

Product: 2009 Kubota WSM M7040SU Tractor Service Repair Workshop Manual
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WSM

WORKSHOP MANUAL
TRACTOR

M7040SU

Kubota

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TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the M7040SU and M7040DT-SU. It contains 4 parts: "**Information**", "**General**", "**Mechanism**" and "**Servicing**".

■ **Information**

This section contains information below.

- Safety First
- Safety Decals
- Specification
- Dimension

■ **General**

This section contains information below.

- Engine Identification
- Model Identification
- General Precautions
- Maintenance Check List
- Check and Maintenance
- Special Tools

■ **Mechanism**

This section contains information on the structure and the function of the unit. Before you continue with the subsequent sections, make sure that you read this section.

Refer to the latest version of Workshop Manual (Code No. 9Y021-01870 / 9Y021-18200) for the diesel engine / tractor mechanism that this workshop manual does not include.

■ **Servicing**

This section contains information below.

- Troubleshooting
- Servicing Specifications
- Tightening Torques
- Checking, Disassembling and Servicing

All illustrations, photographs and specifications contained in this manual are of the newest information available at the time of publication.

KUBOTA reserves the right to change all information at any time without notice.

Since this manual includes many models, information or illustrations and photographs can show more than one model.

September, 2009

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| INFORMATION

INFORMATION

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- 2. SAFETY DECALS I-4
- 3. SPECIFICATIONS I-8
- 4. TRAVELING SPEEDS I-9
- 5. DIMENSIONS I-10

1. SAFETY FIRST

SAFETY FIRST

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

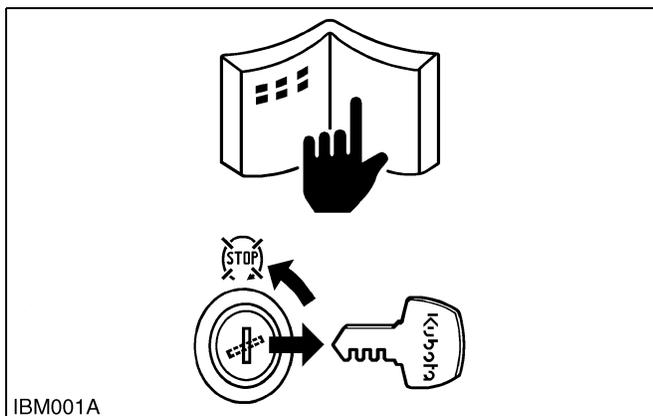
■ IMPORTANT

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

■ NOTE

- Gives helpful information.

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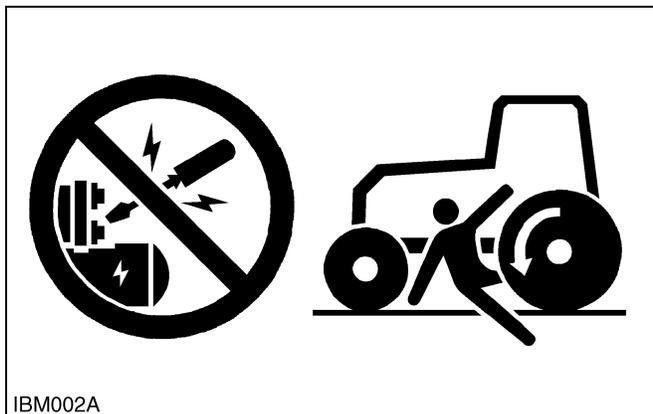


IBM001A

BEFORE YOU START SERVICE

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

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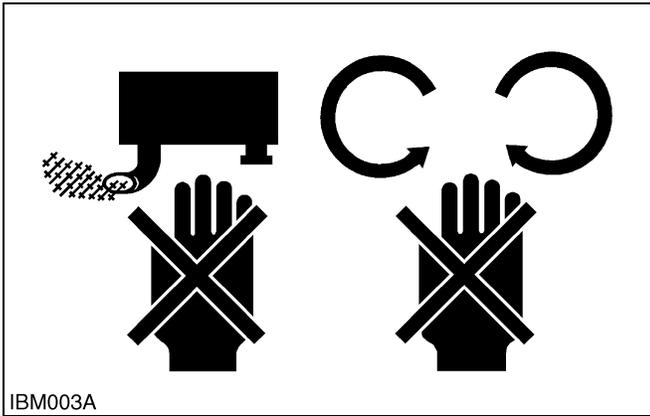


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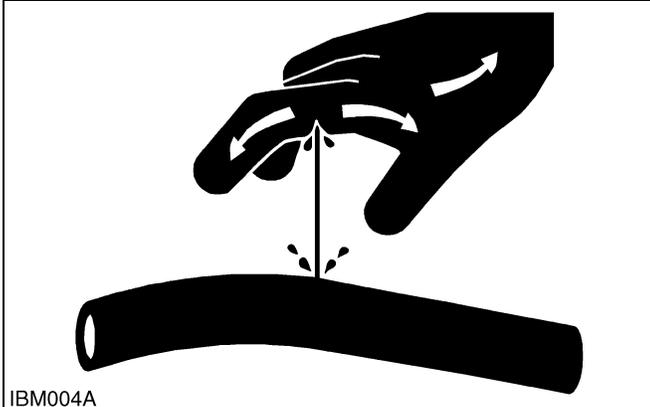
START SAFELY

- Do not do the procedures below when you start the engine.
 - short across starter terminals
 - bypass the safety start switch
- Do not alter or remove any part of machine safety system.
- Before you start the engine, make sure that all shift levers are in neutral positions or in disengaged positions.
- Do not start the engine when you stay on the ground. Start the engine only from operator's seat.

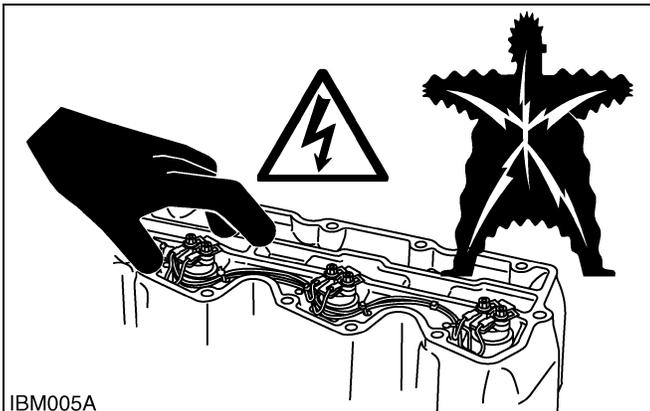
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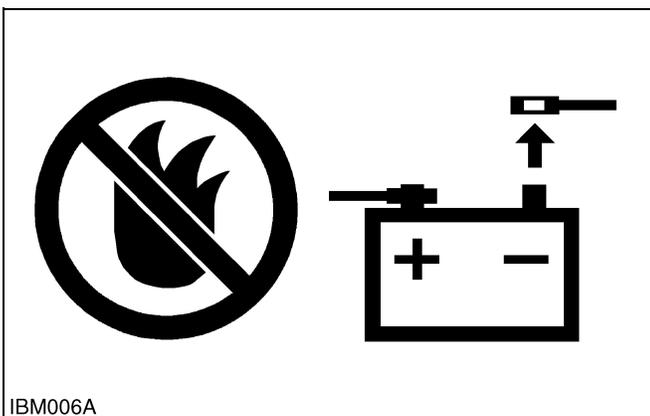
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IBM004A



IBM005A



IBM006A

OPERATE SAFELY

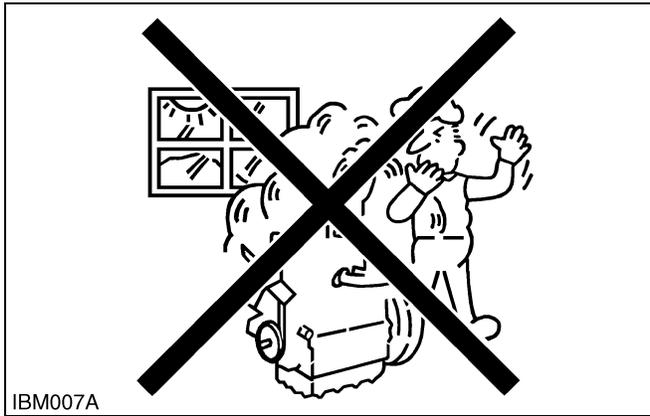
- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below the machine that only a jack holds. Always use a safety stand to hold the machine.
- Do not touch the hot parts or parts that turn when the engine operates.
- Do not remove the radiator cap when the engine operates, or immediately after it stops. If not, hot water can spout out from the radiator. Only remove the radiator cap when it is at a sufficiently low temperature to touch with bare hands. Slowly loosen the cap to release the pressure before you remove it fully.
- Released fluid (fuel or hydraulic oil) under pressure can cause damage to the skin and cause serious injury. Release the pressure before you disconnect hydraulic or fuel lines. Tighten all connections before you apply the pressure.
- Do not open a fuel system under high pressure. The fluid under high pressure that stays in fuel lines can cause serious injury. Do not disconnect or repair the fuel lines, sensors, or any other components between the fuel pump and injectors on engines with a common rail fuel system under high pressure.
- Put on an applicable ear protective device (earmuffs or earplugs) to prevent injury against loud noises.
- Be careful about electric shock. The engine generates a high voltage of more than DC100 V in the ECU and is applied to the injector.

WSM000001INI0012US1

PREVENT A FIRE

- Fuel is very flammable and explosive under some conditions. Do not smoke or let flames or sparks in your work area.
- To prevent sparks from an accidental short circuit, always disconnect the battery negative cable first and connect it last.
- The battery gas can cause an explosion. Keep the sparks and open flame away from the top of battery, especially when you charge the battery.
- Make sure that you do not spill fuel on the engine.

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IBM007A

KEEP A GOOD AIRFLOW IN THE WORK AREA

- If the engine is in operation, make sure that the area has good airflow. Do not operate the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.

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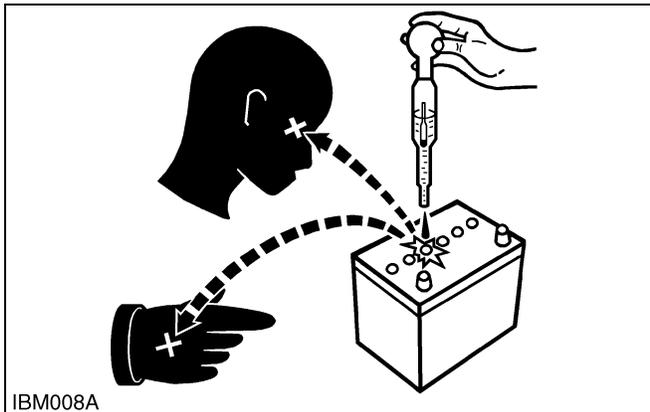


IBM009A

DISCARD FLUIDS CORRECTLY

- Do not discard fluids on the ground, down the drain, into a stream, pond, or lake. Obey related environmental protection regulations when you discard oil, fuel, coolant, electrolyte and other dangerous waste.

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IBM008A

PREVENT ACID BURNS

- Keep electrolyte away from your eyes, hands and clothing. Sulfuric acid in battery electrolyte is poisonous and it can burn your skin and clothing and cause blindness. If you spill electrolyte on yourself, clean yourself with water, and get medical aid immediately.

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IBM010A

PREPARE FOR EMERGENCIES

- Keep a first aid kit and fire extinguisher ready at all times.
- Keep the emergency contact telephone numbers near your telephone at all times.

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2. 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.

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- (1) Part No. TA040-4958-2
Do not touch hot surface like muffler, etc.



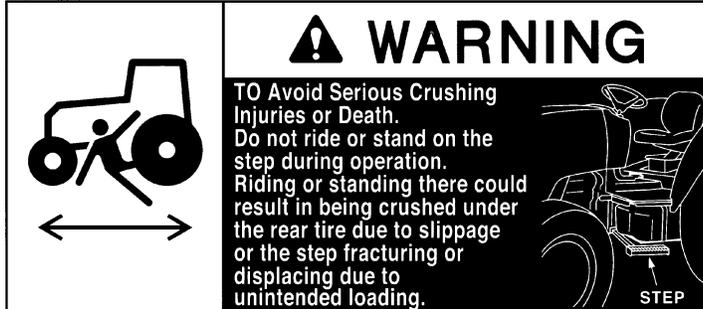
1AGAMAAAP2400

- (3) Part No. 6C090-4958-2
Do not get your hands close to engine fan and fan belt.



1AGAIAZAP110A

- (2) Part No. 3A111-9801-1

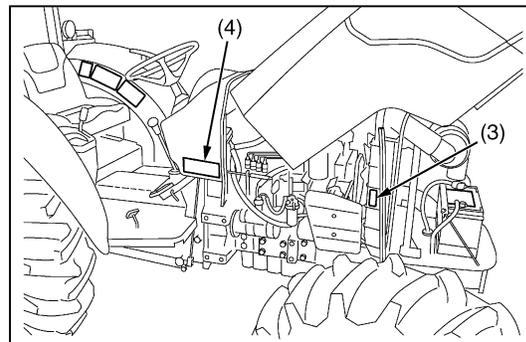
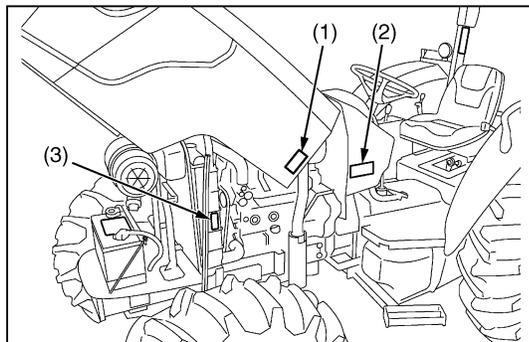


1AGAIDHAP099A

- (4) Part No. TA040-4965-2



1AGAIAZAP009A



9Y1210424ICI001A

9Y1210424INI0001US0

(1) Part No. 6C040-4742-2

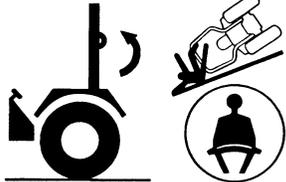
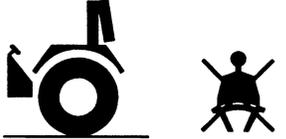
⚠ CAUTION

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 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 to the ground, set the parking brake, stop the engine and remove the key.
12. Securely support tractor and implements before working underneath.

1AGAIAZAP109A

(2) Part No. 3A111-9848-2

	<p>⚠ WARNING</p> <p>TO AVOID INJURY OR DEATH FROM ROLL-OVER:</p> <ul style="list-style-type: none"> • Keep Roll-Over Protective Structures (ROPS) in the upright and locked position. • Fasten SEAT BELT before operating.
	<p>THERE IS NO OPERATOR PROTECTION WHEN THE ROPS IS IN THE FOLDED POSITION.</p> <ul style="list-style-type: none"> • Check the operating area and fold the ROPS only when absolutely necessary. • Do not wear SEAT BELT if ROPS is folded. • Raise and lock ROPS as soon as vertical clearance allows. • Read ROPS related instructions and warnings.

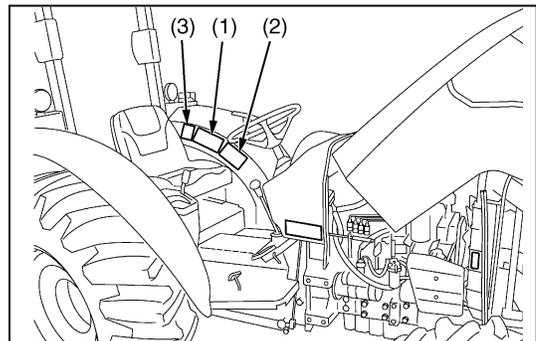
1AGAIDCAP066E

(3) Part No. 6C300-4744-1

⚠ WARNING

Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrester may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

1AGAIHFAP069A



9Y1210424ICI002A

9Y1210424INI0002US0

(1) Part No. 3A111-9554-1

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

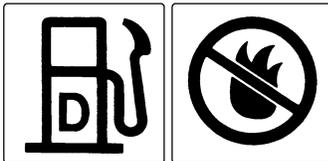
⚠ CAUTION
TO AVOID INJURY WHEN RAISING OR FOLDING ROPS:

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

1AGAIAZAP076A

(4) Part No. 3A481-9853-1

Diesel fuel only No fire



1AGAMAAAP3840

(2) Part No. 3A272-9856-1

⚠ CAUTION
TO AVOID INJURY FROM SEPARATION :

DO NOT EXTEND LIFT ROD BEYOND THE GROOVE ON THE THREADED ROD.

1AGAIBHAP077A

(3) Part No. TA040-4935-1

⚠ 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.

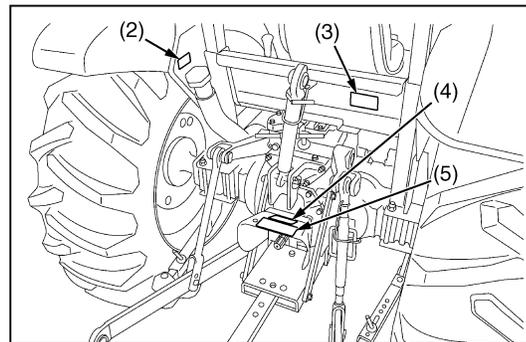
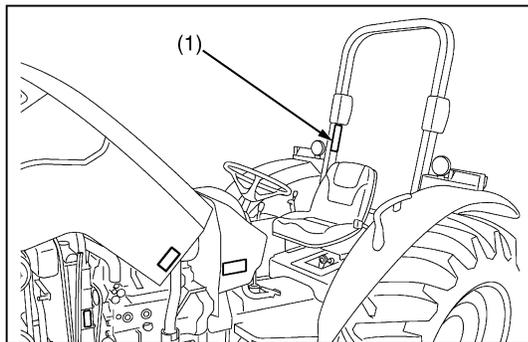
1AGAIAZAP056A

(4) 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)

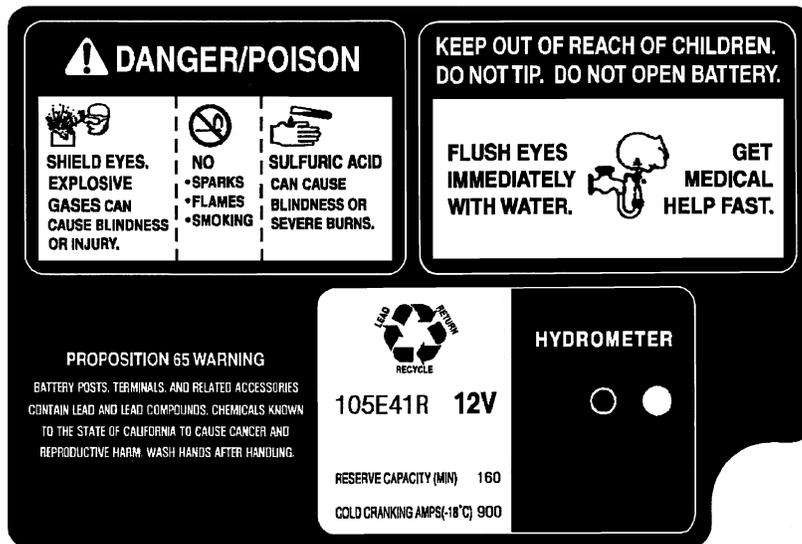
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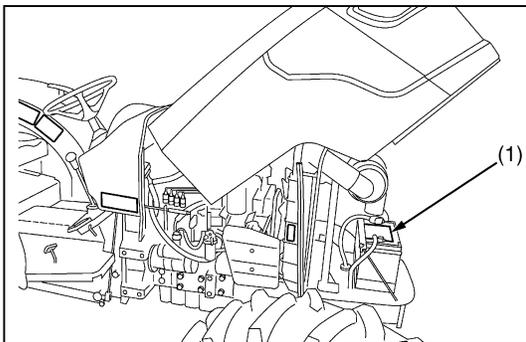
9Y1210424IC1003A

9Y1210424INI0003US0

(1) Part No. 3N300-9892-1



1AGAICHAP100A



9Y1210424ICI004A

9Y1210424INI0004US0

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 and caution label(s) affixed is replaced with a new part, make sure the 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 them to a clean, dry surface and press out any bubbles to the outside edge.

9Y1210365INI0005US0

3. SPECIFICATIONS

Model			M7040SU	
			2WD	4WD
Engine	Model		V3307-DI-E2	
	Type		Vertical, water-cooled, 4-cycle diesel engine	
	Number of cylinders		4	
	Total displacement		3331 cm ³ (203 cu.in.)	
	Bore and stroke		94 × 120 mm (3.7 × 4.7 in.)	
	Net power		50.7 kW (68 HP)*	
	PTO power (factory observed)		46.2 kW (62 HP)* / 2700 min ⁻¹ (rpm)	
	Maximum torque		232 N·m (171.1 lbf-ft) / 1300 to 1500 min ⁻¹ (rpm)	
	Battery		12 V, RC : 160 min., CCA 900 A	
	Fuel tank capacity		70.0 L (18.5 U.S. gals, 15.4 Imp. gals)	
	Engine crankcase capacity		11.0 L (11.6 U.S.qts, 9.68 Imp.qts)	
	Engine coolant capacity		8.0 L (8.5 U.S.qts, 7.0 Imp.qts)	
Dimensions	Overall length		3565 mm (140.4 in.)	3500 mm (137.8 in.)
	Overall width (Minimum tread)		1860 mm (73.23 in.)	
	Overall height		2470 mm (97.24 in.)	
	Wheel base		2085 mm (82.09 in.)	2050 mm (80.71 in.)
	Tread	Front	1420 to 1820 mm (55.9 to 71.7 in.)	
		Rear	1420 to 1720 mm (55.9 to 67.7 in.)	
	Minimum ground clearance		415 mm (16.3 in.) (Fuel tank stay)	
Weight			2030 kg (4475 lbs)	2090 kg (4608 lbs)
Travelling system	Standard tire size	Front	7.5-16	9.5-24
		Rear	16.9-30	
	Clutch		Dry, Single plate	
	Steering		Hydrostatic power steering	
	Brake	Travelling	Wet type, multiple discs (mechanical)	
Differential		Bevel gears with differential lock (Rear)		
Hydraulic system	Hydraulic control system		Position control	
	Pump-up capacity		43.9 L (11.6 U.S.gals, 9.66 Imp.gals)/min.	
	Three point hitch		Category I & II	
	Maximum lifting force		1900 kg (4189 lbs) at lower link end 1500 kg (3307 lbs) at 610 mm (24 in.) behind lifting point	
	System pressure		19.1 MPa (195 kgf/cm ² , 2773 psi)	
PTO	Independent clutch		Wet type, multiple discs	
	Live PTO	Direction of turning	Clockwise, viewed from tractor rear	
		PTO speed	6 spline : 540 min ⁻¹ (rpm) at 2295 engine min ⁻¹ (rpm)	

NOTE: *Manufacturer's estimate The company reserves the right to change the specifications without notice.

9Y1210424INI0005US0

4. TRAVELING SPEEDS

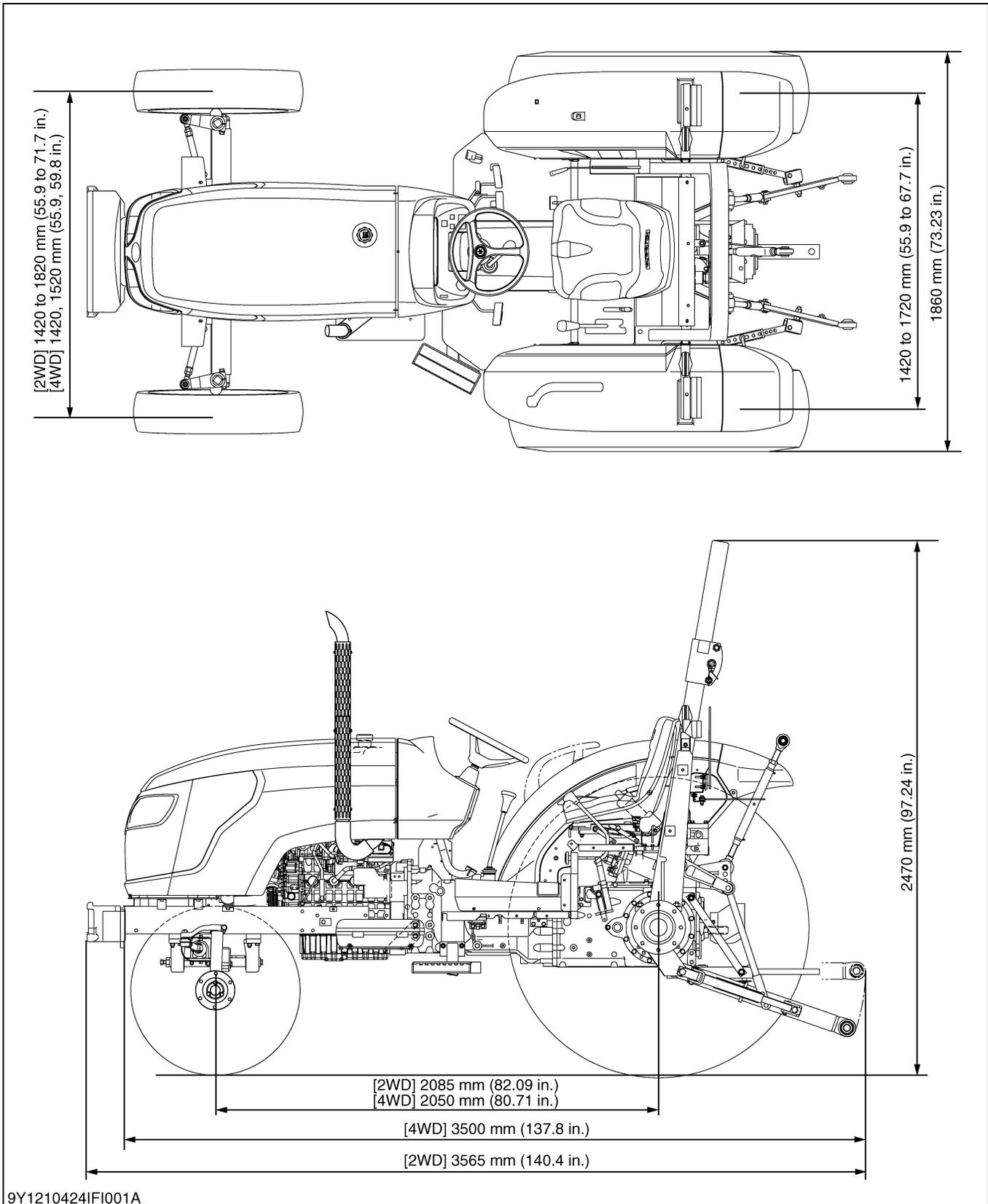
(At rated engine rpm)

Model		M7040SU(D)	
Tire size (Rear)		16.9-30	
Range gear Shift lever	Main gear Shift lever	km/h	mph
L (Low)	1	2.5	1.5
	2	3.4	2.1
	3	5.2	3.2
	4	7.7	4.8
H (High)	1	9.2	5.7
	2	12.5	7.7
	3	19.0	11.8
	4	28.2	17.5
R (Reverse)	1	3.2	2.0
	2	4.3	2.7
	3	6.6	4.1
	4	9.8	6.1

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

9Y1210424INI0006US0

5. DIMENSIONS



9Y1210424INI0007US0

G GENERAL

GENERAL

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1. TRACTOR IDENTIFICATION

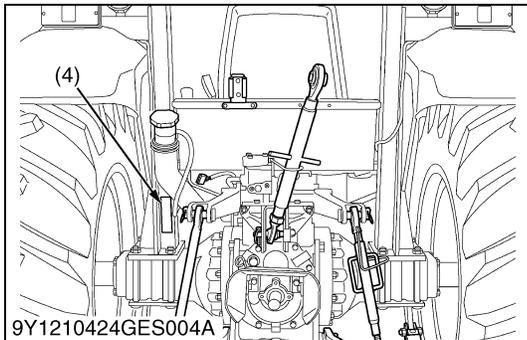
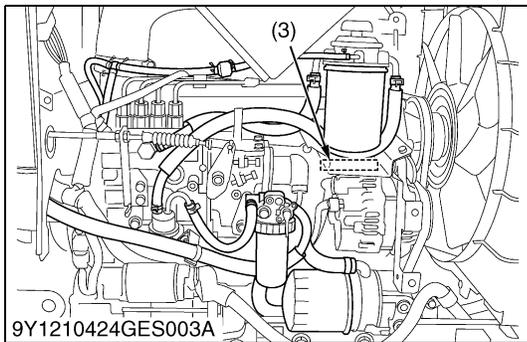
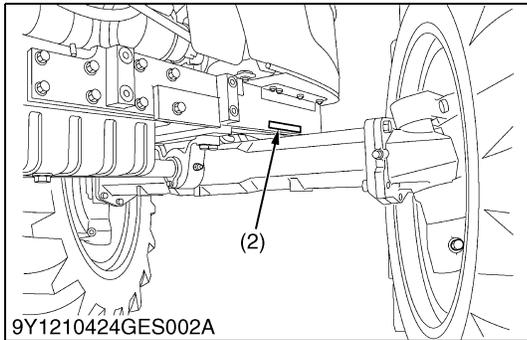
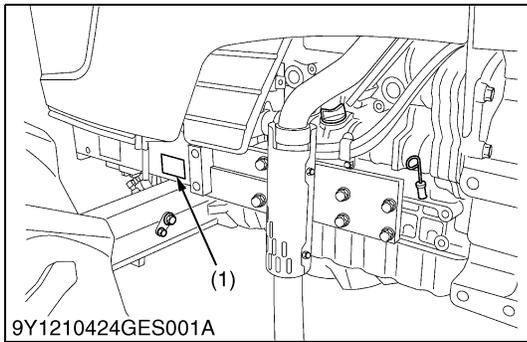
[1] MODEL NAME AND SERIAL NUMBERS

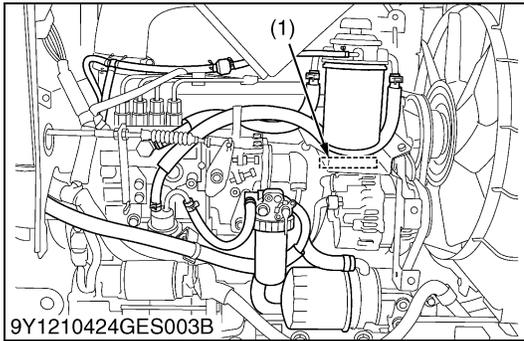
When contracting your local KUBOTA distributor, always specify engine serial number, tractor serial number and hourmeter reading.

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

- (4) ROPS Identification Plate
(ROPS Serial Number)

9Y1210424GEG0001US0





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		

Month of manufacture

Month	Engine Lot 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. V3307-DI-E2-9E0001

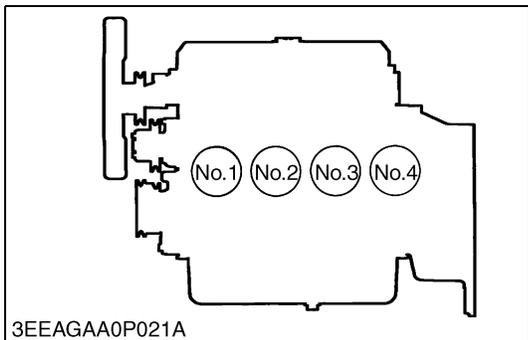
"9" indicates 2009 and "E" indicates March.

So, 9E indicates that the engine was manufactured on March, 2009.

(1) Engine Model and Serial Number

9Y1210424GEG0002US0

[2] CYLINDER NUMBER

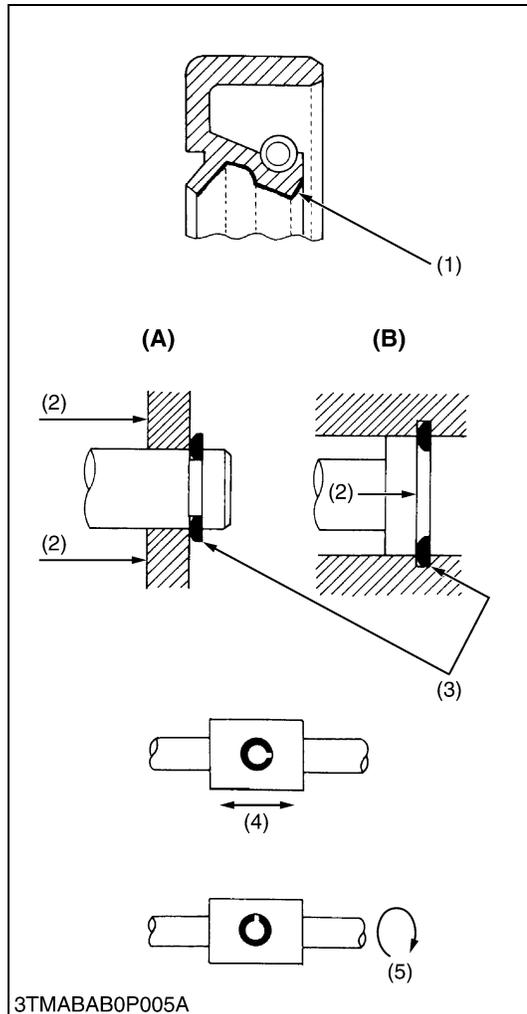


The cylinder numbers of V3307-DI diesel engine are designated as shown in the figure.

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

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2. GENERAL PRECAUTIONS



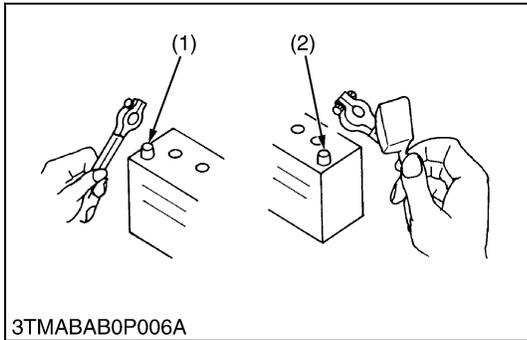
- When you disassemble, carefully put the parts in a clean area to make it easy to find the parts. You must install the screws, bolts and nuts in their initial position to prevent the reassembly errors.
- When it is necessary to use special tools, use KUBOTA special tools. Refer to the drawings when you make special tools that you do not use frequently.
- Before you disassemble or repair machine, make sure that you always disconnect the ground cable from the battery first.
- Remove oil and dirt from parts before you measure.
- Use only KUBOTA genuine parts for replacement to keep the machine performance and to make sure of safety.
- You must replace the gaskets and O-rings when you assemble again. Apply grease (1) to new O-rings or oil seals before you assemble.
- When you assemble the external or internal snap rings, make sure that the sharp edge (3) faces against the direction from which force (2) is applied.
- 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.
- Clean the parts before you measure them.
- Tighten the nipples to the specified torque. Too much torque can cause damage to the hydraulic units or the nipples. Not sufficient torque can cause oil leakage.
- When you use a new hose or pipe, tighten the nuts to the specified torque. Then loosen (approx. by 45 °) and let them be stable before you tighten to the specified torque (This is not applied to the parts with seal tape).
- When you remove the two ends of a pipe, remove the lower end first.
- Use two pliers in removal and installation. One to hold the stable side, and the other to turn the side you remove to prevent twists.
- Make sure that the sleeves of flared connectors and taper sections of hoses are free of dust and scratches.
- After you tighten the nipples, clean the joint and apply the maximum operation pressure 2 to 3 times to examine oil leakage.

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

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

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3. HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING



3TMABAB0P006A

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

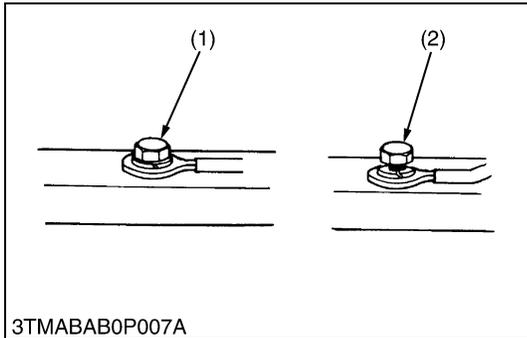
■ IMPORTANT

- 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

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[1] WIRING

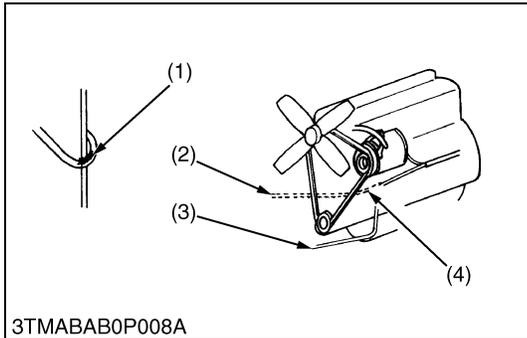


3TMABAB0P007A

- Securely tighten wiring terminals.

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

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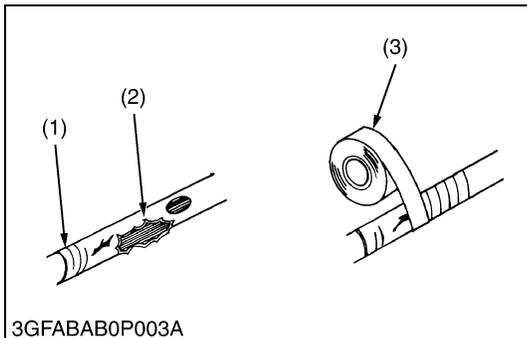


3TMABAB0P008A

- Do not let wiring contact dangerous part.

- (1) Dangerous Part (Sharp Edge) (2) Wiring (Incorrect) (3) Wiring (Correct) (4) Dangerous Part

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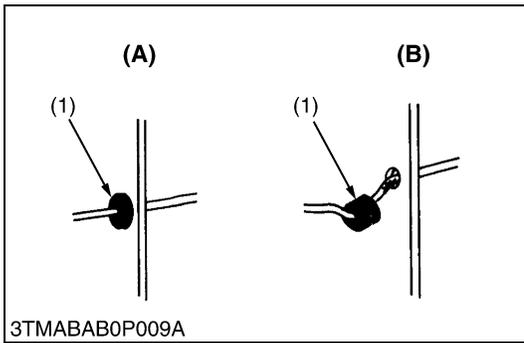


3GFABAB0P003A

- Repair or change torn or aged wiring immediately.

- (1) Aged (2) Torn (3) Insulating Vinyl Tape

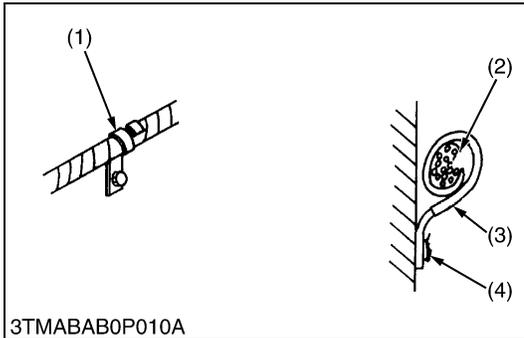
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• Securely insert grommet.

- (1) Grommet
- (A) **Correct**
- (B) **Incorrect**

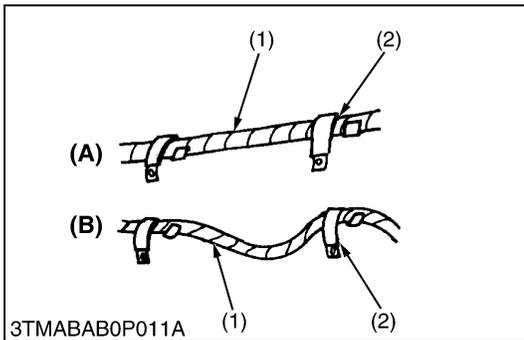
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• Securely clamp, being careful not to damage wiring.

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

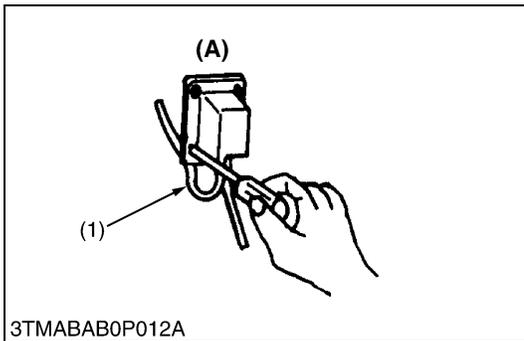
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• Clamp wiring so that there is no twist, unnecessary sag, or excessive tension, except for movable part, where sag be required.

- (1) Wiring
- (2) Clamp
- (A) **Correct**
- (B) **Incorrect**

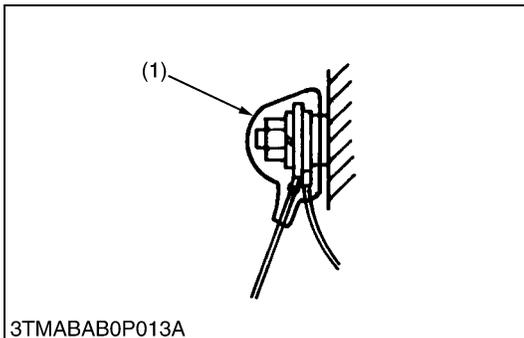
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• In installing a part, take care not to get wiring caught by it.

- (1) Wiring
- (A) **Incorrect**

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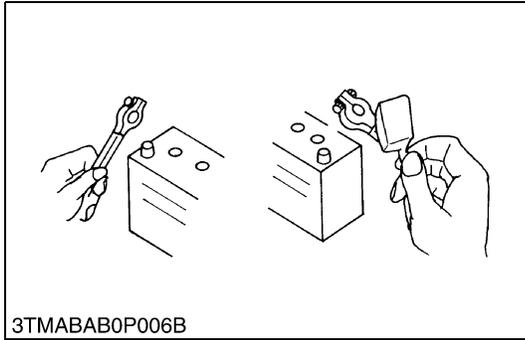


• After installing wiring, check protection of terminals and clamped condition of wiring, only connect battery.

- (1) Cover (Securely Install Cover)

WSM000001GEG0070US1

[2] BATTERY



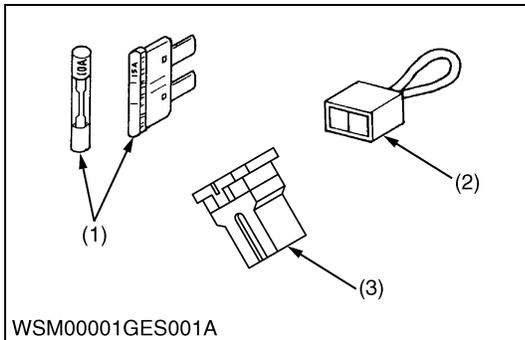
- Take care not to confuse positive and negative terminal posts.
- When removing battery cables, disconnect negative cable first. When installing battery cables, check for polarity and connect positive cable first.
- Do not install any battery with capacity other than is specified (Ah).
- After connecting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

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[3] FUSE



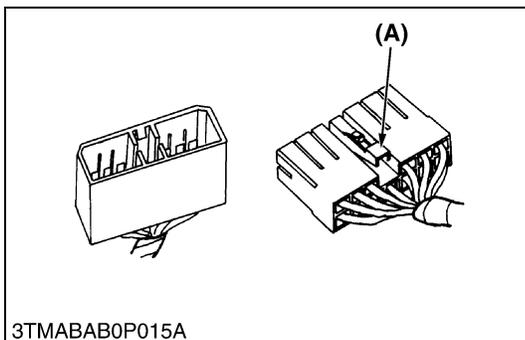
- Use fuses with specified capacity. Neither too large or small capacity fuse is acceptable.
- Never use steel or copper wire in place of fuse.
- Do not install working light, radio set, etc. on machine which is not provided with reserve power supply.
- Do not install accessories if fuse capacity of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

(1) Fuse
(2) Fusible Link

(3) Slow Blow Fuse

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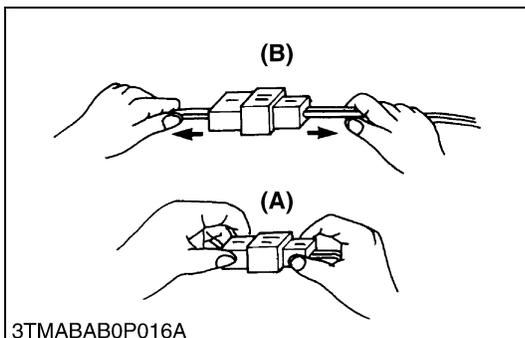
[4] CONNECTOR



- For connector with lock, push lock to separate.

(A) Push

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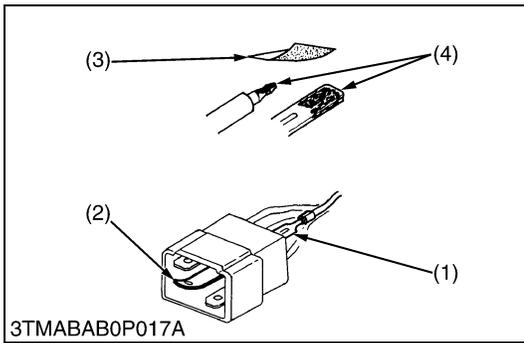


- In separating connectors, do not pull wire harnesses.
- Hold connector bodies to separate.

(A) Correct

(B) Incorrect

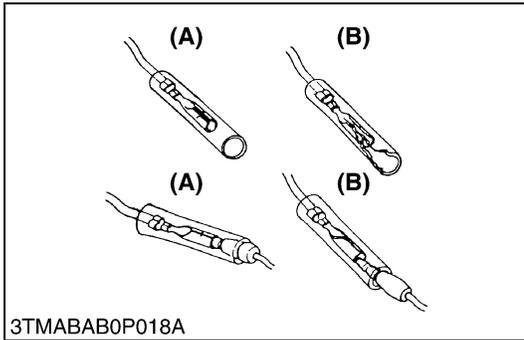
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- Use sandpaper to remove rust from terminals.
- Repair deformed terminal. Make certain there is no terminal being exposed or displaced.

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

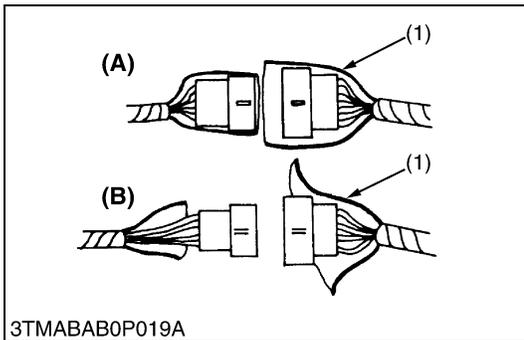
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- Make certain that there is no female connector being too open.

- (A) Correct
- (B) Incorrect

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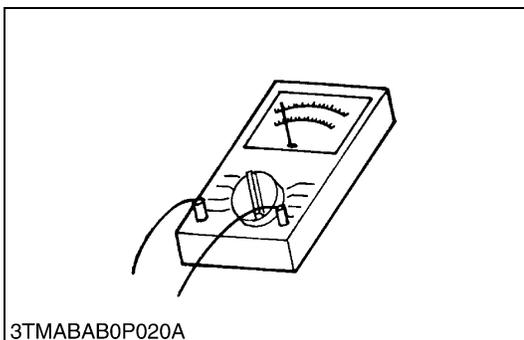


- Make certain plastic cover is large enough to cover whole connector.

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

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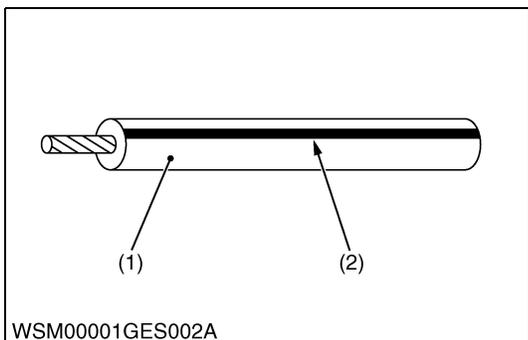
[5] HANDLING OF CIRCUIT TESTER



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

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[6] COLOR OF WIRING



- Colors of wire are specified to the color codes.
- This symbol of "/" shows color with stripe(s).

(An example)

Red stripe on white color : W/R

Color of wiring	Color code
Black	B
Brown	Br
Green	G
Gray	Gy or Gr
Blue	L
Light Green	Lg
Orange	Or
Pink	P
Purple	Pu or V
Red	R
Sky Blue	Sb
White	W
Yellow	Y

(1) Wire Color

(2) Stripe

WSM000001GEG0079US0

4. LUBRICANTS, FUEL AND COOLANT

	Place	Capacity		Lubricants, fuel and coolant	
		M7040SU	M7040SUD		
1	Fuel tank	70.0 L 18.5 U.S. gals 15.4 Imp. gals		<ul style="list-style-type: none"> No. 2-D diesel fuel No. 1-D diesel fuel if temperature is below -10 °C (14 °F) 	
2	Coolant	8.0 L 8.5 U.S.qts 7.0 Imp.qts		Fresh clean water with anti-freeze	
3	Engine crankcase (with filter)	11.0 L 11.6 U.S.qts 9.68 Imp.qts		Engine oil API Service Classification CC or CD <ul style="list-style-type: none"> 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	44.0 L 46.5 U.S.qts 38.7 Imp.qts		KUBOTA UDT or SUPER UDT fluid*	
5	Front differential gear case	–	6.6 L 7.0 U.S.qts 5.8 Imp.qts	KUBOTA UDT or SUPER UDT fluid* or SAE80, SAE90 gear oil	
6	Front axle gear case	–	3.0 L 3.2 U.S.qts 2.6 Imp.qts		
Greasing					
	Place	No. of greasing point		Capacity	Type of grease
7	Top link	2		Until grease overflows	Multipurpose type grease NLGI-2 or NLGI-1 (GC-LB)
	Lift rod	1			
	Front axle gear case support	–	2		
	Front axle support	2			
	Front wheel hub	2	–		
	Knuckle shaft	2	–		
	Battery terminal	2		Moderate amount	

* KUBOTA original transmission hydraulic fluid.

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■ **NOTE**

- **Engine Oil** : Oil used in the engine should have an American Petroleum Institute (API) service classification and Proper SAE Engine Oil according to the ambient temperature as shown above.
Do not mix different brands together
- With the emission control now in effect, the CF-4 and CG-4 lubricating oils have been developed for use of a low-sulfur fuel on-road vehicle engines. When an off-road vehicle engine runs on a high-sulfur fuel, it is advisable to employ the CF, CD or CE lubricating oil with a high total base number. If the CF-4 or CG-4 lubricating oil is used with a high-sulfur fuel, change the lubricating oil at shorter intervals.
- Lubricating oil recommended when a low-sulfur or high-sulfur fuel is employed.

Lubricating oil class	Fuel		Remark
	Low-sulfur	High-sulfur	
CF	○	○	TBN ≥ 10
CF-4	○	X	
CG-4	○	X	

○ : Recommendable X : Not recommendable

Transmission oil

- The oil used to lubricate the transmission is also used as hydraulic fluid. To insure proper operation of the hydraulic system and to complete lubrication of the transmission, it is important that a multi-grade transmission fluid is used in this system. We recommend the use of KUBOTA UDT or SUPER UDT fluid for optimum protection and performance.
Do not mix different brands together.

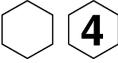
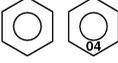
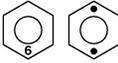
- Indicated capacities of water and oil are manufacturer's estimate.

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5. 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		
Indication on top of nut	 No-grade or 4T												 6T		
Material of opponent part	Ordinariness			Aluminum			Ordinariness			Aluminum			Ordinariness		
Unit	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
M6	7.9	0.80	5.8	7.9	0.80	5.8	9.81	1.00	7.24	7.9	0.80	5.8	12.3	1.25	9.05
	to 9.3	to 0.95	to 6.8	to 8.8	to 0.90	to 6.5	to 11.2	to 1.15	to 8.31	to 8.8	to 0.90	to 6.5	to 14.2	to 1.45	to 10.4
M8	18	1.8	13	17	1.7	13	24	2.4	18	18	1.8	13	30	3.0	22
	to 20	to 2.1	to 15	to 19	to 2.0	to 14	to 27	to 2.8	to 20	to 20	to 2.1	to 15	to 34	to 3.5	to 25
M10	40	4.0	29	32	3.2	24	48	4.9	36	40	4.0	29	61	6.2	45
	to 45	to 4.6	to 33	to 34	to 3.5	to 25	to 55	to 5.7	to 41	to 44	to 4.5	to 32	to 70	to 7.2	to 52
M12	63	6.4	47	-	-	-	78	7.9	58	63	6.4	47	103	10.5	76.0
	to 72	to 7.4	to 53	-	-	-	to 90	to 9.2	to 66	to 72	to 7.4	to 53	to 117	to 12.0	to 86.7
M14	108	11.0	79.6	-	-	-	124	12.6	91.2	-	-	-	167	17.0	123
	to 125	to 12.8	to 92.5	-	-	-	to 147	to 15.0	to 108	-	-	-	to 196	to 20.0	to 144
M16	167	17.0	123	-	-	-	197	20.0	145	-	-	-	260	26.5	192
	to 191	to 19.5	to 141	-	-	-	to 225	to 23.0	to 166	-	-	-	to 304	to 31.0	to 224
M18	246	25.0	181	-	-	-	275	28.0	203	-	-	-	344	35.0	254
	to 284	to 29.0	to 209	-	-	-	to 318	to 32.5	to 235	-	-	-	to 402	to 41.0	to 296
M20	334	34.0	246	-	-	-	368	37.5	272	-	-	-	491	50.0	362
	to 392	to 40.0	to 289	-	-	-	to 431	to 44.0	to 318	-	-	-	to 568	to 58.0	to 419

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[2] STUD BOLTS

Material of opponent part	Ordinariness			Aluminum		
Unit	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
M8	12	1.2	8.7	8.9	0.90	6.5
	to 15	to 1.6	to 11	to 11	to 1.2	to 8.6
M10	25	2.5	18	20	2.0	15
	to 31	to 3.2	to 23	to 25	to 2.6	to 18
M12	30	3.0	22	31	3.2	23
	to 49	to 5.0	to 36			
M14	62	6.3	46	-	-	-
	to 73	to 7.5	to 54			
M16	98.1	10.0	72.4	-	-	-
	to 112	to 11.5	to 83.1			
M18	172	17.5	127	-	-	-
	to 201	to 20.5	to 148			

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[3] HYDRAULIC FITTINGS

(1) Hydraulic Hose Fitting

Hose size	Thread side	Tightening torque		
		N·m	kfg·m	lbf·ft
02	1/8	13.8 to 15.6	1.40 to 1.60	10.2 to 11.5
03	1/4	22.6 to 27.4	2.30 to 2.80	16.7 to 20.2
04				
05	3/8	45.2 to 52.9	4.60 to 5.40	33.3 to 39.0
06				

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(2) Hydraulic Pipe Cap Nuts

Pipe size	Tightening torque		
	N·m	kfg·m	lbf·ft
φ4 × t1.0	19.7 to 29.4	2.00 to 3.00	14.5 to 21.6
φ6 × t1.0	24.6 to 34.3	2.50 to 3.50	18.1 to 25.3
φ8 × t1.0	29.5 to 39.2	3.00 to 4.00	21.7 to 28.9
φ10 × t1.0	39.3 to 49.0	4.00 to 5.00	29.0 to 36.1
φ12 × t1.5	49.1 to 68.6	5.00 to 7.00	36.2 to 50.6
φ15 × t1.6	108 to 117	11.0 to 12.0	79.6 to 86.7
φ18 × t1.6	108 to 117	11.0 to 12.0	79.6 to 86.7

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(3) Adaptors, Elbows and Others

Item	Thread side	Tightening torque		
		N·m	kfg·m	lbf·ft
POA-PF (Nipple with O-ring)	PF 1/8	45 to 53	4.5 to 5.5	33 to 39
	PF 1/4	74 to 83	7.5 to 8.5	55 to 61
	PF 3/8	93.2 to 102	9.50 to 10.5	68.8 to 75.9
	PF 1/2	113 to 122	11.5 to 12.5	83.2 to 90.4
POB-PF (Elbow with O-ring and no nut)	PF 1/8	23 to 26	2.3 to 2.7	17 to 19
	PF 1/4	36 to 43	3.6 to 4.4	26 to 31
	PF 3/8	54 to 63	5.5 to 6.5	40 to 47
	PF 1/2	73 to 83	7.4 to 8.5	54 to 61
Adaptor (NPT)	PF 1/8	9.8 to 14	1.0 to 1.5	7.3 to 10
	PF 1/4	30 to 34	3.0 to 3.5	22 to 25
	PF 3/8	49 to 68	5.0 to 7.0	37 to 50
	PF 1/2	69 to 88	7.0 to 9.0	51 to 65

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Product: 2009 Kubota WSM M7040SU Tractor Service Repair Workshop Manual
 Full Download: <https://www.aresairmanual.com/downloads/2009-kubota-wsm-m7040su-tractor-service-repair-workshop-manual/>

No.	Item		Service Interval														Since then	Important	Reference page	
			50	100	150	200	250	300	350	400	450	500	550	600	650	700				
1	Engine start system	Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr		G-20
2	Wheel bolt torque	Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr		G-21
3	Battery condition	Check		☆		☆		☆		☆		☆		☆		☆	every 100 Hr	*4	G-25	
4	Greasing	–		☆		☆		☆		☆		☆		☆		☆	every 100 Hr		G-22	
5	Fan belt	Adjust		☆		☆		☆		☆		☆		☆		☆	every 100 Hr		G-23	
6	Alternator belt	Adjust		☆		☆		☆		☆		☆		☆		☆	every 100 Hr		G-24	
7	Brake pedal	Adjust		☆		☆		☆		☆		☆		☆		☆	every 100 Hr		G-24	
8	Clutch pedal	Adjust	★	☆		☆		☆		☆		☆		☆		☆	every 100 Hr		G-19	
9	Air cleaner element	Primary element	Clean		☆		☆		☆		☆		☆		☆		every 100 Hr	*1	@	G-23
		Secondary element	Replace														every 1 year	*2		G-31
			Replace															every 1 year		
10	Fuel line	Check		☆		☆		☆		☆		☆		☆		☆	every 100 Hr		@	G-24
		Replace															every 2 years	*3		G-33
11	Toe-in	Adjust				☆				☆				☆			every 200 Hr		G-28	
12	Fuel tank water	Drain				☆				☆				☆			every 200 Hr		G-28	
13	Power steering oil line	Check				☆				☆				☆			every 200 Hr		G-27	
		Replace															every 2 years		G-33	
14	Radiator hose and clamp	Check				☆				☆				☆			every 200 Hr		G-27	
		Replace															every 2 years		G-33	
15	Intake air line	Check				☆				☆				☆			every 200 Hr		@	G-27
		Replace															every 2 years			G-33
16	Hydraulic oil filter	Replace	★					☆						☆			every 300 Hr		G-18	
17	Engine oil	Change	★							☆							every 400 Hr		G-17	
18	Engine oil filter	Replace	★							☆							every 400 Hr		G-17	
19	Greasing (2WD front wheel hub)	–								☆							every 400 Hr		G-29	
20	Water separator	Clean								☆							every 400 Hr	@	G-29	
21	Fuel filter	Replace								☆							every 400 Hr	@	G-29	
22	Transmission fluid	Change	★											☆			every 600 Hr		G-19	
23	Front differential case oil	Change												☆			every 600 Hr		G-30	
24	Front axle gear case oil	Change												☆			every 600 Hr		G-30	