

WSM

WORKSHOP MANUAL

**Z724XKW,
Z726XKW**

Kubota

TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the Z724XKW and Z726XKW. It contains 4 parts: **"Information"**, **"General"**, **"Mechanism"** and **"Servicing"**.

■ Information

This section primarily contains information below.

- Safety First
- Safety Decal
- Specification
- Dimension

■ General

This section primarily 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. 9Y021-18200) for tractor mechanism that this workshop manual does not include.

■ Servicing

This section primarily 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.

Record of Revisions

For pdf, use search function {Search word} to find all the revised locations.

Last digit of the Code No.	Month of Revision	Main Revised Point and Corrective Measures {Search word}	Reference Page
1	2015.04	Disassembling HST motor was deleted because HST motor can be replaceable as only assembly part.	–
2	2016.02	Transmission lubricant is changed Castrol Syntec 5W-50, or Valvoline Premium Blue Extreme Diesel 5W-40, Kubota Genuine Lubricating Oil 5W-40 → Kubota HST Oil for Z700 Series Revised maintenance interval. {Service intervals} Fuel Hose Check: 100 hr → 1 year, Replace: 2 years → 4 years Hydraulic hose Check: 200 hr → 1 year, Replace: 2 years → 4 years	G-8, G-14
3	2017.12	Added the service information regarding the seat, seat belt and seat electric system based on new models of Z724XKW-2 and Z726XKW-2 [Serial number 50001 and higher]	2-S13, 5-M4, 5-M6
4	2019.03	Added proposition 65 label starting with serial numbers: Z724XKW-2: 51199, Z726XKW-2: 52733 Added battery label starting with serial numbers: Z724XKW-2: 51195, Z726XKW-2: 52707 Added RCK48P-751Z, RCK54P-781Z, and RCK60P-781Z mower decks starting with serial numbers: Z724XKW-2: 70001, Z726XKW-2: 70001 Revised electric clutch mounting bolt torque Revised Z724XKW-2, Z726XKW-2 wiring diagram Revised Z724XKW, Z726XKW, Z724XKW-2, and Z726XKW-2 start system circuits Changed PTO switch and main switch starting with serial numbers: Z724XKW-2: 70001, Z726XKW-2: 70001 Added OPC timer	I-6 I-13 I-16, I-19 G-41, 1-S4, 5-S14 5-M2 5-M3, 5-M4 5-S11 5-S17
5	2019.10	Revised cleaning combustion chamber intervals in maintenance table	G-14
6	2025.05	Added new models (Z724XKW-3, Z726XKW-3).	–
		Changed the labels.	I-6 to I-18
		Changed the maintenance schedule for hoses.	G-14, G-44

I INFORMATION

INFORMATION

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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 try 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, could result in minor or moderate injury.



IMPORTANT

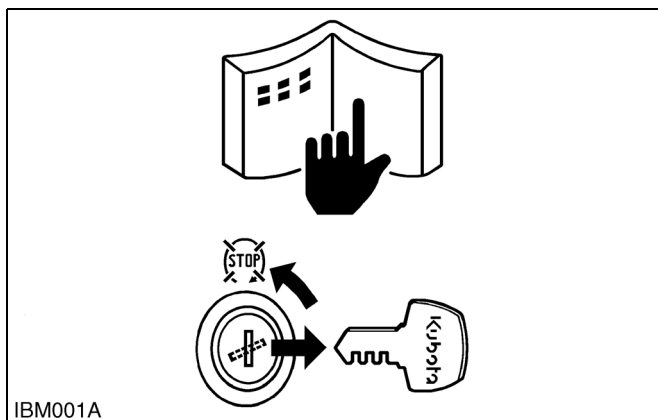
- Indicates that equipment or property damage could result if instructions are not followed.



NOTE

- Gives helpful information.

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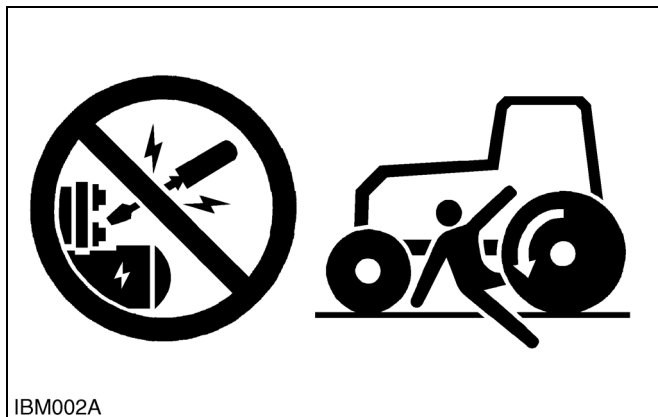


IBM001A

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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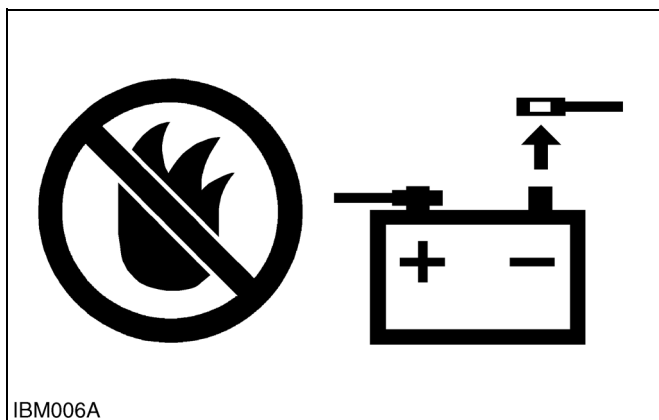
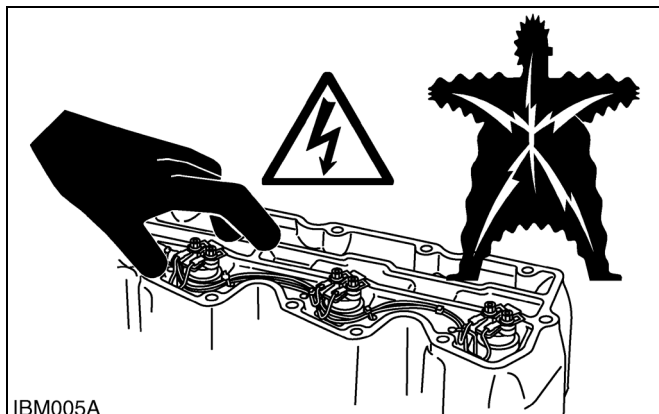
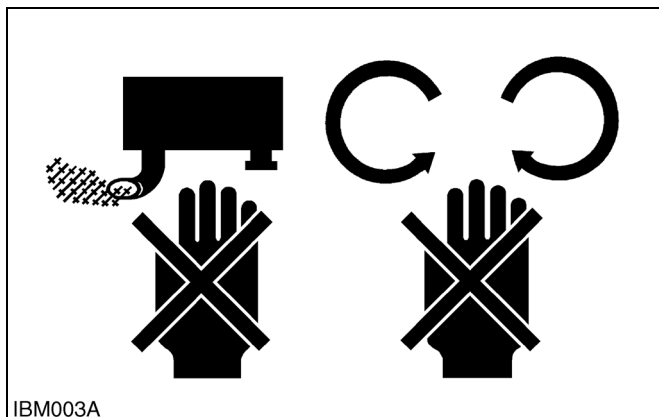


IBM002A

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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OPERATE SAFELY

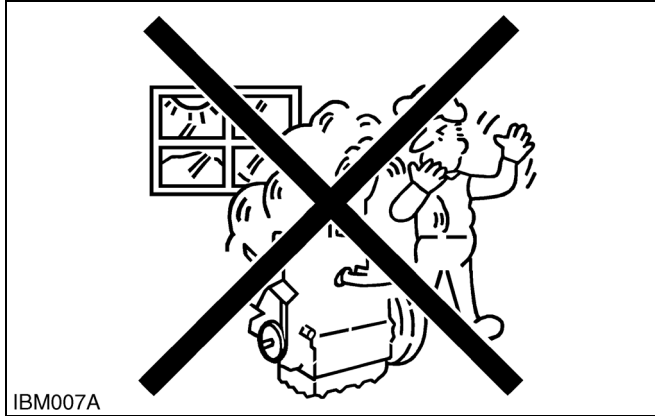
- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below 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.

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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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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.

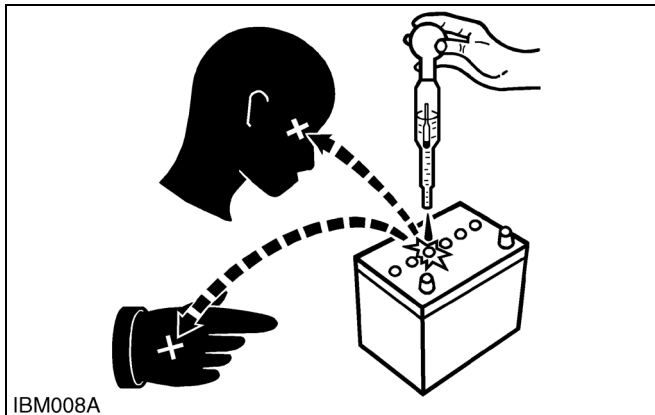
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DISCARD FLUIDS CORRECTLY

- 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.

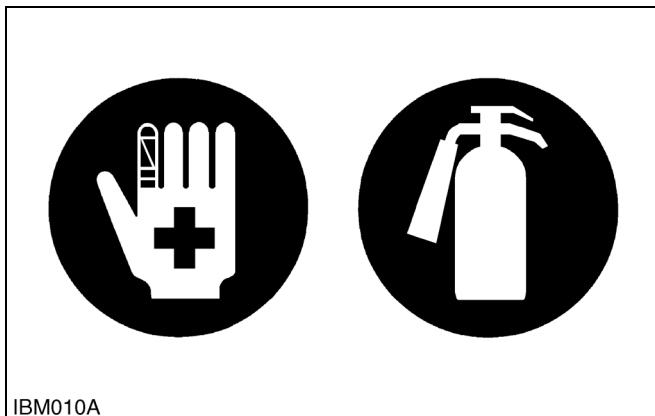
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PREVENT ACID BURNS

- 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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PREPARE FOR EMERGENCIES

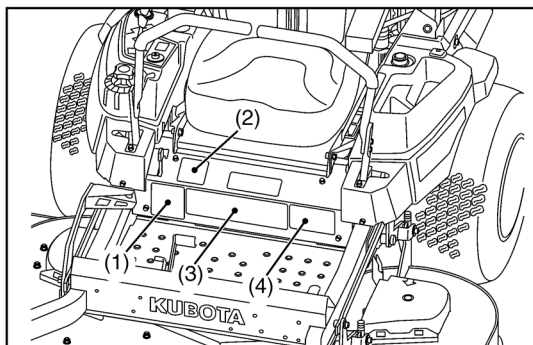
- Keep a first aid kit and fire extinguisher ready at all times.
- Keep the emergency contact telephone numbers near your telephone at all times.

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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. K3811-6581-1



1BDABEAAP087A

(2) Part No. K3811-6571-1



1BDABEAAP088A

(4) Part No. K3851-6582-1



1BDABEAAP171A

(3) Part No. K3851-6585-1

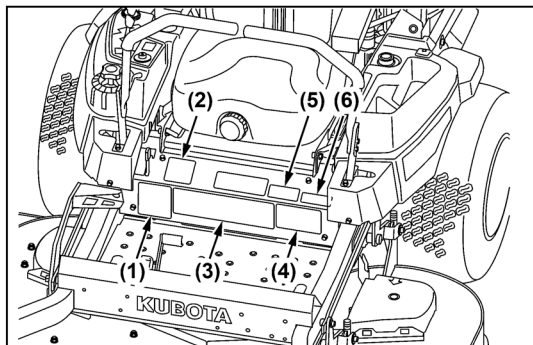


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Serial Number: Z724XKW-2: 51199, Z726XKW-2: 52733



(1) Part No. K3811-6581-1

⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH

1. Mow across slopes.
- Not up and down.
2. Use extreme caution when operating on slopes.
3. Loss of traction may occur when operating on slopes.
4. Drive slowly on slopes.
5. Do not operate on wet slopes.
6. Avoid sudden starts.
7. Execute turns slowly.

⚠ ADVERTENCIA

PARA EVITAR LESIONES PERSONALES GRAVES O LA MUERTE

1. Corte el césped de manera transversal en las colinas.
- No de arriba hacia abajo.
2. Tenga mucho cuidado durante la operación en colinas.
3. Se puede perder tracción durante la operación en colinas.
4. Conduzca lentamente en las colinas.
5. No use la máquina en colinas húmedas.
6. Evite arranques súbitos.
7. Realice las vueltas lentamente.

1BDABEAP087A

(2) Part No. K3811-6571-1

⚠ 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.

⚠ ADVERTENCIA

La operación de este equipo puede generar chispas que pueden iniciar incendios en cercanías de vegetación seca. Podría requerirse un parachispas. El operador debería contactar a las agencias de bomberos locales para informarse sobre leyes o normas relacionadas con los requisitos de prevención de incendios.

1BDABEAP088A

(4) Part No. K3851-6582-1

⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH

1. Park the machine on level ground.
2. If necessary to park on an incline,
 - ⊙ Stop the machine.
 - ⊙ Apply the parking brake.
 - ⊙ Stop the engine.
 If you stop the engine on an incline without applying the parking brake, the machine could move and run away.
3. If the engine stops suddenly during operation, apply the parking brake immediately to prevent machine runaway.

⚠ ADVERTENCIA

PARA EVITAR LESIONES PERSONALES GRAVES O LA MUERTE

1. Estacione la máquina en la tierra del nivel.
2. Si es necesario estacionar en una cuesta,
 - ⊙ Apagar la máquina.
 - ⊙ Aplique el freno de estacionamiento.
 - ⊙ Luego apague el motor.
 Si apaga el motor en una cuesta sin aplicar el freno de estacionamiento, la máquina puede moverse sin control.
3. Si la máquina se detiene repentinamente durante la operación, enganche el freno de estacionamiento inmediatamente para evitar la pérdida de control.

1BDABEAP171A

(3) Part No. K3851-6585-1

⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH

1. Read and understand the operator's manual before operation.
2. Do not operate this machine unless you are trained.
3. Before allowing other people to use the machine, have them read the operator's manual.
4. Check the tightness of all nuts and bolts regularly.
5. Before starting the engine, make certain that everyone is at a safe distance from the machine. PTO is disengaged and motion control levers are in neutral lock.
6. Remove objects that could be thrown by the blade.
7. Do not operate the machine when children and/or others are around.
8. Do not carry children or others on the machine at any time.
9. Before dismounting, disengage PTO clutch, lower the implement, place motion control levers in neutral lock position, set the parking brake, stop the engine and remove the key.
10. Keep safety devices (guards, shields and switches) in place, and working.
11. To reduce the fire hazard, keep the exhaust clear of dry grass, dry leaves or other combustible materials.
12. This machine is not for street or highway use.
13. Securely support the machine and implement before working underneath.

⚠ ADVERTENCIA

PARA EVITAR LESIONES PERSONALES GRAVES O LA MUERTE

1. Lea y entienda el manual del operador antes de efectuar la operación.
2. No ponga en funcionamiento la máquina a menos que esté capacitado para hacerlo.
3. Antes de permitir que otras personas usen la máquina, indíqueles que lean el manual del operador.
4. Verifique con regularidad el apriete de todas las tuercas y pernos.
5. Antes de arrancar el motor, asegúrese de que todos estén a una distancia segura de la máquina. La toma de fuerza debe estar desactivada y las palancas de control de movimiento bloqueadas en neutro.
6. Retire los objetos que pueden ser lanzados por la cuchilla.
7. No opere la máquina cuando hayan niños u otras personas alrededor.
8. No lleve a niños ni a otras personas en la máquina en ningún momento.
9. Antes de desmontar, desenganche el embrague de la toma de fuerza, baje el implemento, cambie a neutro, aplique el freno de estacionamiento, apague el motor y retire la llave.
10. Mantenga los dispositivos de protección (guardas, barreras de protección e interruptores) en su lugar y en buen estado de funcionamiento.
11. Para reducir los riesgos de incendio, mantenga el escape exento de hierbaseca, hojas secas u otros materiales combustibles.
12. Esta máquina no está diseñada para uso en calles ni carreteras.
13. Use un soporte seguro para la máquina y el implemento antes de trabajar debajo de los mismos.

1BDABEAP146A

(5) Part No. K3441-6598-1

Propuesta 65 de California

⚠ ADVERTENCIA ⚠

Los gases de escape del motor, algunos de sus elementos, y unos componentes y fluidos del vehículo contienen o despiden productos químicos conocidos por el Estado de California que causan el cáncer, los defectos de nacimiento o el otro daño reproductivo.

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(6) Part No. K3441-6596-1

California Proposition 65

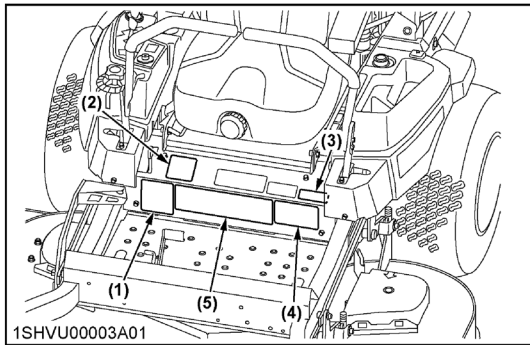
⚠ WARNING ⚠

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

1BDABENAP115A

9Y1211198ICI007US

9Y1211198INI0010US0

Z724XKW-3, Z726XKW-3**(1) Part No. K3811-6581-1**

⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH

1. Mow across slopes
- Not up and down.
2. Use extreme caution when operating on slopes.
3. Loss of traction may occur when operating on slopes.
4. Drive slowly on slopes.
5. Do not operate on wet slopes.
6. Avoid sudden starts.
7. Execute turns slowly.

⚠ ADVERTENCIA

PARA EVITAR LESIONES PERSONALES GRAVES O LA MUERTE

1. Corte el césped de manera transversal en las colinas
- No de arriba hacia abajo.
2. Tenga mucho cuidado durante la operación en colinas.
3. Se puede perder tracción durante la operación en colinas.
4. Conduzca lentamente en las colinas.
5. No use la máquina en colinas húmedas.
6. Evite arranques súbitos.
7. Realice las vueltas lentamente.

1BDABEAP087A

(2) Part No. K3811-6571-1

⚠ 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.

1BDABEAP088A

(3) Part No. K3441-6596-1

California Proposition 65

⚠ WARNING ⚠

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

1BDABENAP115A

(4) Part No. K3851-6582-1

⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH

1. Park the machine on level ground.
2. If necessary to park on an incline,
 - ⓐ Stop the machine.
 - ⓑ Apply the parking brake.
 - ⓒ Stop the engine.
 If you stop the engine on an incline without applying the parking brake, the machine could move and run away.
3. If the engine stops suddenly during operation, apply the parking brake immediately to prevent machine runaway.

1BDABEAP171A

(5) Part No. K3851-6585-1

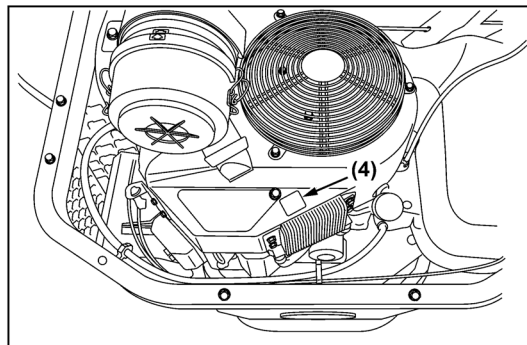
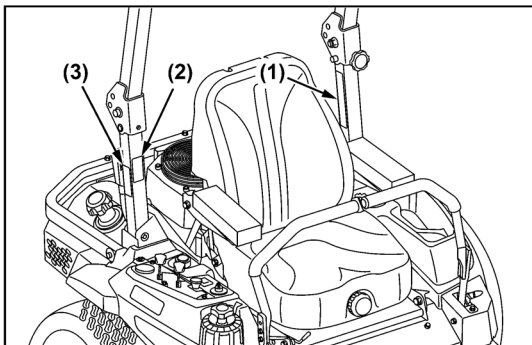
⚠ WARNING **TO AVOID SERIOUS INJURY OR DEATH**

1. Read and understand the operator's manual before operation.
2. Do not operate this machine unless you are trained.
3. Before allowing other people to use the machine, have them read the operator's manual.
4. Check the tightness of all nuts and bolts regularly.
5. Before starting the engine, make certain that everyone is at a safe distance from the machine, PTO is disengaged and motion control levers are in neutral lock.
6. Remove objects that could be thrown by the blade.
7. Do not operate the machine when children and/or others are around.
8. Do not carry children or others on the machine at any time.
9. Before dismounting, disengage PTO clutch, lower the implement, place motion control levers in neutral lock position, set the parking brake, stop the engine and remove the key.
10. Keep safety devices (guards, shields and switches) in place, and working.
11. To reduce the fire hazard, keep the exhaust clear of dry grass, dry leaves or other combustible materials.
12. This machine is not for street or highway use.
13. Securely support the machine and implement before working underneath.

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9Y1211198INI0013US0

Z724XKW(-2), Z726XKW(-2)

(1) Part No. K3851-6566-1

⚠ ADVERTENCIA

Nunca modifique ni repare una estructura de protección contra volcaduras (ROPS, por sus siglas en inglés) porque soldar, esmerilar, perforar o cortar cualquier parte puede debilitar la estructura.

PARA EVITAR LESIONES PERSONALES AL ELEVAR O PLEGAR LA ESTRUCTURA DE PROTECCIÓN CONTRA VOLCADURAS:

1. Ponga el freno de estacionamiento para detener el motor.
2. Retire cualquier obstrucción que pueda impedir la elevación o plegado de la estructura de protección contra volcaduras.
3. No permita la presencia de otras personas.
4. Siempre realice la función desde una posición estable en la parte posterior del tractor.
5. Mantenga fija de manera segura la parte superior de la estructura de protección contra volcaduras durante la elevación o plegado.
6. Asegúrese de que todos los pines estén instalados y bloqueados.

1BDABEAAP147A

(2) Part No. K3851-6574-1

⚠ ADVERTENCIA

PUEDO HABER FUGAS DE COMBUSTIBLE

Abertura de ventilación del tanque de combustible situada dentro de la cubierta de la ROPS. La retirada o la modificación de la ROPS y/o la cubierta podría causar fugas de combustible y violar las normas relacionadas con las emisiones de gases. No retire ni modifique la ROPS y/o la cubierta de ninguna forma.

1BDABEAAP148A

(3) Part No. K3811-6563-1

⚠ WARNING

TO AVOID PERSONAL INJURY OR DEATH FROM ROLL-OVER:

1. Keep Roll-Over Protective Structure (ROPS) in the upright and locked position.
2. Fasten SEAT BELT before operating.

THERE IS NO OPERATOR PROTECTION WHEN THE ROPS IS IN THE FOLDED POSITION.

1. Check the operating area and fold the ROPS only when absolutely necessary.
2. Do not wear SEAT BELT if ROPS is folded.
3. Raise and lock ROPS as soon as vertical clearance allows.
4. Read ROPS related instructions and warnings.

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(4) Part No. K3851-6533-1 [Z726X only]

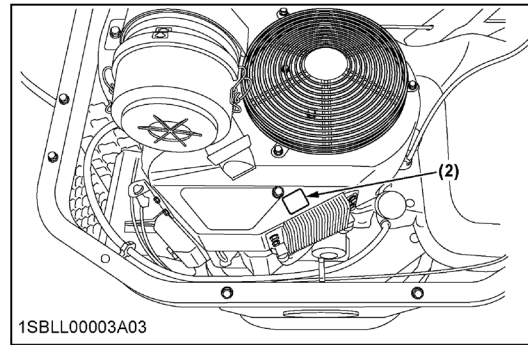
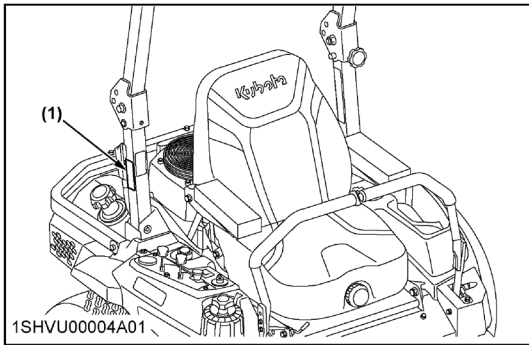
- Hot surface - Burn to finger or hand
- Do not touch muffler.



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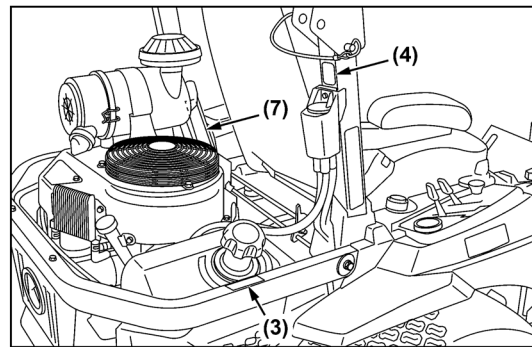
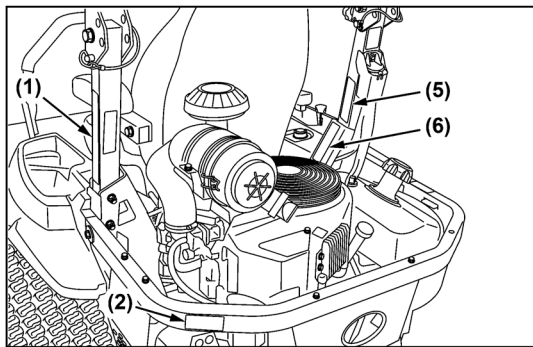
Z724XKW-3, Z726XKW-3**(1) Part No. K3811-6563-1****(2) Part No. K3851-6533-1
[Z726X only]**

- Hot surface - Burn to finger or hand
- Do not touch muffler.



9Y1211198ICI013US

9Y1211198INI0013US0

Z724XKW(-2), Z726XKW(-2)**(1) Part No.K3811-6565-1**

⚠ ADVERTENCIA

PARA EVITAR LESIONES PERSONALES O LA MUERTE PRODUCIDAS POR VOLCADURAS:

1. Mantenga las estructuras de protección contra volcaduras (ROPS, por sus siglas en inglés) en posición vertical y bloqueada.
2. Póngase el CINTURÓN DE SEGURIDAD antes de la operación.

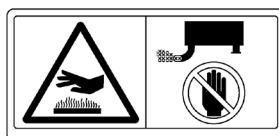
EL OPERADOR NO TIENE PROTECCIÓN CUANDO LA ESTRUCTURA DE PROTECCIÓN CONTRA VOLCADURAS ESTÁ EN LA POSICIÓN PLEGADA

1. Revise el área de operación y pliegue la estructura de protección contra volcaduras sólo cuando sea absolutamente necesario.
2. No use el CINTURÓN DE SEGURIDAD si la estructura de protección contra volcaduras está plegada.
3. Eleve bloquee la estructura de protección contra volcaduras tan pronto como lo permita el espacio libre vertical.
4. Lea las instrucciones y advertencias relacionadas a la estructura de protección contra volcaduras.

1BDABEAP094A

(2) Part No.K3811-6532-1

- Hot surface - Burn ro finger or hand
- Do not touch muffler.



1BDABEAP095A

(3) Part No.K3811-6587-1

1BDABEAP096A

(4) Part No.K3851-6573-1

⚠ WARNING

FUEL MAY LEAK
Fuel tank vent located inside the cover on ROPS. Removing or modifying ROPS and/or cover could result in fuel leakage and violate emissions regulation.
Do Not remove or modify ROPS and/or cover in any way.

1BDABEAP151A

(5) Part No.K3851-6564-1

⚠ WARNING

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

TO AVOID PERSONAL INJURY WHEN RAISING OR FOLDING ROPS:

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

1BDABEAP150A

(6) Part No.K3811-6583-1

⚠ 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 motion control levers in neutral lock position and PTO OFF. Never start engine while standing on the ground.

1BDABEAP099A

(7) Part No.K3811-6584-1

⚠ PELIGRO

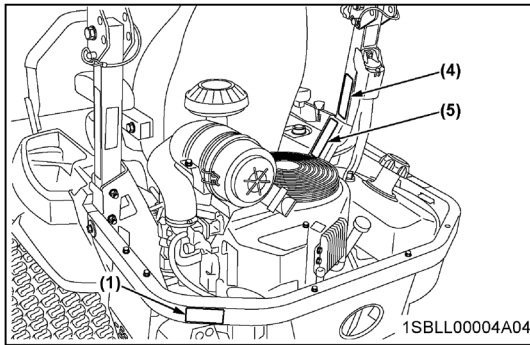
PARA EVITAR POSIBLES LESIONES PERSONALES O LA MUERTE DEBIDO A ARRANQUE SUBITO DE LA MAQUINA.

1. No arranque la máquina cortocircuitando los terminales del arranque ni omita el interruptor de arranque de seguridad. La máquina puede arrancar en un cambio de velocidad y moverse si se omite el circuito de arranque normal.
2. Arranque el motor solo desde el asiento del operador con las palancas de control de movimiento en la posición de bloqueo neutro y la palanca de toma de fuerza (PTO) en desactivado. Nunca arranque el motor mientras está en el suelo.

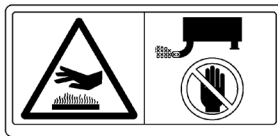
1BDABEAP100A

9Y1211198ICI009US

9Y1211198INI0006US0

Z724XKW-3, Z726XKW-3**(1) Part No.K3811-6532-1**

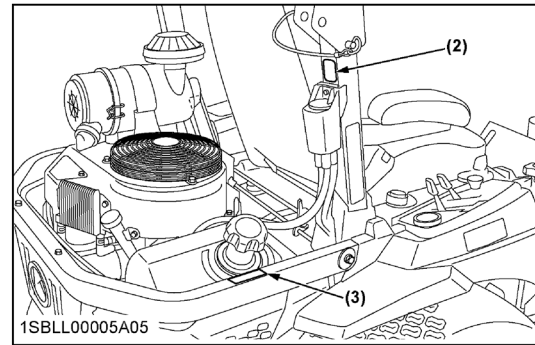
- Hot surface - Burn to finger or hand
- Do not touch muffler.



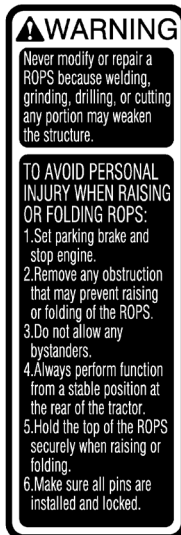
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(3) Part No.K3811-6587-1

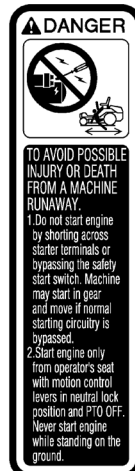
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**(2) Part No.K3851-6573-1**

1BDABEAP151A

(4) Part No.K3851-6564-1

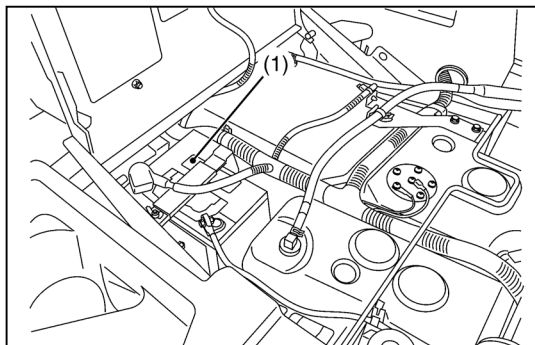
1BDABEAP150A

(5) Part No.K3811-6583-1

1BDABEAP099A

9Y1211198ICI014US

9Y1211198INI0014US0

Z724XKW, Z726XKW

(1) Part No. K3011-6118-1

 FLAMMABLES	 SHIELD EYES	 KEEP OUT OF THE REACH OF CHILDREN	 CAUTION OF SULFURIC ACID	 READ INSTRUCTION MANUAL CAREFULLY	 EXPLOSIVE
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.					
POISON CAUSES SEVERE BURNS CONTAINS SULFURIC ACID. AVOID CONTACT WITH SKIN, EYES OR CLOTHING. IN EVENT OF ACCIDENT, RUSH WITH WATER AND CALL A PHYSICIAN IMMEDIATELY.					
KEEP OUT OF REACH OF CHILDREN BATTERIES, BATTERY TOSTS, TERMINALS AND RELATED ACCESSORIES CONTAIN LEAD AND LEAD COMPOUNDS, AND OTHER CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. WASH HANDS AFTER HANDLING.					
SMF U1-300 PART No. K3011-61141					
NOMINAL VOLTAGE					12V
COLD CRANKING AMPS					300
CRANKING AMPS					410
RESERVE CAPACITY(MINUTES)					45
AMP HOURS(@20 hr Rate)					29
MADE IN KOREA					
YEAR 0 1 2 3 4 5 6 7 8 9 MONTH 1 2 3 4 5 6 7 8 9 10 11 12					

1BDABEAP172A

TO AVOID INJURY FROM BATTERY GASES AND ACIDES

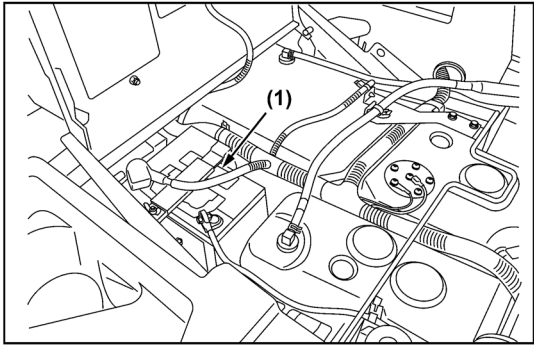
- Keep away cigarettes, flames or sparks.
- Always shield eyes and face from battery.
- Keep out of reach of children.
- Poison causes severe burns.
- Contains sulfuric acid.
- Read and understand operator's manual.
- Danger explosive gases.

1BDAAEAP0200

9Y1211198ICI004US

9Y1211198INI0007US0

Serial Number: Z724XKW-2: 51195, Z726XKW-2: 52707



(1) Part No. K3011-6118-4



FLAMMABLES



SHIELD EYES



KEEP OUT OF THE REACH OF CHILDREN



CAUTION OF SULFURIC ACID



READ INSTRUCTION MANUAL CAREFULLY



EXPLOSIVE

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.

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

California Proposition 65 WARNING : This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SMF U1-300
PART No. K3011-61144

NOMINAL VOLTAGE	12V
COLD CRANKING AMPS	300
CRANKING AMPS	410
RESERVE CAPACITY(MINUTES)	45
AMP HOURS(@20 hr Rate)	29

FITTING DATE

0 1 2 3 4 5 6 7 8 9 YEAR

1 2 3 4 5 6 7 8 9 10 11 12 MONTH

MADE IN KOREA

TO AVOID INJURY FROM BATTERY GASES AND ACIDES

- 
 - Keep away cigarettes, flames or sparks.
- 
 - Always shield eyes and face from battery.
- 
 - Keep out of reach of children.
- 
 - Poison causes severe burns.
 - Contains sulfuric acid.
- 
 - Read and understand operator's manual.
- 
 - Danger explosive gases.

1BDABDYAP096A

9Y1211198ICI010US

9Y1211198INI0011US0

Model: K3023-61111 / SMF U1-300		Serial number		
Nominal Voltage: 12V Cold Cranking Amps: 300 Cranking Amps: 410	Reserve Capacity(Minutes): 45 Amp Hours(@20hrs Rate): 29 Battery Weight: 7.6kg	0000001		
Battery Chemistry: Lead-Acid Battery		Usable Extinguishing Agent: Fire Extinguisher (Co2, if possible)		
Manufacturer: Sebang Global Battery Co., Ltd. 453, Seolleung-ro, Gangnam-gu, Seoul, Korea WEB: www.gbattery.com e-mail: amrica@gbattery.com				
Manufacturing Place : Sebang Global Battery Gwangju Factory 287, Sonjae-ro, Gwangsan-gu, Gwangju, Korea				

- Harmful if swallowed, inhaled or in contact with skin.
- Acid causes severe skin burns and eye damage.
- May damage fertility or the unborn child if ingested or inhaled.
- May cause harm to breastfed children.
- May cause cancer if ingested or inhaled.
- Causes skin irritation, serious eye damage.
- Contact with internal components may cause irritation or severe burns.
- Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure if ingested or inhaled.
- Irritating to eyes, respiratory system and skin.
- May form explosive air/gas mixture during charging.
- Extremely flammable gas (hydrogen).
- Explosive, fire, blast or protection hazard.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Avoid contact during pregnancy/while nursing.
- Wear protective gloves/protective clothing, eye protection / face protection.
- Use only outdoors or in a well-ventilated area
- Avoid contact with internal acid.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- IF SWALLOWED OR CONSUMED: Rinse mouth. Do NOT induce vomiting.
- Call a poison center/doctor if you feel unwell.
- IF ON CLOTHING OR SKIN (or hair): Remove/take off immediately all contaminated clothing and wash it before reuse.
- Rinse skin with water/shower.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- Immediately call a POISON CENTER or doctor / physician.
- IF IN EYES: Rinse cautiously with water for several minutes.
- Remove contact lenses, if present and easy to do. Continue rinsing.
- If exposed / concerned, or if you feel unwell, seek medical attention/advice.
- Store locked up, in a well-ventilated area, in accordance with local and national regulation.
- Dispose of contents/container in accordance with local and national regulation.
- Keep out of reach of children.

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer.

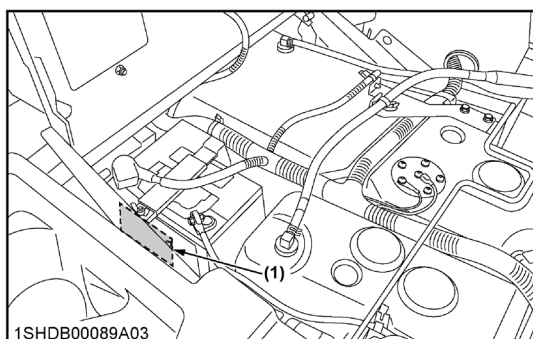
WARNING: Risk of fire, explosion or burns. Do not disassemble, heat above 60°C / 140°F or incinerate. Not recommended for inverted use. Follow product charging instructions.

High Voltage: Risk of shock. Do not touch uninsulated terminals or connectors.

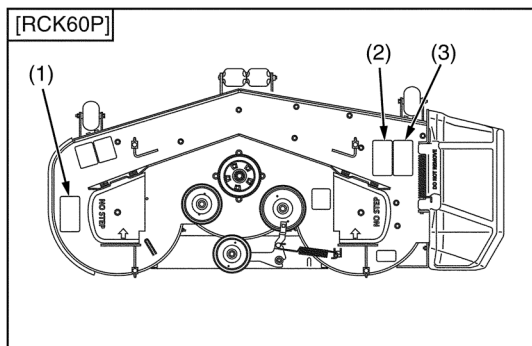
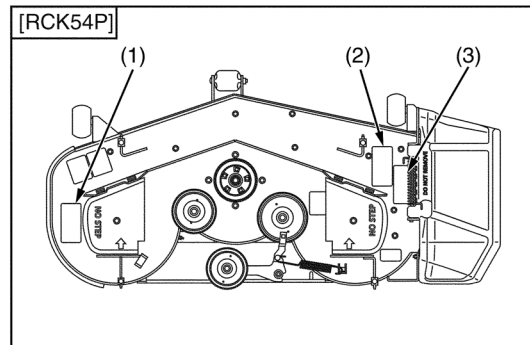
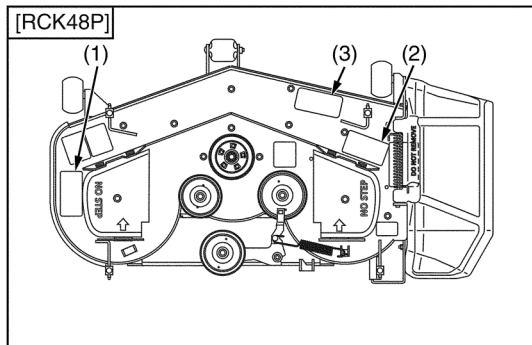
Keep Vent Caps Tightly in Place.

Do not Tip.

Made in Korea



9Y1211198INT0015US0

Z724XKW, Z726XKW

(1) Part No. K5681-7312-2



1BDACAEAP015B

(2) Part No. K5681-7311-2



1BDACAEAP016B

(3) Part No. K5681-7310-1



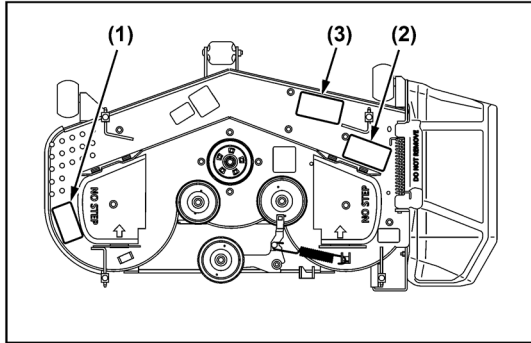
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9Y1211198ICI005US

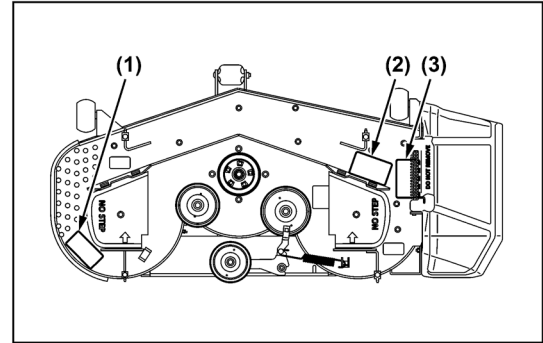
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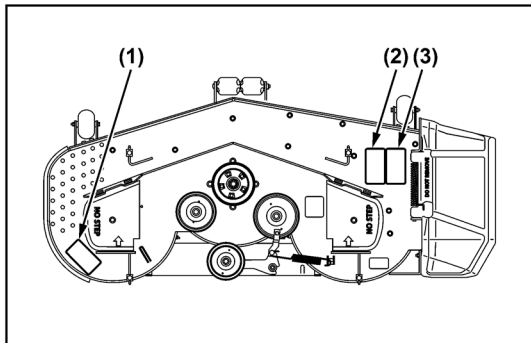
[RCK48P]



[RCK54P]



[RCK60P]



(1) Part No. K5681-7312-2



(2) Part No. K5681-7311-2



(3) Part No. K5681-7310-1

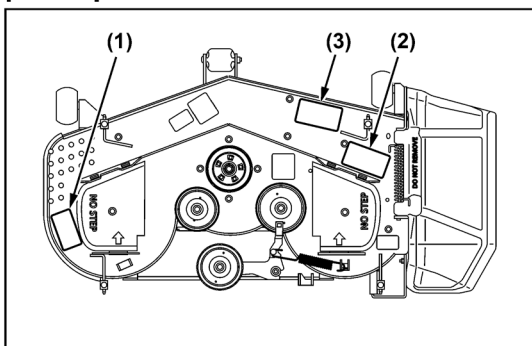


9Y1211198ICI011US

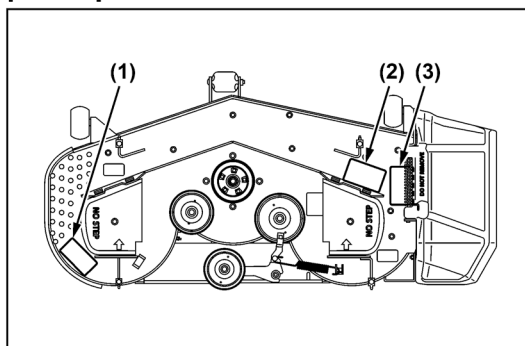
9Y1211198INI0012US0

Z724XKW-3, Z726XKW-3

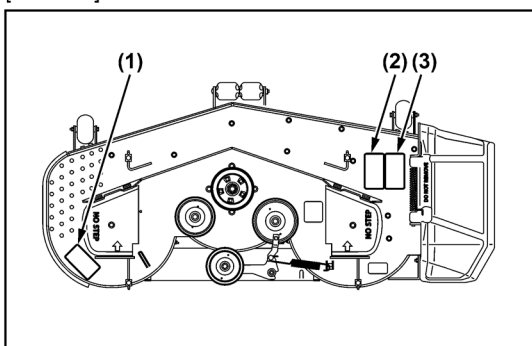
[RCK48P]



[RCK54P]



[RCK60P]



(1) Part No. K5681-7312-2



(2) Part No. K5681-7311-2



(3) Part No. K5681-7310-1



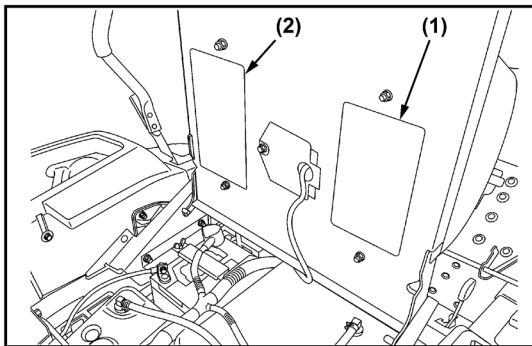
9Y1211198ICI011US

9Y1211198INI0016US0

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 new part, make sure new label(s) is (are) attached in the same location(s) as the replace component.
5. Mount new danger, warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.

9Y1211198INI0001US0

Z724XKW(-2), Z726XKW(-2)**(1) Part No. K3851-6551-2 (ENGLISH)****PERIODIC SERVICE CHART**

INTERVAL		RECOMMENDED SERVICE ※
DAILY	CHECK	1. Tire pressure, wear, or damage. 2. Fuel and oil leakage from machine and mower. 3. Engine and transmission oil and fuel level. 4. Damage to machine body, tightness of all bolts, nuts and pins, etc. 5. All blades and belts for wear or damage. 6. Parking brake, speed control levers, all safety switches and easy checker functions. 7. Color of the exhaust fumes, abnormal noise and vibrations. 8. Dial cam rotation force.
	CLEAN	Mower deck / Engine and muffler area / Cutting height cam area / Air inlet screen ★
FIRST 8 Hrs.	CHANGE	Engine oil [BREAK-IN] (MUST BE DONE)
FIRST 300 Hrs. [BREAK-IN] (MUST BE DONE)	CHANGE	Transmission fluid
	REPLACE	Transmission oil filter
E V E R Y	50 Hrs.	CHECK Engine start system / OPC system
		GREASE Front axle and wheel (4 places) / Seat adjuster (2 places)
	100 Hrs.	CHECK Fuel filter element / Spark plug condition and gap / Battery condition / Filter (Carbon canister) / Air cleaner outer element ★
		CLEAN Engine cooling shroud ★ / Engine oil cooler fins / Cylinder & Cylinder head fins ◆ ★
		CHANGE Engine oil ◆
		GREASE Mower link bushing (5 places) / Mower belt tension pivot
		ADJUST Throttle cable / Choke cable / Parking brake ★
	200 Hrs.	REPLACE Engine oil filter / Fuel filter element
		CHECK Air cleaner inner element
	250 Hrs.	CHANGE Air cleaner outer element ★
Y	300 Hrs.	CLEAN Combustion Chamber ★ / Valve seats (Relap) ★
		ADJUST Valve Clearance ★
		CHANGE Transmission fluid / Air cleaner inner element ★
	500 Hrs.	REPLACE Transmission oil filter / Spark plugs
		LUBRICATE Crankshaft
	1 Year	CHECK ■ Fuel line / Hydraulic hose
2 Years	REPLACE ★	Filter (Carbon canister)
4 Years	REPLACE ★	Fuel line / Hydraulic hose

※: See Operator's manual in details.

★: Required more often in dusty conditions.

☆: Should be serviced by KUBOTA Dealer.

◆: More frequently under severe conditions.

■: Replace if necessary.

Approximate fluid capacities.

	Z724XKW	Z726XKW
Engine	2.1 L (2.2 qts.)	2.3 L (2.4 qts.)
Transmission	3.0 L per side (3.2 qts. per side)	

Tire pressure and tightening torque recommendation.

Front	13x5.0-6 (NO FLAT)	NO NEED	Ensure smooth rotation of wheel. <Do not over tighten.>
	13x6.5-6 (NO FLAT)		
Rear	24x9.5-12	69 kPa (10 psi)	108.5-130.2 Nm (80.0-96.0 ft-lbs)
	24x12-12		

1SBLL00012A01

9Y1211198ICI006US

(2) Part No. K3851-6552-2 (SPANISH)**TABLA DE SERVICIO PERIÓDICO**

INTERVALO		SERVICIO RECOMENDADO ※
DIARIO	REVISAR	1. Presión, desgaste y daño de los neumáticos. 2. Escape de combustible y aceite de la máquina y la segadora. 3. Aceite del motor, fluido de transmisión y nivel de combustible. 4. Daño a la carrocería de la máquina, ajuste de todos los pernos, tuercas y pines, etc. 5. Desgaste y daños de todas las cuchillas y las correas. 6. Freno de estacionamiento, palancas de control de velocidad, todos los interruptores de seguridad y funciones para una fácil inspección. 7. Color del humo del escape, ruido y vibraciones anormales. 8. Fuerza rotativa de la leva del cuadrante.
	LIMPIAR	Plataforma de segadora / Zona del motor y del silenciador / Zona de la leva de altura de corte / Reja de entrada de aire ★
PRIMERAS 8 hrs.	CAMBIAR	Aceite del motor [USO INICIAL] (DEBE HACERSE)
PRIMERAS 300 hrs. [USO INICIAL] (DEBE HACERSE)	CAMBIAR	Aceite de transmisión
	REEMPLAZAR	Filtro del aceite de transmisión
C A D A	50 hrs.	REVISAR Sistema de arranque del motor / Sistema OPC
		ENGRASAR Eje frontal y rueda (4 lugares) / Regulador del asiento (2 lugares)
	100 hrs.	REVISAR Elemento de filtro de combustible / Condición de la batería / Condición de la bujía y distancia entre electrodos / Filtro (depósito de carbono) / Elemento externo del filtro de aire ★
		LIMPIAR Carcasa de refrigeración del motor ★ / Aletas de refrigeración de aceite del motor / Cilindro y aletas del cilindro ◆ ★
		CAMBIAR Aceite del motor ◆
		ENGRASAR Casquillo del brazo de la segadora (5 lugares) / Pivote de tensión de correa de la segadora
		AJUSTAR Cable de estrangulamiento / Cable de estrangulador / Freno de estacionamiento ★
	200 hrs.	REEMPLAZAR Filtro de aceite del motor / Elemento de filtro de combustible
		REVISAR Elemento interno del filtro de aire
	250 hrs.	CAMBIAR Elemento externo del filtro de aire ★
A	300 hrs.	LIMPIAR Cámara de combustión ★ / Asiento de válvula (repulir) ★
		AJUSTAR Juego de válvulas ★
		CAMBIAR Aceite de transmisión / Elemento interno del filtro de aire ★
	500 hrs.	REEMPLAZAR Filtro del aceite de transmisión / Bujías
		LUBRIQUE Cigüeñal
	1 año	REVISAR Línea de combustible / Manguera del sistema hidráulico
2 años	REEMPLAZAR ★	Filtro (depósito de carbono)
4 años	REEMPLAZAR ★	Línea de combustible / Manguera del sistema hidráulico

※: Consulte el Manual del Operador para obtener más información.

☆: El servicio de mantenimiento debe proporcionarlo un distribuidor de KUBOTA.

★: Se requiere más seguido en condiciones polvorosas.

◆: Más frecuentemente bajo condiciones severas.

■: Reemplace si es necesario.

Capacidades de fluido (aproximadas).

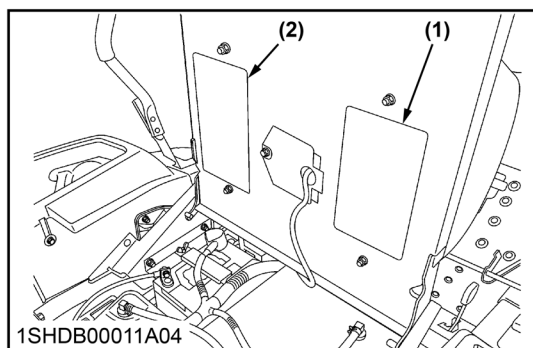
	Z724XKW	Z726XKW
Motor	2.1 L (2.2 cuartos de galón)	2.3 L (2.4 cuartos de galón)
Transmisión	3.0 L por cada lado (3.2 cuartos de galón por cada lado)	

Recomendación de presión para neumáticos y par de ajuste.

Frontal	13x5.0-6 (No pinchada nada)	Ninguna necesidad	Asegure rotación libre de la rueda. <No apriete en exceso.>
	13x6.5-6 (No pinchada nada)		
Posterior	24x9.5-12	69 kPa (10 psi)	108.5-130.2 Nm (80.0-96.0 pies-lbs)
	24x12-12		

1SBLL00012B01

9Y1211198INI0009US0

Z724XKW-3, Z726XKW-3**(1) Part No. K3851-6551-4 (ENGLISH)**

PERIODIC SERVICE CHART			
INTERVAL		RECOMMENDED SERVICE ※	
DAILY	CHECK	1.Tire pressure, wear, or damage. 2.Fuel and oil leakage from machine and mower. 3.Engine and transmission oil and fuel level. 4.Damage to machine body, tightness of all bolts, nuts and pins, etc. 5.All blades and belts for wear or damage. 6.Parking brake, speed control levers, all safety switches and easy checker functions. 7.Color of the exhaust fumes, abnormal noise and vibrations. 8.Dial cam rotation force.	
	CLEAN	Mower deck / Engine and muffler area / Cutting height cam area / Air inlet screen ★	
FIRST 8 Hrs.	CHANGE	Engine oil [BREAK-IN] (MUST BE DONE)	
FIRST 300 Hrs. [BREAK-IN] (MUST BE DONE)	CHANGE	Transmission fluid	
	REPLACE	Transmission oil filter	
E V E R Y	50 Hrs.	CHECK	Engine start system / OPC system
		GREASE	Front axle and wheel (4 places) / Seat adjuster (2 places)
	100 Hrs.	CHECK	Fuel filter element / Spark plug condition and gap / Battery condition / Filter (carbon canister) / Air cleaner outer element ★
		CLEAN	Engine cooling shroud ★ / Engine oil cooler fins / Cylinder & Cylinder head fins ◆ ★
		CHANGE	Engine oil ◆
		GREASE	Mower link bushing (5 places)
	200 Hrs.	ADJUST	Throttle cable / Choke cable / Parking brake ★
		REPLACE	Engine oil filter / Fuel filter element
	250 Hrs.	CHECK	Air cleaner inner element
		CHANGE	Air cleaner outer element ★
Y	300 Hrs.	CLEAN	Combustion chamber ★ / Valve seats (relap) ★
		ADJUST	Valve Clearance ★
	500 Hrs.	CHANGE	Transmission fluid / Air cleaner inner element ★
		REPLACE	Transmission oil filter / Spark plugs
	1 Year	LUBRICATE	Crankshaft
		CHECK ■	Fuel line / Hydraulic hose
	2 Years	REPLACE ★	Filter (carbon canister)
		CHECK ★	Fuel line / Hydraulic hose

※ : See Operator's manual in details. ★ : Required more often in dusty conditions.
 ★ : Should be serviced by KUBOTA Dealer. ◆ : More frequently under severe conditions.
 ■ : Replace if necessary.

Approximate fluid capacities.

	Z724XKW	Z726XKW
Engine	2.1 L (2.2 qts.)	2.3 L (2.4 qts.)
Transmission	3.0 L per side (3.2 qts. per side)	

Tire pressure and tightening torque recommendation.

Front	13x5.0-6 (NO FLAT)	NO NEED	Ensure smooth rotation of wheel. <Do not over tighten.>
	13x6.5-6 (NO FLAT)		
Rear	24x9.5-12	69 kPa (10 psi)	108.5-130.2 Nm (80.0-96.0 ft-lbs)
	24x12-12		

(2) Part No. K3851-6552-4 (SPANISH)

PERIODIC SERVICE CHART			
INTERVAL		RECOMMENDED SERVICE ※	
DAILY	CHECK	1.Tire pressure, wear, or damage. 2.Fuel and oil leakage from machine and mower. 3.Engine and transmission oil and fuel level. 4.Damage to machine body, tightness of all bolts, nuts and pins, etc. 5.All blades and belts for wear or damage. 6.Parking brake, speed control levers, all safety switches and easy checker functions. 7.Color of the exhaust fumes, abnormal noise and vibrations. 8.Dial cam rotation force.	
	CLEAN	Mower deck / Engine and muffler area / Cutting height cam area / Air inlet screen ★	
FIRST 8 Hrs.	CHANGE	Engine oil [BREAK-IN] (MUST BE DONE)	
FIRST 300 Hrs. [BREAK-IN] (MUST BE DONE)	CHANGE	Transmission fluid	
	REPLACE	Transmission oil filter	
E V E R Y	50 Hrs.	CHECK	Engine start system / OPC system
		GREASE	Front axle and wheel (4 places) / Seat adjuster (2 places)
	100 Hrs.	CHECK	Fuel filter element / Spark plug condition and gap / Battery condition / Filter (carbon canister) / Air cleaner outer element ★
		CLEAN	Engine cooling shroud ★ / Engine oil cooler fins / Cylinder & Cylinder head fins ◆ ★
		CHANGE	Engine oil ◆
		GREASE	Mower link bushing (5 places)
	200 Hrs.	ADJUST	Throttle cable / Choke cable / Parking brake ★
		REPLACE	Engine oil filter / Fuel filter element
	250 Hrs.	CHECK	Air cleaner inner element
		CHANGE	Air cleaner outer element ★
Y	300 Hrs.	CLEAN	Combustion chamber ★ / Valve seats (relap) ★
		ADJUST	Valve Clearance ★
	500 Hrs.	CHANGE	Transmission fluid / Air cleaner inner element ★
		REPLACE	Transmission oil filter / Spark plugs
	1 Year	LUBRICATE	Crankshaft
		CHECK ■	Fuel line / Hydraulic hose
	2 Years	REPLACE ★	Filter (carbon canister)
		CHECK ★	Fuel line / Hydraulic hose

※ : See Operator's manual in details. ★ : Required more often in dusty conditions.
 ★ : Should be serviced by KUBOTA Dealer. ◆ : More frequently under severe conditions.
 ■ : Replace if necessary.

Approximate fluid capacities.

	Z724XKW	Z726XKW
Engine	2.1 L (2.2 qts.)	2.3 L (2.4 qts.)
Transmission	3.0 L per side (3.2 qts. per side)	

Tire pressure and tightening torque recommendation.

Front	13x5.0-6 (NO FLAT)	NO NEED	Ensure smooth rotation of wheel. <Do not over tighten.>
	13x6.5-6 (NO FLAT)		
Rear	24x9.5-12	69 kPa (10 psi)	108.5-130.2 Nm (80.0-96.0 ft-lbs)
	24x12-12		

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9Y1211198INI0017US0

3. SPECIFICATIONS

Model			Z724XKW	Z724XKW-2 (*4)	Z726XKW	Z726XKW-2 (*4)
Engine	Model		KAWASAKI GH735V		KAWASAKI GH860V	
	Max. engine power (Gross)		17.6 kw (23.5 HP) *1 *2		19.0 kw (25.5 HP) *1 *2	
	Type		Air-cooled gasoline engine			
	Number of cylinders		2 (V-Twin)			
	Bore and stroke		78 × 76 mm (3.07 × 2.99 in.)		84.5 × 76 mm (3.33 × 2.99 in.)	
	Total displacement		726 cm ³ (44.3 cu. in.)		852 cm ³ (52 cu. in.)	
	Rated revolution		3600 rpm			
	Fuel		Unleaded gasoline			
	Starter		Electric			
	Lubrication		Full pressure lubrication			
	Cooling		Air cooled			
	Battery		U1 (12 V, RC: 45 min, CCA: 300, CA: 410)			
Capacities	Fuel tank		44 L (11.6 U.S.gals, 9.6 Imp.gals)			
	Engine crankcase (with filter)		2.1 L (2.2 U.S.gals, 1.8 Imp.gals)		2.3 L (2.4 U.S.gals, 2.0 Imp.gals)	
	Transmission case		R.H.: 3.3 L (3.5 U.S.qts, 2.9 Imp.qts) *3 L.H.: 3.3 L (3.5 U.S.qts, 2.9 Imp.qts) *3			
Dimensions	Overall length		2130 mm (83.9 in.)			
	Overall width w/o mower deck		1280 mm (50.4 in.)		1390 mm (54.7 in.)	
	Overall height	With ROPS	1775 mm (69.88 in.)			
	Wheelbase		1294 mm (50.9 in.)			
	Min. ground clearance		130 mm (5.12 in.) W/48"	130 mm (5.12 in.) W/54"	130 mm (5.12 in.) W/60"	
	Tread	Front	954 mm (37.6 in.)			
Rear		1020 mm (40.2 in.)		1083 mm (42.6 in.)		
Weight (with mower deck)			538 kg (1186 lbs) W/48"	542 kg (1195 lbs) W/54"	560 kg (1235 lbs) W/60"	
			547 kg (1206 lbs) W/48" (*4)	555 kg (1224 lbs) W/54" (*4)	579 kg (1276 lbs) W/60" (*4)	
Traveling system	Tires	Front	13 × 5.0 - 6 (Semi-pneumatic Non Flat Tire) Smooth		13 × 6.5 - 6 (Semi pneumatic Non Flat Tire) Smooth	
		Rear	24 × 9.5 - 12 (4PR) Turf		24 × 12 - 12 (4PR) Turf	
	Traveling speeds	Forward	0 to 11.2 mph (0 to 18.0 km/h)			
		Reverse	0 to 5.6 mph (0 to 9.0 km/h)			
	Steering		2 - Hand levers			
	Transmission		2 HST - G rotor type			
	Parking brake		Drum / Foot applied, released			
	Min. turning radius		0 mm (0 in.)			
PTO	Drive system		Belt			
	Clutch type		Electric			

(Specifications and design subject to change without notice)

Model				Z724XKW-3		Z726XKW-3	
Engine	Model			KAWASAKI GH735V		KAWASAKI GH860V	
	Max. engine power (gross)		kW (HP)	17.6 (23.5) *1 *2		19.0 (25.5) *1 *2	
	Type			Air-cooled gasoline engine			
	Number of cylinders			2 (V-Twin)			
	Bore and stroke		mm (in.)	78 x 76 (3.07 x 2.99)		84.5 x 76 (3.33 x 2.99)	
	Total displacement		cm ³ (cu. in.)	726 (44.3)		852 (52)	
	Rated revolution		rpm	3600			
	Fuel			Unleaded gasoline			
	Starter			Electric			
	Lubrication			Full pressure lubrication			
	Cooling			Air cooled			
	Battery			U1 (12 V, RC: 45 min, CCA: 300, CA: 410)			
Capacities	Fuel tank		L (U.S.gals.)	44 (11.6)			
	Engine crankcase (with filter)		L (U.S.qts.)	2.1 (2.2)		2.3 (2.4)	
	Transmission case including rear axle gear case		L (U.S.qts.)	RH: 3.3 (3.5) *3 LH: 3.3 (3.5)*3			
Dimensions	Overall length		mm (in.)	2130 (83.9)			
	Overall width without mower deck		mm (in.)	1280 (50.4)		1390 (54.7)	
	Overall height (with ROPS)		mm (in.)	1775 (69.9)			
	Wheelbase		mm (in.)	1294 (50.9)			
	Min. ground clearance		mm (in.)	130 (5.12) with 48"	130 (5.12) with 54"	130 (5.12) with 60"	
	Tread	Front	mm (in.)	954 (37.6)			
		Rear	mm (in.)	1020 (40.2)		1083 (42.6)	
Weight (with mower deck)			kg (lbs.)	547 (1206) with 48"	555 (1224) with 54"	579 (1276) with 60"	
Traveling system	Tires	Front		13 x 5.0 - 6 (semi-pneumatic non flat tire) smooth		13 x 6.5 - 6 (semi-pneumatic non flat tire) smooth	
		Rear		24 x 9.5 - 12 (4PR) turf		24 x 12 - 12 (4PR) turf	
	Traveling speeds	Forward	mph (km/h)	0 to 11.2 (0 to 18.0)			
		Reverse	mph (km/h)	0 to 5.6 (0 to 9.0)			
	Steering			2 - hand levers			
	Transmission			2 HST - G rotor type			
	Parking brake			Drum / Foot applied, released			
	Min. turning radius		mm (in.)	0 (0)			
PTO	Drive system			Belt			
	Clutch type			Electric			

■ NOTE

- *1: Manufacturer's estimate

*2: These Kawasaki engines have been tested in accordance with SAE J1995, verified by TUV Rheinland Group, and certified by SAE International. The gross power ratings of these engines were determined by using measurements according to SAE J1995 which were witnessed by SAE-approved witnesses from TUV Rheinland Group. Torque ratings of these engines were not certified by SAE. Actual power and torque output will vary depending on numerous factors, including, but not limited to, the operating speed of the engine in application, environmental conditions, maintenance, and other variables.

*3: Oil amount when the oil level is at the upper level.

*4: Serial Number: Z724XKW-2: 50001, Z726XKW-2: 50001

Model		RCK48P-723Z	RCK54P-724Z	RCK60P-725Z
PRO Commercial Deck (Fabricated deck)	Suitable machine	Z724XKW / Z724XKW-2		Z726XKW / Z726XKW-2
	Mounting method	Parallel linkage		
	Adjustment of cutting height	Dial gauge		
	Cutting width	1219 mm (48 in.)	1372 mm (54 in.)	1524 mm (60 in.)
	Cutting height	25 to 127 mm (1.0 to 5.0 in.)		
	Weight	Approx. 102 kg (225 lbs)	Approx. 110 kg (243 lbs)	Approx. 119 kg (262 lbs)
	Blade spindle speed	70.9 r/s (4256 rpm) *5	63.3 r/s (3799 rpm) *5	57.5 r/s (3450 rpm) *5
	Blade tip velocity	94.5 m/s (18600 fpm) *5		
	Blade length	423 mm (16.7 in.)	474 mm (18.7 in.)	523 mm (20.6 in.)
	Number of blades	3		
	Dimensions	Total length	835 mm (32.9 in.)	905 mm (35.6 in.)
		Total width	1557 mm (61.3 in.)	1875 mm (73.8 in.)
		Total height	370 mm (14.6 in.)	

*5: Engine Max rpm

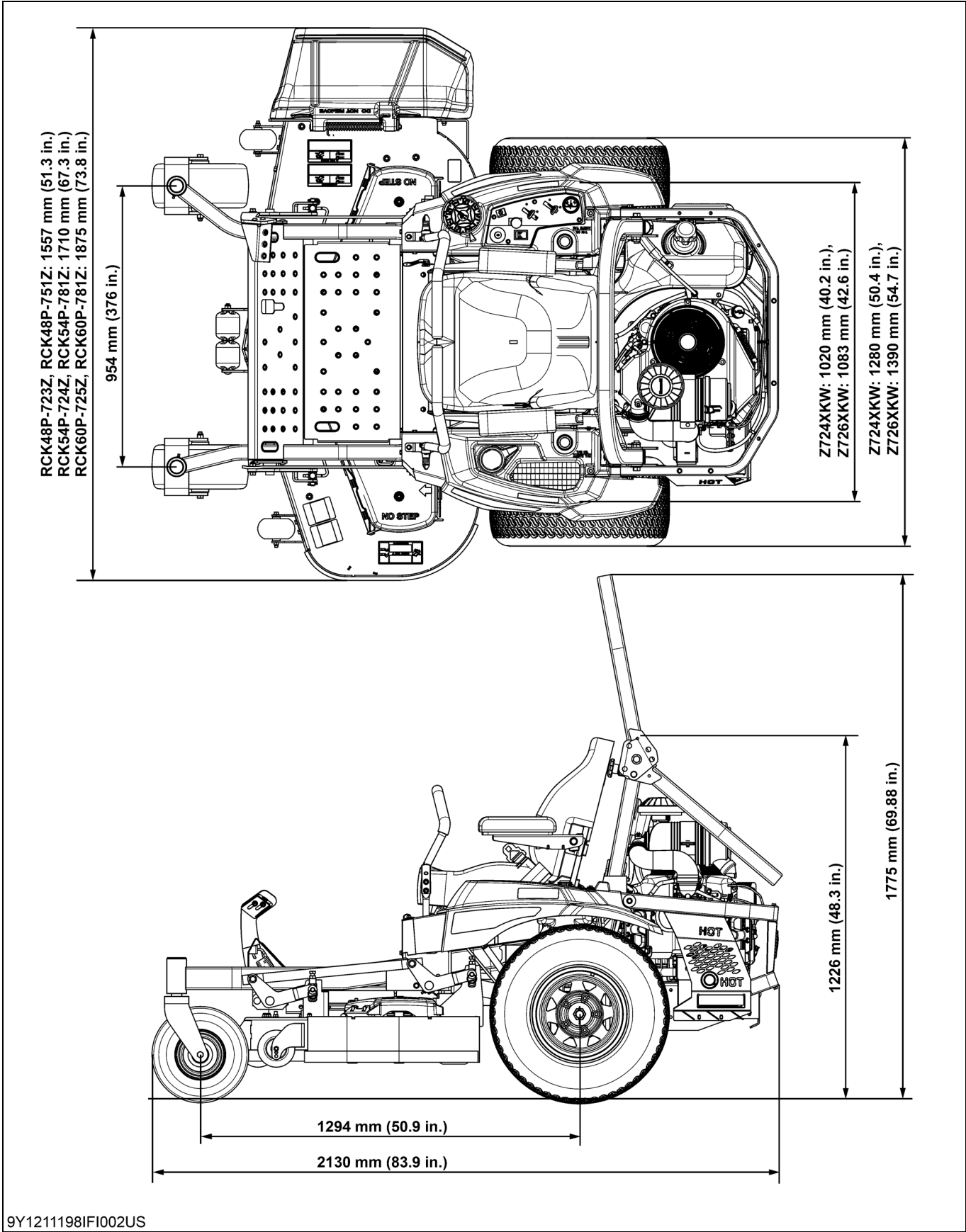
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Model		RCK48P-751Z	RCK54P-781Z	RCK60P-781Z
PRO Commercial Deck (Fabricated deck)	Suitable machine	Z724XKW-2		Z726XKW-2
	Mounting method	Parallel linkage		
	Adjustment of cutting height	Dial gauge		
	Cutting width	1219 mm (48 in.)	1372 mm (54 in.)	1524 mm (60 in.)
	Cutting height	25 to 127 mm (1.0 to 5.0 in.)		
	Weight	Approx. 102 kg (225 lbs)	Approx. 110 kg (243 lbs)	Approx. 119 kg (262 lbs)
	Blade spindle speed	70.9 r/s (4256 rpm) *5	63.3 r/s (3799 rpm) *5	57.5 r/s (3450 rpm) *5
	Blade tip velocity	94.5 m/s (18600 fpm) *5		
	Blade length	423 mm (16.7 in.)	474 mm (18.7 in.)	523 mm (20.6 in.)
	Number of blades	3		
	Dimensions	Total length	835 mm (32.9 in.)	905 mm (35.6 in.)
		Total width	1557 mm (61.3 in.)	1875 mm (73.8 in.)
		Total height	370 mm (14.6 in.)	

*5: Engine Max rpm

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4. DIMENSIONS



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G GENERAL

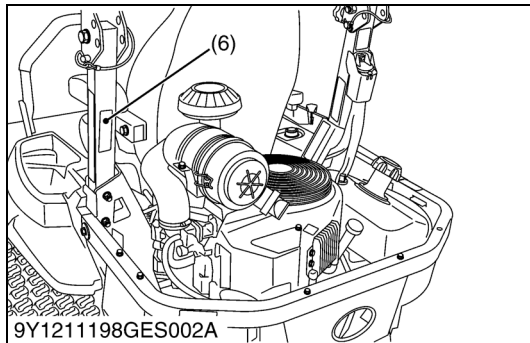
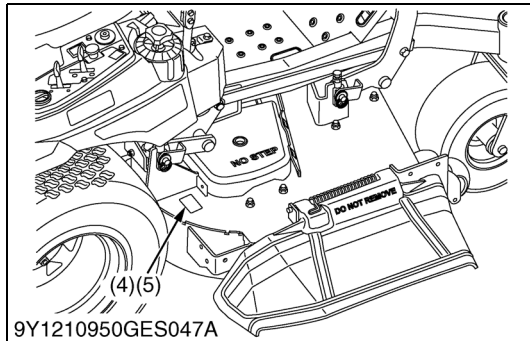
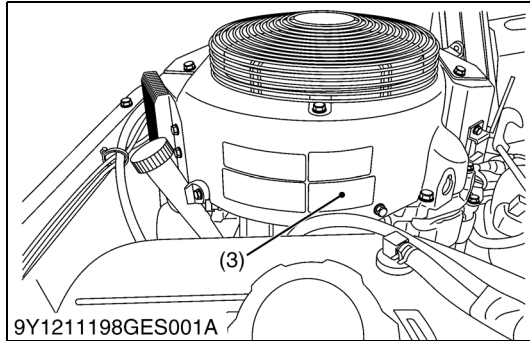
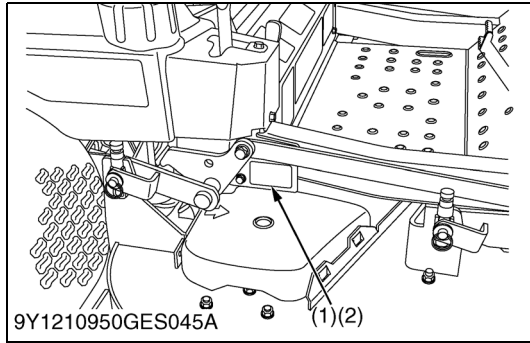
GENERAL

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1. IDENTIFICATION

[1] SERIAL NUMBER

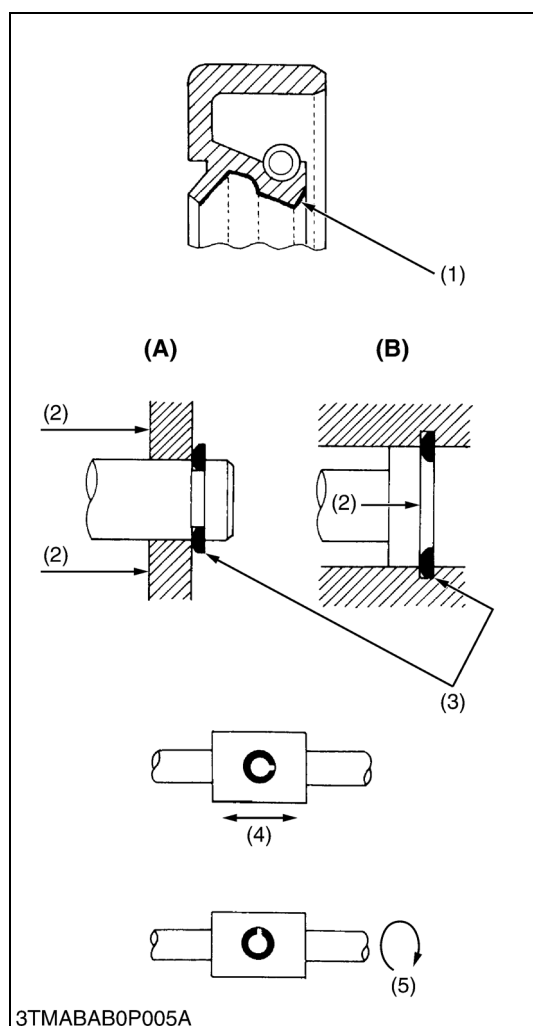


When contacting your local KUBOTA distributor, always specify engine serial number (3), machine serial number or product identification number (PIN) (2), mower serial number (5) and hour meter reading.

- | | |
|--|--------------------------------|
| (1) Machine Identification Plate | (4) Mower Identification Plate |
| (2) Machine Serial Number or Product Identification Number (PIN) | (5) Mower Serial Number |
| (3) Engine Serial Number | (6) ROPS Serial Number |

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2. GENERAL PRECAUTIONS



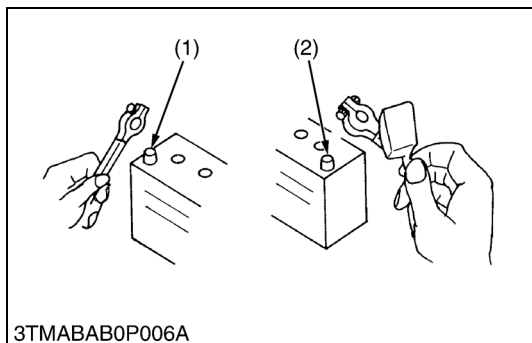
- When you disassemble, carefully put the parts in a clean area to make it easy to find the parts. You must install the screws, bolts and nuts in their initial position to prevent the reassembly errors.
- When it is necessary to use special tools, use KUBOTA special tools. Refer to the drawings when 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 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 circlips, 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 on the left side.
- To prevent damage to the hydraulic system, use only specified fluid or equivalent.
- Clean the parts before you measure them.
- Tighten the fittings to the specified torque. Too much torque can cause damage to the hydraulic units or the fittings. 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 tapers of hoses are free of dust and scratches.
- After you tighten the fittings, clean the joint and apply the maximum operation pressure 2 to 3 times to check oil leakage.

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

- (A) External Circlip
- (B) Internal Circlip

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3. HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING



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

■ IMPORTANT

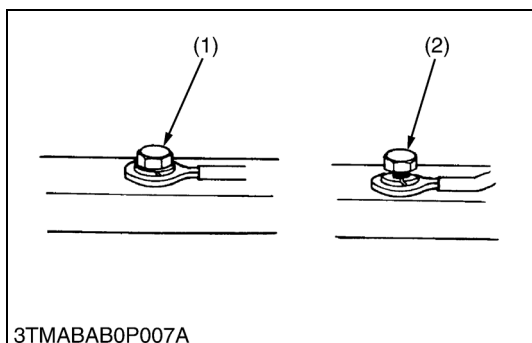
- Check electrical wiring for damage and loosened connection every year.
- When removing the battery cables, disconnect the negative cable first. When installing the battery cables, connect the positive cable first.

(1) Negative Terminal

(2) Positive Terminal

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[1] WIRING

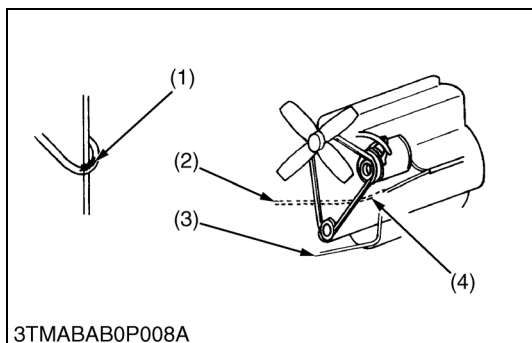


- Securely tighten wiring terminals.

(1) Correct
(Securely Tighten)

(2) Incorrect
(Loosening Leads to damaged Contact)

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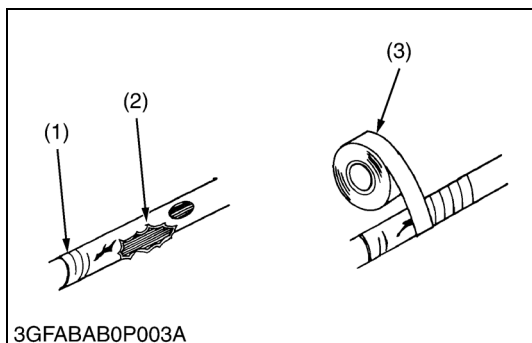


- Do not let wiring contact dangerous part.

(1) Dangerous Part (Sharp Edge)
(2) Wiring (Incorrect)

(3) Wiring (Correct)
(4) Dangerous Part

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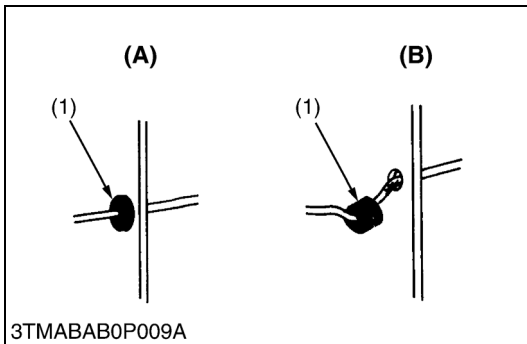


- Repair or change torn or aged wiring immediately.

(1) Aged
(2) Torn

(3) Electrical Tape

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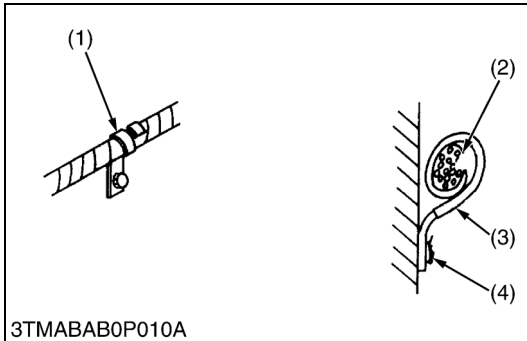


- Securely insert grommet.

(1) Grommet

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

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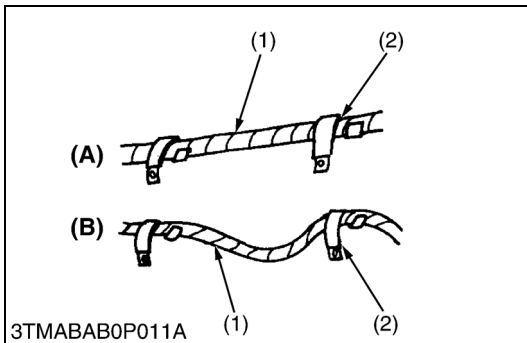


- Securely clamp, being careful not to damage wiring.

(1) Clamp
(2) Wire Harness
(3) Clamp
(4) Welding Dent

(3) **Correct**
(4) **Incorrect**

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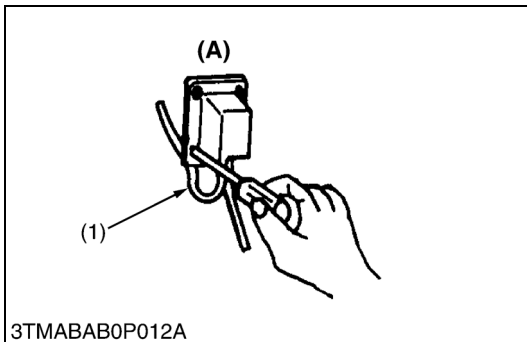


- Clamp wiring so that there is no twist, unnecessary sag, or excessive tension, except for movable part, where sag be required.

(1) Wiring
(2) Clamp

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

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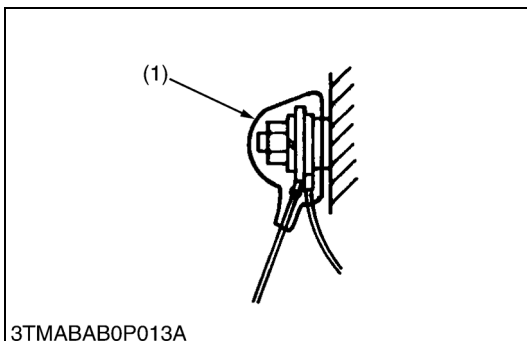


- In installing a part, be careful not to get wiring caught by it.

(1) Wiring

(A) **Incorrect**

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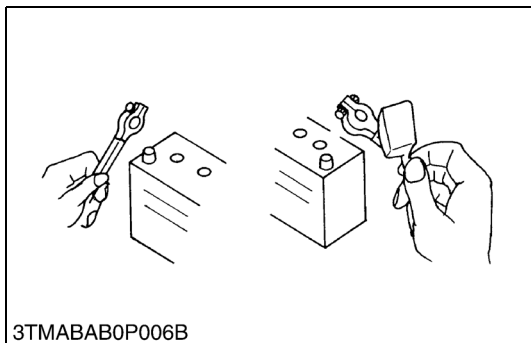


- After installing wiring, check protection of terminals and clamped condition of wiring.

(1) Cover
(Securely Install Cover)

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[2] BATTERY



- Be careful not to confuse positive and negative terminal posts.
- When you remove battery cables, disconnect negative cable first. When you install battery cables, check for polarity and connect positive cable first.
- Do not install any battery with capacity other than is specified (Ah).
- After you connect 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.



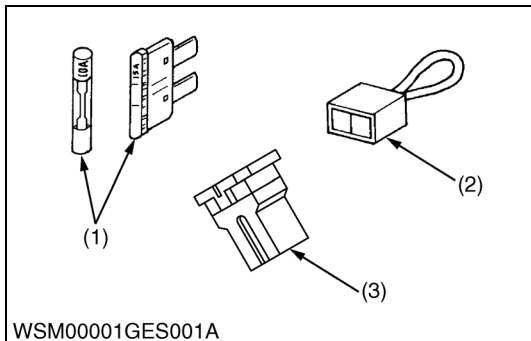
DANGER

To avoid serious injury or death:

- Be careful not to let battery liquid spill on your skin and clothes. If contaminated, wash it off with water immediately.
- Before you recharge the battery, remove it from the machine.
- Before you recharge, remove cell caps.
- Recharge 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



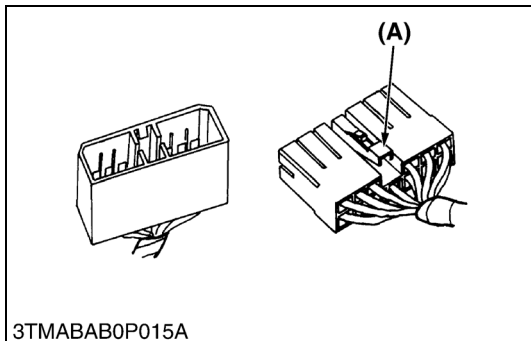
- Use fuses with specified capacity. Neither too large nor small capacity fuse is acceptable.
- Never use steel nor copper wire in place of fuse.
- Do not install working light, radio set, etc. on machine which is not provided with reserve power supply.
- Do not install accessories if fuse capacity of reserve power supply is exceeded.

(1) Fuse
(2) Fusible Link

(3) Slow Blow Fuse

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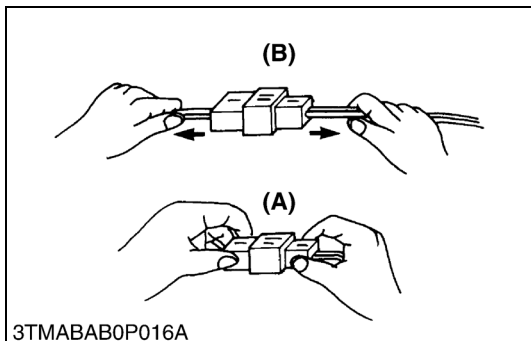
[4] CONNECTOR



- For connector with lock, push lock to separate.

(A) Push

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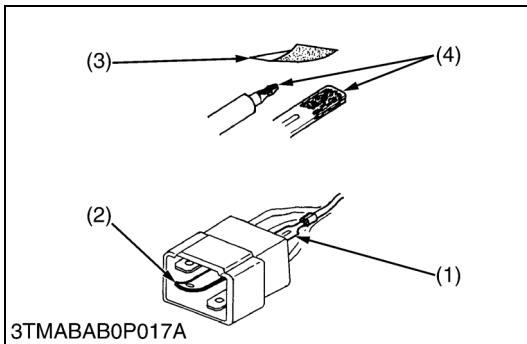


- In separating connectors, do not pull wire harnesses.
- Hold connector bodies to separate.

(A) Correct

(B) Incorrect

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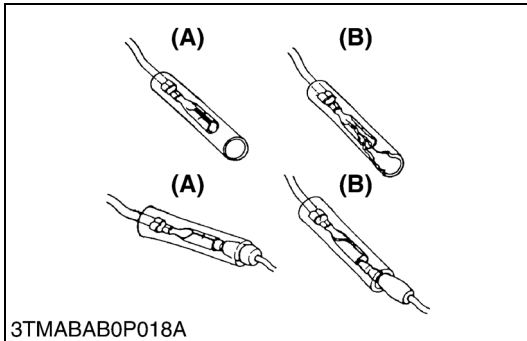


- Use sandpaper to remove rust from terminals.
- Repair deformed terminal. Make sure that there is no terminal being exposed or displaced.

(1) Exposed Terminal
(2) Deformed Terminal

(3) Sandpaper
(4) Rust

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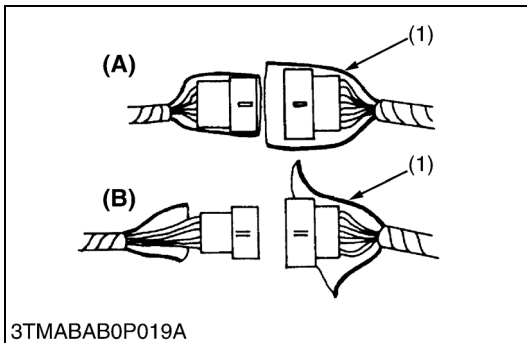


- Make sure that there is no female connector being too open.

(A) Correct

(B) Incorrect

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- Make sure that plastic cover is large enough to cover whole connector.

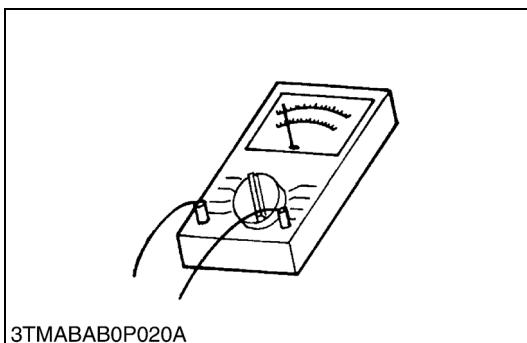
(1) Cover

(A) Correct

(B) Incorrect

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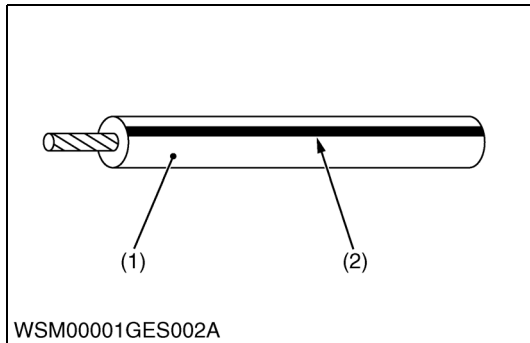
[5] HANDLING OF CIRCUIT TESTER



- 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

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4. LUBRICANTS AND FUEL

No.	Place	Capacity		Lubricants, fuel
		Z724XKW, Z724XKW-2, Z724XKW-3	Z726XKW, Z726XKW-2, Z726XKW-3	
1	Fuel	44 L 11.6 U.S. gals 9.6 Imp.gals		- Automobile unleaded or regular gasoline - Unleaded gasoline 87 octane or higher
2	Engine crankcase	2.1 L 2.2 U.S.qts 1.8 Imp.qts*1	2.3 L 2.4 U.S.qts 2.0 Imp.qts*1	Engine oil API Service Classification SG, SH, SJ or SL - Above 20 °C (68 °F): SAE40 - Between 0 °C (32 °F) to 35 °C (86 °F): SAE30 - Between -20 °C (-4 °F) to 35 °C (86 °F): SAE10W-30 - Below 0 °C (32 °F): SAE5W-30
3	Transmission case with filter, hose and tank (R.H. and L.H.)	6.0 L 6.3 U.S.qts 5.3 Imp.qts		Kubota HST Oil for Z700 Series

Greasing				
No.	Place	No. of greasing point	Capacity	Type of grease
4	Front axle	2	Until grease overflows	Multipurpose EP2 Grease (NLGI Grade No.2)
	Front wheel	2		
	Mower lift links	5	Moderate amount	
	Cutting height cam	1		
	Seat adjuster	2		
	[MOWER]		Until grease overflows	
	Belt tension pivot *2	1		
	Crank shaft	1	Moderate amount	

■ NOTE

- *1 Oil amount when the oil level is at the upper level of the oil level gauge.
- *2 Except for Z724XKW-3, Z726XKW-3.

■ IMPORTANT

- To prevent serious damage to the hydraulic systems, use only the fluid recommended in the previous table.

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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 temperatures as shown in the previous table.
- Indicated capacity of oil is manufacture's estimate.

Transmission Oil:

- Indicated capacity of oil is manufacture's estimate.

Fuel:

- Clean, fresh, unleaded gasoline.
- A minimum of 87 octane / 87AKI (90 RON).
- Gasoline with up to 10 % ethanol (ethyl or grain alcohol) or up to 15 % MTBE (methyl tertiary butyl ether) by volume is acceptable.
- Do not use unapproved gasoline, such as E85. Do not mix oil in gasoline or modify the engine to run on alternate fuels. This will damage the engine components and void the engine warranty.
- This engine is certified to operate on gasoline. The emissions control system for this engine is EM (Engine Modifications).
- High Altitude:
This engine may require a high altitude carburetor kit to ensure correct engine operation at altitudes above 3300 ft. (1006 meters). Operation without this kit will cause decreased performance, increased fuel consumption, and increased emissions.
This engine should be operated in its original configuration below 3300 ft. (1006 meters) as damage may occur if high altitude carburetor kit is installed and operated below 3300 ft. (1006 meters).
- Indicated capacity of fuel is manufacture's estimate.

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5. TIGHTENING TORQUES

Tighten screws, bolts and nuts whose tightening torques are not specified in this Workshop Manual according to the table below.

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[1] GENERAL USE SCREWS, BOLTS AND NUTS

Indication on top of bolt	 4 No-grade or 4T						 7 7T						 9 9T		
Indication on top of nut	  No-grade or 4T												   6 T		
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 to 9.3	0.80 to 0.95	5.8 to 6.8	7.9 to 8.8	0.80 to 0.90	5.8 to 6.5	9.81 to 11.2	1.00 to 1.15	7.24 to 8.31	7.9 to 8.8	0.80 to 0.90	5.8 to 6.5	12.3 to 14.2	1.25 to 1.45	9.05 to 10.4
M8	18 to 20	1.8 to 2.1	13 to 15	17 to 19	1.7 to 2.0	13 to 14	24 to 27	2.4 to 2.8	18 to 20	18 to 20	1.8 to 2.1	13 to 15	30 to 34	3.0 to 3.5	22 to 25
M10	40 to 45	4.0 to 4.6	29 to 33	32 to 34	3.2 to 3.5	24 to 25	48 to 55	4.9 to 5.7	36 to 41	40 to 44	4.0 to 4.5	29 to 32	61 to 70	6.2 to 7.2	45 to 52
M12	63 to 72	6.4 to 7.4	47 to 53	—	—	—	78 to 90	7.9 to 9.2	58 to 66	63 to 72	6.4 to 7.4	47 to 53	103 to 117	10.5 to 12.0	76.0 to 86.7
M14	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	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	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	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

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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 to 15	1.2 to 1.6	8.7 to 11	8.9 to 11	0.90 to 1.2	6.5 to 8.6
M10	25 to 31	2.5 to 3.2	18 to 23	20 to 25	2.0 to 2.6	15 to 18
M12	30 to 49	3.0 to 5.0	22 to 36	31	3.2	23
M14	62 to 73	6.3 to 7.5	46 to 54	—	—	—
M16	98.1 to 112	10.0 to 11.5	72.4 to 83.1	—	—	—
M18	172 to 201	17.5 to 20.5	127 to 148	—	—	—

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[3] HYDRAULIC FITTINGS

(1) Hydraulic Hose Fittings

Hose size	Thread size	Tightening torque		
		N·m	kgf·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				

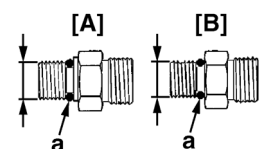
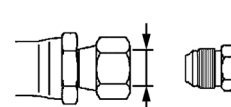
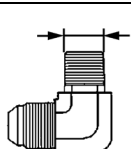
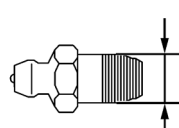
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(2) Hydraulic Pipe Cap Nuts

Pipe size	Tightening torque		
	N·m	kgf·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	Shape	Thread size	Tightening torque		
			N·m	kgf·m	lbf·ft
Adjustable elbow, Adapter (O-ring port) (UNF)	 [A] Nut Type [B] No Nut Type a: O-ring	7/16	18.0 to 20.0	1.84 to 2.03	13.3 to 14.7
		9/16	37.0 to 44.0	3.78 to 4.48	27.3 to 32.4
		3/4	48.0 to 54.0	4.90 to 5.50	35.4 to 39.8
		7/8	77.0 to 85.0	7.86 to 8.66	56.8 to 62.6
Hose fitting, Flare nut (UNF)		9/16	22.0 to 25.0	2.2 to 2.5	16.0 to 19.0
		3/4	36.0 to 40.0	3.67 to 4.07	26.6 to 29.5
		7/8	43.0 to 50.0	4.39 to 5.09	31.8 to 36.8
		1 1/16	107 to 119	11.0 to 12.1	79.0 to 87.7
Adapter (NPT)		1/4	30.0 to 50.0	3.06 to 5.09	22.2 to 36.8
		3/8	39.0 to 60.0	3.98 to 6.11	28.8 to 44.2
		1/2	49.0 to 58.0	5.00 to 5.91	36.2 to 42.7
Grease Fitting		1/8	4.1 to 6.7	0.42 to 0.68	3.1 to 4.9
		1/4	4.1 to 6.7	0.42 to 0.68	3.1 to 4.9

■ NOTE

- When connecting a hose with flare nut, after tightening the nut with the specified tightening torque, return it approximately 45 degrees (0.79 rad) and re-tighten it to the specified tightening torque.

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[4] METRIC SCREWS, BOLTS AND NUTS

Grade	8.8 Property class 8.8			10.9 Property class 10.9		
	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
M8	24 to 27	2.4 to 2.8	18 to 20	30 to 34	3.0 to 3.5	22 to 25
M10	48 to 55	4.9 to 5.7	36 to 41	61 to 70	6.2 to 7.2	45 to 52
M12	78 to 90	7.9 to 9.2	58 to 66	103 to 117	10.5 to 12.0	76.0 to 86.7
M14	124 to 147	12.6 to 15.0	91.2 to 108	167 to 196	17.0 to 20.0	123 to 144
M16	197 to 225	20.0 to 23.0	145 to 166	260 to 304	26.5 to 31.0	192 to 224

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

Grade	 SAE GR.5			 SAE GR.8		
Unit	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
1/4	11.7 to 15.7	1.20 to 1.60	8.63 to 11.5	16.3 to 19.7	1.67 to 2.00	12.0 to 14.6
5/16	23.1 to 27.7	2.36 to 2.82	17.0 to 20.5	33 to 39	3.4 to 3.9	25 to 28
3/8	48 to 56	4.9 to 5.7	36 to 41	61 to 73	6.3 to 7.4	45 to 53
1/2	110 to 130	11.3 to 13.2	81.2 to 95.8	150 to 178	15.3 to 18.1	111 to 131
9/16	150 to 178	15.3 to 18.1	111 to 131	217 to 260	22.2 to 26.5	160 to 191
5/8	204 to 244	20.8 to 24.8	151 to 179	299 to 357	30.5 to 36.4	221 to 263

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[6] PLUGS

Shape	Size	Material of opponent part					
		Ordinariness			Aluminum		
		N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
Tapered screw 	R1/8	13 to 21	1.3 to 2.2	9.4 to 15	13 to 19	1.3 to 2.0	9.4 to 14
	R1/4	25 to 44	2.5 to 4.5	18 to 32	25 to 34	2.5 to 3.5	18 to 25
	R3/8	49 to 88	5.0 to 9.0	37 to 65	49 to 58	5.0 to 6.0	37 to 43
	R1/2	58.9 to 107	6.00 to 11.0	43.4 to 79.5	59 to 78	6.0 to 8.0	44 to 57
Straight screw 	G1/4	25 to 34	2.5 to 3.5	18 to 25	—	—	—
	G3/8	62 to 82	6.3 to 8.4	46 to 60	—	—	—
	G1/2	49 to 88	5.0 to 9.0	37 to 65	—	—	—

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6. MAINTENANCE

No.	Item		Indication on hour meter													Interval	Reference page	Important
			8	50	100	150	200	250	300	350	400	450	500	550	600			
1	Engine oil	Change	☆		☆		☆		☆		☆		☆		☆	every 100 Hr after 8 Hr	G-26	
2	Engine oil filter	Replace					☆				☆				☆	every 200 Hr	G-37	
3	Transaxle oil filter	Replace							★							every 500 Hr after 300 Hr	G-39	
4	Transaxle fluid	Change							★							every 500 Hr after 300 Hr	G-40	
5	Engine start system	Check		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-23	
6	OPC system	Check		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-24	
7	Greasing (front axle and wheel, seat adjuster)	–		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-24	
8	Greasing (mower link bushings, mower belt tension pivot)	–			☆		☆		☆		☆		☆		☆	every 100 Hr	G-35	
9	Muffler and spark arrester	Check		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-25	
10	Air cleaner	Outer element	Check		☆		☆		☆		☆		☆		☆	every 100 Hr	G-27	*1
			Replace					☆					☆			every 250 Hr	G-27	
		Inner element	Check					☆					☆			every 250 Hr	G-27	*1
			Replace										☆			every 500 Hr	G-27	
11	Carbon canister air filter	Check			☆		☆		☆		☆		☆		☆	every 100 Hr	G-26	*1
		Replace														every 2 years	G-26	
12	Fuel filter	Check			☆		☆		☆		☆		☆		☆	every 100 Hr	G-28	
		Replace					☆				☆				☆	every 200 Hr	G-37	
13	Fuel line	Check														every 1 year	G-43	*2
		Replace														every 4 years	G-44	
14	Battery condition	Check			☆		☆		☆		☆		☆		☆	every 100 Hr	G-31	
15	Throttle cable	Adjust			☆		☆		☆		☆		☆		☆	every 100 Hr	G-33	
16	Choke cable	Adjust			☆		☆		☆		☆		☆		☆	every 100 Hr	G-33	
17	Parking brake	Adjust			☆		☆		☆		☆		☆		☆	every 100 Hr	G-29	
18	Spark plug Condition and gap	Check			☆		☆		☆		☆		☆		☆	every 100 Hr	G-36	
		Replace											☆			every 500 Hr	G-36	
19	Hydraulic hose	Check														every 1 year	G-43	*2
		Check														every 2 years	G-44	*3

No.	Item		Indication on hour meter													Interval	Reference page	Important
			8	50	100	150	200	250	300	350	400	450	500	550	600			
20	Engine oil cooler fins	Clean			☆		☆		☆		☆		☆		☆	every 100 Hr	G-34	
21	Engine cooling areas	Clean			☆		☆		☆		☆		☆		☆	every 100 Hr	G-34	
22	Electric clutch	Adjust											☆			every 500 Hr	G-41	
23	Lubricating (crank shaft)	—											☆			every 500 Hr	G-42	
24	Combustion chamber	Clean							☆						☆	every 300 Hr	G-38	
25	Fuse	Replace														Service as required	G-45	
26	Blade	Replace															G-46	
27	Mower belt	Replace															G-47	
28	Valve seats and clearance	Check							☆						☆	every 300 Hr	G-38	
		Adjust							☆						☆	every 300 Hr	G-38	

■ IMPORTANT

- The jobs indicated by ☆ must be done initially.
 - *1 This maintenance should be done daily or more often in dusty condition than in normal conditions.
 - *2 Replace if any deterioration (crack, hardening, scar, or deformation) or damage occurred.
 - *3 These checking items must be conducted by Kubota dealer.
- GASOLINE ENGINE EMISSION RELATED MAINTENANCE INSTRUCTIONS:
 - 1) Non-warranty maintenance, repair, or replacement of the emission control devices and systems should be performed by a qualified repair establishment or individual which has the experience and equipment to perform such work.
See the Emissions Warranty Statement.
 - 2) To ensure the best quality and reliability, use new KUBOTA Genuine parts or their equivalents for repair and replacement, whenever you have maintenance done.

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7. CHECK AND MAINTENANCE



WARNING

To avoid serious injury or death:

- Be sure to check and service the machine on a level surface with the engine shut off, the key removed and the parking brake securely set or chock the rear wheels.

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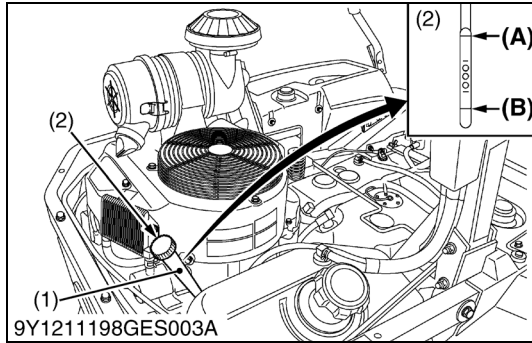
[1] DAILY CHECK

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

Checking

- Walking around the machine
1. Damage of machine body, tightness of all bolts, nuts and pins, etc..
 2. Fuel and oil leak
 3. Tire pressure, wear and damage
 4. Engine oil level
 5. Fuel level
 6. Transaxle fluid level
 7. Machine body cleaning
 8. Clean area around muffler, engine and cutting height cam.
 - Mower
 1. Check all hardware.
 2. Make sure all pins are in place.
 3. Mower deck cleaning.
 4. Make sure blade bolts are tight
 5. Blades and belt wear or damage
 - While sitting in the operator's seat
 1. Motion control lever
 2. Parking brake
 3. Dial cam rotation force
 4. Other movable parts
 - Turning the key switch **"ON"**
 1. Performance of the Easy Checker™ Light
 - Starting the engine
 1. Color of the exhaust fumes
 2. Check for abnormal noise and vibration.
 3. Engine start system / OPC system
 - Others
 1. Check the areas where previous trouble was experienced.

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Checking Engine Oil Level



WARNING

To avoid serious injury or death:

- Always stop the engine and remove the key before checking oil.

1. Check engine oil before starting and 5 minutes or more after the engine has stopped.
2. Wipe dipstick area clean.
3. To check the oil level, remove the dipstick and wipe it clean. Reinsert dipstick into tube; rest cap on tube, do not thread cap onto tube. Remove the dipstick again. Check to see that the oil level is between the 2 notches.
4. Add new oil to the prescribed level at the oil port if necessary.
5. When using a different brand or viscosity oil from the previous one, remove all of the old oil and oil filter. Never mix two different types of oil.
6. Use the proper Engine Oil SAE according to the ambient temperatures. (Refer to "4. LUBRICANTS AND FUEL" on page G-8.)

- (1) Engine Oil Port
(2) Oil Level Dipstick

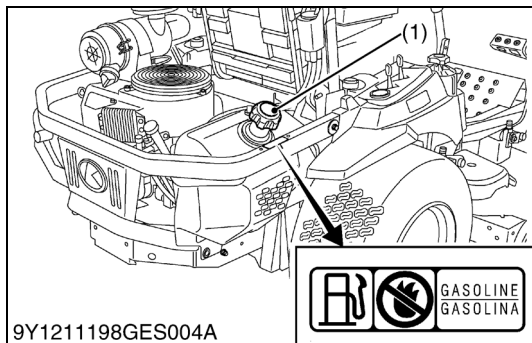
(A) "UPPER LEVEL"

(B) "LOWER LEVEL"

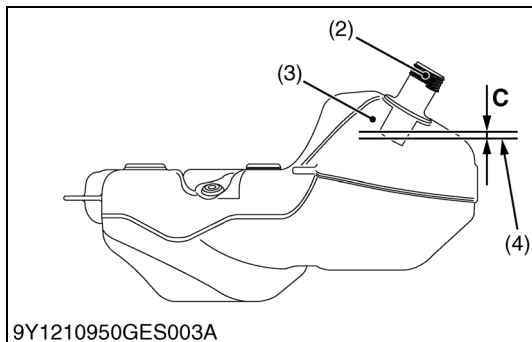
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9Y1211198GES004A



9Y1210950GES003A

Checking Amount of Fuel and Refueling

WARNING

To avoid serious injury or death:

- Park the machine on a firm and level surface.
- Apply the parking brake.
- Handle fuel carefully. If the engine is running, do not fill the fuel tank. If engine is hot, let engine cool several minutes before adding fuel.

Do not smoke while filling the fuel tank or servicing the fuel system. Fill fuel tank only to bottom of filler neck. Do not fill completely full. The empty space in the tank allows gasoline to expand, when it heats up. Never remove the fuel tank cap or add fuel when the fuel tank is hot.

Check the fuel level. Take care that the fuel tank does not become empty.

Fuel tank	Capacity	44 L 11.6 U.S.gals 9.6 Imp.gals
-----------	----------	---------------------------------------

■ IMPORTANT

- Do not mix oil with gasoline.
- Tighten the fuel cap until it clicks.
- Do not use the fuel cap other than KUBOTA approved one.
- Do not permit dirt or trash or water to get into the fuel system.
- Be careful not to spill fuel during refueling. If a spill should occur, wipe it off at once, or it may cause a fire.

Use only unleaded gasoline with an octane rating index of 87 or higher may be used.

■ NOTE

- Use fuel within approximately 30 days after purchase to avoid deterioration in fuel quality, or add fuel stabilizer to keep fuel fresh and stabilized.
- Fuel blend differs from season to season for the best seasonal engine performance. To prevent engine performance troubles such as vapor lock or hard starting, use fuel within the season in which the fuel is purchased.
- Infrequent use of the engine during a season can make fuel stale in the fuel tank of the machine. Stale fuel condition can cause engine performance troubles by varnish and plugged carburetor components.
- Seal the fuel storage container tightly and store it out of sunlight and heat to prevent fuel degradation.
- Condensation in the fuel tank may occur because of various operating or environmental conditions. To reduce condensation and avoid affecting machine operation, fill the fuel tank at the end of daily operations.

- (1) Fuel Tank Cap
(2) Fuel Tank Filler Neck
(3) Empty Space
(4) Max. Fuel Level

C: Clearance
(Fuel level is under the filler neck.)

(To be continued)

(Continued)

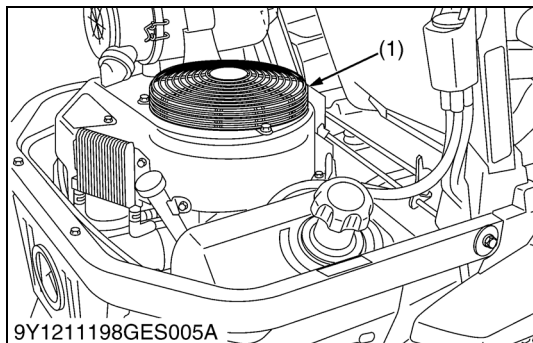
■ **IMPORTANT**

- Do not use old fuel.

[Use of alcohol mixed gasoline]

Only use gasoline containing ethanol when the ethanol is 10 % or less of the fuel. When using gasoline containing MTBE, the MTBE is 15 % or less of the fuel mixture. The use of methanol additive is not recommended. For the best results, use unleaded fuel with a minimum of 87 octane.

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Checking and Cleaning Air Intake Screen



WARNING

To avoid serious injury or death:

- Be sure to stop the engine and remove the key before cleaning.
- Make sure that the engine is cool to the touch before cleaning.

■ **IMPORTANT**

- The air intake screen and air intake area must be clear of debris to prevent the engine from overheating.

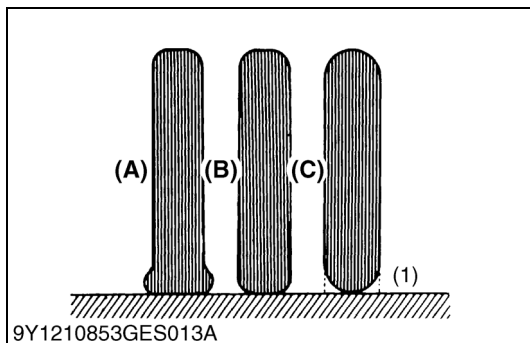
Daily or after every 5 hours of operation, check to be sure the air intake screen and the air intake area are clean.

Dirt or chaff around the air intake screen and air intake area or the engine cooling area decrease cooling performance.

1. Check that the air intake screens are clear of grass clippings and debris.
2. If screens are dirty, clean screens with a brush or cloth.
3. Remove the dust and all foreign material from the engine plate.

(1) Air Intake Screen

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Checking Tire Pressure



WARNING

To avoid serious injury or death:

- Park the machine on a firm and level surface.
 - Apply the parking brake.
 - Stop the engine and remove the key before checking the tire pressure.
 - Do not attempt to mount a tire on a rim. This should be done by a qualified person with the proper equipment.
 - Always maintain the correct tire pressure.
- Inflation pressure in front tires rises quickly when using compressed air.

Do not inflate tires above the recommended pressure below.

■ IMPORTANT

- Do not use tires larger than specified.

■ Inflation Pressure

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

[Z726XKW]

	Tire sizes	Recommended Inflation Max. Pressure
Front	13 × 6.5 - 6, (Non flat) Smooth	—
Rear	24 × 12 - 12, (4PR) Turf	69 kPa (0.7 kgf/cm ² , 10 psi)

[Z724XKW]

	Tire sizes	Recommended Inflation Max. Pressure
Front	13 × 5.0 - 6, (Non flat) Smooth	—
Rear	24 × 9.5 - 12, (4PR) Turf	69 kPa (0.7 kgf/cm ² , 10 psi)

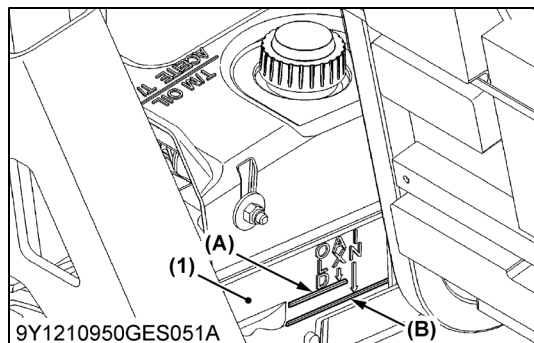
(1) Ground

(A) "INSUFFICIENT"

(B) "NORMAL"

(C) "EXCESSIVE"

9Y1211198GEG0011US0



Checking Transaxle Fluid Level

⚠ WARNING

To avoid serious injury or death:

- Park the machine on a firm and level surface.
 - Apply the parking brake.
 - Stop the engine and remove the key before checking the transaxle fluid level.
1. Check to see that the oil level lies between the [MAX] and [MIN] lines while the machine and oil are at ambient temperature. If the level is too low, add the new oil to the prescribed level into the expansion tank.
(Refer to "4. LUBRICANTS AND FUEL" on page G-8.)
 2. Do not overfill past [MAX] line. Oil expands with heat and may leak from cap during usage if overfilled.

■ IMPORTANT

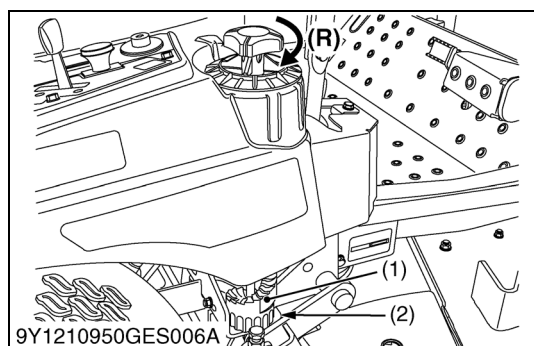
- If oil level is low, do not run engine.
Add new oil into the expansion tank up to the prescribed level.
- Do not overfill the expansion tank.

(1) Transaxle Fluid Tank

(A) [MAX] Line

(B) [MIN] Line

9Y1211198GEG0012US0



Checking Dial Cam Rotation Force

⚠ WARNING

To avoid serious injury or death:

- Park the machine on a firm and level surface.
 - Apply the parking brake.
 - Disengage the PTO (OFF).
 - Stop the engine and remove the key before checking the dial cam rotation strength.
1. Raise the implement to the "TRANSPORT" position.
(Refer to "ADJUSTING CUTTING HEIGHT" in "OPERATING THE MOWER" section in operator's manual.)
 2. Rotate the cutting height control dial and check for smoothness.
 3. If rotation strength is too high, clean dial cam area and apply grease under the dial cam between the dial cam and frame.

(1) Dial Cam

(R) "ROTATE"

(2) Frame Surface

9Y1211198GEG0013US0

Checking Movable Parts

If any of the movable parts, such as levers and pedals, is not smoothly moved because of rust or anything sticky, do not attempt to force it into motion.

In the above case, remove the rust or the sticky object, and apply oil or grease on the relevant spot.

Otherwise, the machine may get damaged.

9Y1211198GEG0014US0

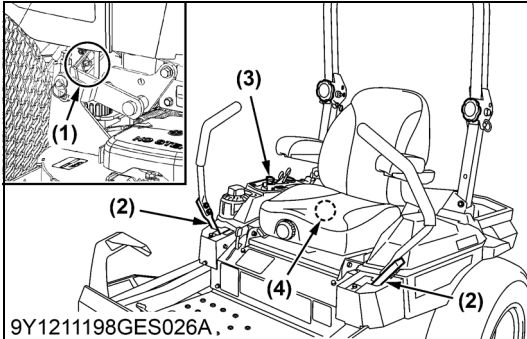
Cleaning Area Around Safety Switches

Since debris decreases the performance of safety switches, it is necessary to keep the area around the safety switches clean.

1. Clean the area around the safety switches.

- | | |
|---------------------------------|-----------------|
| (1) Parking Brake Pedal Switch | (3) PTO Switch |
| (2) Motion Control Lever Switch | (4) Seat Switch |

9Y1211198GEG0061US0



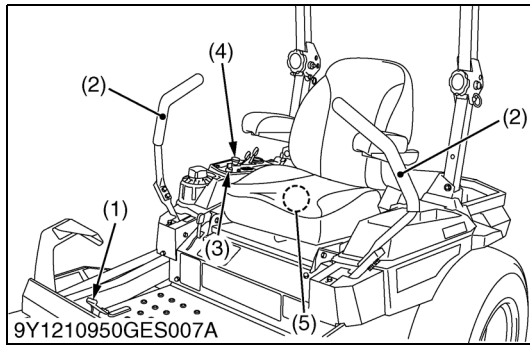
9Y1211198GES026A...

[2] AFTER FIRST 8 HOURS**Changing Engine Oil**

- The engine oil should be changed after the first 8 hours of operation. This is the break-in period for the engine. (See "EVERY 100 HOURS" in "PERIODIC SERVICE" section.)

9Y1211198GEG0058US0

[3] CHECK POINTS OF EVERY 50 HOURS



Checking Engine Start System

The engine start system on this machine is designed to protect the operator while operating. Make sure to check the engine start system periodically. It is recommended to check the engine start system before daily operation.



WARNING

To avoid serious injury or death:

- Do not allow anyone near the machine while testing.
- Sit on operator's seat for all tests except for Test 1.

■ IMPORTANT

- Test the following tests before operating the machine.

Test 1 (OPERATOR NOT ON THE SEAT)

1. Sit in the seat and securely set the parking brake.
2. Set the PTO switch to the **"DISENGAGE"** (OFF) position.
3. Set the motion control levers to the **"NEUTRAL LOCK"** position.
4. Stand up. (DO NOT GET OFF THE MACHINE.)
5. Turn the key switch to the **"START"** position.
6. The engine must not crank.

Test 2 (OPERATOR ON THE SEAT)

1. Do not set the parking brake. (release it from test 1)
2. Set the PTO switch to **"DISENGAGE"** (OFF) position.
3. Set the motion control levers to the **"NEUTRAL LOCK"** position.
4. Turn the main switch to **"START"** position.
5. The engine must not crank.

Test 3 (OPERATOR ON THE SEAT)

1. Securely set the parking brake.
2. Set the PTO switch to **"DISENGAGE"** (OFF) position.
3. Grasp the motion control levers and move them inward from the **"NEUTRAL LOCK"** position to the **"NEUTRAL"** position.
4. Turn the main switch to **"START"** position.
5. The engine must not crank.

Test 4 (OPERATOR ON THE SEAT)

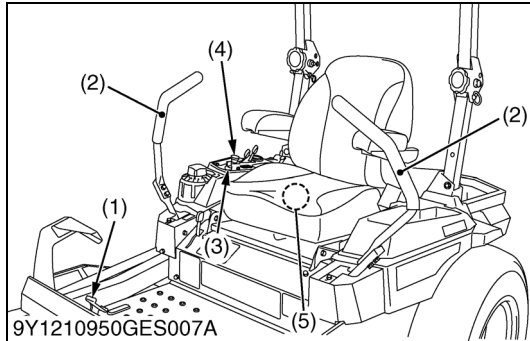
1. Securely set the parking brake.
2. Set the PTO switch to **"ENGAGE"** (ON) position.
3. Set the motion control levers to the **"NEUTRAL LOCK"** position.
4. Turn the main switch to **"START"** position.
5. The engine must not crank.

- (1) Parking Brake Pedal
- (2) Motion Control Lever
- (3) Key Switch

- (4) PTO Switch
- (5) Seat Switch

(To be continued)

(Continued)

**Test 5 (OPERATOR ON THE SEAT)**

1. Start the engine.
2. Keep the parking brake securely set.
3. Set the PTO switch to **"DISENGAGE"** (OFF) position.
4. Grasp the motion control levers and move them inward from **"NEUTRAL LOCK"** position to **"NEUTRAL"** position.
5. The engine must shut off.

9Y1211198GEG0015US0

Checking OPC System

The operator presence control (OPC) system on this machine is designed to protect the operator while operating. Make sure to check the OPC system periodically. It is recommended to check the OPC system before daily operation.

Test 1 (OPERATOR ON THE SEAT)

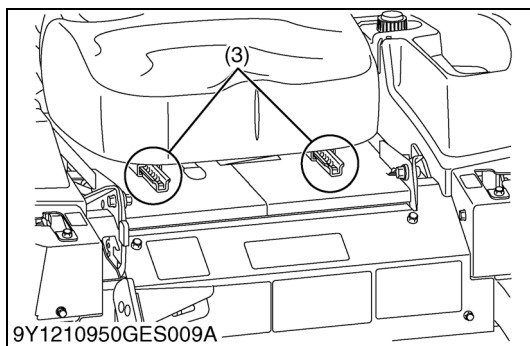
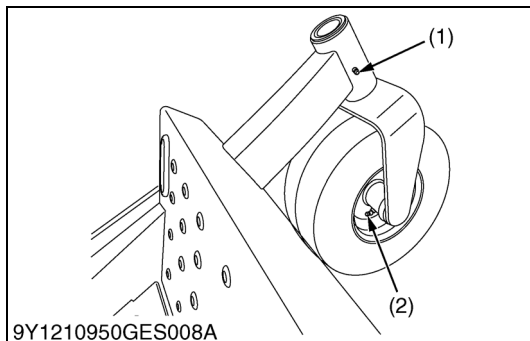
1. Start the engine.
2. Do not set the parking brake.
3. Set the PTO switch to **"DISENGAGE"** (OFF) position.
4. Stand up. (DO NOT GET OFF THE MACHINE.)
5. The engine must shut off.

Test 2 (OPERATOR ON THE SEAT)

1. Start the engine.
2. Do not set the parking brake.
3. Set the PTO switch to **"ENGAGE"** (ON) position.
4. Stand up. (DO NOT GET OFF THE MACHINE.)
5. The engine must shut off after 1 second.

- | | |
|--------------------------|-----------------|
| (1) Parking Brake Pedal | (4) PTO Switch |
| (2) Motion Control Lever | (5) Seat Switch |
| (3) Key Switch | |

9Y1211198GEG0016US0

**Greasing****WARNING**

To avoid serious injury or death:

- Be sure to stop the engine and remove the key before greasing.

Apply a small amount of multipurpose grease to the following points every 50 hours:

If you operated the machine in extremely wet and muddy conditions, lubricate grease fittings more often.

- | | |
|------------------------------|-------------------|
| (1) Front Axle (L.H., R.H.) | (3) Seat Adjuster |
| (2) Front Wheel (L.H., R.H.) | |

9Y1211198GEG0017US0

Checking Muffler and Spark Arrester (If Equipped)

The muffler and spark arrester should be checked every 50 hours operation or every 1 year, whichever comes first.

**WARNING**

Running engines produce heat. Engine parts, especially muffler, become extremely hot. Severe thermal burns can occur on contact. Combustible debris, such as leaves, grass, brush, etc. can catch fire.

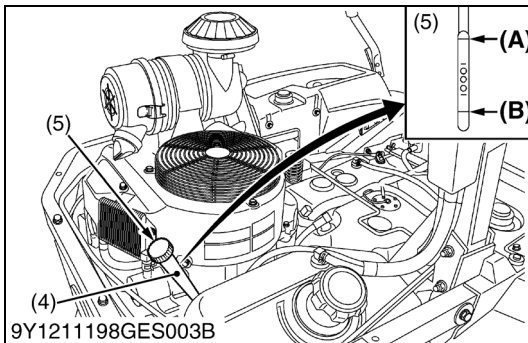
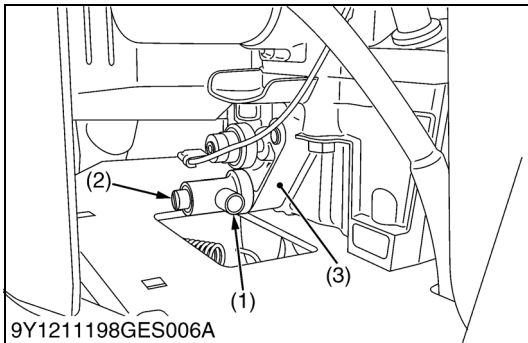
To avoid serious injury or death:

- Allow muffler, engine cylinder and fins to cool before touching.
- Remove accumulated debris from muffler area and cylinder area.
- It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws.
- Replacement parts must be of the same design and installed in the same position as the original parts. Other parts may not perform as well, may damage the unit, and may result in injury.

Remove accumulated debris from muffler area and cylinder area. Inspect the muffler for cracks, corrosion, or other damage. Remove the spark arrester, if equipped, and inspect for damage or carbon blockage. If damage is found, install replacement parts before operating.

9Y1211198GEG0018US0

[4] CHECK POINTS OF EVERY 100 HOURS



Changing Engine Oil

The engine oil should be changed every 100 hours operation or every 1 year, whichever comes first.



WARNING

To avoid serious injury or death:

- Be sure to stop the engine and remove the key before changing the oil.
- Allow engine to cool down sufficiently; oil can be hot and may cause burns.

1. To change the used oil, use the drain valve connected to the engine block. To drain the oil, loosen the hex plug until oil begins to drain. Then, remove the oil level dipstick to allow the engine to vent.

NOTE

- The used oil can be drained out more easily if the engine is warm.

2. After all used oil has drained, reinstall the drain plug and return the hose to the hook.
3. Fill with new oil up to the upper level on the dipstick.
4. To check the oil level:
Remove the dipstick, wipe it clean, insert it without screwing it in and draw it out again. Check to see that the oil level is between the 2 marks.

NOTE

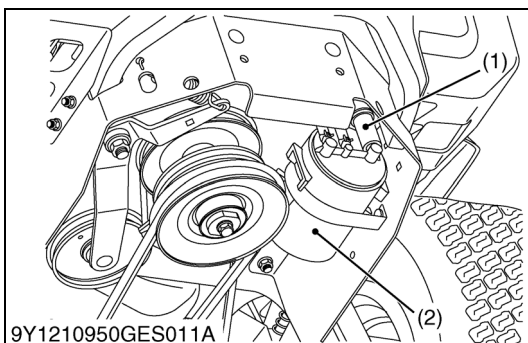
- Do not overfill.

- (1) Oil Drain Valve
- (2) Plug Bolt
- (3) Engine Block
- (4) Engine Oil Port
- (5) Oil Level Dipstick

(A) "UPPER LEVEL"

(B) "LOWER LEVEL"

9Y1211198GEG0019US0



Checking Carbon Canister Air Filter

Check the carbon canister air filter every 100 hours of operation. (more often under extremely dusty or dirty conditions.)



WARNING

To avoid serious injury or death:

- Always stop the engine, set the parking brake, remove the key, and disengage PTO.

1. Remove the carbon canister.
2. Remove the carbon canister air filter.
3. Check to see if the carbon canister air filter is worn out, damaged or dirty.
4. If the air filter is dirty, wash the air filter in warm water with detergent. Then rinse the air filter thoroughly until all traces of detergent are eliminated. Squeeze out excess water. (do not wring.) Allow the air filter to air dry. Do not use high pressure air to clean filter.
5. If the air filter is worn out, damaged or too dirty to wash clean, replace it with a new one.
6. Reinstall the carbon canister.

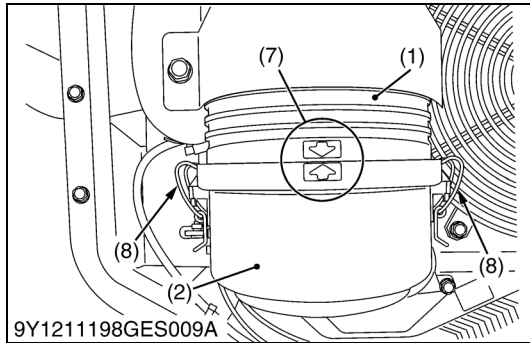
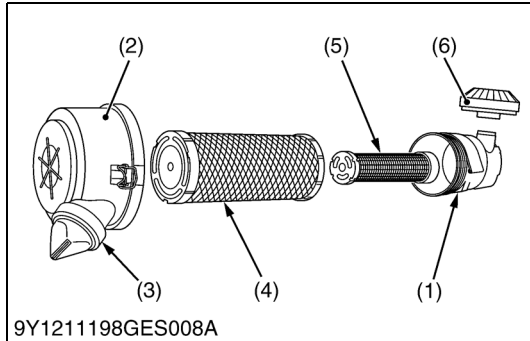
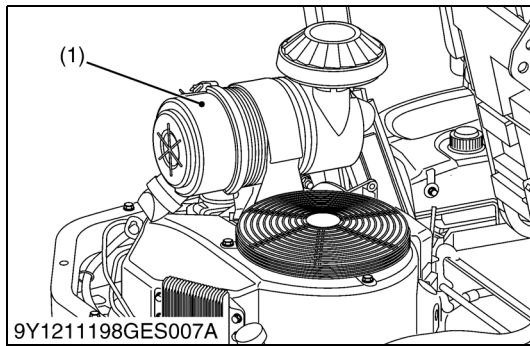
NOTE

- Operating in dusty condition may require more frequent maintenance than above.

- (1) Canister Air Filter

- (2) Carbon Canister

9Y1211198GEG0020US0



Checking Air Cleaner Outer Element

Check the air cleaner daily or before starting the engine.

Check for a buildup of dirt and debris around the air cleaner system. Keep this area clean. Also check for loose or damaged components.

Check the air cleaner outer element every 100 hours of operation.

■ NOTE

- **Operating the engine with loose or damaged air cleaner components could allow unfiltered air into the engine causing premature wear and failure.**

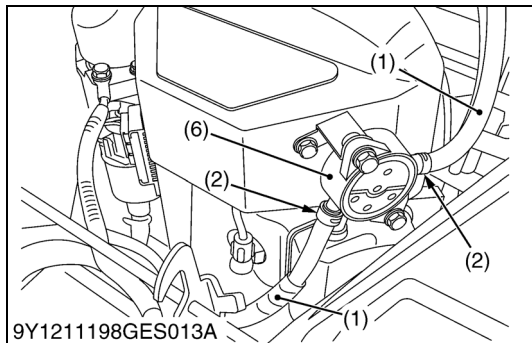
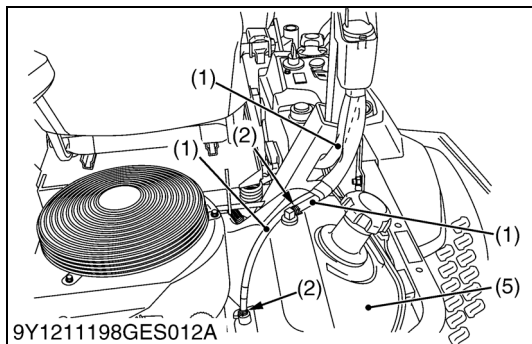
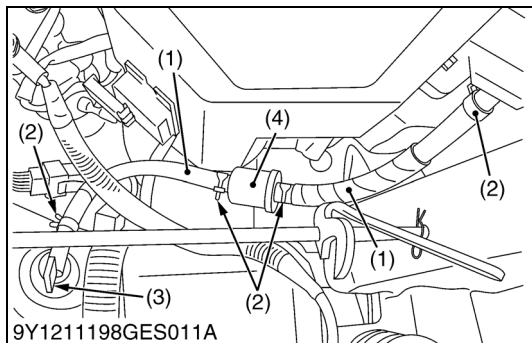
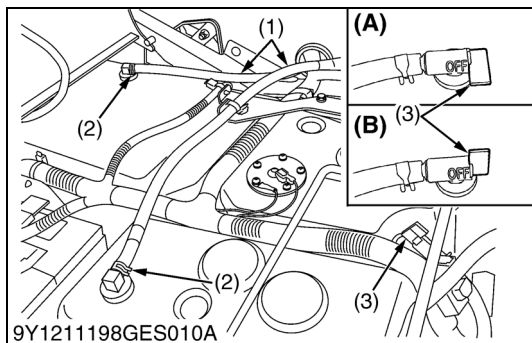
1. Unhook retaining clips and remove end caps.
2. Check inlet screen and clean if necessary.
3. Remove and check outer element. Replace if dirty.
4. If replacing outer element, remove and check inner element. Replace inner element if dirty.
5. Check all parts for wear, cracks, or damage, and that ejector area is clean.
6. After checking parts, reassemble the air cleaner. When installing the end cap, make sure the alignment arrow on the end cap and the alignment arrow on the air cleaner housing are aligned.
7. Reinstall end caps with ejector area down with retaining clips.

■ NOTE

- **Outer element cannot be cleaned with compressed air.**

- | | |
|--------------------------------|----------------------|
| (1) Air Cleaner Housing | (5) Inner Element |
| (2) End Cap | (6) Rain Cap |
| (3) Rubber Vent / Ejector Area | (7) Alignment Arrows |
| (4) Outer Element | (8) Retaining Clips |

9Y1211198GEG0021US0



Checking Fuel Filter



WARNING

To avoid serious injury or death:

- Be sure to stop the engine and remove the key when attempting to make the following checks and changes.
- Never fail to check the fuel filter area periodically. The fuel filter is subject to wear and aging. Fuel may leak out onto the running engine, causing a fire.

1. The fuel filter is made of plastic period and ages regardless of service period.
2. If the fuel filter or clamps are found damaged or deteriorated, replace them.
3. Check fuel filter, if it is clogged by debris or contaminated with water, replace it.
4. If the dust or chaff has accumulated around the fuel filter, remove them by hand or air blow.

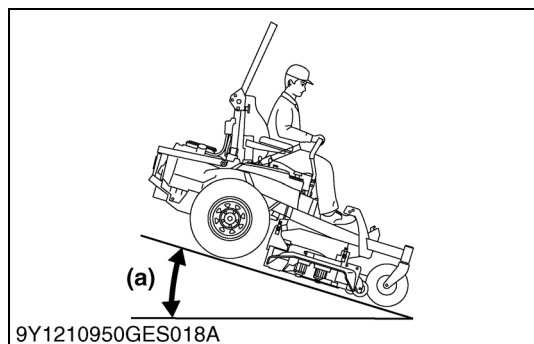
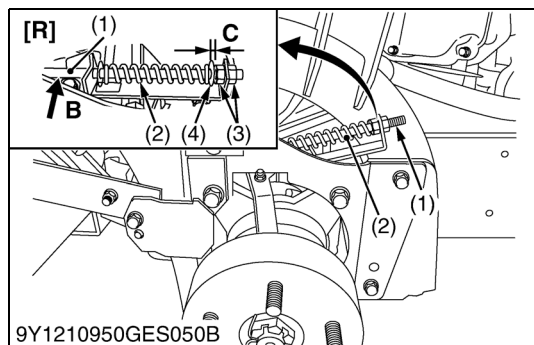
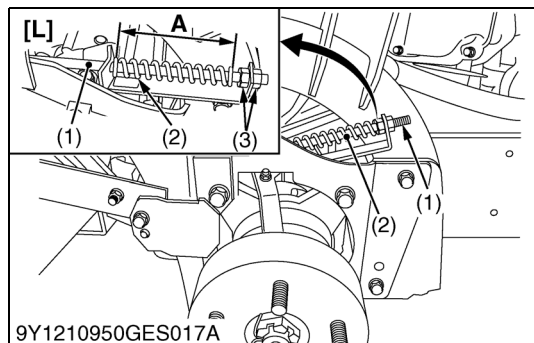
■ IMPORTANT

- When the fuel line is disconnected for maintenance or repair, close both ends of the fuel line with a piece of clean cloth or paper to prevent dust and dirt from entering. In addition, particular care must be taken not to admit dust and dirt into the fuel pump. Entrance of dust and dirt causes malfunction of the fuel pump.

- (1) Fuel Line
- (2) Pipe Clamp
- (3) Fuel Valve
- (4) Fuel Filter
- (5) Fuel Tank
- (6) Fuel Pump

- (A) "CLOSE" (OFF)
- (B) "OPEN"

9Y1211198GEG0022US0



Adjusting Parking Brake



WARNING

To avoid serious injury or death:

- Park the machine on a firm and level surface.
- Stop the engine and chock the wheels before checking or adjusting.

■ IMPORTANT

- Wrong adjustment may cause machine damage.

(1) Check brake spring

1. Place the motion control levers to the "NEUTRAL LOCK" position.
2. Be sure to chock the rear wheels.
3. Apply the parking brake to the lock position.
4. Check the length of the brake springs on both sides.
5. If the length of the brake spring is not correct, adjust it. (See "Adjustment of brake spring length" below.)

"A": Proper brake spring length with the brake applied to the lock position	114 to 115 mm 4.49 to 4.52 in.
---	-----------------------------------

6. Release the parking brake completely.
7. Hold the brake rod lightly.
8. Check the brake spring play.

"C": Proper brake spring play	The spring must have play. Reference: 0.5 to 1 mm 0.02 to 0.04 in.
-------------------------------	---

9. If the brake spring play is not correct, adjust it.
(See page "Adjustment of brake spring play" in the next page.)

■ Adjustment of brake spring length

1. Place the motion control lever to the "NEUTRAL LOCK" position.
2. Apply the parking brake to the lock position.
3. Loosen the lock nuts.
4. Adjust the spring length to the recommendation.
5. Lock the nuts.
6. Check the brake spring play to the recommendation.
If there is no play, adjust the brake spring play again.
(See "Adjustment of brake spring play" below.)
7. Adjust the other side spring to the same dimension.

- (1) Brake Rod
(2) Brake Spring
(3) Lock Nut
(4) Plain Washer

- A: "Parking Brake Spring Length"
B: "Hold The Brake Rod"
C: "Parking Brake Spring Play"
[L] When the parking brake is locked.
[R] When the parking brake is released.
(a) 17° ramp

(To be continued)

(Continued)**■ Adjustment of brake spring play**

1. Place the motion control lever to the **"NEUTRAL LOCK"** position.
2. Be sure to chock the rear wheels.
3. Release the parking brake completely.
4. Loosen the lock nuts.
5. Hold the brake rod by hand.
6. Tighten the nut to the correct space between the end of the spring and the nut.
7. Lock the nuts.
8. Adjust the other side spring to the same dimension.

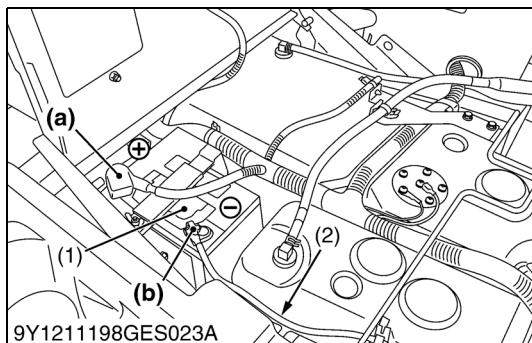
(2) Check on the slope

1. Place the machine on a 17° ramp.
2. Apply the parking brake.
3. Place the motion control levers in **"NEUTRAL LOCK"** position and shut off the engine.
4. Check that the machine does not move.

■ NOTE

- **For parking brake test purposes, only use 17° ramp.**

9Y1211198GEG0023US0



Checking Battery Condition



DANGER

To avoid the possibility of battery explosion:
For the refillable type battery, follow the instructions below.

- Do not use or charge the refillable type battery if the fluid level is below the LOWER (lower limit level) mark. Otherwise, the battery component parts may prematurely deteriorate, which may shorten the battery's service life or cause an explosion. Check the fluid level regularly and add distilled water as required so that the fluid level is between the UPPER and LOWER levels.
- When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.



WARNING

To avoid serious injury or death:

- Batteries, battery posts, terminals and related accessories contain lead and lead compounds, and other chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. **WASH HANDS AFTER HANDLING.**
- Never remove the battery cap while the engine is running.
- Keep electrolyte away from eyes, hands and clothes. If you are splattered with it, wash it away completely with water immediately and get medical attention.
- Keep open sparks and flames away from the battery at all times. Hydrogen gas mixed with oxygen becomes very explosive.
- Wear eye protection and rubber gloves when working around battery.

NOTE

- The factory-installed battery is of non-refillable type. If the battery is weak, charge the battery or replace it with new one.

IMPORTANT

- Mishandling the battery shortens the service life and adds to maintenance costs.
The original battery is maintenance free, but needs some servicing.
If the battery is weak, the engine will be difficult to start and the lights will be dim. It is important to check the battery periodically.
- When exchanging an old battery for new one, use battery of equal specification in the following table.

Battery Type	Volts (V)	Reserve Capacity (min.)	Cold Cranking Amps	Normal Charging Rate (A)
U1-300	12	45	300	6.5

- (1) Battery
(2) Ground Cable

- (a) Positive Terminal
(b) Negative Terminal

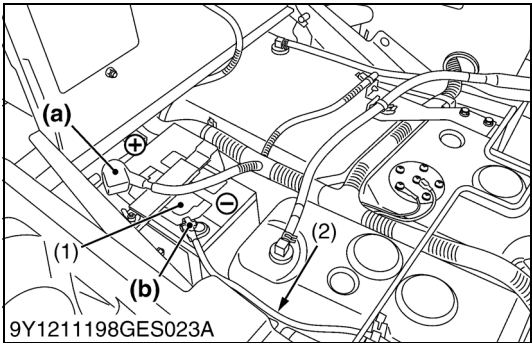
(To be continued)

(Continued)

(For non-accessible maintenance-free type batteries.)
Maintenance-free, non-accessible batteries are designed to eliminate the need to add water. Yet the volume of electrolyte above plates may eventually become depleted due to abnormal conditions such as high heat or improper regulator setting. Use a voltmeter to check the state of charge. (See reference chart below to determine if charging is necessary.)

Battery voltage	Reference state of charge
12.6	100 % (Full charge)
12.4	75 %
12.2	50 %
12.0	25 %
11.8	0 %

9Y1211198GEG0024US0



Battery Charging

⚠ DANGER

To avoid serious injury or death:

- When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.

⚠ WARNING

To avoid serious injury or death:

- When disconnecting the cable from the battery, start with the negative terminal first. When connecting the cable to the battery, start with the positive terminal first.
- Never check battery charge by placing a metal object across the posts.

Use a voltmeter or hydrometer.

1. To slow charge the battery, connect the battery positive terminal to the charger positive terminal and the negative to the negative, then charge for at least 1 hour at 6.5 amperes.
2. A boost charge is only for emergencies. It will partially charge the battery at a high rate and in a short time.
When using a boost-charged battery, it is necessary to recharge the battery as early as possible.
Failure to do this will shorten the battery's service life.

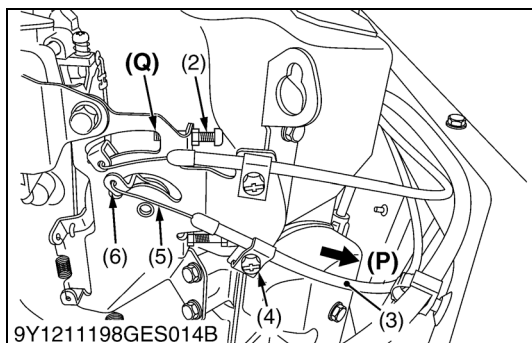
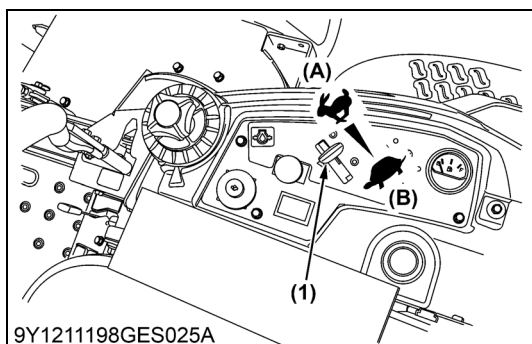
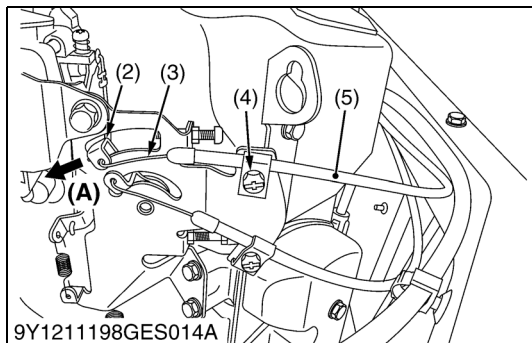
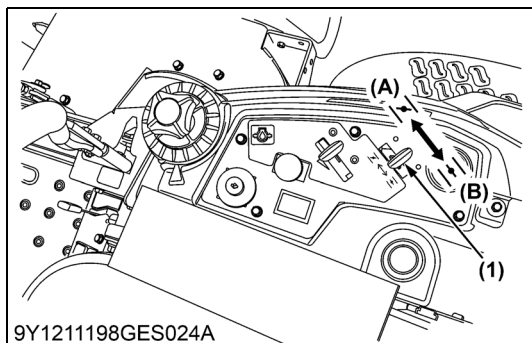
■ Storage The Battery

1. When storing the machine for a long period, remove the battery from machine, adjust the electrolyte to the proper level and store in a dry place out of direct sunlight.
2. The battery self-discharges while it is stored.
Recharge it once every 3 months in hot seasons and once every 6 months in cold seasons.

- (1) Battery
(2) Ground Cable

- (a) Positive Terminal
(b) Negative Terminal

9Y1211198GEG0025US0



Adjusting Choke Cable

! WARNING

To avoid serious injury or death:

- Park the machine on a firm and level surface.
- Apply the parking brake.
- Stop the engine and remove the key before adjusting the choke cable.

1. Move the choke lever to the **"OFF"** position.
2. Push choke bracket in direction of arrow (A).
3. If bracket can move in direction of arrow (A), loosen the bolt and pull the choke lever cable and sheath in the direction of arrow (A) until bracket can no longer move in direction of arrow (A). Then tighten the bolt.

- (1) Choke Lever
(2) Choke Bracket
(3) Choke Cable
(4) Bolt
(5) Choke Cable Sheath

- (A) **"CHOKE ON"**
(B) **"CHOKE OFF"**

9Y1211198GEG0026US0

Adjusting Throttle Cable

! WARNING

To avoid serious injury or death:

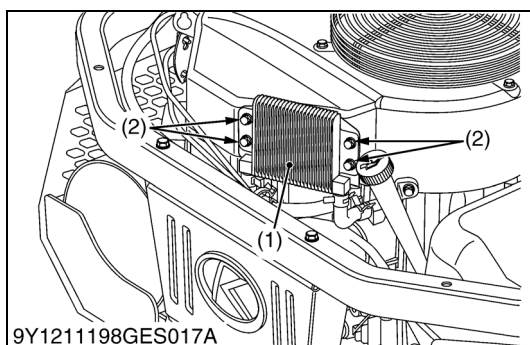
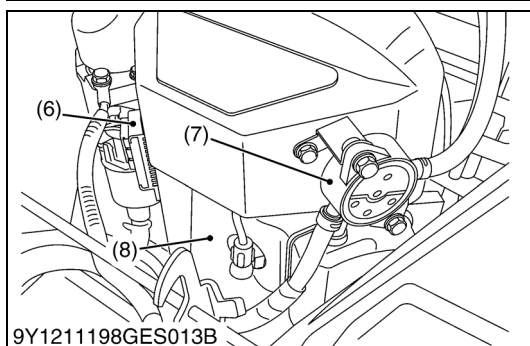
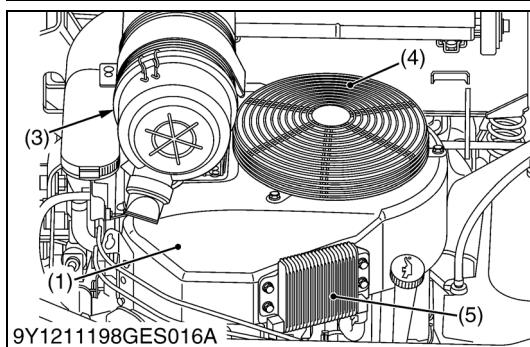
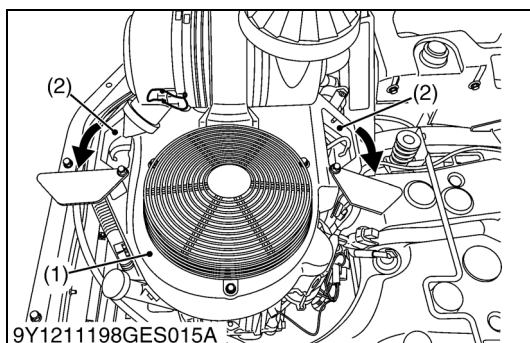
- Park the machine on a firm and level surface.
- Apply the parking brake.
- Stop the engine and remove the key before adjusting the throttle cable.

1. Move the throttle lever to the **"FAST"** position.
2. Make sure the throttle arm contacts the stopper bolt.
3. If not possible, loosen the bolt and pull the throttle lever cable sheath in the direction of the arrow until throttle arm contacts the stopper bolt. And then tighten the bolt.

- (1) Throttle Lever
(2) High Idle Stopper Bolt
(3) Throttle Cable Sheath
(4) Bolt
(5) Throttle Cable
(6) Throttle arm

- (A) **"FAST"**
(B) **"SLOW"**
(P) **"PULL"**
(Q) **"CONTACT"**

9Y1211198GEG0027US0



Cleaning Engine Cooling Areas

The engine cooling areas should be cleaned every 100 hours of operation or every 1 year, whichever comes first. The engine is equipped with blower housing clean out ports for periodic maintenance in between cleaning.



WARNING

To avoid serious injury or death:

- **Make sure engine is cool to the touch before removing shrouds.**
- **Always shield eyes and face from air deposits and objects.**

1. Remove the fan guard.
2. Remove the oil cooler.
3. Remove the fuel pump.
4. Unplug the voltage regulator and remove the ground bolt.
5. Remove the air cleaner.
6. Remove the blower housing.
7. Remove the engine shrouds.
8. Clean all areas that were previously covered by the blower cover with compressed air. Remove all dust, dirt, and debris.
9. Reinstall all parts in the reverse order of the above procedure.

- | | |
|------------------------------------|-----------------------|
| (1) Blower Housing | (5) Oil Cooler |
| (2) Blower Housing Clean Out Ports | (6) Voltage Regulator |
| (3) Air Cleaner | (7) Fuel Pump |
| (4) Fan Guard | (8) Engine Shroud |

9Y1211198GEG0028US0

Cleaning Engine Oil Cooler Fins (If Equipped)

The engine oil cooler fins should be cleaned every 100 hours operation or every 1 year, whichever comes first.

This engine is equipped with an oil cooler. The style of the oil cooler is mounted on the blower housing. Pressure of compressed air must be under 205 kPa (2.10 kgf/cm², 30.0 psi).



WARNING

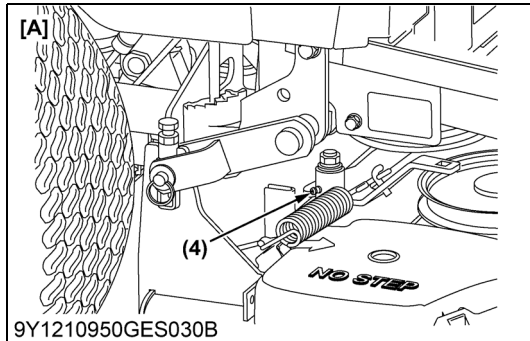
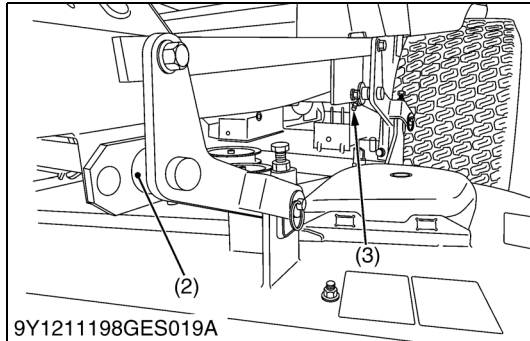
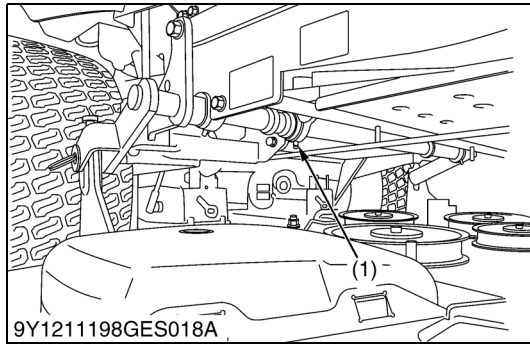
To avoid serious injury or death:

- **Make sure the engine is cool enough to touch before removing shrouds and other components.**
- **Always shield eyes and a face from air deposits and objects.**

1. Stop the engine and apply the parking brake.
2. Loosen the 4 bolts for the engine oil cooler.
3. Pull out the engine oil cooler.
4. Remove large debris from both sides of the engine oil cooler fin by hand, and then blow off small debris with the compressed air. Pressure of compressed air must be under 205 kPa (2.10 kgf/cm², 30.0 psi).
5. Put back the engine oil cooler in the original position and tighten bolts.

- | | |
|----------------|---------------------|
| (1) Oil Cooler | (2) Oil Cooler Bolt |
|----------------|---------------------|

9Y1211198GEG0029US0



Greasing

WARNING

To avoid serious injury or death:

- Be sure to stop the engine and remove the key before greasing.

Apply a small amount of multipurpose grease to the following points every 100 hours:

If you operated the machine in extremely wet and muddy conditions, lubricate grease fittings more often.

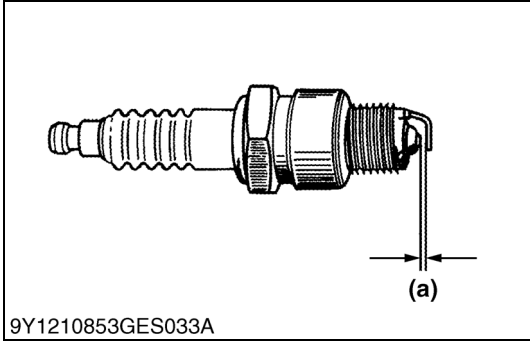
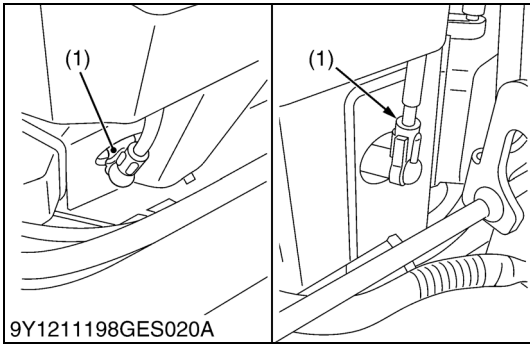
- (1) Center Mower Link Bushing
- (2) Front Mower Link Bushing (L.H., R.H.)

- (3) Rear Mower Link Bushing (L.H., R.H.)

- (4) Mower Belt Tension Pivot

[A] Except for Z724XKW-3, Z726XKW-3

9Y1211198GEG0030US0



Checking Spark Plug Condition and Gap

⚠ WARNING

To avoid serious injury or death:

- Park the machine on a firm and level surface.
- Apply the parking brake.
- Stop the engine and remove the key before checking the spark plug.

Remove the spark plugs, check condition, and reset the gap or replace with new plugs as necessary.

1. Before removing spark plugs, clean the area around the base of the plug to keep dirt and debris out of the engine.
2. Disconnect the spark plug cap from spark plugs.
3. Use a spark plug wrench to remove the spark plugs.
4. Remove plugs and check its condition.
Replace the plug if worn or reuse is questionable.
5. Inspect spark plugs for cracked porcelain, pitted electrodes, or other wear and damage. Replace the spark plug if necessary.

■ NOTE

- Do not clean the spark plug in a machine using abrasive grit. Some grit could remain in the spark plug and enter the engine, which may cause extensive wear and damage.

Recommended spark plug	NGK BPR4ES
------------------------	------------

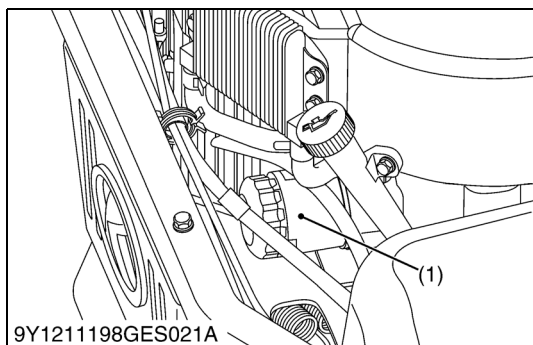
6. Check the gap using a wire feeler gauge. Adjust the gap to 0.75 mm (0.030 in.) by carefully bending the ground electrode.
7. Reinstall the spark plug into the cylinder head.

Tightening torque	Spark plug	22 N·m 2.2 kgf·m 16 lbf·ft
-------------------	------------	----------------------------------

(1) Spark Plug Cap and Spark Plug (a) 0.75 mm (0.030 in.)

9Y1211198GEG0031US0

[5] CHECK POINTS OF EVERY 200 HOURS



Replacing Engine Oil Filter



WARNING

To avoid serious injury or death:

- Engine oil is a toxic substance. Dispose of used oil properly. Contact your local authorities for approved disposal methods or possible recycling.
- Be sure to stop the engine and remove the key before changing the oil and the oil filter cartridge.
- Allow engine to cool down sufficiently; oil can be hot and may cause burns.

The oil filter cartridge must be changed every **200 service hours**.

Always use a genuine oil filter.

1. Drain the engine oil. (See page G-26.)
2. Remove the old filter and wipe off the filter adapter with a clean cloth.
3. Place a new replacement filter in a shallow pan with the open end up. Pour new oil, of the proper type, in through the threaded center hole. Stop pouring when the oil reaches the bottom of the threads. Allow a minute or two for the oil to be absorbed by the filter material.
4. Apply a thin film of clean oil to the rubber gasket on the new oil filter.
5. Install the new oil filter to the filter adapter. Hand tighten the filter clockwise until the rubber gasket contacts the adapter, then tighten the filter an additional **2/3 turn**.
6. Fill the engine with the proper oil to the **"FULL"** or **"F"** mark on the dipstick. Always check the oil level with the dipstick before adding more oil.
7. Reinstall the oil fill cap/dipstick and tighten securely.
8. Start the engine and check for oil leaks. Recheck oil level before placing the engine into service.

Stop the engine, correct any leaks, and allow a minute for the oil to drain down, then recheck the level on the dipstick.

■ **NOTE**

- To prevent extensive engine wear or damage, always maintain the proper oil level in the crankcase. Never operate the engine with the oil level below the **"ADD"** or **"L"** mark or above the **"FULL"** or **"F"** mark on the dipstick.

(1) Engine Oil Filter Cartridge

9Y1211198GEG0033US0

Replacing Fuel Filter

See page G-28.

9Y1211198GEG0034US0

[6] CHECK POINTS OF EVERY 250 HOURS

Replacing Air Cleaner Outer Element

See page G-27.

9Y1211198GEG0035US0

Checking Air Cleaner Inner Element

See page G-27.

9Y1211198GEG0036US0

[7] CHECK POINTS OF EVERY 300 HOURS

Cleaning Combustion Chamber

Refer to "Cylinder Head" in Engine Top End, at KAWASAKI ENGINE SERVICE MANUAL.

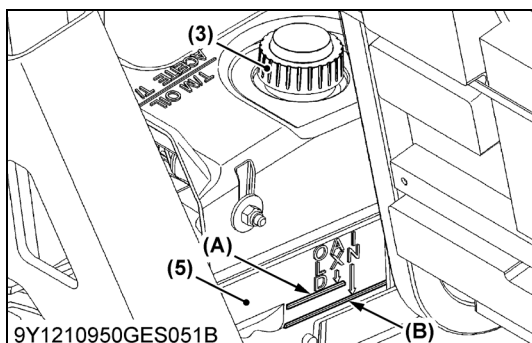
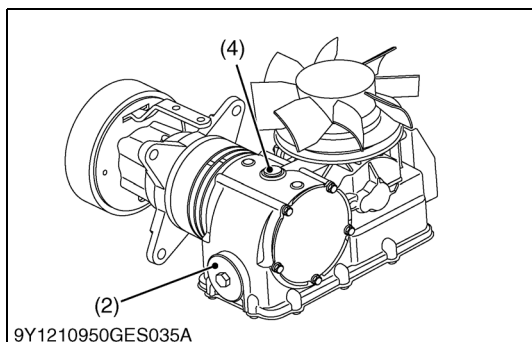
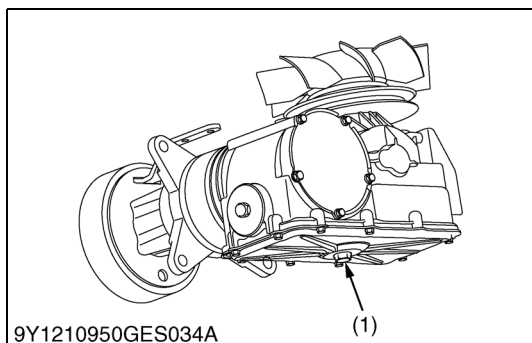
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Cleaning and Adjusting Valve Seat and Clearance

Refer to "Periodic Maintenance Procedures" in Periodic maintenance, at KAWASAKI ENGINE SERVICE MANUAL.

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[8] CHECK POINTS OF EVERY 500 HOURS AFTER 300 HOURS



Replacing Transaxle Oil Filter Cartridge



WARNING

To avoid serious injury or death:

- Park the machine on a firm and level surface.
- Apply the parking brake.
- Be sure to stop the engine and remove the key before changing or checking the oil.
- Allow transmission case to cool down sufficiently; oil can be hot and may cause burns.

1. Clean any loose debris from around the oil drain plug, oil filter, oil tank cap, and breather port plug.
2. Place an oil drain pan (8 qt. capacity minimum) beneath the oil drain plug. Remove the oil drain plug and washer and allow used oil to drain completely.

NOTE

- Remove the oil tank cap to speed up the draining process.

3. Remove the oil filter.

NOTE

- Always replace the filter when performing any internal maintenance to the transaxle.

4. Wipe the oil filter mounting surface and apply a film of new oil to the new oil filter O-ring.
5. Install the new oil filter by hand.
6. After hand tightening, torque the oil filter to 13.0 to 15.2 N·m (1.30 to 1.50 kgf·m, 9.60 to 11.2 lbf·ft).
7. Inspect oil drain plug and washer. Replace if damaged.
8. Reinstall the oil drain plug and washer. Torque to 5.7 to 8.4 N·m (0.59 to 0.85 kgf·m, 4.2 to 6.1 lbf·ft).
9. Loosen breather port plug by 3 turns.

IMPORTANT

- Always loosen the breather port plug when adding oil. If breather port plug is not loosened, air can remain in the transaxle and reduce performance.

10. Fill oil tank with new oil and allow oil to drain into transaxle. Continue until oil just comes out from the breather port plug.
11. Tighten the breather port plug. Torque to 11.3 to 13.5 N·m (1.16 to 1.37 kgf·m, 8.34 to 9.95 lbf·ft).
12. Continue to fill the transaxle through the oil tank until the "Oil Full" line is reached on the oil tank. (See G-21.)
13. Reinstall the oil tank cap by hand. Do not overtighten.
14. Repeat steps 1-13 on the opposite side transaxle drive.
15. Purge any remaining air from the transaxles.

- | | |
|--|----------------|
| (1) Oil Drain Plug | (A) [MAX] line |
| (2) Oil Filter | (B) [MIN] line |
| (3) Oil Tank Cap | |
| (4) Breather Port Plug | |
| (5) Oil Transaxle Fluid Expansion Tank | |

(To be continued)

(Continued)**■ Purging Procedures**

Before starting, make sure the transaxle is at the proper oil level. If it is not, fill to the specifications outlined in this manual.

The following procedures are best performed with the machine drive wheels off the ground, and then repeated under normal operating conditions. If this is not possible, perform this procedure in an open flat area free of any objects or bystanders.

1. Open the bypass valves of both transaxles with the bypass levers. (See "Hydrostatic Transaxle Bypass Lever" in "OPERATING THE MACHINE" section in operator's manual.)
2. Start the engine and disengage the parking brake.
3. Slowly move the motion control levers in both forward and reverse directions (5 or 6 times).
4. Place the motion control levers in neutral lock and apply the parking brake.
5. Close the bypass valves of both transaxles.
6. Disengage the parking brake.
7. Slowly move the motion control levers in both forward and reverse directions (5 or 6 times).
8. Place the motion control levers in neutral lock, apply the parking brake, and stop the engine.
9. Check the transaxle oil level. If oil level is low, proceed to step 10.
10. Loosen breather port plug by 3 turns.
11. Fill oil tank with new oil and allow oil to drain into transaxle. Continue until oil just comes out from the breather port plug.
12. Tighten the breather port plug. Torque to 11.3 to 13.5 N·m (1.16 to 1.37 kgf·m, 8.34 to 9.95 lbf·ft).
13. Check the transaxle oil level. If oil level is below the **[MIN]** line, proceed to step 14. Otherwise, the purging process is complete.
14. Loosen breather port plug by 3 turns.
15. Fill expansion tank with new oil and allow oil to drain into transaxle. Continue until oil just comes out from the breather port plug.
16. Tighten the breather port plug. Torque to 11.3 to 13.5 N·m (1.16 to 1.37kgf·m, 8.34 to 9.95 lbf·ft).
17. Continue to fill the transaxle through the expansion tank until the **[MAX]** line is reached on the expansion tank.
18. Repeat steps 1 through 13 until all air is purged from the transaxles.

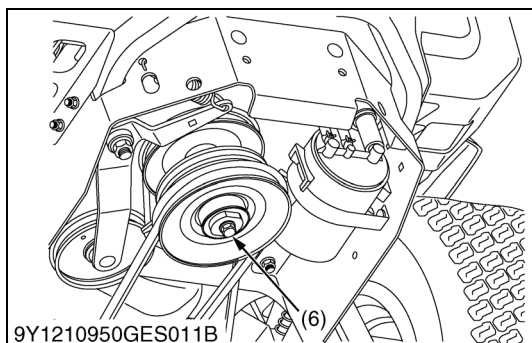
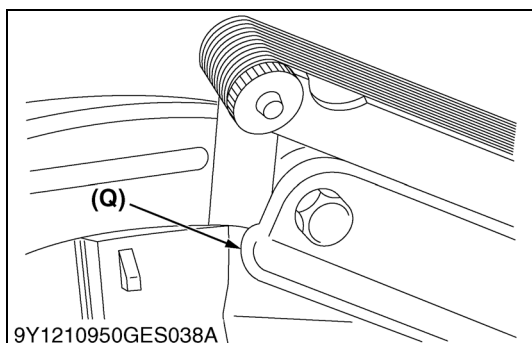
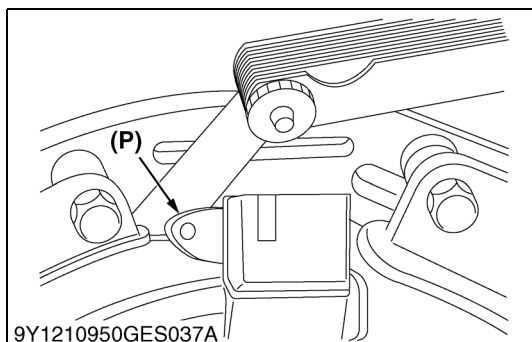
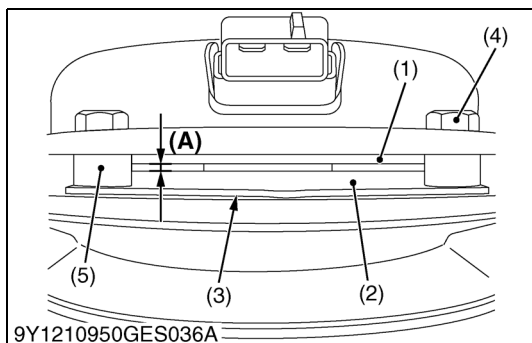
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Changing Transaxle Fluid

See page G-39.

9Y1211198GEG0039US0

[9] CHECK POINTS OF EVERY 500 HOURS



Electric Clutch Adjustment



WARNING

To avoid serious injury or death:

- Park the machine on a firm and level surface.
- Apply the parking brake.
- Stop the engine and remove the key before adjusting the electric clutch.

The electric clutch serves 2 functions in the operation of the mower.

- Starting and stopping the power flow to the cutter blades.
- The clutch also acts as a brake to assist in stopping blade rotation when the PTO is switched off or the operator presence control is interrupted.

When the clutch is disengaged, the air gap between the armature and rotor should be **less than 2.5 mm (0.100 in.) and more than 0.25 mm (0.01 in.)**. Perform the following procedure to check the electric clutch function.

1. Using a pneumatic line, blow out any debris from under the brake pole and around the aluminum spacers.
2. Check air gap between rotor and armature face on both sides of the brake pole. If air gap is 2.5 mm (0.10 in.) or greater, or if clutch is having trouble engaging when hot, proceed to Step 3. Otherwise, skip to Step 9.
3. Loosen both brake mounting bolts 1 full turn.
4. Use pliers or hand to remove the shim. Do not discard shim until proper clutch function has been confirmed.
5. Using a pneumatic line, blow out any debris from under the brake pole and around the aluminum spacers.
6. Tighten each brake mounting bolt. Torque to 13.0 to 14.2 N·m (1.33 to 1.44 kgf·m, 9.5 to 10.5 lbf·ft).
7. Using a 0.25 mm (0.010 in.) thick feeler gage, verify that a gap is present between the rotor and armature face on both sides of the brake pole.
8. If gap is greater than 0.25 mm (0.010 in.), proceed to next step.
9. Verify tightness of clutch mounting bolt.
 - Torque to 74.6 to 81.3 N·m (7.61 to 8.29 kgf·m, 55.1 to 59.9 lbf·ft).
 - Torque to 67 to 75 N·m (6.9 to 7.6 kgf·m, 50 to 55 lbf·ft) (Z724XKW-3, Z726XKW-3 only).
10. With the engine running, verify clutch function by engaging and disengaging the clutch 10 consecutive times.

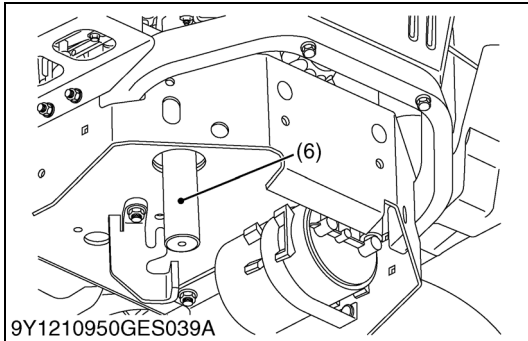
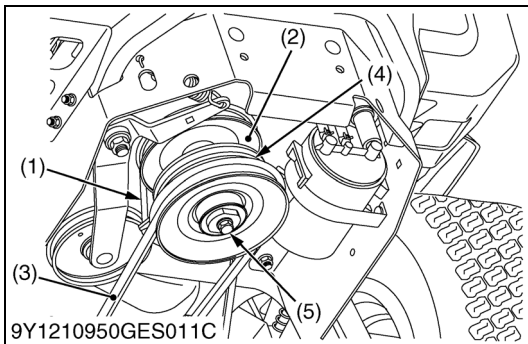
This adjustment should be done every 500 hours of operation or annually, whichever comes first. In cases where the machine is heavily used, air gap should be checked more often.

If the air gap is too narrow, the clutch armature may drag when disengaged, resulting in premature failure.

- (1) Rotor
- (2) Armature
- (3) Shim
- (4) Brake Mounting Bolt
- (5) Aluminum Spacer
- (6) Clutch Mounting Bolt

- (A) Air Gap
- (P) Check gap on one side.
- (Q) Check gap on other side.

9Y1211198GEG0040US0



Lubricating Crank Shaft

■ NOTE

To avoid serious injury or death:

- Park the machine on a firm and level surface.
- Apply the parking brake.
- Stop the engine and remove the key before lubricating the crank shaft.

The engine crank shaft should be lubricated every 500 hours to ensure that critical components such as the electric clutch, transaxle drive pulley, and engine can be removed if needed.

1. Remove the mower belt.
2. Remove the transaxle belt.
3. Remove the electric clutch and transaxle drive pulley.
4. Apply a light coating of copper-based Anti-Seize lubricant to engine crank shaft.
5. Reinstall transaxle drive pulley, electric clutch, and clutch mounting bolt.
6. Torque clutch mounting bolt to 74.6 to 81.3 N·m (7.61 to 8.29 kgf·m, 55.1 to 59.9 lbf·ft).
7. Reinstall transaxle belt.
8. Reinstall mower belt.

- | | |
|----------------------------|--------------------------|
| (1) Transaxle Belt | (4) Electric Clutch |
| (2) Transaxle Drive Pulley | (5) Clutch Mounting Bolt |
| (3) Mower Belt | (6) Engine Crank Shaft |

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Replacing Air Cleaner Inner Element

See page G-27.

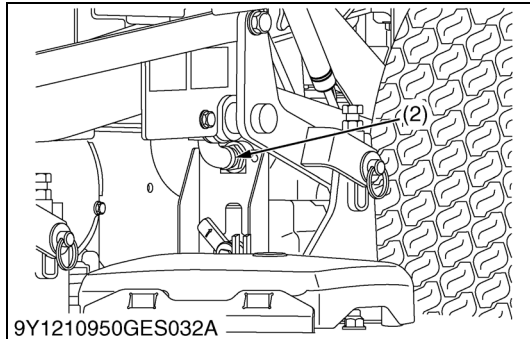
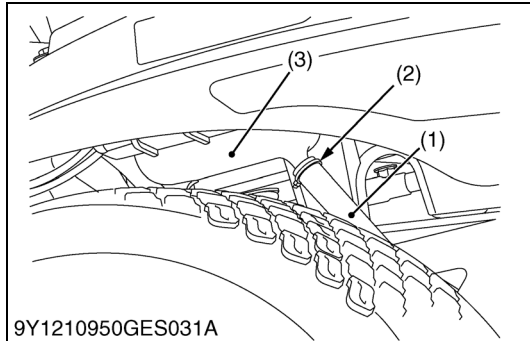
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Replacing Spark Plugs

See page G-36.

9Y1211198GEG0043US0

[10] CHECK POINTS OF EVERY 1 YEAR



Checking Hydraulic Hose



WARNING

To avoid serious injury or death:

- Be sure to stop the engine, remove the key, and relieve pressure before checking and replacing the hydraulic hose.
 - Allow the transmission case to cool down sufficiently; oil can be hot and may cause burns.
1. Check to see that all lines and hose clamps are tight and not damaged.
 2. If hoses and clamps are found worn or damaged, replace or repair them at once.

- (1) Hydraulic Hose (L.H., R.H.)
(2) Hose Clamp (L.H., R.H.)

- (3) Transaxle Fluid Tank (L.H., R.H.)

9Y1211198GEG0032US0

Checking Fuel Lines

See page G-28.

9Y1211198GEG0060US0

Cleaning Engine Oil Cooler Fins

See page G-34.

9Y1211198GEG0045US0

Changing Engine Oil

See page G-26.

9Y1211198GEG0046US0

Cleaning Engine Cooling Areas

See page G-34.

9Y1211198GEG0047US0

Checking Muffler and Spark Arrester (If Equipped)

See page G-25.

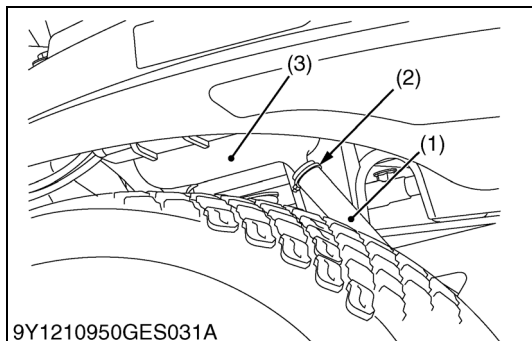
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[11] CHECK POINT OF EVERY 2 YEARS

Replacing Carbon Canister Air Filter

See page G-26.

9Y1211198GEG0051US0



Checking Hydraulic Hose



WARNING

To avoid serious injury or death:

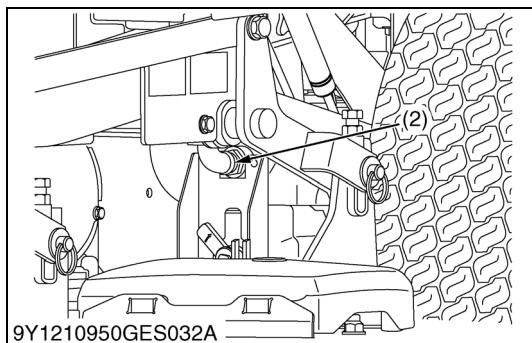
- Be sure to stop the engine, remove the key, and relieve pressure before checking and replacing the hydraulic hose.
- Allow the transmission case to cool down sufficiently; oil can be hot and may cause burns.

1. Remove the rear tire.
2. Open the oil tank cap.
3. Disconnect the lower connection of the hydraulic hose.
4. Drain the oil to an oil pan.
5. Remove the hydraulic hose.

- (1) Hydraulic Hose (L.H., R.H.)
(2) Hose Clamp (L.H., R.H.)

- (3) Transaxle Fluid Tank (L.H., R.H.)

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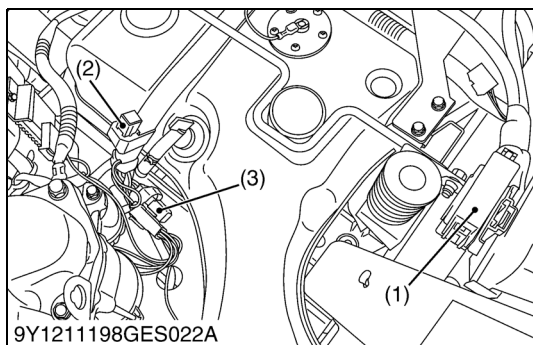
[12] CHECK POINTS OF EVERY 4 YEARS

Replacing Fuel Line

See page G-28.

9Y1211198GEG0050US0

[13] SERVICE AS REQUIRED



Replacing Fuses



WARNING

To avoid serious injury or death:

- Park the machine on a firm and level surface.
 - Apply the parking brake.
 - Stop the engine and remove the key before replacing fuses.
1. Remove the blown fuse.
 2. Place a new fuse of the same capacity in position.

IMPORTANT

- If the new fuse happens to blow out within a short time, never "jump" the fuse with wire or foil, or install a larger capacity fuse than is recommended.

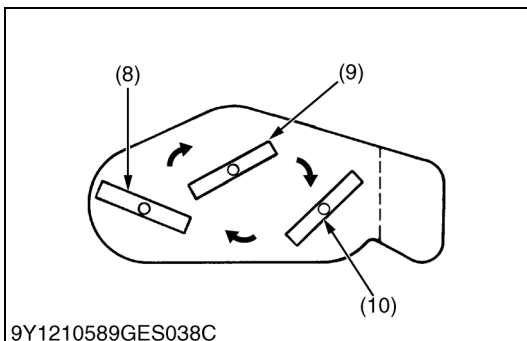
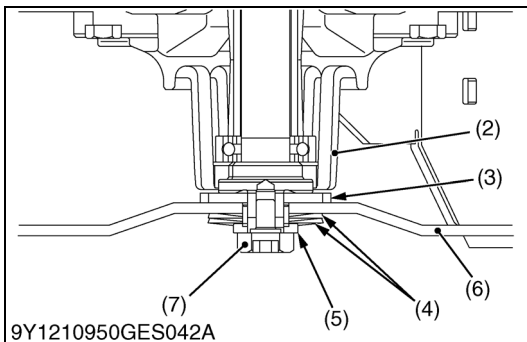
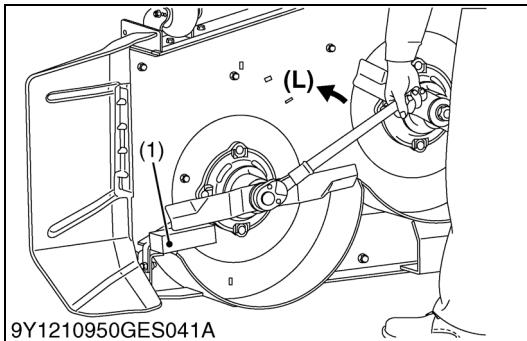
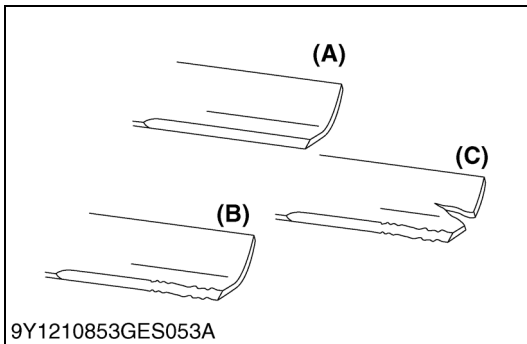
Protected Circuit

Fuse No.	Capacity (A)	Protected circuit
(1)	5	Operator control
	10	PTO clutch
	15	Accessories
	—	—
	—	—
(2)	Slow blow fuse 30	Check circuit against wrong battery connection
(3)	Slow blow fuse 30	Check circuit against wrong battery connection

(1) Fuse Location
(2) Slow Blow Fuse

(3) Slow Blow Fuse

9Y1211198GEG0052US0



Checking and Replacing Blade

⚠ WARNING

To avoid serious injury or death:

- Be sure to stop the engine and remove the key.
- Blades may be sharp. When you handle blades, wear heavy gloves or wrap end of blade with a rag.

■ NOTE

- Before checking or replacing the blade, wipe grass and mud off the top and inside of the mower. Especially clean up the inside of the belt cover, because otherwise the belt life will be reduced.

■ Checking

The blade cutting edges should be kept sharp at all times.

Sharpen the cutting edges, if they resemble blade (B).

Replace the blades if they appear similar to blade (C).

■ Replacing

1. Dismount the mower deck from the machine.
(See page 6-S10.)
Then turn it over to expose the blades.
2. Wedge a block of wood between the blade and mower housing or use a box wrench over the pulley nut to prevent the spindle from rotating while removing the blade bolts; loosen the blade bolt as illustrated.

■ IMPORTANT

- Use the proper metric size box or socket wrench to tighten or loosen the blade mounting bolt.
3. To sharpen the blades yourself, clamp the blade securely in a vise.
Use a large mill file and file along the original bevel until sharp.
 4. To check the blade for balance, place a small rod through the center hole. If the blade is not balanced, file the heavy side of the blade until balance is achieved.
 5. Pass the spline boss through the plate, blade and 2 cup washers, and tighten the bolt.

■ NOTE

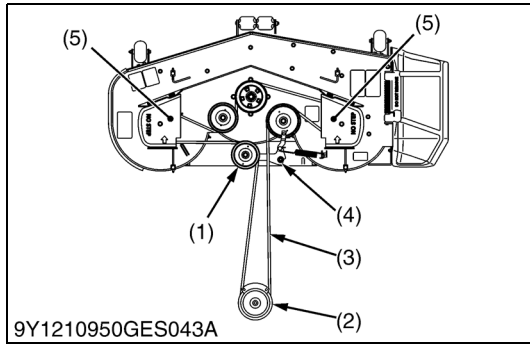
- Make sure that the cup washer is not flattened out or worn; this cause blade to slip excessively.
Replace the 2 cup washers if either is damaged.
6. Before checking or replacing the blade, wipe grass and mud off the top and inside of the mower.
Especially clean up the inside of the belt cover, because otherwise the belt life will be reduced.

■ IMPORTANT

- Tighten the bolts of the blades from 103 to 118 N·m (10.5 to 12.0 kgf·m, 76.0 to 87.0 lbf·ft) of torque.
- The blade bolts have right hand threads. Turn them counterclockwise to loosen.
- To prolong the service life of the blades, reposition them as shown in the figure below periodically.

- (1) Block
- (2) Spindle Holder
- (3) Plate
- (4) 2-cup Washer
- (5) Spline Boss
- (6) Blade
- (7) Bolt
- (8) L.H. Blade

- (9) Center Blade
- (10) R.H. Blade
- (A) New Blade
- (B) Worn Blade
- (C) Cracked Blade
- (L) "LOOSEN"



Mower Belt Replacement

1. Remove the mower deck from the machine according to the procedure "**Dismounting the Mower Deck**".
2. Remove the left and right hand shield from the mower deck.
3. Remove the belt.
4. To install a new belt, reverse the above procedure.

NOTE

- **Tighten the tension pulley bolt securely 77.6 to 90.2 N·m (8.00 to 9.20 kgf·m, 57.3 to 66.5 lbf·ft).**

- | | |
|-----------------------|------------|
| (1) Tension Pulley | (4) Bolt |
| (2) PTO Clutch Pulley | (5) Shield |
| (3) Mower Belt | |

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8. SPECIAL TOOLS

[1] SPECIAL TOOLS FOR MACHINE



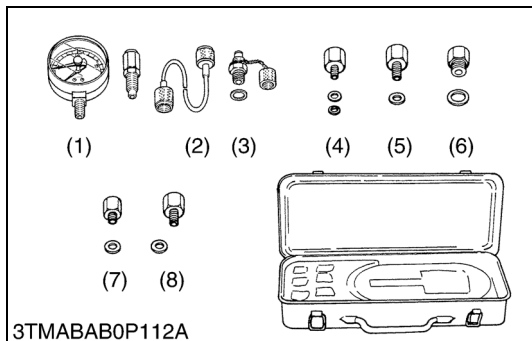
Disassembly Stand for Transaxle

Application

- To disassemble the transaxle.
- Surface height: 100 mm (4 in.)
- Bolt Pitch: $\phi 203$ mm ($\phi 8.00$ in.)

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[2] SPECIAL TOOLS FOR ENGINE



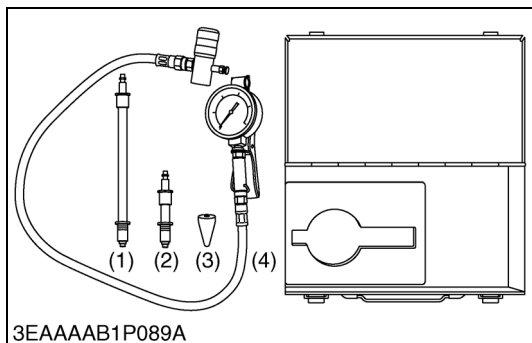
Oil Pressure Tester

Application

- Use to measure lubricating oil pressure.

- | | |
|--------------------|---------------|
| (1) Gauge | (5) Adaptor 2 |
| (2) Cable | (6) Adaptor 3 |
| (3) Threaded Joint | (7) Adaptor 4 |
| (4) Adaptor 1 | (8) Adaptor 5 |

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Compression Tester

Application

- Use to measure gasoline engine compression and diagnose the engine for a major overhaul.

- | | |
|------------------|--------------------|
| (1) Pipe (long) | (3) Rubber Adaptor |
| (2) Pipe (short) | (4) Gauge |

WSM000001GEG0025US0

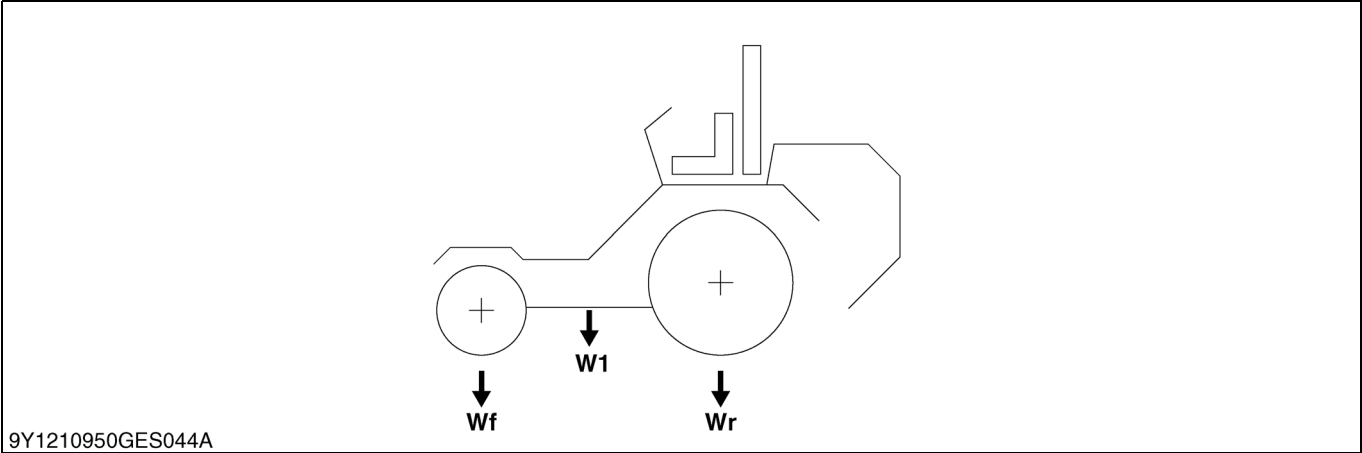
9. IMPLEMENT LIMITATIONS

The KUBOTA Machine has been thoroughly tested for proper performance with implements sold or approved by KUBOTA. Use with implements which are not sold or approved by KUBOTA and which exceed the maximum specifications listed below, or which are otherwise unfit for use with the KUBOTA Machine may result in malfunctions or failures of the machine, damage to other property and injury to the operator or others. [Any malfunctions or failures of the machine resulting from use with improper implements are not covered by the warranty.]

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	Maximum loading weight		Implement weight W1	Maximum total weight
	Front axle Wf	Rear axle Wr		
Z726XKW, Z726XKW-2, Z726XKW-3	154 kg (340 lbs)	772 kg (1700 lbs)	119 kg (262 lbs)	926 kg (2040 lbs)
Z724XKW, Z724XKW-2, Z724XKW-3	155 kg (342 lbs)	746 kg (1640 lbs)	110 kg (242 lbs)	901 kg (1990 lbs)

- NOTE
- These limits include operator weight with seat in rearmost position.



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9Y1211198GEG0057US0

1 ENGINE

MECHANISM

CONTENTS

1. STRUCTURE.....	1-M1
2. FUEL SYSTEM.....	1-M2
[1] FUEL LINE	1-M2
3. ANTI-EVAPORATION SYSTEM.....	1-M3
[1] VAPOR LINE	1-M3
[2] TWO-WAY VALVE	1-M3
[3] FUEL TANK.....	1-M4
[4] CARBON CANISTOR.....	1-M4
[5] SEPARATOR TANK.....	1-M5
4. LUBRICATION SYSTEM.....	1-M6

1. STRUCTURE



GH735V and GH860V have main specifications below.

Cylinders: Twin V type

Crankshaft: Vertical

Fuel pump: Pulse type

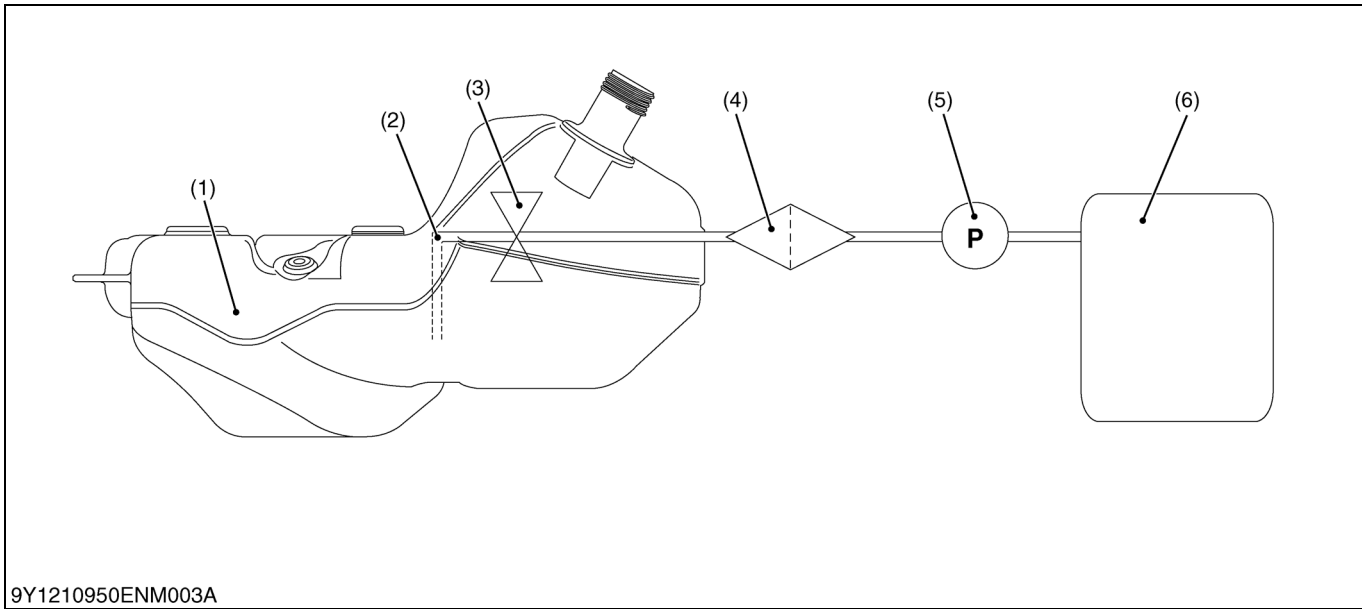
Starter: Solenoid shift type

Ignition system: Capacitive discharge with fixed timing.

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2. FUEL SYSTEM

[1] FUEL LINE



- | | | | |
|---------------|-----------------|---------------|-------------------------|
| (1) Fuel Tank | (3) Fuel Valve | (5) Fuel Pump | (6) Carburetor (Engine) |
| (2) Fuel Hose | (4) Fuel Filter | | |

Fuel system has the parts (1) to (6).

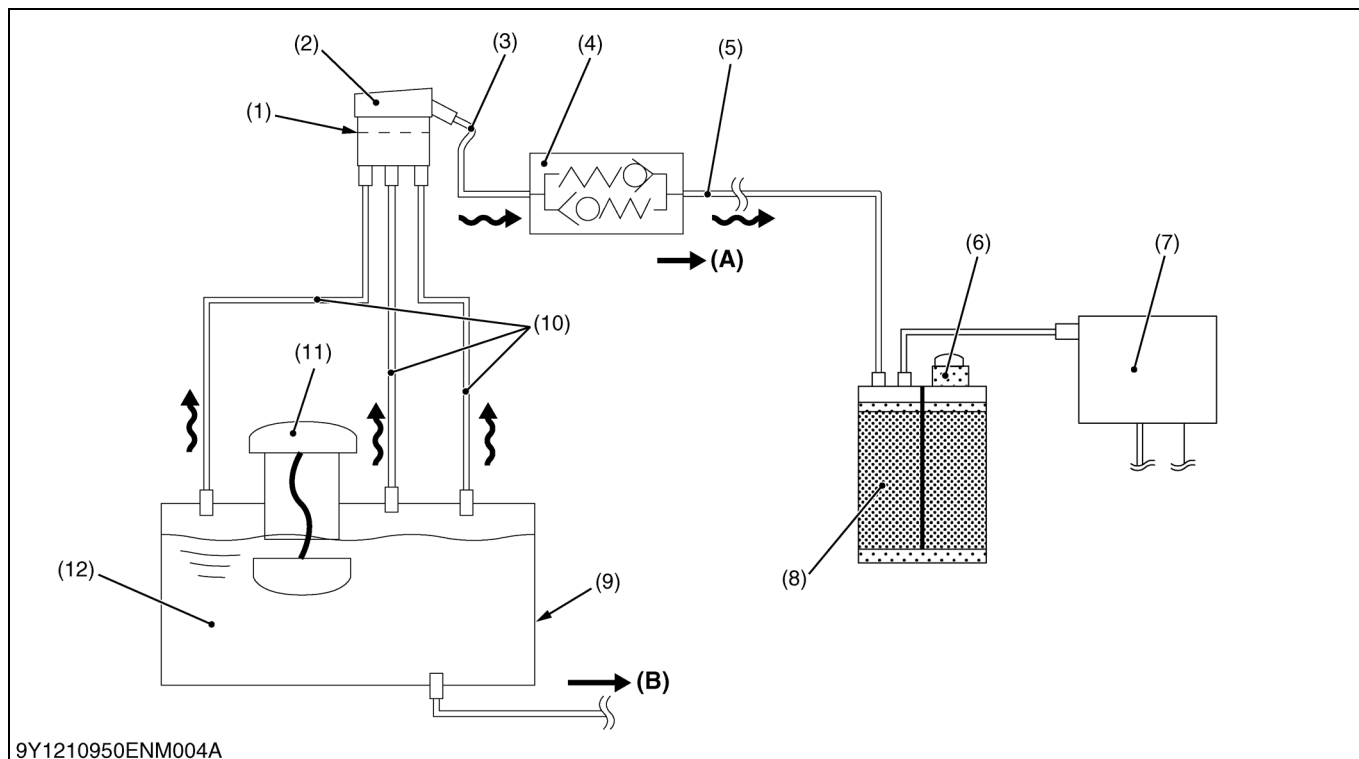
Fuel in the fuel tank (1) is fed by the fuel pump (5) of a pulse style. Pumping action of pulse style pumps is created by oscillation of positive and negative pressures within crankcase. This pressure is transmitted to pulse pump through rubber hose connected between pump and crankcase. Pumping action causes diaphragm on inside of pump to pull fuel in on its downward stroke and to push it into carburetor on its upward stroke. Two check valves prevent fuel from going backward through pump.

Fuel supplies from the fuel tank to carburetor (6) through fuel filter (4).

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3. ANTI-EVAPORATION SYSTEM

[1] VAPOR LINE



- (1) Shutter Plate
- (2) Separator Tank
- (3) Vapor Hose
- (4) Two-way Valve

- (5) Vapor Hose
- (6) Carbon Canister Air Filter
- (7) Carburetor (Engine)
- (8) Carbon Canister

- (9) Fuel Tank
- (10) Vapor Hose
- (11) Fuel Tank Cap
- (12) Fuel

- (A) To carbon canister
- (B) To primary fuel filter and fuel feed pump

Anti-evaporation system consists of the parts above.

Evaporated gasoline first goes to the separator tank (2) by 3 vapor hoses (10).

Then through the two-way valve (4), the evaporated gasoline goes to the carbon canister (8) and absorbed there. Beyond the carbon canister (8), evaporated gasoline goes to the carburetor (7) and burns.

Air and Vapor Buffer Zone in Fuel Tank

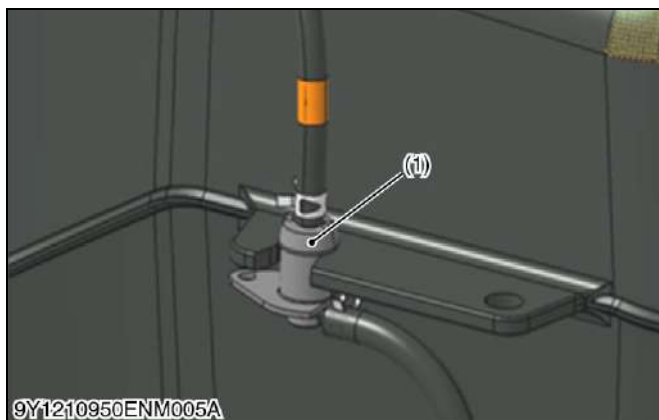
Gasoline fuel is not so stable under the high temperature.

To reduce influence of the high temperature in the fuel tank, to exhaust the vapor to purge port smoothly, and to eliminate the heat expansion of the gasoline fuel, a stable air and vapor buffer zone is necessary. Fuel supply port is extended into the fuel tank.

The extended fuel supply port contributes to the air and vapor buffer zone in the fuel tank.

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[2] TWO-WAY VALVE

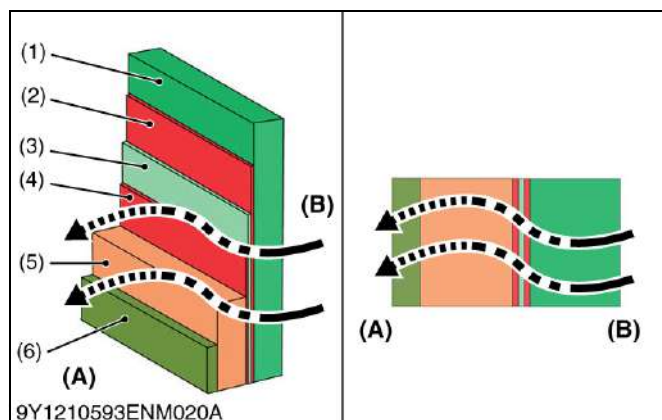


The function of the two-way valve (1) is to control the inner pressure of the vapor line at the constant ranges.

- (1) Two-way Valve

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[3] FUEL TANK



Tank Material

Fuel tank body consists of 4 kinds/ 6 layers materials as shown in the figure.

These materials reduce the vapor from the fuel tank inner materials to the air.

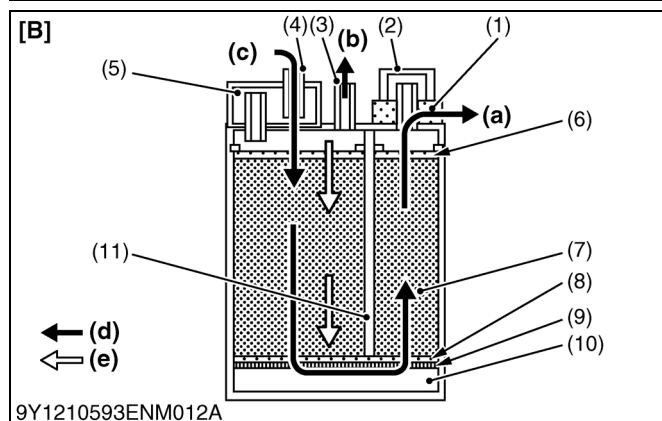
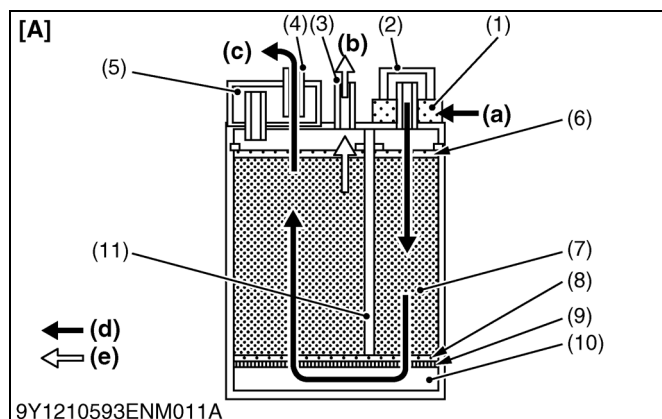
In previous models, the material of the fuel tank was commonly mono-material, polyethylene.

The protection material (5) is a fuel tank material to reduce the vapor.

- | | |
|---|----------------------|
| (1) HDPE: High Density Polyethylene | (A) Air |
| (2) Band or Glue | (B) Fuel Tank Inside |
| (3) Recycled Material | |
| (4) Bond or Glue | |
| (5) Ethylene Vinyl Alcohol or Nylon (Protection Material) | |
| (6) HDPE: High Density Polyethylene | |

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[4] CARBON CANISTOR



The main functions of carbon canister are to separate the vapor, to absorb the poisonous (harmful) gas to the active carbon (7) and to exhaust gas through the air vent port to air.

The carbon canister is connected to the three ports, air port, purge port and fuel tank port.

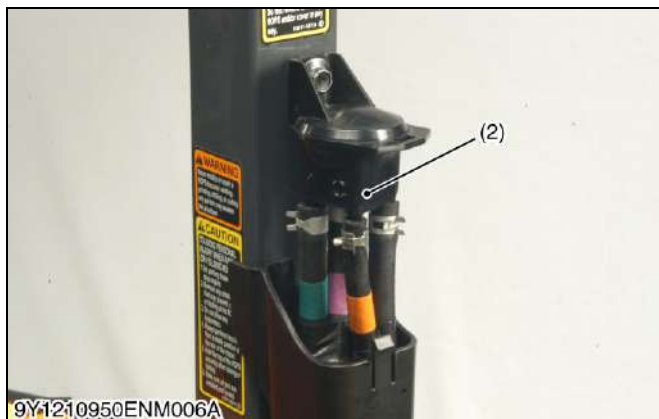
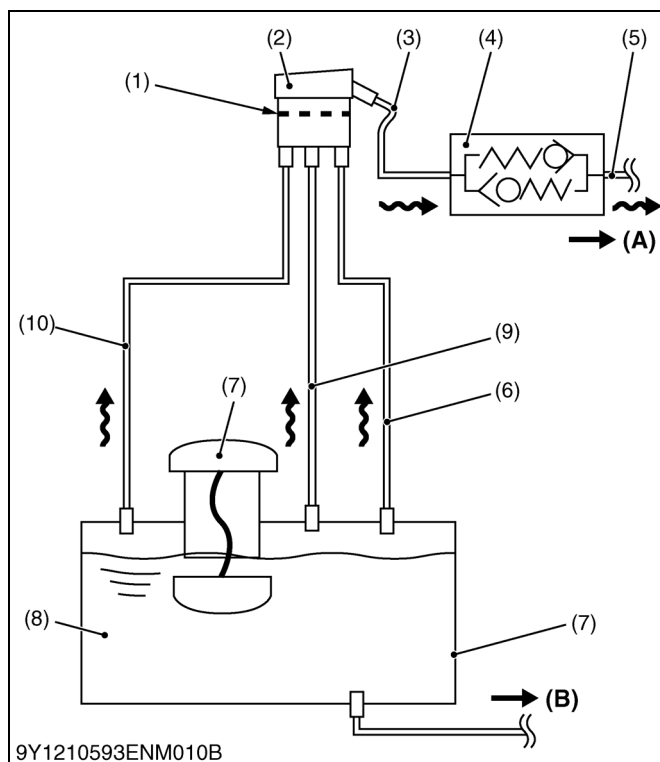
The vapor from the fuel tank is absorbed by the active carbon installed in the carbon canister.

When the fuel tank inner pressure becomes lower air may enter through air vent port to the fuel tank port.

- | | |
|---------------------------|---|
| (1) Air Element (Sponge) | [A] When fuel tank inner pressure becomes lower |
| (2) Air Vent Port | [B] When fuel tank inner pressure becomes higher |
| (3) Purge Port | (a) Air Vent Port |
| (4) Fuel Tank Port | (b) Purge Port |
| (5) Vapor Separator Space | (c) Tank Port |
| (6) Sponge | (d) Air |
| (7) Active Carbon | (e) Vapor |
| (8) Sponge | |
| (9) Grid | |
| (10) Air Space | |
| (11) Partition | |

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[5] SEPARATOR TANK



The separator tank is at the ROPS under frame.

The separator tank is installed at the position between the fuel tank and the two-way valve in the vapor line.

The separator tank is connected to the fuel tank with three vapor hoses (6), (9), (10).

The position of the separator tank is the highest place in the vapor line.

The function of the separator tank is to divide the vapor from the vapor/fuel mixture in the vapor line and to supply the vapor to the two-way valve and the carbon canister.

When operating the machine on slope or rough field, the fuel tank makes vibration continuously.

In this condition, the fuel level in the vapor hoses (6), (9), (10) goes up to the separator tank (2).

In addition, the same thing occurs when operating the machine in hot season or long time.

Fuel tank inner pressure may increase. In this condition, the fuel level in the vapor hoses (6), (9), (10) may go up.

Since three vapor hoses (6), (9), (10) are connected to the separator tank, the center vapor hose 2 (9) may contribute to decrease the fuel level of the other vapor hoses (6), (10). because the center hose is short in length and vertical.

Inner partition installed in the separator tank prevents fuel tank fuel from entering suddenly to the carbon canister.

- (1) Shutter Plate
- (2) Separator Tank
- (3) Vapor Hose
- (4) Two-way Valve
- (5) Vapor Hose
- (6) Vapor Hose 1
- (7) Fuel Tank
- (8) Fuel
- (9) Vapor Hose 2
- (10) Vapor Hose 3

- (A) To carbon canister
- (B) To primary fuel filter and fuel feed pump

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4. LUBRICATION SYSTEM

Refer to Lubrication System in Z724XKW, Z726XKW, Z724XKW-2, Z726XKW-2 KAWASAKI ENGINE SERVICE MANUAL.

9Y1211198ENM0009US0

SERVICING

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- 1. TROUBLESHOOTING.....1-S1
- 2. SERVICING SPECIFICATIONS1-S3
- 3. TIGHTENING TORQUES.....1-S4
- 4. CHECKING, DISASSEMBLING AND SERVICING1-S5
 - [1] CHECKING AND ADJUSTING.....1-S5
 - [2] DISASSEMBLING AND ASSEMBLING1-S5
 - (1) Separating Engine1-S5

1. TROUBLESHOOTING

Refer to Z724XKW, Z726XKW, Z724XKW-2, Z726XKW-2, KAWASAKI ENGINE SERVICE MANUAL.

Symptom	Probable Cause and Checking Procedure	Solution	Reference Page
Engine Is Difficult To Start or Will Not Start	1. No operator on the seat	Sit on the operator's seat	—
	2. Parking brake lever not in the proper position	Apply the parking brake	—
	3. PTO switch not in the proper position	Make sure PTO switch is in "DISENGAGED" (OFF) position	—
	4. Motion control levers not in the proper position	Make sure motion control levers are in "NEUTRAL LOCK" position	—
	5. Main switch is not in the proper position	Make sure main switch is in "ON" position	—
	6. No fuel	Fill fuel	G-18
	7. Improper or stale fuel (fuel quality is poor)	Replace fuel and the fuel filter	G-28
	8. Water or dirt in the fuel system	Replace fuel	G-28
	9. Fuel hose or fuel filter clogged or damaged	Clean or replace fuel lines	G-28
	10. Air cleaner is clogged	Clean or replace the air cleaner	G-27
	11. Spark plug damaged	Solution order 1. Adjust the spark plug gap or replace the spark plug	G-36
		2. Check the spark plug wire connection	—
	12. Fuse is blown	Replace the fuse	G-45
	13. Engine oil viscosity is wrong	Use oils of different viscosities, depending on ambient temperature	G-8, G-26
	14. Battery becomes weak and the engine does not turn over quick enough	Solution order 1. Clean battery cables and terminals	—
		2. Charge the battery	G-31
		3. In cold weather, always remove the battery from the engine, charge and store it indoors. Install it on the machine only when the machine is going to be used	G-32
	15. Over chocking or choke is adjusted incorrectly	Check and adjust	G-33
Insufficient Engine Power	1. Insufficient or dirty fuel	Check the fuel system	G-8, KAWASAKI MANUAL
	2. Fuel filter is clogged	Replace the fuel filter	G-28
	3. Air cleaner is clogged	Clean or replace the air cleaner	G-27
	4. Spark plug damaged	Adjust the spark plug gap or replace it	G-36
Engine Stops Suddenly	1. Insufficient fuel	Solution order 1. Refuel	G-18
		2. Check the fuel valve position	G-18, G-28
		3. Check the carburetor fuel valve position	KAWASAKI MANUAL

Symptom	Probable Cause and Checking Procedure	Solution	Reference Page
Rough Engine Operating	1. Spark plug damaged	Adjust the spark plug gap or replace it	G-36
	2. Spark plug wire damaged	Repair	KAWASAKI MANUAL
	3. Carburetion problems	Check	KAWASAKI MANUAL
	4. Ignition coil damaged	Repair	KAWASAKI MANUAL
	5. Choke is adjusted incorrectly	Adjust	G-33
	6. Fuel hose or fuel filter clogged or damaged	Clean or replace fuel lines	G-28
	7. Improper or stale fuel (fuel quality is poor)	Replace fuel and the fuel filter	G-28
	8. Air cleaner is clogged	Clean or replace the air cleaner	G-27
Exhaust Fumes Are Colored (Black, Dark Or Gray)	1. Overload	Reduce load	–
	2. Low grade fuel is used	Use specified fuel	G-8
	3. Fuel filter is clogged	Replace the fuel filter	G-28
	4. Air cleaner is clogged	Clean or replace the air cleaner element	G-27
	5. Choke is not fully opened	Check the choke position	G-33
Exhaust Fumes Are Colored (White Or Blue)	1. Excessive engine oil	Reduce to the specified oil level	G-17, G-26
	2. Piston ring is worn or stuck	Check and replace	KAWASAKI MANUAL
Engine Overheats	1. Engine is overloaded	Lower speed or reduce load	–
	2. Engine oil is insufficient	Fill engine oil	G-17
	3. Engine air intake screen and cooling fins are dirty	Clean the air intake screen and cooling fins	G-34
	4. Air cleaner element is plugged	Clean or replace the air cleaner element	G-27
	5. Engine speed is too low	Operate at the "FAST" speed	–
	6. Operating ground speed is too fast	Operate the machine at the slower ground speed	–
Engine Knocks	1. Stale or low octane fuel	Use specified fuel	G-8
	2. Engine overloaded	Lower ground speed or reduce load	–
	3. Engine speed is too low	Operate at the "FAST" speed Engine will not idle	–
	4. Spark plug damaged	Adjust the spark plug gap or replace it	G-36
	5. Carburetion problem	Check	KAWASAKI MANUAL

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2. SERVICING SPECIFICATIONS

Refer to specifications in Z724XKW, Z726XKW, Z724XKW-2, Z726XKW-2, KAWASAKI ENGINE SERVICE MANUAL.

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3. TIGHTENING TORQUES

Tightening torques of screws, bolts and nuts on the table below are especially specified.

Refer to also "TORQUES" at Z724XKW, Z726XKW, Z724XKW-2, Z726XKW-2, KAWASAKI ENGINE SERVICE MANUAL. (For general use screws, bolts and nuts: Refer to "5. TIGHTENING TORQUES" on page G-10.)

Item	N·m	kgf·m	lbf·ft
Bolt (Electric clutch)	74.6 to 81.3	7.61 to 8.29	55.1 to 59.9
Coating bolt	22.5 to 30.4	2.30 to 3.09	16.6 to 22.4
Bolt (Rear frame)	48.0 to 55.9	4.90 to 5.70	35.5 to 41.2
Flange bolt (Rear cover)	23.5 to 27.4	2.40 to 2.79	17.4 to 20.2
Flange nut (Muffler pipe)	23.0 to 25.0	2.35 to 2.54	17.0 to 18.4
Flange nut (Muffler stay)	23.5 to 27.4	2.40 to 2.79	17.4 to 20.2

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4. CHECKING, DISASSEMBLING AND SERVICING

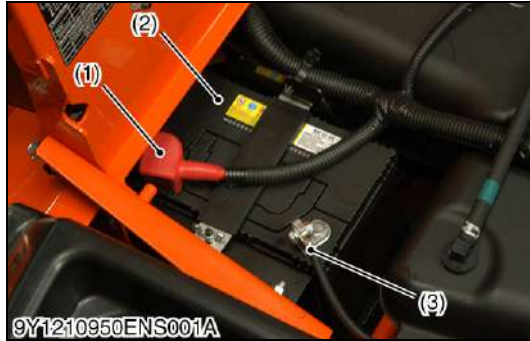
[1] CHECKING AND ADJUSTING

Refer to Z724XKW, Z726XKW, Z724XKW-2, Z726XKW-2, KAWASAKI ENGINE SERVICE MANUAL.

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[2] DISASSEMBLING AND ASSEMBLING

(1) Separating Engine



Removing Battery



WARNING

To avoid serious injury or death:

- When disconnecting the battery cables, disconnect the negative cable from the battery first. When connecting, connect the positive cable to the battery first.

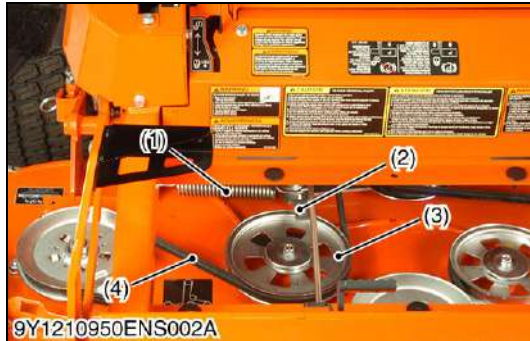
1. Lift up the seat.
2. Disconnect the negative cable (3) from the battery (2).
3. Disconnect the positive cable (1) from the battery.

(1) Positive Cable

(3) Negative Cable

(2) Battery

9Y1211198ENS0005US0



Removing Tension Spring

1. Lower the mower deck.
2. Remove the R.H. belt cover.
3. Remove the step.
4. With a square wrench, loosen the tension on the spring (1) and belt (4) by pulling the tension lever (2).
5. Remove the belt from the mower pulley (3).

(1) Tension Spring

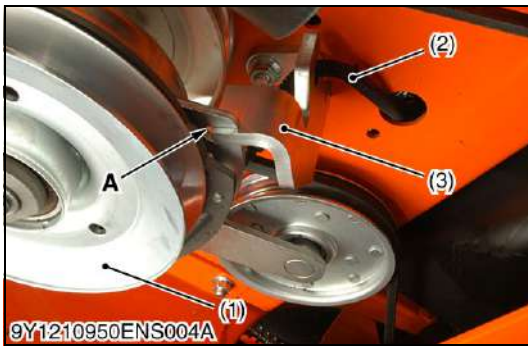
(3) Mower Pulley

(2) Tension Lever

(4) Belt

9Y1211198ENS0006US0





Removing the Electric Clutch



DANGER

To avoid serious injury or death:

- **Park the machine on a hard and level surface.**
- **Lift up and hold with jack stands or blocking the rear of the machine, do not operate the machine during the work.**



CAUTION

- The electric clutch is heavy and will drop from its operating position when the bolt and washer are removed. Make sure to support the electric clutch to prevent damage or injury.

1. Disconnect the electric clutch harness (2) from the electric clutch (1).
2. Remove the mower belt (4) from the electric clutch.
3. Remove the electric clutch.

(When reassembling)

■ **IMPORTANT**

- Align the slot "A" in the electric clutch with the PTO clutch stopper (3) as shown in the photo.
- Tighten the bolt (5) to the tightening torque below.

Tightening torque	Bolt (Electric clutch)	74.6 to 81.3 N·m 7.61 to 8.29 kgf·m 55.1 to 59.9 lbf·ft
-------------------	------------------------	---

- (1) Electric Clutch
- (2) Electric Clutch Harness
- (3) PTO Clutch Stopper
- (4) Mower Belt
- (5) Bolt

A: Slot

9Y1211198ENS0007US0

Removing HST Pulley



WARNING

To avoid serious injury or death:

- **Be careful when you remove the HST pulley. When the belt is removed, the pulley will fall from its operating position.**

1. Turn the HST tension arm (3) with a square wrench to release tension from the tension spring (4).
2. Remove the HST belt (2) and HST pulley (1).
3. Disconnect the tension spring (4) from the frame.

(When reassembling)

■ IMPORTANT

- Apply "HENKEL LOCTITE C5-A copper based anti-seize lubricant" or equivalent to the engine shaft.
- Attach the HST pulley (1) with long side down.

- (1) HST Pulley (3) HST Tension Arm
(2) HST Belt (4) Tension Spring

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Loosening Fenders and Removing Rear Guard

1. Remove the bolts (1) holding the R.H. fender and L.H. fender to the rear guard.
2. Remove the choke cable (2), throttle cable (3), and evaporation hose (4) from the plastic clips on the rear guard.
3. Remove the muffler cover (7).
4. Remove the fuel tank cover (9).
5. Remove the bolts (5) holding the rear cover to the frame.
6. Remove the bolts (1) holding the rear guard to the frame.
7. Remove the rear guard (8) and rear cover (5).

Tightening torque	Bolt (Rear frame)	48.0 to 55.9 N·m 4.90 to 5.70 kgf·m 35.4 to 41.2 lbf·ft
	Flange bolt (Rear cover)	23.5 to 27.4 kgf·m 2.40 to 2.79 kgf·m 17.4 to 20.2 lbf·ft

- | | |
|-----------------------|-----------------------|
| (1) Bolt (Rear Frame) | (6) Bolt (Rear Cover) |
| (2) Choke Cable | (7) Muffler Cover |
| (3) Throttle Cable | (8) Rear Guard |
| (4) Evaporation Hose | (9) Fuel Tank Cover |
| (5) Rear Cover | |

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Disconnecting Fuel Hoses



WARNING

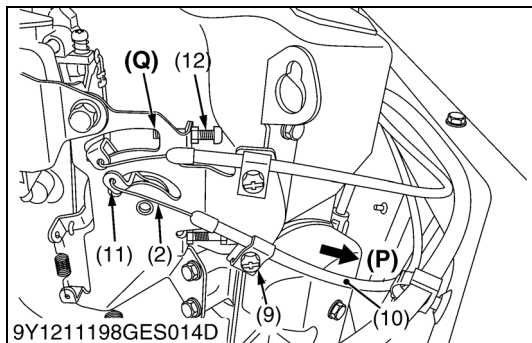
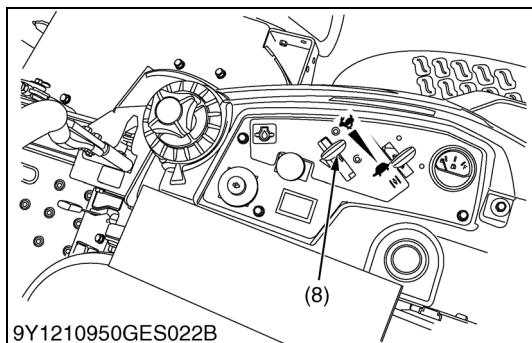
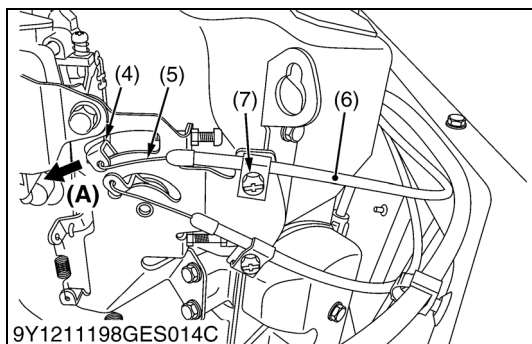
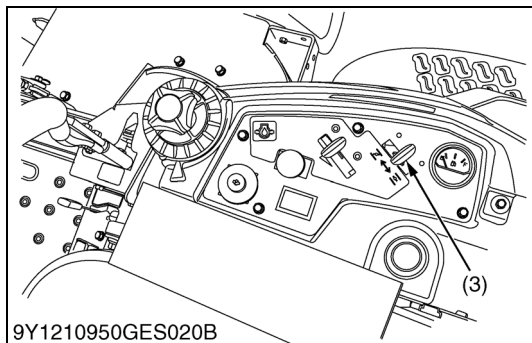
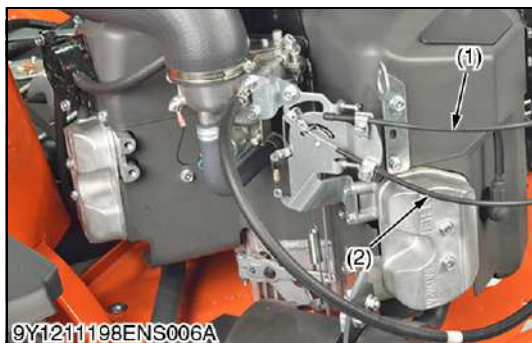
To avoid serious injury or death:

- Do not smoke when you fill the fuel tank or do servicing of the fuel system.

1. Disconnect the fuel hose (1) from the fuel pump.
2. Disconnect the evaporation hose (2).

- | | |
|---------------|----------------------|
| (1) Fuel Hose | (2) Evaporation Hose |
|---------------|----------------------|

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Disconnecting Cables

1. Disconnect the throttle cable (2).
2. Disconnect the choke cable (1).

(When reassembling)

■ Adjusting Choke Cable

1. Move the choke lever to the **"OFF"** position.
2. Push choke bracket in direction of arrow **(A)**.
3. If bracket can move in direction of arrow **(A)**, loosen the bolt and pull the choke lever cable and sheath in the direction of arrow **(A)** until bracket can no longer move in direction of arrow **(A)**. Then tighten the bolt.

■ Adjusting Throttle Cable

■ IMPORTANT

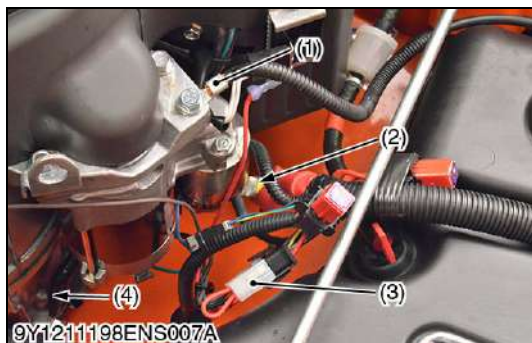
- Install the throttle cable into the middle hole of the throttle arm.

1. Move the throttle lever to the **"FAST"** position.
2. Make sure the throttle arm contacts the stopper bolt.
3. If not possible, loosen the bolt and pull the throttle lever cable sheath in the direction of the arrow until throttle arm contacts the stopper bolt. And then tighten the bolt.

- | | |
|------------------------|----------------------------|
| (1) Choke Cable | (9) Bolt |
| (2) Throttle Cable | (10) Throttle Cable Sheath |
| (3) Choke Lever | (11) Throttle Arm |
| (4) Choke Bracket | (12) Stopper Bolt |
| (5) Choke Cable | |
| (6) Choke Cable Sheath | |
| (7) Bolt | |
| (8) Throttle Lever | |

(P) "PULL"
(Q) "CONTACT"

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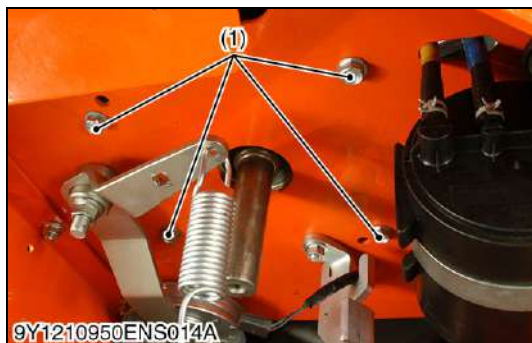


Disconnecting Wire Harness (2 Ground Cables, Main Harness Connector, 2 Starter Cables)

1. Disconnect the battery ground (1).
2. Disconnect the harness ground (4).
3. Disconnect the harness coupler (3).
4. Disconnect the positive starter cable (2) from the solenoid.

- | | |
|----------------------------|---------------------|
| (1) Battery Ground | (3) Harness Coupler |
| (2) Positive Starter Cable | (4) Harness Ground |

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Removing Engine

DANGER

- **The engine is heavy. Use a crane when removing the engine.**
1. Remove the air cleaner (3) cover and air cleaner element. This will keep the chain from damaging the air cleaner when you lift up the engine.
 2. Remove the coating bolts (1) holding the engine to the engine plate.
 3. Use the hooks (2) of the engine and lift the engine.
 4. Attach the engine stands.
 5. Lower the engine on a secured platform.

(When reassembling)

■ IMPORTANT

- **Tighten the coating bolt to the tightening torque below.**
- **Replace the coating bolts with new ones.**

Tightening torque	Coating bolt	22.5 to 30.4 N·m 2.30 to 3.09 kgf·m 16.6 to 22.4 lbf·ft
-------------------	--------------	---

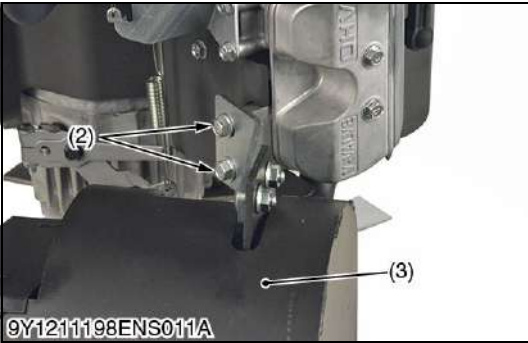


- (1) Coating Bolt
(2) Hook

- (3) Air Cleaner

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Removing Muffler

- 1. Remove the flange nuts (1).
- 2. Remove the bolts (2).
- 3. Remove the muffler (3).

(When reassembling)

- Use new manifold gaskets.

Tightening torque	Flange nut (Muffler pipe)	23.0 to 25.0 N·m 2.35 to 2.54 kgf·m 17.0 to 18.4 lbf·ft
	Flange bolt (Muffler stay)	23.5 to 27.4 N·m 2.40 to 2.79 kgf·m 17.4 to 20.2 lbf·ft

- (1) Flange Nut
- (2) Flange Bolt
- (3) Muffler

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2 TRANSAXLE

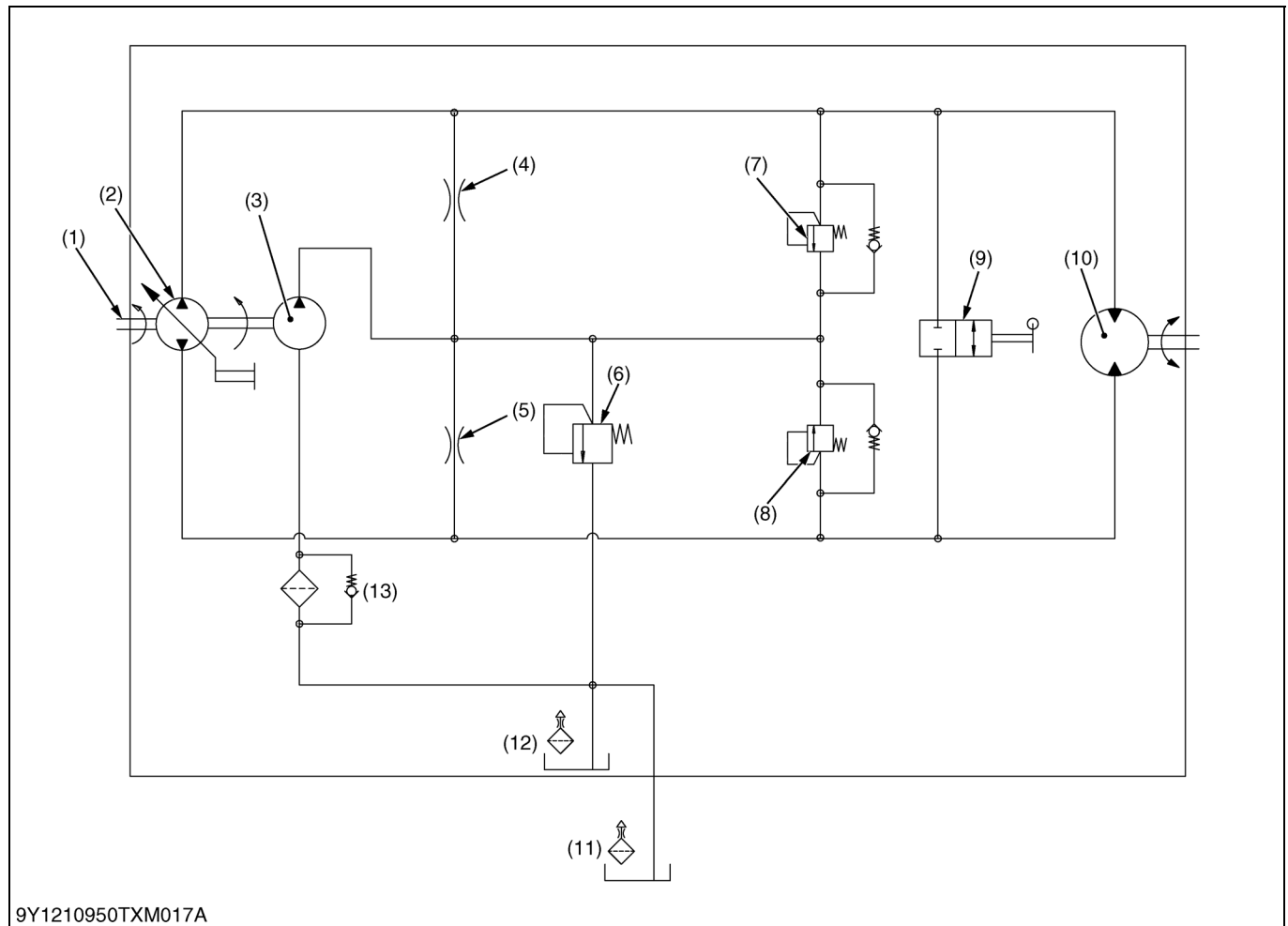
MECHANISM

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1. STRUCTURE.....	2-M1
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[3] INNER COMPONENTS.....	2-M3
[4] OPERATION OF TRANSAXLE	2-M4
[5] OPERATION OF PARKING BRAKE	2-M9

1. STRUCTURE

[1] HYDRAULIC CIRCUIT



(1) Input Shaft
(2) Cylinder Block Assembly
(Variable Displacement
Pump)

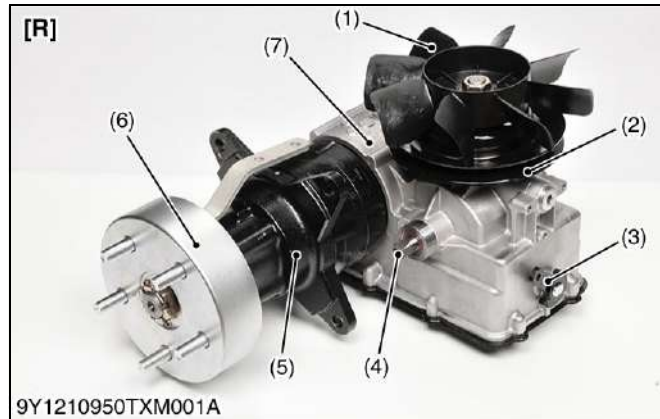
(3) Charge Pump
(4) Orifice forward (Option)
(5) Orifice reverse (Option)
(6) Charge Relief

(7) Relief Valve
(8) Relief Valve
(9) Bypass Valve
(10) Motor

(11) Remote Expansion Tank with
Vented Cap
(12) Remote Expansion Tank with
Vented Cap (Option)
(13) Oil Filter with Bypass

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[2] EXTERNAL COMPONENTS



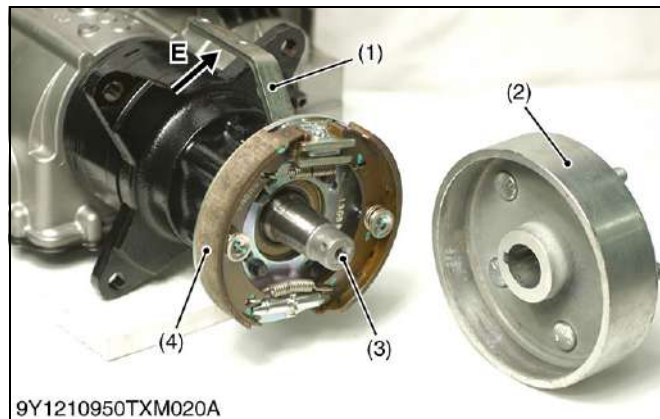
Features

- Top housing is sturdy, lightweight aluminum, excellent at dispersing heat, resulting in an overall cooler system

- | | |
|------------------|--------------------|
| (1) Fan | (6) Brake Assembly |
| (2) Pulley | (7) Top Housing |
| (3) Bypass Lever | |
| (4) Trunnion Arm | |
| (5) Motor | |

[R] R.H. Side

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Brake

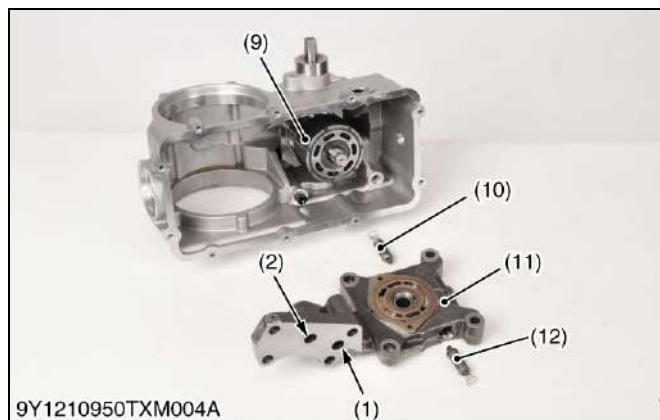
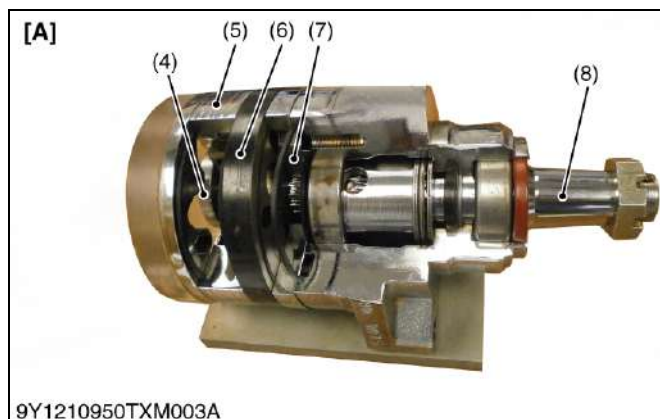
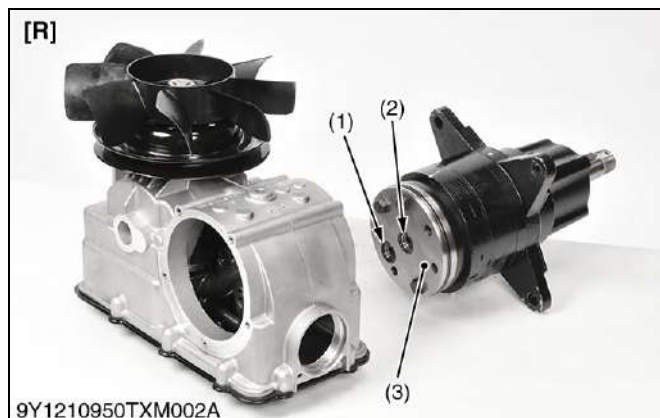
An internal expanding brake drum is used for Z700 series. The brake drum (2) is attached to an axle shaft (3). The brake shoes (4) will expand via brake cam lever (1) when you press the brake pedal. Friction between brake shoes (4) and brake drum makes braking power.

- | |
|---------------------|
| (1) Brake Cam Lever |
| (2) Brake Drum |
| (3) Axle Shaft |
| (4) Brake Shoes |

E: Applied

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[3] INNER COMPONENTS



Pump capacity: 14 cc/rev

Motor capacity: 280 cc/rev

Charge Pump capacity: 2.1 cc/rev

■ Motor Features

- High efficiency results in a cooler operating system
- High capacity thrust bearing provides longer transmission life torque motor
- Roller vane to decrease friction and internal leakage and to keep efficiency
- A patented orbiting commutator system for less wear and longer life
- A unique high-pressure shaft seal
- Manifold designed to improve operating efficiency
- Roller vane and sealed commutation assure high volumetric efficiency and smooth low speed operation

The transaxle consists of a pump (axial) (9) and a motor (roller vane). The motor and the end block (11) is attached. In forward mode, pump (9) sends oil into the motor through the inlet port (1) and oil comes back through the return port (2).

The motor consists of parts such as the end cover (3) to axle shaft (8). The operation is shown from next page. The relief valves (10), (12) are in the end block. The relief valves (forward) (12) is on the motor side.

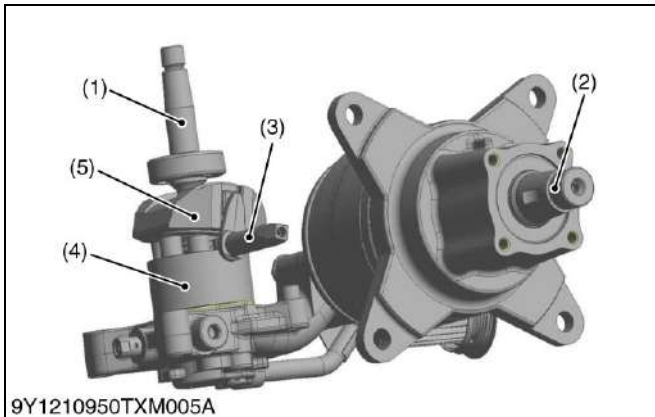
- | | |
|---------------------------|-----------------------------|
| (1) Inlet Port (Forward) | (9) Pump (Axial) |
| (2) Return Port (Forward) | (10) Relief Valve (Reverse) |
| (3) End Cover | (11) End Block |
| (4) Commutator | (12) Relief Valve (Forward) |
| (5) Manifold | |
| (6) Rotor Set | |
| (7) Drive Link | |
| (8) Axle Shaft | |

[R] R.H. Side

[A] Cut Away Model of Motor

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[4] OPERATION OF TRANSAXLE



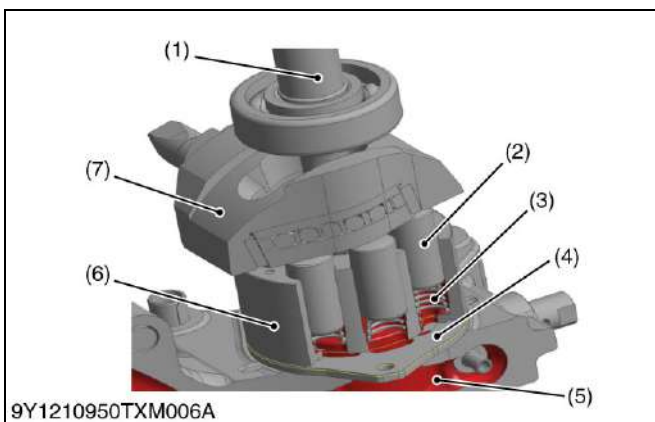
The figure shows transaxle components L.H. Rotational motion is transferred from the pump shaft (1) to the motor shaft (2) by rotating the trunnion arm (3) to induce an angle between the swash block (5) and the barrel face of the pump (4).

Motor speed and torque are adjusted by changing the angle referenced above. With no angle, no motor rotation is produced. Reversing the swash block angle will reverse the motor's direction of rotation.

A summary of the transmission fluid's flow path is explained below (supply pressure is shown by red passages, return pressure by blue).

- | | |
|------------------|-----------------|
| (1) Pump Shaft | (4) Pump |
| (2) Motor Shaft | (5) Swash Block |
| (3) Trunnion Arm | |

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The pump (6) is connected to the pump shaft (1), and rotation of the pump (6) causes the pistons (2) to travel in a circular orbit about the shaft (1).

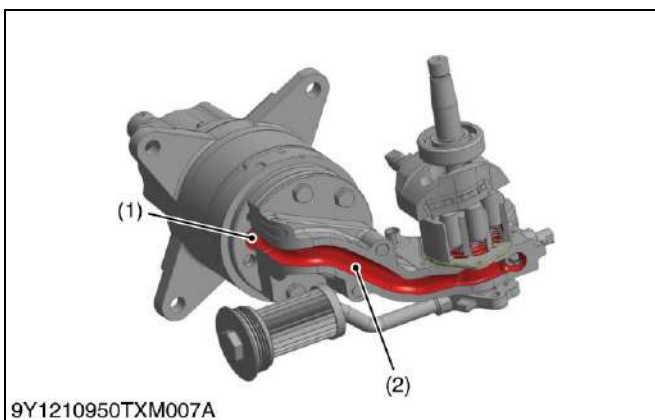
A piston spring (3) in each piston keeps contact between the pistons (2) and the swash block (7).

The angle between the swash block (7) and the pump (6) causes the pistons to move axially in the pump as they rotate about the pump shaft (1).

As the pump (6) rotates, any fluid in front of pistons (2) on the supply side of the pump is forced through ports in the port plate (4) and into the end block's supply loop (5).

- | | |
|-------------------|-----------------|
| (1) Pump Shaft | (5) Supply Loop |
| (2) Piston | (6) Pump |
| (3) Piston Spring | (7) Swash Block |
| (4) Port Plate | |

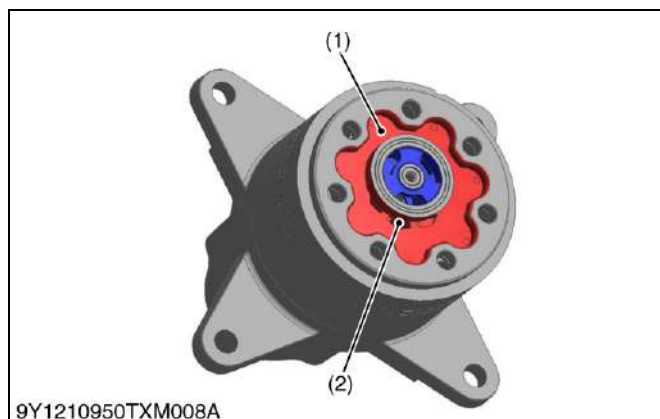
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Fluid goes from the supply loop (2) to the motor inlet (1).

- | | |
|-----------------|-----------------|
| (1) Motor Inlet | (2) Supply Loop |
|-----------------|-----------------|

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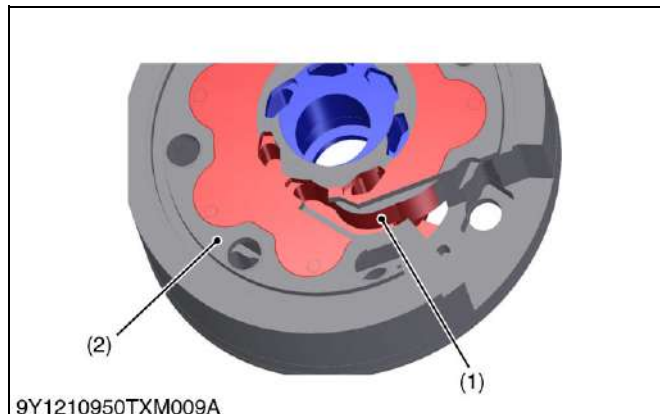


Inside the motor, fluid first enters the supply side of the commutator set (1) and flows into the manifold ports (2) that are exposed to supply pressure.

(1) Commutator Set

(2) Manifold Port

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Fluid then follows a curved path (1) through the manifold and into the rotating group.

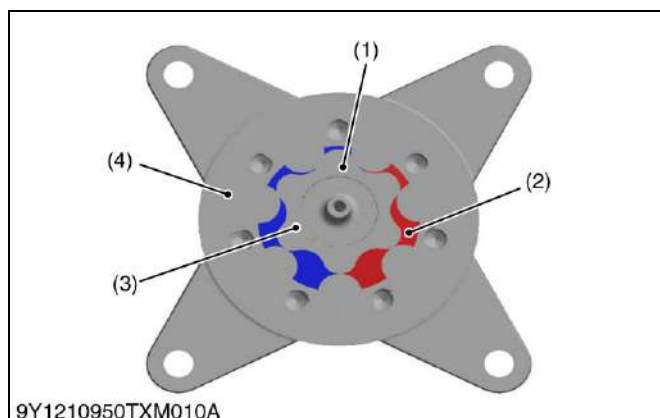
Depending upon whether the motor is forward or reverse mode, the flow paths in the manifold may be clockwise or counterclockwise in direction.

The manifold (2) is one piece but is made of several different plates stacked up to where the flow enters the power element side (facing the rotor set). It curves around internal to where the flow comes out the opposite side of the commutator.

(1) Curved Path

(2) Manifold

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From the manifold, supply fluid enters pockets in the rotating group (2).

Supply pressure in some of the pockets (in red) pushes against the rotor (1) and expands the pockets.

When the pockets expand, the rotor (1) rolls around the inside the stator (4) in an orbital motion while the rotor lobes (3) engage with the pockets to decrease and expand the volumes inside the pockets. Due to the nature of the engagement between the rotor lobes (3) and the stator (4), each pocket expands and decrease once each orbit.

Additionally, six orbits are required to allow one rotor lobe to complete a full revolution around the rotor axis, resulting in a 6:1 mechanical advantage.

Roller vane power element: the inner rotor has six stars shapes which rotates around the rollers to keep the sliding friction low. With smoother start up, the roller vane keeps high volumetric efficiency.

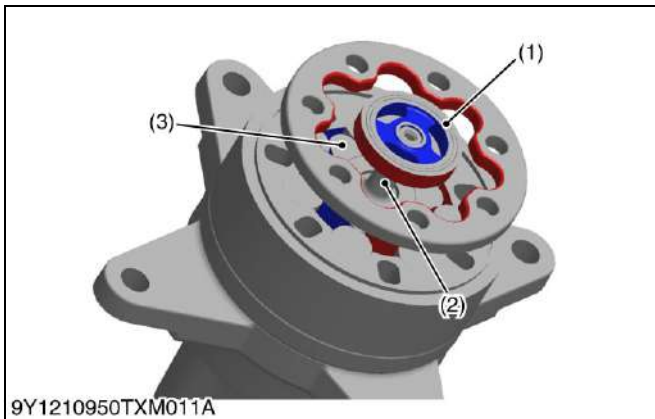
(1) Rotor

(3) Rotor Lobe

(2) Rotating Group

(4) Stator

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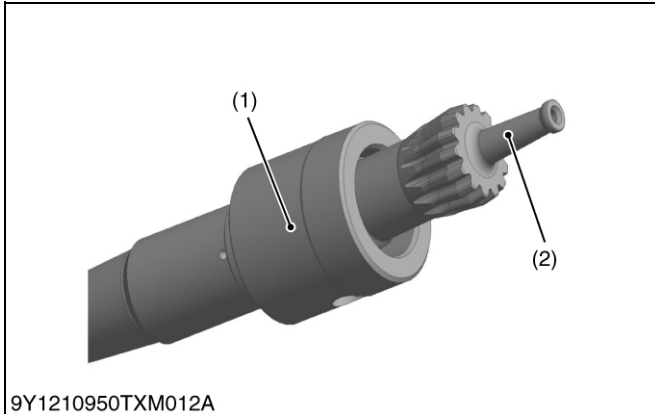


The drive link (2) is connected to the rotor (3) and the commutator (1). As the rotor (3) orbits, the drive link (2) causes the commutator (1) to orbit.

As each pocket reaches its maximum volume, the commutator's (1) orbit causes it to cover the port communicating with that pocket and exposes it to return pressure. As each pocket reaches its minimum volume, it is exposed to supply pressure in the same manner.

- (1) Commutator
- (2) Drive Link
- (3) Rotor

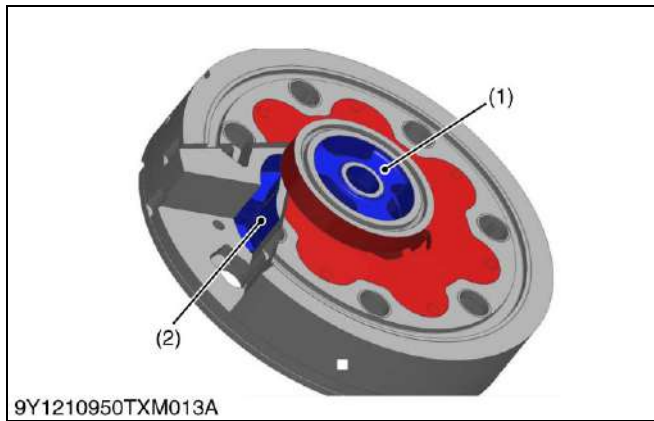
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As the drive link (2) orbits and rotates with the rotor, it transmits rotary motion to the motor shaft (1). The shape of the splines cut into the drive link (2) allow it to orbit and rotate simultaneously on the end coupled to the rotor while rotating without an orbit on the end coupled to the motor shaft (1).

- (1) Motor Shaft
- (2) Drive Link

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As pockets decrease, fluid goes out from the rotating group through the curved manifold passages (2) to the return side of the commutator set (1).

The return side of the commutator set (1) connects directly with the return port (3) on the motor end cover, which then directs the flow into the return leg (4) of the end block.

Return fluid then travels through the return leg (4) of the end block and through the port plate (5).

- | | |
|----------------------|----------------|
| (1) Commutator Set | (4) Return Leg |
| (2) Manifold Passage | (5) Port Plate |
| (3) Return Port | |

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