WSM

WORKSHOP MANUAL
TRACTOR

B3000-AUS

Kubota

KiSC issued 11, 2011 A

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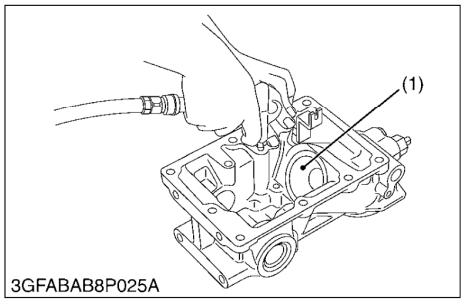
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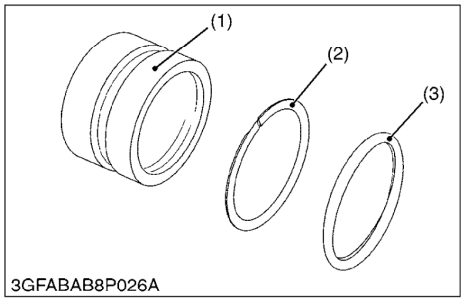
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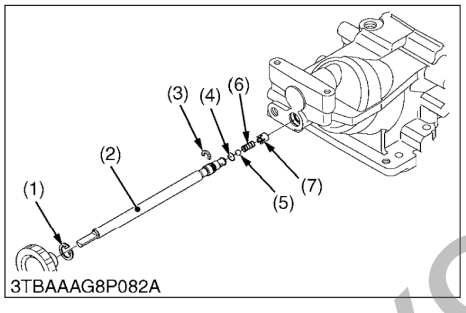
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3GFABAB8P025A



3GFABAB8P026A



3TBAAAG8P082A

Hydraulic Piston

1. Inject the compressed air into the hydraulic cylinder, and take out the hydraulic piston (1).

(When reassembling)

- Take care not to damage the O-ring (3) and backup ring (2).
- Apply transmission fluid to the O-ring.
- Replace the O-ring if it is defective, worn or scratched, which may cause oil leakage.

(1) Hydraulic Piston
(2) Backup Ring
(3) O-ring

9Y1210623HYS0020US0

Hydraulic Adjust Shaft

1. Remove the internal cir-clip (1) and the hydraulic adjusting shaft (2).
2. Draw out the ball (5), the spring (6) and the collar (7).

(When reassembling)

- Take care not to damage the O-rings.

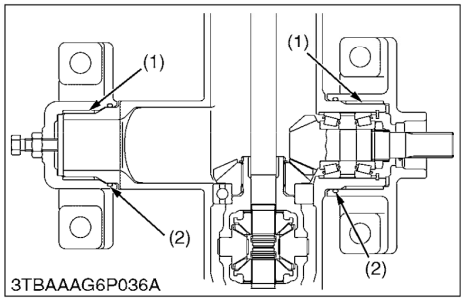
(1) Internal Cir-clip
(2) Hydraulic Adjust Shaft
(3) Stopper
(4) O-ring
(5) Ball
(6) Spring
(7) Collar

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3TBAAAG6P035A



3TBAAAG6P036A

Clearance between Front Axle Case Bosses and Bracket Bushing

1. Measure the front axle case bosses O.D. with an outside micrometer.
2. Measure the bracket Bushing I.D. with a cylinder gauge, and calculate the clearance.
3. If the clearance exceeds the allowable limit, replace the bracket bushing.
4. If the clearance still exceeds the allowable limit, replace the front axle case.

Clearance between front axle case boss (front) and bracket bushing (front)	Factory specification	0.120 to 0.275 mm 0.00473 to 0.0108 in.
	Allowable limit	0.45 mm 0.018 in.

Front axle case boss (front) O.D.	Factory specification	49.950 to 49.975 mm 1.9666 to 1.9675 in.
Bracket bushing (front) I.D.	Factory specification	50.095 to 50.225 mm 1.9723 to 1.9773 in.

Clearance between front axle case boss (rear) and bracket bushing (rear)	Factory specification	0.120 to 0.300 mm 0.00473 to 0.0118 in.
	Allowable limit	0.45 mm 0.018 in.

Front axle case boss (rear) O.D.	Factory specification	65.005 to 65.035 mm 2.5593 to 2.5604 in.
Bracket bushing (rear) I.D.	Factory specification	65.155 to 65.305 mm 2.5652 to 2.5710 in.

■ **Press-fitting Bushing**
- When replacing the bushings (1), press-fit it until bushing contact to inside of front axle case.
- Apply grease to the O-rings (2) and take care not to damage it.

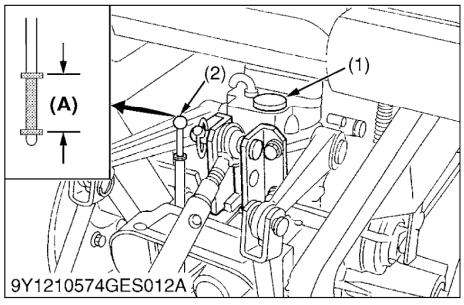
■ **NOTE**
- **After replacing the bushing, be sure to adjust the front axle rocking force. (See page 5-S4.)**

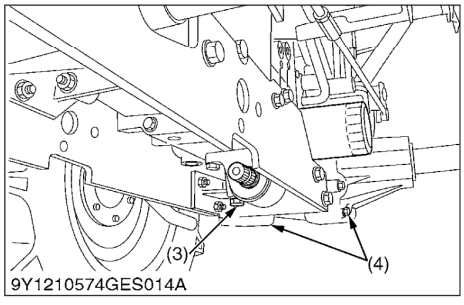
(1) Bushing (2) O-ring

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Changing Transmission Fluid

CAUTION

- **Allow engine to cool down sufficiently, oil can be hot and can burn.**

1. To drain the used oil, remove the drain plug at the bottom of the transmission case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plug.
3. Fill with new KUBOTA SUPER UDT fluid up to the upper notch on the dipstick. (Refer to "4. LUBRICANTS, FUEL AND COOLANT" on page G-8.)
4. After running the engine for a few minutes, stop it and check the oil level again; add oil to prescribed level.
5. Properly dispose of used oil.

■ **IMPORTANT**

- **If the 3-point hitch can not be raised by setting the hydraulic control lever to the UP position after long term storage or when changing the transmission oil, turn steering wheel to the right and left several times to bleed air from the system.**
- **Do not operate the tractor immediately after changing the transmission fluid.**

Transmission fluid	Capacity	15 L 4.0 U.S.gals 3.3 Imp.gals

(1) Oil Inlet
(2) Dipstick
(3) Drain Plug
(4) Drain Plug (Rear Axle Case)

(A) Oil level is acceptable within this range.

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5. TIGHTENING TORQUES

[1] GENERAL USE SCREWS, BOLTS AND NUTS

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

Indication on top of bolt	 No-grade or 4T			 7T			 9T		
Indication on top of nut	 No-grade or 4T						 6T		
Material of opponent part	Ordinariness			Aluminum			Ordinariness			Aluminum			Ordinariness		
Unit	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
M6	7.9 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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(1) Part No. TA040-4902-1

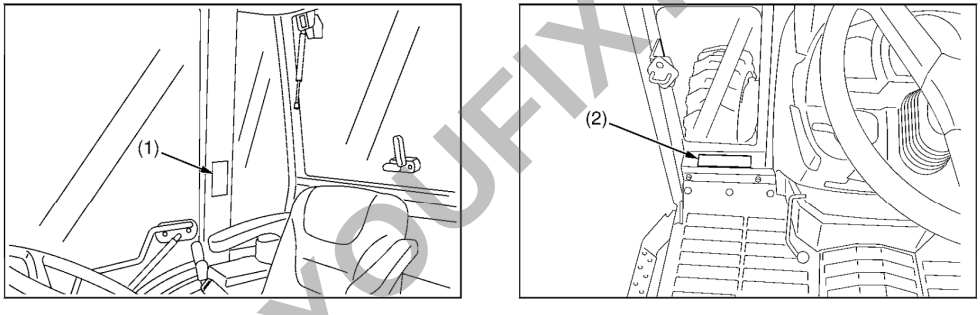


1AGAMAOAP0780

(2) Part No. 6C230-4743-1



1AGAMAOAP0790



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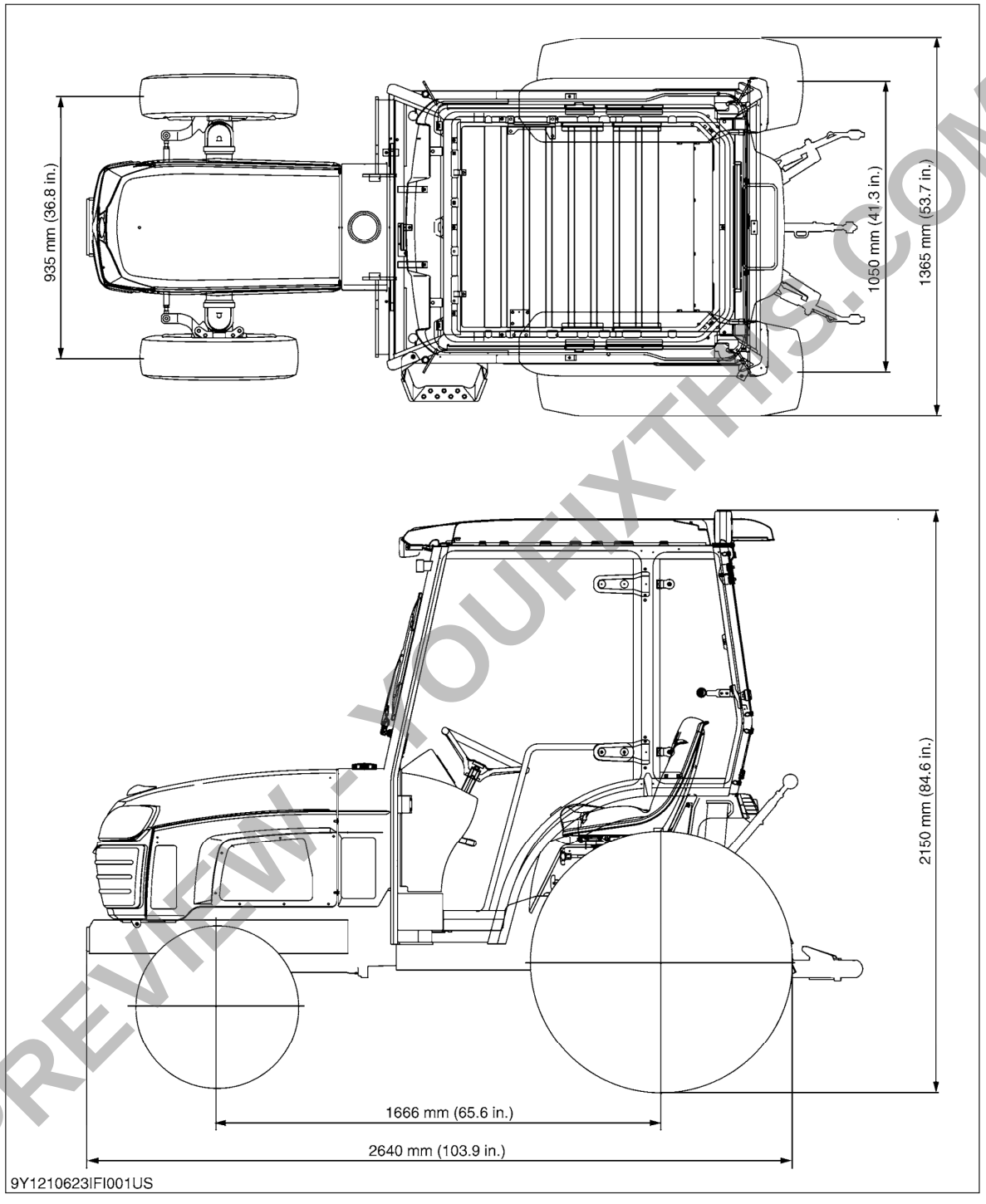
CARE OF DANGER, WARNING AND CAUTION LABELS

1. Keep danger, warning and caution labels clean and free from obstructing material.
2. Clean danger, warning and caution labels with soap and water, dry with a soft cloth.
3. Replace damaged or missing danger, warning and caution labels with new labels.
4. If a component with danger, warning or caution label(s) affixed is replaced with new part, make sure new label(s) is (are) attached in the same location(s) as the replaced component.
5. Mount new danger, warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.

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5. DIMENSIONS



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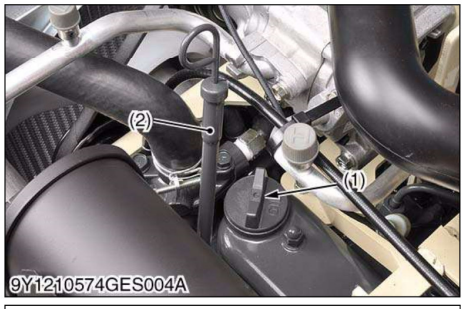
6. MAINTENANCE CHECK LIST

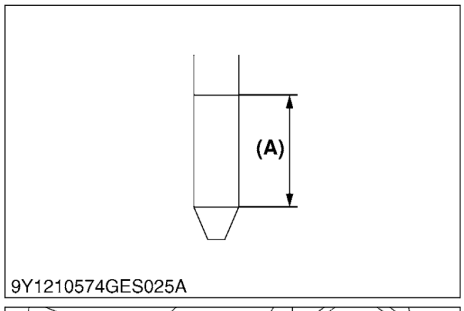
No.	Item		Indication on hour meter														Interval	Reference page	Important	
			Daily	50	100	150	200	250	300	350	400	450	500	550	600	650				
1	Clogging of air conditioner condenser screen	Clean	☆														Daily	G-17		
2	Engine oil	Change		★	☆		☆		☆		☆		☆		☆		every 100 Hr	G-24		
3	Engine oil filter	Replace		★			☆				☆				☆		every 200 Hr	G-28		
4	Transmission oil filter	Replace		★					☆						☆		every 300 Hr	G-31		
5	Transmission fluid	Change		★					☆						☆		every 300 Hr	G-31		
6	Front axle case oil	Change							☆						☆		every 300 Hr	G-31		
7	Front axle pivot	Adjust									☆						every 400 Hr	G-31		
8	Engine start system	Check		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-22		
9	Greasing	–		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-23		
10	Wheel bolt torque	Check		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-23		
11	Battery condition	Check			☆		☆		☆		☆		☆		☆		every 100 Hr	G-24	*3	
12	Air cleaner element [Double element type] Primary element	Clean			☆		☆		☆		☆		☆		☆		every 100 Hr	G-26	*1	@
		Replace															every 1 year	G-33	*2	
	Air cleaner element [Double element type] Secondary element	Replace															every 1 year	G-33		
13	Fuel filter element	Check			☆		☆		☆		☆		☆		☆		every 100 Hr	G-26		@
		Replace									☆						every 400 Hr	G-32		
14	Fan belt	Adjust			☆		☆		☆		☆		☆		☆		every 100 Hr	G-27		
15	Brake	Adjust			☆		☆		☆		☆		☆		☆		every 100 Hr	G-27		
16	Radiator hose and clamp	Check					☆				☆				☆		every 200 Hr	G-28		
		Replace															every 2 year	G-34		

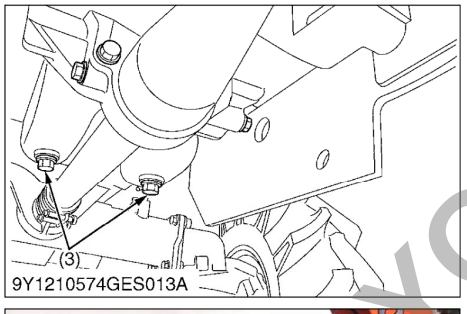
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[2] CHECK POINTS OF INITIAL 50 HOURS









Changing Engine Oil

CAUTION

- **Be sure to stop the engine before changing the oil.**
- **Allow engine to cool down sufficiently, oil can be hot and can burn.**

1. To drain the used oil, remove the drain plug at the bottom of the engine and drain the oil completely into the oil pan.
   All the used oil can be drained out easily when the engine is still warm.
2. After draining reinstall the drain plug.
3. Fill with the new oil up to the upper notch on the dipstick.
   (Refer to "4. LUBRICANTS, FUEL AND COOLANT" on page G-8.)

Engine oil	Capacity	4.1 L 4.3 U.S.qts 3.6 Imp.qts

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

9Y1210623GEG0020US0

Replacing Engine Oil Filter

CAUTION

- **Be sure to stop the engine before changing the oil filter cartridge.**
- **Allow engine to cool down sufficiently, oil can be hot and can burn.**

1. Remove the oil filter.
2. Put a film of clean engine oil on the rubber seal of the new filter.
3. Tighten the filter quickly until it contacts the mounting surface. Tighten filter by hand an additional 1/2 turn only.
4. After the new filter has been replaced, the engine oil normally decreases a little. Make sure that the engine oil does not leak through the seal and be sure to check the oil level on the dipstick. Then, replenish the engine oil up to the prescribed level.

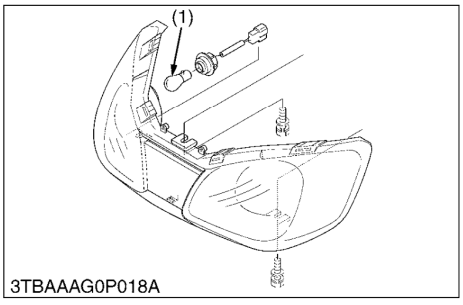
■ IMPORTANT

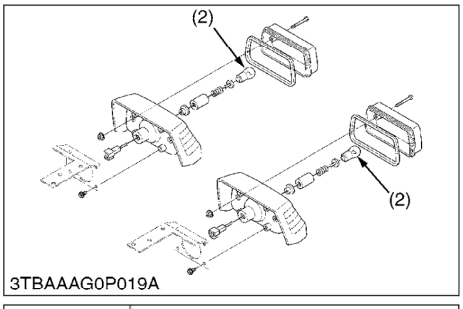
- **To prevent serious damage to the engine, use only a KUBOTA genuine filter.**

(1) Engine Oil Filter

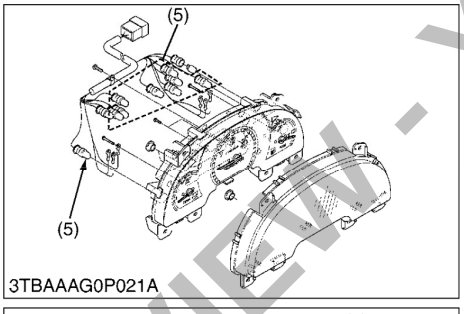
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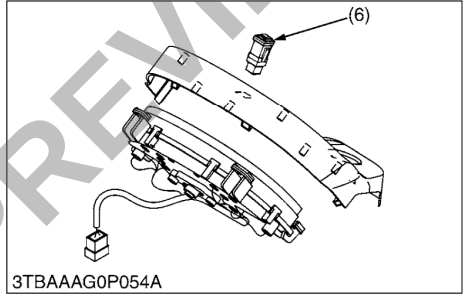
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Replacing Light Bulb

1. Head lights:
   Take the bulb out of the light body and replace with new one.
2. Other lights:
   Detach the lens and replace the bulb.

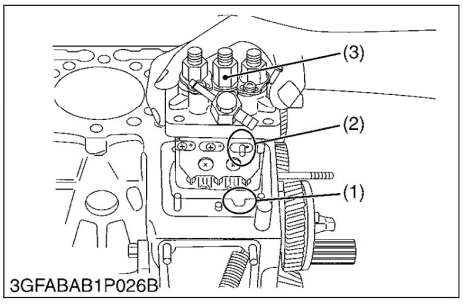
Light	Capacity
Head light	23 W
Tail light	8 W
Turn signal / Hazard light	20 W and 27 W
Instrument panel light	1.7 W
Hazard light switch indicator	0.6 W
Work light	35 W

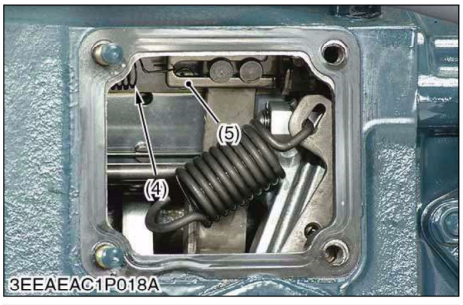
(1) Head Light Bulb
(2) Tail Light Bulb
(3) Turn Signal Bulb
(4) Hazard Light Bulb
(5) Instrument Panel Lamp
(6) Hazard Switch Indicator Lamp
(7) Work Light Bulb

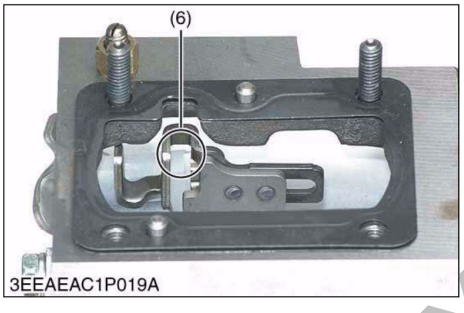
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Injection Pump

1. Disconnect the starter spring (4) on the thrust lever side (5).
2. Align the control rack pin (2) with the notch (1) on the crankcase, and remove the injection pump (3).
3. Remove the injection pump shims.
4. In principle, the injection pump should not be disassembled.

(When reassembling)

- When installing the injection pump, insert the control rack pin (2) firmly into the groove (6) of the thrust lever of fork lever.

■ **NOTE**

- **The sealant is applied to both sides of the soft metal gasket shim. The liquid gasket is not required for assembling.**
- **Addition or reduction of shim (0.05 mm, 0.0020 in.) delays or advances the injection timing by approx. 0.0087 rad (0.5 °).**
- **In disassembling and replacing, be sure to use the same number or new gasket shims with the same thickness.**

(1) Notch
(2) Control Rack Pin
(3) Injection Pump
(4) Start Spring
(5) Thrust Lever
(6) Groove

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Symptom	Probable Cause	Solution	Reference Page
Loss of Power	Oil level is low	Check oil level or fill oil to proper level	G-16
	Speed control pedal linkage defective	Repair linkage	2-M14, 2-M16
	Charge pressure is too low	1. Replace oil filter cartridge	G-21
		2. Check charge pressure	2-S7
		3. Inspect or flush charge relief valve	2-S41
	Check and high pressure relief valve does not move smoothly	Inspect or replace check and high pressure relief valve	2-S40
	Neutral valve is defective	Inspect or replace neutral valve	2-S41
	Component parts defective	Replace hydrostatic transmission assembly	2-S14
Transmission Oil Over Heats	Low transmission oil level	Fill transmission oil level up to proper level	G-16
	Radiator net clogged	Clean radiator net	G-16
	Excessive machine load	Reduce machine load	–
	Improper charge pressure	1. Check high relief pressure	2-S8, 2-S9
		2. Replace transmission oil filter cartridge	G-21
		3. Replace check and high pressure relief valve	2-S17
		4. Inspect and replace charge relief valve	2-S41
Machine Will Not Stop in Neutral Position	Speed control linkage is out of adjustment or sticking	Repair or replace linkage	2-M14, 2-M16
		Adjust neutral adjuster	–
	Neutral valve defective	Inspect or replace neutral valve	2-S41
System Operates in One Direction Only	Speed control linkage defective	Repair or replace linkage	2-M14, 2-M16
	Check and high pressure relief valve defective	Replace check and high pressure relief valve	2-S17

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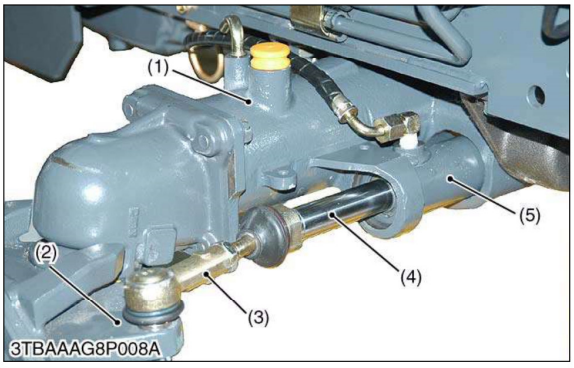
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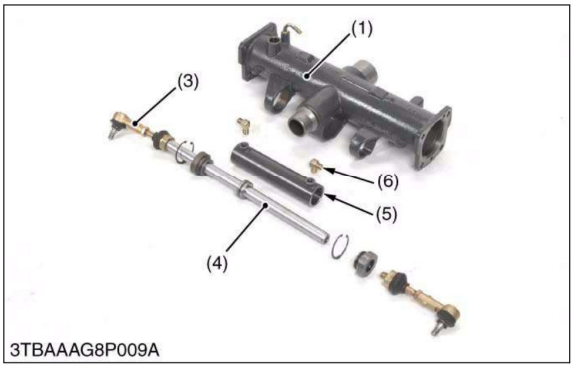
4 BRAKES

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[3] STEERING CYLINDER





Steering cylinder is located at the front side of the front axle case (1).

Steering cylinder is connected to the front gear cases.

Power steering hoses from power steering controller are connected to the adaptors of the steering cylinder.

Steering cylinder is composed of tie rod end (3), piston (4), cylinder (5), adaptors (6) and etc..

(1) Front Axle Case
(2) Front Gear Case
(3) Tie Rod End
(4) Piston
(5) Cylinder
(6) Adaptor

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Symptom	Probable Cause	Solution	Reference Page
Turn Signal Light Does Not Light	Fuse blown (10 A)	Replace	G-39
	Bulb blown	Replace	G-40
	Wiring harness disconnected or improperly connected	Repair or Replace	8-M1
	Flasher unit defective	Replace	8-S24
	Combination switch defective	Replace	8-S20
Turn Signal Light Indicator Lamp Does Not Light	Bulb blown	Replace	G-40
	Wiring harness disconnected or improperly connected (between combination switch **R** or **L** terminal and panel board)	Repair or Replace	8-M1
Turn Signal Light Does Not Flicker	Flasher unit defective	Replace	8-S24
	Combination switch defective	Replace	8-S20

EASY CHECKER™

Symptom	Probable Cause	Solution	Reference Page
Oil Pressure Lamp Lights Up When Engine Is Running	Engine oil pressure too low	Repair engine	–
	Engine oil insufficient	Replenish	G-19
	Oil pressure switch defective	Replace	8-S26
	Short circuit between oil pressure switch lead and chassis	Repair	8-M1
	Circuit in panel board defective	Replace	8-S25
Oil Pressure Lamp Does Not Light When Main Switch Is Turned On and Engine Is Not Running	Bulb blown	Replace	G-40
	Oil pressure switch defective	Replace	8-S26
	Wiring harness disconnected or improperly connected (between panel board and oil pressure switch)	Repair or Replace	8-M1
	Circuit in panel board defective	Replace	8-S25

GAUGES

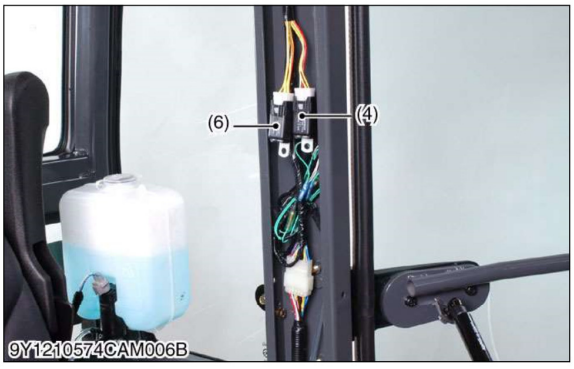
Symptom	Probable Cause	Solution	Reference Page
Fuel Gauge Does Not Function	Fuel gauge defective	Repair	8-S27
	Fuel level sensor defective	Replace	8-S27
	Wiring harness disconnected or improperly connected (between panel board and fuel level sensor)	Repair or Replace	8-M1
	Circuit in panel board defective	Replace	8-S25
Coolant Temperature Gauge Does Not Function	Coolant temperature gauge defective	Replace	8-S27
	Coolant temperature sensor defective	Replace	8-S27
	Wiring harness disconnected or improperly connected (between panel board and coolant temperature sensor)	Repair or Replace	8-M1
	Circuit in panel board defective	Replace	8-S25

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(1) Compressor Relay

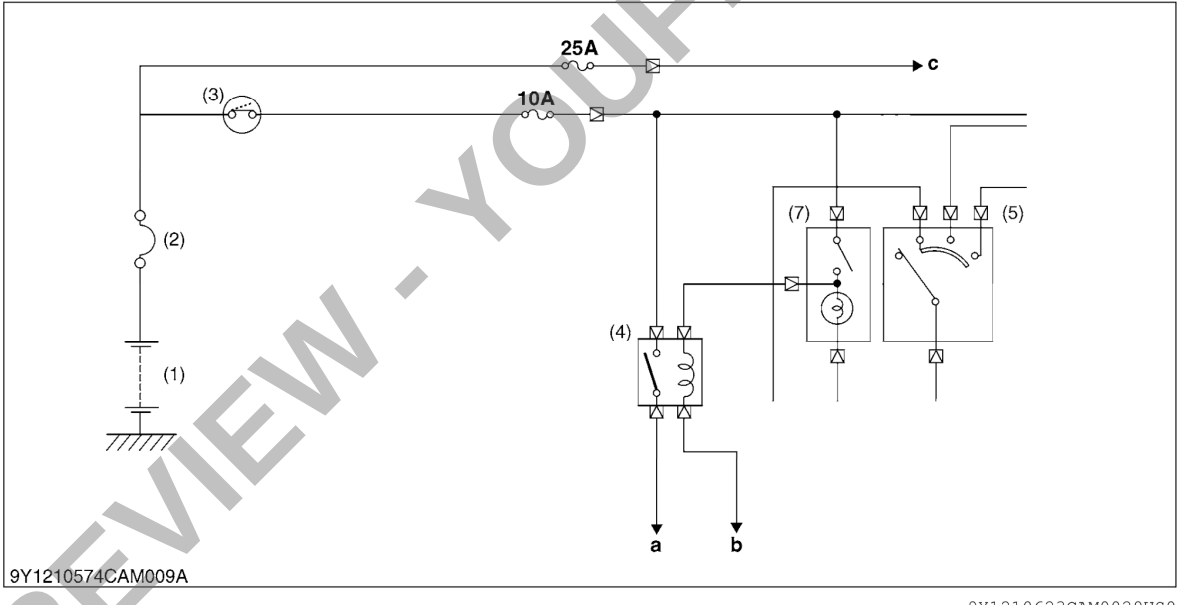


Among the air conditioner components, current flows to the blower motor and magnetic clutch. If all of these current were to be passed through the main switch and supplied, the current would be too large for the main switch so that there will be danger or burning out the main switch contact. If the current were to be passed directly from the battery, forgetting to turn off the blower motor could result in a discharged battery.

To protect against such trouble, a relay has been provided. This relay has been made so that when current flows through its coil, the contacts close to supply the power from the battery. By employing this relay, the current flowing through the main switch has been decreased as only a small current is required to actuate the relay. Thus there will be no danger of burning out the switch contact, and when the main switch is opened, the relay contact will open at the same time. This action stops the current flow in the air conditioner circuit so that there will also be no chance of the battery discharging.

(1) Battery
(2) Slow Blow Fuse
(3) Main Switch
(4) Compressor Relay
(5) A/C Blower Switch
(6) A/C Switch

a: To compressor magnet clutch
b: To A/C blower switch
c: To A/C blower motor



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