

Product: Kubota T1570 T1670 T1770 T1870 Service Manual

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WSM

WORKSHOP MANUAL

T1570, T1670, T1770, T1870

Kubota

KiSC issued 09, 2006 A

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TO THE READER

This Workshop Manual has been prepared to provide servicing personnel with information on the mechanism, service and maintenance of KUBOTA T1570, T1670, T1770 and T1870. It is divided into two parts, "Mechanism" and "Servicing" for each section.

Mechanism

Information on the construction and function are included. This part should be understood before proceeding with troubleshooting, disassembling and servicing.

Servicing

Under the heading "General" section comes general precautions, check and maintenance and special tools. Other section, there are troubleshooting, servicing specification lists, checking and adjusting, disassembling and assembling, and servicing which cover procedures, precautions, factory specifications and allowable limits.

All information, illustrations and specifications contained in this manual are based on the latest production information available at the time of publication.

The right is reserved to make changes in all information at any time without notice.

January 2002

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SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and decals 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 repair 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

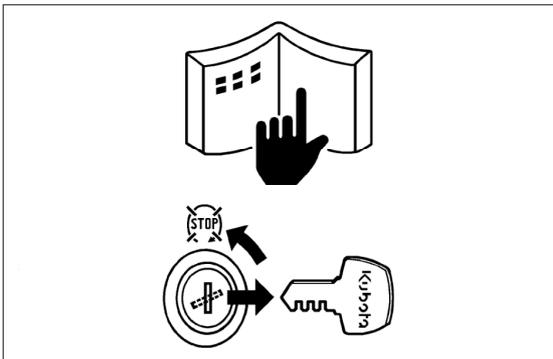
: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

IMPORTANT

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

NOTE

: Gives helpful information.



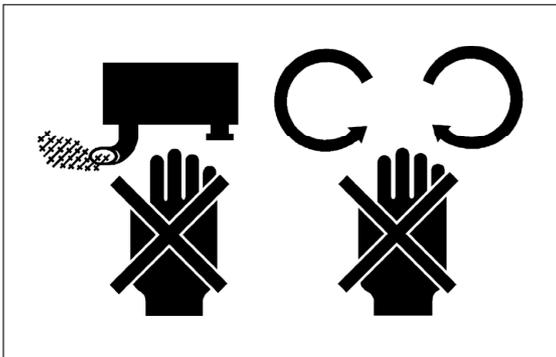
BEFORE SERVICING AND REPAIRING

- Read all instructions and safety instructions in this manual and on your machine safety decals.
- Clean the work area and machine.
- Park the machine on a firm and level ground, and set the parking brake.
- Lower the implement to the ground.
- Stop the engine, and remove the key.
- Disconnect the battery negative cable.
- Hang a "DO NOT OPERATE" tag in operator station.



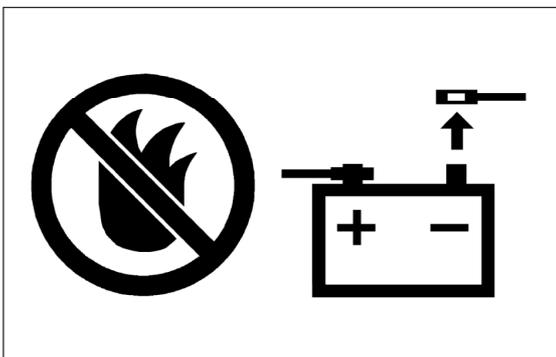
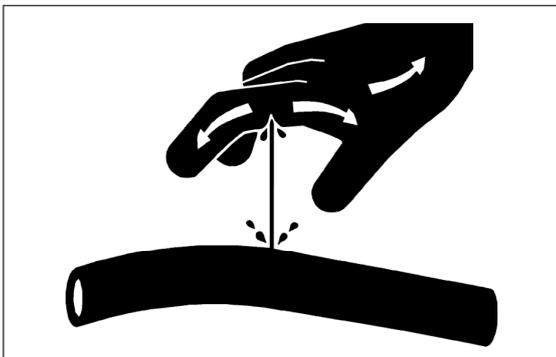
SAFETY STARTING

- Do not start the engine by shorting across starter terminals or bypassing the safety start switch.
- Do not alter or remove any part of machine safety system.
- Before starting the engine, make sure that all shift levers are in neutral positions or in disengaged positions.
- Never start the engine while standing on ground. Start the engine only from operator's seat.



SAFETY WORKING

- Do not work on the machine while under the influence of alcohol, medication, or other substances or while fatigued.
- Wear close fitting clothing and safety equipment appropriate to the job.
- Use tools appropriate to the work. Makeshift tools, parts, and procedures are not recommended.
- When servicing is performed together by two or more persons, take care to perform all work safely.
- Do not work under the machine that is supported solely by a jack. Always support the machine by safety stands.
- Do not touch the rotating or hot parts while the engine is running.
- Never remove the radiator cap while the engine is running, or immediately after stopping. Otherwise, hot water will spout out from radiator. Only remove radiator cap when cool enough to touch with bare hands. Slowly loosen the cap to first stop to relieve pressure before removing completely.
- Escaping fluid (fuel or hydraulic oil) under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or fuel lines. Tighten all connections before applying pressure.



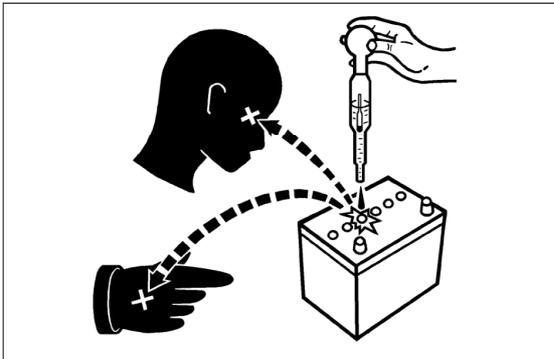
AVOID FIRES

- Fuel is extremely flammable and explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.
- To avoid sparks from an accidental short circuit, always disconnect the battery negative cable first and connect it last.
- Battery gas can explode. Keep sparks and open flame away from the top of battery, especially when charging the battery.
- Make sure that no fuel has been spilled on the engine.



VENTILATE WORK AREA

- If the engine must be running to do some work, make sure the area is well ventilated. Never run the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.



PREVENT ACID BURNS

- Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, clothing and cause blindness if splashed into eyes. Keep electrolyte away from eyes, hands and clothing. If you spill electrolyte on yourself, flush with water, and get medical attention immediately.



DISPOSE OF FLUIDS PROPERLY

- Do not pour fluids into the ground, down a drain, or into a stream, pond, or lake. Observe relevant environmental protection regulations when disposing of oil, fuel, coolant, electrolyte and other harmful waste.



PREPARE FOR EMERGENCIES

- Keep a first aid kit and fire extinguisher handy at all times.
- Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.

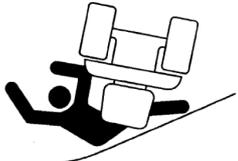
SAFETY DECALS

The following safety decals are installed on the machine.

If a decal becomes damaged, illegible or is not on the machine, replace it. The decal part number is listed in the parts list.

(1) Part No. K1211-6581-1

⚠ WARNING



TO AVOID SERIOUS INJURY OR DEATH

- GO UP AND DOWN SLOPES, NOT ACROSS.
- AVOID SUDDEN TURNS.
- IF MACHINE STOPS GOING UPHILL, STOP BLADE AND BACK DOWN SLOWLY.
- KEEP SAFETY DEVICES (GUARDS, SHIELDS AND SWITCHES) IN PLACE AND WORKING.
- REMOVE OBJECTS THAT COULD BE THROWN BY THE BLADE.

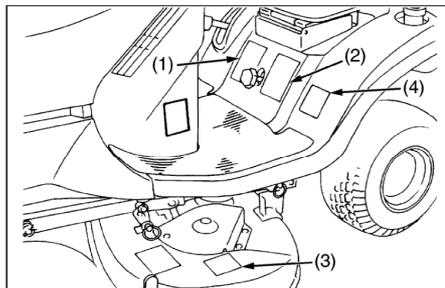
READ OPERATOR'S MANUAL.

(2) Part No. K1211-6582-1

⚠ CAUTION

TO AVOID PERSONAL INJURY

- KNOW LOCATION AND FUNCTION OF ALL CONTROLS.
- BEFORE STARTING ENGINE, MAKE CERTAIN PTO IS OFF, SHIFT INTO NEUTRAL AND EVERYONE IS AT A SAFE DISTANCE FROM MACHINE.
- TO REDUCE FIRE HAZARDS, KEEP THE EXHAUST WELL CLEAR OF DRY GRASS, DRY LEAVES OR OTHER COMBUSTIBLE MATERIAL.
- BEFORE DISMOUNTING, DISENGAGE PTO CLUTCH, LOWER IMPLEMENT, SHIFT INTO NEUTRAL, SET PARKING BRAKE, STOP ENGINE AND REMOVE THE KEY.



(3) Part No. K5112-7312-2

⚠ DANGER



DO NOT PUT HANDS OR FEET INTO MOWER WHEN ENGINE IS RUNNING.

(4) Part No. K1122-6584-1

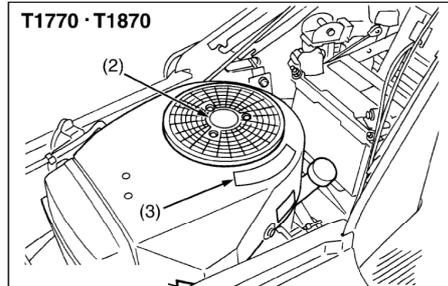
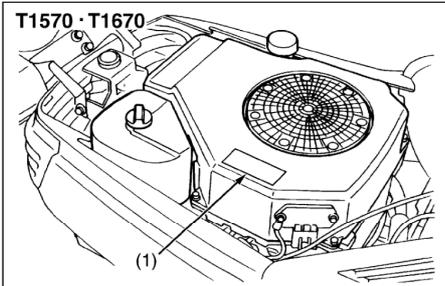
⚠ DANGER



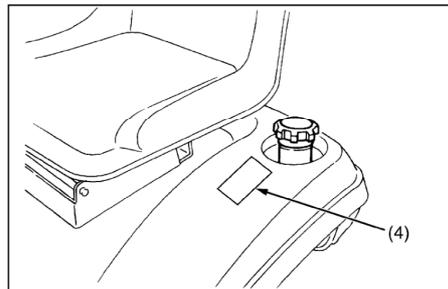
ROTATING BLADES CUT OFF ARMS AND LEGS

- NEVER CARRY CHILDREN EVEN WITH THE BLADES OFF.
- DO NOT MOW WHEN CHILDREN OR OTHERS ARE AROUND.
- LOOK DOWN AND BEHIND BEFORE AND WHILE BACKING.

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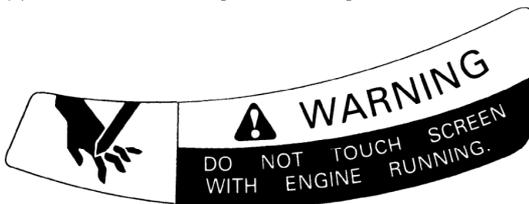
(1) Part No. E7194-4719-1 [T1570 · T1670]



(2) Part No. E7195-4714-1 [T1770 · T1870]



(3) Part No. E7195-4719-1 [T1770 · T1870]



(4) Part No. K1122-6585-1
Gasoline fuel No fire
only



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, and dry with a soft cloth.
3. Replace damaged or missing danger, warning and caution labels with new labels from your KUBOTA Dealer.
4. If a component with danger, warning and/or caution label(s) affixed is replaced with new part, make sure the 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.

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SPECIFICATIONS

| Model | | T1570 | T1670 | T1770 | T1870 |
|---------------------|-------------------------------|--|--|-------------------------------------|-----------------------------|
| Engine | Model | GH430V | | GH500V | GH531V |
| | Type | Forced air-cooled, Vertical shaft OHV, 4-stroke gasoline engine | | | |
| | Number of cylinders | 1 | | 2 (V-Twin) | |
| | Bore and stroke | 90 mm × 67 mm (3.55 in. × 2.64 in.) | | 68 mm × 68 mm (2.68 in. × 2.68 in.) | |
| | Total displacement | 426 cm ³ (26.0 cu.in.) | | 494 cm ³ (30.1 cu.in.) | |
| | Maximum horsepower | 11.19 kW / 3600 min ⁻¹ (15 HP / 3600 rpm) | | 17 HP / 3600 rpm | 18 HP / 3600 rpm |
| | Maximum torque | 33.22 N·m / 2400 min ⁻¹ (3.39 kgf·m / 2400 rpm, 24.6 ft-lbs / 2400 rpm) | | N / A | |
| | Maximum bare speed | 3350 ± 50 min ⁻¹ (3350 ± 50 rpm) | | | |
| | Minimum bare idling speed | 1550 ± 50 min ⁻¹ (1550 ± 50 rpm) | | 1550 min ⁻¹ (1550 rpm) | |
| | Direction of rotation | Counterclockwise facing the PTO shaft | | | |
| | Compression ratio | 8.5 : 1 | | | |
| | Ignition system | Flywheel magnet transistor type | | | |
| | Spark plug | Champion Premium Gold 2071 | | Champion RCJ8Y | |
| | Carburetor | Float type with fixed main jet | | | |
| | Air cleaner | Semi-cyclone type with dual element | | Dual stage element, dry type | |
| | Governor | Mechanical flyweight type | | | |
| | Lubricating system | Forced lubrication by oil pump | | | |
| | Cooling system | Forced air cooling | | | |
| | Starting system | Electric starter (12 V, 0.6 kW) | | | |
| | Charging system | Charging coil (12 V, 15 A) | | Charging coil (12 V, 13 A) | |
| Battery | U1L-9 (12 V, 300 CCA) | | | | |
| Throttle system | Manual | | | | |
| Engine stop system | Key stop | | | | |
| Capacities | Fuel tank | 11.0 L (2.9 U.S.gals., 2.4 Imp.gals.) | 15.0 L (3.9 U.S.gals., 1.7 Imp.gals.) | | |
| | Engine crankcase | 1.9 L (2.0 U.S.qts., 1.7 Imp.qts.) | | 1.7 L (1.8 U.S.qts., 1.6 Imp.qts.) | |
| | Hydrostatic transmission case | 2.3 L (2.4 U.S.qts., 2.0 Imp.qts.) | 3.6 L (3.8 U.S.qts., 3.2 Imp.qts.) | | |
| Dimensions | Overall length | 1720 mm (67.7 in.) | | 1747 mm (68.8 in.) | |
| | Overall width | 1320 mm (52.0 in.) | 1320 mm (52.0 in.) | 1444 mm (56.9 in.) | 1544 mm (60.8 in.) |
| | Overall height | 1065 mm (41.9 in.) | | 1115 mm (43.9 in.) | |
| | Wheel base | 1195 mm (47.0 in.) | | 1209 mm (47.6 in.) | |
| | Tread | Front | 710 mm (28.0 in.) | | 723 mm (28.5 in.) |
| Rear | | 660 mm (26.0 in.) | | 655 mm (25.8 in.) | |
| Weight (with mower) | | 250 kg (551 lbs) 40 inch | 270 kg (595 lbs) 40 inch 280 kg (617 lbs) 44 inch | 280 kg (617 lbs) 44 inch | 285 kg (628 lbs) 48 inch |

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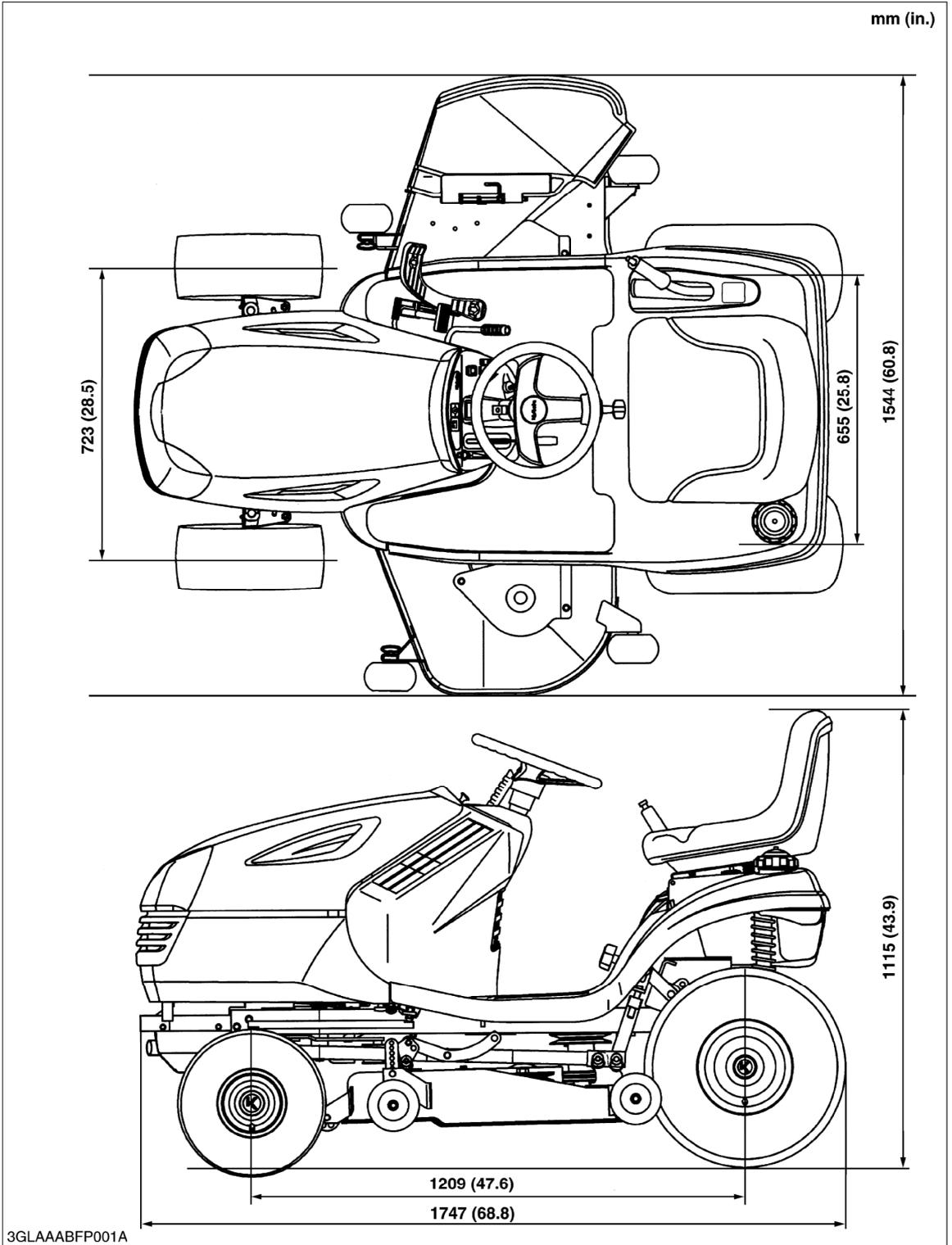
| Model | | T1570 | T1670 | T1770 | T1870 |
|-----------------|---------|--------------------------------|--------------|-------|-------|
| Tire size | Front | 15 × 6.00-6 | | | |
| | Rear | 18 × 9.50-8 | 20 × 10.00-8 | | |
| Steering system | | Sector gear type | | | |
| Transmission | | Hydrostatic transmission | | | |
| Brake | | Disk type | | | |
| Traveling speed | Forward | 0 to 9.0 km / h (0 to 5.6 mph) | | | |
| | Reverse | 0 to 5.0 km / h (0 to 3.1 mph) | | | |
| PTO clutch | | Belt tension | | | |

W1034130

| Model | | T1570 | T1670 | T1770 | T1870 | |
|-------|------------------------------|-------------------------------|-------|--------------------|-------|--------------------|
| Mower | Model | RCK40LTB | | RCK44LTB | | RCK48LTB |
| | Overall length | 835 mm (32.9 in.) | | 793 mm (31.2 in.) | | 863 mm (34.0 in.) |
| | Overall width | 1320 mm (52.0 in.) | | 1444 mm (56.9 in.) | | 1544 mm (60.8 in.) |
| | Overall height | 260 mm (10.2 in.) | | 271 mm (10.7 in.) | | 289 mm (11.4 in.) |
| | Mounting method | Parallel linkage | | | | |
| | Adjustment of cutting height | Dial gauge | | | | |
| | Cutting width | 1016 mm (40 in.) | | 1118 mm (44 in.) | | 1219 mm (48 in.) |
| | Cutting height | 25 to 102 mm (1.0 to 4.0 in.) | | | | |
| | Number of blades | 2 | | 3 | | |
| | Weight (Approx.) | 40 kg (88.2 lbs) | | 50 kg (110.2 lbs) | | 55 kg (121 lbs) |
| | Discharge | Right side | | | | |

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DIMENSIONS



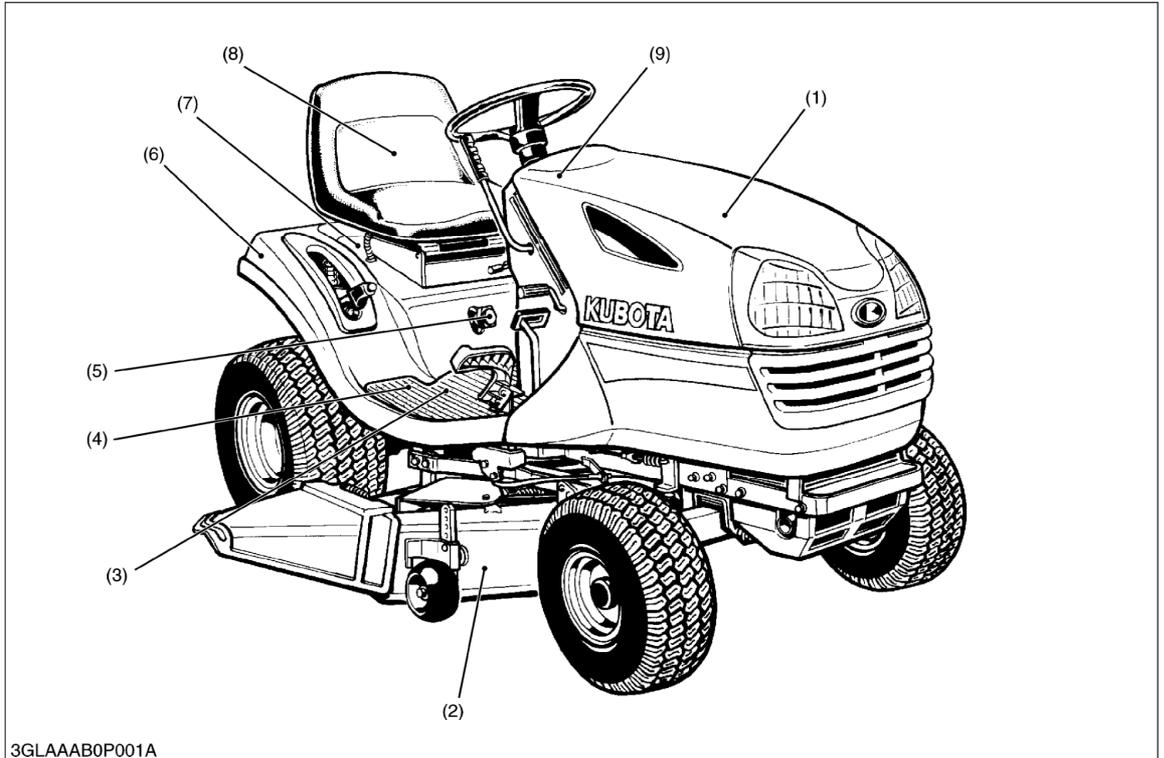
G GENERAL

GENERAL

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1. FEATURES

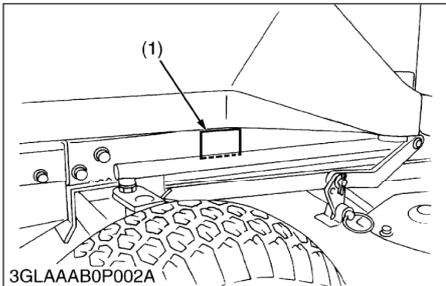


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1. High powered OHV gasoline engine
2. Mid-mount mower decks
3. Smooth hydrostatic transmission
4. Full-flat operator's deck
5. Simple-dial type cutting adjustment
6. Fender suspension "Cushion Ride" system
7. Large fuel tank
8. Easy-adjust high-back seat
9. KRA (Kubota Reverse Awareness) system

2. IDENTIFICATION

[1] MACHINE

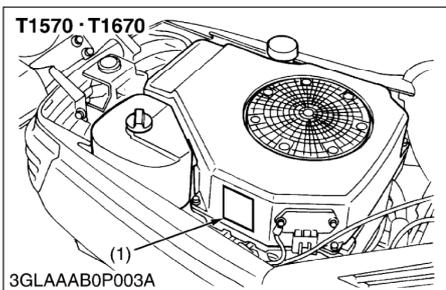


When contacting your local KUBOTA distributor, always specify machine serial number.

(1) Machine Serial Number

W1011087

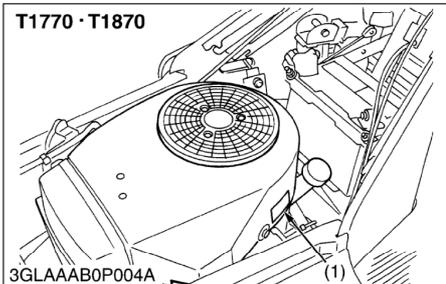
[2] ENGINE



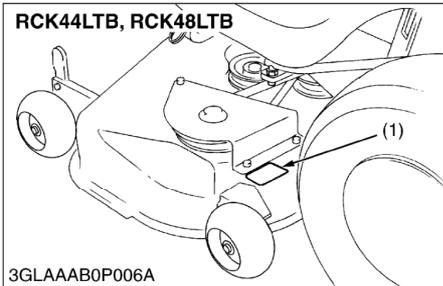
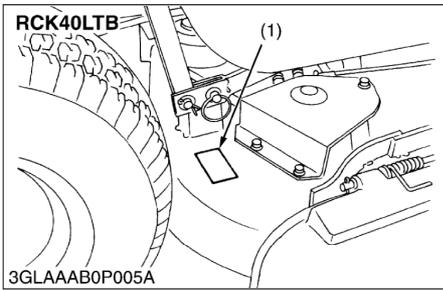
When contacting your local KUBOTA distributor, always specify engine serial number.

(1) Engine Serial Number

W1011231



[3] MOWER

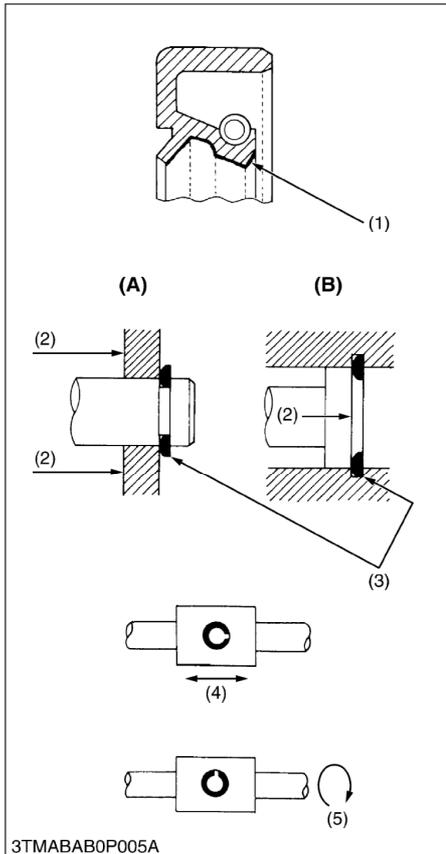


When contacting your local KUBOTA distributor, always specify mower serial number.

(1) Mower Serial Number

W1011300

3. GENERAL PRECAUTIONS



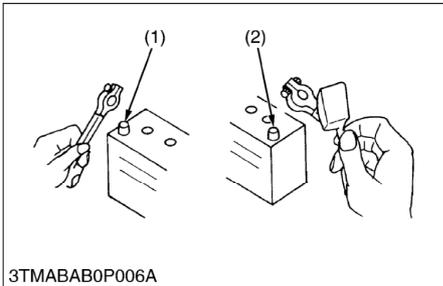
- During disassembly, carefully arrange removed parts in a clean area to prevent confusion later. Screws, bolts and nuts should be installed in their original position to prevent reassembly errors.
- When special tools are required, use KUBOTA genuine special tools. Special tools which are not frequently used should be made according to the drawings provided.
- Before disassembling or servicing electrical wires, always disconnect the ground cable from the battery first.
- Remove oil and dirt from parts before measuring.
- Use only KUBOTA genuine parts for parts replacement to maintain machine performance and to assure safety.
- Gaskets and O-rings must be replaced during reassembly. Apply grease to new O-rings or oil seals before assembling. See the figure left side.
- When reassembling external snap rings or internal snap rings, they must be positioned so that sharp edge faces against the direction from which a force is applied. See the figure left side.
- When inserting spring pins, their splits must face the direction from which a force is applied. See the figure left side.
- To prevent damage to the hydraulic system, use only specified fluid or equivalent.

- (1) Grease
- (2) Force
- (3) Sharp Edge
- (4) Axial Force
- (5) Rotating Movement

- (A) External Snap Ring
- (B) Internal Snap Ring

W1011376

4. HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING



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To ensure safety and prevent damage to the machine and surrounding equipment, heed the following precautions in handling electrical parts and wiring.

IMPORTANT

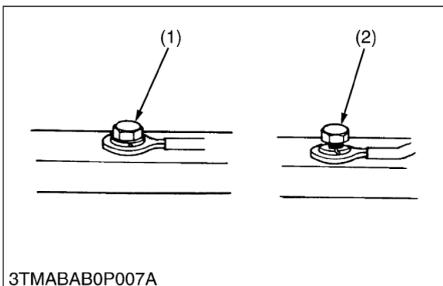
- Check electrical wiring for damage and loosened connection every year. To this end, educate the customer to do his or her own check and at the same time recommend the dealer to perform periodic check for a fee.
- Do not attempt to modify or remodel any electrical parts and wiring.
- When removing the battery cables, disconnect the negative cable first. When installing the battery cables, connect the positive cable first.

(1) Negative Terminal

(2) Positive Terminal

W1011502

[1] WIRING



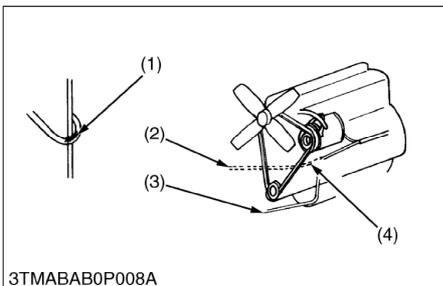
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- Securely tighten wiring terminals.

(1) Correct
(Securely tighten)

(2) Incorrect
(Loosening leads to faulty contact)

W1011582



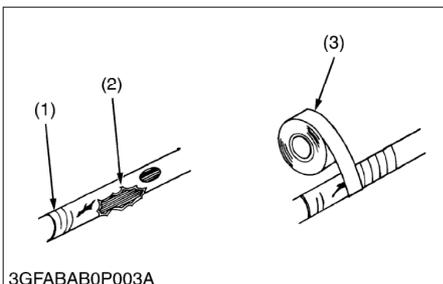
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- Do not let wiring contact dangerous part.

(1) Wiring (Correct)
(2) Wiring (Incorrect)

(3) Dangerous Part
(4) Dangerous Part

W1011667



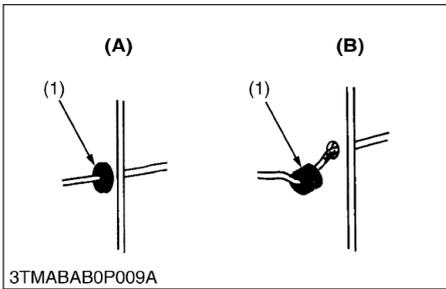
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- Repair or change torn or aged wiring immediately.

(1) Aged
(2) Torn

(3) Insulating Vinyl Tape

W1011748

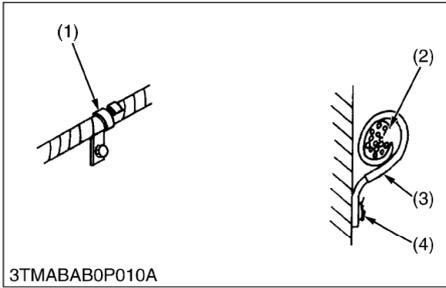


- Securely insert grommet.

(1) Grommet

(A) Correct
(B) Incorrect

W1011823



- Securely clamp, being careful not to damage wiring.

(1) Clamp

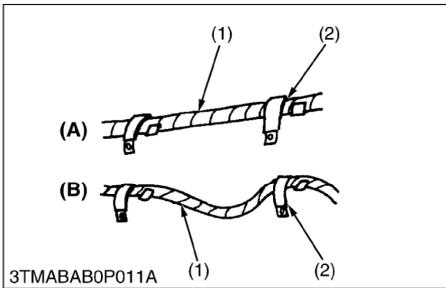
(3) Clamp

- Wind Clamp Spirally

(4) Welding Dent

(2) Wire Harness

W1011951



- Clamp wiring so that there is no twist, unnecessary sag, or excessive tension, except for movable part, where sag be required.

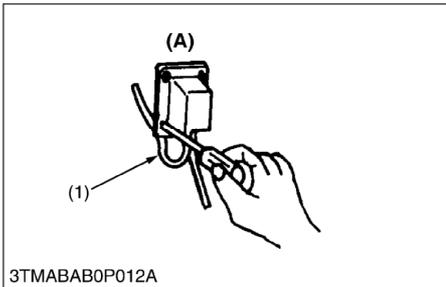
(1) Wiring

(A) Correct

(2) Clamp

(B) Incorrect

W1012047

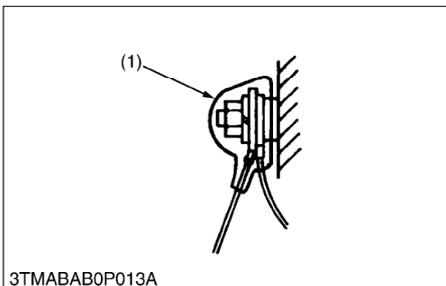


- In installing a part, take care not to get wiring caught by it.

(1) Wiring

(A) Incorrect

W1012126



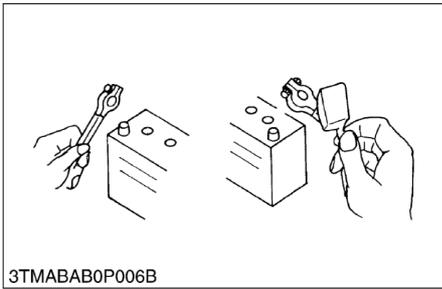
- After installing wiring, check protection of terminals and clamped condition of wiring, only connect battery.

(1) Cover

- Securely Install Cover

W1012193

[2] BATTERY



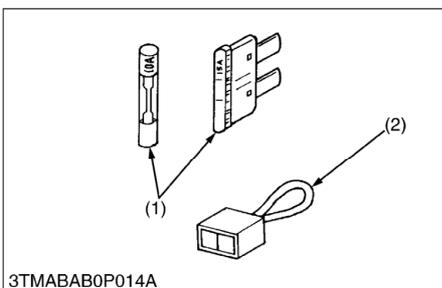
- Take care not to confuse positive and negative terminal posts.
- When removing battery cables, disconnect negative cable first. When installing battery cables, check for polarity and connect positive cable first.
- Do not install any battery with capacity other than is specified (Ah).
- After connecting cables to battery terminal posts, apply high temperature grease to them and securely install terminal covers on them.
- Do not allow dirt and dust to collect on battery.

! CAUTION

- Take care not to let battery liquid spill on your skin and clothes. If contaminated, wash it off with water immediately.
- Before recharging the battery, remove it from the machine.
- Before recharging, remove cell caps.
- Do recharging in a well-ventilated place where there is no open flame nearby, as hydrogen gas and oxygen are formed.

W1012283

[3] FUSE



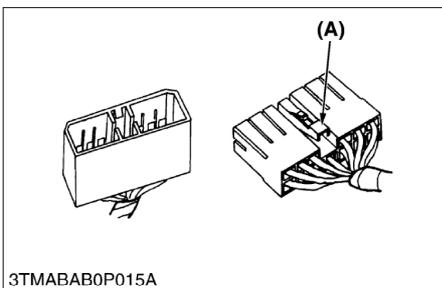
- Use fuses with specified capacity. Neither too large or small capacity fuse is acceptable.
- Never use steel or copper wire in place of fuse.
- Do not install working light, radio set, etc. on machine which is not provided with reserve power supply.
- Do not install accessories if fuse capacity of reserve power supply is exceeded.

(1) Fuse

(2) Slow Blow Fuse

W1012431

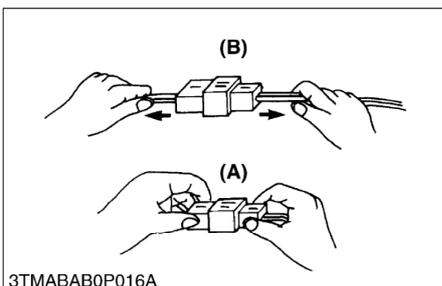
[4] CONNECTOR



- For connector with lock, push lock to separate.

(A) Push

W1012558

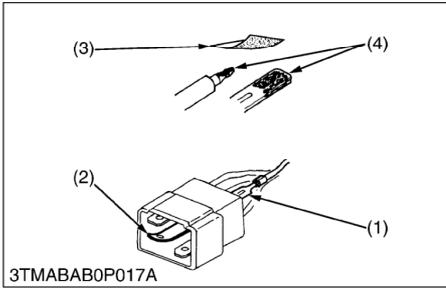


- In separating connectors, do not pull wire harnesses.
- Hold connector bodies to separate.

(A) Correct

(B) Incorrect

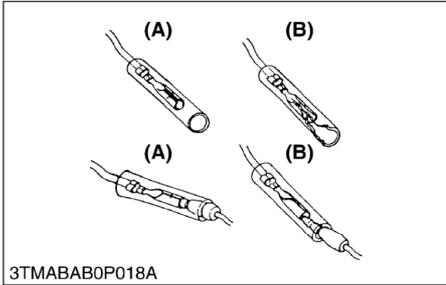
W1012975



- Use sandpaper to remove rust from terminals.
- Repair deformed terminal. Make certain there is no terminal being exposed or displaced.

(1) Exposed Terminal (3) Sandpaper
 (2) Deformed Terminal (4) Rust

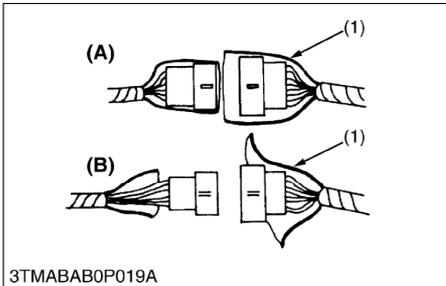
W1013108



- Make certain that there is no female connector being too open.

(A) Correct (B) Incorrect

W1013281

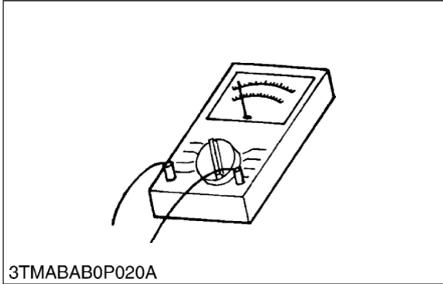


- Make certain plastic cover is large enough to cover whole connector.

(1) Cover (A) Correct (B) Incorrect

W1013360

[5] HANDLING OF CIRCUIT TESTER



3TMABAB0P020A

- Use tester correctly following manual provided with tester.
- Check for polarity and range.

W1013437

5. FUEL AND LUBRICANTS

| | Place | Capacity | | | | Lubricants |
|---|--|--|--|-------|-------|---|
| | | T1570 | T1670 | T1770 | T1870 | |
| 1 | Fuel | 11 L 2.9 U.S.gals. 2.4 Imp.gals. | 15 L 3.9 U.S.gals. 3.3 Imp.gals. | | | Automobile unleaded or regular gasoline Unleaded gasoline 87 octane or higher (T1570, T1670) |
| 2 | Engine crankcase | 1.9 L 2.0 U.S.qts. 1.7 Imp.qts. | 1.7 L 1.8 U.S.qts. 1.5 Imp.qts. | | | [T1570 · T1670] Engine oil : API service classification SG, SH, SJ or higher Below 0 °C (32 °F) : SAE 5W-20 or 5W-30 Above -18 °C (0 °F) : SAE 10W-30, 10W-40 [T1770 · T1870] Engine oil : API service classification SF, SG, SH or SJ Below 0 °C (32 °F) : SAE 5W-20 -20 to 35 °C (-4 to 95 °F) : SAE 10W-30 or 10W-40 0 to 35 °C (32 to 95 °F) : SAE 30 Above 20 °C (68 °F) : SAE 40 |
| 3 | Hydrostatic transmission | 2.3 L 2.4 U.S.qts. 2.0 Imp.qts. | 3.6 L 3.8 U.S.qts. 3.2 Imp.qts. | | | Engine oil : API service classification SH, SJ or CD SAE 20W-50 |
| 4 | King pin (Left and right) Tension arm | Until grease overflows | | | | SAE multipurpose type grease |
| 5 | Front axle pivot pin Brake pedal shaft Seat adjuster Speed control pedal shaft Throttle cable PTO clutch cable Mower brake cable Mower link | Moderate amount | | | | Oil or spray type grease |

W1013563

6. TIGHTENING TORQUES

[1] GENERAL USE SCREWS, BOLTS AND NUTS

Screws, bolts, and nuts whose tightening torques are not specified in this Workshop Manual should be tightened according to the table below.

| Indication on top of bolt |  4 No-grade or 4T | | | | | |  7 T | | | | | |  9 9T | | |
|---------------------------|---|------------|------------|------------|------------|------------|--|------------|------------|------------|------------|------------|---|------------|------------|
| Material of bolt | SS400, S20C | | | | | | S43C, S48C | | | | | | SCr435, SCM435 | | |
| Material of opponent part | Ordinariness | | | Aluminum | | | Ordinariness | | | Aluminum | | | Ordinariness | | |
| Diameter | Unit | | | | | | | | | | | | | | |
| | N·m | kgf·m | ft-lbs | N·m | kgf·m | ft-lbs | N·m | kgf·m | ft-lbs | N·m | kgf·m | ft-lbs | N·m | kgf·m | ft-lbs |
| M6 (6 mm, 0.24 in.) | 7.85 | 0.80 | 5.79 | 7.85 | 0.80 | 5.79 | 9.81 | 1.00 | 7.24 | 7.85 | 0.80 | 5.79 | 12.3 | 1.25 | 9.05 |
| | to 9.31 | to 0.95 | to 6.87 | to 8.82 | to 0.90 | to 6.50 | to 11.2 | to 1.15 | to 8.31 | to 8.82 | to 0.90 | to 6.50 | to 14.2 | to 1.45 | to 10.4 |
| M8 (8 mm, 0.31 in.) | 17.7 | 1.8 | 13.1 | 16.7 | 1.7 | 12.3 | 23.6 | 2.4 | 17.4 | 17.7 | 1.8 | 13.1 | 29.5 | 3.0 | 21.7 |
| | to 20.5 | to 2.1 | to 15.1 | to 19.6 | to 2.0 | to 14.4 | to 27.4 | to 2.8 | to 20.2 | to 20.5 | to 2.1 | to 15.1 | to 34.3 | to 3.5 | to 25.3 |
| M10 (10 mm, 0.39 in.) | 39.3 | 4.0 | 29.0 | 31.4 | 3.2 | 23.2 | 48.1 | 4.9 | 35.5 | 39.3 | 4.0 | 29.0 | 60.9 | 6.2 | 44.9 |
| | to 45.1 | to 4.6 | to 33.2 | to 34.3 | to 3.5 | to 25.3 | to 55.8 | to 5.7 | to 41.2 | to 44.1 | to 4.5 | to 32.5 | to 70.6 | to 7.2 | to 52.0 |
| M12 (12 mm, 0.47 in.) | 62.8 | 6.4 | 46.3 | | | | 77.5 | 7.9 | 57.2 | 62.8 | 6.4 | 46.3 | 103 | 10.5 | 76.0 |
| | to 72.5 | to 7.4 | to 53.5 | - | - | - | to 90.2 | to 9.2 | to 66.5 | to 72.5 | to 7.4 | to 53.5 | to 117 | to 12.0 | to 86.7 |
| M14 (14 mm, 0.55 in.) | 108 | 11.0 | 79.6 | | | | 124 | 12.6 | 91.2 | | | | 167 | 17.0 | 123 |
| | to 125 | to 12.8 | to 92.5 | - | - | - | to 147 | to 15.0 | to 108 | - | - | - | to 196 | to 20.0 | to 144 |
| M16 (16 mm, 0.63 in.) | 167 | 17.0 | 123 | | | | 197 | 20.0 | 145 | | | | 260 | 26.5 | 192 |
| | to 191 | to 19.5 | to 141 | - | - | - | to 225 | to 23.0 | to 166 | - | - | - | to 304 | to 31.0 | to 224 |
| M18 (18 mm, 0.71 in.) | 246 | 25.0 | 181 | | | | 275 | 28.0 | 203 | | | | 344 | 35.0 | 254 |
| | to 284 | to 29.0 | to 209 | - | - | - | to 318 | to 32.5 | to 235 | - | - | - | to 402 | to 41.0 | to 296 |
| M20 (20 mm, 0.79 in.) | 334 | 34.0 | 246 | | | | 368 | 37.5 | 272 | | | | 491 | 50.0 | 362 |
| | to 392 | to 40.0 | to 289 | - | - | - | to 431 | to 44.0 | to 318 | - | - | - | to 568 | to 58.0 | to 419 |

W1034542

[2] METRIC SCREWS, BOLTS AND NUT

| Nominal Diameter | Grade Unit | Property class 8.8 | | | Property class 10.9 | | |
|------------------|---------------|---|--------------|----------------|---|--------------|----------------|
| | |  | | |  | | |
| | | N·m | kgf·m | ft-lbs | N·m | kgf·m | ft-lbs |
| M 8 | | 23.6 to 27.4 | 2.4 to 2.8 | 17.4 to 20.2 | 29.4 to 34.3 | 3.0 to 3.5 | 21.7 to 25.3 |
| M 10 | | 48.1 to 55.8 | 4.9 to 5.7 | 35.5 to 41.2 | 60.8 to 70.5 | 6.2 to 7.2 | 44.9 to 52.1 |
| M 12 | | 77.5 to 90.1 | 7.9 to 9.2 | 57.2 to 66.5 | 103.0 to 117.0 | 10.5 to 12.0 | 76.0 to 86.8 |
| M 14 | | 124.0 to 147.0 | 12.6 to 15.0 | 91.2 to 108.0 | 167.0 to 196.0 | 17.0 to 20.0 | 123.0 to 144.0 |
| M 16 | | 196.0 to 225.0 | 20.0 to 23.0 | 145.0 to 166.0 | 260.0 to 303.0 | 26.5 to 31.0 | 192.0 to 224.0 |

W1016172

[3] AMERICAN STANDARD SCREWS, BOLTS AND NUTS WITH UNC OR UNF THREADS

| Grade Unit Nominal Diameter | SAE GR.5  | | | SAE GR.8  | | |
|-----------------------------------|---|----------------|----------------|--|----------------|----------------|
| | N-m | kgf·m | ft-lbs | N-m | kgf·m | ft-lbs |
| 5/16 | 23.1 to 27.8 | 2.35 to 2.84 | 17.0 to 20.5 | 32.5 to 39.3 | 3.31 to 4.01 | 24.0 to 29.0 |
| 3/8 | 47.5 to 57.0 | 4.84 to 5.82 | 35.0 to 42.0 | 61.0 to 73.2 | 6.22 to 7.47 | 45.0 to 54.0 |
| 1/2 | 108.5 to 130.2 | 11.07 to 13.29 | 80.0 to 96.0 | 149.2 to 179.0 | 15.22 to 18.27 | 110.0 to 132.0 |
| 9/16 | 149.2 to 179.0 | 15.22 to 18.27 | 110.0 to 132.0 | 217.0 to 260.4 | 22.14 to 26.57 | 160.0 to 192.0 |
| 5/8 | 203.4 to 244.1 | 20.75 to 24.91 | 150.0 to 180.0 | 298.3 to 358.0 | 30.44 to 36.53 | 220.0 to 264.0 |

W1022485

7. MAINTENANCE CHECK LIST

| No. | Items | | Period | Indication on hour meter | | | | | | | | | | | | Since then | Reference page | | | |
|-----|---------------------------------|---------------------|-------------------|--------------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|------------------------------|---------------|---------------|----------|
| | | | | 25 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | | | | 600 | |
| 1 | Air cleaner (T1570 · T1670) | Precleaner element | Clean | | | | | | | | | | | | | | every 25 Hrs | G-20 | * 1 | |
| | | Air cleaner element | Replace | | | | | | | | | | | | | | | every 100 Hrs | G-29 | |
| 2 | Air cleaner (T1770 · T1870) | Foam element | Clean | | | | | | | | | | | | | | every 25 Hrs | G-20 | * 1 | |
| | | Paper element | Clean | | | | | | | | | | | | | | | every 50 Hrs | G-21 | * 1 |
| | | | Replace | | | | | | | | | | | | | | | | every 200 Hrs | G-31 |
| 3 | Belt tension | | Adjust | | | | | | | | | | | | | | every 50 Hrs | G-22 | * 2 | |
| 4 | Brake | | Check | | | | | | | | | | | | | | every 50 Hrs | G-23 | * 2 | |
| 5 | Greasing | | – | | | | | | | | | | | | | | every 50 Hrs | G-23 | | |
| 7 | Tire | | Check | | | | | | | | | | | | | | every 50 Hrs | G-17 | | |
| 8 | Engine oil | | Change | | | | | | | | | | | | | | every 100 Hrs | G-24 | | |
| 9 | Engine shroud | | Clean | | | | | | | | | | | | | | every 100 Hrs | G-25 | | |
| 10 | Battery condition | | Check | | | | | | | | | | | | | | every 100 Hrs | G-27 | | |
| 11 | Spark plug condition and gap | | Check | | | | | | | | | | | | | | every 100 Hrs | G-26 | | |
| 12 | Fuel line | | Check | | | | | | | | | | | | | | every 100 Hrs | G-27 | | |
| | | | Replace | | | | | | | | | | | | | | | every 2 years | G-33 | @ |
| 13 | Fuel filter | | Check | | | | | | | | | | | | | | every 100 Hrs | G-27 | | |
| | | | Replace | | | | | | | | | | | | | | | every 300 Hrs | G-32 | * 2 @ |
| 14 | Cable | | Check Adjust | | | | | | | | | | | | | | every 100 Hrs | G-27 | | |
| 15 | Engine oil filter | | Replace | | | | | | | | | | | | | | every 200 Hrs | G-30 G-31 | | |
| 16 | Valve clearance [T1770 · T1870] | | Check Readjust | | | | | | | | | | | | | | every 300 Hrs | 2-S12 | * 2 | |
| 17 | Solenoid shift starter | | Clean | | | | | | | | | | | | | | every 500 Hrs or annually | 10-S12 | * 2 | |
| 18 | Fuse | | Replace | | | | | | | | | | | | | | Service as required | – | | |
| 19 | Light bulb | | Replace | | | | | | | | | | | | | | | | | |
| 20 | Mower blade | | Check Replace | | | | | | | | | | | | | | | | | |

IMPORTANT

- : The maintenance indicated by must be done initially.
- *1 Air cleaner should be cleaned more often in dusty conditions than in normal conditions.
- *2 Consult your local KUBOTA Dealer for this service.
- 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 the Warranty Statement in detail.

W1019800

8. CHECK AND MAINTENANCE

CAUTION

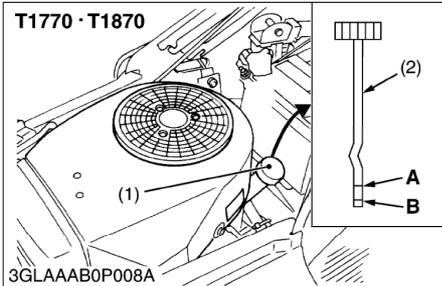
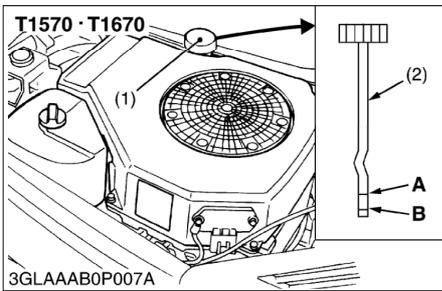
- Be sure to check and service the machine on a flat place with engine shut off, the parking brake on and chock the wheels.

[1] DAILY CHECK

To prevent trouble from occurring, it is important to know the condition of the machine. Check the following items before starting.

Checking

- Check areas where previous trouble was experienced.
- Walk around the machine.
 1. Oil leak
 2. Engine oil level
 3. Damage of machine body, tightness of all bolts and nuts
 4. Air intake screen
 5. Panel screen
 6. Air cleaner
 7. Oiling
- Mower
 1. Make sure blade bolts are tight.
 2. Check blades for wear or damage.
 3. Check all hardware.
 4. Make sure all pins are in place.
- While sitting in the operator's seat,
 1. Speed control pedal
 2. Brake pedal
 3. Parking brake
- Turning the key switch "ON"
 1. Head lights
- Starting the engine,
 1. Color of the exhaust fumes
 2. If either of safety start switch and seat safety control do not operate properly, contact your KUBOTA Dealer immediately.
 3. Check for abnormal noise and vibration.
 4. Check Easy checkerTM.



Checking Engine Oil Level

CAUTION

- To avoid personal injury : Always stop the engine and remove the key before checking oil.
1. Check engine oil before starting and 5 minutes or more after the engine has stopped.
 2. Wipe dipstick area clean.
 3. To check the oil level, remove the dipstick (2), wipe it clean, replace it without screwing it in, and draw it out again. Check to see that the oil level is between the two marks.
 4. Add new oil to the prescribed level at the engine oil port (1) if necessary.

IMPORTANT

- Use the specified engine oil.
- Refer to “FUEL AND LUBRICANTS”. (See page PG-10.)
- When using new oil of a different maker or viscosity from the previous one, drain all used oil.
- Never mix two different types of oil.

(1) Engine Oil Port
(2) Dipstick

A: Upper Level
B: Lower Level

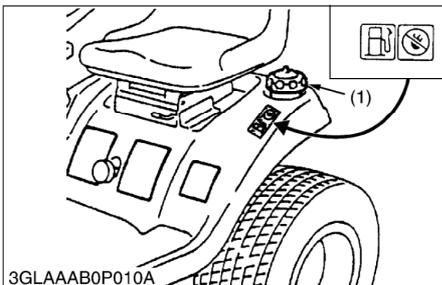
W1025974



Checking Amount of Fuel and Refueling

CAUTION

- Handle fuel carefully. If the engine is running, do not fill the fuel tank. If engine is hot, let engine cool several minutes before adding fuel. Do not smoke while filling the fuel tank or servicing the fuel system. Fill fuel tank only to bottom of filler neck.
1. Check the fuel level.
 2. Take care that the fuel tank does not become empty.



| | | |
|--------------------|-------------------------|---|
| Fuel tank capacity | T1570 | 11 L 2.9 U.S.gals. 2.4 Imp. gals. |
| | T1670 T1770 T1870 | 15 L 3.9 U.S.gals. 3.3 Imp. gals. |

IMPORTANT

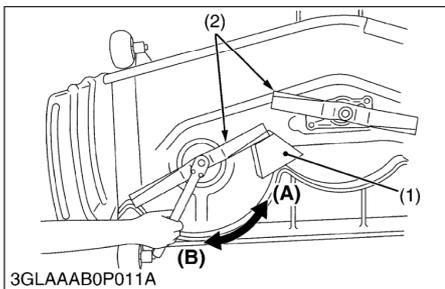
- Use gasoline fuel only.
 - Do not mix oil with gasoline.
- Unleaded fuel is recommended. Regular leaded gasoline with an octane rating index of 87 or higher may be used. Avoid switching from unleaded to regular gasoline to prevent engine damage.

[Use of alcohol mixed gasoline (Gasohol)]

Use “gasohol” only when the ethanol additive is less than 10 % of the fuel. The use of methanol additive is not recommended. Warranty does not apply to mechanical or performance problems arising from the use of “gasohol”. For best results use unleaded fuel with a minimum of 87 octane.

(1) Fuel Tank Cap

W1026221



Retightening Mower Blade Screw

⚠ CAUTION

- To avoid injury, always handle the mower blade with care.

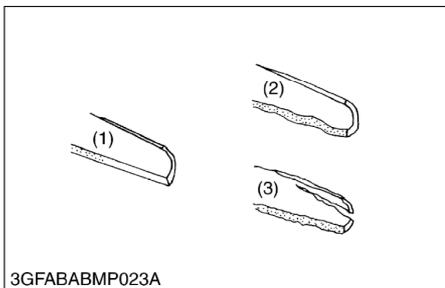
1. Dismount the mower and turn it over to expose the mower blades.
2. Wedge a wooden block (1) securely between the mower blade and mower deck.
3. Retighten the mower blade screw to the specified torque.
4. If the mower blade screw (2) is worn or broken, replace it.

| Tightening torque | Mower blade screw | 102.9 to 117.6 N·m 10.5 to 12.0 kgf·m 75.6 to 86.8 ft-lbs |
|-------------------|-------------------|---|
| | | |

- (1) Wooden Block
(2) Mower Blade Screw

- (A) Loosen
(B) Tighten

W1026531



Checking Mower Blade

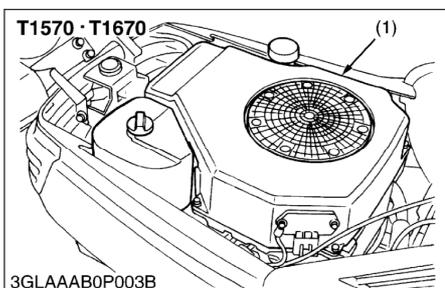
1. Check the cutting edge of mower blade.
2. Sharpen the cutting edges, if the mower blades are as shown in figure (2).
3. Replace the mower blades, if they are as shown in figure (3).

NOTE

- To sharpen the mower blades by yourself, clamp the mower blade securely in a vise and use a large mill file along the original bevel.
- To balance the mower blade, place a small rod through the center hole and check to see if the blade balances evenly. File heavy side of the blade until it balance out even.

- (1) New Blade
(2) Worn Blade
(3) Cracked Blade

W1022841



Checking Cooling Air Intake Screen

⚠ CAUTION

To avoid personal injury:

- Be sure to stop the engine before checking or cleaning air intake screens.

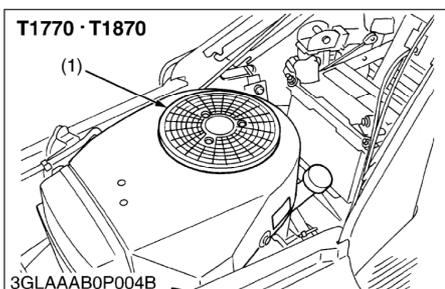
IMPORTANT

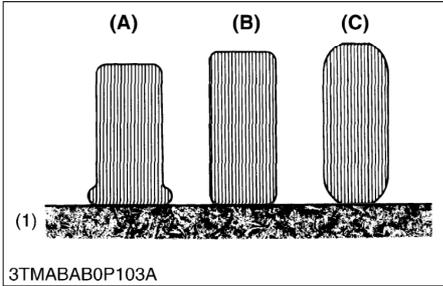
- Air intake screens must be clear of debris to prevent engine from overheating.

1. Lift hood and check that the pedestal and air intake screens are clear of grass clippings and debris.
2. If screens are dirty, clean screens with a brush or cloth.
3. If the dust or chaff is accumulated inside of the panel, clean the inside of the panel completely.
After cleaning, place the air intake screen properly.

- (1) Air Intake Screen

W1026832





Checking Tire Pressure, Wear and Damage

⚠ WARNING

To avoid personal injury:

- 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 larger than specified.

| Normal wheel tire pressures cold | |
|--|---|
| Front | Rear |
| 100 kPa 14 psi 1.0 kgf/cm ² | 70 kPa 10 psi 0.7 kgf/cm ² |

(1) Ground

- (A) "INSUFFICIENT"
- (B) "NORMAL"
- (C) "EXCESSIVE"

W1026964