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.

February 2000

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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.**

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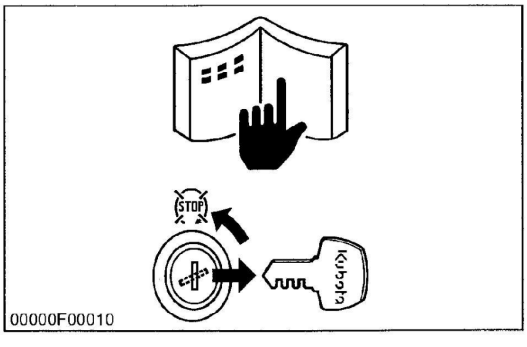

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BEFORE SERVICING AND REPAIRING

(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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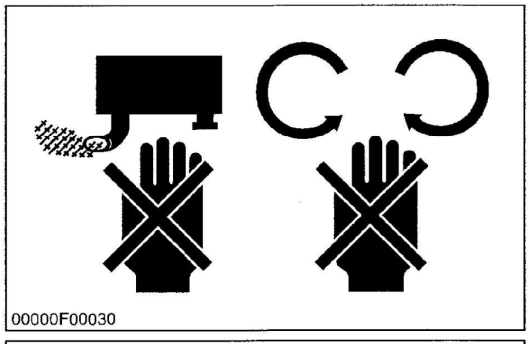
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SAFETY WORKING

(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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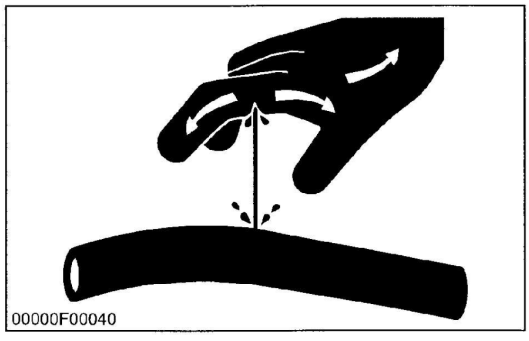
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AVOID FIRES

(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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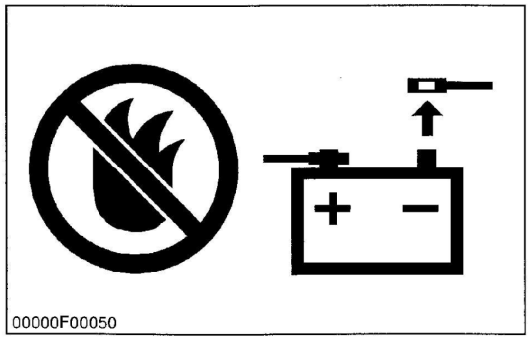
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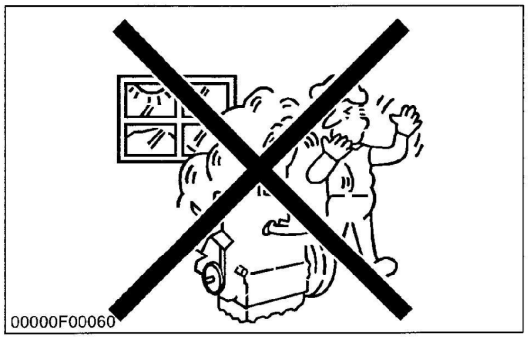

VENTILATE WORK AREA

(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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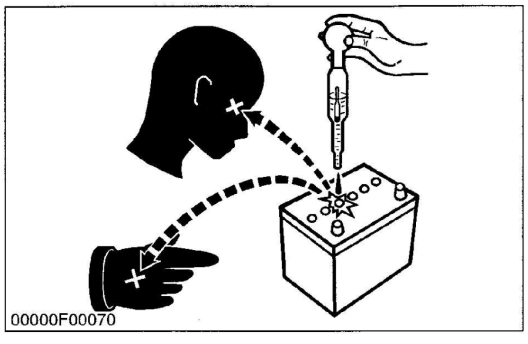

PREVENT ACID BURNS

(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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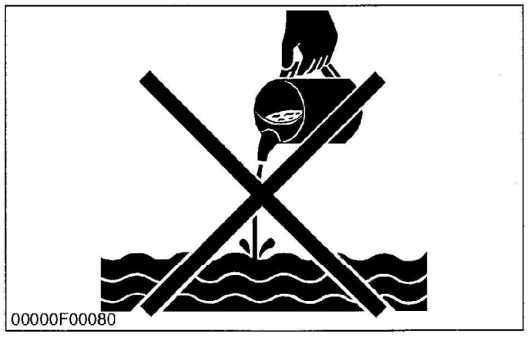

DISPOSE OF FLUIDS PROPERLY

(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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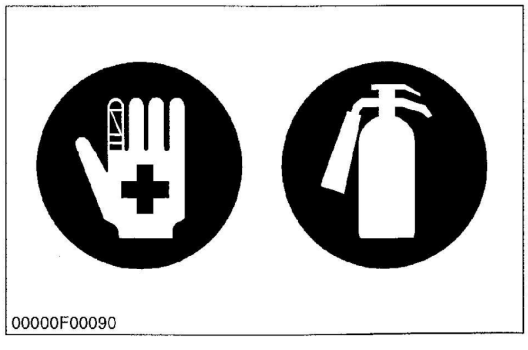

PREPARE FOR EMERGENCIES

(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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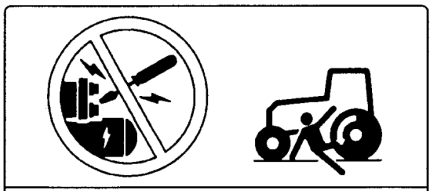
SAFETY DECALS

- **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.

[B2710, B2910]

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



⚠ DANGER

TO AVOID POSSIBLE INJURY OR DEATH FROM A MACHINE RUNAWAY.
1. 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.
2. Start engine only from operator's seat with transmission and PTO OFF. Never start engine while standing on the ground.

(2) Part No. TA040-4959-3

⚠ WARNING

TO AVOID PERSONAL INJURY.
1 Keep PTO shield in place at all times.
2 Do not operate the PTO at speeds faster than the speed recommended by the implement manufacturer.
3 For trailing PTO-driven implements. set drawbar at towing position. (see operator's manual)

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

No. fire

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

⚠ WARNING

TO AVOID PERSONAL INJURY:
1. Attach pulled or towed loads to the drawbar only.
2. Use the 3-point hitch only with equipment designed for 3-point hitch usage.

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

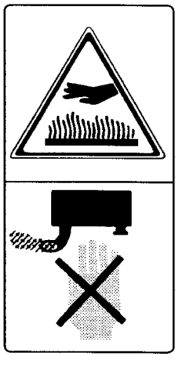
⚠ WARNING

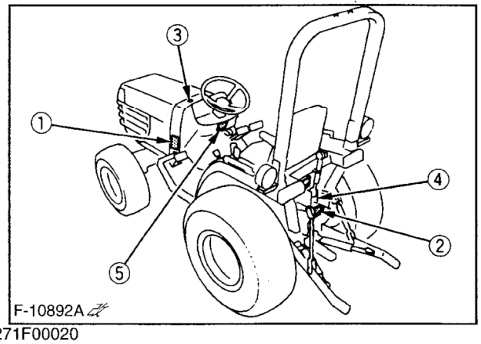
BEFORE DISMOUNTING TRACTOR:
1. ALWAYS SET PARKING BRAKE.
2. PARK ON LEVEL GROUND WHENEVER POSSIBLE. If parking on a slope, position tractor across the slope.
3. LOWER ALL IMPLEMENTS TO THE GROUND.
4. STOP THE ENGINE.

6C140-47431

(6) Part No. TA040-4958-1

Do not touch hot surface like muffler, etc.





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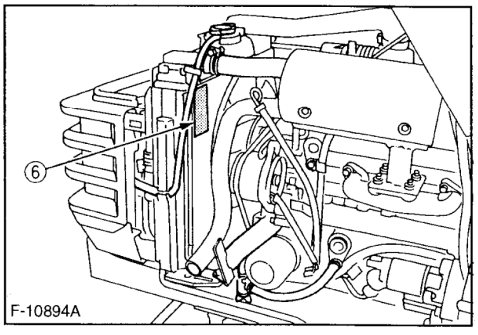

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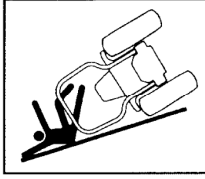
[B2410, B2710, B2910]

(7) Part No. TA040-4932-2

⚠ WARNING



TO AVOID PERSONAL INJURY OR DEATH FROM ROLL-OVER:
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.

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

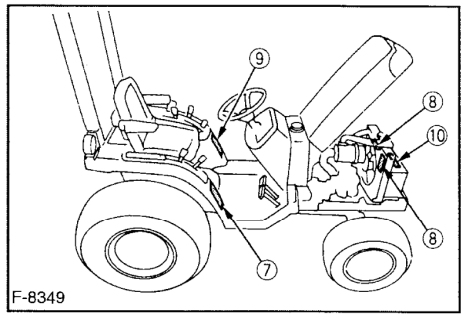
(9) Part No. 6C040-4742-1

⚠ C A U T I O N

TO AVOID PERSONAL INJURY:
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 red 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.

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

DANGER EXPLOSIVE GASES
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.
KEEP VENT CAPS TIGHT AND LEVEL
POISON CAUSES SEVERE BURNS
Contains sulfuric acid. Avoid contact with skin, eyes or clothing. In event of accident flush with water and call a physician immediately.
KEEP OUT OF REACH OF CHILDREN



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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 replace with new part, make sure new label (s) is (are) attached in the same locations (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 (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:16.6L/min(4.4 U.S.GPM,3.7Imp.GPM),PS:9.8L/min(2.6 U.S.GPM,2.2Imp.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/V1305-E2-D12	V1505-E-D16/V1505-E2-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:24.4L/min(6.4U.S.GPM,5.4Imp.GPM),PS:11.7L/min(3.1U.S.GPM,2.6Imp.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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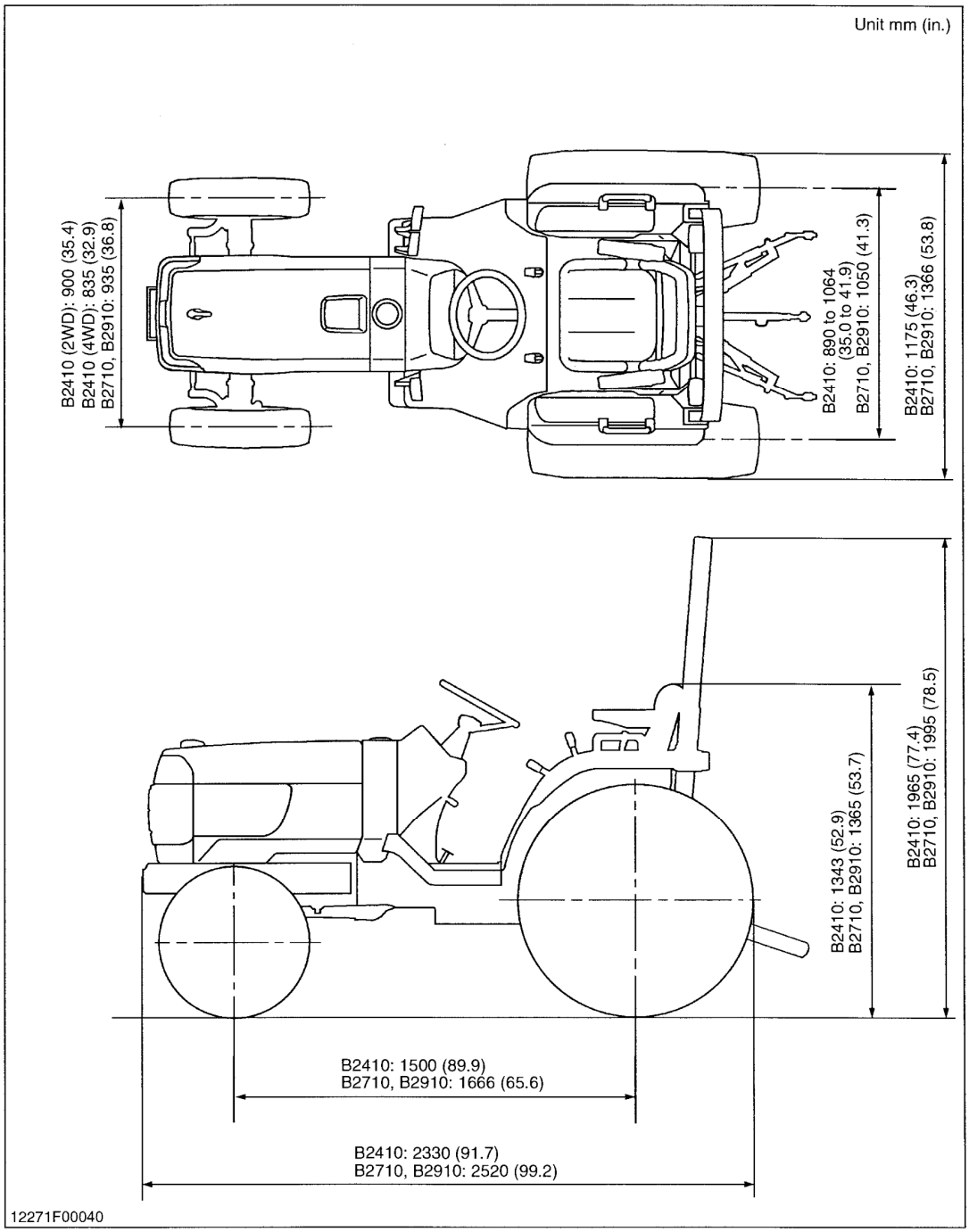
DIMENSIONS



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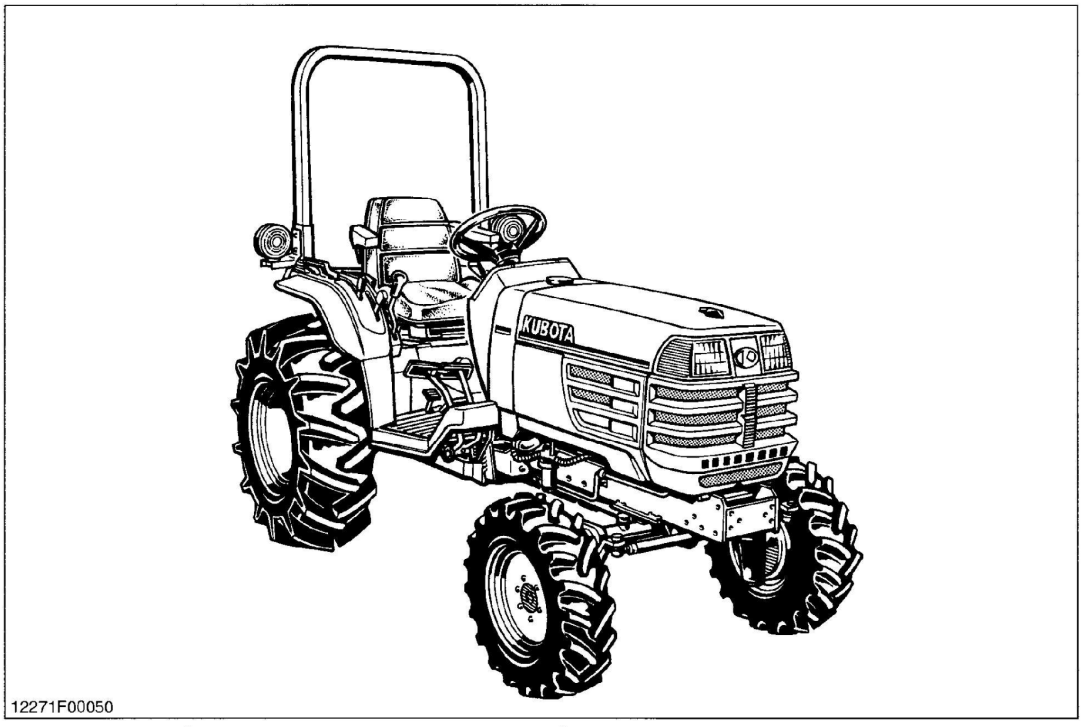
G GENERAL

G GENERAL

GENERAL

CONTENTS

[1] FEATURES



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(1) Integral Power Steering
(2) E-TVCS (Three Vortex Combustion System) Diesel Engine
(3) Engine Key Shut-Off System
(4) Hydrostatic Transmission (HST)
(5) 3 Range of Speed (B2710, B2910)
(6) Bi-speed Turn (B2410 Only)
(7) Cruise Control (B2910 Only)
(8) Wet Disc Brake
(9) Standard Mid-PTO
(10) Simultaneous Mounting of Both the Mid. Mount Mower and Front Loader
(11) Combination Panel of Easy Checker
(12) Large Hydraulic Pump
(13) Position Control Valve
(14) Hydraulic Block Type Outlet

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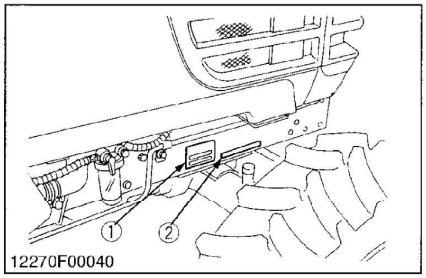
[2] TRACTOR IDENTIFICATION



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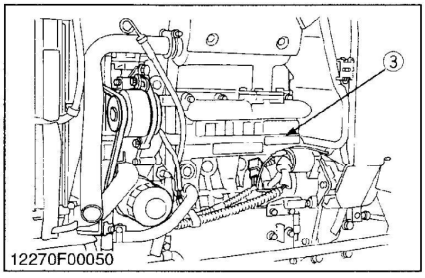

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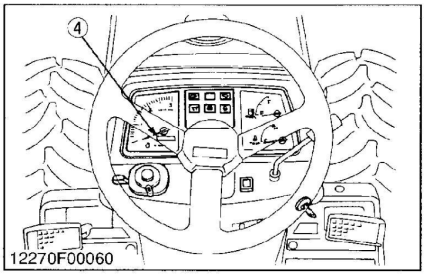

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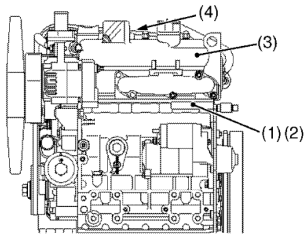
When contacting your local KUBOTA distributor, always specify engine serial number, tractor serial number and hour meter reading.

(1) Tractor Identification Plate
(2) Tractor Serial Number
(3) Engine Serial Number
(4) Hour Meter

12270G00020

[3] MODEL NAME AND ENGINE SERIAL NUMBER



3EEAEAC0P001A

When contacting the manufacture, always specify your engine model name and serial number.

The engine model and its serial number need to be identified before the engine can be serviced or parts replaced.

■ Engine Serial Number

The engine serial number is an identified number for the engine. It is marked after the engine model number.

It indicates month and year of manufacture as follows.

● Year of manufacture

Alphabet or Number	Year	Alphabet or Number	Year
1	2001	F	2015
2	2002	G	2016
3	2003	H	2017
4	2004	J	2018
5	2005	K	2019
6	2006	L	2020
7	2007	M	2021
8	2008	N	2022
9	2009	P	2023
A	2010	R	2024
B	2011	S	2025
C	2012	T	2026
D	2013	V	2027
E	2014		

(1) Engine Model
(2) Serial Number
(3) Emission Label
(4) Engine Label

0000004873E

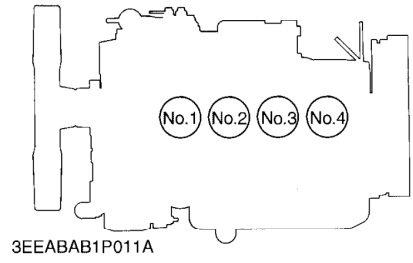
● **Month of manufacture**

Month	Engine Serial Number	
	0001 ~ 9999	10000 ~
January	A0001 ~ A9999	B0001 ~
February	C0001 ~ C9999	D0001 ~
March	E0001 ~ E9999	F0001 ~
April	G0001 ~ G9999	H0001 ~
May	J0001 ~ J9999	K0001 ~
June	L0001 ~ L9999	M0001 ~
July	N0001 ~ N9999	P0001 ~
August	Q0001 ~ Q9999	R0001 ~
September	S0001 ~ S9999	T0001 ~
October	U0001 ~ U9999	V0001 ~
November	W0001 ~ W9999	X0001 ~
December	Y0001 ~ Y9999	Z0001 ~

e.g. V1505-4A0001
"4" indicates 2004 and "A" indicates January.
So, 4A indicates that the engine was manufactured on January, 2004.

0000004875E

[4] CYLINDER NUMBER



3EEABAB1P011A

The cylinder numbers of KUBOTA diesel engine are designated as shown in the figure.

The sequence of cylinder numbers is given as No.1, No.2, No.3 and No.4 starting from the gear case side.

0000004876E

[5] E2 ENGINE

[ex.: Model Name V1505-**E2**-D16]

The emission controls that have been put into effect in various countries to prevent air pollution will be stepped up. The time to enforce the regulations differs depending on the engine output classifications.

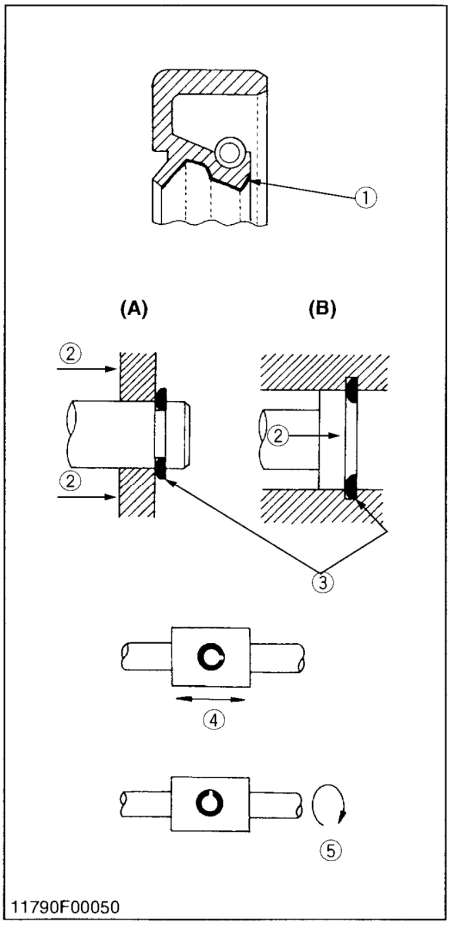
Kubota has been supplying the diesel engines conforming to the emission regulations in respective countries.Exhaust emissions regulations shift to the second stage. Kubota executed the improvement of the engine according to this regulation.

In order to discriminate the engines conforming to Tier 1 / Phase 1 requirements and those conforming to Tier 2 / Phase 2 requirements, we have adopted E2 as a new model name for the engines conforming Tier 2 / Phase 2 regulations.

In the after-sale services for 05-E2B and 05-T-E2 series engines, only use the dedicated parts for E2 models and carry out the maintenance services accordingly.

0000004877E

[6] GENERAL PRECAUTIONS



11790F00050

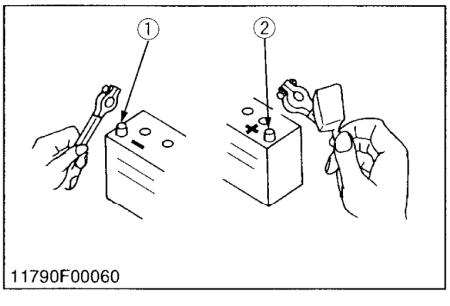
- During disassembly, carefully arrange removed parts in a clean area to prevent confusion later. Bolts and nuts should be installed in their original position to prevent reassembly errors.
- When special tools are required, use KUBOTA genuine special tools. Special tools which are not frequently used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

[7] 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.

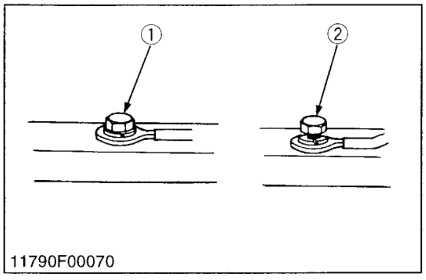
■ IMPORTANT

- **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

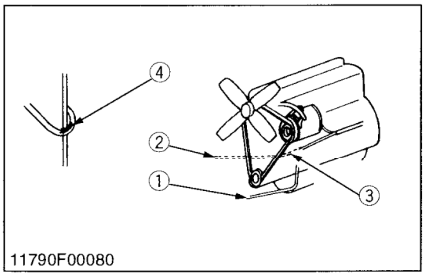


11790F00070

- Securely tighten wiring terminals.

(1) Correct (Securely Tighten)
(2) Incorrect (Loosening Leads to Faulty Contact)

11790G00050

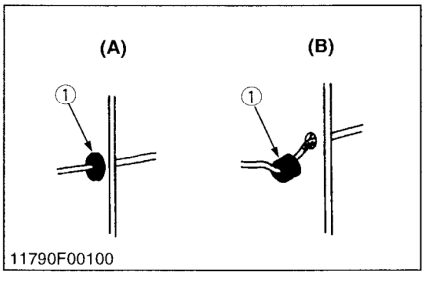


11790F00080

- Do not let wiring contact dangerous part.

(1) Wiring (Correct)
(2) Wiring (Incorrect)
(3) Dangerous Part
(4) Dangerous Part

11790G00060



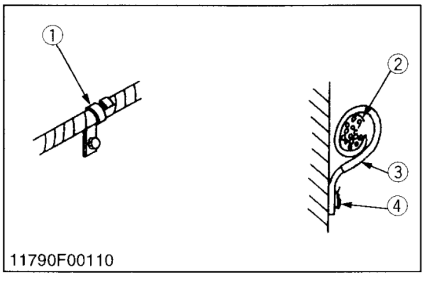
11790F00100

- Securely insert grommet.

(1) Grommet

(A) Correct
(B) Incorrect

11790G00080

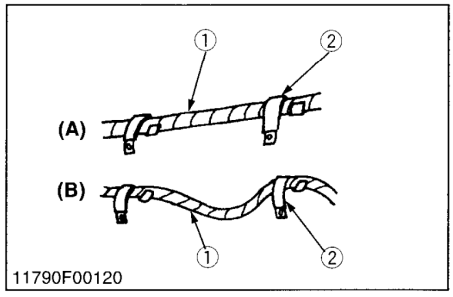


11790F00110

- Securely clamp, being careful not to damage wiring.

(1) Clamp
  - Wind Clamp Spirally
(2) Wire Harness
(3) Clamp
(4) Welding Dent

11790G00090

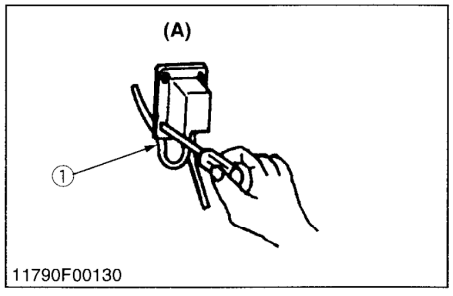


11790F00120

- 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

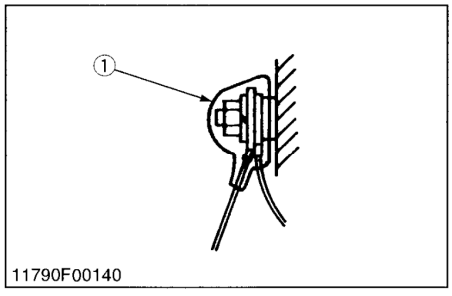


11790F00130

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

(1) Wiring
(A) Incorrect

11790G00110



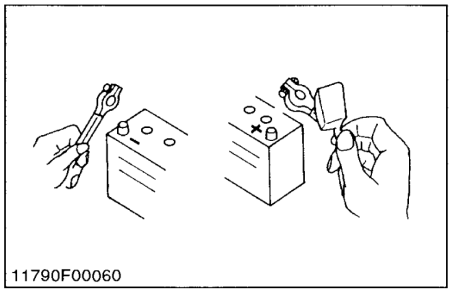
11790F00140

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

(1) Cover
- Securely Install Cover

11790G00120

(2) Battery


11790F00060

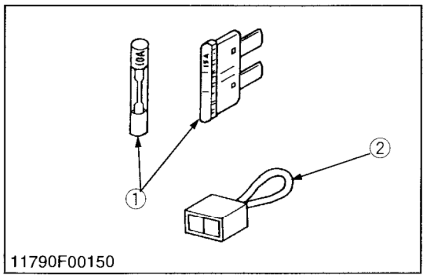
- Take care not to confuse positive and negative terminal posts.
- When removing battery cables, disconnect negative cable first. When installing battery cables, check for polarity and connect positive cable first.
- Do not install any battery with capacity other than is specified (Ah).
- After connecting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



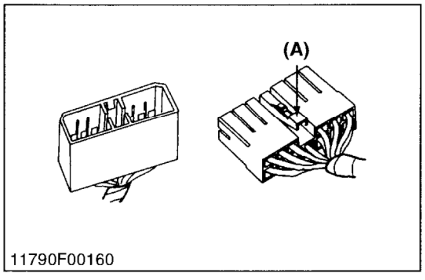
11790F00150

- 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

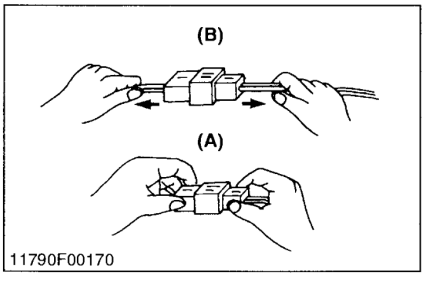


11790F00160

- For connector with lock, push lock to separate.

(A) Push

11790G00150

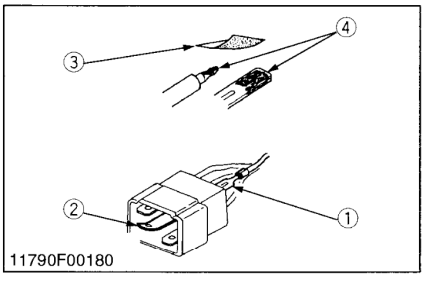


11790F00170

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

(A) Correct **(B) Incorrect**

11790G00160

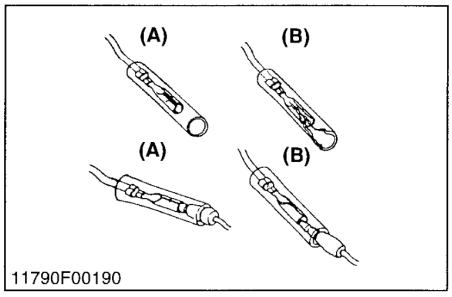


11790F00180

- 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

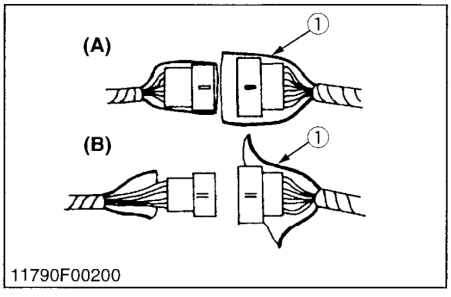


11790F00190

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

(A) Correct **(B) Incorrect**

11790G00180



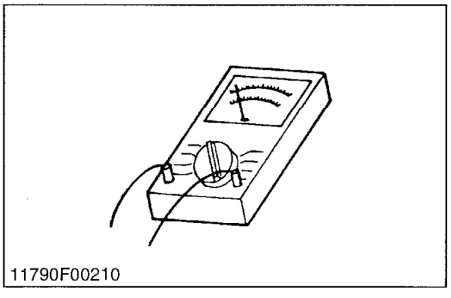
11790F00200

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

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

11790G00190

(5) Handling of Circuit Tester


11790F00210

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

11790G00200

[8] 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

[9] 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

[10] MAINTENANCE

No.	Item	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		
1	Engine oil	Change	★	☆		☆		☆		☆		☆		☆		☆		☆							G-15
2	Engine oil filter	Replace	★			☆				☆				☆				☆							G-15
3	Transmission fluid	Change	★					☆						☆											G-16
4	Hydraulic oil filter (for HST)	Replace	★					☆						☆											G-17
5	Hydraulic oil filter	Replace	★					☆						☆											G-17
6	Transmission oil strainer	Clean	★					☆						☆											G-17
7	Front axle case oil	Change						☆						☆											G-29
8	Front axle pivot	Adjust								☆								☆							G-30
9	Engine start system	Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆							G-20,21
10	Greasing	–	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆							G-19
11	Greasing (2WD front wheel hub)	–								☆								☆							G-29
12	Wheel bolt torque	Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆							G-22
13	Battery condition	Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆							G-22
14	Air cleaner element [Double type] – Primary element	Clean		☆		☆		☆		☆		☆		☆		☆		☆					*		G-24
		Replace																			☆		**	@	G-24
	Secondary element	Replace																			☆				G-24
15	Fuel filter element	Clean		☆		☆		☆		☆		☆		☆		☆		☆						@	G-25
		Replace								☆								☆							G-30
16	Fan belt	Adjust		☆		☆		☆		☆		☆		☆		☆		☆							G-26
17	Clutch	Adjust	★	☆		☆		☆		☆		☆		☆		☆		☆							G-18
18	Brake	Adjust		☆		☆		☆		☆		☆		☆		☆		☆							G-26
19	Fuel line	Check		☆		☆		☆		☆		☆		☆		☆		☆						@	G-27
		Replace																				☆			G-27
20	Intake air line	Check				☆				☆				☆				☆						@	G-28
		Replace																				☆	***		G-28
21	Radiator hose and clamp	Check				☆				☆				☆				☆							G-27
		Replace																				☆			G-27
22	Toe-in	Adjust				☆				☆				☆				☆							G-28
23	Engine valve clearance	Adjust																☆							1-S18
24	Cooling system	Flush																				☆			G-31
25	Coolant	Change																				☆			G-31
26	Fuel injection nozzle injection pressure	Check																	☆					@	1-S55
27	Injection pump	Check																		☆				@	1-S53

12271G00030

[10] MAINTENANCE (Continued)

No.	Item	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-33
29	Fuse	Replace																						G-33,34
30	Light bulb	Replace																						G-34

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.**

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[11] 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.**

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(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.

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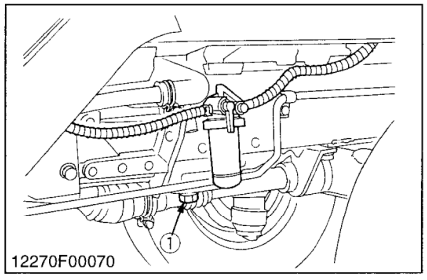
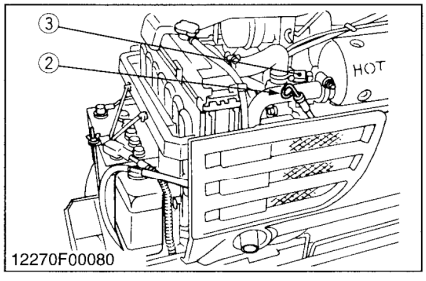
(2) Check Points of Initial 50 Hours





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-11.)**

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

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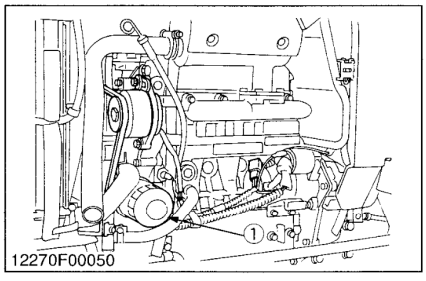

Replacing Engine Oil Filter Cartridge

CAUTION

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

1. Remove the engine oil filter cartridge with the filter wrench.h.
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, engine oil filter cartridge replacement must be highly efficient. Use only a KUBOTA genuine filter or its equivalent.**

(1) Engine Oil Filter

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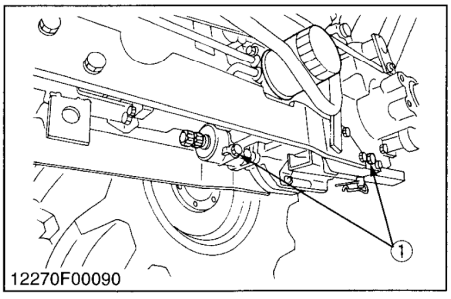

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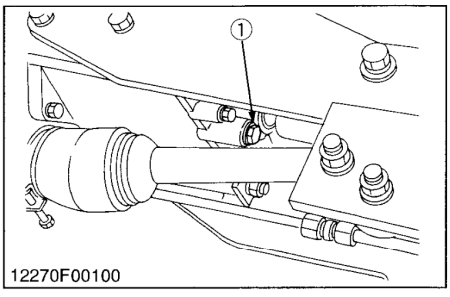

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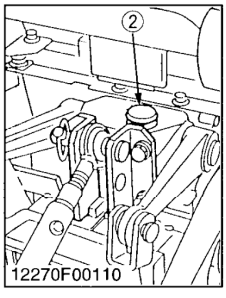

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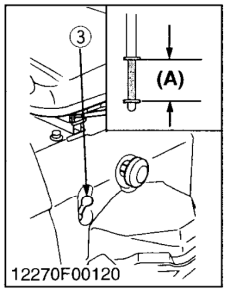

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Changing Transmission Fluid

CAUTION

- **Be sure to stop the engine checking and changing the transmission fluid.**

1. Place an oil pan under the tractor.
2. Remove the drain plugs (1) at the bottom of the rear axle cases and oil tank.
3. Drain the transmission fluid.
4. After draining, screw in the three drain plugs.
5. Fill new oil from filling port after removing the filling plug (2) up to the upper notch on the dipstick.
6. After running the engine for a few minutes, stop it and check the oil level again, if low, add oil prescribed level.

IMPORTANT

- **Use only multi-grade transmission oil. Use of other oils may damage the transmission or hydraulic system. Refer to "LUBRICANTS AND FLUID" (See page G-11.)**
- **Never work the tractor immediately after changing the transmission oil. Keeping the engine at medium speed for a few minutes to prevents damage to the transmission.**
- **Do not mix different blands oil together.**

Transmission fluid capacity	B2410	12.5 L 3.30 U.S.gals. 2.75 Imp.gals.
	B2710	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.
	B2910	14.5 L 3.83 U.S.gals. 3.19 Imp.gals.

(1) Drain Plug
(2) Filling Plug
(3) Dipstick

(A) Oil level acceptable within this range.

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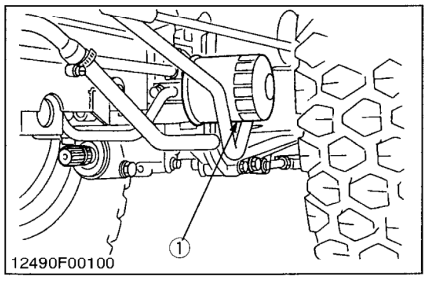

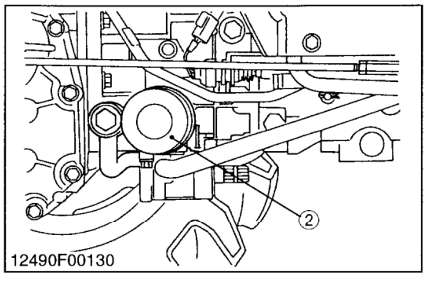

Replacing Hydraulic Oil Filter Cartridge

CAUTION

- **Be sure to stop the engine before changing the oil filters.**

1. Drain the transmission fluid.
2. Remove the oil filter cartridge with a filter wrench.
3. Apply a slight coat of oil onto the cartridge gasket.
4. To install the new cartridge, screw it in by hand. Over tightening may cause deformation of rubber gasket.
5. After the new cartridge has been replaced, the transmission fluid level will normally decrease slightly. Make sure that the transmission fluid does not leak through the seal. Check the fluid level.

IMPORTANT

- **To prevent serious damage to the hydraulic system. Use only a genuine KUBOTA filter or its equivalents.**

(1) Hydraulic Oil Filter (for HST) (2) Hydraulic Oil Filter

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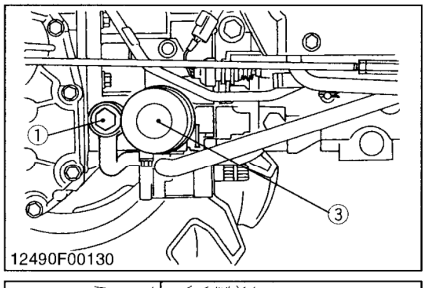

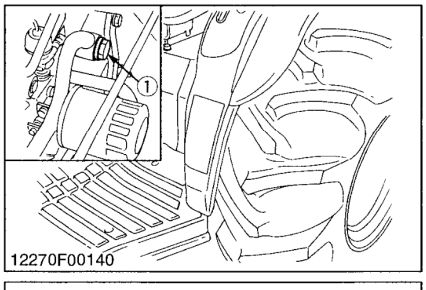

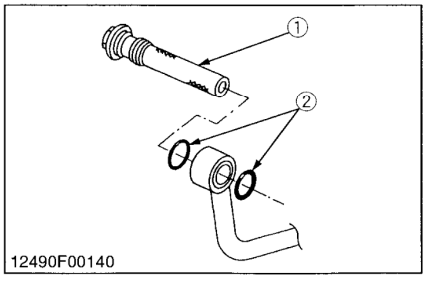

Cleaning Transmission Oil Strainer

1. Clean the strainer with non-flammable solvent.

NOTE

- **When changing the transmission fluid, disassemble and rinse the strainer with non-flammable solvent to completely clean off fillings.**
  When reassembling, be careful not to damage the parts.
- **Since the fine fillings in the oil could impair the component parts of the hydraulic system precision built to withstand high pressure, the suction line end is provided with an oil strainer.**
- **Please replace oil filter cartridge (3) and clean oil strainer (1) at the same time. And when replacing, reinstall the oil strainer first.**

(1) Strainer (3) Hydraulic Oil Filter Cartridge
(2) O-ring

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