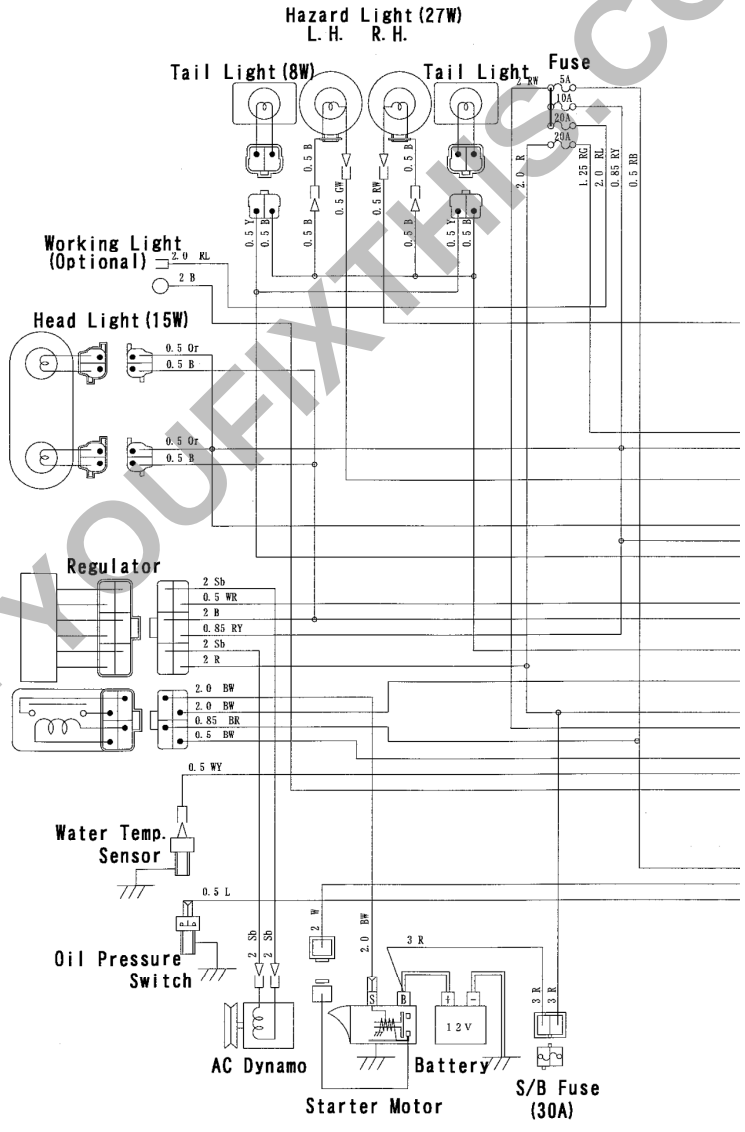
[1] WIRING DIAGRAM

- **Color of Wiring**

W	White
R	Red
L	Blue
Y	Yellow
B	Black
G	Green
P	Pink
Lg	Light Green
Br	Brown
Or	Orange
Sb	Sky Blue
WG	White / Green
WB	White / Black
WR	White / Red
WY	White / Yellow
WL	White / Blue
RW	Red / White
RL	Red / Blue
RY	Red / Yellow
RB	Red / Black
RG	Red / Green
BW	Black / White
BL	Black / Blue
BR	Black / Red
LY	Blue / Yellow
LW	Blue / White
LG	Blue / Green
LR	Blue / Red
LB	Blue / Black
LOr	Blue / Orange
YG	Yellow / Green
YR	Yellow / Red
YB	Yellow / Black
GR	Green / Red
GW	Green / White
LgY	Light Green / Yellow
LgB	Light Green / Black

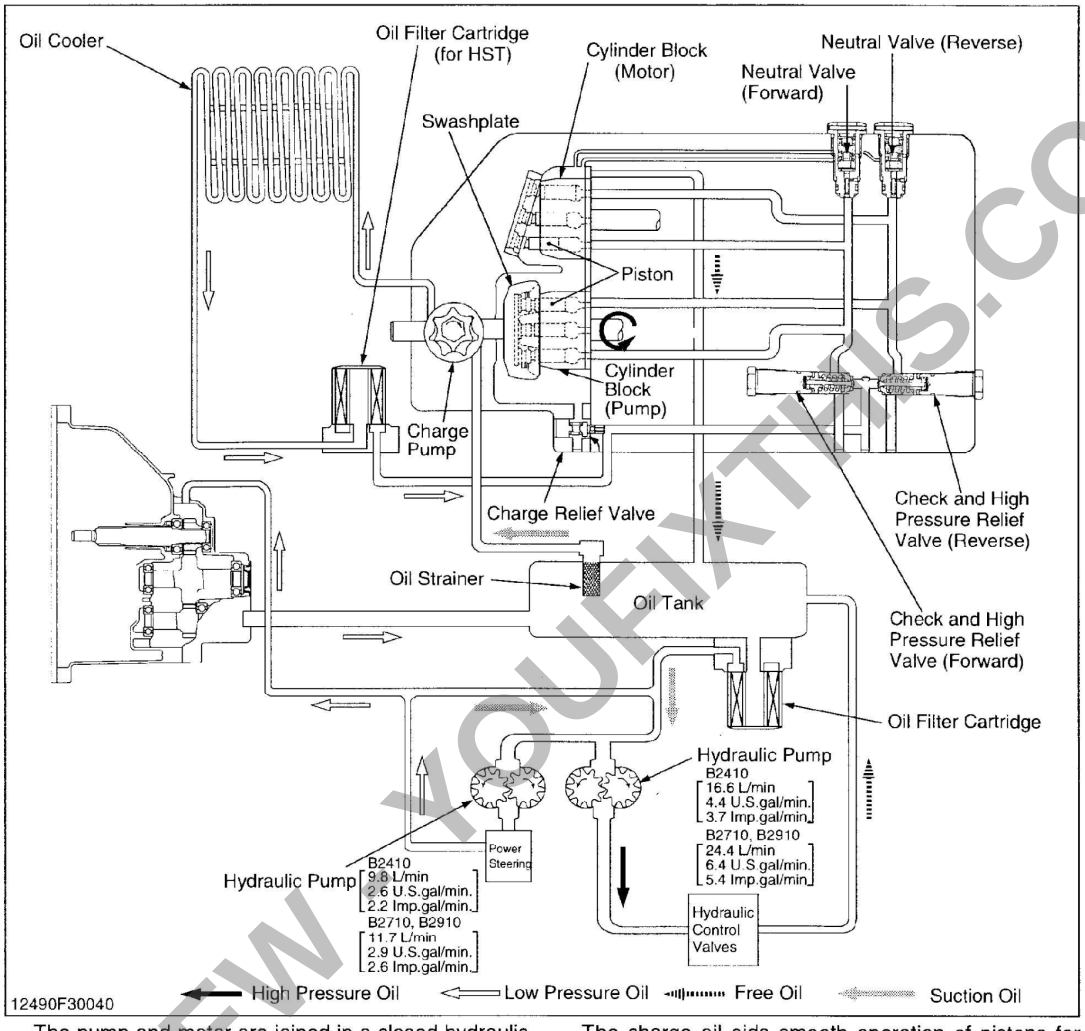


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(1)-3 Oil Flow and Valves



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.

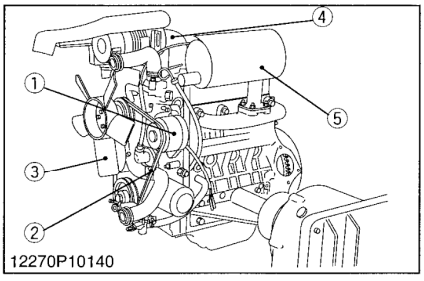
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DISASSEMBLING AND ASSEMBLING

(1) Cylinder Head and Valves



Dynamo, Fan Belt and Muffler

1. Remove the dynamo (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)

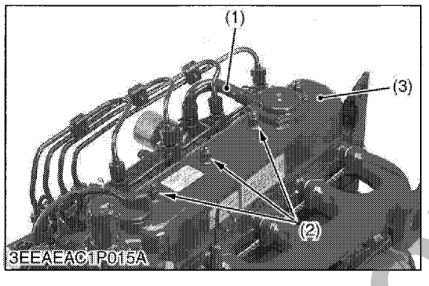
- Check to see that there are no cracks on the belt surface.

■ IMPORTANT

- **After reassembling the fan belt, be sure to adjust the fan belt tension (See page G-26).**

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

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Cylinder Head Cover (For V1305-E2 and V1505-E2)

1. Disconnect the breather hose (1).
2. Remove the head cover nut (2).
3. Remove the cylinder head cover (3).

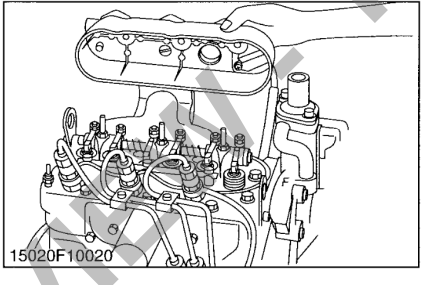
(When reassembling)

- Check to see if the cylinder head cover gasket is not defective.

Tightening torque	Cylinder head cover nut	6.9 to 8.8 N·m 0.7 to 0.9 kgf·m 5.1 to 6.5 ft-lbs

(1) Breather Hose
(2) Head Cover Screws
(3) Cylinder Head Cover

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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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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-12.)

Item		N·m	kgf·m	ft-lbs
Steering wheel mounting nut		29.4 to 49.0	3.0 to 5.0	21.7 to 36.2
Delivery pipe nut for HST		34 to 39	3.5 to 4.0	25.3 to 28.9
Oil cooler pipe nut		50 to 58	5.1 to 5.9	36.9 to 42.8
Delivery pipe nut for power steering		65 to 75	6.6 to 7.2	47.9 to 55.3
Clutch housing and engine mounting	M8	17.7 to 20.6	1.8 to 2.1	13.0 to 15.2
screw, bolt and nut	M10	48.1 to 55.8	4.9 to 5.7	35.5 to 41.2
Clutch cover mounting screw		23.5 to 27.5	2.4 to 2.8	17.4 to 20.3

Item	Size × Pitch	N·m	kgf·m	ft-lbs
Cylinder head cover cap nut	M7 × 1.0	6.9 to 8.8	0.7 to 0.9	5.1 to 6.5
Injection pipe retaining nut	M12 × 1.5	24.5 to 34.3	2.5 to 3.5	18.1 to 25.3
Nozzle holder assembly	M20 × 1.5	49.0 to 68.6	5.0 to 7.0	36.2 to 50.6
Nozzle holder	–	34.3 to 39.2	3.5 to 4.0	25.3 to 28.9
Overflow pipe assembly retaining nut	M12 × 1.5	19.6 to 24.5	2.0 to 2.5	14.5 to 18.1
Glow plug	M8 × 1.0	7.8 to 14.7	0.8 to 1.5	5.8 to 10.8
Bearing nut on idle gear shaft	–	34.3 to 39.2	3.5 to 4.0	25.3 to 28.9
Lock nut for bearing nut	–	24.5 to 34.3	2.5 to 3.5	18.1 to 25.3
* Rocker arm bracket nut	M7 × 1.0	21.6 to 26.5	2.2 to 2.7	15.9 to 19.5
* Cylinder head screw	M10 × 1.25	63.7 to 68.6	6.5 to 7.0	47.0 to 50.6
* Crankshaft screw	M14 × 1.5	235.4 to 245.2	24.0 to 25.0	173.6 to 180.8
* Connecting rod screw	M8 × 1.0	41.2 to 46.1	4.2 to 4.7	30.3 to 33.9
* Flywheel screw	M10 × 1.25	53.9 to 58.8	5.5 to 6.0	39.8 to 43.4
* Main bearing case screw 1	M8 × 1.25	29.4 to 34.3	3.0 to 3.5	21.7 to 25.3
* Main bearing case screw 2	M9 × 1.25	49.0 to 53.9	5.0 to 5.5	36.2 to 39.8
Bearing case cover screw	M6 × 1.0	9.8 to 11.3	1.00 to 1.15	7.2 to 8.3
* Idle gear shaft 1 mounting screw	M6 × 1.0	9.8 to 11.3	1.00 to 1.15	7.2 to 8.3
* Oil pressure switch	PT 1/8	14.7 to 19.6	1.5 to 2.0	10.8 to 14.5
Idle adjust screw cap nut	M6 × 1.0	7.8 to 9.8	0.8 to 1.0	5.8 to 7.2
Fuel limit cap nut	M6 × 1.0	7.8 to 9.8	0.8 to 1.0	5.8 to 7.2

■ **NOTE**

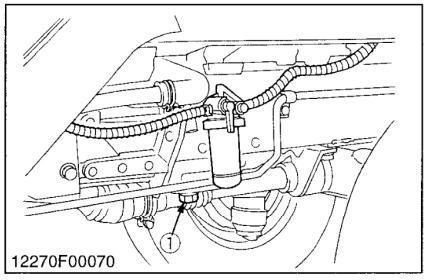
- **In removing and applying the bolts and nuts marked with "*", a pneumatic wrench or similar pneumatic tool, if employed, must be used with enough care not to get them seized.**
- **For * marked screws, bolts and nuts on the table, apply engine oil to their threads and seats before tightening.**
- **The letter "M" in size × Pitch means that the screw, bolt or nut dimension stands for metric. The size is the nominal outside diameter in mm of the threads. The pitch is the nominal distance in mm between two threads.**

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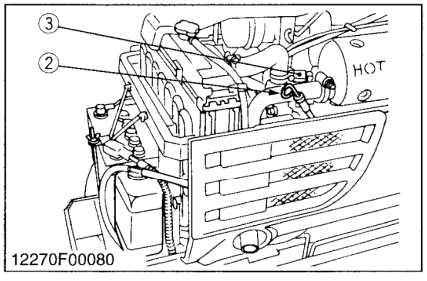
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(2) Check Points of Initial 50 Hours



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Changing Engine Oil

CAUTION

- **Before changing oil, be sure to stop the engine.**

1. Start and warm up the engine for approx. 5 minutes.
2. Place an oil pan underneath the engine.
3. To drain the used oil, remove the drain plug (1) at the bottom of the engine and drain the oil completely.
4. Screw in the drain plug (1).
5. Fill new oil up to upper line on the dipstick (2).

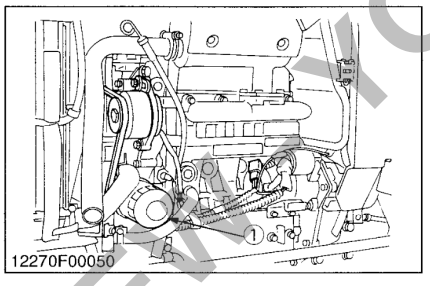
IMPORTANT

- **When using an oil of different manufacture or viscosity from the previous one, remove all of the old oil.**
- **Never mix two different types of oil.**
- **Use the proper SAE Engine Oil according to ambient temperatures.**
- **Refer to "LUBRICANTS, FUEL AND COOLANT". (See page G-11.)**

Engine oil capacity	B2410	3.0 L 3.2 U.S.qts 2.6 Imp.qts
	B2710 B2910	4.1 L 4.3 U.S.qts 3.6 Imp.qts

(1) Drain Plug
(2) Dipstick
(3) Oil Inlet

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Replacing Engine Oil Filter Cartridge

CAUTION

- **Be sure to stop the engine before changing engine oil filter cartridge.**

1. Remove the engine oil filter cartridge with the filter wrench.h.
2. Apply a slight coat of oil onto the cartridge gasket.
3. To install the new cartridge, screw it in by hand. Over tightening may cause deformation of rubber gasket.
4. After the new cartridge has been replaced, the engine oil normally decrease a little. Thus see that the engine oil does not leak through the seal and be sure to read the oil level on the dipstick. Then, replenish the engine oil up to the specified level.

IMPORTANT

- **To prevent serious damage to the engine, engine oil filter cartridge replacement must be highly efficient. Use only a KUBOTA genuine filter or its equivalent.**

(1) Engine Oil Filter

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TROUBLESHOOTING

Symptom	Probable Cause	Solution	Reference Page
Engine Does Not Start	• No fuel	Replenish fuel	–
	• Air in the fuel system	Bleed	G-33
	• Water in the fuel system	Change fuel and repair or replace fuel system	–
	• Fuel pipe clogged	Clean	–
	• Fuel filter clogged	Change	G-24
	• Excessively high viscosity of fuel or engine oil at low temperature	Use specified fuel or engine oil	G-11
	• Fuel with low cetane number	Use specified fuel	G-11
	• Fuel leak due to loose injection pipe retaining nut	Tighten retaining nut	1-S18
	• Incorrect injection timing	Adjust	1-S53
	• Fuel camshaft worn	Replace	1-S24
	• Injection nozzle clogged	Clean	1-S55
	• Injection pump malfunctioning	Repair or replace	1-S24
	• Seizure of crankshaft, camshaft, piston, cylinder or bearing	Repair or replace	1-S28, S31
	• Compression leak from cylinder	Replace head gasket, tighten cylinder head screw, glow plug and nozzle holder	1-S20
	• Improper valve timing	Correct or replace timing gear	1-S26
	• Piston ring and cylinder worn	Replace	1-S29
	• Excessive valve clearance	Adjust	1-S17
(Starter Does Not Run)	• Battery discharged	Charge	9-S5
	• Starter malfunctioning	Repair or replace	9-S11
	• Main switch malfunctioning	Repair or replace	9-S7
	• The movement of poppet (safety switch of range gear shift) is heavy (In winter, oil viscosity increase) (B2710 Affected Serial No.: below 15496)	Range gear shift lever is moved several times	9-M7
	• Safety switches malfunctioning	Adjust or replace	9-S10
	• Wiring disconnected	Connect	–
Engine Revolution Is Not Smooth	• Fuel filter clogged or dirty	Change	G-24
	• Air cleaner clogged	Clean or replace	G-24
	• Fuel leak due to loose injection pipe retaining nut	Tighten retaining nut	1-S18
	• Injection pump malfunctioning	Repair or replace	1-S24
	• Incorrect nozzle injection pressure	Adjust	1-S55
	• Injection nozzle stuck or clogged	Repair or replace	1-S56
	• Governor malfunctioning	Repair	1-S26
Either White or Blue Exhaust Gas Is Observed	• Excessive engine oil	Reduce to specified level	G-15
	• Piston ring and cylinder worn or stuck	Repair or replace	1-S29
	• Incorrect injection timing	Adjust	1-S53
	• Deficient compression	Adjust top clearance	1-S16

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SPECIFICATIONS (B2410)

Model			B2410HSDB	B2410HSD	B2410HSE
PTO power			13.4 kW (18.0 HP)		
Engine	Maker		KUBOTA		
	Model		D1105-E-D16		
	Type		Indirect Injection. Vertical, water-cooled, 4-cycle diesel		
	Number of cylinders		3		
	Bore and stroke		78 × 78.4 mm (3.07 × 3.09 in.)		
	Total displacement		1123 cm^3 (68.5 cu.in.)		
	Engine net power (DIN)		17.9 kW (24.0 HP)		
	Rated revolution (min^{-1})		43.3 r/s (2600 rpm)		
	Maximum torque		67 N·m (50 ft-lbs)		
	Battery		12 V, RC : 79 min, CCA : 433 A		
	Starting system		Electric starting with cell starter 12 V, 1.0 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.gal)		
	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		12.5 L (3.30 U.S.gals, 2.75 Imp.gals)		
	Front axle case		4.5 L (4.8 U.S.qts, 4.0 Imp.qts)	3.7 L (3.9 U.S.qts, 3.3 Imp.qts)	–
Dimensions	Overall length (without 3P)		2330 mm (91.7 in.)		
	Overall width		1175 mm (46.3 in.)		
	Overall height (with ROPS)		1965 mm (77.4 in.)		
	Overall height (top of steering wheel)		1372 mm (54.0 in.)		
	Wheel base		1500 mm (59.0 in.)		
	Minimum ground clearance		285 mm (11.2 in.)	325 mm (12.8 in.)	
	Tread	Front	835 mm (32.9 in.)		900 mm (35.4 in.)
		Rear	890 to 1064 mm (35.0 to 41.9 in.)		
Weight (with ROPS)			680 kg (1500 lbs)	670 kg (1477 lbs)	620 kg (1367 lbs)
Clutch			Dry single plate		
Travelling system	Tires	Front	7-12		6.5-10
		Rear	11.2-16		
	Steering		Integral type power steering		
	Transmission		Main-hydrostatic transmission, High-Low gear shift (2 forward and 2 reverse)		
	Brake		Wet disk type		
	Min. turning radius (with brake)		2.1 m (6.9 feet)		2.0 m (6.6 feet)
	Differential		Bevel gear		
Hydraulic system	Hydraulic control system		Position Control		
	Pump capacity		3P:16.6L/min(4.4 U.S.GPM,3.7Imp.GPM),PS:9.8L/min(2.6 U.S.GPM,2.2Imp.GPM)		
	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 min^{-1} (rpm) at 2584 engine min^{-1} (rpm))		
	Mid.	PTO shaft	USA No. 5 (KUBOTA 10-tooth) involute spline		
		Revolution	1 speed (2537 min^{-1} (rpm) at 2600 engine min^{-1} (rpm))		

Note : * Manufacture's estimate the company reserves the right to change the specifications without notice.

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GENERAL

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TO THE READER

This Workshop Manual has been prepared to provide servicing personnel with information on the mechanism, service and maintenance of KUBOTA Tractor B2410, B2710 and B2910. It is divided into two parts, "Mechanism" and "Servicing" for each section.

■ Mechanism

Information on the construction and function are included. This part should be understood before proceeding with troubleshooting, disassembling and servicing.

■ Servicing

Under the heading "General" section comes general precautions, check and maintenance and special tools. Other section, there are troubleshooting, servicing specification lists, checking and adjusting, disassembling and assembling, and servicing which cover procedures, precautions, factory specifications and allowable limits.

All information, illustrations and specifications contained in this manual are based on the latest production information available at the time of publication.

The right is reserved to make changes in all information at any time without notice.

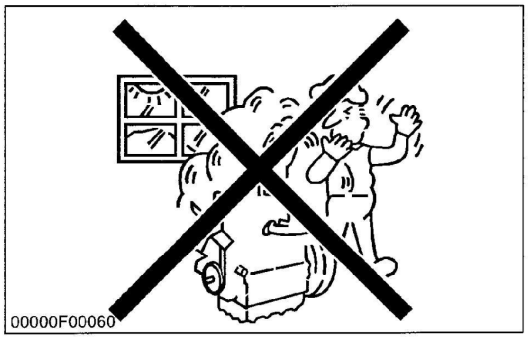
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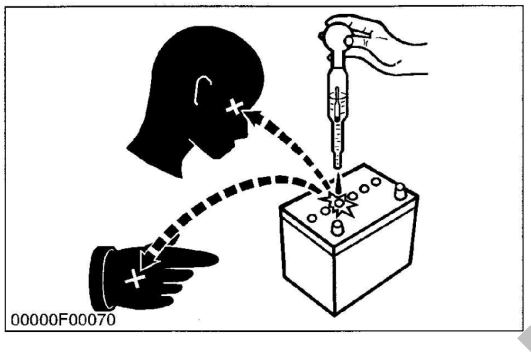
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VENTILATE WORK AREA

(1) If the engine must be running to do some work, make sure the area is well ventilated. Never run the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.

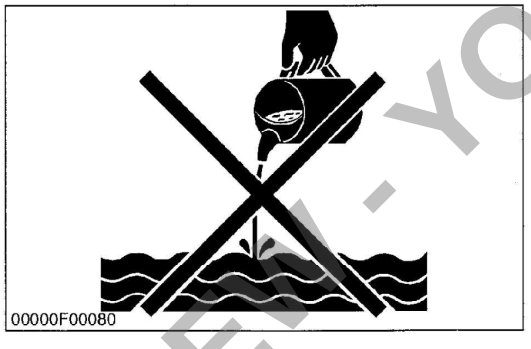
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PREVENT ACID BURNS

(1) Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, clothing and cause blindness if splashed into eyes. Keep electrolyte away from eyes, hands and clothing. If you spill electrolyte on yourself, flush with water, and get medical attention immediately.

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DISPOSE OF FLUIDS PROPERLY

(1) Do not pour fluids into the ground, down a drain, or into a stream, pond, or lake. Observe relevant environmental protection regulations when disposing of oil, fuel, coolant, electrolyte and other harmful waste.

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PREPARE FOR EMERGENCIES

(1) Keep a first aid kit and fire extinguisher handy at all times.
(2) Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.

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Flushing Cooling System and Changing Coolant (Continued)

■ **Anti-Freeze**

If coolant freezes, it can damage the cylinders and radiator. It is necessary, if the ambient temperature falls below 0 ˚C (32 ˚F), to remove coolant after operating or to add anti-freeze to it.

1. There are two types of anti-freeze available; use the permanent type (PT) for this engine.
2. Before adding anti-freeze for the first time, clean the radiator interior by pouring fresh water and draining it a few times.
3. The procedure for mixing of water and anti-freeze differs according to the make of the anti-freeze and the ambient temperature, basically is should be referred to SAE J1034 standard, more specifically also to SAE J814c.
4. Mix the anti-freeze with water, and then fill in to the radiator.

Vol % Anti-freeze	Freezing Point		Boiling Point*	
	˚C	˚F	˚C	˚F
40	–24	–12	106	222
50	–37	–34	108	226

* At 760 mmHg pressure (atmospheric), a higher boiling point is obtained by using a radiator pressure cap which permits the development of pressure within the cooling system.

■ **NOTE**

- **The above data represent industry standards that necessitate a minimum glycol content in the concentrated anti-freeze.**
- **When the coolant level drops due to evaporation, add water only. In case of leakage, add anti-freeze and water in the specified mixing ratio.**
- **Anti-freeze absorbs moisture. Keep unused anti-freeze in a tightly sealed container.**
- **Do not use radiator cleaning agents when anti-freeze has been added to the coolant. (Anti-freeze contains an anti-corrosive agent, which will react with the radiator cleaning agent forming sludge which will affect the engine parts.)**

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(13) Others

Bleeding Fuel System

Air must be removed:

1. When the fuel filter or lines are removed.
2. When tank is completely empty.
3. After the tractor has not been used for a long period of time.

Bleeding procedure is as follows:

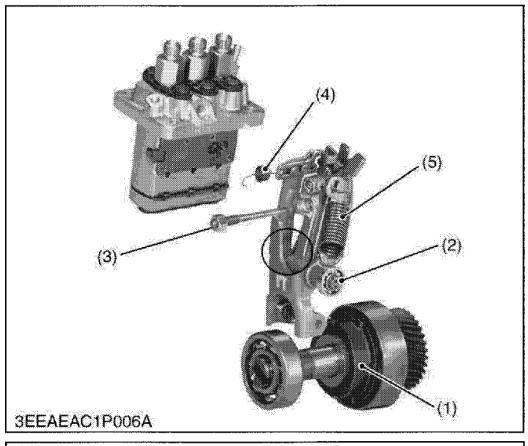
1. Fill the fuel tank with fuel.
2. Start the engine and run for about 30 seconds, and then stop the engine.

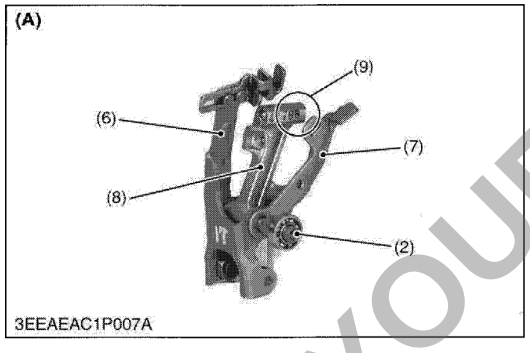
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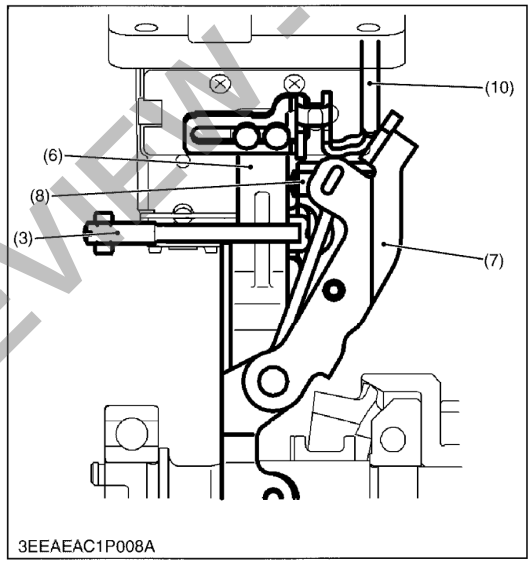
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■ V1305-E2,V1505-E2







The governor system is a mechanical governor that used the flyweight (1).

The flyweight (1) is mounted on the governor shaft that rotates at the same speed as the crankshaft.

Because the feature of this mechanism takes out the engine rotational speed directly as a centrifugal force of weight, the speed control that the change in the engine rotational speed is sensitively transmitted to fork lever Comp **(A)** and accuracy is high is enabled.

The fork lever assembly of this engine is composed of fork lever 1 (6), fork lever 2 (7), and the floating lever (8). A thrust lever is installed in fork lever 1. The governor spring (5) is hooked to fork lever 2 (7).

The floating lever (8) installs the torque pin (9) of the output drop prevention at the overload. The start spring (4) is hooked to a thrust lever, and holds the control rack in the direction of the increase.

Fork lever 2 (7) and the floating lever are installed in fork lever 1 (6) with the fork lever shaft (2). The max torque limitation (3) device limits the amount of the fuel exhalation at the overload with the torque pin.

(1)	Flyweight	(6)	Fork Lever 1
(2)	Fork Lever Shaft	(7)	Fork Lever 2
(3)	Max Torque Limitation	(8)	Floating Lever
(4)	Start Spring	(9)	Torque Pin
(5)	Governor Spring	**(A)**	**Fork Lever Comp**

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■ At Rated Operation

When the engine is running, the fork lever 2 (7) and the floating lever (8) are moving with the fork lever 1 (6) due to the tension of the governor spring (5).

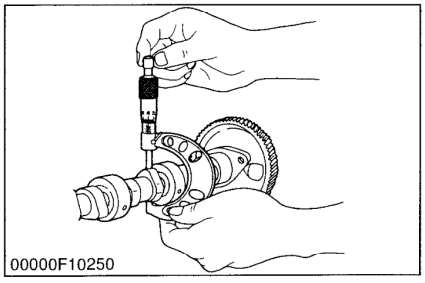
During the time, the torque pin (9) is pressed into the floating lever by centrifugal force of the governor weight (1).

The fork lever (7) comes in contact with the fuel limitation bolt (10), and the fuel injection pump supplies a fuel necessary for rated operation.

(3)	Max Torque Limiter	(8)	Floating Lever
(6)	Fork Lever 1	(10)	Fuel Limitation Bolt
(7)	Fork Lever 2		

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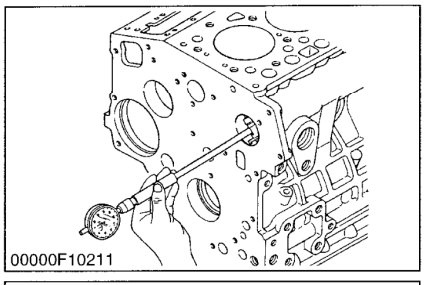
Cam Height

1. Measure the height of the cam at its highest point with an outside micrometer.
2. If the measurement is less than the allowable limit, replace the camshaft.

Cam height of intake	Factory spec.	28.80 mm 1.1339 in.
	Allowable limit	28.75 mm 1.1319 in.

Cam height of exhaust	Factory spec.	29.00 mm 1.1417 in.
	Allowable limit	28.95 mm 1.1398 in.

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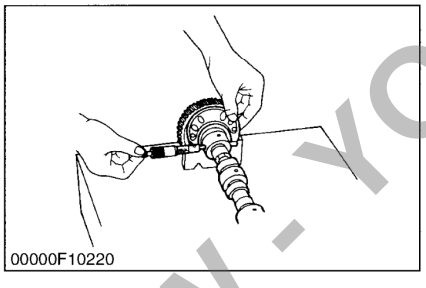

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Oil Clearance of Camshaft Journal

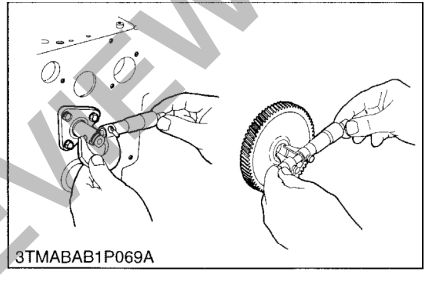
1. Measure the camshaft journal O.D. with an outside micrometer
2. Measure the cylinder block bore I.D. for camshaft with a cylinder gauge, and calculate the oil clearance.
3. If the oil clearance exceeds the allowable limit, replace the camshaft.

Oil clearance of camshaft journal	Factory spec.	0.050 to 0.091 mm 0.00197 to 0.00358 in.
	Allowable limit	0.15 mm 0.0059 in.

Camshaft journal O.D.	Factory spec.	35.934 to 35.950 mm 1.41473 to 1.41535 in.
Cylinder block bore I.D.	Factory spec.	36.000 to 36.025 mm 1.41732 to 1.41830 in.


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Oil Clearance between Idle Gear 1 and 2 Shaft and Idle Gear Bushing

1. Measure the idle gear shaft O.D. with an outside micrometer.
2. Measure the idle gear bushing I.D. with an inside micrometer, and calculate the oil clearance.
3. If the oil clearance exceeds the allowable limit, replace the bushing.
4. If it still exceeds the allowable limit, replace the idle gear shaft.

Oil clearance between idle gear shaft (1 and 2) and idle gear bushing	Factory spec.	0.020 to 0.054 mm 0.0008 to 0.0021 in.
	Allowable limit	0.10 mm 0.0039 in.

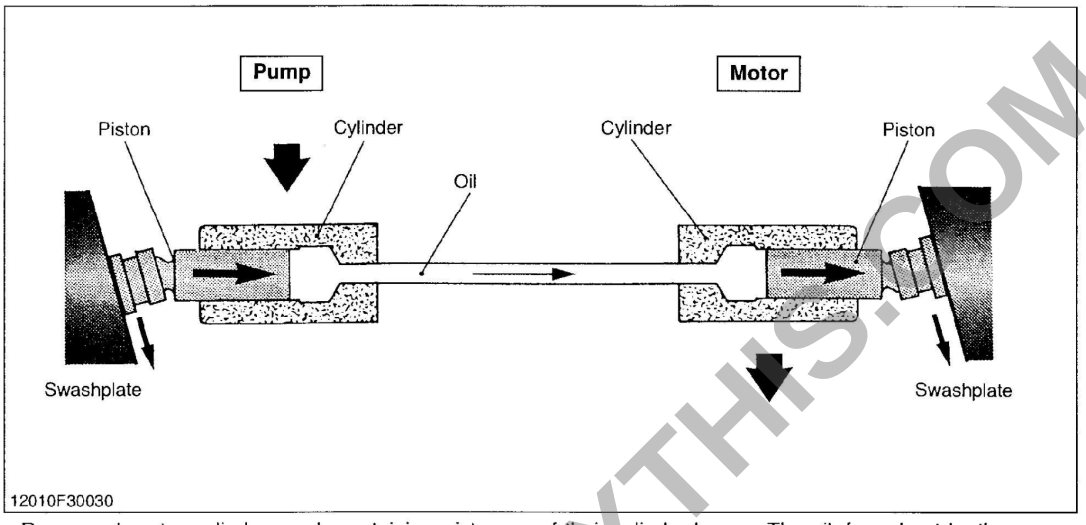
Idle gear shaft 1 and 2 O.D.	Factory spec.	25.967 to 25.980 mm 1.0223 to 1.0228 in.
Idle gear bushing 1 and 2 I.D.	Factory spec.	26.000 to 26.021 mm 1.0236 to 1.0244 in.

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(1)-2 Pump and Motor



Pump and motor cylinder, each containing pistons, are connected by lines. Cylinders and lines are filled with oil. Pistons ride against swashplates located in pump and motor.

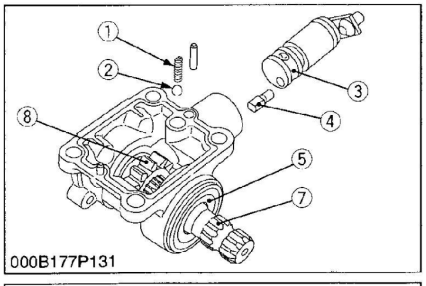
In the pump, as the cylinder rotates, pistons move across the sloping face of swashplate and slide in or out of their cylinder bores. The oil, forced out by the pump pistons, causes the motor pistons to slide out of their cylinder bores.

In the motor, sliding out of the cylinder and moving across the sloping face of swashplate, the pistons rotate the cylinder.

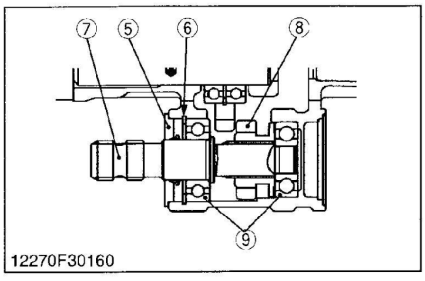
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Mid-PTO Shaft

1. Remove the spring (1) and ball (2).
2. Draw out the dowel pin and remove the shift arm (3) with shifter (4).
3. Remove the oil seal (5) and internal snap ring (6).
4. Remove the mid-PTO shaft (7) with 11T shifter gear (8) and bearings (9).

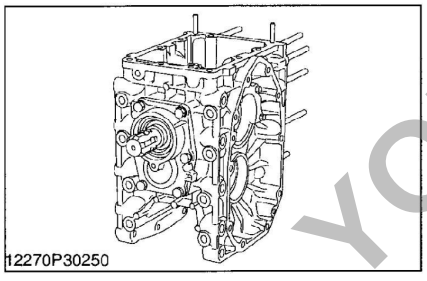
(When reassembling)

- Apply grease to lip and outer of oil seal.

(1) Spring
(2) Ball
(3) Shift Arm
(4) Shifter
(5) Oil Seal
(6) Internal Snap Ring
(7) Mid-PTO Shaft
(8) 11T Shifter Gear
(9) Bearing

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[5] DISASSEMBLING DIFFERENTIAL GEAR CASE


12270P30250

PTO Shaft

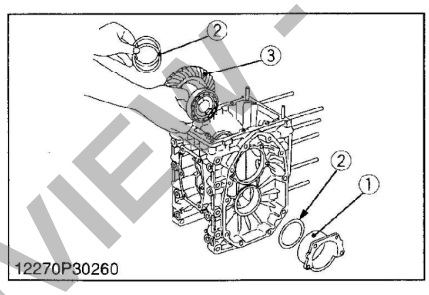
1. Remove the PTO cover mounting screws and remove the PTO cover assembly.

(When reassembling)

- Apply liquid gasket (Three Bond 1208D or equivalent) to joint face of differential gear case and PTO cover.

Tightening torque	PTO cover mounting screw	39.2 to 44.1 N·m 4.0 to 4.5 kgf·m 28.9 to 32.5 ft-lbs

12270S30280



12270P30260

Differential Gear Assembly

1. Remove the bearing holder mounting screws and remove the bearing holder (1).
2. Take out the differential gear assembly (3).

(When reassembling)

- Install the differential gear assembly, noting the number of shims (2) in the differential case left side and bearing holder side.

Tightening torque	Differential gears bearing holder mounting screw	17.7 to 20.6 N·m 1.8 to 2.1 kgf·m 13.0 to 15.2 ft-lbs

(1) Bearing Holder
(2) Adjusting Shim
(3) Differential Gear Assembly

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TROUBLESHOOTING

[2WD Model]

Symptom	Probable Cause	Solution	Reference Page
Front Wheels Wander to Right or Left	• Clearance between center pin and pin support excessive (2WD)	Replace	6-S9
	• Improper toe-in adjustment (improper alignment)	Adjust	–
	• Knuckle shaft bushing worn (2WD)	Replace	6-S9
	• Tire pressure uneven	Adjust	G-45

[4WD Model]

Front Wheels Wander to Right or Left	• Tire pressure uneven	Adjust	G-45
	• Improper toe-in adjustment (improper alignment)	Adjust	6-S6 6-S11
	• Clearance between front axle case boss and front axle bracket bushing (front, rear) excessive	Replace	6-S6
	• Front axle rocking force too small	Adjust	6-S8, S12
	• Tie-rod end loose	Tighten	–
	• Air sucked in power steering circuit	Bleed	
Front Wheels Can Not Be Driven	• Front wheel driving gears in front axle gear case broken	Replace	6-S13
	• Universal joint broken	Replace	–
	• Front wheel drive gears in transmission broken	Replace	3-S26
	• Front differential gear broken	Replace	6-S16
	• Coupling displaced	Reassembling	–
Noise	• Gear backlash excessive	Adjust or replace	6-S14
	• Oil insufficient	Replenish	6-S10
	• Bearings damaged or broken	Replace	–
	• Gears damaged or broken	Replace	–
	• Spiral bevel pinion shaft turning force improper	Adjust	6-S24

[BI-SPEED TURN Type]

Bi-speed Turn System Does Not Operate or Slipping	• Bi-speed turn clutch friction torque too low	Adjust	6-S27
	• Shift fork spring weaken or damaged	Replace	6-S28
	• Shift fork deformed, worn or broken	Replace	6-S28
	• Change fork deformed or broken	Replace	6-S21
	• Shift cam rusted	Repair or replace	6-S20
	• Shift roller worn	Replace	6-S20
	• Clutch disc worn	Replace	6-S22
	• Friction plate worn or deformed	Replace	6-S22
	• Gear broken	Replace	6-S21
	• Shifter collar worn	Replace	6-S22
	• Wrong assembly of shift cam	Reinstall	6-S20
	• Wrong linkage adjustment	Readjust	6-S7
Bi-speed Turn Does Not Return to Standard 4WD Position	• Shift fork deformed	Replace	6-S22
	• Shift cam deformed	Replace	6-S30
	• Wrong linkage adjustment	Readjust	6-S7

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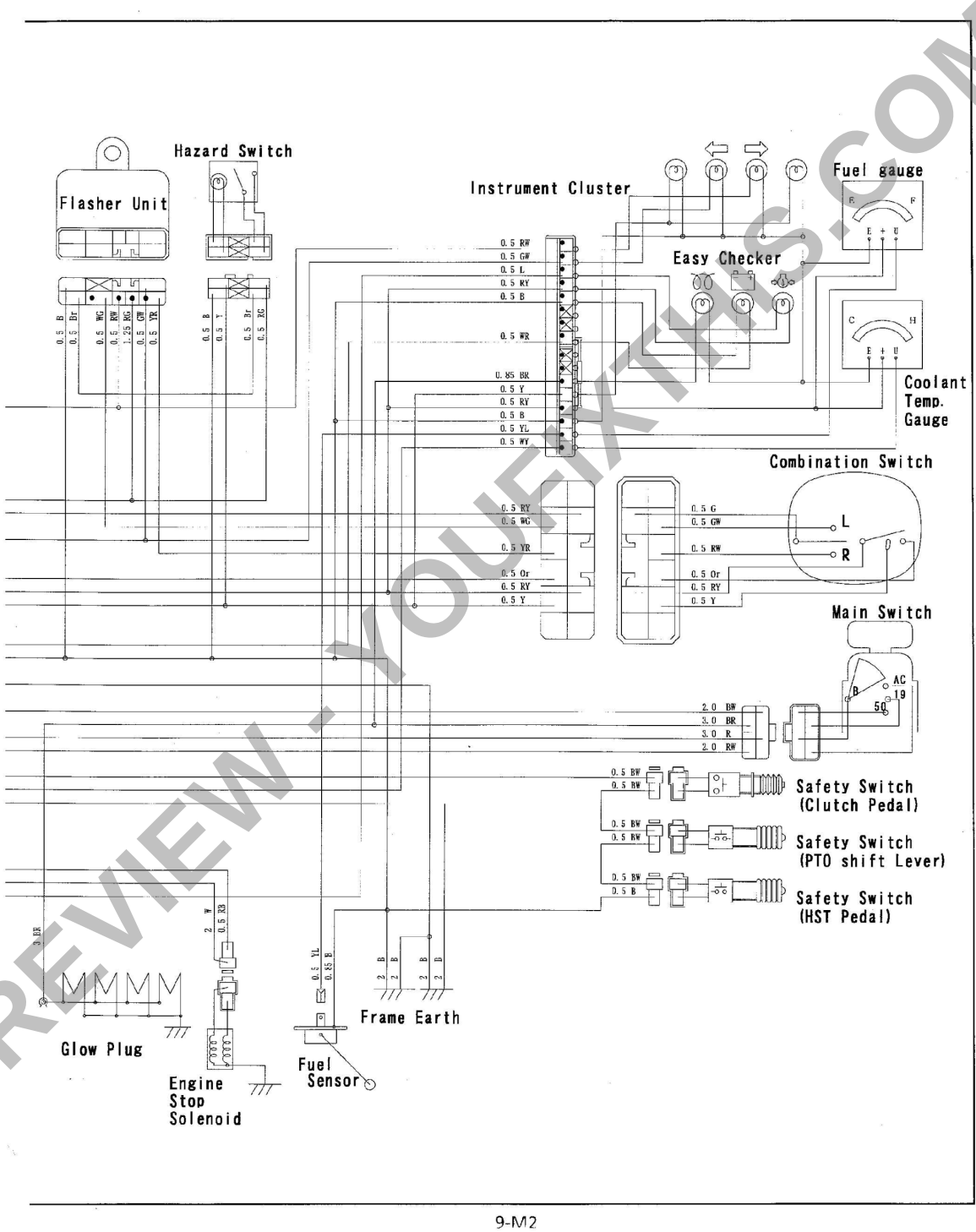
SERVICING SPECIFICATIONS

Item		Factory Specification	Allowable Limit
[Hydraulic Pump] Pump Delivery at Engine 2600 rpm, Oil Temperature 50 °C, 122 °F	at no pressure	[B2410] 9.8 L/min. 2.6 U.S.gal/min. 2.2 Imp.gal/min. [B2710, B2910] 11.7 L/min. 3.1 U.S.gal/min. 2.6 Imp.gal/min.	– –
	at 11.3 to 12.3 MPa 115 to 125 kgf/cm^2 1636 to 1778 psi	[B2410] 8.3 L/min. 2.2 U.S.gal/min. 1.8 Imp.gal/min. [B2710, B2910] 10.0 L/min. 2.6 U.S.gal/min. 2.2 Imp.gal/min.	– –
Gear to Casing	Clearance	–	0.15 mm 0.0059 in.
Gear Shaft to Bushing	Clearance	0.020 to 0.091 mm 0.0008 to 0.0036 in.	0.12 mm 0.0047 in.
Gear Shaft	O.D.	14.970 to 14.980 mm 0.5894 to 0.5898 in.	–
Bushing	I.D.	15.000 to 15.061 mm 0.5906 to 0.5930 in.	–
Side Plate	Thickness	2.48 to 2.50 mm 0.0976 to 0.0984 in.	2.40 mm 0.0945 in.

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