

# IHI-SHIBAURA TRACTOR

## OPERATOR'S MANUAL

MODEL SD 4300  
SD 4340  
SD 5000T  
SD 5040T



A1043



ISHIKAWAJIMA-SHIBAURA MACHINERY CO., LTD.

AGE 28  
D.M. 772 848

## FOREWORD

Thank you for selecting an IHI-SHIBAURA Tractor from the large number of agricultural tractors on the market. IHI-SHIBAURA has long experience in manufacturing tractors and employs up-to-date designing techniques and production facilities. We can assure you that your tractor will be labor-saving, efficient, comfortable and universally useful at all times.

This instruction manual will help you to use IHI-SHIBAURA Wheel Tractors SD4300, SD4340, SD5000T and SD5040T more effectively.

Read this instruction manual carefully for an understanding of working safety, and to obtain efficient operation, and the longest service life out of your tractor.

If you have any questions regarding the IHI-SHIBAURA Wheel Tractors SD4300, SD4340, SD5000T and SD5040T, do not hesitate to ask your dealer.

The specifications of this tractor are subject to change without notice.

A VEHICLE IDENTIFICATION PLATE is located on the left-hand side of the transmission housing. The numbers on the plate are important should your tractor require future service. For your convenience, have your dealer record the numbers in the appropriate spaces below.

<b>IHISHIBAURA WHEEL TRACTOR</b>	
MODEL	SD5000T
CHASSIS NUMBER	
ENGINE NUMBER	
ISHIKAWAJIMA SHIBAURA MACHINERY CO., LTD. MATSUMOTO CITY, JAPAN.	

<b>IHISHIBAURA WHEEL TRACTOR</b>	
MODEL	SD4300
CHASSIS NUMBER	
ENGINE NUMBER	
ISHIKAWAJIMA SHIBAURA MACHINERY CO., LTD. MATSUMOTO CITY, JAPAN.	

<b>IHISHIBAURA WHEEL TRACTOR</b>	
MODEL	SD5040T
CHASSIS NUMBER	
ENGINE NUMBER	
ISHIKAWAJIMA SHIBAURA MACHINERY CO., LTD. MATSUMOTO CITY, JAPAN.	

<b>IHISHIBAURA WHEEL TRACTOR</b>	
MODEL	SD4340
CHASSIS NUMBER	
ENGINE NUMBER	
ISHIKAWAJIMA SHIBAURA MACHINERY CO., LTD. MATSUMOTO CITY, JAPAN.	



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## INTERNATIONAL SYMBOLS

As a guide to the operation of your tractor, various international symbols have been included for the instruments and controls. The symbols are arranged below with an outline of their meaning:

	Engine speed		"Reverse," slow or minimum setting
	Hours recorded		"Forward," fast or maximum setting
	Engine water temperature		Control lever range direction
	Horn		Back shift (forward)
	Engine oil pressure		Back shift (reverse)
	Safety symbol		Excessive under extension
	Axle contact		Excessive under extension
	Axle contact		Fuel gauge
	Control lever range		Electrolyte level
	Increase		Contact lens
	Decrease		Air filter condition
	Alternator charge		Oil filter condition
	Power loss (oil)		Uneven tire lock
	Power loss (air)		Low tire
	Caution		Open door

# SAFETY PRECAUTIONS

Always operate from the operator's seat unless you are qualified to do so. Do not operate from the seat unless you are qualified to do so. Do not operate from the seat unless you are qualified to do so.

## THE TRACTOR

1. Do not operate the tractor unless you are qualified to do so.
2. Do not operate the tractor unless you are qualified to do so.
3. Do not operate the tractor unless you are qualified to do so.

## SERVICING THE TRACTOR

4. Do not operate the tractor unless you are qualified to do so.
5. Do not operate the tractor unless you are qualified to do so.
6. Do not operate the tractor unless you are qualified to do so.
7. Do not operate the tractor unless you are qualified to do so.
8. Do not operate the tractor unless you are qualified to do so.
9. Do not operate the tractor unless you are qualified to do so.

## OPERATING THE TRACTOR

10. Do not operate the tractor unless you are qualified to do so.
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12. Do not operate the tractor unless you are qualified to do so.
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15. Do not operate the tractor unless you are qualified to do so.
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23. Do not operate the tractor unless you are qualified to do so.
24. Do not operate the tractor unless you are qualified to do so.
25. Do not operate the tractor unless you are qualified to do so.
26. Do not operate the tractor unless you are qualified to do so.

## DRIVING THE TRACTOR

27. Do not operate the tractor unless you are qualified to do so.
28. Do not operate the tractor unless you are qualified to do so.
29. Do not operate the tractor unless you are qualified to do so.
30. Do not operate the tractor unless you are qualified to do so.
31. Do not operate the tractor unless you are qualified to do so.
32. Do not operate the tractor unless you are qualified to do so.
33. Do not operate the tractor unless you are qualified to do so.
34. Do not operate the tractor unless you are qualified to do so.
35. Do not operate the tractor unless you are qualified to do so.
36. Do not operate the tractor unless you are qualified to do so.
37. Do not operate the tractor unless you are qualified to do so.
38. Do not operate the tractor unless you are qualified to do so.

## OPERATING THE PTO

39. Do not operate the tractor unless you are qualified to do so.
40. Do not operate the tractor unless you are qualified to do so.
41. Do not operate the tractor unless you are qualified to do so.
42. Do not operate the tractor unless you are qualified to do so.
43. Do not operate the tractor unless you are qualified to do so.
44. Do not operate the tractor unless you are qualified to do so.
45. Do not operate the tractor unless you are qualified to do so.
46. Do not operate the tractor unless you are qualified to do so.
47. Do not operate the tractor unless you are qualified to do so.
48. Do not operate the tractor unless you are qualified to do so.
49. Do not operate the tractor unless you are qualified to do so.
50. Do not operate the tractor unless you are qualified to do so.



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

## CONTROLS AND INSTRUMENTS

### SEAT, LIGHT, AND ENGINE CONTROLS

#### TRACTOR SEAT

Your 5015A/5016A tractor is equipped with a molded cushion seat. The seat is adjustable to adjust the driver's comfort and position. It can be moved closer to or further from the steering wheel by pulling the lever on the left side under the seat, and repositioning the seat as desired (Figure 1). The seat cushion can be adjusted in 4 steps by every 20 mm (0.78 in.).

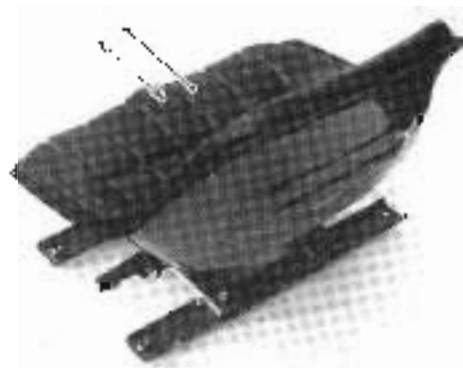


Figure 1 — Tractor Seat

#### LIGHTING

##### TURN SIGNAL LAMPS

Your 5015A/5016A tractor is equipped with turn signal lamps (Figure 2). The switch for the turn signals is located on the left side of the instrument panel.

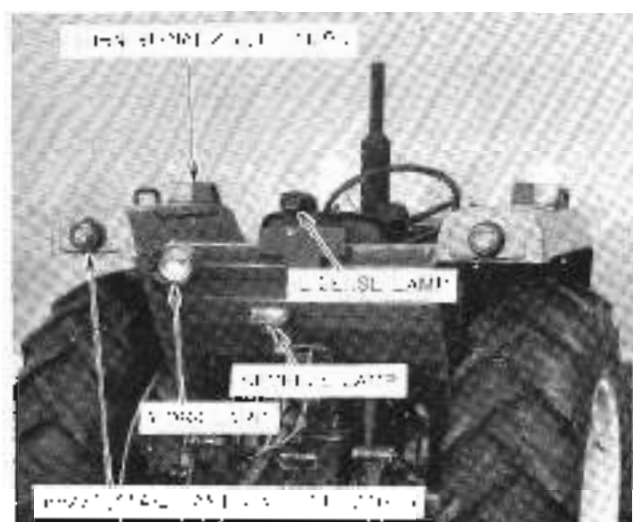


Figure 2 — Turn Signal Lamps

#### LIGHT SWITCH

The light switch, starter (Figure 3), cigarette lighter switch, its location are:

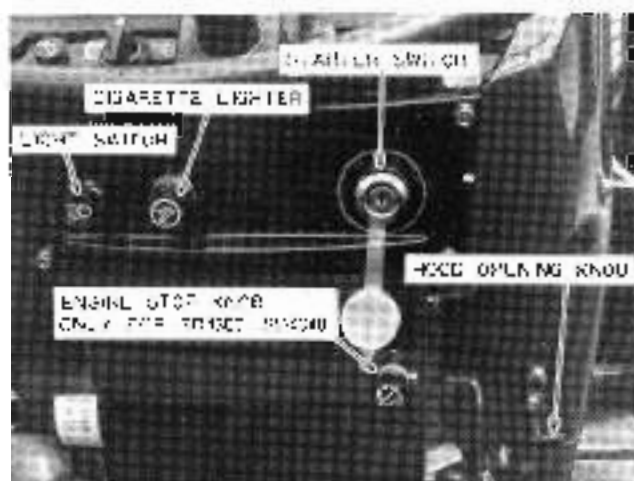


Figure 3 — Light Switch, Cigarette Lighter, Starter Switch, Engine Stop Knobs and Hood Opening Knob

- Turn signal — Turn signal (Left and Right) and  
1st stage — Parking Lamps  
2nd stage — Headlights (High Beam), Side Lamp, Corner Lamp, Instrument and Tail Lamps.  
3rd stage — Headlights (Low Beam) and refer to the paragraphs on the 2nd page of this manual.

#### INSTRUMENT PANEL

##### STARTER SWITCH

**NEA** — The glow plug is heated.  
**ON** — Electricity is supplied to the electric system.  
**START** — The self-starting motor is engaged and the engine starts.

To start, depress the clutch pedal fully and turn the key to the "START" position.

**OFF** — Electricity to the electric system is cut off. The key is pulled out and set in the "LOCK" position. Always check to make certain the tractor is in gear and PTO lever is in neutral before attempting to start the engine. Refer to page 13 for starting the starting procedure.

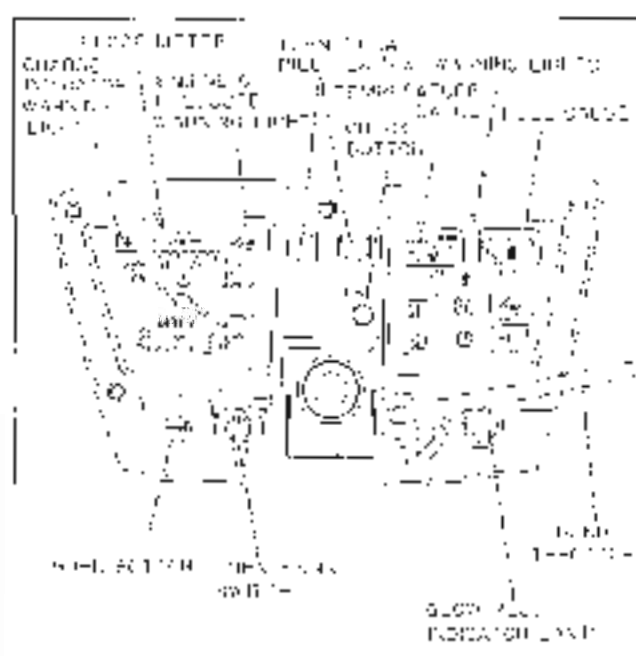


Figure 4 Instrument Panel

**IMPORTANT:** The steering wheel must remain in the OFF position while the engine is running. The steering wheel will rotate, showing a warning light on the instrument panel if the OFF position.

### HOOD OPENING KNOB

Push the hood opening knob forward (Fig. 3-4) to release the hood latch.

### GLASS SIGNAL INDICATOR LAMP & I. Q. S.

1. Turn the key to the "START" position for a moment. Even the glow signal bulb will glow only once after the glow signal bulb has been started (only after the glow signal bulb has been started).
2. Then turn the key to the "STOP" position to reset the glow signal.

**IMPORTANT:** When the glow signal bulb has been started, the key must be held in the "START" position to restart the glow signal. If the glow signal bulb does not glow, check the bulb.

If the engine is not started, return the key to the "OFF" position and insert the glow signal bulb after about 30 seconds.

Be sure to keep the key at the "OFF" position while the engine is working and at the "OFF" position when it stops.

### PROOF-METER

The fuel meter is located on the left side of the instrument panel (Fig. 4). The fuel meter is marked as follows:

- The hour and portions of hour scale factor for one unit, based on an average engine speed of 1800 rpm. Engine speed of 1800 rpm is marked on the scale. The scale is marked in 10-minute intervals. The scale is marked in 10-minute intervals. The scale is marked in 10-minute intervals. The scale is marked in 10-minute intervals.
- Use the engine speed scale to determine the fuel meter scale. The fuel meter scale is marked in 10-minute intervals. The scale is marked in 10-minute intervals. The scale is marked in 10-minute intervals.
- The scale on the top of the fuel meter scale is marked in 10-minute intervals. The scale is marked in 10-minute intervals. The scale is marked in 10-minute intervals.

### FUEL GAUGE

The fuel gauge is shown in Fig. 4. The needle in the gauge indicates the amount of fuel in the tank. If the needle at the "E" mark on the tank is empty.

### TEMPERATURE GAUGE

The temperature gauge is shown in Fig. 4. The needle in the gauge indicates the temperature of the engine. The needle in the gauge indicates the temperature of the engine. The needle in the gauge indicates the temperature of the engine.

### WARNING LIGHTS

The warning lights are provided with the following warning lights. If any warning light is lit, check the cause of the warning light.

Push the check button below the instrument panel. The warning lights on the right side of the panel will glow. If any warning light is lit, check the cause of the warning light.



The large red warning lamp lights up to the warning light "OFF" position. It glows out after the engine starts and the battery is recharged.



## CONTROLS AND INSTRUMENTS



The signals of pressure warning lamp lights with the key switch in the "ON" position. It goes out when the oil pressure starts and the oil starts circulating through the engine system.



The primary indicator has warning lamp which lights when the coolant has exceeded a certain level.



Cooling water temperature lamp lights when the coolant is too hot. The indicator receives some leakage below the normal level.



Air cleaner warning lamp indicates the filter is clogged or dirty.



Hydraulic system filter warning lamp indicates the filter is dirty or clogged.



Differential locking warning lamp lights when the differential lock is engaged or working.



High beam warning lamp lights when the beam is over the high beam.

**IMPORTANT:** Check the coolant warning of the radiator. Specially, in winter, be careful of antifreeze, and use as well as the manual features.

### THROTTLE CONTROLS HAND THROTTLE AND ENGINE STOP CONTROL

#### SD4300, SD4340

The hand throttle is shown in Figure 4. Pull the throttle down to increase engine rpm. Push the throttle forward to decrease engine rpm. Push the full forward and pull the "Engine Stop Control" to stop the engine (Figure 3, 50F) or push to stop the engine.

#### SD5000T, SD5040T

The hand throttle is shown in Figure 4. Pull the throttle down to increase engine rpm. Push the throttle forward to decrease engine rpm. Push the throttle full forward to stop the engine.

### FOOT THROTTLE

The foot throttle is shown in Figure 5. To increase engine rpm, move the pedal up. With the hand throttle, with the hand throttle control lever, or at a slow engine rpm, the hand

throttle can be used to increase engine rpm. The axle rpm gear will turn because of the foot throttle, the engine speed will increase to the rpm at which the hand throttle has been set. Handle the hand throttle in a gradual manner.

### BRAKE CONTROLS BRAKE PEDALS

The brake pedal is shown in Figure 6. The right brake pedal is used to raise the right rear wheel. The left pedal is used to raise the left rear wheel. Because both wheels are designed to stop the tractor.

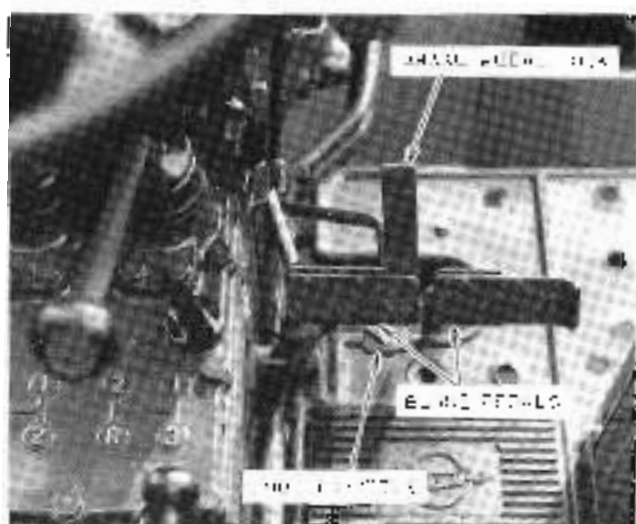


Figure 6 Foot Throttle and Brake Controls

To assist in making a slow turn at slow speeds, separate the foot or left brake pedals is required.



**CAUTION:** When working in a confined high area, or at the top of a steep slope, use the hand throttle to stop the tractor. Do not use the right pedal to stop the tractor.

### BRAKE PEDAL LOCK

The brake pedal lock, shown in Figure 5, is used to lock the brake pedal in either down or up position together or upward to a slow speed for starting at high speeds under any load the tractor is used on. This is a safety feature.

### PARKING BRAKE CONTROL

The parking brake control, shown in Figure 5, is used for locking the brake pedals when applied. When the parking brake is applied whenever the tractor is parked, the rear.

## CONTROLS AND INSTRUMENTS

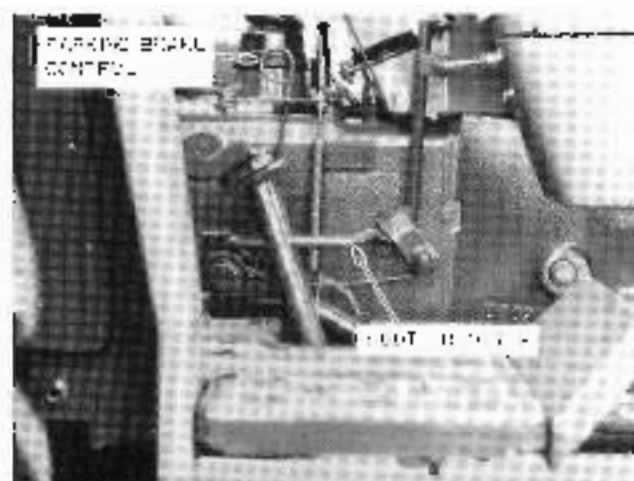


Figure 6 - Parking Brake

To apply the brake:

- Lock the brake pedals together with the brake cable.
- Depress both brake pedals.
- Pull down the parking brake control. The pawl on the control will engage the ratchet on the left hand brake pedal and will retain the pedals in the locked position.

To release the parking brake:

- Depress the brake pedal to release the pawl.
- Slide the brake pedals together to disengage the independent rear wheel brake system.

### DIFFERENTIAL CONTROL DIFFERENTIAL LOCK PEDAL

The differential lock pedal (operator figure 7) depressing the pedal locks the rear axle shafts together, providing

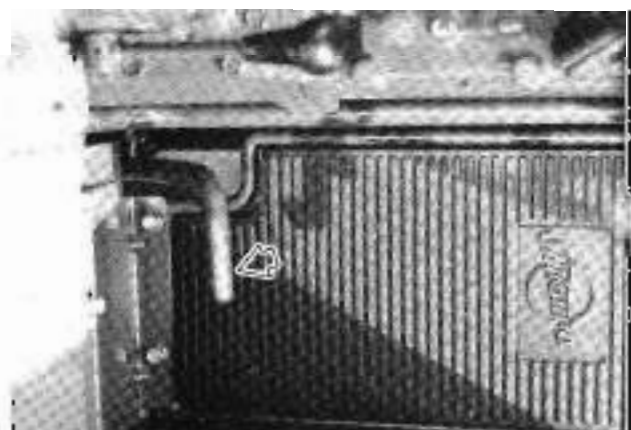


Figure 7 - Differential Lock

additional traction in wet or loose soil. Refer to page 15 for differential lock operating information.



**CAUTION:** Do not use differential lock when driving on hard surfaces. Use of differential lock on hard surfaces may damage the tires.

### POWER STEERING (FOUR-WHEEL DRIVE SD4340, SD 5040T)

The tractor is equipped by default with power steering with an optional power steering kit for extra power for light steering.



**CAUTION:** Do not use the power steering kit on a tractor with a power steering kit. The power steering kit is not designed for use on a tractor with a power steering kit.

### TRANSMISSION AND PTO CONTROLS

#### TRANSMISSION GEARSHIFT LEVERS

The transmission main shift lever and range selector lever are shown in Figure 8 in diagram showing the shift pattern of gears into the transmission cover.

Three forward and one reverse gear are provided for each of the four ranges. This provides a total of 12 forward and 4 reverse speeds.

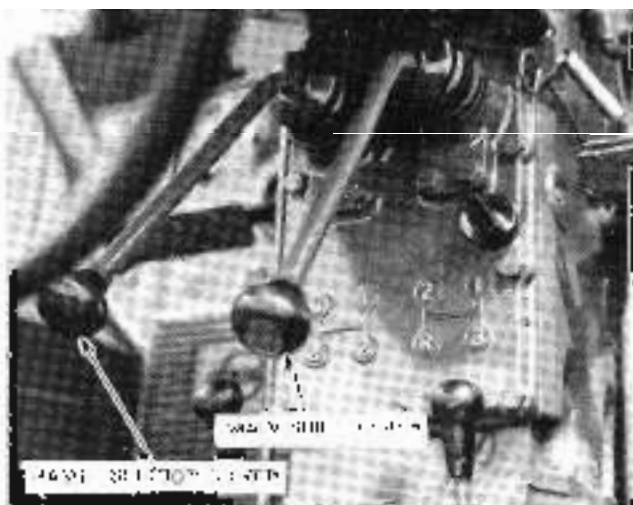


Figure 8 - Transmission Control

# CONTROLS AND INSTRUMENTS

## CREEPER RANGE

A creeper range with a 7.46:1 ratio is available, which provides an additional 12 forward and four reverse speeds on a total of 24 forward and 8 reverse gears. The control is located on the top left side of the operator's instrument panel (Fig. 9).

Full downward movement of the lever engages (OH) the creeper range. Full upward movement disengages (O) the creeper range.

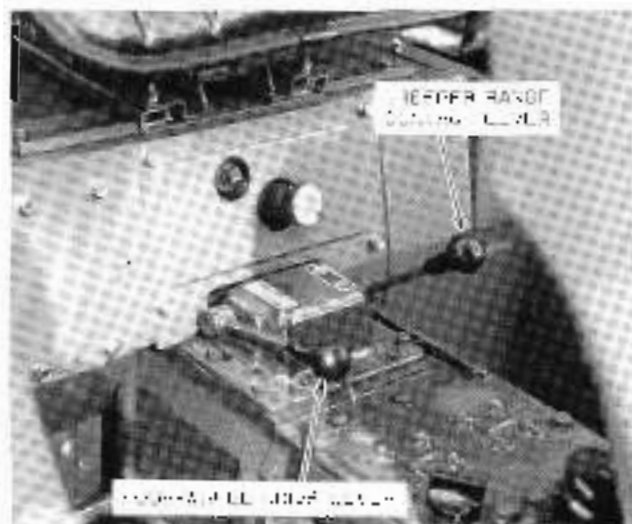


Figure 9 - Creeper Range Control Lever and Four-Wheel Drive Lever

## FOUR-WHEEL DRIVE (SD4340, SD5040T)

The control lever for the four-wheel drive is located on the right side of the operator's instrument panel (Fig. 9). For forward movement of the lever, it engages the front-wheel drive (FWD). Full upward movement engages the four-wheel drive (4WD).

## CLUTCH PEDAL

The engagement clutch pedal (Fig. 10) must be completely depressed to start the engine. Safety stop switch will be set on the stop forward travel and PTO shift location. Always fully depress the pedal when changing gear ratios, four-wheel drive and creeper range.

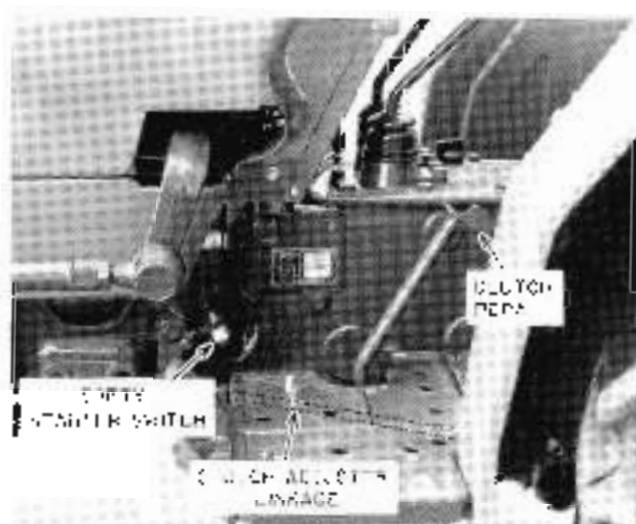


Figure 10 - Clutch Control

## DUAL CLUTCH

A dual clutch is available with the above mentioned tractor engine, while the PTO shall run in any position. When the clutch pedal is depressed to disengage (Fig. 11), the tractor in general stops while the PTO shall continue as engaged. If the PTO is engaged, if the pedal is depressed to disengage (2) with tractor and PTO motion stop.

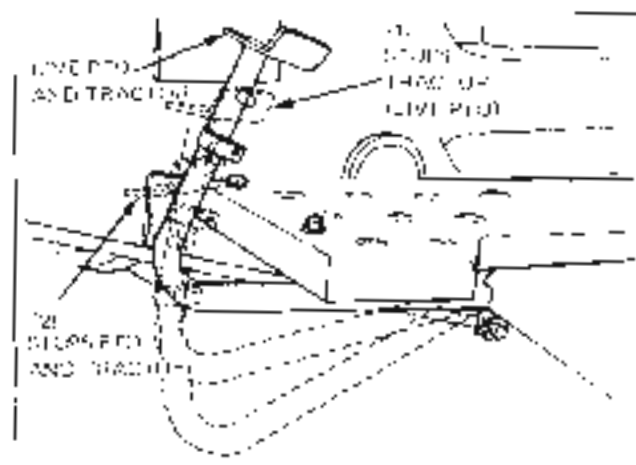


Figure 11 - Dual Clutch

## TRANSMISSION PTO GEARSHIFT LEVER

The location of PTO gearshift lever is shown in Figure 12. A diagram showing the shift pattern for the four PTO gears appears on the gearshift of the tractor engine's running. Always depress the clutch pedal fully before moving the lever.

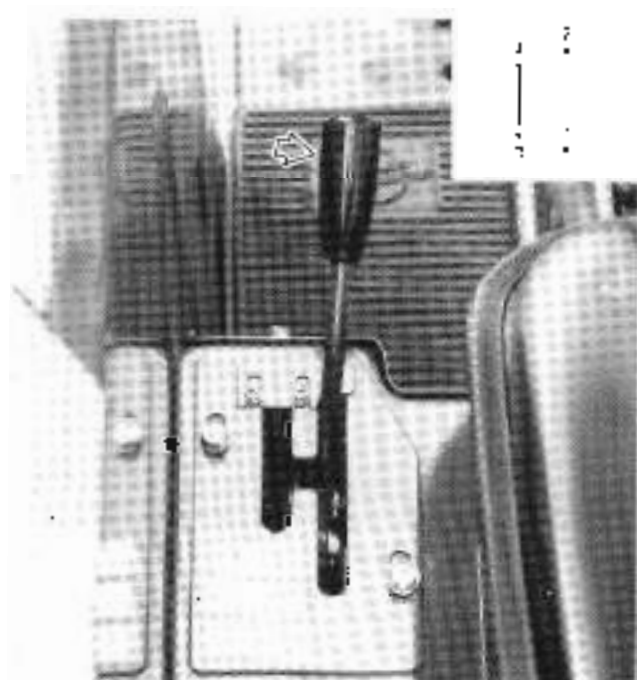


Figure 12 PTO Control

## HYDRAULIC LIFT SYSTEM CONTROLS

### HYDRAULIC LIFT CONTROL LEVERS

The hydraulic lift control levers are shown in Figure 12. The levers are located in the right-hand side of the tractor's main control panel. To raise the lift arms, pull the lever upward. To lower the lift arms, push the lever downward. The adjustable stop is provided for setting the lever at any position in the desired draft control range as well as for no draft load. The lift arms are raised by a draft control when the lift is pulled up by a self-aligning draft control. The lift arms are lowered by draft control when the lift is pulled up by a self-aligning draft control. The lift arms are lowered by draft control when the lift is pulled up by a self-aligning draft control.

### FLOW CONTROL VALVE

The flow control valve is shown in Figure 14. To adjust the flow, the flow control valve will decrease the flow to the end of the lower links, and increase the flow to the end of the upper links. Refer to "FLOW CONTROL" page 17 for additional information on operating the flow control valve.

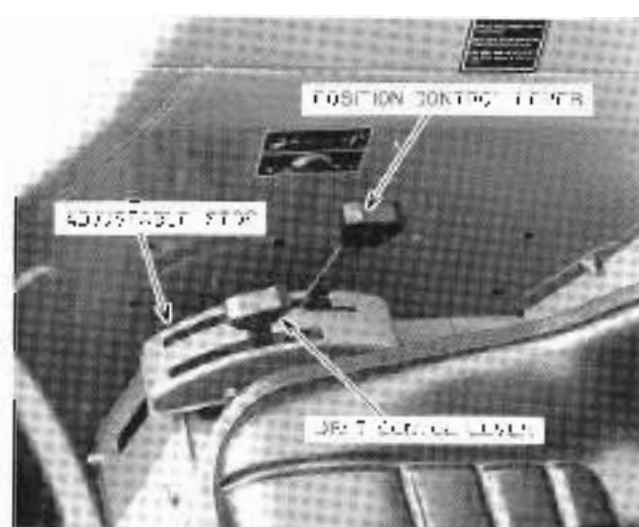


Figure 13 Hydraulic Lift System Control - Draft and Position Control

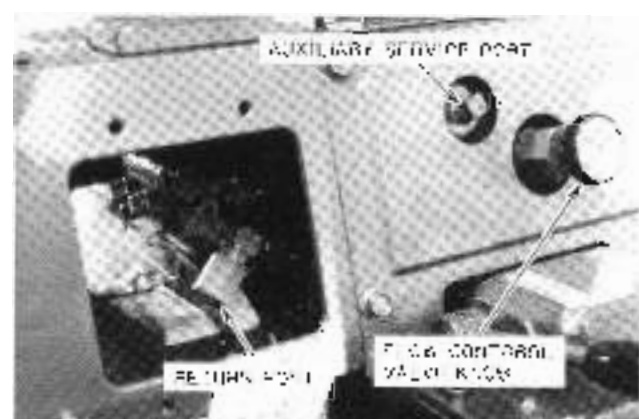


Figure 14 Hydraulic Flow Control Valve and Auxiliary Service Ports

**IMPORTANT:** The hydraulic flow control valve cannot be adjusted if the valve is at the top of the quadrant when raising the tractor's lift arms. The lever should be positioned in the water valve when raising hydraulic oil pressure out of the auxiliary service port for repairs to or installation of cylinders, motors, etc.

### AUXILIARY SERVICE PORT

When using the tractor with a hydraulic lift, the auxiliary service port is used to adjust the flow of hydraulic oil to the lift arms. To adjust the flow, the flow control valve will decrease the flow to the end of the lower links, and increase the flow to the end of the upper links. Refer to "FLOW CONTROL" page 17 for additional information on operating the flow control valve.

## OPERATION

### BREAK-IN PROCEDURES

Your SHIBAOURA tractor will break in on the first 100 hours of operation. If given careful care during the 100-hour break-in period, during the first 50 hours of operation:

1. Avoid "lugging" the engine. Operating in too high a gear under heavy load may cause engine "lugging." "Lugging" is increased when the engine will not respond to throttle increase.
2. Use the lower gear range when pulling heavy loads and avoid constant application of constant engine speeds. You will save fuel and maintain engine wear by starting the tractor at a rate for a particular operation. During the break-in period, start with a light load and light engine speed, and gradually
3. Avoid prolonged operation at either high or low engine speeds when a load on the engine.
4. Check the maintenance frequently and see the radiator and oil recommendations to their recommended levels. Daily checks include:
  - Engine oil level
  - Fan belt tension

### STARTING THE ENGINE

1. Set the main charge level and P.T. (starting) valve at the neutral. Do not set the hydraulic level at the "OPERATING" position.
2. Pull the clutch lever fully.
3. Turn the key switch to the "ON" position. (The tractor is provided with a 10.5 AMPER HOUR BATTERY.) This tractor is provided with a 10.5 AMPER HOUR BATTERY. By turning the key to the "ON" position, the indicator lamp lights and then goes out about 5 seconds later. (If the indicator lamp stays on with the key in "ON" position.)
4. Press the clutch pedal fully.
5. Turn the key switch to the "START" position, and when the starting motor cranks and the tractor starts, then release the handle of the key and the key returns automatically to "ON" position.
6. Push the throttle lever forward, return the clutch pedal to forward up the pedal for 5 to 10 minutes at the idling speed.

#### SD5000T, SD5040T

Never fail to warm up the engine for 5 to 10 minutes at the idling speeds.

Warming up is not required while the engine is warm.



Figure 15 Starter Switch

**IMPORTANT:** The engine is not started even when the key switch is turned, if the clutch pedal is not depressed fully.

When the pedal is depressed fully, the safety switch is activated, electricity flows to the starter and the engine is started.

If the engine fails to start, repeat it 2 to 3 times about 30 minutes later.

While the engine is working, never turn the key to the "START" position.

To avoid the key at the "ON" position while the engine is working and "OFF" when it stops, the key is not used a second.

For a full description of the use of the key, see page 10 of the manual of SD5000T.

### STARTING THE TRACTOR WITH JUMPER CABLES

If it is necessary to use jumper cables to start the engine, proceed with the following instructions:

Connect one end of the jumper cable to the tractor battery positive (+) terminal and run over to the auxiliary battery positive (+) terminal. Connect one end of the other cable to the auxiliary battery negative (-) terminal, and the other end to the tractor battery ground strap. Follow the starting procedures after the jumper cables are connected.

After the engine and tractor are started, disconnect the cables in reverse order of the connecting procedure. This will help protect the alternator from damage due to excessive load changes.

**NOTE:** Exposed battery polarity will damage the voltage regulator and alternator.



**CAUTION:** Exposed battery polarity will damage the voltage regulator and alternator. Do not touch the battery terminals with your hands or tools.

- Wear eye and ear protection.
- Keep hands and feet dry.
- Always make adequate ventilation while charging or using the battery.
- Follow the battery manufacturer's instructions which are shown on the battery.

## STOPPING THE ENGINE

### SD4300, SD4340

Push the hand throttle fully forward and pull the throttle stop knob (Figure 3-14) rearward to stop the engine. Shift into the parking gear (Figure 15) to the "OFF" position.

### SD5000T, SD5040T

Push the hand throttle fully forward past the position to stop the engine, then turn the stop knob (Figure 15) to the "OFF" position.

Never fail to warm the engine at idling speeds for 5 to 10 minutes.

**IMPORTANT:** Always return the starter switch to the "OFF" position after the engine stops. This allows the warning lights to remain on, warning the battery is too charge.

## OPERATING THE TRANSMISSION, FOUR-WHEEL DRIVE AND PTO

The transmission operates through the use of a clutch pedal, a main shaft lever, and a range shift lever (Figure 16). It illustrates the pedal and lever positions.

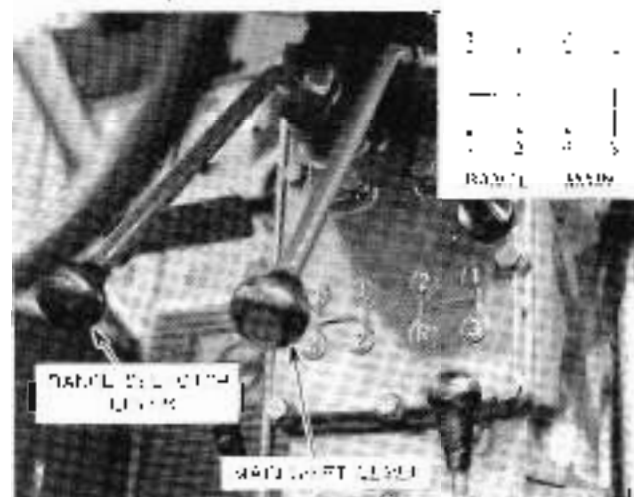


Figure 16 — Transmission Controls and Shift Pattern

Ground speeds for the vehicle (gear ratios) can be found on page 47. The next table shows the combination of main shaft lever and range shift lever positions to obtain the 12 forward and 12 reverse gears.

SPEED	RANGE	MAIN
	1	1
2		2
3		3
4	2	4
5		5
6		6
7	3	1
8		2
9		3
10	4	1
11		2
12		3
13	1	6
14	2	13
15	3	1
16	4	2

Speed range combinations

When in motion, always depress the clutch pedal fully and bring the tractor to a complete stop before moving a shift lever. Do not attempt to change gears while the tractor is in motion.

**NOTE:** Avoid using the clutch pedal as a "brake." This will cause the clutch to wear prematurely. This will also cause wear damage to the clutch components.

To change main and gear ratio to another combination:

1. Depress the clutch pedal manually.
2. Bring the tractor to a complete stop.
3. Shift the lever down to gear the desired main.

The four-wheel drive is engaged and disengaged through the use of the lever on the top right-hand front of the rear axle housing (Figure 17).

To engage the four-wheel drive, depress the clutch pedal fully and move the lever down to full position. To disengage, move the lever down to full.



**CAUTION:** Do not use the four-wheel drive lever as a foot rest.

## OPERATION

**IMPORTANT:** The front wheel of a tractor is not designed to absorb a full load. It requires wheel load to be on base soil, wet, or very soft dirt, or on slopes. For normal operation on firm soil, hard surfaces and rolling terrain, the front wheel should be disengaged. To disengage front wheel drive, refer to Fuel Attachment.

### POWER TAKE-OFF (PTO)

PTO speeds for the various gear ranges can be found on page 19. Each tractor PTO shaft is designed to match the rated PTO speeds.

The tractor and PTO are mated through a set shown in Figure 12. For manufacturer PTO and equipment operation, as described in *Owner's Manual*, "POWER TAKE-OFF (PTO) ATTACH".

**IMPORTANT:** Use one hand only to operate a PTO shield and cap.

### PTO SHIELD AND CAP

The PTO shield (see Figure 12) is a standard component. The shield must always be used with both hands and pulled up fully at all times.

The PTO cap should always be installed when the PTO is not in use.

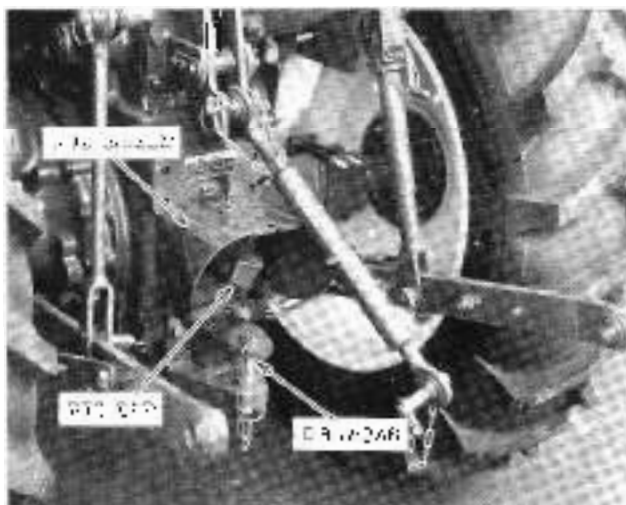


Figure 12 PTO Shield and Cap

### POWER TAKE-OFF OPERATION

1. Stop the tractor on the parking brake, reduce the PTO clutch cap and attach the tractor to a PTO driven implement. Make sure the equipment driver shaft is properly aligned and locked to the tractor PTO drive shaft and that the PTO shield is installed on the tractor.

**CAUTION:** Do not use the tractor for a purpose other than that for which it was designed. Do not use the tractor to tow a trailer or to pull a trailer or implement. PTO is for use and to be used as described in the operator's manual.



- Always use a full hand grip on the lever and move the lever slowly and smoothly away from the neutral PTO position.
  - Set parking brake.
  - Disengage the PTO with the PTO clutch lever. (Figure 12) to the cap to the shield, using a the implement.
  - Shut off the tractor engine.
  - Use the PTO shield cap to cover the PTO shaft.
2. When the PTO shaft is connected with position, start the engine. If the use of any type of equipment, it will leave the equipment to make sure proper clearance is kept.
  3. With the tractor at a normal, forward, forward speed, shift weight forward to fully engage the PTO by moving the PTO control lever (Figure 12) to the desired operating range.



**CAUTION:** Do not use the tractor for a purpose other than that for which it was designed. Do not use the tractor to tow a trailer or to pull a trailer or implement. PTO is for use and to be used as described in the operator's manual.

4. Once the PTO driven equipment for proper operation by properly releasing the clutch pedal and increasing engine rpm.
5. After being sure that the equipment is operating properly, release the clutch pedal and shift to the desired operating gear, engage the PTO clutch lever to start the PTO and watch the meter.
6. Disengage the PTO with the PTO clutch lever when making sharp turns and with loaded equipment in the forward position.
7. Disconnect the PTO shaft when the tractor PTO shaft is being towed on highways or for any great distance.
8. Reinstall the PTO shaft cap with the PTO shield.



equipment is disassembled from the tractor or when the PTO is not being used.

## TOWING THE TRACTOR

To tow your tractor, place the transmission in high gear or neutral. Do not exceed 20 mph. Do not tow your tractor to start it.

If the tractor is in a muddy or wet surface, use a tire choker to hold the tractor at a speed no more than 10 mph.



**CAUTION:** Do not tow a tractor, if it will not operate on its own, over a distance of more than 1000 feet. A tractor towed more than 1000 feet should be started by the tractor operator.

## OPERATING THE DIFFERENTIAL LOCK

The differential lock is located on the rear of the tractor located on the right side of the rear wheel. When engaged, Figure 18, locking the pedals forces both tires to spin at the same rate, together, providing the wheel that is rotating is independently of the other. The lock should be used to provide additional traction on the poorer wheel. However, avoid driving in deep mud or snow.

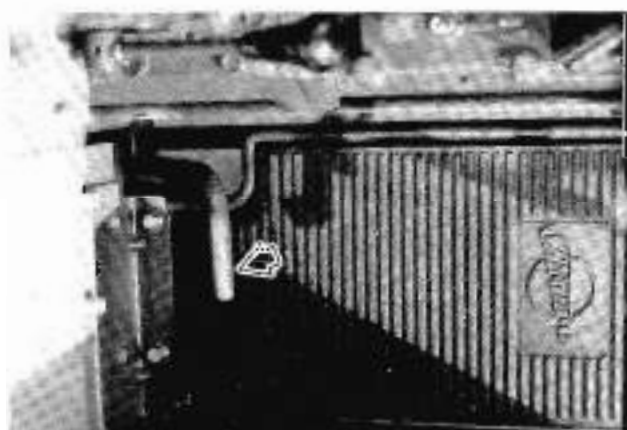


Figure 18 – Differential Lock Pedal

Do not engage the differential lock when driving the tractor on the highway or other paved road is above 20 mph.



**CAUTION:** Do not engage differential lock while driving during normal operation. Do not engage differential lock while driving on a paved road.

To operate the differential lock, depress and hold down the pedal if the lock is positively engaged. It is best to engage the differential lock when the tractor is turning slowly to minimize shock loads to the drive line. The wheel on the high speed, or on ice, reduce angle pedal to disengage the lock, or average may occur. The differential lock is released by releasing the pedal.

**NOTE:** In some cases, the tractor may remain engaged after the pedal is released. This may occur when the rotation of both rear wheels is equal to the other. If one tire is slipping, the lock may be engaged by force of two wheels.

- Do not use the engine to pull a tractor during the application of the differential lock.
- Do not use the engine to pull a tractor during the application of the differential lock.

## OPERATING THE HYDRAULIC LIFT SYSTEM

The hydraulic lift system consists of a pump, control, and return valve and plate for a full capacity of tractor lift equipment and a full range of lift. The system generates 1800 psi and lift height up to 10 feet. When the tractor is in the lift position, the tractor will be in the lift position.



**CAUTION:** Do not use the lift system to lift a load that is not designed for lifting.



## OPERATION

### POSITION CONTROL

When operating in position control, there is a direct relationship between the position of the control lever in the operator's seat and the position of the equipment. The lever must be raised to change the position of the equipment relative to the surface. The system will automatically maintain the position of the equipment.

For the control procedure, accurate control of the equipment requires adjustment of the operator above the ground surface. The operator makes necessary adjustments to the machine's position when using a blade or a mulching system in level position.

**IMPORTANT:** When working in the position control mode, an operator must be sure that the draft control lever is pulled down to the rest.

### DRAFT CONTROL

When working in draft control, the draft control lever is used to adjust the draft load. Once the lever is positioned, the hydraulic lift system will automatically adjust the draft of the equipment to maintain a set level on the blade. The draft control is very sensitive. The hydraulic system will automatically adjust the draft to maintain a set level. The position of the upper link draft control system is used to adjust the draft.

**Upper Link Compression Loads:** As the equipment is pulled through the soil, the draft caused by soil resistance tends to rotate the equipment upward around the lower link hinge point. This draft creates upward force on the blade and forces the upper link. When the ground resistance causes the draft to increase, the compression force on the upper link will also increase accordingly. This increase in upper link compression signals the hydraulic system through the draft control lever to lower the draft. The draft control lever is used to adjust the draft.

**Upper Link Tension Loads:** When working with long, heavy equipment in light conditions or on low density soil, the soil resistance is not always sufficient to create a compression force on the upper link. At times the soil will be too light for the draft control system to function properly. In these situations, the draft control lever will be used to raise the draft. When working in draft control, the draft control lever is used to adjust the draft.

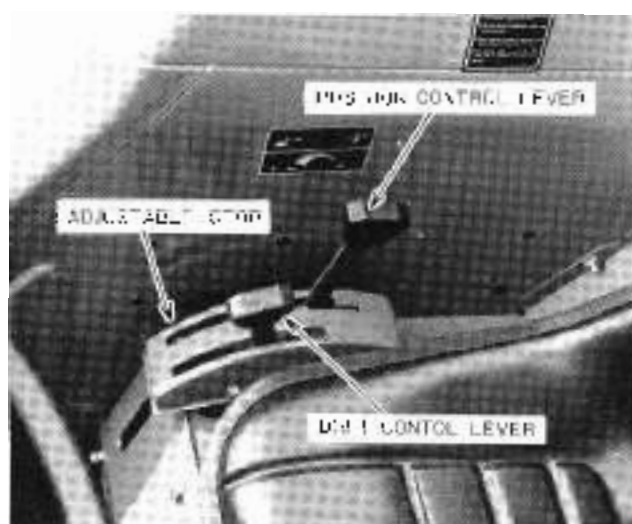


Figure 19 Hydraulic Lift Control Levers

**IMPORTANT:** Before starting work, set the draft control lever at the middle position of the draft guide and the position of the lever at the draft position. Move the lever forward in the lifting depth of the blade and backward if you need to find the best position.

**NOTE:** When working in the draft control, the position control lever is a ball-type lever. It can be moved, but the field conditions vary to a large degree. The draft control lever is used to adjust the draft. The draft control lever is used to adjust the draft. The draft control lever is used to adjust the draft. The draft control lever is used to adjust the draft.

To make a turn while operating in draft control, raise the draft control lever to the draft control lever.



**CAUTION:** The draft control lever is used to adjust the draft. The draft control lever is used to adjust the draft. The draft control lever is used to adjust the draft.

## HYDRAULIC LIFT ROCKER

The Hydraulic Lift Rocker, Figure 20, has two valves for actuating the upper and lower cylinders of the lift. The lift cylinder is located at the rear and at the top of the implement. The lower cylinder is at the front.

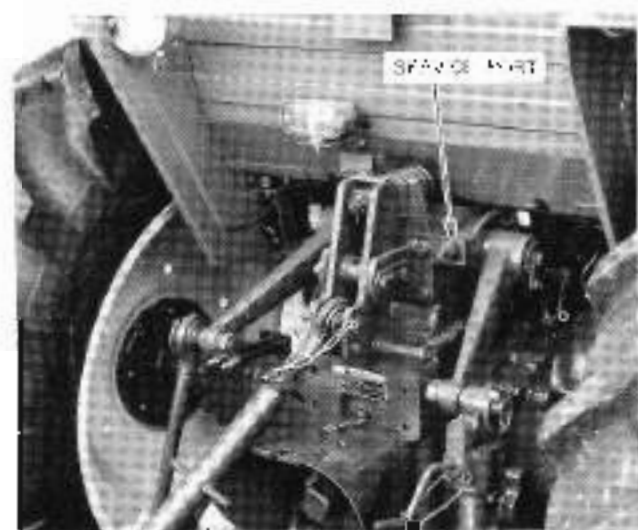


Figure 20 - Hydraulic Lift Rocker

## FLOW CONTROL

The Flow Control Valve, Figure 21, provides an adjustment to regulate the flow of oil from the lift cylinder thus providing a means of slowing the rate of drop of the lower cylinder when the rate of flow enters from the lower cylinder valve is not increased to increase the rate of drop. The "out" function is used to increase the rate of drop.



Figure 21 - Flow Control Valve

**Operation of Front Loader, etc with the Valve on the Implement Side.**

- 1) Set the flow control knob at the hydraulic valve in a position to the front of the implement.
- 2) Turn the flow control knob clockwise fully to lock the hydraulic system.
- 3) Operate the front loader etc with the valve on the implement side.

**Operation with the Valve on the Tractor Side**

- 1) Turn the flow control knob clockwise fully to lock the hydraulic system.
- 2) Use the position control lever for lifting and lowering an implement without shifting.
  - Lower position
    - Lifting - Hydraulic valve in middle
    - Lower - Implement position
    - Lower - Lower than the implement position



**CAUTION:** When using the flow control valve, be sure to set the flow control knob to the "out" position. If the flow control knob is set to the "lock" position, the hydraulic system will be locked and the implement will not operate.

## ATTACHMENT VALVE (OPTIONAL)

Some implements such as a dump trailer which requires lifting and lowering of the dump body or operation of another hydraulic cylinder, use an attachment valve. For implements such as a dump trailer which is connected with the tractor on the tractor side, it is recommended to use the attachment valve for easy operation.

Single-acting and double-acting attachment valves are available. Under proper conditions, the attachment valve:

# OPERATION

## DRIVING THE TRACTOR



**CAUTION:** Do not exceed the maximum rated operating capacity.

- When towing a trailer, do not tow excessively on a hill, over bumps, and around turns.
- Keep the tractor in gear when going down a hill. Use the parking brake and control with caution on backing.
- If the tractor is stuck, have it towed or pushed off the site.
- Always use the shoulder for emergency work. Do not pull the tractor off the edge of the ground and do not back up the edge.
- Keep the lights on when so they do not turn the operation into a dangerous accident.
- Engage the clutch fully when coming out of a ditch, out of a rut, or a steep incline. Disengage the clutch promptly when the front wheels reach the ground.
- Stop the speed before turning. Shift gears as necessary before backing. Back the tractor slowly and straight when backing. Use independent brake both wheels simultaneously when making an emergency stop.
- Never apply the governor to the wheels when turning.
- Use extreme caution when backing through a rut. Use the tractor brakes when pulling heavy loads. Use the parking brake.
- Cover the front end weight once the work is finished. For the maximum rated tire wear, reduce speed and use caution.
- Always use the differential lock when starting or driving the tractor.

## WHEEL TREAD SETTINGS

### FRONT WHEEL TREAD SETTINGS (TWO-WHEEL DRIVE ONLY SD4300 AND SD5000T)

The front wheel tread settings are adjustable from 127 to 149 mm (5.0 to 5.9 in). The best situation is to position the front axle and leveling the front wheels (see Figure 24). The recommended front axle:

1. Set parking brake and raise the front of the tractor with a jack stand to clear the center of the front axle. Set safety stands under each side of tractor frame in both directions.
2. Loosen the tire lock nuts (see Fig. 24).
3. Remove the positioning bolts (Figure 24) and move the axle sensor in or out until the desired setting is obtained. Then install the tire locking bolts.

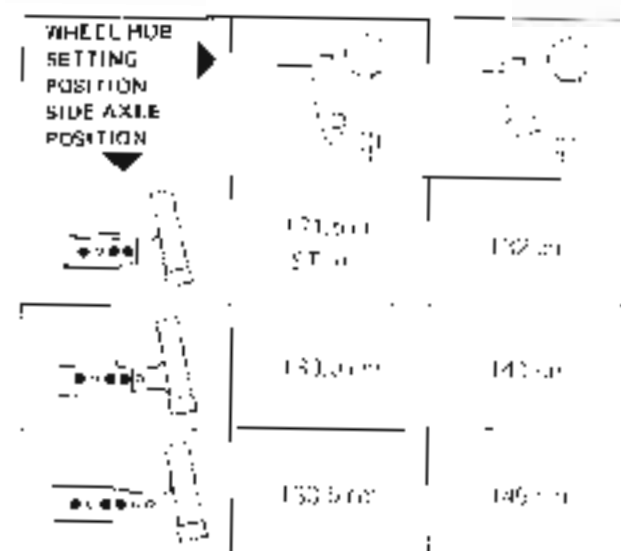
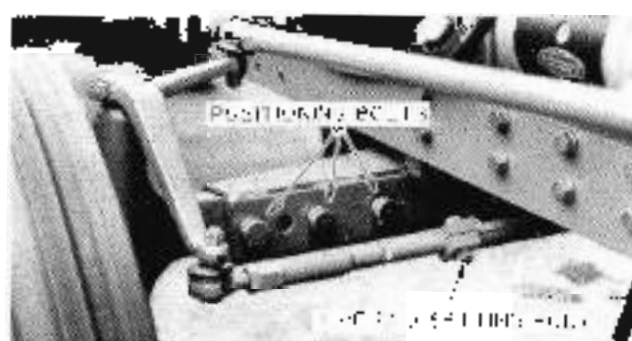


Figure 24 Front Wheel Tread Settings

4. Position the front wheel on the straight ahead beam on the tractor. The tire rod setting bolt.
5. Check the toe-in amount (see page 41).



**CAUTION:** Do not exceed the maximum rated operating capacity. Do not use the tractor for any work that is clear of the intended use.

**NOTE:** After changing the front wheel tread setting, the inner tie rod end bolts should be tightened to 710-810 N·m (516-595 lb-ft) adjusting torque should be increased to 245-270 kg (540-595 lb) torque. The tie rod ends should also be tightened to 420-570 N·m (307-417 lb-ft).

### REAR WHEEL TREAD SETTINGS

The rear wheels on the SD4300 and SD5000T are adjustable from 120 to 153 mm (4.7 to 6.0 in). The best settings are achieved by changing the position of the tire with respect to the wheel disc by changing the position of the

or modified with respect to the axle, and by interchanging the rear rim and disc side to side. Three various options are shown in Figure 25.

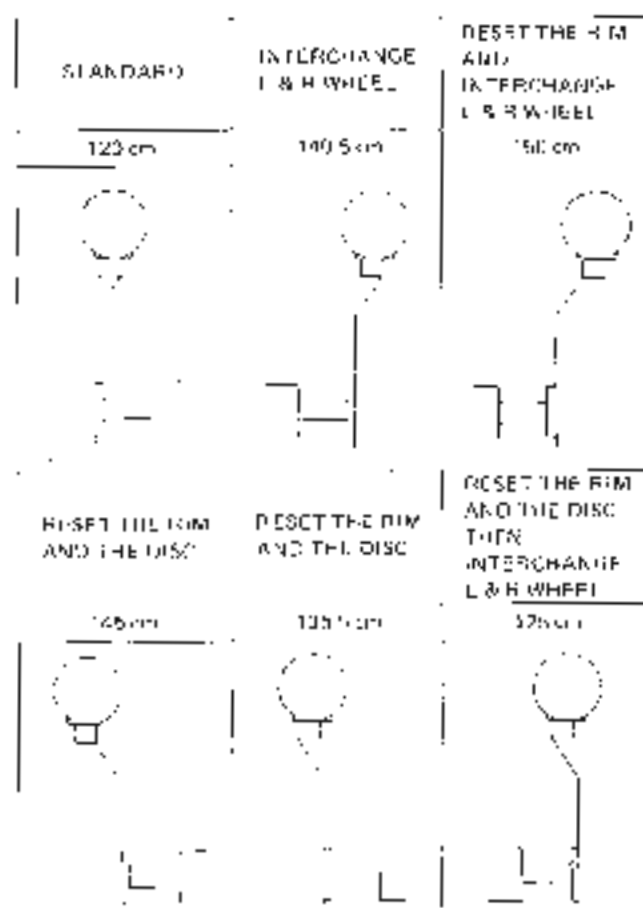


Figure 25 - Rear Wheel Tread Settings

**NOTE:** When changing the rear wheel tread setting, the wheel rim and disc must be turned to 1800 RPM, and the disc axle bolt should be torqued to 1800-2200 ft-lb.

## TRACTOR WEIGHTING

To obtain sufficient traction for maximum performance in heavy work operations and to insure balance for the used equipment, weight should be added to the tractor. The front and rear ballast cast iron weights are shown in Figure 26 through 28 in a disassembled state. Only enough weight should be added to insure good traction and stability.

Adding more weight than is needed results in unnecessary soil compaction and increased fuel consumption and tire

**NOTE:** When adding weights, adhere to the tire load capacities listed in the "Pressure" and the "Tire Inflation Manual" section of the operator's manual.

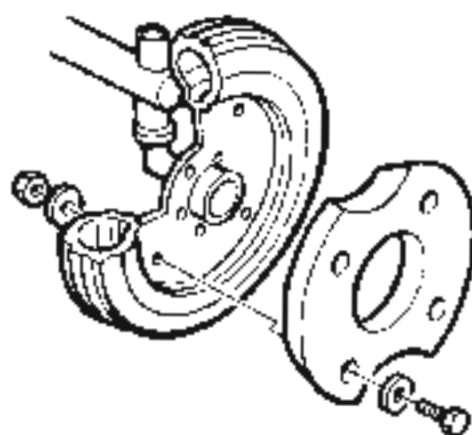


Figure 26 - Front Wheel Weights

## WEIGHTING LIMITATIONS

The weighting limitations that follow are estimates only. They do not imply that the tractor should be weighted to meet the weight shown. Too little or too much weight will affect performance and may result in a tire tread problem.

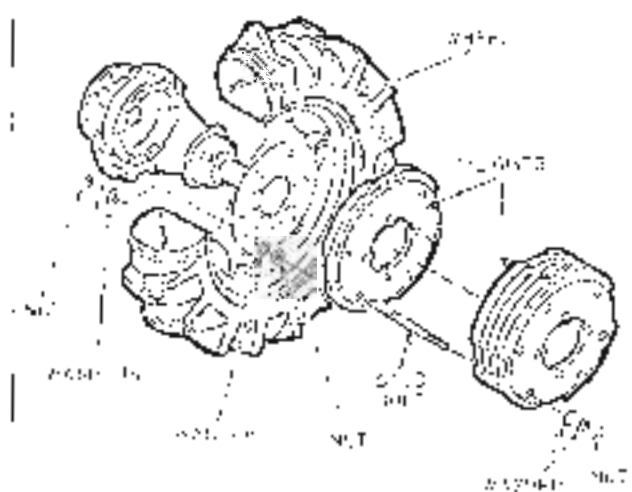


Figure 27 - Rear Wheel Weights

## OPERATION

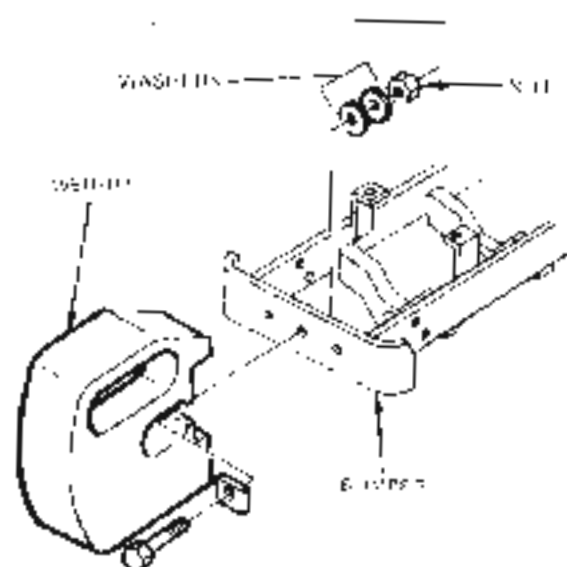


Figure 28 - Front End Weights

### CAST IRON WEIGHTS (OPTIONAL)

Cast iron weights are a factory-installed option or are available separately from your IHI SHIBURA tractor dealer. Weights can be mounted on the front wheels or the front end of the tractor, and on the rear wheels as shown in figure 28 through 29.

### LIQUID BALLAST

It is a common practice to add weight to the tractor by filling the rear tires with liquid. A solution of 50% kerosene and water is commonly recommended due to its low freezing point and good durability (weight per gallon than water). However, avoid using kerosene when the tractor is in use. Because your equipment is required to be fully and properly maintained, this type of contact with IHI SHIBURA Tractor Dealer, Inc. should never be held against IHI. Use liquid ballast only when the tractor is at its highest engine speed at the end of the work day.

### TOTAL VEHICLE WEIGHT

Do not add extra weight to the tractor weight:

Tractor Only - 500 kg

Front Wheels - 60 kg (max. add'l. rear wheel load is also allowed)

Rear Wheels - 120 kg (max. add'l. rear)

### TIRE PRESSURE

Tire pressure should be checked with help of weights on the tractor. The following TIRE INFLATION vs. PERMISSIBLE LOAD chart indicates the tire inflation pressures and shows the maximum load that the tire can carry for a particular pressure. Note that the load capacities decrease as inflation pressure decreases, and also that a special use pressure is recommended for certain applications.

### TIRE INFLATION vs. PERMISSIBLE LOAD

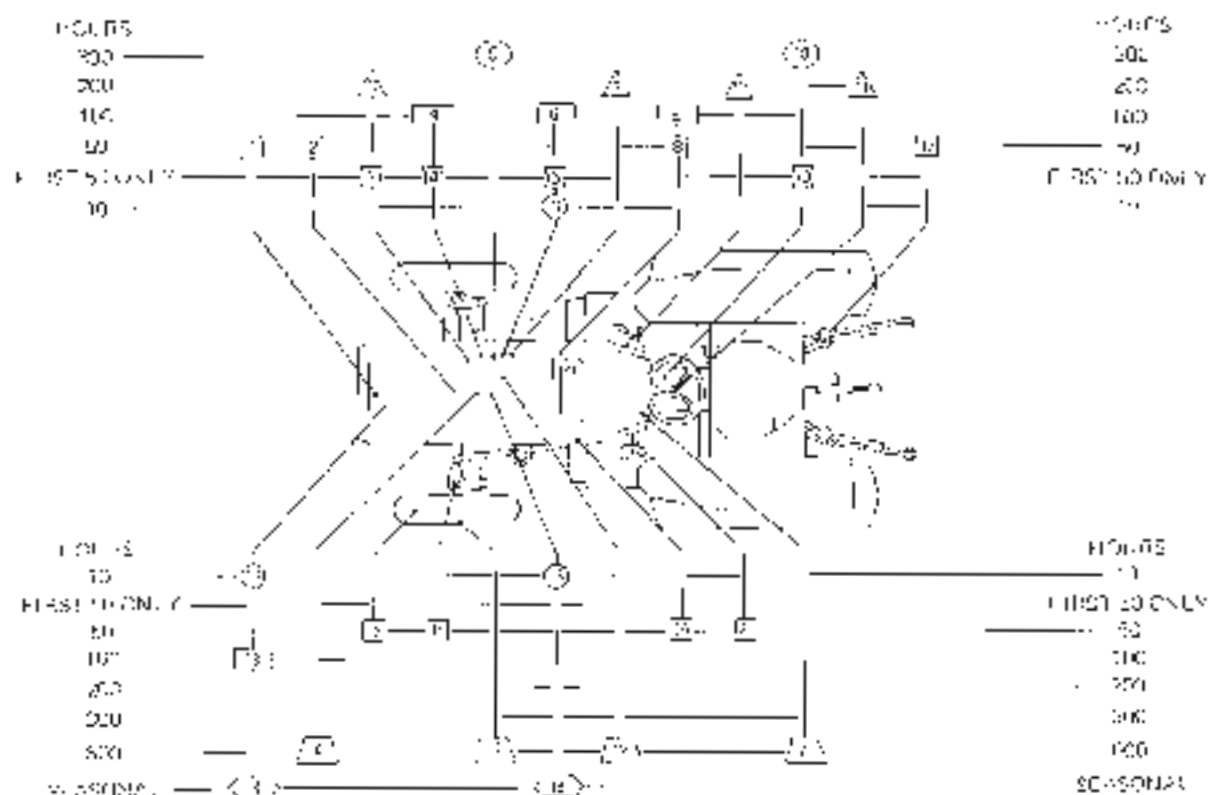
FRONT TIRE SIZE	INFLATION PRESSURES - kg/cm <sup>2</sup>						
	0.8	1.0	1.2	1.4	1.6	1.8	2.0
	MAXIMUM PERMISSIBLE LOAD - kg						
6.00 x 16 F-2 4PR	-	-	315	345	370	395	420
R-18 G1 4PR	300	340	380	415	450	480	-
REAR TIRE SIZE	INFLATION PRESSURES - kg/cm <sup>2</sup>						
	0.8	1.0	1.2	1.4			
	MAXIMUM PERMISSIBLE LOAD - kg						
12.4/11 x 28 R-1 4PR	830	945	-	-			

NOTE: Do not exceed the maximum load listed. Also, do not exceed tire design and use ratings.

# LUBRICATION AND MAINTENANCE

## LUBRICATION AND MAINTENANCE CHART—SD4300 SD5000T

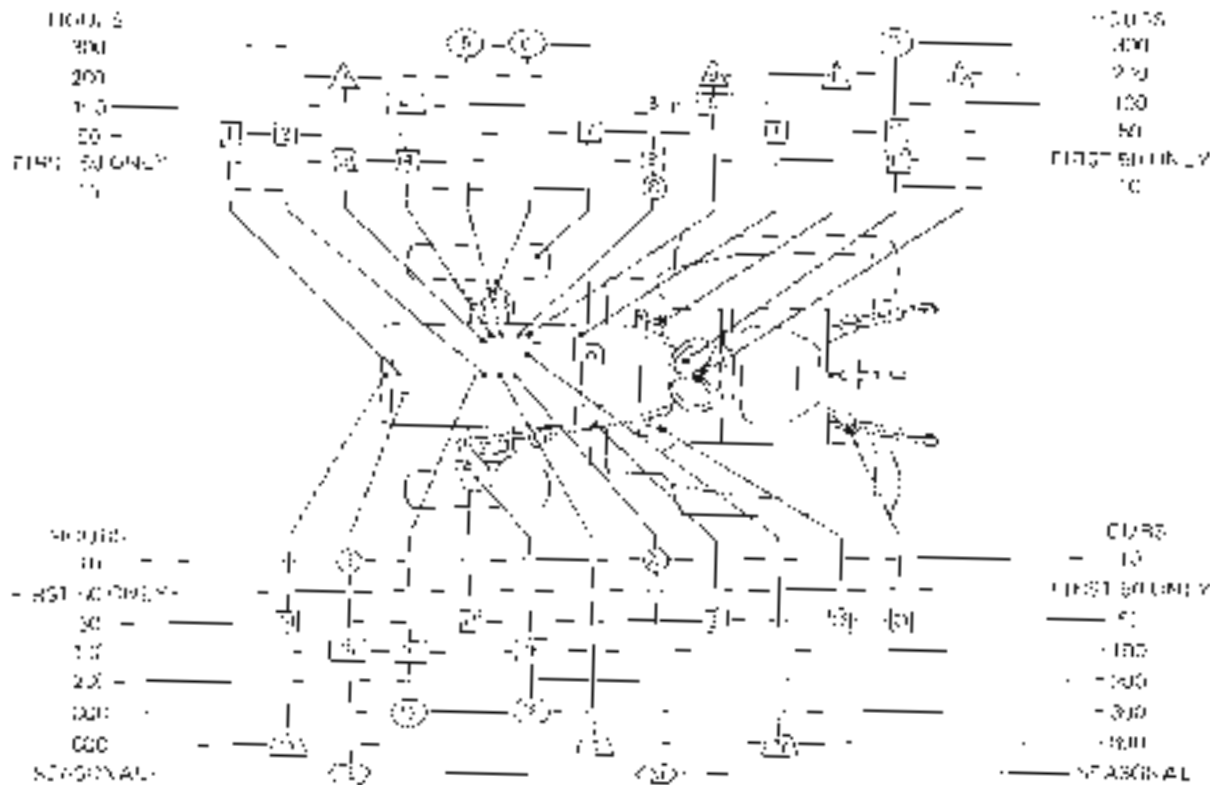
### TWO-WHEEL DRIVE



NO.	LUBRICATION AND MAINTENANCE ITEMS	CHECK INTERVALS				SERVICE INTERVALS	LUBRICATION AND MAINTENANCE ITEMS	CHECK		SERVICE INTERVALS
		1	2	3	4			QUALITY	QUANTITY	
5	Engine Oil Level	x				Every 100 Hours	1	x		Every 100 Hours
6	Engine Oil Filter	x				Every 200 Hours	1	x		Every 200 Hours
7	Oil Change Interval	x				Every 200 Hours	1	x		Every 200 Hours
8	Engine Oil	x				Every 200 Hours	1	x		Every 200 Hours
9	Transmission and Rear Axle Oil	x				Every 200 Hours	1	x		Every 200 Hours
10	Hydraulic Oil Level	x				Every 200 Hours	1	x		Every 200 Hours
11	Hydraulic Oil Filter	x				Every 200 Hours	1	x		Every 200 Hours
12	Hydraulic Oil	x				Every 200 Hours	1	x		Every 200 Hours
13	Brake Oil Level	x				Every 200 Hours	1	x		Every 200 Hours
14	Brake Oil	x				Every 200 Hours	1	x		Every 200 Hours
15	Brake Pedal	x				Every 200 Hours	1	x		Every 200 Hours
16	Brake Linings	x				Every 200 Hours	1	x		Every 200 Hours
17	Brake Shoes	x				Every 200 Hours	1	x		Every 200 Hours
18	Brake Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
19	Brake Lines	x				Every 200 Hours	1	x		Every 200 Hours
20	Steering Locks	x				Every 200 Hours	1	x		Every 200 Hours
21	Steering Knocks	x				Every 200 Hours	1	x		Every 200 Hours
22	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
23	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
24	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
25	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
26	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
27	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
28	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
29	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
30	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
31	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
32	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
33	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
34	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
35	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
36	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
37	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
38	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
39	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
40	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
41	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
42	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
43	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
44	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
45	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
46	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
47	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
48	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
49	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
50	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
51	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
52	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
53	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
54	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
55	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
56	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
57	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
58	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
59	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
60	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
61	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
62	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
63	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
64	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
65	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
66	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
67	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
68	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
69	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
70	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
71	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
72	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
73	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
74	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
75	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
76	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
77	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
78	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
79	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
80	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
81	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
82	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
83	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
84	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
85	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
86	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
87	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
88	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
89	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
90	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
91	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
92	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
93	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
94	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours
95	Steering Bearings	x				Every 200 Hours	1	x		Every 200 Hours
96	Steering Hubs	x				Every 200 Hours	1	x		Every 200 Hours
97	Steering Knives	x				Every 200 Hours	1	x		Every 200 Hours
98	Steering Cylinders	x				Every 200 Hours	1	x		Every 200 Hours
99	Steering Lines	x				Every 200 Hours	1	x		Every 200 Hours
100	Steering Shafts	x				Every 200 Hours	1	x		Every 200 Hours

# LUBRICATION AND MAINTENANCE

## LUBRICATION AND MAINTENANCE CHART—SD4340 SD5040T FOUR-WHEEL DRIVE



LUBRICATION AND MAINTENANCE CHART			LUBRICATION AND MAINTENANCE CHART			SERVICE INTERVALS		
NO.	DESCRIPTION	UNIT	NO.	DESCRIPTION	UNIT	NO.	DESCRIPTION	UNIT
1	Engine Oil Level	✓	10	Fuel Filter	✓	1	Engine Oil	Hours
2	Engine Compartment	✓	8	Engine Oil	✓	2	Air Cleaner	Hours
3	Front Axle Drive Shaft	✓	11	Front Oil Filter	✓	3	Front Oil Filter	Hours
4	Front Axle Drive Shaft	✓	16	Front Oil Filter	✓	4	Front Oil Filter	Hours
5	Front Axle Drive Shaft	✓	18	Front Oil Filter	✓	5	Front Oil Filter	Hours
6	Front Axle Drive Shaft	✓	4	Front Oil Filter	✓	6	Front Oil Filter	Hours
7	Front Axle Drive Shaft	✓	9	Engine Oil Filter	✓	7	Engine Oil Filter	Hours
8	Front Axle Drive Shaft	✓	5	Engine Oil Filter	✓	8	Engine Oil Filter	Hours
9	Front Axle Drive Shaft	✓	11	Brakes	✓	9	Brakes	Hours
10	Front Axle Drive Shaft	✓	13	Steering Gear Oil	✓	10	Steering Gear Oil	Hours
11	Front Axle Drive Shaft	✓	5	Engine Oil Filter	✓	11	Engine Oil Filter	Hours
12	Front Axle Drive Shaft	✓	12	Front Oil Filter	✓	12	Front Oil Filter	Hours
13	Front Axle Drive Shaft	✓	10	Front Oil Filter	✓	13	Front Oil Filter	Hours
14	Front Axle Drive Shaft	✓	18	Front Oil Filter	✓	14	Front Oil Filter	Hours
15	Front Axle Drive Shaft	✓	6	Front Oil Filter	✓	15	Front Oil Filter	Hours
16	Front Axle Drive Shaft	✓	14	Power Steering Oil	✓	16	Power Steering Oil	Hours
17	Front Axle Drive Shaft	✓	20	Front Oil Filter	✓	17	Front Oil Filter	Hours
18	Front Axle Drive Shaft	✓	18	Front Oil Filter	✓	18	Front Oil Filter	Hours
19	Front Axle Drive Shaft	✓	20	Front Oil Filter	✓	19	Front Oil Filter	Hours
20	Front Axle Drive Shaft	✓	15	Front Oil Filter	✓	20	Front Oil Filter	Hours
21	Front Axle Drive Shaft	✓	15	Front Oil Filter	✓	21	Front Oil Filter	Hours
22	Front Axle Drive Shaft	✓	15	Front Oil Filter	✓	22	Front Oil Filter	Hours
23	Front Axle Drive Shaft	✓	15	Front Oil Filter	✓	23	Front Oil Filter	Hours
24	Front Axle Drive Shaft	✓	15	Front Oil Filter	✓	24	Front Oil Filter	Hours
25	Front Axle Drive Shaft	✓	15	Front Oil Filter	✓	25	Front Oil Filter	Hours
26	Front Axle Drive Shaft	✓	15	Front Oil Filter	✓	26	Front Oil Filter	Hours

## FUEL AND LUBRICANTS

### DIESEL FUEL

Types of fuel to use

When operating in the temperature zone  $+5^{\circ}\text{C}$  ( $41^{\circ}\text{F}$ ), use diesel fuel No. 1 (No. 2) with a minimum cetane rating of 45 (49) and a viscosity of 1.5 (1.9)  $\text{cSt}$  ( $100^{\circ}\text{F}$ ). Use diesel fuel No. 1 (No. 2) with a minimum cetane rating of 45.

Fuel represents a major portion of your total operating costs. Therefore, it is important to buy fuel of quality. Do not let the price of fuel prevent you from buying diesel fuel. The fuel that you use will be from one of the two categories: the normal commercial fuel or the special tractor fuel system.

**NOTE:** Use only fuel designed for diesel engine. Some heating fuels contain kerosene, diesel oil, and other petroleum products which may damage your tractor fuel system.

### FUEL STORAGE

Especially small clearance exist between the individual elements of the fuel injection pump and the fuel delivery elements of the injectors. Therefore, it is of vital importance that particles not be taken or made to the fuel as they flow through the system (see Figure 33).

Diesel fuel should be stored in clean, dry, airtight containers. Do not store diesel fuel in a gasoline tank, as the two materials mixed with the fuel will form a very sticky emulsion that may clog the fuel pump, injection pump, and injectors.

The most satisfactory arrangement is a built-in storage system with a tank and pump (Figure 34) or a gravity fuel-injection diesel fuel tank through the tractor tank. To be filled, a vent in the tank should have a pressure of 10 to 15 psi. Always vent the tank slowly from the side of vent. Whenever the tank is filled, always use the vent filter to remove dirt. A drain valve should be installed at the lowest point in the tank and the vent and addition can be arranged for fuel to

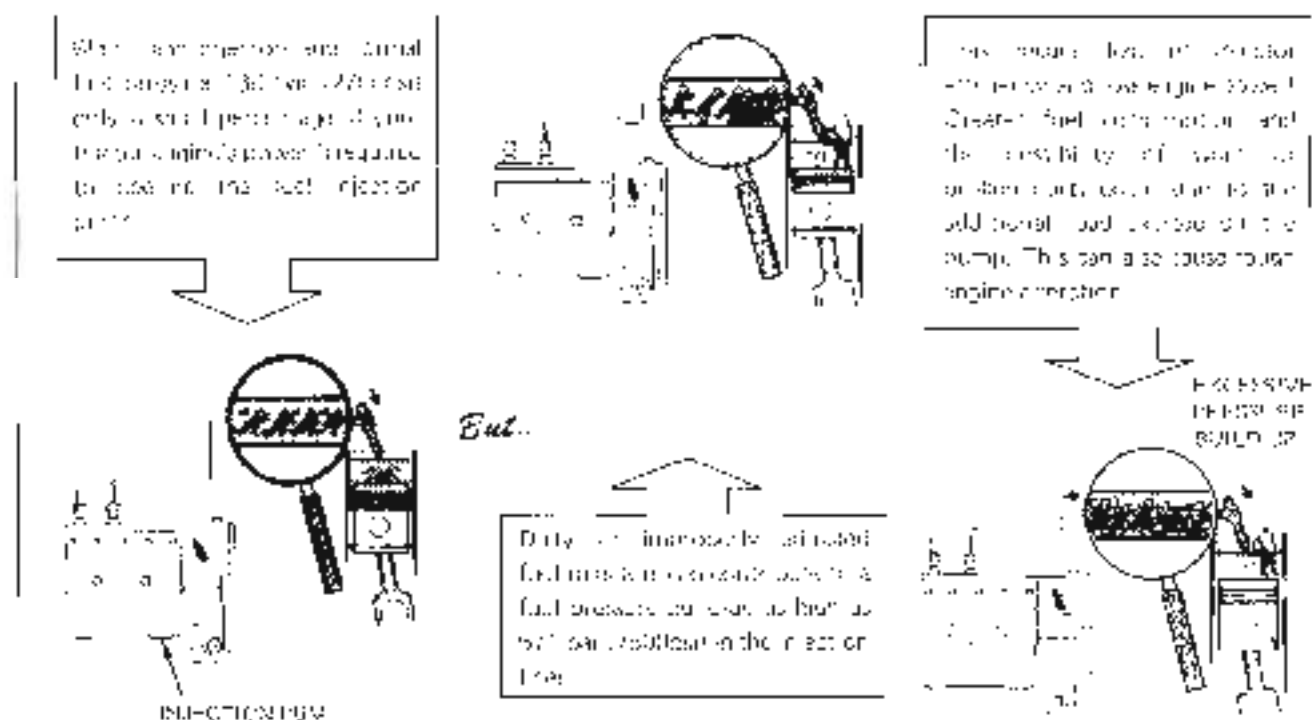
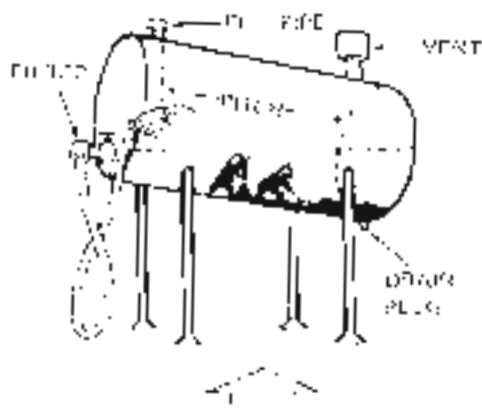


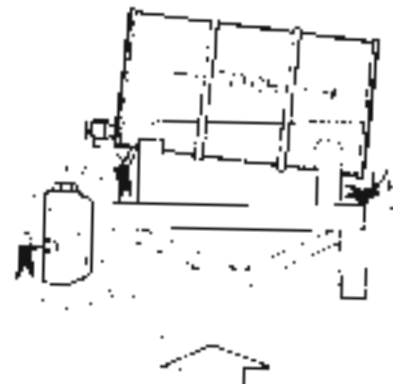
Figure 33 — Dirty Fuel Injectors



# LUBRICATION AND MAINTENANCE



Install vent discharge container above the ground and set the tank so the discharge pipe is on the highest end of the tank. Provide a drain plug at the lowest point of the tank so that moisture and sludge can be drained off periodically. Install a suitable filter on the discharge outlet of the storage container.



When the drain, main valve, or vent pipe for engine is open, the fuel is not added on main stand. The drain system should clean and tested before each engine.

Figure 34 - Diesel Fuel Storage

4. Fuel tanks (120) should be used, as shown in Figure 34. Use the correct type for use and keep the fuel as clean as possible to insure proper operation.

If bulk storage is used, store the tanks in a shaded area. Keep them in a clean, dry place. The tanks should be stored with a fuel cap on them and a vent pipe which should be supported so it does not extend 10 to 15 feet in any way from the tank.

After use, stop the tank at the end of the pipe, and clean the fuel when it may have been spilled. Diesel fuel will not use a water separator which will collect dust and dirt.

## REFUELING THE TRACTOR

If there is no filter on the outlet of the storage tank, filter the fuel through a 100-mesh screen or finer when filling the tractor fuel tank. Keep the tractor tank as clean as possible to insure proper operation.

**NOTE:** It is a good practice to fill the tractor fuel tank with fuel just at the end of each day, so that will reduce overnight condensation. Also, any fuel which may have been spilled should be removed.

## LUBRICANTS

Type of Lubricants:

Engine Oil .....  
 Service Grade Oil .....

SAE 10W-30 or 15W-40 for winter and summer

SAE 10W-30 or 15W-40 for winter and summer

SAE 20W for winter use 0°C (32°F) to

SAE 30W for summer use above 10°C (50°F)

**NOTE:** When using winter fuels with a winter grade index (WGI) designation or with an API classification of CC may be used instead of a CD oil, but the oil change interval must be reduced to 50 hours and the filter must be changed every 100 hours. When the sulfur content of a fuel is greater than 1.0% and the WGI is 10 or more, the use of a winter grade oil must be reduced to 50 hours and the filter must be changed every 100 hours. The use of a fuel with a sulfur content above 1.0% is not recommended.

Tractor Oil .....  
 Rear Axle .....  
 Hydraulic System .....  
 Power Steering Oil .....  
 Final Drive Gear Oil .....  
 and All Lubricating Oil ..... N.I.C. No. 2

*Hydro 88*

## LUBRICANT STORAGE

**SIL BACUDA Tractor** is equipped with lubricant filters to protect against dirt and water damage caused by fuel which may enter under some adverse conditions. Precautions must, however, be taken by you to prevent lubricant contamination by dirt or water during storage. Observe the notes on this section and based on the assumption that only a normal amount of fuel is used.

Bars of lubricant should be kept under cover, preferably in a clean, dry place, and should be clearly marked to indicate the lubricant which they contain.

When a barrel is kept in an exposed position, it should be placed so that any moisture that runs down from the barrel is away from the head of the handle when completing the fuel transfer. In the event of a leak more than a few drops being which has been removed, it should be kept in a protected position.

## FUEL AND LUBRICANT SERVICE PROCEDURES

### ENGINE

**Checking Oil Levels:** Check the engine oil level daily or every 24 hours.

1. With the tractor standing level, and with the engine at least 5 minutes off time, check the oil level with the dipstick, Figure 35.

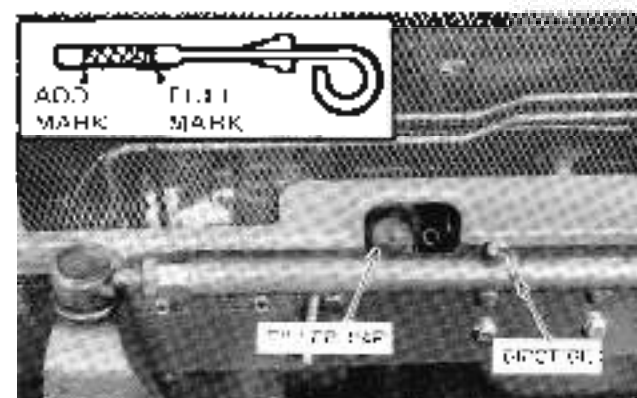


Figure 35 - Engine Oil Level Dipstick and Filler Cap

2. If the oil level is low, remove the filler cap and add oil to the correct level. Be sure to wipe the oil seal between the cap and the dipstick. Be careful not to overfill.

3. Tighten the oil filler cap.

**Changing Oil and Filter:** Change the engine oil every 100 hours and the engine oil filter every 200 hours.

**NOTE:** Some tractors require oil and filter changes and are provided with the tractor. It is assumed that extended periods of time in maximum speed, power and speed. Under such conditions, or other types of operation, more operating conditions, the engine oil should be changed 70 hours instead of the 100 at 100 hours intervals.

4. With the engine off, but at normal operating temperature, drain the engine oil by removing the drain plug, Figure 36, located on the pan after the oil has drained and cleaned out.

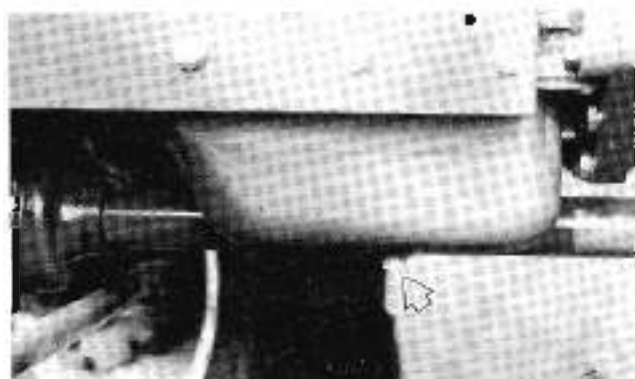


Figure 36 - Engine Oil Drain Plug

2. Remove the oil filter, Figure 37, catching the used oil in a clean metal or plastic pan below the filter. Discard the filter.
3. Coat the gasket on the new filter with a thin film of oil. Screw the filter into place until the gasket contacts its mating surface, then turn the filter approximately 3/4 of a turn to lock. Do not over-tighten.
4. Add new oil of the type specified, page 24. Start the engine and check the filter for leaks after adding the oil to the correct level in at the proper level.

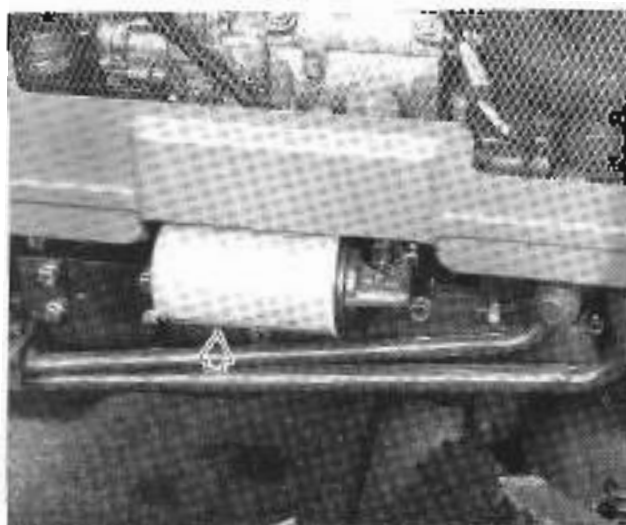


Figure 37 - Engine Oil Filter

## THE FUEL INJECTION PUMP

Apply the fuel injection pump adjustment procedure every 100 hours. (Form 72)

Remove the fuel injection and add new engine oil as specified on page 24.

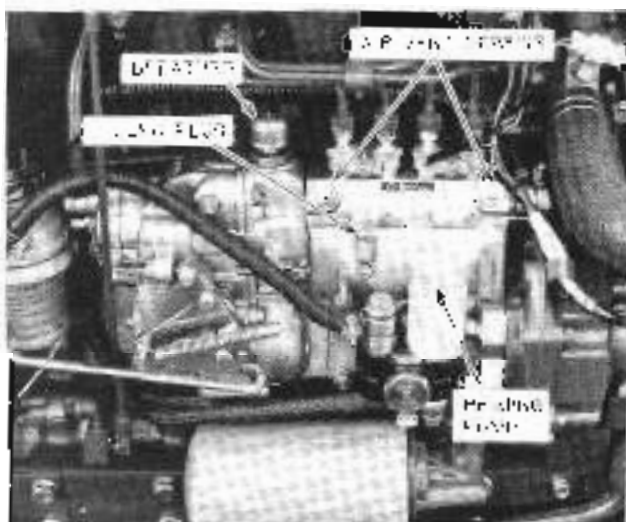


Figure 38 - Fuel Injection Pump

## FUEL FILTER

**Draining the Filter:** Drain the diesel fuel filter every condensation is present.

**Cleaning the Fuel Filter:** Clean the fuel filter every 100 hours. Use a can of clean diesel fuel.

1. Drain the fuel filter every 100 hours. Use a clean can to receive the fuel. (Form 72)

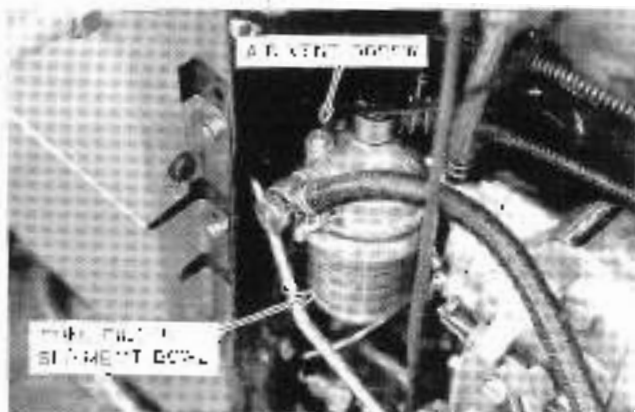


Figure 39 - Fuel Filter

2. Clean the filter element and fuel filter with a clean fuel to remove water and dirt.

3. Seal the fuel filter element and fuel filter with clean and press the system air. (Form 72) (Form 72) (Form 72)

**Changing the Fuel Filter:** Change the diesel fuel filter every 100 hours. (Form 72)

1. Remove the fuel filter. (Form 72)
2. Install the new fuel filter. (Form 72)
3. Tighten the fuel filter. (Form 72)
4. Seal the fuel filter. (Form 72)

## BLEEDING THE FUEL SYSTEM

Bleed the fuel system if:

- after a new element,
- a new fuel filter has been installed,
- the fuel filter has been changed,
- the fuel lines leading to or from the fuel filter have been disconnected,
- the injection pump has been serviced and reinstalled.

Bleed the fuel system as follows:

1. Detach the fuel injection filter element.
2. Loosen the fuel filter air vent screw, Figure 39, on top of the filter. Bleed the filter by activating the priming pump plunger, Figure 38, and sucking fuel from the filter, then tighten the air vent screw.
3. Loosen the injection pump air vent screws, Figure 38, and activate the priming pump plunger to draw air-free fuel from the screws, then tighten the screws.
4. Put the hand throttle to the high position. Run the engine for one to two minutes to bleed the high pressure fuel line.

## AIR CLEANER ELEMENT AND DUST PAN

Remove the dust pan and clean the inside of it with sand, dust, etc. that goes the way of the air into the element. Blow the air from the inside of the element outwards. It should be blown to remove all air from the top corner. If the element is stained remarkably, immerse it in neutral sodium solution about 15 minutes, shake it several times, wash in clean water, dry and dry in the sun to open the completely.

Clean the element every 100 hours or once a year or after cleaning the filter.

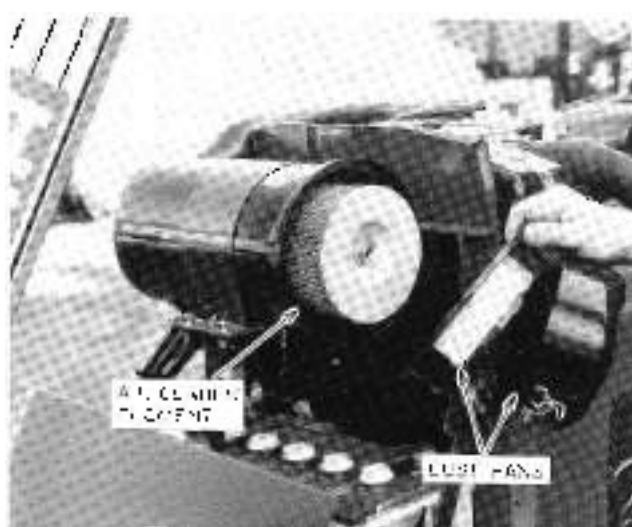


Figure 40 - Air Cleaner

**IMPORTANT** Install the dust pan with the top directed upward. Improper installation allows sand, dirt etc. to attach to the element directly without accumulating in the dust pan, reducing the service life of the element remarkably.

## TRANSMISSION, REAR AXLE AND HYDRAULIC SYSTEM

**Checking Oil Level:** Check the oil level every 50 hours.

1. With the tractor standing level and the engine off, check the oil level with the dipstick, Figure 41.
2. The oil level should be between the marks and the lower side of the dipstick. If low, add new oil of the type specified through the dipstick until the oil reaches 24. Do not fill beyond the mark on the stick, as the transmission will be overfilled.
3. Insert the filler plug and tighten it.

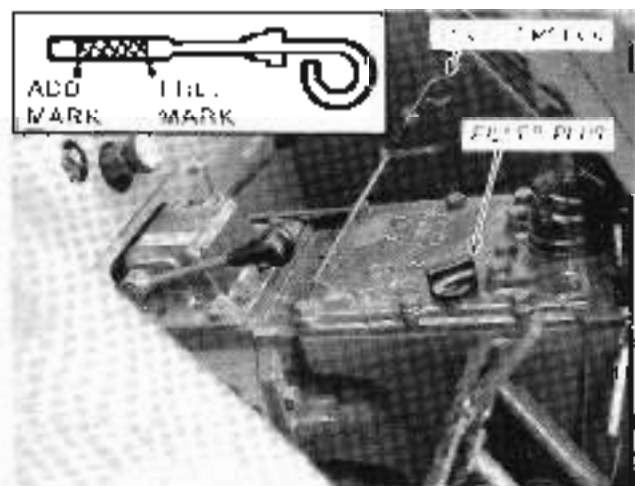


Figure 41 Transmission, Rear Axle and Hydraulic System Oil Level Dipstick and Filler Plug

**Cleaning Oil:** Change the oil every 300 hours.

1. To perform an oil change operation, park the tractor on level ground by leveling the transmission and rear axle drums, Figure 42. A 50 lb. (23 kg) sheet of absorbent material is placed over the plugs when the oil has drained. Discard it later.
2. Remove the filler plug, Figure 41, and fill with new oil of the type specified on page 24.
3. The transmission is filled to the correct level when the oil level is between the marks and the lower end of the dipstick. Do not fill beyond the mark on the stick, as the transmission will be overfilled.
4. Insert the dipstick and fill it once.

**IMPORTANT:** Always buy 1 quart (946 ml) or up for the transmission, rear axle and hydraulic system, special attention is required to a good brand of oil.

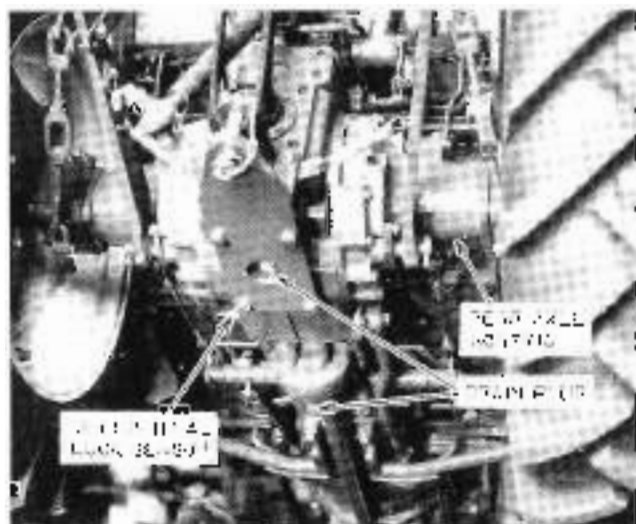


Figure 42 Transmission, Rear Axle Oil Drain Plugs and Filter

## HYDRAULIC SYSTEM FILTER

Check operation of the filter after 50 hours. Clean or replace it, if necessary. Clean the filter every 100 hours and change it every 300 hours or service. The filter is located by the pump on the front left side of the engine.

1. The new 100 micron hydraulic filter housing is shown in Figure 43.

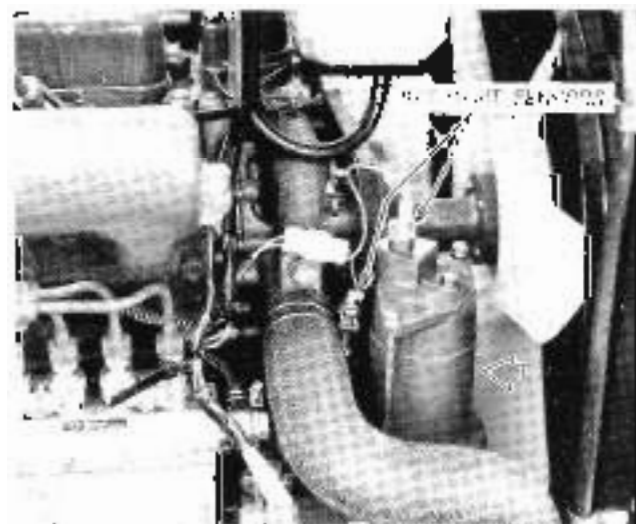


Figure 43 - Hydraulic System Filter

2. Replace filter for each time engine.
3. Remove oil from oil filter element, filter, drain housing and remove element.
4. Push filter seat in on a new filter. Use hand to press down on top.

**IMPORTANT:** Check filter for correct gasket and washer seat for the filter type and if necessary:

5. Remove housing and gasket for engine and seal the housing on place with two bolts. Be careful not to over-tighten and warp the housing or gasket. Check filter change for leaks.

## STEERING GEAR HOUSING (TWO-WHEEL DRIVE SD4300, SD5000T)

**Checking Oil Level:** Oil level in the oil level in the steering gear housing every 600 miles.

1. Remove the filler plug.
2. Visually inspect oil level in the housing by turning the oil level to square 45.
3. The oil level should be level with the bottom of the filler neck. If low, add new oil of the type specified, page 34.
4. Install the filler plug in the filler tank.

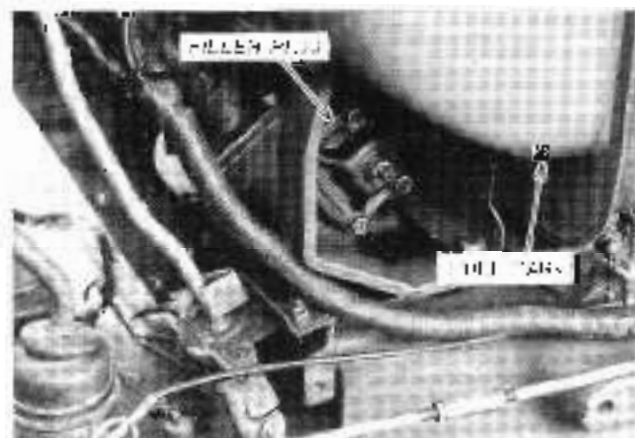


Figure 44 — Steering Gear Housing, Filler Plug

## LUBRICATION FITTINGS

The following points refer to the Lubrication Charts, page 24 to 27, for the lubrication every 500 miles. It is extremely important that the lubrication schedule be made in an order. Refer to page 24 for the type of grease that should be used.

- Steering Knives
- Front wheel axles
- Axle Hubs
- Front axle
- Transmission Drive King Pins (if fitted and required)
- Front wheel

1. Wipe away all old grease and oil from the lubrication fittings. Do not get dirt on bearings or seals. After cleaning, the fittings should be greased as follows:

2. Use a high pressure grease gun to force in the new grease until the grease comes from the assembly being lubricated.
3. Wipe away any excess grease.

## FOUR-WHEEL DRIVE (SD4340, SD5040T)

### Upper King Pins

Inspect the upper king pins, Figure 45, after every 500 miles of operation under normal conditions. If extremely dirty and there is no indication of a leak, add more grease. Use a good quality multipurpose, lithium base grease.

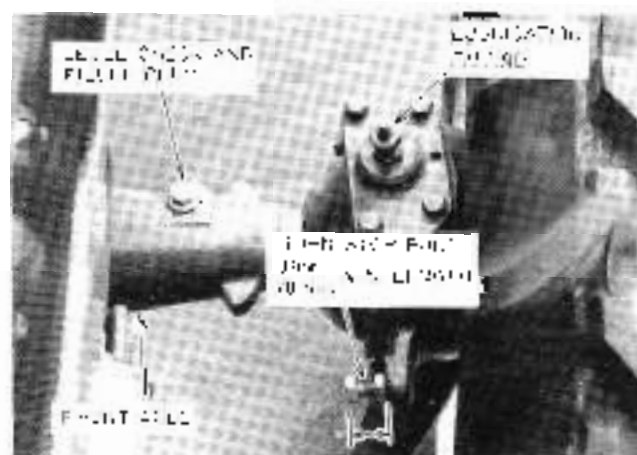


Figure 45 — King Pins Lubrication Points and Front Axle Differential Fill and Level Check Port

## FINAL REDUCTION GEAR CASES

**Checking Oil Level:** Check the oil level in each final reduction gear case after every 50 hours of operation by removing the fill and level plug (Figure 46). The oil level should be level with the bottom of the plug opening.

**Changing Oil:** Drain and flush the reduction gear case after every 200 hours of operation by removing the drain plug (Figure 46). Use only new oil. Use clean and a high quality, extreme pressure gear lubricant with an anti-oxidant additive. Refer to the following chart for recommended viscosity grades.

TEMPERATURE	VISCOSITY GRADE
40°F - 100°F	SAE 68
Over 100°F	SAE 90 or 150

The lubrication and oil change schedule should be checked every 200 hours, by your IHISHIKAWA Dealer.

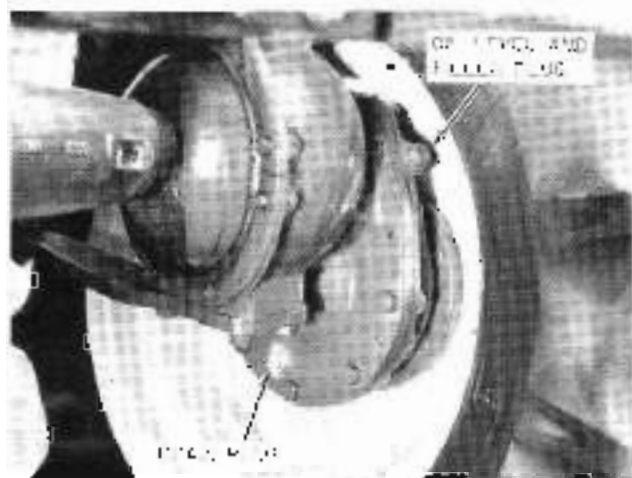


Figure 46 - Final Reduction Gear Case Fill and Drain Plug

## FRONT AXLE DIFFERENTIAL CASE

**Checking Oil Level:** Check the oil level in the front axle differential case every 50 hours. A top cover fill plug (Figure 47) is located on the top edge of the housing. The oil level should be between the marks on the dipstick.

**Changing Oil:** Drain and flush the differential case every 200 hours by removing the drain plug (Figure 47). Fill with a high quality, extreme pressure gear lubricant with an anti-oxidant additive. Refer to the following chart for recommended viscosity grades.

TEMPERATURE	VISCOSITY GRADE
Below 100°F	SAE 68
Over 100°F	SAE 90 or 150

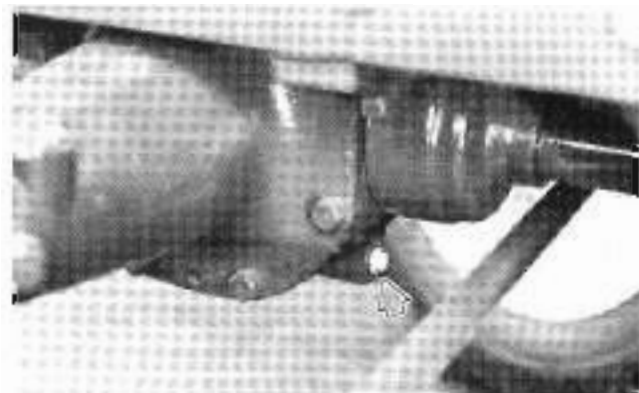


Figure 47 - Front Axle Differential Drain Plug

## POWER STEERING RESERVOIR LUBRICATION AND MAINTENANCE (FOUR-WHEEL DRIVE SD4340, SD5040T)

**Checking Oil Level:** The oil level in the power steering reservoir should be checked every 40 hours. The reservoir is located in the under-chassis battery and the filler plug is located at the front of reservoir. The filler plug is to be removed when the engine is cold.

1. When the engine is started, level the vehicle on the chassis hoist (see location) check the oil level, figure 48.
2. The oil level should be up to the level of the filler plug on the type specified, page 25, and there should be no air in the oil and no water.
3. Start the engine with the vehicle on level ground and allow it to run for 10 minutes at 1500 rpm. Stop the engine and reduce the oil level. Add or as required and repeat step 1.

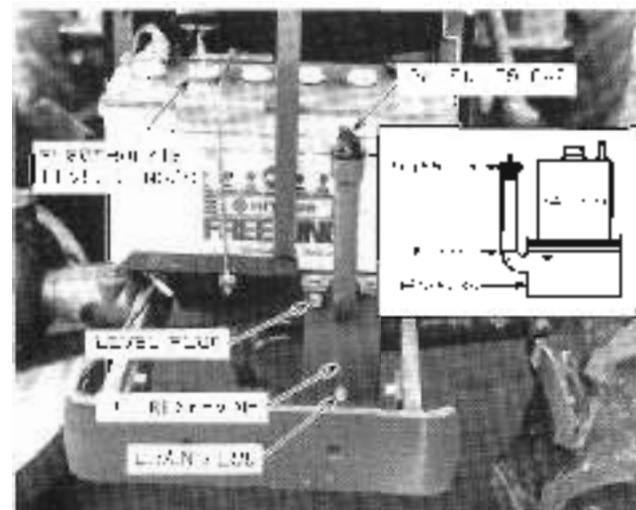


Figure 48 — Power Steering Reservoir and Oil Level

**Changing Oil Filter:** Change the oil filter every 400 hours. The filter is located at the front of reservoir. Figure 49.

1. Turn the oil filter from maintenance.
2. Remove the nut from the cap by loosening the nut with a puller.
3. Remove the three bolts and secure the filter to the reservoir.
4. Remove the filter and install the new filter.
5. Assemble the filter to the reservoir.

**IMPORTANT:** The new filter should be coated with liquid grease when installing filter.

6. Start the engine with the vehicle on the type specified, page 25, until the oil reaches the level of the filler plug.
7. Start the engine and turn the steering wheel from stop to stop several times to circulate the oil through the system.
8. Stop the engine and check the oil level. Add oil as required and repeat step 7.

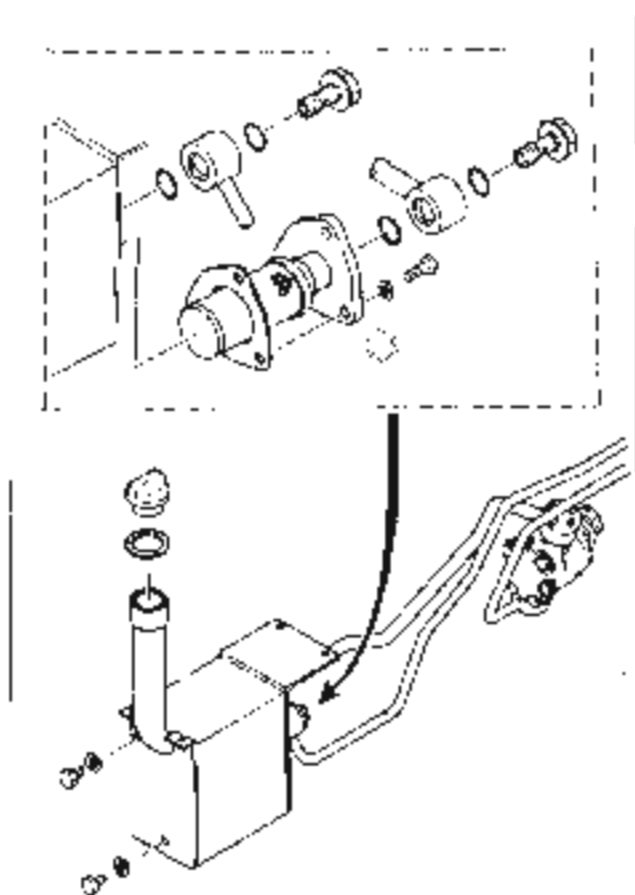


Figure 49 - Power Steering Oil Filter







## LUBRICATION AND MAINTENANCE

**IMPORTANT:** Never run the engine when the cooling system is empty, and do not add cold water or cold antifreeze solution if the engine is hot.

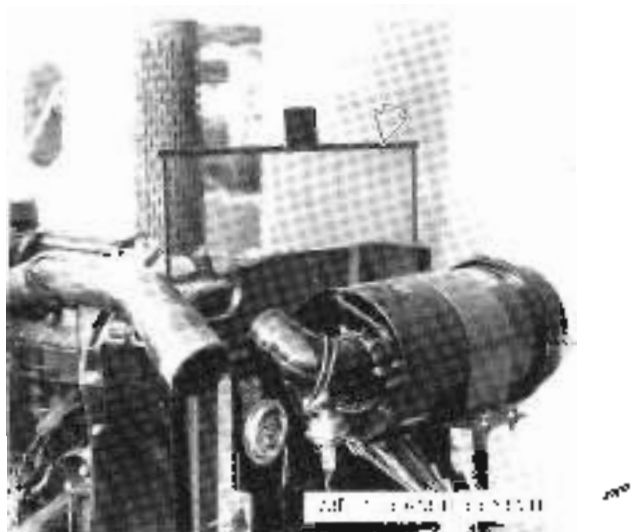


Figure 53 - Radiator Strainer

**Thermostat:** The thermostat is located in the coolant outlet connection in the front of the radiator (Figure 54).

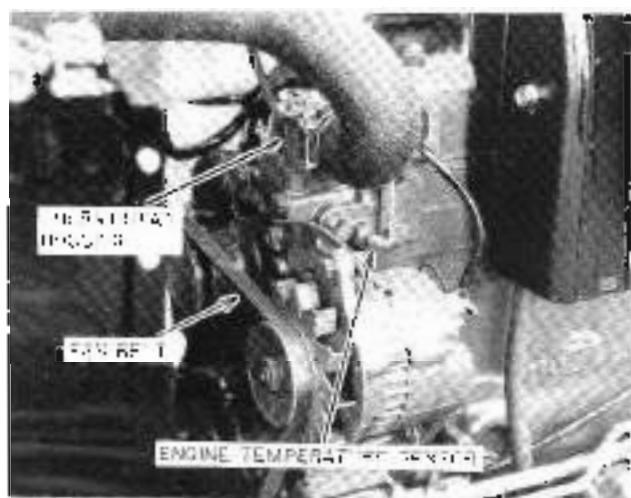


Figure 54 - Thermostat Housing

When the engine is cold, the thermostat, which is a heat sensitive valve, shuts off the flow of coolant to the radiator, allowing the coolant to remain warm. As the coolant begins to flow, the coolant circulates within the engine, and then returns to the radiator to be cooled.

**IMPORTANT:** Do not remove the thermostat in an attempt to reduce the cooling effect, because the engine temperature will rise, resulting in excessive engine wear.

If it is ever necessary to remove the thermostat, do not be tempted to use a towel or the water jacket to dissipate the heat — removing the thermostat will cause the engine to overheat.

**Fan Belt:** A belt drive system is used to drive the engine drive pulley, the fans of the radiator, the pump, the alternator, the generator, the air conditioning compressor, and the fan clutch. The engine mounting bolts of the belt drive system will tighten the alternator tension. The alternator belt will adjust 1/2 to 1/4 inch (12.7 to 25.4 mm) when 9 to 11 kg (20 to 25 pounds) of pressure is applied to the tensioner with a pulley. Check the belt tension and adjust the fan belt every 20 hours. If the belt shows signs of cracking or fraying, inspect and replace.

**Engine Belt Tension:**

1. Turn the alternator mounting bolts (Figure 55).



**CAUTION:** Do not use a screwdriver or other tool to adjust the engine belt tension.

2. Push the alternator away from the engine and tighten the mounting bolts.

3. Check for belt deflection.

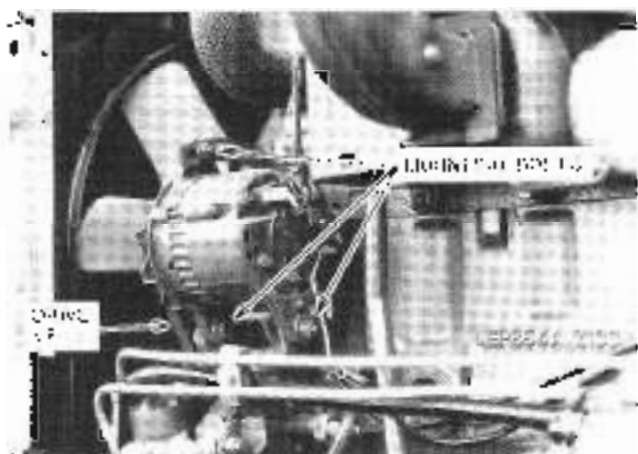


Figure 55 - Alternator Mounting Bolts

## FUEL INJECTOR REMOVAL AND INSTALLATION

The injectors should be cleaned, tested, and adjusted every 500 hours. Do not use any other brand of the injectors supplied. Remove the injectors from the engine only after the engine is cold, 100°F (38°C) (41°F/5°C) (tractor cooler).

Remove the injectors:

1. Connect a hose that leads to the injectors and lines. Disconnect the leak-off line from the injectors (Figure 56).
2. Disconnect the upper and lower fuel lines from the pump and injectors. Loosen the ends of the lines at the injector. Do not use a rag or cloth to prevent the entry of dirt.
3. Remove the fuel air intake pipe and filter as follows: Wash the fuel air intake and filter. If a replacement filter or air cleaner is available, clean the filter and install the new filter.

After the injectors have been removed, install them as follows:

1. Replace the fuel sealing washers and the injector O-rings with new upper sealing washers. Do not reuse the O-rings more than once. Lubricate and tighten the O-rings with 37 kg/cm<sup>2</sup> (58.26 N/cm<sup>2</sup>).

**IMPORTANT:** Do not over-tighten the injectors with. Over-tightening will distort the injectors.

2. Install the injector lines. Do not disconnect the fuel at the injector and install vacuum the fuel system. Use the test fixture at the injection pump to 2.5 kg/cm<sup>2</sup> (24.2 23.3 N/cm<sup>2</sup>).

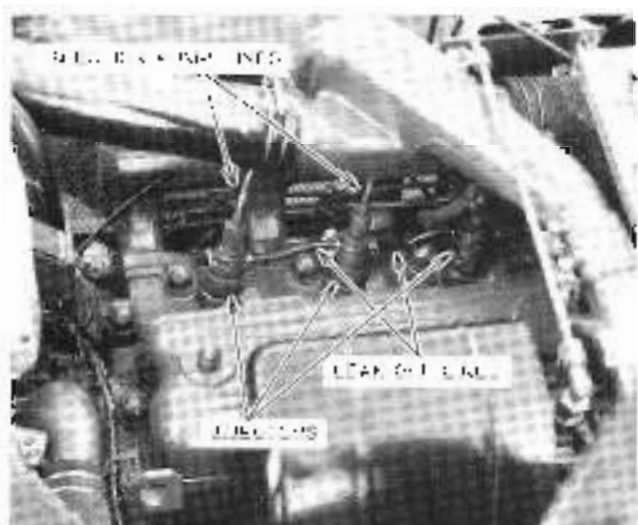


Figure 56 – Fuel Injector Leak-off Lines

4. Tighten the lock nut (Figure 57). Tighten the lock nut to 3.0 kg/cm<sup>2</sup> (30.29 N/cm<sup>2</sup>).
5. Bleed the fuel system. See the section under "Bleed the Fuel System" page 27.

## ENGINE SPEED ADJUSTMENT

The adjustment for maximum (redline) speed is set on the throttle linkage according to the following procedure:

1. Lower the load (Figure 57).
2. Keep the foot pedal raised at the same level as the upper range of used plate.
3. Set the maximum no-load speed to 2820 2870 rpm, depending on the plate.
4. Stop the tractor.

**IMPORTANT:** Do not start the tractor until the throttle cable is removed from the lower of the throttle cable of the foot pedal.

5. Lower the throttle cable. Push the throttle linkage to left. Tighten the lock nut.
6. Loosen the adjuster of the resistance spring.
7. Set the idle speed to 700-800 rpm. Tighten the lock nut.

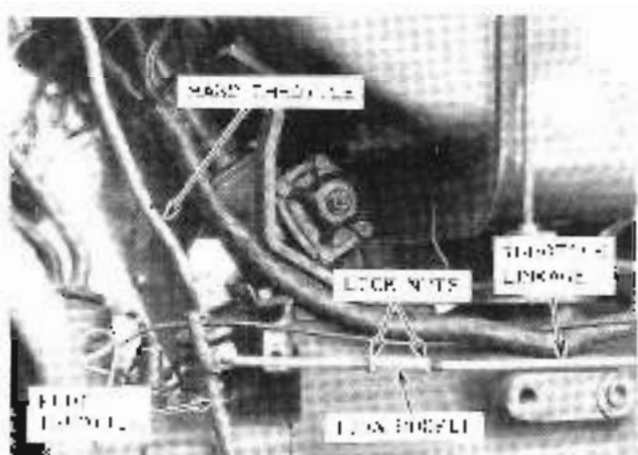


Figure 57 – Throttle Adjustment

## LUBRICATION AND MAINTENANCE

### VALVE CLEARANCE (LASH)

Correct valve clearance is one of the most important factors in good engine performance. Excessive clearance will cause the engine to operate excessively noisy, and insufficient clearance will cause the engine to operate inefficiently. An excessive intake valve clearance will cause a slight loss of engine power.

**Checking and Adjusting Valve Clearance:** Check and adjust the valves every 500 miles. To determine leaks and air stream, leaks should be made with the engine cold.

1. Temporarily disconnect the spark plug.
2. With the engine idling, check the clearance on each valve with a feeler gauge (Figure 52).

The engine should be:

Hotter — 20 in. (1.012 in.)

Colder — 15 in. (1.012 in.)

3. If the clearance is correct on one valve, turn the camshaft one revolution at the pushrod end of the valve to check the clearance on all of the valves while checking for correct clearance with the feeler gauge (fence gauge).
4. If the valve mechanism never uses a new piece of the feeler gauge is damaged (Figure 52). The cover fully valve.

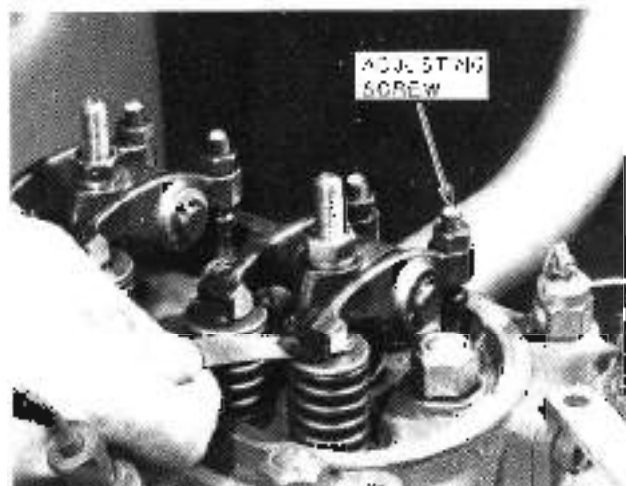


Figure 52 — Checking Valve Clearance

### BATTERY

Keep the battery terminals tight and free of corrosion. An ammonia-fighting substance is common, a good one being the inside of the anti-terminals of the battery. Make sure the solution does not enter the battery. After cleaning, wash the battery with clean water. Apply a small amount of petroleum jelly to the terminals to protect them from corrosion.

In freezing temperatures, the battery may be damaged in a poor state of charge. When a battery is discharged, the electrolyte is weak and may freeze, causing damage to the case. If it becomes necessary to add water, add distilled water to the battery cells using the trade rule for mixing acid with the water with the electrolyte. Cold, clean water is best.

**Checking Electrolyte Level:** Check the electrolyte level in the battery every 500 miles.

**CAUTION:** When the alternator is running, do not use a lead-acid battery charger. The battery will be overcharged, which will cause gas to be produced. This gas is highly explosive and may cause a fire or explosion. Do not use a lead-acid battery charger when the engine is running.



1. Clean the top of the cells, then remove the top cover.
2. If the electrolyte level is low, add distilled water. The level is correct when the liquid is 6/32 inch above the mark.

**NOTE:** Keep the water in a clean, well-labeled container for use.

3. Inspect the vent plug after it has been removed. Make sure it is tight. At lower freezing temperatures, be sure to run the engine for a period of time, after adding water, so the battery will freeze and prevent any water from freezing.

### ALTERNATOR

The alternator (Figure 53) is belt driven from the engine crankshaft pulley. It is important that the pulley does not wear, otherwise the charging rate can be affected. Details of belt adjustment are given on page 54.

Other than electrical work, the only further care required on the alternator is to occasionally inspect the terminals and keep them clean and tight. An alternator will last for one to a second three periodically.

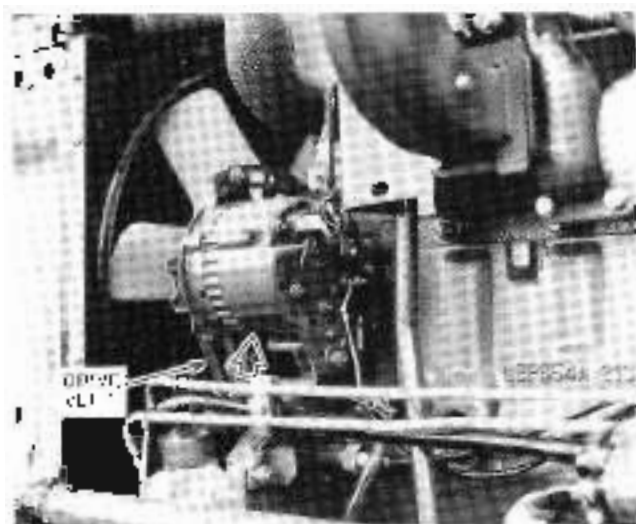


Figure 59 Alternator

When working on or checking the alternator, comply with the following precautions to prevent alternator damage:

- DO NOT touch any electrical wires, than the FLD terminals of the alternator (FLD, FLE).
- DO NOT disconnect the voltage regulator while the alternator is operating.
- DO NOT disconnect the alternator output lead to battery cables while the alternator is operating.
- DO NOT remove the alternator from the machine without first disconnecting the negative (-) battery cable. If the battery cable is removed, disconnect the negative cable first.
- If battery is not installed, MAKE CERTAIN that the positive (+) cable is connected first and that the negative terminal is connected to ground. Reverse polarity will destroy the rectifier diodes in the alternator.

## VOLTAGE REGULATOR

The voltage regulator is provided to automatically control the alternator charging rate. No attempt should be made to adjust the setting of the regulator.

If the charge indicator (with a light indicator) on the alternator is not charged in the battery, check the fan belt and the wiring connections. If it is not working, take and the warning light continues to indicate no charge, consult your HONDA MAINTA Trainer dealer.

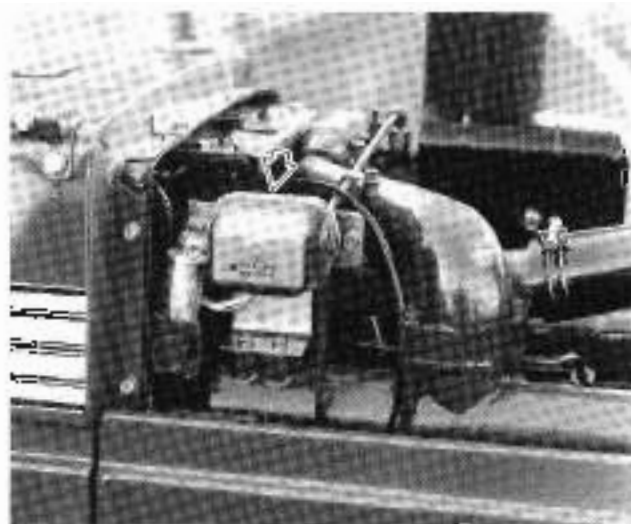


Figure 60 Voltage Regulator

## FUSE BOX

The fuse box is shown in Figure 61. Remove the fuse box cover by removing screws and the plastic fuse cover is easily removed by pulling it off. Fuse 20 AMP and 15A/P fuse are marked in case. Always replace fuses with the specified fuse.

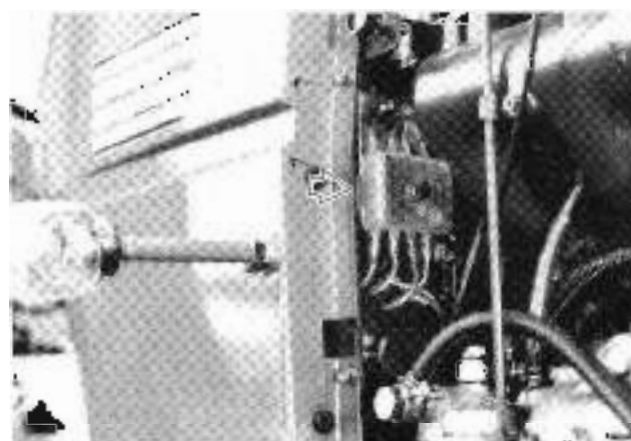


Figure 61 Fuse Box

## HEADLAMPS

Should a headlamp fail, the entire lamp must be replaced.  
To inspect the bulb:

1. Tighten the hood.
2. Remove the headlamp wiring assembly from the top and disconnect wiring assembly, if necessary.
3. Get rubber band back of the lamp wires. (Figure 62)
4. Pull in on spring retainer with one hand, to give room for the other hand.
5. To be sure you do not scratch the glass, use your thumb with caution. The bulb is to be held only by the top one way. Rotate bulb and bulb socket slowly. Do not touch bulb with wire connecting spring retainer.

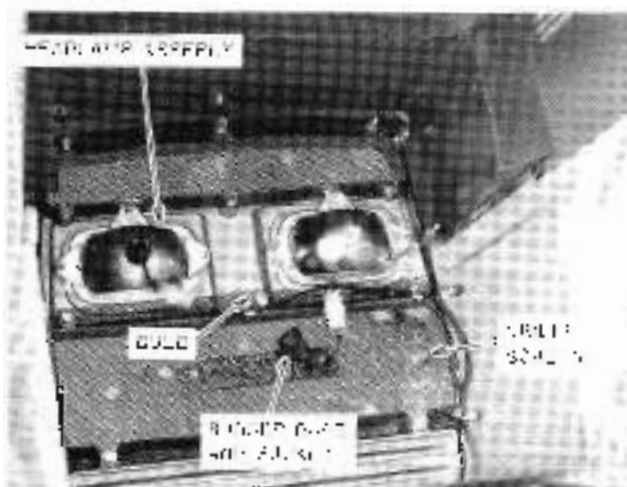


Figure 62 - Headlamp Assembly

## WARNING LIGHTS

When the warning light assembly requires the bulbs, in the following procedure:

1. Undo the three screws securing the cover to the metal and the inner end plate.
2. Remove the cover of the plate at the back of the panel.
3. Pull the lead wire of the wire holding the cover, and then the bulb is taken out.
4. Rotate the black plastic cover of each warning light and turn the lamp counter clockwise to remove it.

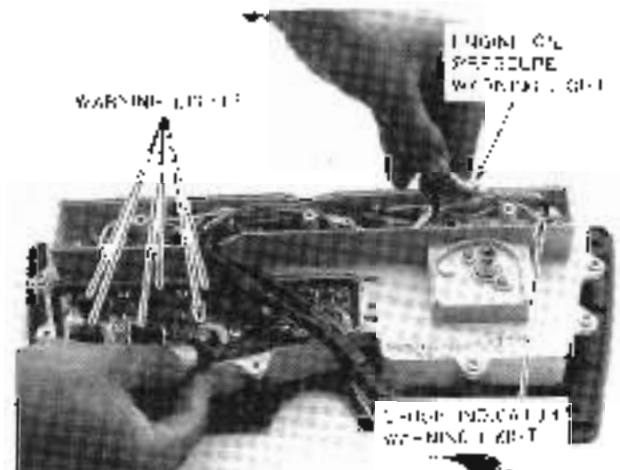


Figure 63 - Changing Bulb of Warning Light

## TURN SIGNAL LAMPS, BRAKE LAMPS and LICENSE LAMP

To replace lamp bulbs:

1. Remove lamp bulb, then remove the bulb.
2. Install a new bulb and reattach the electrical wiring assembly.



## TIRES

Check tire pressure every 50 hours, or weekly. Refer to the "Tire Inflation" section of the "Load" table on page 26 for the correct tire inflation procedure.

**NOTE:** If the tire tread has been exposed to liquid fuel or a spill of tire compound, it should be washed because the combination of fuel and water will cause a possible tire failure.

When tire pressure is low, inspect the tire for damage and wear and replace it if necessary. Repair and overhaul should be done only by a qualified technician.



**CAUTION:** Do not use compressed air to dry your face or clothes. It can cause serious eye or skin injury.

- Use a tire pressure gauge with a tire pressure and pump needle about 1/2 inch above the normal operating pressure of the tire when inflating.
- Do not inflate a tire to a pressure over 2.5 kg/cm<sup>2</sup> (34 psi).
- Do not inflate a tire unless the tire is mounted on the tractor or is secured so that it will not come off the tractor should a tire fail.
- Do not inflate a tire that has been punctured or has a hole in the tread or the tire has been inspected for damage by a qualified person.
- Do not use a tire repair, other over-inflation, or use a device used for tire repair.

## FRONT WHEEL BEARINGS (TWO-WHEEL DRIVE SD4300, SD 5000T)

The front wheels are mounted on the axle splines by inner and outer tapered roller bearings. An oil seal is provided at the inner end of the bearing, and a hubcap at the outer end, to maintain the bearing lubrication and to prevent dirt and water from entering.

Front wheel bearings should be replaced every 500 hours of service.

1. Apply the parking brake to hold the tractor securely.
2. Jack up one of the front axles and remove the hubcap, the outer bearing cap (see Fig. 65). Remove the spacer on the bearing and then the complete wheel assembly.

3. Remove the hub, the spacer, the oil seal from the end of the axle, and the inner bearing from the wheel.
4. Thoroughly clean all parts in a suitable solvent and allow to dry naturally. Do not use compressed air except the bearing caps and roller assemblies for removal of dirt and grease. If the seal of the hubcap assembly is damaged, or if the seal of the hubcap is not satisfactory, check the bearing caps.

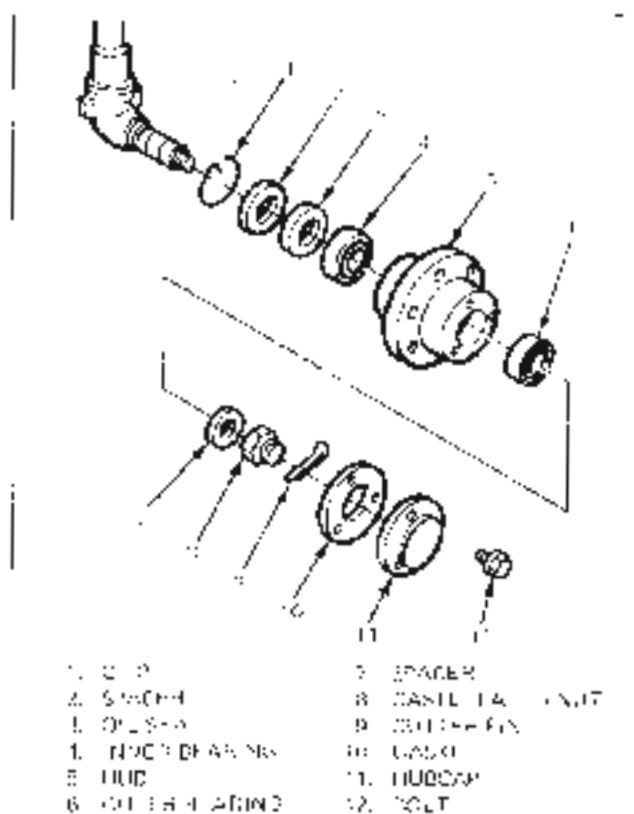


Figure 65. Servicing Front Wheel Bearings (Two-Wheel Drive [SD4300 and SD5000T]).

5. Fit the oil seal and roller assembly with clean jointed grease. Pack approximately 100 cc (3.5 oz) of jointed grease in the space between the bearing caps in the hub, but do not pack the roller bearings. Apply a thin oil coat on the surface of the hub cap.
6. Reinstall the inner bearing, the oil seal and the others in the order of the list.
7. Fit the wheel assembly on the spindle and note the wheel bearing, hubcap, roller, and castor bearing nut. Tighten the nut at the same time turning the wheel until a slight drag is felt. Back off the nut until the wheel just fits on the spindle with the roller on the spindle. Apply a new roller grease, a few washers, then the hubcap.



## STEERING WHEEL FREE PLAY ADJUSTMENT

Excessive wheel play in the direction of rotation does not affect control. An 80 mm (3.15 in) wheel is shown in Figure 66. If the play exceeds the allowed 10 to 30 mm (0.39 to 1.18 in), adjustment is necessary.

1. Make sure all ball lock bolts are tightened properly. If severe wear is apparent, adjust these parts.

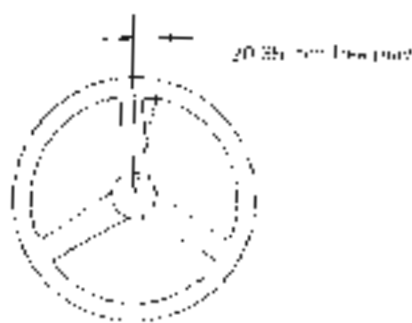


Figure 66

Figure 66 - Steering Wheel Free Play

2. Loosen the adjuster located on the rear side of the steering gear box and turn the adjuster screw, see Figure 67. Turning the screw clockwise will increase the free play while turning it counter-clockwise will decrease the steering wheel free play.
3. Once the adjustment is made, make the adjuster lock nut secure.

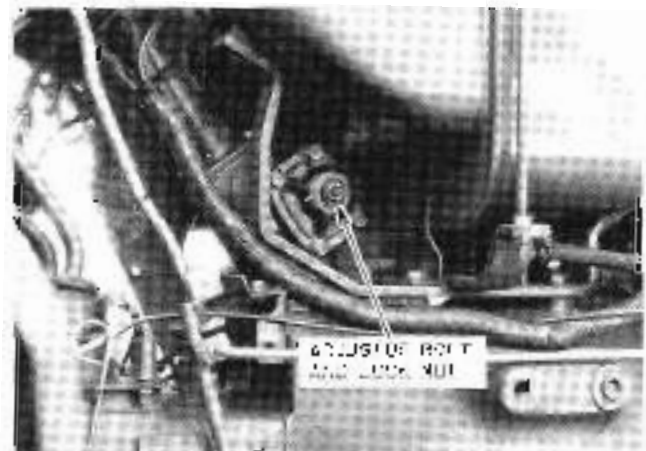


Figure 67 - Steering Wheel Free Play Adjustment

## FRONT WHEEL TOE-IN

Front wheel toe-in adjustments on most tractors were made at the factory. As a rule, the wheels are then fixed. However, an occasional check should be made.

### Checking Toe-In

1. Obtain the straight-ahead position by turning the steering wheel from lock to lock and then halfway back. After setting the tractor forward with the front wheels in the straight ahead position, mark the front of the wheels and the top of the axle tube ends, Figure 68.
2. Measure and record the distance between the front of the wheels at the marks, then push the tractor forward until marks are at wheel and hubflange on rear of the wheel.
3. Measure and record the distance between the front of the wheels at the marks.
4. The difference between the dimensions recorded in Steps 2 and 3 should be 0.00 to 1.30 (0.00 to 0.05 in). The distance between the wheels (see Figure 68) must be 0.00 to 13/64 (0) inches when the marks are at the rear end of the hub.
5. If the measurement is not correct, adjust as outlined in the following section.

## Adjusting Toe-in.

1. Loosen the Locknut Pedal.
2. Adjust the tie rod end adjuster as required in figure 68 to obtain a toe-in of 2 to 3 mm (3/16 to 1/4 inch).
3. After the correct toe-in is obtained, tighten the tie rod locknut. Also tighten the tie rod end assembly according to 68.

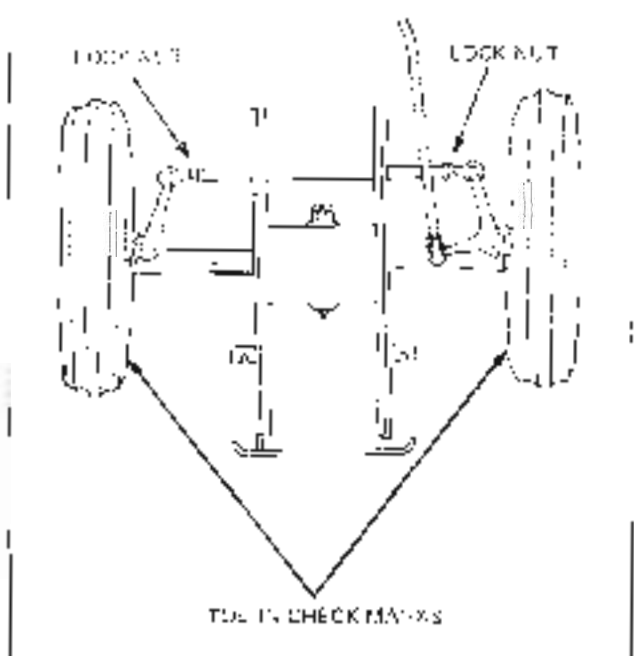


Figure 58 — Checking Toe-In

## BRAKE ADJUSTMENT

Whenever the brake pedal travel becomes excessive, or if the travel of one side is unequal to that of the other, adjustment of the brake pedal can be made in the following manner:

1. Lock the parking brake. Jack the vehicle and free the Unit Sump from safety stands.
2. Loosen the locknut (Figure 69) and rotate the camshaft as necessary until there is 20-30 mm (3/4 to 1 1/4) of pedal free play. Lengthen the camshaft by two layers of shims using the rod between the plus

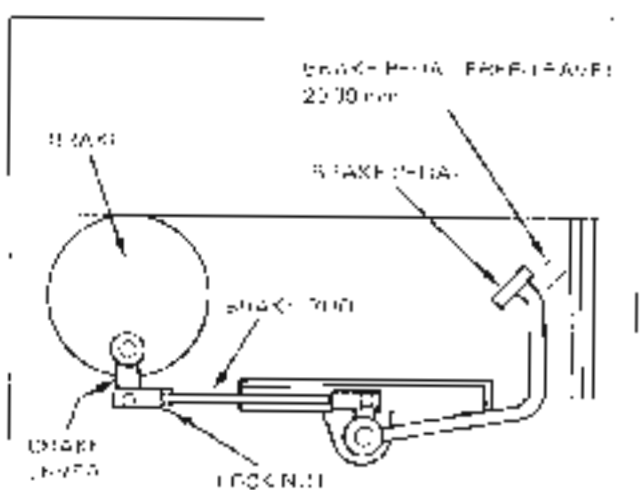


Figure 69 — Brake Pedal Adjustment

2. Test drive the machine to check for a free braking action. Adjust the wheels as equal. Readjust as necessary.

## LUBRICATION AND MAINTENANCE

### CLUTCH PEDAL ADJUSTMENT

To obtain maximum clutch life, it is essential that the clutch pedal free travel be determined by 50 blow blows to resistance level measured at 20-30 mm (3/4 to 1 1/4").

1. Remove the clutch cable and cable pin.
2. Turn the screw to increase or decrease pedal travel as required.

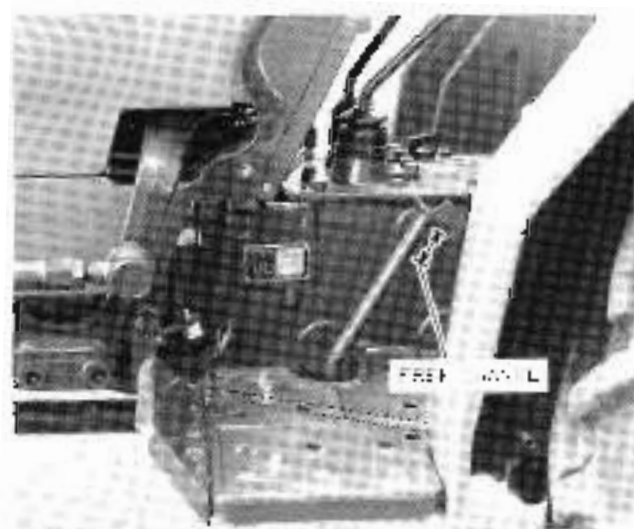


Figure 70 - Clutch Pedal Free Travel Adjustment

### TRACTOR STORAGE

Tractors that are to be stored for an extended period should be properly stored. The following is a suggested start-up procedure for tractors.

1. Thoroughly clean the tractor. Use a heavy paint when necessary to prevent rust.
2. Use Vaseline grease on worn or damaged parts, and to new parts as required.
3. Raise the lift arms hydraulically to the fully raised position. Fill the lift cylinder with clean hydraulic oil. Run the lift cylinder with clean hydraulic oil for 10 minutes.

4. Lubricate the main bearings and all other bearings, hydraulic system and the axle with new oil. Clean the engine oil and refill with fresh oil. Change the oil when the engine is warm.
5. If the tractor is stored for an extended period, an extended period, special maintenance should be taken to protect the fuel injection pump and the fuel passages against rusting and gelling during the storage period.
  - Before storing, the fuel system should be drained with a siphon or siphoned out and stored in a clean container when the engine is shut down for storage.
  - Several cycles of the system should be done before the tractor is started. If special flushing oil is not available, diesel oil or a mix of 25% diesel oil and 75% kerosene may be used with a filter of No. 2 diesel oil.
  - Drain the fuel tank and clean the filter of the system. Reserve oil for use during the next start-up.
  - Run the engine for 10 minutes to ensure complete distribution of the oil through the injection pump and the fuel lines. The oil should be changed immediately.
  - Lubricate the fuel filter.

**IMPORTANT:** Do not use No. 2 diesel fuel for winter storage because of wax formation and clogging of fuel lines and injectors.

6. Drain the oil pan and engine. Drain the oil pan, close the drain valve, and fill with 100% protection oil for winter and heavy and clean water.
7. Check the battery and clean it thoroughly. Be sure that it is fully charged, and that the electrolyte is to the proper level. Place it in storage in a cool, dry place above freezing temperature. The battery should be charged periodically during storage.
8. Place the key under the tractor, as to remove the key from the lock.
9. Close the hood and close opening.
10. Set the lock place after depressing the clutch pedal completely to separate the clutch disk from the fly wheel (Figure 71).

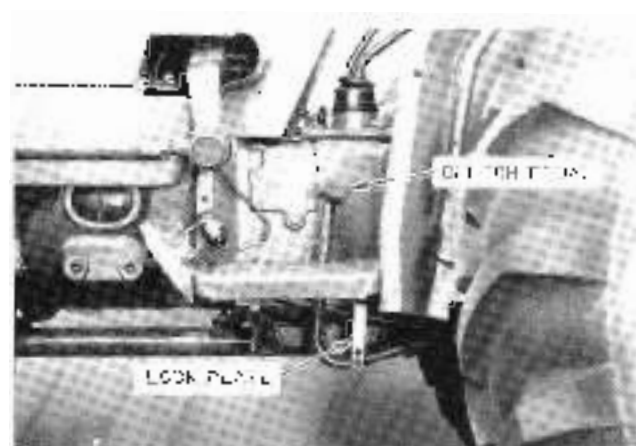


Figure 71 Setting the Lock Plate of Clutch Pedal

Procedures that have been blocked by storage should be completely readjusted in the following manner before using:

1. Adjust the tires to the recommended ones, etc. and remove the blocking.
2. Check the oil levels in the main tank, transmission and hose hydraulic and replace oil and power steering.
3. Install a fully charged battery and remove the oxide at the terminals and air steps.
4. Check the cooling system. The system should be filled with a 50/50 mixture of antifreeze and treated and clean water.
5. Disengage the fork plate of clutch pedal by adjusting the fork plate position, Figure 71.
6. Start the engine and allow it to idle a few minutes. Be sure the engine is operating normally and that safety devices are functioning properly.
7. Drive the tractor without a load and check to be sure it is operating satisfactorily.

# LUBRICATION AND MAINTENANCE

## GENERAL TORQUE SPECIFICATION TABLE

USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

Nut Size	Die thread		Pitch	Coarse thread		Pitch	Torque
	Standard	Marked on grade		Torque	kg-cm		
M6	1		1.0	90-90	-	-	-
	41			90-130			
	87			100-140			
M8	41		1.25	160-190	1.0	-	160-230
	71			210-300			260-340
	91			240-340			310-430
	41			370-540			500-620
M10	71		1.5	470-580	1.25	-	610-690
	87			520-670			660-720
	47			640-840			820-940
M12	77		1.75	710-870	1.25	-	950-1000
	87			750-910			950-1000
	47			860-1090			1050-1210
M16	77		2.0	1120-1320	1.0	-	1400-1550
	87			1320-1570			1680-1750
	47			1590-1970			1950-2150
M18	77		2.0	1600-1800	1.5	-	1850-1900
	81			1750-2010			1910-2190
	87			1970-2380			1980-2110
M24	71		3.0	2680-2970	1.0	-	2680-2750
	87			2430-2770			2800-3000

## SPECIFICATIONS

The specifications on the following pages are provided for your information. For additional information, please contact HUSQVARNA Dealer.



**Properly Maintained Equipment  
is Safe Equipment**

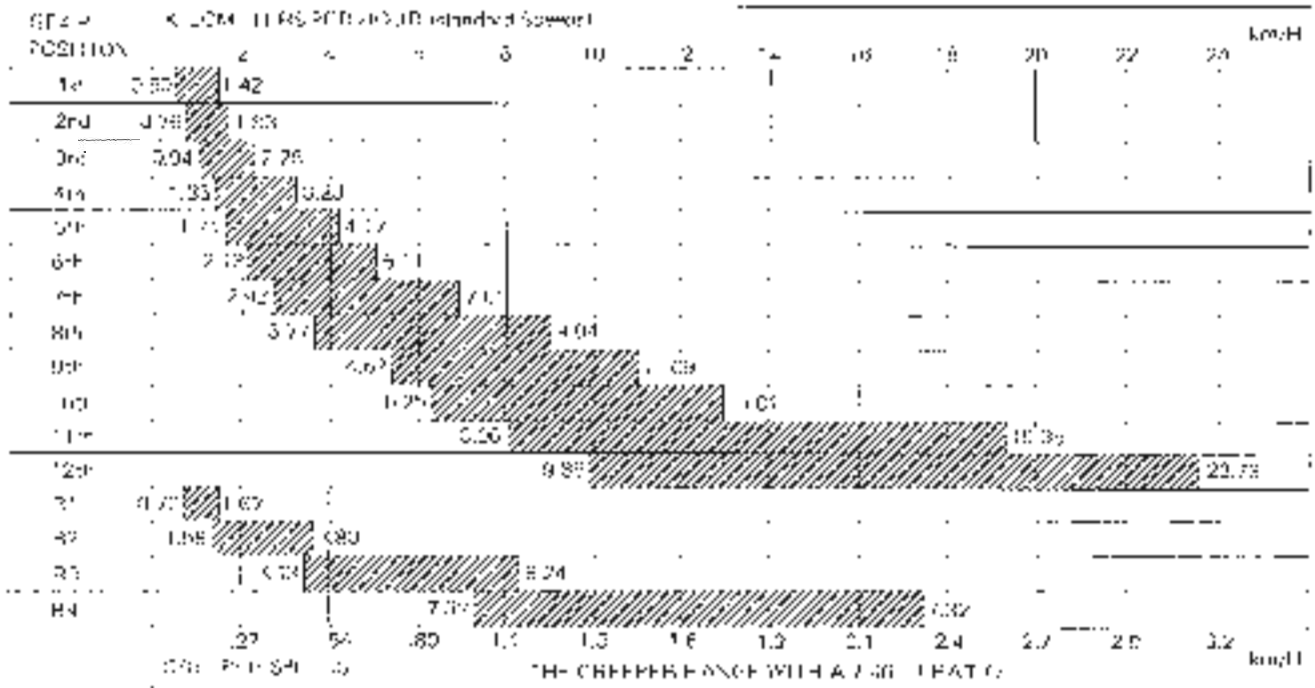
HUSQVARNA, whose policy is one of continuous improvement, reserves the right to make changes in design and specifications at any time. Without notice and without obligation to HUSQVARNA, exclusively on the part of

# SPECIFICATIONS

	Model	624330	624330	6750007	6750007	
	Drive	2 Wheel Drive	4 Wheel Drive	2 Wheel Drive	4 Wheel Drive	
Dimensions	Overall Length (mm)			3300		
	Overall Width (mm)			1900		
	Overall Height (mm)	1935	2070	1905	1970	
	Wheel Base (mm)	1810	2070	1810	1870	
	Tire	12.15-1400 (6.50)		1150	12.15-1400 (6.50)	
	Wheel	Rear Drive				12.15-1400 (6.50)
	Min. Ground Clearance (mm)	190	190	200	200	
	Min. Turning Wheelbase (mm)	2900	3000	2800	3000	
	Radius	2700		2800	2400	2500
	Model	9-1P41PA		1-5P4A	9-1P41PA	1-5P4A
Engine	Type	4 Cyl. Diesel Engine (Direct Injection) Turbodiesel				
	Number of Cylinders (Block/Stroke)	4/85x90				
	Compression Ratio	12:1				
	Rated Displacement (cc)	2133				
	Output (hp/kw)	40/2900			46/2400	
	Max. Torque (kg/m)	40			50	
	Clutch	Dry, Single-Plate				
	Transmission	Self-Shift Gear System				
	Braking System	Internal Expansion Mechanical Type				
	Wheels	Standard				
Capacity	Tire	Front	11.00-16 (7.25)	8.15-16 (4.75)	6.00-16 (3.40)	8.15-16 (4.75)
		Rear		12.00-16 (7.50)	11.00-16 (6.75)	
	Weight (kg)	1475	1630	1325	1380	
	Seals (kg)	1-3/8 in. (35 mm) x 1.6 mm Splines				
	Dimensions of Rear Axle	Crosswise				
	Speeds (gear/engine rpm)	916/40	1002/40	1350/2000	1500/2100, 1146/1340, 2400/	
	Cost of System	See Table in Description and Chart Columns				
	Max. Lifting Capacity (kg)	1800				
	Hydraulic Pump	See Table				
	Fuel Tank (L)	300				
Fuel (L/100)	9.1					
Fuel (L/100)	9			11.5		
Transmission (Hydraulic)	30.0					
Front Axle (Hydraulic)	4.1					
Rear Axle (Hydraulic)	0.8					
Wheel Spacing (Between Hubs)	1.5 (61 in.) (Including 0.5)					
Alternator (V/A)	12V, 20A					
Battery (V/AH)	12V, 100AH					
Lighting (Wattage & Type)	Standard (See Table)					
Exhaust (mm, L)	Std. 125, 1.42-20.72					
Brakes	Std. 400, 1.67-17.58					
Clutch (mm)	Standard					
Forward (Gear)	1st: 12.00, 0.19-3.18					
Reverse (Gear)	1st: 4th, 0.22-2.33					

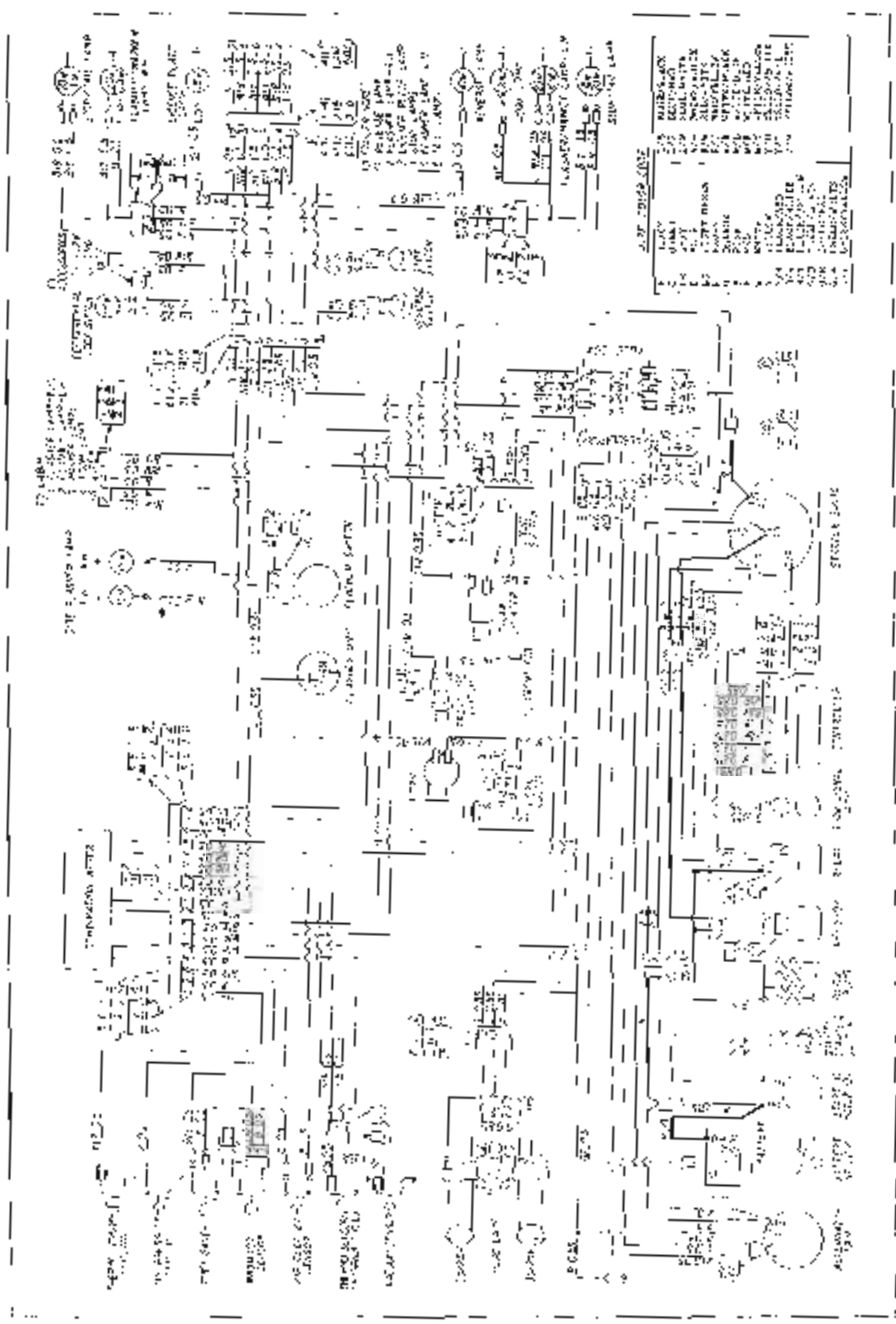
\*10-191 (SAE) PA wheel policy is line of center of gravity improvement, reserves the right to make changes in design and specifications at any time without notice and without obligation to notify users previously notified.

SHIBAURA GROUND SPEEDS  
 From 1000 to 2400 RPM Engine Speed  
 With 12.4/11.2B Rear Tires





# WIRING DIAGRAM



## SAFETY AND INSTRUCTION DECALS

In the event that decals become damaged or illegible, they should be replaced with new decals at their original position.

### CAUTION

- Know all operating procedures and safety precautions in the operator's manual before operating the tractor.
- Start engine only from the operator's seat with the PTO disengaged.
- Slow down on turns, rough ground and slopes to avoid roll over.
- Do not permit passengers under any circumstances.
- Stop engine and apply parking brake before dismounting from tractor.
- On public roads use warning lights and S.M.V. emblem to avoid accidents.

CAUTION - Know all operating procedures  
PART NO. - 390191240  
LOCATION - Center of L.H. fender

### IMPORTANT

- For normal operation on firm soil, hard surfaces and roading the unit, front wheel drive should be disengaged to maximize tire and driveline life and fuel economy.
- Only use front wheel drive when additional traction is required while operating in loose soil, wet, slippery conditions or on slopes.

IMPORTANT - Front Wheel Drive  
PART NO. - 390192420  
LOCATION - Center of R.H. Fender

### WARNING

- KEEP HANDS, FEET AND CLOTHING AWAY FROM PTO AND OTHER MOVING PARTS.
- DISENGAGE PTO AND SHUT OFF ENGINE BEFORE SERVICING TRACTOR OR IMPLEMENTS AND ATTACHING OR DETACHING IMPLEMENTS. KEEP SAFETY SHIELD IN PLACE.
- PULL ONLY FROM DRAWBAR. PULLING FROM ANY OTHER POINT MAY CAUSE TIPPING.

WARNING - keep hands, feet and clothing away from PTO and other moving parts  
PART NO. - 390191360  
LOCATION - Rear of floor



Diff Lock Pedal  
PART NO. - 390191800  
LOCATION - Right side of floor



Glow Plug Indicator  
PART NO. - 390191650  
LOCATION - Right side of instrument panel



Four-Wheel Drive Control Lever  
PART NO. - 390170830  
LOCATION - On the change level, rear right side



Creep Range Lever  
PART NO. - 390170780  
LOCATION - On the creep change lever case left side

# SAFETY AND INSTRUCTION DECALS

## ENGINE STARTING / STOPPING

### ●STARTING

1. Pull the throttle lever fully.
2. Depress the clutch pedal fully and move the gear and P.T.O Shift lever to the neutral position while keeping the hydraulic positioning lever at the lowering position.
3. Turn the key to the "HEAT" position. The glow signal lamp lights and goes out about 3 seconds later.
4. Then turn the key to the "START" position to start the engine. (Turn the key directly to the "START" position when the engine is still warm.)
5. Push the throttle lever forward. Never fail to warm up the engine for 5 to 10 minutes at the idling speed. (Be sure the key is kept at "ON" position.)

### ●STOPPING

1. Keep the engine at the idling speed for about 5 minutes.
2. Push the throttle lever fully forward.
3. Turn the key to the "OFF" position.

SD5000T SD5040T  
ENGINE - STARTING/STOPPING  
PART NO. - 390187430  
LOCATION - Center of L. H. Fender

## ENGINE STARTING / STOPPING

### ●STARTING

1. Pull the throttle lever fully.
2. Depress the clutch pedal fully and move the gear and P.T.O Shift lever to the neutral position while keeping the hydraulic positioning lever at the lowering position.
3. Turn the key to the "HEAT" position. The glow signal lamp lights and goes out about 3 seconds later.
4. Then turn the key to the "START" position to start the engine. (Turn the key directly to the "START" position when the engine is still warm.)
5. Push the throttle lever forward. Never fail to warm up the engine for 5 to 10 minutes at the idling speed. (Be sure the key is kept at "ON" position.)

### ●STOPPING

1. Keep the engine at the idling speed for about 5 minutes.
2. Push the throttle lever fully forward.
3. Pull the stop pedal backward.
4. Turn the key to the "OFF" position.

SD4300 SD4340  
ENGINE - STARTING/ STOPPING  
PART NO. - 390192110  
LOCATION - Center of L. H. Fender



SD5000T, SD5040T  
Hand Throttle Control Lever  
PART NO. - 390430150  
LOCATION - Hand throttle lever  
right side of instrument panel



Starter Switch  
PART NO. 390190930  
LOCATION - Starter Switch, right  
side of instrument panel



SD4300 SD4340  
Hand Throttle Control Lever  
PART NO. - 390430140  
LOCATION - Hand throttle lever  
right side of instrument panel

# SAFETY AND INSTRUCTION DECALS

## PTO

PTO Gearshift Lever  
PART NO. - 390170250

3

1

PTO Gearshift Position (3-1)  
PART NO. 390170180

4

2

PTO Gearshift Position (4-2)  
PART NO. 390170180

## MAIN TRANSMISSION

Main Shift Change Lever  
PART NO. - 390170200

## RANGE TRANSMISSION

Range Select Change Lever  
PART NO. - 390170260



Flow Control Valve  
PART NO. 390370360  
LOCATION - Top of flow  
Control Knob



**IMPORTANT**  
For safe maintenance  
when open the foot,  
remove the plate to  
arrow mark

**IMPORTANT** - Open the foot  
PART NO. 390152470



Hydraulic Control Levers  
PART NO. - 390370040



Turn Signal Switch  
PART NO. - 390152190

**DRAFT CONTROL LEVER**

**POSITION CONTROL LEVER**

**POSITION CONTROL LEVER**  
Equipment is lifted by moving lever backward, and lowered by moving forward. Lift is proportional to shift.

**DRAFT CONTROL LEVER**  
For draft plus, set lever between 7-8; position increased by moving lever forward. Setting for only position control, set lever at 1.

**STOPPER**  
The stopper is provided for locating the lever at any position in the quadrant.

**STOPPER**

5 | 6 | 7 | 8 | 9 | TAKE-OUT  
taking hydraulic fluid out

Hydraulic Lift Control  
PART NO. 390370050.  
LOCATION - Center of R.H. Fender

# SAFETY AND INSTRUCTION DECALS

**LUBRICATION AND MAINTENANCE**

**OIL**

1.0  
 2.0  
 3.0  
 4.0  
 5.0  
 6.0  
 7.0  
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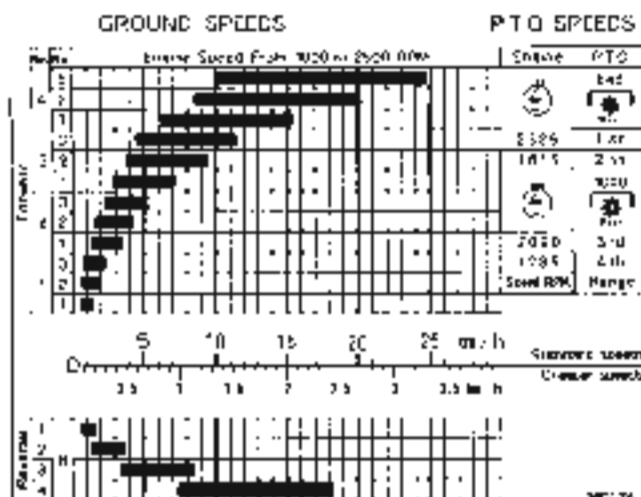
Four-Wheel Drive  
 LUBRICATION AND MAINTENANCE  
 PART NO. 390210880  
 LOCATION - Ins. of foot

**LUBRICATION AND MAINTENANCE**

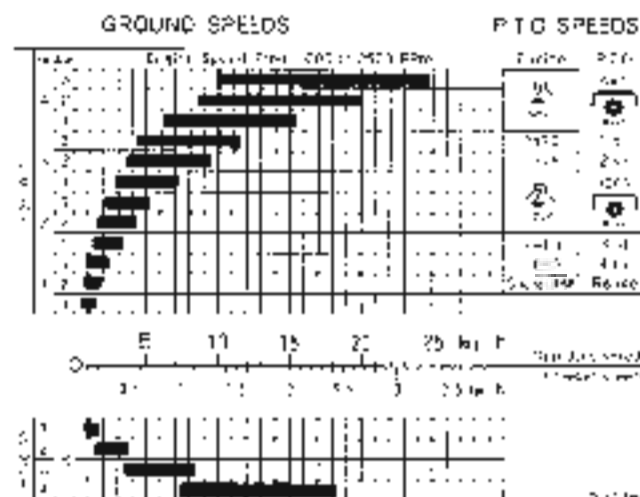
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Two-Wheel Drive  
 LUBRICATION AND MAINTENANCE  
 PART NO. 390210890  
 LOCATION - Ins. of foot



SD50001, SD50407  
 GROUND SPEEDS  
 PART NO. - 390171150  
 LOCATION - Center of L.H. Fender



SD4300, SD4340  
 GROUND SPEEDS  
 PART NO. - 390171160  
 LOCATION - Center of L.H. Fender

**PRE-DELIVERY SERVICE  
CHECK AND ADJUST AS REQUIRED**

**INSPECTIVE SERVICE CHECKS:**

1. Tire pressure . . . . .
2. Air cleaner and  
Level connections . . . . .
3. Radiator coolant level . . . . .
4. Fan belt tension . . . . .
5. Battery cleanliness, vent  
opening, electrolyte level,  
and charge . . . . .
6. Engine oil level . . . . .
7. Front wheel and axle  
oil level . . . . .
8. Front Axle and Front Diff.  
oil level (AWO) . . . . .
9. Starter safety switch  
operation . . . . .
10. Hydraulic lift control  
adjustment . . . . .

11. Lights and horn . . . . .
12. Brake adjustment and pedal  
operation . . . . .
13. Operation of  
power windows . . . . .
14. Free wheel disc and hub  
brake for tire loss . . . . .
15. Front wheel steering hub  
nut of lightness (AWO) . . . . .
16. Front wheel steering hub  
brake of lightness (AWO) . . . . .
17. Front wheel tire . . . . .
18. Fuel level . . . . .
19. Safety lights and light  
condition . . . . .
20. Check lift and lift  
proper operation . . . . .
21. Chain case oil level . . . . .

**OPERATIVE SERVICE CHECKS:**

- All operating checks are to be performed with the tractor at normal operating temperature.
1. Lights and instruments for  
proper operation . . . . .
  2. Fluid and oil leaks . . . . .
  3. Maximum no-load speed and  
PTO speed adjustments, and  
fuel shut-off . . . . .
  4. Starting and starter  
safety switch . . . . .
  5. P. T. O. engagement and  
disengagement  
• Clutch pedal and  
P. T. O. lever . . . . .
  6. Hydraulic System  
• Safety control for positional  
drift control operation . . . . .
  - Flow control operation . . . . .
  7. Control three lever operation . . . . .
  8. Low speed control lever . . . . .

TRACTOR MODEL NO. \_\_\_\_\_

INSPECTION PERFORMED  
QUANTITY EXPLAINED

TRACTOR SERIAL NO. \_\_\_\_\_

OWNER'S SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

DEALER'S SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

**50-HOUR SERVICE  
CHECK AND ADJUST AS REQUIRED**

**INSPECTIVE SERVICE CHECKS:**

1. Tire pressure . . . . .
2. Check air cleaner and  
connections . . . . .
3. Adjust diesel fuel injectors . . . . .
4. Tighten all major and safety  
screwbolts . . . . .
5. Radiator coolant level . . . . .
6. Fan belt tension . . . . .
7. Battery cleanliness and vent  
opening, electrolyte level  
and charge . . . . .
8. Electrical cables, terminals,  
and wires . . . . .
9. Oil and oil filter change . . . . .
10. Replace engine oil filter . . . . .
11. Transmission and rear axle  
oil level . . . . .
12. Front differential and front  
axle oil level (AWO) . . . . .
13. Injection pump timing . . . . .
14. Check front axle U-bolts . . . . .
15. Check Hydraulic System  
Oil level . . . . .

**OPERATIVE SERVICE CHECKS:**

1. Lights and instruments for  
proper operation . . . . .
2. Fuel and oil leaks . . . . .
3. Maximum no-load speed and  
PTO speed adjustments and  
fuel shut-off . . . . .
4. Starting and starter safety switch  
operation . . . . .
5. Valve lash . . . . .
6. Hydraulic System  
• Safety control for positional  
drift control operation . . . . .
- Flow control operation . . . . .

**PERFORMANCE SERVICE CHECKS:**

1. Engine operation including  
throttle and governor  
operation . . . . .
2. Transmission including clutch  
operation . . . . .
3. Starting control . . . . .
4. Differential lock operation  
and disengagement . . . . .
5. Brake action . . . . .
6. All optional equipment and  
accessories . . . . .

TRACTOR MODEL NO. \_\_\_\_\_

INSPECTION PERFORMED

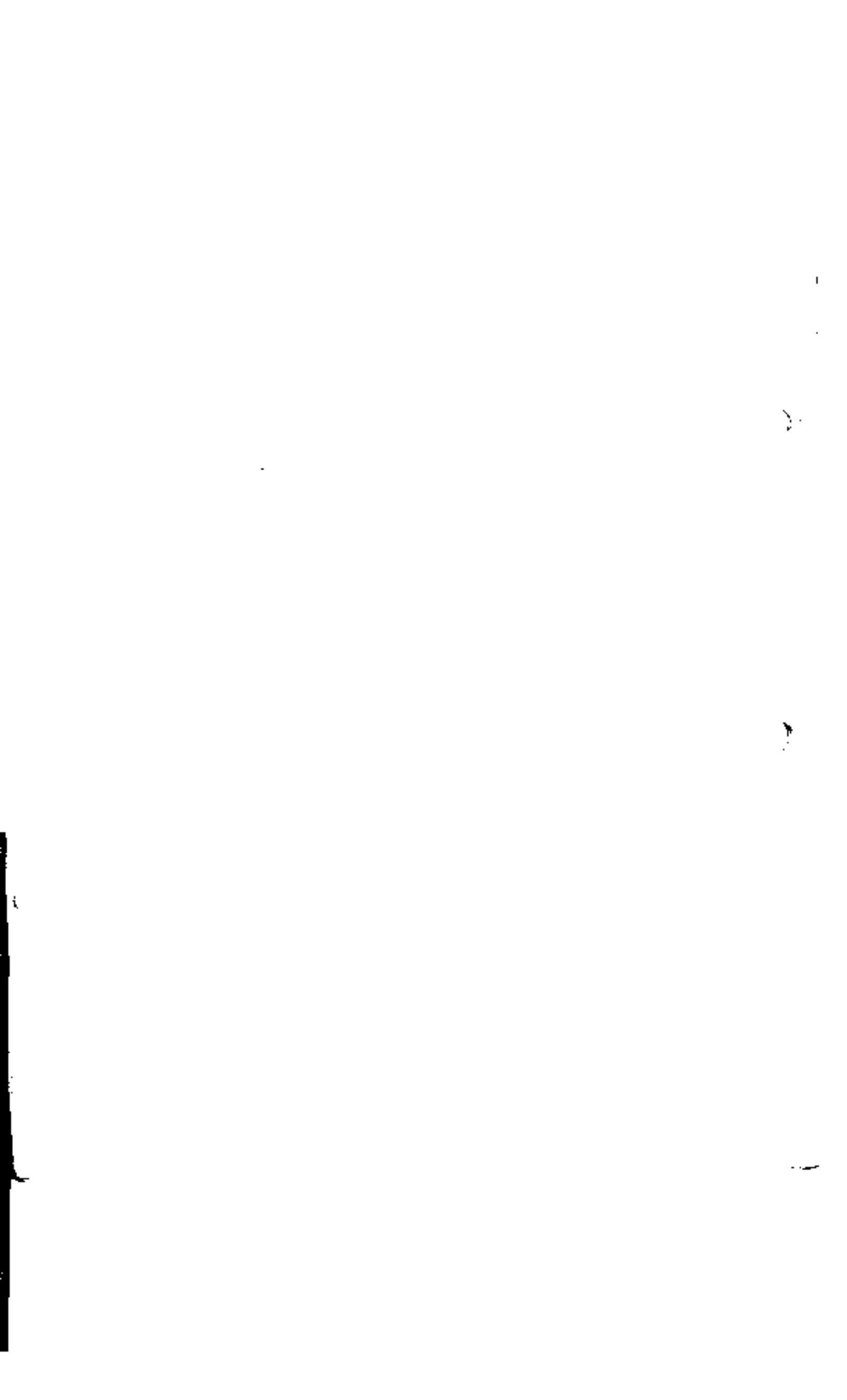
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OWNER'S SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

DEALER'S SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_



**PRE-DELIVERY SERVICE  
CHECK AND ADJUST AS REQUIRED**

**INSPECTIVE SERVICE CHECKS**

1. Tire pressures . . . . .
2. Air cleaner and filter connections . . . . .
3. Radiator coolant level . . . . .
4. Fan belt tension . . . . .
5. Battery cleanliness, vent openings, electrolyte level and charge . . . . .
6. Engine oil level . . . . .
7. Transmission and rear axle oil level . . . . .
8. Front Axle and Front Ball joint level (AWD) . . . . .
9. Starter safety switch operation . . . . .
10. Hydraulic lift control adjustment . . . . .

11. Upper link and hub . . . . .
12. Brake adjustment and brake equalization . . . . .
13. Operation of brake pedal lock . . . . .
14. Rear wheel disc and hub bolts and lockers . . . . .
15. Front wheel disc and hub bolts and lockers (AWD) . . . . .
16. Front wheel disc and hub bolts and lockers (AWD) . . . . .
17. Front wheel lock . . . . .
18. Fuel level . . . . .
19. Sheet metal and paint condition . . . . .
20. Check lift not for proper operation . . . . .
21. Drain diesel fuel filter . . . . .

**OPERATIVE SERVICE CHECKS**

- All operating checks are to be performed with the tractor at normal operating temperature
1. Lights and instruments for proper operation . . . . .
  2. Fluid and oil leaks . . . . .
  3. Maximum engine speed and idle speed adjustments, and fuel control . . . . .
  4. Starting and starter safety switch . . . . .
  5. P.T.O. engagement and disengagement
    - Clutch pedal and P.T.O. lever . . . . .
  6. Hydraulic System
    - Selection lever for position and draft control operation . . . . .
    - P.T.O. control operation . . . . .
  7. Advance drive lever operation . . . . .
  8. Low speed (creep) lever . . . . .

TRACTOR MODEL NO.

INSPECTION PERFORMED  
WARRANTY EXPIRES

TRACTOR SERIAL NO.

OWNER'S SIGNATURE

DATE

DEALER'S SIGNATURE

DATE

**50-HOUR SERVICE**

**CHECK AND ADJUST AS REQUIRED**

**INSPECTIVE SERVICE CHECKS**

1. Tire pressures . . . . .
2. Check air cleaner and filter connections . . . . .
3. Radiator coolant level . . . . .
4. Fan belt tension, including pulley and hose holders . . . . .
5. Radiator coolant level . . . . .
6. Fan belt tension . . . . .
7. Battery cleanliness and vent openings, electrolyte level and charge . . . . .
8. All electrical cables, terminals and wires . . . . .
9. Drain and replace engine oil . . . . .
10. Replace engine oil filter . . . . .
11. Drainage on and rear axle oil level . . . . .
12. Front differential and transmission oil level (AWD) . . . . .
13. Support pump mounting . . . . .
14. Cylinder head bolt torque . . . . .
15. Clean Hydraulic System oil filter . . . . .

**OPERATIVE SERVICE CHECKS**

1. Lights and instruments for proper operation . . . . .
2. Fluid and oil leaks . . . . .
3. Maximum engine speed and idle speed adjustments, and fuel control . . . . .
4. Starting and starter safety switch . . . . .
5. Valve lash . . . . .
6. Hydraulic System
  - Selection lever for position and draft control operation . . . . .
  - P.T.O. control operation . . . . .

**PERFORMANCE SERVICE CHECKS**

1. Engine operation, fuel and oil throttle and governor operation . . . . .
2. Tractor tests, including clutch . . . . .
3. Speed control . . . . .
4. Clutch pedal clearance for disengagement . . . . .
5. Brake action . . . . .
6. All optional equipment and accessories . . . . .

TRACTOR MODEL NO.

INSPECTION PERFORMED

TRACTOR SERIAL NO.

OWNER'S SIGNATURE

DATE

DEALER'S SIGNATURE

DATE