KUBOTA Corporation is …

Since its inception in 1890, KUBOTA Corporation has grown to rank as one of the major firms in Japan.

To achieve this status, the company has through the years diversified the range of its products and services to a remarkable extent. Nineteen plants and 16,000 employees produce over 1,000 different items, large and small.

All these products and all the services which accompany them, however, are unified by one central commitment. KUBOTA makes products which, taken on a national scale, are basic necessities. Products which are indispensable. Products which are intended to help individuals and nations fulfill the potential inherent in their environment. KUBOTA is the Basic Necessities Giant.

This potential includes water supply, food from the soil and from the sea, industrial development, architecture and construction, and transportation.

Thousands of people depend on KUBOTA’s know-how, technology, experience and customer service. You too can depend on KUBOTA.

California Proposition 65

⚠️ WARNING ⚠️

Engine exhaust, some of its constituents, certain vehicle components and fluids, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
### UNIVERSAL SYMBOLS

As a guide to the operation of your tractor, various universal symbols have been utilized on the instruments and controls. The symbols are shown below with an indication of their meaning.

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You are now the proud owner of a KUBOTA Tractor. This tractor is a product of KUBOTA quality engineering and manufacturing. It is made of fine materials and under a rigid quality control system. It will give you long, satisfactory service. To obtain the best use of your tractor, please read this manual carefully. It will help you become familiar with the operation of the tractor and contains many helpful hints about tractor maintenance. It is KUBOTA's policy to utilize as quickly as possible every advance in our research. The immediate use of new techniques in the manufacture of products may cause some small parts of this manual to be outdated. KUBOTA distributors and dealers will have the most up-to-date information. Please do not hesitate to consult with them.

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this unit.

**DANGER** : Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

**WARNING** : Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**CAUTION** : Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

**IMPORTANT** : Indicates that equipment or property damage could result if instructions are not followed.

**NOTE** : Gives helpful information.
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SAFE OPERATION

Careful operation is your best insurance against an accident.

Read and understand this manual carefully before operating the tractor.

All operators, no matter how much experience they may have, should read this and other related manuals before operating the tractor or any implement attached to it. It is the owner's 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 danger, warning and caution labels on the tractor.
3. Do not operate the tractor or any implement attached to it while under the influence of alcohol, medication, controlled substances or while fatigued.
4. Before allowing other people to use your tractor, explain how to operate and have them read this manual before operation.
5. Never wear loose, torn, or bulky clothing around tractor. It may catch on moving parts or controls, leading to the risk of an accident. Use additional safety items, e.g. hard hat, safety boots or shoes, eye and hearing protection, gloves, etc., as appropriate or required.
6. Do not allow passengers to ride on any part of the tractor at anytime. The operator must remain in the tractor seat during operation.
7. Check brakes, clutch, linkage pins and other mechanical parts for improper adjustment and wear. Replace worn or damaged parts promptly. Check the tightness of all nuts and bolts regularly. (For further details, see "MAINTENANCE" section.)
8. Keep your tractor clean. Dirt, grease, and trash build up may contribute to fires and lead to personal injury.
9. Use only implements meeting the specifications listed under "IMPLEMENT LIMITATIONS" in this manual or implements approved by KUBOTA.
10. Use proper weights on the front or rear of the tractor to reduce the risk of upsets. When using the front loader, put an implement or ballast on the 3-point hitch to improve stability. Follow the safe operating procedures specified in the implement or attachment manual.

11. The narrower the tread, the greater the risk of a tractor upset. For maximum stability, adjust the wheels to the widest practical tread width for your application. (See "TIRES, WHEELS AND BALLAST" section.)

12. Do not modify the tractor. Unauthorized modification may affect the function of the tractor, which may result in personal injury.

◆ CAB, ROPS
1. KUBOTA recommends the use of a CAB or 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. Check for overhead clearance which may interfere with a CAB or ROPS.
2. Set parking brake and stop engine. Remove any obstruction that may prevent raising or folding of the ROPS. Do not allow any bystanders. Always perform function from a stable position at the rear of the tractor. Hold the top of the ROPS securely when raising or folding. Make sure all pins are installed and locked.
3. If the CAB or ROPS is loosened or removed for any reason, make sure that all parts are reinstalled correctly before operating the tractor.
4. Never modify or repair any structural member of a CAB or ROPS because welding, bending, drilling, grinding, or cutting may weaken the structure.
5. If any structural member of the CAB or ROPS is damaged, replace the entire structure at your local KUBOTA Dealer.
6. If the tractor is equipped with a foldable ROPS it may be temporarily folded down only when absolutely necessary for areas with height constraints. (There is no operator protection provided by the ROPS in the folded position. For operator safety the ROPS should be placed in the upright and locked position and the seat belt fastened for all other operations.)
SAFE OPERATION

7. Always use the seat belt if the tractor has a CAB or ROPS. Do not use the seat belt if a foldable ROPS is down or there is no ROPS. Check the seat belt regularly and replace if frayed or damaged.

2. OPERATING THE TRACTOR

Operator safety is a priority. Safe operation, specifically with respect to overturning hazards, entails understanding the equipment and environmental conditions at the time of use. Some prohibited uses which can affect overturning hazards include traveling and turning with implements and loads carried too high etc. This manual sets forth some of the obvious risks, but the list is not, and cannot be, exhaustive. It is the operator's responsibility to be alert for any equipment or environmental condition that could compromise safe operation.

◆ Starting
1. Always sit in the operator's seat when starting engine or operating levers or controls. Adjust seat per instructions in the operating the tractor section. Never start engine while standing on the ground.
2. Before starting the engine, make sure that all levers (including auxiliary control levers) are in their neutral positions, that the parking brake is engaged, and that both the clutch and the Power Take-Off (PTO) are disengaged or "OFF". Fasten the seat belt if the tractor has a CAB or a foldable ROPS in the upright and locked position.
3. Do not start engine by shorting across starter terminals or bypassing the safety start switch. Machine may start in gear and move if normal starting circuitry is bypassed.
4. Do not operate or idle engine in a non-ventilated area. Carbon monoxide gas is colorless, odorless, and deadly.

5. Check before each use that operator presence controls are functioning correctly. Test safety systems. (See "Checking Engine Start System" and "Checking Operator Presence Control" in "EVERY 50 HOURS" in "PERIODIC SERVICE" section.) Do not operate unless they are functioning correctly.

◆ Working
1. Pull only from the drawbar. Never hitch to axle housing or any other point except drawbar; such arrangements will increase the risk of serious personal injury or death due to a tractor upset.

2. For trailing PTO-driven implements, set the drawbar to the towing position.
3. Attach pulled or towed loads to the drawbar only.
4. Keep all shields and guards in place. Replace any that are missing or damaged.
5. Avoid sudden starts. To avoid upsets, slow down when turning, on uneven ground, and before stopping.
6. The tractor cannot turn with the differential locked and attempting to do so could be dangerous.
7. Do not operate near ditches, holes, embankments, or other ground surface features which may collapse under the tractor's weight. The risk of tractor upset is even higher when the ground is loose or wet. Tall grass can hide obstacles, walk the area first to be sure.
8. Watch where you are going at all times. Watch for and avoid obstacles. Be alert at row ends, near trees, and other obstructions.
9. When working in groups, always let the others know what you are going to do before you do it.
10. Never try to get on or off a moving tractor.
11. Always sit in the operator's seat when operating levers or controls.
12. Do not stand between tractor and implement or trailed vehicle unless parking brake is applied.
**SAFE OPERATION**

◆ **Safety for children**

Tragedy can occur if the operator is not alert to the presence of children. Children generally are attracted to machines and the work they do.

1. Never assume that children will remain where you last saw them.
2. Keep children out of the work area and under the watchful eye of another responsible adult.
3. Be alert and shut your machine down if children enter the work area.
4. Never carry children on your machine. There is no safe place for them to ride. They may fall off and be run over or interfere with your control of the machine.
5. Never allow children to operate the machine even under adult supervision.
6. Never allow children to play on the machine or on the implement.
7. Use extra caution when backing up. Look behind and down to make sure area is clear before moving.

◆ **Operating on slopes**

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death.

All slopes require extra caution.

1. To avoid upsets, always back up steep slopes. If you cannot back up the slope or if you feel uneasy on it, do not operate on it. Stay off slopes too steep for safe operation.
2. Driving forward out of a ditch, mired condition or up a steep slope increases the risk of a tractor to be upset backward. Always back out of these situations. Extra caution is required with 4-wheel drive models because their increased traction can give the operator false confidence in the tractor’s ability to climb slopes.
3. Keep all movement on slopes slow and gradual. Do not make sudden changes in speed, direction or apply brake and make sudden motions of the steering wheel.
4. Avoid disengaging the clutch or changing gears speed when climbing or going down a slope. If on a slope disengaging the clutch or changing gears to neutral could cause loss of control.
5. Special attention should be made to the weight and location of implements and loads as such will affect the stability of the tractor.
6. To improve stability on slope, set widest wheel tread as shown in "TIRES, WHEELS AND BALLAST" section.

Follow recommendations for proper ballasting.

◆ **Driving the tractor on the road**

1. Lock the 2 brake pedals together to help assure straight-line stops. Uneven braking at road speeds could cause the tractor to tip over.
4. Make sure that the Slow Moving Vehicle (SMV) sign is clean and visible. Use hazard lights and turn signals as required.

5. Observe all local traffic and safety regulations.

6. Turn the headlights on. Dim them when meeting another vehicle.

7. Drive at speeds that allow you to maintain control at all times.

8. Do not apply the differential lock while traveling at road speeds. The tractor may run out of control.

9. Avoid sudden motions of the steering wheel as they can lead to a dangerous loss of stability. The risk is especially great when the tractor is traveling at road speeds.

10. Keep the ROPS in the "UP" position and wear the seat belt when driving the tractor on the road. Otherwise, you will not be protected in the event of a tractor roll-over.

11. Do not operate an implement while the tractor is on the road. Lock the 3-point hitch in the raised position.

12. When towing other equipment, use a safety chain and place an SMV emblem on it as well.

13. Set the implement lowering speed knob in the "LOCK" position to hold the implement in the raised position.

3. PARKING THE TRACTOR

1. Disengage the PTO, lower all implements to the ground, place all control levers in their neutral positions, set the parking brake, stop the engine, remove the key from the ignition and lock the cab door (if equipped). Leaving transmission in gear with the engine stopped will not prevent tractor from rolling. (HST type)

2. Make sure that the tractor has come to a complete stop before dismounting.

3. Avoid parking on steep slopes, if at all possible park on a firm and level surface; if not, park across a slope and chock the wheels. Failure to comply with this warning may allow the tractor to move and could cause injury or death.

4. OPERATING THE PTO

1. Wait until all moving components have completely stopped before getting off the tractor, connecting, disconnecting, adjusting, cleaning, or servicing any PTO driven equipment.
2. Keep the PTO shaft cover in place at all times. Replace the PTO shaft cap when the shaft is not in use.

3. Before installing or using PTO driven equipment, read the manufacturer’s manual and review the safety labels attached to the equipment.

4. When operating stationary PTO driven equipment, always apply the tractor parking brake and place chocks behind and in front of the rear wheels. Stay clear of all rotating parts. Never step over rotating parts.

5. USING 3-POINT HITCH

1. Use the 3-point hitch only with equipment designed for 3-point hitch usage.
2. When using a 3-point hitch mounted implement, be sure to install the proper counterbalance weight on the front of the tractor.
3. To avoid injury from separation:
   Do not extend lift rod beyond the groove on the threaded rod.

6. SERVICING THE TRACTOR

Before servicing the tractor, park it on a firm, flat and level surface, set the parking brake, lower all implements to the ground, place the gear shift lever in neutral, stop the engine and remove the key.

1. Allow the tractor time to cool off before working on or near the engine, muffler, radiator, etc.
2. Do not remove radiator cap while coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely. If the tractor has a coolant recovery tank, add coolant or water to the tank, not the radiator. (See "Checking Coolant Level" in "DAILY CHECK" in "PERIODIC SERVICE" section.)
3. Always stop the engine before refueling. Avoid spills and overfilling.
4. Do not smoke when working around battery or when refueling. Keep all sparks and flames away from battery and fuel tank. The battery presents an explosive hazard, because it gives off hydrogen and oxygen especially when recharging.
5. Before "jump starting" a dead battery, read and follow all of the instructions. (See "JUMP STARTING" in "OPERATING THE ENGINE" section.)
6. Keep first aid kit and fire extinguisher handy at all times.
7. Disconnect the battery’s ground cable before working on or near electric components.
8. To avoid the possibility of battery explosion, do not use or charge the refillable type battery if the fluid level is below the LOWER (lower limit level) mark. Check the fluid level regularly and add distilled water as required so that the fluid level is between the UPPER and LOWER levels.
9. To avoid sparks from an accidental short circuit, always disconnect the battery’s ground cable (-) first and reconnect it last.
10. Do not attempt to mount a tire on a rim. This should be done by a qualified person with the proper equipment.
SAFE OPERATION

11. Always maintain the correct tire pressure. Do not inflate tires above the recommended pressure shown in the operator's manual.

12. Securely support the tractor when either changing wheels or adjusting the wheel tread width.

13. Make sure that wheel bolts have been tightened to the specified torque.

14. Do not work under any hydraulically supported devices. They can settle, suddenly leak down, or be accidentally lowered. If it is necessary to work under tractor or any machine elements for servicing or adjustment, securely support them with stands or suitable blocking beforehand.

15. Escaping hydraulic fluid under pressure has sufficient force to penetrate skin, causing serious personal injury. Before disconnecting hydraulic lines, be sure to release all residual pressure. Before applying pressure to the hydraulic system, make sure that all connections are tight and that all lines, pipes, and hoses are free of damage.

16. Fluid escaping from pinholes may be invisible. Do not use hands to search for suspected leaks; use a piece of cardboard or wood. Use of safety goggles or other eye protection is also highly recommended. If injured by escaping fluid, see a medical doctor at once. This fluid will produce gangrene or severe allergic reaction.

17. Do not open high-pressure fuel system. High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect nor attempt to repair fuel lines, sensors, or any other components between the high-pressure fuel pump and injectors on engines with high pressure common rail fuel system.

18. To avoid hazardous high voltage, turn the key switch to the OFF position if it is necessary to check or repair the computer, harness or connectors.

19. During Diesel Particulate Filter (hereinafter called DPF) regenerating operations, exhaust gases and exhaust filter components reach temperatures hot enough to burn people, or ignite or melt common materials.

20. Keep the tractor away from people, animals or structures which may be susceptible to harm or damage from hot exhaust gases.

21. To prevent fires, keep the DPF muffler and its surroundings clear of anything flammable and keep clean at all times.

22. During regeneration, white exhaust gas may be visible. Do not allow regeneration in a non-ventilated space.

23. During regeneration, do not leave the tractor.
7. DANGER, WARNING AND CAUTION LABELS

(1) Part No. TC660-4997-1

**WARNING**

TO AVOID PERSONAL INJURY OR DEATH:
1. Read and understand the operator’s manual before operation.
2. Before starting the engine, make sure that everyone is at a safe distance from the tractor and that the PTO is OFF.
3. Do not allow passengers on the tractor at any time.
4. Before allowing other people to use the tractor, have them read the operator’s manual.
5. Check the tightness of all nuts and bolts regularly.
6. Keep all shields in place and stay away from all moving parts.
7. Lock the two brake pedals together before driving on the road.
8. Slow down for turns, or tough roads, or when applying individual brakes.
9. On public roads use SHY emblem and hazard lights, if required by local traffic and safety regulations.
10. Pull only from the drawbar.
11. Before dismounting, lower the implement to the ground, set the parking brake, stop the engine and remove the key.
12. Securely support tractor and implements before working underneath.

(3) Part No. 6C540-9554-1

**WARNING**

Never modify or repair a ROPS because welding, grinding, drilling or cutting any portion may weaken the structure.

**WARNING**

TO AVOID PERSONAL INJURY OR DEATH WHEN RAISING OR FOLDING ROPS:
- Set parking brake and stop engine.
- Remove any obstruction that may prevent raising or folding of the ROPS.
- Do not allow any bystanders.
- Always perform function from a stable position at the rear of the tractor.
- Hold the top of the ROPS securely when raising or folding.
- Make sure all pins are installed and locked.

(2) Part No. TA040-4965-2

**DANGER**

TO AVOID POSSIBLE INJURY OR DEATH FROM A MACHINE RUNAWAY:
1. Do not start engine by starting across starter terminals or bypassing the safety start switch. Machine may start in gear and move if normal starting circuitry is bypassed.
2. Start engine only from operator’s seat with transmission and PTO OFF. Never start engine while standing on the ground.

(4) Part No. 6C090-4956-2

Do not get your hands close to engine fan and fan belt.

(5) Part No. TC030-4956-1

Do not touch hot surface like muffler, etc.

(6) Part No. TC660-9861-1

**WARNING**

TO AVOID PERSONAL INJURY OR DEATH:
When the Diesel Particulate Filter (DPF) is in the regenerating mode, the exhaust gas and the DPF muffler become hot. During regeneration, take into account that the muffler will be very hot and do not reach to stay away from other people, animals, plants, and flammable material. Also keep the area near the DPF muffler clean and away from flammable material.
## SAFE OPERATION

1. **Part No. TC660-4935-1**
   - **WARNING**
   - **TO AVOID PERSONAL INJURY OR DEATH:**
     - Attach pulled or towed loads to the drawbar only.
     - Use the 3-point hitch only with equipment designed for 3-point hitch usage.

2. **Part No. TA240-9848-2**
   - **WARNING**
   - **TO AVOID INJURY OR EJECTION FROM IMPLEMENT:**
     - Keep Roll Over Protective Structures (ROPS) in the upgaged and locked position.
     - Fasten SEAT BELT before operating.
     - Check the operation area and test the ROPS only.
     - Do not wear seat belt if ROPS is folded.

3. **Part No. TA140-4933-1 [Manual Transmission Type]**
   - **WARNING**
   - **BEFORE DISMOUNTING TRACTOR:**
     - **ALWAYS SET PARKING BRAKE.**
     - **PARK ON LEVEL GROUND WHENEVER POSSIBLE.**
     - If parking on a slope, position tractor across the slope.
     - **LOWER ALL IMPLEMENTS TO THE GROUND.**
     - **LOCK SHUTTLE SHIFT LEVER IN NEUTRAL POSITION AND STOP THE ENGINE.**

4. **Part No. TA040-4959-3**
   - **WARNING**
   - **TO AVOID PERSONAL INJURY:**
     - Keep PTO shield in place at all times.
     - Do not operate the PTO at speeds faster than the speed recommended by the implement manufacturer.
     - For training PTO-driven implements, set drawbar at towing position (see operator's manual).

5. **Part No. TC420-4956-1**
   - Diesel fuel only
   - No fire
   - **ULTRA LOW SULFUR DIESEL FUEL ONLY**
   - 1AGA01541

6. **Part No. 6C090-4958-2**
   - Do not get your hands close to engine fan and fan belt.
8. CARE OF DANGER, WARNING AND CAUTION LABELS

1. Keep danger, warning and caution labels clean and free from obstructing material.
2. Clean danger, warning and caution labels with soap and water, dry with a soft cloth.
3. Replace damaged or missing danger, warning and caution labels with new labels from your local KUBOTA Dealer.
4. If a component with danger, warning and caution label(s) affixed is replaced with new part, make sure new label(s) is (are) attached in the same location(s) as the replaced component.
5. Mount new danger, warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.
SERVICING OF TRACTOR

Your dealer is interested in your new tractor and has the desire to help you get the most value from it. After reading this manual thoroughly, you will find that you can do some of the regular maintenance yourself. However, when in need of parts or major service, be sure to see your KUBOTA Dealer.

For service, contact the KUBOTA Dealership from which you purchased your tractor or your local KUBOTA Dealer. When in need of parts, be prepared to give your dealer the tractor, CAB/ROPS and engine serial numbers. Locate the serial numbers now and record them in the space provided.

<table>
<thead>
<tr>
<th>Type</th>
<th>Serial No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tractor</td>
<td></td>
</tr>
<tr>
<td>CAB / ROPS</td>
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</tr>
<tr>
<td>Engine</td>
<td></td>
</tr>
<tr>
<td>Date of Purchase</td>
<td></td>
</tr>
<tr>
<td>Name of Dealer</td>
<td></td>
</tr>
<tr>
<td>(To be filled in by purchaser)</td>
<td></td>
</tr>
</tbody>
</table>

◆ Warranty
This tractor is warranted under the KUBOTA Limited Express Warranty, a copy of which may be obtained from your selling dealer. No warranty shall, however, apply if the tractor has not been handled according to the instruction given in the Operator's Manual even it is within the warranty period.

◆ Scrapping the tractor and its procedure
To put the tractor out of service, correctly follow the local rules and regulations of the country or territory where you scrap it. If you have questions, consult your local KUBOTA Dealer.
SERVICING OF TRACTOR

1. ROPS identification plate (ROPS Serial No.)

2. Diesel Particulate Filter (DPF) serial number
### SPECIFICATION TABLE

<table>
<thead>
<tr>
<th>Model</th>
<th>MX4800</th>
<th>MX5200</th>
<th>MX5800</th>
</tr>
</thead>
<tbody>
<tr>
<td>HST</td>
<td>HST</td>
<td>HST</td>
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</tr>
<tr>
<td>4WD</td>
<td>2WD</td>
<td>4WD</td>
<td>2WD</td>
</tr>
</tbody>
</table>

#### Model
- MX4800: V2403-CR-E4
- MX5200: V2403-CR-TE4

#### Type
- 4 cylinder in-line, Common Rail System, direct injection
- 4 / Natural
- 4 / Turbocharged

#### Number of cylinders / Aspiration
- 4
- Natural
- Turbocharged

#### Engine
- Total displacement: L (cu.in.) 2.434 (148.6)
- Bore and stroke: mm (in.) 87 x 102.4 (3.4 x 4.0)
- Rated revolution: rpm 2700
- Low idling revolution: rpm 800 to 900
- Net power* (kW / rpm): 35.0 (46.9) / 2700
- PTO power* (kW / rpm): 30.2 (40.5) / 2700
- Maximum torque: N-m (ft-lbs.) 157.7 (116.3)
- Battery capacity: 12V, RC: 120 min, CCA: 600A

#### Capacities
- Fuel tank (L (U.S.gals.)): 51 (13.5)
- Engine crankcase (L (U.S.qts.)): 8.2 (8.7)
- Engine coolant (L (U.S.qts.)): 6.5 (6.9)
- Transmission case (L (U.S.gals.)): 44.0 (11.6)

#### Dimensions
- Overall length (mm (in.)): 3180 (125.2) 3245 (127.8) 3180 (125.2) 3180 (125.2) 3180 (125.2)
- Overall width (mm (in.)): 1770 (69.7)
- Overall height (mm (in.)): 2430 (95.7)
- Wheel base (mm (in.)): 1895 (74.6)
- Min. ground clearance (mm (in.)): 385 (15.2)

#### Tread
- Front (mm (in.)): 1325 (52.2) 1280 (50.4) 1380 (54.3) 1480 (58.3) 1580 (62.2)
- Rear (mm (in.)): 1375 (54.1) 1490 (58.7)

#### Weight (with ROPS)
- kg (lbs.): 1684 (3712) 1574 (3469) 1692 (3729) 1686 (3716) 1576 (3474) 1694 (3734) 1694 (3734)
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>MX4800</th>
<th>MX5200</th>
<th>MX5800</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Manual Transmission</td>
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<td>Manual Transmission</td>
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<tr>
<td></td>
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</tr>
<tr>
<td>Traveling system</td>
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<td>Standard tire size</td>
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<tr>
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<td>7.5L - 15</td>
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<tr>
<td>Rear</td>
<td>14.9 - 28</td>
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<td></td>
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<tr>
<td>Clutch</td>
<td>Dry type single stage</td>
<td>---</td>
<td>Dry type single stage</td>
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<td>Steering</td>
<td>Hydrostatic power steering</td>
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<tr>
<td>Transmission</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Gear shift, 8 forward and 8 reverse</td>
<td>Hyostatic transmission 3 range speed</td>
<td>Gear shift, 8 forward and 8 reverse</td>
<td>Hydrostatic transmission 3 range speed</td>
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<tr>
<td>Braking system</td>
<td>Mechanical, Wet disk type</td>
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<tr>
<td>Min. turning radius (with brake)</td>
<td>m (feet)</td>
<td>2.7 (8.9)</td>
<td>2.6 (8.5)</td>
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<tr>
<td>Hydraulic unit</td>
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<td></td>
</tr>
<tr>
<td>Hydraulic control system</td>
<td>Position control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump capacity</td>
<td>L (U.S.gals.) / min</td>
<td>35.8 (9.5)</td>
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</tr>
<tr>
<td>3-point hitch</td>
<td>SAE Category 1, 2</td>
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<tr>
<td>Max. lift force</td>
<td>kg (lbs.)</td>
<td>1300 (2870)</td>
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</tr>
<tr>
<td>At lift points</td>
<td>kg (lbs.)</td>
<td>1050 (2310)</td>
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</tr>
<tr>
<td>24in. behind lift points</td>
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<tr>
<td>System pressure</td>
<td>MPa (kgf / cm²) [psi]</td>
<td>17.7 (160) [2560]</td>
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<tr>
<td>PTO</td>
<td>Rear PTO</td>
<td>SAE 1-3/8, 6-splines</td>
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<tr>
<td>PTO / Engine rpm</td>
<td>540 / 2700</td>
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**NOTE:** *Manufacturer’s estimate* The company reserves the right to change the specifications without notice.
SPECIFICATIONS

TRAVELING SPEEDS

[Manual Transmission Type] (At rated engine rpm)

<table>
<thead>
<tr>
<th>Model</th>
<th>MX4800 / MX5200</th>
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<tr>
<td>Tire size (Rear)</td>
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<table>
<thead>
<tr>
<th>Range gear shift lever</th>
<th>Main gear shift lever</th>
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<th>mph</th>
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<td></td>
<td>4</td>
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<td>16.0</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>1.5</td>
<td>0.9</td>
</tr>
<tr>
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<td>2.1</td>
<td>1.3</td>
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<td>3.3</td>
<td>2.1</td>
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<td>4</td>
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<td>High</td>
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<td>7.0</td>
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<td>2</td>
<td>9.9</td>
<td>6.1</td>
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<td></td>
<td>3</td>
<td>16.1</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>23.7</td>
<td>14.7</td>
</tr>
</tbody>
</table>

The company reserves the right to change the specifications without notice.

[HST Type] (At rated engine rpm)

<table>
<thead>
<tr>
<th>Model</th>
<th>MX4800 / MX5200 / MX5800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire size (Rear)</td>
<td>14.9-26</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Range gear shift lever</th>
<th>km/h</th>
<th>mph</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>0 to 6.0</td>
<td>0 to 3.7</td>
</tr>
<tr>
<td>M</td>
<td>0 to 11.8</td>
<td>0 to 7.3</td>
</tr>
<tr>
<td>H</td>
<td>0 to 25.9</td>
<td>0 to 16.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Range gear shift lever</th>
<th>km/h</th>
<th>mph</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>0 to 5.5</td>
<td>0 to 3.4</td>
</tr>
<tr>
<td>M</td>
<td>0 to 10.6</td>
<td>0 to 6.6</td>
</tr>
<tr>
<td>H</td>
<td>0 to 23.3</td>
<td>0 to 14.5</td>
</tr>
</tbody>
</table>

The company reserves the right to change the specifications without notice.
**IMPLEMENT LIMITATIONS**

The KUBOTA Tractor has been thoroughly tested for proper performance with implements sold or approved by KUBOTA. Use with implements which are not sold or approved by KUBOTA and 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.]

---

<table>
<thead>
<tr>
<th>Implement</th>
<th>Tread (max. width) with farm tires</th>
<th>Lower link end max. lifting capacity $W_0$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Front</td>
<td>Rear</td>
</tr>
<tr>
<td></td>
<td>2WD</td>
<td>4WD</td>
</tr>
<tr>
<td>MX4800 MX5200</td>
<td>1530 mm (60.2 in.)</td>
<td>1325 mm (52.2 in.)</td>
</tr>
<tr>
<td>MX5800</td>
<td>---</td>
<td>1325 mm (52.2 in.)</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Implement</th>
<th>Actual figures</th>
<th>Max. drawbar load $W_2$</th>
<th>Trailer loading weight $W_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>MX4800 MX5200 MX5800</td>
<td>As in the following list (Shown on the next page)</td>
<td>750 kg (1650 lbs.)</td>
<td>3500 kg (7700 lbs.)</td>
</tr>
</tbody>
</table>

---

**NOTE:**
- Implement size may vary depending on soil operating conditions.
- Strictly follow the instructions outlined in the operator’s manual of the mounted or trailed machinery or trailer, and do not operate the combination tractor - machine or tractor - trailer unless all instructions have been followed.
- Forestry Application
  - Following hazards exist:
    - (a) toppling trees, primarily in case a rear-mounted tree grab-crane is mounted at the rear of the tractor;
    - (b) penetrating objects in the operator’s enclosure, primarily in case a winch is mounted at the rear of the tractor.
  - Optional equipments such as OPS (Operator Protective Structure), FOPS (Falling Object Protective Structure), etc. to deal with these hazards and other related hazards are not available for this tractor. Without such optional equipment use is limited to tractor specific applications like transport and stationary work.
# IMPLEMENT LIMITATIONS

<table>
<thead>
<tr>
<th>No.</th>
<th>Implement</th>
<th>Remarks</th>
<th>MX4800 / MX5200 / MX5800</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Trailer</td>
<td>Max. load capacity kg (lbs.)</td>
<td>3500 (7700)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. drawbar load kg (lbs.)</td>
<td>750 (1650)</td>
</tr>
<tr>
<td>2</td>
<td>Mower</td>
<td>Max. cutting width mm (in.)</td>
<td>2130 (84)</td>
</tr>
<tr>
<td></td>
<td>Rotary-Cutter</td>
<td>Max. weight kg (lbs.)</td>
<td>450 (1000)</td>
</tr>
<tr>
<td></td>
<td>Flail Mower</td>
<td>Max. cutting width mm (in.)</td>
<td>1830 (72)</td>
</tr>
<tr>
<td></td>
<td>Sickle Bar</td>
<td>Max. weight kg (lbs.)</td>
<td>500 (1100)</td>
</tr>
<tr>
<td>3</td>
<td>Sprayer</td>
<td>Max. tank capacity L (gals.)</td>
<td>2000 (529)</td>
</tr>
<tr>
<td></td>
<td>Rear mounted</td>
<td>Max. tank capacity L (gals.)</td>
<td>500 (130)</td>
</tr>
<tr>
<td>4</td>
<td>Rotary Tiller</td>
<td>Max. tilling width mm (in.)</td>
<td>1830 (72)</td>
</tr>
<tr>
<td>5</td>
<td>Bottom Plow</td>
<td>Max. size</td>
<td>16 in. x 2</td>
</tr>
<tr>
<td>6</td>
<td>Disk harrow : Pull type</td>
<td>Max. harrowing width mm (in.)</td>
<td>2130 (84)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight kg (lbs.)</td>
<td>400 (880)</td>
</tr>
<tr>
<td>7</td>
<td>Chisel Plow</td>
<td>Max. width mm (in.)</td>
<td>1830 (72)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight kg (lbs.)</td>
<td>350 (770)</td>
</tr>
<tr>
<td>8</td>
<td>Broad Caster</td>
<td>Max. tank capacity L (gals.)</td>
<td>300 (80)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight kg (lbs.)</td>
<td>100 (220)</td>
</tr>
<tr>
<td>9</td>
<td>Manure Spreader</td>
<td>Max. capacity kg (lbs.)</td>
<td>2000 (4400)</td>
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<tr>
<td>10</td>
<td>Cultivator</td>
<td>Max. width mm (in.)</td>
<td>2450 (96)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of rows</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight kg (lbs.)</td>
<td>400 (880)</td>
</tr>
<tr>
<td>11</td>
<td>Front Blade</td>
<td>Max. cutting width mm (in.)</td>
<td>1830 (72)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. oil pressure MPa (psi)</td>
<td>17.2 (2490)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sub frame</td>
<td>Necessary</td>
</tr>
<tr>
<td>12</td>
<td>Rear Blade</td>
<td>Max. cutting width mm (in.)</td>
<td>1830 (72)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. oil pressure MPa (psi)</td>
<td>17.2 (2490)</td>
</tr>
<tr>
<td>13</td>
<td>Front-end Loader</td>
<td>Max lifting capacity kg (lbs.)</td>
<td>850 (1870)</td>
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<tr>
<td></td>
<td></td>
<td>Max. oil pressure MPa (psi)</td>
<td>17.2 (2490)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sub frame</td>
<td>Necessary</td>
</tr>
<tr>
<td>14</td>
<td>Box Blade</td>
<td>Max. cutting width mm (in.)</td>
<td>1830 (72)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight kg (lbs.)</td>
<td>450 (1000)</td>
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<tr>
<td>15</td>
<td>Back Hoe</td>
<td>Max. digging depth mm (in.)</td>
<td>2288 (90)</td>
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<tr>
<td></td>
<td></td>
<td>Max. weight kg (lbs.)</td>
<td>450 (990)</td>
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<td>16</td>
<td>Snow Blade</td>
<td>Max. width mm (in.)</td>
<td>1830 (72)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight kg (lbs.)</td>
<td>400 (880)</td>
</tr>
</tbody>
</table>

**NOTE:**
- Implement size may vary depending on soil operating conditions.
**INSTRUMENT PANEL AND CONTROLS**

**Instrument Panel, Switches and Hand Controls**

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1. DPF INHIBIT switch.......................... 13
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5. Hazard light switch........................ 30
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(2) Engine oil pressure warning indicator ............ 40
(3) Glow plug indicator ...................................... 24
(4) Parking brake warning indicator ..................... 20
(5) Turn signal / hazard indicator ....................... 30
(6) Master system warning indicator .................... 40
(7) Regeneration indicator .................................... 13
(8) Engine RPM increase indicator ....................... 13

(9) Parked regeneration indicator ....................... 13
(10) Engine warning indicator ............................ 40
(11) Emission indicator .................................... 40
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Foot and Hand Controls

Manual Transmission Type

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<thead>
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<th></th>
<th>Description</th>
<th>Page</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Main gear shift lever</td>
<td>33</td>
</tr>
<tr>
<td>2</td>
<td>Clutch pedal</td>
<td>32</td>
</tr>
<tr>
<td>3</td>
<td>Differential lock pedal</td>
<td>43</td>
</tr>
<tr>
<td>4</td>
<td>3-Point hitch lowering speed knob</td>
<td>53</td>
</tr>
<tr>
<td>5</td>
<td>Synchro-shuttle shift lever</td>
<td>34</td>
</tr>
<tr>
<td>6</td>
<td>Front wheel drive lever [4WD model]</td>
<td>34</td>
</tr>
<tr>
<td>7</td>
<td>Range gear shift lever</td>
<td>33</td>
</tr>
<tr>
<td>8</td>
<td>Seat belt</td>
<td>30</td>
</tr>
<tr>
<td>9</td>
<td>Operator’s seat</td>
<td>29</td>
</tr>
<tr>
<td>10</td>
<td>Tool box</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>Hand throttle lever</td>
<td>34</td>
</tr>
<tr>
<td>12</td>
<td>Parking brake lever</td>
<td>42</td>
</tr>
<tr>
<td>13</td>
<td>Brake pedal</td>
<td>31, 35</td>
</tr>
<tr>
<td>14</td>
<td>Foot throttle</td>
<td>34</td>
</tr>
<tr>
<td>15</td>
<td>Position control lever</td>
<td>52</td>
</tr>
<tr>
<td>16</td>
<td>Draft control lever (If equipped)</td>
<td>52</td>
</tr>
<tr>
<td>17</td>
<td>Cup holder</td>
<td>-</td>
</tr>
<tr>
<td>18</td>
<td>Remote control valve lever (If equipped)</td>
<td>54</td>
</tr>
<tr>
<td>19</td>
<td>PTO clutch control switch</td>
<td>45</td>
</tr>
<tr>
<td>20</td>
<td>Remote control valve coupler (If equipped)</td>
<td>55</td>
</tr>
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</table>
### ILLUSTRATED CONTENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
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<tr>
<td>1</td>
<td>Parking brake lever</td>
<td>42</td>
</tr>
<tr>
<td>2</td>
<td>Brake pedal</td>
<td>31, 37</td>
</tr>
<tr>
<td>3</td>
<td>3-Point hitch lowering speed knob</td>
<td>53</td>
</tr>
<tr>
<td>4</td>
<td>Differential lock pedal</td>
<td>43</td>
</tr>
<tr>
<td>5</td>
<td>Front wheel drive lever</td>
<td>37</td>
</tr>
<tr>
<td>6</td>
<td>Range gear shift lever</td>
<td>36</td>
</tr>
<tr>
<td>7</td>
<td>Cruise control lever</td>
<td>38</td>
</tr>
<tr>
<td>8</td>
<td>Seat belt</td>
<td>30</td>
</tr>
<tr>
<td>9</td>
<td>Operator’s seat</td>
<td>29</td>
</tr>
<tr>
<td>10</td>
<td>Tool box</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Hand throttle lever</td>
<td>37</td>
</tr>
<tr>
<td>12</td>
<td>Speed control pedal</td>
<td>38</td>
</tr>
<tr>
<td>13</td>
<td>Position control lever</td>
<td>52</td>
</tr>
<tr>
<td>14</td>
<td>Draft control lever (if equipped)</td>
<td>52</td>
</tr>
<tr>
<td>15</td>
<td>Remote control valve lever (if equipped)</td>
<td>54</td>
</tr>
<tr>
<td>16</td>
<td>Cup holder</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>PTO clutch control switch</td>
<td>45</td>
</tr>
<tr>
<td>18</td>
<td>Remote control valve coupler (if equipped)</td>
<td>55</td>
</tr>
</tbody>
</table>
PRE-OPERATION CHECK

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

WARNING
To avoid personal injury or death:
- Be sure to check and service the tractor on a level surface with the engine shut off and the parking brake "ON" and implement lowered to the ground.

Check item
- Walk around inspection
- Check engine oil level
- Check transmission oil level
- Check coolant level
- Check water separator
- Clean grill and radiator screen
- Clean fuel cooler
- Clean oil cooler [HST model]
- Check DPF muffler
- Check air cleaner evacuator valve
  (When used in a dusty place)
- Check brake pedal [HST model]
- Check brake and clutch pedal
  [Manual Transmission model]
- Check indicators, gauges and meter
- Check lights
- Check wire harness
- Check seat belt and ROPS
- Check movable parts
- Refuel
  (See "DAILY CHECK" in "PERIODIC SERVICE" section.)
- Care of danger, warning and caution labels
  (See "DANGER, WARNING AND CAUTION LABELS" in "SAFE OPERATION" section.)
OPERATING THE ENGINE

**WARNING**
To avoid personal injury or death:
- Read "Safe Operation" in the front of this manual.
- Read the danger, warning and caution labels located on the tractor.
- To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.
- Never start engine while standing on ground. Start engine only from operator’s seat.
- Make it a rule to set all shift levers to the "NEUTRAL" positions and to place PTO clutch control switch in "OFF" position before starting the engine.

**IMPORTANT:**
- Do not use starting fluid or ether.
- To protect the battery and the starter, make sure that the starter is not continuously turned for more than 10 seconds.

**EXHAUST AFTERTREATMENT DEVICES**

**WARNING**
To avoid personal injury or death:
- During Diesel Particulate Filter (DPF) regenerating operations, exhaust gases and exhaust filter components reach temperatures hot enough to burn people, or ignite or melt common materials.
- Keep tractor away from people, animals or structures which may be susceptible to harm or damage from hot exhaust gases.
- During regeneration, white exhaust gases may be visible. Do not allow regeneration in a non ventilated garage or confined area.
- During regeneration, do not leave the tractor.

**Diesel Particulate Filter (DPF) Muffler**
This tractor is equipped with an engine with a DPF (Diesel Particulate Filter) muffler which serves to reduce hydrocarbons, carbon monoxide and other gases, all of which are contained in diesel engine emissions, to harmless carbon dioxide and water. The DPF also traps PM (particulate matter).
Please handle exhaust aftertreatment devices correctly and in an environmentally responsible manner.

![Diesel Particulate Filter (DPF)](image)
Handling Points
When a specific amount of PM (particulate matter) has accumulated in the DPF muffler, it is necessary to refresh the DPF muffler by burning the PM inside it. This burning off work is called "Regeneration". To extend operating time to reach this regeneration, and to avoid DPF muffler trouble, make sure to observe the following handling matters.

Fuel
Be sure to use Ultra Low Sulfur Fuel (S15).

IMPORTANT:
- Use of diesel fuel other than Ultra Low Sulfur Fuel may adversely affect the engine and DPF performance.
- Use of fuels other than Ultra Low Sulfur Fuel (S15) may not meet regulations for your region.

Engine oil
Use DPF-compatible oil (CJ-4) for the engine.

IMPORTANT:
- If any engine oil other than CJ-4 is used, the DPF may become clogged earlier than expected and the fuel economy may drop.

Prohibition of unnecessary idling operation
Generally, the lower the engine speed, the lower the exhaust gas temperature is, so the PM contained in exhaust gas will not be burnt, and begins to accumulate. Therefore, don’t idle unnecessarily.

Regeneration
When there is "Regeneration" instruction sign by lamp or buzzer, immediately perform the required procedure for regeneration.

IMPORTANT:
- Interrupting the regeneration cycle or continued operation by ignoring the warning signs may cause DPF and engine damage.

DPF Regeneration Process
DPF regeneration process can be performed by choosing from "Auto Regeneration" or "Regeneration inhibit" mode according to your job conditions. For jobs not affected by hot gases emitted during regeneration, the "Auto Regeneration" is advisable.

Auto Regeneration Mode:
When starting the engine (switch operation is unnecessary), the "Auto Regeneration" mode is automatically activated. With the auto regeneration mode on, when a specific amount of PM has accumulated, and the regeneration conditions are satisfied (See the "Tips on Diesel Particulate Filter [DPF] Regeneration"), the DPF will be automatically regenerated whether the tractor is in motion or parked. By this way, work efficiency is improved. For details of auto regeneration, refer to "Operating Procedure for Auto Regeneration Mode" section.

Regeneration Inhibit Mode:
After starting the engine, if the "DPF INHIBIT switch" is pressed to turn on the switch lamp, the "Regeneration inhibit" mode will be activated. With "Regeneration Inhibit" mode on, the PM which has accumulated inside the DPF will not be burnt, unless the operator performs the regeneration work manually. The "Regeneration Inhibit" mode is effective for work in poorly ventilated work spaces. For details of regeneration prohibition, refer to "Operating Procedure for Regeneration Inhibit Mode" section.

NOTE:
- If stop the engine once, the "Auto Regeneration" mode will be activated.
1. Start the engine.
   (Make sure that the DPF INHIBIT switch lamp is "OFF").

   Switch lamp OFF: Auto Regeneration Mode activated.
   Switch lamp ON: Regeneration Inhibit Mode activated.

**NOTE:**
- When the engine is started, the "Auto Regeneration" mode is automatically activated.
- "Regeneration Inhibit" mode is activated, when the DPF INHIBIT switch is pushed after the engine is started.

2. When the regeneration indicator starts flashing:

   A specific amount of PM has built up in the DPF.
   Continue to operate the tractor, and the regeneration process will begin automatically, make sure the working place is in a safe area as DPF and exhaust temperature will rise.

3. When the engine rpm increase indicator starts flashing:

   Keep on working and increase the engine rpm until the indicator turns "OFF".

**NOTE:**
- Even if the Auto Regeneration Mode is selected, DPF regeneration may not begin because system requirements have not been satisfied.
- The engine rpm increase indicator is used as a guide to satisfy the regeneration conditions. If the engine load is too heavy, the engine rpm increase indicator may continue to flash, even though regeneration system conditions are satisfied and regeneration may begin automatically. (See the "Tips on Diesel Particulate Filter [DPF] Regeneration")
### PM Warning Level and Required Procedures

During Auto Regeneration Mode when the PM level has built up in the DPF, the regeneration cycle will begin automatically. If the regeneration cycle is interrupted or the regeneration conditions are not satisfied, the buzzer starts sounding and the indicator display changes in response to the PM level in order to prompt the operator to perform the required procedure listed below.

**IMPORTANT:**
- Once the regeneration level has been reached, immediately perform the required procedure for regeneration.
- Interrupting the regeneration cycle or continued operation by ignoring the warning signs may cause DPF and engine damage.

<table>
<thead>
<tr>
<th>PM warning level:</th>
<th>Auto Mode</th>
<th>Required procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PM warning level: 1</td>
<td>The regeneration indicator starts flashing. A specific amount of PM has accumulated in the DPF muffler. Continue to work the tractor to raise the DPF temperature.</td>
</tr>
<tr>
<td></td>
<td>Buzzer: Not sounding</td>
<td>The RPM increase indicator starts flashing. Continue the work and increase the engine rpm until the indicator turns &quot;OFF&quot;.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The regeneration indicator will stop flashing and remain &quot;ON&quot; constantly. The regeneration cycle begins and continues until cycle is complete then the indicator will turn &quot;OFF&quot;.</td>
</tr>
<tr>
<td>2-1</td>
<td>If the regeneration cycle was interrupted or conditions are not satisfied for regeneration then DPF system is now in Level 2.</td>
<td>Start the regeneration, referring to PM warning level: 1 above. Now the parked regeneration indicator starts flashing, and the parked regeneration can also be started. If the regeneration conditions are not met, perform the parked regeneration. For the procedure, refer to &quot;Operating Procedure for Parked Regeneration&quot;.</td>
</tr>
<tr>
<td>2-2</td>
<td>If the regeneration fails in the warning level 2:</td>
<td>Immediately discontinue working the tractor and begin the parked regeneration cycle process. For the procedure, refer to &quot;Operating Procedure for Parked Regeneration&quot;. At this PM warning level, the Auto Regeneration Mode does not function. If the tractor is operated further, the regeneration cycle will be disabled.</td>
</tr>
<tr>
<td></td>
<td>Buzzer: Sounding every 5 seconds</td>
<td>The regeneration indicator starts flashing.</td>
</tr>
<tr>
<td></td>
<td>Buzzer: Sounding every 3 seconds</td>
<td>The RPM increase indicator starts flashing.</td>
</tr>
<tr>
<td></td>
<td>Buzzer: Sounding every 1 second Engine output: 50%</td>
<td>The parked regeneration indicator starts flashing.</td>
</tr>
<tr>
<td>3</td>
<td>If the parked regeneration is interrupted or the tractor is continuously operated in the warning level 3:</td>
<td>Immediately move the tractor to a safe place and park it there and turn the engine &quot;OFF&quot;. Contact your local KUBOTA Dealer. For this level, never continue to operate the tractor otherwise damage will result to the DPF and engine.</td>
</tr>
<tr>
<td>4</td>
<td>Buzzer: Sounding every 1 second Engine output: 50%</td>
<td>The engine warning indicator remains constantly &quot;ON&quot;.</td>
</tr>
</tbody>
</table>
Regeneration Operating Procedure

1. Start the engine.

2. Press the DPF INHIBIT switch , and the switch lamp illuminates.
   
   Switch lamp ON: Regeneration Inhibit Mode selected.
   Switch lamp OFF: Auto Regeneration Mode selected.

3. When the parked regeneration indicator starts flashing:
   
   A specific amount of PM has accumulated in the DPF muffler.
   Move the tractor to a safe place and activates the DPF muffler. Follow the “Operating Procedure for Parked Regeneration” procedure.
PM Warning Level and Required Procedures

In the Regeneration Inhibit Mode, the buzzer starts sounding and the indicator display changes in response to the PM level in order to prompt the operator to perform the required procedure listed below.

**IMPORTANT:**
- Once the regeneration level has been reached, immediately perform the required procedure for regeneration.
- Interrupting the regeneration cycle or continued operation by ignoring the warning signs may cause DPF and engine damage.

<table>
<thead>
<tr>
<th>PM warning level:</th>
<th>DPF system status</th>
<th>Required procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The regeneration indicator starts flashing.</td>
<td>A specific level of PM has built up in the DPF muffler. Continue with the operation as it is.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At PM warning levels range from 1 to 2-2, it is also possible to change DPF INHIBIT switch to auto regeneration mode then perform regeneration.</td>
</tr>
<tr>
<td>2-1</td>
<td>The regeneration indicator starts flashing.</td>
<td>Move the tractor to a safe area, then follow the &quot;Operating Procedure for Parked Regeneration&quot;.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-2</td>
<td>The Parked regeneration indicator starts flashing.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>If the parked regeneration cycle is interrupted or the tractor is continuously operated in the PM warning level 2:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The engine warning indicator starts flashing.</td>
<td>Immediately stop working the tractor, move the tractor to a safe area, then follow the &quot;Operating Procedure for Parked Regeneration&quot;.</td>
</tr>
<tr>
<td></td>
<td>The parked regeneration indicator starts flashing</td>
<td>If the tractor is operated further and the operator ignores the warning signs, then regeneration will be disabled.</td>
</tr>
<tr>
<td>4</td>
<td>If the regeneration cycle is interrupted or the tractor is continuously operated ignoring the warning signs, in the PM warning level 3:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The engine warning indicator remains constantly &quot;ON&quot;.</td>
<td>Immediately move the tractor to a safe place and place in park, turn &quot;OFF&quot; engine. Contact your local KUBOTA Dealer.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At this level never continue to operate the tractor, otherwise damage may result to the DPF and engine.</td>
</tr>
</tbody>
</table>
Operating Procedure for Parked Regeneration

1. Park the tractor in a safe area away from buildings, people, and animals.
2. Apply the parking brake.
3. [HST Type]
   Set the speed control pedal to the neutral position.
   [Manual Transmission Type]
   Set the shuttle shift lever to the neutral position.
4. Turn “OFF” the PTO clutch control switch or lever.
5. Return the engine rpm to the idle speed.
6. Lower the implement to the ground.
   Turn steering wheel so front wheels are in the straight ahead position.
7. Press the DPF INHIBIT switch , and the switch lamp turns “OFF”.
8. When the regeneration conditions are satisfied (2 to 5 and 7 mentioned above),
   the parked regeneration switch lamp start flashing.
9. Press the parked regeneration switch to start the regeneration cycle.
   (The switch lamp will stop flashing and remain “ON” constantly during the cycle.)
10. The engine rpm will automatically rise, and the regeneration process will begin.
11. Both indicators stay “ON” while regenerating the DPF.
    They turn “OFF” when the cycle is complete.
12. After the lamp turns “OFF”, normal tractor work may resume.
    When driving in “Regeneration Inhibit” mode, press the DPF INHIBIT switch to turn on the switch lamp.

NOTE:
● During the regeneration cycle, do not touch the above levers, pedal and switches (in steps 2, 3, 4), nor change the
  engine rpm other than an emergency stop. Otherwise, the regeneration will be interrupted.
● Never leave the tractor when parked regeneration process is activated.
● If the parked regeneration cycle is interrupted, the engine rpm is fixed at the idling level for about 30 seconds. For this
  period, keep the hand throttle lever and foot throttle pedal at the idle position. Do not move them. They will function
  again in 30 seconds.
**Tips on Diesel Particulate Filter (DPF) Regeneration**

- **Operation**
  The higher in speed or load the engine operates, the higher the exhaust temperature rises. As a result, particulate matter (PM) inside the DPF is consumed, therefore the regeneration process is required less frequently over time. The lower in speed or load the engine operates, the lower the exhaust temperature. Accordingly, less particulate matter (PM) inside the DPF is consumed, therefore more accumulation of PM will occur, which requires frequent regeneration, therefore avoid prolonged idling if possible.

- **Necessary conditions for "Regeneration"**
  When conditions below are all satisfied, regeneration will start. However, if even one condition is deviated during the process, the regeneration will be interrupted.
  1. The engine coolant temperature.
  2. The DPF temperature.
  3. The engine speed is 1200 rpm or higher.

- **Usual**
  It usually takes 15-20 minutes to complete the regeneration cycle. Actual regeneration time may depend on ambient temperature, exhaust temperature and engine speed.

- **Recommended**
  It is recommended to do the regenerating while the engine is warm.

- **Precaution**
  Do not unnecessarily start and interrupt the regeneration process. Otherwise, a small amount of fuel becomes mixed with the engine oil, which degrades the oil quality.

- **While regenerating**
  While the DPF is being regenerated, the engine air flow rate is automatically limited to keep up the exhaust temperature. Because of this, the engine may sound differently, this is normal for this engine.

- **After regenerating**
  Just after the regeneration has ended, the DPF muffler remains hot. It is advisable to keep the engine running for about 5 minutes to allow cooling of the exhaust components.

---

**STARTING THE ENGINE**

1. **Make sure the parking brake is set.**

   1. To set the parking brake:
      1. Interlock the brake pedals.
      2. Depress the brake pedals.
      3. Latch the brake pedals with the parking brake lever.
   2. To release the parking brake, depress the brake pedals again.

   **[Manual Transmission Type]**

   ![Manual Transmission Type Diagram]

   1. Parking brake lever
      1. Interlock the brake pedals
      2. "DEPRESS"
      3. "PULL"

   **[HST Type]**

   ![HST Type Diagram]

   1. Parking brake lever
      1. Interlock the brake pedals
      2. "DEPRESS"
      3. "PULL"

   **IMPORTANT:**
   - To prevent damage to the parking brake lever, make sure that brake pedals are fully depressed before pulling the parking brake lever up.
2. Make sure the fuel cock is in the open position.

3. Place the shift levers in "NEUTRAL" position.

**NOTE:**
- The Parking brake indicator comes on while parking brake is applied and goes off when it is released.

21 OPERATING THE ENGINE
3. Make sure the cruise control lever is in "OFF" position.
Place the Speed control Pedal in "NEUTRAL" position.
Place the range gear shift lever in "NEUTRAL" position.

4. Place the PTO clutch control switch in "OFF" position.

5. Place the hydraulic control levers in "LOWEST" position.

**NOTE:**
- Depress the both brake pedals together, doing so the cruise control lever automatically returns to the off position.
- When removing the foot from speed control pedal, the pedal automatically returns to the neutral position.
6. Set the throttle lever to about 1/2 way.

7. Insert the key into the key switch and turn it "ON".

◆ Check Easy Checker(TM) Lamps
1. When the key is turned "ON", indicators(1)(3) should come on. If trouble should occur at any location while the engine is running, the indicator corresponding to that location comes on.
2. Suppose that the engine coolant temperature is not high enough yet. Glow plug indicator(4) also comes on when the key is turned "ON" to preheat the engine and goes off automatically when preheat is completed. Illumination time of indicator varies according to the temperature of coolant.
3. The parking brake indicator(2) comes on while parking brake is applied and goes off when it is released.

IMPORTANT:
- Daily checks with the Easy Checker(TM) only, are not sufficient. Never fail to conduct daily checks carefully by referring to Daily Check. (See "DAILY CHECK" in "PERIODIC SERVICE" section.)

NOTE:
- Some of the Easy Checker(TM) lamps may light up depending on the positions of the levers and switches.
- Turn on the key, and some of the indicators stay on about 1 second.

8. Fully depress the clutch pedal.

[Manual Transmission Type]
9. Turn the key to "START" position and release when the engine starts.

IMPORTANT:

[Manual Transmission Type]
- Because of the safety devices, the engine will not start except when the PTO clutch control switch is placed in the "OFF" position and shuttle shift lever is placed in the "NEUTRAL" position.

[HST Type]
- Because of the safety devices, the engine will not start except when the PTO clutch control switch is placed in the "OFF" position, the speed control pedal is placed in the "NEUTRAL" position.

10. Check to see that all the lamps on the Easy Checker(TM) are "OFF".

If the lamp is still on, immediately stop the engine and determine the cause.

11. Release the clutch pedal.

[Manual Transmission Type]

COLD WEATHER STARTING

If the ambient temperature is below -5°C (23°F) and the engine is very cold, follow the procedure below after taking the step 1 through 8 in the previous pages.

9. Turn the key to "ON" (glow plug) and keep it there until glow plug indicator goes off.

9. Turn the key to "START" position and release when the engine starts.

9. Turn the key to "ON" (glow plug) and keep it there until glow plug indicator goes off.

10. Turn the key to the start position and the engine should start.

(If the engine fails to start after 10 seconds, turn off the key for 30 seconds. Then repeat steps (9) and (10). To protect the battery and the starter, make sure that the starter is not continuously turned for more than 10 seconds.)

- Block Heater (if equipped)
A block heater is available as an option from your dealer. It will assist you in starting your tractor when the ambient temperature is below -20°C (-4°F).
STOPPING THE ENGINE

[MX4800]
1. After slowing the engine to idle, turn the key to “OFF”.
2. Remove the key.

NOTE:
- If key does not stop the engine, consult your local KUBOTA Dealer.

[MX5200, MX5800]
1. After slowing the engine to idle, wait 3 to 5 minutes for turbo to slow down then turn the key to “OFF”.
2. Remove the key.

NOTE:
- If key does not stop the engine, consult your local KUBOTA Dealer.

WARMING UP

**WARNING**
To avoid personal injury or death:
- Be sure to set the parking brake during warm-up.
- Be sure to set all shift levers to the “NEUTRAL” positions and to place PTO clutch control switch in “OFF” position during warm-up.

For 5 minutes after engine start-up, allow engine to warm up without applying any load, this is to allow oil to reach every engine part. If load should be applied to the engine without this warm-up period, trouble such as seizure, breakage or premature wear may develop.

**Warm-Up Transmission Oil in the Low Temperature Range**

Hydraulic oil serves as transmission fluid. In cold weather, the oil may be cold with increased viscosity. This can cause delayed oil circulation or abnormally low hydraulic pressure for some time after engine start-up. This in turn can result in trouble in the hydraulic system. To prevent the above, observe the following instructions:

Warm up the engine at about 50% of rated rpm according to the table below:

<table>
<thead>
<tr>
<th>Ambient temperature</th>
<th>Warm-up time requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher than -10 °C (14 °F)</td>
<td>Approx. 5 minutes</td>
</tr>
<tr>
<td>-15 to -10 °C (5 to 14 °F)</td>
<td>5 to 10 minutes</td>
</tr>
<tr>
<td>-20 to -15 °C (-4 to 5 °F)</td>
<td>10 to 20 minutes</td>
</tr>
<tr>
<td>Below -20 °C (-4 °F)</td>
<td>More than 20 minutes</td>
</tr>
</tbody>
</table>

**IMPORTANT:**
- Do not operate the tractor under full load condition until it is sufficiently warmed up.
JUMP STARTING

WARNING
To avoid personal injury or death:
- Battery gases can explode. Keep cigarettes, sparks, and flames away from battery.
- If tractor battery is frozen, do not jump start engine.
- Do not connect the other end of the negative (-) jumper cable to the negative (-) terminal of the tractor battery.

When jump starting the engine, follow the instructions below to safely start the engine.
1. Bring the helper vehicle with a battery of the same voltage as disabled tractor within easy cable reach. "THE VEHICLES MUST NOT TOUCH".
2. Engage the parking brakes of both vehicles and put the shift levers in neutral. Shut both engines off.
3. Wear eye protection and rubber gloves.
4. Attach the red clamp to the positive (red, (+) or pos.) terminal of the dead battery and clamp the other end of the same cable to the positive (red, (+) or pos.) terminal of the helper battery.
5. Clamp the other cable to the negative (black, (-) or neg.) terminal of the helper battery.
6. Clamp the other end to the engine block or frame of the disabled tractor as far from the dead battery as possible.
7. Start the helper vehicle and let its engine run for a few moments. Start the disabled tractor.
8. Disconnect the jumper cables in the exact reverse order of attachment. (Steps 6, 5 and 4).

IMPORTANT:
- This machine has a 12 volt negative (-) ground starting system.
- Use only same voltage for jump starting.
- Use of a higher voltage source on tractor's electrical system could result in severe damage to tractor's electrical system.
- Use only matching voltage source when "Jump starting" a low or dead battery condition.
- Do not operate the tractor with the battery cable disconnected from the battery.
- Do not operate the tractor without the battery mounted.
- Do not operate the tractor with the battery dead. Charge the battery fully enough before operating the tractor. Otherwise the tractor might malfunction.

Connect cables in numerical order. Disconnect in reverse order after use.
(1) Dead battery
(2) Jumper cables
(3) Helper battery
OPERATING NEW TRACTOR
How a new tractor is handled and maintained determines the life of the tractor. A new tractor just off the factory production line has been, of course, tested, but the various parts are not accustomed to each other, so care should be taken to operate the tractor for the first 50 hours at a slower speed and avoid excessive work or operation until the various parts become "broken-in". The manner in which the tractor is handled during the "breaking-in" period greatly affects the life of your tractor. Therefore, to obtain the maximum performance and the longest life of the tractor, it is very important to properly break-in your tractor. In handling a new tractor, the following precautions should be observed.

**Do not Operate the Tractor at Full Speed for the First 50 Hours**
- Do not start quickly nor apply the brakes suddenly.
- In winter, operate the tractor after fully warming up the engine.
- Do not run the engine at speeds faster than necessary.
- On rough roads, slow down to suitable speeds.

Do not operate the tractor at fast speed. The above precautions are not limited only to new tractors, but to all tractors. But it should be especially observed in the case of new tractors.

**Changing Lubricating Oil for New Tractors**
The lubricating oil is especially important in the case of a new tractor. The various parts are not "broken-in" and are not accustomed to each other; small metal grit may develop during the operation of the tractor; and this may wear out or damage the parts. Therefore, care should be taken to change the lubricating oil a little earlier than would ordinarily be required.

For further details of change interval hours. (See "MAINTENANCE" section.)

BOARDING AND LEAVING THE TRACTOR
1. Never try to get on or off a moving tractor or jump off the tractor to exit.
2. Face the tractor when getting into or out of the tractor. Do not use the controls as hand holds to prevent inadvertent machine movements.
3. Always keep steps and floor clean to avoid slippery conditions.

OPERATING FOLDABLE ROPS (if equipped)

**WARNING**
To avoid personal injury or death:
- When raising or folding the ROPS, apply parking brake, stop the engine and remove the key. Always perform function from a stable position at the rear of tractor.
- Fold the ROPS down only when absolutely necessary and fold it up and lock it again as soon as possible.
- Before proceeding to fold ROPS, check for any possible interference with installed implements and attachments. If interference occurs, contact your KUBOTA Dealer.

**To Fold the ROPS**
1. Remove both set bolts.
2. Fold the ROPS.

**CAUTION**
To avoid personal injury:
- Hold the ROPS tightly with both hands and fold the ROPS slowly and carefully.

3. Align set bolt holes and insert both set bolts. Slightly tighten the set bolts and secure them with the hair pin cotters.

**CAUTION**
To avoid personal injury:
- Make sure that both set bolts are properly installed and secured with the hair pin cotters.

**To Raise the ROPS to Upright Position**

1. Remove both hair pin cotters and set bolts.

2. Raise ROPS to the upright position.

**CAUTION**
To avoid personal injury:
- Raise the ROPS slowly and carefully.

3. Align set bolt holes, insert both set bolts. Slightly tighten the set bolts and secure them with the hair pin cotters.

**CAUTION**
To avoid personal injury:
- Make sure that both set bolts are properly installed as soon as the ROPS is in the upright position and secured with the hair pin cotters.
Adjustment of Foldable ROPS
- Adjust free fall of the ROPS upper frame regularly.
- If you feel less friction in folding the ROPS, remove the cotter pin (1), tighten the nut (2) until you feel the right friction in the movement and then replace the cotter pin.

STARTING

1. Adjusting the operator’s position.

NOTE:
- The seat and suspension should be adjusted to ensure that the controls are comfortably at hand for the operator, ensuring that the operator maintains a good posture and minimizes risks from whole body vibration.

Operator’s Seat

WARNING
To avoid personal injury or death:
- Make adjustments to the seat only while the tractor is stopped.
- Make sure that the seat is completely secured after each adjustment.
- Do not allow any person other than the operator to ride on the tractor.

Travel adjustment
Pull up the travel adjust lever and slide the seat backward or forward, as required. The seat will lock in position when the lever is released.

Suspension adjustment
Turn the suspension adjust handle to achieve the optimum suspension setting.

IMPORTANT:
- After adjusting the operator’s seat, be sure to check to see that the seat is properly locked.
- Position the suspension adjust handle at the horizontal position.
Seat Belt

WARNING
To avoid personal injury or death:
- Always use the seat belt when any ROPS or CAB are installed.
- Do not use the seat belt if a foldable ROPS is down or there is no ROPS.

Adjust the seat belt for proper fit and connect the buckle. This seat belt is auto-locking retractable type.

Head Light / Turn Signal / Hazard Light Switch

▶ Head Light Switch
Turn the light switch clockwise, and the following lights are activated on the switch position.

(A) OFF.... Head lights OFF.
(B) <... Head lights dimmed, low beam.
(C) >... Head lights ON, high beam.

▶ Hazard Light Switch
When hazard light switch is pushed, the hazard lights flash along with the indicator on the instrument panel. Press the hazard light switch again to turn off the light.

▶ Turn Signal with Hazard Light
1. To indicate a right turn with the hazard lights already flashing (hazard on), turn the knob clockwise.
2. To indicate a left turn with the hazard lights already flashing, turn the knob counterclockwise.
3. When the left or right turn signal is activated in combination with the hazard lights, the indicated turning light will flash and the other will stay on.

▶ Turn Signal without Hazard light
1. To indicate a right turn without hazard lights (hazard off), turn the knob clockwise.
2. To indicate a left turn without hazard lights, turn the knob counterclockwise.
3. When the left or right turn signal is activated without the hazard lights, the indicated turning light will flash and the other will be on.

NOTE:
- Be sure to return switch to center position after turning.

2. Selecting light switch positions.

(A) OFF.... Head lights OFF.
(B) ON (LOW)
(C) ON (HIGH)

(1) Head light switch
(2) Turn signal light switch
(3) Hazard light switch
(4) Hazard / Turn signal indicator
**Tractor Lights**
(1) Head light
(2) Turn signal / Hazard light
(3) Rear turn signal / Hazard light
(4) Tail light

**Brake Pedals (Right and Left)**

**WARNING**
To avoid personal injury or death:
- Be sure to interlock the right and left pedals.
  - Applying only one rear wheel brake at high speeds could cause the tractor to swerve or roll-over.
- Be sure brake pedals have equal adjustment when using locked together. Incorrect or unequal brake pedal adjustment can cause the tractor to swerve or roll-over.

**WARNING**
To avoid personal injury or death:
- Do not make brake suddenly.
  - An accident may occur as a result of a heavy towed load shifting forward or loss of control.
- To avoid skidding and loss of steering control when driving on icy, wet, or loose surfaces, make sure the tractor is correctly ballasted, operated at reduced speed, operated with front wheel drive engaged (if equipped).
- The braking characteristics are different between 2 and 4-wheel drive. Be aware of the difference and use carefully.

1. Before operating the tractor on the road or before applying the parking brake, be sure to interlock the right and left pedals as illustrated below.
2. Use individual brakes to assist in making sharp turns at slow speeds (Field Operation Only). Disengage the brake pedal lock and depress only one brake pedal.
3. Be sure brake pedals have equal adjustment when using locked together.
[Manual Transmission Type]

To avoid personal injury or death:
- Sudden release of the clutch may cause the tractor to lunge in an unexpected manner.

The clutch is disengaged when the clutch pedal is fully pressed down.

[Manual Transmission Type]

5. Depress the clutch pedal.

[HST Type]

**WARNING**

- To avoid personal injury or death:
  - Sudden release of the clutch may cause the tractor to lunge in an unexpected manner.

The clutch is disengaged when the clutch pedal is fully pressed down.

4. Raise the implement.
   (See "HYDRAULIC UNIT" section.)

**IMPORTANT:**
- To help prevent premature clutch wear:
  - The clutch pedal must be quickly disengaged and be slowly engaged.
  - Avoid operating the tractor with your foot resting on the clutch pedal.
  - Select proper gear and engine speed depending on the type of job.
6. Selecting the Travel Speed.

[Manual Transmission Type]

By combination of using the main gear shift lever, the range gear shift lever and synchro-shuttle shift lever, forward speeds and reverse speeds shown in the table below are obtained.

| Standard model | 8 forward speeds | 8 reverse speeds |

Main Gear Shift Lever

The main gear shift is partially synchronized allowing to shift on the go between 3rd and 4th speeds. Just depress the clutch and shift, coming to a complete stop is not necessary. When changing between 1st and 2nd speeds, depress the clutch and stop the tractor before shifting.

IMPORTANT:
- To avoid transmission damage, depress clutch pedal and stop the tractor before shifting 1st or 2nd speeds.

NOTE:
- For road travel, start the tractor in a lower gear (6th and 7th), and then shift to a higher gear (7th and 8th). This will prolong the service life of clutch.

Range Gear Shift Lever

The range gear shift can only be shifted when the tractor is completely stopped and the clutch is depressed.

IMPORTANT:
- To avoid transmission damage, depress clutch pedal and stop the tractor before shifting between ranges.
B Synchro-Shuttle Shift Lever
Shift the shuttle shift lever forward to obtain forward speeds and shift back to obtain reverse speeds. This shifting requires clutch operation.

IMPORTANT:
- The synchro-shuttle shift lever may be shifted while the tractor is moving slowly and the clutch is depressed, but sudden gear shifting may cause transmission damage.

B Front Wheel Drive Lever

WARNING
To avoid personal injury or death:
- Do not engage the front wheel drive when traveling at road speed.
- When driving on icy, wet, or loose surfaces, make sure the tractor is correctly ballasted to avoid skidding and loss of steering control. Operate at reduced speed and engage front wheel drive.
- An accident may occur if the tractor is suddenly braked, such as by heavy towed loads shifting forward or loss of control.
- The braking characteristics are different between 2 and 4-wheel drive. Be aware of the difference and use carefully.

Use the lever to engage the front wheels with the tractor stopped. Shift the lever to "ON" to engage the front wheel drive.

- If the front wheel drive lever is difficult to set to OFF, stop the tractor, turn the steering wheel and move the lever.
- Tires will wear quickly if front wheel drive is engaged on paved roads.

Front wheel drive is effective for the following jobs:
1. When greater pulling force is needed, such as working in a wet field, when pulling a trailer, or when working with a front-end loader.
2. When working in sandy soil.
3. When working on a hard soil where a rotary tiller might push the tractor forward.
4. For increased braking at reduced speed.

7. Accelerate the engine.

B Hand Throttle Lever

Pulling the throttle lever back decreases engine speed, and pushing it forward increases engine speed.

B Foot Throttle

Use the foot throttle when traveling on the road. Press down on it for higher speed. The foot throttle is interlocked with the hand throttle lever; when using the foot throttle, keep the hand throttle lever in low idling position.

(1) Front wheel drive lever
(2) Foot throttle

(1) Hand throttle lever
(2) Foot throttle

"INCREASE" "DECREASE"

IMPORTANT:
- Depress the clutch pedal before engaging the front wheel drive lever.
8. Unlock the parking brake and slowly release the clutch.

Parking Brake
To release the parking brake, depress the brake pedals again. When the parking brake is released, parking brake indicator in the Easy Checker(TM) goes off.
6. Selecting the Travel Speed.

[HST Type]

- Range Gear Shift Lever (L-M-H)
  The range gear shift can only be shifted when the tractor is completely stopped and the speed control pedal is in the neutral position.

- IMPORTANT:
  To avoid transmission and shift linkage damage when shifting:
  - Completely stop the tractor using the brake pedals.
  - Do not force the range gear shift lever.
  - If it is difficult to shift the lever into L, M, or H from neutral position:
    On slopes be sure to set the parking brake before starting the procedure.
    (1) Slightly depress the speed control pedal to rotate the gears inside of the transmission.
    (2) Release the speed control pedal to the neutral position.
    (3) Wait for a moment and then shift the lever.
Front Wheel Drive Lever

WARNING
To avoid personal injury or death:
- Do not engage the front wheel drive when traveling at road speed.
- When driving on icy, wet or loose surfaces, make sure the tractor is correctly ballasted to avoid skidding and loss of steering control. Operate at reduced speed and engage front wheel drive.
- An accident may occur if the tractor is suddenly braked, such as by heavy towed loads shifting forward or loss of control.
- The braking characteristics are different between 2 and 4-wheel drive. Be aware of the difference and use carefully.

Use the lever to engage the front wheels with the tractor stopped. Shift the lever to "ON" to engage the front wheel drive.

If the front wheel drive lever is difficult to set to OFF, stop the tractor, turn the steering wheel and move the lever.

Tires will wear quickly if front wheel drive is engaged on paved roads.

Front wheel drive is effective for the following jobs:
1. When greater pulling force is needed, such as working in a wet field, when pulling a trailer, or when working with a front-end loader.
2. When working in sandy soil.
3. When working on a hard soil where a rotary tiller might push the tractor forward.
4. For increased braking at reduced speed.

Hand Throttle Lever
Pulling the throttle lever back decreases engine speed, and pushing it forward increases engine speed.

Parking Brake
To release the parking brake, depress the brake pedals again. When the parking brake is released, parking brake indicator in the Easy Checker(TM) goes off.
9. Depress the Speed Control Pedal.
[HST Type]

**Speed Control Pedal**

**WARNING**
To avoid personal injury or death:
- Do not operate if tractor moves on level ground with foot off of Speed Control Pedal.
- Consult your local KUBOTA Dealer.

**Forward Pedal**
Depress the speed control pedal with the toe of your right foot to move forward.

**Reverse Pedal**
Depress the speed control pedal with the heel of your right foot to move backward.

**Cruise Control Lever**

**WARNING**
To avoid personal injury or death:
- Pull the cruise control lever completely to the rear before starting the engine.
- Do not use the cruise control when driving on the road.
- Be sure to connect both the left and the right brakes to release the cruise control. The speed cruise control won’t be released with single brake activation.

Cruise control is designed for tractor operating efficiency and operator comfort. This device will provide a constant forward operating speed by mechanically holding the cruise control lever at the selected position.

**To engage Cruise Control Device**
1. The proper forward speed will be maintained if you apply the cruise control lever at any position.
2. To operate faster than the set speed, depress the speed control pedal further down in this condition. The set speed will be resumed if you release the pedal.

**To disengage Cruise Control Device**
- Move the lever all the way back and then to "OFF" position to release the cruise control.
- Depress both brake pedals.

**NOTE:**
- Cruise control will be disengaged automatically when both brake pedals are depressed.
- The cruise control device does not disengage when the individual right or left brake is applied.
- Cruise control device will not operate in reverse.
- Preferably set the cruise control lever, while holding down the speed control pedal. This makes the setting smoother.

**IMPORTANT:**
- To prevent serious damage to the HST, do not adjust the stopper bolts.

**NOTE:**
- When you stand up from the seat with the speed control pedal stepped on or the cruise control lever engaged (ON), the engine will stop regardless of whether the tractor is moving or not. This is because the tractor is equipped with Operator Presence Control system (OPC).
When releasing the cruise mode, be sure to return the cruise control lever fully backward.

**NOTE:**
- When you stand up from the seat with the speed control pedal stepped on or the cruise control lever engaged (ON), the engine will stop regardless of whether the tractor is moving or not. This is because the tractor is equipped with Operator Presence Control system (OPC).
STOPPING

Stopping
1. Slow down the engine.
2. Step on the clutch and brake pedal.
3. After the tractor has stopped, disengage the PTO, lower the implement to the ground, shift the transmission to neutral, release the clutch pedal, and set the parking brake.

CHECK DURING DRIVING

Immediately Stop the Engine if:
- The engine suddenly slows down or accelerates.
- Unusual noises are suddenly heard.
- Exhaust fumes suddenly become very dark.

Easy Checker(TM)
If the indicators in the Easy Checker(TM) come on during operation, immediately stop the engine, and find the cause as shown below.

Never operate the tractor while Easy Checker(TM) lamp is on.

Engine warning
This indicator serves the following two functions. If the indicator lights up, pinpoint the cause and take a proper measure.
1. Error with the engine control system
   If during operation the water temperature gauge reads an acceptable level but the warning lamp in the Easy Checker(TM) comes on, stop the engine and get it restarted. If the error happens again, consult your local KUBOTA Dealer.

   IMPORTANT:
   - If the warning indicator lights up, the following phenomena may appear depending on the engine’s trouble spot.
     - The engine stops unexpectedly.
     - The engine fails to start or gets interrupted just after start.
     - The engine output is not enough.
     - The engine output is enough, but the warning indicator stays on.
   If the engine output is not enough, immediately interrupt the operation and move the tractor to a safe place and stop the engine.

2. Engine overheat
   If the water temperature gauge reads an unusual level and the warning lamp in the Easy Checker(TM) comes on, the engine may have got overheated. Check the tractor by referring to "TROUBLESHOOTING" section.

Emission indicator
If this indicator lights up, take the steps to lower the water temperature. This helps keep the emission clean.

Master system warning
If trouble should occur at the engine, transmission or other control parts, the indicator flashes as a warning. If the trouble is not corrected by restarting the tractor, consult your local KUBOTA Dealer.

NOTE:
- For checking and servicing of your tractor, consult your local KUBOTA Dealer for instructions.

Engine oil pressure
If the oil pressure in the engine goes below the prescribed level, the warning lamp in the Easy Checker(TM) will come on.
If this should happen during operation, and it does not go off when the engine is accelerated to more than 1000 rpm, check level of engine oil.
(See "Checking Engine Oil Level" in "DAILY CHECK" in "PERIODIC SERVICE" section.)

Electrical charge
If the alternator is not charging the battery, the Easy Checker(TM) will come on.
If this should happen during operation, check the electrical charging system or consult your local KUBOTA Dealer.
Fuel Gauge
When the key switch is on, the fuel gauge indicates the fuel level.
Be careful not to empty the fuel tank. Otherwise air may enter the fuel system.
Should this happen, the system should be bled. (See "Bleeding Fuel System" in "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)

Coolant Temperature Gauge

WARNING
To avoid personal injury or death:
- Do not remove radiator cap until coolant temperature is well below its boiling point.
- Then loosen cap slightly to the stop to relieve any pressure before removing cap completely.

1. With the key switch at "ON", this gauge indicates the temperature of the coolant. "C" for "cold" and "H" for "hot".
2. If the indicator reaches the red zone position, engine coolant is overheated. Check the tractor by referring to "TROUBLESHOOTING" section.

Hourmeter/Tachometer
This meter gives readings for engine speed, PTO shaft speed and the hours the tractor has been operated.
1. The tachometer indicates the engine speed and the 540 PTO shaft speed location on the dial.
2. The hourmeter indicates in 5 digits the hours the tractor has been used; the last digit indicates 1/10 of an hour.
PARKING

PARKING
[Manual Transmission Type]

WARNING
To avoid personal injury or death:
BEFORE DISMOUNTING TRACTOR

- ALWAYS SET PARKING BRAKE AND LOWER ALL IMPLEMENTS TO THE GROUND.
- STOP THE ENGINE AND REMOVE THE KEY.

1. When parking, be sure to set the parking brake.
   To set the parking brake;
   (1) Interlock the brake pedals.
   (2) Depress the brake pedals.
   (3) Latch the brake pedals with the parking brake lever.

   IMPORTANT:
   - To prevent damage to the parking brake lever, make sure that brake pedals are fully depressed before pulling the parking brake lever.

2. Before getting off the tractor, disengage the PTO, lower all implements to the ground, place all control levers in their neutral positions, set the parking brake, stop the engine and remove the key.

3. If it is necessary to park on an incline, be sure to chock the wheels to prevent accidental rolling of the machine.

PARKING
[HST Type]

WARNING
To avoid personal injury or death:
BEFORE DISMOUNTING TRACTOR

- ALWAYS SET PARKING BRAKE AND LOWER ALL IMPLEMENTS TO THE GROUND.

Leaving transmission in gear with the engine stopped will not prevent tractor with HST transmission from rolling.
- STOP THE ENGINE AND REMOVE THE KEY.

1. When parking, be sure to set the parking brake.
   To set the parking brake;
   (1) Interlock the brake pedals.
   (2) Depress the brake pedals.
   (3) Latch the brake pedals with the parking brake lever.

   IMPORTANT:
   - To prevent damage to the parking brake lever, make sure that brake pedals are fully depressed before pulling the parking brake lever.

2. Before getting off the tractor, disengage the PTO, lower all implements to the ground, place all control levers in their neutral positions, set the parking brake, stop the engine and remove the key.

3. If it is necessary to park on an incline, be sure to chock the wheels to prevent accidental rolling of the machine.
**OPERATING THE TRACTOR**  43

**OPERATING TECHNIQUES**

---

### Differential Lock

**WARNING** To avoid personal injury or death due to loss of steering control:
- Do not operate the tractor at high speed with differential lock engaged.
- Do not attempt to turn with the differential lock engaged.
- Be sure to release the differential lock before making a turn in field conditions.

If one of the rear wheels should slip, step on the differential lock pedal. Both wheels will turn together, then reduce slippage. Differential lock is maintained only while the pedal is depressed.

**[Manual Transmission Type]**

1. **Press to "ENGAGE"**
2. **Release to "DISENGAGE"**

**[HST Type]**

1. **Differential lock pedal**
2. **SMV emblem**
3. **Bracket**

**IMPORTANT:**
- When using the differential lock, always slow the engine down.
- To prevent damage to power train, do not engage differential lock when one wheel is spinning and the other is completely stopped.
- If the differential lock cannot be released, step lightly on the brake pedals alternately.

### Operating the Tractor on a Road

**WARNING** To avoid personal injury or death:
- To help assure straight line stops when driving at transport speeds, lock the brake pedals together. Uneven braking at road speeds could cause the tractor to roll-over.
- When traveling on road with 3-point hitch mounted implement attached, be sure to have sufficient front weight on the tractor to maintain steering ability.

Be sure SMV emblem and warning lamps are clean and visible. If towed or rear-mounted equipment obstructs these safety devices, install SMV emblem and warning lamps on equipment.

Consult your local KUBOTA Dealer for further details.
Operating on Slopes and Rough Terrain

**WARNING**
To avoid personal injury or death:
- Always back up when going up a steep slope. Driving forward could cause the tractor to tip over backward. Stay off hills and slopes too steep for safe operation.
- Avoid changing gears when climbing or descending a slope.
- If operating on a slope, never disengage the clutch or shift levers to neutral. Doing so could cause loss of control.
- Do not drive the tractor close to the edges of ditches or banks which may collapse under the weight of the tractor. Especially when the ground is loose or wet.

1. Be sure wheel tread is adjusted to provide maximum stability.
   (See "WHEEL ADJUSTMENT" in "TIRES, WHEELS AND BALLAST" section.)
2. Slow down for slopes, rough ground, or sharp turns, especially when transporting heavy, rear mounted equipment.
3. Before descending a slope, shift to a gear low enough to control speed without using brakes.

Transport the Tractor Safely
1. The tractor, if damaged, must be carried on a truck. Secure the tractor tightly with ropes.
2. Follow the instructions below when towing the tractor: Otherwise, the tractor's powertrain may get damaged.
   - Set the all shift levers to "NEUTRAL" position.
   - If possible, start engine and select 2WD, if creep speed is fitted ensure that it is disengaged.
   - Tow the tractor using its front hitch or drawbar.
   - Never tow faster than "10 km/h (6.2 mph)".

Directions for Use of Power Steering
1. Power steering is activated only while the engine is running. Slow engine speeds make the steering a little heavier. While the engine is stopped, the tractor functions in the same manner as tractors without power steering.
2. When the steering wheel is turned all the way to the stop, the relief valve is activated. Do not hold the steering wheel in this position for a long period of time.
3. Avoid turning the steering wheel while the tractor is stopped, or tires may wear out sooner.
4. The power steering mechanism makes the steering easier. Be careful when driving on a road at high speeds.
PTO OPERATION

WARNING
To avoid personal injury or death:
- Disengage PTO, stop engine, and allow all rotating components to come to a complete stop before connecting, disconnecting, adjusting, or cleaning any PTO driven equipment.

PTO Clutch Control Switch
1. The tractor has a 540 rpm speed position and 6-spline shaft.
2. The PTO clutch control switch engages or disengages the PTO clutch which gives the PTO independent control.

To turn ON
While pushing the switch, turn clockwise to the " " position and release your hand. (In the ON position, switch slightly rises itself.)

To Turn OFF
Tap on top of the switch, and the switch will return to the OFF position.

IMPORTANT:
- To avoid shock loads to the PTO, reduce engine speed when engaging the PTO, then open the throttle to the recommended speed.
- To avoid damage of PTO clutch and implement, proper warm up is strongly recommended in cold weather.

NOTE:
- There is a PTO 540 rpm indicated mark on the tachometer board.
Tractor engine will not start if the PTO clutch control switch is in the engaged "ON" position.

**Stationary PTO**

To park the tractor and use the PTO system (for chipper or pump, for example), start the PTO system in the following steps.
1. Apply the parking brakes and place blocks at the tires.
2. Make sure the shift levers are at NEUTRAL, and start the engine.
3. Tilt the operator's seat forward.
4. Set the PTO clutch control switch to engage "ON".
5. Set the engine speed to provide recommended rear PTO speed.

**NOTE:**
- If the PTO system is engaged and you stand up from the seat or the seat is not tilted forward, the engine stops automatically after standing up.

**PTO Shaft Cover and Shaft Cap**

Keep the PTO shaft cover in place at all times. Replace the PTO shaft cap when the shaft is not in use. When connecting or disconnecting the joint to PTO shaft, raise up the PTO shaft cover.

The universal joint of the PTO drive shaft is technically limited in its moving angle. Refer to the PTO Drive Shaft Instructions for proper use.
3-POINT HITCH & DRAWBAR

(1) Top link
(2) Lifting rod (Left)
(3) Telescopic stabilizers
(4) Lower link
(5) Lifting rod (Right)
(6) Drawbar
(7) Fixed drawbar frame
(8) Lower link holder
(9) Check chains
3-POINT HITCH

1. Make preparations for attaching implement.

**Category 1 & 2**
This tractor has both category 1 & 2. Category 1 type is standard and assemble all parts shown as below.
To change from category 1 to category 2:
1. Remove adjusting collar from the lower link.
2. Remove adjusting collar from the rear top link pin.
3. Use the correct rear top link pin for category 2.

**Selecting the top link mounting holes**
Select the proper set of holes by referring to the "Hydraulic Control Unit Use Reference Chart" in "HYDRAULIC UNIT" section.
If the hydraulic unit is set for draft control, draft response is more sensitive when an implement is connected to the upper set of top link mounting holes. If draft control is not required, it is recommended to use the low set (4).

<table>
<thead>
<tr>
<th>With Position Control</th>
<th>With Draft Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Drawbar**
Remove the drawbar if a close mounted implement is attached.
2. Attaching and detaching implements

**WARNING**
To avoid personal injury or death:
- Be sure to stop the engine.
- Do not stand between tractor and implement unless parking brake is applied.
- Before attaching or detaching implement, locate the tractor and implement on a firm level surface.
- Whenever an implement or other attachment is connected to the tractor 3-point hitch, check full range of operation for interference, binding or PTO separation.

**Lifting Rod (Right)**

**WARNING**
To avoid personal injury or death:
- Do not extend lifting rod beyond the groove on the thread rod.

1. To adjust the length of the lifting rod, lift the adjusting handle and turn to desired length.
2. After adjusting, lower the lifting rod adjusting handle to the lock position.
3. When extending the rod using adjusting handle, do not exceed the groove on the rod thread.

**Top Link**

1. Adjust the angle of the implement to the desired position by shortening or lengthening the top link. After adjustment, tighten the lock nut securely.
2. The proper length of the top link varies according to the type of implement being used.
Telescopic Stabilizers
[MX5200 (4WD), MX5800 (4WD)]
Adjust the telescopic stabilizers to control horizontal sway of the implement. Select the proper set of holes by referring to the "Hydraulic Control Unit Use Reference Chart" in "REMOTE HYDRAULIC CONTROL SYSTEM" in "HYDRAULIC UNIT" section.
After aligning satisfactorily, insert the set-pin through any one of the 4 holes on the outer tube that align with one of the holes on the inner bar, both stabilizers will be locked. If the set-pin is inserted through the slot to engage one of the holes on the inner bar, a limited degree of sway will be permitted.

Telescopic Lower Links
[MX5200 (4WD), MX5800 (4WD)]
To attach an implement, follow the instructions below:
1. Push the levers, pull out the lower link ends, and attach to the implement.
2. Back up the tractor slightly to make sure the lower links are pushed in securely.
### Check Chains

**[MX4800, MX5200 (2WD)]**

Adjust the turnbuckle to control horizontal sway of the implement. See "Hydraulic Control Unit Use Reference Chart" in "AUXILIARY HYDRAULICS" in "HYDRAULIC UNIT" section.

After adjustment, retighten the lock nut.

![Diagram of 3-point hitch components: 1) Turnbuckle, 2) Lock nut](image)

### Lower link holder

When operating the tractor without a 3-point hitch implement, it is necessary to lock the lower links to prevent them from hitting the tractor rear wheels.

![Diagram of lower link holder](image)

### Drawbar

#### WARNING

To avoid personal injury or death:
- Never pull from the top link, the rear axle or any point above the drawbar. Doing so could cause the tractor to tip over rearward causing personal injury or death.

#### Adjusting Drawbar Length

When towing an implement, recommend use of (B) hole in drawbar.

The drawbar load is referred to "IMPLEMENT LIMITATIONS" section.

![Diagram of drawbar components: 1) PTO shaft, 2) Drawbar, 3) Pivot pin](image)

Holes: (A), (B)
**HYDRAULIC UNIT**

**IMPORTANT:**
- Do not operate until the engine is warmed up. If operation is attempted when the engine is still cold, the hydraulic system may be damaged.
- If noises are heard when implement is lifting after the hydraulic control lever has been activated, the hydraulic mechanism is not adjusted properly. Unless corrected, the unit will be damaged. Contact your KUBOTA Dealer for adjustment.

**3-POINT HITCH CONTROL SYSTEM**

**WARNING**  
To avoid personal injury or death:
- Before using the 3-point hitch controls, ensure that no person or object is in the area of the implement or 3-point hitch. Do not stand on or near the implement or between the implement and tractor when operating the 3-point hitch controls.

**Position Control**  
This will control the working depth of 3-point implements regardless of the amount of pull required. Place the draft control lever in the lowest position and set the implement working depth with the position control lever.

**Draft Control (if equipped)**  
This will control the pull of the 3-point implement. As the load on the 3-point hitch changes due to various soil conditions, the draft control system automatically responds to these changes by either raising or lowering the implement slightly to maintain a constant pull. Place the position control lever in the lowest position and set the implement pull with the draft control lever.

![Diagram of 3-point hitch control system with labels](image)
Mixed Control
In draft control, when draft decreases, the implement automatically lowers to increase draft. However, the implement sometimes lowers too much. To limit the degree, the implement can be lowered, set the position control lever at the lowest working depth desired for the implement. Lower the draft control lever to the point where the implement is at the desired depth. This stops the implement from going too deep and causing loss of traction and ground speed.

3-point Hitch Lowering Speed
WARNING
To avoid personal injury or death:
- Fast lowering speed may cause damage or injury. Lowering speed of implement should be adjusted to 2 or more seconds.

The lowering speed of the 3-point hitch can be controlled by adjusting the 3-point hitch lowering speed knob.

Float Control
[with Draft control]
Place both the draft control lever and the position control lever in the float position to make the lower links move freely along with the ground conditions.
[with Position control]
Place the position control lever in the float position to make the lower links move freely along with the ground conditions.
AUXILIARY HYDRAULICS

Hydraulic Block Type Outlet
Hydraulic block type outlet is useful when adding hydraulically operated implement such as: front end loader, front blade, etc.

When implement is attached
1. Remove the block cover.
2. Route the implement inlet, outlet, and return hoses as shown in the illustration.

REMOTE HYDRAULIC CONTROL SYSTEM
(if equipped)
The hydraulic auxiliary control valves can be installed up to triple segments.

Remote Control Valve
There are two types of remote valves available for these models.
- Double acting valve:
  - Double acting valve with float position:
    This valve may be placed in the float mode with the control lever all the way forward. The cylinder is free to extend or retract, letting an implement such as a loader bucket follow the ground.

NOTE:
- The floating valve can be attached as the second segment only.

Remote Control Valve Lever
The remote control valve lever directs pressurized oil flow to the implement hydraulic system.

[Example: Installing triple segment valve]

<table>
<thead>
<tr>
<th>1st</th>
<th>3rd</th>
<th>Double acting valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd</td>
<td>Double acting valve with float position</td>
<td></td>
</tr>
</tbody>
</table>

(1) Remote control valve lever with Double acting valve (1)
(2) Remote control valve lever with Double acting valve / Float position (2)
(3) Remote control valve lever with Double acting valve (3)
Do not hold the lever in the "REARWARD" or "FORWARD" position once the remote cylinder has reached the end of the stroke, as this will cause oil to flow through the relief valve. Forcing oil through the relief valve for extended periods will overheat the oil.

When using the tractor hydraulic system to power front loader, do not operate boom and bucket cylinders simultaneously.

To use the single-acting cylinder with the float valve, connect this cylinder to the [C] port.

IMPORTANT:
- Do not hold the lever in the "REARWARD" or "FORWARD" position once the remote cylinder has reached the end of the stroke, as this will cause oil to flow through the relief valve. Forcing oil through the relief valve for extended periods will overheat the oil.
- When using the tractor hydraulic system to power front loader, do not operate boom and bucket cylinders simultaneously.

NOTE:
- To use the single-acting cylinder with the float valve, connect this cylinder to the [C] port.
- To extend a single-acting cylinder, pull the remote control valve lever rearward. To retract a cylinder, push it fully forward to the "FLOAT" position. Do not hold it in the down position, the transmission fluid may be overheat.

- Remote Control Valve Coupler Connecting and Disconnecting

WARNING
To avoid personal injury or death:
- Stop the engine and relieve pressure before connecting or disconnecting lines.
- Do not use your hand to check for leaks.

Connecting
1. Clean both couplers.
2. Remove dust plugs.
3. Insert the implement coupler to the tractor hydraulic coupler.
4. Pull the implement coupler slightly to make sure couplers are firmly connected.

Disconnecting
1. Lower the implement first to the ground to release hydraulic pressure in the hoses.
2. Clean the couplers.
3. Relieve pressure by moving hydraulic control levers with engine shut off. Pull the hose straight from the hydraulic coupler to release it.
4. Clean oil and dust from the coupler, then replace the dust plugs.

NOTE:
- Your local KUBOTA Dealer can supply parts to adapt couplers to hydraulic hoses.
## Hydraulic Control Unit Use Reference Chart

In order to handle the hydraulics properly, the operator must be familiar with the following. Though this information may not be applicable to all types of implements and soil conditions, it is useful for general conditions.

<table>
<thead>
<tr>
<th>Implement</th>
<th>Soil condition</th>
<th>Top link mounting holes</th>
<th>Position control lever</th>
<th>Draft control lever</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moldboard plow</td>
<td>Light soil</td>
<td>1 or 2</td>
<td>1 or 2</td>
<td>Draft and Mixed control</td>
<td>Insert the set-pin through the slot on the outer tube that align with one of the holes on the inner bar. For implements with gauge wheels, lower the position control lever all way.</td>
</tr>
<tr>
<td></td>
<td>Medium soil</td>
<td>2 or 3</td>
<td>2 or 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heavy soil</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disc plow</td>
<td>---</td>
<td>2 or 3</td>
<td>2 or 3</td>
<td></td>
<td>Place the draft control lever to the suitable position and set the implement pull with the position control lever YES/NO Loose</td>
</tr>
<tr>
<td>Harrow (spike, springtooth, disc type)</td>
<td>---</td>
<td>2 or 3</td>
<td>2 or 3</td>
<td>YES/NO</td>
<td>Loose</td>
</tr>
<tr>
<td>Sub-soiler</td>
<td>---</td>
<td>2 or 3</td>
<td>Position control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weeder, ridger</td>
<td>---</td>
<td>3</td>
<td>4</td>
<td>Position control</td>
<td>YES Tighten</td>
</tr>
<tr>
<td>Earthmover, digger, scraper, manurefork, rear carrier</td>
<td>---</td>
<td>3</td>
<td>4</td>
<td>YES/NO</td>
<td>Tighten</td>
</tr>
<tr>
<td>Mower (mid- and rear- mount type)</td>
<td>---</td>
<td>3</td>
<td>4</td>
<td>Position control</td>
<td>YES Tighten</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TIRES

**WARNING**
To avoid personal injury or death:
- Do not attempt to mount a tire on a rim. This should be done by a qualified person with the proper equipment.
- Always maintain the correct tire pressure. Do not inflate tires above the recommended pressure shown in the operator’s manual.

**IMPORTANT:**
- Do not use tires other than those approved by KUBOTA.

**Inflation Pressure**
Though the tire pressure is factory-set to the prescribed level, it naturally drops slowly in the course of time. Thus, check it everyday and inflate as necessary.

**NOTE:**
- Maintain the maximum pressure in front tires, if using a front loader or when equipped with a full load of front weights.

<table>
<thead>
<tr>
<th>Tire sizes</th>
<th>Inflation Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rear</strong></td>
<td></td>
</tr>
<tr>
<td>13.6-28, 4PR</td>
<td>150 kPa (1.5 kgf/cm², 22 psi)</td>
</tr>
<tr>
<td>14.9-26, 4PR</td>
<td>140 kPa (1.4 kgf/cm², 20 psi)</td>
</tr>
<tr>
<td>17.5L-24, 6PR</td>
<td>140 kPa (1.4 kgf/cm², 20 psi)</td>
</tr>
<tr>
<td>44 x 18-20, 6PR</td>
<td>170 kPa (1.7 kgf/cm², 24 psi)</td>
</tr>
<tr>
<td>610R470, 6PR</td>
<td>140 kPa (1.4 kgf/cm², 20 psi)</td>
</tr>
<tr>
<td><strong>Front</strong></td>
<td></td>
</tr>
<tr>
<td>9.5-16, 4PR</td>
<td>205 kPa (2.1 kgf/cm², 30 psi)</td>
</tr>
<tr>
<td>7.5L-15, 6PR</td>
<td>220 kPa (2.2 kgf/cm², 32 psi)</td>
</tr>
<tr>
<td>9.5L-15, 6PR</td>
<td>235 kPa (2.4 kgf/cm², 34 psi)</td>
</tr>
<tr>
<td>12-16.5, 6PR</td>
<td>140 kPa (1.4 kgf/cm², 20 psi)</td>
</tr>
<tr>
<td>29 x 12.5-15, 4PR</td>
<td>140 kPa (1.4 kgf/cm², 20 psi)</td>
</tr>
<tr>
<td>305R343, 2PR</td>
<td>70 kPa (0.7 kgf/cm², 10 psi)</td>
</tr>
</tbody>
</table>

**Dual Tires**
Dual tires are not approved.

WHEEL ADJUSTMENT

**WARNING**
To avoid personal injury or death:
- When working on slopes or when working with trailer, set the wheel tread as wide as practical for maximum stability.
- Support tractor securely on stands before removing a wheel.
- Do not work under any hydraulically supported devices. They can settle, suddenly leak down, or be accidentally lowered. If necessary to work under tractor or any machine elements for servicing or adjustment, securely support them with stands or suitable blocking beforehand.
- Never operate tractor with a loose rim, wheel, or axle.

**Front Wheels (with 2-wheel drive)**
Front tread width can be adjusted as shown with the standard equipped tires.

To change the tread width
1. Remove the front axle mounting bolts and the tie-rod mounting bolts.
2. Move the front axles (right and left) to the desired position, and tighten the bolts.
3. Adjust the toe-in: [2 to 8mm (0.1 to 0.3 in.)]
   (See "Adjusting Toe-in" in "EVERY 200 HOURS" in "PERIODIC SERVICE" section.)

| Front axle mounting bolt | 124 to 147 N·m (12.6 to 15 kgf-m) [91.5 to 108.9 ft-lbs.] |
| Tie-rod mounting bolt | 61 to 71 N·m (6.2 to 7.2 kgf-m) [44.8 to 52.1 ft-lbs.] |
| Tie rod clamp | (3) |
The front tread width for the front loader application on 2WD models should not be greater than 1280 mm (50.4 in.).

Wheels with beveled or tapered holes: Use the tapered side of lug nut.

<table>
<thead>
<tr>
<th>Models</th>
<th>1AGAPAJP036A</th>
<th>1AGAPAJP037A</th>
<th>1AGAPAJP038A</th>
<th>1AGAPAJP039A</th>
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</thead>
<tbody>
<tr>
<td>Farm</td>
<td>1280 mm (50.4 in.)</td>
<td>1380 mm (54.3 in.)</td>
<td>1480 mm (58.3 in.)</td>
<td>1580 mm (62.2 in.)</td>
</tr>
<tr>
<td>7.5L-15</td>
<td>1255 mm (49.4 in.)</td>
<td>1355 mm (53.3 in.)</td>
<td>1455 mm (57.3 in.)</td>
<td>1555 mm (61.2 in.)</td>
</tr>
<tr>
<td>9.5L-15</td>
<td>1315 mm (51.8 in.)</td>
<td>1415 mm (55.7 in.)</td>
<td>1515 mm (59.6 in.)</td>
<td>1615 mm (63.6 in.)</td>
</tr>
<tr>
<td>Turf</td>
<td>1280 mm (50.4 in.)</td>
<td>1380 mm (54.3 in.)</td>
<td>1480 mm (58.3 in.)</td>
<td>1580 mm (62.2 in.)</td>
</tr>
</tbody>
</table>

**IMPORTANT:**
- The front tread width for the front loader application on 2WD models should not be greater than 1280 mm (50.4 in.).

**NOTE:**
- Wheels with beveled or tapered holes: Use the tapered side of lug nut.

**WARNING**
To avoid personal injury or death:
- Before jacking up the tractor, park it on a firm and level ground and chock the rear wheels.
- Fix the front axle to keep it from pivoting.
- Select jacks that withstand the machine weight and set them up as shown below.
**Front Wheels (with 4-wheel drive)**

Front tread cannot be adjusted.

**IMPORTANT:**
- Do not turn front discs to obtain wider tread.
- When re-fitting or adjusting a wheel, tighten the bolts to the following torques then recheck after driving the tractor 200 m (200 yards) and 10 times of shuttle movement by 5 m (5 yards), and thereafter according to service interval.
  (See "MAINTENANCE" section.)

**NOTE:**
- Wheels with beveled or tapered holes: Use the tapered side of lug nut.

![Diagram of tractor with front wheels](image)

(1) 124.0 to 147.0 N-m (12.6 to 15.0 kgf-m, 91.5 to 108.4 ft-lbs)

<table>
<thead>
<tr>
<th>Tire</th>
<th>9.5-16 Farm</th>
<th>12-16.5 IND</th>
<th>29 x 12.5-15 Turf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tread</td>
<td>1325 mm (52.2 in.)</td>
<td>1325 mm (52.2 in.)</td>
<td>1305 mm (51.4 in.)</td>
</tr>
</tbody>
</table>

**NOTE:**
- IND...for Industrial

**WARNING**

To avoid personal injury or death:
- Before jacking up the tractor, park it on a firm and level ground and chock the rear wheels.
- Fix the front axle to keep it from pivoting.
- Select jacks that withstand the machine weight and set them up as shown below.

![Diagram of jack points](image)

(1) Jack points
Rear Wheels

Rear tread width can be adjusted as shown with the standard equipped tires.

To change the tread width:
1. Remove the wheel rim and/or disk mounting bolts.
2. Change the position of the rim and/or disk (right and left) to the desired position, and tighten the bolts.

IMPORTANT:
- Always attach wheels as shown in the drawings.
- If not attached as illustrated, transmission parts may be damaged.
- When re-fitting or adjusting a wheel, tighten the bolts to the following torques then recheck after driving the tractor 200 m (200 yards) and 10 times of shuttle movement by 5 m (5 yards), and thereafter according to service interval.
(See "MAINTENANCE" section.)

<table>
<thead>
<tr>
<th>Models</th>
<th>Tread</th>
<th>Tread</th>
<th>Tread</th>
<th>Tread</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.9-26 Farm</td>
<td>---</td>
<td>---</td>
<td>1375 mm (54.2 in.)</td>
<td>1490 mm (58.6 in.)</td>
</tr>
<tr>
<td>13.6-28 Farm</td>
<td>1275 mm (50.2 in.)</td>
<td>1385 mm (54.4 in.)</td>
<td>1480 mm (58.2 in.)</td>
<td>1585 mm (62.4 in.)</td>
</tr>
<tr>
<td>17.5L-24 IND</td>
<td>1310 mm (51.6 in.)</td>
<td>1420 mm (55.9 in.)</td>
<td>1450 mm (57.1 in.)</td>
<td>1555 mm (61.2 in.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Models</th>
<th>Tread</th>
</tr>
</thead>
<tbody>
<tr>
<td>44 x 18-20 Turf</td>
<td>1470 mm (57.9 in.)</td>
</tr>
</tbody>
</table>
To avoid personal injury or death:
- Before jacking up the tractor, park it on a firm and level ground and chock the front wheels.
- Fix the front axle to keep it from swinging.
- Select a jack that withstands the machine weight and set it up as shown below.

**WARNING**

To avoid personal injury or death:
- Additional ballast will be needed for transporting heavy implements. When the implement is raised, drive slowly over rough ground, regardless of how much ballast is used.
- Do not fill the front wheels with liquid to maintain steering control.

**BALLAST**

Front Ballast
Add weights if needed for stability (2WD, 4WD models) and improve traction (4WD model). Heavy pulling and heavy rear mounted implements tend to lift front wheels. Add enough ballast to maintain steering control and prevent tip over. Remove weight when no longer needed.

Front End Weights (option)
The front end weights can be attached to the bumper. See your implement operator’s manual for required number of weights or consult your local KUBOTA Dealer to use.

**IMPORTANT:**
- Do not overload tires.
- Add no more weight than indicated in chart.

**NOTE:**
- The front end weights can be attached to the bumper (option on 4WD models).

| Maximum weight | 25 kg x 7 pieces (386 lbs.) |
Rear Ballast
Add weight to rear wheels if needed to improve traction or for stability. The amount of rear ballast should be matched to job and the ballast should be removed when it is not needed. The weight should be added to the tractor in the form of liquid ballast, rear wheel weights or a combination of both.

◆ Rear Wheel Weights (option)
The rear wheel weights can be attached to the rear wheel. See your implement operator's manual for required number of weights or consult your local KUBOTA Dealer to use.

Liquid Ballast in Rear Tires
Water and calcium chloride solution provides safe economical ballast. Used properly, it will not damage tires, tubes or rims. The addition of calcium chloride is recommended to prevent the water from freezing. Use of this method of weighting the wheels has the full approval of the tire companies. See your tire dealer for this service.

Liquid weight per tire (75 Percent filled)

<table>
<thead>
<tr>
<th>Tire sizes</th>
<th>14.9-26</th>
<th>13.6-28</th>
<th>17.5L-24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slush free at -10 °C (14 °F)</td>
<td>215 kg (470 lbs.)</td>
<td>185 kg (410 lbs.)</td>
<td>235 kg (520 lbs.)</td>
</tr>
<tr>
<td>Solid at -20 °C (-4 °F)</td>
<td>225 kg (495 lbs.)</td>
<td>200 kg (440 lbs.)</td>
<td>250 kg (550 lbs.)</td>
</tr>
<tr>
<td>[Approx. 1 kg (2 lbs.) CaCl₂ per 4 L (1 gal) of water]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slush free at -24 °C (-11 °F)</td>
<td>235 kg (520 lbs.)</td>
<td>215 kg (470 lbs.)</td>
<td>265 kg (585 lbs.)</td>
</tr>
<tr>
<td>Solid at -47 °C (-52 °F)</td>
<td>250 kg (550 lbs.)</td>
<td>225 kg (495 lbs.)</td>
<td>300 kg (660 lbs.)</td>
</tr>
<tr>
<td>[Approx. 1.5 kg (3.5 lbs.) CaCl₂ per 4 L (1 gal) of water]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slush free at -47 °C (-52 °F)</td>
<td>265 kg (585 lbs.)</td>
<td>250 kg (550 lbs.)</td>
<td>325 kg (715 lbs.)</td>
</tr>
<tr>
<td>Solid at -52 °C (-62 °F)</td>
<td>280 kg (615 lbs.)</td>
<td>255 kg (560 lbs.)</td>
<td>350 kg (770 lbs.)</td>
</tr>
<tr>
<td>[Approx. 2.25 kg (5 lbs.) CaCl₂ per 4 L (1 gal) of water]</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IMPORTANT:
- Do not overload tires.
- Add no more weight than indicated in chart.

| Maximum weight per wheel | 47 kg x 3 Pieces (310 lbs.) |

(1) Rear wheel weights

(1) Air
(2) Water
(A) Correct-75% Air compresses like a cushion
(B) Incorrect-100% Full Water can not be compressed

IMPORTANT:
- Do not fill tires with water or solution more than 75% of full capacity (to the valve stem level at 12 o'clock position).
## MAINTENANCE

### SERVICE INTERVALS

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Indication on hour meter</th>
<th>Interval</th>
<th>Ref. page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Engine start system</td>
<td>Check</td>
<td>every 50 Hr</td>
<td>75</td>
</tr>
<tr>
<td>2</td>
<td>Wheel bolt torque</td>
<td>Check</td>
<td>every 50 Hr</td>
<td>76</td>
</tr>
<tr>
<td>3</td>
<td>Greasing</td>
<td>-</td>
<td>every 50 Hr</td>
<td>74</td>
</tr>
<tr>
<td>4</td>
<td>Battery condition</td>
<td>Check</td>
<td>every 100 Hr</td>
<td>79</td>
</tr>
<tr>
<td>5</td>
<td>Fan belt</td>
<td>Adjust</td>
<td>every 100 Hr</td>
<td>77</td>
</tr>
<tr>
<td>6</td>
<td>Brake</td>
<td>Adjust</td>
<td>every 100 Hr</td>
<td>78</td>
</tr>
<tr>
<td>7</td>
<td>Clutch [MT]</td>
<td>Adjust</td>
<td>every 100 Hr</td>
<td>78</td>
</tr>
<tr>
<td>8</td>
<td>Air cleaner element</td>
<td>Clean</td>
<td>every 100 Hr</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Primary element</td>
<td>Replace</td>
<td>every 1000 Hr or 1 year</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>Secondary element</td>
<td>Replace</td>
<td>every 1000 Hr or 1 year</td>
<td>86</td>
</tr>
<tr>
<td>9</td>
<td>Transmission oil filter [HST]</td>
<td>Replace</td>
<td>every 200 Hr</td>
<td>80</td>
</tr>
<tr>
<td>10</td>
<td>Toe-in</td>
<td>Adjust</td>
<td>every 200 Hr</td>
<td>81</td>
</tr>
<tr>
<td>11</td>
<td>Engine oil</td>
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<td>every 400 Hr</td>
<td>82</td>
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<tr>
<td>12</td>
<td>Engine oil filter</td>
<td>Replace</td>
<td>every 400 Hr</td>
<td>83</td>
</tr>
<tr>
<td>13</td>
<td>Water separator</td>
<td>Clean</td>
<td>every 400 Hr</td>
<td>84</td>
</tr>
<tr>
<td>14</td>
<td>Fuel filter</td>
<td>Replace</td>
<td>every 400 Hr</td>
<td>84</td>
</tr>
<tr>
<td>15</td>
<td>Hydraulic oil filter [HST]</td>
<td>Replace</td>
<td>every 400 Hr</td>
<td>83</td>
</tr>
<tr>
<td>16</td>
<td>Hydraulic oil filter [Except HST]</td>
<td>Replace</td>
<td>every 400 Hr</td>
<td>83</td>
</tr>
<tr>
<td>17</td>
<td>Transmission fluid</td>
<td>Change</td>
<td>every 400 Hr</td>
<td>83</td>
</tr>
<tr>
<td>18</td>
<td>Greasing (2WD front wheel hub)</td>
<td>-</td>
<td>every 400 Hr</td>
<td>85</td>
</tr>
<tr>
<td>19</td>
<td>Front axle pivot</td>
<td>Adjust</td>
<td>every 600 Hr</td>
<td>85</td>
</tr>
<tr>
<td>20</td>
<td>Front axle case oil (4WD)</td>
<td>Change</td>
<td>every 800 Hr</td>
<td>85</td>
</tr>
<tr>
<td>No.</td>
<td>Items</td>
<td>Indication on hour meter</td>
<td>Interval</td>
<td>Ref. page</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------</td>
<td>--------------------------</td>
<td>-------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>21</td>
<td>Engine valve clearance</td>
<td>Adjust</td>
<td>every 800 Hr</td>
<td>86 *2</td>
</tr>
<tr>
<td>22</td>
<td>Exhaust manifold</td>
<td>Check</td>
<td>every 1000 Hr or 1 year</td>
<td>86 *2 *4</td>
</tr>
<tr>
<td>23</td>
<td>Fuel injector nozzle tip</td>
<td>Clean</td>
<td>every 1500 Hr</td>
<td>86 *2</td>
</tr>
<tr>
<td>24</td>
<td>Oil separator element</td>
<td>Replace</td>
<td>every 1500 Hr</td>
<td>86</td>
</tr>
<tr>
<td>25</td>
<td>PCV (Positive Crankcase Ventilation) valve (Oil separator)</td>
<td>Check</td>
<td>every 1500 Hr</td>
<td>86 *2</td>
</tr>
<tr>
<td>26</td>
<td>EGR cooler</td>
<td>Check Clean</td>
<td>every 1500 Hr</td>
<td>86 *2</td>
</tr>
<tr>
<td>27</td>
<td>Cooling system</td>
<td>Flush</td>
<td>every 2000 Hr or 2 years</td>
<td>87 *5</td>
</tr>
<tr>
<td>28</td>
<td>Coolant</td>
<td>Change</td>
<td>every 2000 Hr or 2 years</td>
<td>87 *5</td>
</tr>
<tr>
<td>29</td>
<td>EGR system</td>
<td>Check Clean</td>
<td>every 3000 Hr</td>
<td>88 *2</td>
</tr>
<tr>
<td>30</td>
<td>Supply pump</td>
<td>Check</td>
<td>every 3000 Hr</td>
<td>88 *2</td>
</tr>
<tr>
<td>31</td>
<td>DPF muffler</td>
<td>Clean</td>
<td>every 3000 Hr</td>
<td>88 *2</td>
</tr>
<tr>
<td>32</td>
<td>Turbo charger (MX5200, MX5800)</td>
<td>Check</td>
<td>every 3000 Hr</td>
<td>88 *2</td>
</tr>
<tr>
<td>33</td>
<td>Fuel line</td>
<td>Check</td>
<td>every 1 year</td>
<td>88 *6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace</td>
<td>every 4 years</td>
<td>91 *2 *6</td>
</tr>
<tr>
<td>34</td>
<td>Power steering oil line</td>
<td>Check</td>
<td>every 1 year</td>
<td>89 *6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace</td>
<td>every 4 years</td>
<td>91 *2 *6</td>
</tr>
<tr>
<td>35</td>
<td>Oil cooler line (HST)</td>
<td>Check</td>
<td>every 1 year</td>
<td>90 *6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace</td>
<td>every 4 years</td>
<td>91 *2 *6</td>
</tr>
<tr>
<td>36</td>
<td>Radiator hose and clamp</td>
<td>Check</td>
<td>every 1 year</td>
<td>89 *6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace</td>
<td>every 4 years</td>
<td>91 *6</td>
</tr>
<tr>
<td>37</td>
<td>Intake air line</td>
<td>Check</td>
<td>every 1 year</td>
<td>89 *6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace</td>
<td>every 4 years</td>
<td>91 *6</td>
</tr>
<tr>
<td>38</td>
<td>Oil separator hose</td>
<td>Check</td>
<td>every 1 year</td>
<td>90 *6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace</td>
<td>every 4 years</td>
<td>91 *2 *6</td>
</tr>
</tbody>
</table>
### MAINTENANCE

The jobs indicated by * must be done after the first 50 hours of operation.

*1 Air cleaner should be cleaned more often in dusty conditions than in normal conditions.

*2 Consult your local KUBOTA Dealer for this service.

*3 When the battery is used for less than 100 hours per year, check the battery condition by reading the indicator annually.

*4 Every 1,000 hours or every 1 year, whichever comes faster.

*5 Every 2,000 hours or every 2 years, whichever comes faster.

*6 Replace if any deterioration (crack, hardening, scar of deformation) or damage occurred.

However, must be replaced every 4 years regardless of the condition.

The items listed above (@ marked) are registered as emission related critical parts by KUBOTA in the U.S.EPA nonroad emission regulation. As the engine owner, you are responsible for the performance of the required maintenance on the engine according to the above instruction. Please see Warranty Statement in detail.

---

#### Maintenance Schedule

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Indication on hour meter</th>
<th>Interval</th>
<th>Ref. page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50 100 150 200 250 300 350 400 450 500 550 600 650 700</td>
</tr>
<tr>
<td>39</td>
<td>DPF related pipe</td>
<td>Check</td>
<td>every 1 year</td>
<td>90 *2</td>
</tr>
<tr>
<td>40</td>
<td>EGR pipe</td>
<td>Check</td>
<td>every 1 year</td>
<td>90 *2</td>
</tr>
<tr>
<td>41</td>
<td>DPF related rubber pipe</td>
<td>Replace</td>
<td>every 2 years</td>
<td>91 *2</td>
</tr>
<tr>
<td>42</td>
<td>EGR cooler rubber pipe</td>
<td>Replace</td>
<td>every 2 years</td>
<td>91 *2</td>
</tr>
<tr>
<td>43</td>
<td>Fuel system</td>
<td>Bleed</td>
<td></td>
<td>91</td>
</tr>
<tr>
<td>44</td>
<td>Clutch housing</td>
<td>Drain</td>
<td></td>
<td>92</td>
</tr>
<tr>
<td>45</td>
<td>Fuse</td>
<td>Replace</td>
<td></td>
<td>92</td>
</tr>
<tr>
<td>46</td>
<td>Light bulb</td>
<td>Replace</td>
<td></td>
<td>93</td>
</tr>
<tr>
<td>47</td>
<td>Fuel line</td>
<td>Replace</td>
<td>Service as required</td>
<td>94 *6</td>
</tr>
<tr>
<td>48</td>
<td>Radiator hose and clamp</td>
<td>Replace</td>
<td></td>
<td>94 *6</td>
</tr>
<tr>
<td>49</td>
<td>Intake air line</td>
<td>Replace</td>
<td></td>
<td>94 *6</td>
</tr>
<tr>
<td>50</td>
<td>Power steering oil line</td>
<td>Replace</td>
<td></td>
<td>94 *6</td>
</tr>
<tr>
<td>51</td>
<td>Oil cooler line (HST)</td>
<td>Replace</td>
<td></td>
<td>94 *6</td>
</tr>
<tr>
<td>52</td>
<td>Oil separator hose</td>
<td>Replace</td>
<td></td>
<td>94 *6</td>
</tr>
</tbody>
</table>

**IMPORTANT:**

- The jobs indicated by * must be done after the first 50 hours of operation.
- *1 Air cleaner should be cleaned more often in dusty conditions than in normal conditions.
- *2 Consult your local KUBOTA Dealer for this service.
- *3 When the battery is used for less than 100 hours per year, check the battery condition by reading the indicator annually.
- *4 Every 1,000 hours or every 1 year, whichever comes faster.
- *5 Every 2,000 hours or every 2 years, whichever comes faster.
- *6 Replace if any deterioration (crack, hardening, scar of deformation) or damage occurred.

However, must be replaced every 4 years regardless of the condition.

- The items listed above (@ marked) are registered as emission related critical parts by KUBOTA in the U.S.EPA nonroad emission regulation. As the engine owner, you are responsible for the performance of the required maintenance on the engine according to the above instruction. Please see Warranty Statement in detail.
# LUBRICANTS, FUEL AND COOLANT

<table>
<thead>
<tr>
<th>No.</th>
<th>Locations</th>
<th>Capacities</th>
<th>Lubricants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MX4800</td>
<td>MX5200</td>
</tr>
<tr>
<td>1</td>
<td>Fuel</td>
<td>51 L</td>
<td>(13.5 U.S.gals.)</td>
</tr>
<tr>
<td></td>
<td>Coolant</td>
<td>6.5 L</td>
<td>(6.9 U.S.qts.)</td>
</tr>
<tr>
<td>2</td>
<td>Engine crankcase (with filter)</td>
<td>8.2 L (8.7 U.S.qts.)</td>
<td>9.4 L (9.9 U.S.qts.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>Transmission case</td>
<td>44.0 L (11.6 U.S.gals.)</td>
<td>KUBOTA SUPER UDT-2 fluid</td>
</tr>
<tr>
<td>4</td>
<td>Front axle case [4WD]</td>
<td>8.5 L (8.9 U.S.qts.)</td>
<td>KUBOTA SUPER UDT-2 fluid or SAE80 - SAE 90 gear oil</td>
</tr>
</tbody>
</table>

## Greasing

<table>
<thead>
<tr>
<th>No. of greasing points</th>
<th>Capacity</th>
<th>Type of grease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front wheel hub [2WD]</td>
<td>2</td>
<td>Moderate amount</td>
</tr>
<tr>
<td>Knuckle shaft [2WD]</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Front wheel case support [4WD]</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Front axle support [4WD]</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Top link</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Top link bracket</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Lift rod</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Battery terminals</td>
<td>2</td>
<td>Moderate amount</td>
</tr>
</tbody>
</table>

**NOTE:**

The product name of KUBOTA genuine UDT fluid may be different from that in the Operator’s Manual depending on countries or territories. Consult your local KUBOTA Dealer for further details.
NOTE:

◆ Engine Oil:
  - Oil used in the engine should have an American Petroleum Institute (API) service classification and Proper SAE Engine Oil according to the ambient temperatures as shown above:
  
  - Refer to the following table for the suitable API classification engine oil according to the engine type (with DPF (Diesel Particulate Filter) type engines) and the fuel.

<table>
<thead>
<tr>
<th>Fuel used</th>
<th>Engine oil classification (API classification)</th>
<th>Oil class for engines with DPF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultra Low Sulfur Fuel</td>
<td></td>
<td>CJ-4</td>
</tr>
<tr>
<td>[&lt;0.0015% (15 ppm)]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

◆ Fuel:
  - Use the ultra low sulfur diesel fuel only [below 0.0015% (15 ppm)] for these engines.
  - Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20 °C (-4 °F) or elevations above 1500 m (5000 ft).
  - Diesel fuels specified to EN 590 or ASTM D975 are recommended.
  - No.2-D is a distillate fuel of lower volatility for engines in industrial and heavy mobile service. (SAE J313 JUN87)

◆ Transmission Oil:
  - "KUBOTA Super UDT-2: For an enhanced ownership experience, we highly recommend Super UDT-2 to be used instead of standard hydraulic/transmission fluid.
  - Super UDT-2 is a proprietary KUBOTA formulation that delivers superior performance and protection in all operating conditions.
  - Regular UDT is also permitted for use in this machine.
  - Indicated capacities of water and oil are manufacturer’s estimate.
PERIODIC SERVICE

WARNING
To avoid personal injury or death:
- Do not work under any hydraulically supported devices. They can settle, suddenly leak down, or be accidentally lowered. If necessary to work under tractor or any machine elements for servicing or adjustment, securely support them with stands or suitable blocking beforehand.

HOW TO OPEN THE HOOD

WARNING
To avoid personal injury or death from contact with moving parts;
- Never open the hood or engine side cover while the engine is running.
- Do not touch muffler or exhaust pipes while they are hot; Severe burns could result.
- Hold the hood with other hand while unlocking release lever.

Hood
To open the hood, hold the hood and pull the release lever and open the hood.

NOTE:
- To close the hood, push the hood into position using both hands.

Side Cover
1. Remove the bolt from each of the side covers and detach the side covers.
2. To attach the side covers, insert the bottom pin of each of them, hook them on, and tighten their bolts.
PERIODIC SERVICE

With the left-hand side cover detached, remember to undo the wire harness clips. Before attaching this side cover, redo these clips first.

DAILY CHECK

For your own safety and maximum service life of the machine, make a thorough daily inspection before operating the machine to start the engine.

WARNING

To avoid personal injury or death:
- Park the machine on firm and level ground.
- Set the parking brake.
- Lower the implement to the ground.
- All residual pressure of the hydraulic system released.
- Stop the engine and remove the key.

Walk Around Inspection

Look around and under the tractor for such items as loose bolts, trash build-up, oil or coolant leaks, broken or worn parts.

Checking and Refueling

WARNING

To avoid personal injury or death:
- Do not smoke while refueling.
- Be sure to stop the engine before refueling.

1. Turn the key switch to "ON", check the amount of fuel by fuel gauge.
2. Fill fuel tank when fuel gauge shows 1/4 or less fuel in tank.

A WARNING

To avoid personal injury or death:
- Do not permit dirt or trash to get into the fuel system.
- Be careful not to spill during refueling. If a spill should occur, wipe it off at once, or it may cause a fire.
- To prevent condensation (water) accumulation in the fuel tank, fill the tank before parking overnight.

Fuel tank capacity 51L (13.5 U.S.gals.)
Checking Water Separator
1. As water is collected in the water separator, the red float is raised.
2. When the red float has reached the white line, close the fuel cock, loosen the retainer ring, take out the cup, and clean the cup. Be careful not to break the element.
3. Place the cup back into position. Bleed the fuel system.
   (See "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)

Checking Engine Oil Level

**WARNING**
To avoid personal injury or death:
- Be sure to stop the engine before checking the oil level.

1. Park the machine on a flat surface.
2. Check engine oil before starting the engine or 5 minutes or more after the engine has stopped.
3. To check the oil level, draw out the dipstick, wipe it clean, replace it, and draw it out again. Check to see that the oil level lines between the 2 notches.
   If the level is too low, add new oil to the prescribed level at the oil inlet.
   (See "LUBRICANTS" in "MAINTENANCE" section.)

(1) Red float
(2) Fuel cock
(3) Retainer ring
(4) Cup

**IMPORTANT:**
- If water is drawn through to the fuel pump, extensive damage will occur.

(1) Dipstick

**IMPORTANT:**
- When using an oil of different maker or viscosity from the previous one, remove all of the old oil.
- Never mix two different types of oil.
- If oil level is low, do not run engine.

**NOTE:**
- At times a small amount of fuel, which is used to regenerate the DPF, may get mixed with the engine oil and the engine oil may increase in volume.
Checking Transmission Fluid Level

1. Park the machine on a flat surface, lower the implement and shut off engine.
2. View the fluid level through the fluid level gauge. If the level is too low, add new oil to the prescribed level at the oil inlet. (See "LUBRICANTS" in "MAINTENANCE" section.)

Checking Coolant Level

**WARNING**
To avoid personal injury or death:
- Do not remove radiator cap while coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely.

1. Check to see that the coolant level is between the "FULL" and "LOW" marks of recovery tank.
2. When the coolant level drops due to evaporation, add soft water only up to the full level. In case of leakage, add anti-freeze and soft water in the specified mixing ratio up to the full level. (See "Flushing Cooling System and Changing Coolant" in "EVERY 2000 HOURS or 2 YEARS" in "PERIODIC SERVICE" section.)
3. When the coolant level is lower than "LOW" mark of recovery tank, remove the radiator cap and check to see that the coolant level is just below the port. If level is low, add coolant.

**IMPORTANT:**
- If oil level is low, do not run engine.

- If the radiator cap has to be removed, follow the caution above and securely retighten the cap.
- Use clean, fresh soft water and anti-freeze to fill the radiator.
- If coolant should leak, consult your local KUBOTA Dealer.
Cleaning Evacuator Valve
Open the evacuator valve to get rid of large particles of dust and dirt.

Cleaning Grill and Radiator Screen

**WARNING**
To avoid personal injury or death:
- Be sure to stop the engine before removing the screen.
- Before checking or cleaning the radiator screen, stop the engine and wait long enough until it is cooled down.

1. Check front grill and side screens to be sure they are clean of debris.
2. Detach the screen with the fixed spring being held up and remove all foreign materials and clean the front of radiator completely.

Checking DPF Muffler

**WARNING**
To avoid personal injury or death:
- Before checking or cleaning the DPF muffler, stop the engine and wait long enough until it is cooled down.

Check the DPF muffler and its surroundings for build-up of anything flammable. Otherwise a fire may result.
Checking Brake Pedal
[HST Type]

**WARNING**
To avoid personal injury or death:
- Be sure brake pedals have equal adjustment when using locked together. Incorrect or unequal brake pedal adjustment can cause the tractor to swerve or roll-over.

1. Inspect the brake pedals for free travel, and smooth operation.
2. Adjust if incorrect measurement is found:
   (See "Adjusting Brake Pedal" in "EVERY 100 HOURS" in "PERIODIC SERVICE" section.)

Checking Brake Pedals and Clutch Pedal
[Manual Transmission Type]

**WARNING**
To avoid personal injury or death:
- Be sure brake pedals have equal adjustment when using locked together. Incorrect or unequal brake pedal adjustment can cause the tractor to swerve or roll-over.

1. Inspect the brake and clutch pedals for free travel, and smooth operation.
2. Adjust if incorrect measurement is found:
   (See "Adjusting Clutch Pedal" and "Adjusting Brake Pedal" in "EVERY 100 HOURS" in "PERIODIC SERVICE" section.)

Checking Gauges, Meter and Easy Checker(TM)

1. Inspect the instrument panel for broken gauge(s), meter(s) and Easy Checker(TM) lamps.
2. Replace if broken.

Checking Head Light, Turn Signal / Hazard Light etc.

1. Inspect the lights for broken bulbs and lenses.
2. Replace if broken.

Checking Seat Belt and ROPS

1. Always check condition of seat belt and ROPS attaching hardware before operating tractor.
2. Replace if damaged.

Checking and Cleaning of Electrical Wiring and Battery Cables

**WARNING**
To avoid personal injury or death:
- A loosened terminal or connector, or damaged wire may affect the performance of electrical components or cause short circuits. Leakage of electricity could result in a fire hazard, a dead battery or damage to electrical components.
- Replace damaged wires or connections promptly.
- If a fuse blows soon after replacement, DO NOT USE A LARGER THAN RECOMMENDED FUSE OR BYPASS THE FUSE SYSTEM.
- Many wiring connections are protected by waterproof plugs, plug and unplug these connections carefully and make sure they are sealed correctly after assembly.
- Accumulation of dust, chaff and spilled fuel deposits around the battery, electrical wiring, engine or exhaust system are fire hazards. CLEAN THESE AREAS BEFORE STARTING WORK.
- To avoid premature electrical malfunctions DO NOT APPLY high pressure water directly to battery, wiring, connectors, electrical components or instrument panel.

Inspect the following regularly:
1. Check wiring for chafed or cracked insulation.
2. Check wiring harness clamps. Replace if necessary.
3. Check connectors and terminals for looseness, contamination or overheated (discolored) connections.
4. Check instrument panel for correct operation of switches and gauges.
Consult your KUBOTA Dealer regarding maintenance, diagnosis and repair.

Checking Movable Parts
If any of the movable parts, such as levers and pedals, is not smoothly moved because of rust or sticky material, do not attempt to force it into motion.
In the above case, remove the rust or the sticky material, and apply oil or grease on the relevant spot.
Otherwise, the machine may get damaged.
EVERY 50 HOURS

**Lubricating Grease Fittings**

Apply a small amount of multipurpose grease to the following points every 50 hours:
If you operated the machine in extremely wet and muddy conditions, lubricate grease fittings more often.

When applying grease to forward front axle support, remove the breather plug and apply grease until grease overflows from breather plug port. After greasing, reinstall the breather plug.

1. Grease fitting (Knuckle shaft) [RH, LH]
2. Grease fitting (Front axle support)
3. Grease fitting (Front axle gear case support) [RH, LH]
4. Grease fitting (Top link)
5. Grease fitting (Lifting rod) [RH]
6. Grease fitting (Top link bracket) (with draft control) (if equipped)
Checking Engine Start System

**WARNING**

To avoid personal injury or death:
- Do not allow anyone near the tractor while testing.
- If the tractor does not pass the test, do not operate the tractor.

◆ Preparation before testing.
  1. Place all control levers in the "NEUTRAL" position.
  2. Set the parking brake and stop the engine.

[Manual Transmission Type]

◆ Test: Switch for the shuttle shift lever.
  1. Sit on the operator's seat
  2. Shift the shuttle shift lever to the forward or reverse position.
  3. Depress the clutch pedal fully.
  4. Disengage the PTO clutch control switch or lever.
  5. Turn the key to "START" position.
  6. The engine must not crank.
  7. If it cranks, consult your local KUBOTA Dealer for this service.

◆ Test: Switch for the PTO clutch control switch or lever.
  1. Sit on the operator's seat.
  2. Engage the PTO clutch control switch or lever.
  3. Depress the clutch pedal fully.
  4. Shift the shuttle shift lever to the neutral position.
  5. Turn the key to "START" position.
  6. The engine must not crank.
  7. If it cranks, consult your local KUBOTA Dealer for this service.

[HST Type]

◆ Test: Switch for the speed control pedal.
  1. Sit on the operator's seat.
  2. Depress the speed control pedal to the desired direction.
  3. Disengage the PTO clutch control switch or lever.
  4. Turn the key to "START" position.
  5. The engine must not crank.
  6. If it cranks, consult your local KUBOTA Dealer for this service.

◆ Test: Switch for the PTO clutch control switch or lever.
  1. Sit on the operator's seat.
  2. Engage the PTO clutch control switch or lever.
  3. Place the speed control pedal in neutral position.
  4. Turn the key to "START" position.
  5. The engine must not crank.
  6. If it cranks, consult your local KUBOTA Dealer for this service.
Checking Operator Presence Control

**WARNING**
To avoid personal injury or death:
- Do not allow anyone near the tractor while testing.
- If the tractor does not pass the test, do not operate the tractor.

**Preparation before testing.**
1. Place all control levers in the "NEUTRAL" position.
2. Set the parking brake and stop the engine.

**Test: Switch for the operator’s seat**
1. Sit on the operator’s seat.
2. Start the engine.
3. Engage the PTO clutch control switch or lever.
4. Stand up. (Do not get off the machine.)
5. The engine must shut off after approximately 1 second.
6. If it does not stop, consult your local KUBOTA Dealer for this service.

Checking Wheel Bolt Torque

**WARNING**
To avoid personal injury or death:
- Never operate tractor with a loose rim, wheel, or axle.
- Anytime bolts and nuts are loosened, retighten to specified torque.
- Check all bolts and nuts frequently and keep them tight.

Check wheel bolts and nuts regularly especially when new. If they are loose, tighten them as follows.

Checking Tie-rod Dust Cover

1. Check to see that dust covers are not damaged.
2. If dust covers are damaged, consult local KUBOTA Dealer for this service.

**IMPORTANT:**
- If dust covers are cracked, water and dust invade into tie-rod and it will be early wear.
EVERY 100 HOURS

Cleaning Air Cleaner Primary Element
1. Remove the air cleaner cover and primary element.
2. Clean the primary element:
   (1) When dry dust adheres to the element, blow compressed air from the inside, turning the element. Pressure of compressed air must be under 205 kPa (2.1 kgf/cm², 30 psi).
   (2) When carbon or oil adheres to the element, soak the element in detergent for 15 minutes then wash it several times in water, rinse with clean water and dry it naturally. After element is fully dried, inspect inside of the element with a light and check if it is damaged or not.
3. Replace air cleaner primary element:
   Once every 1000 hours or yearly, whichever comes first.

NOTE:
- Check to see if the evacuator valve is blocked with dust.

Adjusting Fan Belt Tension

WARNING
To avoid personal injury or death:
- Be sure to stop the engine before checking belt tension.

<table>
<thead>
<tr>
<th>Proper fan belt tension</th>
<th>A deflection is 12 mm (0.48 in.) when the belt is pressed (68.6 N [7 kgf, 15.4 lbs]) in the middle of the span.</th>
</tr>
</thead>
</table>

1. Stop the engine and remove the key.
2. Apply moderate thumb pressure to belt between pulleys.
3. If tension is incorrect, loosen the alternator mounting bolts and, using a lever placed between the alternator and the engine block, pull the alternator out until the deflection of the belt falls within acceptable limits.
4. Replace fan belt if it is damaged.

IMPORTANT:
- The air cleaner uses a dry element, never apply oil.
- Do not run the engine with filter element removed.
- Be sure to refit the cover with the arrow 1 (on the rear of cover) upright. If the cover is improperly fitted, evacuator valve will not function and dust will adhere to the element.
- Do not touch the secondary element except in cases where replacing is required.

(See "Replacing Air Cleaner Secondary Element" in "EVERY 1000 HOURS or 1 YEAR" in "PERIODIC SERVICE" section.)

- Evacuator Valve
Adjusting Clutch Pedal  
[Manual Transmission Type]

- Proper clutch pedal free travel: 20 to 30 mm (0.8 to 1.2 in.) on the pedal

- Adjusting procedure:
  1. Stop the engine and remove the key.
  2. Slightly depress the clutch pedal and measure free travel at top of pedal stroke.
  3. If adjustment is needed, loosen the lock nut, remove the cotter pin and adjust the rod length within acceptable limits.
  4. Retighten the lock nut and split the cotter pin.

![Diagram of Clutch Pedal](image1.png)

- (1) Clutch rod
- (2) Nut
- (3) Cotter pin

Adjusting Brake Pedal

- **WARNING**
  To avoid personal injury or death:
  - Stop the engine and chock the wheels before checking brake pedal.

- Proper brake pedal free travel: 15 to 20 mm (0.6 to 0.8 in.) on the pedal
  - Keep the free travel in the right and left brake pedals equal.

- Adjusting procedure:
  1. Release the parking brake.
  2. Slightly depress the brake pedals and measure free travel at the top of pedal stroke.
  3. If adjustment is needed, loosen the lock nut and turn the turnbuckle to adjust the rod length within acceptable limits.
  4. Retighten the lock nut.
Checking Battery Condition

**DANGER**
To avoid the possibility of battery explosion:
For the refillable type battery, follow the instructions below.
- Do not use or charge the refillable type battery if the fluid level is below the LOWER (lower limit level) mark. Otherwise, the battery component parts may prematurely deteriorate, which may shorten the battery’s service life or cause an explosion. Check the fluid level regularly and add distilled water as required so that the fluid level is between the UPPER and LOWER levels.

**WARNING**
To avoid personal injury or death:
- Never remove the battery cap while the engine is running.
- Keep electrolyte away from eyes, hands and clothes. If you are spattered with it, wash it away completely with water immediately and get medical attention.
- Keep open sparks and flames away from the battery at all times. Hydrogen gas mixed with oxygen becomes very explosive.
- Wear eye protection and rubber gloves when working around battery.

The factory-installed battery is of non-refillable type. If the indicator turns white, do not charge the battery but replace it with new one.

Mishandling the battery shortens the service life and adds to maintenance costs. The original battery is maintenance free, but needs some servicing. If the battery is weak, the engine will be difficult to start and the lights will be dim. It is important to check the battery periodically.

**How to read the indicator**
Check the battery condition by reading the indicator.

<table>
<thead>
<tr>
<th>State of indicator display</th>
<th>Green</th>
<th>Black</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific gravity of electrolyte and quality of electrolyte are both in good condition.</td>
<td>Needs charging battery.</td>
<td>Needs replacing battery.</td>
<td></td>
</tr>
</tbody>
</table>

**Battery Cable Connections**
1. Be sure to wire the battery cable as shown in the figure.
2. Tighten the terminal until the stopper comes in contact.
PERIODIC SERVICE

◆ Battery Charging

**WARNING**
To avoid personal injury or death:

- 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.
- When charging the battery, ensure the vent caps are securely in place. (if equipped)
- When disconnecting the cable from the battery, start with the negative terminal first.
- Never check battery charge by placing a metal object across the posts.
  Use a voltmeter or hydrometer.

1. 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.
2. 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.
3. The battery is charged if the indicator display turns green from black.
4. When exchanging an old battery for a new one, use battery of equal specification shown in table 1.

**EVERY 200 HOURS**

**Replacing Transmission Oil Filter [HST Type]**

**WARNING**
To avoid personal injury or death:

- Be sure to stop the engine before changing the oil filter cartridge.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. Remove the drain plugs at the bottom of the transmission case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plugs.
3. Remove the oil filter.

**Table 1**

<table>
<thead>
<tr>
<th>Battery Type</th>
<th>Volts (V)</th>
<th>Reserve capacity (min)</th>
<th>CCA (SAE) (A)</th>
<th>Normal Charging Rate (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80D26R</td>
<td>112</td>
<td>120</td>
<td>600</td>
<td>7.5</td>
</tr>
</tbody>
</table>

CCA : Cold Cranking Ampere
81 PERIODIC SERVICE

4. Put a film of clean transmission oil on the rubber seal of the new filter.
5. Quickly tighten the filter until it contacts the mounting surface, then, with a filter wrench, tighten it an additional 1 turn only.
6. After the new filter has been replaced, fill with the transmission oil up to the upper line of the gauge.
7. After running the engine for a few minutes, stop the engine and check the oil level again, add oil to the prescribed level.
8. Make sure that the transmission fluid doesn’t leak past the seal on the filter.

IMPORTANT:
- To prevent serious damage to the hydraulic system, use only a KUBOTA genuine filter.
- Do not operate the tractor immediately after changing the transmission fluid.
  Run the engine at medium speed for a few minutes to prevent damage to the transmission.

Adjusting Toe-in

<table>
<thead>
<tr>
<th>Proper toe-in</th>
<th>2 to 8 mm (0.08 to 0.31 in.)</th>
</tr>
</thead>
</table>

1. Park tractor on a flat place.
2. Turn steering wheel so front wheels are in the straight ahead position.
3. Lower the implement, lock the park brake and stop the engine.
4. Measure distance between tire beads at front of tire, at hub height.
5. Measure distance between tire beads at rear of tire, at hub height.
6. Front distance should be shorter than rear distance. If not, adjust tie rod length.
**PERIODIC SERVICE**

**Adjusting procedures**
1. Detach the snap ring.
2. Loosen the tie-rod nut.
3. Turn the tie-rod joint to adjust the rod length until the proper toe-in measurement is obtained.
4. Retighten the tie-rod nut.
5. Attach the snap ring of the tie-rod joint.

1. To drain the used oil, remove the drain plug at the bottom of the engine and drain the oil completely into the oil pan.
2. After draining reinstall the drain plug.
3. Fill with the new oil up to the upper notch on the dipstick.

(See "LUBRICANTS" in "MAINTENANCE" section.)

<table>
<thead>
<tr>
<th>Model</th>
<th>Oil capacity with filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>MX4800</td>
<td>8.2 L (8.7 U.S.qts.)</td>
</tr>
<tr>
<td>MX5200</td>
<td>9.4 L (9.9 U.S.qts.)</td>
</tr>
</tbody>
</table>

**IMPORTANT**:
- Use DPF-compatible oil (CJ-4) for the engine.

**EVERY 400 HOURS**

**Changing Engine Oil**

**WARNING**
To avoid personal injury or death:
- Be sure to stop the engine before changing the oil.
- Allow engine to cool down sufficiently, oil can be hot and can burn.
Replacing Engine Oil Filter

To avoid personal injury or death:
- Be sure to stop the engine before replacing the oil filter cartridge.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. Remove the oil filter.
2. Put a film of clean engine oil on the rubber seal of the new filter.
3. Tighten the filter quickly until it contacts the mounting surface.
   Tighten filter by hand an additional 1/2 turn only.
4. After the new filter has been replaced, the engine oil normally decreases a little. Make sure that the engine oil does not leak through the seal and be sure to check the oil level on the dipstick. Then, replenish the engine oil up to the prescribed level.

Changing Transmission Fluid / Replacing Hydraulic Oil Filter
- Cleaning Magnetic Filter

**WARNING**
To avoid personal injury or death:
- Be sure to stop the engine before changing the oil filter cartridge.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. Remove the drain plugs at the bottom of the transmission case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plugs.
3. Remove the oil filter.
4. Wipe off metal filings from the magnetic filter with a clean rag.
5. Put a film of clean transmission oil on the rubber seal of the new filter.

**IMPORTANT:**
- To prevent serious damage to the engine, use only a KUBOTA genuine filter.
6. Quickly tighten the filter until it contacts the mounting surface, then tighten it by hand an additional 1/2 turn only.
7. After the new filter has been replaced, fill with oil up to the upper line of the gauge.
8. After running the engine for a few minutes, stop the engine and check the oil level again, add oil to the prescribed level.
9. Make sure that the transmission fluid doesn't leak past the seal on the filter.

Oil capacity 44.0 L (11.6 U.S.gals.)

**IMPORTANT:**
- To prevent serious damage to the hydraulic system, use only a KUBOTA genuine filter.
- Do not operate the tractor immediately after changing the transmission fluid. Run the engine at medium speed for a few minutes to prevent damage to the transmission.

**Replacing Fuel Filter**
1. Remove the fuel filter.
3. Tighten the filter quickly until it contacts the mounting surface.
   Tighten filter by hand an additional 1/2 turn only.
4. Bleed the fuel system.
   (See "Bleeding Fuel System" in "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)

**Cleaning Water Separator**
This job should not be done in the field, but in a clean place.
1. Close the fuel cock.
2. Unscrew the retainer ring and remove the cup, and rinse the inside with kerosene.
3. Take out the element and dip it in the kerosene to rinse.
4. After cleaning, reassemble the water separator, keeping out dust and dirt.
5. Bleed the fuel system.
   (See "Bleeding Fuel System" in "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)
EVERY 600 HOURS

Adjusting Front Axle Pivot
If the front axle pivot pin adjustment is not correct, front wheel vibration can occur causing vibration in the steering wheel.

Adjusting procedure
Loosen the lock nut, screw-in the adjusting screw until seated, then tighten the screw with an additional 1/6 turn. Re-tighten the lock nut.

EVERY 800 HOURS

Changing Front Axle Case Oil
[4WD]
1. To drain the used oil, remove the right and left drain plugs and filling plug at the front axle case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plugs.
3. Remove the oil level check plug.
4. Fill with the new oil up to the check plug port. (See "LUBRICANTS" in "MAINTENANCE" section.)
5. After filling reinstall the filling plug and check plug.

<table>
<thead>
<tr>
<th>Oil capacity</th>
<th>8.5 L (8.9 U.S.qts.)</th>
</tr>
</thead>
</table>
EVERY 1000 HOURS or 1 YEAR

Be sure to do the following servicing once every 1000 hours or yearly, whichever comes first.

■ Replacing Oil Separator Element

To avoid personal injury or death:
- Be sure to stop the engine before replacing the oil separator element.

1. Remove the cover and take out the element. Wipe off oil and the carbon in the case with a clean rag.
2. Fit a new oil separator element.
3. Tighten the cover.

■ Adjusting Engine Valve Clearance

Consult your local KUBOTA Dealer for this service.

EVERY 1500 HOURS

■ Cleaning Fuel Injector Nozzle Tip

Consult your local KUBOTA Dealer for this service.

■ Replacing Oil Separator Element

(1) Oil separator
(2) Body
(3) Oil separator element
(4) Gasket
(5) Cover

■ Checking Exhaust Manifold

Consult your local KUBOTA Dealer for this service.

■ Checking PCV (Positive Crankcase Ventilation) Valve

Consult your local KUBOTA Dealer for this service.

■ Checking and Cleaning EGR Cooler

Consult your local KUBOTA Dealer for this service.

■ Replacing Air Cleaner Primary Element and Secondary Element

(See "Cleaning Air Cleaner Primary Element" in "EVERY 100 HOURS" in "PERIODIC SERVICE" section.)

■ Checking and Cleaning EGR Cooler

Consult your local KUBOTA Dealer for this service.

■ Checking Exhaust Manifold

Consult your local KUBOTA Dealer for this service.

EVERY 1000 HOURS or 1 YEAR

Be sure to do the following servicing once every 1000 hours or yearly, whichever comes first.

■ Replacing Air Cleaner Primary Element and Secondary Element

(See "Cleaning Air Cleaner Primary Element" in "EVERY 100 HOURS" in "PERIODIC SERVICE" section.)

■ Checking Exhaust Manifold

Consult your local KUBOTA Dealer for this service.

■ Checking PCV (Positive Crankcase Ventilation) Valve

Consult your local KUBOTA Dealer for this service.

■ Checking and Cleaning EGR Cooler

Consult your local KUBOTA Dealer for this service.
EVERY 2000 HOURS or 2 YEARS

Be sure to do the following servicing once every 2000 hours or biennially, whichever comes first.

Flushing Cooling System and Changing Coolant

To avoid personal injury or death:

- Do not remove radiator cap while coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely.

1. Stop the engine, remove the key and let it cool down.
2. To drain the coolant, open the radiator drain plug and remove radiator cap. The radiator cap must be removed to completely drain the coolant.
3. After all coolant is drained, reinstall the drain plug.
4. Fill with clean soft water and cooling system cleaner.
5. Follow directions of the cleaner instruction.
6. After flushing, fill with clean soft water and anti-freeze until the coolant level is just below the radiator cap.
7. Install the radiator cap securely.
8. Fill with coolant up to the "FULL" mark of recovery tank.
9. Start and operate the engine for few minutes.
10. Stop the engine, remove the key and let cool.
11. Check coolant level of recovery tank and add coolant if necessary.

Properly dispose of used coolant.

IMPORTANT:

- Do not start engine without coolant.
- Use clean, fresh soft water and anti-freeze to fill the radiator and recovery tank.
- When mixing the anti-freeze with water, the anti-freeze mixing ratio is 50%.
- Securely tighten radiator cap. If the cap is loose or improperly fitted, water may leak out and the engine could overheat.

Anti-Freeze

To avoid personal injury or death:

- When using antifreeze, put on some protection such as rubber gloves. (Antifreeze contains poison.)
- If it is swallowed, seek immediate medical help. Do NOT make a person throw up unless told to do so by poison control or a health care professional. Use standard first aid and CPR for signs of shock or cardiac arrest. Call your local Poison Control Center or your local emergency number for further assistance.
- When antifreeze comes in contact with the skin or clothing, wash it off immediately.
- Do not mix different types of Antifreeze. The mixture can produce chemical reaction causing harmful substances.
- Antifreeze is extremely flammable and explosive under certain conditions. Keep fire and children away from antifreeze.
- When draining fluids from the engine, place a container underneath the engine body.
- Do not pour waste onto the ground, down a drain, or into any water source.
- Also, observe the relevant environmental protection regulations when disposing of antifreeze.

<table>
<thead>
<tr>
<th></th>
<th>Coolant capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiator</td>
<td>6.5 L (6.9 U.S.qts.)</td>
</tr>
<tr>
<td>Recovery tank</td>
<td>0.6 L (0.6 U.S.qts.)</td>
</tr>
</tbody>
</table>

(1) Radiator cap
(2) Recovery tank
(A) "FULL"
(B) "LOW"
Always use a 50/50 mix of long-life coolant and clean soft water in KUBOTA engines. Consult your local KUBOTA Dealer concerning coolant for extreme conditions.

1. Long-life coolant (hereafter LLC) comes in several types. Use ethylene glycol (EG) type for this engine.
2. Before employing LLC-mixed cooling water, fill the radiator with fresh water and empty it again. Repeat this procedure 2 or 3 times to clean up the inside.
3. Mixing the LLC Premix 50% LLC with 50% clean soft water. When mixing, stir it up well, and then fill into the radiator.
4. The procedure for the mixing of water and antifreeze differs according to the make of the antifreeze and the ambient temperature. Refer to SAE J1034 standard, more specifically also to SAE J814c.
   - At 1.013 x 10^5 Pa (760mmHg) pressure (atmospheric).
   - A higher boiling point is obtained by using a radiator pressure cap which permits the development of pressure within the cooling system.
5. Adding the LLC
   1. Add only water if the mixture reduces in amount by evaporation.
   2. If there is a mixture leak, add the LLC of the same manufacturer and type in the same mixture percentage.
   - Never add any long-life coolant of different manufacturer. (Different brands may have different additive components, and the engine may fail to perform as specified.)
6. When the LLC is mixed, do not employ any radiator cleaning agent. The LLC contains antitrust agent.
7. Kubota's genuine long-life coolant has a service life of 2 years. Be sure to change the coolant every 2 years.

**NOTE:**
- The above data represent industry standards that necessitate a minimum glycol content in the concentrated antifreeze.

### EVERY 3000 HOURS

- **Checking Turbocharger**
  - [MX5200, MX5800]
  - Consult your local KUBOTA Dealer for this service.
- **Checking Supply Pump**
  - Consult your local KUBOTA Dealer for this service.
- **Checking and Cleaning EGR System**
  - Consult your local KUBOTA Dealer for this service.
- **Cleaning DPF Muffler**
  - **Removal of ash**
  - The longer the DPF operates, the more ash (burnt residue) is collected in the filter. Too much ash build-up adversely affects the DPF performance. Consult your local KUBOTA Dealer to clean the filter.

**IMPORTANT:**
- The DPF needs cleaning with a specific cleaning device. Do not clean the DPF by disassembling, and attempt by yourself, consult your local KUBOTA Dealer.

### EVERY 1 YEAR

- **Checking Fuel Line**
  1. Check to see that all lines and hose clamps are tight and not damaged.
  2. If hoses and clamps are found worn or damaged, replace or repair them at once.

- **Bleeding Fuel System**
  - Consult your local KUBOTA Dealer for this service.

**NOTE:**
- If the fuel line is removed, be sure to properly bleed the fuel system.
  (See "Bleeding Fuel System" in "SERVICE AS REQUIRED" in "PERIODIC SERVICE" section.)
■ Checking Intake Air Line
1. Check to see that hoses and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.

■ Checking Radiator Hose and Clamp
Check to see if radiator hoses are properly fixed every year.
1. If hose clamps are loose or water leaks, tighten bands securely.
2. Replace hoses and tighten hose clamps securely, if radiator hoses are swollen, hardened or cracked.
Replace hoses and hose clamps every 4 years or earlier if checked and found that hoses are swollen, hardened or cracked.

◆ Precaution at Overheating
Take the following actions in the event the coolant temperature is nearly or more than the boiling point, what is called "Overheating".
1. Park the tractor in a safe place and keep the engine unloaded idling.
2. Don't stop the engine suddenly, but stop it after about 5 minutes of unloaded idling.
3. Keep yourself well away from the machine for further 10 minutes or while the steam blows out.
4. Check that there are no dangers such as burns. Get rid of the causes of overheating according to the manual, see "TROUBLESHOOTING" section, and then, start again the engine.

■ Checking Power Steering Line
1. Check to see if all lines and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.
Checking Oil Cooler Line

1. Check to see that all lines and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.

Checking Oil Separator Hose

1. Check to see that all hoses and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.

Checking DPF Related Pipe

Consult your local KUBOTA Dealer for this service.

Checking EGR Pipe

Consult your local KUBOTA Dealer for this service.
EVERY 2 YEARS
- Replacing DPF Related Rubber Pipe
  Consult your local KUBOTA Dealer for this service.
- Replacing EGR Cooler Rubber Pipe
  Consult your local KUBOTA Dealer for this service.

EVERY 4 YEARS
- Replacing Radiator Hose (Water pipes)
  Replace the hoses and clamps.
  (See "Checking Radiator Hose and Clamp" in "EVERY 1 YEAR" in "PERIODIC SERVICE" section.)
- Replacing Fuel Lines
  Consult your local KUBOTA Dealer for this service.
- Replacing Intake Air Line
  Consult your local KUBOTA Dealer for this service.
- Replacing Oil Cooler Line
  [HST Type]
  Consult your local KUBOTA Dealer for this service.
- Replacing Oil Separator Hose
  Consult your local KUBOTA Dealer for this service.
- Replacing Power Steering Hose
  Consult your local KUBOTA Dealer for this service.

SERVICE AS REQUIRED
- Bleeding Fuel System
  Air must be removed:
  1. When the fuel filter or lines are removed.
  2. When water is drained from water separator.
  3. When tank is completely empty.
  4. After the tractor has not been used for a long period of time.
  
  ◆ Bleeding procedure is as follows:
  1. Fill the fuel tank with fuel, and open the cock.

  (1) Fuel cock
  (A) "CLOSE"
  (B) "OPEN"

  2. Loosen the air vent plug on the fuel filter 2 turns or so.

  (1) Air vent plug

  3. Turn on the key switch and wait for about 1 minute.
  Then tighten up the air vent plug.
  4. Set the hand throttle lever at the minimum speed position and turn the key to "START" position.
  If the engine doesn't start, try it several times at 30 second intervals.

  IMPORTANT:
  - Do not hold key switch at engine start position for more than 10 seconds continuously. If more engine cranking is needed, try again after 30 seconds.
5. Accelerate the engine to remove the small portion of air left in the fuel system.
6. If air still remains and the engine stops, repeat the above steps.

**Draining Clutch Housing Water**
The tractor is equipped with split pin plug under the clutch housing.
After operating in rain, snow or tractor has been washed, water may get into the clutch housing. Check it by pushing in the split pin.
If water has entered into the clutch housing, remove the plug and drain the water, then install the plug again.

**Replacing Fuse**
The tractor electrical system is protected from potential damage by fuses.
A blown fuse indicates that there is an overload or short somewhere in the electrical system.
If any of the fuses should blow, replace with a new one of the same capacity.

**IMPORTANT:**
- Before replacing a blown fuse, determine why the fuse blew and make any necessary repairs. Failure to follow this procedure may result in serious damage to the tractor electrical system. Refer to the "TROUBLESHOOTING" section of this manual or your local KUBOTA Dealer for specific information dealing with electrical problems.

<table>
<thead>
<tr>
<th>FUSE No.</th>
<th>CAPACITY (A)</th>
<th>Protected circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>5</td>
<td>Engine ECU (Ignition key)</td>
</tr>
<tr>
<td>(2)</td>
<td>5</td>
<td>Main ECU (Ignition key)</td>
</tr>
<tr>
<td>(3)</td>
<td>5</td>
<td>Meter panel (Ignition key)</td>
</tr>
<tr>
<td>(4)</td>
<td>5</td>
<td>Combination switch</td>
</tr>
<tr>
<td>(5)</td>
<td>5</td>
<td>Work light</td>
</tr>
<tr>
<td>(6)</td>
<td>5</td>
<td>Starter relay</td>
</tr>
<tr>
<td>(7)</td>
<td>20</td>
<td>Engine ECU (Battery)</td>
</tr>
<tr>
<td>(8)</td>
<td>5</td>
<td>Main ECU (Battery)</td>
</tr>
<tr>
<td>(9)</td>
<td>5</td>
<td>Meter panel (Battery)</td>
</tr>
<tr>
<td>(10)</td>
<td>10</td>
<td>Hazard</td>
</tr>
<tr>
<td>(11)</td>
<td>10</td>
<td>Head Light</td>
</tr>
</tbody>
</table>
Replacing Slow-Blow Fuses
The slow-blow fuses are intended to protect the electrical cabling. If any of them has blown out, be sure to pinpoint the cause. Never use any substitute, use only a KUBOTA genuine part.

Replacing Light Bulb
1. Head light and rear combination lights:
   Take the bulb out of the light body and replace with a new one.
2. Other lights:
   Detach the lens and replace the bulb.

Replacing Head Lamp

**CAUTION**
To avoid personal injury:
- Be careful not to drop the bulb, hit anything against the lamp, apply excess force, and get the lamp scratched. If broken, glass may cause injury. Pay more attention to halogen lamps in particular, which have high pressure inside.
- Before replacing the lamp, be sure to turn off the light and wait until the bulb cools down, otherwise, you may get burned.

**Removing Bulb**
1. Remove the rubber boot.
2. Turn the socket counterclockwise while pressing and remove it.
3. Remove the bulb.

**Attaching Bulb**
1. Align (A) of the bulb with (B) of the lamp case and attach the bulb.
2. Align (C) of the socket with (D) of the lamp case and attach the socket.
3. Attach the rubber boot.

<table>
<thead>
<tr>
<th>No.</th>
<th>Capacity (A)</th>
<th>Protected circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40</td>
<td>LOAD</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>BATTERY</td>
</tr>
</tbody>
</table>

Replacing Head Lamp

**CAUTION**
To avoid personal injury:
- Be careful not to drop the bulb, hit anything against the lamp, apply excess force, and get the lamp scratched. If broken, glass may cause injury. Pay more attention to halogen lamps in particular, which have high pressure inside.
- Before replacing the lamp, be sure to turn off the light and wait until the bulb cools down, otherwise, you may get burned.

**Removing Bulb**
1. Remove the rubber boot.
2. Turn the socket counterclockwise while pressing and remove it.
3. Remove the bulb.

**Attaching Bulb**
1. Align (A) of the bulb with (B) of the lamp case and attach the bulb.
2. Align (C) of the socket with (D) of the lamp case and attach the socket.
3. Attach the rubber boot.

**IMPORTANT**:
- Be sure to use a new bulb of the specified wattage.
- Never touch the bulb surface (glass) with bare hands. Fingerprints, for example, may break the bulb.
Replace the below parts if any deterioration (crack, hardening, scar or deformation) or damage occurred. However, must be replaced every 4 years regardless of the condition.

- **Replacing Radiator Hose (Water pipes)**
  Replace the hoses and clamps.
  (See "Checking Radiator Hose and Clamp" in "EVERY 1 YEAR" in "PERIODIC SERVICE" section.)

- **Replacing Fuel Lines**
  Consult your local KUBOTA Dealer for this service.

- **Replacing Intake Air Line**
  Consult your local KUBOTA Dealer for this service.

- **Replacing Power Steering Hose**
  Consult your local KUBOTA Dealer for this service.

- **Replacing Oil Cooler Line [HST Type]**
  Consult your local KUBOTA Dealer for this service.

- **Replacing Oil Separator Hose**
  Consult your local KUBOTA Dealer for this service.
STORAGE

WARNING
To avoid personal injury or death:
- Do not clean the machine while the engine is running.
- To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.
- When storing, remove the key from the key switch to avoid unauthorized persons from operating the tractor and getting injured.

TRACTOR STORAGE
If you intend to store your tractor for an extended period of time, follow the procedures outlined below. These procedures will insure that the tractor is ready to operate with minimum preparation when it is removed from storage.
1. Check the bolts and nuts for looseness, and tighten if necessary.
2. Apply grease to tractor areas where bare metal will rust also to pivot areas.
3. Detach the weights from the tractor body.
4. Inflate the tires to a pressure a little higher than usual.
5. Change the engine oil and run the engine to circulate oil throughout the engine block and internal moving parts for about 5 minutes.
6. Keep the clutch disengaged. If the clutch is left engaged for a long period of time, the clutch plate may rust, making clutch disengagement impossible at the next operation.
7. With all implements lowered to the ground, coat any exposed hydraulic cylinder piston rods with grease.
8. Remove the battery from the tractor. Store the battery following the battery storage procedures. (See "Checking Battery Condition" in "EVERY 100 HOURS" in "PERIODIC SERVICE" section.)
9. Keep the tractor in a dry place where the tractor is sheltered from the elements. Cover the tractor.
10. Store the tractor indoors in a dry area that is protected from sunlight and excessive heat. If the tractor must be stored outdoors, cover it with a waterproof tarpaulin. Jack the tractor up and place blocks under the front and rear axles so that all 4 tires are off the ground. Keep the tires out of direct sunlight and extreme heat.

IMPORTANT:
- When washing the tractor, be sure to stop the engine. Allow sufficient time for the engine to cool before washing.
- Cover the tractor after the muffler and the engine have cooled down.

REMOVING THE TRACTOR FROM STORAGE
1. Check the tire air pressure and inflate the tires if they are low.
2. Jack the tractor up and remove the support blocks from under the front and rear axles.
3. Install the battery. Before installing the battery, be sure it is fully charged.
4. Check the fan belt tension.
5. Check all fluid levels (engine oil, transmission/hydraulic oil, engine coolant and any attached implements).
6. Start the engine. Observe all gauges. If all gauges are functioning properly and reading normal, move the tractor outside. Once outside, park the tractor and let the engine idle for at least 5 minutes. Shut the engine off and walk around tractor and make a visual inspection looking for evidence of oil or water leaks.
7. With the engine fully warmed up, release the parking brake and test the brakes for proper adjustment as you move forward. Adjust the brakes as necessary.
## TROUBLESHOOTING

### ENGINE TROUBLESHOOTING

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

<table>
<thead>
<tr>
<th>Trouble</th>
<th>Cause</th>
<th>Countermeasure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine is difficult to start or won't start.</td>
<td>• No fuel flow.</td>
<td>• Check the fuel tank and the fuel filter. Replace filter if necessary.</td>
</tr>
<tr>
<td></td>
<td>• Air or water is in the fuel system.</td>
<td>• Check to see if the fuel line coupler bolt and nut are tight.</td>
</tr>
<tr>
<td></td>
<td>• In winter, oil viscosity increases, and engine revolution is slow.</td>
<td>• Use oils of different viscosities, depending on ambient temperatures.</td>
</tr>
<tr>
<td></td>
<td>• Battery becomes weak and the engine does not turn over quick enough.</td>
<td>• Clean battery cables &amp; terminals.</td>
</tr>
<tr>
<td></td>
<td>• Preheat (glow plug) system trouble.</td>
<td>• Check to see if the slow blow fuse of the preheat (glow plug) blows.</td>
</tr>
<tr>
<td></td>
<td>• Insufficient engine power.</td>
<td>• Check the fuel system.</td>
</tr>
<tr>
<td></td>
<td>• The air cleaner is clogged.</td>
<td>• Check the proper amount of oil.</td>
</tr>
<tr>
<td></td>
<td>• Insufficient or dirty fuel.</td>
<td>• Check to see if the preheat (glow plug) functions in cold weather.</td>
</tr>
<tr>
<td></td>
<td>• The air cleaner is clogged.</td>
<td>• Change the fuel and fuel filter.</td>
</tr>
<tr>
<td>Black</td>
<td>• Fuel quality is poor.</td>
<td>• Change the fuel and fuel filter.</td>
</tr>
<tr>
<td></td>
<td>• Too much oil.</td>
<td>• Check the proper amount of oil.</td>
</tr>
<tr>
<td></td>
<td>• The air cleaner is clogged.</td>
<td>• Clean or replace the element.</td>
</tr>
<tr>
<td>Blue white</td>
<td>• The inside of exhaust muffler is damp with fuel.</td>
<td>• Check to see if the preheat (glow plug) functions in cold weather.</td>
</tr>
<tr>
<td></td>
<td>• Injection nozzle trouble.</td>
<td>• Heat the muffler by applying load to the engine.</td>
</tr>
<tr>
<td></td>
<td>• Fuel quality is poor.</td>
<td>• Check the injection nozzle.</td>
</tr>
<tr>
<td>Exhaust fumes are colored.</td>
<td></td>
<td>• Change the fuel and fuel filter.</td>
</tr>
<tr>
<td>Engine stops suddenly.</td>
<td></td>
<td>• Shift to lower gear or reduce load.</td>
</tr>
<tr>
<td></td>
<td>• Insufficient fuel.</td>
<td>• Fill cooling system to the correct level; check radiator and hoses for loose connections or leaks.</td>
</tr>
<tr>
<td></td>
<td>• Refuel.</td>
<td>• Adjust or replace fan belt.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Remove all trash.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Flush cooling system.</td>
</tr>
</tbody>
</table>

If you have any questions, contact your local KUBOTA Dealer.
**POWER TRAIN TROUBLE SHOOTING**

If something is wrong with the power train, the master system warning indicator starts blinking and the error code shown below is displayed on the liquid crystal display, indicating the location of the trouble. If an error code appears, immediately contact your local KUBOTA Dealer for repairs.

<table>
<thead>
<tr>
<th>Displayed error code</th>
<th>Trouble</th>
<th>Operator’s action</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-20</td>
<td>Communication trouble</td>
<td>Contact your local KUBOTA Dealer.</td>
</tr>
<tr>
<td>E-31</td>
<td>Meter’s part code and ECU model setting not compatible</td>
<td>Contact your local KUBOTA Dealer.</td>
</tr>
<tr>
<td>E-40</td>
<td>Input voltage of lever sensor from ECU is in trouble.</td>
<td>Contact your local KUBOTA Dealer.</td>
</tr>
<tr>
<td>E-75</td>
<td>Acceleration sensor output out of spec</td>
<td>Contact your local KUBOTA Dealer.</td>
</tr>
<tr>
<td>E-84</td>
<td>Acceleration sensor maladjusted</td>
<td>Contact your local KUBOTA Dealer.</td>
</tr>
<tr>
<td>E-93</td>
<td>Relay for engine starter motor is in trouble.</td>
<td>Contact your local KUBOTA Dealer. The engine cannot start.</td>
</tr>
<tr>
<td>E-94</td>
<td>Relay for engine shut off is in trouble.</td>
<td>Contact your local KUBOTA Dealer. The Operator Presence Control (OPC) system gets activated, and the engine stops itself.</td>
</tr>
<tr>
<td>E-95</td>
<td>Solenoid (PTO) is in trouble.</td>
<td>Contact your local KUBOTA Dealer. The PTO shaft cannot rotate.</td>
</tr>
</tbody>
</table>
98 OPTIONS

OPTIONS

Consult your local KUBOTA Dealer for further details.

- Engine Block Heater
  For extremely cold weather starting
- Front end weights
  For front ballast
- Front bumper
- Rear Wheel Weights
  For rear ballast
- Sunshade
- Front grill guard
- Double Acting Remote Hydraulic Control Valve with
  Float Position
- Double Acting Remote Hydraulic Control Valve
- Draft Control
- Work Light
  High visibility for night work
# APPENDICES

## INDEX

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
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<td>3-point Hitch Lowering Speed</td>
<td>53</td>
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<tr>
<td>Air Cleaner Primary Element</td>
<td>77</td>
</tr>
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