GENERAL

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SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and decals 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.

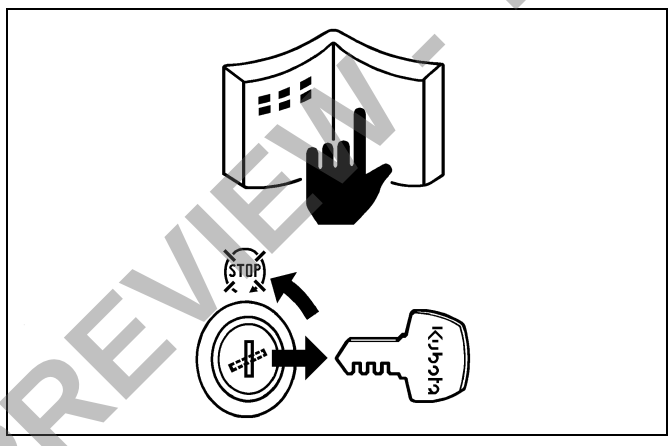
DANGER : Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

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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SPECIFICATIONS

Model			B1710D	B2110D	B2110DB	B2110HDB
PTO power			10.5 kW (14.3 PS)*	12.7 kW (17.3 PS)*		12.0 kW (16.3 PS)*
Engine	Maker		KUBOTA			
	Model		D905-D18	D1005-D18		
	Type		Indirect Injection. Vertical, water-cooled, 4-cycle diesel			
	Number of cylinder		3			
	Bore and stroke		72 × 73.6 mm (2.83 × 2.90 in.)	76 × 73.6 mm (2.99 × 2.90 in.).		
	Total displacement		898 cm^3 (54.8 cu.in.)	1001 cm^3 (61.1 cu.in.)		
	Engine power (ECE-R24)		12.1 kW (16.5 PS)	14.0 kW (19.0 PS)		
	Engine power (SAE gross)		13.4 kW (18.0 HP)	15.7 kW (21.0 HP)		
	Rated revolution		43.3 r/s (2600 rpm)			
	Maximum torque		51 N·m (37.6 ft-lbs)	59 N·m (43.5 ft-lbs)		
	Battery		12 V, RC : 79 min, CCA : 433 A			
	Starting system		Electric starting with cell starter 12 V, 1.4 kW			
	Lubricating system		Forced lubrication by trochoidal pump			
	Cooling system		Pressurized radiator, forced circulation with water pump			
	Fuel		Diesel fuel No. 2-D [above –10 °C (14 °F)], Diesel fuel No. 1 [below –10 °C (14 °F]			
Capacities	Fuel tank		24 L (6.3 U.S.gals., 5.3 Imp.gals.)			
	Engine crankcase (with filter)		3.0 L (3.2 U.S.qts., 2.6 Imp.qts.)			
	Engine coolant		3.8 L (4.0 U.S.qts., 3.3 Imp.qts.)			
	Transmission case		11.5 L (3.04 U.S.gals., 2.53 Imp.gals.)			12.5 L (3.30 U.S.gals., 2.75 Imp.gals.)
	Front axle case		3.7 L (3.9 U.S.qts., 3.3 Imp.qts.)		4.5 L (4.8 U.S.qts., 4.0 Imp.qts.)	
Tires	Front		6-12B	6-12		
	Rear		8-16	9.5-16		
Dimensions	Overall length (with 3P)		2378 mm (93.6 in.)	2405 mm (94.7 in.)		
	Overall width (min. tread)		990 mm (39.0 in.)	1040 mm (40.9 in.)		
	Overall height (with ROPS)		2246 mm (88.4 in.)	2268 mm (89.3 in.)		
	Overall height (top of steering wheel)		1283 mm (50.5 in.)	1305 mm (51.4 in.)		
	Wheel base		1500 mm (59.0 in.)			
	Minimum ground clearance		263 mm (10.4 in.)	285 mm (11.2 in.)		
	Tread	Front	830 mm (32.7 in.)			
		Rear	740 to 910 mm (29.1 to 35.8 in.)	795 to 1015 mm (31.3 to 40.0 in.)		
Weight (with ROPS)			658 kg (1451 lbs)	668 kg (1473 lbs)	678 kg (1495 lbs)	694 kg (1530 lbs)
Minimum turning radius		4WD with brake	2.1 m (6.9 feet)			
		Bi-speed turn without brake	–	2.1 m (6.9 feet)		
Clutch			Dry single plate			
Travelling system	Steering		Integral type power steering			
	Transmission		Gear shift, 6 forward and 2 reverse			HST with 2 speeds range gear shift
	Brake		Wet disk type			
	Differential		Bevel gears			
Hydraulic system	Hydraulic control system		Position control			
	Pump capacity		3P : 16.6 L/min. (4.4 U.S.gals./min., 3.7 Imp.gals./min.) Power steering : 9.8 L/min. (2.6 U.S.gals./min., 2.2 Imp.gals./min.)			
	Three point hitch		SAE Category I			
	Max. lift force	At lift points	750 kg (1655 lbs)			
		24 in. behind lift points	590 kg (1300 lbs)			
PTO system	Rear	PTO shaft	SAE 1-3/8, 6 splines			
		Revolution	1 speed (540 rpm at 2600 engine rpm)			
	Mid.	PTO shaft	USA No. 5 (KUBOTA 10-tooth) involute spline			
		Revolution	1 speed (2500 rpm at 2578 engine rpm)			

Note : * Manufacture's estimate

The company reserves the right to change the specifications without notice.

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7. MAINTENANCE

No.	Item		Period	Service Time Interval								Important	Reference page
				50	100	200	300	400	800	1 year	2 years		
1	Engine oil		Change	★	☆								G-12
2	Engine oil filter		Replace	★		☆							G-12
3	Transmission fluid		Change	★			☆						G-13
4	Hydraulic oil filter (for HST)		Replace	★			☆						G-14
5	Hydraulic oil filter		Replace	★			☆						G-14
6	Clutch		Adjust	★	☆								G-14
7	Greasing		–	☆									G-15
8	Engine start system		Check	☆									G-16
9	Wheel bolt torque		Check	☆									G-17
10	Battery condition		Check		☆							***	G-18
11	Air cleaner element [Single type]		Clean		☆							*	G-18
			Replace							☆			G-18
12	Air cleaner element [Double type]	Primary element	Clean		☆							*	G-18
			Replace							☆		**	G-18
		Secondary element	Replace							☆			G-18
13	Fuel filter element		Clean		☆								G-20
			Replace					☆					G-20
14	Fan belt		Adjust		☆								G-20
15	Brake		Adjust		☆								G-21
16	Parking brake		Adjust		☆								G-21
17	Fuel line		Check		☆								G-22
			Replace								☆		G-22
18	Radiator hose and clamp		Check			☆							G-23
			Replace								☆		G-23
19	Toe-in		Adjust			☆							G-23
20	Tramsmission oil strainer		Clean				☆						G-24
21	Front axle case oil		Change				☆						G-25
22	Front axle pivot		Adjust					☆					G-25
23	Engine valve clearance		Adjust						☆				1-S18
24	Cooling system		Flash								☆		G-27
25	Coolant		Change								☆		G-27
26	Fuel system		Bleed	Service as required									G-29
27	Clutch housing water		Drain										G-29
28	Fuse		Replace										G-30
29	Light bulb		Replace										G-30

■ IMPORTANT

- **The jobs indicated by ★ must be done after the first 50 hours of operation.**
- *** : Air cleaner should be cleaned more often in dusty conditions than in normal conditions.**
- **** : Every year or every 6 times of cleaning.**
- ***** : When the battery is used for less than 100 hours per year, check the fluid level annually.**

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1. TROUBLESHOOTING

Symptom	Probable Cause	Solution	Reference Page
Engine Does Not Start	• No fuel	Replenish fuel	–
	• Air in the fuel system	Bleed	G-29
	• Water in the fuel system	Change fuel and repair or replace fuel system	–
	• Fuel pipe clogged	Clean	–
	• Fuel filter clogged	Change	G-20
	• Excessively high viscosity of fuel or engine oil at low temperature	Use specified fuel or engine oil	G-8
	• Fuel with low cetane number	Use specified fuel	G-8
	• Fuel leak due to loose injection pipe retaining nut	Tighten retaining nut	1-S19
	• Incorrect injection timing	Adjust	1-S54
	• Fuel camshaft worn	Replace	1-S24
	• Injection nozzle clogged	Clean	1-S57
	• Injection pump malfunctioning	Repair or replace	1-S24
	• Seizure of crankshaft, camshaft, piston, cylinder or bearing	Repair or replace	1-S26, S28, S31
	• Compression leak from cylinder	Replace head gasket, tighten cylinder head screw, glow plug and nozzle holder	1-S19, S21
	• Improper valve timing	Correct or replace timing gear	1-S26
	• Piston ring and cylinder worn	Replace	1-S29
	• Excessive valve clearance	Adjust	1-S18
	• Battery discharged	Charge	G-19
(Starter Does Not Run)	• Starter malfunctioning	Repair or replace	9-S14
	• Main switch malfunctioning	Repair or replace	9-S8
	• Safety switches malfunctioning	Adjust or replace	9-S12
	• Wiring disconnected	Connect	–
Engine Revolution Is Not Smooth	• Fuel filter clogged or dirty	Change	G-20
	• Air cleaner clogged	Clean or replace	G-18
	• Fuel leak due to loose injection pipe retaining nut	Tighten retaining nut	1-S19
	• Injection pump malfunctioning	Repair or replace	1-S24
	• Incorrect nozzle injection pressure	Adjust	1-S56
	• Injection nozzle stuck or clogged	Repair or replace	1-S19, S57
	• Governor malfunctioning	Repair	1-S26
Either White or Blue Exhaust Gas Is Observed	• Excessive engine oil	Reduce to specified level	G-12
	• Piston ring and cylinder worn or stuck	Repair or replace	1-S29
	• Incorrect injection timing	Adjust	1-S54
	• Deficient compression	Adjust	1-S17

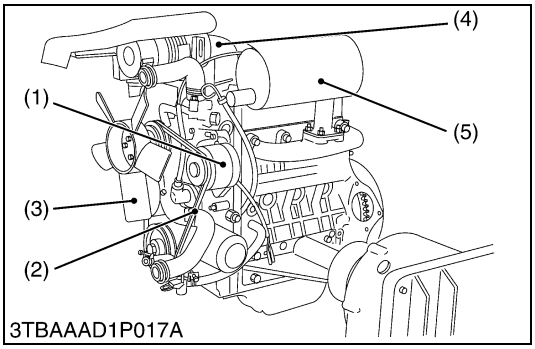
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(2) Disassembling and Assembling

(A) Cylinder Head and Valves



Alternator, Fan Belt and Muffler

1. Remove the alternator (1) and fan belt (2).
2. Remove the cooling fan (3) and fan pulley.
3. Remove the air cleaner assembly and stay.
4. Remove the muffler (5).

(When reassembling)

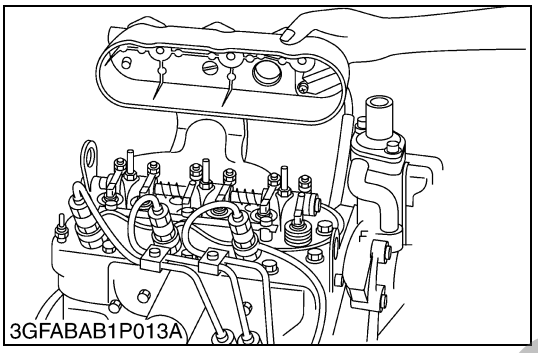
- Check to see that there are no cracks on the belt surface.

■ **IMPORTANT**

- **After reassembling the fan belt, be sure to adjust the fan belt tension. (See page G-20.)**

(1) Alternator
(2) Fan Belt
(3) Cooling Fan
(4) Air Cleaner
(5) Muffler

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Cylinder Head Cover and Injection Pipes

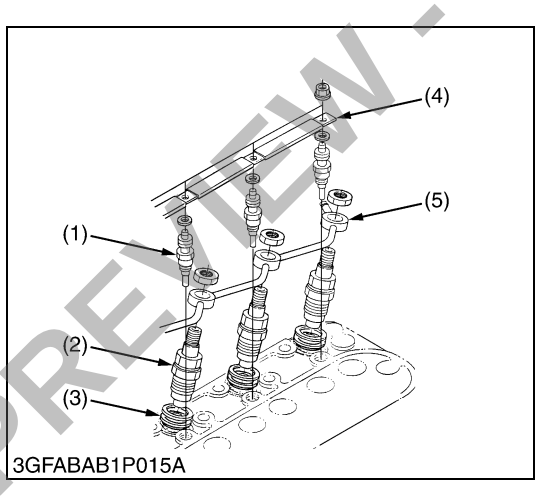
1. Remove the head cover cap nuts.
2. Remove the cylinder head cover.
3. Loosen the screws on the pipe clamps.
4. Detach the injection pipes.

(When reassembling)

- Check to see if the cylinder head cover gasket is not defective.
- Sent compressed air into the pipes to blow out dust. Then, reassemble the pipes in the reverse order.

Tightening torque	Cylinder head cover cap nut	6.9 to 8.8 N·m 0.7 to 0.9 kgf·m 5.1 to 6.5 ft-lbs
	Injection pipe retaining nut	24.5 to 34.3 N·m 2.5 to 3.5 kgf·m 18.1 to 25.3 ft-lbs

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Nozzle Holder Assembly and Glow Plug

1. Remove the overflow pipe assembly (5).
2. Remove the nozzle holder assemblies (2).
3. Remove the copper gasket and heat seal (3).
4. Remove the lead (4) from the glow plugs.
5. Remove the glow plugs (1).

(When reassembling)

- Replace the copper gasket and heat seal with new one.

Tightening torque	Nozzle holder assembly	49.0 to 68.6 N·m 5.0 to 7.0 kgf·m 36.2 to 50.6 ft-lbs
	Overflow pipe assembly retaining nut	19.6 to 24.5 N·m 2.0 to 2.5 kgf·m 14.5 to 18.1 ft-lbs
	Glow plug	7.8 to 14.7 N·m 0.8 to 1.5 kgf·m 5.8 to 10.8 ft-lbs

(1) Glow Plug
(2) Nozzle Holder Assembly
(3) Heat Seal
(4) Lead
(5) Overflow Pipe Assembly

W10198550

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6. TIGHTENING TORQUES

Screws, bolts and nuts whose tightening torques are not specified in this Workshop Manual should be tightened according to the table below.

[1] GENERAL USE SCREWS, BOLTS AND NUTS

Indication on top of bolt	⬡ 4 No-grade or 4T						⬡ 7 7T						⬡ 9 9T		
Material of bolt	SS400, S20C						S43C, S48C						SCr435, SCM435		
Material of opponent part	Ordinariness			Aluminum			Ordinariness			Aluminum			Ordinariness		
Unit / Diameter	N·m	kgf·m	ft-lbs	N·m	kgf·m	ft-lbs	N·m	kgf·m	ft-lbs	N·m	kgf·m	ft-lbs	N·m	kgf·m	ft-lbs
M6 (6 mm, 0.24 in.)	7.85 to 9.31	0.80 to 0.95	5.79 to 6.87	7.85 to 8.82	0.80 to 0.90	5.79 to 6.50	9.81 to 11.2	1.00 to 1.15	7.24 to 8.31	7.85 to 8.82	0.80 to 0.90	5.79 to 6.50	12.3 to 14.2	1.25 to 1.45	9.05 to 10.4
M8 (8 mm, 0.31 in.)	17.7 to 20.5	1.8 to 2.1	13.1 to 15.1	16.7 to 19.6	1.7 to 2.0	12.3 to 14.4	23.6 to 27.4	2.4 to 2.8	17.4 to 20.2	17.7 to 20.5	1.8 to 2.1	13.1 to 15.1	29.5 to 34.3	3.0 to 3.5	21.7 to 25.3
M10 (10 mm, 0.39 in.)	39.3 to 45.1	4.0 to 4.6	29.0 to 33.2	31.4 to 34.3	3.2 to 3.5	23.2 to 25.3	48.1 to 55.8	4.9 to 5.7	35.5 to 41.2	39.3 to 44.1	4.0 to 4.5	29.0 to 32.5	60.9 to 70.6	6.2 to 7.2	44.9 to 52.0
M12 (12 mm, 0.47 in.)	62.8 to 72.5	6.4 to 7.4	46.3 to 53.5	–	–	–	77.5 to 90.2	7.9 to 9.2	57.2 to 66.5	62.8 to 72.5	6.4 to 7.4	46.3 to 53.5	103 to 117	10.5 to 12.0	76.0 to 86.8
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

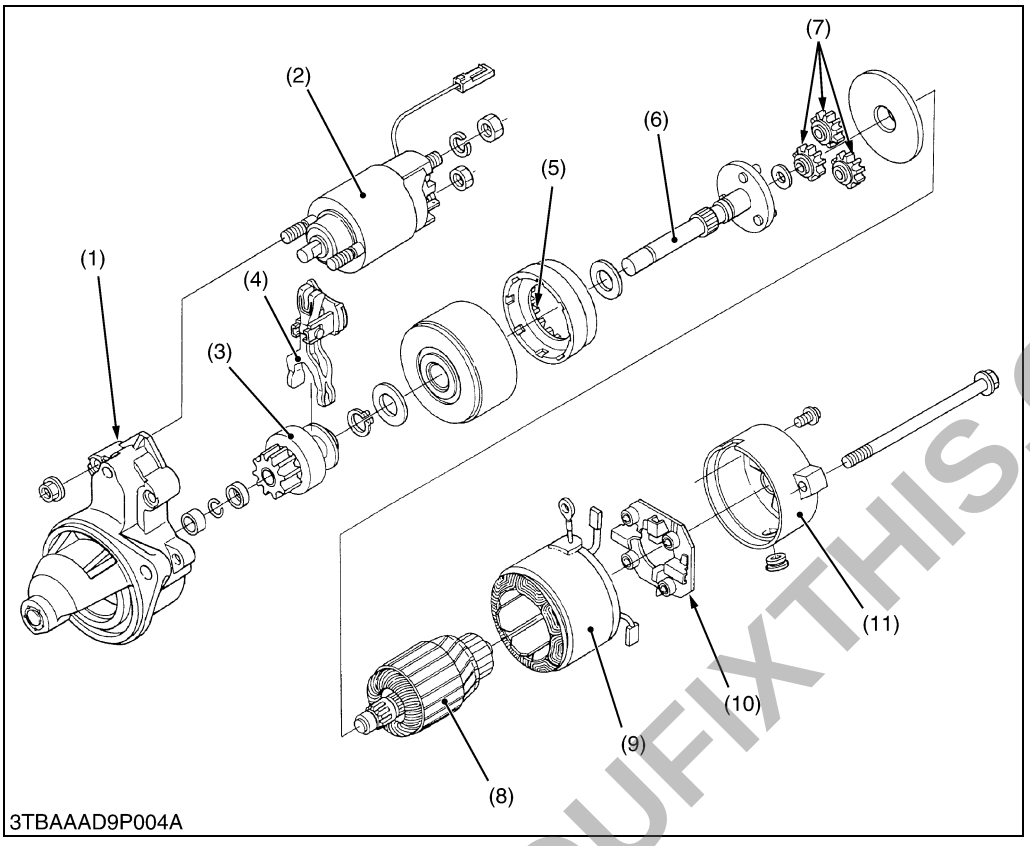
Material of opponent part	Ordinariness			Aluminum		
Unit / Diameter	N·m	kgf·m	ft-lbs	N·m	kgf·m	ft-lbs
M8 (8 mm, 0.31 in.)	11.8 to 15.6	1.2 to 1.6	8.68 to 11.5	8.82 to 11.8	0.90 to 1.2	6.51 to 8.67
M10 (10 mm, 0.39 in.)	24.6 to 31.3	2.5 to 3.2	18.1 to 23.1	19.7 to 25.4	2.0 to 2.6	14.5 to 18.8
M12 (12 mm, 0.47 in.)	29.5 to 49.0	3.0 to 5.0	21.7 to 36.1	31.4	3.2	23.1

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[1] STARTER



(1) Housing
(2) Magnetic Switch
(3) Overrunning Clutch
(4) Drive Lever
(5) Internal Gear
(6) Gear Shaft
(7) Planetary Gear
(8) Armature Shaft
(9) Yoke
(10) Brush Holder
(11) Rear End Frame

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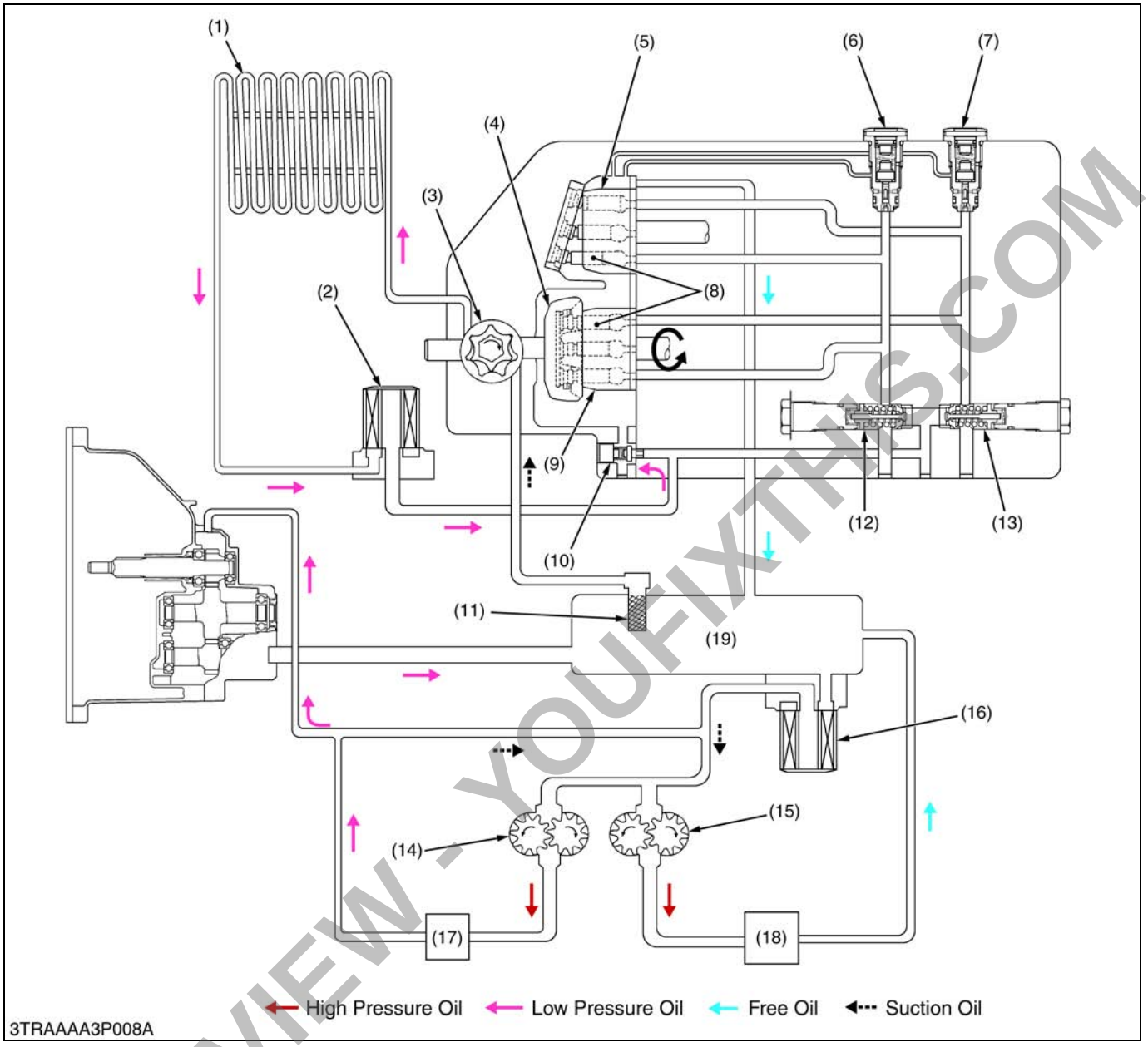
The starter is a reduction type.

The reduction system is used planetary gears, and the speed of gear shaft (6) is reduced to approximately one fifth of the armature shaft (8).

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(3) Oil Flow and Valves



(1) Oil Cooler
(2) Oil Filter (for HST)
(3) Charge Pump
(4) Swashplate
(5) Motor Cylinder Block
(6) Neutral Valve (Forward)
(7) Neutral Valve (Reverse)
(8) Piston
(9) Pump Cylinder Block
(10) Charge Relief Valve
(11) Oil Strainer
(12) Check and High Pressure Relief Valve (Forward)
(13) Check and High Pressure Relief Valve (Reverse)
(14) Hydraulic Pump (for Power Steering)
(15) Hydraulic Pump (for Main Circuit)
(16) Oil Filter
(17) Power Steering Controller
(18) Hydraulic Control Valve
(19) Transmission Case

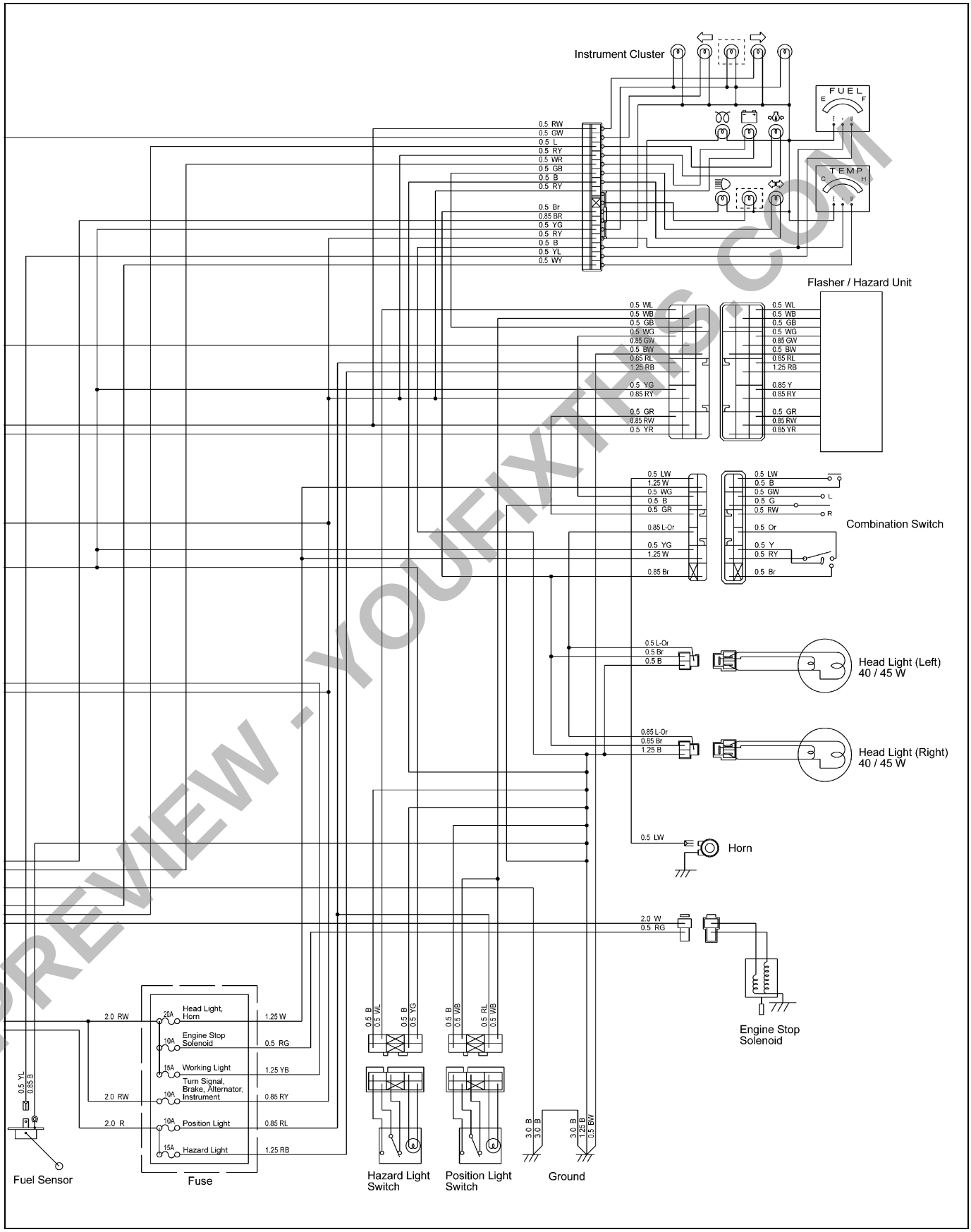
The pump and motor are joined in a closed hydraulic loop and most of oil circulates within the main oil circuit. A little oil lubricates and oozes out from the clearance between the moving parts of the case. Then oil in the main oil circuit of the HST needs to be supplied a want.

So all of oil fed from charge pump flow to hydrostatic transmission for charging and cooling.

The charge oil aids smooth operation of pistons for pump and motor. The charge oil passes through the oil cooler and oil filter cartridge to charge relief valve port. The rest of oil passes through the charge relief valve into the HST housing. And overflow oil from HST housing return to the transmission case.

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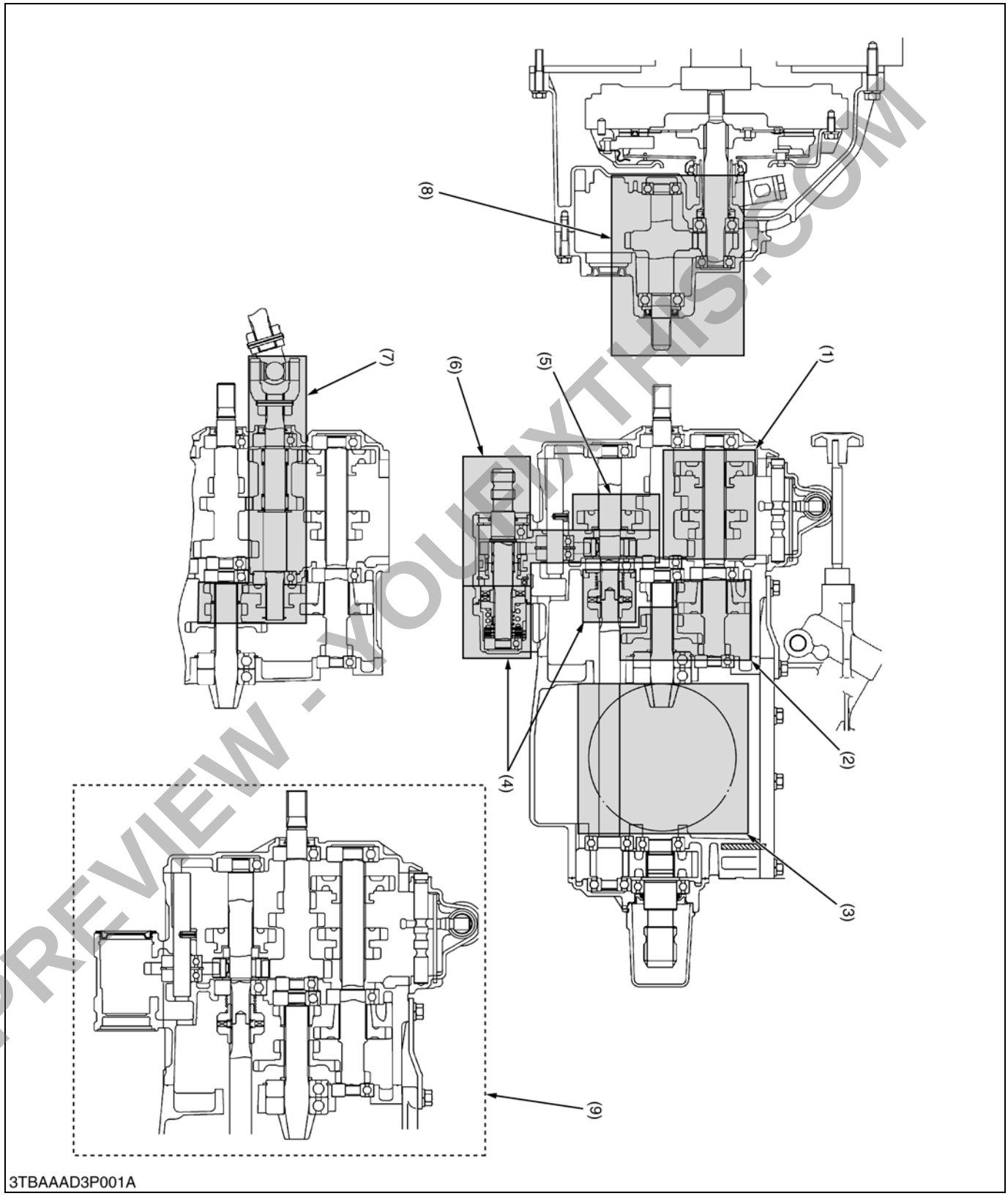


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1. STRUCTURE

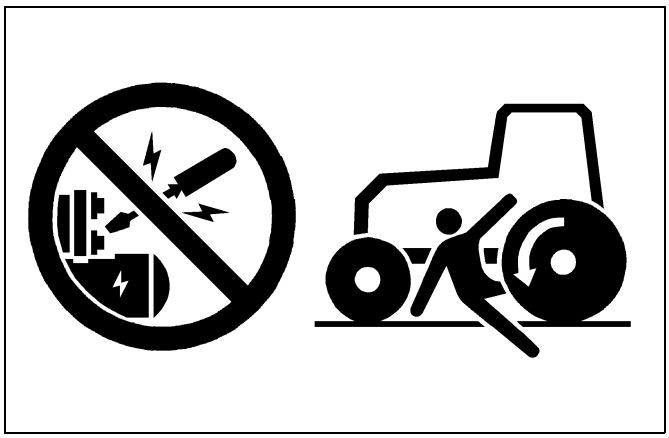
[1] B1710D, B2110D, B2110DB, B2410D, B2410DB



(1) Main Gear Shift Section
(2) Range Gear Shift Section
(3) Differential Gear Section
(4) One-way Clutch Section (Mid and Rear PTO)
(5) Rear PTO Shift Section
(6) Mid-PTO Shift Section
(7) Front Wheel Drive Section
(8) Clutch Housing Section
(9) Transmission Case for B2110DB, B2410DB (without Mid-PTO)

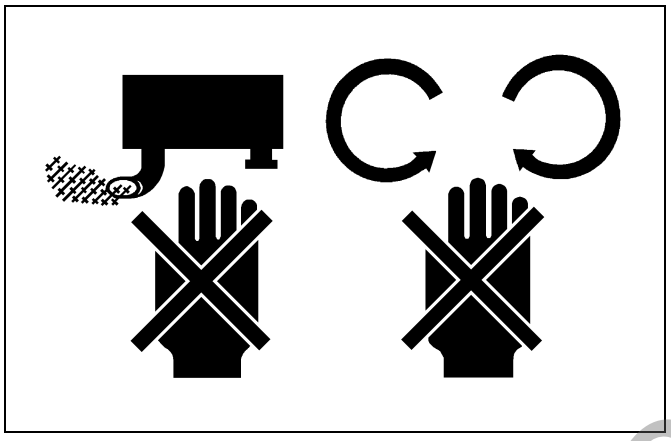
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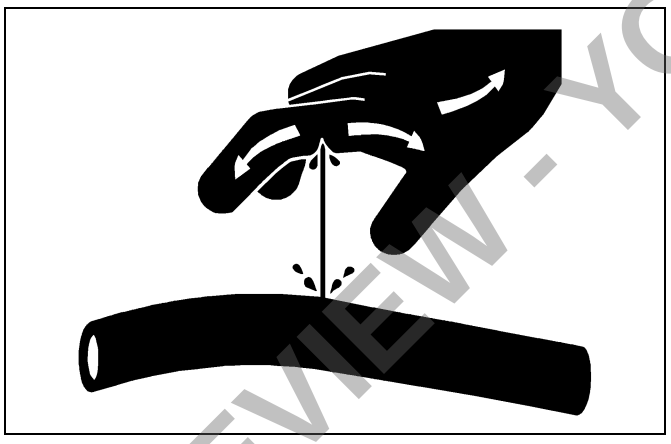
SAFETY STARTING

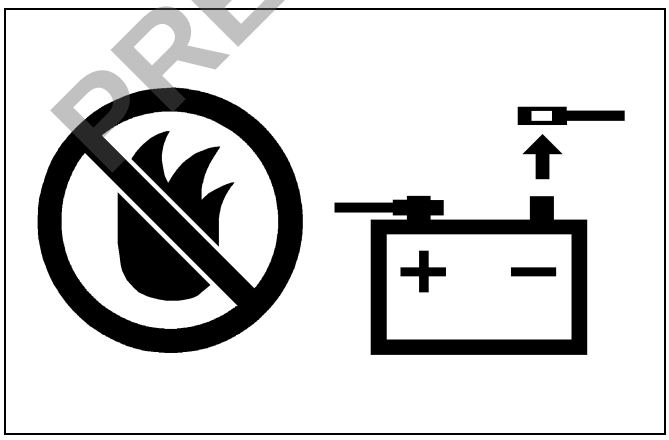
- Do not start the engine by shorting across starter terminals or bypassing the safety start switch.
- Do not alter or remove any part of machine safety system.
- Before starting the engine, make sure that all shift levers are in neutral positions or in disengaged positions.
- Never start the engine while standing on ground. Start the engine only from operator's seat.



SAFETY WORKING

- Do not work on the machine while under the influence of alcohol, medication, or other substances or while fatigued.
- Wear close fitting clothing and safety equipment appropriate to the job.
- Use tools appropriate to the work. Markshift tools, parts, and procedures are not recommended.
- When servicing is performed together by two or more persons, take care to perform all work safely.
- Do not work under the machine that is supported solely by a jack. Always support the machine by safety stands.
- Do not touch the rotating or hot parts while the engine is running.
- Never remove the radiator cap while the engine is running, or immediately after stopping. Otherwise, hot water will spout out from radiator. Only remove radiator cap when cool enough to touch with bare hands. Slowly loosen the cap to first stop to relieve pressure before removing completely.
- Escaping fluid (fuel or hydraulic oil) under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or fuel lines. Tighten all connections before applying pressure.





AVOID FIRES

- Fuel is extremely flammable and explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.
- To avoid sparks from an accidental short circuit, always disconnect the battery negative cable first and connect it last.
- Battery gas can explode. Keep sparks and open flame away from the top of battery, especially when charging the battery.
- Mark sure that no fuel has been spilled on the engine.

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10. TIRES

[1] TIRE PRESSURE

CAUTION

- **Do not attempt to mount a tire. This should be done by a qualified person with the proper equipment.**
- **Always maintain the correct tire pressure.**
  Do not inflate tires above the recommended pressure as shown below.

■ **IMPORTANT**

- **Do not use tires larger than specified.**
- **When you intend to mount different size of tires from equipped ones, consult your distributor about front drive gear ratio for detail.**
  Excessive wear of tires may occur due to improper gear ratio.

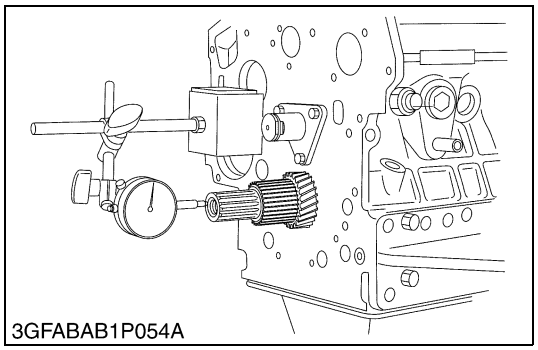
Type		Tractor model	Tire sizes	Inflation pressure
Farm	Front	B1710	6 – 12B, 4PR	200 kPa 2.0 kgf/cm^2 28 psi
		B2110	6 – 12, 4PR	
		B2410	6.00 – 12, 4PR	180 kPa 1.8 kgf/cm^2 26 psi
		B2710	7 – 12, 4PR	170 kPa 1.7 kgf/cm^2 24 psi
	Rear	B1710	8 – 16, 4PR	160 kPa 1.6 kgf/cm^2 23 psi
		B2110	9.5 – 16, 4PR	140 kPa 1.4 kgf/cm^2 20 psi
		B2410	9.5 – 18, 4PR	
		B2710	12.4 – 16, 4PR	110 kPa 1.1 kgf/cm^2 16 psi
Turf	Front	B1710 B2110	22 × 8.50 – 12, 4PR	160 kPa 1.6 kgf/cm^2 23 psi
		B2410	24 × 8.50 – 12, 4PR	
		B2710	23 × 8.50 – 12, 4PR	150 kPa 1.5 kgf/cm^2 22 psi
	Rear	B1710 B2110	31 × 13.5 – 15, 4PR	140 kPa 1.4 kgf/cm^2 20 psi
		B2410	315 / 75D – 15, 4PR	100 kPa 1.0 kgf/cm^2 14 psi
		B2710	13.6 – 16, 4PR	

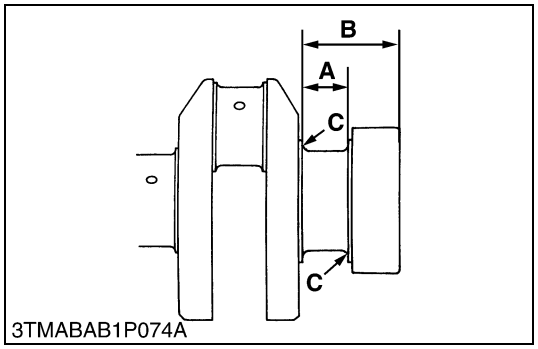
Though the tire pressure is factory-set to the prescribed level, it naturally drops slowly in the course of time. Thus, check it everyday and inflate as necessary.

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(D) Crankshaft


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Crankshaft Side Clearance

1. Set a dial indicator with its tip on the end of the crankshaft.
2. Measure the side clearance by moving the crankshaft to the front and rear.
3. If the measurement exceeds the allowable limit, replace the thrust bearings.
4. If the same size bearing is useless because of the crankshaft journal wear, replace it with an oversize one referring to the table and figure.

Crankshaft side clearance	Factory spec.	0.15 to 0.31 mm 0.0059 to 0.0122 in.
	Allowable limit	0.50 mm 0.0197 in.

(Reference)

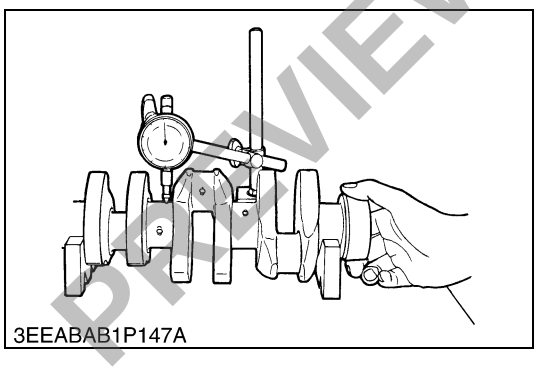
- Oversize thrust bearing

Oversize	Bearing	Code Number	Marking
0.2 mm 0.008 in.	Thrust bearing 1 02	15521-23951	020 OS
	Thrust bearing 2 02	19202-23971	020 OS
0.4 mm 0.016 in.	Thrust bearing 1 04	15521-23961	040 OS
	Thrust bearing 2 04	19202-23981	040 OS

- Oversize dimensions of crankshaft journal

Oversize / Dimension	0.2 mm 0.008 in.	0.4 mm 0.016 in.
A	28.20 to 28.25 mm 1.1102 to 1.1122 in.	28.40 to 28.45 mm 1.1181 to 1.1201 in.
B	51.5 to 51.7 mm 2.028 to 2.035 in.	51.6 to 51.8 mm 2.031 to 2.039 in.
C	2.3 to 2.7 mm radius 0.091 to 0.106 in. radius	2.3 to 3.7 mm radius 0.091 to 0.106 in. radius
The crankshaft journal must be fine-finished to higher than ∇∇∇∇ (0.8-S)		

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Crankshaft Alignment

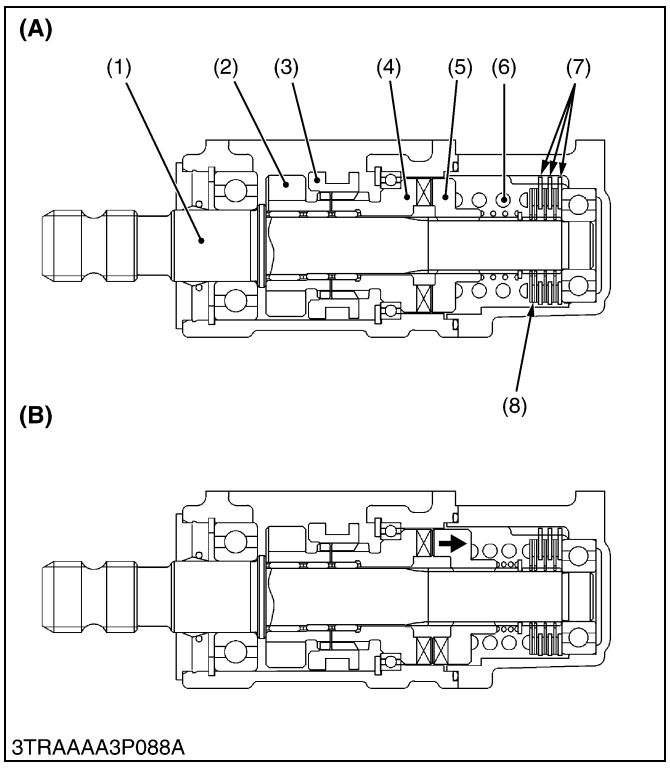
1. Support the crankshaft with V blocks on the surface plate at both end journals.
2. Set a dial indicator with its tip on the intermediate journal.
3. Measure the crankshaft alignment.
4. If the measurement exceeds the allowable limit, replace the crankshaft.

Crankshaft alignment	Allowable limit	0.02 mm 0.0008 in.

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■ One-way Clutch for Mid-PTO

It is composed of pair of clutch cams (4), (5) clutch springs, brake discs and pressure plate. When the mid-PTO shift lever is at ON position, one of the clutch cam (4) is connected to gear (2) by the shifter (3). The other clutch cam (5) is splined to the mid-PTO shaft (1).

This one-way clutch system also functions as same as rear PTO one-way clutch.

If the source of power is stopped by pressing the clutch pedal or disengaging the shifter (3), the clutch cam (5) will overrun and move to press the brake disc (8) by spring (6). As a result, rotation of mid-PTO shaft (1) is reduced or stopped.

(1) Mid-PTO Shaft
(2) Gear
(3) Shifter
(4) Clutch Cam
(5) Clutch Cam
(6) Spring
(7) Pressure Plate
(8) Brake Disc

(A) Mid-PTO Engaged
(B) Mid-PTO Disengaged

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1. SERVICING SPECIFICATIONS

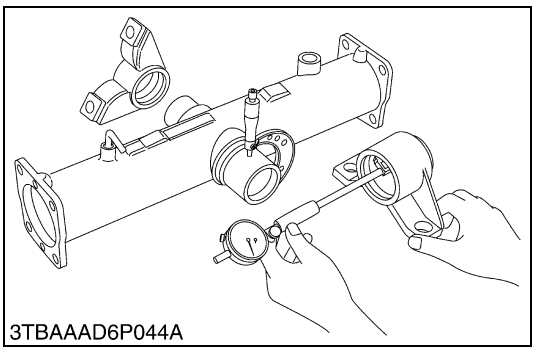
Bi-Speed Turn Model

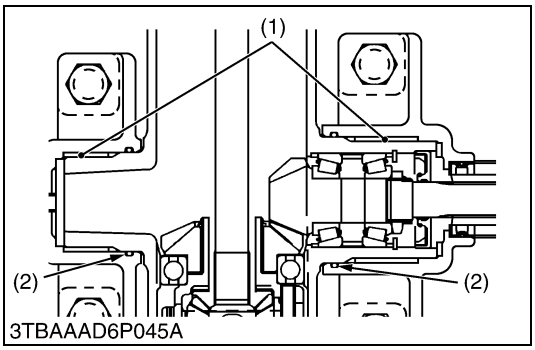
Item		Factory Specification	Allowable Limit
Bi-speed Turn Cable Outer (Bi-speed Turn Cable Support Side)	Distance **B** [B2110, B2410]	19 mm 0.75 in.	–
	[B2710]	16 mm 0.63 in.	–

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Clearance between Front Axle Case Bosses and Bracket Bushing

1. Measure the front axle case bosses O.D. with an outside micrometer.
2. Measure the bracket Bushing I.D. with a cylinder gauge, and calculate the clearance.
3. If the clearance exceeds the allowable limit, replace the bracket bushing.
4. If the clearance still exceeds the allowable limit, replace the front axle case.

Clearance between front axle case boss (front) and bracket bushing (front)	Factory spec.	0.125 to 0.280 mm 0.00492 to 0.01102 in.
	Allowable limit	0.45 mm 0.0177 in.

Front axle case boss (front) O.D.	Factory spec.	49.950 to 49.975 mm 1.96653 to 1.96751 in.
Bracket bushing (front) I.D.	Factory spec.	50.100 to 50.230 mm 1.97243 to 1.97755 in.

Clearance between front axle case boss (rear) and bracket bushing (rear)	Factory spec.	0.090 to 0.250 mm 0.00354 to 0.00984 in.
	Allowable limit	0.45 mm 0.0177 in.

Front axle case boss (rear) O.D.	Factory spec.	64.940 to 64.970 mm 2.55669 to 2.55787 in.
Bracket bushing (rear) I.D.	Factory spec.	65.060 to 65.190 mm 2.56141 to 2.56653 in.

■ **Press-fitting Bushing**

- When replacing the bushings (1), press-fit it until bushing contact to inside of front axle case.
- Apply grease to the O-rings (2) and take care not to damage it.

■ **NOTE**

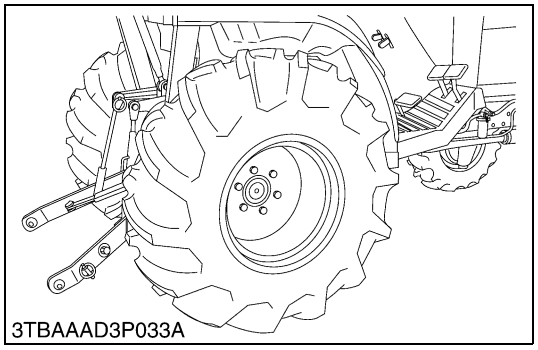
- **After replacing the bushing, be sure to adjust the front axle rocking force. (See page 6-S5.)**

(1) Bushing (2) O-ring

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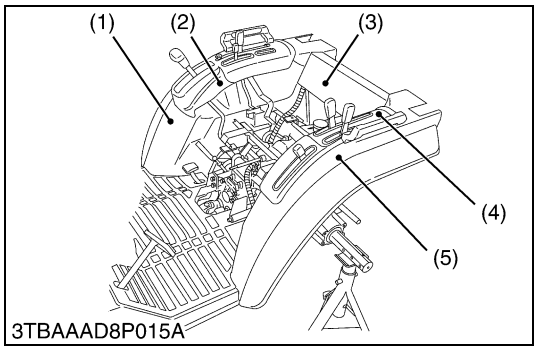
Rear Wheels (B2710)

1. Place hydraulic jack under the main frame rear side and jack up the tractor.
2. Remove the tires.
3. After removing the tires, support the rear axles by stands.

(When reassembling)

Tightening torque	Rear wheel mounting screw and nut	108 to 125 N·m 11.0 to 12.8 kgf·m 79.6 to 92.6 ft-lbs

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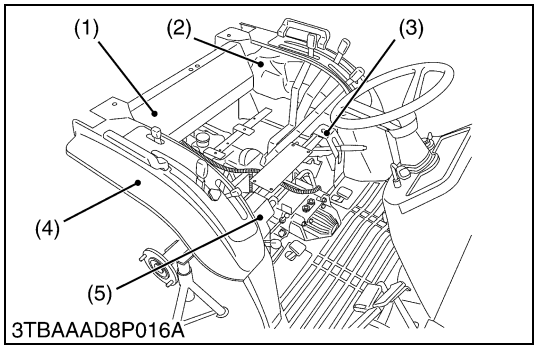
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Fenders (B1710, B2110, B2410)

1. Remove the lever grips and remove the lever guides (2), (4).
2. Remove the fenders (1), (5) and fender stay (3).

(1) Fender RH
(2) Lever Guide RH
(3) Fender Stay
(4) Lever Guide LH
(5) Fender LH

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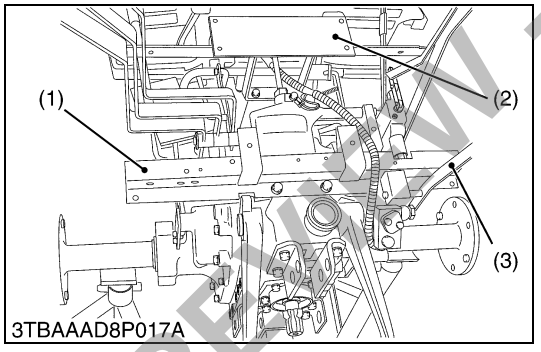
3TBAAAD8P016A

Fenders (B2710)

1. Remove the all lever grips.
2. Remove the lever guide RH (5) and LH (3).
3. Remove the fenders (2), (4) and fender stay (1).

(1) Fender Stay
(2) Fender LH
(3) Lever Guide LH
(4) Fender RH
(5) Lever Guide RH

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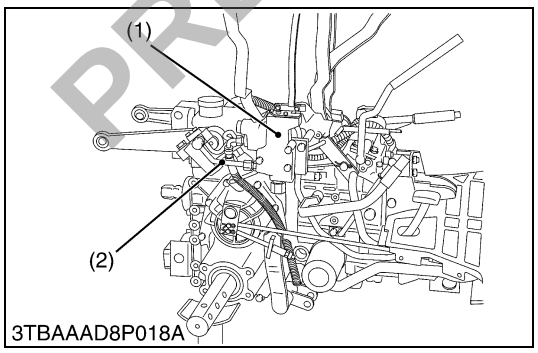
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Seat Stays and Bi-speed Turn Lever

1. Disconnect the bi-speed turn lever (3) from the seat stay (rear) (1). (If equipped)
2. Remove the seat stays (1), (2).

(1) Seat Stay, Rear
(2) Seat Stay, Front
(3) Bi-speed Turn Lever

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3TBAAAD8P018A

Remote Control Valve

1. Disconnect the hydraulic pipe (2).
2. Remove the remote control valve (1).

(When reassembling)

- Take care not to damage the O-ring.

Tightening torque	Hydraulic pipe joint bolt	34 to 39 N·m 3.47 to 3.98 kgf·m 25.1 to 28.8 ft-lbs

(1) Remote Control Valve
(2) Hydraulic Pipe

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