# SAFE OPERATION

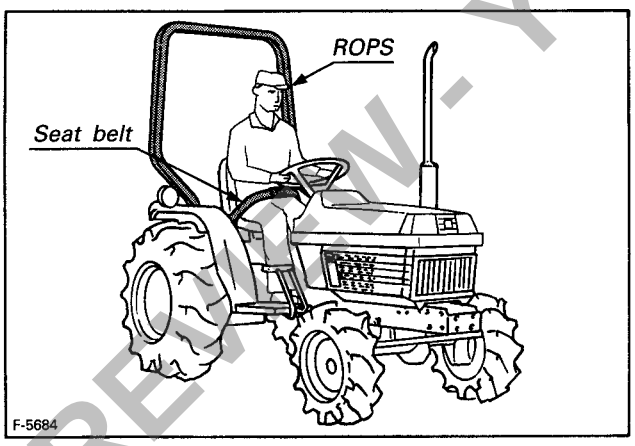
Careful operation is your best insurance against an accident. Read this section carefully before operating the tractor. All operators, no matter how much experience they may have had,should read this and other related manuals before operating tractor or any implement attached to it. It is the owner's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

## 1. BEFORE OPERATING THE TRACTOR

(1) Know your equipment and its limitations. Read this entire manual before attempting to start and operate the tractor.

(2) Pay special attention to the warning and caution labels on the tractor itself.

(3) Kubota recommends the use of a Roll Over Protective Structures (ROPS) and seat belt in almost all applications. This combination will reduce the risk of serious injury or death, should the tractor be upset.
If the ROPS is loosened or removed for any reason, make sure that all parts are reinstalled correctly before operating the tractor.
Never modify or repair a ROPS because welding, bending, drilling, grinding, or cutting any portion may weaken the structure.
A damaged ROPS structure must be replaced, not repaired or revised. If any structural member of the ROPS is damaged, replace the entire structure at your local Kubota dealer.




(4) Always use the seat belt if the tractor has a ROPS. Do not use it if there is no ROPS. Check the seat belt daily and replace if frayed or damaged.

(5) Do not operate tractor or any implement attached to it while under the influence of alcohol, medication, or other substances or while fatigued.

(6) Carefully check the vicinity before operating tractor or any implement attached to it. Check for overhead clearance which may interfere with a ROPS. Do not allow any bystanders around or near tractor during operation.

(7) Before allowing other people to use your tractor, explain how to operate and have them read this manual before operation.

(8) Never wear loose, torn, or bulky clothing around tractor. It may catch on moving parts or controls, leading to the risk of accident. Use additional safety items.....hard hat, safety boots or shoes, eye and hearing protection, gloves, etc.....as appropriate or required.

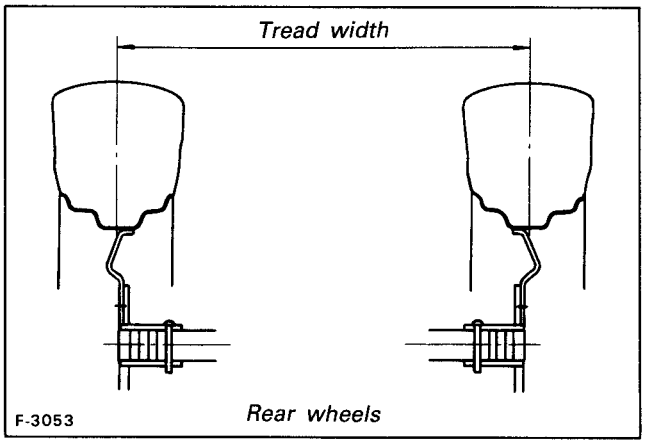
(9) Do not allow passengers or non-qualified operators on the tractor at any time. The operator must remain in the tractor seat throughout operation.

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

(11) Keep your tractor clean. Dirt, grease, and trash accumulations contribute to fires and lead to personal injury.

(12) Use only implements meeting the specifications listed under IMPLEMENT LIMITATIONS in this manual. Use proper weights to front or rear of tractor to reduce the risk of upsets. Follow the safe operating procedures specified in the manuals included with the equipment.

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

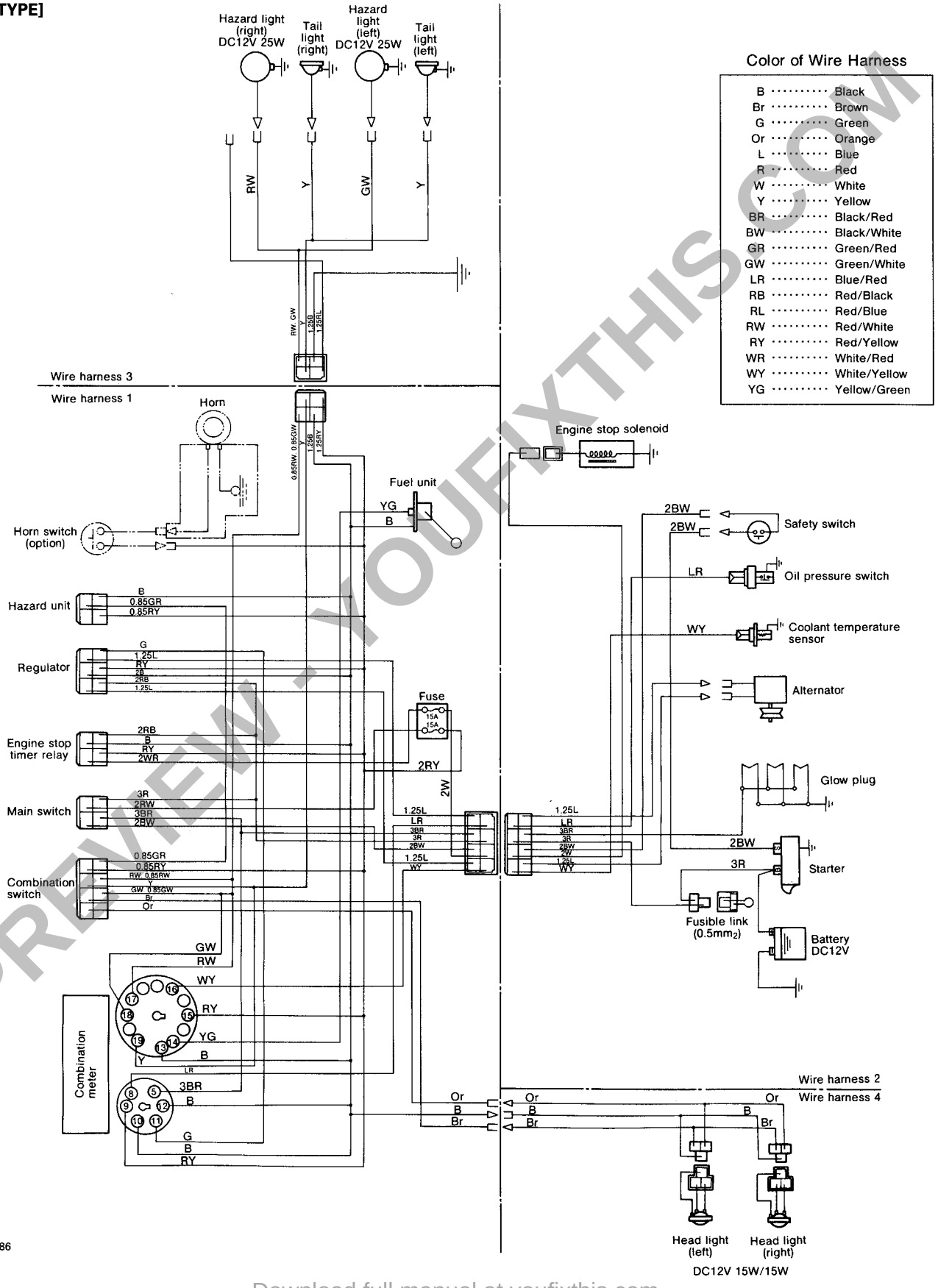



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# 16. WIRING DIAGRAM

**[A TYPE]**



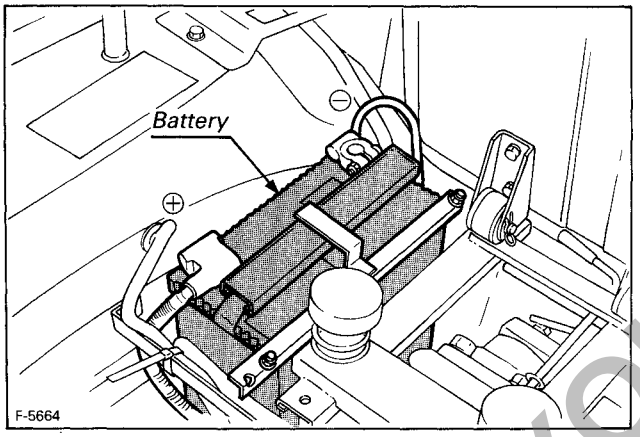

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# 10.11 BATTERY

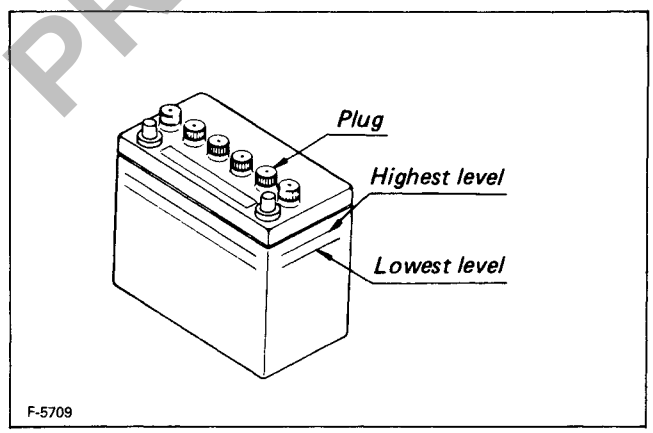
**CAUTION**
**To avoid personal injury;**
**(1) Never remove the battery cap while the engine is running.**
**Keep electrolyte away from eyes, hands and clothes. If you are spattered with it, flush it away completely with water immediately.**
**(2) Wear eye protection and rubber gloves when working around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

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




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

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




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

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

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

## ■ Directions for Storage

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

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

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# 2. SPECIFICATIONS

## 2.1 SPECIFICATION TABLE

| Model | | | B1550E (2WD) | | | | B1550D (4WD) | | |
|---|---|---|---|---|---|---|---|---|---|
| Engine gross power | | | 12.7 kW (17 HP)* | | | | | | |
| PTO power | | | 10.4 kW (14 HP)* | | | | | | |
| Engine | Model | | D850—5B | | | | | | |
| | Type | | Vertical, water-cooled, 4-cycle diesel | | | | | | |
| | No. of cylinders | | 3 | | | | | | |
| | Bore and stroke | | 72 mm × 70 mm (2.8 in. × 2.7 in.) | | | | | | |
| | Total displacement | | 855 $cm^3$ (52.2 cu.in.) | | | | | | |
| | Rated revolution | | 43.3 r/s (2600 rpm) | | | | | | |
| | Fuel | | Diesel fuel No. 2—D [No.1 diesel fuel if temperature is below —10°C (14°F)] | | | | | | |
| | Starter | | Electric starter with battery, glow plug and decompression device, 12V, 0.8 kW | | | | | | |
| | Lubrication | | Forced lubrication by trochoidal pump | | | | | | |
| | Cooling | | Water with pressurized radiator | | | | | | |
| | Battery | | 12V (45 AH) | | | | | | |
| Capacities | Fuel tank | | 18 ℓ (4.8 U.S.gals) | | | | | | |
| | Engine crankcase | | 3.1 ℓ (3.3 U.S.qts.) | | | | | | |
| | Engine coolant | | 2.9 ℓ (3.1 U.S.qts.) | | | | | | |
| | Transmission case | | 12 ℓ (12.7 U.S.qts.) | | | | | | |
| | Steering gear box | | 0.2 ℓ (0.2 U.S.qt.) | | | | | | |
| | Front axle diff. case | | — | | | | 0.5 ℓ (0.5 U.S.qt.) Bi-speed Turn: 2.5 ℓ (2.6 U.S.qts.) | | |
| | Front axle gear case | | | | | | 0.15 ℓ (0.15 U.S.qt.) | | |
| Tires | | Front | Farm 4.50—10 | Farm 5.00—10 | Turf 18×9.50—8 | Turf 18×9.50—8 | Farm 6—12B | Turf 20.5×8.00—10 | Turf 20.5×8.00—10 |
| | | Rear | 7—16 | 8—16 | 29×12.00—15 | 31×13.5—15** | 8—16 | 29×12.00—15 | 31×13.5—15** |
| Dimensions | Overall length mm (in.) | | 2565 (101.0) | 2565 (101.0) | 2565 (101.0) | 2565 (101.0) | 2565 (101.0) | 2565 (101.0) | 2565 (101.0) |
| | Overall width mm (in.) | | 910 (35.8)<br>960 (37.8)<br>1080 (42.5) | 990 (39.0)<br>1110 (43.7) | 1140 (44.9) | 1240 (48.8) | 980 (38.6)<br>1110 (43.7) | 1140 (44.9) | 1240 (48.8) |
| | Overall height with ROPS mm (in.) | | 1875 (73.7) | 1900 (74.8) | 1880 (74.1) | 1890 (74.4) | 1900 (74.8) | 1880 (74.1) | 1890 (74.4) |
| | Wheelbase mm (in.) | | 1470 (57.9) | 1470 (57.9) | 1470 (57.9) | 1470 (57.9) | 1470 (57.9) | 1470 (57.9) | 1470 (57.9) |
| | Min. ground clearance mm (in.) | | 230 (9.1) | 255 (10.0) | 240 (9.4) | 250 (9.8) | 240 (9.4) | 215 (8.5) | 215 (8.5) |
| | Treads | Front mm (in.) | 710 (28.0) | 710 (28.0) | 850 (33.5) | 850 (33.5) | 795 (31.3) | 825 (32.5) | 895 (35.2) |
| | | Rear mm (in.) | 740 (29.1)<br>790 (31.1)<br>910 (35.8) | 790 (31.1)<br>910 (35.8) | 840 (33.1) | 895 (35.2) | 790 (31.1)<br>910 (35.8) | 840 (33.1) | 895 (35.2) |
| Weight (with ROPS) kg (lbs.) | | | 545 (1202) | 555 (1224) | 565 (1246) | 570 (1257) | 610 (1345) | 615 (1356) | 630 (1389) |
| PTO shaft | | | Transmission case rear (rear PTO), Transmission case bottom (mid PTO) and engine front (front PTO) | | | | | | |
| | | Rear PTO | SAE 1-3/8 (with over running clutch)<br>2 speeds (9.0 and 15.5 r/s at 41.3 engine r/s) (540 and 924 rpm at 2476 engine rpm) | | | | | | |
| | | Mid PTO | USA No.5 (KUBOTA 10 tooth) Involute spline<br>1 speeds (40.3 r/s at 41.3 engine r/s) (2416 rpm at 2476 engine rpm) | | | | | | |
| Clutch | | | Dry single plate | | | | | | |
| Steering | | | Recirculating ball type manual steering or integral type power steering (if equipped) | | | | | | |
| Transmission | | | Gear shift, 6 forward and 2 reverse | | | | | | |
| Min. turning radius m (ft) | | with Brake | 2.10 (6.9) | | | | 2.40 (7.9) | | |
| | | without Brake | 2.30 (7.5) | | | | 2.80 (9.2) Bi-speed Turn : 2.10 (6.9) | | |
| Brake | | | Internal expanding type, right and left independent with interlocking device | | | | | | |
| Differential | | | Bevel gear | | | | | | |

Note: *Manufacturer's estimate
**Bar Tire (if equipped)

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# 8. OPERATING INSTRUCTIONS

**Pre-Start Checks**
Prior to starting the engine, make pre-start checks according to the Maintenance Check List on page 30 to 31.

**CAUTION**
**(1) Read "Safe Operation" in the front of this manual.**
**(2) Read the Warning and Caution labels located on the tractor.**

## 8.1 OPERATING THE ENGINE

**CAUTION**
**(1) To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.**
**(2) To avoid personal injury, always set main gear shift lever and PTO speed gear shift lever to the "neutral" positions before starting the engine.**

### ■ Starting

(1) Sit in the operator's seat. If the tractor is equipped with a ROPS, fasten the seat belt.
(2) Set the parking brake.
(3) Place Main gear shift lever and PTO speed gear shift lever in the "neutral" positions.
(4) Place hydraulic control lever in lowest position.
(5) Push in the engine stop knob.
(6) Insert the key into the key switch and turn it by one notch.
(7) Make sure that the easy checker light is on.
(8) Depress the clutch pedal fully, turn the key switch right, and hold it for about 5 seconds. (at the preheat position)
For the appropriate preheating time, refer to the table below:

| Temperature | Preheating Time |
|---|---|
| Over 0°C (32°F) | 5 sec. |
| 0 to −5°C (32 to 23°F) | 10 sec. |

(9) Turn the key switch to the start position and the starter will turn and the engine should start.
(10) Make sure that the easy checker light has gone off. If the light is still on, immediately stop the engine and check the lubrication system.
(11) Warm the engine by running at the medium speed.

**IMPORTANT**
(1) Do not turn the key switch to start position while the engine is running.
(2) When the temperature is below 0°C(32°F),place the main gear shift lever in the neutral position and keep the engine at medium speed to warm up the lubricant of engine and transmission at least 10 minutes.
If the tractor is operated before the lubricant of engine and transmission is warmed sufficiently, the tractor life will be shortened.
(3) Do not operate the tractor under full load condition until it is sufficiently warmed up.
(4) Do not use starting fluid, or engine will be damaged.

### ■ Stopping

Turn the key switch off and remove the key.

## 8.2 OPERATING THE TRACTOR

### ■ Starting

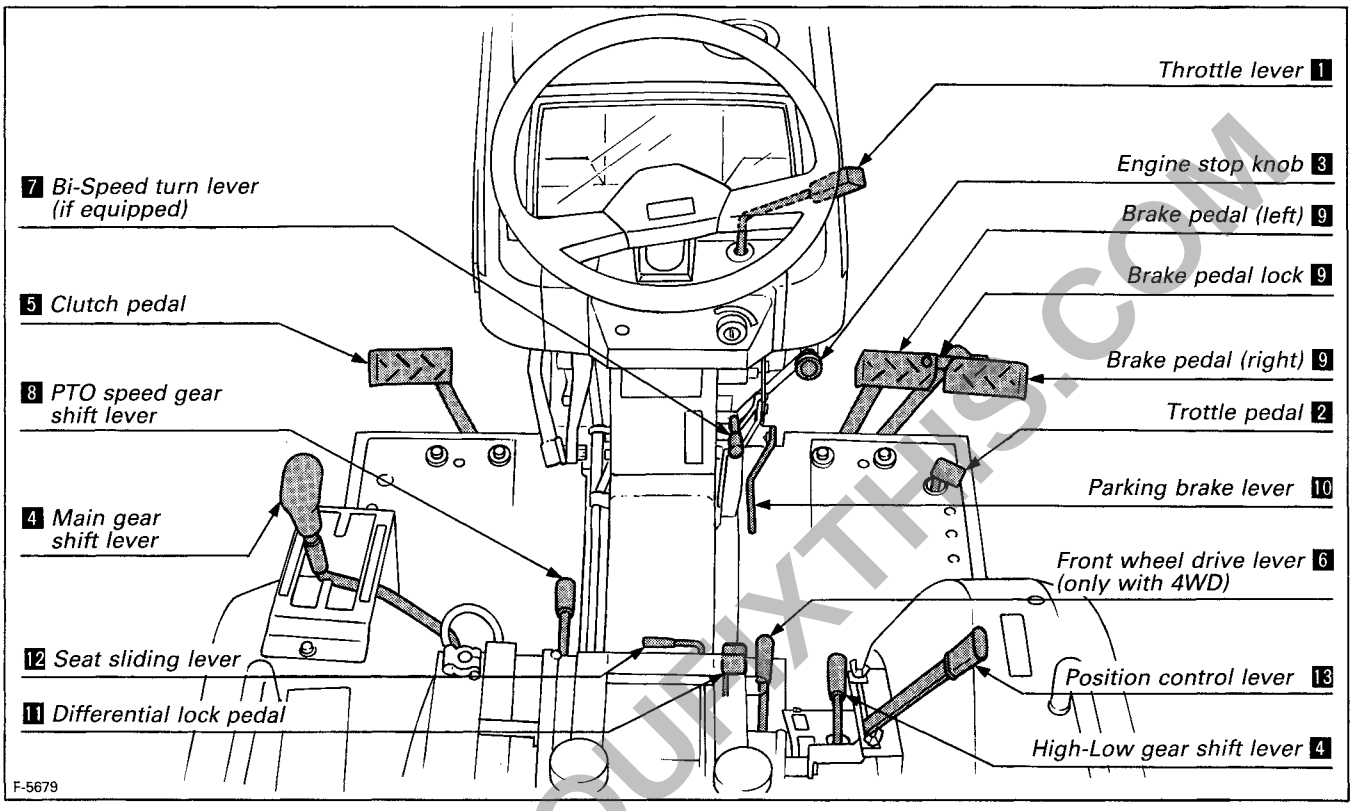
(1) Depress the clutch pedal to disengage the clutch.
(2) Shift levers to the desired speed position.
(3) Unlock the parking brake.
(4) Speed up the engine by moving the throttle lever clockwise.
(5) Slowly release the clutch pedal.

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

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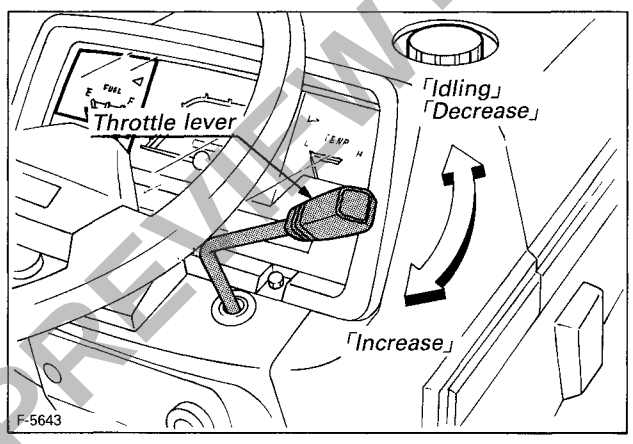
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# 5.2 CONTROLS



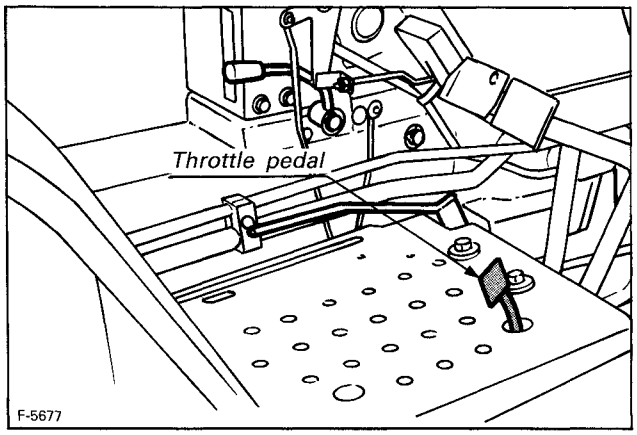

## 1 Throttle Lever

Pulling the throttle lever clockwise increases engine speed, and pushing it counterclockwise decreases engine speed.




## 2 Throttle Pedal

Depressing the pedal increases engine speed.
The throttle pedal may also be used to increase above engine speed set with the throttle lever.




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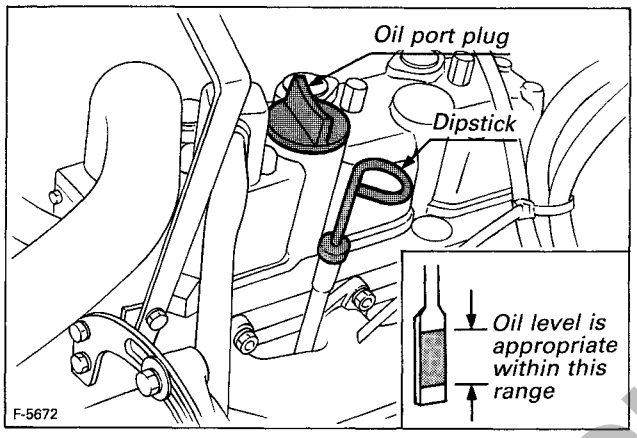
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# 10.2 ENGINE OIL

## ■ Oil Level Check and Replenishment

(See page 30)

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

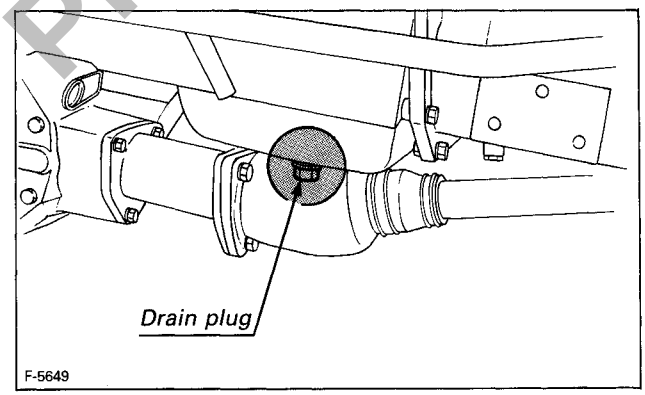



(4) When using an oil of different manufacturer or viscosity from the previous one, remove all of the old oil. Never mix two different types of oil.
(5) Use the proper SAE Engine Oil according to the air temperatures.
Refer to 9.2 "LUBRICANTS"

## ■ Engine Oil Change

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

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

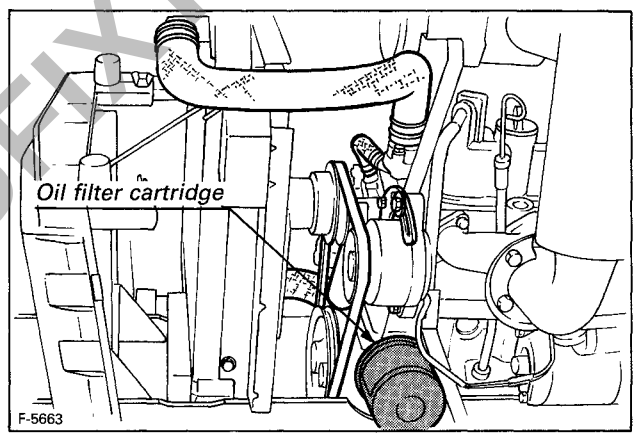



(2) Reinstall the drain plug.
(3) Fill with the new oil up to the upper notch on the dipstick.

## ■ Engine Oil Filter Cartridge Change

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

(1) The oil filter cartridge must be changed every 200 service hours.
(2) Unscrew the wing bolt and knob bolt which fasten the cover LH, and remove the cover LH.
(3) Apply a slight coat of oil onto the cartridge gasket.
(4) To install the new cartridge, screw it in by hand. Over tightening may cause deformation of rubber gasket.
(5) After the new cartridge has been replaced, the engine oil normally decreases a little. Check for leaks and refill if necessary.




**IMPORTANT**
- To avoid serious damage to the engine, replacement element must be of high quality. Use only a genuine KUBOTA filter or its equivalent.

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