WSM

WORKSHOP MANUAL
BACKHOE

BH77

Kubota

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INFORMATION

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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.**

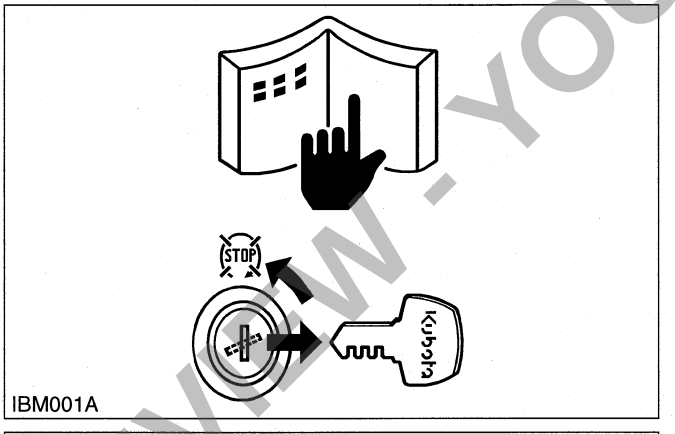
⚠ WARNING
- **Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**

⚠ 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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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.

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START SAFELY

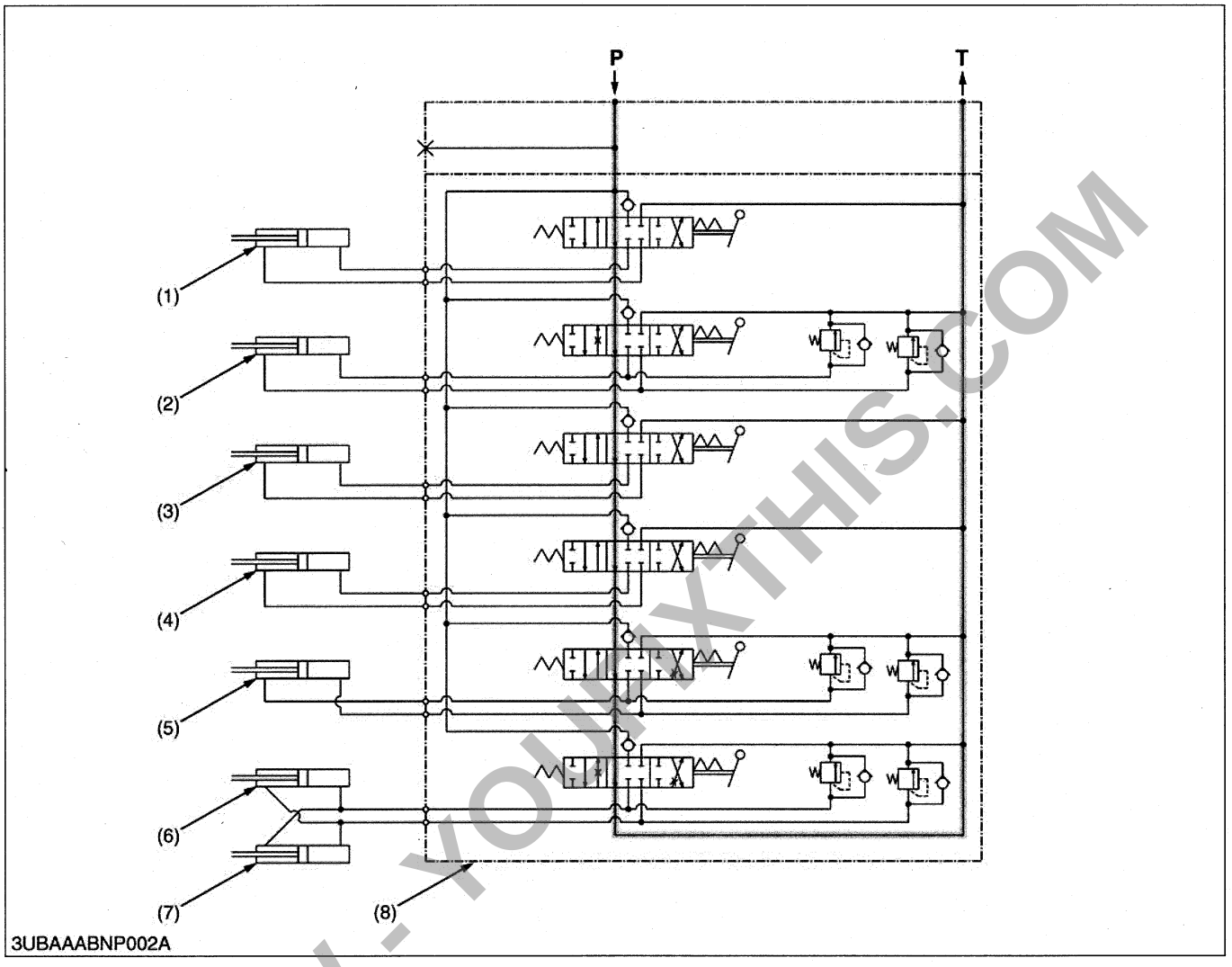
- Do not do the procedures below when you start the engine.
  - short across starter terminals
  - bypass the safety start switch
- Do not alter or remove any part of machine safety system.
- Before you start the engine, make sure that all shift levers are in neutral positions or in disengaged positions.
- Do not start the engine when you stay on the ground. Start the engine only from operator's seat.

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1. HYDRAULIC CIRCUIT



(1) Bucket Cylinder
(2) Dipperstick Cylinder
(3) Stabilizer Cylinder R.H.
(4) Stabilizer Cylinder L.H.
(5) Boom Cylinder
(6) Swing Cylinder L.H.
(7) Swing Cylinder R.H.
(8) Backhoe Control Valve

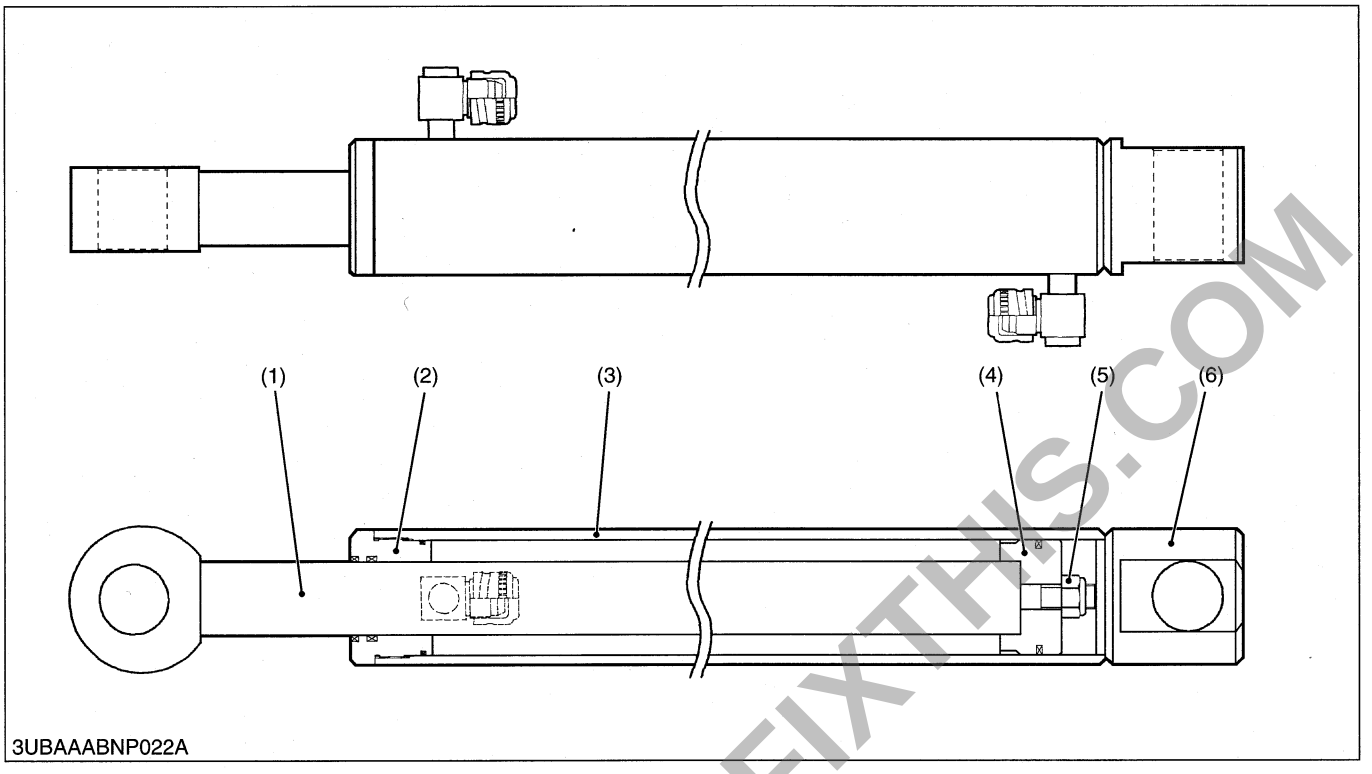
P : From Hydraulic Pump
T : To Tank Port

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3. HYDRAULIC CYLINDER



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

Bucket, dipperstick, boom, swing, and stabilizer cylinder consists of cylinder head (2), piston rod (1), cylinder tube (3), piston (4) and other parts as shown in the figure above.

They are single-rod double-acting cylinders in which the reciprocating motion of the piston is controlled by hydraulic force applied to both of its ends.

Cylinder Specifications

	Boom Cylinder mm (in.)	Dipperstick Cylinder mm (in.)	Bucket Cylinder mm (in.)	Stabilizer Cylinder mm (in.)	Swing Cylinder mm (in.)
Rod O.D.	35.0 (1.38)	35.0 (1.38)	35.0 (1.38)	30.0 (1.18)	25.0 (0.984)
Cylinder I.D.	70.0 (2.76)	70.0 (2.76)	55.0 (2.17)	65.0 (2.56)	50.0 (1.97)
Stroke	364 (14.3)	416 (16.4)	451 (17.8)	298 (11.7)	247 (9.72)

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3. TIGHTENING TORQUES

Tightening torques of screws, bolts and nuts on the table below are especially specified.
(For general use screws, bolts and nuts : See page G-4.)

[All Model]

Item	N·m	kgf·m	lbf·ft
Seat support mounting screw	78 to 90	7.9 to 9.2	58 to 66
Step mounting screw	48 to 55	4.9 to 5.7	36 to 41
Swing cylinder support mounting screw and nut	48 to 55	4.9 to 5.7	36 to 41
Swing cylinder head	353 to 431	36.0 to 44.0	261 to 318
Swing cylinder piston nut	309 to 377	31.5 to 38.5	228 to 278
Boom cylinder head	486 to 593	49.5 to 60.5	358 to 437
Boom cylinder piston nut	353 to 431	36.0 to 44.0	261 to 318
Dipperstick cylinder head	486 to 593	49.5 to 60.5	358 to 437
Dipperstick cylinder piston nut	353 to 431	36.0 to 44.0	261 to 318
Bucket cylinder head	371 to 453	37.8 to 46.2	274 to 334
Bucket cylinder piston nut	353 to 431	36.0 to 44.0	261 to 318
Stabilizer cylinder head	486 to 593	49.5 to 60.5	358 to 437
Stabilizer cylinder piston nut	309 to 377	31.5 to 38.5	228 to 278
Control valve mounting nut	16.7 to 17.6	1.70 to 1.80	12.3 to 13.0

[B3200, B3300SU]

Item	N·m	kgf·m	lbf·ft
Rear wheel mounting nut	167 to 191	17.0 to 19.5	123 to 141
Rear wheel mounting screw	196 to 225	20.0 to 23.0	145 to 166
Connecting plate mounting screw and nut M16	196 to 225	20.0 to 23.0	145 to 166
Sub frame mounting screw and M16	196 to 225	20.0 to 23.0	145 to 166
Sub frame mounting screw M12 Pitch 1.75	63 to 72	6.4 to 7.4	47 to 53

[B2630, B3030]

Item	N·m	kgf·m	lbf·ft
Rear wheel mounting nut	167 to 191	17.0 to 19.5	123 to 141
Rear wheel mounting screw	196 to 225	20.0 to 23.0	145 to 166
Coupler joint mounting screw	24 to 27	2.4 to 2.8	18 to 20
Connecting plate mounting screw and nut M16	196 to 225	20.0 to 23.0	145 to 166
Sub frame mounting screw and nut M16	196 to 225	20.0 to 23.0	145 to 166
Sub frame mounting screw M12 Pitch 1.75	63 to 72	6.4 to 7.4	47 to 53
Frame Bracket mounting screw M16	196 to 225	20.0 to 23.0	145 to 166

[L2800, L3400, L3700SU, L3200, L3800]

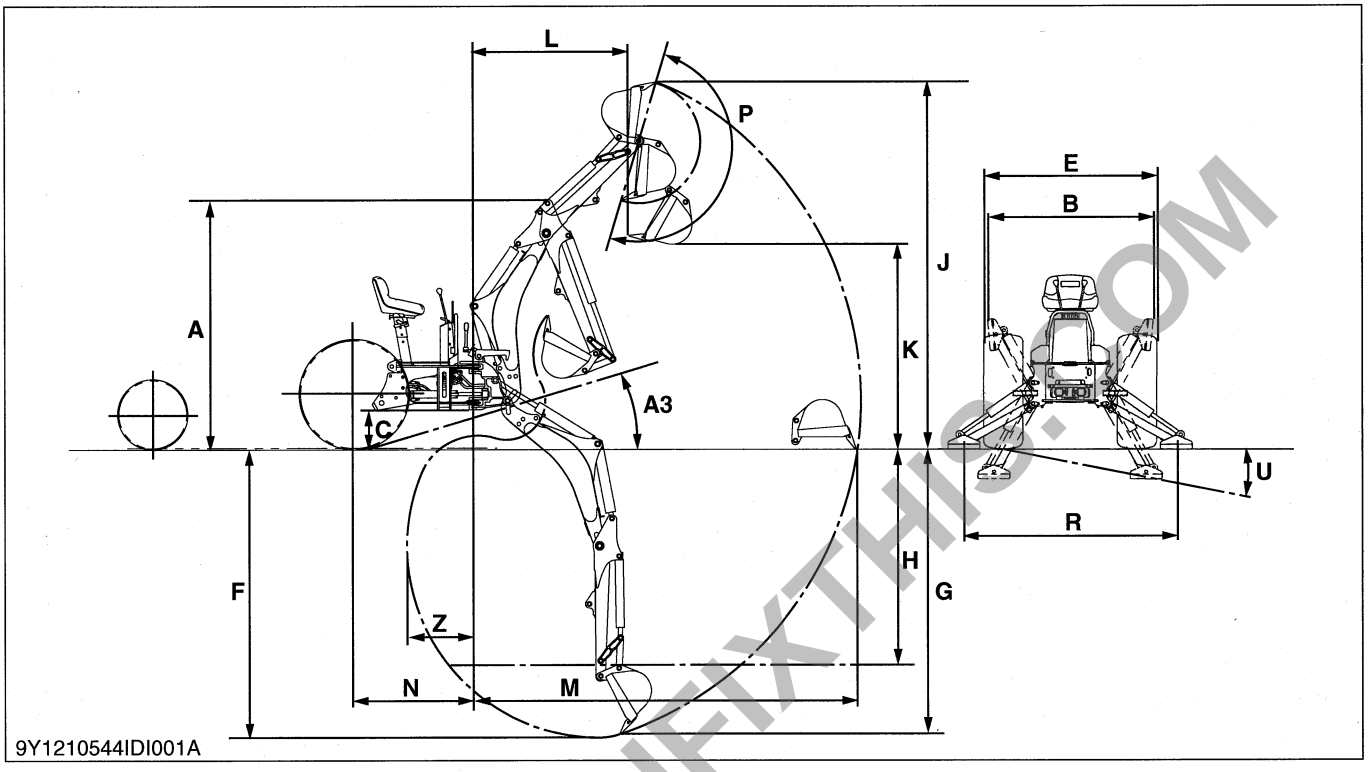
Item	N·m	kgf·m	lbf·ft
Rear wheel mounting screw and nut	215	22.0	160
Coupler joint mounting screw	24 to 27	2.4 to 2.8	18 to 20
Connecting plate mounting screw and nut M12	78 to 90	7.9 to 9.2	58 to 66
Frame bracket mounting screw M14	124 to 147	12.6 to 15.0	91.5 to 108
Sub frame mounting screw and nut M16	196 to 225	20.0 to 23.0	145 to 166
Sub frame mounting screw and nut M12	78 to 90	7.9 to 9.2	58 to 66

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4. SPECIFICATIONS

Operating Dimensions



	Model	BH77
A	Transport Height	2051 mm (80.75 in.)
B	Stabilizer Spread Transport	1315 mm (51.772 in.)
C	Ground Clearance	319 mm (12.6 in.)
E	Overall Width	1394 mm (54.88 in.)
F	Maximum Digging Depth	2378 mm (93.62 in.)
G	Digging Depth 2 ft. Flat Bottom	2331 mm (91.77 in.)
H	Digging Depth 8 ft. Flat Bottom	1758 mm (69.21 in.)
J	Operating Height, Fully Raised	3029 mm (119.3 in.)
K	Loading Height	1693 mm (66.65 in.)
L	Loading Reach	1290 mm (50.79 in.)
M	Reach from Swing Pivot	3165 mm (124.6 in.)
N	Swing Pivot to Rear Axle Center Line	976 mm (38.4 in.)
P	Bucket Rotation	180 deg.
R	Stabilizer Spread-Operation	1717 mm (67.60 in.)
A3	Angle of Departure per SAE J1234	17.3 deg.
U	Levelling angle	10.2 deg.
Z	Undercut	534 mm (21.0 in.)
	Swing Arc	180 deg.

■ **NOTE**

- **The specifications are taken with KUBOTA B3030 tractor. (Tire size : Front 7-12, Rear 12.4-16)**

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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, carry out 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-7, G-8
	Retighten the backhoe hardware to torque value	G-8
	Check the hydraulic hoses	G-8
Every 10 hours	Grease all grease nipples	G-9

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