WSM

WORKSHOP MANUAL
FRONT LOADER

LA764

Kubota

KiSC issued 10, 2011 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 LA764. It contains 4 parts: **"Information"**, **"General"**, **"Mechanism"** and **"Servicing"**.

■ **Information**

This section primarily contains information below.

- Safety First
- Safety Decal
- Terminology
- Specification

■ **General**

This section primarily 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 primarily contains information below.

- Troubleshooting
- Servicing Specifications
- Tightening Torques
- Removing 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.

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

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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 attempt to repair or use this unit.**

⚠ DANGER
- **Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.**

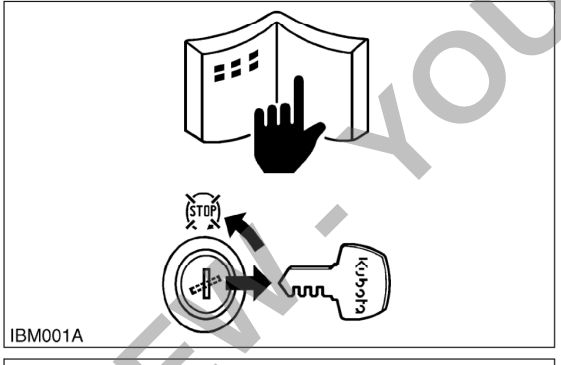
⚠ WARNING
- **Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**

⚠ CAUTION
- **Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.**

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

■ NOTE
- **Gives helpful information.**

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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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4. SPECIFICATIONS

■ Suitable Tractor

Loader Model	LA764
Tractor Model	L4600

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[1] LOADER SPECIFICATIONS

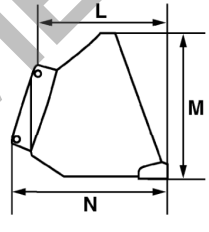
Loader Model		LA764	
Tractor Model		L4600	
Model		2WD	4WD
Wheel Base (WB)		1850 mm (72.8 in.)	1845 mm (72.6 in.)
Front Tires		7.5L-15	8.3-16
Rear Tires		14.9-24	
Boom Cylinder	Bore	50 mm (1.97 in.)	
	Stroke	520 mm (20.5 in.)	
Bucket Cylinder	Bore	50 mm (1.97 in.)	
	Stroke	480.5 mm (18.92 in.)	
Control Valve	3 position bucket control type	One Detent Float Position, Regenerative Bucket Dump, Power Beyond Circuit	
Rated Flow		29.4 L/min. 7.77 U.S. gals/min. 6.47 Imp. gals/min.	
Maximum Pressure		17.7 MPa 180 kgf/cm^2 2560 psi	
Net Weight (Approximate)		524 kg (1155 lbs)	

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[2] BUCKET SPECIFICATIONS

Loader Model		LA764		
Model		SQUARE 72"	ROUND 72" HD	SQUARE 72" LIGHT MATERIAL
Type		Quick Attach	Quick Attach	Quick Attach
Width		1830 mm (72 in.)		
Depth **"L"**		547 mm (21.5 in.)	477 mm (18.8 in.)	607 mm (23.9 in.)
Height **"M"**		570 mm (22.4 in.)	608 mm (23.9 in.)	570 mm (22.4 in.)
Length **"N"**		630 mm (24.8 in.)	610 mm (24 in.)	691 mm (27.2 in.)
Capacity	Struck	0.31 m^3 (10.9 cu.ft.)		0.36 m^3 (12.7 cu.ft.)
	Heaped	0.37 m^3 (13.1 cu.ft.)		0.45 m^3 (16.0 cu.ft.)
Weight		150 kg (331 lbs)	180 kg (397 lbs)	136 kg (300 lbs)

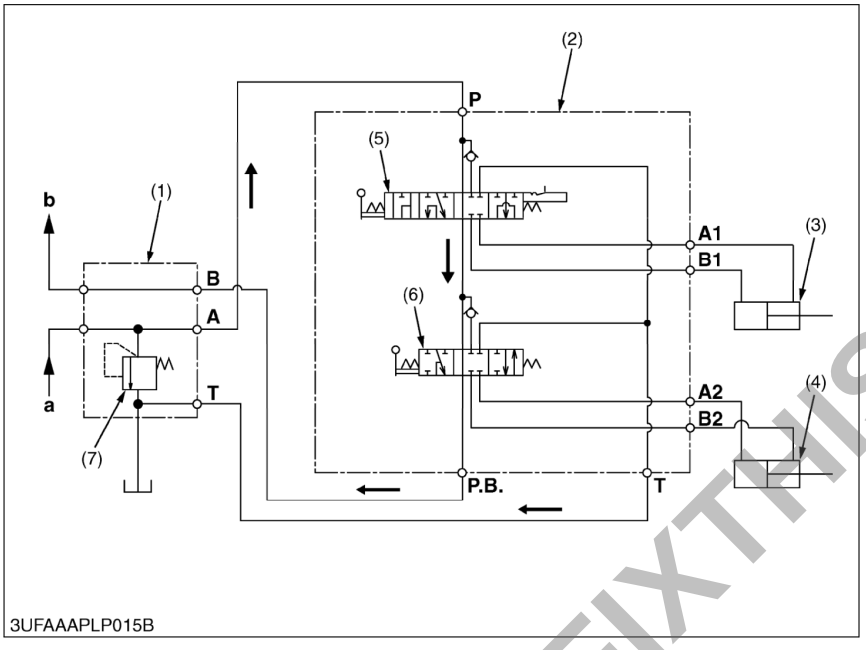
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1. HYDRAULIC CIRCUIT



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(1) Hydraulic Block
(2) Control Valve Assembly
(3) Boom Cylinder
(4) Bucket Cylinder
(5) Boom Control Valve
(6) Bucket Control Valve (3 Position Type)
(7) Relief Valve

P: P Port
T: T Port
A1: A1 Port
B1: B1 Port
A2: A2 Port
B2: B2 Port
PB: Power Beyond Port

a: From Pump
b: To 3-Point Hydraulic System

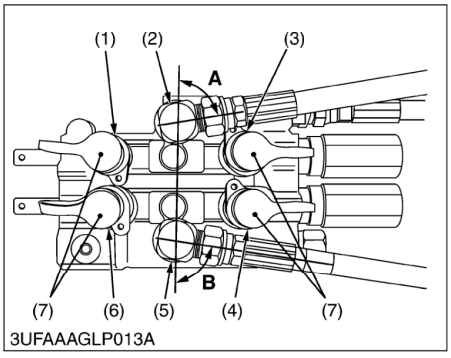
To operate the front loader, the hydraulic oil pressurized by the hydraulic pump flows from **P** port through the boom control valve (5) and the bucket control valve (6) to **PB** port.

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(2) Disassembling Control Valve



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Adapter and Elbow

1. Remove the fitting, adapters and elbows from the control valve.

(When reassembling)

- Put seal tape to the fitting threads.
- Be careful not to cause damage to the O-ring.
- Install all the elbows with the angle **"A"** and **"B"**.

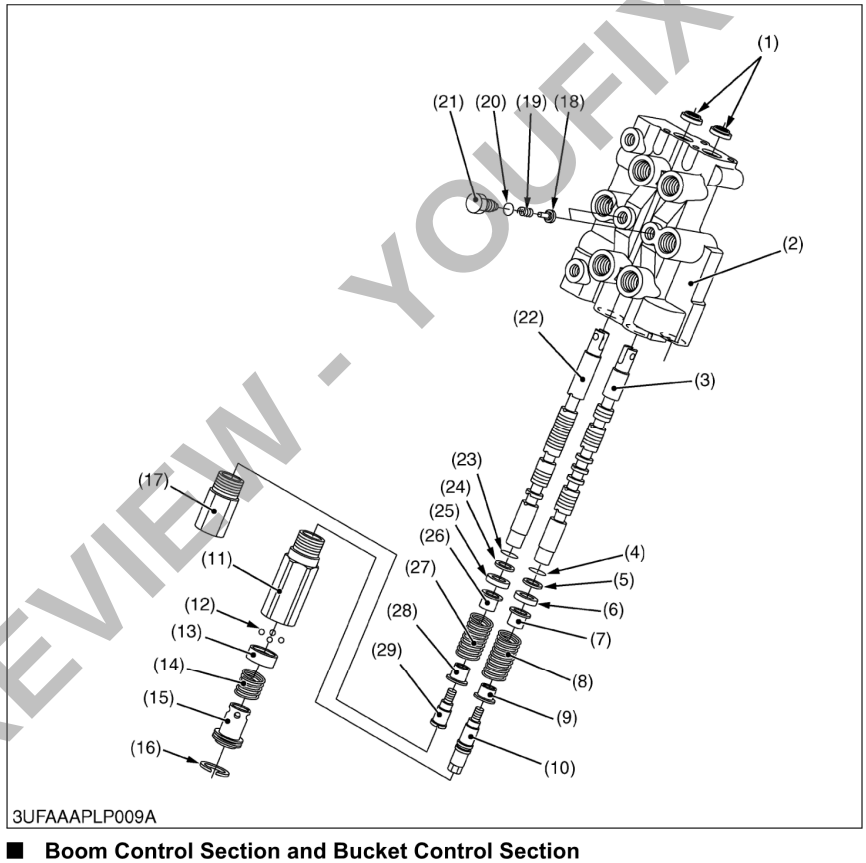
Tightening torque	Adapter and elbow	47.1 to 53.9 N·m 4.80 to 5.50 kgf·m 34.8 to 39.7 lbf·ft
	Fitting	38.3 to 43.1 N·m 3.90 to 4.40 kgf·m 28.2 to 31.8 lbf·ft

(1) **A1** Port (Adapter and Fitting)
(2) **P** Port (Elbow)
(3) **B1** Port (Adapter and Fitting)
(4) **B2** Port (Adapter and Fitting)
(5) **PB** Port (Elbow)
(6) **A2** Port (Adapter and Fitting)
(7) Dust Cap

A: 1.4 rad (80 °)
B: 1.4 rad (80 °)

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Disassembling Control Valve



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(1) Dust Seal
(2) Valve Body
(3) Spool for Boom
(4) O-ring
(5) Backup Ring
(6) Collar
(7) Spring Holder 1
(8) Spring
(9) Spring Holder 2
(10) Detent Bolt 1
(11) Plug
(12) Ball
(13) Detent Ring
(14) Detent Spring
(15) Stopper
(16) Ring
(17) Plug
(18) Check Valve
(19) Spring
(20) O-ring
(21) Plug
(22) Spool for Bucket
(23) O-ring
(24) Backup Ring
(25) Collar
(26) Spring Holder 1
(27) Spring
(28) Spring Holder 2
(29) Bolt

■ **Boom Control Section and Bucket Control Section**

1. Remove the plug (21) and pull out the spring (19) and load check valve (18).
2. Remove the plug (11), (17) from valve body (2).
3. Remove the ring (16) and pull out the stopper (15), detent spring (14), detent ring (13), and ball (12).
4. Pull out the spool (3), (22) with other component parts from valve body (2).

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4. TIGHTENING TORQUES

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

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

Indication on top of bolt	4 No-grade or 4T						7 8.8 7T or Property class 8.8						9 10.9 9T or Property class 10.9		
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		
Unit	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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1. TROUBLESHOOTING

Symptom	Probable Cause	Solution	Reference Page
Boom Does Not Lift	Control valve malfunctioning	Repair or replace	1-S10
	Boom cylinder damaged	Repair or replace	1-S14
	Control lever linkage damaged	Repair or replace	1-S10
	Hydraulic pump malfunctioning	Repair or replace	Tractor WSM
	Oil filter clogged	Clean or replace	Tractor WSM
	Relief valve spring damaged	Replace	1-S9
	Hydraulic hose damaged	Replace	1-S10
	Relief valve dirty or stuck	Clean	1-S9
Boom Does Not Lower	Control valve malfunctioning	Repair or replace	1-S10
	Control lever linkage damaged	Repair or replace	1-S10
Insufficient Boom Speed	Boom cylinder tube worn or damaged	Replace	1-S10
	Control lever linkage damaged	Repair or replace	1-S10
	Boom cylinder piston seal and O-ring worn or damaged	Replace	1-S16
	Oil leaks from tube joints	Repair	1-S14
	Relief valve setting pressure too low	Adjust	1-S9
	Insufficient transmission fluid	Fill	G-3
	Relief valve dirty or stuck	Clean	1-S9
Bucket Does Not Move	Control valve malfunctioning	Repair or replace	1-S10
	Bucket cylinder damaged	Repair or replace	1-S14
	Control lever linkage damaged	Repair or replace	1-S10
	Hydraulic pump malfunctioning	Repair or replace	Tractor WSM
	Oil filter clogged	Clean or replace	Tractor WSM
	Relief valve spring damaged	Replace	1-S9
	Hydraulic hose damaged	Replace	1-S10
	Relief valve dirty or stuck	Clean	1-S9
Insufficient Bucket Speed	Bucket cylinder tube worn or damaged	Replace	1-S10
	Control lever linkage damaged	Repair or replace	1-S10
	Bucket cylinder piston seal and O-ring worn or damaged	Replace	1-S16
	Oil leaks from tube joints	Repair	1-S14
	Relief valve setting pressure too low	Adjust	1-S9
	Insufficient transmission fluid	Fill	G-3
	Relief valve dirty or stuck	Clean	1-S9

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