

Product: Kubota LA534A-AU Service Manual

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WSM

WORKSHOP MANUAL
FRONT LOADER

LA534A-AU

Kubota

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KiSC issued 08, 2014 A

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TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the Front Loader LA534A-AU. It contains 4 parts: "**Information**", "**General**", "**Mechanism**" and "**Servicing**".

■ Information

This section contains information below.

- Safety First
- Safety Decals
- Loader Terminology
- Specifications

■ General

This section contains information below.

- Loader Identification
- General Precautions
- Lubricants
- Tightening Torques
- 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 contains information below.

- Troubleshooting
- Servicing Specifications
- Tightening Torques
- Dismounting Front Loader From Tractor
- 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.

August, 2014

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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, may result in minor or moderate injury.

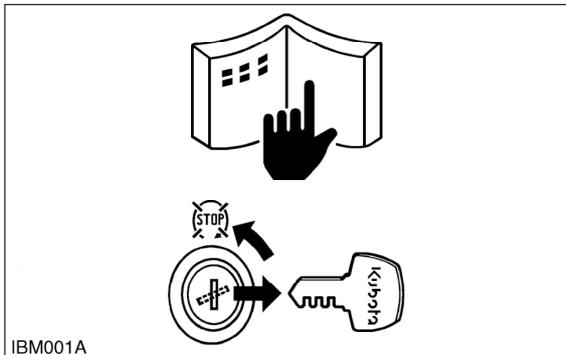
■ IMPORTANT

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

■ NOTE

- Gives helpful information.

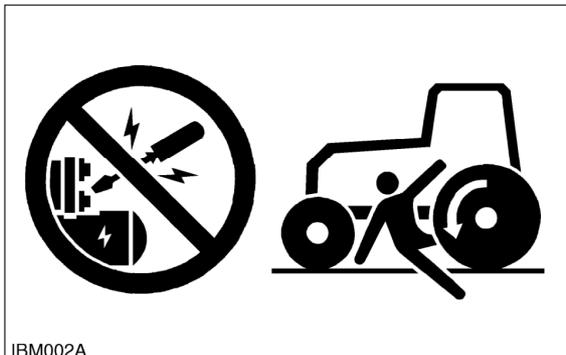
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BEFORE YOU START SERVICE

- 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.

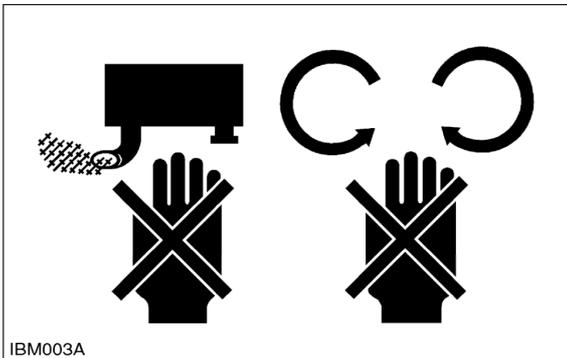
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START SAFELY

- 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.

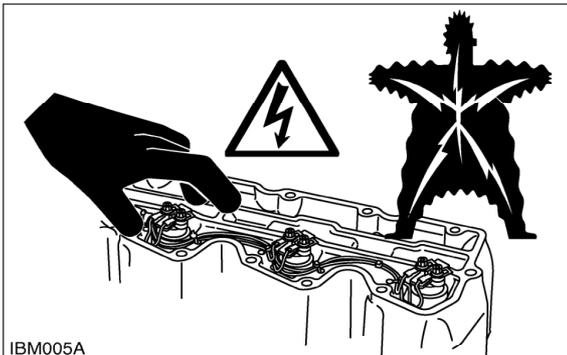
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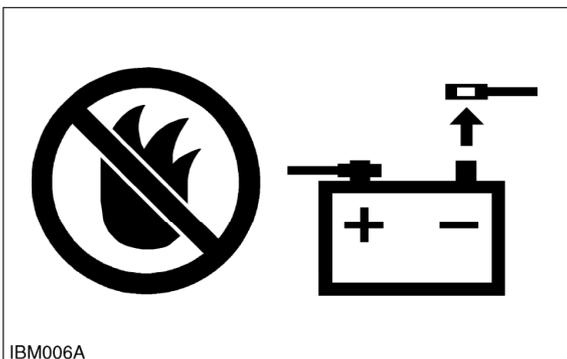
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IBM004A



IBM005A



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OPERATE SAFELY

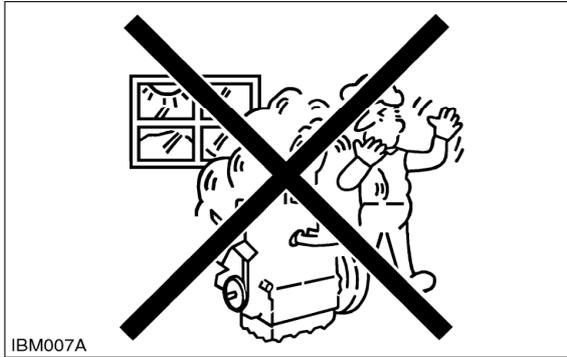
- Do not use the machine after you consume alcohol or medication or when you are tired.
- Put on applicable clothing and safety equipment.
- Use applicable tools only. Do not use alternative tools or parts.
- When 2 or more persons do servicing, make sure that you do it safely.
- Do not operate below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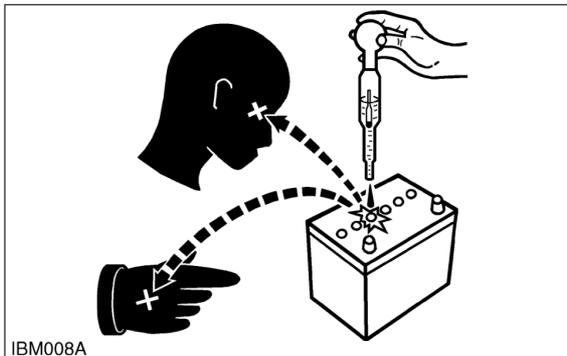


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DISCARD FLUIDS CORRECTLY

- 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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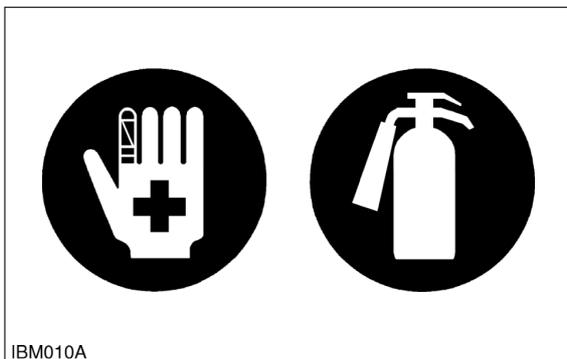


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PREVENT ACID BURNS

- 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. 7J246-5643-1



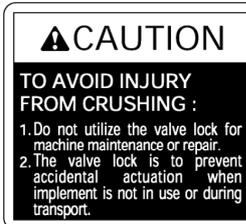
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(2) Part No. 7J246-5641-1



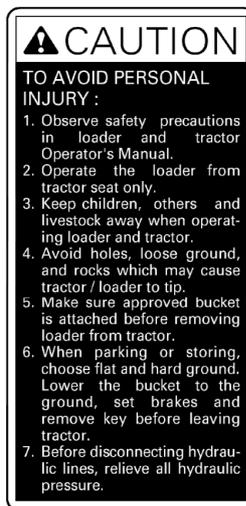
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(3) Part No. 7J266-5649-2



1A1ABACAP077A

(5) Part No. 7J246-5645-1



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

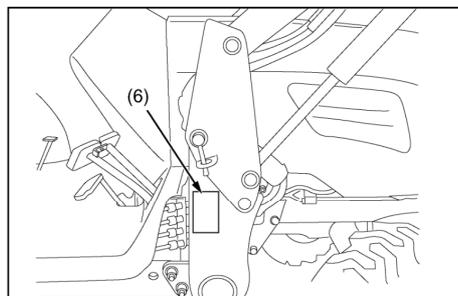
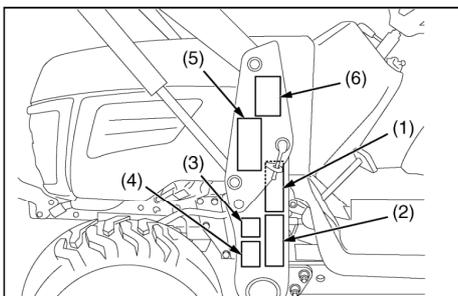


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(6) Part No. 7J246-5644-2 (Both sides)



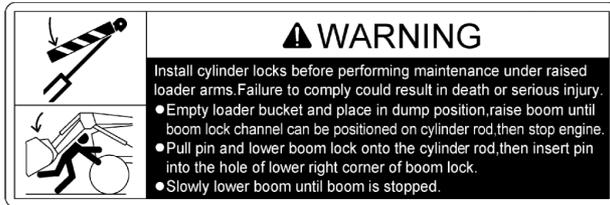
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(1) Part No. 7J802-5848-1



1HNADAAAP0120

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

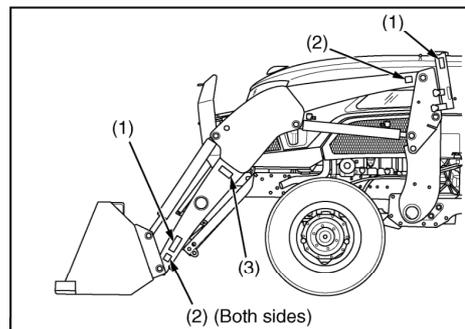


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(3) Part No. 7J062-5637-1



1AIBDDAP098A



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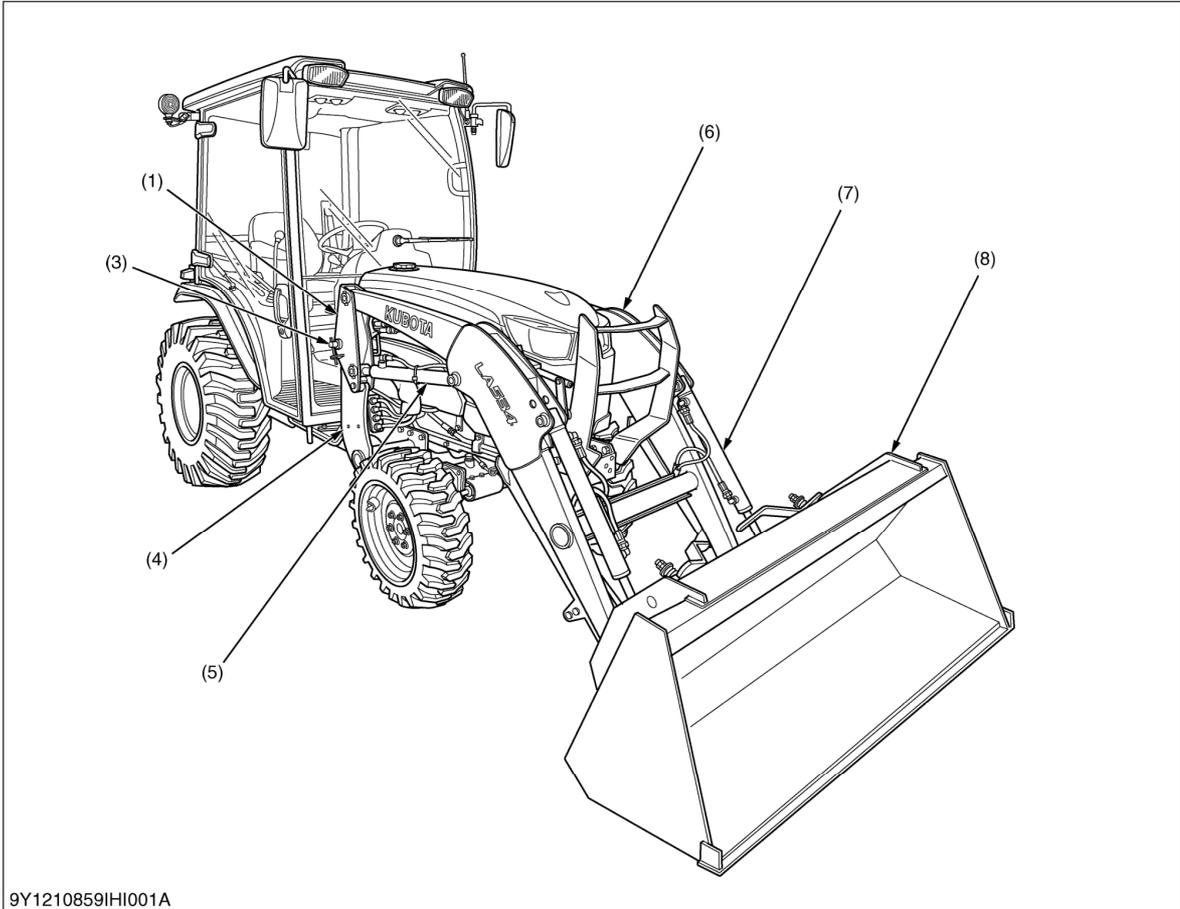
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CARE OF DANGER, WARNING AND CAUTION LABELS

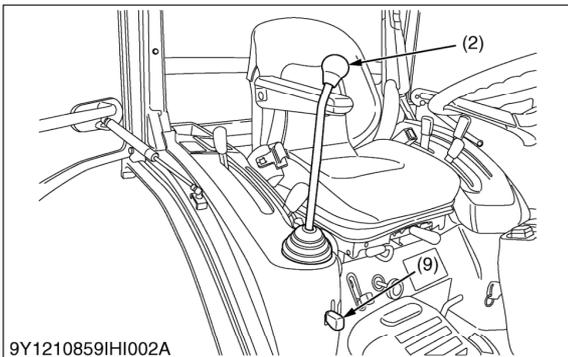
1. Keep danger, warning and caution labels clean and free from obstructing material.
2. Clean danger, warning and caution labels with soap and water, dry with a soft cloth.
3. Replace damaged or missing danger, warning and caution labels with new.
4. If a component with danger, warning and caution label(s) affixed is replaced with new part, make sure new label(s) is (are) attached in the same location(s) as the 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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3. LOADER TERMINOLOGY



9Y1210859HI001A



9Y1210859HI002A

- | | |
|--------------------------|---------------------|
| (1) Side Frame | (6) Boom |
| (2) Loader Control Lever | (7) Bucket Cylinder |
| (3) Mounting Pin | (8) Bucket |
| (4) Main Frame | (9) Lock Lever |
| (5) Boom Cylinder | |

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4. SPECIFICATIONS

■ Suitable Tractor

Loader Model	LA534A-AU
Tractor Model	B3150

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[1] LOADER SPECIFICATIONS

Loader Model		LA534A-AU
Tractor Model		B3150
Wheel Base		1666 mm (65.6 in.)
Front Tires		7 - 12
Rear Tires		12.4 - 16
Boom Cylinder	Bore	45 mm (1.77 in.)
	Stroke	359.5 mm (14.2 in.)
Bucket Cylinder	Bore	45 mm (1.77 in.)
	Stroke	348.5 mm (13.7 in.)
Control Valve		One Detent Float Position, Two Stage Bucket Dump, Power Beyond Circuit
Rated Flow		18.9 L/min (4.99 U.S.gals/min, 4.16 Imp.gals/min)
Maximum Pressure		16.6 MPa 169 kgf/cm ² 2408 psi
Net Weight (Approximate)		* 215 kg (474 lbs)

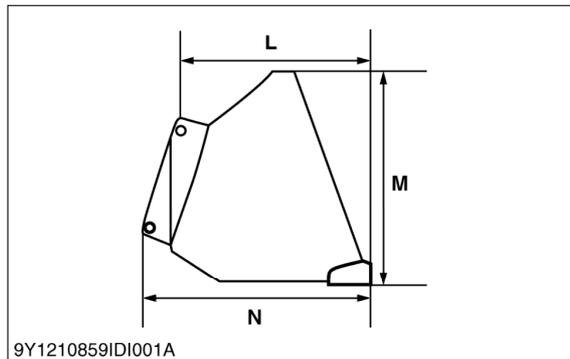
* Include the main frame, rigid bucket 54" and front guard.

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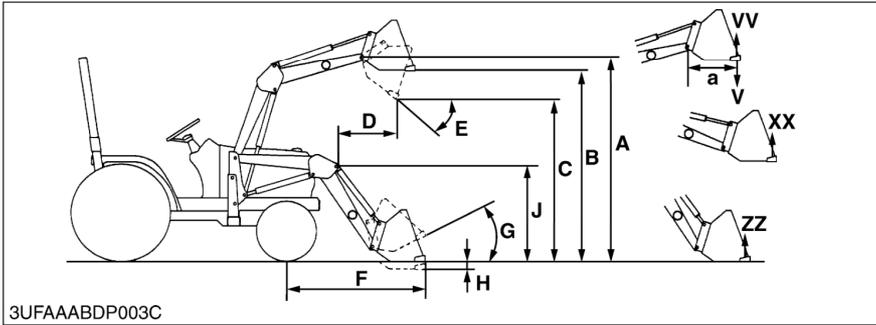
[2] BUCKET SPECIFICATIONS

Loader Model		LA534A-AU	
Size		Square 54"	Square 60" LM
Type		Rigid	Rigid
Width		1370 mm (54.0 in.)	1525 mm (60.0 in.)
Depth (L)		478 mm (18.8 in.)	529 mm (20.8 in.)
Height (M)		483 mm (19.0 in.)	562 mm (22.1 in.)
Length (N)		523 mm (20.6 in.)	566 mm (22.3 in.)
Capacity	Struck	0.166 m ³ (5.9 cu.ft)	0.23 m ³ (8.1 cu.ft)
	Heaped	0.198 m ³ (7.0 cu.ft)	0.29 m ³ (10.2 cu.ft)
Weight		70 kg (154 lbs)	98 kg (216 lbs)

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[3] DIMENSIONAL AND OPERATIONAL SPECIFICATIONS



■ Dimensional Specifications

Loader Model		LA534A-AU
Tractor Model		B3150
A	Maximum lift height (To bucket pivot pin)	2150 mm (84.6 in.)
B	Maximum lift height under level bucket	2004 mm (78.9 in.)
C	Clearance with bucket dumped	1712 mm (67.4 in.)
D	Reach at maximum lift height (Dumping reach)	473 mm (18.6 in.)
E	Maximum dump angle	38.1 deg.
F	Reach with bucket on ground	1386 mm (54.6 in.)
G	Bucket roll-back angle	28.6 deg.
H	Digging depth	126 mm (5.0 in.)
J	Overall height in carrying position	1169 mm (46.0 in.)
a	Length	500 mm (19.7 in.)

■ Operational Specifications

Loader Model		LA534A-AU
Tractor Model		B3150
V	Lift capacity (500 mm (19.7 in.) forward, maximum height)	350 kg (772 lbs)
VV	Bucket roll-back force at Maximum height	9434 N (2120 lbf)
XX	Bucket roll-back force at 1500 mm (59 in.) height	11670 N (2624 lbf)
ZZ	Bucket roll-back force at ground level	9826 N (2209 lbf)
Raising time		3.4 sec.
Lowering time		2.3 sec.
Bucket dumping time		1.9 sec.
Bucket roll-back time		2.5 sec.

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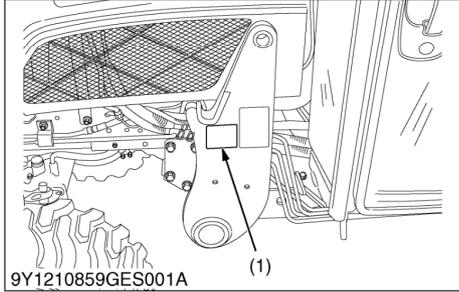
G GENERAL

GENERAL

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1. LOADER IDENTIFICATION

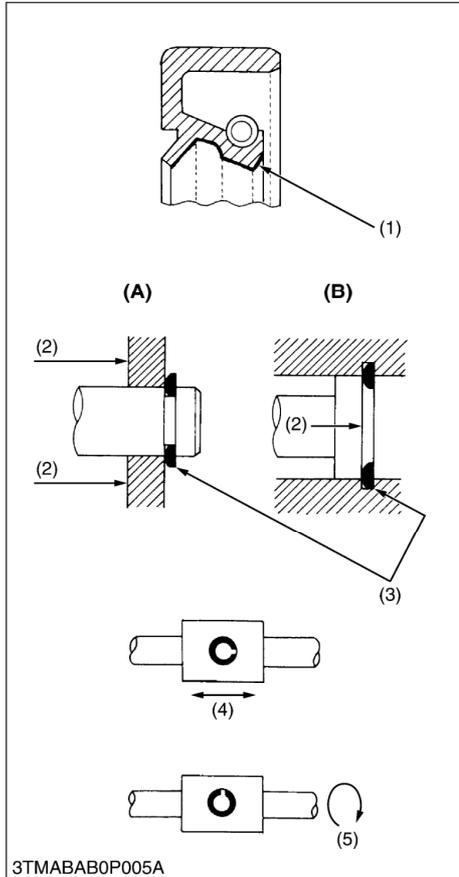


When contacting your local KUBOTA distributor, always specify front loader serial number (1).

(1) Serial Number

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2. GENERAL PRECATIONS



- When you disassemble, carefully put the parts in a clean area to make it easy to find the parts. You must install the screws, bolts and nuts in their initial position to prevent the reassembly errors.
- When it is necessary to use special tools, use KUBOTA special tools. Refer to the drawings when you make special tools that you do not use frequently.
- Before you disassemble or repair machine, make sure that you always disconnect the ground cable from the battery first.
- Remove oil and dirt from parts before you measure.
- Use only KUBOTA genuine parts for replacement to keep the machine performance and to make sure of safety.
- You must replace the gaskets and O-rings when you assemble again. Apply grease (1) to new O-rings or oil seals before you assemble.
- When you assemble the external or internal snap rings, make sure that the sharp edge (3) faces against the direction from which force (2) is applied.
- When inserting spring pins, their splits must face the direction from which a force is applied. See the figure left side.
- To prevent damage to the hydraulic system, use only specified fluid or equivalent.
- Clean the parts before you measure them.
- Tighten the 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 examine 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
	B3150	
Transmission case	15 L 4.0 U.S.gals 3.3 Imp.gals	KUBOTA SUPER UDT fluid*
Grease fitting	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 TORQUES

[1] GENERAL USE SCREWS, BOLTS AND NUTS

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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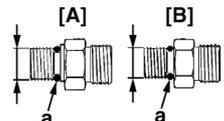
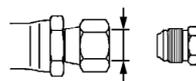
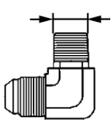
[4] PLUGS

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)  [A] Nut Type [B] No Nut Type a: O-ring		9/16	37 to 44	3.8 to 4.4	28 to 32
		3/4	48 to 54	4.9 to 5.5	36 to 39
		7/8	77 to 85	7.9 to 8.6	57 to 62
Hose fitting, Flare nut (UNF) 		9/16	22 to 25	2.3 to 2.5	17 to 18
		3/4	36 to 40	3.7 to 4.0	27 to 29
		7/8	43 to 50	4.4 to 5.0	32 to 36
Adapter (NPT) 		1/4	30 to 50	3.1 to 5.0	23 to 36
		3/8	39 to 60	4.0 to 6.1	29 to 44
		1/2	49 to 58	5.0 to 5.9	37 to 42

■ NOTE

- When connecting a hose with flare nut, after tightening the nut with specified torque, return it approximately 45 degrees (0.79 rad) and re-tighten it to specified 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, do the 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-7
	Check the hydraulic hoses for cuts, wear or signs of oil leaks	G-7
Every 10 hours	Grease all grease fittings	G-7
	Lubricate joints of control lever linkage	–
Every 50 hours	Check tightening torque of the main frame mounting bolts	G-8

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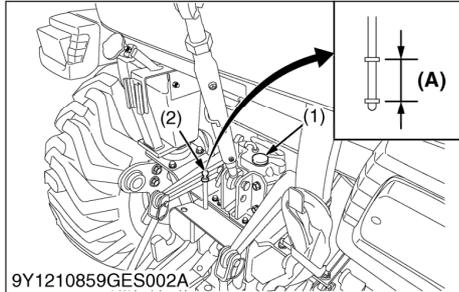
6. CHECK AND MAINTENANCE

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 dipstick (2).
2. If the fluid level is too low, add new oil to the prescribed level at the dipstick (2).

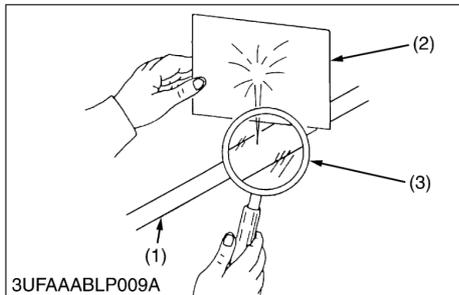
■ IMPORTANT

- Use only KUBOTA SUPER UDT fluid.
- Use of other fluids may damage the transmission or hydraulic system. Refer to "3. LUBRICANTS" on page G-3.
- Do not mix different brands oil together.

- (1) Filling Plug
(2) Dipstick

(A) Oil level is acceptable within this range.

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Checking Hydraulic Hoses

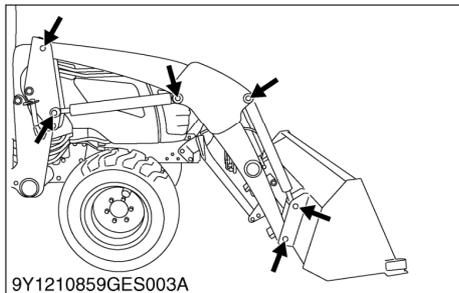
1. With the engine off and bucket on the ground, check all hydraulic hoses (1) for cuts or wear.
2. Check for signs of leaks and make sure all fittings are tight.
3. If problems are found, replace them.

- (1) Hydraulic Hose
(2) Cardboard

(3) Magnifying Glass

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[2] CHECK POINT OF EVERY 10 HOURS

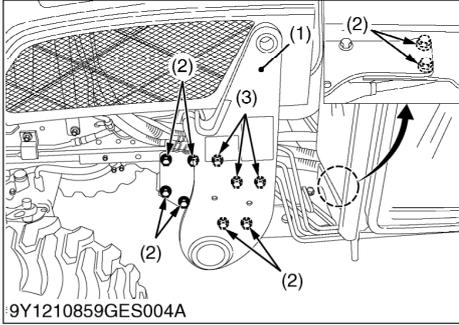


Greasing

1. Inject grease in all grease fittings with a hand grease gun.

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[3] CHECK POINT OF EVERY 50 HOURS



Checking Tightening Torque of Main Frame Mounting Bolts

CAUTION

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

Tightening torque	M14 bolts (2)	150 N·m 15.3 kgf·m 111 lbf·ft
	M12 bolts (3)	80 N·m 8.2 kgf·m 59.0 lbf·ft

- (1) Main Frame
- (2) M14 Bolts

- (3) M12 Bolts (Pitch 1.75)

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1 FRONT LOADER

MECHANISM

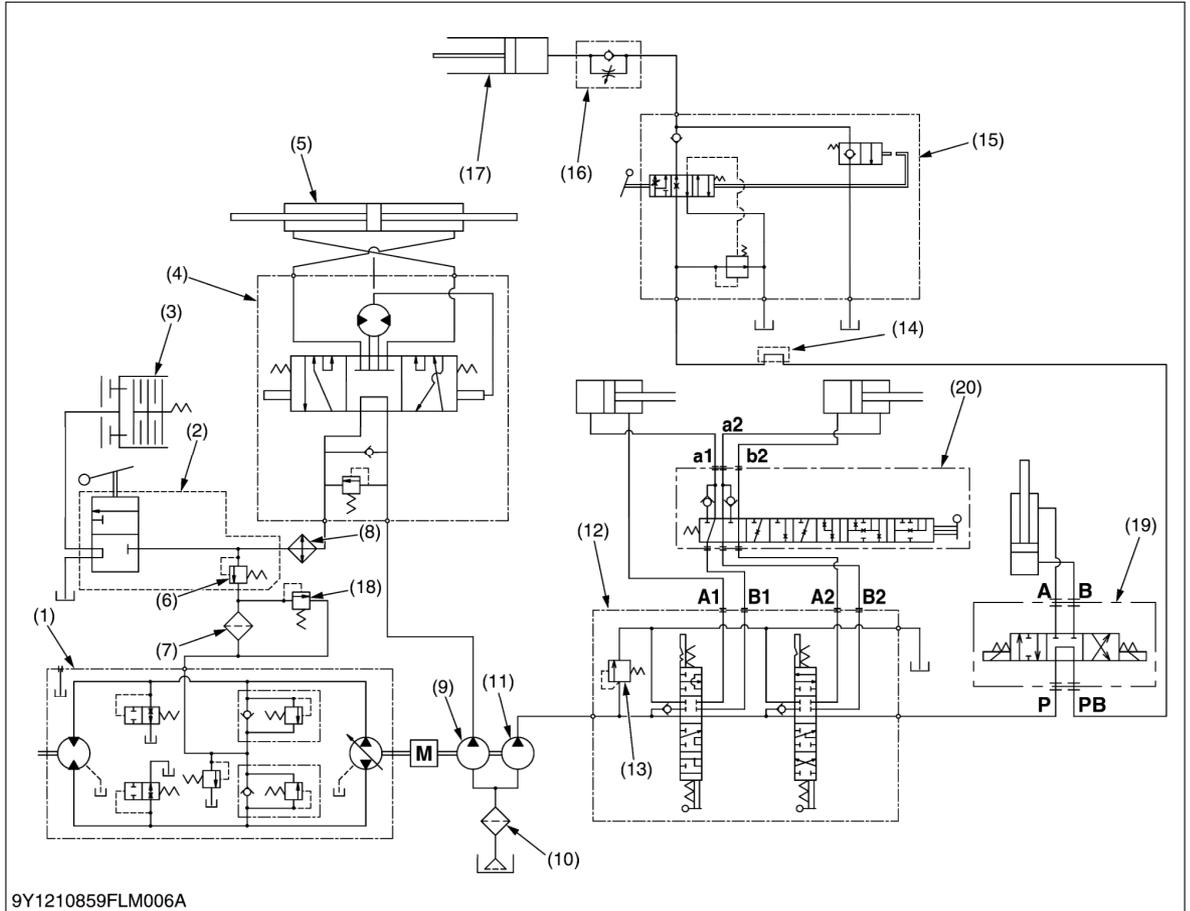
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1. CONTROL VALVE

Regarding the hydraulic circuit, structure and operation of the control valve, refer to B3150 tractor workshop manual.

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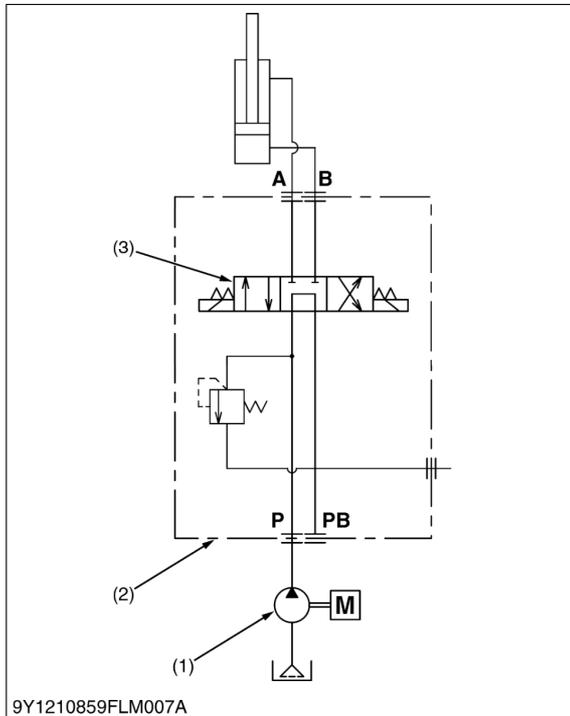
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- | | | | |
|------------------------------------|--|-------------------------------------|--------------------|
| (1) Hydrostatic Transmission (HST) | (8) Oil Cooler | (13) Relief Valve | A: A Port |
| (2) Independent PTO Control Valve | (9) Hydraulic Pump (For Power Steering, Independent PTO and HST) | (14) Hydraulic Block | A1: A1 Port |
| (3) Independent PTO Clutch | (10) Oil Filter Cartridge | (15) Control Valve | A2: A2 Port |
| (4) Power Steering Controller | (11) Hydraulic Pump (For 3-points Hitch) | (16) Lowering Speed Adjusting Valve | B: B Port |
| (5) Power Steering Cylinder | (12) Hydraulic Block (For Front Loader) | (17) Hydraulic Cylinder | B1: B1 Port |
| (6) Relief Valve | | (18) Relief Valve | B2: B2 Port |
| (7) Oil Filter Cartridge | | (19) Third Function Valve (Option) | a1: a1 Port |
| | | (20) Spill Guard Valve | a2: a2 Port |

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2. 3rd. FUNCTION VALVE (Option)

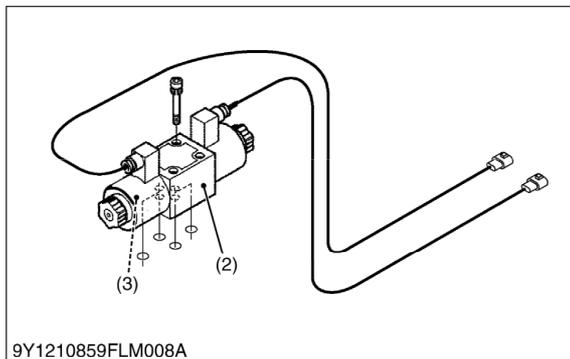
[1] HYDRAULIC CIRCUIT



The hydraulic circuit and structure of the 3rd. function valve is shown in the picture.

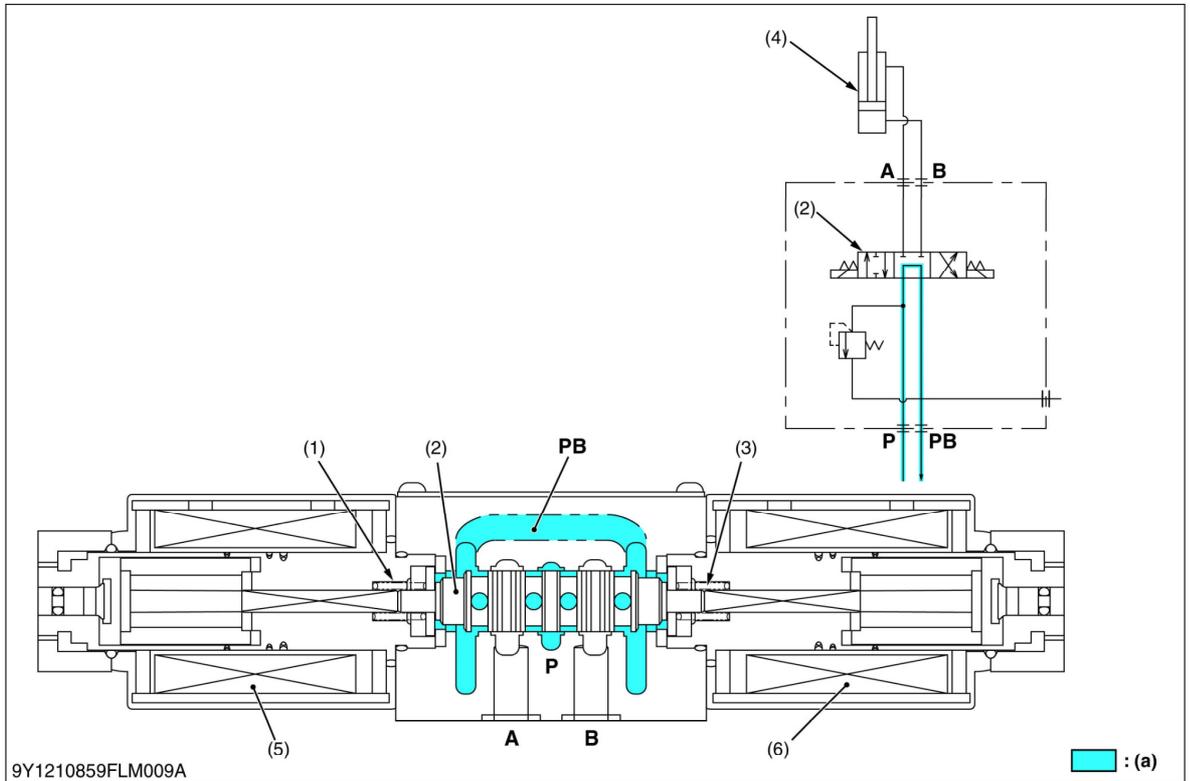
- (1) Hydraulic Pump **A: A Port**
- (2) 3rd. Function Valve **B: B Port**
- Assembly **P: Pump Port**
- (3) 3rd. Function Solenoid Valve **PB: Power Beyond Port**

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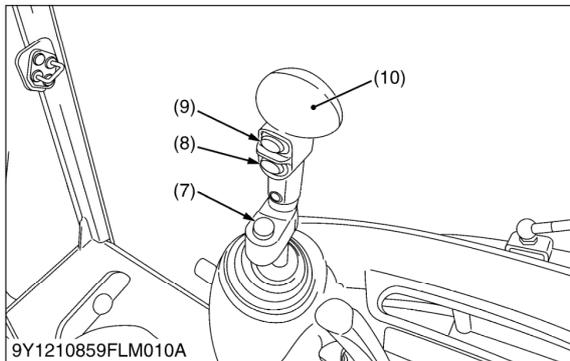


[2] SOLENOID VALVE OPERATION

"NEUTRAL" Position (Neither Activation Button Switch A nor B is Pushed)



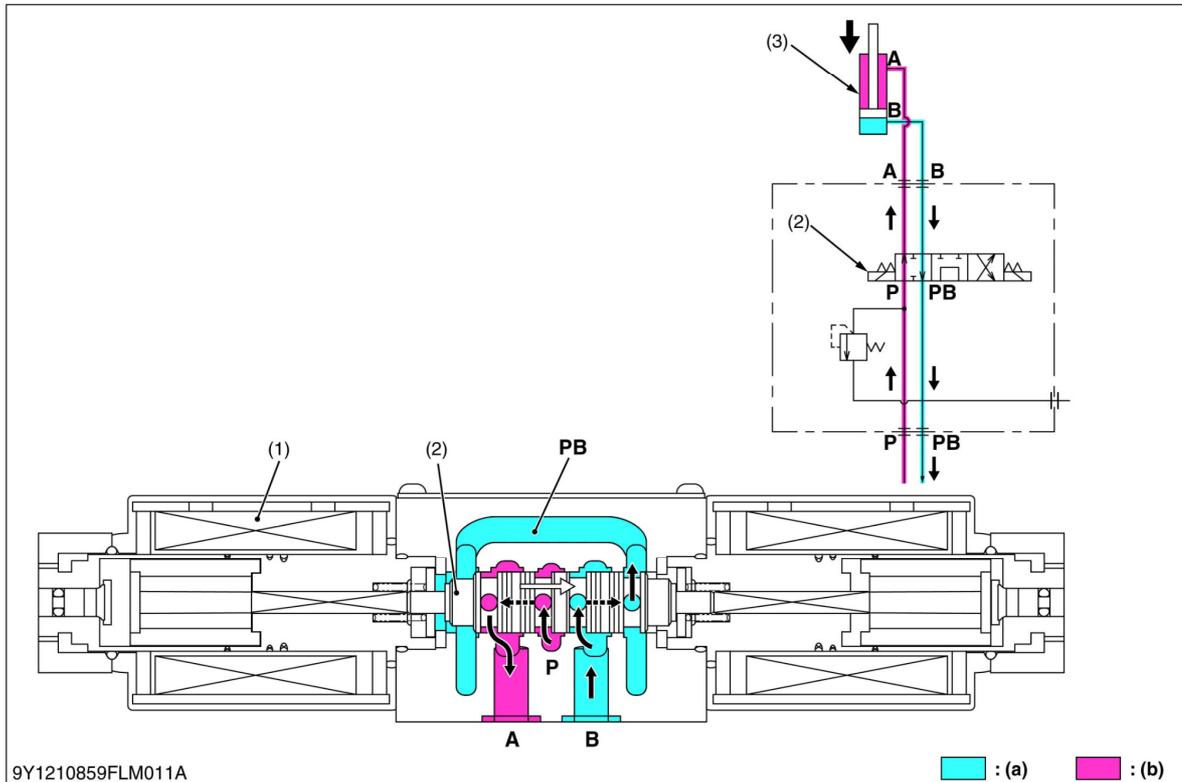
- | | | | |
|-----------------------------|---------------------------------------|---------------------|------------------------------|
| (1) Spring | (7) Front Hydraulic Valve Main Switch | A: A Port | PB: Power Beyond Port |
| (2) Spool | (8) Activation Button Switch A | B: B Port | T: Tank Port |
| (3) Spring | (9) Activation Button Switch B | P: Pump Port | (a) Low Pressure Oil |
| (4) Third Function Cylinder | (10) Front Loader Control Lever | | |
| (5) Coil 1 | | | |
| (6) Coil 2 | | | |



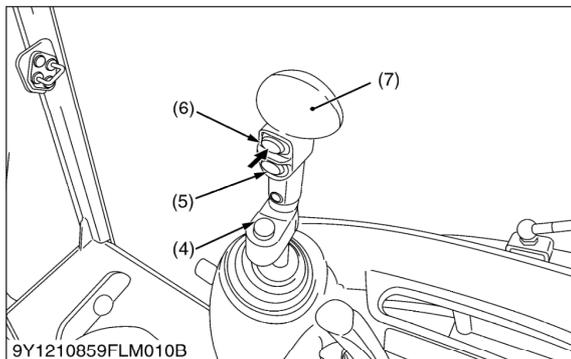
1. When neither activation button switch **A** (8) nor activation button switch **B** (9) located on the front loader control lever (10) is pushed, both the coil 1 (5) and the coil 2 (6) are not energized, The spool (2) is kept at the center position between the right and left springs (1), (3).
2. Oil from the pump flows from the **P** port to the **PB** port.
3. The **A** port and **B** port are blocked by the spool (2).

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When Pressing the Activation Button Switch A



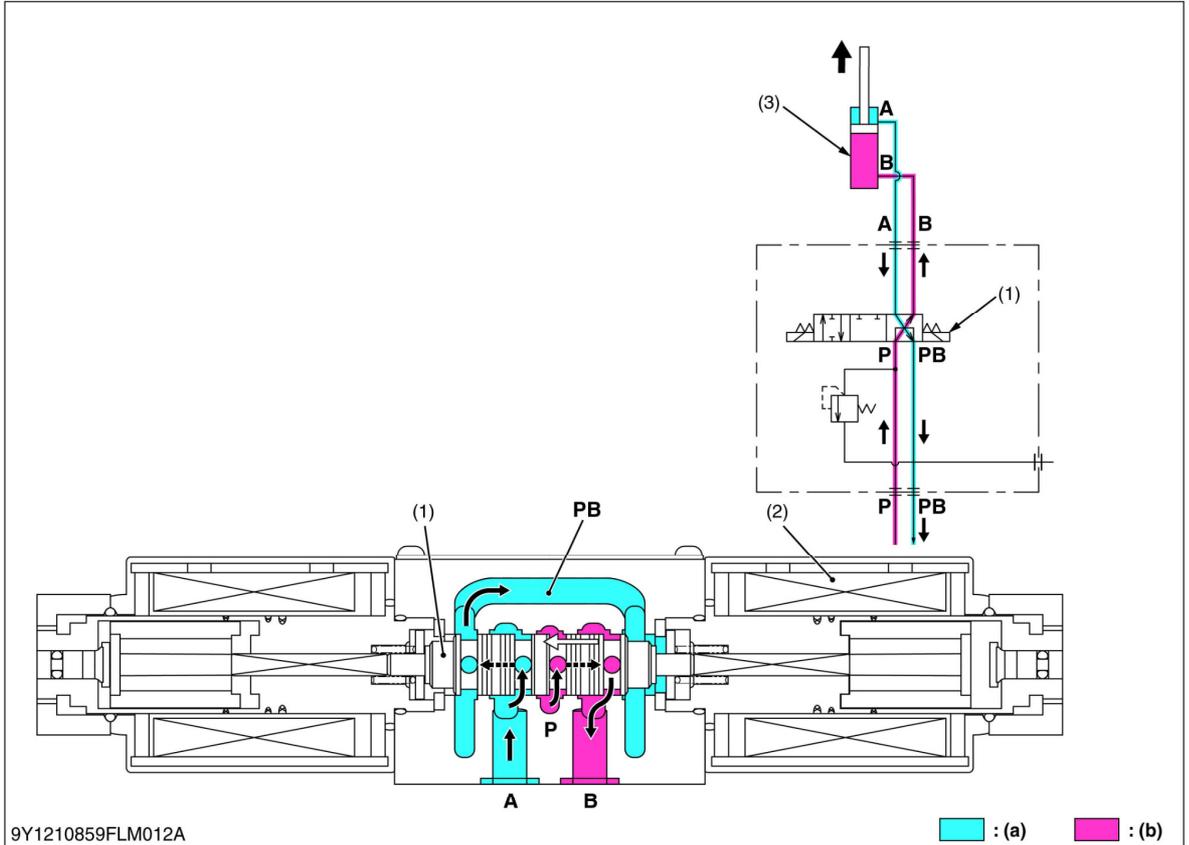
- | | | | |
|---------------------------------------|--------------------------------|-----------------------------------|-----------------------|
| (1) Coil | (5) Activation Button Switch B | A: A Port (To Implement) | (a) Low Pressure Oil |
| (2) Spool | (6) Activation Button Switch A | B: B Port (From Implement) | (b) High Pressure Oil |
| (3) Third Function Cylinder | (7) Loader Control Lever | P: Pump Port | |
| (4) Front Hydraulic Valve Main Switch | | PB: Power Beyond Port | |



1. The coil (1) is energized while the activation button switch **A** (6) located on the front loader control lever (7) is pushed.
2. Therefore the spool (2) is pushed to the right.
3. At that time, oil from the **P** port starts to flow into the **A** port.
4. Oil from the **B** port flows into the **PB** port.

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When Pressing the Activation Button Switch B

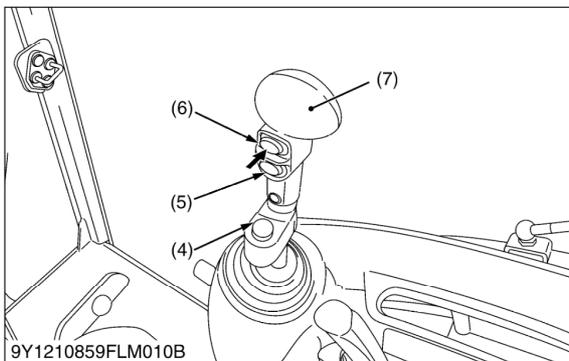


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(a) : (a) (b) : (b)

- (1) Spool
- (2) Coil
- (3) Third Function Cylinder
- (4) Front Hydraulic Valve Main Switch
- (5) Activation Button Switch B
- (6) Activation Button Switch A
- (7) Loader Control Lever

- A: A Port (From Implement)**
- B: B Port (To Implement)**
- P: Pump Port**
- PB: Power Beyond Port**
- (a) Low Pressure Oil**
- (b) High Pressure Oil**



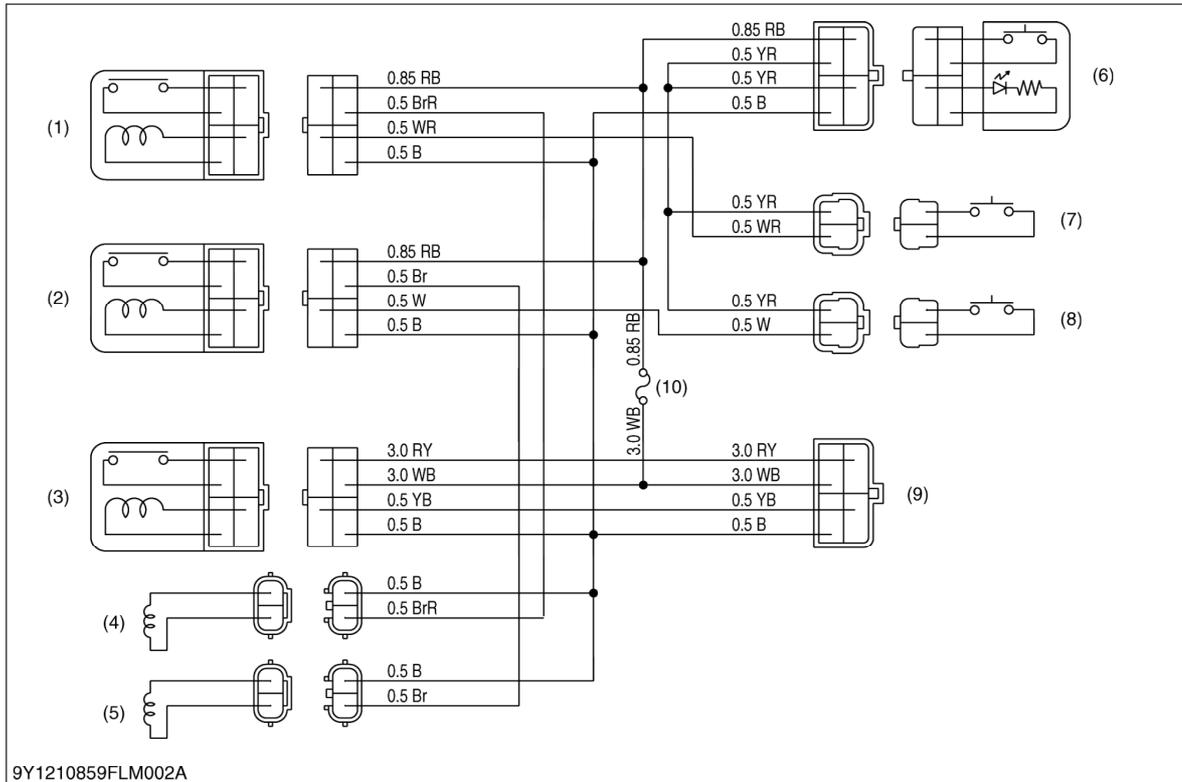
9Y1210859FLM010B

1. The coil (2) is energized while the activation button switch B (5) located on the front loader control lever (7) is pushed.
2. Therefore the spool (1) is pushed to the left.
3. At that time, oil from the P port starts to flow into the B port.
4. Oil from the A port flows into the PB port.

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[3] ELECTRICAL DIAGRAM

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9Y1210859FLM002A

- (1) Relay 1
- (2) Relay 2
- (3) Relay 3
- (4) Solenoid Valve 1 Coil
- (5) Solenoid Valve 2 Coil
- (6) **ON - OFF** Switch (Front Hydraulic Valve Main Switch)
- (7) Activation Button Switch **A**
- (8) Activation Button Switch **B**
- (9) Connector to Tractor Main Harness
- (10) 10A Fuse

Color of Wiring

B Black	BrR Brown / Red	WR White / Red
W White	RB Red / Black	YR Yellow / Red
Br Brown	WB White / Black	YB Yellow / Black

The electrical diagram used in LA534A-AU is shown in the above electrical diagram.

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