SERVICING

CONTENTS

1. GENERAL S-1
   [1] IDENTIFICATION S-1
   [2] GENERAL PRECAUTION S-1
   [3] LUBRICANTS S-1
   [4] MAINTENANCE CHECK LIST S-1
   [5] CHECK AND MAINTENANCE S-2
      (1) Check Points of Each Use or Daily S-2
      (2) Check Points of Every 10 Hours S-2
2. TROUBLESHOOTING S-3
3. SERVICING SPECIFICATIONS S-4
4. TIGHTENING TORQUES S-5
   [1] GENERAL USE SCREWS, BOLTS AND NUTS S-5
   [2] HYDRAULIC FITTINGS S-6
   [3] SPECIAL USE SCREWS, BOLTS AND NUTS S-7
5. DISMOUNTING FRONT LOADER FROM TRACTOR S-8
6. CHECKING, DISASSEMBLING AND SERVICING S-10
   [1] CONTROL VALVE S-10
      (1) Checking and Adjusting S-10
      (2) Disassembling and Assembling S-10
   [2] CONTROLLER S-15
      (1) Disassembling and Assembling S-15
   [3] BUCKET, BOOM AND HYDRAULIC CYLINDERS S-17
      (1) Disassembling and Assembling S-17
      (2) Servicing S-20
   [4] SIDE FRAME, MAIN FRAME AND OTHERS S-21
      (1) Disassembling and Assembling S-21

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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.

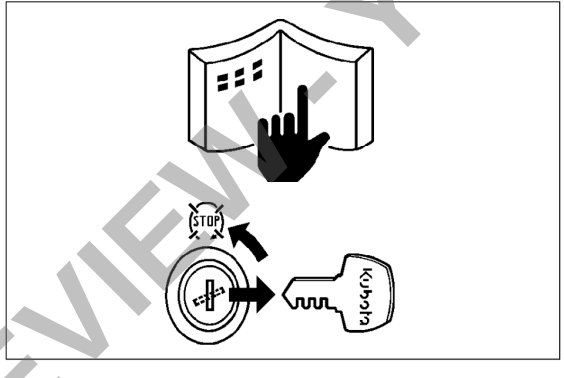
DANGER : **Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.**

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.**



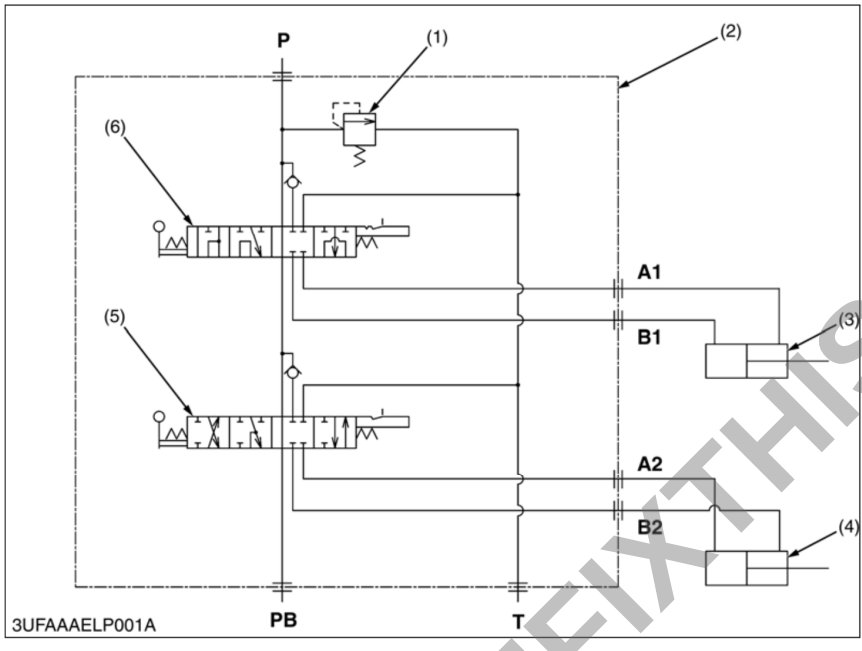
BEFORE SERVICING AND REPAIRING

- 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 firm and level ground, and set the parking brake.
- Lower the implement to the ground.
- Stop the engine, and remove the key.
- Disconnect the battery negative cable.
- Hang a "**DO NOT OPERATE**" tag in operator station.

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1. HYDRAULIC CIRCUIT



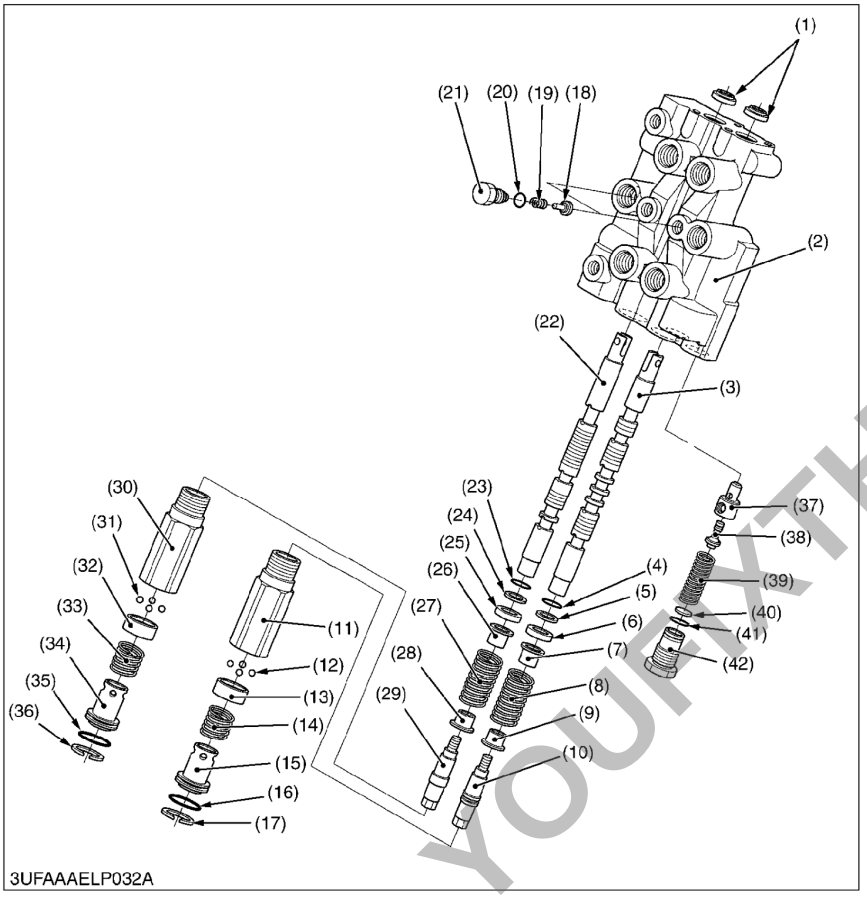
(1) Relief Valve
(2) Control Valve Assembly
(3) Boom Cylinder
(4) Bucket Cylinder
(5) Bucket Control Valve
(6) Boom Control Valve

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Disassembling Control Valve



(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) O-ring
(17) Ring
(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) Detent Bolt 2
(30) Plug
(31) Ball
(32) Detent Ring
(33) Detent Spring
(34) Stopper
(35) O-ring
(36) Ring
(37) Poppet 1
(38) Poppet 2
(39) Spring
(40) Shim
(41) O-ring
(42) Plug

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Boom Control Section and Bucket Control Section

1. Remove the plug (21) and take out the spring (19) and load check valve (18).
2. Remove the plug (11), (30) from valve body (2).
3. Remove the ring (17), (36) and take out the stopper (15), (34), detent spring (14), (33), detent ring (13), (32) and ball (12), (31).
4. Draw out the spool (3), (22) with other component parts from valve body (2).
5. Remove the plug (42) and take out the spring (39) and poppet (37), (38).

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4. 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.

American standard cap screws with UNC or UNF Threads				Metric cap screws			
Grade	SAE 5 or 8			Grade	Property class 8.8 (Approx. SAE grade 5)		
Size \ Unit	N·m	kgf·m	ft-lbs	Size \ Unit	N·m	kgf·m	ft-lbs
1/4	9.8 to 11.7	1.0 to 1.2	7.2 to 8.6	M6	9.8 to 11.2	1.0 to 1.1	7.2 to 8.3
5/16	19.0 to 23.1	1.9 to 2.4	14 to 17	M8	23.6 to 27.4	2.4 to 2.8	17.4 to 20.2
3/8	33.9 to 40.7	3.5 to 4.2	25 to 30	M10	48.1 to 55.8	4.9 to 5.7	35.5 to 41.2
1/2	88.1 to 105.8	9.0 to 10.8	65 to 78	M12	77.5 to 90.1	7.9 to 9.2	57.2 to 66.5
9/16	122.0 to 146.4	12.4 to 14.9	90 to 108	M14	124 to 147	12.6 to 15.0	91.2 to 108
5/8	176.3 to 211.5	18.0 to 21.6	130 to 156	M16	196 to 225	20.0 to 23.0	145 to 166

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SPECIFICATIONS

Suitable Tractor

Loader Model	LA403
Tractor Model	B2630, B3030

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[1] LOADER SPECIFICATIONS

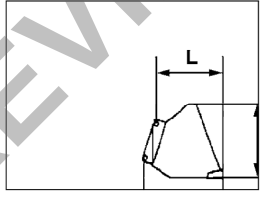
Loader Model		LA403
Tractor Model		B3030
Wheel Base		1666 mm (65.6 in.)
Front Tires		7-12
Rear Tires		12.4-16
Boom Cylinder	Bore	40 mm (1.57 in.)
	Stroke	448 mm (17.6 in.)
Bucket Cylinder	Bore	40 mm (1.57 in.)
	Stroke	490 mm (19.3 in.)
Control Valve		One Detent Float Position, Two Stage Bucket Dump, Power Beyond Circuit
Rated Flow		19.7 L/min. (5.2 U.S.gals./min., 4.33 Imp.gals./min.)
Maximum Pressure		16.6 MPa (169 kgf/cm^2, 2408 psi)
Net Weight (Approximate)		363 kg (800 lbs)

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[2] BUCKET SPECIFICATIONS

Loader Model		LA403	
Bucket Model		Square 54	Square 60” LM
Type		Rigid	Rigid
Width		1370 mm (54.0 in.)	1525 mm (60.0 in.)
Depth (L)		456 mm (18.0 in.)	529 mm (20.8 in.)
Height (M)		562 mm (22.1 in.)	562 mm (22.1 in.)
Length (N)		495 mm (19.5 in.)	566 mm (22.3 in.)
Capacity	Struck	0.19 m^3 (6.7 cu.ft.)	0.23 m^3 (8.1 cu.ft.)
	Heaped	0.25 m^3 (8.8 cu.ft.)	0.29 m^3 (10.2 cu.ft.)
Weight		85 kg (187 lbs)	98 kg (216 lbs)

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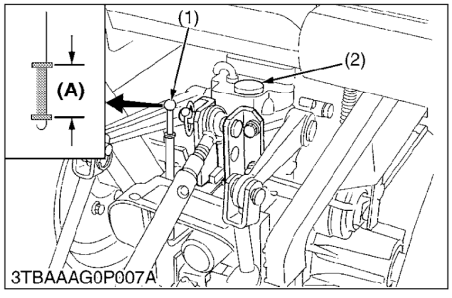
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[5] CHECK AND MAINTENANCE

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.**

(1) Check Points of Each Use or Daily



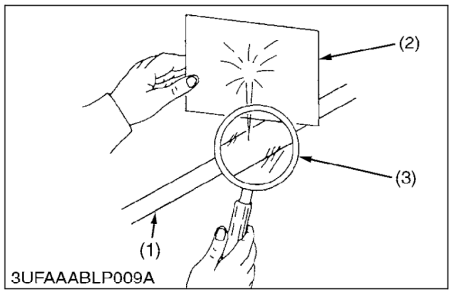
Checking Transmission Fluid Level

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

(1) Gauge
(2) Oil Filling Plug

A : Oil level is acceptable within this range.

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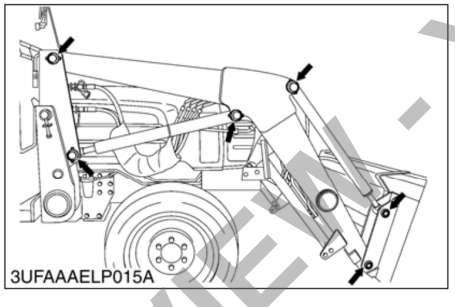
Checking Hydraulic Hoses

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 defects are found, replace them.

(1) Hydraulic Hose
(2) Cardboard
(3) Magnifying Glass

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(2) Check Points of Every 10 Hours



Greasing

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

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Lubricating

1. Lubricate joints of control lever linkage.

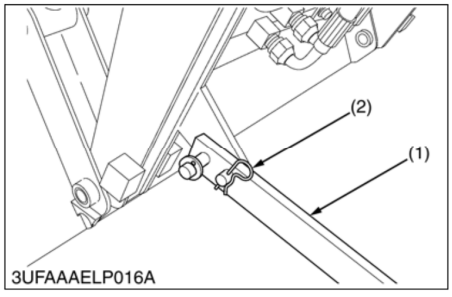
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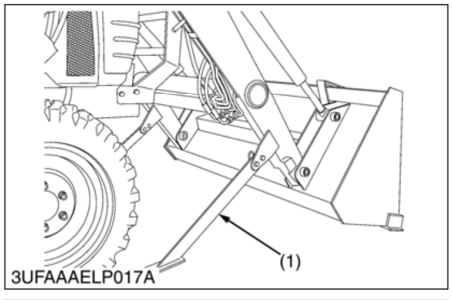
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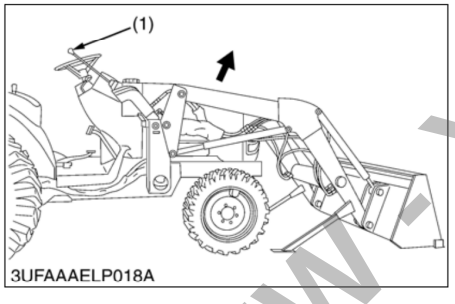
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5. DISMOUNTING FRONT LOADER FROM TRACTOR

IMPORTANT
- **When dismounting the loader, park the tractor on flat and hard ground, apply the parking brake.**
- **When starting the engine or using the hydraulic control valve, always sit on the operator's seat.**







Stand

1. Start the engine and run at an idle.
2. Raise the boom until the stands (1) can be rotated.
3. Stop the engine.
4. Remove the snap pins (2) holding the stands (1) to the boom.
5. Rotate the stands until the pin on the stand and hole in the boom are aligned. Then slide the stands (1) outward and insert the spring pin (2) as shown.
6. Start the engine and run at an idle.
7. Dump the bucket approximately 0.35 rad. (20°).
8. Lower the boom and raise the front wheels slightly.

IMPORTANT
- **Lift the front wheels with the bucket. Do not attempt to lift them with the stands.**

9. Stop the engine.

(1) Stand (2) Spring Pin

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Side Frame

1. Remove the mounting pins from the loader main frame and hold them on the boom.
2. Start the engine and run at an idle.
3. Slowly move the hydraulic control lever (1) to the **"ROLL-BACK"** position to raise the loader side frames up and out of the receivers of the main frames as shown.
4. Stop the engine.

(1) Hydraulic Control Lever

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