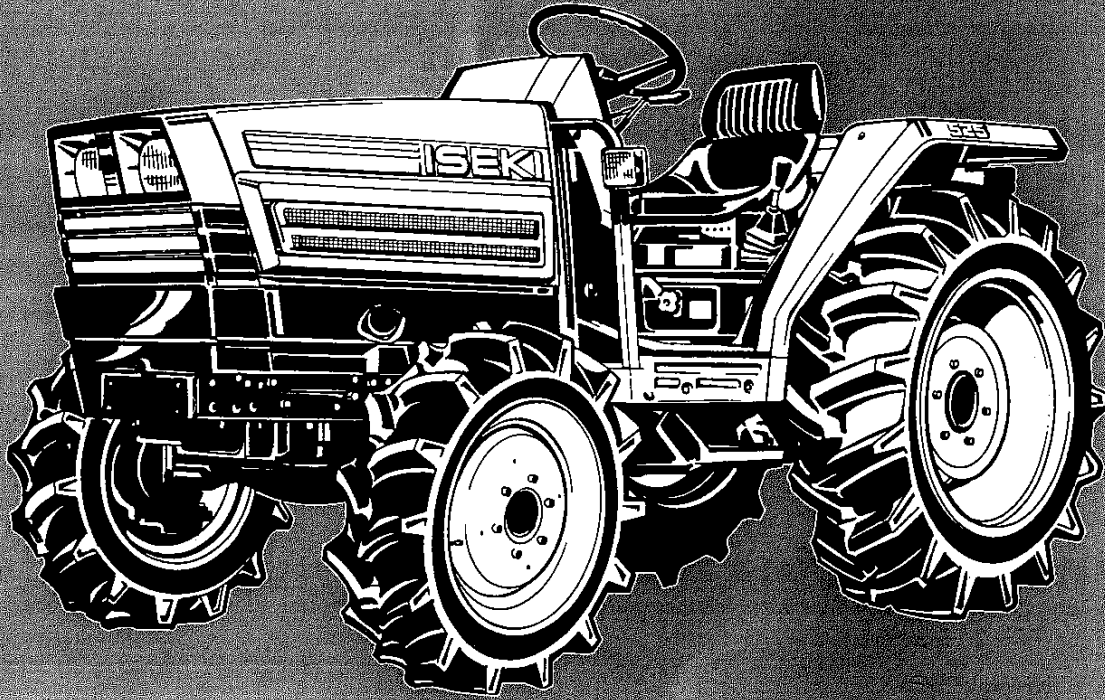


ISEKI TRACTORS



O p e r a t i o n M a n u a l

TA525F TA530F

ISEKI & CO., LTD.

Introduction

This operator's manual is intended to provide necessary information for operating and maintaining your tractor. Its primary purpose is to offer you guidance in the lubrication and adjustment of your tractor during daily and seasonal operation.

We especially wish to call your attention to the many safety advisories listed in this manual. Although your tractor is designed with safety of operation in mind, the risk of accidents cannot be completely eliminated unless you understand and practice all safety precautions.

Timely service saves costly repairs and valuable time lost because of breakdowns. When it becomes necessary to make repairs or replacements to your tractor, be sure to insist on genuine ISEKI parts. These parts are designed specially for your tractor under controlled specifications, to provide satisfaction and the long lasting service to which you are entitled. Your dealer can supply you with the parts you require. Use of other than genuine ISEKI parts may jeopardize our normal warranty. For additional information consult your dealer.

By the way, we want to understand that the contents of this manual may be somewhat different from the standards pertaining to the machine that you actually own. This is because we are always aiming to improve our technical and qualitative standards, and we are very quick to introduce into our machines of the improvements.



Please adhere strictly to instructions given in the text accompanied by this mark as well as "GENERAL PRECAUTIONS." Failure to do so could lead to physical injuries.

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Specifications

Specifications are subject to change without notice.

Tractor models		TA525	TA530
Items		4WD	4WD
Dimensions (cm)			
Overall length (from bumper to lower link end)		297.0	306.0
Overall width (with a rear tread of 8 cm)		132.0	135.5
Overall height		148.0	151.0
Wheel base		161.5	170
Wheel tread	Front	107.0	107.0
	Rear	102.0-134.0	102.0-134.0
Minimum ground clearance		30.0	33.0
Minimum turning radius (m) (without braking)		2.1	2.2
Weight (kg)		1130.0	1160.0
Engine			
Model		E3AG1	E3AD1
Type		Water-cooled, 4-cycle, 3-cylinder Diesel	
Output (ps/rpm)		25/2600	30/2600
Displacement (cc)		1429	1498
Bore x Stroke (mm)		84 × 86	86 × 86
Combustion chamber type		Swirl chamber	
Lubrication system		Forced-circulation	
Cooling system		Water-cooled, forced-circulation	
Air cleaner		Dry	
Fuel		Diesel fuel, JIS 2 or 3	
Starting method		Starter motor with quick preheater	
Fuel tank capacity (liter)		30	
Battery		12V 80AH	

Tractor models		TA525	TA530
		4WD	4WD
Chassis			
Clutch	Main	Dry, single disc, mechanical	
	PTO	Wet, multi-disc, hydraulic	
Transmission		Constant mesh; Synchromesh (liniar shift and 3rd/4th in main shift)	
Differential		Bevel gears with dif-lock	
Brakes		Wet, disc, mechanical	
Steering system		Ball-screw type (type E) Integral type power-assisted (All other types)	
Tire size	Front	7-16	7-16
	Rear	11.2-24	12.4-24
Axle type	Front	Center-pin, Reverse L	
	Rear	Central axle	
Implement lift			
Operation		Hydraulic	
Mounting method		3-point hitch	
Drawing method		Trailer hitch (opt)/Draw-bar	
3-point hitch category		Category 1	
Self-control		Position control	

Tractor models				TA525	TA530
Items				4WD	4WD
Traveling speeds (km/hr)					
	Linear shift	Range shift	Main shift		
	Forward	1	1	0.446	0.467
			2	0.692	0.727
			3	0.927	0.968
			4	1.149	1.207
		2	1	1.166	1.225
			2	1.810	1.901
			3	2.411	2.532
			4	3.005	3.155
		3	1	3.272	3.437
			2	5.078	5.333
			3	6.763	7.103
			4	8.429	8.853
	4	1	9.248	9.713	
		2	14.351	15.072	
		3	19.113	20.073	
		4	23.822	25.018	
Reverse	1	1	0.422	0.442	
		2	0.655	0.688	
		3	0.878	0.916	
		4	1.088	1.143	
	2	1	1.104	1.160	
		2	1.714	1.800	
		3	2.282	2.397	
		4	2.844	2.987	
	3	1	3.098	3.254	
		2	4.807	5.049	
		3	6.403	6.724	
		4	7.980	8.381	
4	1	8.755	9.195		
	2	13.586	14.268		
	3	18.095	19.003		
	4	22.552	23.685		
PTO shaft					
Speeds (PTO rpm/Engine rpm)				540/2400	1000/2450
Shaft dia. and spline teeth				JIS 35, 6-spline	

General Precautions



As a manufacturer of agricultural equipment, ISEKI strives to design and deliver the safest equipment possible. Once a machine has been delivered to a user, however, it is the operator of the machine who must assume the responsibility of avoiding accidents. Understand thoroughly the following precautions, always keep them in mind before, during, and after operation, and never take chances. It has been said that the best safety device is a careful operator. We ask you to be a careful, safe operator.

1. How to be a safe operator

- 1) Familiarize yourself fully with the machine controls by studying the operator's manual before using your machine.
- 2) Never allow persons listed below to operate the machine.
 - a. Persons with mental disease
 - b. Persons who cannot operate the machine properly because of fatigue, illness, or drowsiness from medication, etc.
 - c. Pregnant women
 - d. Young persons or children too young to legally operate the machine.
- 3) Always be careful of your health by taking suitable rest breaks.
- 4) Wear appropriate clothing and other protective devices during operation.
 - a. Protection of your head
Wear protective headgear such as a helmet, especially when traveling on roads or handling material above your head.
 - b. Protection to avoid being caught in the machine.
Wear tight-fitting clothing and headgear, because loose clothing or hair can get caught in the moving parts of the machine.
 - c. Protection from poisonous dust or gases
Be sure to wear a protective device to protect the respiratory system, eyes and skin when handling poisonous chemicals.
 - d. Protection of the ears
Wear ear plugs or take suitable countermeasures to protect your ears when you must operate the machine under extremely noisy conditions.
 - e. Maintenance of protective devices periodically
Inspect protective devices to assure that they are functioning properly. Use them at all times.

2. Maintenance of the machine

- 1) Inspect and service the machine periodically in accordance with the instructions given in the operator's manual to maintain the machine in best condition.
- 2) Pay special attention to the controls and safety measures for the machine when servicing it. If the machine functions properly and performs normally, the chances of an accident will be reduced greatly.
- 3) Select level ground where there is no traffic to service the machine. When you must service the machine indoors with the engine running, open the doors and windows to provide sufficient ventilation.
- 4) Before inspecting or servicing the machine, apply the parking brake, and block the tires if necessary. If you have to work under a heavy implement raised by the hydraulic power lift, be sure to lock the lift and use other protective means to support the implement.
- 5) When servicing the machine with the engine off, remove the key or take other preventive measures so that the engine will not start accidentally.
- 6) When you have to work under the machine when it is partially jacked up, be sure to block the grounded tires securely. Confirm that the device lifting up the machine has sufficient strength to support the machine. When using a jack, place it on hard, level ground and under a secure support point on the machine, such as under the gear box.
- 7) Before removing a safety device, such as a safety cover, be sure that the machine has stopped completely. Never forget to replace the removed part after servicing.
- 8) Never inject fuel while the engine is running or is still hot. Keep away from open fires and never smoke around a fuel tank or while putting fuel into the machine. Never use an open fire for illumination when putting fuel into the machine at night.
- 9) Never remove the radiator cap while the engine is hot or running. Wait until the engine cools down and then relieve the radiator pressure by releasing the radiator cap. Carelessly pouring cooling water

into the heated radiator can cause serious damage to the radiator and the engine. Careless removal of the radiator cap can cause serious injury because of overheated water vapor.

- 10) The battery should be inspected before starting the engine. Be careful not touch the electrolyte when removing the vent plugs. If the battery electrolyte makes contact with the skin or clothing, wash it off immediately with water.
- 11) You should always keep the required service tools on the machine and use them as directed.

3. Prevention of fire and the storage of dangerous objects

1) Prevention of fire

- a. Keep inflammables away from the engine during operation.
- b. Take adequate precautions to eliminate fire hazards during operation.

2) Safe storage of dangerous objects

- a. When storing dangerous implements, take appropriate safety measures to prevent accidents by covering with tarpaulin.
- b. Store fuel in a safe place with caution signs such as "PREVENT FIRE" or "INFLAMMABLE."
- c. All inflammables must also be stored in a safe, fire-resistant location.

4. Mounting, dismounting, and servicing of implements

- 1) Mount or dismount an implement on the machine on level ground. Handle it safely and correctly. When you have to operate the implement at night, provide proper illumination.
- 2) When moving the machine toward an implement for the purpose of installing the implement, never allow any one to stand in between. When installing the implement on the machine, be prepared to move away promptly in the event of an emergency. The brakes should be applied securely during installation.
- 3) Be sure that all set pins of the linkage are securely locked after installing the implement.
- 4) Install the universal joint so that it runs in as straight a line as possible during operation.
- 5) When a heavy implement is mounted on the machine, balance the weight distribution of the machine by installing proper balance weights.

- 6) When you have to leave the machine to adjust a mounted implement, apply the parking brake and shut off the engine. All of the drive lines must also be disengaged ahead of time.

- 7) Neither crawl nor place your foot under the implement.

- 8) Adjust the cover of the apron of the rotary hoe to prevent the scattering of soil or gravel.

5. Precautions during stationary operations

- 1) Ensure safe power transmission to the implement.
The drive belt must be protected with a suitable cover to prevent accidents. Never use fasteners with projections on the connected belts. Stop the engine when engaging or disengaging the belt.
- 2) When installing the implement securely on the ground, position it to allow sufficient space for the operator to walk about during the operation.
- 3) When you have to operate the implement indoors, provide sufficient ventilation. This is indispensable when an internal combustion engine is being used as a prime mover, because it generates poisonous fumes.

6. Prohibiting other persons from getting on the machine

- 1) Never allow other persons to get on the machine or the implement except when the machine or the implement is provided with a seat or a platform for persons to sit or stand on, and only within the capacity specified.
- 2) Never allow persons to get on the implement while traveling on roads.
- 3) Never jump on or off the machine or the implement while in motion except in an emergency.
- 4) Never operate the machine while sitting or standing anywhere other than the place specified for the operator.

7. Precautions during operation

- 1) Persons who have not yet reached the age specified by law should not be allowed to operate the machine.
- 2) Never allow unauthorized access to the machine during operation.

- 3) Operate the machine properly and cautiously, to avoid injury to co-workers. When operating an implement which may scatter soil or gravel, never allow persons to get near the implement.
- 4) Follow the precautions given below when starting the machine (engine).
 - a. Before starting the engine, disengage all of the drive line controls such as the gear change lever, the PTO speed change lever, etc.
 - b. Before starting the engine indoors, make sure that there is proper ventilation.
 - c. Before starting the machine, confirm that the transmission gear has been shifted to the appropriate speed, that there is no one near the machine, and that the implement is securely installed on the machine.
- 5) Follow the precautions given below during operation.
 - a. Always operate the machine from the operator's seat. Never leave the seat except in an emergency. When departing the machine to take a rest or for other reasons, park the machine on level ground, lower the implement to the ground, and apply the parking brake securely. When you have to park the machine on slope, doubly secure the machine by also chocking the wheels.
 - b. Refrain from speeding, abrupt starting or acceleration, sudden braking, sharp turning, etc.
 - c. While operating the machine, never distracted or doze off. Hold the steering wheel securely and always look in the direction the machine is traveling.
 - d. Avoid full braking while traveling at high speeds. Sudden braking while turning is especially dangerous.
 - e. Never load cargo on the machine unless it is provided with a means to carry cargo.
 - f. Take care not to make contact with hazardous parts such as drive lines, moving parts, etc.
 - g. Be careful not to allow the implement to hit a person when turning the machine.
 - h. When you have to operate the machine at night, provide adequate illumination.
 - i. When operating the machine with an implement that has cutters or sharp projections, take precautions to prevent accidents.
- 6) Follow the instructions given below plus those instructions given in paragraph 5) while traveling on roads.
 - a. Operate the machine safely in accordance with the traffic laws.
 - b. Take care not to interfere with other traffic.
 - c. Dismount an implement with cutters or sharp projections.
 - d. Drive at low speeds when traveling on rough or winding roads.
 - e. Interlock the right and left brake pedals.
 - f. When traveling with an implement wider than the machine, put red caution markers such as flags (red lamps at night) on the most visible locations on both sides of the implement, and place a "SLOW MOVING VEHICLE" sign on a place where it is easily seen by other drivers. Operate the machine carefully keeping in mind that the implement is wide and may roll easily. If the implement can be folded, fold it beforehand. If there are road or railway crossings where the visibility is poor, you should install on the machine a mirror to give a view ahead of you so that you need not move your machine too far into the intersection.
- 7) Follow the precautions given below as well as the instructions given in paragraphs 5) and 6) when you have to operate the machine under unfavorable conditions.
 - a. When ground conditions, the weather, etc. are unfavorable for machine operation, exercise proper judgement on whether or not to operate the machine, the operating method to use, the implements to adopt, etc.
 - b. When operating on poor footing such as a rough road, a slope, a road along a ditch or river, or undeveloped land, move the machine at low speeds and operate it carefully.
 - c. When climbing up a hill or getting out of a ditch, shift the speed change lever to the most suitable speed so that you do not have to adjust the speed along the way to get more traction. Start the machine as slowly as possible.
 - d. While climbing up a hill, never shift speeds along the way.
 - e. When going down a hill, drive the machine at a slower speed than used to climb up the hill. While going down a hill, never disengage the clutch or shift into neutral, and never try to control the speed only with the brakes; use the engine brake effectively.
 - f. When starting the machine on an up-hill slope, be sure that the front wheels do not lift up.
 - g. When moving up or down a steep hill, lower the implement as much as possible to lower the center of gravity. Be careful that the machine does not become trapped in a ditch or hole and avoid unnecessary turning as this can be very dangerous.
 - h. When traveling on a road where one or both shoulders are slanted and which runs along a ditch, look out for softened shoulders especially when the ditch is full of water and be careful not to let the machine slip sideways.
 - i. When driving in or out of a paddy field or river to wash the machine, secure a firm footing by laying down scaffold boards or the like and be careful that the machine does not fall or turn over.
 - j. When crossing a ditch or a levee or when passing through soft land, drive the machine slowly so

that it does not slip or turn over.

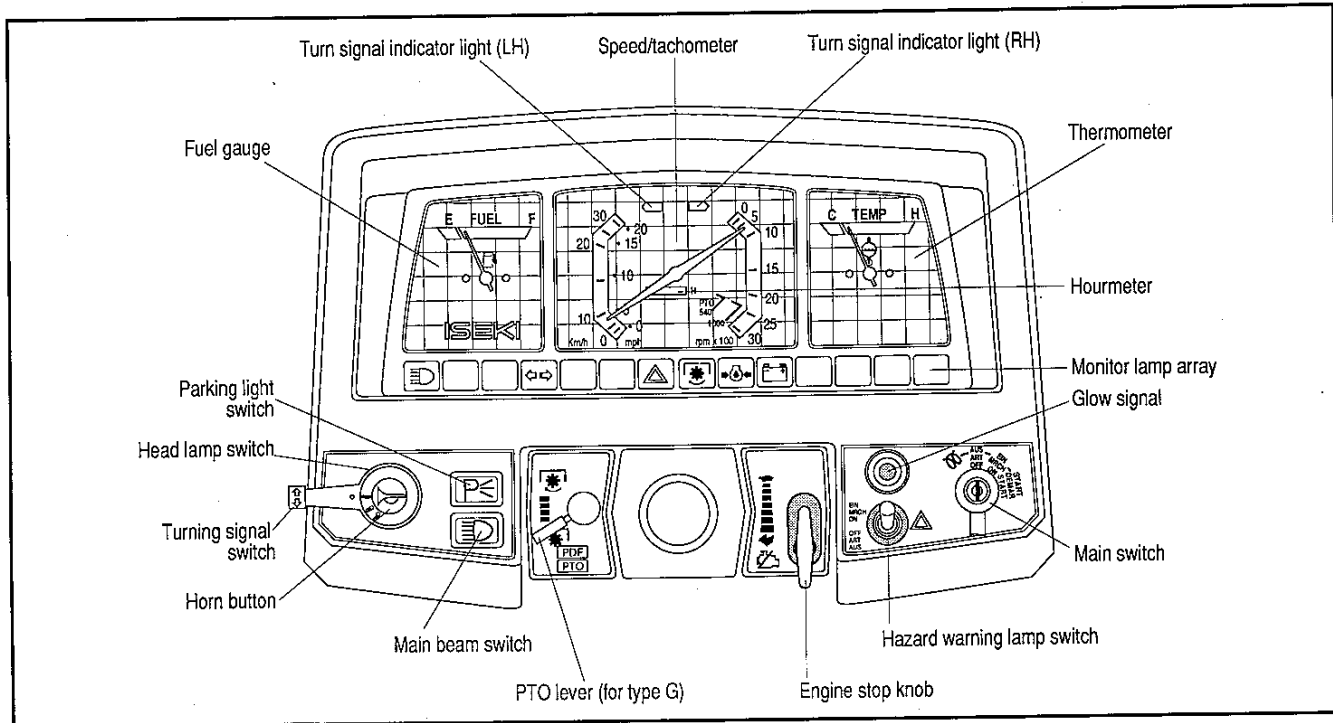
- k. When the machine is mired in a ditch or soft soil, avoid trying to get it out forcibly. Especially do not try to dismount the implement or the balance weights without inspecting the surrounding conditions carefully. When you must get the machine out on its own power, be careful that it does not turn over.
- l. When pulling a heavy load or a big stump, advance the machine slowly until the connecting wire or rope is stretched fully and stop the machine. Then begin to pull slowly. In this routine, the hitching point on the machine must be lower than the rear axle center of the machine.
- m. When loading or unloading the machine from a vehicle like a truck or trailer, pay heed to the strength, the slip resistance properties, and the installed angles of the scaffold boards as well as the climbing speed and the fore-and-aft weight distribution of the machine.

8. Parking and storing the machine

- 1) Park the machine on hard, level ground and provide sufficient safety measures by grounding the implement, removing the key, applying the parking brakes, etc.
- 2) After operation, inspect and service the machine for the next operation. If the previous operation has required the use of fire, be sure that the fire has been extinguished completely.
- 3) When storing the machine, take measures to prevent it from moving accidentally. The machine should be stored in a garage or covered with tarpaulin or the like to prevent access to it. When covering the machine with tarpaulin, wait until the heated parts like the muffler have cooled down completely.

Controls and their operation

Meters and Switches



□ Main switch

* OFF

The key can be inserted or withdrawn when in this position. All electric circuits are turned off here.

* ON

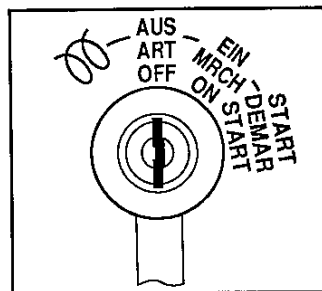
The key is in this position while the engine is running and all the electric circuits are activated.

* GLOW

The engine combustion chambers are preheated when the key is turned in this position.

* START

The starter motor is activated while the key is held in this position. When the key is released, it returns to the ON position.

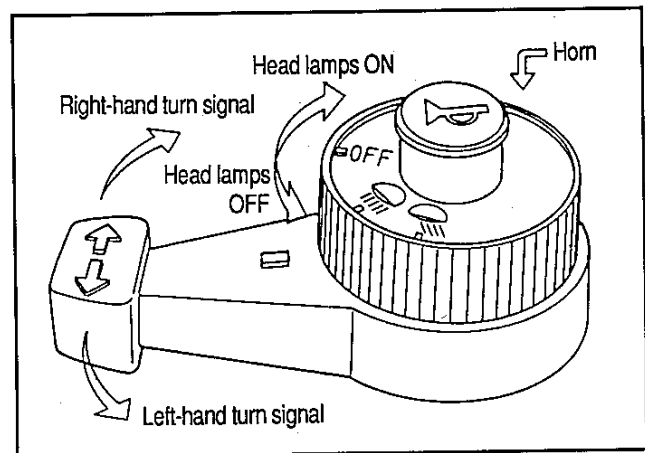


Note:

- The starter motor is activated by depressing the clutch pedal for tractors other than type G.

□ Combination switch

This is a combination switch which incorporates the turn signal switch, head lamp switch, small lamp switch, and horn button. It works as illustrated.

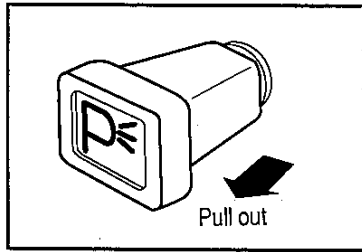


The high or low beam is selected by setting the light switch.

≡D ... Small lamps

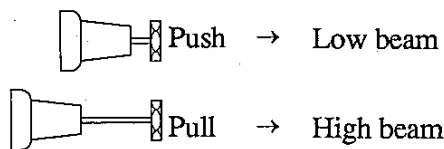
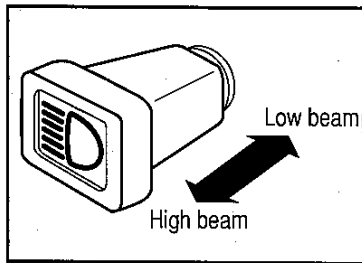
≡D ... Head lamps

□ Parking light switch



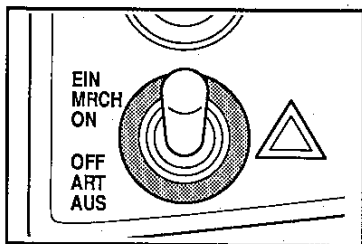
When pulled, small lamps are lighted up.

□ Main beam switch



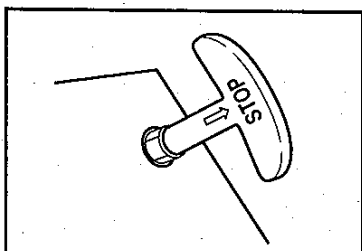
The high or low beam is shifted over with this switch.

□ Hazard signal switch



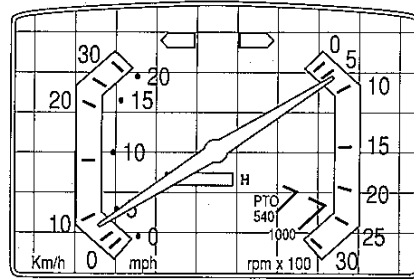
When the switch is flipped on, all small lamps starts blinking.

□ Engine stop knob



Turn the throttle lever to the IDLE position and pull out this knob. Then the engine will stop.

□ Speed-tachometer



It indicates engine speeds (rpm) and traveling speeds (km/hr) at the highest gear stage.

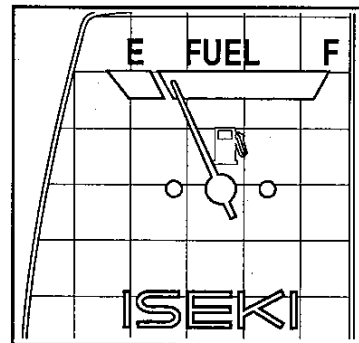
- 1) Left end of the pointer indicates the traveling speeds at the highest gear stage (km/hr).
- 2) Right end of the pointer indicates engine speeds (rpm).

□ Hourmeter



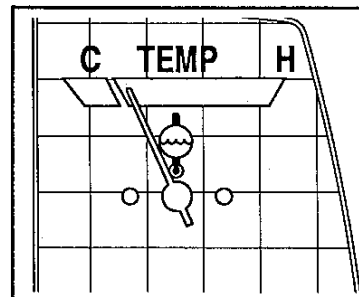
This is a 5-digit meter and the lowest figure indicates one tenth hour of operation.

□ Fuel gauge



It shows the current fuel level while the key is in the ON position.

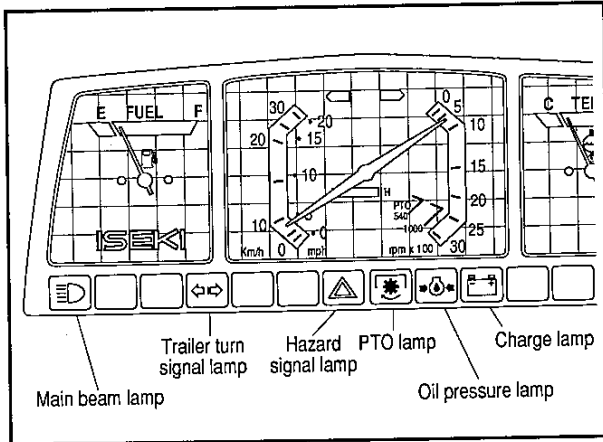
□ Thermometer



It shows the current engine coolant temperature while the key is in the ON position.

- C : shows a too cool temperature range for operation.
- H : shows a too high temperature range for operation. When the indicator is in this red range, the engine is certain to be over heated. Refer to the Troubleshooting on p.41.

□ Monitor lamps



Charge lamp:

turns off when the battery is being charged by the engine.

Oil pressure lamp:

lights up if there is an oil pressure abnormality.

PTO shaft lamp:

indicates the state of PTO shaft operation.

Hazard lamp:

blinks when the hazard lamp switch is turned on. Both hazard lamps and turn signals blink.

Turn signal lamp for trailer:

blinks when turn signal is activated with trailer turn signals connected.

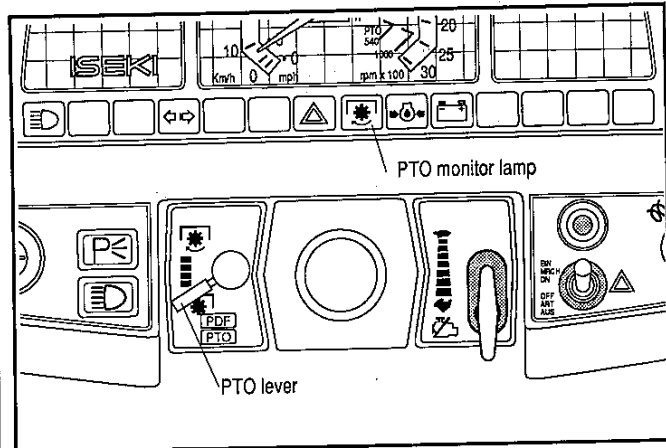
Main beam lamp:

lights up when the head lamps are shifted to high beam.

□ Glow signal

It glows red in about 5 to 6 seconds after the main switch key is turned in the GLOW position.

□ Independent PTO



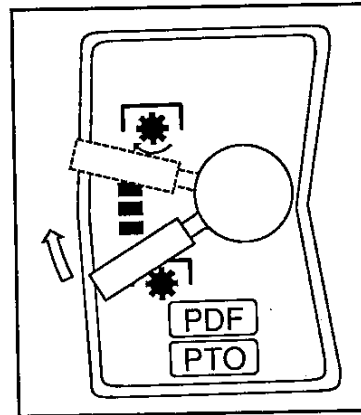
1) Location of the PTO lever and monitor lamp

2) PTO lever

With this lever the PTO clutch can be switched on and off.

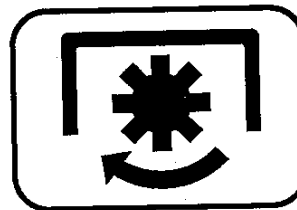
ON The PTO clutch engages when the lever is flipped forward.

OFF The PTO clutch disengage when the lever is flipped back.



3) PTO monitor lamp

• When the lamp is on:

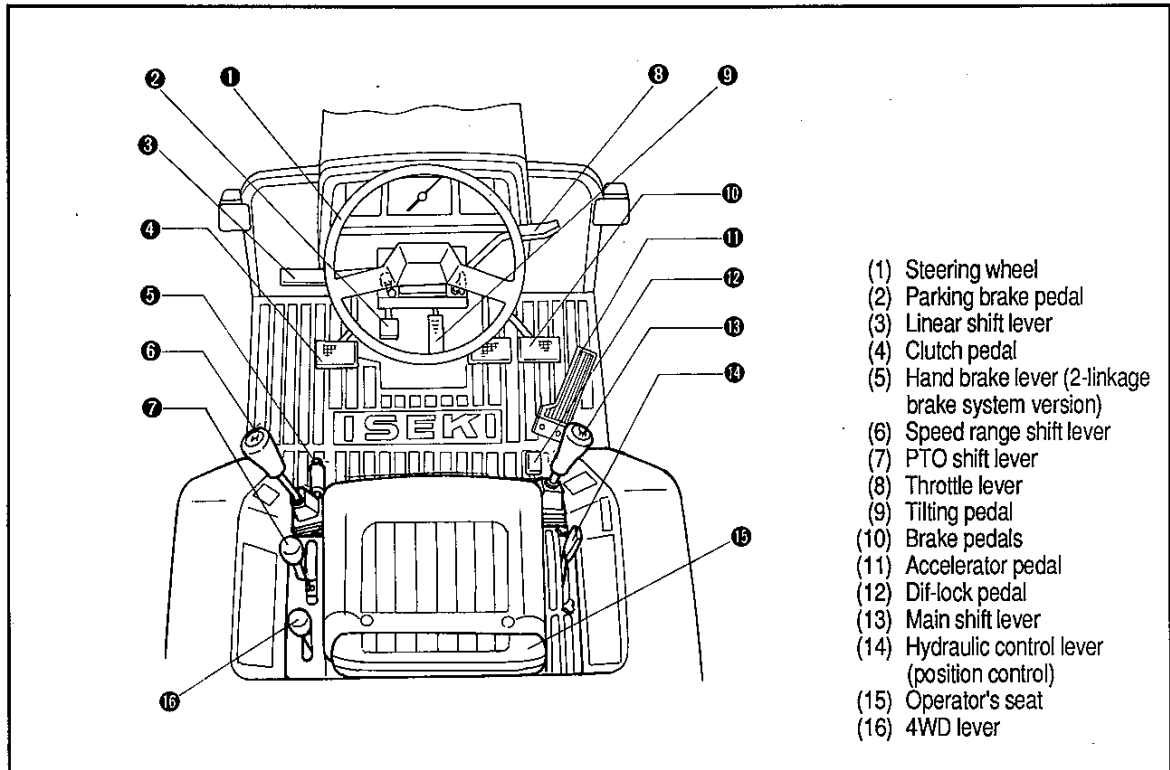


This shows that the PTO clutch is engaged and the shaft is spinning while the PTO lever is in the ON position.

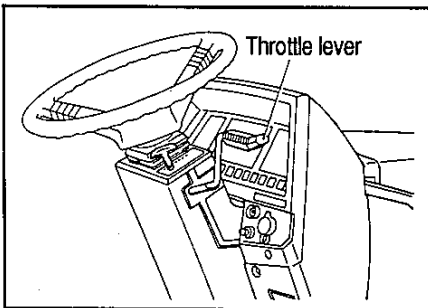
• When the lamp is off:

This shows that the PTO clutch is disengaged and the shaft is not spinning regardless of the depressing of the main clutch pedal.

Controls



Throttle lever

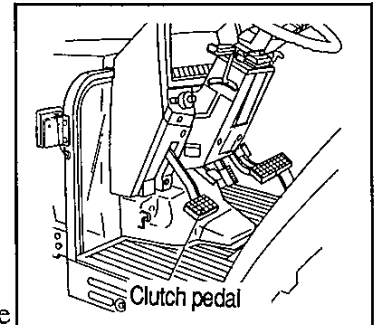


Engine speeds are controlled with this lever.

- Engine speeds increase as the lever is pulled towards the operator.
- Engine speeds decrease as the lever is pushed forward, away from the operator.

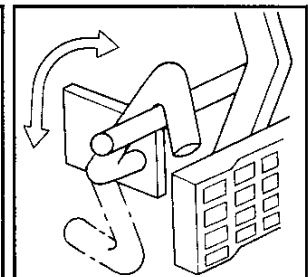
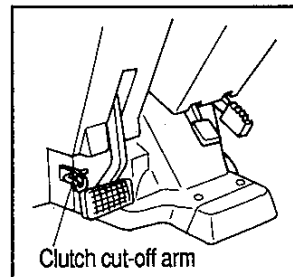
Clutch pedal

The clutch is disengaged when the pedal is depressed fully. Shift each speed shift lever in the desired position, release the pedal slowly, and then the tractor starts moving. It is a rule of thumb to disengage the clutch quickly and engage it slowly.



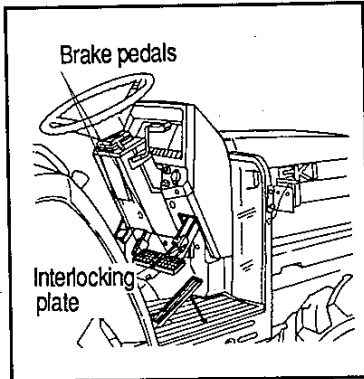
Clutch cut-off arm

When the tractor is stored for a long time, the clutch should be kept disengaged with this arm to protect it from damage. Depress the clutch pedal and hook the arm on the pedal as illustrated.



❑ Brake pedals

There are two brake pedals to control each brake independently. When the right-hand pedal is depressed, the brake on the right-hand rear wheel is applied. Conversely, the left-hand pedal operates the brake on the left-hand rear wheel.

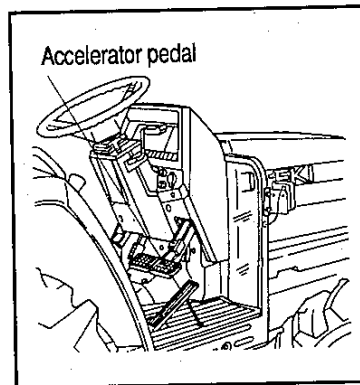


Caution:

An interlocking plate is provided on the right-hand brake pedal to interlock both brake pedals. When traveling on roads, be sure to interlock the pedals ahead of time. Both brakes should be inspected periodically to see that both brakes work simultaneously and to the same extent when interlocked.

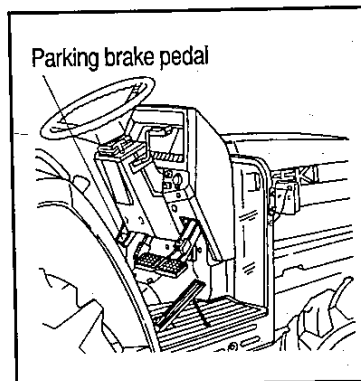
❑ Accelerator pedal

Engine speeds are also controllable with this pedal as well as the throttle lever.



❑ Parking brake pedal

Interlock the brake pedals, depress them fully, and while held in this position depress the parking brake pedal to lock them. They are unlocked when the pedals are depressed fully again.

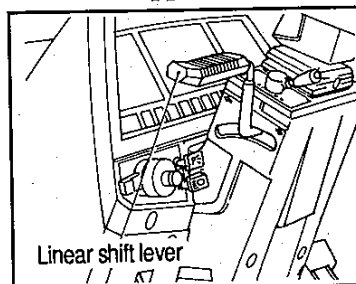


Note:

Operating the tractor with the parking brakes applied will lead to brake damage.

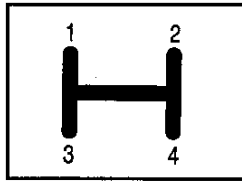
❑ Linear shift lever

Shifting between forward traveling and reverse traveling is performed by this lever. Be sure to shift the lever to the NEUTRAL position while the tractor is stopped.



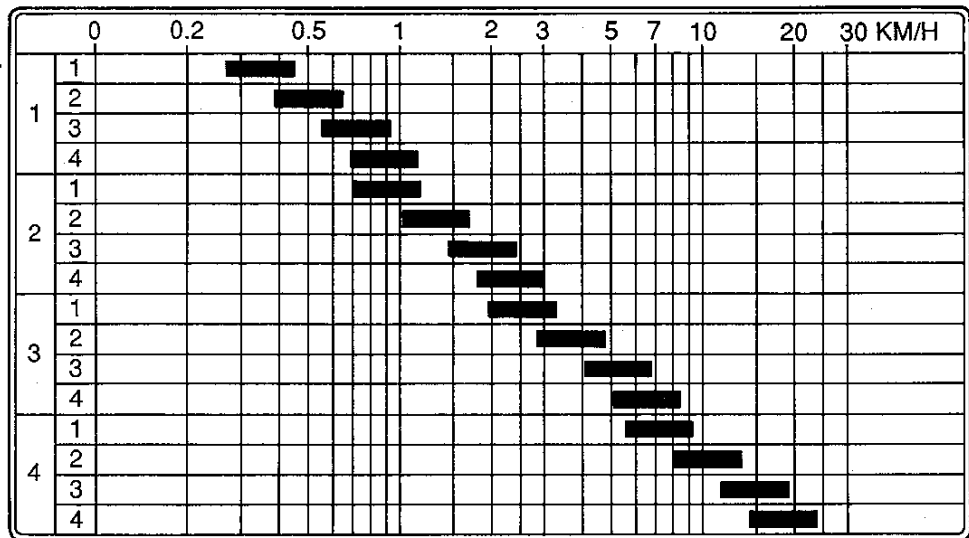
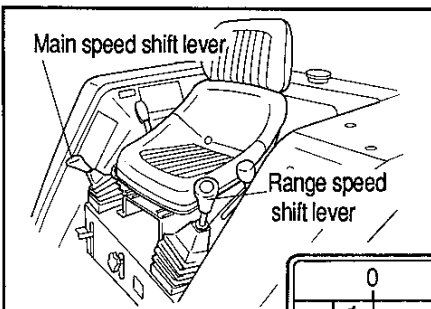
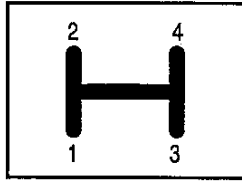
□ Range speed shift lever

The transmission speed range can be shifted into 4 stages with this lever.



□ Main speed shift lever

The main speed shift produces 4 speed stages. Consequently with the combined use of the linear shift and range shift levers, 16 forward speeds and 16 reverse speeds are obtainable.



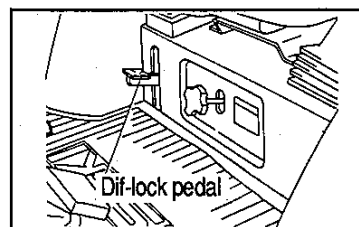
Note:

Before shifting each speed shift lever, be sure to depress the clutch pedal and stop the tractor completely. Shifting the gears while the tractor is traveling may lead to gear damage. But type S has the linear shift and main speed shift's 3rd and 4th speeds synchronized, so it is possible to shift them while the tractor is moving. But be sure to depress the clutch pedal fully ahead of time.

□ Dif-lock pedal

The dif-lock is a device to lock the differential

action of the dif-gears to enable synchronous turning of both rear wheels. Use this device when rear wheels slip too much or one of the wheels races. While the pedal is depressed, the dif-lock is applied. The lock disengages when the pedal is released.



Note:

- 1) Slow down the engine speed before engaging the dif-lock.
- 2) When the dif-lock is difficult to disengage, lightly depress the brake pedals alternately.

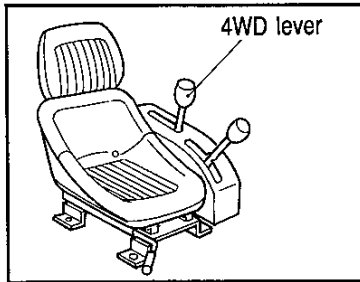


Caution:

Be sure to refrain from using the dif-lock while traveling on roads. Dif-lock operation on roads is very hazardous.

4WD lever

- ON** : When the lever is shifted to the ON position, the front wheel drive is engaged.
- OFF** : When the lever is shifted to the OFF position, the front wheel drive is disengaged.



Note:

Be sure to disengage the clutch before engaging the front wheel drive.

*** 4WD lever operation**

4 wheel driving is very useful under the following conditions:

- 1) Ordinary plowing operation
- 2) When great towing power is required in operations such as on a slanted ground or with a trailer, docking loader, etc.
- 3) Operation in swampy fields
- 4) Rotary hoe operation in fields where the soil is very hard to till.
- 5) When driving into and out of fields or climbing over levees.



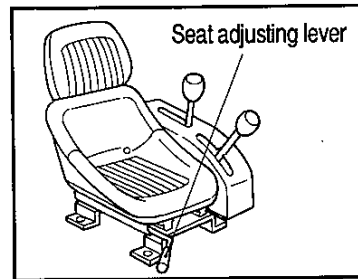
Caution:

Be sure to refrain from engaging the front wheel drive while traveling on paved roads or traveling at high speeds, for it is dangerous and tire wear is rapid.

Operator's seat

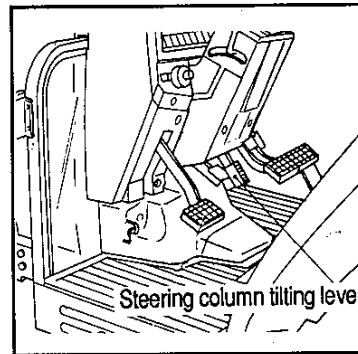
Fore-and-aft adjustment

Pull up the seat adjusting lever provided underneath the seat to shift it becomes sliding fore-and-aft. Release the lever when the required seat position is obtained. Be sure the seat lock is clicked and engaged.



Steering column tilting pedal

The steering column is designed to tilt in three steps enabling the operator to select the most preferable steering wheel position.



Adjusting method

Hold the steering wheel with both hands and depress the tilting pedal. Then the steering column becomes free to tilt. Select the most suitable position then release the pedal. After adjustment, ensure that the pedal is returned to its original position without fail.



Caution:

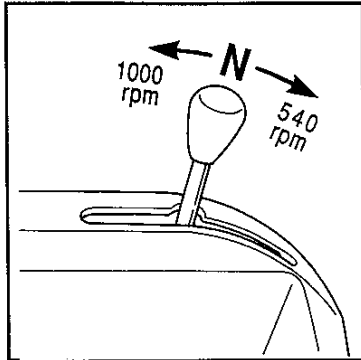
Never try to make this adjustment while the tractor is traveling. The adjustment should be done only while the tractor is stopped.

PTO

□ PTO lever

The tractor is equipped with 2-speed PTO. With the lever, following PTO speeds are obtainable.

- N : Neutral
- 1 : 540 rpm at engine speed of 2450 rpm
- 2 : 1000 rpm at engine speed of 2450 rpm



Caution:

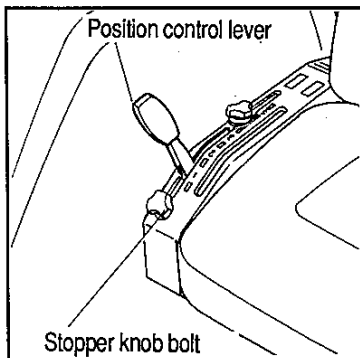
- 1) Select the most suitable speed for the implement driven with the PTO. Never apply high PTO speeds to a low PTO speed implement. Driving an implement at higher speed range than specified is very hazardous.
- 2) When servicing the PTO-mounted implement, be sure to stop the engine ahead of time.

Note:

Be sure to depress the clutch pedal before operating the PTO lever.

Hydraulic system control

The hydraulic system is composed of the hydraulic cylinder, lift mechanism including the control valve, pump driven by the engine, and piping.



□ Control lever

- 1) With this lever, the lift-mounted implement can be lifted up and down. Moreover, the implement is maintained at a height which corresponds to the position where the lever is stopped. (Position control)
- 2) By setting the stopper position with the knob bolt, any working height of the implement can be preset at will.

Operation

Raising lift : Pull the lever backwards, and the lift rises.

Lowering lift: Push the lever forwards, and the lift lowers.



Caution:

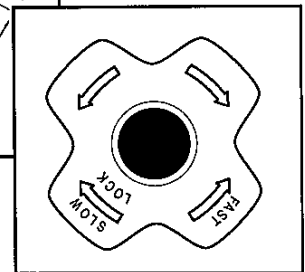
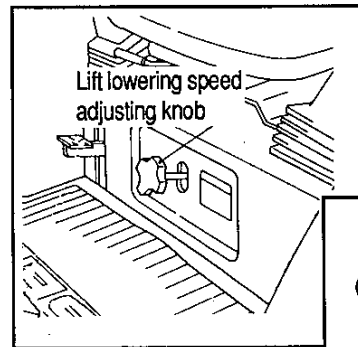
Before leaving the tractor, be sure to lower the lift-mounted implement to the ground and stop the engine.

□ Lift lowering speed adjusting knob

Lowering speed of the lift-mounted implement is adjusted with this knob.

The adjusting knob is installed under the driver's seat as illustrated.

Select the most adequate speed in accordance with the implement mounted on the lift.



- Rotary hoe : Slow speed is recommendable.
- Plow : High speed is recommendable.

To decrease lowering speed, turn the knob clockwise.

To increase lowering speed, turn the knob counterclockwise.

And to lock the lift, turn the knob clockwise until it becomes tight.



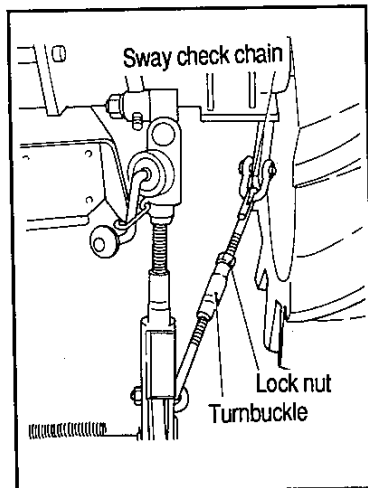
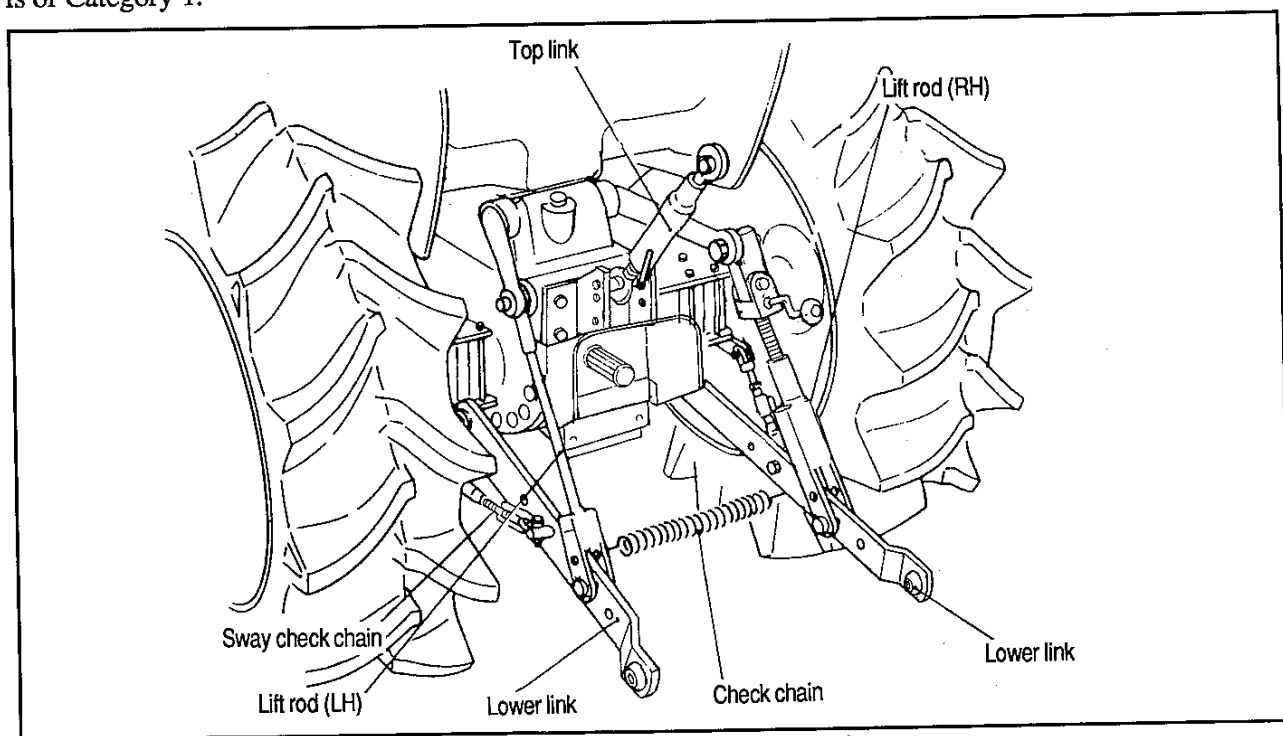
Caution:

In the following cases, be sure to lock the lift without fail.

- 1) *When traveling on roads*
- 2) *When servicing the rotary hoe, that is, when replacing rotary blades, cleaning the rotor of grass, dirt, etc.*
- 3) *When servicing the lift-mounted implement.*

3-point linkage

The 3-point linkage installed on this series tractors is of Category 1.



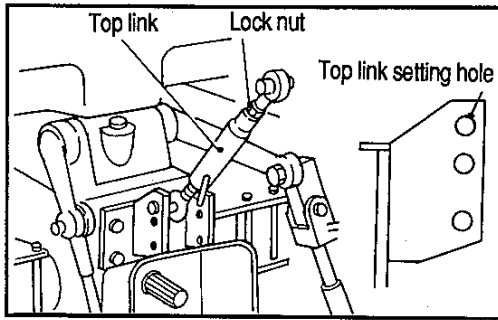
☐ Adjustment of the check chain

Limit the lateral movement of the lower links properly with this chain.

For example:

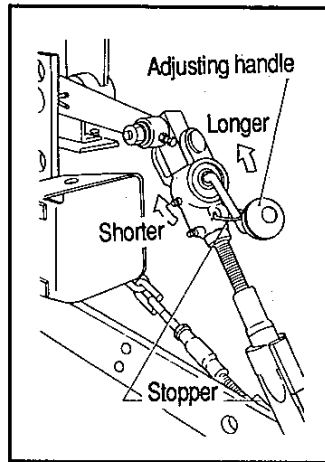
With a plow, harrow, etc. adjust the chain slack so as to allow the links to swing to an extent of 5 to 6 cm.

With a rotary hoe, tension the chain slightly.



□ Adjustment of the top link

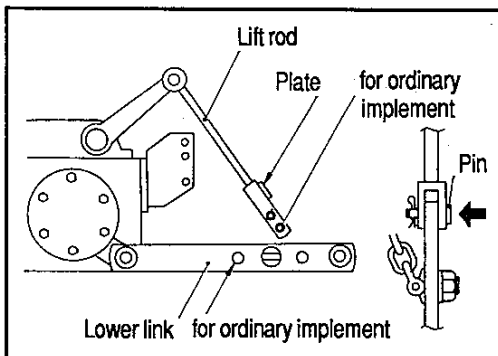
- 1) Adjust the length of the top link to get the proper inclination of the implement.
- 2) Setting position of the top ring on the hitch differs in accordance with an implement to be mounted. The top hole is suitable for ordinary operation.



□ Adjustment of the lift rods

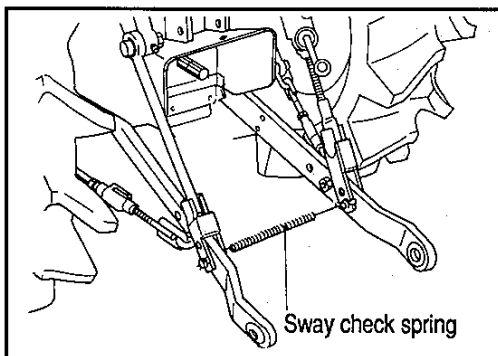
The lift rod length adjusting handle is provided on the right-hand rod. The rod shortens when the handle is turned clockwise and vice versa.

- 1) Align the height of both lower links with the adjusting handle.
- 2) After adjustment, be sure to lock the handle with the stopper.



□ Lift rod installation on the lower links

Install the lift rods on the lower links as illustrated. Be sure to install the setting pins as illustrated: with their heads facing inward.



□ Sway-check spring

When no implement is mounted on the 3-point links, stop the swaying of the lower links with this spring to prevent the links from hitting the rear wheels. When an implement is mounted, clip the spring to the left-hand lower link using the hook on the bottom front of the link. This hook is also useful for holding the link pins.



Caution:
When towing an implement, never use any part other than Iseki's genuine drawing hitch.

How to operate the tractor

Starting the engine

□ How to start the engine

Before operating the tractor, be sure to perform the pre-operation inspection mentioned on page 25.

- 1) Be sure that the parking brakes are applied. Also be sure that the PTO lever is turned in the OFF position.
- 2) Depress the clutch pedal fully to disengage the clutch. The safety switch on the clutch pedal is turned on.
- 3) Shift each speed shift lever to the NEUTRAL position.
- 4) Pull the throttle lever fully.
- 5) Insert the main switch key and turn it to the ON position. Then check to see that the oil pressure and charging monitor lamps are lit.
- 6) When ambient temperature is low, turn the key in the GLOW position.

Preheating time:

about 5 – 6 seconds

When the engine is still warm after operation, no preheating is required.

- 7) When the glow signal shows red, turn the key to the START position to crank the engine. As soon as the engine starts, let go of the key.
- 8) After the engine has started, check to see that all monitor lamps have turned off.

Note:

- 1) Never turn the key to the START position while the engine is running.
- 2) Never keep cranking the engine longer than about ten seconds. If the engine has failed to start, wait about ten seconds before next try.

Stopping the engine

Shift the throttle lever to the idle position and pull the engine stop lever, and then the engine stops.

Note:

- 1) Never stop the engine while it is running at high speeds.
- 2) After a long time of operation, let the engine idle for 5 to 10 minutes before stopping it.

Warming up

After starting the engine, let the engine idle for about 5 to 10 minutes for warming up, that is, to let lubricant reach every part of the engine sufficiently.

Loaded operation just after the engine has started may lead to engine damage such as seizure, rapid wearing of parts, etc.

□ Warming up in winter

The hydraulic system of this tractor has its hydraulic fluid common with the transmission gear oil. Transmission oil increases its viscosity as ambient temperature drops, which leads to difficulty for the hydraulic pump to suck fluid properly, which leads to damage of the components of the hydraulic system. Therefore, be sure to warm up the tractor sufficiently to lubricate every part of the tractor as well as the engine to lower the viscosity of the transmission oil sufficiently.

Ambient temperature	Warm-up time
0 °C or over	5 to 10 min.
0 to -10 °C	10 to 20 min.
-10 to -20 °C	20 to 30 min.
-20 °C or less	30 min. or more

Negligence of the warming-up operation may lead to:

- Seizure of the hydraulic pump
- Breakdown of hydraulic system components



Caution:

While warming up the tractor, be sure to apply the parking brakes. Warming-up operation without break application is very hazardous. Insufficient or no warming-up may lead to breakdown.

Starting, shifting gears, and traveling

- 1) Depress the clutch pedal to disengage the clutch.
- 2) Shift the main speed shift lever, range speed shift lever, and linear shift lever to the required position respectively.

- 3) Release the parking brakes by depressing the brake pedals.
- 4) Release the clutch pedal slowly while increasing engine speeds gradually with the throttle lever or accelerator pedal.
- 5) Before shifting speeds, be sure to stop the tractor moving. However the linear shift and the 3rd and 4th main speeds of **type S** is synchronized, so they can be shifted while the tractor is traveling after depressing the clutch pedal fully.

Note:

- 1) *To ensure the long service life of the clutch, try to refrain from allowing the clutch to slip except for starting the tractor. Pay special attention to the following items:*
 - *Never control speeds with the clutch pedal.*
 - *Never rest your foot on the clutch during operation.*
- 2) *When traveling on roads with an implement mounted on the tractor, be sure to abide by the traffic laws of your country.*



Caution:

- 1) *Be sure to interlock both brake pedals when traveling on roads.*
- 2) *Pay attention to road shoulder condition when traveling on narrow paths or along road shoulders.*
- 3) *Never tow an implement using other than the drawing hitch.*
- 4) *When performing a heavy drawing operation, getting out of a swampy field, etc., be careful not to allow the front wheels lifted up, to lift up and thus prevent the tractor from turning over backwards.*
- 5) *When traveling mounted with a large implement mounted, pay sufficient attention to the surroundings.*
- 6) *Never allow other people to get on the tractor.*

Turning

- 1) When turning the tractor in a field, release the interlocking of the brake pedals.
- 2) Depress the brake pedal in the direction the tractor is going to turn as well as turning the steering wheel.



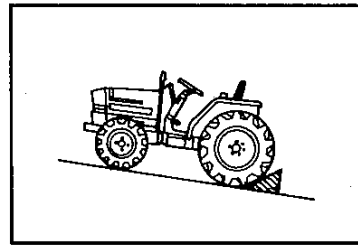
Caution:

When turning the tractor, be sure to lower traveling speeds sufficiently or shift down the

gears if necessary. High speed turning is very dangerous, which may lead to the turning over of the tractor on its side.

Braking and parking

- 1) Lower the engine speeds.
- 2) Depress the clutch pedal and then depress the brake pedals.
- 3) After the tractor stops, shift the main speed shift lever to the NEUTRAL position.
- 4) Apply the parking brakes.
- 5) When mounted with an implement, lower the implement to the ground.



Caution:

- 1) When parking the tractor, apply the parking brakes without fail. With the speed shift levers in NEUTRAL the tractor can creep, especially while the engine is running at high speeds or the transmission oil temperature is low. But this is not an abnormal phenomenon.
- 2) When parking the tractor on a slope, apply tire chocks as well as applying the parking brakes.

Operating on a slope

☐ Starting on a steep upward slope

- 1) Depress the brake pedals.
- 2) Depress the clutch pedal to disengage the clutch.
- 3) Shift each speed shift lever to the lowest speed position.
- 4) Turn the throttle lever to a intermediate speed range.
- 5) Release the clutch lever until the clutch starts slipping.(half-clutch)
- 6) Release the brake pedals a little at the same time.
- 7) Increase the engine speed further and release the brake pedals. Then release the clutch pedal gradually. The tractor will then start moving.

☐ Operating on a downward slope

When traveling down a slope, be sure to use engine brake as well as foot brakes. Going down only with the foot brakes is very dangerous.



Caution:

*When going down a slope while towing a trailer, the brakes on the trailer should be used at the same time. Refrain from shifting gears while going down the slope.
Use a one step lower speed than that used for climbing the slope.*

How to use the dif-lock

The dif-lock is a very useful device, but its wrong application may lead to very hazardous accidents. So be sure to use the dif-lock properly.

☐ Dif-lock applicable cases

- 1) The tractor cannot get out of a field because one wheel slipping.
- 2) The tractor cannot travel properly due to wheel slipping because of rugged field terrain.
- 3) The tractor cannot travel properly due to wheel slipping because of too soft ground.
- 4) The tractor cannot draw the plow properly due to wheel slipping.

Note:

- 1) When applying the dif-lock, lower the engine speeds sufficiently.
- 2) When the dif-lock is not disengaged only by releasing the dif-lock pedal, lightly depress each brake pedal alternatively.



Caution:

Never use the dif-lock while traveling on roads. Dif-lock application while traveling is very dangerous.

Checking points during operation

Constant attention should be paid to the proper operating of each part during operation.

☐ Engine oil pressure

If the engine oil pressure lamp  comes on during operation, it shows there is something abnormal in the lubrication system. Stop the engine immediately and check the following points.

- 1) Check engine oil level.
- 2) Inspect and service the engine lubrication line.

☐ Battery charging

If the charging lamp  is lit during operation, it shows that the battery is not being charged properly. Stop the engine immediately and check the charging circuit. (Refer to the trouble-shooting.)

☐ Fuel gauge

If the fuel tank becomes completely empty, air-bleeding of the fuel system should be done after filling. Pay constant attention to the fuel gauge so as not to allow the fuel tank to become empty.

☐ Engine coolant

When the thermometer pointer swings as far as the H range end, it shows the engine is overheated. So stop the engine immediately and check the following points.

- 1) Coolant level in the radiator
- 2) Clogged radiator cooling fins
- 3) Loose fan belt



Cautions:

*Never remove the radiator cap just after operation. If this is done, boiling water may gush out because of the high pressure within the radiator, which may lead to serious burns.
Therefore wait ten minutes or so at least after the engine has stopped.*

Getting into and out of the field

When getting into or out of a field, keep the following points in mind.

- 1) Interlock both brake pedals.
- 2) Advance the tractor right angles to the levee to get over.
- 3) Use scaffold boards or the like to reach the field from the road or vice versa when the difference between ground levels of the field and the road is too great.
- 4) Always keep in mind the weight balance of the tractor. Never allow persons on the front part of the tractor as substitutes for bumper weights.
- 5) It is easy to climb the levee in reverse with the front wheel drive engaged (4WD version only).

Precautions during field operation

Pay attention especially to the following points during operation.

- 1) Operation on a slanted terrain can lead to the turning over of the tractor, so always pay attention to the weight balance of the tractor.
- 2) Pay special attention to the surrounding safety when turning the tractor with an implement.

Wheel tread adjustment

☐ Front wheel tread adjustment

*** 4WD**

Not adjustable



Caution:

Never try to adjust the front wheel tread of the 4WD by inverting the wheel discs.

☐ Rear wheel tread adjustment

Adjustable by inverting the wheel discs. (Refer to p.26.)



Caution:

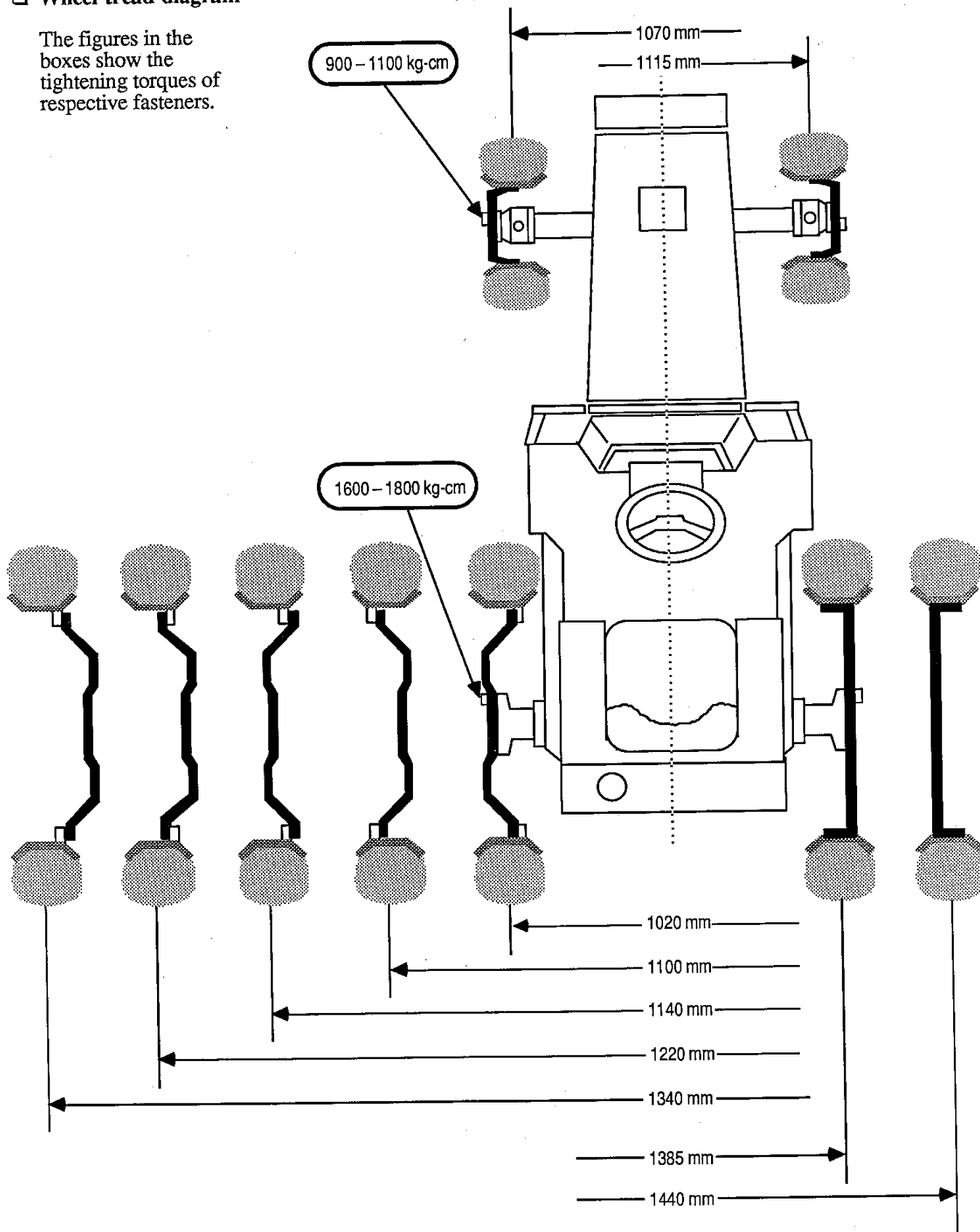
- 1) *When jacking up the tractor, always keep in mind the proper weight distribution of the tractor and chock the grounded wheels securely.*
- 2) *Retighten all bolts and nuts securely.*

□ Wheel tread diagram

The figures in the boxes show the tightening torques of respective fasteners.

(Agri-tires)

(Turf tires)



Inspection before every day operation

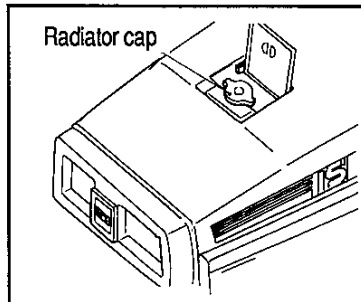
Inspection points

To minimize breakdown of your tractor, it is indispensable to service your machine everyday in accordance with the inspection points listed on the periodical inspection table on page 29.

Inspection method

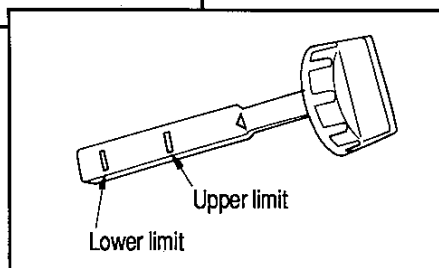
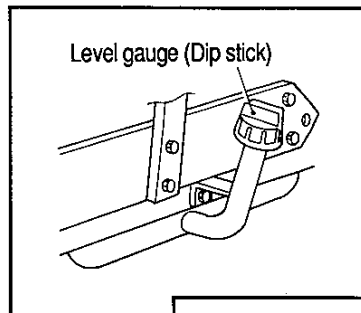
□ Engine coolant

Remove the radiator cap and check to see that the coolant level is at the filler throat. If the level is lower than specified, fill with fresh water up to the specified level. Green coolant shows that it contains anti-freeze.



□ Engine oil

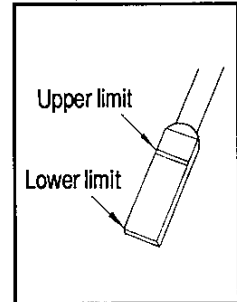
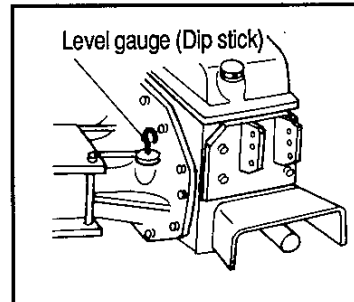
Draw the dip stick and wipe its tip clean. Insert and draw it again to see that the oil level is between the upper limit and lower limit. If the level is lower than specified, replenish the same kind of oil as that in the engine.



Note:
The oil level should not exceed the upper limit.

□ Transmission oil

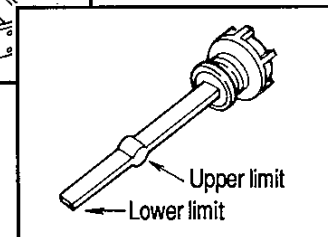
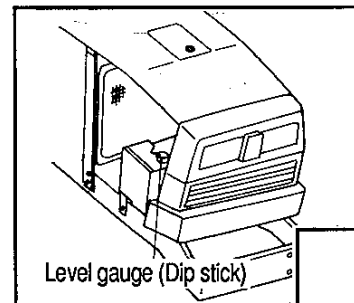
The transmission oil level is checked with the dip stick provided in the left-hand rear axle housing. Draw the stick and wipe its tip clean. Insert and draw it again to see that the level is between the upper and lower limits. If the level is lower than specified, replenish the same kind of oil as that in the transmission.



Note:
The oil level should not exceed the upper limit.
Excessive level will causes oil leaks.

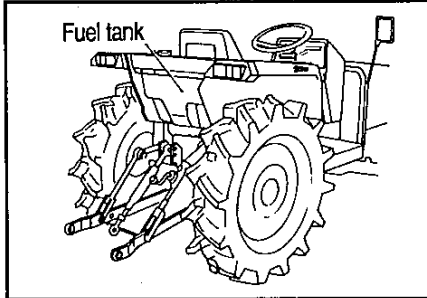
□ Power-assisted steering oil

Check the oil level with the dip stick on the oil reservoir cap. Draw the stick and wipe its tip clean. Insert and draw it again to see that the level is between the upper and lower limits. If the level is lower than specified, replenish with the same kind of oil as that in the reservoir.



☐ Fuel

Keep in mind that every day operation should be started with the full fuel tank. Turn the main switch key to the ON position to check the fuel level. If necessary, replenish fuel through the fuel filler provided behind the operator's seat.



☐ Electric parts

Ensure that every electric part like meters, turn signals, horn, lamps, etc. are normal.

☐ Tire inflation, damage, and wear

Tire inflation much affects the tractor performance and tire service life. Check each wheel for inflation referring to the specified values mentioned on p.31 and for wear and damage at the same time.

☐ Wheel clamping bolts and nuts

Check to see that each fastener is tightened securely. (Refer to p.26.)

☐ Steering system

Check to see that the steering system has no excessive play and looseness. The free play of the steering wheel is about 30 mm on the circumference.

The steering wheel is intentionally allowed some free play up and down and right and left to absorb vibration.

☐ Clutch

Check to see that the clutch disengages completely when the pedal is depressed. The standard free play of the pedal is 20 to 30 mm.

Note:

Lack of free play in the clutch pedal will cause clutch slipping and shorter clutch service life. This naturally leads to poor tractor performance. Excessive pedal play, however, will prevent clutch disengagement, which is very dangerous. In any case, the proper free play should be maintained.

Maintenance and Adjustment of each part

Periodical inspection table

☐ Engine

- : Inspection, replenishment, and adjustment
 ● : Replacement
 △ : Cleaning and washing
 ★ : Consult your dealer.

Inspection items	Daily	Inspection and servicing intervals hours of operation (× 10 on hourmeter)												Intervals after that	Judgement criteria
		5	10	15	20	25	30	35	40	45	50	55	60		
Engine oil	○	●				●				●				Replace after every 200 hrs.	Level is between upper and lower limits.
Air cleaner			△		△		△		△		△		●	Clean after every 100 hrs. Replace element that has been washed more than 5 times.	
Radiator coolant	○													Replace every year.	Fill coolant up to radiator throat.
Radiator	○														Clean cooling fins and cores
Fuel	○														Tank should be full.
Fuel filter	○	△	△	○	△	○	●	○	△	○	△	○	●	Wash after every 100 hrs. and replace after every 300 hrs.	
Fan belt	○														About 5 mm deflection pushed with a finger
Electrolyte level (battery)			○		○		○		○		○		○	Check after every 100 hrs. and replenish if necessary.	
Oil filter						★							★	Replace after every 300 hrs.	
Fasteners	○														All should be tight.

□ Chassis

Inspection items	Daily	Inspection and servicing intervals hours of operation (× 10 on hourmeter)												Intervals after that	Judgement criteria
		5	10	15	20	25	30	35	40	45	50	55	60		
Transmission oil	○	●						●						Replace after initial 50 hrs. Then after every 300 hrs.	
Clutch pedal free play	○														Free play : 20 to 30 mm
Brake pedal free play	○														Free play : 30 to 40 mm
Brake performance	○														Interlocked brakes should work simultaneously.
Lever performance	○														Each lever should work posi- tively.
Steering wheel free play	○														About 30 mm on circumference
Tire inflation	○														Refer to the separate table.
Toe-in							★					★		Check after every 300 hrs.	2 to 4 mm
Front wheel hub greasing														Inject grease after every 900 hrs.	
Retightening ball joints of steering system							○					○		Check after every 300 hrs.	
Wheel tightening bolts	○														All should be tight.
Electric apparatuses	○														All should work properly.
Adjusting accelerator pedal and throttle lever							★					★		Check after every 300 hrs.	
Greasing up each part		○	○	○	○	○	○	○	○	○	○	○	○	Replenish after every 50 hrs. (Every time after puddling)	
Loose bolts and nuts	○														All should be tight.
Oil leaks in clutch housing														Check every year by removing the plug installed in the front bottom of clutch chamber.	
Hydraulic fluid filter			★		★		★		★		★		★	Clean after every 100 hrs.	
4WD front axle housing oil			○		○		○		○		○		○	Check after every 100 hrs. Replace after every 900 hrs.	
Rubber pipes			○		○		○		○		○		○	Check after every 100 hrs.	
Power steering fluid		●		○		○		●		○		○		Check after every 100 hrs. Replace after every 900 hrs.	
Electric wiring	○													Check every year.	

- 1) Every terminal should be connected securely.
- 2) Wiring should not interfere with other parts.
- 3) Fatigued wiring should be replaced.
- 4) Wiring should be held in each clamp properly.

❑ Tire size and inflation

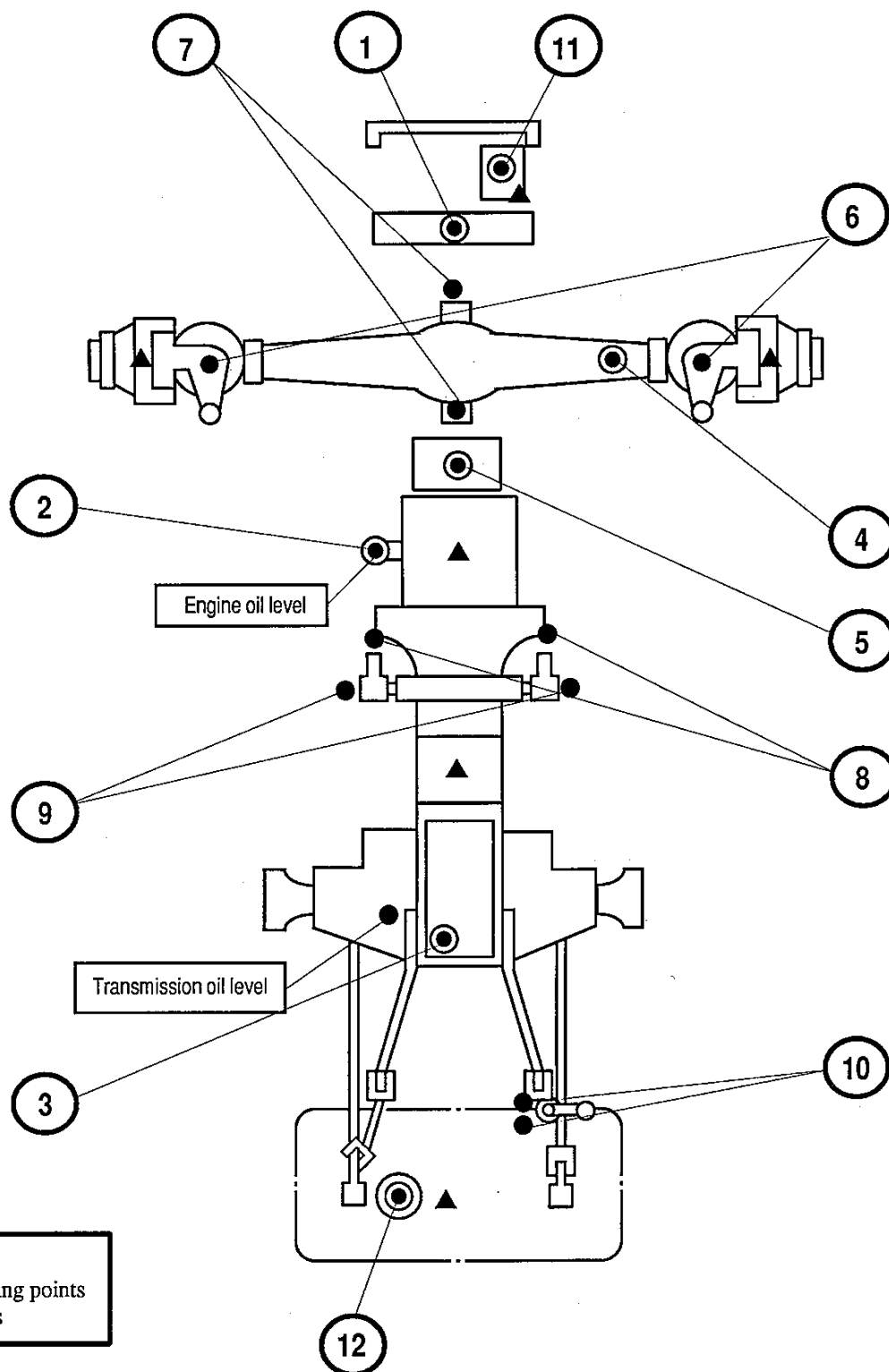
Models	Wheels	Tire size	Inflation (kg/m ²)
TA525	Front	7-16	1.8
	Rear	11.2-24	1.2
TA530	Front	7-16	1.8
	Rear	12.4-24	1.0



Caution:

During operation and soon after operation, engine parts such as the muffler, exhaust manifold, cylinder block, etc. become hot, so wait 10 minutes or so after the engine has stopped before servicing them.

Filling diagram



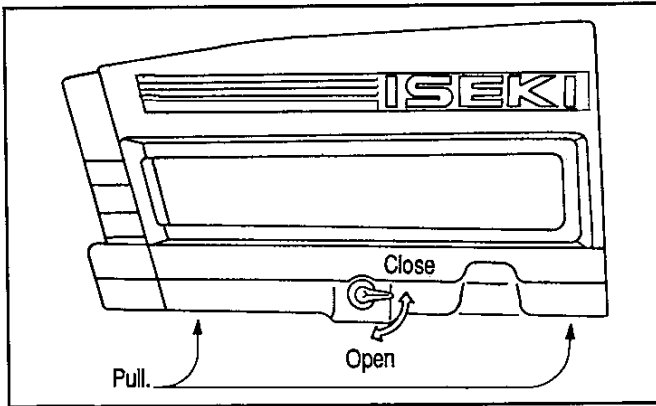
Ref. No.	Filling points	Fillings	Quantity
1	Radiator	Fresh clean water	7.0 liters
2	Engine	Engine oil	4.3 liters
3	Transmission case	Gear oil	TA525 23 liters TA530 25 liters
4	Front axle	Gear oil	6.1 liters
5	Steering gear box	Gear oil	Replenish
6	Drag arms	Grease	As required
7	Center pivot	Grease	As required
8	Clutch pedal shaft	Grease	As required
9	Brake arm	Grease	As required
10	Lift rod bevel gear case	Grease	As required
11	Power-assisted steering fluid	Hydraulic oil	2.5 liters
12	Fuel	Diesel light oil	30 liters

(5) : only for manual steering types

(11): Only for power-assisted steering types

How to open the fan cover

Release the fan cover lock by turning the lever clockwise. Pull the right and left bottoms of the cover with your hands and then open the cover upwards. Then the battery and the radiator become easily accessible.



Fuel

Use good quality diesel fuel (JIS 2 to 3 or equivalent).

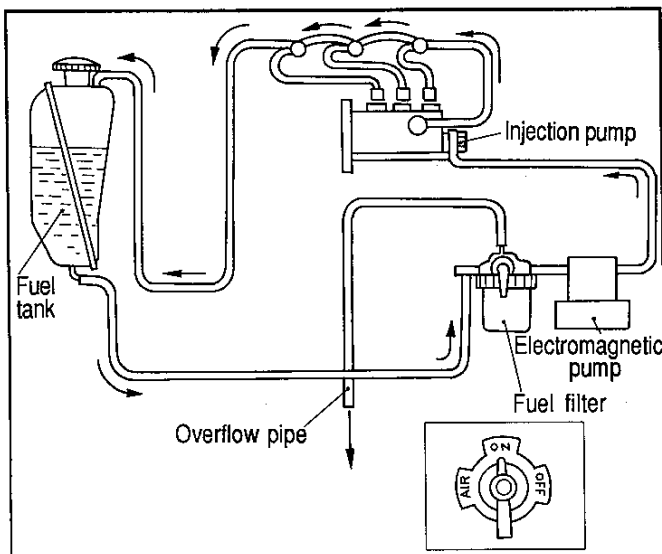
Note:

When fueling the tractor, be careful not to let water or dust go into the fuel.

Air-bleeding of fuel system

Air-bleeding of the fuel system should be done in the cases as mentioned below:

- When the fuel tank has been emptied
- When the fuel filter is removed or some of the fuel piping is disconnected



□ Air-bleeding method

- 1) Fill the fuel tank with fuel and open the fuel cock.
- 2) Turn the fuel filter lever to the AIR position and check to see fuel is flowing out through the overflow pipe (A). Turn the lever to the ON position when air bubbles in the flowing-out fuel disappear.

Lubrication and oil replacement of each part

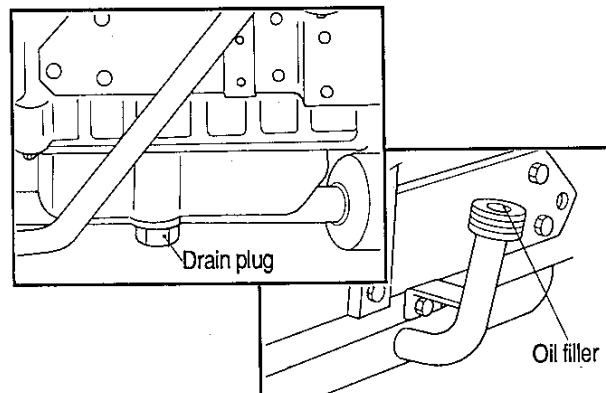
Use good quality gear oil or those recommended by ISEKI of viscosity specified below and refer to the lubrication and periodical maintenance charts about quantity to be filled and the replacing intervals.

□ Replacement of engine oil

Remove the drain plug installed in the bottom of the engine oil pan to drain used oil. Then retighten the drain plug and pour fresh oil through the oil filler up to the upper limit on the dip stick. (4.8 liters)

Use oil of the proper viscosity in accordance with the ambient temperature. When shipped, the tractor is filled with oil of SAE10W/30 and over CC class of API.

Ambient temperature	Viscosity	
Higher than 25 °C	SAE30	or 10W/30
0 to 25 °C	SAE20	
Lower than 0 °C	SAE10	

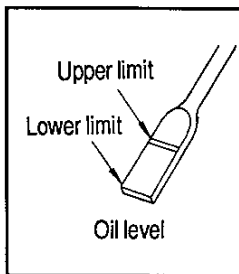
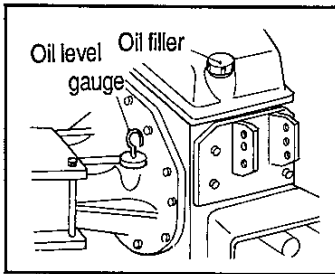
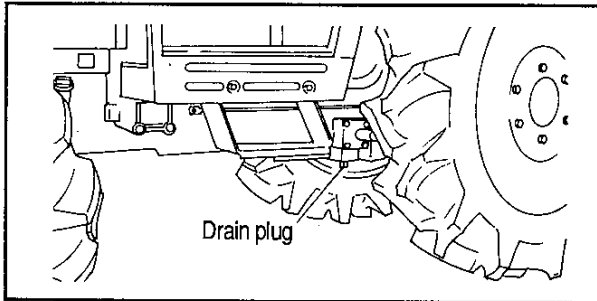


Note:

Be sure to use the same kind of oil as that is in the engine for replenishment.

❑ Replacement of the transmission gear oil

- 1) Remove the drain plug in the bottom of the transmission case to drain used oil.



- 2) Reinstall the removed drain plug securely and pour oil up to the specified level on the dip stick.

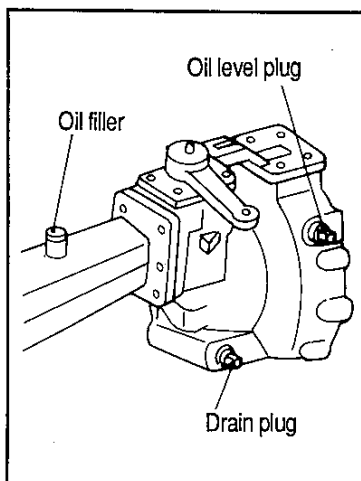
TA525 : 23 liters
TA530 : 25 liters

Usable oil: Gear oil of SAE80

Note:

Be sure to use the same kind of oil as that in the transmission case for replenishment.

❑ Replacement of the front axle oil



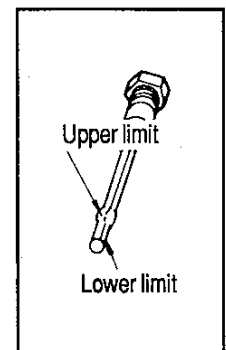
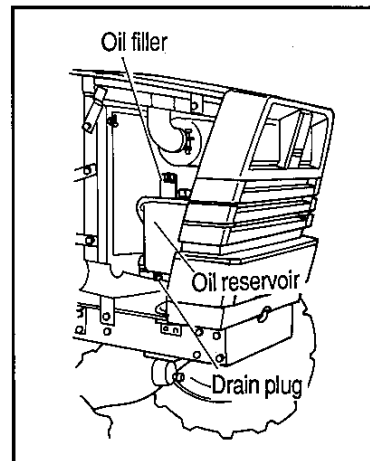
- 1) Drain used oil through the drains in the bottoms of both axle housing ends.
- 2) Reinstall the drain plugs and pour fresh oil through the filler until it starts overflowing through the level plug holes on both sides. (6.5 liters)

Usable oil: Gear oil of SAE80

❑ Replacement of the power-assisted steering system fluid

- 1) Remove the right-hand fan cover.
- 2) Remove the drain plug on the bottom of the fluid reservoir to drain used fluid.
- 3) Retighten the drain plug and pour fresh fluid up to the specified level on the dip stick. (2.5 liters)

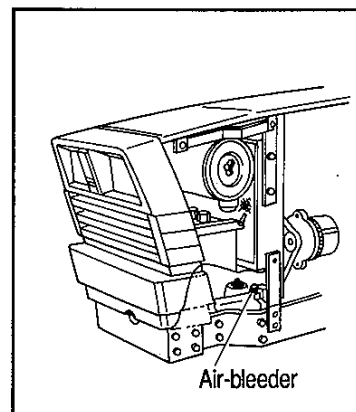
Usable oil: Hydraulic fluid



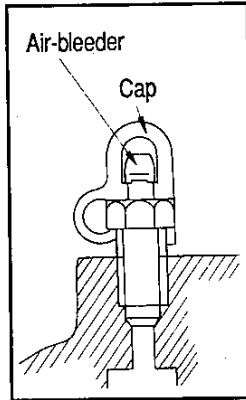
Air-bleeding of the power-assisted steering system

- Air-bleed the system in the following cases:
- When air is trapped in the system by accident
 - When fluid is replaced

❑ Air-bleeding method



- 1) After ensuring that the fluid level in the reservoir is sufficient, start the engine.
- 2) Turn the steering wheel several times in both directions until it comes into contact with the stopper.
- 3) Remove the air-bleeder cap and loosen the bleeder with a spanner to let air out: air trapping fluid hisses out.



Note:

Never turn the steering wheel when the air-bleeder is loosened.

When air-trapped fluid is expelled completely, tighten the bleeder.

- 4) Repeat steps 2) and 3) again.
- 5) Inspect the fluid level in the reservoir and replenish if necessary.

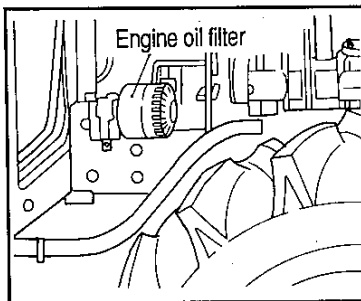
Note:

The tightening torque of the air-bleeder is 30 to 35 kg-cm.

Cleaning and replacement of filters

□ Replacement of the engine oil filter

- 1) Use an adequate wrench available on the market to hold the filter cartridge. Turn the cartridge counterclockwise to remove and install a new cartridge.
- 2) When tightening the new cartridge, turn it until its rubber packing comes into contact with the sealing surface of the filter and then give another two thirds turn.



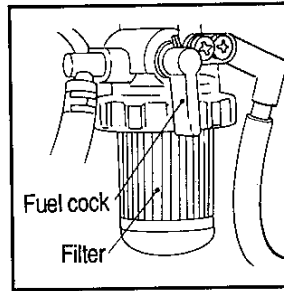
(Right-side view of the engine)

□ Cleaning and replacing of the fuel filter

- 1) Check the filter bowl to see if there is any dirt sediment of dust or water on the bottom.
- 2) If sediment is found, close the cock and remove the bowl together with the filter element. Remove the sediment and clean bowl and element.
- 3) Reinstall the bowl and element securely making

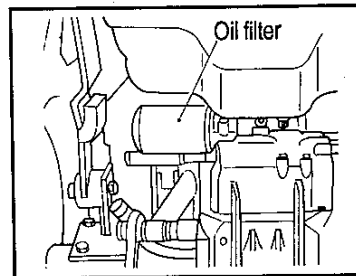
sure fuel does not leak.

Every time the bowl and element are removed, air-bleed the fuel system without fail. (Refer to p.34.)



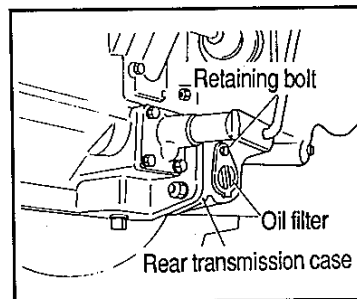
□ Replacement of the hydraulic system oil filter

- 1) Remove the filter cartridge with an adequate wrench available on the market and replace with a new cartridge.
- 2) When tightening the new cartridge, apply oil to the packing surface ahead of time and screw it in until the packing comes into contact with the sealing surface and then give half a turn.



□ Cleaning of the transmission oil filter

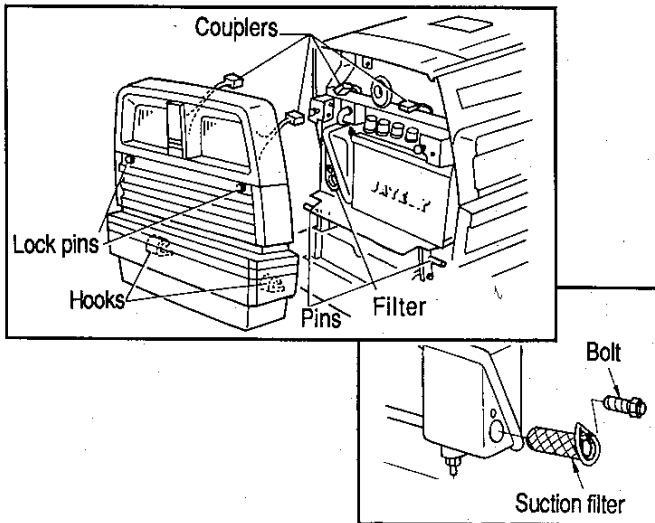
- 1) The filter should be cleaned in fresh diesel fuel every time the transmission oil is replaced.
- 2) The filter is removed only by removing the retaining bolt located on the bottom left of the rear transmission case.



□ Cleaning and replacement of the power-assisted steering system suction filter

- 1) Turn the lock pins in the front grill counterclockwise and disconnect the headlamp couplers. Pull the front grill while pushing it upward, and it is removed.

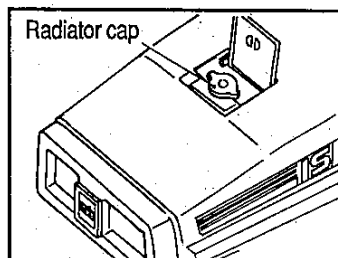
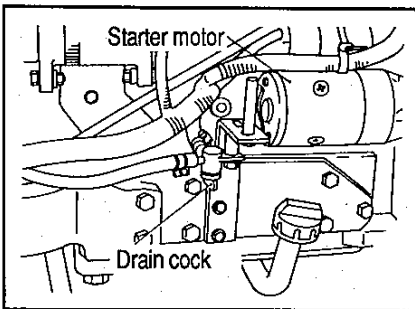
- 2) The filter is removed from the fluid reservoir by removing the filter retaining bolts located on the front part of the reservoir.
- 3) Clean the element in fresh diesel fuel after every 100 hours of operation.
- 4) Reinstall the part in reverse order of disassembly.



Replacement of engine coolant

□ Replacing procedure

- 1) Open the radiator drain cock located in front of the starter motor to drain coolant. Coolant will drain smoothly with the radiator cap removed.
- 2) Wash the inside of radiator with water from a faucet.
- 3) Close the drain cock and fill the radiator with water.
- 4) Start the engine and let it idle for about 5 minutes. Then check the water level. Replenish if necessary.



Cautions:

Never remove the radiator cap just after operation. If this is done, boiling water may gush out because of the high pressure within the radiator, which may lead to serious burns. Therefore wait ten minutes or so at least after the engine has stopped.

□ Antifreeze

Frozen engine coolant may damage the engine. Therefore when ambient temperature could drop below 0 °C, add antifreeze to the coolant in the following way.

- 1) Wash clean the inside of radiator ahead of time.
- 2) Different antifreezes have different mixing ratios. Therefore follow the instructions of the manufacturer of the antifreeze.
- 3) Blend antifreeze well in water.
- 4) Antifreeze replenishment
 - When vaporized, replenish water alone.
 - When leaked through the breather, prepare antifreeze solution of the same mixing ratio as that in the radiator and replenish.

□ Cleaning of the radiator outside

The radiator may be clogged with grass, dust, insects, etc. after operation in a pasture or operation at night. A clogged radiator leads easily to engine overheating. In such a case, remove the front screen and clean it. When dust has got into between fins and tubes, wash them clean with water from a faucet.

Note:

Refrain from using excessively pressurized hose water, or it may deform cooling fins.

Grease injection

Grease each lubrication point in accordance with the periodical maintenance chart. But wash the tractor and grease the lubrication points every time it has been used in a water-filled field. (Refer to p.30.)

□ Greasing up the clutch pedal shaft

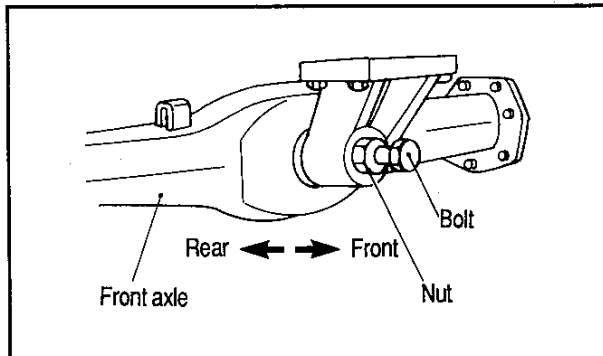
The grease fittings becomes accessible by removing the rubber caps located on the right and left floors under the pedals. Grease them with the grease gun.

Adjustment of the front axle play

When the fore-and-aft play of the front axle becomes excessive, correct it.

□ Adjusting method

- 1) Jack up the front part of the tractor to raise the front wheels from the ground.
- 2) Loosen the lock nut and tighten the adjusting nut until the fore-and-aft play becomes 0.1 to 0.3 mm. Retighten the lock nut.
- 3) After adjustment, check to see the axle rolls smoothly on its pivot.

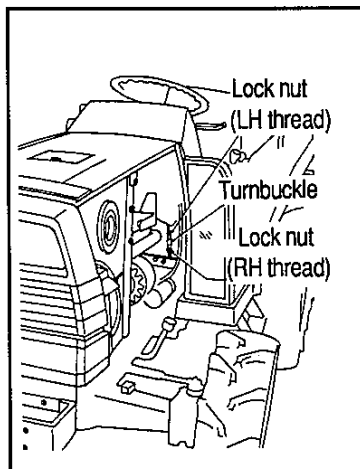


Inspection and adjustment of the clutch pedal

The free play of the clutch pedal decreases after a long time of use. Adjust the free play to be 20 to 30 mm.

□ Adjusting method

- 1) Remove the fan cover (LH).
- 2) Loosen the lock nuts of the turnbuckle and increase the effective length to obtain the proper free play.
- 3) Be sure to retighten the lock nuts and reinstall the fan cover after adjustment.

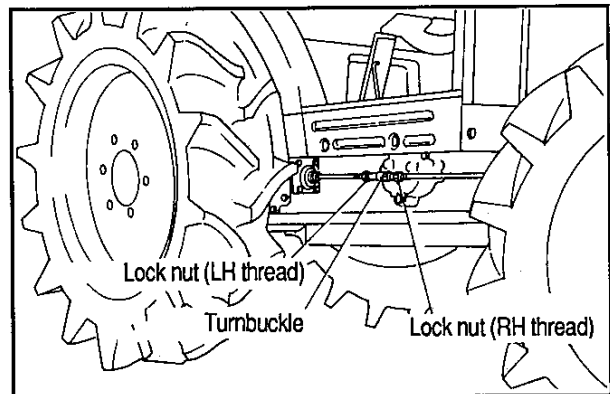


Inspection and adjustment of the brake pedals

The free play of the brake pedals increases and their mutual working balance deteriorates after a long time of use. Adjust the pedals before their free play becomes excessive. (Free play: 30 to 40 mm)

□ Adjusting method

- 1) Loosen the lock nuts on both ends of the turnbuckle and adjust the free play by turning the rod. Turning it clockwise decrease the play and vice versa.
- 2) Retighten the lock nuts.
- 3) Adjust the play of both pedals so that both brakes work simultaneously.



Note:

After adjustment, ensure that the parking brakes can be applied securely.



Caution:

Working imbalance between both brakes is very dangerous. Therefore after adjustment of the brake pedal free play, be sure to see that both brakes work positively and simultaneously.

Inspection and adjustment of the throttle lever

When the throttle lever movement becomes too heavy or too light, consult your dealer.

Inspection and adjustment of the toe-in

Improper toe-in may lead to difficulty in steering the tractor properly. The specified toe-in is from 2 to 4 mm. But when you are suspicious about the toe-in, consult your dealer.

Inspection of the battery

Early charging of the battery is the best way to keep the battery in the best condition and to assure its longest service life.

❑ Maintenance free battery

The battery installed in this tractor is a maintenance free one. It has electrodes made of a special alloy, which is highly anti-corrosive, and the electrolyte is very hard to evaporate. Consequently if it is used under a regular voltage, replenishment or maintenance of the electrolyte is hardly required.

❑ Maintenance of the battery

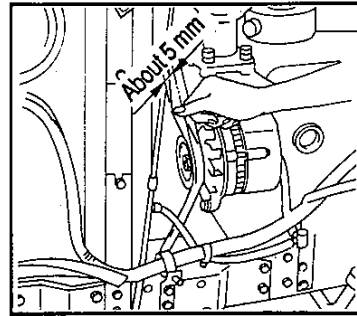
- 1) The battery capacity decreases as ambient temperature lowers. In winter, be sure to take appropriate means to protect it from extreme cold.
- 2) When storing the tractor for a long time, remove the battery and store it in a dry, shaded place. When storing the tractor with the battery mounted, be sure to disconnect the negative terminal post.
- 3) As the battery discharges by itself even when it is not used, charge it periodically: in summer, every month; in winter every other month.
- 4) Straw chaff or flammable rubbish on the battery or wiring can cause fire. Therefore clean the battery and wiring of flammable rubbish every day after operation.
- 5) When the battery is replaced with a new one, be sure to use a battery specified in this manual. An improper battery may not only blow fuses but also cause fire.

Note:

- 1) When dismantling the battery, disconnect the negative terminal first. When mounting it, connect the positive terminal first.
- 2) When connecting the battery, be careful not to connect the terminals wrongly.
- 3) Avoid quick battery charging if possible, for it may shorten the service life of the battery. When charging it, be sure to remove the battery from the tractor to avoid damaging the electric apparatus and wiring.

Inspection and adjustment of the fan belt

Inspect the tension of the fan belt periodically. The belt should be tensioned to a point it deflects about 5 mm when depressed with a finger as illustrated.

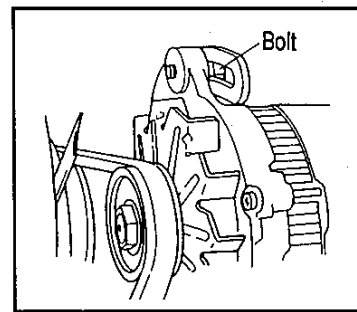


Caution:

Be sure to wait for about ten minutes after the engine has stopped before servicing the engine, because the muffler just after operation is very hot and may cause burns.

❑ Adjusting method

Loosen the alternator tightening bolt and adjust the belt tension by shifting the alternator. After adjustment, be sure to retighten the bolt.

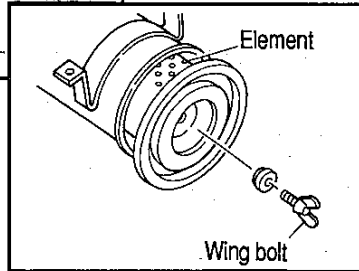
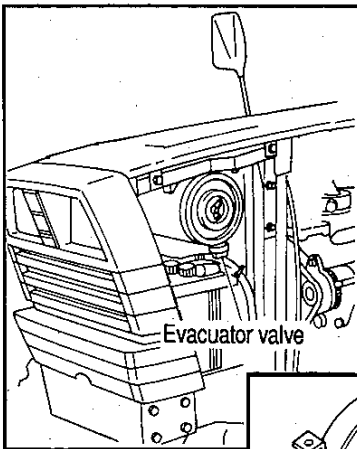


Inspection and adjustment of the air cleaner

Inspect and clean the air cleaner in the following way.

❑ Cleaning of the vacuum valve

Open the bonnet and remove the right-hand fan cover. Pinch the valve to release accumulated dust. When sediment is wet, wipe the valve clean with cloth.



❑ Cleaning of the element

- 1) Remove the fan cover (LH).
- 2) Remove the wing bolt to draw the element.
- 3) Clean the element in the following way.
 - When clogged with dry dust, dust off the element by tapping it lightly by hand or blow dust away with compressed air. When using compressed air, be careful not to damage the element.
 - When clogged with wet or oily dust, immerse the element in a neutral synthetic detergent solution for about 30 minutes and then rinse it softly in fresh water. Let it dry naturally.
- 4) After cleaning, install the element into the cleaner.

Note:

- 1) *Never hit the element against a hard object like a stone, concrete wall, etc.*
- 2) *Tighten the element securely.*
- 3) *Each part should be tightened securely to be airtight.*

❑ Replacement of the element

Replace a damaged element or an element which has already been washed five times.

Inspection of piping

Consider pipes such as the fuel line, radiator hose, hydraulic rubber pipes as consumable parts. Replace damaged ones immediately.



Caution:

- A broken fuel line allows fuel to leak, which may result in fire.
- A broken radiator hose lets boiling water gush out, which may cause burns.

Inspection of the electric wiring and fuses

❑ Inspection of the wiring

- 1) Loose terminal connections lead to open circuits, damaged wiring may reduce the performance of the electric apparatus, and a short circuit may result in fire. Therefore, fatigued or damaged wiring should be replaced immediately.
- 2) If a replaced fuse shorts quickly, never replace the burnt fuse with wire, but consult your dealer immediately.
- 3) Broken wiring covering should be repaired with insulation tape immediately.
- 4) Wiring separated from its clamp should be repaired immediately.



Caution:

The wiring should be checked completely by your dealer every year to avoid fire hazards.

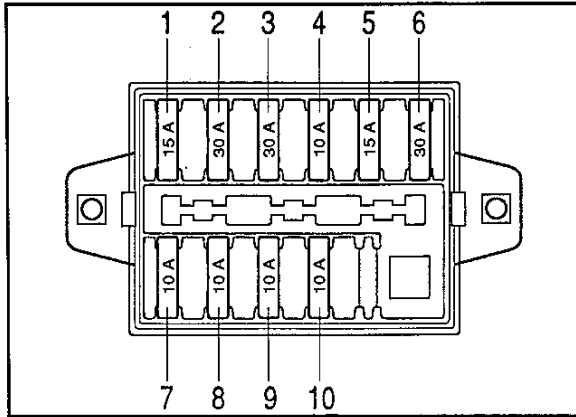
Note:

As the fuel piping and electric wiring fatigue as time passes, they should be replaced every other year. Their early replacement is recommended.

❑ Replacement of fuses

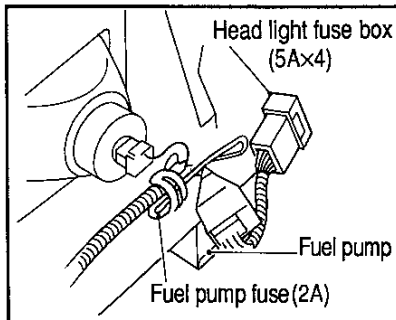
Fuses are installed in three places: the main fuse box, head lamp fuse box, and tube fuse for the fuel pump in the wire harness. (Refer to the wiring diagram on P.49 and the fuse location diagram on P.51.) A blown fuse should be replaced with a new one of the same capacity without fail. Installation of a fuse of bigger capacity may cause burning of electrical apparatus or wiring.

• **Main fuse box:**



- (1) Fuel pump/Spare power supply (15A)
- (2) Warning flash light/Spare power supply (30A)
- (3) Horn/Spare power supply (30A)
- (4) Stop light (10A)
- (5) Turning signal (15A)
- (6) Work light (30A)
- (7) Tail light (RH) (10A)
- (8) Tail light (LH) (10A)
- (9) Side clearance light (LH) (10A)
- (10) Side clearance light (RH) (10A)

• **Fuse box for the head lamps:**



❑ **Fusible link**

Two fusible links are installed in the circuit, which protect the circuit. Therefore if a link is shorted out, no electric current flows through the circuit. When a link is blown, be sure to locate the cause and correct it before installing a new one.

Checking method:

The fusible link is quite the same as wire harnesses in appearance when it is functioning normally. But when it is shorted out, its cover is discolored and swollen.

Note:

- When a fuse is blown, be sure to locate the cause and correct it.
- Never use a wire instead of a fuse.
- A melted fusible link can be identified by the discoloration of its cover.

Storage of the tractor

□ Daily storage

Store the tractor every day after work according to the following instructions:

- 1) Clean the tractor. Especially wash it after operation in a water-filled or swampy field.
- 2) Top up the fuel tank to avoid rusting.
- 3) Lower the implement on the ground.
- 4) The tractor should be stored indoors if possible. When it has to be left outdoors, cover it with tarpaulin.
- 5) When the ambient temperature is very low, remove the battery and store it in a warm place. This will contribute greatly to easy starting of the engine the following morning.
- 6) When the ambient temperature is likely to become lower than 0 °C, drain the engine coolant or add antifreeze to avoid engine breakdown due to frozen coolant.

Note:

- When washing the tractor with compressed water, be careful not to apply water directly to the electric apparatus, oil fillers, etc.
- Be sure to remove the main switch key, or it may cause electric leakage.

□ Long time storage

When it is not to be used for a long time, clean the tractor and store it in the following way.

- 1) Replace the engine oil with new and let the engine idle for about 5 minutes to lubricate every part sufficiently.
- 2) Drain the engine coolant and place an "empty radiator" tag on the steering wheel.
- 3) Lubricate all other parts.
- 4) Retighten loose fasteners.
- 5) Inflate each tire a little higher than specified.
- 6) Remove all weights.
- 7) Dismount the implement or lower it to the ground.
- 8) Place the tractor in a dry place protected from rainfall and cover it with tarpaulin.
- 9) Remove the battery, charge it, adjust the electrolyte level, and store it in a shaded dry place. When leaving the battery on the tractor, be sure to disconnect the negative terminal.
- 10) Keep the clutch disengaged with the cut-off arm. If it is kept engaged for a long time, the clutch surface may be rust-seized, leading to impossible clutch disengagement.
- 11) Lay wood under the tires for protection.

Note:

- Be sure to disconnect the negative terminal when

the battery is left on the tractor. There is the possibility of a fire from a short circuit caused by mice biting the wiring.

- Be sure to remove the main switch key.
- Operate the engine at 1500 to 2000 rpm for 5 to 10 minutes every month to prevent rusting. Remember to fill the radiator with coolant.

□ Operation after a long time of storage

When starting the tractor after a long time in storage, pay attention especially to the following points.

- Perform the pre-operation inspection without fail.
- Let the engine idle for about 30 minutes before applying any load, to ensure the maximum engine performance and service life.

Troubleshooting

Troubles	Presumable causes	Countermeasures
Engine Starter motor does not spin with key turned to START.	⇒ Clutch pedal isn't depressed. ⇒ Broken safety switch ⇒ Discharged battery ⇒ Loose terminals ⇒ Broken main switch ⇒ Broken starter	⇒ Depress clutch pedal. ⇒ Consult your dealer. ⇒ Charge battery. ⇒ Check terminals for disconnection, looseness, corrosion, etc., and correct. Retighten them securely, and apply grease. ⇒ Consult your dealer. ⇒ Consult your dealer.
Starter motor spins but not at full speed.	⇒ Discharged battery ⇒ Defective earthing ⇒ Oil of improper viscosity is used.	⇒ Charge battery. ⇒ Clean and tighten connection to provide secure earth. ⇒ Replace with oil of proper viscosity.
Starter motor spins but engine does not start.	⇒ Air in fuel system ⇒ Clogged fuel filter ⇒ Fuel is not being supplied. ⇒ Defective engine	⇒ Air-bleed fuel system. ⇒ Clean filter. ⇒ Open fuel cock. ⇒ Consult your dealer.
Irregular engine running	⇒ Air in fuel system ⇒ Clogged fuel filter. ⇒ Clogged fuel injectors ⇒ Fuel-line is leaking. ⇒ Unsynchronized fuel injection	⇒ Air-bleed fuel system. ⇒ Clean filter. ⇒ Consult your dealer. ⇒ Retighten loose clamps, replace defective pipes, polish copper washers and retighten. ⇒ Consult your dealer.

Troubles	Presumable causes	Countermeasures
When decelerated, engine stops.	⇒ Mal-functioning fuel injection pump ⇒ Improper valve clearances ⇒ Defective fuel injectors	⇒ Consult your dealer. ⇒ Consult your dealer. ⇒ Consult your dealer.
Engine over-races.	⇒ Clogged governor ⇒ Engine oil is getting into combustion chambers.	⇒ Consult your dealer. ⇒ Consult your dealer.
Engine stops unexpectedly during operation.	⇒ Insufficient fuel supply ⇒ Defective fuel injectors ⇒ Engine seizure due to low oil level or poor oil	⇒ Top up fuel and air-bleed fuel system. ⇒ Consult your dealer. ⇒ Consult your dealer. (<i>If engine can be turned by pulling fan belt, insufficient fuel supply or defective fuel injectors are the most probable causes.</i>)
Engine is over heated.	⇒ Insufficient coolant ⇒ Broken or loose fan belt ⇒ Clogged radiator ⇒ Insufficient engine oil	⇒ Top up coolant. ⇒ Adjust belt tension or replace. ⇒ Clean. ⇒ Inspect oil level and replenish if necessary.
Exhaust fumes are white.	⇒ Clogged air cleaner ⇒ Excessive engine oil ⇒ Insufficient fuel supply	⇒ Clean element. ⇒ Inspect oil level and correct if necessary. ⇒ Consult your dealer.
Exhaust fumes are too black.	⇒ Poor fuel ⇒ Too thick fuel supply ⇒ Insufficient fuel injection pressure	⇒ Replace with proper one. ⇒ Consult your dealer. ⇒ Consult your dealer.

Troubles	Presumable causes	Countermeasures
Poor engine output	⇒ Seized fuel injectors and carbon deposit ⇒ Insufficient compression or leaking valve mechanism ⇒ Poor valve clearances ⇒ Poor fuel injection timing ⇒ Insufficient fuel supply ⇒ Clogged air cleaner	⇒ Consult your dealer. ⇒ Consult your dealer. ⇒ Consult your dealer. ⇒ Consult your dealer. ⇒ Check fuel system. ⇒ Clean element.
Oil pressure monitor is lit during operation.	⇒ Insufficient engine oil ⇒ Too low oil viscosity ⇒ Defective pressure switch ⇒ Defective oil pump ⇒ Clogged oil filter	⇒ Replenish. ⇒ Replace with oil of proper viscosity. ⇒ Replace. ⇒ Consult your dealer. ⇒ Replace element cartridge.
Charging monitor is lit during operation	⇒ Defective wiring ⇒ Defective alternator ⇒ Defective regulator ⇒ Low electrolyte level or defective battery ⇒ Loose or damaged fan belt	⇒ Correct loose or dirty terminals, short circuit, poor earthing, etc. ⇒ Consult your dealer. ⇒ Consult your dealer. ⇒ Correct electrolyte level or replace battery. ⇒ Adjust belt tension or replace.
Clutch		
Clutch is slipping.	⇒ Poor clutch pedal adjustment ⇒ Worn or burnt clutch lining	⇒ Adjust free play and stroke. ⇒ Consult your dealer.
Clutch won't disengage.	⇒ Seized clutch lining ⇒ Poor pedal adjustment	⇒ Consult your dealer. ⇒ Adjust free play and stroke.

Troubles	Presumable causes	Countermeasures
Brakes		
Brakes do not work well or not balanced with each other when applied.	⇒ Too much free play of pedals ⇒ Worn or seized linings ⇒ Different pedal strokes	⇒ Adjust free play. ⇒ Consult your dealer. ⇒ Correct strokes so that both pedals have the same stroke.
Brake pedals do not return smoothly.	⇒ Broken return springs ⇒ Poor lubrication	⇒ Replace broken springs. ⇒ Remove rust and grease.
Hydraulic system		
Oil pressure does not rise sufficiently.	⇒ Insufficient engine speeds ⇒ Insufficient transmission oil ⇒ Intake piping is sucking air. ⇒ Clogged oil filter ⇒ Defective hydraulic oil pump ⇒ Defective control valve ⇒ Broken cylinder	⇒ Keep engine running at 1000 to 1500 rpm. ⇒ Top up to specified level. ⇒ Retighten clamping points, or replace cracked pipes and defective O-rings at your dealer's service shop. ⇒ Clean. ⇒ Consult your dealer. ⇒ Consult your dealer. ⇒ Consult your dealer.
Leaking piping	⇒ Loose joints ⇒ Cracked pipes	⇒ Retighten. ⇒ Consult your dealer.
With control lever in RAISE position, relief valve beeps and works.	⇒ Poorly adjusted rod on position control lever	⇒ Correct rod adjustment.
Hydraulic pressure does not lower.	⇒ Locked lowering speed control knob ⇒ Defective control valve ⇒ Broken cylinder ⇒ Seized lift shaft bearing	⇒ Turn it to LOWERING position. ⇒ Consult your dealer. ⇒ Consult your dealer. ⇒ Consult your dealer.

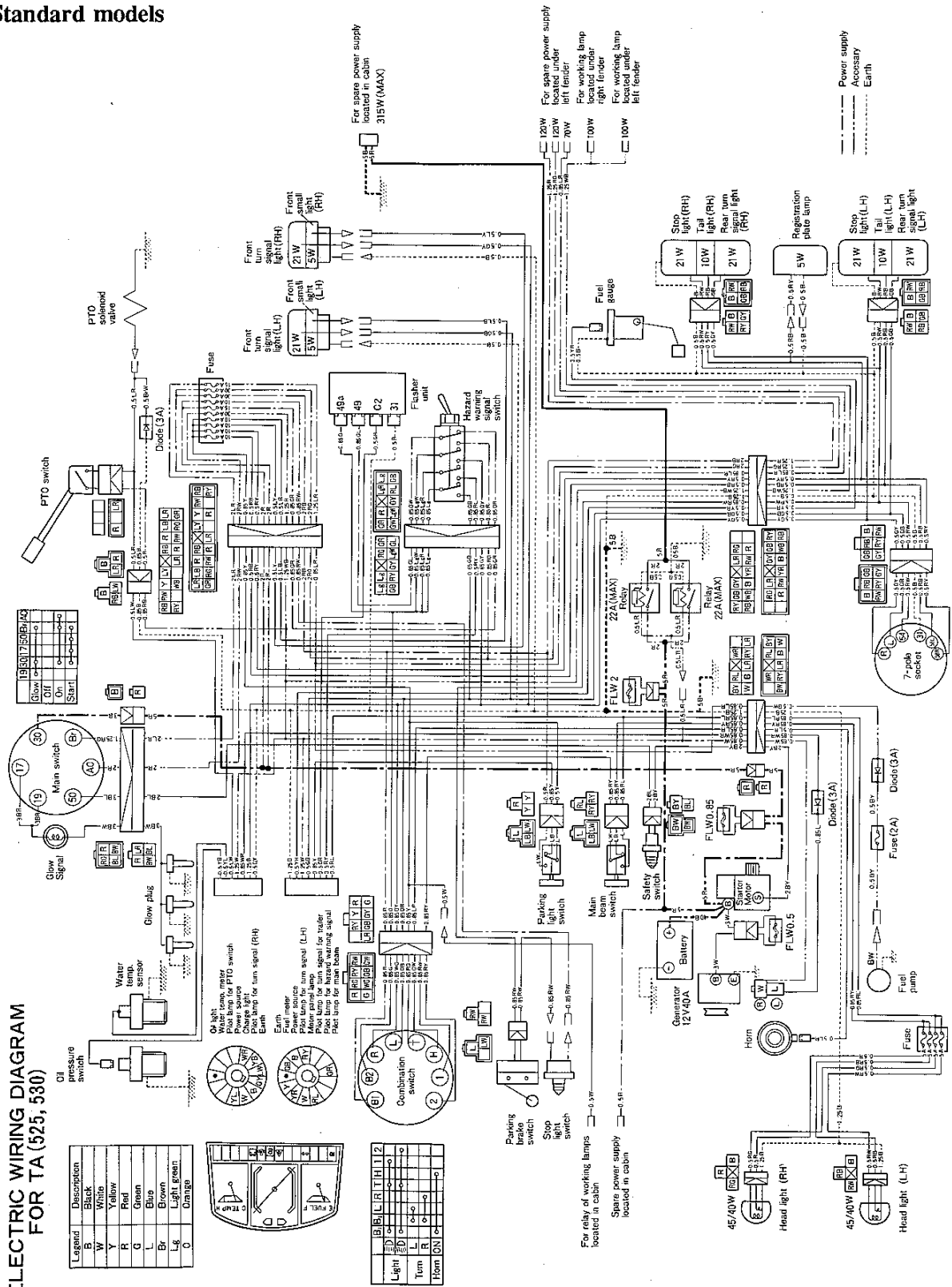
Troubles	Presumable causes	Countermeasures
Steering system Steering wheel is heavy to turn or tends to turn in one direction.	⇒ Poorly installed steering column ⇒ Air in steering assisting hydraulic system ⇒ Improper toe-in ⇒ Different front tire inflation ⇒ Loose joints	⇒ Correct. ⇒ Air-bleed hydraulic system. ⇒ Correct. ⇒ Inflate both tires to same specified pressure. ⇒ Retighten or replace defective parts.
Steering wheel has too much free play.	⇒ Worn steering column ⇒ Loose joints	⇒ Consult your dealer. ⇒ Retighten.
Electric system Battery cannot be charged.	⇒ Blown fusible link ⇒ Defective wiring ⇒ Defective alternator ⇒ Defective regulator ⇒ Loose or damaged fan belt ⇒ Defective battery	⇒ Check wiring and replace link. ⇒ Correct loose, dirty terminals, short circuit, poor earthing, etc. ⇒ Consult your dealer. ⇒ Consult your dealer. ⇒ Give belt proper tension or replace. ⇒ Correct loose terminal connection, corrosion, or electrolyte level.
Head lamps are dim.	⇒ Discharged battery ⇒ Poor connections	⇒ Charge battery. ⇒ Check earthing points and terminals. Then clean and tighten them if necessary.

Troubles	Presumable causes	Countermeasures
Head lamps are not lit.	⇒ Burnt bulb ⇒ Blown fuse ⇒ Poor contact	⇒ Replace. ⇒ Check wiring and replace. ⇒ Inspect earthing points and terminals, and clean them if necessary.
Horn does not sound.	⇒ Defective horn button ⇒ Defective wiring ⇒ Defective horn	⇒ Replace button. ⇒ Correct. ⇒ Repair or replace horn.
Turn signals do not blink.	⇒ Burnt bulb ⇒ Defective flasher ⇒ Poor contact	⇒ Replace bulb. ⇒ Replace flasher. ⇒ Inspect earthing points and terminals, and clean them if necessary.
Work lamp does not turn on.	⇒ Burnt bulb ⇒ Poor contact	⇒ Replace bulb. ⇒ Inspect earthing points and terminals, and clean them if necessary.

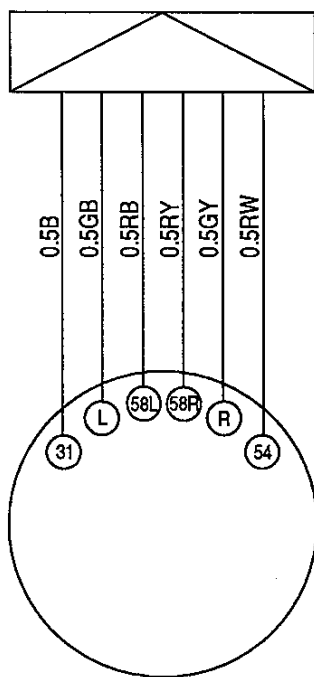
Wiring diagram

1. Standard models

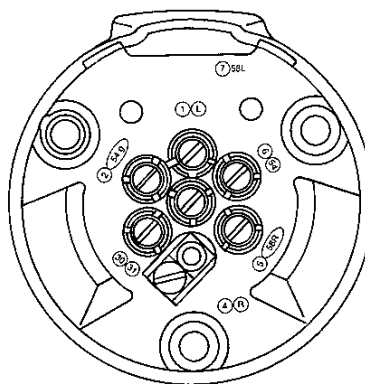
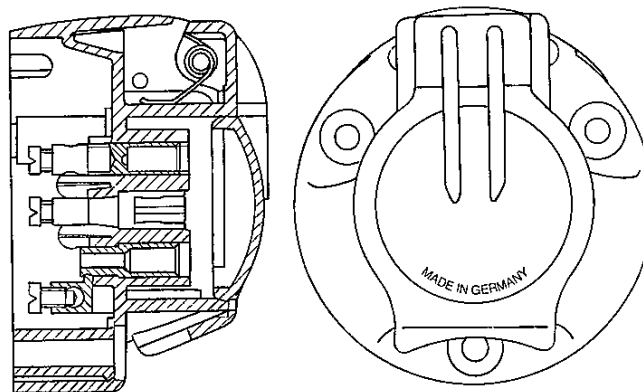
**ELECTRIC WIRING DIAGRAM
FOR TA (525, 530)**



2. 7-pole trailer socket



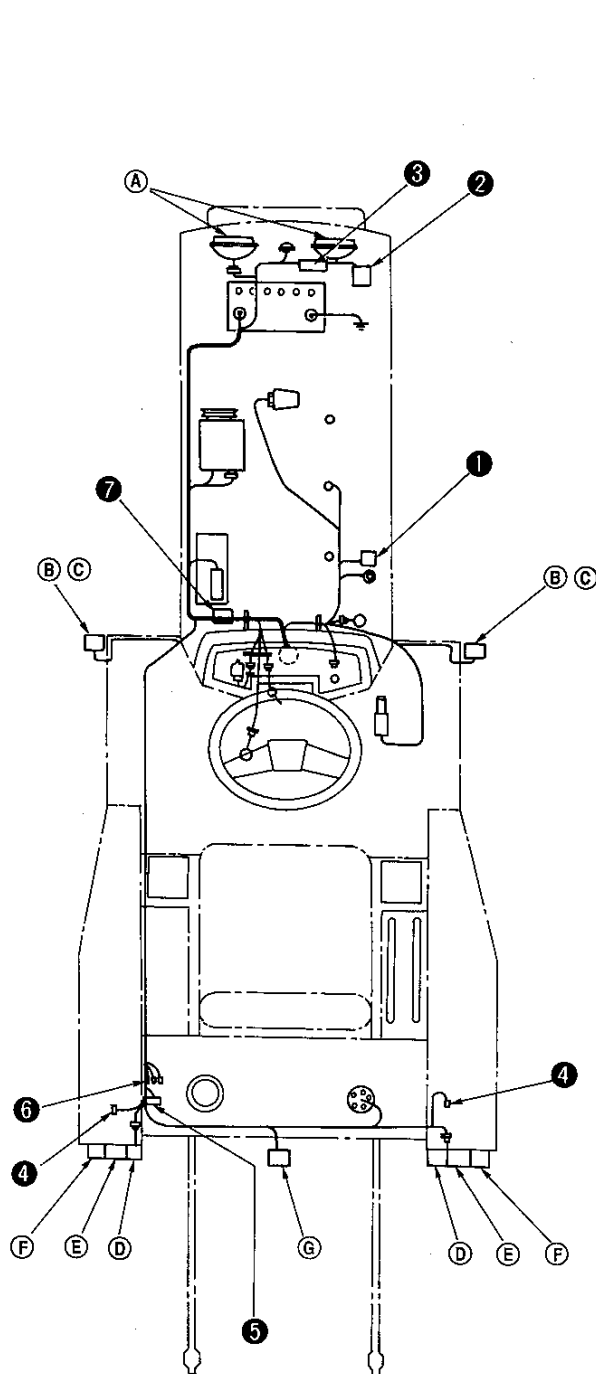
31 Earth
 L Turn signal/hazard (LH)
 58L Small lamp (LH)
 58R Small lamp (RH) and
 license plate illumination
 R Turn signal/hazard (RH)
 54 Stop lamps



31	58L	L
54	53R	R

Make	HELLA
Part name	STECKDOSE 7 POL
Part No.	9JB. 001 943-00(1)

3. Locations of the fuses, fusible link, lamps, and power outlets



- (1) Fuse box (Main)
- (2) Fuse box (for head lamps)
- (3) Tubular fuse (for fuel pump)
- (4) Working light socket
- (5) 7-pole socket (for trailer)
- (6) Spare socket
- (7) Fusible link (2 pcs)

(A) Head lamps	12V	45/40W
(B) Front turn signal lamps	12V	21W
(C) Front small lamps	12V	5W
(D) Stop lamps	12V	21W
(E) Tail lamps	12V	10W
(F) Rear turn signal lamps	12V	21W
(G) License plate lamp	12V	5W

Recommended lubricants

Maker	Engine oil	Gear oil	Hydraulic	Grease
Shell	(G) Shell X-100 Motor oil (D) Rotella S, SX, TX Rimula CT	Spirax HD Spirax KP 80, 90, 140	Tellus 25 Turbo T, S Tellus S	Alvania #2 KP, RS Retinax AM, CD, AX, DX
Mobil	(G) Mobile special (D) Delvao 1200, 1300 Pegasus Diesel	Mobilube HD, GX	Mobile D.T.E. 24	Mobile plax 47
Esso	(G) Esso Extra Motor oil 10W/30, 20W/40 (D) Estor HD, D3, HDX, SDX	Esso gear oil XP, GP, GC	Terresso 43	Beacon KP-2
Caltex	(G) RPM Motor oil HD (D) RPM DELO 100, 200, 300, 320, 400, 6200	Universal Thuban SAE 90 RPM Borate ED Lubricant 80W90	Rando oil HD32	Marfac Multipurpose 2, Marfac All Purpose 2
Castrol	(G) Castrol GTX Castrol R (D) Castrol HD Castrol CRB	Castrol Hypoid B	-	Castrol IM
British Petroleum	(G) B.P. Energol HD (D) B.P. Vanellus C3 B.P. Energol IC-M, IC-D, DS-3, IC-HP B.P. Vanellus M	B.P. Hypoid Gear EP	-	-
Pennzoil (U.S.A.)	(G) Pennzoil motor oil (Multi 10W/40, 5W/30, 10W/30, 20W/40) (D) Zoil Multi Duty	Pennzoil Multi Purpose 4000 Gear oil	-	Pennzoil Multi Purpose Grease