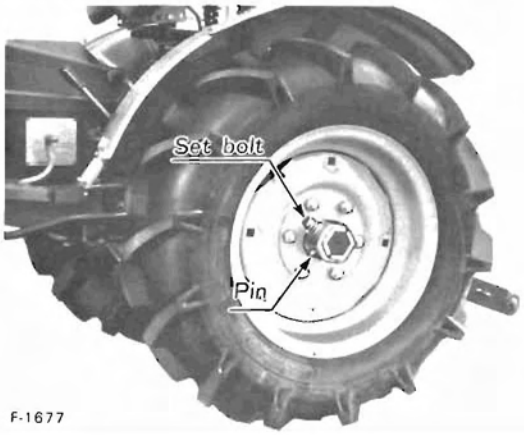
■ Upper Limit

The upper limit can be changed by shifting the position of the locker (B). Shifting the locker (B) backward lowers the upper limit and shifting it forward raises the limit.

9.8 REAR WHEEL TREAD

The rear wheel is fixed to the hexagonal axle and hub by the use of a pin and set bolt. Rear wheel tread can be changed at 3 steps by selecting one of the pin holes on the axle. Adjust the rear wheel tread according to operating conditions. Securely tighten the set bolt after each wheel tread change. Periodically check the set bolt to ensure it remains tightened.

The narrower the tread width the greater the risk of a tractor upset. For maximum stability adjust the wheels to the largest practical tread width.



9.9 EXHAUST PIPE WITH MUFFLER

The exhause pipe can be turned. Adjust this properly while the tractor operate between the crop rows.

10. TROUBLESHOOTING

10.1 ENGINE TROUBLESHOOTING

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

Trouble	Cause	Countermeasure
Engine is difficult to start.	1) No fuel flows.	1) Check the fuel tank and the fuel filter, and remove dirt buildup. 2) All fuel passes through the fuel filter and much dust is caught in it. Should there be deposits on the filter, replace it.
	2) Air and water is in the fuel system.	1) Check to see if the fuel pipe coupler bolt and nut are tight. 2) Bleed the fuel system (See page 18)
	3) In winter, oil viscosity increases, and engine revolution is heavy.	1) Pour hot water over the radiator. 2) Use oils of different viscosities, depending on ambient temperatures.
	4) Battery becomes weak and the engine does not overcome compression.	1) Charge the battery. 2) In cold weather, always remove the battery from the engine, charge it and store it indoors. Install it on the engine only when the tractor is going to be used.
Insufficient engine power	1) Insufficient fuel. 2) The air cleaner is clogged.	Check the fuel system. Clean the element.
Engine stops suddenly	insufficient fuel.	1) Refuel. 2) Check to see if air mingles in the fuel system.
Exhaust fumes are colored.	Fuel quality is poor.	Change the fuel.
Engine overheats	Engine overloaded	Shift to lower gear or reduce load.
	Low coolant level	Fill cooling system to proper level; check radiator and hoses for loose connections or leaks.
	Loose or defective fan belt	Adjust fan belt.
	Dirty radiator core or grille screens	Remove all trash.
	Coolant flow route corroded	Flush cooling system.

If you have any questions, contact your Kubota dealer.

10.2 TRACTOR TROUBLESHOOTING

Trouble	Cause	Countermeasure
Tractor operation is not smooth.	*Hydrostatic transmission fluid is insufficient. *Filter is clogged. *Strainer is clogged.	*Replenish oil. *Replace the filter. *Clean the strainer.
Tractor does not move while engine is running.	*High-Low lever is at neutral. *Parking brake is working. *Transmission fluid is insufficient.	*Check the High-Low lever. *Release the parking brake. *Replenish oil.
Tractor moves when speed control pedal is not depressed. (Engine is operated.)	*Hydrostatic lever linkage is not correctly adjusted.	*Ask your dealer for hydrostatic lever linkage adjustment or pressure adjustment.

If you have any questions, contact your Kubota dealer.

10.3 BATTERY TROUBLESHOOTING

Trouble	Cause	Countermeasure	Preventive measure
The cell starter does not start.	*Lights have been overused until they become dim.	*Charge the battery for a long enough time by the standard method.	*Charge the battery properly, or avoid overdischarging.
	*Battery has not been recharged.		
	*Poor terminal connection.	*Clean the terminal and tighten securely.	*Keep the terminal clean and tight. Apply grease and treat with anti-corrosives.
	*Battery is dead.	*Renew battery.	
The cell starter does not start even after charging, and lights soon become dim.	*Insufficient charging.	*Charge the battery for a long enough time by the usual method.	*Fill up the battery before use.
When viewed from top, the top of plates looks whitish.	*Battery was used with an insufficient amount of electrolyte.	*Add distilled water and charge the battery.	*Regularly check the electrolyte level.
	*Battery was used too much without recharging (overdischarged).	*Charge the battery for a long enough time by the usual method.	*Charge the battery properly, or avoid overdischarging.
Recharging is impossible.	*Battery is dead.	*Renew battery.	
Terminals are severely corroded and heat up.	*Poor terminal connection or stained terminal	*Clean the terminal and tighten securely.	*Keep the terminal clean and tight. Apply grease and treat with anti-corrosives.
Battery electrolyte level drops rapidly.	*There is a crack or pin holes in the electrolytic cells.	*Renew electrolytic cells.	*Replace the battery completely or take it to a reliable repair center. Never renew the electrolyte cell by yourself.

If you have any questions, contact your Kubota dealer.

11. LONG-TERM STORAGE

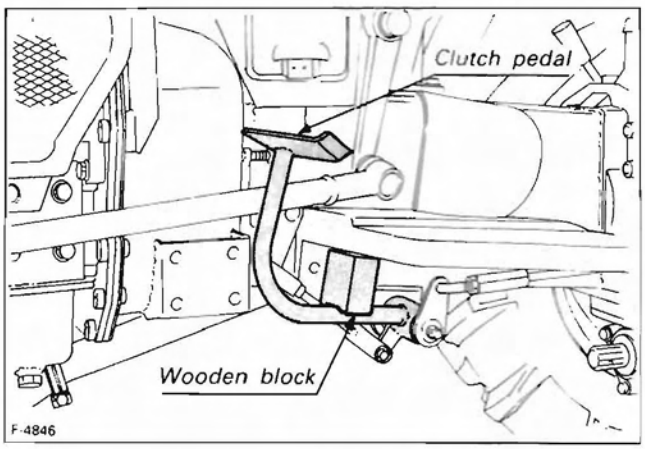
CAUTION:

(1) When storing, remove the key from the key switch to avoid unauthorized persons from operating the tractor and getting injured.

(2) To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.

When the tractor will not be operated for two or three months or longer, clean the tractor and perform the following treatment before storage.

(1) Repair any parts as needed.
(2) Check nuts and bolts, tighten as necessary.
(3) Apply grease or engine oil to the parts most likely to rust.
(4) Remove any ballast weight.
(5) Inflate the tires to a little above the standard pressure levels.
(6) Change the engine oil and run the engine for five minutes so that the oil circulates throughout the entire lubrication system.
(7) Stop the engine by fully pulling the engine stop knob.
(8) Drain the radiator. Flush and refill with new coolant.
(9) Lock the clutch pedal with the provided wooden block. If the tractor is stored for a long period with the clutch left engaged, the clutch disc may rust, rendering it inoperative.



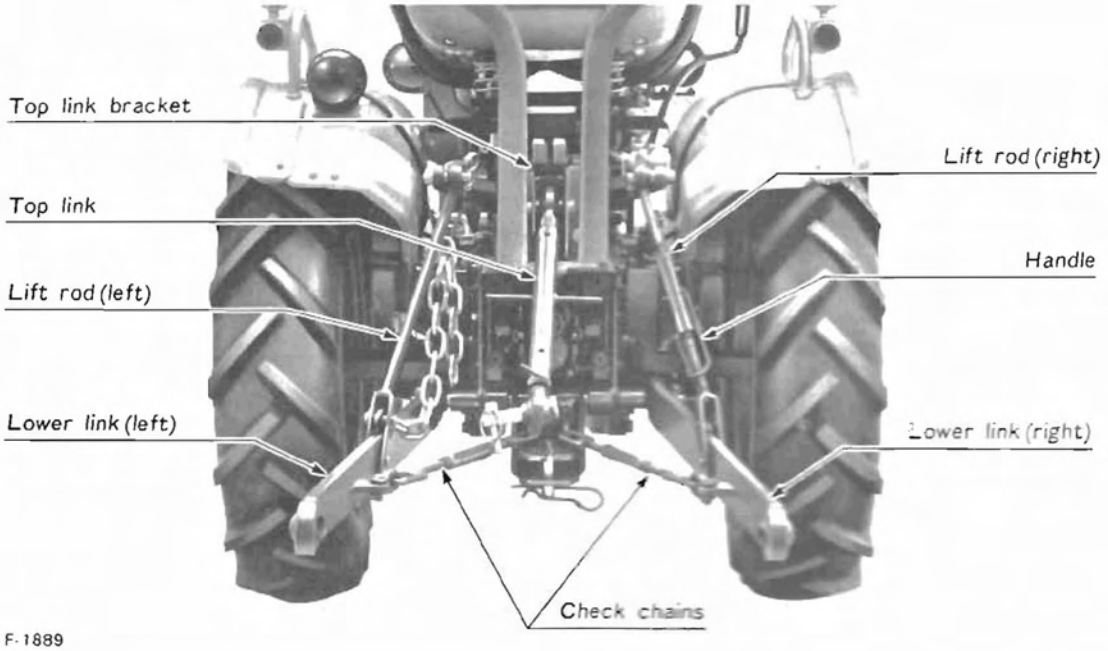
(10) Lower the implement to the ground.
(11) Remove the battery from the tractor, recharge it, adjust the electrolyte to the proper level, and store in a cool, dry place.
(12) The battery runs down over time even while in storage. Recharge it once a month in hot seasons and once every two months in cold seasons.
(13) Store the tractor where dry and sheltered from rain. Further cover the tractor with a tarpaulin.
(14) When leaving the tractor outdoors, protect the muffler from the rain.

IMPORTANT:

- To clean the tractor stop the engine. If you must clean the tractor with the engine going, utmost care should be taken not to allow water to enter the air cleaner. Engine trouble may occur if water enters the engine.

12. THREE-POINT HITCH AND DRAWBAR

12.1 THREE-POINT HITCH ADJUSTMENT



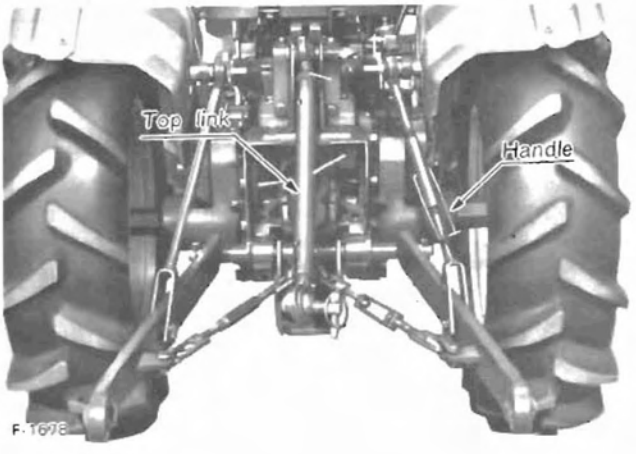
F-1889

■ Top Link

Implement tilt can be adjusted by changing the length of the top link. Shortening the top link, for example, tilts the implement front down.

■ Lift Rod

The lift rod (right) is provided with an adjustment handle for extending or shortening the lift rod. To level the implement, adjusting the length.



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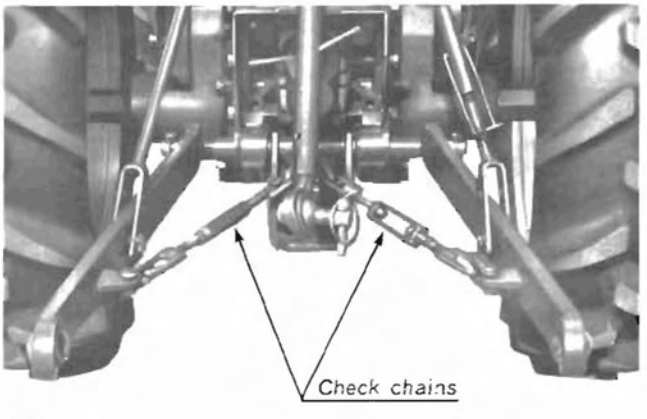
■ Check Chain

The check chains are to prevent the lower links from contacting the rear tires. If the check chain is too taut, it takes on a full load from the implement and is likely to break. Check chain tension should be adjusted to the extent where the lower links do not contact the rear wheel tires.



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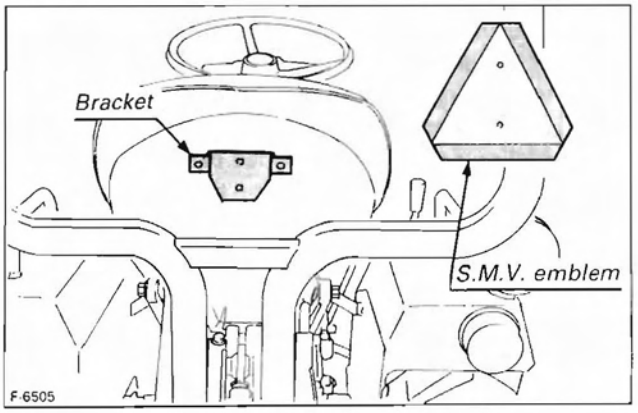
[CAUTION]

- **Reduce rear tipping by hitching only to the drawbar-NEVER HIGHER. USE SEAT BELTS with ROPS.**

13. OPTIONS

■ SMV (Slow Moving Vehicle) Emblem

Recommended to forewarn overtaking traffic of tractor's presence.



■ Upright Muffler (66711–82511)

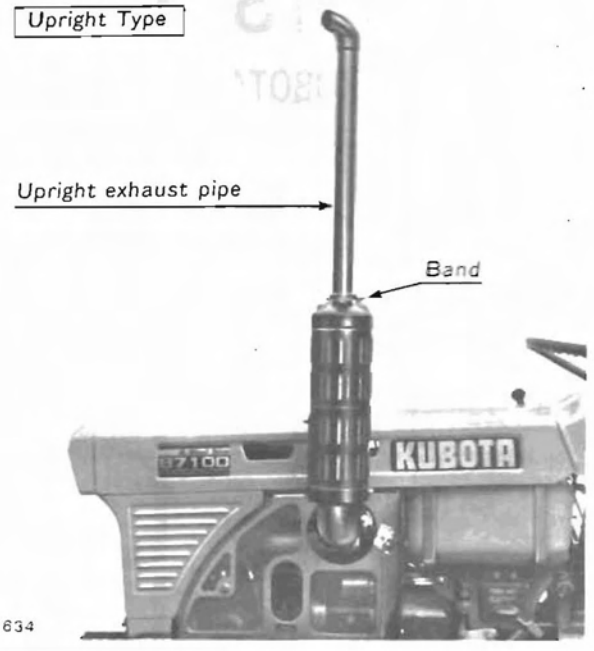
The horizontal muffler can be converted into an upright muffler with minor changes of parts.

To convert:

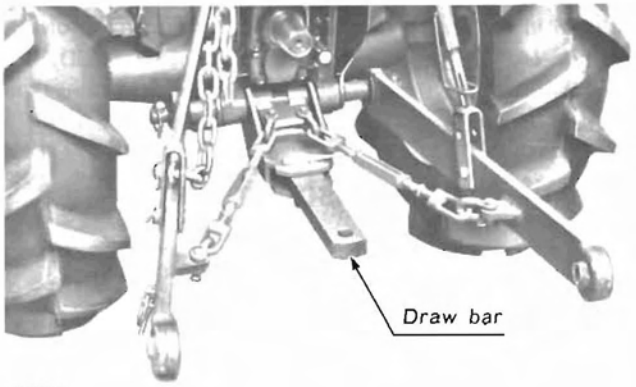
(1) Remove 4 bolts (M8) fastening the elbow and muffler, then detach the stay.

(2) Turn the muffler inlet upright and lock with 4 nuts (M8).

(3) Replace the horizontal exhaust pipe with an upright exhaust pipe and clamp with the band.



■ Draw Bar (66204–86511)



14. LUBRICANT SPECIFICATIONS

■ Engine Oil

Oil used in the engine should have an American Petroleum Institute (API)/SAE Classification of service CC or CD. The chart below shows the correct oil to be used at various temperature conditions:

ENGINE OIL VISCOSITY CHART

Below 0°C (32°F)	SAE 10W or 10W—30
0 to 25°C (32 to 77°F)	SAE 20 or 10W—30
Above 25°C (77°F)	SAE 30 or 10W—30

■ Others

Power steering	Multi-grade transmission fluid (Same as transmission oil)
Front Wheel Bearings [2WD]	SAE lithum based grease
Chassis grease fittings	Multipurpose type grease
Front Wheel Drive Unit [4WD]	SAE 80 or 90 gear oil

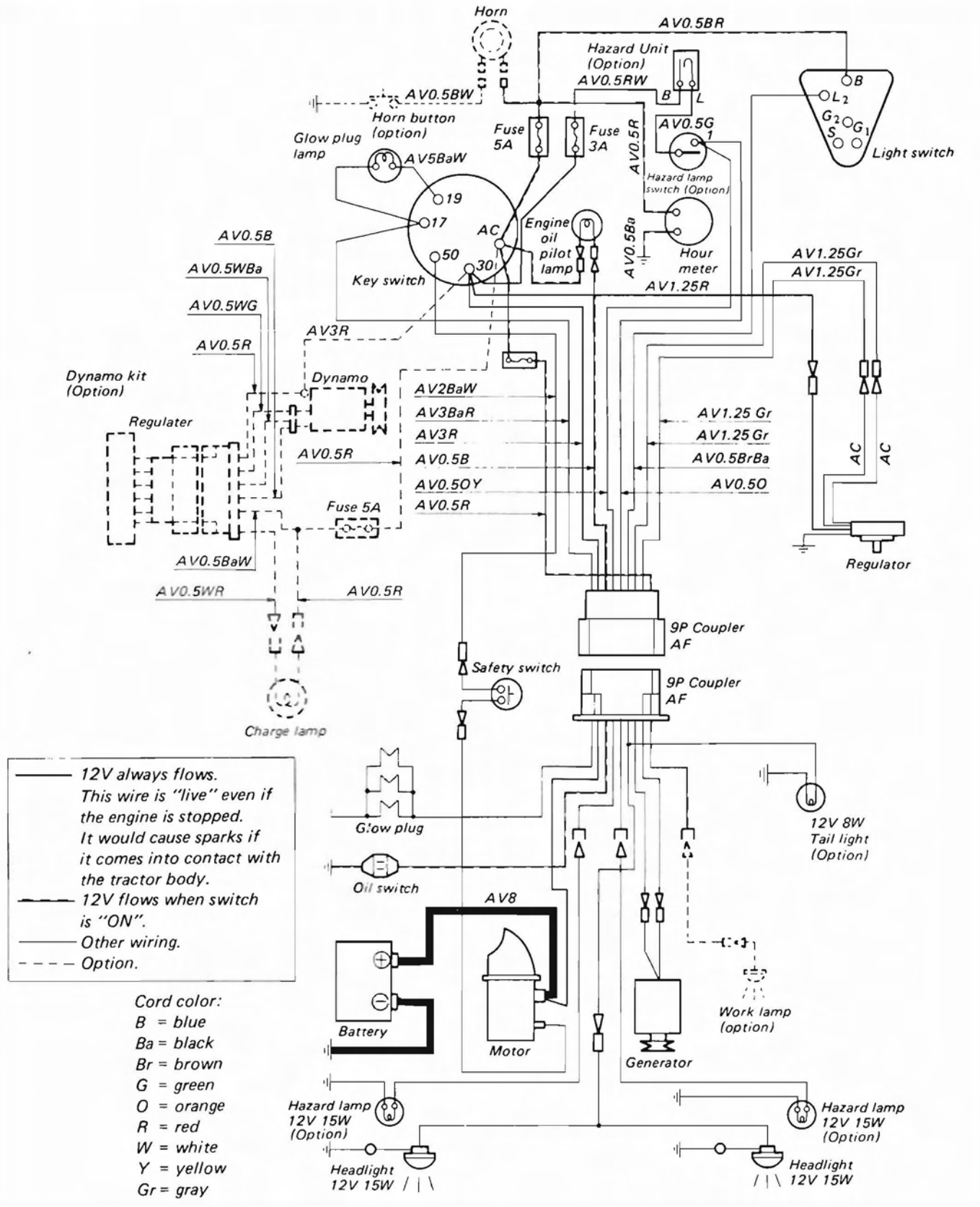
■ Transmission Oil

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 UDT fluid for optimum protection and performance.

Also the following are recommended oils, by brand name, that may be used in the transmission hydraulic system.

Maker	Brand Name
Atlantic Richfield (ARCO)	Arco Tractor Fluid
Chevron	Tractor Hydraulic Fluid
Exxon	Torque Fluid 56
Penzoil	Hydra-Trans and Wet Brake Fluid
Phillips	H.T.Fluid
Shell	Donax TD,TT,TM
Texaco	T.D.H.Oil
Union	Hydraulic / Tractor Fluid
Mobil	Mobil Fluid 423

15. WIRING DIAGRAM



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To achieve this status, the company has through the years diversified the range of its products and services to a remarkable extent, until today, 19 plants and 16,000 employees produce over 1,000 different items, large and small.

All these products and all the services which accompany them, however, are unified by one central commitment. KUBOTA makes products which, taken on a national scale, are basic necessities. Products which are indispensable, products intended to help individuals and nations fulfill the potential inherent in their environment. For KUBOTA is the Basic Necessities Giant.

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