

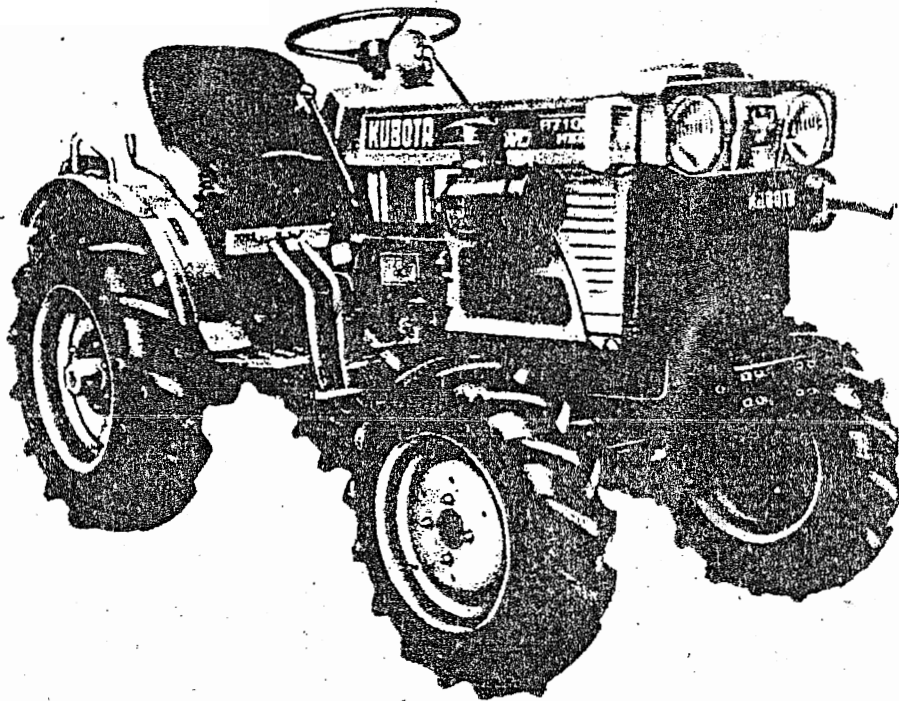
MU.KU.B5.6.7001.GB

KUBOTA TRACTORS

B5000 - B7000

B5001 - B6001 - B7001

B5100 - B6100 - B7100



OWNER'S MANUAL

VM Service

Handleiding

VM - SERVICE
De Maalstroom 3
8255 RN Swifterbant
Tel. 0321 - 32 38 80



FOR SAFETY OPERATION

For safety operation, be sure to observe the following directions and precautions.

First of all, please read this Owner's Manual carefully and get familiar with your Kubota Tractor. Every time you drive it, ensure that everything is in order. The following are general safety precautions to prevent accidents and troubles. Later in this manual you will find other particular safety precautions related to individual operations.

1. FUEL SUPPLY AND ENGINE START

- (1) Always stop the engine before refueling.
- (2) To avoid the danger of exhaust fume poisoning, do not keep the engine running for a long time in a closed garage.
- (3) Before starting the engine, mount the driver's seat, disengage the clutch and put the main and high-low gear shift levers and PTO speed change lever into neutral.

2. STARTING

When starting the tractor, check to see that there are no people around. To back the tractor, first check to see that there are no obstacles around it and slow down the engine.

3. OPERATION

- (1) Unreasonable driving such as operation on a slope or under an extremely heavy workload may tip the tractor over.
- (2) Keep the safety cover on, otherwise a hand or finger may be caught by rotating parts.
- (3) When working in cooperation with other tractors, let the other drivers know what you are doing at every job start and end.
- (4) Keep people away from the tractor during operation.
- (5) When using a heavy implement, be sure to fit the tractor with the prescribed front weight.

4. LOADING AND UNLOADING

- (1) Securely fix a rugged ramp with non-skids and check to see that there are no people around before starting to load or unload.
- (2) To prevent a truck to be loaded or unloaded from moving, be sure to apply the truck side brake securely.

5. TRAVELLING

- (1) When travelling on the road, be sure to interlock the two brake pedals. Uneven braking may cause sudden swerves or the tractor to tip over.
- (2) When descending a slope, never disengage the clutch or shift the main gear shift lever to neutral to avoid overspeeding.
- (3) When driving into a field of greatly different ground level from the road, use a ramp to avoid tipping the tractor over.
- (4) When travelling on the public road, observe the traffic regulations and proper conduct.

- (5) At corners, always slow down the tractor before turning. Turning at a high speed may tip the tractor over.
- (6) Do not drive with your foot on the clutch pedal all the time.
- (7) Do not apply the differential lock while travelling.
- (8) When travelling on a road or slope, widen the rear wheel tread outermost.
- (9) To transport the rotary tiller or other heavy implement, be sure to lift it with the provided chain.

6. OPERATING WITH ROTARY TILLER

- (1) To check and/or change tiller blades, do the following:
 - Stop the engine.
 - Prevent the sudden drop of the rotary tiller by hoisting it up with the chain.
 - Apply the parking brake.
- (2) When attaching and/or adjusting the rotary tiller on the tractor, observe the following:
 - Do not stand between the tractor and the implement.
 - Check to see that the 3-point (2-point) hitch pins and the universal joint lock pin are securely fitted.
- (3) When working with the rotary tiller, observe the following directions:
 - Keep your hands away from rotating parts such as the blade shaft and universal joint.
 - Do not climb the rotary tiller.
 - Check to see that nothing is interfering when lifting, backing or turning the rotary tiller.
- (4) When climbing a slope or going over a bank with an implement on the tractor, lower the implement to prevent the tractor from heading up.
- (5) If the tractor lunges while rotary-tilling a hard ground, immediately step on the clutch and brake pedals. Next, put the engine in low gear and start tilling again at a high PTO shaft speed.

7. OTHER PRECAUTIONS

- (1) Do not drive the tractor in the following state:
 - when you are drunk, • when you are sleepy,
 - when you feel sick or after taking medicine,
 - when you are pregnant.
- (2) Avoid driving the tractor in loose, bulky clothes.
- (3) Check, service or clean the tractor after stopping the engine, follow the directions of the Owner's Manual.
- (4) Avoid touching the muffler and the radiator during or immediately after running, or you may be scalded. Service or check the tractor after it has completely cooled off.
- (5) When working in the fields or muddy areas, be sure to scrape off mud or soil from the bottom of your shoes before mounting the tractor. Otherwise your feet may slip on the brake or clutch pedals.
- (6) When allowing other people to use your tractor, explain the handling well and lend this manual beforehand.

- (7) Before using implement not purchased with tractor, contact your nearest dealer for instructions in safety.
- (8) Use 2nd or 3rd PTO gear if such speed is recommended in label, implement manual, or other instructions. Otherwise, use only 1st gear.

ABBREVIATION LIST

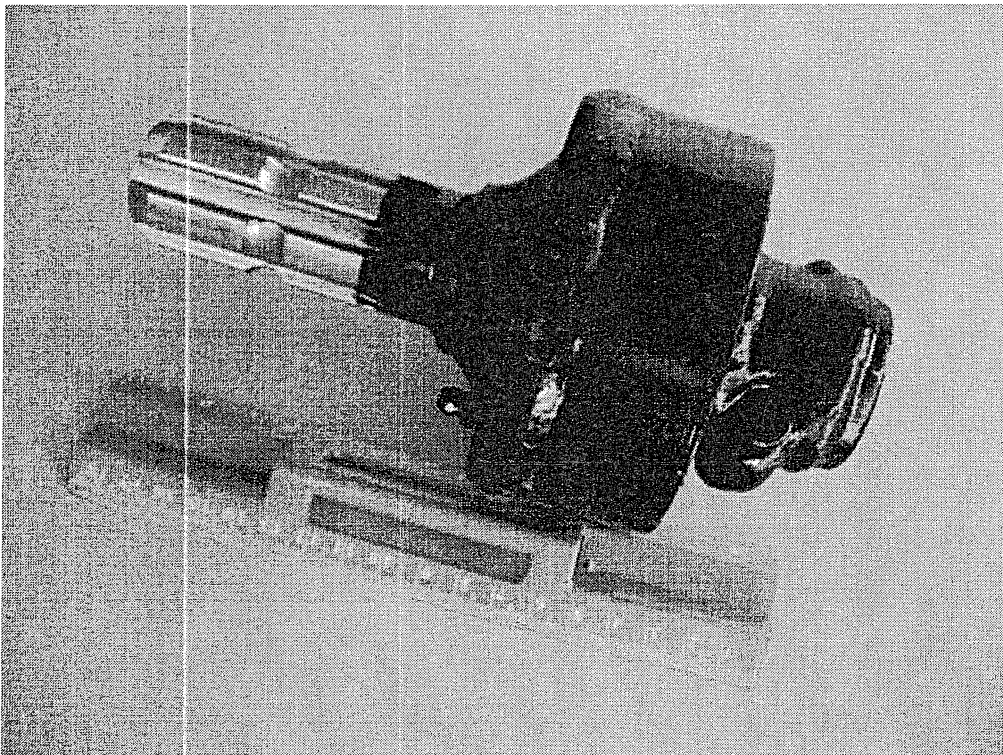
Abbreviations	Definitions
2WD	Two Wheel Drive
4WD	Four Wheel Drive
API	American Petroleum Institute
ASAE	American Society of Agricultural Engineers, USA
ASTM	American Society for Testing and Materials, USA
DIN	Deutsches Institut für Normung, GERMANY
DT	Dual Traction [4WD]
m/s	Meters Per Second
PT	Permanent Type (=Ethylene glycol anti-freeze)
PTO	Power Take Off
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)

FOR YOUR SAFETY

Machines with high inertia tend to continue travelling forward for several metres after the clutch has been disengaged.

This represents a real danger near fences, ravines, water etc...

To prevent this from happening, fit your tractor with a « PTO free wheel extension (overrunning) »



ARCEAU DE SECURITE
 ROLLOVER BAR
 ROLBEUGEL
 ÜBERROLLBÜGEL

The diagram illustrates the assembly of a rollover protection system. The main component is a large, rectangular frame (ARCEAU DE SECURITE) with rounded corners. This frame is shown in an exploded view, revealing its internal structure and the various components that hold it together. Key parts include:

- Mounting Brackets (A, B, C):** These are the primary structural elements that connect the frame to the vehicle's chassis. Bracket A is at the top, B is on the side, and C is at the bottom.
- Fasteners (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100):** These include various bolts, nuts, washers, and pins that secure the frame and its components.
- Wiring (D1, D2):** Two electrical cables are shown, labeled D1 and D2, which are connected to the system's control unit.
- Support Structure (E):** A vertical support structure is shown at the bottom, which houses the hydraulic or pneumatic cylinders that raise and lower the rollover protection system.

 The diagram is a technical drawing, likely from a vehicle manual or a parts catalog, used to identify and locate the various components of the rollover protection system.

ARCEAU DE SECURITE
ROLLOVER BAR
ROLBEUGEL
ÜBERROLLBÜGEL

OUTSTANDING FEATURES

■ 3-cylinder diesel engine for luxurious power

(B6100D/B6100E/B7100D)

The 3-cylinder diesel engine with maximum B6100D · B6100E 675 cm³/B7100D 762 cm³ displacement offers luxurious output power and torque that enable almost all types of operation—amazingly dogged even when working in wet fields or climbing a slope. Important, fuel economy is second to none in this class of engine and start is one-shot with the reliable cell starter.

■ Unrivalled working efficiency

- (1) The front PTO serves as ideal power source for grain thresher, pump, etc.
- (2) A wide variety of implements and attachments can be accepted for use in fields, paddies, vegetable gardens, orchards and dairy farms, really competing with higher size tractors.
 - * Front and rear PTO
 - * 6 forward speeds and 2 reverse speeds
 - * Tread-adjustable rear wheels

■ 4-wheel drive with large-size tires

The 4-wheel drive with large-size tires B5100D · B6100D (rear 7—16)/ B7100D (rear 8—16) significantly makes for powerful drive and traction—effortless even on wet fields and slopes.

- * Front lug tires enable puddling without the need for a chain.
- * Unrivalled climbing and traction power.

■ Comfortable ride

A combination of 3-cylinder diesel engine B6100D/B6100E/ B7100D, large-size muffler and bucket-type driver's seat cut vibrations and noises to a negligible extent.

- * Wide step
- * Horizontal-upright convertible muffler

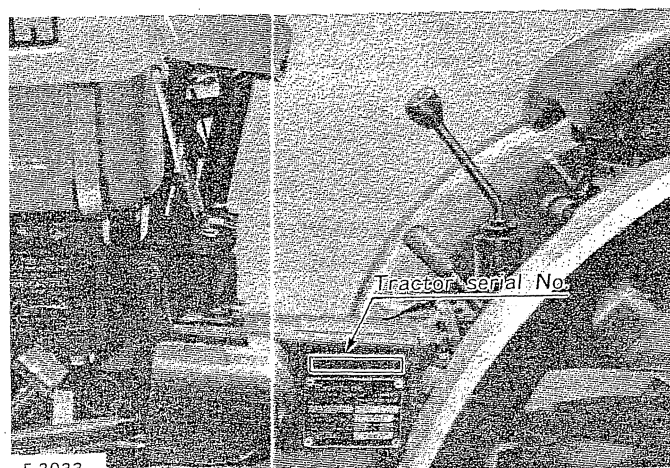
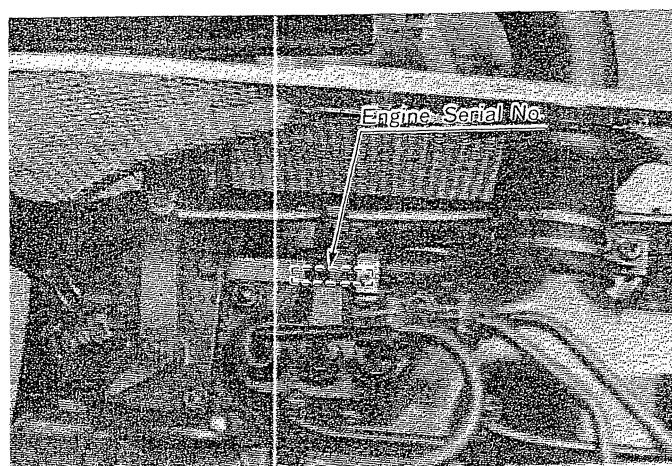
■ Simple, effortless control

- (1) Both hand and foot acceleration controls
- (2) Light, sharp ball-screw type steering system
- (3) Ample driver's seat and wide step

■ Safety design

- * Well-balanced front and rear
- * Engine entirely enclosed by safety cover
- * Thermal insulation cover for muffler
- * Large-size fenders, hand rails

1. Tractor and engine serial numbers



F-2033

2. Major parts identification

Hydraulic control lever
Levier de contrôle hydraulique

Air cleaner
Filtre à air

High-low gear shift lever
Levier de vitesse lente et rapide
(B6100D/B6100E/B7100D)

Front wheel drive lever
Levier d'entraînement
des roues avant
(B5100D/B6100D/B7100D)

Front lamps
Phares

Brake pedal (right)
Pédale de frein (droite)

Accelerator pedal
Pédale d'accélérateur

Differential lock pedal
Pédale de blocage du différentiel

Front tires
Pneus avant

Brake pedal (left)
Pédale de frein (gauche)

Parking brake lever
Frein à main

F-1873

Steering wheel
Volant

Operator's seat
Siège

Bonnet
Capot

Safety switch
Interrupteur de sécurité

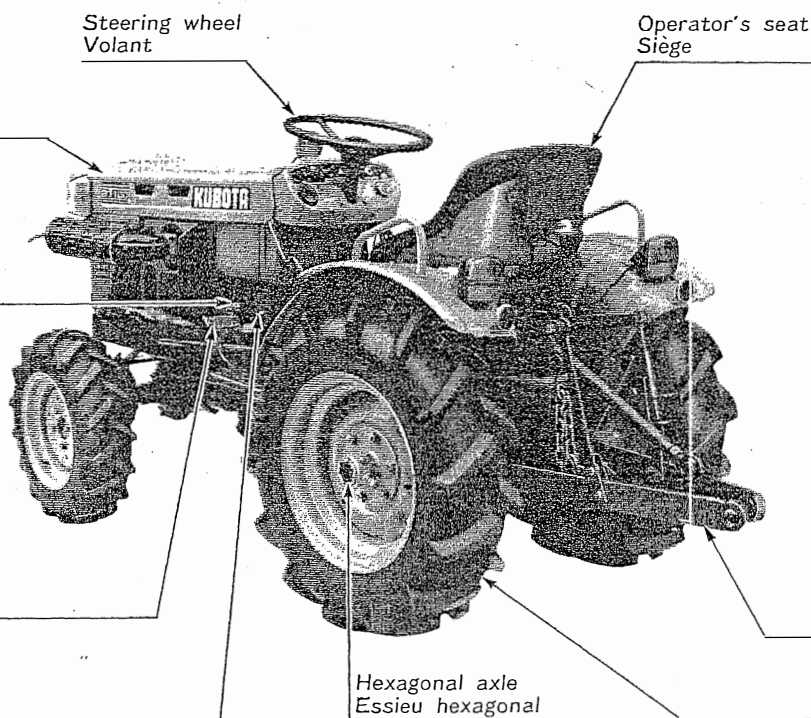
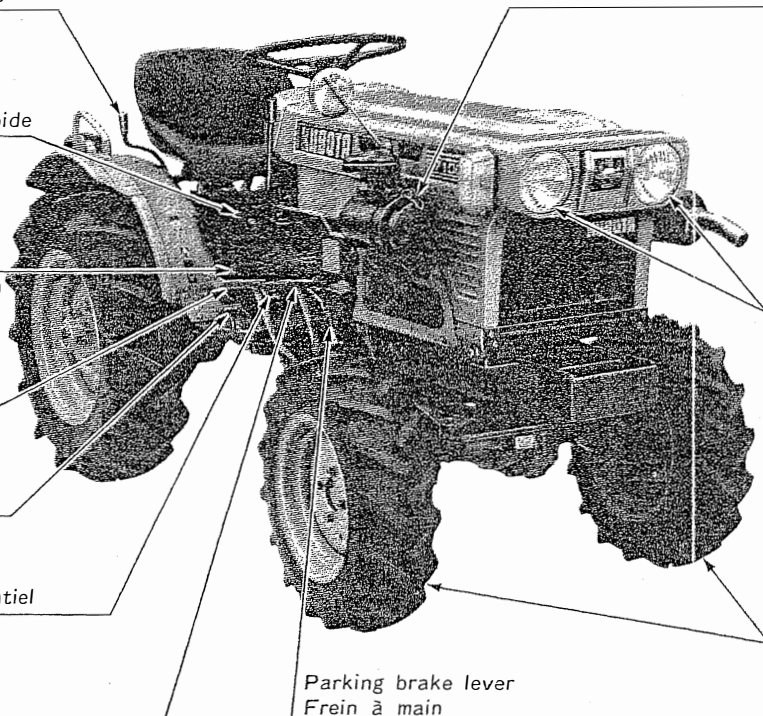
Clutch pedal
Pédale d'embrayage

3-Point hitch
Attelage 3-points

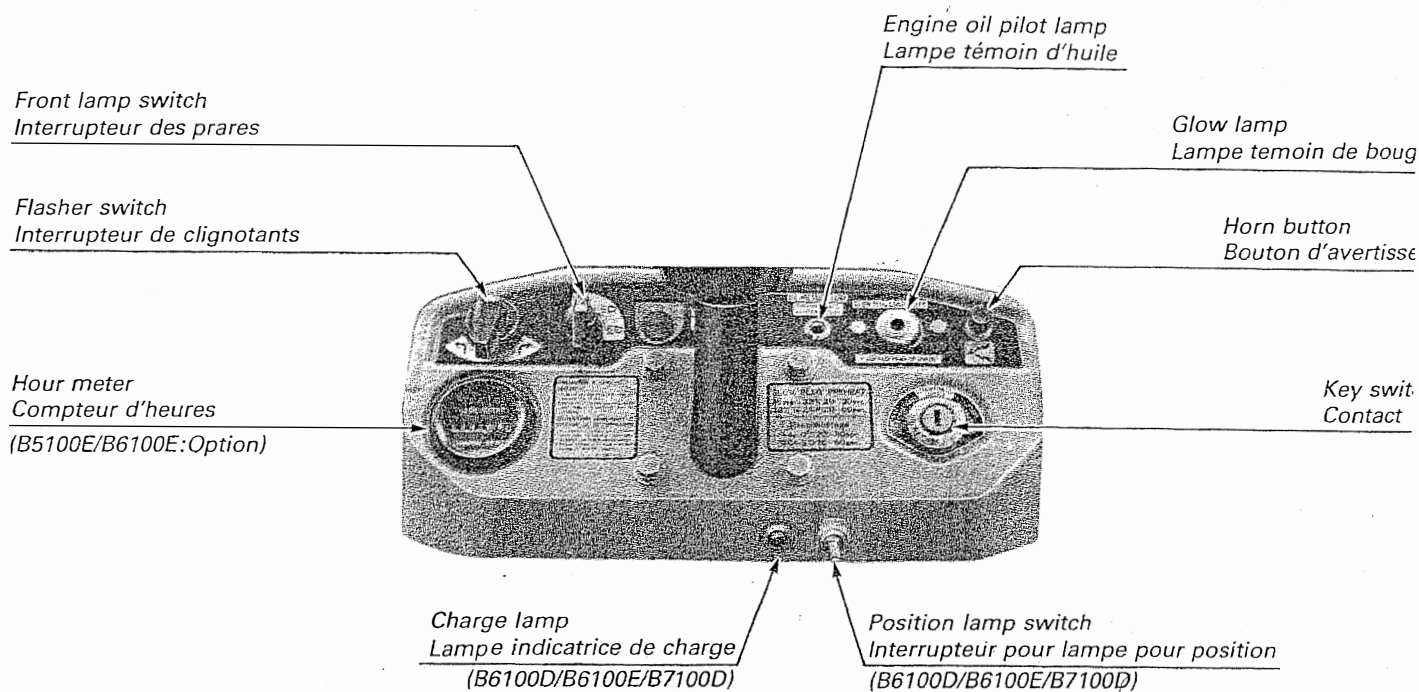
Tool box
Boîte à outils

Hexagonal axle
Essieu hexagonal

Rear Tire
Pneus arrière



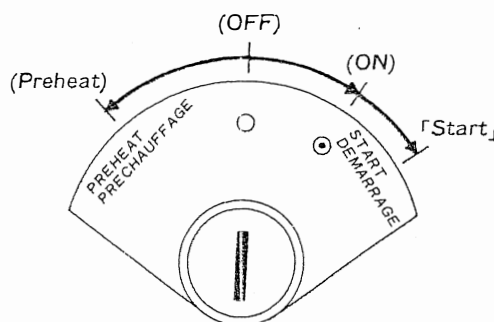
3. Instrument Panel and Controls



3.1. SWITCHES

■ Key Switch

Inserting the key and turning it one click to the right closes the electrical circuit and lights up the engine oil pilot 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 ascertaining that the glow lamp has turned red and that the engine has been preheated completely, turn the key switch right and the cell starter will start to rotate and the engine will then start. Release the key switch and it will return to the home position (OFF).



■ Glow Lamp

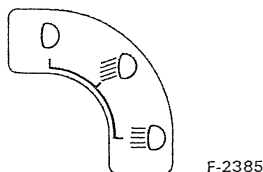
Turn the key switch left and the glow lamp will start turning red, indicating that the engine is preheating.

■ Hour Meter (B5100E/B6100E: Option)

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

■ Front Lamp Switch

Turning the front lamp switch to the right illuminates the front lamps.



■ Position Lamp Switch (B6100D/B6100E/B7100D)

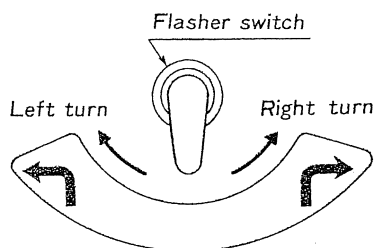
Turn on the position lamp switch and the position lamp lights up.

■ Horn Button

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

■ Flasher Lamp

- (1) Throwing the flasher switch lever to the right or left turns on the flasher lamp.
- (2) After completing a right or left turn, throw the switch lever back to neutral.



■ Engine Oil Pilot Lamp (RED)

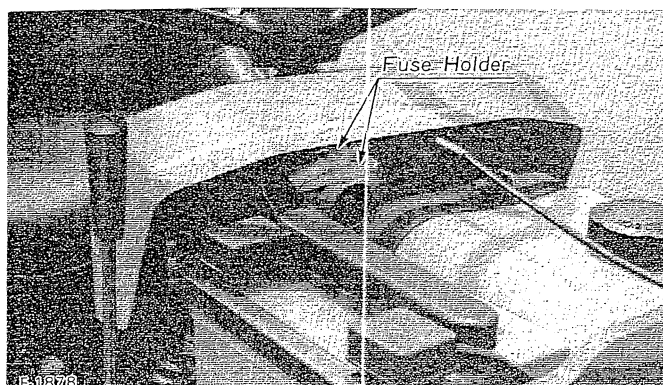
The function of the engine oil pilot lamp is to indicate if engine oil pressure is normally distributed throughout the engine. If it goes on when the key switch is turned on, and goes off when the engine starts and the engine oil is ready to circulate normally.

■ Charge Lamp (B6100D/B6100E/B7100D)

The function of the charge lamp is to indicate if the dynamo is operating. The lamp glows red when the dynamo is not operating.

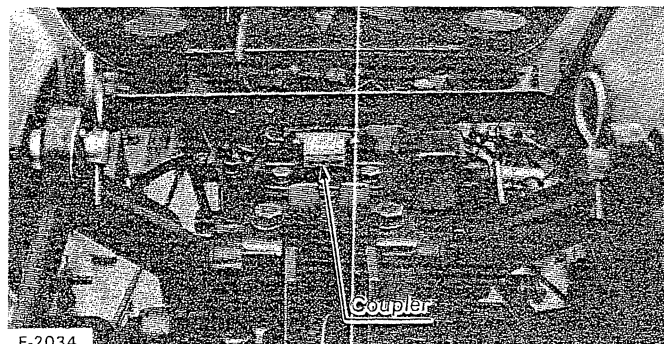
■ Fuses

Opening the bonnet reveals the 5-ampere and 15-ampere fuse (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.)

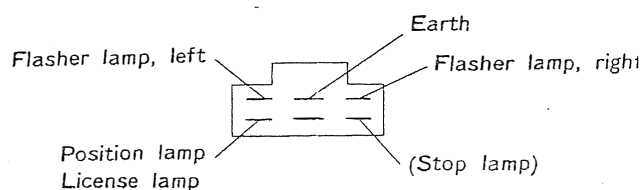


■ Electrical Coupler

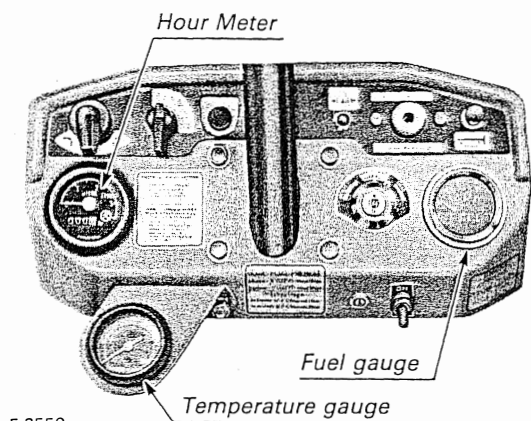
The electrical coupler is used when connecting a trailer or the like.



A mating coupler is provided in the accessory bag.



[Sweden, Denmark, Finland, Norway]

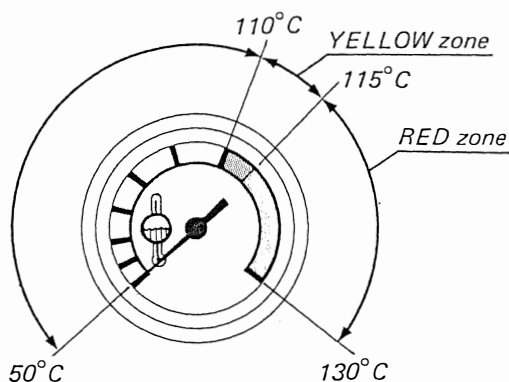


■ Temperature Gauge (B7100)

This indicates the engine temperature.

[CAUTION]

- If the indicator should go over **RED** zone, the engine must be stopped until the cause of the overheating is corrected.
(Such as quantity of cooling water, fan belt loosening)
- (1) After operating the engine, never touch radiator until it has had sufficient time to cool.
- (2) Check this temperature gauge frequently as you operate.



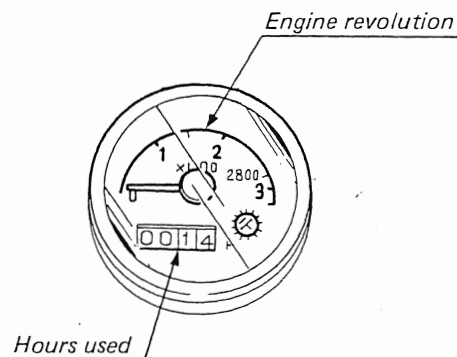
■ Hour Meter (B7100)

This meter shows the number of hours the tractor has been operated at rated engine rpm.

The last digit (white background) indicates 1/10 of an hour. The time in minutes will be shown by multiplying by six to last digit on white background.

Example **1 7 0 1** ... 170 hours 6 minutes used

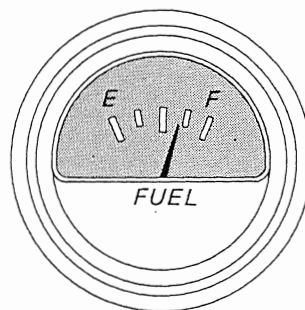
Moving hand indicates the revolution per minute of the engine.



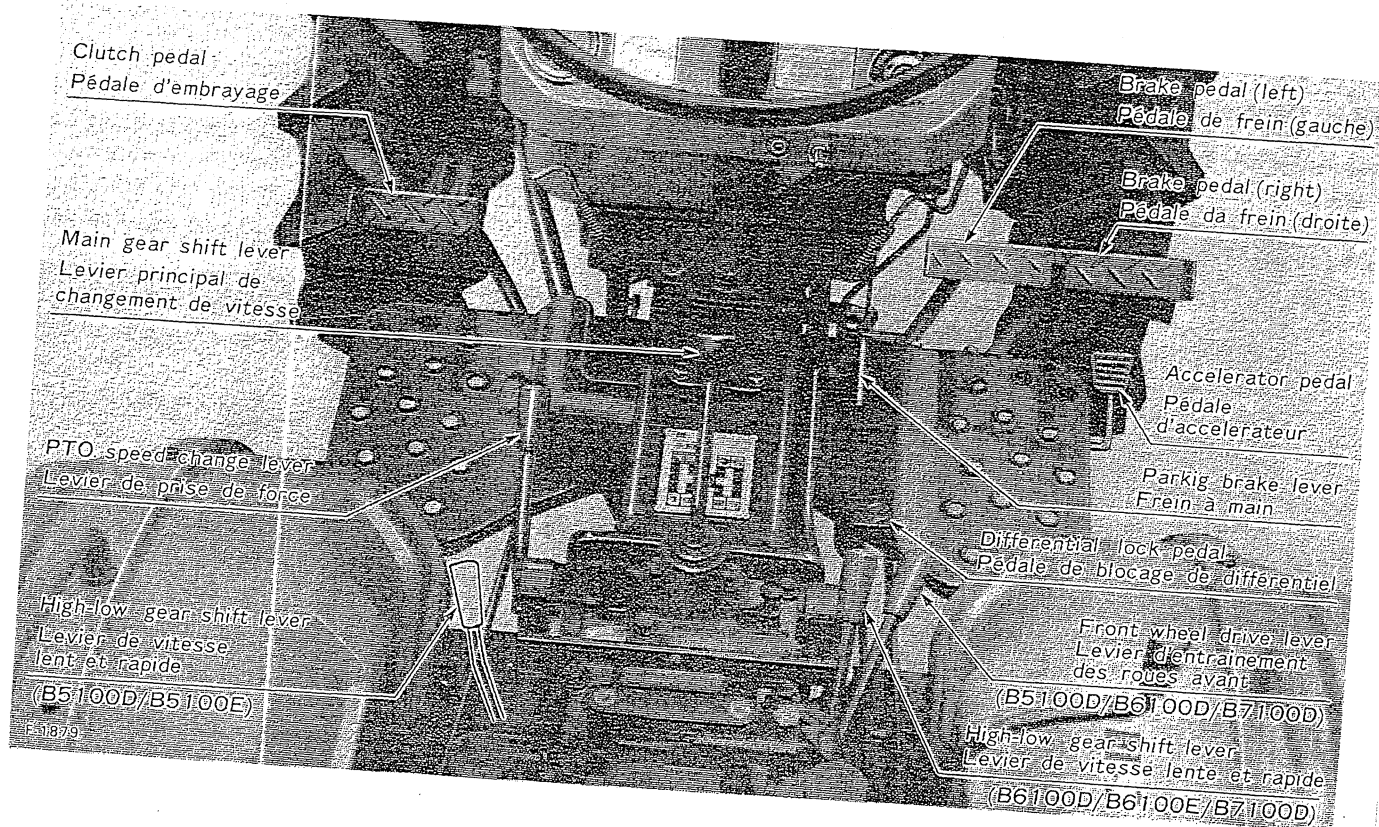
F-2287改

■ Fuel Gauge

When the key switch is on, the fuel gauge indicates the fuel level.



F-3055

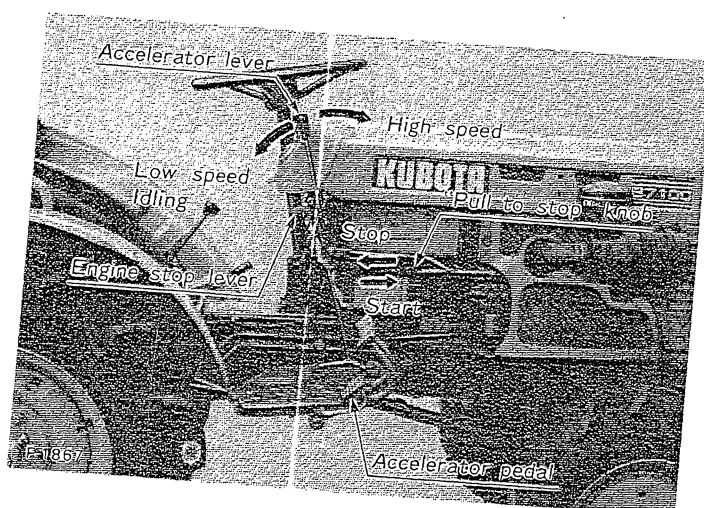


3.2 CONTROLS

■ Accelerator Lever and Pedal

Throwing the accelerator lever backward slows down the engine and throwing it forward speeds up the engine. In addition, the engine is speeded up by stepping on the accelerator pedal with the accelerator lever left in the backward position. To stop the engine, pull the engine stop lever (release arm).

The engine is stopped either by pulling the stop-lever back or by pulling back on the "Pull To Stop" knob. To start the engine, the "Pull To Stop" knob is first lifted then pushed forward.



■ Hydraulic Control Lever

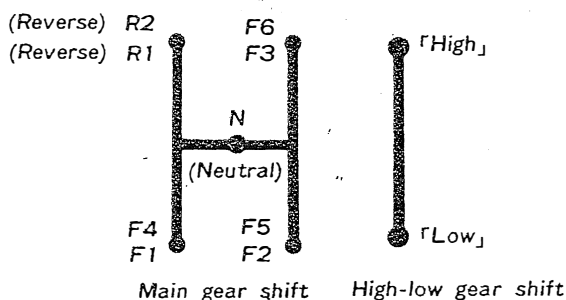
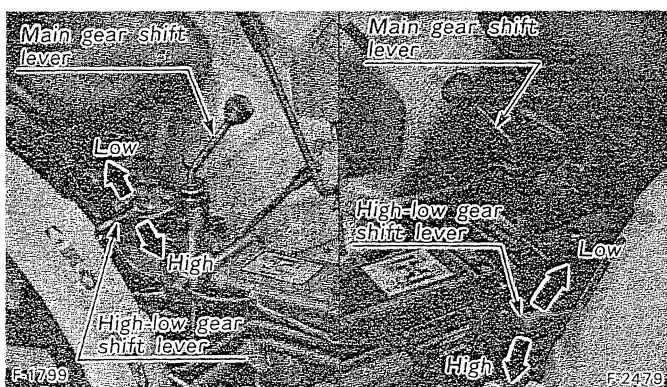
Operating the hydraulic control lever actuates the hydraulic lift arm, which controls the elevation of the tractor implement. Throwing the lever forward lowers the implement and throwing it backward raises the implement. When the implement reaches the upper or lower limit, the lever automatically returns 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.



■ Main Gear Shift Lever and High-Low Gear Shift Lever

The main gear shift lever positions are of H-configuration and the high-low gear shift lever positions of I-configuration. Combined operation of both speed control lever makes possible 6 forward speed changes and 2 reverse speed changes. Specifically, 3 forward speeds and one reverse speed are achieved with the high-low gear shift lever set at LOW while 4th to 6th forward speeds and 2nd reverse speed are achieved with the high-low gear shift lever set at HIGH.

B6100D/B6100E/B7100D B5100D/B5100E



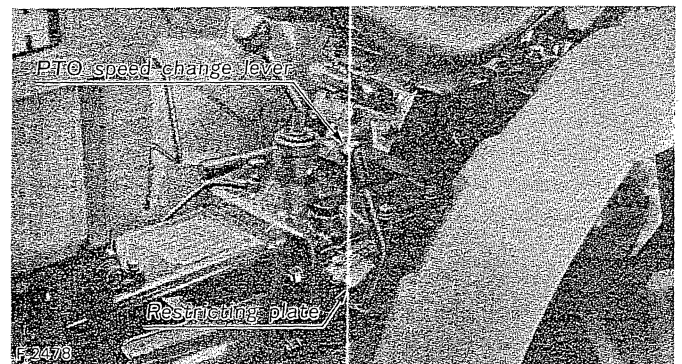
■ PTO Speed Change Lever

PTO shaft speed is controlled in 3 steps (B6100D/B6100E/B7100D), 2 steps (B5100D/B5100E). To change PTO shaft speed, be sure to step on the clutch pedal to disengage the clutch.

[Sweden, Denmark, Finland, Norway]
PTO shaft speed is controlled in 2 steps (B5100D/B7100D).

CAUTIONS:

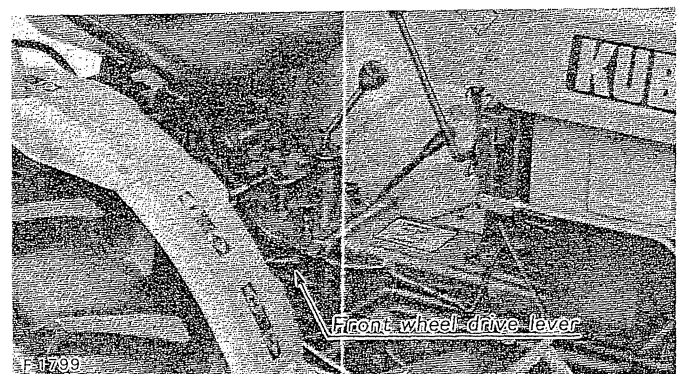
- (1) When using a rotary tiller, use only 1st gear for rotating in extremely hard or rocky field. Otherwise, troubles may occur. Also this would ensure smooth operation and maximum possible depth.
- (2) Never use PTO 2nd or 3rd gear except following the instruction of the implements.
When necessary PTO to use PTO 2nd or 3rd gear, adjust the restricting plate as follows. (B6100D/B6100E/B7100D).
 - When use 2nd gear, loosen the bolt and slide the plate forward.
 - When use 3rd gear, take off the plate.



■ Front Wheel Drive Lever (B5100D/B6100D/B7100D)

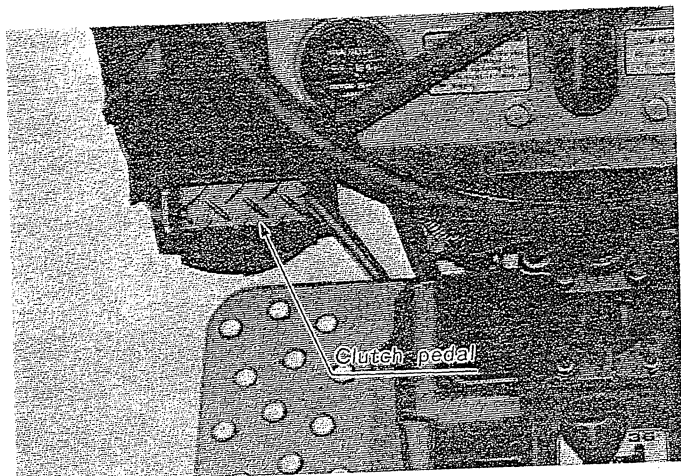
The front wheel drive lever is used in the event that greater traction power is required on a slope or a wet field or that the tractor must be prevented from lunging during rotary-tilling hard soil.

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



■ Clutch Pedal

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



CAUTION:

- (1) The clutch pedal must quickly be stepped on and slowly be released.
- (2) Be sure to release the clutch pedal while the tractor in motion in the wake of speed change.

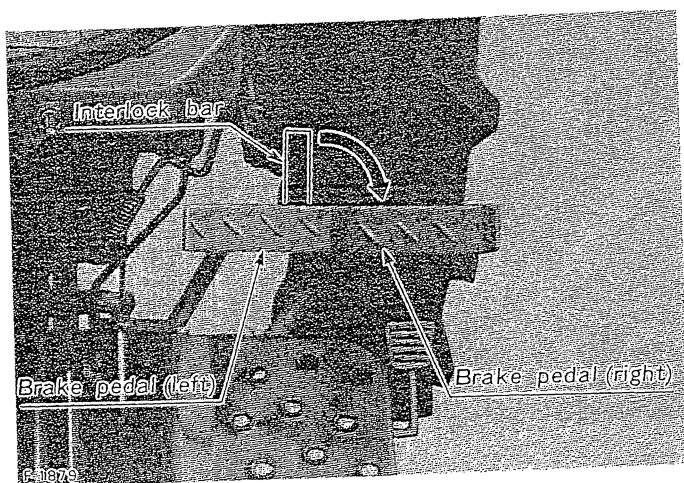
SAFETY PRECAUTIONS:

Whenever changing speed, be sure to step on the clutch pedal.

■ Brake Pedals (Right and Left)

The right and left brake pedal function independently on the rear wheel axles.

When turning at a headland step on either the right or left pedal. In addition, when running on a road, be sure to interlock the right and left pedals with the interlock bar. Do not forget this precaution or unforeseen accidents may occur.

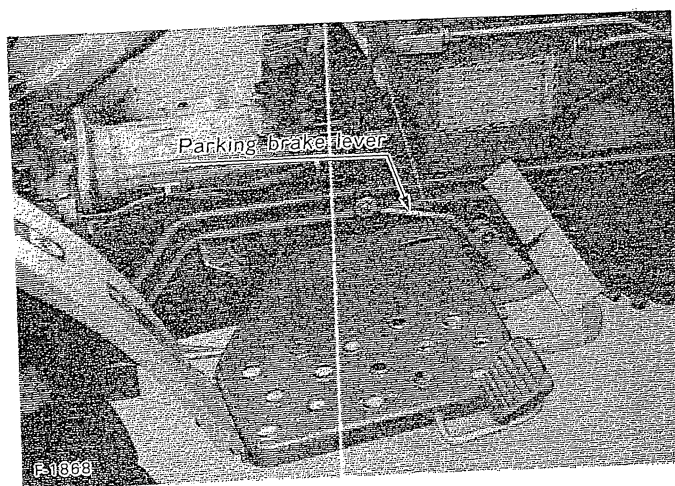


SAFETY PRECAUTION:

When running on the road, be sure to interlock the right and left pedals as illustrated above. Otherwise it will be very dangerous, with only one brake working.

■ Parking Brake Lever

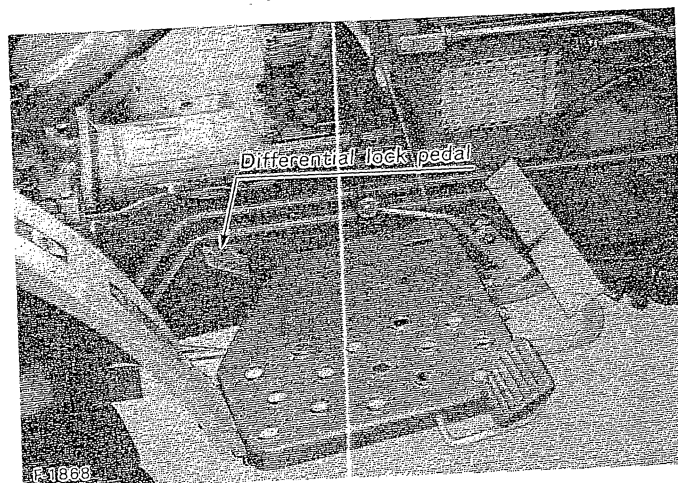
Interlock the right and left brake pedals, step on the pedals and pull the parking brake lever. This procedure locks the parking brake latch on the slots of the brake pedal, applying the parking brake. To release the parking brake, step on the brake pedals again.



■ Differential Lock Pedal

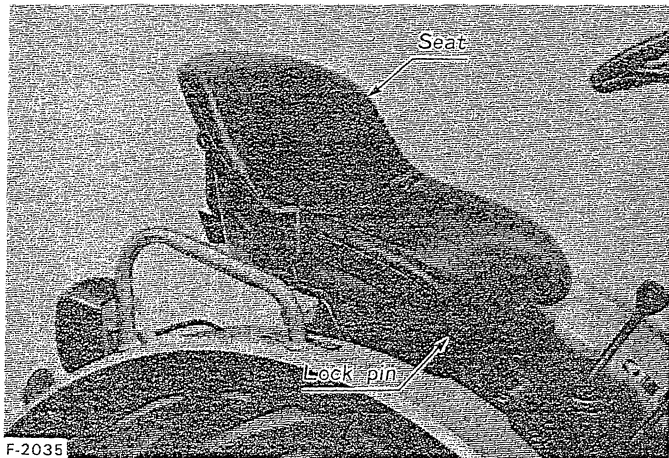
Differential lock is applied in cases where: the wheels are likely to slip, only one of the rear wheel slips, or the tractor climbs a slope or runs over the field rows.

Lightly stepping on the differential lock pedal with the heel makes the rear wheels run at equal speed. To unlock, just release the pedal.



■ Seat

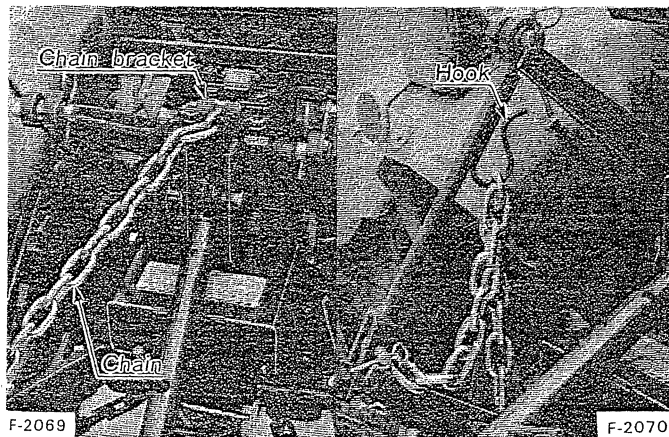
The seat can be adjusted to three pre-set positions to the operator's convenience. The adjustment is effected by lifting the front of the seat and resetting the lock pin from one to another hole.



■ Implement Lock Chain (B5100D/B5100E: Option)

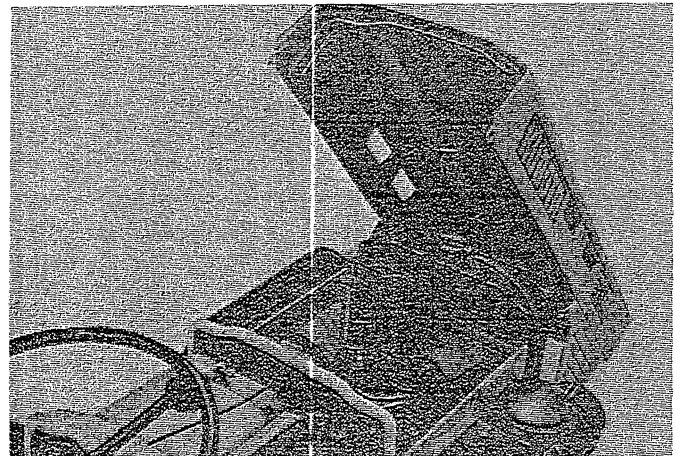
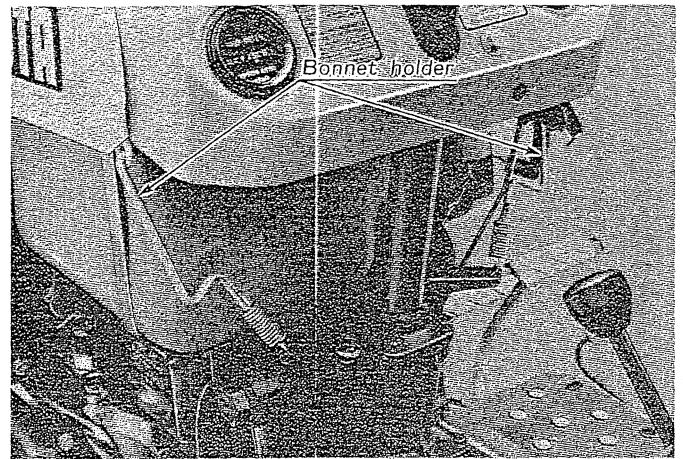
When transporting on the road or checking the implement in the raised position, be sure to hook one end of the implement lock chain on the chain bracket as shown in the picture so as to prevent the implement from dropping.

When the chain is not being used, remove it from the bracket, and fasten it to the hook.



■ How to Open the Bonnet

To open the bonnet, take off the bonnet holder on the right and left sides. At this point, check the levels of fuel, cooling water and battery electrolyte.



SAFETY PRECAUTION:

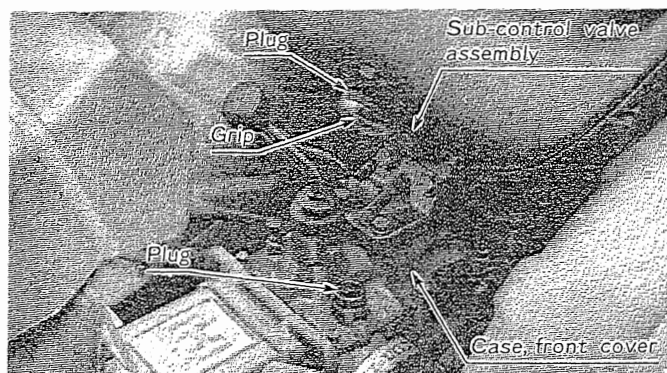
Never open the bonnet while the engine is running. It is very dangerous because the drive belts, dynamo and cooling fan are running at high speeds.

VM - SERVICE

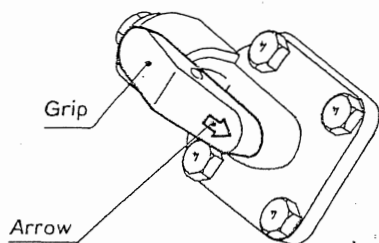
De Maalstroom 3
8255 RN Swifterbant
Tel. 0321 - 32 38 80

■ Hydraulic Circuit Changeover Unit (B5100D/B6100D/B6100E/B7100D)

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 sub-control valve assembly.

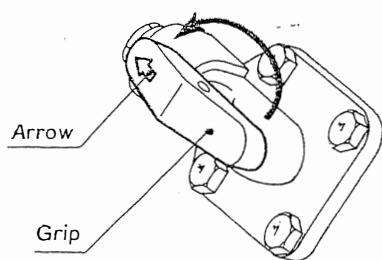


1. With the arrow on the grip in the position shown in the figure, oil flows into the cylinder in the tractor.



2. To permit oil to flow into the control valve on the implement:

- (1) Remove the plug from the sub-control valve assembly and connect the hose from the implement to the assembly (screw : PS $\frac{1}{2}$).
- (2) Remove the plug from the case front cover, and connect the return hose from the implement to the cover (screw : PF $\frac{1}{2}$).
- (3) Throw the control lever on the tractor backwards, and turn the grip on the sub-control valve assembly by 180°. Oil will then flow into the control valve on the implement.



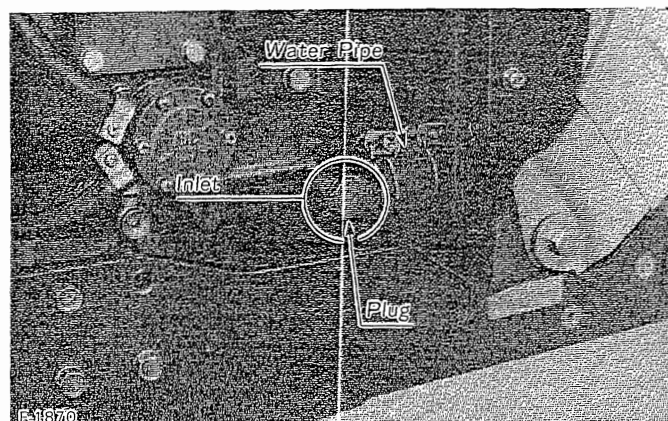
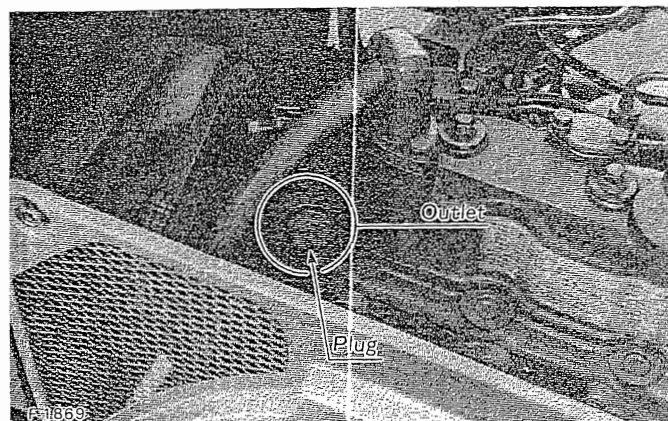
NOTE:

- If an implement (e.g. rotary tiller) or a balance weight is connected to the rear of the tractor, lower the implement or weight a little so that the control lever can be operated with ease.

3.3 WATER OUTLET AND HEAT INDICATOR HOLE (B6100D/B6100E/B7100D)

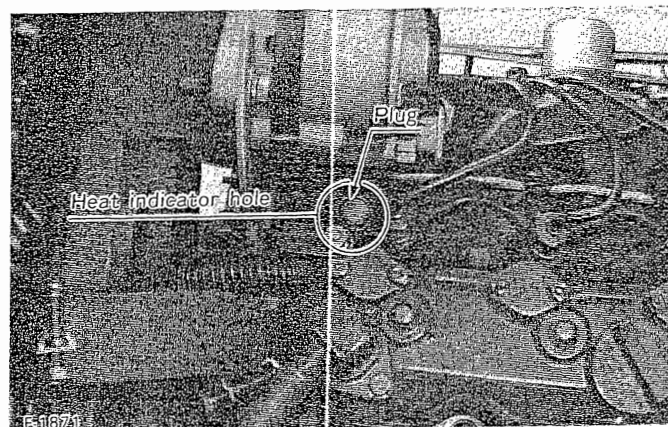
■ How to Use Hot Water (B6100D/B6100E/B7100D)

In order to use this model's cabin heater, take the hot water from the outlet (thread size PS $\frac{3}{8}$), and return it to the inlet (thread size PS $\frac{3}{8}$).



■ Heat Indicator Hole (B6100D/B6100E/B7100D)

In order to install the heat indicator on the cylinder head, use the hole (thread size M16 x 1.5).



4. Operating Instructions

4.1 PRE-START CHECKS

Prior to starting the engine, make pre-start checks according to the Service Schedule on page 21.

4.2 STARTING AND STOPPING

■ Starting

- (1) Sit down on the operator's seat.
- (2) Step on the parking brake.
- (3) Set the main gear shift lever and the PTO speed change lever to the neutral position.
- (4) Throw the accelerator lever to the high position.
- (5) Plug the key into the key switch and turn it on.
- (6) Make sure that the engine oil pilot lamp has lit up.
- (7) Fully step on the clutch pedal and turn the key switch left, waiting for the glow lamp to turn red.

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

	Temperature	Preheating time
B6100D B6100E B7100D	above 0°C	about 15 sec.
	below 0°C	about 30 sec.
B5100D B5100E	above 0°C	about 25 sec.
	below 0°C	about 40 sec.

- (8) Turn the key switch to the start position and the starter will run and the engine will then start.
- (9) Make sure that the engine oil pilot lamp has gone off. If the lamp is still on, immediately stop the engine and check the lubrication system (See page 28 to 29).
- (10) Perform warm-up operations by running the engine at the medium speed.

CAUTION:

- (1) While the engine is running, do not turn the key switch.
- (2) If the engine does not catch motion 10 seconds after the key switch is turned on, wait about 20 seconds more and repeat the procedure above. If the key switch is continuously set to the Start position for more than 30 seconds, it may lead to the trouble with the starter.
- (3) Be sure to perform warm-up operations regardless of the ambient temperature. If the tractor is run before the engine warms up, the engine life is reduced, and the tractor life, in turn, will also be affected.

SAFETY PRECAUTIONS:

- (1) Do not attempt to start the engine in a closed room. Otherwise this will contaminate the air with exhaust leading to the risk of poisoning.
- (2) Make it a habit to start the engine after throwing the main gear shift lever and PTO speed change lever to the neutral positions then disengaging the clutch. If this procedure is not observed, the tractor may dangerously lunge forward the moment the engine starts.

CAUTION:

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

■ Stopping

- (1) Slow down the engine to less than 16.7 r/s (1000 rpm) by throwing the accelerator lever backward and releasing the accelerator pedal.
- (2) Fully raise the stop lever and the engine will stop.
- (3) Turn the key switch off and draw the key out.

4.3 DRIVING

■ Starting

- (1) Depress the clutch pedal and disengage the clutch.
- (2) Shift the main and high-low gear shift levers to the desired speed positions.
- (3) Unlock the parking brake.
- (4) Speed up the engine by throwing the accelerator lever forward or by stepping on the accelerator pedal.
- (5) Slowly release the clutch pedal and the tractor will start to move.

CAUTION:

- (1) Do not start the tractor with the parking brake on. Trouble may occur.
- (2) Do not drive with your foot on the clutch pedal.

SAFETY PRECAUTIONS:

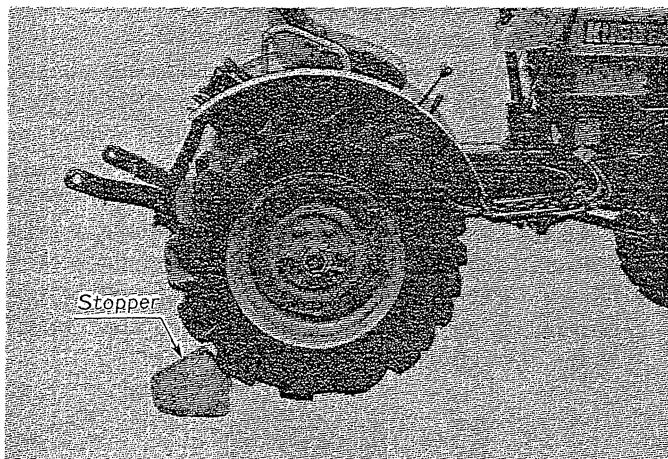
- (1) Sudden release of the clutch pedal makes the tractor dangerously lunge forward.
- (2) Gear shift cannot be accomplished during driving. To do this, be sure to stop the tractor by fully stepping on the clutch pedal.
- (3) Interlock the right and left brake pedals before starting. Uneven braking results in a sharp turn, which may even turn over the tractor.
- (4) Do not allow any person other than the driver to ride on the tractor.
- (5) 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.
- (6) When turning the tractor, be sure to slow down the engine and, as necessary, throw the high-low gear shift lever to LOW.
- (7) Do not drive the tractor on the road with the implement in motion.
- (8) After the differential lock has been used, be sure to see that it has been released.
- (9) When going down a slope, apply the engine brake. Stepping only on the brake pedal is dangerous.

■ Stopping

- (1) Slow down the engine.
- (2) Step on both the clutch pedal and brake pedal and the tractors will stop.
- (3) Throw the main gear shift lever to the neutral position and release the clutch pedal.
- (4) Interlock the right and left brake pedals then apply the parking brake.

SAFETY PRECAUTIONS:

- (1) When parking, be sure to apply the parking brake.
- (2) When parking on a slope, be sure to take the added precaution against rolling by placing stones or something behind the wheels.



4.4 CHECK DURING DRIVING

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

■ Cooling Water

If the temperature of the cooling water rises above 100°C and the vapor and water don't stop running out of the overflow pipe, immediately stop the engine and exercise the following checks and remedies, bearing in mind the safety precautions.

- (1) Shortage or leakage of the cooling water.
- (2) Foreign matter on the radiator net and dust and dirt between the radiator fins and tube.
- (3) Slackness of the fan drive belt.
- (4) For formation in the radiator tube.
- (5) Unnecessary addition of anti-freeze to the cooling water not in cold weather.

SAFETY PRECAUTION:

To remove the radiator cap, wait for about 10 minutes after stopping the engine. Immediate removal of the radiator cap lets the hot water spray out, scalding the operator.

■ Engine Oil Pilot Lamp

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

- (1) The level of the engine oil (See page 28).
- (2) The conditions of the lubrication system (See page 29).

■ Fuel

Be careful for the fuel tank not to run dry. Otherwise air may be sucked into the fuel system. Should this happen, the system must be bled. (See page 24 to 25).

■ Exhaust Fumes

- (1) Exhaust fumes are colorless at normal output drive.
- (2) Exhaust fumes become a little colored when output power develops above the rating, but does not affect the traction. If the exhaust turns dark continuously during driving, 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.

VM - SERVICE
De Maalstroom 3
8255 RN Swifterbant
Tel. 0321 - 32 38 80

- (3) Before getting off the tractor, be sure to stop the engine and lower the implement to the ground to prevent sudden dashing or implement drop.

■ 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 driving.

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

4.5 DIRECTIONS FOR OPERATING DIFFERENTIAL LOCK PEDAL

The proper use of the differential lock enhances your tractor performance to a great extent while its wrong use may subject the operator to serious dangers or lead to tractor troubles. Thus be sure to observe the following precautions when applying the differential lock.

- (1) Do not apply the differential lock immoderately and instead 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 cannot 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. Be careful about such a improper operation.

The tractor cannot turn with the differential locked and attempting this is very dangerous. Take utmost care not to do this.

5. Maintenance

5.1 DAILY CHECK

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

SAFETY PRECAUTION:

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

- 1) Check the parts where there was trouble the day before
- 2) Walking around the tractor;
 - (1) Check the tire pressure, and check for wear and damage. (See page 38)
 - (2) Check for oil and water leaks. (See page 28 to 32)
35 to 38
 - (3) Check the engine oil level and check for contamination. (See page 28)
 - (4) Check the amount of transmission oil and whether it is contaminated. (See page 30)
 - (5) Check if there is enough fuel. (See page 24)
 - (6) Check if there is enough cooling water in the radiator.
(See page 35)
 - (7) Check for dust load on the air cleaner dust cup.
(See page 38 to 39)
 - (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 license plate for stains and damage.
 - (11) Check for enough chassis greasing or oiling: king pin, rod end, pedal shafts, center pin, front axle casing spheres, interlock rods, front wheel drive lever.
(See page 32 to 34)
- 3) While sitting in the driver's seat;
 - (12) Check the brake and clutch pedals. (See page 42 to 44)
 - (13) Check the parking brake. (See page 43 to 44)
 - (14) Check the steering wheel. (See page 44)
- 4) Turning the key switch on;
 - (15) Check the performance of the pilot lamps and check for any stains.
 - (16) Check the electric horn.
- 5) Starting the engine;
 - (17) Check the color of the exhaust fumes.

5.2 BREAKING-IN (THE FIRST 60 HOURS OF OPERATION)

During the breaking-in period, observe the following;

- (1) Change the engine oil and clean the oil filter after first 35 hours of use. (See page 28 to 29)
- (2) Change transmission oil after first 50 hours of use (in transmission case, front axle case, front wheel gear case.)
(See page 30 to 32)
- (3) Avoid sudden starting and braking.
- (4) Warm up the engine sufficiently in cold weather.
- (5) Do not drive the tractor at excessively high speeds.
- (6) Slow down on bumpy roads and slopes.

5.3 PERIODIC CHECKS

Check Intervals	Check Points	Reference Pages
Every 50 service hours	Clean hydraulic oil filter.	31
Every 75 service hours	Change engine oil.	28 to 29
Every 100 service hours	Clean air cleaner element.	38 to 39
	Clean fuel filter	27
	Check nozzle piece and change it when horsepower drops abnormally.	
	Check fuel pipe.	26
	Check belt tension.	41 to 42
	Check clutch play.	42 to 43
	Check brake play.	43 to 44
	Check steering wheel play.	44
Every 150 service hours	Change engine oil filter cartridge.	29
Every 200 service hours	Check radiator hose.	37
Every 300 service hours	Change transmission oil in; Transmission case, front axle case, front wheel gear case (right and left), steering case	30 to 32
Every 500 service hours	Clean radiator interior.	37
Every one to two service months	Top up battery.	39 to 40
Every 3 service months	Change inhibitor and cooling water.	35 to 38
Every service year or every 6 times of cleaning	Change air cleaner element.	38 to 39
2 years after purchase	Change battery.	39 to 40
	Change radiator hose and tightener band.	37
	Change fuel pipe and tightener band.	26

6. Check and Maintenance

6.1 FUEL

■ Checking and Refueling

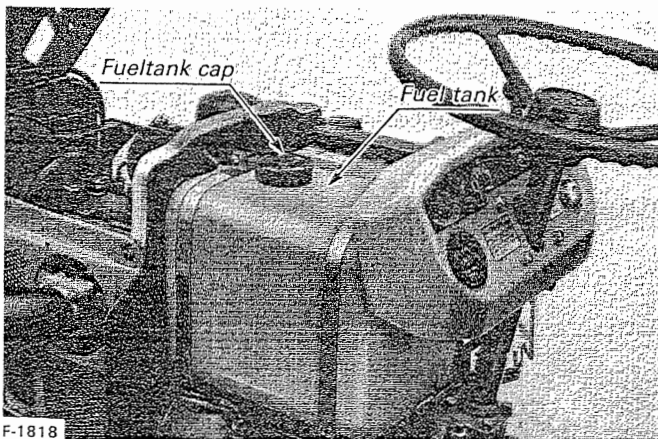
- (1) Check the fuel level.

Take care that the fuel level does not fall under the prescribed lower limit.

Fuel tank capacity

B6100D/B6100E/B7100D	13 ℓ (10 ℓ: steel tank type)
B5100D/B5100E	8 ℓ (7.8 ℓ: steel tank type)

- (2) Use high speed diesel fuel or No. 2 diesel fuel.
- (3) Use No. 1 diesel fuel, if temperature is below -10°C .



SAFETY PRECAUTION:

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

CAUTION:

- (1) Always use a strainer in refueling, 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, starting cannot be effected without bleeding.

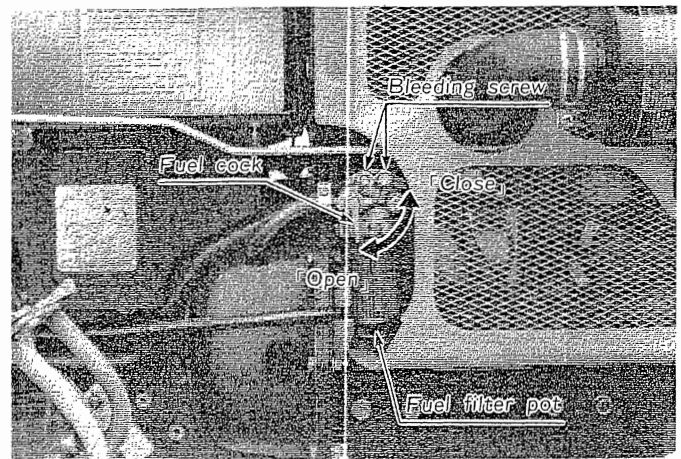
■ Bleeding the fuel line

Air must be removed:

- (1) when the fuel filter and piping are removed.
- (2) when fuel is used up, or
- (3) after the tractor has not been used for a long period of time.

Bleeding procedure is as follows:

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



- (2) Twist off the air vent plug at the top of the filter with two turns.
- (3) When bubbles disappear from fuel coming out of the plug, twist it back on.



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

CAUTION:

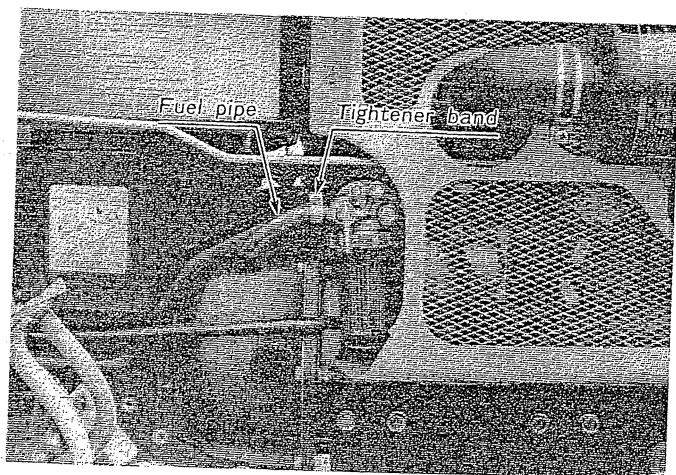
Always pull out the engine stop lever before starting the cell starter.

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

■ Checking Fuel Pipe

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 tightener band 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. Change the fuel pipe together with the tightener band every two years and securely tighten.
- (3) If the fuel pipe and tightener band are found damaged or degraded earlier than two years, then change or remedy.
- (4) After the fuel pipe and tightener band have been changed, bleed the fuel system.

SAFETY PRECAUTIONS:

- (1) Stop the engine when attempting the check and change prescribed above.
- (2) Do not fail to check the fuel pipe periodically because the impairment of the fuel pipe may lead to dangerous firing.

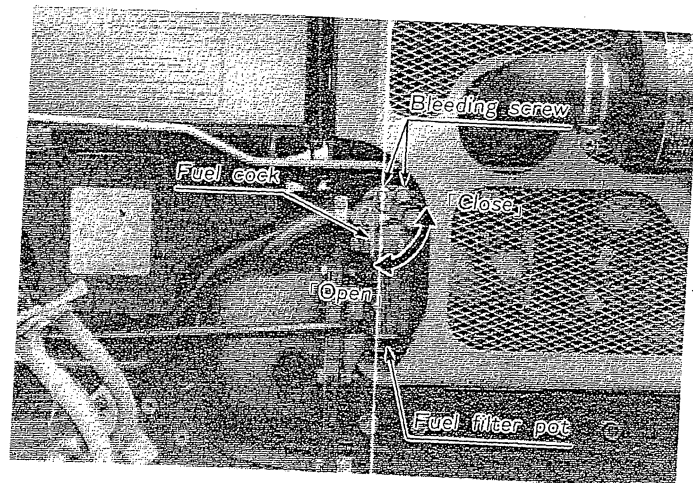
CAUTION:

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.

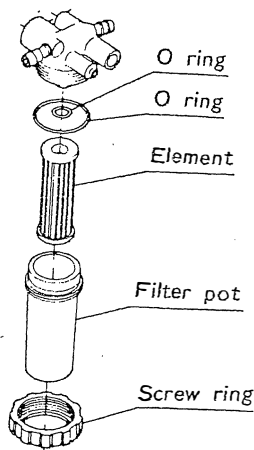
■ Cleaning the Fuel Filter Pot

When period of operation reaches approx. 100 hours, clean the fuel filter as follows:

- (1) Close the fuel filter pot cock.



- (2) Unscrew and remove the top cap, and rinse the inside with light oil.
- (3) Take out the element and dip it in the light oil 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 air vent screws (two) with two or three turns of a wrench. When air bubbles disappear from the fuel flowing out, retighten the air vent screws.
- (6) Also bleed the injection pump.

CAUTION:

If dust and dirt enter the fuel, the fuel pump and injection nozzle are subject to quick wear. To shut off this, be sure to clean the fuel filter pot periodically.

6.2 ENGINE OIL

Oil Level Check and Replenishment

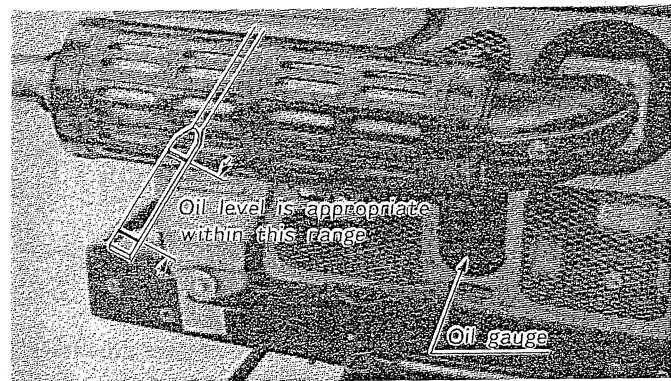
- (1) Check engine oil either before starting the engine or 5 minutes or more after the engine has stopped.
- (2) To check the oil level, draw out the oil level gauge, wipe it clean, replace it, and draw it out again. Check to see that the oil level lies between the two notches.
- (3) If the level is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

Use Enging Oil SAE or equivalent.

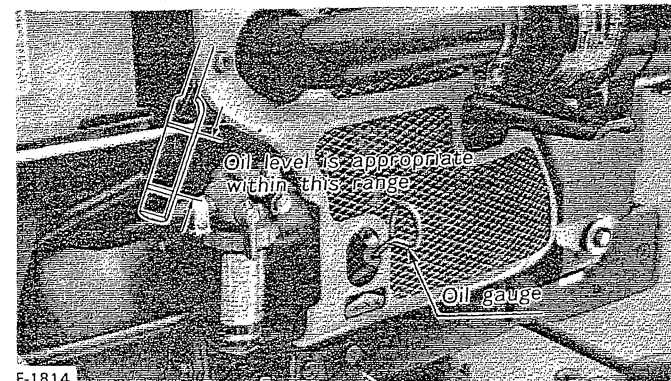
Capacity

B6100D/B6100E/B7100D	3.4 l
B5100D/B5100E	2.3 l

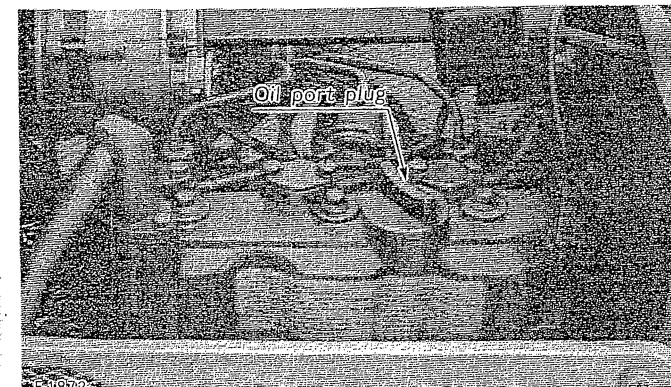
B6100D/B6100E/B7100D



B5100D/B5100E



F-1814



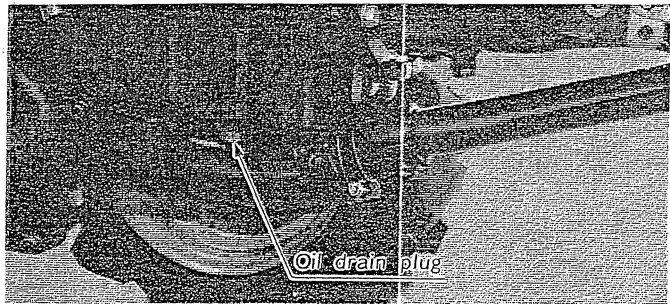
F-1872

- (4) When using an oil of different type, make or viscosity 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:

Below 0°C	SAE10W or 10W-30
0 to 25°C	SAE20 or 10W-30
Above 25°C	SAE30 or 10W-30

Engine Oil Change

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



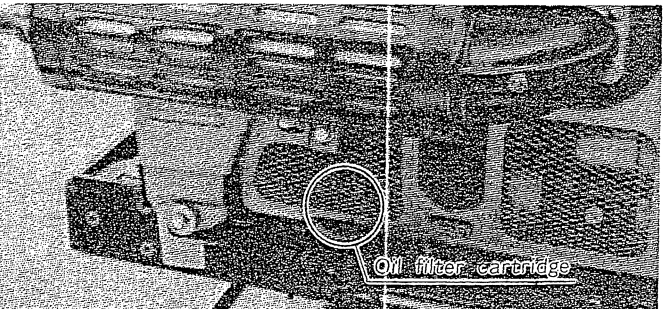
- (2) Top up with the new oil up to the upper notch on the oil gauge.

SAFETY PRECAUTION:

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

Oil Filter Cartridge Change

- (1) The oil filter cartridge must be changed every 150 service hours.
- (2) Apply a slight coat of oil onto the cartridge packing.
- (3) To install the new cartridge, screw it in by hand until the packing contacts the seal, and then securely tighten by hand.
- (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 gauge. Then, replenish the engine oil up to the prescribed level.



SAFETY PRECAUTION:

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

6.3 TRANSMISSION OIL

■ Transmission Oil Check and Replenishment

Draw out the oil gauge atop the transmission case and wipe off oil. Then, replace it and remove it again to determine the oil level. The appropriate oil level is on the upper notch. If short, replenish through the oil port.

KUBOTA UDT oil is now used for the transmission of this tractor. Whenever replenish or replace, use only multi-purpose oil shown the belows or equivalents.

Maker	Brand
KUBOTA	UDT hydrostatic transmission oil
SHELL	DONAX-TD, DONAX-TM
Mobil	Mobil Fluid 423
Exxon	Torque Fluid 56

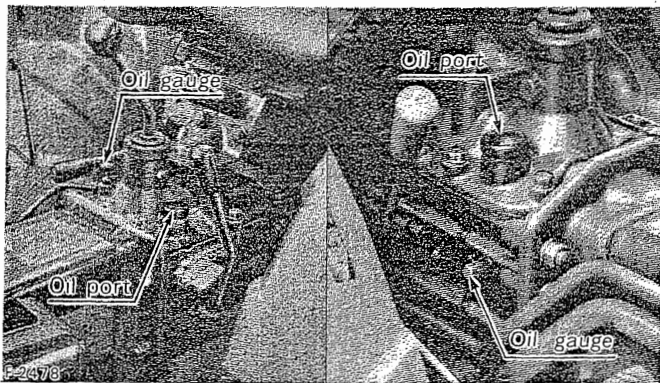
Do not mix up the other nature of oil other than above. When it is necessary to use SAE No. 80 gear oil by some reasons, you must drain oil off completely.

Capacity

B6100D/B6100E/B7100D	11.5 ℓ
B5100D/B5100E	8.5 ℓ

B6100D/B6100E/B7100D

B5100D/B5100E

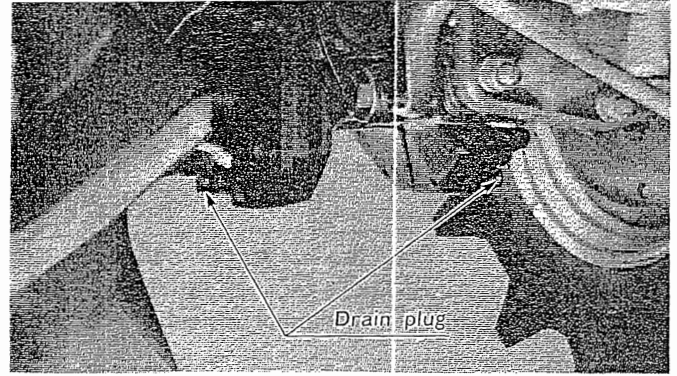


■ Transmission Oil Change

The oil in the transmission case is also used for the hydraulic drive system.

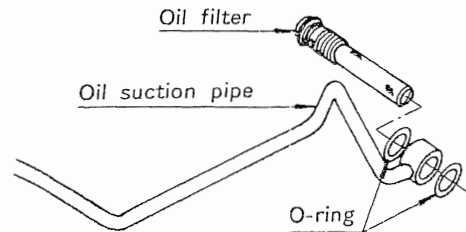
To drain the transmission case, place a oil pan underneath the transmission case and remove the drain plugs at the bottom of the transmission case.

After draining, disassemble and clean the hydraulic oil filter. Then, after reassembling fill with new oil.



■ Cleaning Hydraulic Oil Filter (in changing transmission oil)

As the finest dust in the oil could impair the component parts of the hydraulic system precision-built to withstand high pressure, the suction pipe end is fitted with an oil filter. When changing the transmission oil, disassemble and rinse the oil filter with light oil to completely clean off dust. On reassembly, undertake utmost care not to damage the parts.



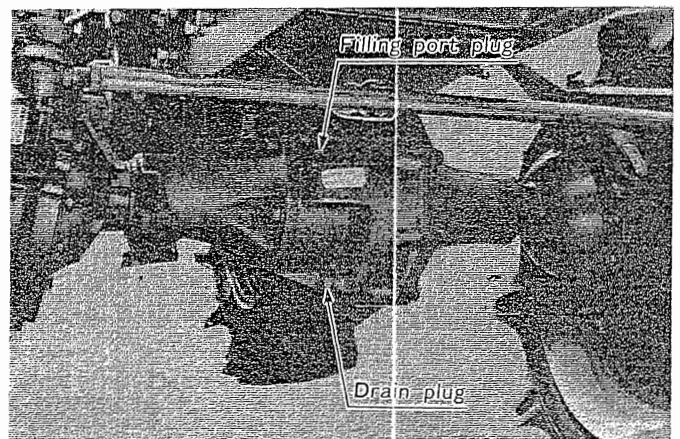
6.4 CHANGING FRONT AXLE CASE OIL (B5100D/B6100D/B7100D)

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

Type of oil: Gear Oil SAE 80 or equivalent

Quantity of oil:

B5100D/B6100D	0.5 ℓ
B7100D	0.7 ℓ



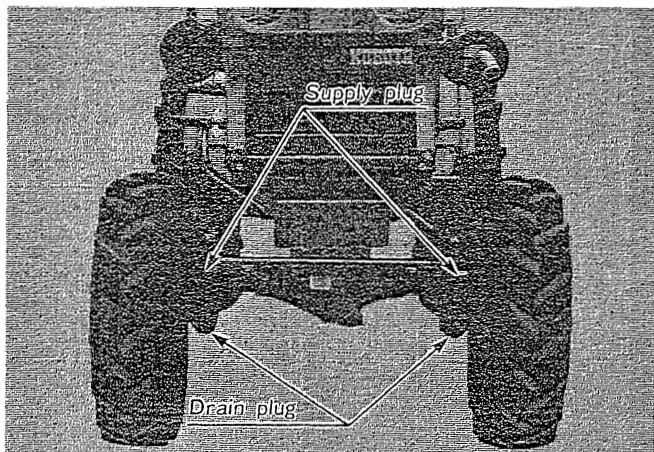
6.5 CHANGING FRONT WHEEL GEAR CASE OIL (RIGHT AND LEFT) (B5100D/B6100D/B7100D)

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

Type of oil: Gear Oil SAE 80 or equivalent

Quantity of oil:

B5100D/B6100D/B7100D	0.15 ℓ
----------------------	--------



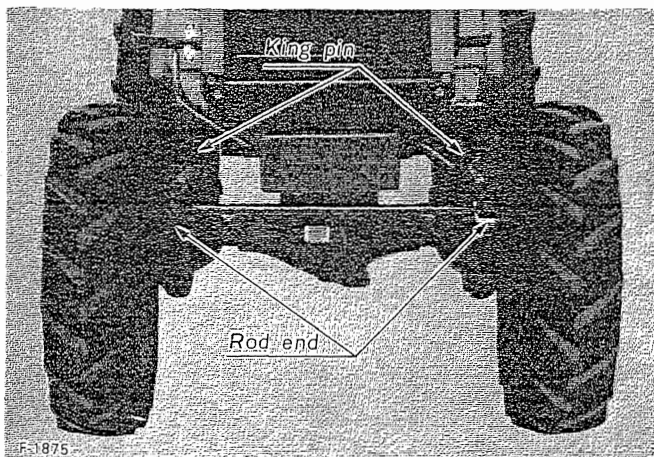
6.6 OILING AND GREASING POINTS BEFORE STARTING

Oil or grease the following points before starting.

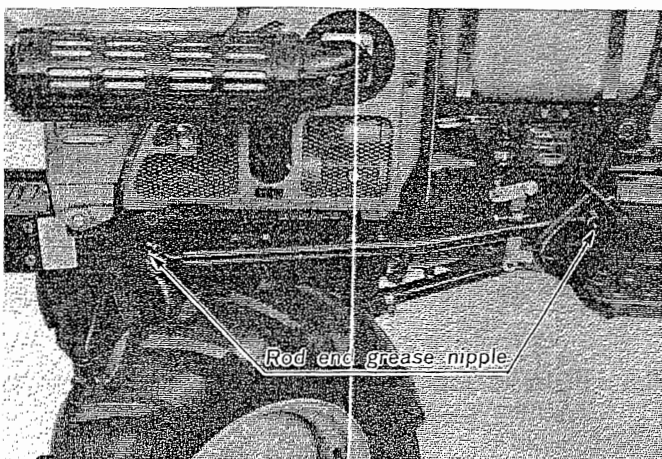
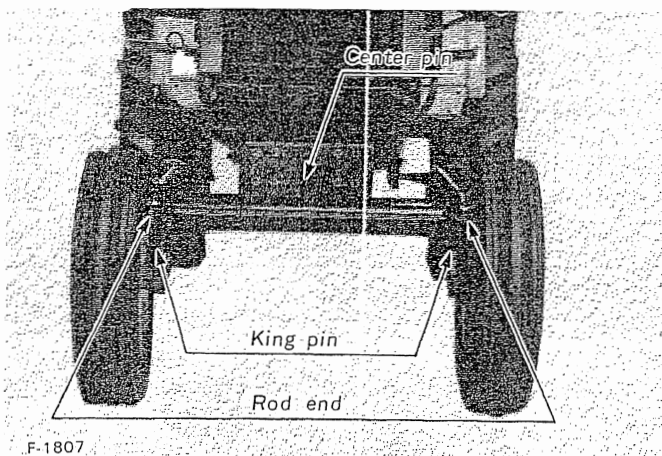
■ King Pins, Rod Ends and Center Pin

Grease the king pins, rod ends and center pin with the provided grease gun.

B5100D/B6100D/B7100D

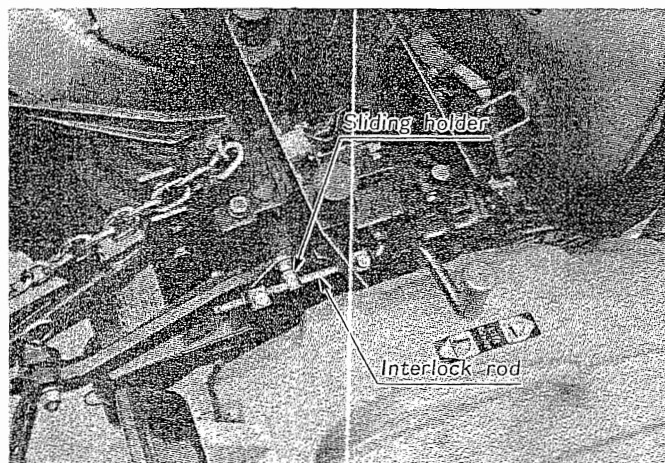


B5100E/B6100E



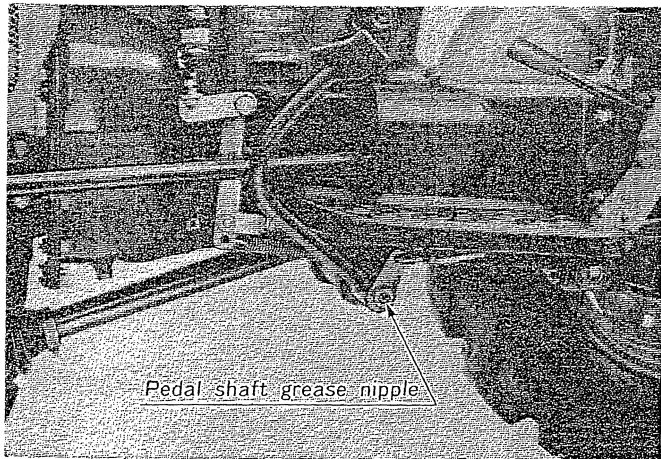
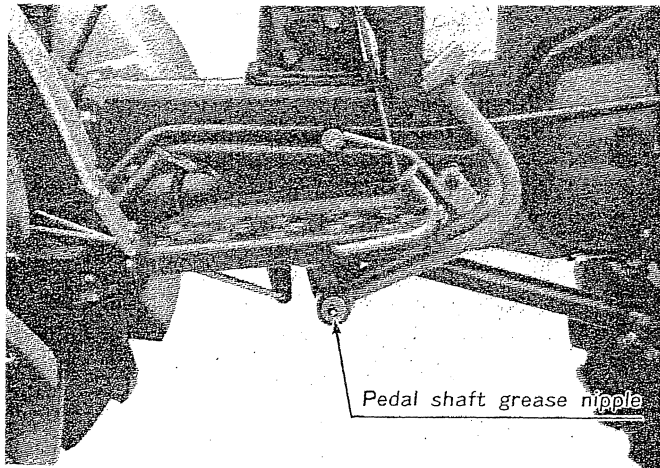
■ Interlock Rod

Oil or grease the interlock rod and sliding holder.



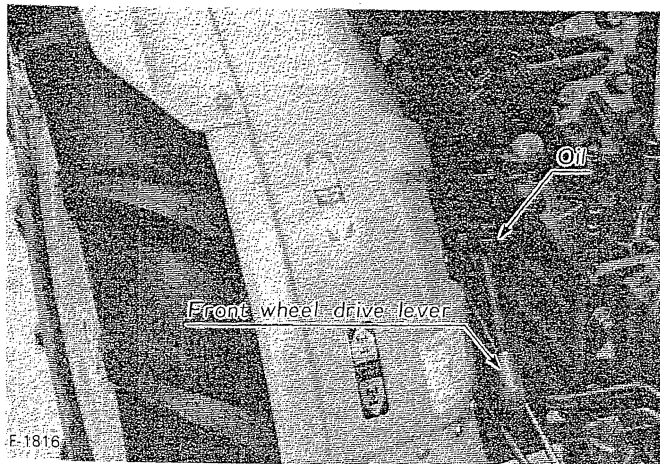
■ Pedal shafts

Grease the grease nipples on both ends of the pedal shaft.



■ Front Wheel Drive Lever (B5100D/B6100D/B7100D)

Oil the ball race at the root of the front wheel drive lever.



6.7 RADIATOR

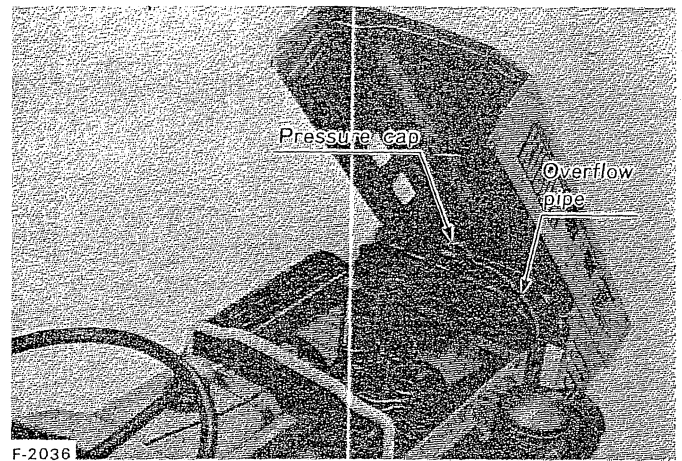
Though the radiator is of rugged construction, wrong handling badly affects the performance of the engine. A full tank of cooling water is enough for one day's work. Make it a rule to check the level of the cooling water prior to operation.

■ Checking, Replenishing and Changing Cooling Water

- (1) Remove the radiator pressure cap and check to see that the water level is just below the port. If short, add fresh tap or well water.

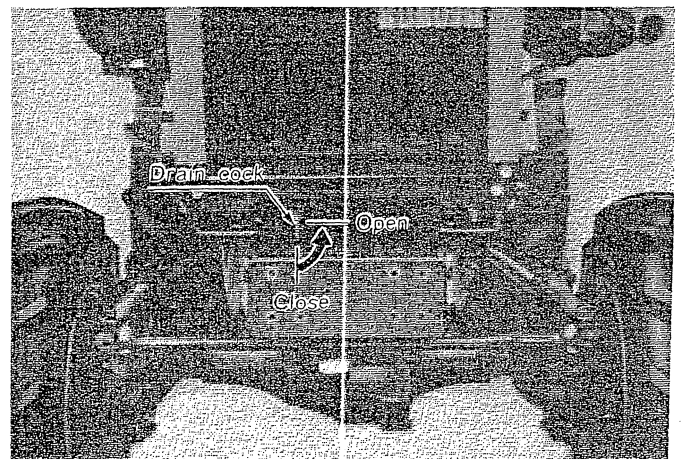
Prescribed quantity

B6100D/B6100E/B7100D	4.6 ℓ
B5100D/B5100E	3 ℓ



CAUTION:

- (1) Never replenish with muddy water or salt water.
- (2) Securely tighten the pressure cap.
- (2) When draining the used cooling water, 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 spill out and water shortage will result.

- (4) Additives to cooling water

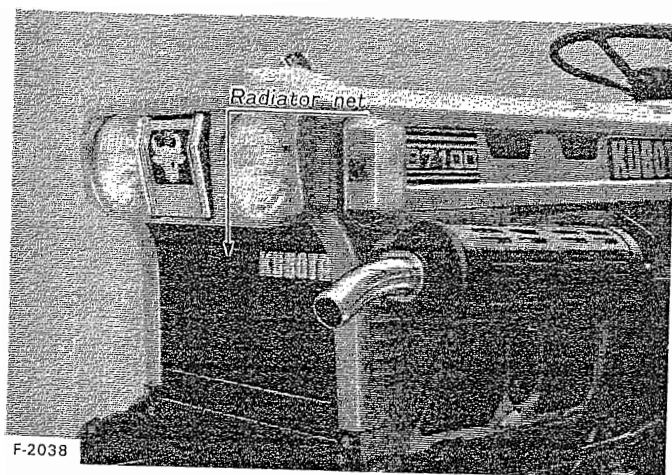
Cold season: Anti-freeze solution (at under 0°C)

SAFETY PRECAUTIONS:

- (1) When changing the cooling water, be sure to stop the engine.
- (2) Do not open the pressure cap while the engine is running under heavy loads or immediately after the engine has stopped. Otherwise, hot water may spray out, scalding the operator. So make it a habit to wait for about 10 minutes before opening the cap.

■ Checking and Cleaning Radiator for Flooding

- (1) Adherence of insects and chaff to the radiator net decreases cooling performance. In such cases, detach the net and wash away the obstacles.



- (2) Remove the dust from between the fins and the tube.
- (3) Tighten the fan drive belt as necessary. For this, refer to page 39.
- (4) If fur forms in the tube, clean with the fur inhibitor.

■ 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 swollen, 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 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.
- (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 Fur Inhibitor No. 20 is recommended to effectively wash away the built-up fur.

■ Anti-Freeze

If the cooling water freezes, the engine cylinder and radiator may crack. In cold weather when the temperature drops below 0°C, 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) Preparations of anti-freeze solutions vary with temperatures under which the engine is operated and do also with suppliers. For this reason, prior to use, ask the store for the instructions as to the proper amount and method of use. Remember that the effective cooling water capacity of the radiator is shown on the table below.

Capacity

B6100D/B6100E/B7100D	4.6 ℓ
B5100D/B5100E	3 ℓ

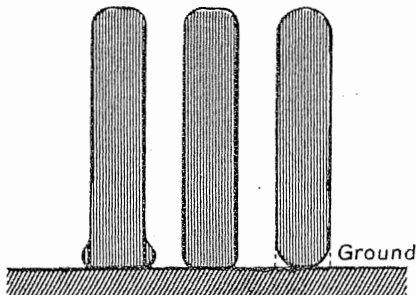
- (4) Stir the anti-freeze well in the water and then pour the mixture into the radiator.
- (5) When the cooling water mixed with anti-freeze decreases due to evaporation, replenish with water only. If loss has been due to leaking, water and anti-freeze mixture with the same mix ratio as the original preparation.
- (6) Anti-freeze solutions absorb moisture, so be sure to securely close the container after use.
- (7) Do not use an anti-freeze and a fur inhibitor at the same time. This may cause sludge to form, adversely affecting the engine parts.

6.8 TIRE PRESSURE

Though the tire pressure is factory-set to the prescribed level, it naturally drops slowly in the course of time. Thus, check it everyday and inflate as necessary. To inflate the wheel tires, use an air compressor or hand pump.

	Normal wheel tire pressures	
	Front	Rear
B5100D B6100D B7100D	0.1 MPa (1.0 kgf/cm ²)	0.12 MPa (1.2 kgf/cm ²)
B5100E B6100E	0.16 MPa (1.6 kgf/cm ²)	0.12 MPa (1.2 kgf/cm ²)
B5100E-T B6100E-T	0.18 MPa (1.8 kgf/cm ²)	0.08 MPa (0.8 kgf/cm ²)

Insufficient Normal Excessive

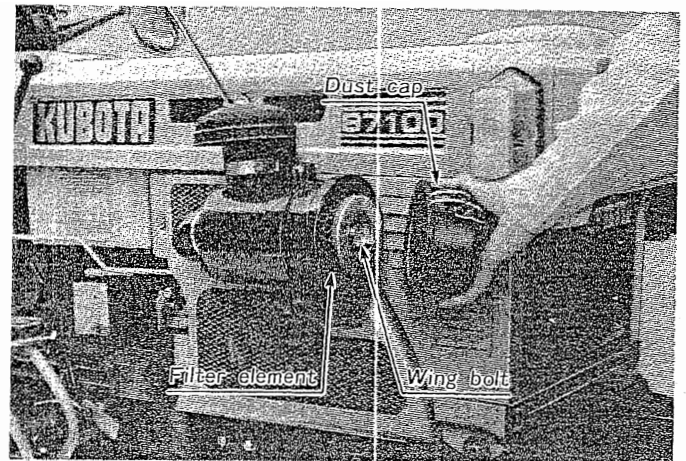


F-1010

6.9 AIR CLEANER

- (1) As 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 throw away 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 strained with carbon or oil, apply one of the following cleansers:
- TR-10000 (by Tokyo Filter Co.)
 - ND-1500 (by Japan Donaldson)
- (6) Change the element once yearly or every time the air cleaner is rinsed with water (6 times a year).

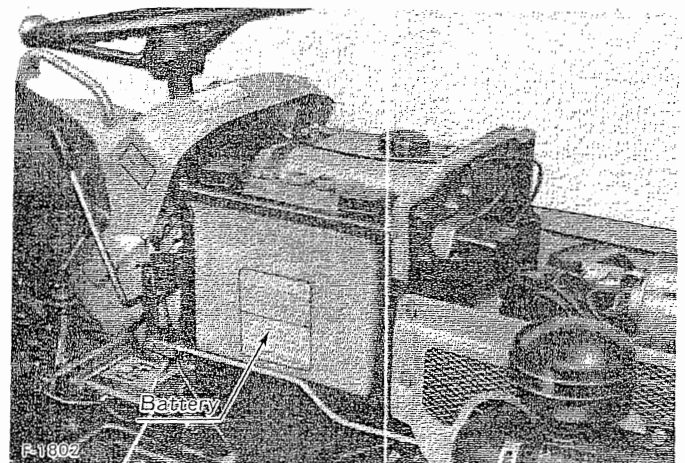


CAUTION:

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

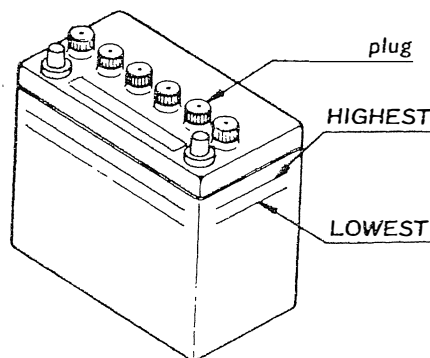
6.10 BATTERY

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



F-1002

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



F-5709

- (3) To top up 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 charges partially the battery at a high rate and in a short time. When using a boost-charged battery, it is necessary to recharge the battery as early as possible after the operation has been finished. Failure to do this extremely affects the service life due to overdischarge.

CAUTION:

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

SAFETY PRECAUTION:

Be careful not to allow the electrolyte to connect your clothes. The strong acid will eat holes in it.

■ **Directions for Storage**

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

7. Adjustments

SAFETY PRECAUTION:

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

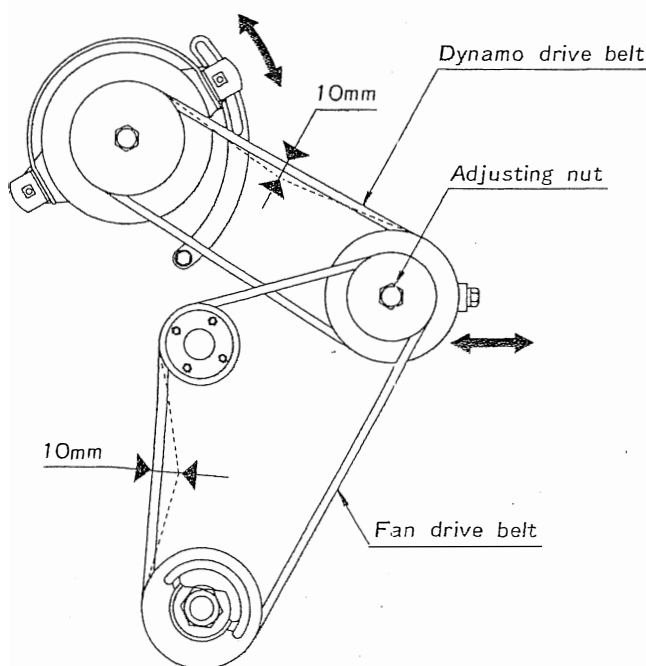
7.1 BELT TENSION

■ B6100D/B6100E/B7100D

If the fan drive belt or the dynamo drive belt becomes loose, the engine may sometimes overheat, or the battery may not be charged. When the fan drive belt is deflected excessively, loosen the adjusting nut and tighten the tension bolt to stretch the belt. After the adjustment, be sure to tighten the adjusting nut. When the dynamo drive belt is loose, loosen the bolts and turn the dynamo to stretch the belt. Finally, tighten up the three bolts.

Moderate belt tension:

The belt should deflect approx. 10mm when the center of the belt is depressed with a finger pressure of 10 kg.

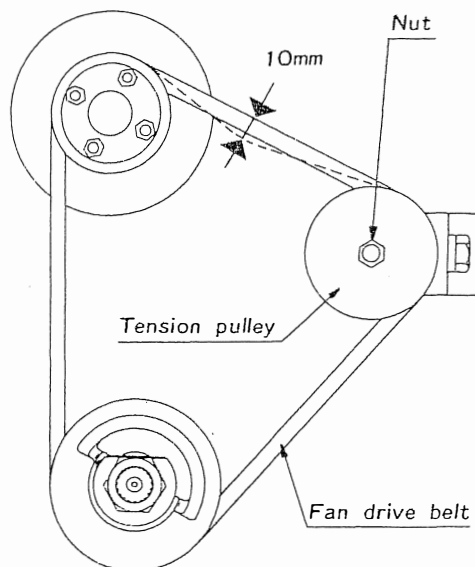


■ B5100D/B5100E

If the fan drive belt becomes loose, the engine may sometimes overheat. When the belt is deflected excessively, loosen the adjusting nut and tighten the tension bolt to stretch the belt. After adjustment, securely tighten the adjusting nut.

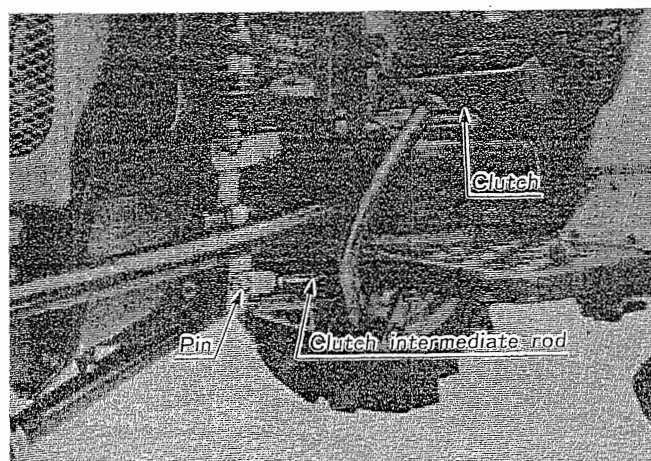
Moderate belt tension:

The belt should deflect approx. 10mm when the center of the belt is depressed with a finger pressure of 10 kg.

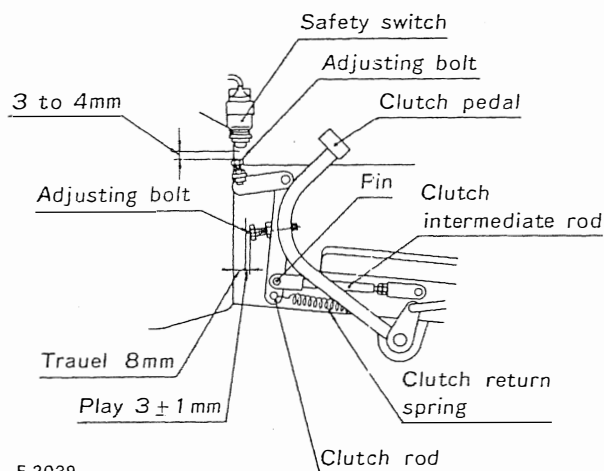


7.2 CLUTCH

Moderate clutch pedal play ranges from 2 to 4 mm and moderate clutch pedal travel is 8 mm.

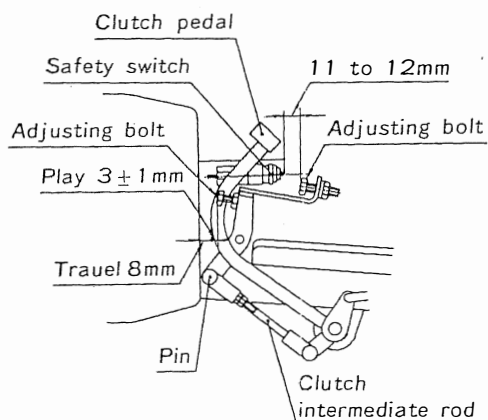


B6100D/B6100E/B7100D



F-2039

B5100D/B5100E



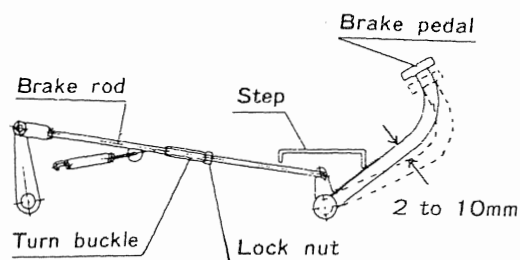
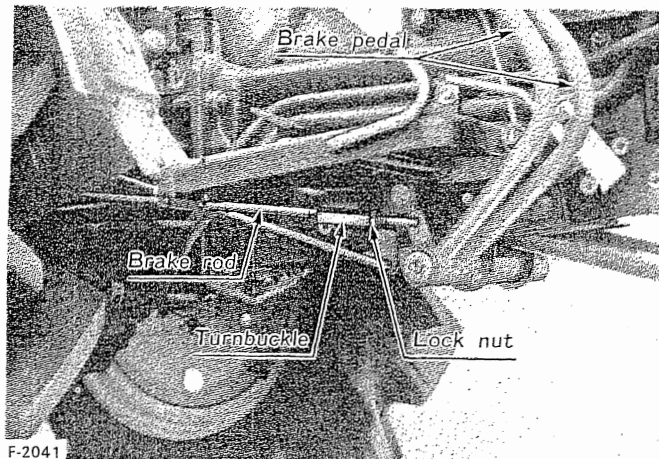
F-2040

- (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.

7.3 BRAKE

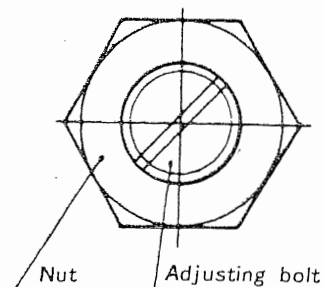
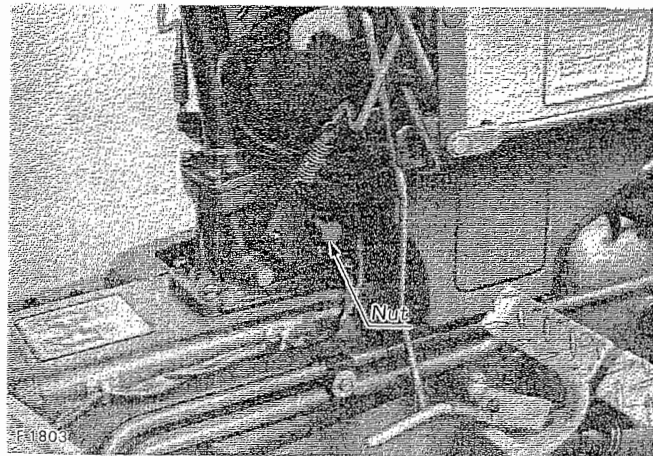
If brake pedal travel becomes too great or travel varies too greatly between the right and left pedals, loosen the turnbuckle lock nut and turn the turnbuckle in the desired direction until the proper pedal travel is achieved. Moderate right and left pedal play ranges from 2 to 10mm.

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



7.4 STEERING WHEEL

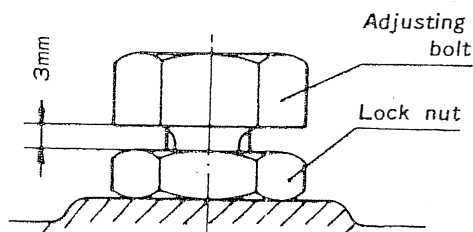
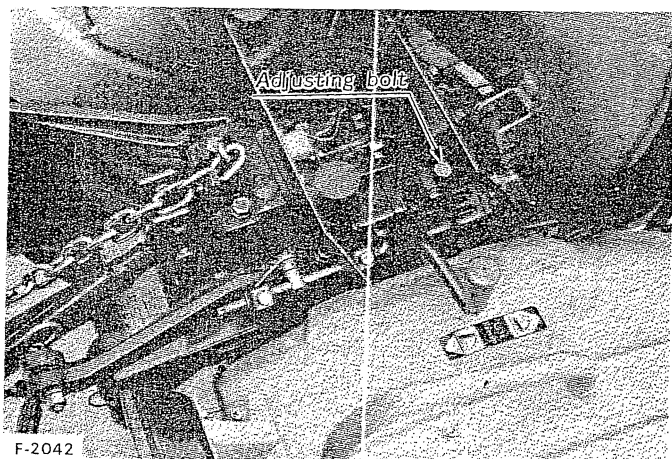
Moderate steering wheel play is zero to 30mm. To adjust this, loosen the lock nut and turn the adjusting bolt to the right. After adjustment, securely retighten the nut.



7.5 IMPLEMENT LOWERING SPEED

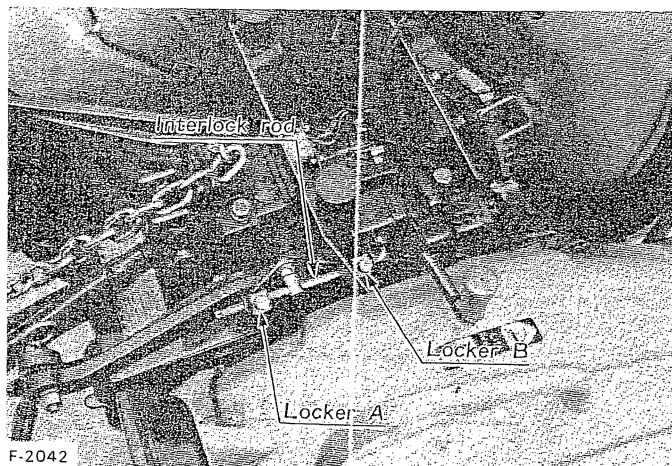
Implement lowering speed can be adjusted in accordance with the type of the implement and operating conditions. To do this, after loosening the lock nut, tighten or loosen the adjusting bolt on the hydraulic control valve. Tightening the adjusting bolt slows down the lowering speed while loosening it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

Note that 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.



7.6 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 fixing position of the locker (A). Shifting the locker (A) backward lowers the limit and shifting it forward raises the limit.

■ Upper Limit

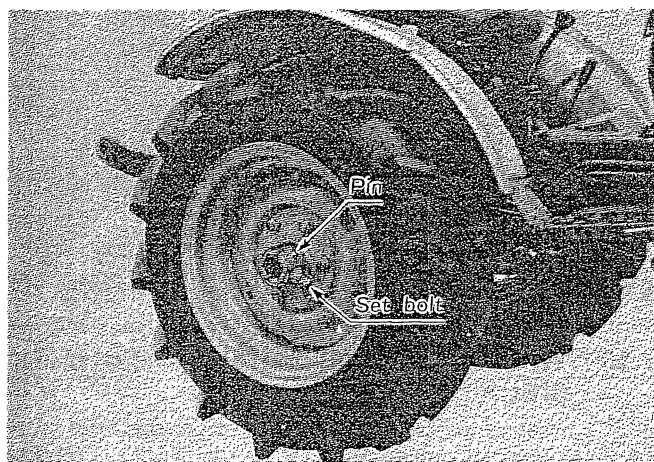
The upper limit can be changed by shifting the fixing position of the locker (B). Shifting the locker (B) backward lowers the upper limit and shifting it forward raises the limit.

7.7 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 (B6100D/B6100E/B7100D), 2 steps (B5100D/B5100E) by selecting one of the pin holes on the axle. Adjust the rear wheel tread according to operating conditions.

Tread (Between the center of the tires)

B6100D/B6100E/B7100D	660mm, 710mm, 760mm
B5100D/B5100E	640mm, 740mm

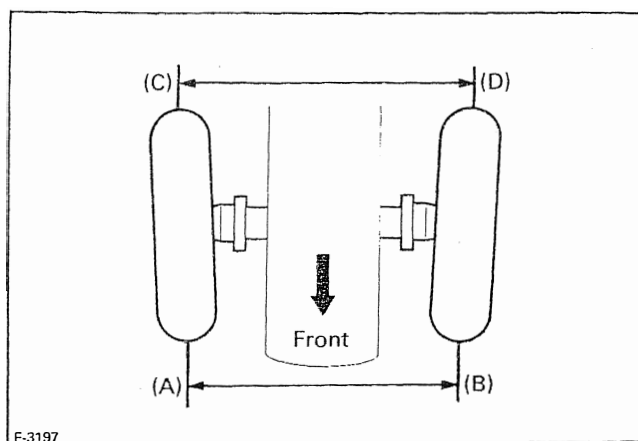


7.8 TOE-IN

The toe-in needs to be adjusted if the tractor runs unstably or if the steering wheel becomes heavy or difficult to handle.

Measure the front wheel distances (AB and CD) and adjust to the following value:

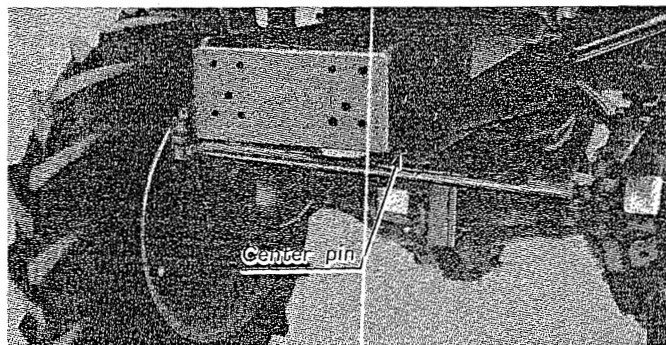
CD minus AB should be approximately zero to 5mm, which is common to the B5100D/B5100E/B6100D/B6100E/B7100D. To perform this adjustment, loosen the tierod lock nut and turn the tierod the desired number of turns.



7.9 CENTER PIN

If cross-axle play occurs between the front wheel support and the front axle, it must be eliminated in the following fashion:

First remove the set spring, then retighten the slotted nut on the front axle while turning the steering wheel until the play is eliminated. Lastly replace the set spring.



7.10 EXHAUST PIPE WITH MUFFLER

The exhaust pipe can be rotated. Adjust this properly while the tractor operate between the crop rows.



8. Troubleshooting

8.1. 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.	* Top 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.	* Install the electrolytic cells securely.

If you have any questions, contact your Kubota dealer.

8.2 ENGINE TROUBLESHOOTING

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

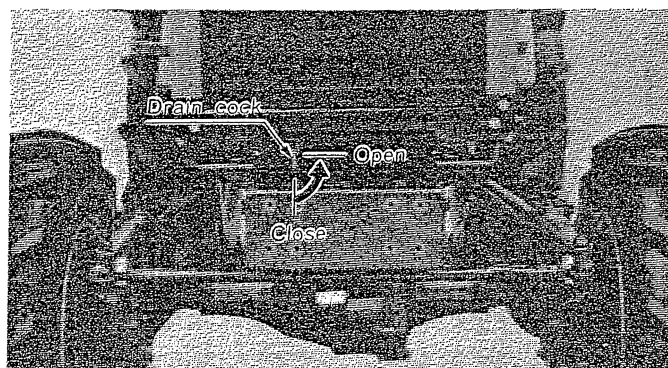
Trouble	Cause	Countermeasure
Engine is difficult to start.	1) No fuel flows.	1) Check the fuel tank and the fuel filter, and remove dirt buildup. 2) All fuel passes through the fuel filter and much dust is caught in it. Should there be deposits on the filter, replace it.
	2) Air and water is in the fuel system.	1) Check to see if the fuel pipe coupler bolt and nut are tight. 2) Bleed the fuel system (See page 24 to 25)
	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 dull 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 in 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 storage color.	Fuel quality is poor.	Change to a quality fuel.
Engine Overheats	1) Engine overloaded	Shift to lower gear or reduce load.
	2) Low coolant level	Fill cooling system to proper level; check radiator and hoses for loose connections or leaks.
	3) Loose or defective fan belt	Adjust fan belt.
	4) Dirty radiator core or grille screens	Remove all trash.
	5) Coolant flow route corroded	Flush cooling system.

If you have any questions, contact your Kubota dealer.

9. Long-Term Storage

When the tractor is not going to operate for two or three months or longer, clean stains off well and perform the following treatment before storage.

- (1) Repair the parts where needed.
- (2) Check bolts and nuts for looseness and tighten as necessary.
- (3) Apply grease or engine oil to the parts most likely to rust.
- (4) Remove the weight.
- (5) Pump up the wheel 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 through the entire system.
- (7) Stop the engine by fully pulling out the engine stop lever.
- (8) Drain the radiator.



- (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 dry place out of direct sunlight.
- (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 sheet.
- (14) When leaving the tractor outdoors, keep the muffler out of the rain.

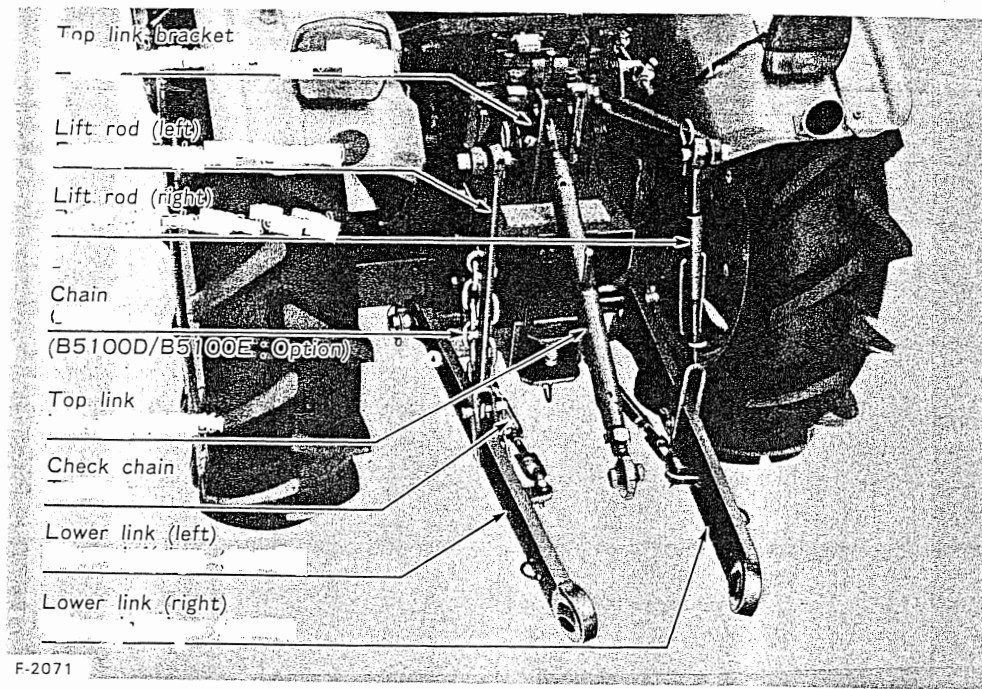
CAUTION:

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 enter the engine.

SAFETY PRECAUTION:

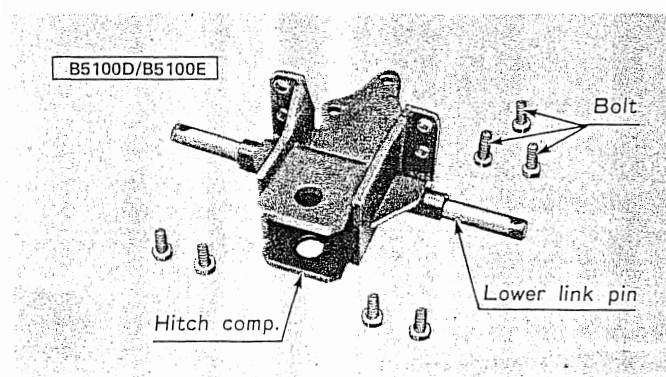
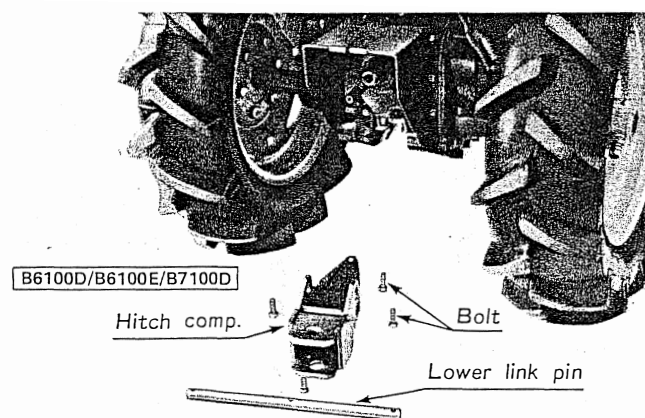
When storing, remove the key from the key switch.

10. Three - Point Hitch

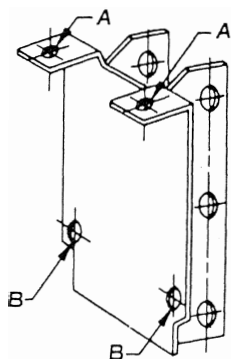
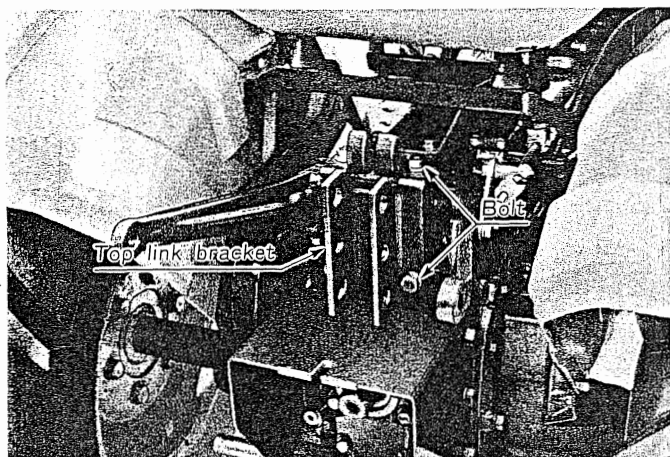


10.1 FITTING 3-POINT HITCH

- (1) Using the bolts, install the hitch comp. at the rear of the differential gear case.



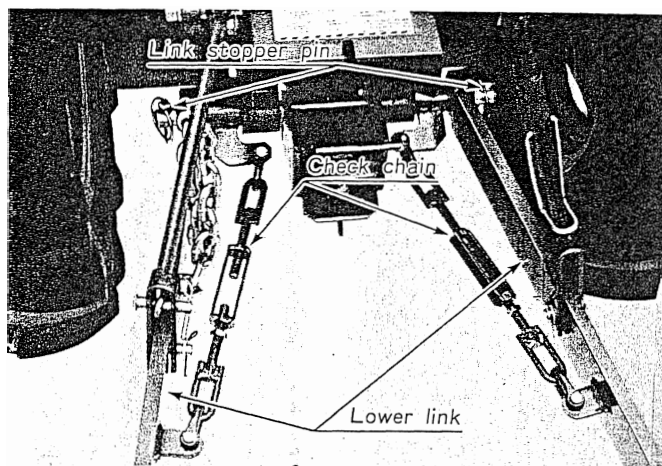
- (2) Insert the lower link pin into the hitch comp. holes and lock it with the set bolts.
- (3) To install the top link bracket, remove the chain bracket set bolts, mount the top link bracket on the chain bracket, and bolt them together.



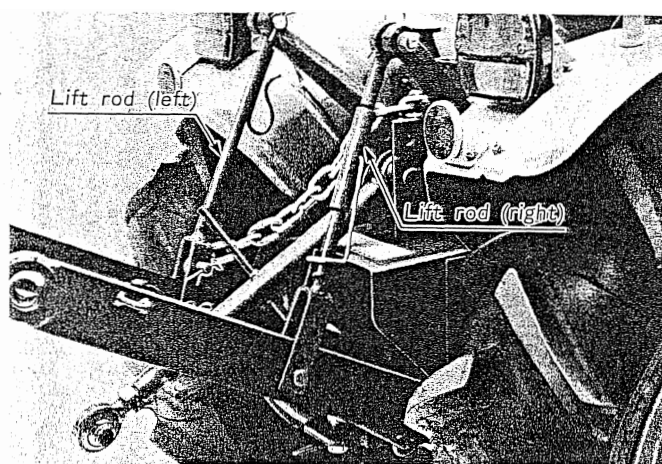
● Installation step

1. Temporarily fasten both brackets by placing two bolts (M12) into the holes (A).
2. Install the brackets by placing two bolts (M12) into the holes (B).
3. Securely tighten the bolts on the holes (A).

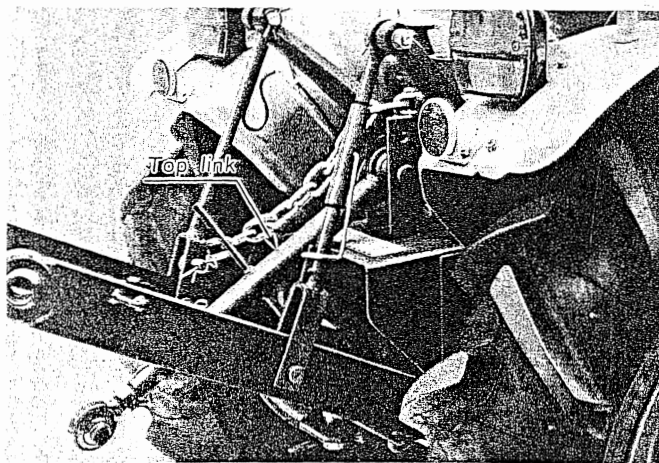
- (4) Fit the check chain brackets and then the right and left lower links onto the lower link pin. Finally attach the link stopper pins to both ends of the lower link pin.



- (5) Using the pins, fit the right lift rod to the right lower link and to the right lift arm, and fit the left lift rod to the left lower link and to the left lift arm.



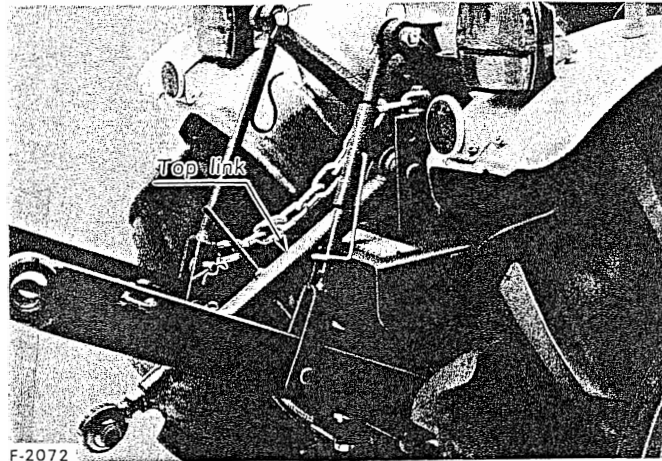
- (6) Fit the top link with the bracket pin.



10.2 3-POINT HITCH ADJUSTMENT

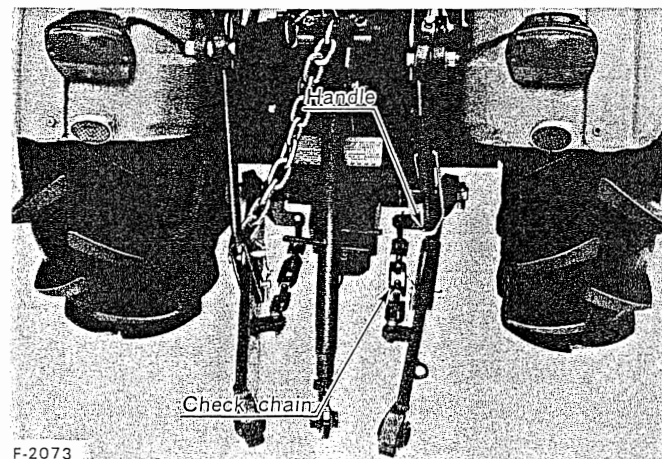
■ Top Link

Implement tilt can be adjusted by changing the length of the top link. Shortening the top link, for example, tilts the implement head down, thereby enhancing plowing efficiency.



■ Lift Rod

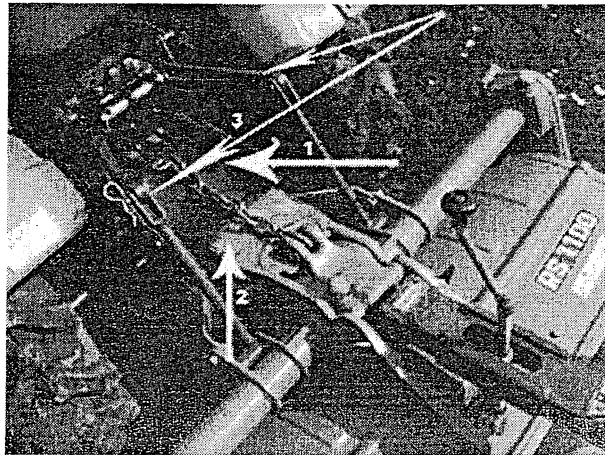
The lift rod (right) is provided with an adjustment handle for extending or shortening the lift rod. To level the implement, operate the handle.



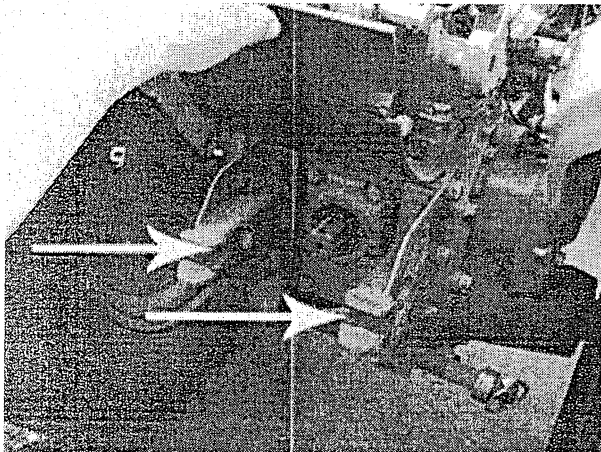
■ Check Chain

The check chain serves to prevent the implement from contacting the 3-point links when the implement is rolling excessively. 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.

Japanese tiller – 2 points



1. Rubber protection – 2. Cardan protection case – 3. Hitch arms

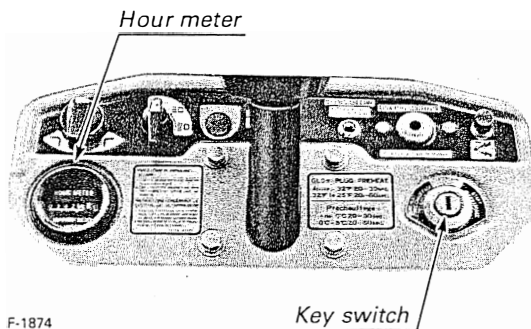


2 points link


11. Options

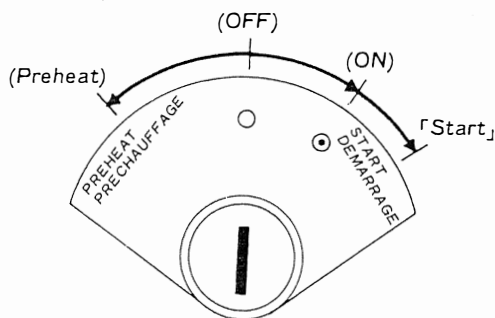
■ Hour Meter (Option for B5100E/B6100E Only)

An hour meter can be added to the instrument panel. To do this, remove the rubber plug from the hole provided and insert the hour meter. Lastly, lock the instrument with two bolts and connect the cable terminals to the panel terminals.



F-1874

Because the hour meter operates on electricity, it is actuated by setting the key switch at the  position or at PREHEAT.



Code No.

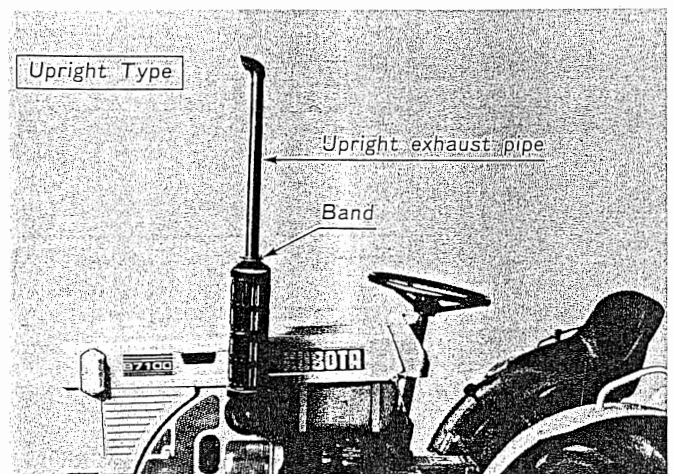
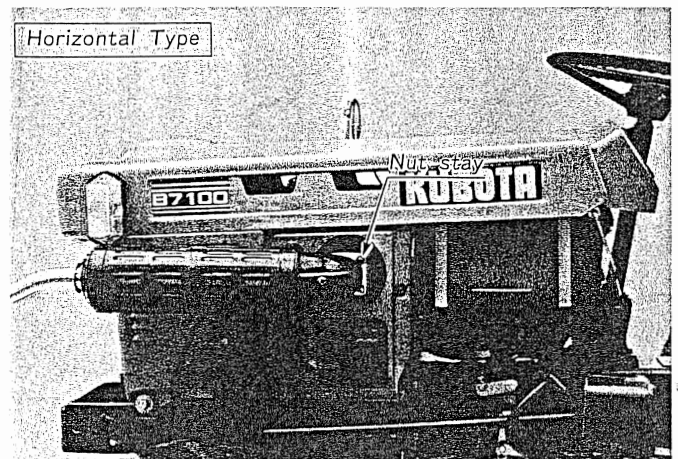
66704-8210-1

■ Upright Muffler

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

To convert:

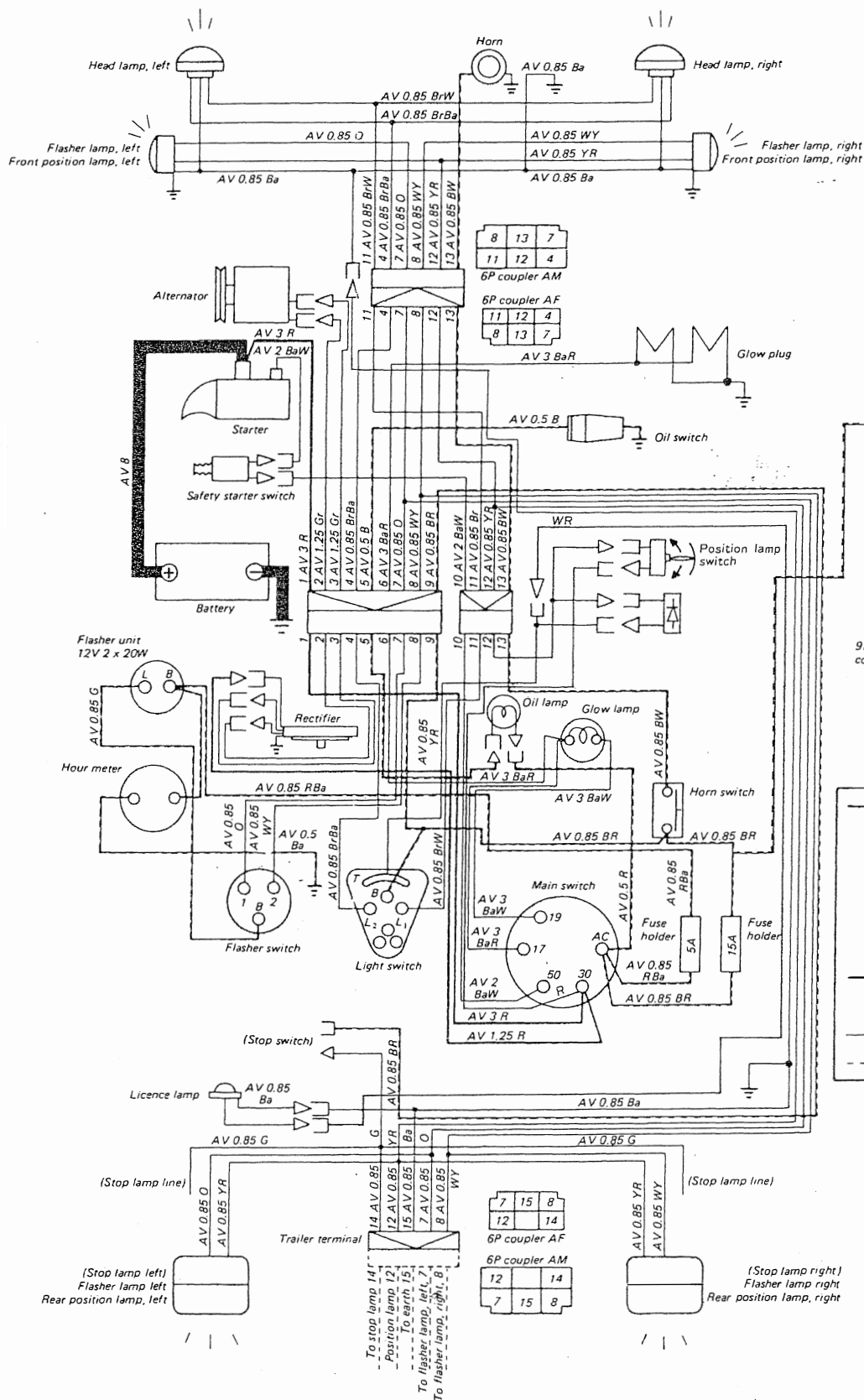
- (1) Remove 4 bolts (M8) fastening the elbow and muffler, then detach the stay.
- (2) Turn the muffler inlet upright and lock with 4 nuts (M8).
- (3) Replace the horizontal exhaust pipe with an upright exhaust pipe and clamp with the band.



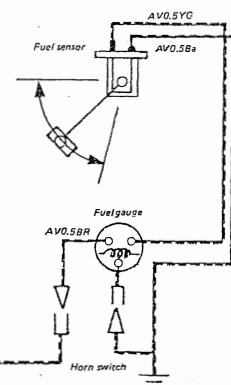
Code No.

66711-8251-1

12. Wiring Diagram (B5100D/B5100E)



[Sweden, Denmark, Finland, Norway]



— 12V is always flowing.
This wire is "live" even if the engine is stopped.
It would cause sparks if it comes into contact with the tractor body.

— 12V is flows when switch is "ON".

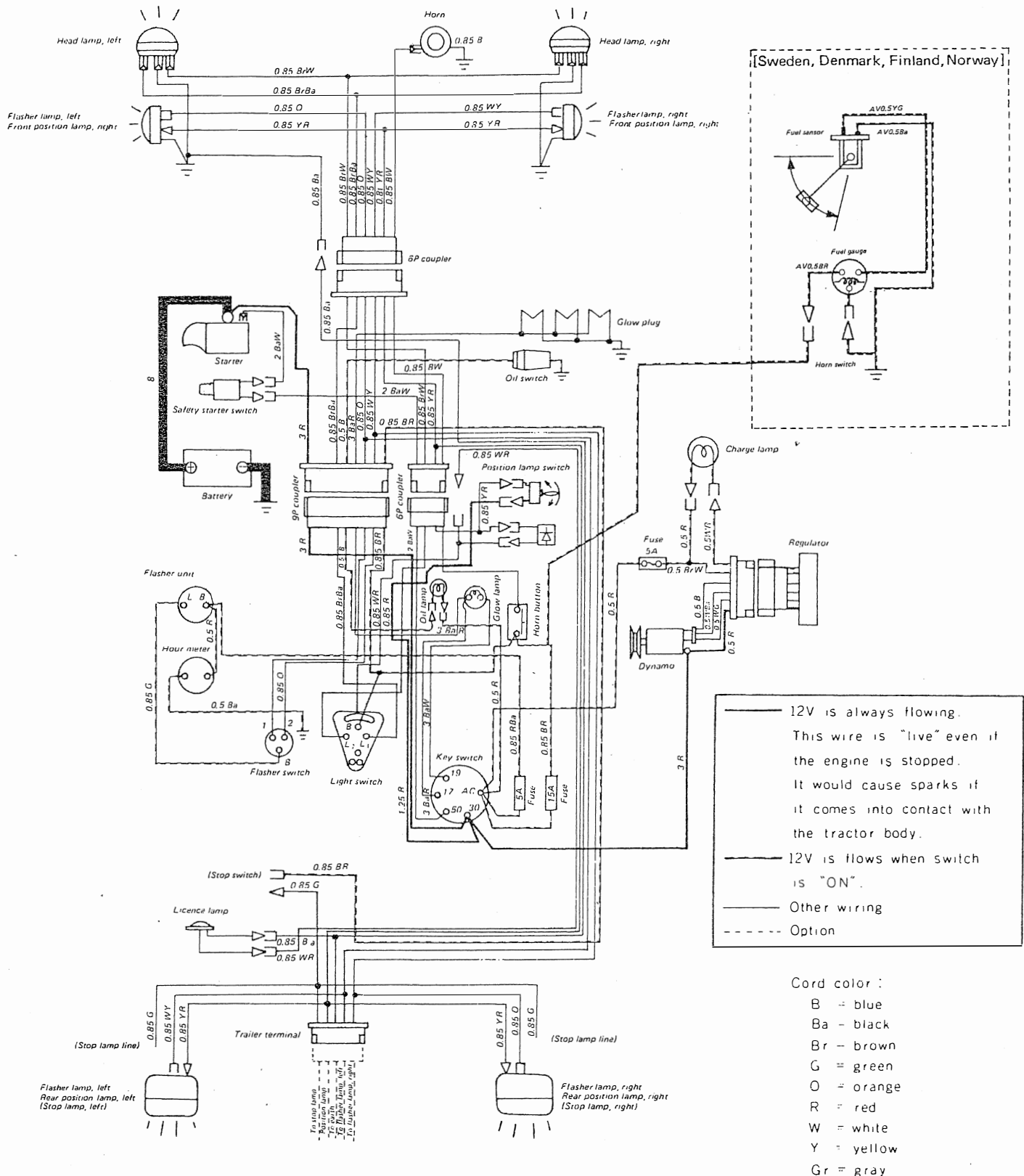
— Other wiring

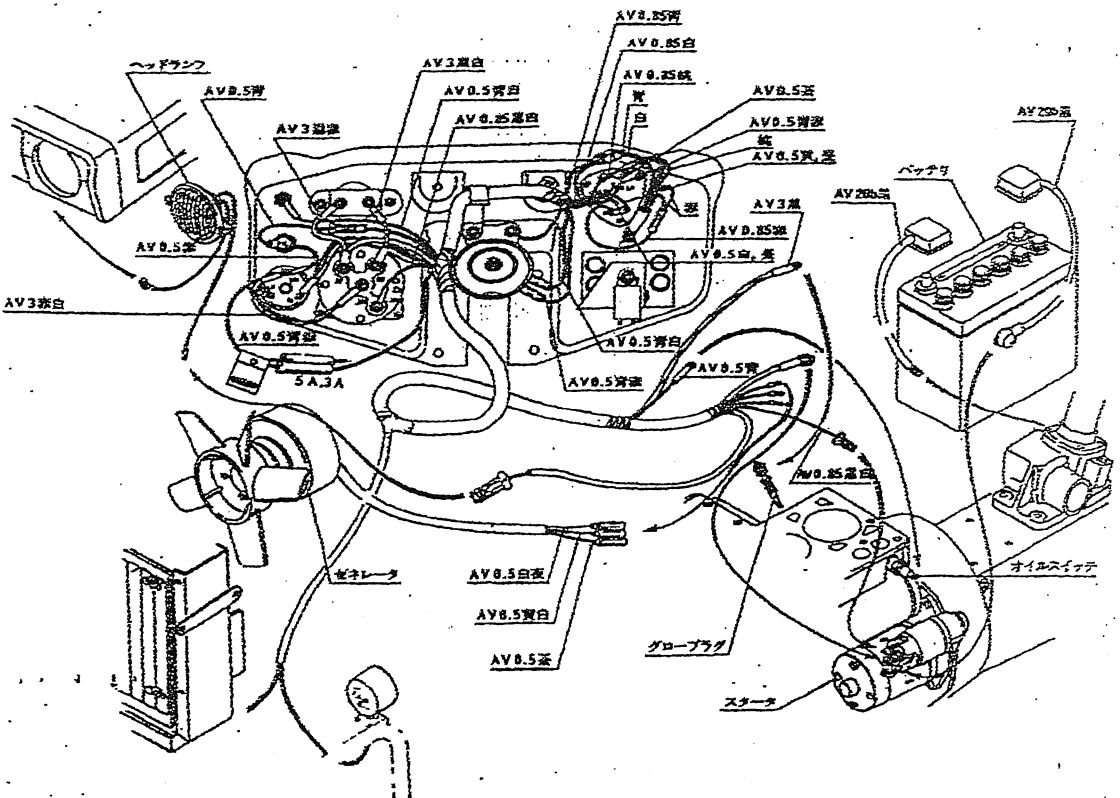
----- Option

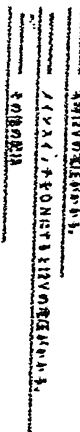
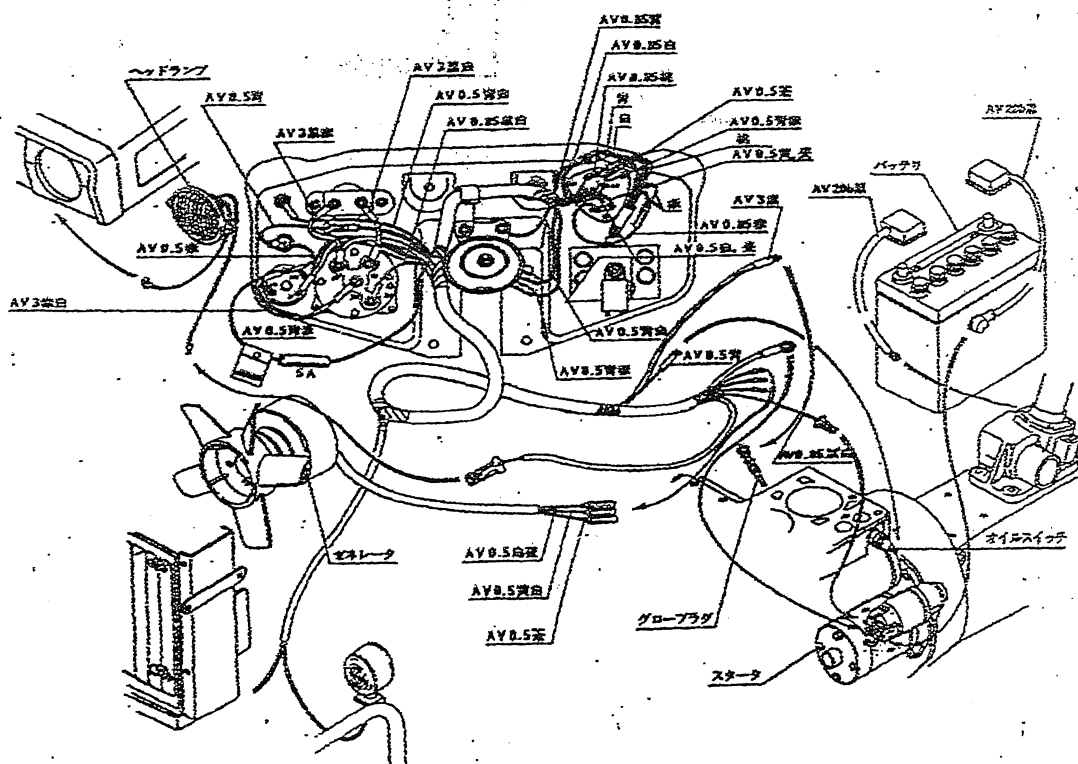
Cord color :

B = blue
Ba = black
Br = brown
G = green
O = orange
R = red
W = white
Y = yellow
Gr = gray

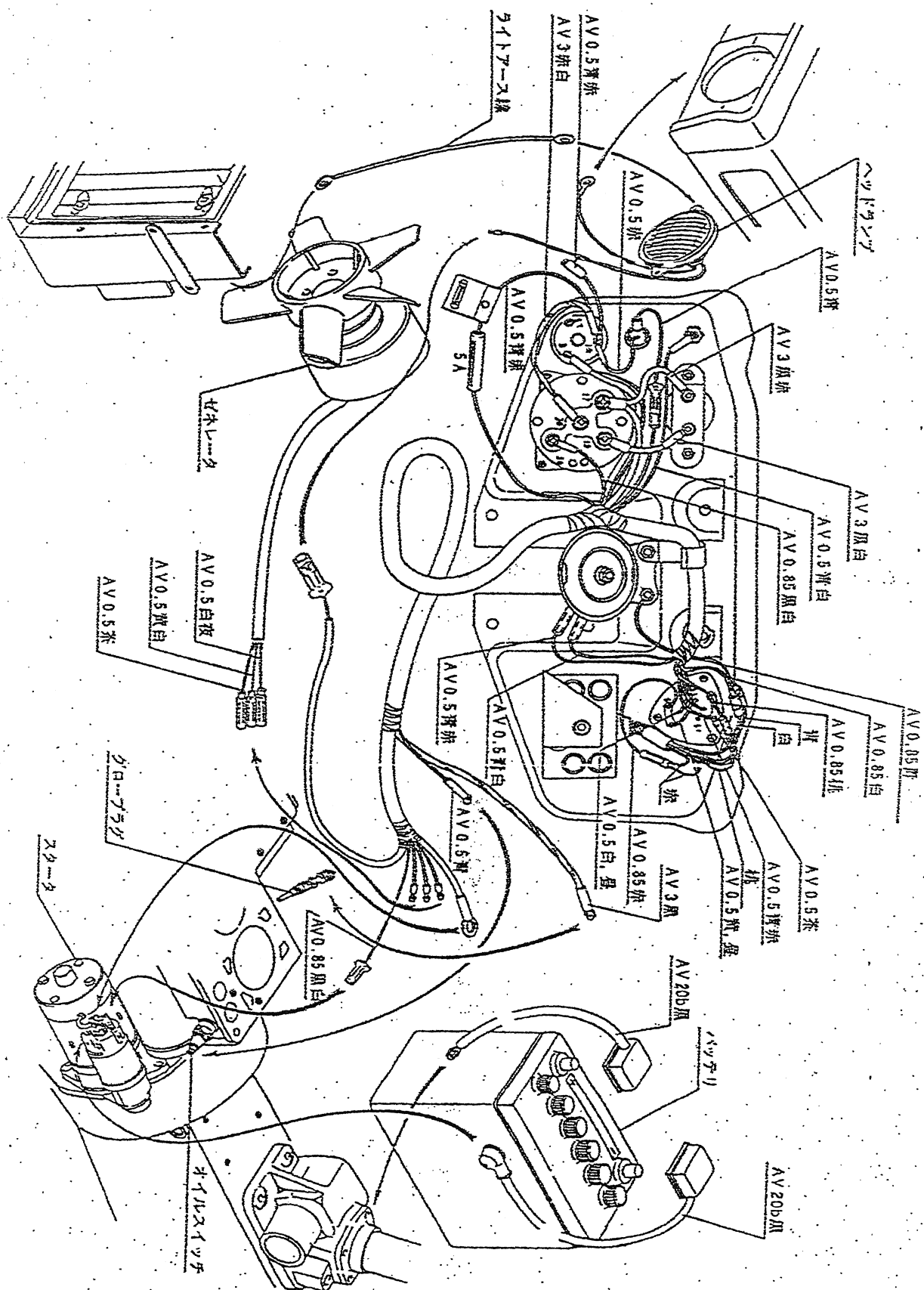
Wiring Diagram (B6100D/B6100E/B7100D)

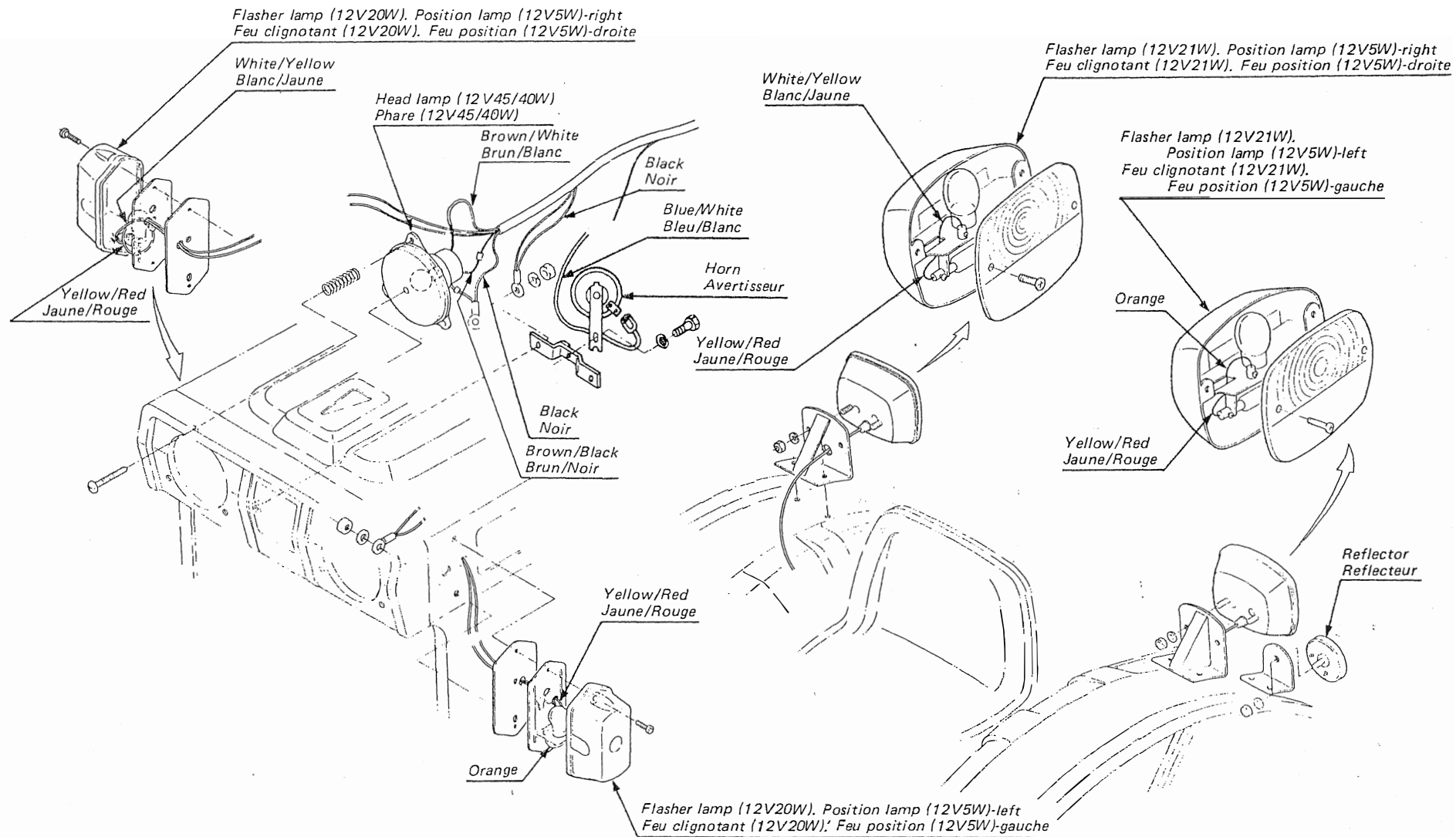




[illegible]

00079





SPECIFICATIONS

Model:	B5100D-T	B5100D	B5100E	B5100E-T	B6100D	B6100E	B6100E-T	B7100D	B7100D-T
Engine:	KUBOTA Z500-1A				KUBOTA D650-A			KUBOTA D750-A	
Type	Vertical, water-cooled, 4-cycle engine								
Cylinders	2				3				
Total displacement	508 cm ³				675 cm ³			762 cm ³	
Bare horse power and speed	8.8 kW and 50 r/s (12HP and 3000 rpm)				10.3 kW and 46.7 r/s (14 HP and 2800 rpm)			11.7 kW and 46.7 r/s (16HP and 2800 rpm)	
Cylinder bore and stroke	68 x 70mm				64 x 70mm			68 x 70mm	
Fuel	High speed diesel fuel or No. 2 diesel fuel								
Starter	Electric starter with battery, glow plug and decompression device, 12V, 0.8kW								
Lubrication	Forced lubrication by trochoidal pump								
Cooling	Water with pressurized radiator								
Battery	12V 35Ah				12V 45Ah				
Fuel tank cap.	8 ℓ (7.8 ℓ: steel tank type)				13 ℓ (10 ℓ: steel tank type)				
Engine oil tank cap.	2.3 ℓ				3.4 ℓ				
Engine coolant cap.	3 ℓ				4.6 ℓ				
Transmission oil case cap.	8.5 ℓ				11.5 ℓ				
Dimensions:									
Overall length	1820 mm			1810 mm	1960 mm		1930 mm	1990 mm	1975 mm
Overall width	920 mm (tire outer width)			970 mm (tire outer width)	940 mm (tire outer width)		965 mm (tire outer width)	940 mm (tire outer width)	1120 mm (tire outer width)
Overall height	1120 mm	1125 mm	1120 mm	1100 mm	1135 mm	1120 mm		1150 mm	1135 mm
Wheel base	1200 mm				1250 mm	1240 mm		1250 mm	
Minimum ground clearance	260 mm (to transmission case bottom) 220 mm (to front axle)			230 mm (to transmission case bottom)	250 mm (to transmission case bottom) 240 mm (to front axle)	250 mm (to transmission case bottom)	220 mm (to transmission case bottom)	280 mm (to transmission case bottom) 240 mm (to front axle)	265 mm (to transmission case bottom) 220 mm (to front axle)
Treads	Front	745 mm	670 mm	660 mm	745 mm	735 mm	695 mm	780 mm	735 mm
	Rear	745 mm	640 mm, 740 mm		745 mm	660 mm, 710 mm, 760 mm			815 mm
Tires	Front	20 x 8.00-10	4.50-10-2PR	4.00-9-2PR	20 x 8.00-10	6-12-2PR	4.00-9-2PR	20 x 8.00-10	6-12-2PR
	Rear	212/80D-15	7-16-4PR		27 x 8.50-15	7-16-4PR		27 x 8.50-15	8-16-4PR
Weight:	405 kg		365 kg		375 kg	470 kg	440 kg	450 kg	490 kg
PTO shaft:									
Location	Transmission case rear 1 (Engine front 1)								
Ground clearance	450 mm			420 mm	445 mm		415 mm	470 mm	
Revolution direction	Right viewed from rear								

Revolution	*1	2 steps—10.1 and 16.1 r/s at 50 engine r/s (603 and 963 rpm at 3000 engine rpm)		3 steps—8.6, 14.6 and 25.0 r/s at 46.7 engine r/s (514, 876 and 1498 rpm at 2800 engine rpm)		*2
Clutch:	Dry single plate type					
Steering:	Ball screw type					
Transmission:	Gear shift					
Speed changes:	6 forward, 2 reverse					
Minimum turning radius:	1.68 m	1.65 m	1.85 m	1.75 m	1.9 m	
Brake:	Internal-expanding type, right and left independent with interlocking device					
Differential device:	Bevel gear type (both for front end 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)	Bevel gear type (both for front and rear wheels)	

*1: 2 steps—10.1 and 20.2 r/s at 50 engine r/s (603 and 1211 rpm at 3000 engine rpm)

*2: 2 steps—8.6, 14.6 and 25.0 r/s at 46.7 engine r/s (514, 876 and 1498 rpm at 2800 engine rpm)

■ Travelling Speed

Gear shift	Travelling speed										Uses
	m/s					km/h					
	B5100D B5100E	B5100E-T	B6100D B6100E	B6100E-T	B7100D	B5100D B5100E	B5100E-T	B6100D B6100E	B6100E-T	B7100D	
1st	0.26	0.23	0.29	0.26	0.27	0.94	0.85	1.04	0.95	0.98	Rotary tilling, levelling, ridging
2nd	0.44	0.40	0.49	0.45	0.46	1.60	1.47	1.77	1.62	1.67	Rotary tilling, levelling
3rd	0.72	0.66	0.84	0.77	0.79	2.62	2.40	3.02	2.77	2.85	Rotary furrowing, puddling
4th	1.27	1.16	1.31	1.21	1.24	4.58	4.20	4.74	4.34	4.46	Puddling, plowing
5th	2.18	2.00	2.24	2.06	2.11	7.85	7.20	8.08	7.41	7.61	Plowing
6th	3.56	3.27	3.84	3.52	3.62	12.84	11.77	13.82	12.67	13.02	Trailing work
R1	0.36	0.33	0.42	0.39	0.40	1.31	1.20	1.52	1.39	1.43	
R2	1.78	1.63	1.93	1.77	1.82	6.43	5.89	6.95	6.37	6.55	

■ Travelling Speed [Sweden, Denmark, Finland, Norway]

Gear shift	Travelling speed								Uses
	m/s				km/h				
	B5100D B5100E	B5100E-T B5100D-T	B7100D	B7100D-T	B5100D B5100E	B5100E-T B5100D-T	B7100D	B7100D-T	
1st	0.26	0.25	0.27	0.26	0.94	0.91	0.98	0.93	Rotary tilling, levelling, ridging Rotary tilling, levelling Rotary furrowing, puddling Pudding, plowing Plowing Trailing work
2nd	0.44	0.43	0.46	0.44	1.60	1.56	1.67	1.59	
3rd	0.93	0.91	1.06	1.01	3.34	3.26	3.83	3.63	
4th	1.27	1.24	1.24	1.19	4.58	4.47	4.46	4.27	
5th	2.18	2.13	2.11	2.02	7.85	7.67	7.61	7.28	
6th	4.56	4.45	4.88	4.63	16.4	16.02	17.57	16.66	
R1	0.36	0.35	0.40	0.38	1.31	1.28	1.43	1.36	
R2	1.78	1.74	1.82	1.73	6.43	6.27	6.55	6.21	

★ The Kubota B5100D/B6100D/B7100D is shipped with a choice of the following accessory assortments:

- | | |
|--------------|-----------------------------|
| (1) B5100D | } Tractor |
| (2) B6100D | |
| (3) B7100D | |
| (4) B5100D-P | } Tractor and 3-point hitch |
| (5) B6100D-P | |
| (6) B7100D-P | |

★ The Kubota B5100E/B5100E-T/B6100E/B6100E-T is shipped with a choice of the following accessory assortments:

- | | |
|------------------------|-----------------------------|
| (1) B5100E/B5100E-T | } Tractor |
| (2) B6100E/B6100E-T | |
| (3) B5100E-P/B5100E-PT | } Tractor and 3-point hitch |
| (4) B6100E-P/B6100E-PT | |