

Product: Kubota LA1954AU LA2254AU Service Manual

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WSM

WORKSHOP MANUAL FRONT LOADER

LA1954AU, LA2254AU

Kubota

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KiSC issued 10, 2018 A

TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of KUBOTA Front Loader LA1954AU and LA2254AU. 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.

- Loader Identification
- General Precautions
- Maintenance Check List
- Check and Maintenance

■ **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.

■ **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.

November, 2012

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Record of Revisions

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

Last digit of the Code No.	Month of Revision	Main Revised Point and Corrective Measures {Search word}	Reference Page
1	2018.10	Accumulator gas pressure value is corrected	1-M74
		Corrected errors	1-S14, 1-S17

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

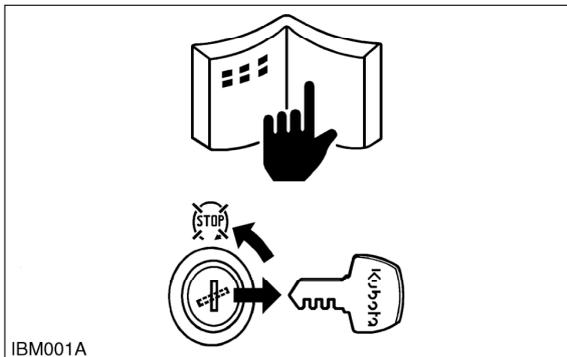
- Gives helpful information.

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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.

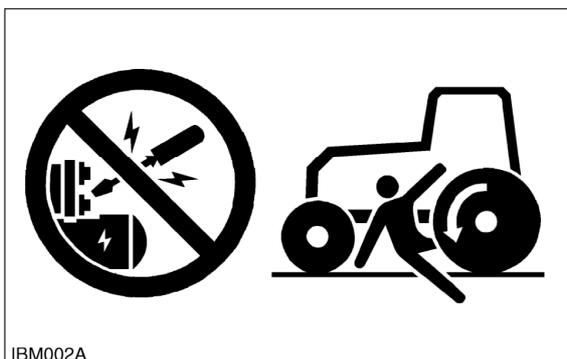
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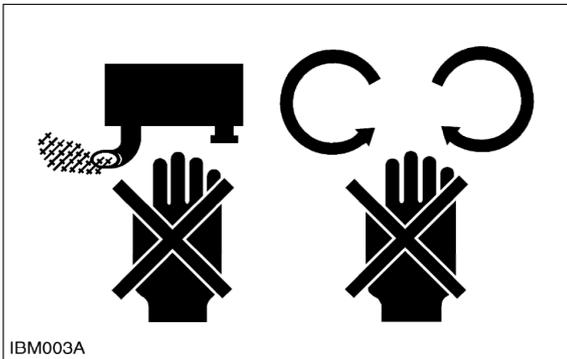


START SAFELY

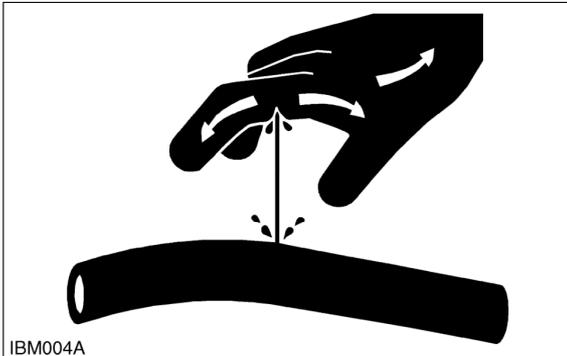
- Do not do the procedures below when you start the engine.
 - short across starter terminals
 - bypass the safety start switch
- Do not alter or remove any part of machine safety system.
- Before you start the engine, make sure that all shift levers are in neutral positions or in disengaged positions.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

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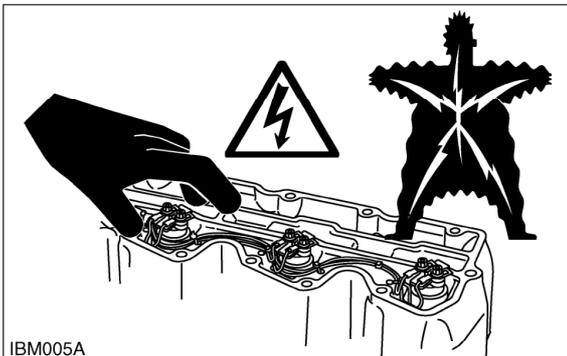




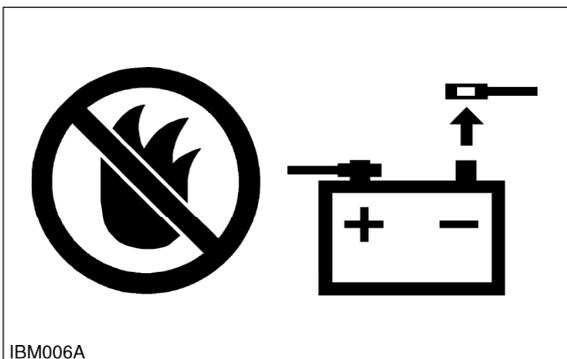
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OPERATE SAFELY

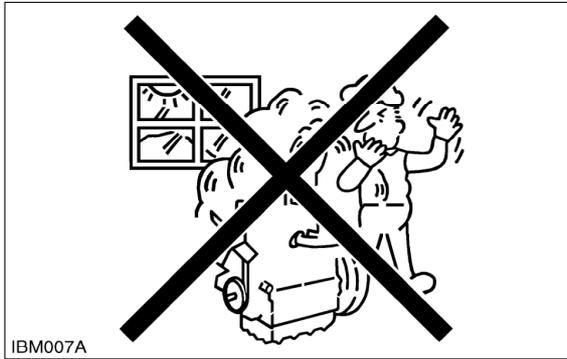
- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below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

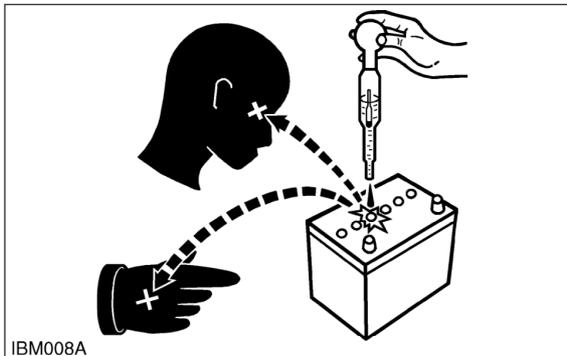
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DISCARD FLUIDS CORRECTLY

- 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.

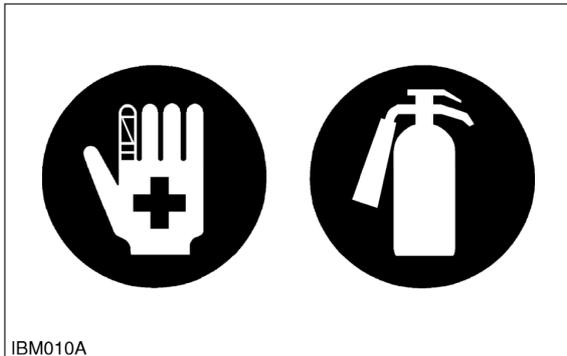
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PREVENT ACID BURNS

- 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

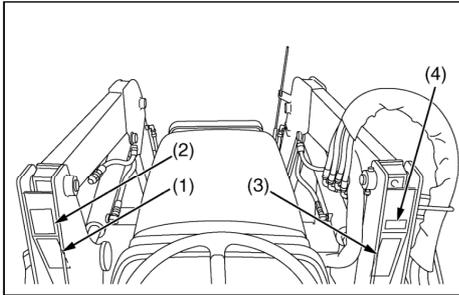
- Keep a first aid kit and fire extinguisher ready at all times.
- Keep the emergency contact telephone numbers near your telephone at all times.

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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. 7J246-5641-1



1AIABAHAP017A

(3) Part No. 7J417-5643-1



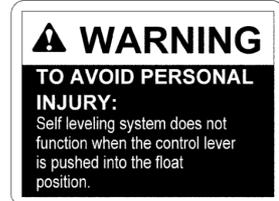
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(2) Part No. 7J246-5642-1



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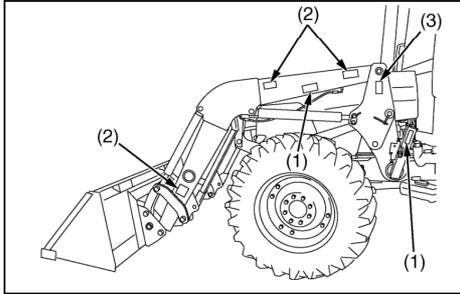
(4) Part No. 7J427-5650-1



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(1) Part No. 7J802-5848-1

	⚠ WARNING
	<p>Install cylinder locks before performing maintenance under raised loader arms. Failure to comply could result in death or serious injury.</p> <ul style="list-style-type: none"> ● Empty loader bucket and place in dump position, raise boom until boom lock channel can be positioned on cylinder rod, then stop engine. ● Pull pin and lower boom lock onto the cylinder rod, then insert pin into the hole of lower right corner of boom lock. ● Slowly lower boom until boom is stopped.

1HNADAAAP0120

(2) Part No. 7J615-5633-1

⚠ WARNING
<p>TO AVOID PERSONAL INJURY: KEEP HANDS AWAY FROM CRUSH ZONE.</p>

1AIABEJAP018E

9Y1210846ICI002US

(3) Part No. 7J436-5637-1 (LA1954AU)

Tractor Model:	M100GX M110GX
Rated Operating Load (ROL):	970kg
Counterweight Required:	1000kg
Date Of Supply:	/ / 20
⚠ WARNING	
<p>-DO NOT EXCEED ROL. -DO NOT OPERATE LOADER WITHOUT COUNTERWEIGHT. -DO NOT EXCEED 10KM/H WHEN TRAVELLING WITH LOAD. -ROL IS CALCULATED WITH STANDARD BUCKET. OPTIONAL ATTACHMENTS (4IN1 BUCKET ETC) WILL REDUCE THE ROL.</p>	

1AIABEJAP011A

(3) Part No. 7J435-5637-1 (LA2254AU)

Tractor Model:	M126GX M135GX
RATED OPERATING LOAD (ROL)	Standard :1030kg Suspension:910kg
Counterweight Required:	1000kg
Date Of Supply:	/ / 20
⚠ WARNING	
<p>-DO NOT EXCEED ROL. -DO NOT OPERATE LOADER WITHOUT COUNTERWEIGHT. -DO NOT EXCEED 10KM/H WHEN TRAVELLING WITH LOAD. -ROL IS CALCULATED WITH STANDARD BUCKET. OPTIONAL ATTACHMENTS (4IN1 BUCKET ETC) WILL REDUCE THE ROL.</p>	

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(1) Part No. 7J417-7778-1 (M1498, M1499)

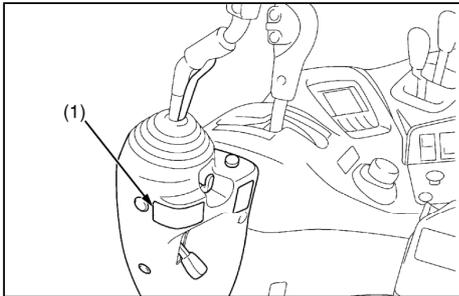


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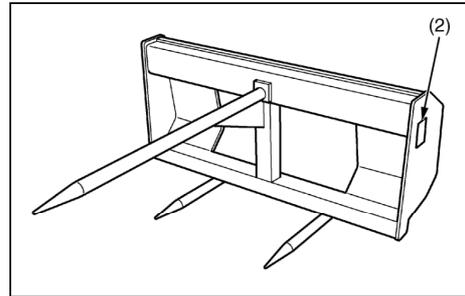
(2) Part No. 7J246-5643-1



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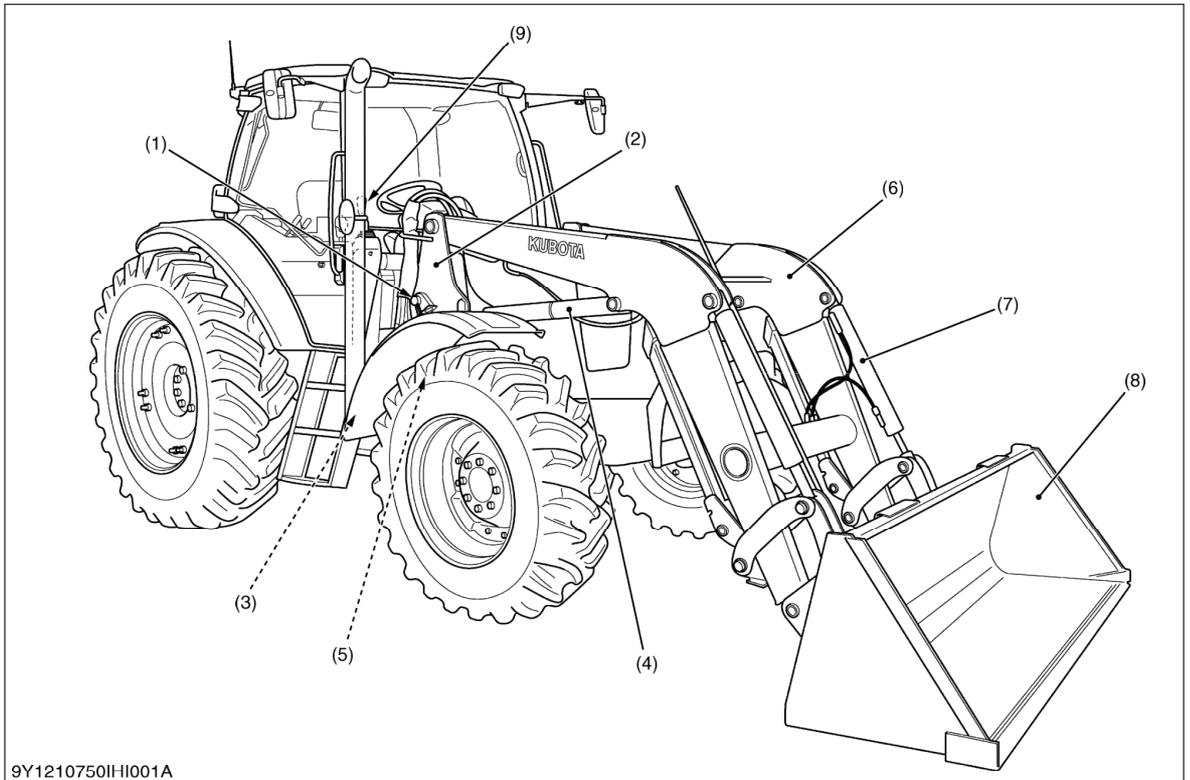
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CARE OF DANGER, WARNING AND CAUTION LABELS

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 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.

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3. LOADER TERMINOLOGY



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- (1) Mounting Pin
- (2) Side Frame
- (3) Hydraulic Control Valve

- (4) Boom Cylinder
- (5) Main Frame

- (6) Boom
- (7) Bucket Cylinder

- (8) Bucket
- (9) Control Lever

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4. SPECIFICATIONS

Suitable Tractor

LA1954AU: M100GX, M110GX

LA2254AU: M126GX, M135GX

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[1] LOADER SPECIFICATIONS

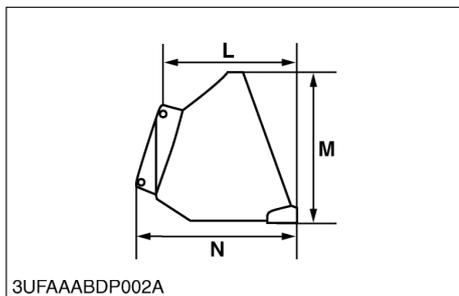
Loader Model		LA1954AU	LA2254AU
Tractor Model		M100GX, M110GX	M126GX, M135GX
Wheel Base		2435 mm (95.9 in.)	2690 mm (105.9 in.)
Front Tires		13.6R24	14.9R24
Rear Tires		18.4R34	18.4R38
Boom Cylinder	Bore	70 mm (2.76 in.)	75 mm (2.95 in.)
	Stroke	606 mm (23.9 in.)	680 mm (26.8 in.)
Bucket Cylinder	Bore	70 mm (2.76 in.)	75 mm (2.95 in.)
	Stroke	516.5 mm (20.3 in.)	610 mm (24 in.)
Control Valve			
One Detent Float Position, Power Beyond Circuit			
Rated Flow		68.0 L/min. (18.0 U.S.gals/min., 15.0 Imp.gals/min.)	77.0 L/min. (20.3 U.S.gals/min., 16.9 Imp.gals/min.)
Maximum Pressure			
20.7 MPa (211 kgf/cm ² , 3002 psi)			
Net Weight (Approximate)		898 kg (1980 lbs)	1070 kg (2359 lbs)

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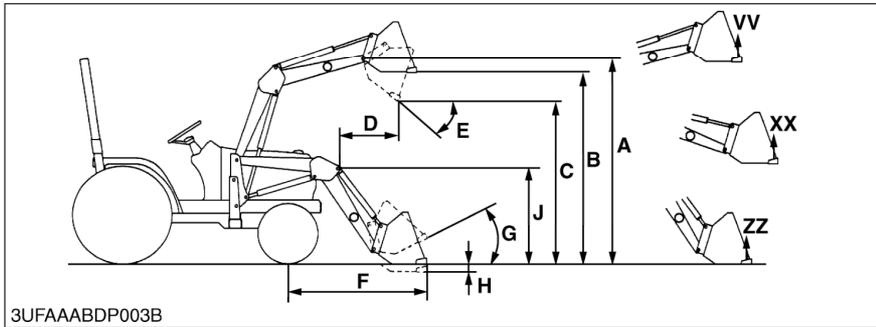
[2] BUCKET SPECIFICATIONS

Loader Model		LA1954AU, LA2254AU			
Bucket Size		ROUND 84 in.	LIGHT MATERIAL 84 in.	SQUARE 96 in.	LIGHT MATERIAL 96 in.
Type		Quick Attach			
Width		2135 mm (84.0 in.)		2440 mm (96.0 in.)	
Depth (L)		650 mm (25.59 in.)	750 mm (29.53 in.)	665 mm (26.2 in.)	800 mm (31.5 in.)
Height (M)		665 mm (26.18 in.)	715 mm (28.15 in.)	750 mm (29.5 in.)	764 mm (30.1 in.)
Length (N)		900 mm (35.43 in.)	1000 mm (39.37 in.)	770 mm (30.3 in.)	910 mm (35.8 in.)
Capacity	Struck	0.52 m ³ (18.4 cu.ft.)	0.63 m ³ (22.3 cu.ft.)	0.66 m ³ (23.3 cu.ft.)	0.80 m ³ (28.3 cu.ft.)
	Heaped	0.64 m ³ (22.6 cu.ft.)	0.79 m ³ (27.9 cu.ft.)	0.75 m ³ (26.5 cu.ft.)	0.98 m ³ (34.6 cu.ft.)
Weight		235 kg (518 lbs)	255 kg (562 lbs)	275 kg (606 lbs)	316 kg (697 lbs)

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[3] DIMENSIONAL AND OPERATIONAL SPECIFICATIONS



3UFAAABDP003B

Dimensional Specifications

Loader Model		LA1954AU		LA2254AU	
Tractor Model		M100GX, M110GX		M126GX, M135GX	
Boom Cylinder Fulcrum Point		HEIGHT	POWER	HEIGHT	POWER
A	Maximum lift height to pivot pin	3700 mm (145.7 in.)	3370 mm (132.7 in.)	4099 mm (161.4 in.)	3764 mm (148.2 in.)
B	Maximum lift height under level bucket	3470 mm (136.6 in.)	3160 mm (124.4 in.)	3862 mm (152 in.)	3527 mm (138.9 in.)
C	Clearance with bucket dumped	2860 mm (112.6 in.)	2490 mm (98.0 in.)	3290 mm (129.5 in.)	2956 mm (116.4 in.)
D	Reach at maximum lift height (Dumping Reach)	489 mm (19.3 in.)	864 mm (34.0 in.)	761 mm (30.0 in.)	1157 mm (45.5 in.)
E	Maximum dump angle	0.91 rad (52°)	1.1 rad (63°)	0.87 rad (50°)	1.0 rad (60°)
F	Reach with bucket on ground	2230 mm (87.8 in.)		2434 mm (95.8 in.)	
G	Bucket roll-back angle	0.70 rad (40°)			
H	Digging depth	60 mm (2.4 in.)	65 mm (2.6 in.)	131 mm (5.2 in.)	133 mm (5.2 in.)
J	Overall height in carry position	1700 mm (66.9 in.)		1880 mm (74.0 in.)	

Operational Specifications

Loader Model		LA1954AU		LA2254AU	
Tractor Model		M100GX, M110GX		M126GX, M135GX	
Boom Cylinder Fulcrum Point		HEIGHT	POWER	HEIGHT	POWER
Rated operating load (ROL) (500 mm forward, maximum height)		970 kg (2140 lbs)		Standard: 1030 kg (2271 lbs)	Suspension: 910 kg (2010 lbs)
VV	Bucket roll-back force at maximum height	13720 N (3084 lbf)	16080 N (3615 lbf)	17627 N (3965 lbf)	20451 N (4601 lbf)
XX	Bucket roll-back force at 1.5 m (59 in.)	25860 N (5814 lbf)		28622 N (6439 lbf)	
ZZ	Bucket roll-back force at ground level	25810 N (5802 lbf)		28439 N (6398 lbf)	
Raising time (standard valve)		3.8 sec.		4.5 sec.	
Lowering time (standard valve)		3.3 sec.		3.9 sec.	
Bucket dumping time (standard valve)		2.1 sec.		2.4 sec.	
Bucket roll-back time (standard valve)		2.5 sec.		3.0 sec.	

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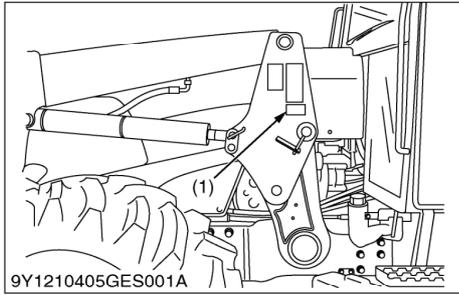
G GENERAL

GENERAL

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1. LOADER IDENTIFICATION

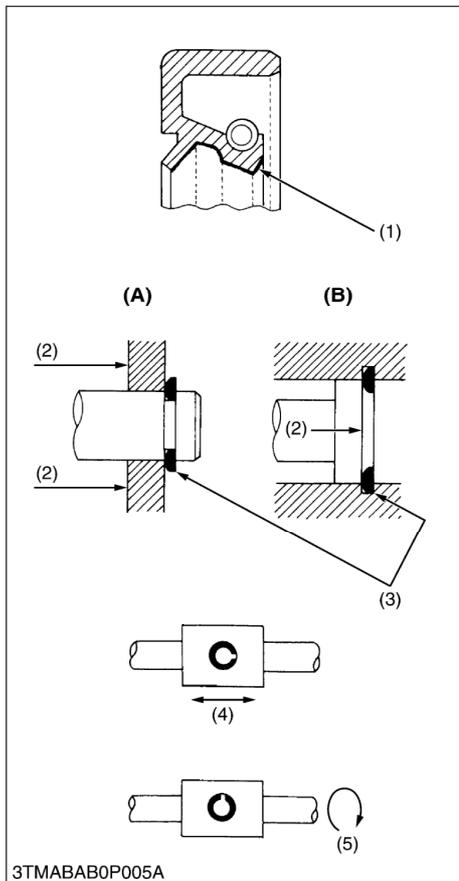


When contacting your local KUBOTA distributor, always specify front loader's serial number (1).

(1) 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. LUBRICANTS

To prevent serious damage to hydraulic systems, use only specified fluid or its equivalent.

Place	Capacity	Lubricants, type of grease
	M100GX, M110GX, M126GX, M135GX	
Transmission case	60.0 L 15.9 U.S.gals 13.2 Imp.gals	KUBOTA UDT or SUPER UDT fluid*
Grease fittings	Until grease overflows.	Moly Ep type grease**

■ **NOTE**

- * KUBOTA original transmission hydraulic fluid.
- ** "Extreme pressure" and containing Molybdenum disulfide is recommended. This grease may specify "Moly Ep" on it's label.

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4. TIGHTENING TORQUE

[1] GENERAL USE SCREWS, BOLTS AND NUTS (FOR FRONT LOADER AND BACKHOE)

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

Indication on top of bolt	4 No-grade or 4T						7 8.8 7T or Property class 8.8						9 10.9 9T or Property class 10.9		
	Ordinariness			Aluminum			Ordinariness			Aluminum			Ordinariness		
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 (6 mm, 0.24 in.)	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 (8 mm, 0.31 in.)	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 (10 mm, 0.39 in.)	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 (12 mm, 0.47 in.)	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 (14 mm, 0.55 in.)	108 to 125	11.0 to 12.8	79.6 to 92.5	-	-	-	124 to 147	12.6 to 15.0	91.2 to 108	-	-	-	167 to 196	17.0 to 20.0	123 to 144
M16 (16 mm, 0.63 in.)	167 to 191	17.0 to 19.5	123 to 141	-	-	-	197 to 225	20.0 to 23.0	145 to 166	-	-	-	260 to 304	26.5 to 31.0	192 to 224
M18 (18 mm, 0.71 in.)	246 to 284	25.0 to 29.0	181 to 209	-	-	-	275 to 318	28.0 to 32.5	203 to 235	-	-	-	344 to 402	35.0 to 41.0	254 to 296
M20 (20 mm, 0.79 in.)	334 to 392	34.0 to 40.0	246 to 289	-	-	-	368 to 431	37.5 to 44.0	272 to 318	-	-	-	491 to 568	50.0 to 58.0	362 to 419

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[2] STUD BOLTS

Material of opponent part	Ordinariness			Aluminum		
	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
M8 (8 mm, 0.31 in.)	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 (10 mm, 0.39 in.)	25 to 31	2.5 to 3.2	18 to 23	20 to 25	2.0 to 2.6	15 to 18
M12 (12 mm, 0.47 in.)	30 to 49	3.0 to 5.0	22 to 36	31	3.2	23
M14 (14 mm, 0.55 in.)	62 to 73	6.3 to 7.5	46 to 54	-	-	-
M16 (16 mm, 0.63 in.)	98.1 to 112	10.0 to 11.5	72.4 to 83.1	-	-	-
M18 (18 mm, 0.71 in.)	172 to 201	17.5 to 20.5	127 to 148	-	-	-

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[3] 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
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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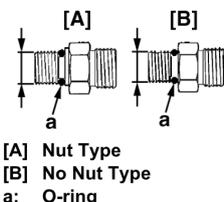
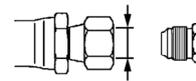
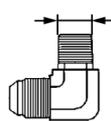
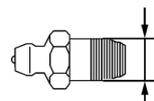
[4] PLUGS

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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[5] HYDRAULIC FITTINGS

(1) Adaptors, Elbows and Others

Item	Shape	Thread size	Tightening torque		
			N·m	kgf·m	lbf·ft
Adjustable elbow, Adapter (O-ring port) (UNF)	 <p>[A] Nut Type [B] No Nut Type a: O-ring</p>	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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5. MAINTENANCE CHECK LIST

To keep the machine working in good condition as well as to avoid any accident and trouble, carry out periodic inspection and maintenance. Check the following points before use.

Service Interval	Check Points	Reference page
Daily (Each use)	Check the transmission fluid level	G-8
	Check the hydraulic hoses	G-8
Every week	Grease the latching pins of quick attach coupler	G-9
Every 10 hours	Grease all grease fittings	G-9
	Lubricate joints of control level linkage	G-9
Initial 20 to 30 hours	Re-tightening of hardware	G-9
Every 50 hours	Check the main frame mounting bolts	G-9

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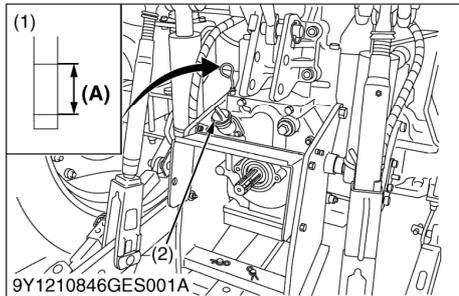
6. CHECK AND MAINTENANCE

CAUTION

- When checking and repairing, park the tractor on flat ground and apply the parking brake.
- When checking and repairing, lower the bucket and stop the engine.

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[1] CHECK POINTS OF EACH USE OR DAILY



Checking Transmission Fluid Level

1. Check the oil level at the gauge (1).
2. If the level is too low, add new oil to the prescribed level.

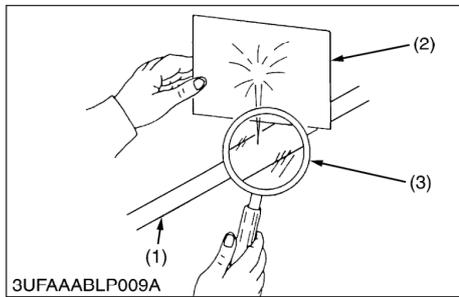
■ IMPORTANT

- Use only KUBOTA UDT or SUPER UDT fluid.
Use of other oil may damage the transmission or hydraulic system. Refer to "3. LUBRICANTS" on page G-3.

- (1) Gauge
(2) Oil Filling Plug

(A) Oil level is acceptable within this range.

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Checking Hydraulic Hoses

WARNING

To avoid serious personal injury:

- Escaping hydraulic fluid under pressure can have sufficient force to penetrate skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure.

Before applying pressure to the system, be sure all connections are tight and that lines, tubes, and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than your hands, to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or allergic reaction will develop if proper medical treatment is not administered immediately.

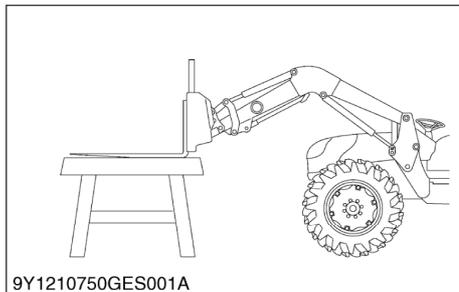
- When removing the engine side covers, be careful not to touch hot loader cylinders.
Allow all surfaces to cool before performing maintenance.
- Before servicing the loader or the tractor, be sure to place the loader boom in contact with the ground. If the loader boom must be raised during service or maintenance, support the boom as shown in the figure.

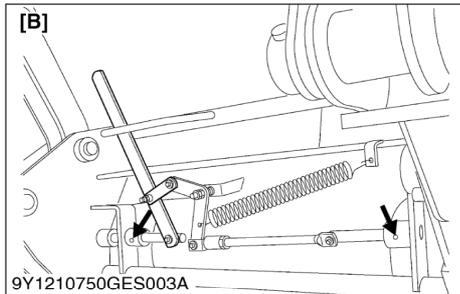
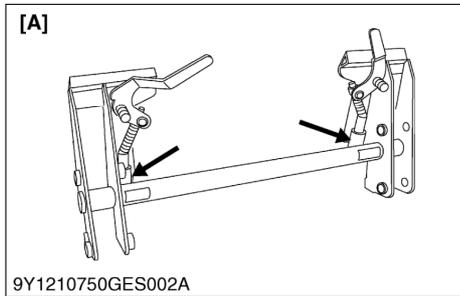
1. With the engine off and bucket on the ground, check all hydraulic hoses (1) for cuts or wear.
2. Check for signs of leaks and make sure all fittings are tight.
3. If defects are found, replace them.

- (1) Hydraulic Hose
(2) Cardboard

(3) Magnifying Glass

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Checking Quick Attach Coupler

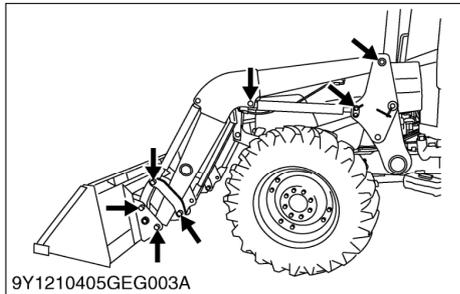
1. Attachments are secured to the quick attach coupler with an over center latching system. It is important that these parts are kept clean, lubricated and free from debris.
2. Keep the latching pins and latching handles free from debris. Lubricate the latching pins weekly with grease.
3. Keep the latching handles tight. If the handles become loose, tighten the hex nut slightly to remove any play from the handles.
4. Clean the saddle, at the top of the attachment, and the latching pin slots of any dirt and debris before mounting an attachment to the quick attach coupler.

[A] Quick Attach Coupler

[B] Euro Type Coupler

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[2] CHECK POINT OF EVERY 10 HOURS



Greasing

1. Lubricate all grease fittings.
2. Lubricate the joints of the control lever linkage. High quality grease designating "extreme pressure" and containing Molybdenum disulfide is recommended. This grease may specify "Moly EP" on its label.

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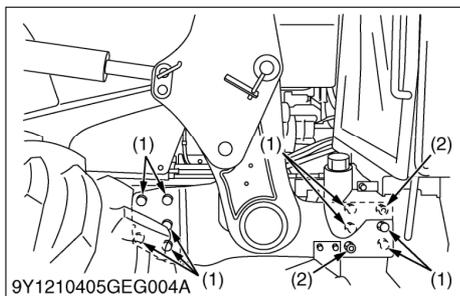
[3] CHECK POINT OF INITIAL 20 TO 30 HOURS

Re-tightening of Hardware

1. Re-tighten all mounting bolts and nuts to the required torque value as specified in the "Installation Instructions".

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[4] CHECK POINT OF EVERY 50 HOURS



Checking Main Frame Mounting Bolts

CAUTION

- Never operate front loader with a loose main frame.
 - Any time bolts are loosened, retighten to specified torque.
 - Check all bolts frequently and keep them tight.
1. Check the main frame bolts and nuts regularly especially when new. If they are loose, tighten them as follows.

Tightening torque	Main frame mounting bolt (1)	319 N·m 32.5 kgf·m 235 lbf·ft
	Main frame mounting bolt (2)	368 N·m 37.5 kgf·m 271 lbf·ft

(1) Main Frame Mounting Bolt

(2) Main Frame Mounting Bolt

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1 FRONT LOADER

MECHANISM

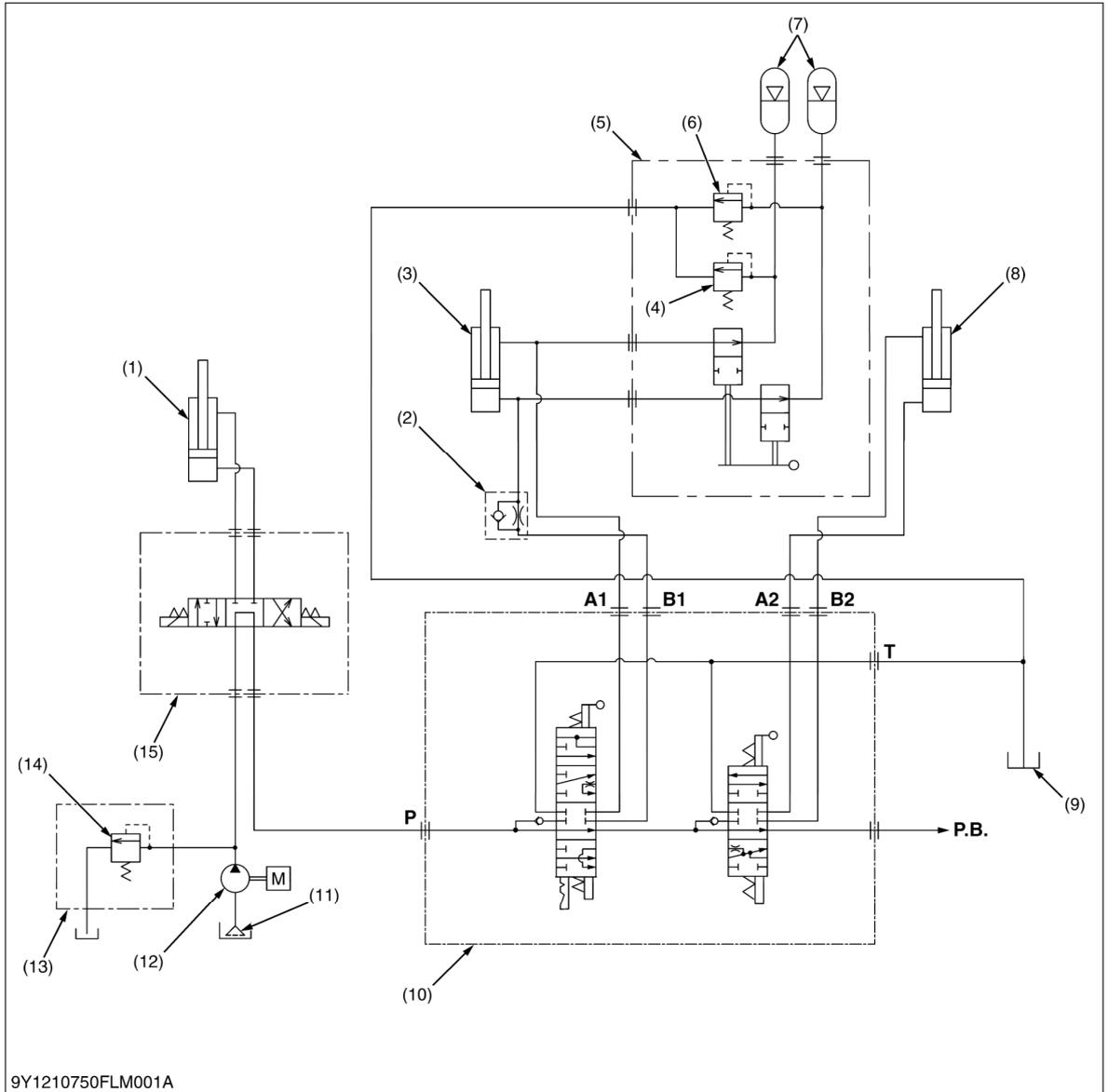
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1. HYDRAULIC CIRCUIT

[1] LA1954 (STANDARD TYPE CONTROL VALVE)



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- | | | | |
|---|-----------------------------|---|--|
| (1) 3rd Function Cylinder (Option) | (6) Relief Valve | (11) Oil Filter | P.B.: To 3-Point Hydraulic System
P: From Pump
T: To Tank
A1: A1 Port
A2: A2 Port
B1: B1 Port
B2: B2 Port |
| (2) Orifice (Standard Valve Only) | (7) Accumulator (Option) | (12) Hydraulic Pump | |
| (3) Boom Cylinder | (8) Bucket Cylinder | (13) 3P Hitch Hydraulic Circuit (Tractor) | |
| (4) Relief Valve | (9) Tank | (14) Relief Valve | |
| (5) Accumulator Valve Assembly (Option) | (10) Control Valve Assembly | (15) 3rd Function Valve (Option) | |

(10) is control valve assembly. Options such as accumulator valve assembly (5) and 3rd function valve (15) are also shown. Orifice (2) for boom cylinder is for only standard valve. Hydraulic hoses to the accumulators (7) comes from T-joints of boom ports **A1, B1**.

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