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

© KUBOTA Corporation 2015

PREVIEW - YOUFIXTHIS.COM

KiSC issued 10, 2015 A

Download full manual at youfixthis.com

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.**

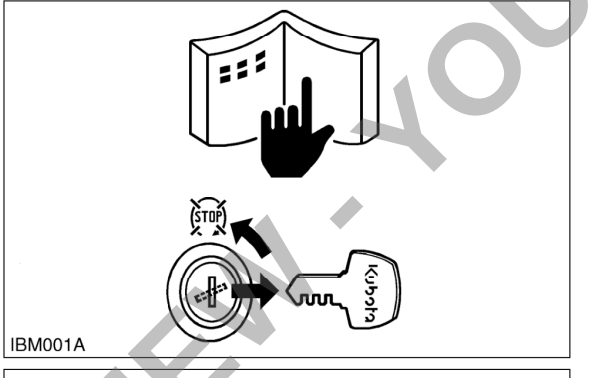
⚠ WARNING
- **Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**

⚠ 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.**

WSM000001INI0001US1



IBM001A


IBM002A

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.

WSM000001INI0010US0

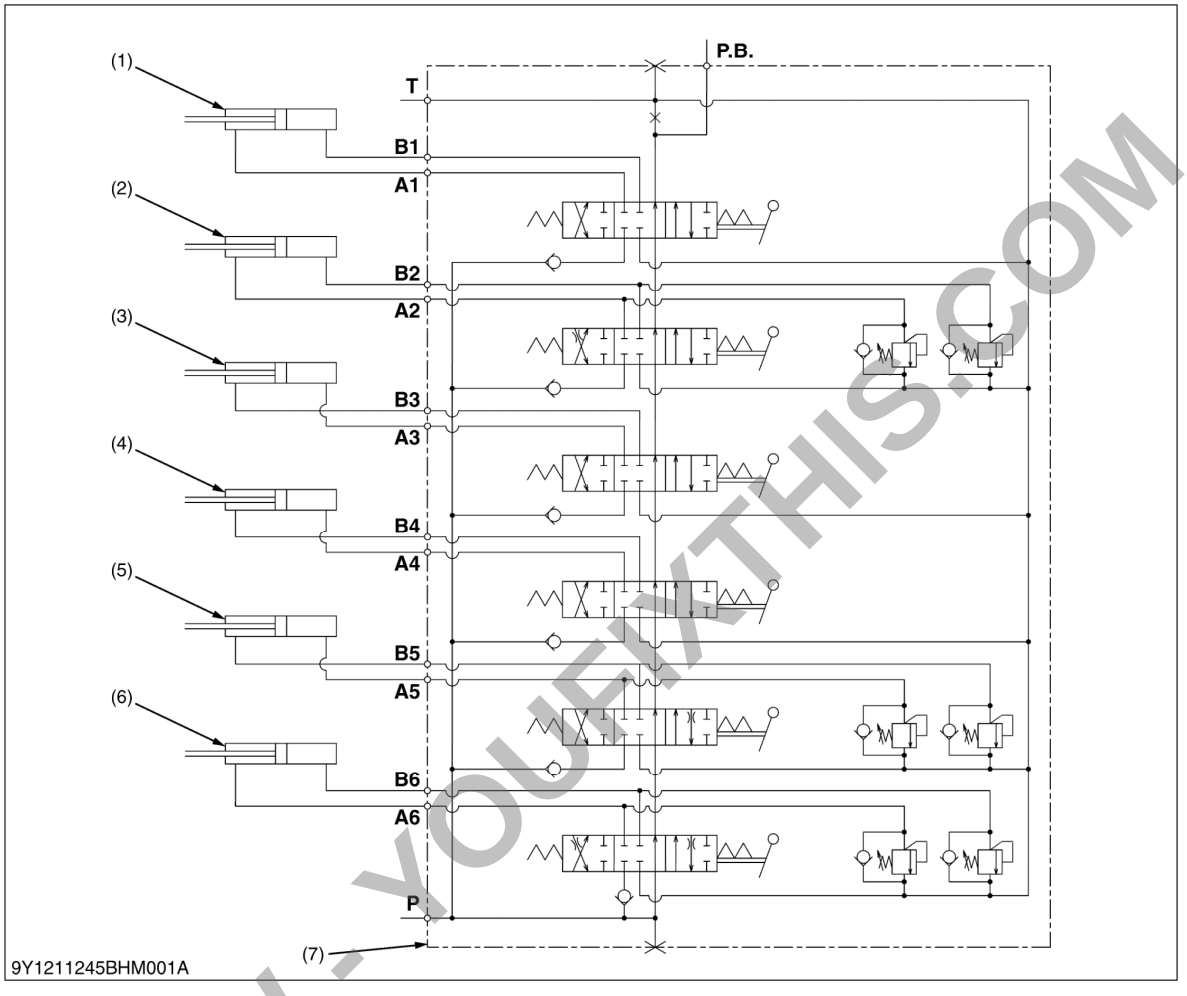
START SAFELY

- 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.

WSM000001INI0015US0

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

1. HYDRAULIC CIRCUIT



(1) Bucket Cylinder	**A1: A1 Port**	**B1: B1 Port**	**P: Pump Port**
(2) Dipperstick Cylinder	**A2: A2 Port**	**B2: B2 Port**	**T: Tank Port**
(3) Stabilizer Cylinder RH	**A3: A3 Port**	**B3: B3 Port**	**P.B.: Power Beyond Port**
(4) Stabilizer Cylinder LH	**A4: A4 Port**	**B4: B4 Port**	**A: From Hydraulic Pump (Approx. 14 L/min., 3.7 U.S.gals/min., 3.08 Imp.gals/min.)**
(5) Boom Cylinder	**A5: A5 Port**	**B5: B5 Port**	
(6) Swing Cylinder	**A6: A6 Port**	**B6: B6 Port**	
(7) Backhoe Control Valve			

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.

9Y1211346BHM0001US0

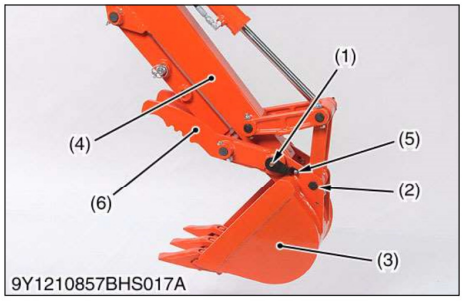
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

(3) Disassembling the Backhoe

■ **IMPORTANT**
- **When reassembling the pins, bushings and inner rings, apply slight coat of grease to them.**
- **When tightening the hydraulic hoses, refer to G-6.**

9Y1211346BHS0015US0

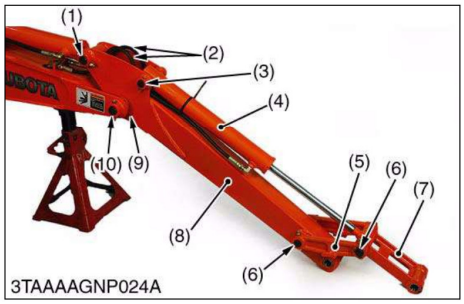


Bucket

1. Remove the bucket (3) from the dipper stick (4).

(1) Pin (25 × 129 mm)
(2) Pin (25 × 129 mm)
(3) Bucket
(4) Dipperstick
(5) Locking Nut
(6) Thumb (Option)

9Y1211346BHS0016US0

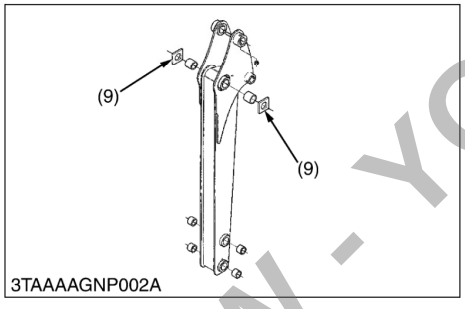


Dipperstick and Bucket Cylinder

1. Remove the pins (6) and remove the bucket link (7) and guide link (5).
2. Disconnect the hydraulic hoses (2) and remove the bucket cylinder (4).
3. Remove the pins (1), (10) and remove the dipperstick (8).

■ **NOTE**
- **To prevent from the damage of hydraulic hoses, set the wooden block etc. between dipperstick cylinder and boom.**

(When reassembling)
- Lock the locking nuts to setting bolts at position where the setting bolt may still be rotated.
- Replace the spacers (9) at their original position.



(1) Pin (30 × 142 mm)
(2) Hydraulic Hose
(3) Pin (25 × 137 mm)
(4) Bucket Cylinder
(5) Guide Link
(6) Pin (0.98 ×6.68 in.)
(7) Bucket Link
(8) Dipperstick
(9) Spacer
(10) Pin (1.18 × 7.96 in.)

9Y1211346BHS0017US0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

4. TIGHTENING TORQUES

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

WSM000001GEG0118US0

[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

WSM000001GEG0119US0

[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	–	–	–

WSM000001GEG0007US0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

1. TROUBLESHOOTING

Symptom	Probable Cause and Checking Procedure	Solution	Reference Page
All Functions Inoperative (Front Loader Is OK)	1. Pipe joint disconnected	Reconnect pipe joint	1-S11
All Functions Including Front Loader, Are Inoperative	1. Relief valve malfunctioning	Solution order 1. Check and adjust relief valve pressure 2. Repair or replace relief valve	1-S6
	2. Insufficient transmission fluid	Refill transmission fluid	G-8
	3. Hydraulic pump malfunctioning	Repair or replace hydraulic pump	–
	4. Oil filter clogged	Replace oil filter	–
Hydraulic Oil Overheats	1. Continuous operation against relief	Operate properly	–
	2. Transmission fluid improper brand and viscosity	Use proper fluid	G-3
	3. Relief valve malfunctioning	Solution order 1. Check and adjust relief valve pressure 2. Repair or replace relief valve	1-S6
	4. Insufficient transmission fluid	Refill transmission fluid	G-8
	5. Oil filter clogged	Replace Oil filter	–
Individual Cylinder Circuit Weak or Inoperative (Others OK)	1. Valve spool not moving fully	Adjust linkage	1-S7
	2. Valve spool stick (especially when warm)	Repair or replace valve	1-S17
	3. Overload relief valve mis-adjusted	Readjust overload relief valve	1-S6
	4. Piston seal ring worn or damaged	Replace piston seal ring	1-S18
	5. Cylinder tube worn or damaged	Replace cylinder tube	1-S17
	6. Oil leaks from joint	Repair or replace joint	1-S16
	7. Hydraulic hose damaged	Replace hydraulic hose	1-S16
	8. Dust in overload relief valve	Flush hydraulic line	1-S17
Excessive Cylinder Movement	1. Piston seal ring worn or damage	Replace piston seal ring	1-S18
	2. Excessive valve spool to bore tolerance	Replace valve	1-S17
	3. Hydraulic hose or fitting damaged	Replace hydraulic hose or fitting	1-S16
	4. Hydraulic hose or fitting loose	Retighten hydraulic hose or fitting	1-S16
	5. Cylinder tube worn or damaged	Replace cylinder tube	1-S17

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

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)

9Y1211346INI0004US0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

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

9Y1211346GEG0003US0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 8 of 69 pages

The full manual includes:

- All 69 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Kubota BH70 Workshop Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual