

Product: 2000 Kubota WSM B2410/B2710/B2910/B7800HSD Tractor Service Repair Workshop Manual

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WORKSHOP MANUAL FOR
B2410/B2710/B2910/B7800HSD

WORKSHOP SUPPLEMENT MANUAL FOR
B7800 HSD

Part Number: 9789712271



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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 Tractor B2410, B2710 and B2910. 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.

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.

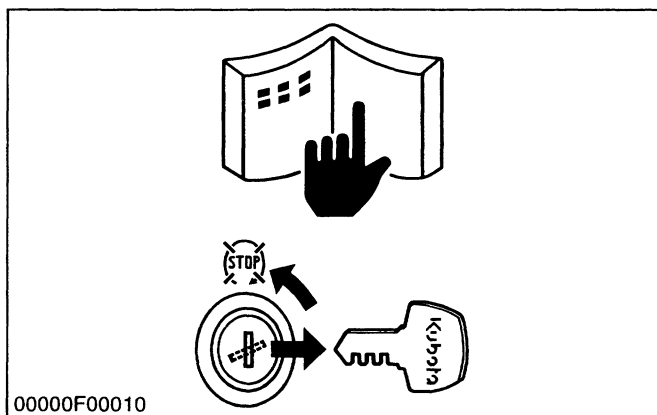


IMPORTANT : Indicates that equipment or property damage could result if instructions are not followed.



NOTE : Gives helpful information.

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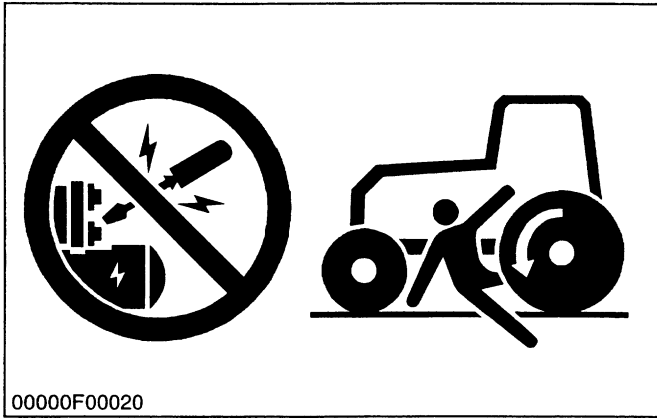


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BEFORE SERVICING AND REPAIRING

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

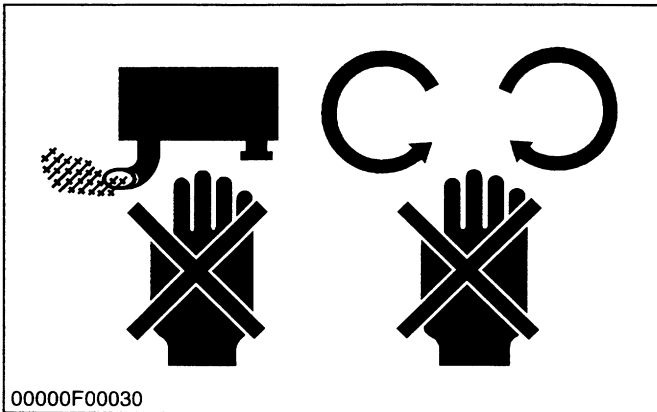
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SAFETY STARTING

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

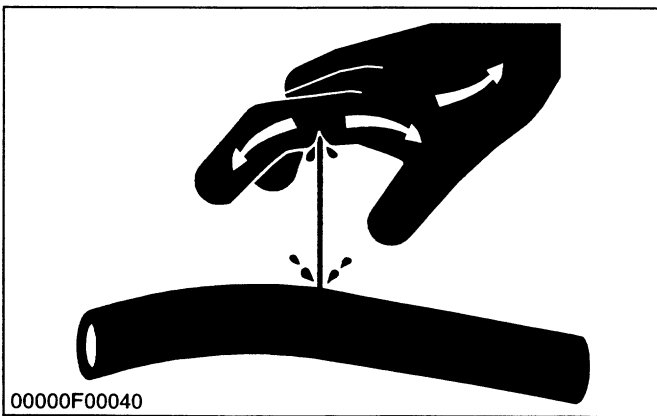
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SAFETY WORKING

- (1) Do not work on the machine while under the influence of alcohol, medication, or other substances or while fatigued.
- (2) Wear close fitting clothing and safety equipment appropriate to the job.
- (3) Use tools appropriate to the work. Makeshift tools, parts, and procedures are not recommended.
- (4) When servicing is performed together by two or more persons, take care to perform all work safely.
- (5) Do not work under the machine that is supported solely by a jack. Always support the machine by safety stands.
- (6) Do not touch the rotating or hot parts while the engine is running.
- (7) 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.
- (8) 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.

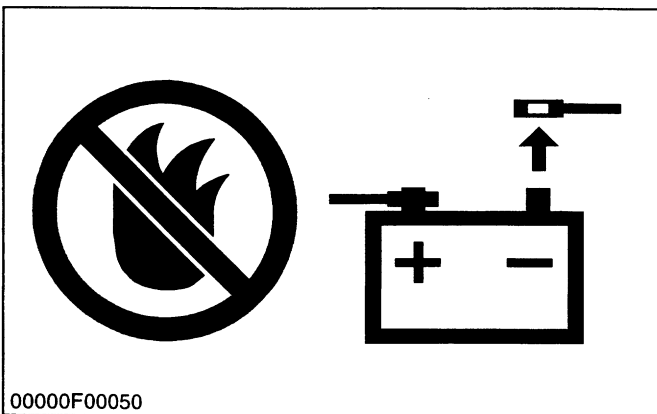
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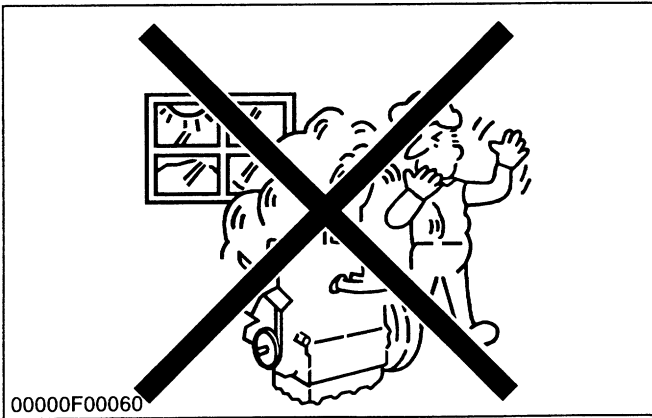


AVOID FIRES

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

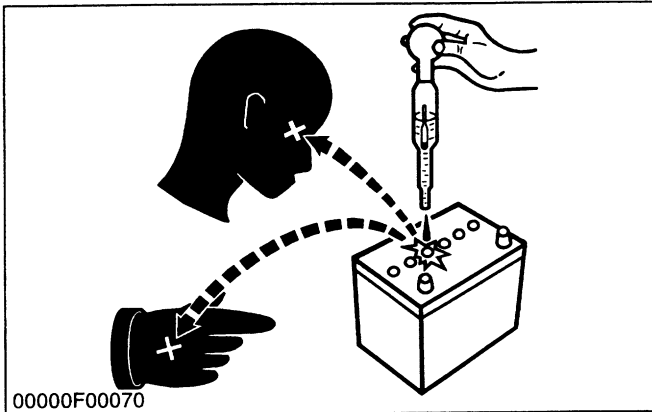
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**VENTILATE WORK AREA**

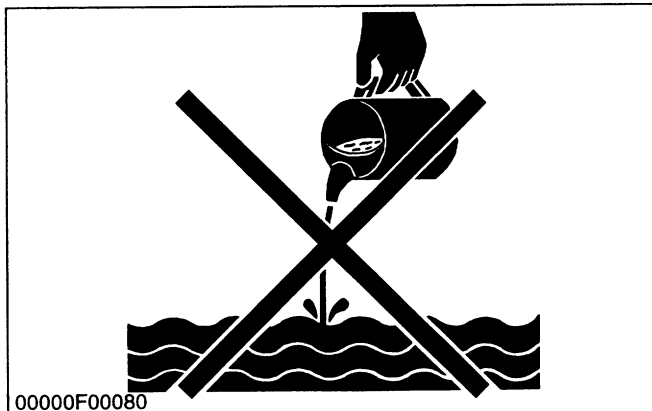
- (1) If the engine must be running to do some work, make sure the area is well ventilated. Never run the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.

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**PREVENT ACID BURNS**

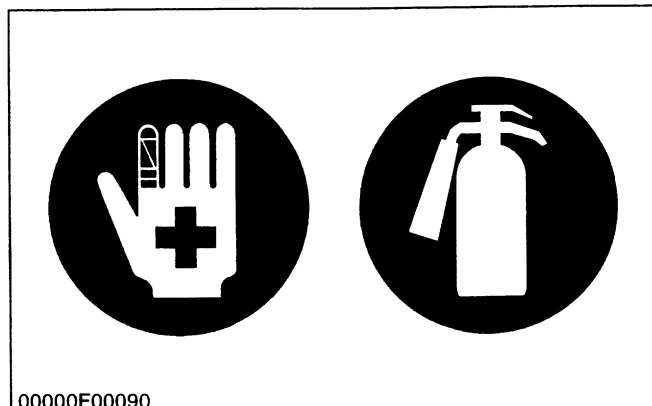
- (1) Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, clothing and cause blindness if splashed into eyes. Keep electrolyte away from eyes, hands and clothing. If you spill electrolyte on yourself, flush with water, and get medical attention immediately.

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**DISPOSE OF FLUIDS PROPERLY**

- (1) 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.

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**PREPARE FOR EMERGENCIES**

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

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SAFETY DECALS

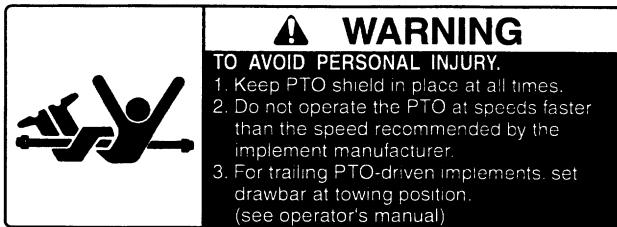
- The following safety decals are installed on the machine.
If a decal becomes damaged, illegible or is not on the machine, replace it. The decal part number is listed in the parts list.

[B2410]

(1) Part No. TA040-4965-2



(2) Part No. TA040-4959-3



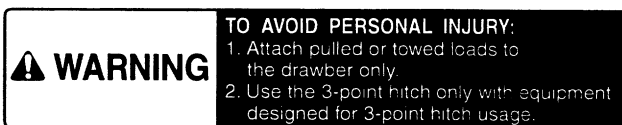
(3) Part No. 6C040-4741-2
No. fire



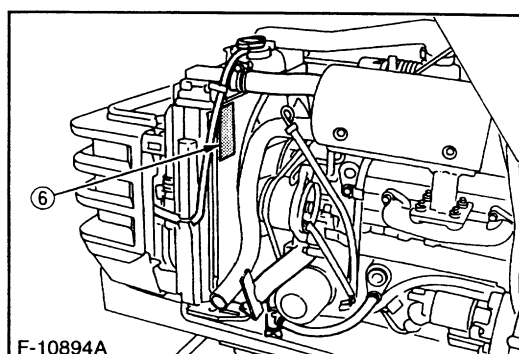
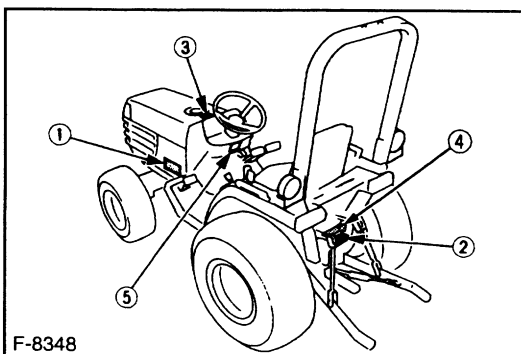
(6) Part No. TA040-4958-1
Do not touch hot surface like muffler, etc.



(4) Part No. 6C140-4744-1

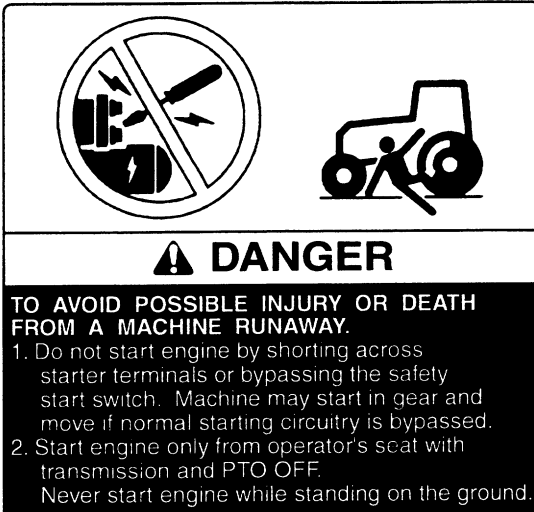


(5) Part No. 6C150-4743-1

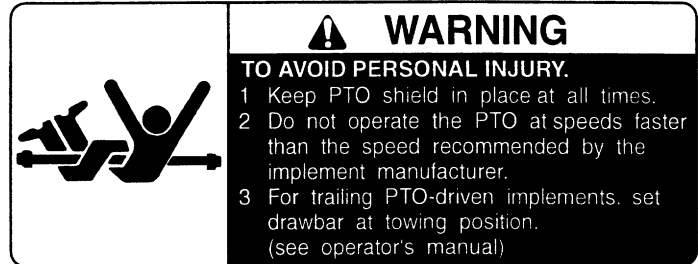


[B2710, B2910]

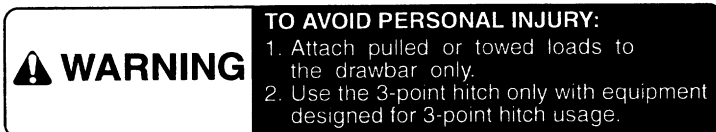
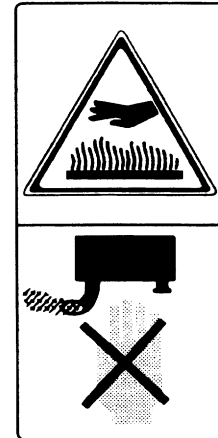
(1) Part No. 6C090-4965-1



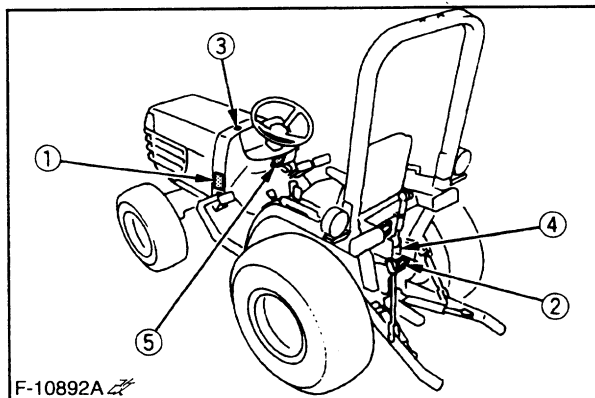
(2) Part No. TA040-4959-3

(3) Part No. 6C040-4741-2
No. fire

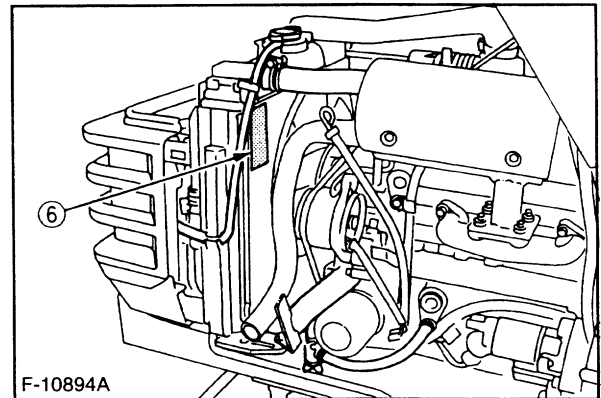
(4) Part No. 6C140-4744-1

(6) Part No. TA040-4958-1
Do not touch hot surface like muffler, etc.

(5) Part No. 6C150-4743-1



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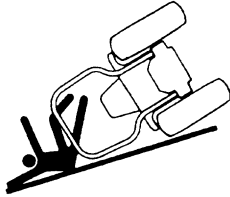
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[B2410, B2710, B2910]

(7) Part No. TA040-4932-2

	<p>⚠ WARNING</p> <p>TO AVOID PERSONAL INJURY OR DEATH FROM ROLL-OVER:</p> <ol style="list-style-type: none"> 1. Kubota recommends the use of a Roll-Over Protective Structures (ROPS) and seat belt in almost all applications. 2. Remove the ROPS only when it substantially interferes with operation or itself presents a safety risk. (Examples include work in orchards and vineyards.) ALWAYS REINSTALL IT BEFORE USING THE TRACTOR IN OTHER APPLICATIONS. 3. Never use just the seat belt or just the ROPS. They must be used together. For further details, consult your Operator's Manual or your local dealer.
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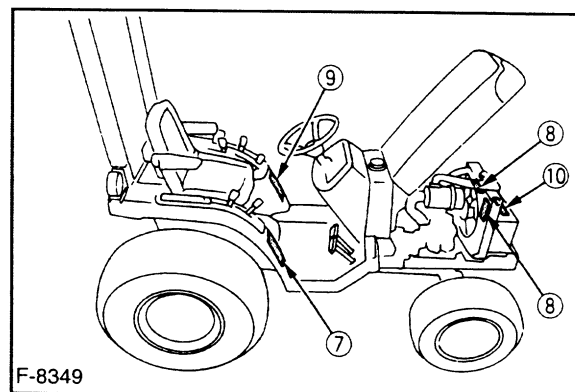
(9) Part No. 6C040-4742-1

<p>⚠ CAUTION</p>
<p>TO AVOID PERSONAL INJURY:</p> <ol style="list-style-type: none"> 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 rough roads, or when applying individual brakes. 9. On public roads use SMV emblem and hazard lights, if required by local traffic and safety regulations. 10. Pull only from the drawbar. 11. Before dismounting lower the implement, set the parking brake, stop the engine and remove the key.

(8) Part No. 32751-4958-1
Stay clear of engine fan and fanbelt.

(10) Part No. 6C040-5559-1

<p>DANGER EXPLOSIVE GASES</p> <p>Cigarettes, flames or sparks could cause battery to explode. Always shield eyes and face from battery. Do not charge or use booster cables or adjust post connections without proper instruction and training.</p> <p>KEEP VENT CAPS TIGHT AND LEVEL</p> <p>POISON CAUSES SEVERE BURNS</p> <p>Contains sulfuric acid. Avoid contact with skin, eyes or clothing. In event of accident flush with water and call a physician immediately.</p> <p>KEEP OUT OF REACH OF CHILDREN</p>

**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.
4. If a component with danger, warning or 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.

SPECIFICATIONS (B2410)

Model			B2410HSDB		B2410HSD		B2410HSE	
PTO power			13.4 kW (18.0 HP)					
Engine	Maker		KUBOTA					
	Model		D1105-E-D16					
	Type		Indirect Injection. Vertical, water-cooled, 4-cycle diesel					
	Number of cylinders		3					
	Bore and stroke		78 × 78.4 mm (3.07 × 3.09 in.)					
	Total displacement		1123 cm ³ (68.5 cu.in.)					
	Engine net power (DIN)		17.9 kW (24.0 HP)					
	Rated revolution (min ⁻¹)		43.3 r/s (2600 rpm)					
	Maximum torque		67 N·m (50 ft·lbs)					
	Battery		12 V, RC : 79 min, CCA : 433 A					
	Starting system		Electric starting with cell starter 12 V, 1.0 kW					
	Lubricating system		Forced lubrication by trochoidal pump					
	Cooling system		Pressurized radiator, forced circulation with water pump					
	Fuel		Diesel fuel No. 2-D [above −10 °C (14 °F)], Diesel fuel No. 1 [below −10 °C (14 °F)]					
Capacities	Fuel tank		24 L (6.3 U.S.gals, 5.3 Imp.gal)					
	Engine crankcase (with filter)		3.0 L (3.2 U.S.qts, 2.6 Imp.qts)					
	Engine coolant		3.8 L (4.0 U.S.qts, 3.3 Imp.qts)					
	Transmission case		12.5 L (3.30 U.S.gals, 2.75 Imp.gals)					
	Front axle case		4.5 L (4.8 U.S.qts, 4.0 Imp.qts)		3.7 L (3.9 U.S.qts, 3.3 Imp.qts)		—	
Dimensions	Overall length (without 3P)		2330 mm (91.7 in.)					
	Overall width		1175 mm (46.3 in.)					
	Overall height (with ROPS)		1965 mm (77.4 in.)					
	Overall height (top of steering wheel)		1372 mm (54.0 in.)					
	Wheel base		1500 mm (59.0 in.)					
	Minimum ground clearance		285 mm (11.2 in.)		325 mm (12.8 in.)			
	Tread	Front	835 mm (32.9 in.)				900 mm (35.4 in.)	
Rear		890 to 1064 mm (35.0 to 41.9 in.)						
Weight (with ROPS)			680 kg (1500 lbs)		670 kg (1477 lbs)		620 kg (1367 lbs)	
Clutch			Dry single plate					
Travelling system	Tires	Front	7-12				6.5-10	
		Rear	11.2-16					
	Steering		Integral type power steering					
	Transmission		Main-hydrostatic transmission, High-Low gear shift (2 forward and 2 reverse)					
	Brake		Wet disk type					
	Min. turning radius (with brake)		2.1 m (6.9 feet)				2.0 m (6.6 feet)	
	Differential		Bevel gear					
Hydraulic system	Hydraulic control system		Position Control					
	Pump capacity		3P: 16.6 L (4.4 U.S.GPM, 3.7 Imp.GPM), PS: 9.8 L (2.6 U.S.GPM, 2.2 Imp.GPM)					
	Three point hitch		SAE Category I					
	Max. lift force	At lift points	750 kg (1655 lbs)					
(24 in, behind lift points)		590 kg (1300 lbs)						
PTO system	Rear	PTO shaft	SAE 1-3/8, 6 splines					
		Revolution	1 speed (540 min ⁻¹ (rpm) at 2584 engine min ⁻¹ (rpm))					
	Mid.	PTO shaft	USA No. 5 (KUBOTA 10-tooth) involute spline					
		Revolution	1 speed (2537 min ⁻¹ (rpm) at 2600 engine min ⁻¹ (rpm))					

Note : * Manufacture's estimate the company reserves the right to change the specifications without notice.

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SPECIFICATIONS (B2710 • B2910)

Model			B2710HSD		B2910HSD	
PTO power			14.9 kW (20.0 HP)		16.4 kW (22.0 HP)	
Engine	Maker		KUBOTA			
	Model		V1305-E-D12		V1505-E-D16	
	Type		Indirect Injection. Vertical, water-cooled, 4-cycle diesel			
	Number of cylinders		4			
	Bore and stroke		76 × 73.6 mm (2.99 × 2.90 in.)		78 × 78.4 mm (3.07 × 3.09 in.)	
	Total displacement		1335 cm ³ (81.5 cu.in.)		1498 cm ³ (91.5 cu.in.)	
	Engine net power (DIN)		20.1 kW (27.0 HP)		22.3 kW (30.0 HP)	
	Rated revolution (min ⁻¹)		43.3 r/s (2600 rpm)			
	Maximum torque		79 N·m (59 ft-lbs)		89 N·m (66 ft-lbs)	
	Battery		12 V, RC : 79 min, CCA : 433 A			
	Starting system		Electric starting with cell starter 12 V, 1.4 kW			
	Lubricating system		Forced lubrication by trochoidal pump			
	Cooling system		Pressurized radiator, forced circulation with water pump			
	Fuel		Diesel fuel No. 2-D [above −10 °C (14 °F)], Diesel fuel No. 1 [below −10 °C (14 °F)]			
	Capacities	Fuel tank		26 L (6.9 U.S.gals, 5.7 Imp.gal)		
Engine crankcase (with filter)		4.1 L (4.3 U.S.qts, 3.6 Imp.qts)				
Engine coolant		4.5 L (4.8 U.S.qts, 4.0 Imp.qts)				
Transmission case		14.5 L (3.83 U.S.gals, 3.19 Imp.gals) [B2710 Affected Serial No.: below 15496 14.0 L (3.70 U.S.gals, 3.08 Imp.gals)]				
Front axle case		4.5 L (4.8 U.S.qts, 4.0 Imp.qts)				
Dimensions	Overall length (without 3P)		2520 mm (99.2 in.)			
	Overall width		1366 mm (53.8 in.)			
	Overall height (with ROPS)		1995 mm (78.5 in.)			
	Overall height (top of steering wheel)		1365 mm (53.7 in.)			
	Wheel base		1666 mm (65.6 in.)			
	Minimum ground clearance		370 mm (14.6 in.)			
	Tread	Front	935 mm (36.8 in.)			
Rear		1050 mm (41.3 in.)				
Weight (with ROPS)			790 kg (1740 lbs)		800 kg (1763 lbs)	
Clutch			Dry single plate			
Travelling system	Tires	Front	7-12			
		Rear	12.4-16			
	Steering		Integral type power steering			
	Transmission		Main-hydrostatic transmission, range-gear shift (3 forward and 3 reverse)			
	Brake		Wet disk type			
	Min. turning radius (with brake)		2.1 m (6.9 feet)			
	Differential		Bevel gear			
Hydraulic system	Hydraulic control system		Position Control			
	Pump capacity		3P: 24.4 L (6.4 U.S.GPM, 5.4 Imp.GPM), PS: 11.7 L (3.1 U.S.GPM, 2.6 Imp.GPM)			
	Three point hitch		SAE Category I			
	Max. lift force	At lift points	750 kg (1655 lbs)			
(24 in, behind lift points)		590 kg (1300 lbs)				
PTO system	Rear	PTO shaft	SAE 1-3/8, 6 splines			
		Revolution	1 speed (540 min ⁻¹ (rpm) at 2584 engine min ⁻¹ (rpm))			
	Mid.	PTO shaft	USA No. 5 (KUBOTA 10-tooth) involute spline			
		Revolution	1 speed (2537 min ⁻¹ (rpm) at 2600 engine min ⁻¹ (rpm))			

Note : * Manufacture's estimate the company reserves the right to change the specifications without notice.

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TRAVELLING SPEED

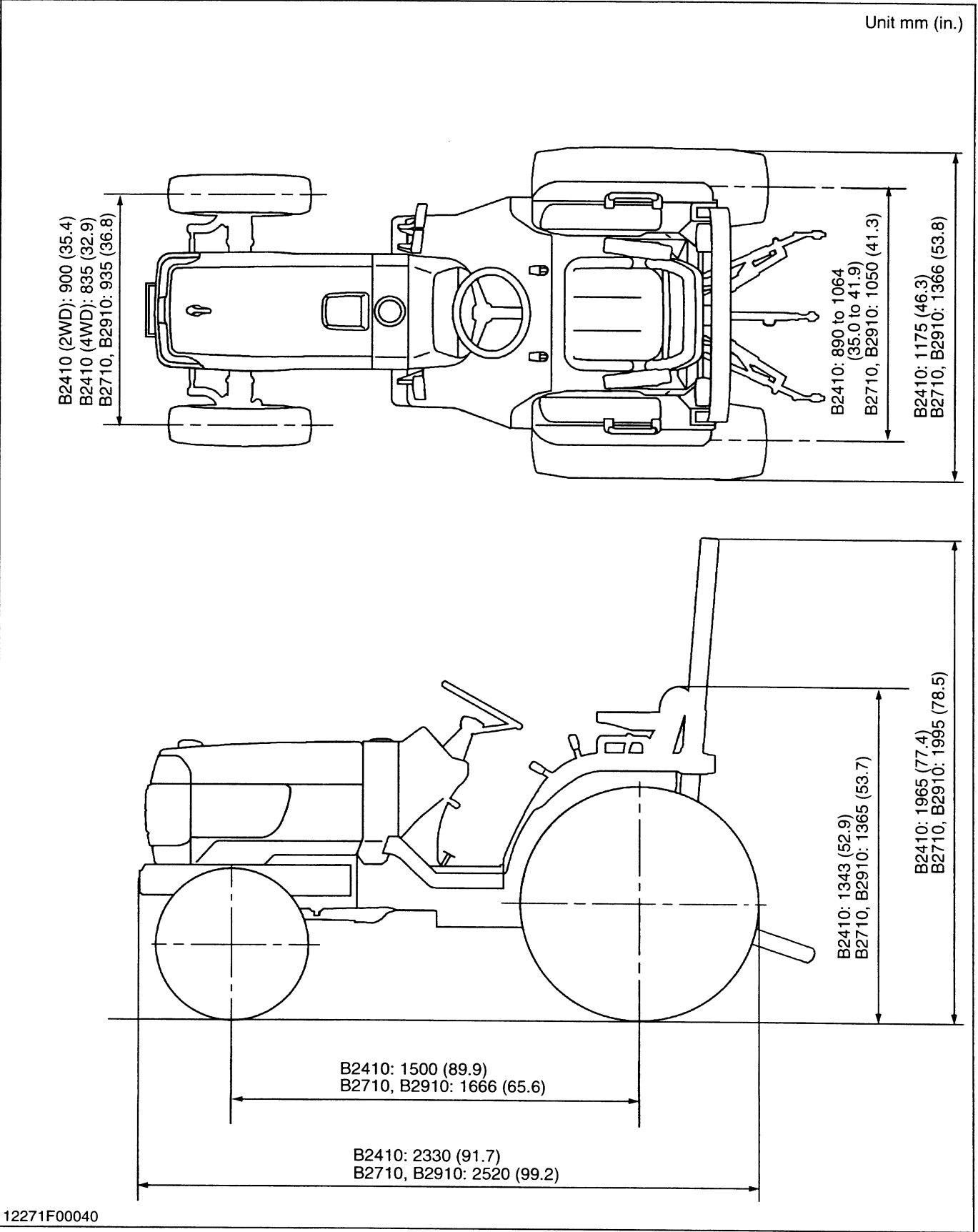
(At rated engine rpm)

Model		B2410		B2710, B2910	
Tire size (Rear)		11.2-16 Farm		12.4-16 Farm	
Range gear shift lever		km/h	mph	km/h	mph
Forward	Low	0 to 6.6	0 to 4.1	0 to 5.0	0 to 3.1
	Middle	–	–	0 to 8.6	0 to 5.3
	High	0 to 16.5	0 to 10.2	0 to 19.1	0 to 11.9
Reverse	Low	0 to 5.3	0 to 3.3	0 to 4.0	0 to 2.5
	Middle	–	–	0 to 6.9	0 to 4.3
	High	0 to 13.2	0 to 8.2	0 to 15.2	0 to 9.4

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

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DIMENSIONS



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GENERAL

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- | | |
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| (6) Bi-speed Turn (B2410 Only) | (13) Position Control Valve |
| (7) Cruise Control (B2910 Only) | (14) Hydraulic Block Type Outlet |

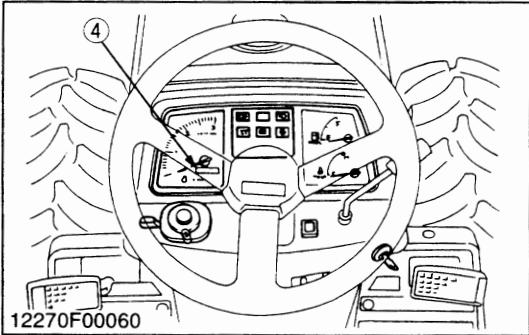
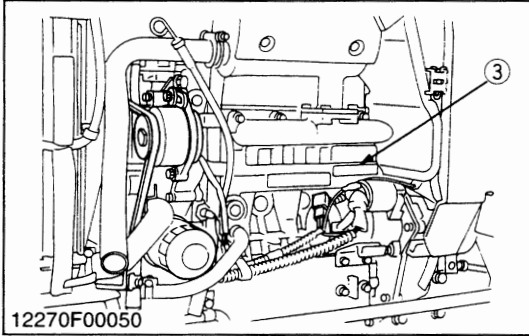
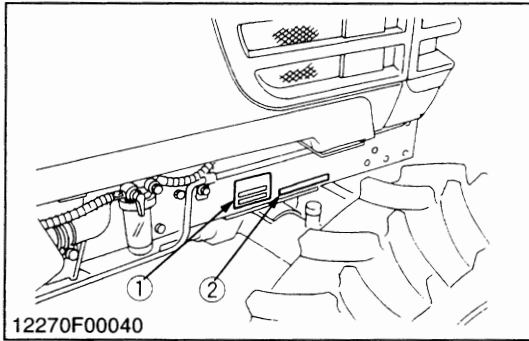
12271G00010

[2] TRACTOR IDENTIFICATION

When contacting your local KUBOTA distributor, always specify engine serial number, tractor serial number and hour meter reading.

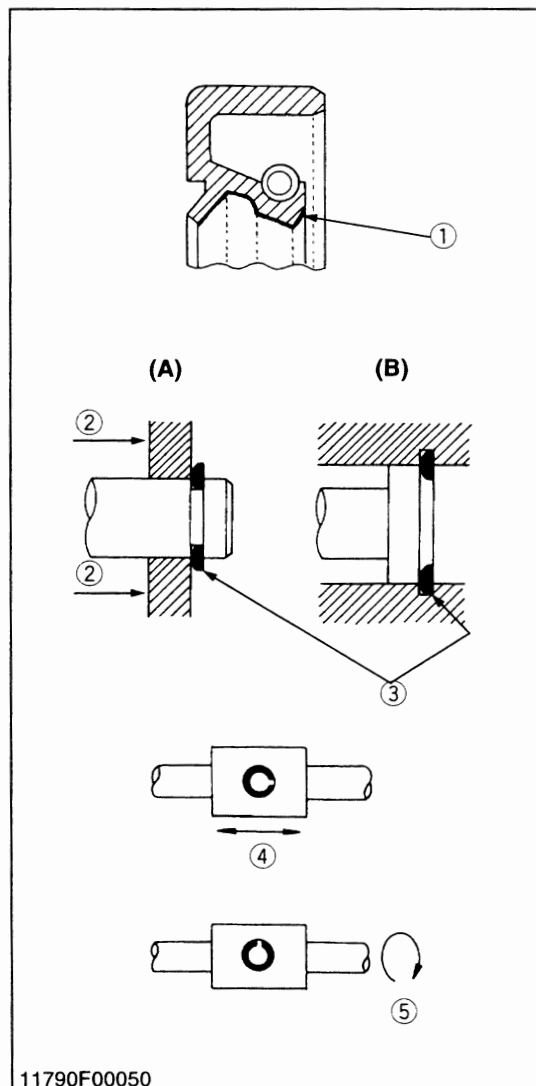
- (1) Tractor Identification Plate
- (2) Tractor Serial Number

- (3) Engine Serial Number
- (4) Hour Meter



12270G00020

[3] GENERAL PRECAUTIONS



11790F00050

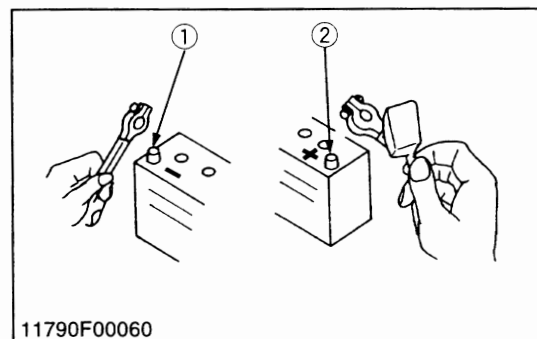
- During disassembly, carefully arrange removed parts in a clean area to prevent confusion later. Bolts and nuts should be installed in their original position to prevent reassembly errors.
- When special tools are required, use KUBOTA genuine special tools. Special tools which are not frequently used 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 tractor 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

11790G00030

[4] HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING



11790F00060

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

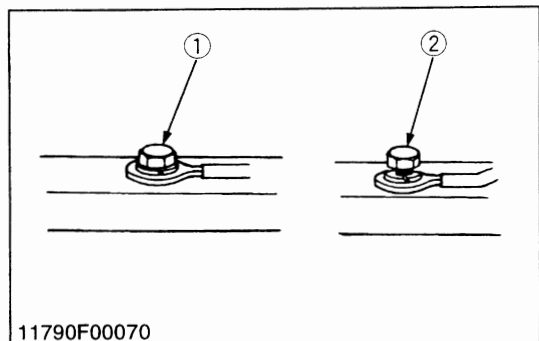
■ IMPORTANT

- 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

11790G00041

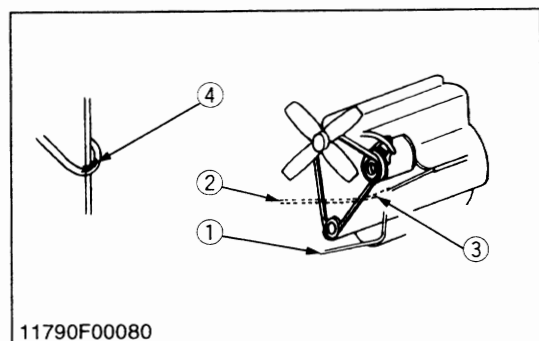
(1) Wiring

- Securely tighten wiring terminals.

(1) Correct
(Securely Tighten)

(2) Incorrect
(Loosening Leads to Faulty Contact)

11790G00050

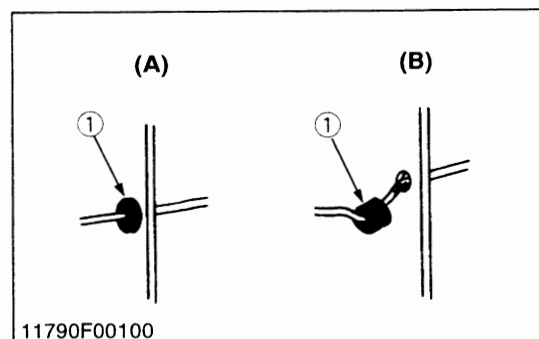


- Do not let wiring contact dangerous part.

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

(3) Dangerous Part
(4) Dangerous Part

11790G00060

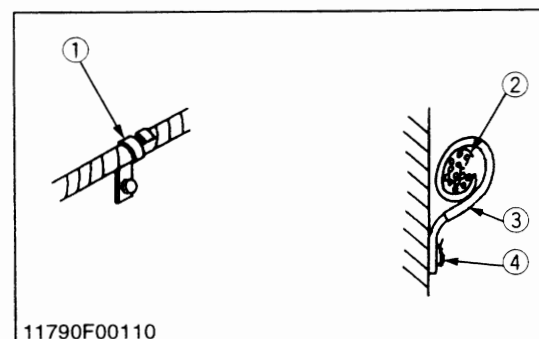


- Securely insert grommet.

(1) Grommet

(A) Correct
(B) Incorrect

11790G00080

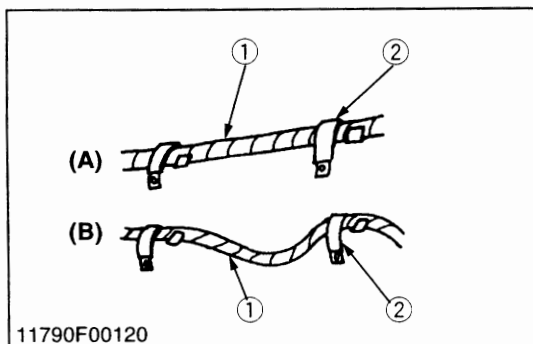


- Securely clamp, being careful not to damage wiring.

(1) Clamp
• Wind Clamp Spirally
(2) Wire Harness

(3) Clamp
(4) Welding Dent

11790G00090

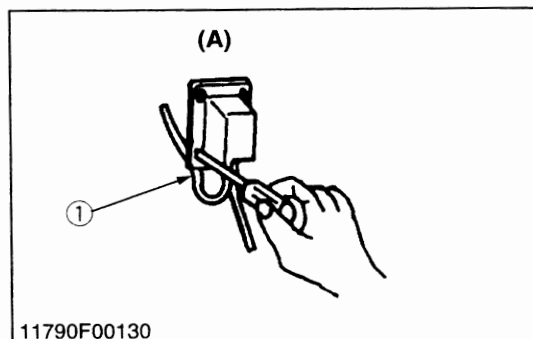


- Clamp wiring so that there is no twist, unnecessary sag, or excessive tension, except for movable part, where sag be required.

(1) Wiring
(2) Clamp

(A) Correct
(B) Incorrect

11790G00100

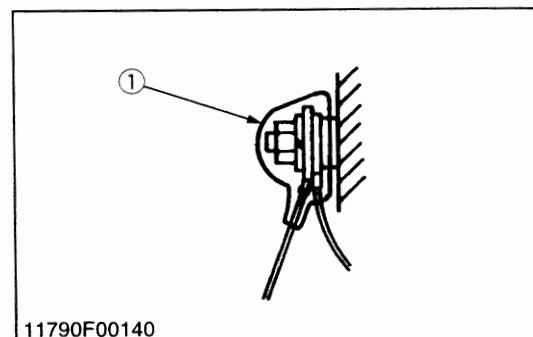


- In installing a part, take care not to get wiring caught by it.

(1) Wiring

(A) Incorrect

11790G00110

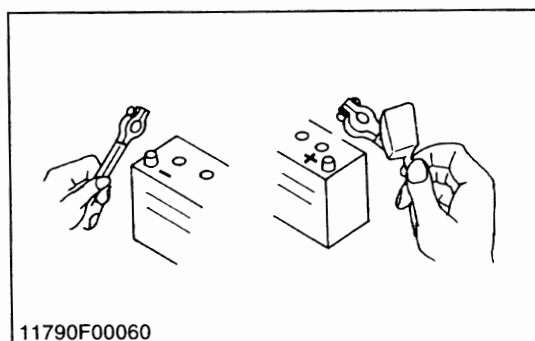


- After installing wiring, check protection of terminals and clamped condition of wiring, only connect battery.

(1) Cover
• Securely Install Cover

11790G00120

(2) Battery



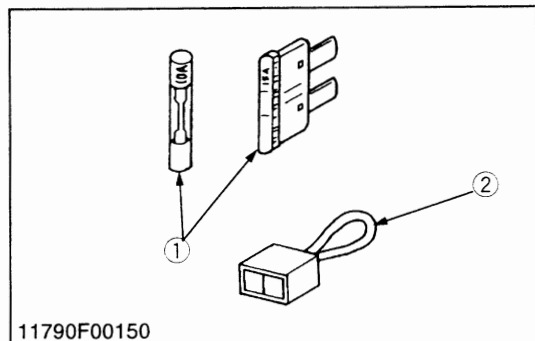
- Take care not to confuse positive and negative terminal posts.
- When removing battery cables, disconnect negative cable first. When installing battery cables, check for polarity and connect positive cable first.
- Do not install any battery with capacity other than is specified (Ah).
- After connecting 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.

11790G00131

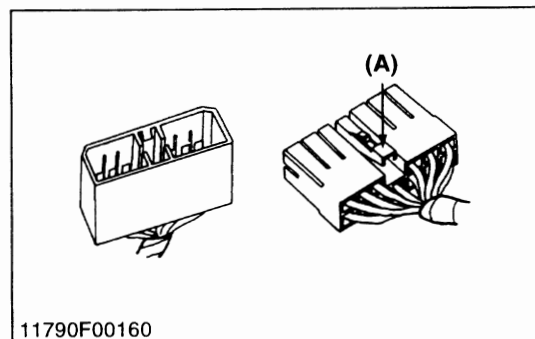
(3) Fuse

- 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) Fusible Link

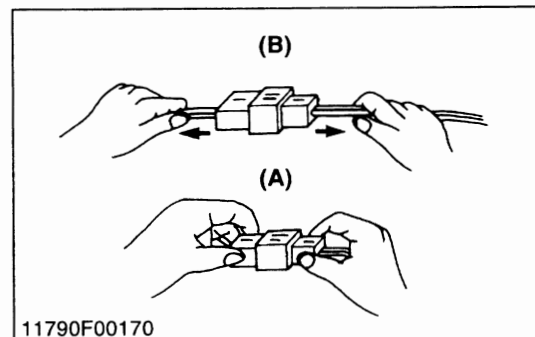
11790G00140

(4) Connector

- For connector with lock, push lock to separate.

(A) Push

11790G00150

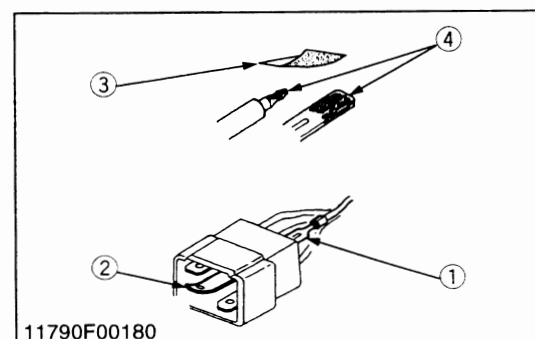


- In separating connectors, do not pull wire harnesses.
- Hold connector bodies to separate.

(A) Correct

(B) Incorrect

11790G00160



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

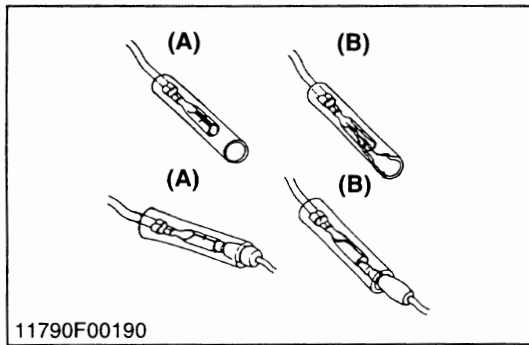
(1) Exposed Terminal

(3) Sandpaper

(2) Bend Terminal

(4) Rust

11790G00170

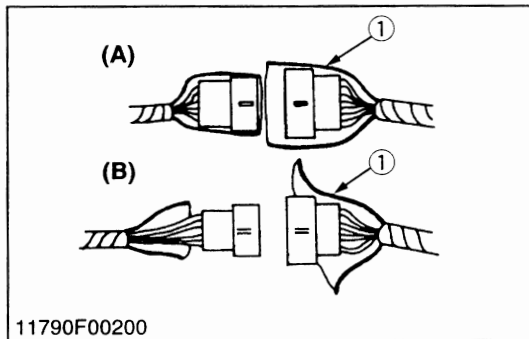


- Make certain that there is no female connector being too open.

(A) Correct

(B) Incorrect

11790G00180



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

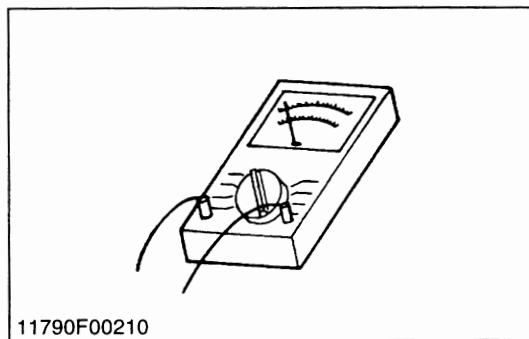
(1) Cover

(A) Correct

(B) Incorrect

11790G00190

(5) Handling of Circuit Tester



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

11790G00200

[5] LUBRICANTS, FUEL AND COOLANT

	Place	Capacity			Lubricants, fuel and coolant
		B2410HSD	B2710	B2910	
1	Fuel tank	24 L 6.3 U.S.gals. 5.3 Imp.gals.	26 L 6.9 U.S.gals. 5.7 Imp.gals.		No. 2-D diesel fuel No. 1-D diesel fuel if temperature is below - 10 °C (14 °F)
2	Cooling system with recovery tank	3.8 L 4.0 U.S.qts. 3.3 Imp.qts.	4.5 L 4.7 U.S.qts. 4.0 Imp.qts.		Fresh clean water with anti-freeze
3	Engine crankcase	3.0 L 3.2 U.S.qts. 2.6 Imp.qts.	4.1 L 4.3 U.S.qts. 3.6 Imp.qts.		Engine oil : API Service CC or CD Below 0 °C (32 °F) SAE10W, 10W-30 or 10W-40 0 to 25 °C (32 to 77 °F) SAE20, 10W-30 or 10W-40 Above 25 °C (77 °F) SAE30, 10W-30 or 10W-40
4	Transmission case	12.5 L 3.3 U.S.gals. 2.75 Imp.gals.	Affected Serial No.: below 15496 14.0 L 3.70 U.S.gals. 3.08 Imp.gals. Affected Serial No.: above 50101 14.5 L 3.83 U.S.gals. 3.19 Imp.gals.	14.5 L 3.83 U.S.gals. 3.19 Imp.gals.	KUBOTA SUPER UDT fluid *
5	Front axle case	4WD Model 3.7 L 3.9 U.S.qts. 3.3 Imp.qts. Bi-speed Turn Type 4.5 L 4.8 U.S.qts. 4.0 Imp.qts.	4.5 L 4.8 U.S.qts. 4.0 Imp.qts.		KUBOTA SUPER UDT fluid * or SAE80, 90 gear oil

Greasing

	Place	No. of greasing point	Capacity	Type of grease
6	Speed control pedal (HST pedal)	1	Until grease overflows	Multipurpose type grease
	Top link	1		
	Lift rod	1		
	Battery terminal	2	Moderate amount	
	Knuckle shaft (2WD)	2		
	Front axle support (2WD)	2		




* KUBOTA original transmission hydraulic fluid.

12271G00020

[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 7T						 9 9T		
Material of bolt	SS400, S20C						S43C, S48C						SCr435, SCM435		
Material of opponent part	Ordinariness			Aluminum			Ordinariness			Aluminum			Ordinariness		
Unit Diameter	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 to 9.31	0.80 to 0.95	5.79 to 6.87	7.85 to 8.82	0.80 to 0.90	5.79 to 6.50	9.81 to 11.2	1.00 to 1.15	7.24 to 8.31	7.85 to 8.82	0.80 to 0.90	5.79 to 6.50	12.3 to 14.2	1.25 to 1.45	9.05 to 10.4
M8 (8 mm, 0.31 in.)	17.7 to 20.5	1.8 to 2.1	13.1 to 15.1	16.7 to 19.6	1.7 to 2.0	12.3 to 14.4	23.6 to 27.4	2.4 to 2.8	17.4 to 20.2	17.7 to 20.5	1.8 to 2.1	13.1 to 15.1	29.5 to 34.3	3.0 to 3.5	21.7 to 25.3
M10 (10 mm, 0.39 in.)	39.3 to 45.1	4.0 to 4.6	29.0 to 33.2	31.4 to 34.3	3.2 to 3.5	23.2 to 25.3	48.1 to 55.8	4.9 to 5.7	35.5 to 41.2	39.3 to 44.1	4.0 to 4.5	29.0 to 32.5	60.9 to 70.6	6.2 to 7.2	44.9 to 52.0
M12 (12 mm, 0.47 in.)	62.8 to 72.5	6.4 to 7.4	46.3 to 53.5	/			77.5 to 90.2	7.9 to 9.2	57.2 to 66.5	62.8 to 72.5	6.4 to 7.4	46.3 to 53.5	103 to 117	10.5 to 12.0	76.0 to 86.7
M14 (14 mm, 0.55 in.)	108 to 125	11.0 to 12.8	79.6 to 92.5				124 to 147	12.6 to 15.0	91.2 to 108	/			167 to 196	17.0 to 20.0	123 to 144
M16 (16 mm, 0.63 in.)	167 to 191	17.0 to 19.5	123 to 141				197 to 225	20.0 to 23.0	145 to 166				260 to 304	26.5 to 31.0	192 to 224
M18 (18 mm, 0.71 in.)	246 to 284	25.0 to 29.0	181 to 209				275 to 318	28.0 to 32.5	203 to 235				344 to 402	35.0 to 41.0	254 to 296
M20 (20 mm, 0.79 in.)	334 to 392	34.0 to 40.0	246 to 289				368 to 431	37.5 to 44.0	272 to 318				491 to 568	50.0 to 58.0	362 to 419

11790G00761

(2) Stud Bolts

Material of opponent part	Ordinariness			Aluminum		
Unit Diameter	N·m	kgf·m	ft-lbs	N·m	kgf·m	ft-lbs
M8 (8 mm, 0.31 in.)	11.8 to 15.6	1.2 to 1.6	8.68 to 11.5	8.82 to 11.8	0.90 to 1.2	6.51 to 8.67
M10 (10 mm, 0.39 in.)	24.6 to 31.3	2.5 to 3.2	18.1 to 23.1	19.7 to 25.4	2.0 to 2.6	14.5 to 18.8
M12 (12 mm, 0.47 in.)	29.5 to 49.0	3.0 to 5.0	21.7 to 36.1	31.4	3.2	23.1

11790G00762

[7] MAINTENANCE

No.	Period Item		Indication on hour meter																		After purchase		Important	Reference page		
			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	1500	3000	1 year	2 years				
1	Engine oil	Change	★	☆		☆		☆		☆		☆		☆		☆		☆								G-12
2	Engine oil filter	Replace	★			☆				☆				☆				☆								G-12
3	Transmission fluid	Change	★					☆						☆												G-13
4	Hydraulic oil filter (for HST)	Replace	★					☆						☆												G-13
5	Hydraulic oil filter	Replace	★					☆						☆												G-13
6	Transmission oil strainer	Clean	★					☆						☆												G-14
7	Front axle case oil	Change						☆						☆												G-25
8	Front axle pivot	Adjust								☆								☆								G-26
9	Engine start system	Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆								G-17
10	Greasing	—	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆								G-16
11	Greasing (2WD front wheel hub)	—								☆								☆								G-25
12	Wheel bolt torque	Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆								G-18
13	Battery condition	Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆								G-19
14	Air cleaner element [Double type]	Primary element	Clean		☆		☆		☆		☆		☆		☆		☆		☆				*			G-20
		Replace																			☆		**	@	G-20	
		Secondary element	Replace																		☆					G-20
15	Fuel filter element	Clean		☆		☆		☆		☆		☆		☆		☆		☆							@	G-21
		Replace								☆								☆							G-21	
16	Fan belt	Adjust		☆		☆		☆		☆		☆		☆		☆		☆								G-22
17	Clutch	Adjust	★	☆		☆		☆		☆		☆		☆		☆		☆								G-15
18	Brake	Adjust		☆		☆		☆		☆		☆		☆		☆		☆								G-22
19	Fuel line	Check		☆		☆		☆		☆		☆		☆		☆		☆							@	G-23
		Replace																				☆			G-23	
20	Intake air line	Check				☆				☆				☆				☆						@	G-24	
		Replace																				☆	***		G-24	
21	Radiator hose and clamp	Check				☆				☆				☆				☆								G-23
		Replace																				☆			G-23	
22	Toe-in	Adjust				☆				☆				☆				☆								G-24
23	Engine valve clearance	Adjust																☆								G-26
24	Cooling system	Flush																				☆				G-27
25	Coolant	Change																				☆				G-27
26	Fuel injection nozzle injection pressure	Check																	☆					@		G-26
27	Injection pump	Check																		☆				@		G-26

12271G00030

[7] MAINTENANCE (Continued)

No.	<div><div></div><div>Item</div></div>		Period	Indication on hour meter																		After purchase		Important	Reference page
				50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	1500	3000	1 year	2 years		
28	Fuel system	Bleed																			Service as required			G-28	
29	Fuse	Replace																							G-29
30	Light bulb	Replace																							G-30

IMPORTANT :

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

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

** Every year or every 6 times of cleaning.

*** Replace only if necessary.

● 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.

12271G00040

[8] CHECK AND MAINTENANCE



CAUTION

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

11790G00210

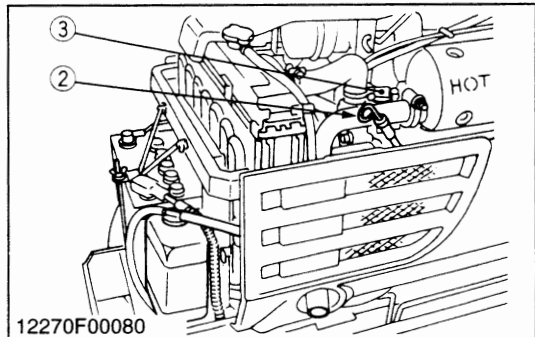
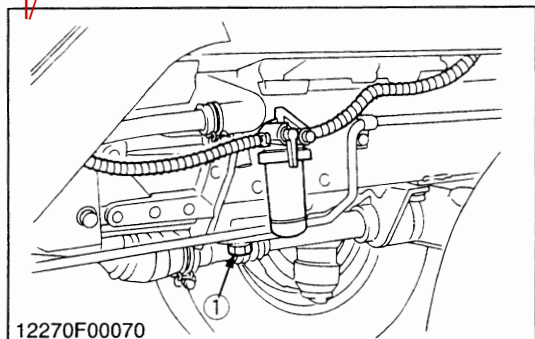
(1) Daily Check

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

Checking

- Check areas where previous trouble was experienced.
- Walk around the tractor.
 - 1) Check the tire pressure, and check for wear and damage.
 - 2) Check for oil and water leaks.
 - 3) Check the engine oil level.
 - 4) Check the transmission fluid level.
 - 5) Check the coolant level.
 - 6) Check the condition of seat belt and ROPS attaching hardware.
 - 7) Check and clean the radiator screen and grill.
 - 8) Check the bolts and nuts of the tires are tight.
 - 9) Check the number plate or SMV emblem for damage and cleaner replace as necessary if equipped.
 - 10) Care of danger, warning and caution labels.
 - 11) Clean around the exhaust manifold and the muffler of the engine.
- While sitting in the operator's seat.
 - 1) Check the HST pedal, brake pedals and clutch pedal.
 - 2) Check the parking brake.
 - 3) Check the steering wheel.
 - Turning the key switch.
 - 1) Check the performance of the easy checker lights.
 - 2) Check head lights, tail lights and hazard lights. Clean if necessary.
 - 3) Check the performance of the meters and gauges.
 - Starting the engine.
 - 1) Check to see that the lights on the Easy Checker go off.
 - 2) Check the color of the exhaust gas.
 - 3) Check the brakes for proper operation.

12270G00050



Changing Engine Oil



CAUTION

- **Before changing oil, be sure to stop the engine.**
- 1. Start and warm up the engine for approx. 5 minutes.
- 2. Place an oil pan underneath the engine.
- 3. To drain the used oil, remove the drain plug (1) at the bottom of the engine and drain the oil completely.
- 4. Screw in the drain plug (1).
- 5. Fill new oil up to upper line on the dipstick (2).



IMPORTANT

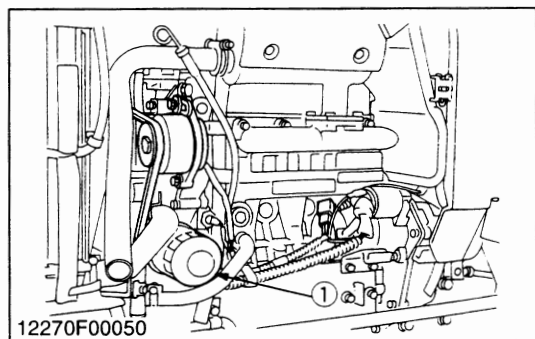
- **When using an oil of different manufacture or viscosity from the previous one, remove all of the old oil.**
- **Never mix two different types of oil.**
- **Use the proper SAE Engine Oil according to ambient temperatures.**
- **Refer to "LUBRICANTS, FUEL AND COOLANT". (See page G-8.)**

Engine oil capacity	B2410	3.0 L 3.2 U.S.qts 2.6 Imp.qts
	B2710 B2910	4.1 L 4.3 U.S.qts 3.6 Imp.qts

- (1) Drain Plug
(2) Dipstick
(3) Oil Inlet

(A) Oil level is acceptable within this range.

12271G00050



Replacing Engine Oil Filter Cartridge



CAUTION

- **Be sure to stop the engine before changing oil filter cartridge.**
- 1. Remove the oil filter cartridge with the filter wrench.
- 2. Apply a slight coat of oil onto the cartridge gasket.
- 3. To install the new cartridge, screw it in by hand. Over tightening may cause deformation of rubber gasket.
- 4. After the new cartridge has been replaced, the engine oil normally decrease a little. Thus see that the engine oil does not leak through the seal and be sure to read the oil level on the dipstick. Then, replenish the engine oil up to the specified level.



IMPORTANT

- **To prevent serious damage to the engine, replacement element must be highly efficient. Use only a KUBOTA genuine filter or its equivalent.**

- (1) Engine Oil Filter

12270G00070