WSM

WORKSHOP MANUAL
BACKHOE

BH70

Kubota

KiSC issued 10, 2015 A

TO THE READER

This Workshop Manual tells the servicing personnel about the mechanism, servicing and maintenance of the KUBOTA Backhoe BH70. It contains 4 parts: **"Information"**, **"General"**, **"Mechanism"** and **"Servicing"**.

■ **Information**

This section contains information below.

- Safety First
- Safety Decals
- Terminology
- Specification

■ **General**

This section contains information below.

- Backhoe Identification
- General Precautions
- Lubricants
- Tightening Torques
- Maintenance Check List
- Check and Maintenance
- Special Tools

■ **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 and Mounting
- 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.

October, 2015

KiSC issued 10, 2015 A

I INFORMATION

INFORMATION

CONTENTS

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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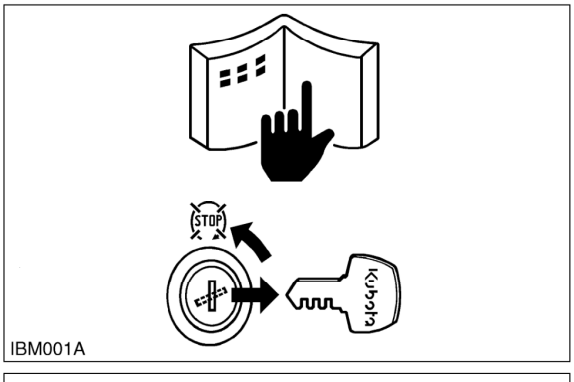

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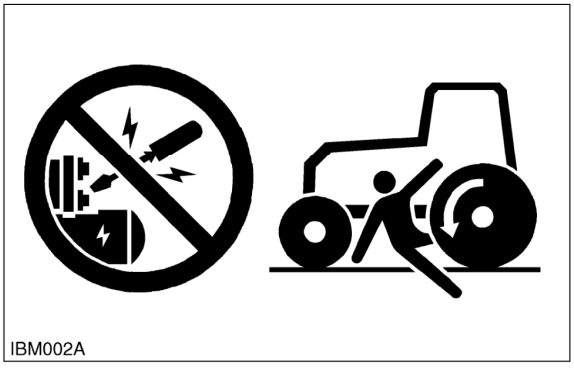
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BEFORE YOU START SERVICE

- 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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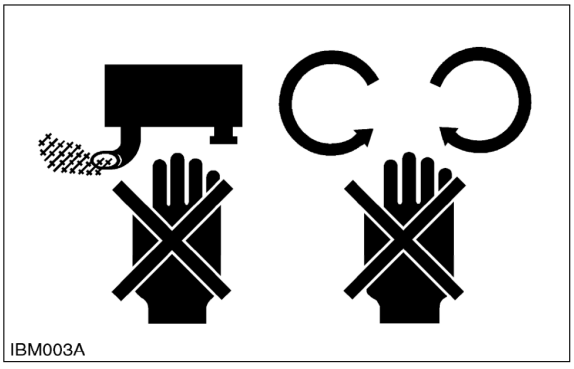
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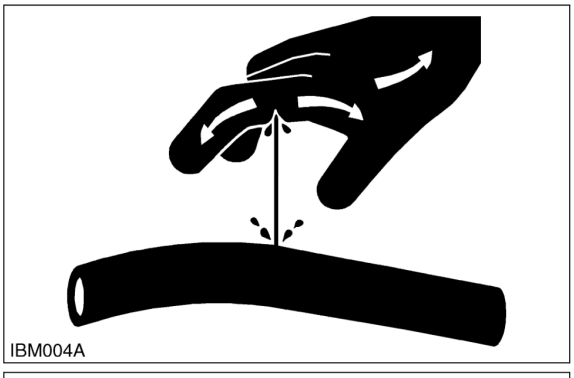
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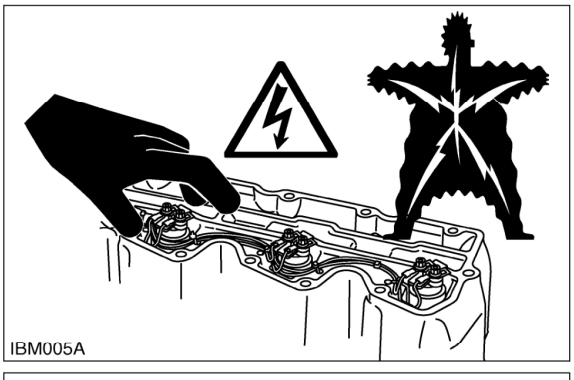
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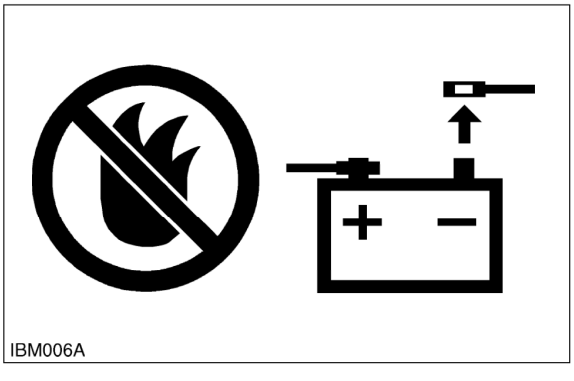
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OPERATE SAFELY

- 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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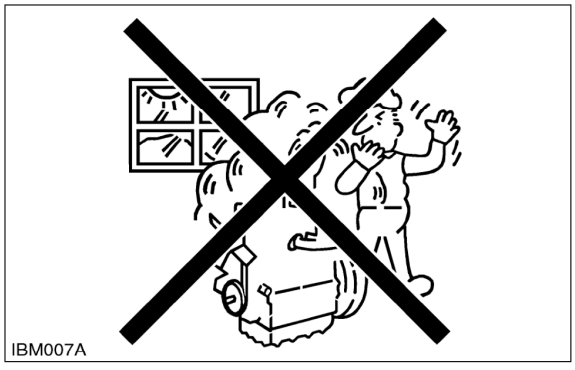
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KEEP A GOOD AIRFLOW IN THE WORK AREA

- 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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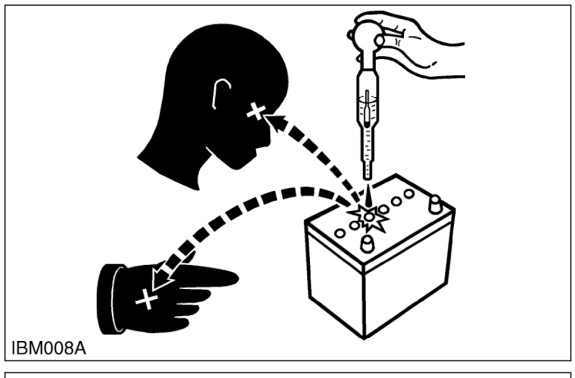
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PREVENT ACID BURNS

- 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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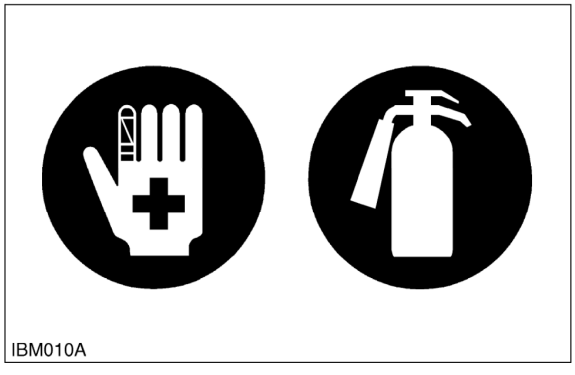
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PREPARE FOR EMERGENCIES

- 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. 75597-7528-0

1AJABAAAP064A

(2) Part No. 75595-7517-2 (Both side)

1AJABAAAP068A

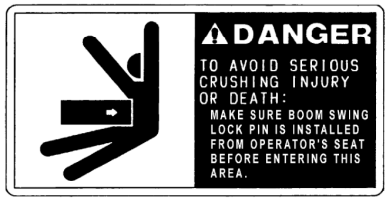
(3) Part No. 75595-7524-2

1AJABAAAP067A

(4) Part No. 7K501-7529-0

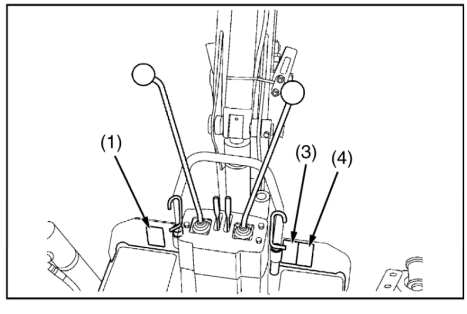
1AJABAEAP028A

(5) Part No. 75597-7517-3

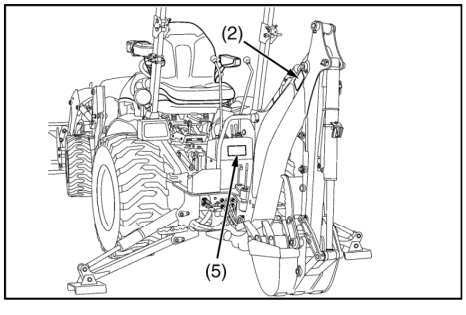


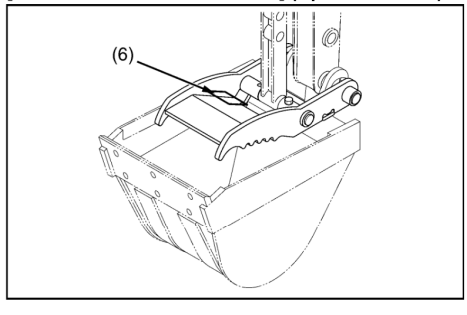
(6) Part No. 7K523-8452-1

1AGAJBJAP034E



[BH1976 MECHANICAL THUMB] (Option for BH70)





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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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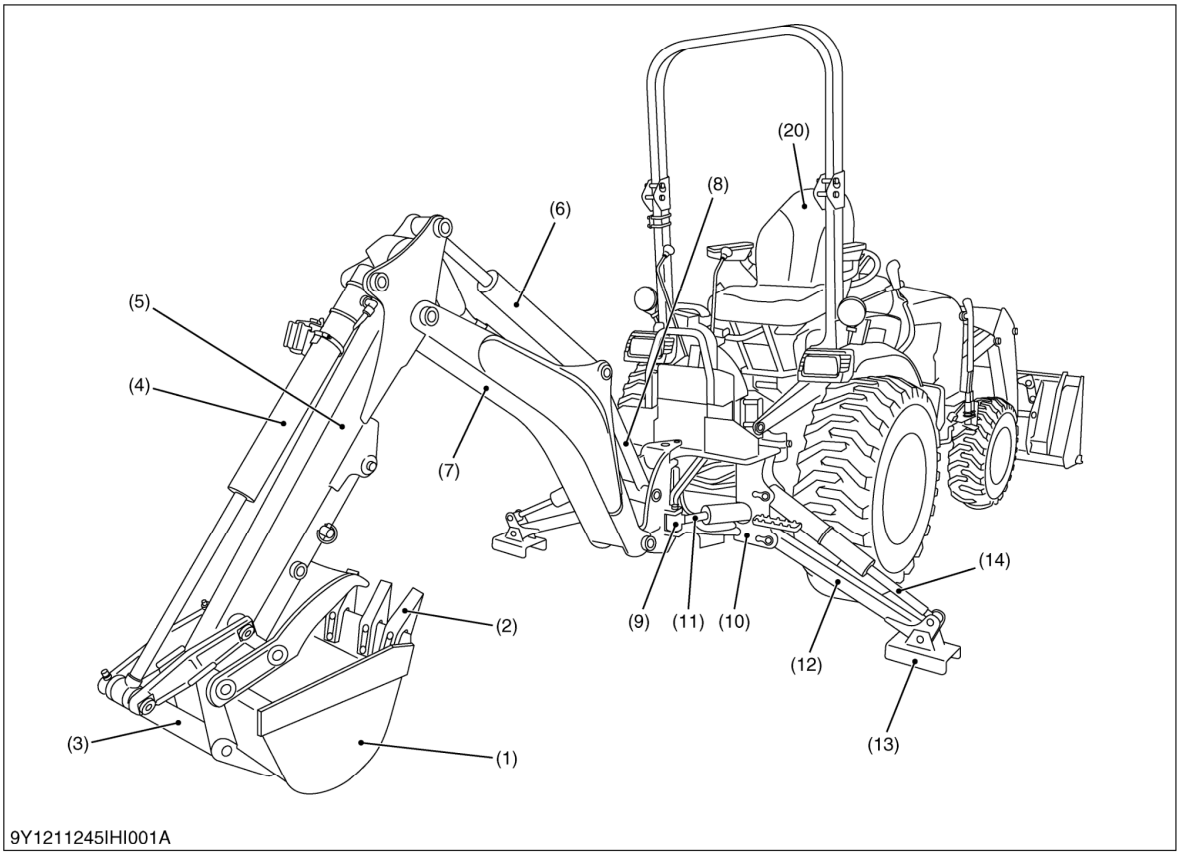
3. TERMINOLOGY



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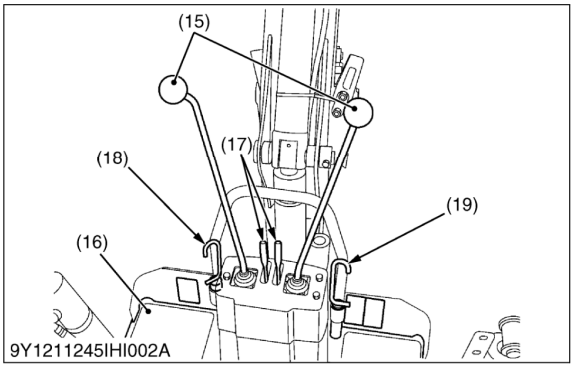

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(1) Backhoe Bucket
(2) Bucket Teeth
(3) Link, Bucket
(4) Cylinder, Bucket
(5) Dipperstick
(6) Cylinder, Dipperstick
(7) Boom
(8) Cylinder, Boom
(9) Swing Frame
(10) Main Frame
(11) Cylinder, Swing
(12) Stabilizer
(13) Stabilizer Pad
(14) Cylinder, Stabilizer
(15) Joystick Control
(16) Step
(17) Stabilizer Control
(18) Swing Lock Pin
(19) Boom Lock Pin
(20) Seat

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4. SPECIFICATIONS

■ Specifications

Digging force (Per SAE J49)

With bucket cylinder	12900 N (2900 lbf)
With dipperstick cylinder	7117 N (1600 lbf)

Cycle Time

Boom cylinder, extend	3.4 seconds
Boom cylinder, retract	2.7 seconds
Swing cylinder (RH, LH)	2.8 seconds, 2.5 seconds
Dipperstick cylinder, extend	4.5 seconds
Dipperstick cylinder, retract	3.5 seconds
Bucket cylinder, extend	3.6 seconds
Bucket cylinder, retract	2.8 seconds
Stabilizer cylinder, max. height to ground	2.4 seconds
Stabilizer cylinder, ground to max. height	2.1 seconds

Hydraulic cylinders

	Boom	Dipperstick	Bucket	Stabilizer	Swing
Rod diameter	3.0 cm (1.18 in.)	3.0 cm (1.18 in.)	3.0 cm (1.18 in.)	2.5 cm (0.98 in.)	3.0 cm (1.18 in.)
Cylinder bore	6.5 cm (2.56 in.)	6.5 cm (2.56 in.)	5.5 cm (2.17 in.)	6.0 cm (2.36 in.)	6.0 cm (2.36 in.)

Bucket Alternatives (Option)

	Width	SAE Truck Capacity	SAE Heaped Capacity	Number of Teeth	Weight
Trenching 10"	25.4 cm (10 in.)	0.017 m^3 (0.60 cu.ft.)	0.021 m^3 (0.74 cu.ft.)	3	29 kg (64 lbs)
Trenching 12"	30.5 cm (12 in.)	0.022 m^3 (0.77 cu.ft.)	0.027 m^3 (0.95 cu.ft.)	3	32 kg (71 lbs)
Trenching 16"	40.6 cm (16 in.)	0.031 m^3 (1.09 cu.ft.)	0.039 m^3 (1.38 cu.ft.)	4	38 kg (84 lbs)

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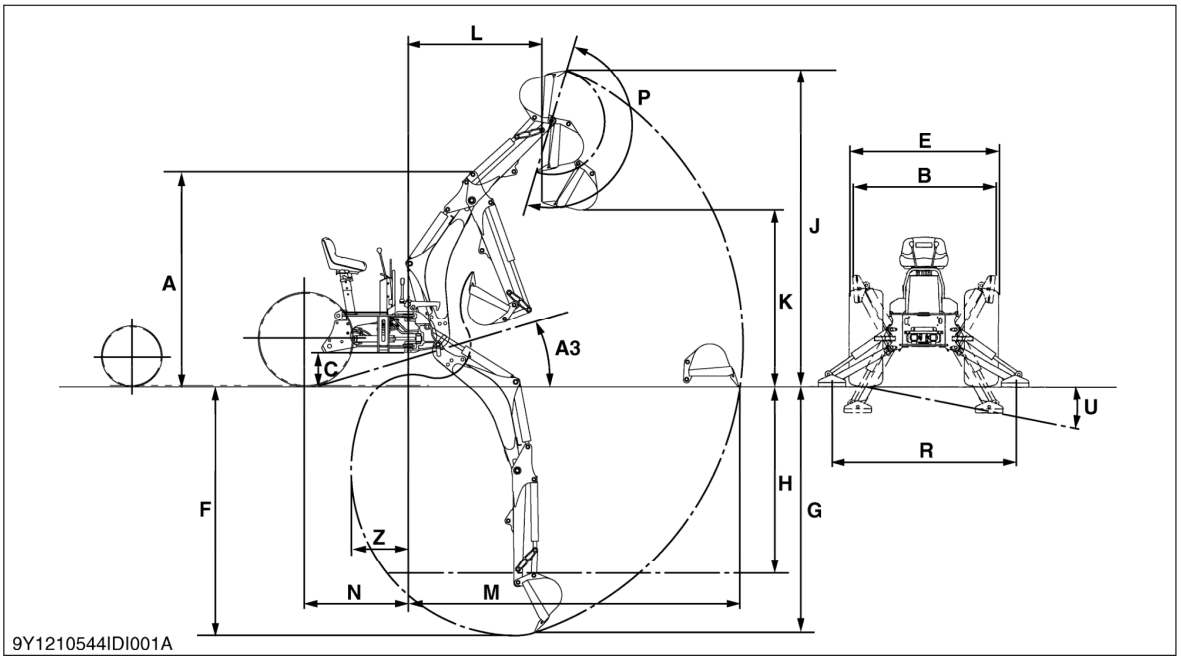
■ Dimensions



	Model	BH70
A	Transport Height	1856 mm (73.1 in.)
B	Stabilizer Spread Transport	1280 mm (50.4 in.)
C	Ground Clearance	262 mm (10.3 in.)
E	Overall Width	1260 mm (49.6 in.)
F	Maximum Digging Depth	2197 mm (86.5 in.)
G	Digging Depth 2 ft. Flat Bottom	2165 mm (85.2 in.)
H	Digging Depth 8 ft. Flat Bottom	1554 mm (61.2 in.)
J	Operating Height, Fully Raised	2869 mm (113.0 in.)
K	Loading Height	1474 mm (61.6 in.)
L	Loading Reach	1157 mm (45.6 in.)
M	Reach from Swing Pivot	2966 mm (116.8 in.)
N	Swing Pivot to Rear Axle Center Line	797 mm (31.4 in.)
P	Bucket Rotation	180 deg.
R	Stabilizer Spread-operating	1854 mm (73.0 in.)
A3	Angle of Departure per SAE J1234	18.2 deg.
U	Levelling Angle	11.8 deg.
Z	Undercut	510 mm (20.1 in.)
	Swing Arc	140 deg.

■ **NOTE**

- **The specifications are taken with KUBOTA B3030 tractor. (Tire size: Front 23 × 8.5-12, Rear 12 × 16.5)**

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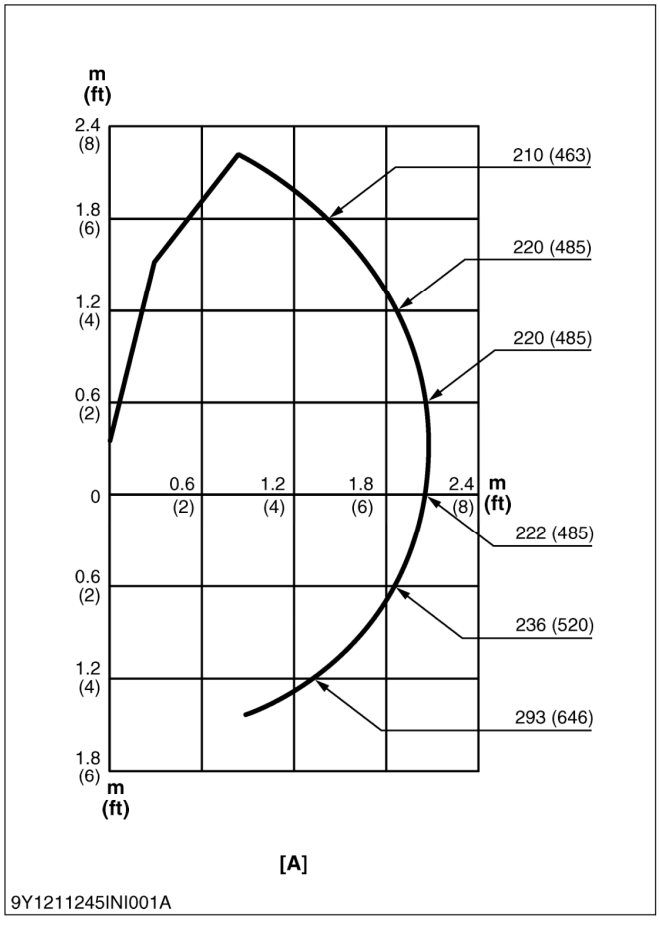
■ Lift Capacity (Per SAE J31)

Lift capacities shown are 87 % of maximum lift force, according to SAE definition.



[A] Rted Lift Capacity (Over End) - kg (lbs)

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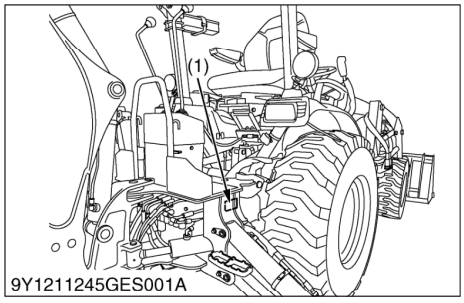
G GENERAL

GENERAL

CONTENTS

1. IDENTIFICATION



When contacting your local KUBOTA distributor, always specify backhoe serial number.

(1) Serial Number

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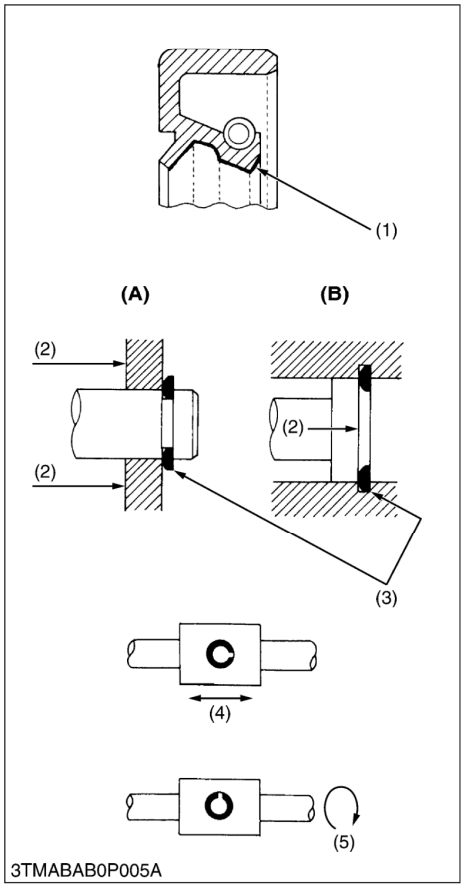
2. GENERAL PRECAUTIONS



- 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 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 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 system, use only specified fluid or its equivalent.

Place	Capacity	Lubricants
	B2301, B2601	
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 SUPER UDT Fluid: KUBOTA original transmission hydraulic fluid**

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4. TIGHTENING TORQUES

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

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[1] GENERAL USE SCREWS, BOLTS AND NUTS

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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[3] AMERICAN STANDARD SCREWS, BOLTS AND NUTS WITH

Grade	SAE GR.5			SAE GR.8		
Unit	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
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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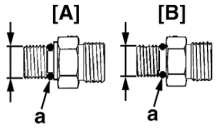
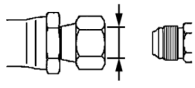
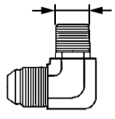
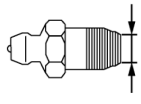
[5] HYDRAULIC FITTINGS

(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	25 to 28	2.6 to 2.8	19 to 20
		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
Grease Fitting		1/8-27	4.1 to 6.7	0.42 to 0.69	3.0 to 5.0
		1/4-18	4.1 to 6.7	0.42 to 0.69	3.0 to 5.0

■ **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 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
	Retighten the backhoe hardware to torque value	G-8
	Check the hydraulic hoses	G-8
	Checking the mounting pin side bars	G-8
Every 10 hours	Grease all grease fitting	G-9
Every 50 hours	Check the frame mounting bolts and nuts torque	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 stabilizers, and stop the engine.**

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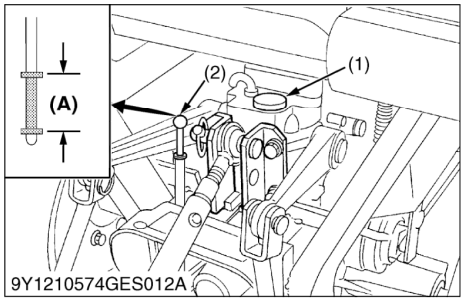
[1] CHECK POINTS OF EACH USE OR DAILY



Checking Transmission Fluid Level

1. Check that the tractor hydraulic fluid level.
2. To check the oil level, remove the dipstick (2), wipe it clean, replace it, and remove it again.
   Check that the oil level is between the two notches.
3. If the level is too low, replenish new oil.

■ **IMPORTANT**
- **Use only KUBOTA SUPER UDT fluid. Use of other oils may damage the transmission or hydraulic system.**
  See page G-3.

(1) Oil Inlet
(2) Dipstick
(A) Oil Level Acceptable Within This Range.

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Retightening Backhoe Hardware

1. Check all hardware before daily operation.
2. If the screws, bolts and nuts are loosen, retighten them to the specified torque.

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Checking Hydraulic Hoses

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

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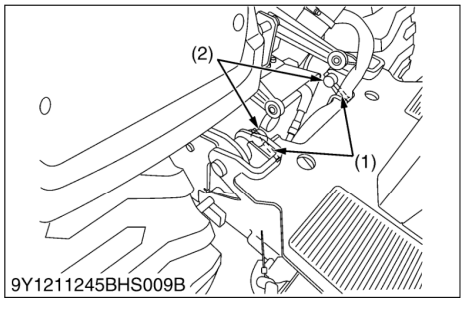

Checking The Mounting Pin Slide Bars

1. Check that the mounting pin slide bars are inserted into the lower hole of the main frame before operation.

(1) Mounting Pin
(2) Slide Bar

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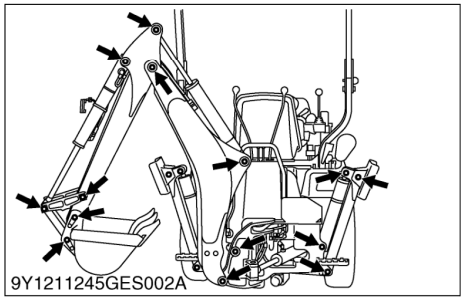
[2] CHECK POINTS OF EVERY 10 HOURS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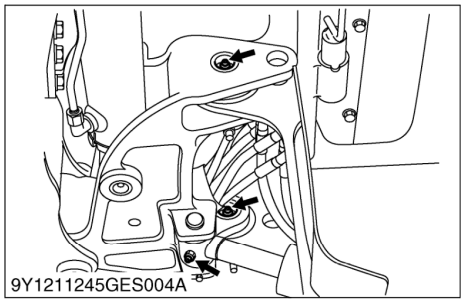
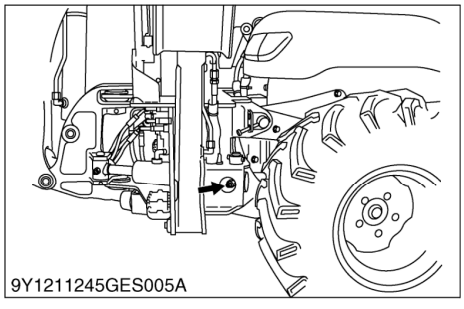

9Y1211245GES004A


9Y1211245GES005A

Greasing

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

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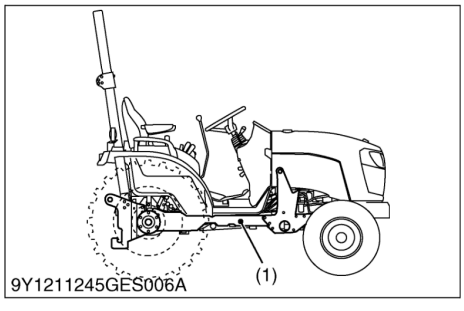
[3] CHECK POINTS OF EVERY 50 HOURS



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Checking Sub Frame Bolt Torque

CAUTION

- **Never operate backhoe and front loader with a loose sub frame.**
- **Any time bolts and nuts are loosened, retighten to specified torque.**
- **Check all bolts and nuts frequently and keep them tight.**

1. Check sub frame bolts and nuts regularly especially when new. If they are loose, tighten them as follows.

Tightening torque	Sub frame mounting bolt and nut (M16)	176 to 203 N·m 18.0 to 20.7 kgf·m 130 to 150 lbf·ft
	Sub frame mounting nut (M12)	90 N·m 9.2 kgf·m 66.4 lbf·ft

(1) Sub Frame

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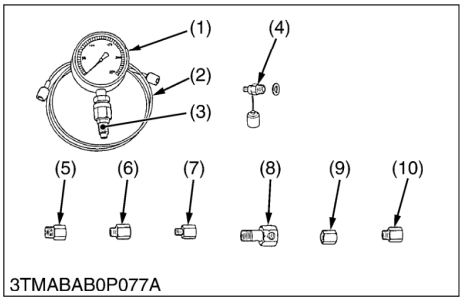
7. SPECIAL TOOLS



3TMABAB0P077A

Relief Valve Pressure Tester

Code No.

- 07916-50045

Application

- This allows easy measurement of relief set pressure.

(1) Gauge (07916-50322)
(2) Cable (07916-50331)
(3) Threaded Joint (07916-50401)
(4) Threaded Joint (07916-50341)
(5) Adaptor **B** (M18 × P1.5) (07916-50361)
(6) Adaptor **C** (PS3/8) (07916-50371)
(7) Adaptor **D** (PT1/8) (07916-50381)
(8) Adaptor **E** (PS3/8) (07916-50392)
(9) Adaptor **F** (PF1/2) (07916-62601)
(10) Adaptor **58** (PT1/4) (07916-52391)

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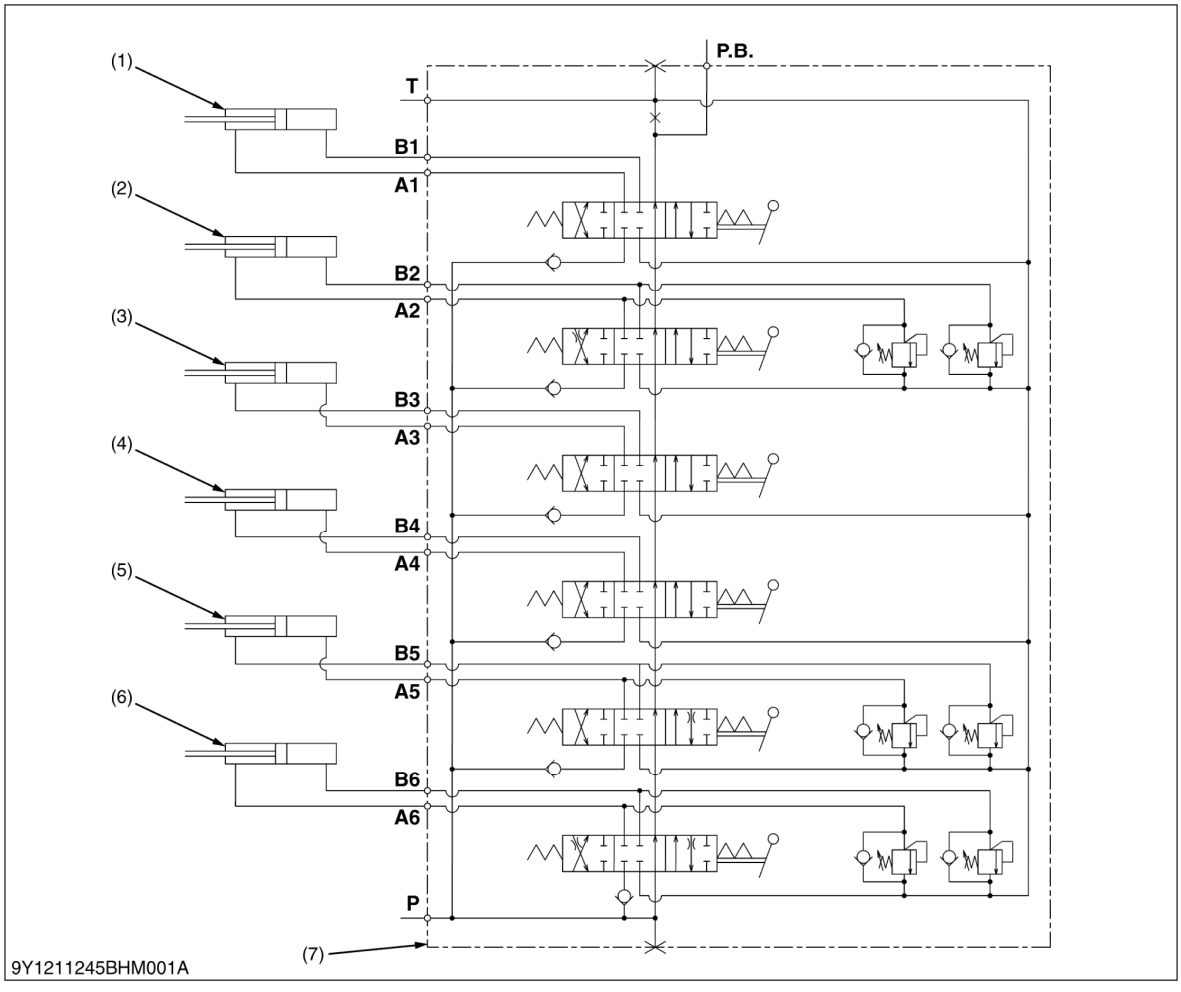
1 BACKHOE

MECHANISM

CONTENTS

1. HYDRAULIC CIRCUIT



(1) Bucket Cylinder
(2) Dipperstick Cylinder
(3) Stabilizer Cylinder RH
(4) Stabilizer Cylinder LH
(5) Boom Cylinder
(6) Swing Cylinder
(7) Backhoe Control Valve

A1: A1 Port
A2: A2 Port
A3: A3 Port
A4: A4 Port
A5: A5 Port
A6: A6 Port

B1: B1 Port
B2: B2 Port
B3: B3 Port
B4: B4 Port
B5: B5 Port
B6: B6 Port

P: Pump Port
T: Tank Port
P.B.: Power Beyond Port
A: From Hydraulic Pump (Approx. 14 L/min., 3.7 U.S.gals/min., 3.08 Imp.gals/min.)

To operate the backhoe, the hydraulic oil pressurized oil by the hydraulic pump flows pump from pump port **P** through six control valve (the bucket control valve, the dipperstick control valve, the stabilizer RH control valve, the stabilizer LH control valve, the boom control valve and the swing control valve) to **P.B.** port (to front loader control valve).

Since the relief valve is not equipped in the backhoe control valve, the main relief valve in the tractor operates.

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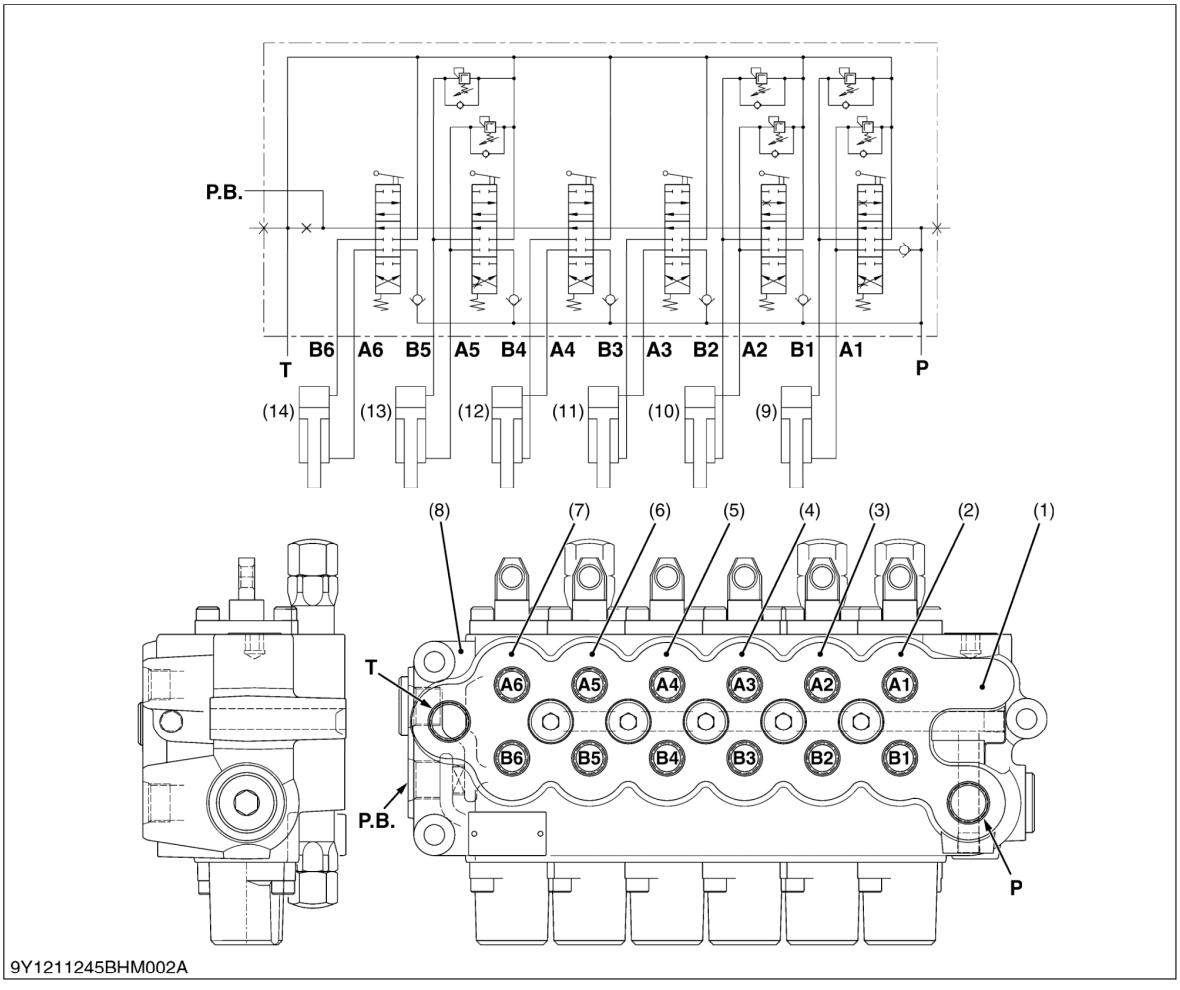
2. CONTROL VALVE

[1] STRUCTURE



(1) Inlet Section
(2) Swing Control Valve Section
(3) Boom Control Valve Section
(4) Stabilizer LH Control Valve Section
(5) Stabilizer RH Control Valve Section
(6) Dipperstick Control Valve Section
(7) Bucket Control Valve Section
(8) Outlet Section
(9) Swing Cylinder
(10) Boom Cylinder
(11) Stabilizer L Cylinder
(12) Stabilizer R Cylinder
(13) Dipperstick Cylinder
(14) Bucket Cylinder

P: Pump Port
T: Tank Port
P.B.: Power Beyond Port
A1: A1 Port
A2: A2 Port
A3: A3 Port
A4: A4 Port
A5: A5 Port
A6: A6 Port
B1: B1 Port
B2: B2 Port
B3: B3 Port
B4: B4 Port
B5: B5 Port
B6: B6 Port

(1) Inlet

This section has **P** and **T** ports.
The **P** port is connected to the **OUTLET** port of tractor connected by the quick coupler.
The **T** port is connected to the transaxle case by the quick coupler.

(2) Control Valve Section

The control valves are of 3 positions, 6 connections, no detent, spring center type. This valve has **A** and **B** ports and control oil flow to each cylinders.
These are consisting of a valve housing, spool, load check valve, overload relief valve, etc..

(3) Outlet Section

This section has **P.B.** port which is connected to the **INLET** port of hydraulic block or front loader control valve.

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