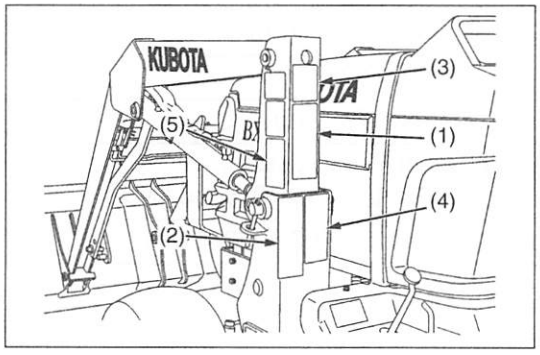
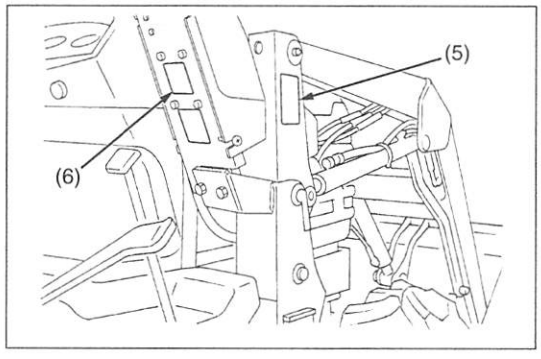
7 FRONT LOADER

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.





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

⚠ DANGER

TO AVOID SERIOUS INJURY OR DEATH CAUSED BY FALLING LOADS :

1. Load on raised bucket or fork can fall or roll back onto operator causing serious injury or death.
2. Use approved clamping and / or guard attachments for handling large, loose or shiftable loads such as bales, posts, sheets of plywood etc.
3. Carry loads as low as possible.

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

⚠ DANGER

TO AVOID SERIOUS INJURY OR DEATH CAUSED BY ROLLOVERS :

1. ROPS and a fastened seat belt are strongly recommended in almost all applications. Foldable ROPS should be in upright and locked position if equipped.
2. Adjust rear wheels to the widest setting that is suitable for the work.
3. Add recommended wheel ballast and rear weight for stability.
4. DO NOT drive on steep slopes or unstable surfaces.
5. Carry loader arms at low position during transport. Move and turn tractor at slow speeds.

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

⚠ CAUTION

TO AVOID PERSONAL INJURY :

1. Observe safety precautions in loader and tractor Operator's Manual.
2. Operate the loader from tractor seat only.
3. Keep children, others and livestock away when operating loader and tractor.
4. Avoid holes, loose ground, and rocks which may cause tractor / loader to tip.
5. Make sure approved bucket is attached before removing loader from tractor.
6. When parking or storing, choose flat and hard ground. Lower the bucket to the ground, set brakes and remove key before leaving tractor.
7. Before disconnecting hydraulic lines, relieve all hydraulic pressure.

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

⚠ CAUTION

TO AVOID INJURY FROM CRUSHING :

1. Do not utilize the valve lock for machine maintenance or repair.
2. The valve lock is to prevent accidental actuation when implement is not in use or during transport.

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

⚠ DANGER

TO AVOID SERIOUS INJURY OR DEATH CAUSED BY CONTACT WITH ELECTRIC LINES:

- Check overhead clearance.

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

⚠ WARNING

TO AVOID INJURY FROM FALLS OR BEING CRUSHED :

1. DO NOT stand or work under raised loader or bucket.
2. DO NOT use loader as jack for servicing.
3. DO NOT use loader as a work platform.
4. NEVER connect chain, cable or rope to loader bucket while operating loader.

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 replaced component.
5. Mount new danger, warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.

3TVAAADLP001A

SPECIFICATIONS

[1] LOADER SPECIFICATIONS

Item		LA210-1
ASAE Rated Lift Capacity		210 kg (460 lbs)
ASAE Rated Brakeout Force		4200 N (950 lbs)
Boom Cylinder	Bore	38 mm (1.50 in.)
	Stroke	325 mm (12.77 in.)
Bucket Cylinder	Bore	57 mm (2.25 in.)
	Stroke	200 mm (7.96 in.)
Control Valve	4 Position Bucket Control Valve Type	One Detent Float Position, Two Stage Bucket Dump, Power Beyond Circuit
Relief Valve Setting Pressure		133.5 to 140 kgf/cm^2 (1900 to 2000 psi)
Net Weight (Approx.)		195 kg (430 lbs)

W1027852

[2] BUCKET SPECIFICATIONS

Item		LA210-1
Type		Square 48
Width		1220 mm (48.0 in.)
Length		495 mm (19.5 in.)
Height		465 mm (18.2 in.)
Capacity	Struck	0.14 m^3 (5.0 cu.ft.)
	Heaped	0.17 m^3 (6.1 cu.ft.)
Weight		60 kg (132 lbs)

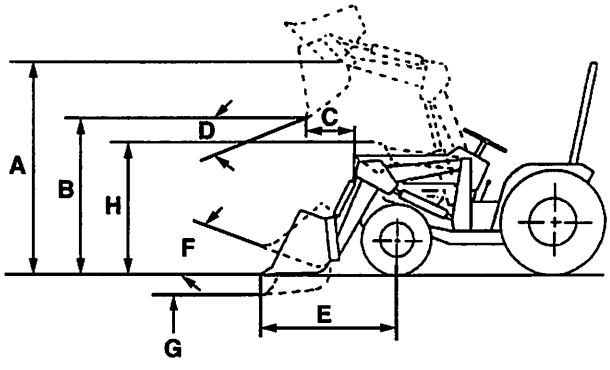
W1013973

OPERATING DIMENSIONS

Item	LA210-1
	BX23
Maximum Lifting Height (A)	1810 mm (71.3 in.)
Clearance with Bucket Dumped (B)	1300 mm (51.2 in.)
Reach at Maximum Height (C)	686 mm (27.0 in.)
Maximum Dump Angle (D)	45 deg.
Reach with Bucket on Ground (E)	1310 mm (51.6 in)
Bucket Roll-back Angle (F)	25 deg.
Digging Depth (G)	120 mm (4.7 in.)
Overall Height in Carring Position (H)	1070 mm (42.1 in)

BX23 with 18 x 18.50-8 Front Tires and 26 x 12.00-12 Rear Tires.

W1028404



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PERFORMANCE RATINGS (NO LOAD)

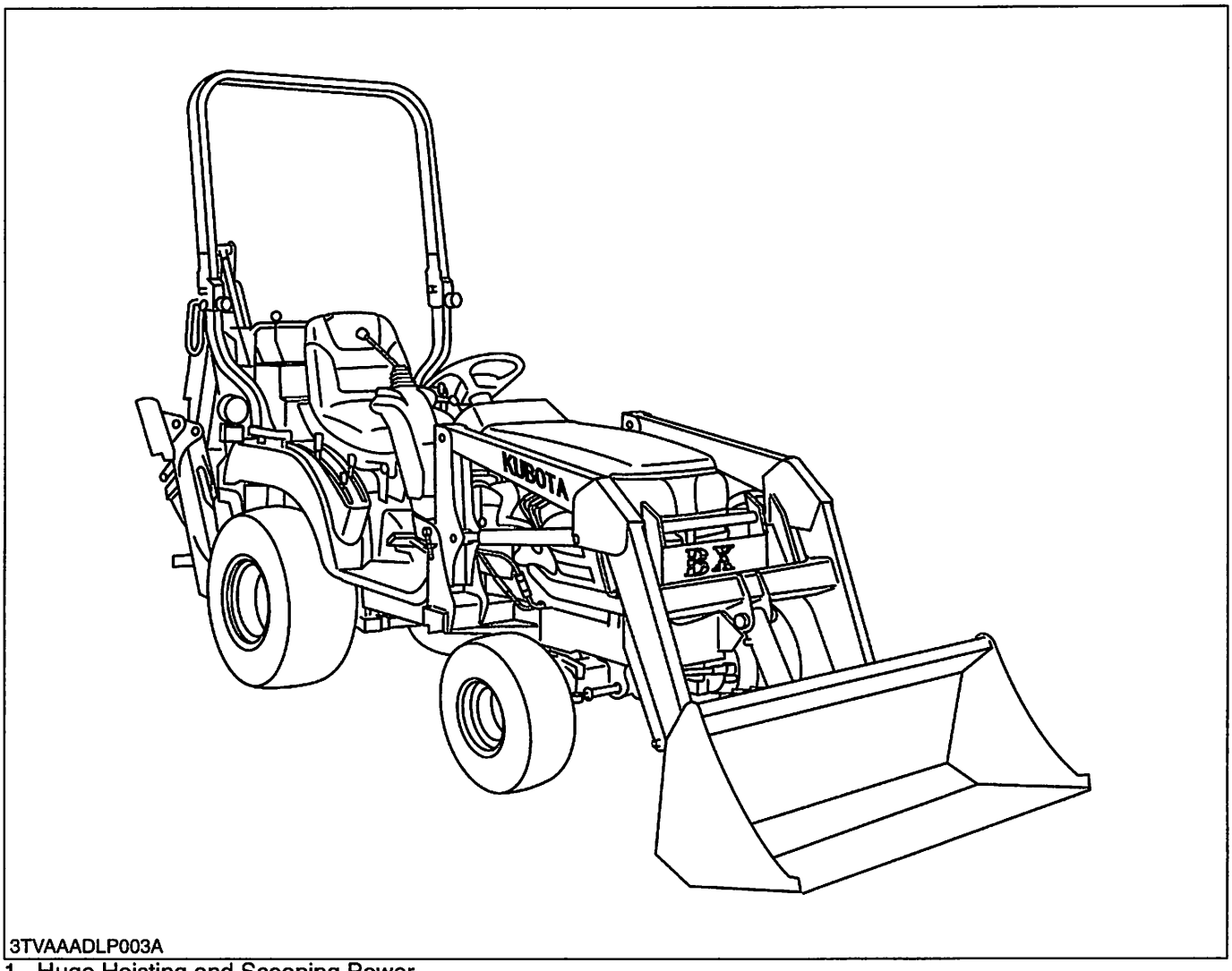
Item	LA210-1
Raise to Full Height	2.9 sec.
Lowering Time	2.9 sec.
Attachment Roll-back Time	1.5 sec.
Attachment Dump Time	1.4 sec.

W1028712

MECHANISM

CONTENTS

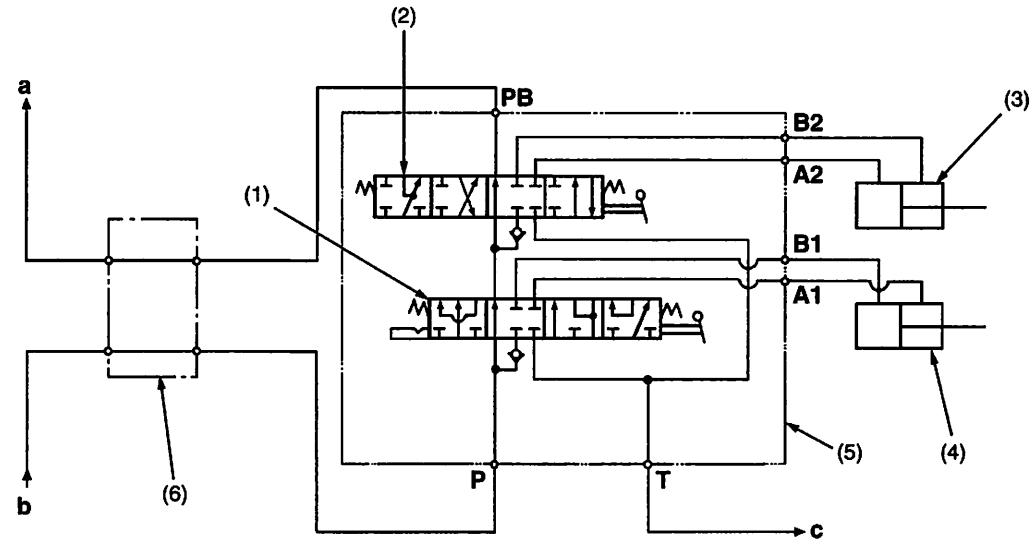
1. FEATURES



3TVAAADLP003A

1. Huge Hoisting and Scooping Power
2. Fast Cycle Time
3. One-Lever Operation
4. Heavy Duty Bucket
5. Long Arm Reach
6. Series Circuit Hydraulic Control Valve

2. HYDRAULIC CIRCUIT



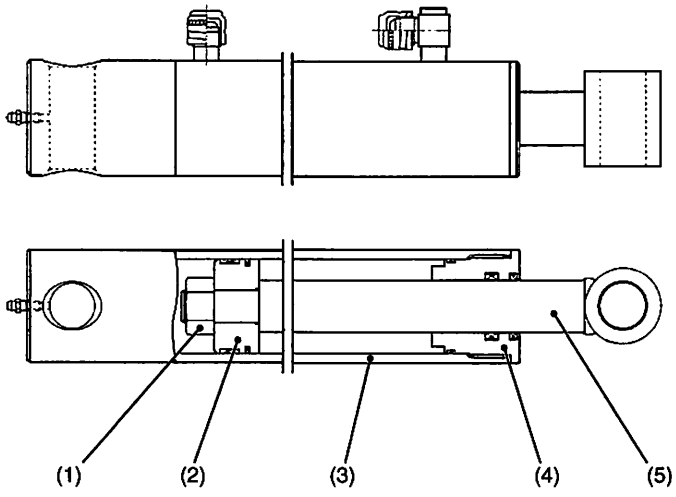
3TVAAADLP004A

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

A : 4 Position Bucket Control

a : To 3-Point Hydraulic System
b : From Hydraulic Pump
c : To Transmission Case

3. BOOM CYLINDER AND BUCKET CYLINDER



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(1) Nut
(2) Piston
(3) Cylinder Tube
(4) Head
(5) Piston Rod

Both boom cylinder and bucket cylinder consists of a head (4), cylinder tube (3), piston rod (5), piston (2), and other parts as shown in the figure above. They are single-rod double acting cylinder in which the reciprocating motion, of the piston is controlled by hydraulic force applied to both of its ends.

Cylinder Specifications

		LA210-1
Boom Cylinder	Cylinder I.D.	38 mm (1.50 in.)
	Rod O.D.	25.4 mm (1.00 in.)
	Stroke	325 mm (12.77 in.)
Bucket Cylinder	Cylinder I.D.	57 mm (2.25 in.)
	Rod O.D.	32 mm (1.25 in.)
	Stroke	200 mm (7.96 in.)

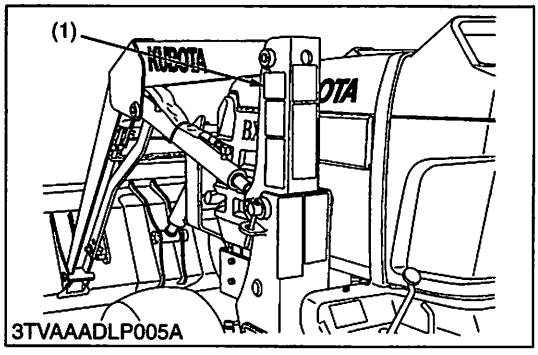
W1025274

SERVICING

CONTENTS

1. GENERAL

[1] IDENTIFICATION

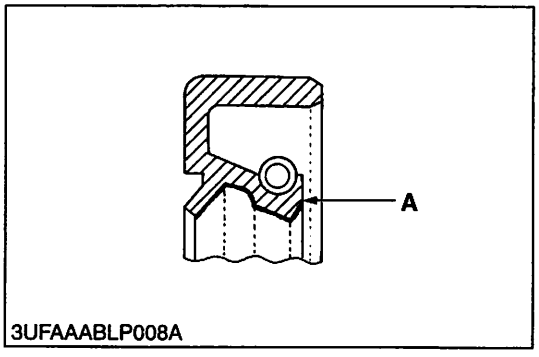


When contacting your local KUBOTA distributor, always specify front loader model and serial number.

(1) Model / Serial Number

W1010468

[2] GENERAL PRECAUTION



- During disassembly, carefully arrange removed parts in a clean area to prevent later confusion. Screws, bolts and nuts should be replaced in their original positions to prevent reassembly errors.
- When special tools are required, use genuine KUBOTA tools. Special tools which are not used frequently should be made according to the drawings provided.
- Clean parts before measuring them.
- Use only genuine KUBOTA parts for parts replacement to maintain loader performance and to assure safety.
- O-ring and oil seals must be replaced during reassembly. Apply grease to new O-rings or oil seals before reassembling.

A : Grease

W1010531

[3] LUBRICANTS

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

Place	Capacities	Lubricants
Transmission Case	10.1 L 2.7 U.S.gals 2.2 Imp.gals	KUBOTA SUPER UDT Fluid *
Grease fitting	Until grease overflows	Moly Ep Type grease

■ **NOTE**

- *** KUBOTA SUPER UDT Fluid**.....KUBOTA original transmission hydraulic fluid

W1010650

[4] 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 Internal	Check Points	Reference Page
Daily (Each use)	• Check the transmission fluid level • Check the hydraulic hoses	7-S2 7-S2
Every 10 hours	• Grease all grease fitting • Lubricate joints of control lever linkage	7-S3 7-S3

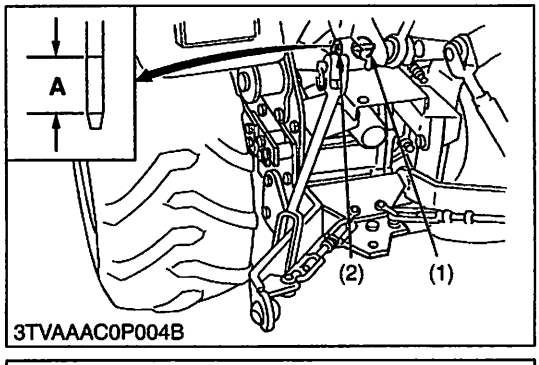
W1010764

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

■ **IMPORTANT**

- **If oil level is low, do not run engine.**

(1) Oil Filling Plug
(2) Dipstick

A : Oil level is acceptable within this range.

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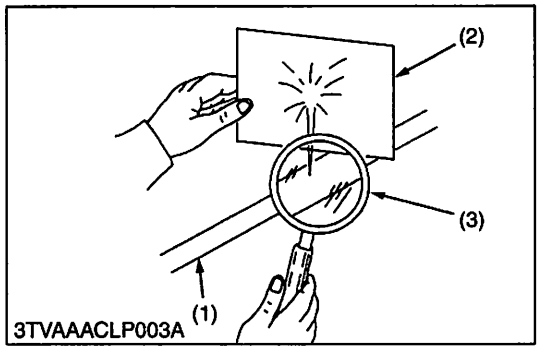


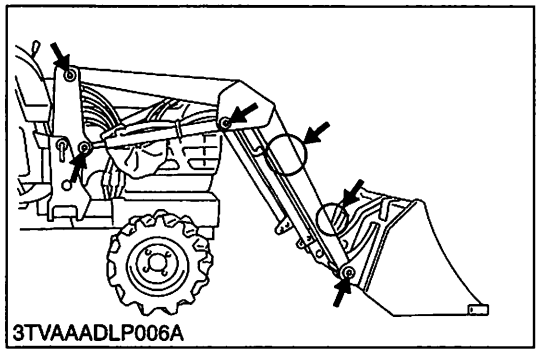
Checking Hydraulic Hoses

1. Checking all hydraulic hoses for cuts or wear.
2. If defects are found, replace them.

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

W1011064

(2) Check Points of Every 10 Hours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Greasing

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

W1011132

Lubricating

1. Lubricate joints of control lever linkage.

W1011274

2. TROUBLESHOOTING

Symptom	Probable Cause	Solution	Reference Page
Boom Does Not Rise	• Control valve malfunctioning	Repair or replace	7-S8
	• Boom cylinder defective	Repair or replace	7-S11
	• Control lever linkage defective	Repair or replace	–
	• Hydraulic pump malfunctioning	Repair or replace	–
	• Oil filter clogged	Clean or replace	–
	• Hydraulic hose damaged	Replace	–
Boom Does Not Lower	• Control valve malfunctioning	Repair or replace	7-S8
Insufficient Boom Speed	• Boom cylinder tube worn or damaged	Replace	7-S12
	• Boom cylinder piston ring (piston seal and O-ring) worn or damaged	Replace	7-S13
	• Oil leaks from tube joints	Repair	–
	• Relief valve setting pressure too low	Adjust	7-S8
	• Insufficient transmission fluid	Refill	7-S2
	• Dirty relief valve	Clean	–
Bucket Does Not Move	• Control valve malfunctioning	Repair or replace	7-S8
	• Bucket cylinder defective	Repair or replace	7-S11
	• Control lever linkage defective	Repair or replace	–
	• Hydraulic pump malfunctioning	Repair or replace	–
	• Oil filter clogged	Clean or replace	–
	• Relief valve spring damaged	Replace	–
	• Hydraulic hose damaged	Replace	–
	• Dirty relief valve	Clean	–
Insufficient Bucket Speed	• Bucket cylinder tube worn or damaged	Replace	7-S12
	• Bucket cylinder piston ring (piston seal and O-ring) worn or damaged	Replace	7-S13
	• Oil leaks from tube joints	Repair	–
	• Insufficient transmission fluid	Refill	–
Front End Loader Drops by its Weight	• Boom cylinder tube worn or damaged	Replace	7-S12
	• Boom cylinder piston ring (piston seal and O-ring) worn or damaged	Replace	7-S13
	• Oil leaks from tube joints	Repair	–
	• Control valve malfunctioning	Repair or replace	–

W1014322

3. SERVICING SPECIFICATIONS

Item		Factory Specification	Allowable Limit
Piston Rod	Bend	–	0.25 mm 0.0098 in.

W1013874

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)		
Unit / Size	N·m	kgf·m	ft-lbs	Unit / Size	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
–	–	–	–	M18	275 to 318	28.0 to 32.5	203 to 235

W1012507

[2] HYDRAULIC FITTINGS

Item	Thread size	Tightening torque		
		N·m	kgf·m	ft-lbs
Adjustable elbow and adapter	9/16	37 to 44	3.7 to 4.6	27 to 33
	3/4	47 to 54	4.8 to 5.5	35 to 40
Hose fitting and flare nut	9/16	22 to 25	2.2 to 2.6	16 to 19
	3/4	35 to 41	3.6 to 4.1	26 to 30
	7/8	65 to 71	6.6 to 7.2	48 to 52
	1/4	30 to 35	3.1 to 3.6	22 to 26
Adapter (NPT)	3/8	39 to 44	3.9 to 4.4	28 to 32
	1/2	49 to 58	5.0 to 5.9	36 to 43

■ **NOTE**

- **When connecting a hose with flare nut, after tightening the nut with specified torque, return it approximately 45 degrees and re-tighten it to specified torque.**

W1013389

[3] TIGHTENING TORQUES OF SCREWS, BOLTS AND NUTS ON THE TABLE BELOW ARE ESPECIALLY SPECIFIED

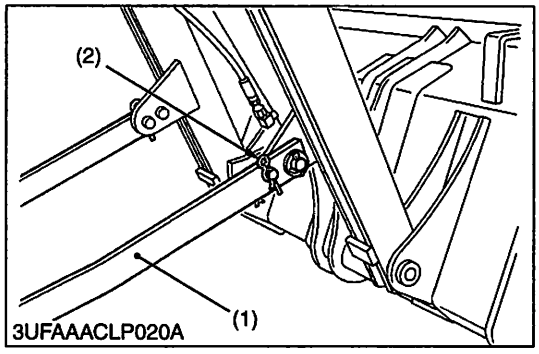
Item	N·m	kgf·m	ft-lbs
Control valve stay mounting bolt	90.1	9.2	66.5
Hydraulic block mounting bolt	47.5 to 54.2	4.8 to 5.5	35 to 40
Control valve adaptor and elbow	47.5 to 54.2	4.8 to 5.5	35 to 40
Boom cylinder piston mounting nut	170 to 183	17.3 to 18.6	125 to 135
Bucket cylinder piston mounting nut	170 to 183	17.3 to 18.6	125 to 135
Main frame mounting bolt (M14)	147	15.0	108

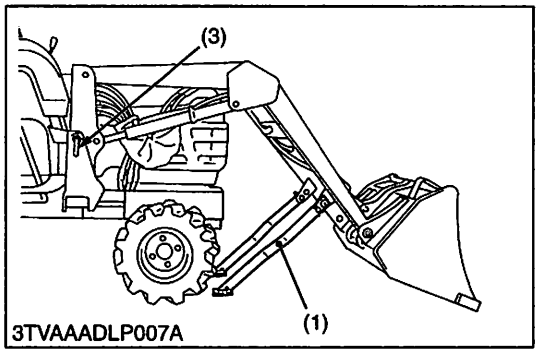
W1012736

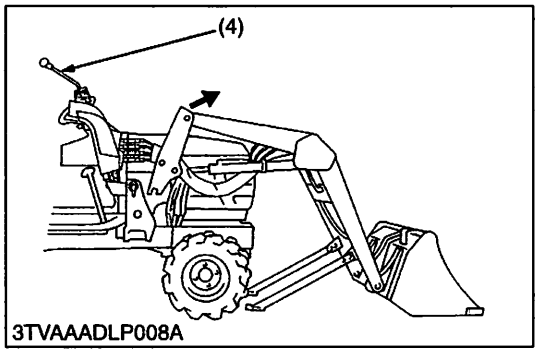
5. DISMOUNTING FRONT LOADER FROM TRACTOR

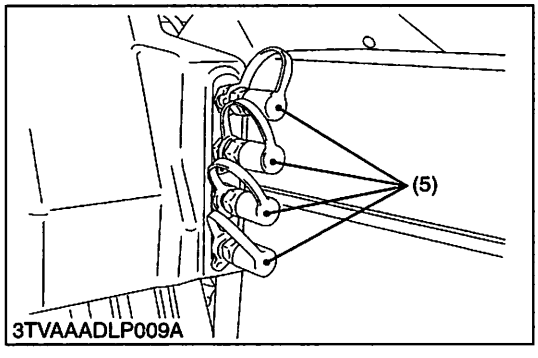
■ **IMPORTANT**

- **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 in the operator's seat.**









Side Frame

1. Raise the boom until the stands (1) can be rotated.
2. Stop the engine.
3. Remove the spring pins (2) holding the stands (1) to the boom.
4. Slide the stands (1) outward and rotate them until the hole in the stand and pin on the boom are aligned. Then slide the stands (1) inward and insert the spring pin (2) as shown.
5. Start the engine.
6. Dump the bucket approximately 20 degrees.
7. Lower the boom and raise the front wheels slightly.
8. Stop the engine.
9. Remove the mounting pins (3) from the loader side frames.
10. Start the engine and run at idle. Slowly move the hydraulic control lever (4) to rollback position to raise the loader side frames up and out of the receives of the main frames as shown.
11. Stop the engine.
12. Slowly release all hydraulic pressure by moving the hydraulic control lever (4) in all directions.
13. Disconnect the four hoses with quick couplers at the control valve and place them on the right side of the boom.
14. Place the protective caps and plugs (5) on the quick coupler ends.

■ **IMPORTANT**

- **Before starting the engine, make sure hose 4 is securely connected to the pump port.**

15. Start the engine and slowly back the tractor away from the loader.

(1) Stand
(2) Spring Pin
(3) Loader Mounting Pin
(4) Hydraulic Control Lever
(5) Protective Plug

W1012789

7

6. CHECKING, DISASSEMBLING AND SERVICING

[1] CONTROL VALVE

(1) Checking and Adjusting

Relief Valve Setting Pressure

■ **NOTE**

- **The relief valve is not installed on this model. However the relief valve of the tractor hydraulic system is used as the relief valve of the front loader. Refer to hydraulic section.**

(Reference)

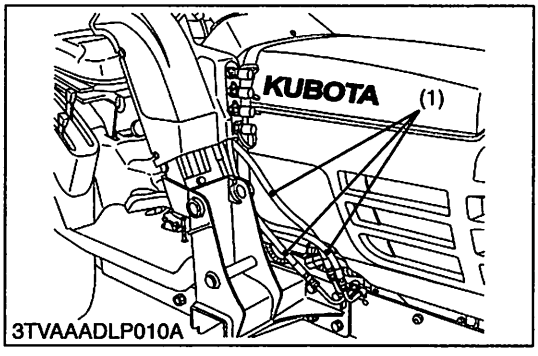
Relief valve setting pressure	Factory spec.	12.3 to 12.7 MPa 125 to 130 kgf/cm^2 1778 to 1849 psi

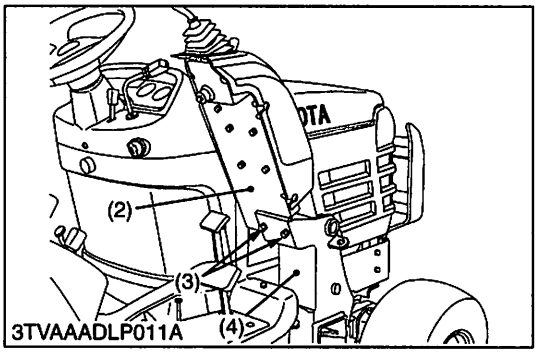
Condition

- Engine speed..... Maximum
- Oil temperature..... 45 to 55 °C
  113 to 131 °F

W1014688

(2) Disassembling and Assembling





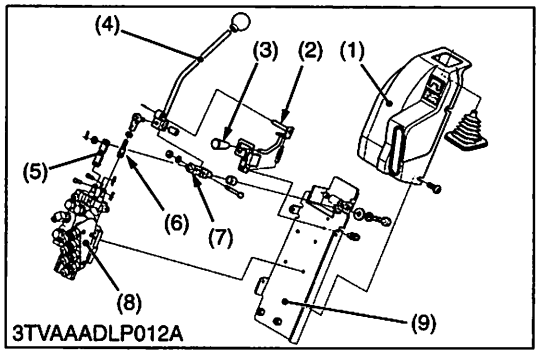
Control Valve Stay

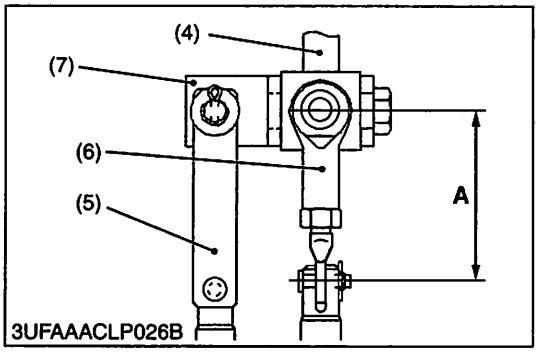
1. Disconnect the hydraulic hoses (1) from the tractor.
2. Remove the control valve stay (2) from the frame RH (4).

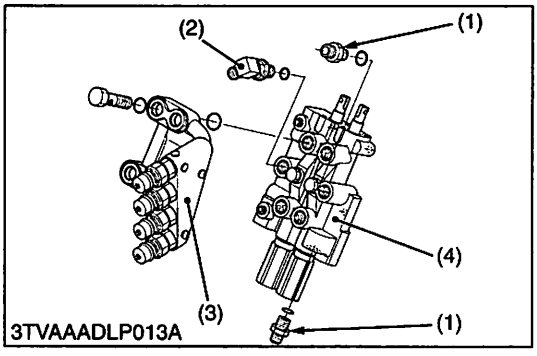
Tightening torque	Control valve stay mounting bolt	90.1 N·m 9.2 kgf·m 66.5 ft-lbs

(1) Hydraulic Hose
(2) Control Valve Stay
(3) Control Valve Stay Mounting Bolt
(4) Frame RH

W1013376







Control Valve

1. Remove the lock lever grip (3), then remove the control valve cover (1) from the control valve stay (9).
2. Disconnect the hydraulic hoses from adaptors and elbow.
3. Disconnect the control lever (4), lock lever (2) and lever (7).
4. Disconnect the control lever rod 1 (6) and rod 2 (5) at the control valve spools.
5. Remove the control valve (8) from the control valve stay (9).

(Reference)

- The length **"A"** of rod 1 (6) should be adjusted as follows. LA210-1 : 61.5 to 62.5 mm (2.42 to 2.46 in.)

(1) Control Valve Cover
(2) Lock Lever
(3) Lock Lever Grip
(4) Control Lever
(5) Rod 2
(6) Rod 1
(7) Lever
(8) Control Valve
(9) Control Valve Stay

W1013522

Hydraulic Block, Adaptor and Elbow

1. Remove the hydraulic block (3) from the control valve (4).
2. Remove the adaptors (1) and elbow (2) from the control valve (4).

(When reassembling)

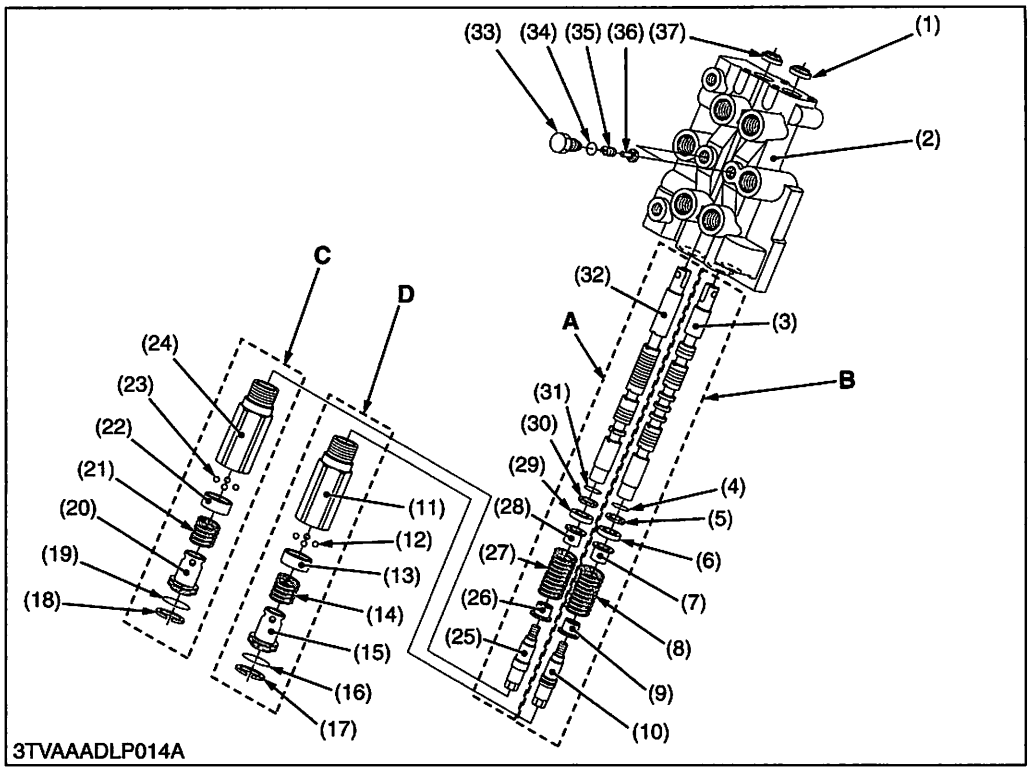
- Take care not to damage the O-ring.

Tightening torque	Hydraulic block mounting bolt	47.5 to 54.2 N·m 4.8 to 5.5 kgf·m 35 to 40 ft-lbs
	Adaptor and elbow	47.5 to 54.2 N·m 4.8 to 5.5 kgf·m 35 to 40 ft-lbs

(1) Adaptor
(2) Elbow
(3) Hydraulic Block
(4) Control Valve

W1013894

Disassembling Control Valve



(1) Dust Seal
(2) Valve Body
(3) Spool
(4) O-ring
(5) Back-up Ring
(6) Collar
(7) Spring Holder
(8) Spring
(9) Spring Holder
(10) Bolt
(11) Plug
(12) Ball
(13) Seat
(14) Spring
(15) Stopper
(16) O-ring
(17) Ring
(18) Ring
(19) O-ring
(20) Stopper
(21) Spring
(22) Seat
(23) Ball
(24) Plug
(25) Bolt
(26) Spring Holder
(27) Spring
(28) Spring Holder
(29) Collar
(30) Back-up Ring
(31) O-ring
(32) Spool
(33) Plug
(34) O-ring
(35) Spring
(36) Load Check Valve
(37) Dust Seal
A, C : Bucket Control Section
B, D : Boom Control Section

W1016062

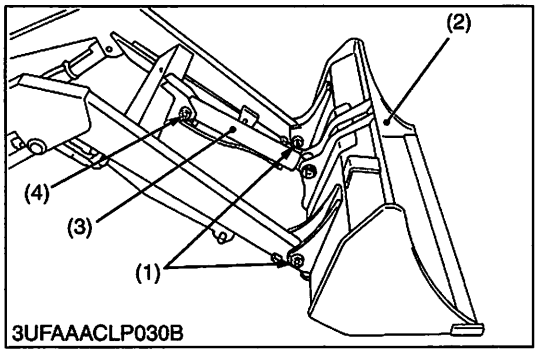
1. Remove the plugs (33) and take out the spring (35) and load check valve (36).
2. Remove the seal plates (11), (24) with other parts inside plug (**C**), (**D**).
3. Draw out the spools (3), (32) with other component parts (**A**), (**B**) from the valve body (2).

(When reassembling)

- Clean all parts with a suitable solvent, and dry with a lint-free cloth or air.
- Visually inspect all parts for damage
- Install the spools to the valve body, using care not to damage the O-ring.

[2] BUCKET, BOOM AND HYDRAULIC CYLINDERS

(1) Disassembling and Assembling



Bucket and Bucket Cylinder

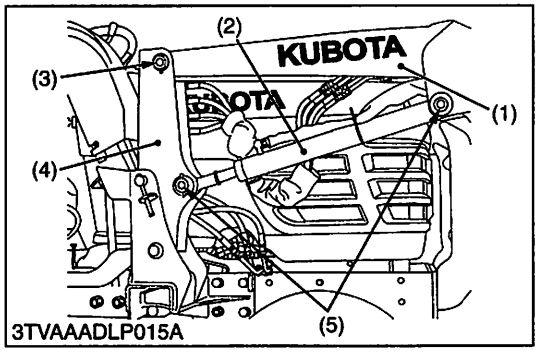
1. Remove the pins (1) and remove the bucket (2).
2. Disconnect the hydraulic hoses from the bucket cylinder (3).
3. Remove the pin (4) and remove the bucket cylinder (3).

(When reassembling)

- When installing the bucket cylinder (3), the hydraulic port should face inside and be careful of the direction of grease fittings.

(1) Pin
(2) Bucket
(3) Bucket Cylinder
(4) Pin

W1016780



Boom and Hydraulic Cylinders

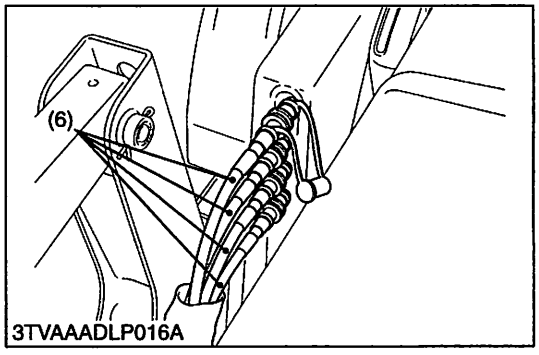
1. Disconnect the hydraulic hoses from the boom cylinders (2).
2. Remove the pins (5) and remove the boom cylinders (2).
3. Disconnect the hydraulic hoses (6) with quick couplers at the control valve.
4. Remove the pins (3) and remove the boom (1) from the side frame (4).
5. Remove the hydraulic tubes (7) from the boom (1).

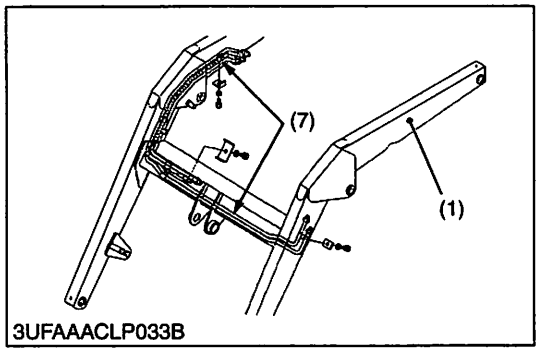
(When reassembling)

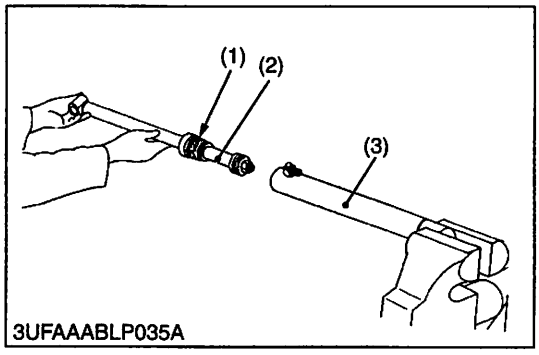
- When installing the boom cylinders (2), the hydraulic port should face inside and be careful of the direction of grease fittings.

(1) Boom
(2) Boom Cylinder
(3) Pin
(4) Side Frame
(5) Pin
(6) Hydraulic Hose
(7) Hydraulic Tube

W1016879







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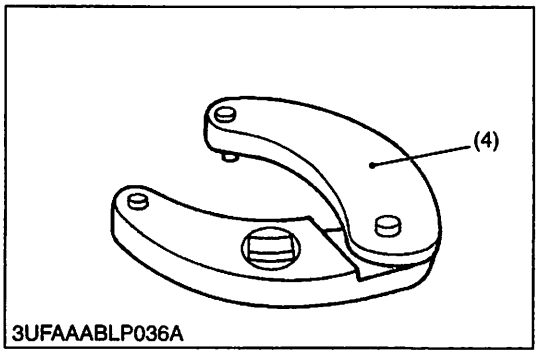

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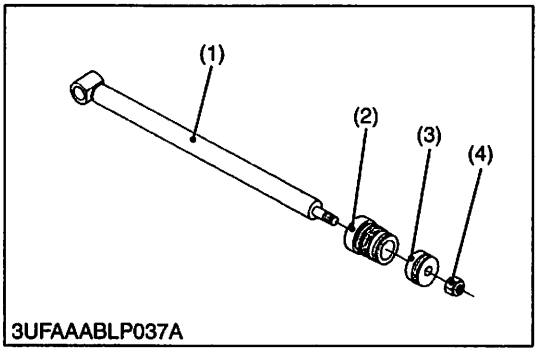

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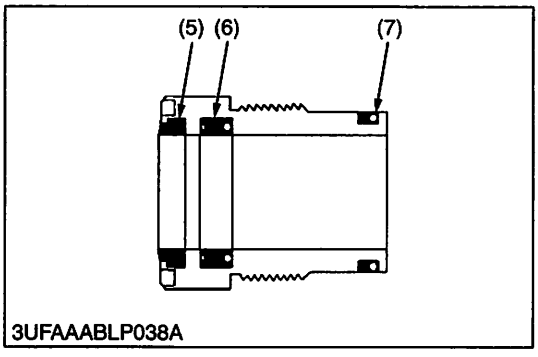

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Piston Rod Assembly

1. Drain hydraulic oil from the cylinder, and secure the tube end of the cylinder in a vise.
2. Unscrew the cylinder head (1) with the adjustable gland nut wrench (4).
3. Pull out the piston rod assembly (2) from the cylinder tube (3).

(When reassembling)

- Visually inspect the cylinder tube for signs of scoring or damage.
- Insert the piston rod assembly to the cylinder tube, using care not to damage the piston seal on the piston.
- Install the cylinder head to the cylinder tube, using care not to damage the O-ring on the cylinder head.

(1) Cylinder Head
(2) Piston Rod Assembly
(3) Cylinder Tube
(4) Adjustable Gland Nut Wrench

W1017050

Cylinder Head, Piston and Nut

1. Secure the rod end in a vise.
2. Unscrew the nut (4), and remove the piston (3) and cylinder head (2) from the piston rod (1).

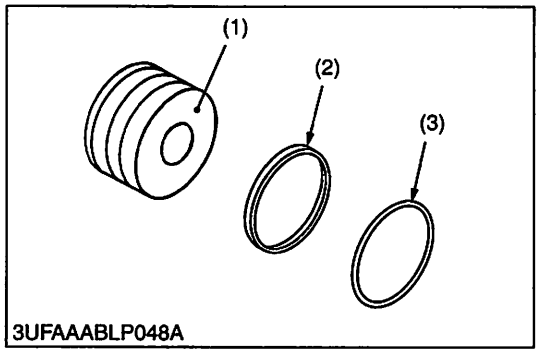
(When reassembling)

- Visually inspect all parts for signs of scoring or damage.
- Insert the piston rod to the cylinder head, using care not to damage the wiper seal (5) and oil seal (6).

Tightening torque	Boom cylinder piston mounting nut	170 to 183 N·m 17.3 to 18.6 kgf·m 125 to 135 ft-lbs
	Bucket cylinder piston mounting nut	170 to 183 N·m 17.3 to 18.6 kgf·m 125 to 135 ft-lbs

(1) Piston Rod
(2) Cylinder Head
(3) Piston
(4) Nut
(5) Wiper Seal
(6) Oil Seal
(7) O-ring

W1017322



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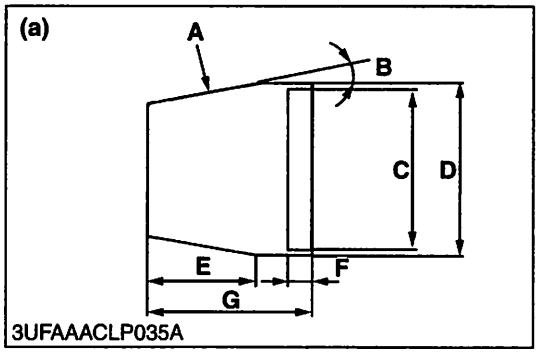

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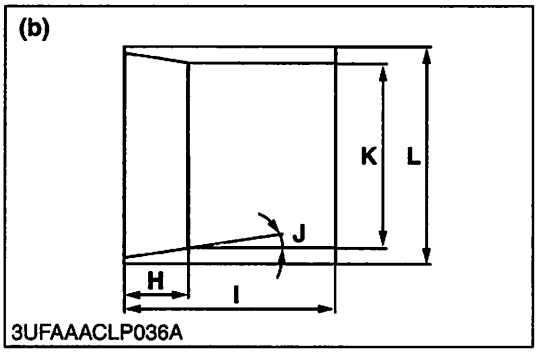

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Piston Seal and O-ring

1. Remove the piston seal (2) and O-ring (3) from the piston (1).

■ **IMPORTANT**

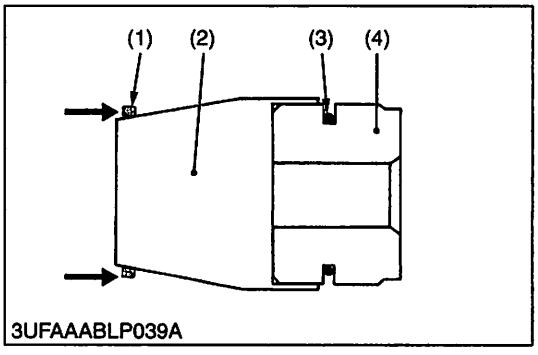
- **When installing the O-ring (3) and piston seal (2) to the piston (1), use the slide jig and correcting jig as shown in the figure.**

	LA210-1
A	80 √
B	0.0523 rad 3 °
C	37.46 mm dia. 1.475 in. dia.
D	39.46 mm dia. 1.554 in. dia.
E	76.0 mm 2.992 in.
F	14.0 mm 0.551 in.
G	100.0 mm 3.937 in.
H	70.0 mm 2.756 in.
I	110.0 mm 4.331 in.
J	0.0523 rad 3 °
K	38.1 mm dia. 1.5 in. dia.
L	47.63 mm dia. 1.875 in. dia.

(1) Piston
(2) Piston Seal
(3) O-ring

(a) : Slide Jig
(b) : Correcting Jig

W1017590



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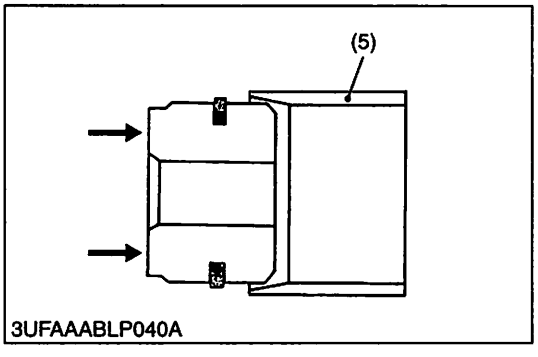

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Installing O-ring and Piston Seal

1. Place the slide jig (2) on the piston (4).
2. Install the O-ring (3) to the piston using the slide jig.
3. Install the piston seal (1) over the O-ring using the slide jig.
4. Compress the piston seal to the correct size by installing the piston into the correcting jig (5).

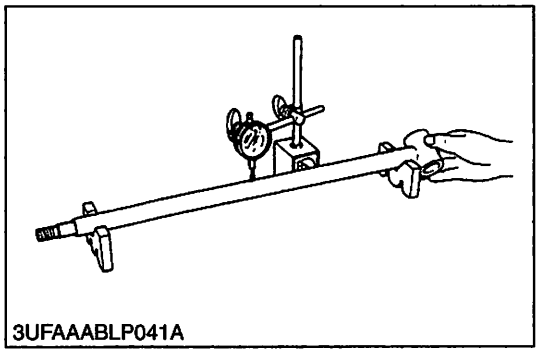
■ **NOTE**

- **Do not turn (roll) the piston seal as you install it.**

(1) Piston Seal
(2) Slide Jig
(3) O-ring
(4) Piston
(5) Correcting Jig

W1018156

(2) Servicing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Piston Rod Bend

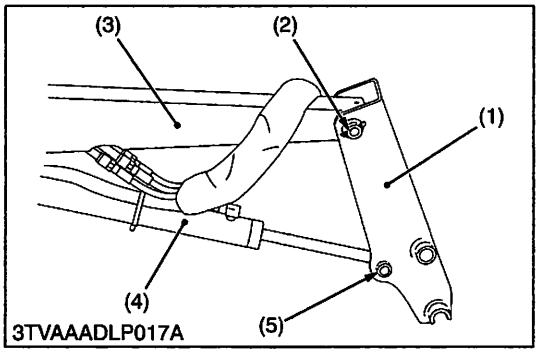
1. Place piston rod on V blocks.
2. Set a dial indicator on the center of the rod.
3. Turn the piston rod and read the dial indicator.
4. If the measurement exceeds the allowable limit, replace it.

Piston rod bend	Allowable limit	0.25 mm 0.0098 in.

W1018329

[3] SIDE FRAMES, FRONT GUARD, HYDRAULIC TUBES AND MAIN FRAMES

(1) Disassembling and Assembling



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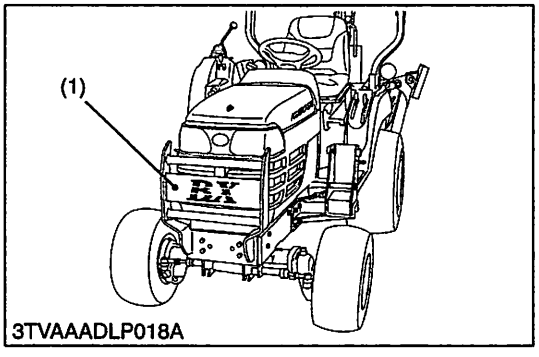
Side Frames

1. Remove the pins (2), (5).
2. Remove the side frames (1) from the boom assembly (3) and the boom cylinder (4).

(1) Side Frame
(2) Pin
(3) Boom Assembly
(4) Boom Cylinder
(5) Pin

W1015835



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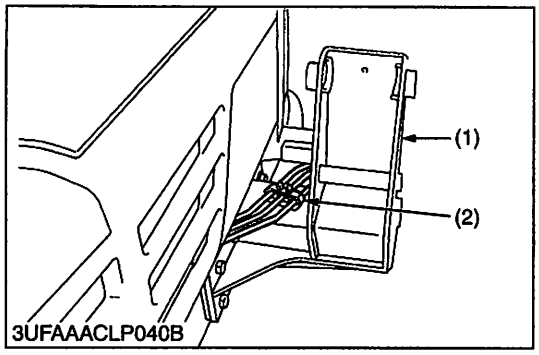
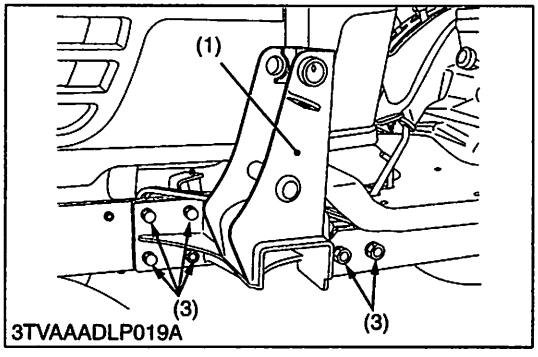
Front Guard

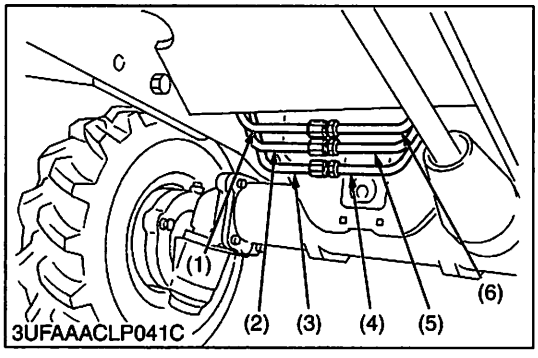
1. Remove the front guard (1).

(1) Front Guard

W1015954







Main Frames

1. Remove the tube clamp (2).
2. Remove the main frame mounting bolts and nuts (3) from the tractor body.
3. Remove the main frame (1).

Tightening torque	Main frame mounting bolt and nut	147 N·m 15.0 kgf·m 108 ft-lbs

(1) Main Frame
(2) Tube Clamp
(3) Main Frame Mounting Bolt and Nut

W1016042

Hydraulic Tubes

1. Remove the tube clamp.
2. Disconnect the return tube 2 (4) with the male coupler from the return tube 1 (3) as shown.
3. Disconnect the pump tube 2 (5) with the male coupler from the pump tube 1 (2) as shown.
4. Disconnect the delivery tube 2 (6) with the male coupler from the delivery tube 1 (1) as shown.

(1) Delivery Tube 1
(2) Pump Tube 2
(3) Return Tube 1
(4) Return Tube 2
(5) Pump Tube 2
(6) Delivery Tube 2

W1016403