

# TRATTORI KUBOTA

B1200 – B1400

B1500 – B1600

B1702 - B1902

MANUALE USO e MANUTENZIONE

# IMPLEMENT LIMITATIONS

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

|               | Tread (max. width) with farm tires |        | Lower link end max. loading weight $W_0$ |
|---------------|------------------------------------|--------|------------------------------------------|
|               | Front                              | Rear   |                                          |
| B1410 · B1610 | 858mm                              | 1031mm | 300kg                                    |

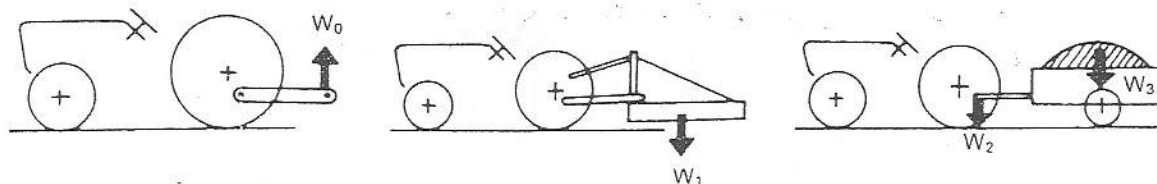
|               | Actual figures                                    |                         |                                            |
|---------------|---------------------------------------------------|-------------------------|--------------------------------------------|
|               | Implement weight $W_1$ and/or size                | Max. Drawbar Load $W_2$ | Trailer loading weight $W_3$ Max. capacity |
| B1410 · B1610 | As in the following list (Shown on the next page) | 330kg                   | 1000kg                                     |

Lower link end max. loading weight ..... The max. allowable load which can be put on the lower link end:  $W_0$

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

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

Trailer loading weight ..... The max. loading weight for trailer (with trailer's weight):  $W_3$



## NOTE:

- Implement size may vary depending on soil operating conditions.

| Implement     |                              | Remarks                                          |          | B1410 · B1610           |
|---------------|------------------------------|--------------------------------------------------|----------|-------------------------|
| Mower         | Mid-mount                    | Max. cutting width<br>Max. weight                | cm<br>kg | 122<br>140              |
|               | Rotary-cutter<br>(1 Blade)   | Max. cutting width<br>Max. weight                | cm<br>kg | 107<br>140              |
|               | Rear-mount<br>(2 or 3 Blade) | Max. cutting width<br>Max. weight                | cm<br>kg | 122<br>140              |
|               | Flail-mower                  | Max. cutting width                               | cm       | 107                     |
|               | Sickle bar                   | Max. cutting width                               | cm       | 122                     |
| Rotary tiller |                              | Max. tilling width<br>Max. weight                | cm<br>kg | 107<br>170              |
| Bottom plow   |                              | Max. size                                        | cm       | 30×1                    |
| Disc plow     |                              | Max. size                                        | cm       | 56×1                    |
| Cultivator    |                              | Max. size                                        | cm       | 122<br>1 Row            |
| Disc harrow   |                              | Max. harrowing width<br>Max. weight              | cm<br>kg | 122<br>120              |
| Sprayer       |                              | Max. tank capacity                               | L        | 150                     |
| Front blade   |                              | Max. cutting width<br>Sub frame                  | cm       | 122<br>Necessary        |
| Rear blade    |                              | Max. cutting width<br>Max. weight                | cm<br>kg | 152<br>160              |
| Front loader  |                              | Max. lifting capacity<br>Max. width<br>Sub frame | kg<br>cm | 200<br>110<br>Necessary |
| Box blade     |                              | Max. cutting width<br>Max. weight                | cm<br>kg | 107<br>170              |
| Back hoe      |                              | Max. digging depth<br>Max. weight<br>Sub frame   | cm<br>kg | 183<br>270<br>Necessary |
| Snow blower   |                              | Max. working width<br>Max. weight<br>Sub frame   | cm<br>kg | 107<br>160<br>Necessary |
| Trailer       |                              | Max. load capacity                               | kg       | 1000                    |

**NOTE:**

- Implement size may vary depending on soil operating conditions.

**1. DASHBOARD & INSTRUMENT PANEL**

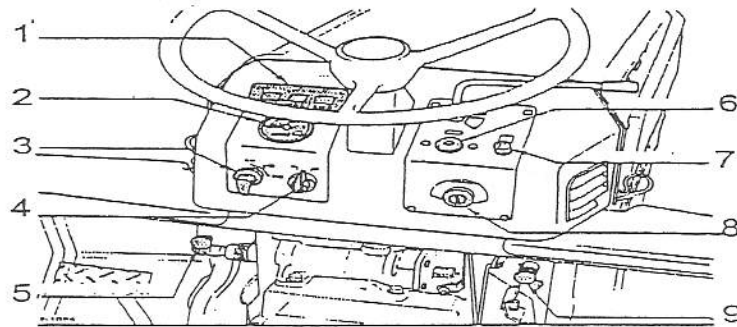
**2. OPERATING & DRIVING**

**3. MAINTAINANCE & CHECKS**

**4. WIRING DIAGRAM**

# I. DASHBOARD & INSTRUMENT PANEL

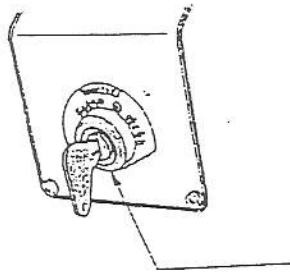
## DASHBOARD



1. Control panel
2. Hour meter
3. Light switch
4. Indicator switch
5. Decompression lever
6. Glow plug indicator
7. Horn
8. Ignition switch
9. Engine stop switch

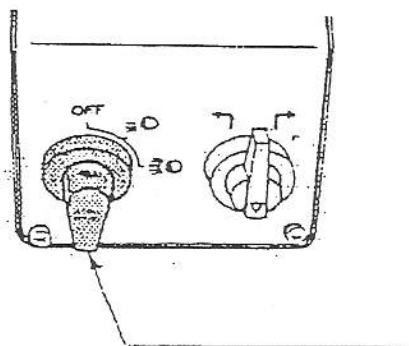
### Ignition switch

- Insert / Take key out
- Preheating by glow plugs (Minitrac)
- Fully depress the clutch pedal to start the engine.



### Light switch

- Headlamps on high beam
- Headlamps on low beam
- Headlamps off



### Glow plug

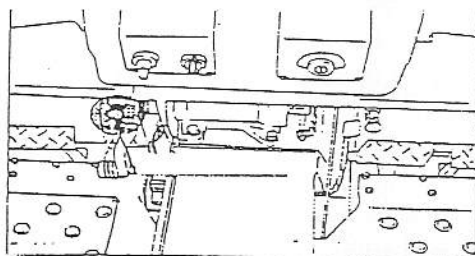
- Indicates the combustion chamber has reached preheating level.

### Decompression lever

- Pull lever to decompress engine
- Use the lever in the following cases: 1. When starting the engine in cold weather  
2. If the battery is low on charge

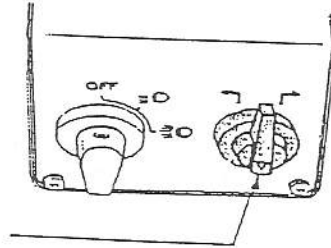
### **WARNING !**

After using the decompression, make sure the lever is back to its original position.



## Indicators

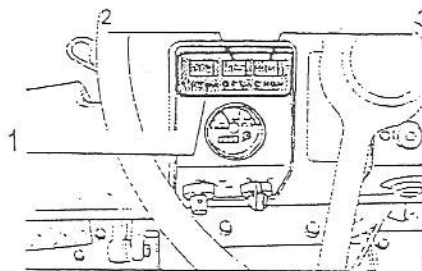
- 1- Select left or right
- 2- Turn the switch back to its original position once the manoeuvre is completed.



## Horn

The horn operates by pushing the button once the ignition switch is in the "0" position.

## Control panel



1. Engine rev counter
2. Oil pressure warning light
3. Electrical charge warning light

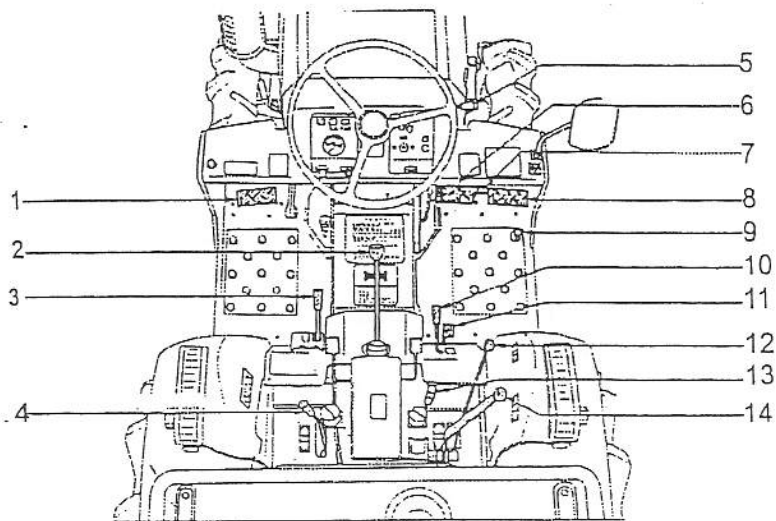
### - Oil pressure warning light

This light warns against any drop in engine oil pressure. It comes on when the ignition switch is in the "0" position, and comes off once the engine starts running.

### - Electrical charge warning light

This light warns against insufficient battery charging. It comes on when the ignition switch is in the "0" position, and comes off once the engine starts running.

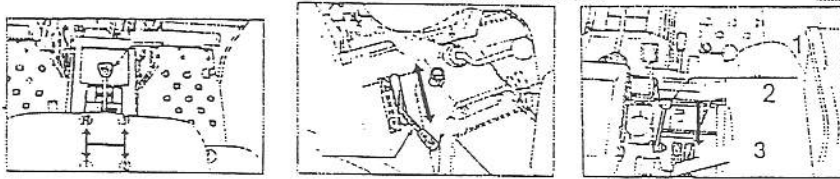
## CONTROLS



1. Clutch pedal
2. Main transmission gear lever
3. PTO transmission gear lever
4. Front wheel drive lever
5. Hand accelerator lever
6. Right brake pedal
7. Brake pedals connection plate
8. Left brake pedal
9. Foot accelerator pedal
10. Intermediate transmission gear lever
11. Differential lock pedal
12. Attachment lowering control lever
13. Crawler gear lever
14. Hydraulic lift control lever

## Main transmission gear lever - Intermediate transmission gear lever - Crawler gear lever

By combination of these 3 gear levers, 12 forward and 4 reverse gears can be selected



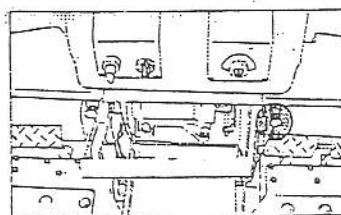
## Use of the crawler gear, for very slow speed (uphill)

Crawling speed can cause malfunction or engine problems. To avoid them, please follow the instructions below :

1. When to use ?
  - When working on a tight turning circle , or if the soil is very fine
  - When working on a tight turning circle, or if the soil is too hard
  - When transplanting
  - When trenching
  - when loading or unloading the vehicle
2. When not to use ?
  - When coming out of the mud
  - When pulling a trailer (Minitrac)

## Engine stop lever

The engine will stop when this lever is fully pulled. Once the engine has stopped, immediately push the lever back to its original position. If it is not fully pushed back, the engine will not start again.

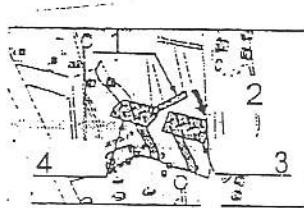


### Clutch pedal

The clutch transmits power to each operational part. The clutch is off when the pedal is fully depressed, and on when the pedal is released.

### Brake pedal

Contrary to normal vehicles, the left and right brakes operate independently. When driving on a road, use the brake connection plate. When working off road, do not use.

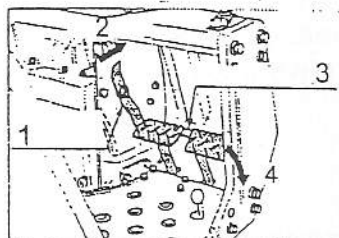


1. Connection plate
2. Swivel plate into position when driving on a road
3. Right hand side brake pedal
4. Left hand side brake pedal

Safety Recommendation: When driving downhill, uphill or on low ditches, make sure to use the brake connection plate. (Minitrac)

### Parking brake

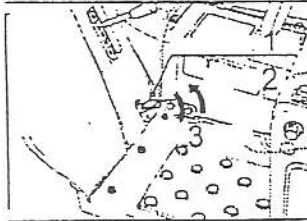
Connect right and left brake pedals, depress them and pull the parking brake lever; this will push the bolt in the slot and lock the wheels.



1. Parking brake lever
2. Pull
3. Connection plate on
4. Depress

### Differential lock pedal

Prevents skidding by turning both rear wheels at same speed. When the pedal is fully depressed, the differential is locked. When the pedal is released, it is unlocked.



1. Differential lock pedal
2. Release to unlock
3. Depress to lock

### *How and when to use the differential lock pedal*

Although it is very useful if used properly, incorrect use can cause serious damage or the tractor to roll over.

1. When you cannot go forward because of a tyre skidding, when you go in or come out of a field, or when operating a front loader
2. When the tyre is stuck in mud
3. When the tyre skids under power or when ploughing

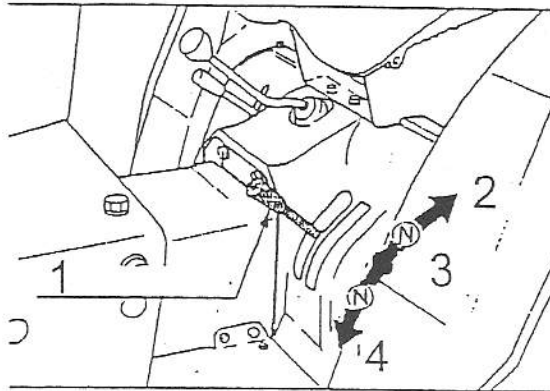
### Warning !

1. When engaging the differential lock system, reduce the engine revs
2. When the pedal is engaged (or when you are depressing it), do not turn
3. When the pedal is difficult to release, release the clutch or lightly depress each brake pedal, left and right. (Pushing too hard can cause damage)

**Safety Instructions:** It is extremely dangerous to turn when the differential lock pedal is engaged. Failing to follow these instructions can result in serious accidents.

### PTO transmission gear lever

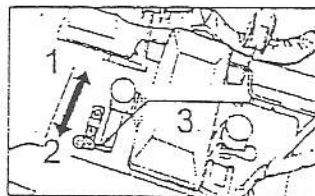
By using this gear lever, you can obtain 3 PTO gears. Depress the clutch before changing gears.



1. PTO gear lever
2. 1st gear: 550rpm
3. 2nd gear: 770rpm
4. 3rd gear: 1150rpm

### Front wheel drive gear lever (4WD)

Depress the clutch pedal and bring the lever to the "ON" position (backwards) to engage the front wheel transmission. Bring it to the "OFF" position (forwards) to disengage.

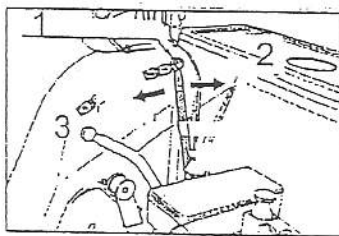


1. ON
2. OFF
3. Front wheel drive gear lever

Safety instructions: When not in use, the PTO shaft needs to be greased and covered. It could otherwise be caught by a machine and cause a serious accident.

### How to use the hydraulic control lever

The oil pressure control operates at all times when the engine is running, whether or not the clutch is engaged.

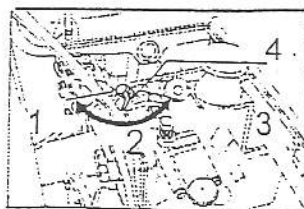


1. Pressure control
2. Up
3. Down

This lever enables the machine to go up or down. When the lever is pulled back, the tractor will rise. When the lever is pushed forward, the tractor will lower.

### Attachment lowering speed adjustment

When the lever is turned to the right, the speed is slowed down. When turned to the left, the speed is increased. (Minitrac)



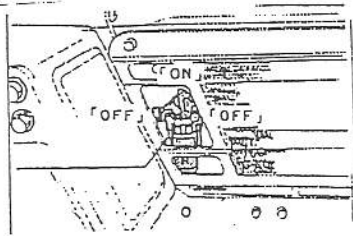
1. Slower
2. Adjustment range
3. Faster
4. Lowering speed control lever

## II. OPERATING & DRIVING

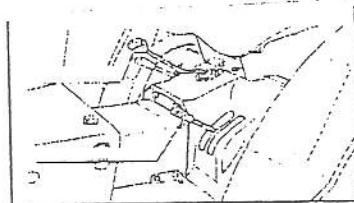
### A. PRE - STARTING CHECKS

Before starting the engine, make sure that:

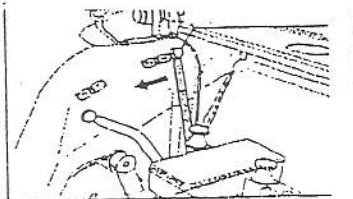
1. The diesel tap is in the "ON" position



2. Gear & PTO levers are in neutral

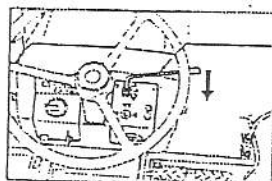


3. The hydraulic lift control lever is down

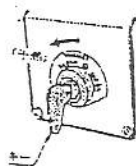


## B. STARTING THE ENGINE

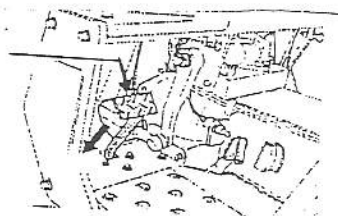
1. Pull the hand accelerator towards you



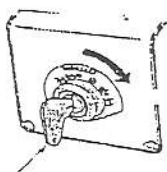
2. Preheating - turn the ignition key to the left  
(15 to 30 seconds in cold weather)



3. Fully depress the clutch pedal

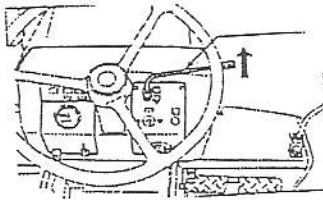


4. Turn the ignition key to the right

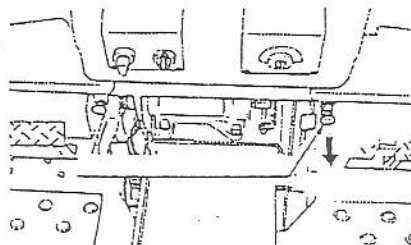


## C. STOPPING THE ENGINE

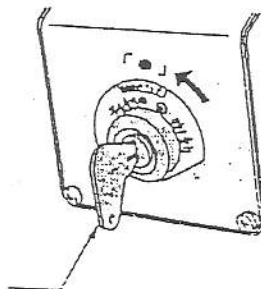
1. Push the hand accelerator to tick over



2. Pull the engine stop switch



3. Turn the ignition to the left (off)



## D. DRIVING THE TRACTOR

### Warming up the engine before driving

it is necessary to warm up the engine for 5 minutes before driving, to make sure all the parts are well lubricated and to avoid overheating and deterioration.

Warning: Ensure the parking brake is engaged during warm up.

### How to start and drive the tractor

1. Make sure both brake pedals are connected
2. Use the hand accelerator to change from tick over to moderate speed
3. Fully depress the clutch pedal
4. Bring the gear lever, the intermediate transmission gear lever and the hydraulic control to the required position.

Warning: It is not possible to change transmission when driving. It is necessary to stop the tractor and depress the clutch pedal (Minitrac)

5. Slowly releasing the clutch pedal will cause the tractor to start moving

Warning: Do not leave your foot on the clutch pedal when driving as this could cause the clutch bearings to seize. When using the clutch pedal, quickly depress and slowly release. (Minitrac)

Safety instruction: When the tractor is moving, watch the back, front and both sides to avoid an accident.

### How to stop

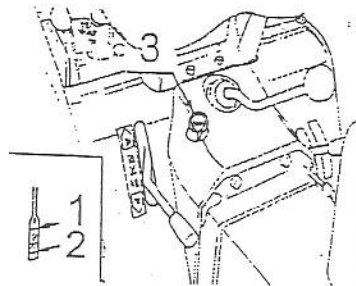
1. Push the hand accelerator forward to tick over position
2. Depress brake and clutch pedals
3. Once the tractor has totally stopped, bring the gear lever to neutral
4. If an attachment is connected, slowly push the control lever forward to lower the machine
5. Make sure the parking brake is on
6. Stop the engine with the engine stop switch

Warning: Do not park downhill without placing chocks against the wheels.

### III. MAINTAINANCE & CHECKS

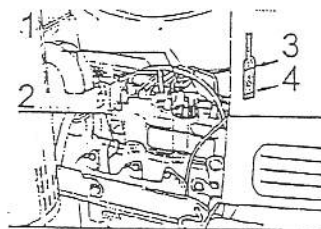
#### 1. REAR AXLE OIL LEVEL

- Take out the oil dip-stick, wipe it, reinsert it and check level (Minitrac)
- It is necessary to add oil when the level is below the minimum limit, but never exceed the maximum limit



1. Maximum
2. Minimum
3. Oil dip-stick gauge

#### 2. ENGINE OIL LEVEL

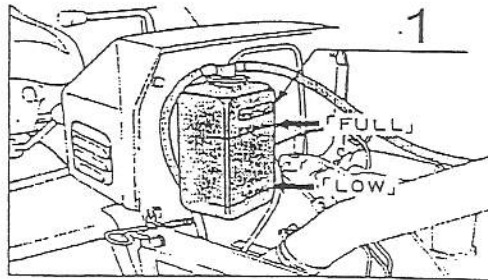


- When checking the oil level, make sure the tractor is on a flat surface. It is impossible to check accurately if the tractor is not level.
- Check the oil level before starting or more than 3 minutes after the engine has stopped. At other times, the check will not be accurate as oil stagnates in certain engine parts.

### 3. WATER LEVEL

Next to the the radiator is a top up tank which automatically supplies the radiator with coolant should the water level drop.

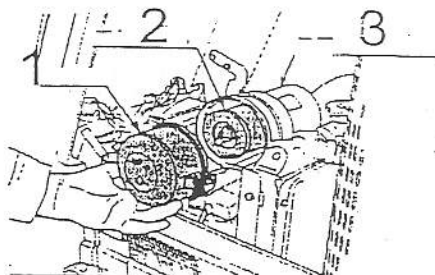
The water level must be checked in the top up tank and maintained between "Full" and "Low".



### 4. CLEANING THE AIR FILTER

The air filter protects the engine from damaging dust and sand. It must therefore be cleaned regularly to avoid engine seizure

- Clean out the dust from the filter cowl.



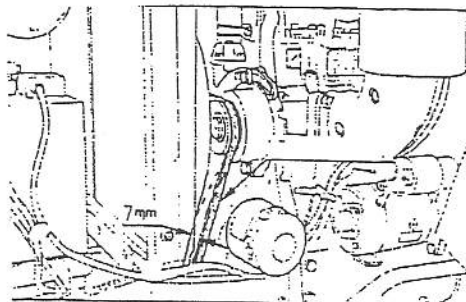
1. Cowling
2. Filter element
3. Air filter

- Clean out the dust from the filter

Warning: When installing the filter cowl, check that the "top" sign is well at the top. The filter housing will otherwise leak air and particles will damage the filter. (Minitrac)

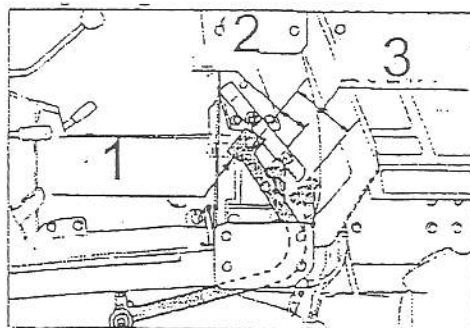
## 5. FAN BELT TENSION

If the fan belt is badly adjusted, the battery can go flat or the engine overheat. Check and adjust the slack movement in the centre to  $\pm 7\text{mm}$ . Check the belt for damage.



## 6. BRAKE PEDALS ADJUSTMENT

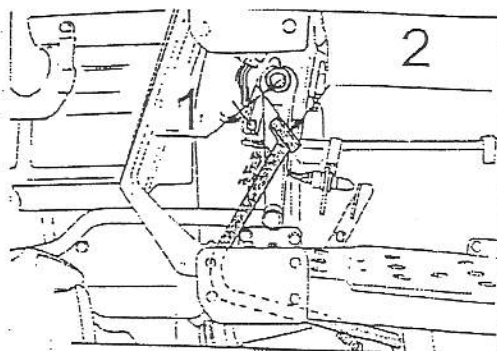
In order to avoid any accident, brakes must be adjusted properly. Make sure the play (no 2) is between 30 and 40mm on each pedal, and that they are properly balanced.



1. Brake pedal
2. Play
3. Left and right pedal adjustment

## CLUTCH PEDAL ADJUSTMENT

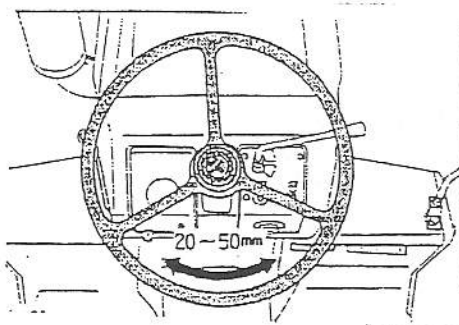
If the clutch is not adjusted properly, it can slip and therefore reduce the amount of power transmitted from the engine. Check that the clutch pedal is between 20 & 30mm.



- 1. Play
- 2. Clutch pedal

## 7. STEERING WHEEL ADJUSTMENT

- Care must be taken with the steering wheel adjustment, and check the play by turning it left and right.



## 8. EXHAUST FUMES

- |            |                                                                              |
|------------|------------------------------------------------------------------------------|
| Colourless | = Normal                                                                     |
| Black      | = The fuel is too rich, causing imperfect combustion                         |
| White      | = When the temperature is low, engine oil can burn and appear as white steam |

## 9. FUEL : DIESEL

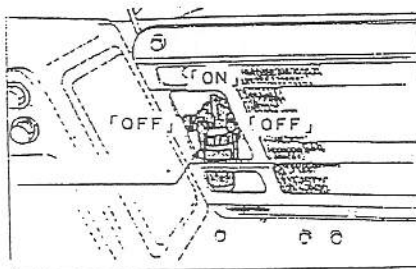
If there is sand or grit in the diesel, the injection pump will not work. A filter must be used when filling up the tank.

## 10. FILTER

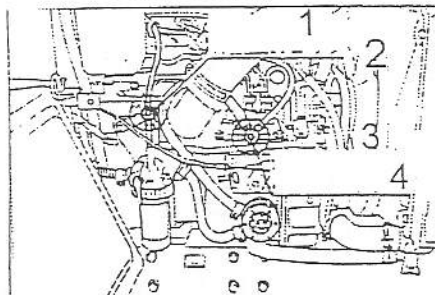
Water and grit present in the fuel will be extracted by the filter. When it is full, turn off the tap, remove and clean the filter. Air must always be removed.

How to get rid of the air ?

- Turn the filter on "ON"



- Open the taps as follows:



Open 1-2. At the top of the injection pump

Open 3-4. At the top of the filter

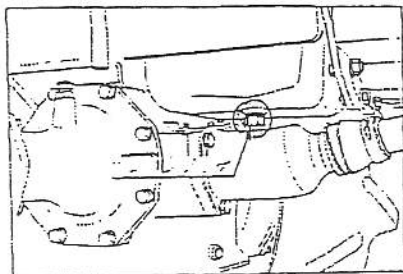
Warning: Only open the pump tap and filter cap when draining (Minitrac)

- Half fill the tank
- Turn the filter tap off
- Fill the tank up to the top
- Run the engine for one minute then stop it
- Turn off the pump tap

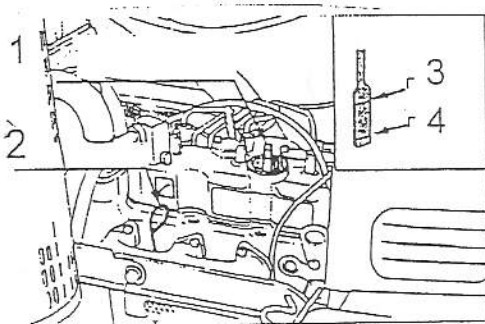
Warning: Only open the pump tap and filter tap when draining (Minitrac)

## 11. ENGINE OIL CHANGE

- Drain the oil by unscrewing the drain plug from the engine sump



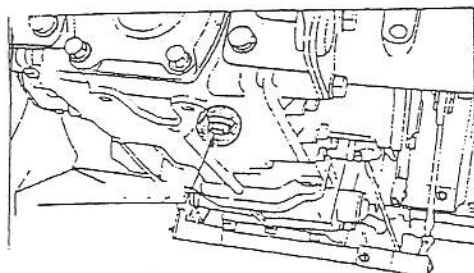
- Refill with new engine oil up to the maximum limit (+/-3.4 l)



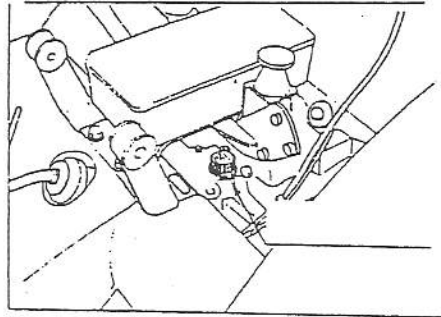
1. Oil filler cap
2. Gauge
3. Maximum limit
4. Minimum limit

## 12. TRANSMISSION OIL CHANGE (REAR AXLE)

- Remove the rear axle drain plug and drain the oil

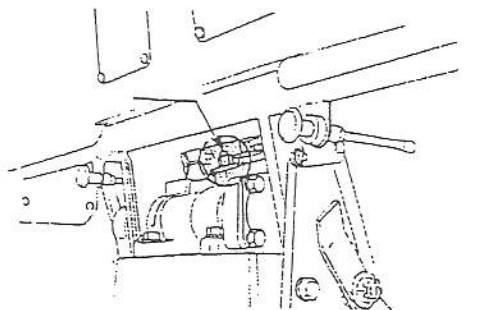


- Refill with new oil up to the maximum limit (17 l)



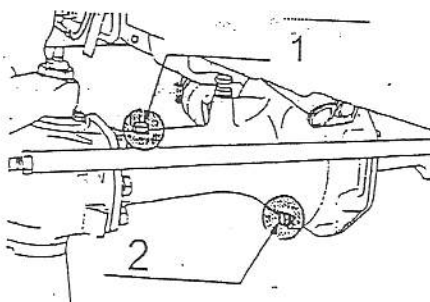
### 13. TOPPING UP GEAR BOX OIL

- Top up level as necessary (0,2 l)



#### 14. FRONT AXLE OIL CHANGE

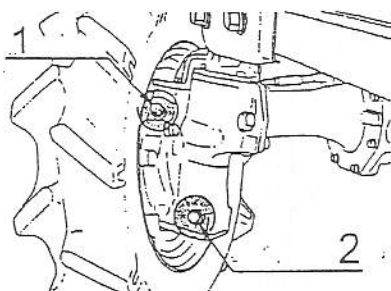
- Unscrew the plug and drain the oil
- Refill with new oil SAE90 up to the maximum limit (+/-1.5 l)



1. Filling up
2. Drain plug

#### 15. OIL CHANGE OF THE LEFT AND RIGHT WHEEL BEARINGS

- Unscrew the left and right plugs and drain the oil
- Refill with new oil SAE90 up to the maximum limit, left and right (0,5 l)



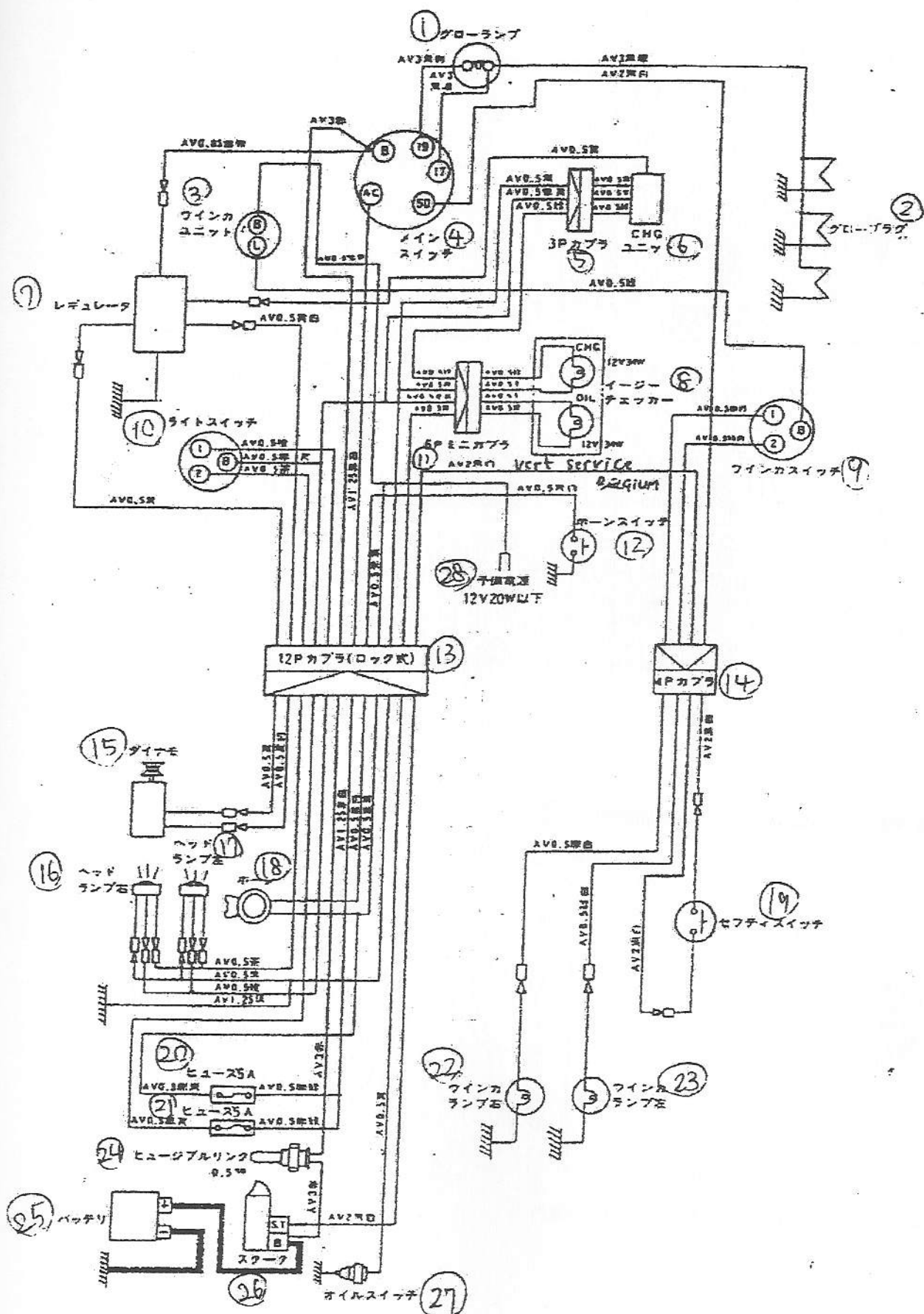
1. Filling up
2. Drain plug

# SPECIFICATIONS

| MODEL                         | B1200DT                                      | B1400DT                                                         | B1600DT                                           |
|-------------------------------|----------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------|
| ENGINE                        | D750L                                        | D850L                                                           | D950                                              |
| ENGINE MODEL                  |                                              |                                                                 |                                                   |
| TYPE OF ENGINE                | vertical, water-cooled, 4 cycle diesel       |                                                                 |                                                   |
| NUMBER OF CYLINDER            | 3                                            |                                                                 |                                                   |
| DISPLACEMENT VOLUME           | 762cc                                        | 855cc                                                           | 927cc                                             |
| POWER                         | 12 HP/2600 rpm                               | 14 HP/2600 rpm                                                  | 16HP/2600 rpm                                     |
| CYLINDER (diameter x stroke)  | 68 x 70 mm                                   | 72 x 70 mm                                                      | 75 x 70 mm                                        |
| FUEL TYPE                     | Kubota diesel heavy oil or diesel light oil  |                                                                 |                                                   |
| STARTER                       | self-starter (with glow plug decompressor)   |                                                                 |                                                   |
| SELF STARTER POWER            | 12V / 0.6 KW                                 |                                                                 | 12V / 0.8 KW                                      |
| LUBRICATING SYSTEM            | Trachoid pump forced feed system             |                                                                 |                                                   |
| COOLING SYSTEM                | Pressure type radiator (natural circulation) |                                                                 |                                                   |
| BATTERY CAPACITY              | NT60 (35 Ah)                                 | NT80 (45 Ah)                                                    | NS70L (12V 65 Ah)                                 |
| FUEL TANK CAPACITY            | 20 lit                                       |                                                                 |                                                   |
| ENGINE OIL CAPACITY           | 3.4 lit                                      |                                                                 |                                                   |
| COOLING WATER CAPACITY        | 3.4 lit (including reserve tank)             |                                                                 |                                                   |
| MISSION OIL CAPACITY          | 17 lit                                       |                                                                 |                                                   |
| DIMENSIONS                    | TOTAL LENGTH                                 | 2140 mm (without rotary)                                        | 2180 mm (without rotary) 2420 mm (without rotary) |
|                               | TOTAL WIDTH                                  | 1030 mm (tread 820 mm)                                          | 1050 mm (tread 810 mm) 1090 mm (tread 850 mm)     |
|                               | TOTAL HIGHS                                  | 1865 mm                                                         | 1880 mm                                           |
|                               | WHEEL BASE                                   | 1250 mm                                                         | 1350 mm                                           |
|                               | GROUND CLEARANCE                             | 225 mm (front wheel)                                            | 235 mm (front wheel) 240 mm (front wheel)         |
| TREAD                         | FRONT                                        | 770 mm                                                          | 770 mm                                            |
|                               | REAR                                         | 770-820-870 mm                                                  | 760-810-860 mm                                    |
|                               | FRONT                                        | 5.00 - 12 - 2 PR                                                | 5.00- 12 - 4 PR                                   |
|                               | REAR                                         | 7 ~ 14/16 - 2 PR                                                | 8 - 16 - 4 PR                                     |
| WEIGHT (without rotary - dry) | 482 kgs                                      | 500 kgs                                                         | 640 kgs                                           |
| PTO                           | PLACE                                        | Rear of mission case (front engine)                             |                                                   |
|                               | GROUND CLEARANCE                             | 430 mm                                                          | 480 mm                                            |
|                               | REVOLVING DIRECTION                          | Clockwise (watching from rear)                                  |                                                   |
|                               | SPEED CHANGE                                 | 3 speeds                                                        |                                                   |
| CLUTCH                        | SHAFT DIMENSION                              | 6 spline, diameter of 35 mm                                     |                                                   |
|                               |                                              | Dry single clutch                                               |                                                   |
|                               | STEERING GEAR                                | Ball screw type                                                 |                                                   |
|                               | TRANSMISSION TYPE                            | Selective sliding gear                                          |                                                   |
| TRANSMISSION                  | SPEED CHANGE                                 | Forward 6 speeds, reverse 2 speeds                              |                                                   |
|                               | MINIMUM TURNING RADIUS                       | 1.73 m                                                          | 1.75 m                                            |
|                               | MINIMUM TURNING RADIUS                       | 1.73 m                                                          | 1.79 m                                            |
|                               | BRAKE SYSTEM                                 | Single system - Right/Left independent (with connection system) |                                                   |
| DIFFERENTIAL GEAR             |                                              | Front and rear                                                  |                                                   |

# WIRING DIAGRAM B1400

## SCHEMA DE CABLAGE B1400



| B1400                  |    |
|------------------------|----|
| GB                     | FR |
| 1) GLOW LAMP           |    |
| 2) GLOW PLUG           |    |
| 3) WINKER UNIT         |    |
| 4) MAIN SWITCH         |    |
| 5) 3P COUPLER          |    |
| 6) CHG UNIT            |    |
| 7) REGULATOR           |    |
| 8) EASY CHECKER        |    |
| 9) WINKER SWITCH       |    |
| 10) LIGHT SWITCH       |    |
| 11) 6P MINI COUPLER    |    |
| 12) HORN SWITCH        |    |
| 13) 12P COUPLER        |    |
| 14) 4P COUPLER         |    |
| 15) DYNAMO             |    |
| 16) HEAD LAMP (RIGHT)  |    |
| 17) HEAD LAMP (LEFT)   |    |
| 18) HORN               |    |
| 19) SAFETY SWITCH      |    |
| 20) FUSE 5A            |    |
| 21) FUSE 5A            |    |
| 22) WINKER LAMP RIGHT  |    |
| 23) WINKER LAMP LEFT   |    |
| 24) FUSIBLE LINK       |    |
| 25) BATTERY            |    |
| 26) STARTER            |    |
| 27) OIL SWITCH         |    |
| 28) SUB ELECTRIC POWER |    |
|                        |    |