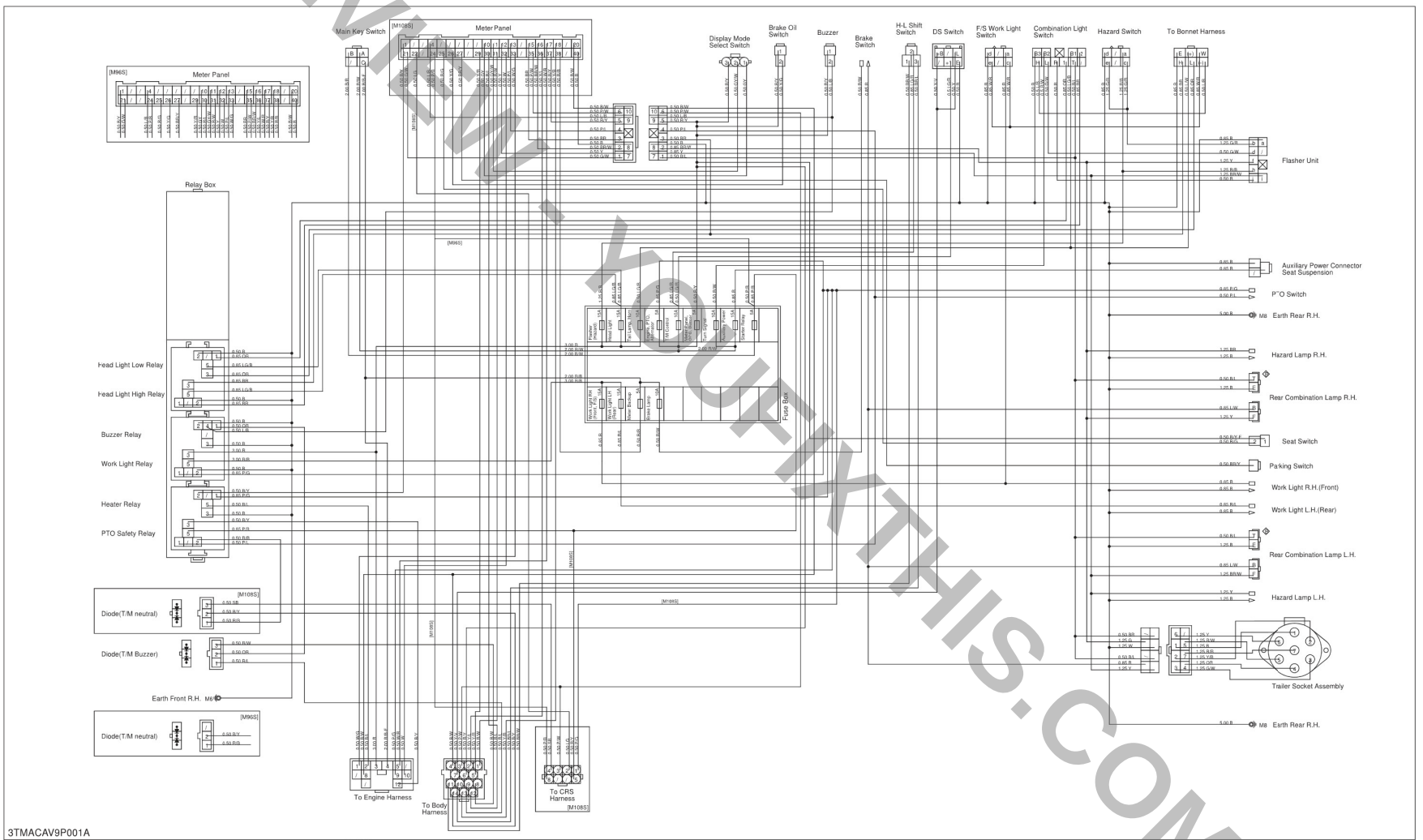
1. WIRING DIAGRAM

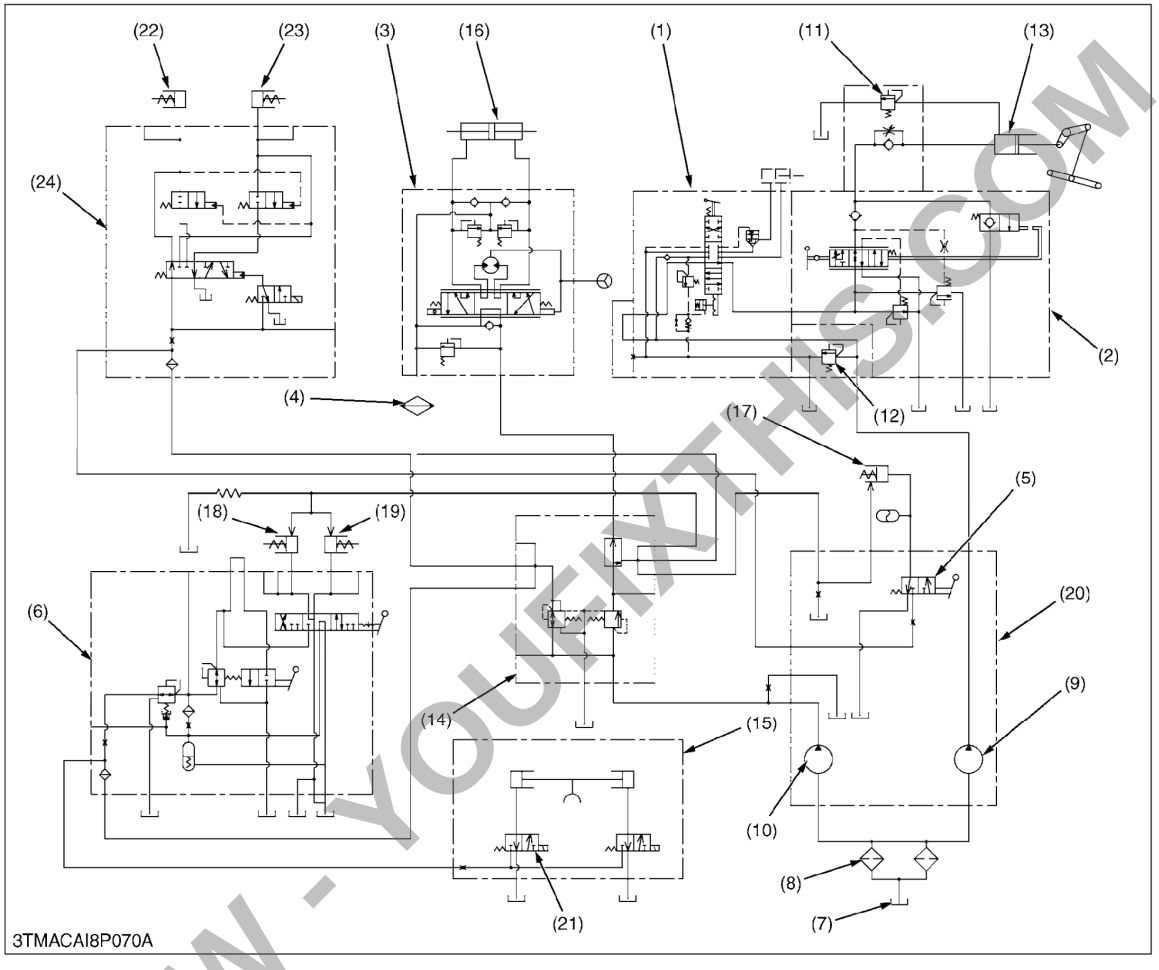
[1] MAIN HARNESS (ROPS MODEL)



KiSC issued 09, 2020 A

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

2. HYDRUALIC CIRCUIT



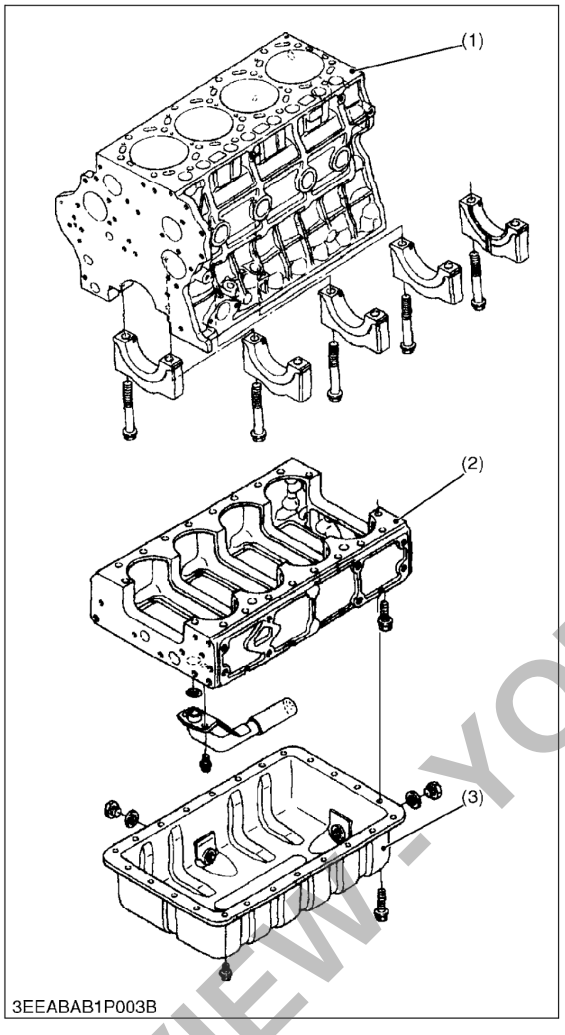
(1) Auxiliary Control Valve
(2) Control Valve for 3P
(3) Power Steering Controller
(4) Oil Cooler
(5) PTO Valve
(6) Shuttle Valve
(7) Oil Tank (Transmission Case)
(8) Hydraulic Oil Filter Cartridge
(9) Hydraulic Pump (for 3P)
(10) Hydraulic Pump (PTO Clutch, Shuttle Clutch, Swing Shift, Dual Speed)
(11) Cylinder Safety Valve
(12) Relief Valve for 3P
(13) Hydraulic Cylinder
(14) Regulator Valve
(15) Swing Shift
(16) Steering Cylinder
(17) PTO Clutch
(18) Shuttle Clutch **R**
(19) Shuttle Clutch **F**
(20) Pump Base
(21) Solenoid Valve
(22) Dual Speed Clutch **HI** (DS Model Only)
(23) Dual Speed Clutch **LO** (DS Model Only)
(24) Dual Speed Valve (DS Model Only)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

2. ENGINE BODY

[1] CYLINDER BLOCK



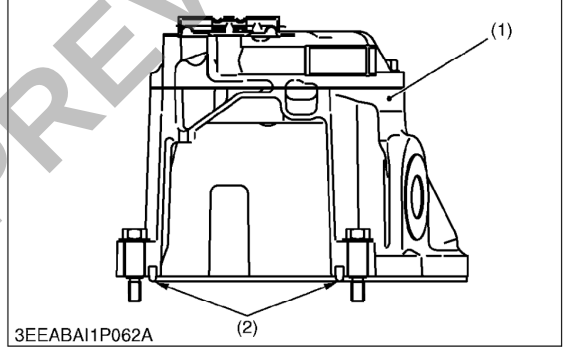
This engine employs separate type crankcases - the crankcase 1 (1) with combustion part and the crankcase 2 (2) which supports the crankcase 1 (1) and reduces noise.

Since it is a hanger type, you can easily assemble / disassemble it. The cylinder is a linerless type which enables good cooling operation, less strain and good abrasion resistance.

(1) Crankcase 1
(2) Crankcase 2
(3) Oil Pan

W1013119

[2] HALF-FLOATING HEAD COVER



The rubber packing is fitted in to maintain the head cover 0.5 mm (0.02 in.) or so off the cylinder head. This arrangement helps reduce noise coming from the cylinder head.

(1) Cylinder Head Cover
(2) Rubber Packing

W1013327

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

5. TIGHTENING TORQUES

[1] GENERAL USE SCREWS, BOLTS AND NUTS

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

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	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

W1034542

[2] STUD BOLTS

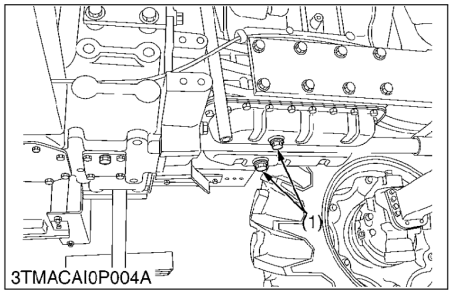
Material of opponent part	Ordinariness			Aluminum		
Unit / Diameter	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
M8 (8 mm, 0.31 in.)	12 to 15	1.2 to 1.6	8.7 to 11	8.9 to 11	0.90 to 1.2	6.5 to 8.6
M10 (10 mm, 0.39 in.)	25 to 31	2.5 to 3.2	18 to 23	20 to 25	2.0 to 2.6	15 to 18
M12 (12 mm, 0.47 in.)	29.5 to 49.0	3.0 to 5.0	21.7 to 36.1	31.4	3.2	23.1
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	–	–	–

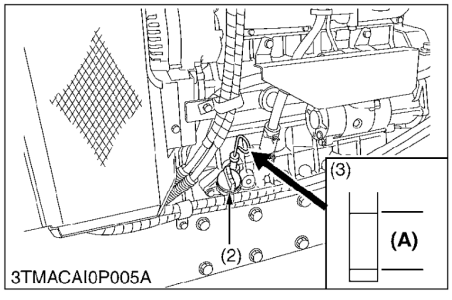
W1048139

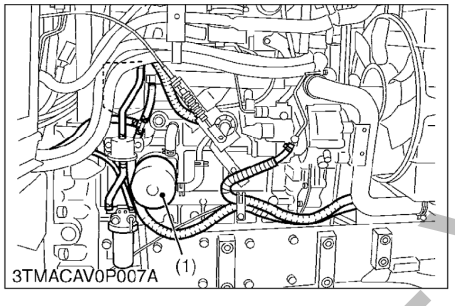
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[2] CHECK POINTS OF INITIAL 50 HOURS







Changing Engine Oil

CAUTION

- **Before changing oil, be sure to stop the engine.**
- **Allow engine to cool down sufficiently, oil can be hot and can burn.**

1. To drain the used oil, remove the drain plugs (1) at the bottom of the engine and drain the oil completely into the oil pan. All the used oil can be drained out easily when the engine is still warm.
2. After draining reinstall the drain plugs (1).
3. Fill with the new oil up to the upper notch on the dipstick. Refer to “4. LUBRICANTS, FUEL AND COOLANT” in this section.

Engine oil	Capacity	10.7 L 11.3 U.S.qts 9.41 Imp.qts

(1) Drain Plug
(2) Oil Inlet Plug
(3) Dipstick
(A) Oil level is acceptable within this range.

W1039461

Replacing Engine Oil Filter

CAUTION

- **Be sure to stop the engine before changing oil filter cartridge.**
- **Allow engine to cool down sufficiently, oil can be hot and can burn.**

1. Remove the oil filter (1).
2. Put a film of clean engine oil on rubber seal of new filter.
3. Tighten the filter quickly until it contacts the mounting surface. Tighten filter by hand an additional 1/2 turn only.
4. After the new filter has been replaced, the engine oil normally decreases a little. Make sure that the engine oil does not leak through the seal and be sure to check the oil level on the dipstick. Then, fill the engine oil up to the prescribed level.

■ IMPORTANT

- **To prevent serious damage to the engine, use only a KUBOTA genuine filter.**

(1) Engine Oil Filter

W1040148

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

1. TROUBLESHOOTING

■ **NOTE**

- **This troubleshooting shows only mechanical failures. Regarding the failures of common rail system (CRS), please refer to the diagnosis manual "COMMON RAIL SYSTEM ENGINE".**

Symptom	Probable Cause	Solution	Reference Page
Engine Does Not Start	No fuel	Fill fuel	–
	Air in the fuel system	Vent air	G-41, 42
	Water in the fuel system	Drain the water in fuel system	G-8, 28
	Electric fuel feed pump malfunctioning	Replace	–
	Fuel hose clogged	Clean or replace	G-22
	Fuel filter clogged	Replace	G-32
	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-S46, 70
	Injector clogged	Repair or replace	1-S50, 51
	Supply pump malfunctioning	Repair or replace	1-S45
	Seizure of crankshaft, camshaft, piston, cylinder or bearing	Repair or replace	–
	Compression leak from cylinder	Replace head gasket, tighten cylinder head screw	1-S53, 73
	Improper valve timing	Correct or replace timing gear	1-S58, 89
	Piston ring and cylinder worn	Replace	1-S106, 110
	Excessive valve clearance	Adjust	1-S16, 21
Starter Does Not Run	Battery discharged	Charge or replace	G-21
	Starter malfunctioning	Repair or replace	9-S18
	Key switch malfunctioning	Replace	9-S14, 15
	Wiring disconnected	Connect	–

W1014322

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SPECIFICATIONS

[ROPS Model]

Model			M96S		M108S	
			2WD	4WD	2WD	4WD
Engine	Model		V3800-DI-T		V3800-CR-TI	
	Type		Vertical, water-cooled, 4-cycle diesel engine			
	No. of cylinder		4			
	Total displacement		3769 cm^3 (230.0 cu.in.)			
	Bore and stroke		100 × 120 mm (3.9 x 4.7 in.)			
	Net power		70.9 kW (95 HP)* / 2600 min^{-1} (rpm)		80.6 kW (108 HP)* / 2600 min^{-1} (rpm)	
	PTO power *1 (factory observed)		62.7 kW (84 HP)*1 / 2600 min^{-1} (rpm)		71.6 kW (96 HP)*1 / 2600 min^{-1} (rpm)	
	Maximum torque		314.8 N·m (32.1 kgf·m, 232.2 lbf·ft) / 1400 to 1600 min^{-1} (rpm)		366.4 N·m (37.3 kgf·m, 270.2 lbf·ft) / 1400 to 1600 min^{-1} (rpm)	
	Battery		12 V, RC, 160 min, CCA 900 A			
	Fuel		Diesel fuel No.1 [below −10 °C (14 °F), Diesel fuel No.2-D [above −10 °C (14 °F)]			
	Fuel tank		175 L (46.2 U.S.gals, 38.5 lmp.gals)			
	Engine crankcase		10.7 L (11.3 U.S.qts, 9.4 lmp.qts)			
	Engine coolant		9.6 L (10.1 U.S.qts, 8.4 lmp.qts)			
Dimensions	Overall length		4120 mm (162.2 in.)			
	Overall width (Minimum tread)		2200 mm (86.4 in.)		2195 mm (86 in.)	2220 mm (87.4 in.)
	Overall height		2620 mm (103.1 in.)		2670 mm (105.1 in.)	
	Wheel base		2435 mm (95.9 in.)			
	Tread	Front	1540 to 2040 mm (60.6 to 80.3 in.)	1580 to 1680 mm (62.2 to 66.1 in.)	1540 to 2040 mm (60.6 to 80.3 in.)	1580 to 1680 mm (62.2 to 66.1 in.)
		Rear	1700 to 2010 mm (66.9 to 79.1 in.)	1705 to 2060 mm (67.1 to 81.1 in.)	1705 to 2005 mm (67.1 to 78.9 in.)	1730 to 2035 mm (68.1 to 80.1 in.)
	Minimum ground clearance		385 mm (15.2 in.)		435 mm (17.1 in.) (drawbar bracket)	
Weight *2			2840 kg (6261 lbs)	3370 kg (7401 lbs)	2880 kg (6349 lbs)	3620 kg (7981 lbs)
Traveling system	Standard tire size *3	Front	10.00-16	12.4-24	10.00-16	13.6-24
		Rear	18.4-30	18.4-30 cast	18.4-34	18.4-34 cast
	Clutch		Multiple wet disc hydraulic			
	Steering		Full hydraulic power steering			
	Transmission		Hydraulic shuttle shift, fully synchronized main shift, 32F / 32R, If equip creep gear 48F / 48R			
	Brake	Travelling	Wet type multiple discs (hydraulic)			
		Parking	Wet type multiple discs (mechanical)			
	Differential		Bevel gears with differential lock (Rear)		Bevel gears with differential lock (Front, Rear)	
Hydraulic system	Hydraulic control system		Position, draft and mix control			
	Pump capacity		65.0 L/min. (17.2 U.S.gals./min., 14.3 lmp.gals./min.)			
	Three point hitch		Category II			
	Max. lifting force	At lifting point *4	2500 kg (5512 lbs) at lower link end with link horizontal 3900 kg (8600 lbs) with 2 assist cylinder (option)			
		24 in. behind lifting point *4	2100 kg (4630 lbs) at 610 mm (24 in.) behind lifting point 3400 kg (7490 lbs) with 2 assist cylinder (option)			
	System pressure		19.6 MPa (200 kgf/cm^2, 2847 psi)			
PTO system	Independent clutch		Wet type, multiple discs			
	Live PTO	Direction of turning	Clockwise, viewed from tractor rear			
		PTO speed	540 min^{-1} (rpm) at 2205 engine min^{-1}(rpm)			
Traction system			Swing drawbar, adjustable in direction			

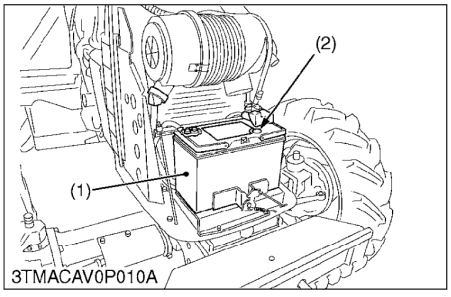
NOTE: * Manufacture's estimate.
*1 The company reserves the right to change the specifications without notice.
*2 W/O cast iron discs for rear wheels.
*3 Cast iron discs available for wheels.
*4 At lower link end with links horizontal.

W10297880

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[4] CHECK POINTS OF EVERY 100 HOURS



Checking Battery Condition

CAUTION

- **Keep electrolyte away from eyes, hands and clothes. If you are spattered with it, wash it away completely with water immediately and get medical attention.**
- **Keep open sparks and flames away from the battery at all times. Hydrogen gas mixed with oxygen becomes very explosive.**
- **Wear eye protection and rubber gloves when working around battery.**

1. The factory installed battery is of non-refillable type. If the indicator (2) turns white, do not charge the battery but replace it with new one.
2. Clean the battery surface with a clean cloth.
   Keep the terminals clean and coated with petroleum jelly.

■ **How to read the indicator**

Check the battery condition by reading the indicator.

State of indicator display	
Green	Specific gravity of electrolyte and quality of electrolyte are both in good condition.
Black	Needs charging battery.
White	Needs changing battery.

(1) Battery (2) Indicator

W1042636

Directions for Storage

CAUTION

- **When connecting the battery, do not reverse the polarities. Connection with reverse polarities will cause spark and troubles to the battery and electrical system in the tractor.**
- **When disconnecting the cable from the battery, start with the negative terminal first.**
- **When connecting the cable to the battery, start with the positive terminal first.**
- **Reversing the steps may cause shortcircuiting, should a metallic tool touch the terminals.**
- **When storing the tractor for long periods of time, remove the battery from the tractor and store in a cool, dry place.**

W1042912

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

6. MAINTENANCE

No.	Items			Indication on hour meter														Since then every	Impor -tant	Refer- ence page
				50	100	150	200	250	300	350	400	450	500	550	600	650	700			
1	Fuel injection nozzle injection pressure (M96S)		Check															1500 hrs		G-36
2	Injection pump (M96S)		Check															3000 hrs		G-36
3	Fuel injection timer (M96S)		Check															3000 hrs		G-36
4	Fuel injection nozzle active test (M108S)		Check															1500 hrs		G-36
5	Supply pump (M108S)		Check															3000 hrs		G-36
6	Engine start system		Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	50 hrs		G-19
7	Wheel bolt torque		Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	50 hrs		G-20
8	Battery condition		Check		☆		☆		☆		☆		☆		☆		☆	100 hrs	*4	G-21
9	Greasing		–		☆		☆		☆		☆		☆		☆		☆	100 hrs		G-26
10	Fan belt		Adjust		☆		☆		☆		☆		☆		☆		☆	100 hrs		G-23
11	Brake pedal		Adjust		☆		☆		☆		☆		☆		☆		☆	100 hrs		G-23
12	Parking brake lever		Adjust		☆		☆		☆		☆		☆		☆		☆	100 hrs		G-25
13	Air cleaner element [Double type]	Primary element	Clean		☆		☆		☆		☆		☆		☆		☆	100 hrs	*1	G-22
			Replace															1 year	*2	G-36
		Secondary element	Replace															1 year		G-36
14	Fuel line		Check		☆		☆		☆		☆		☆		☆		☆	100 hrs		G-22
			Replace															2 years		G-39
15	Hydraulic oil filter		Replace	★			☆				☆				☆			200 hrs		G-17
16	Toe-in		Adjust				☆				☆				☆			200 hrs		G-28
17	Fuel tank water		Drain				☆				☆				☆			200 hrs		G-28
18	Oil cooler line		Check				☆				☆				☆			200 hrs		G-27
			Replace															2 years		G-27
19	Power steering oil line		Check				☆				☆				☆			200 hrs		G-27
			Replace															2 years		G-27
20	Radiator hose and clamp		Check				☆				☆				☆			200 hrs		G-27
			Replace															2 years		G-27

W1035769

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TRAVELING SPEEDS

(At rated engine rpm)

Model				**M96S**		
Tire size (Rear)				18.4-30		
Transmission type				without Dual speed	with Dual speed	
Shuttle shift lever	Range gear shift lever	Main gear shift lever		km/h (mph)	Hi	Lo
					km/h (mph)	km/h (mph)
Forward	CREEP (option)	turtle	1	0.35 (0.22)	0.35 (0.22)	0.29 (0.18)
			2	0.44 (0.28)	0.44 (0.28)	0.37 (0.23)
			3	0.55 (0.34)	0.55 (0.34)	0.45 (0.28)
			4	0.67 (0.42)	0.67 (0.42)	0.55 (0.34)
		rabbit	1	0.86 (0.53)	0.86 (0.53)	0.71 (0.44)
			2	1.09 (0.68)	1.09 (0.68)	0.90 (0.56)
			3	1.35 (0.84)	1.35 (0.84)	1.11 (0.69)
			4	1.65 (1.03)	1.65 (1.03)	1.36 (0.85)
	L	turtle	1	1.95 (1.21)	1.95 (1.21)	1.61 (1.00)
			2	2.48 (1.54)	2.48 (1.54)	2.05 (1.27)
			3	3.05 (1.90)	3.05 (1.90)	2.52 (1.57)
			4	3.74 (2.33)	3.74 (2.33)	3.09 (1.92)
		rabbit	1	4.79 (2.98)	4.79 (2.98)	3.96 (2.46)
			2	6.10 (3.79)	6.10 (3.79)	5.04 (3.13)
			3	7.51 (4.67)	7.51 (4.67)	6.21 (3.86)
			4	9.21 (5.72)	9.21 (5.72)	7.61 (4.73)
	H	turtle	1	6.80 (4.23)	6.80 (4.23)	5.62 (3.49)
			2	8.66 (5.38)	8.66 (5.38)	7.16 (4.45)
			3	10.67 (6.63)	10.67 (6.63)	8.82 (5.48)
			4	13.07 (8.13)	13.07 (8.13)	10.81 (6.72)
		rabbit	1	16.73 (10.40)	16.73 (10.40)	13.83 (8.59)
			2	21.31 (13.24)	21.31 (13.24)	17.61 (10.95)
			3	26.24 (16.31)	26.24 (16.31)	21.69 (13.48)
			4	34.64 (21.53)*	34.64 (21.53)*	26.59 (16.53)

The company reserves the right to change the specifications without notice.
* At maximum engine rpm.

W1035065

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

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.

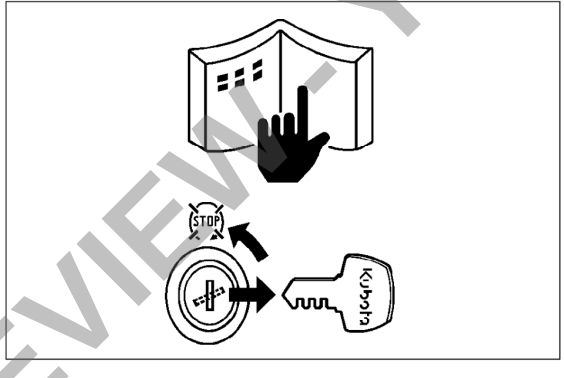
DANGER : **Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.**

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.**

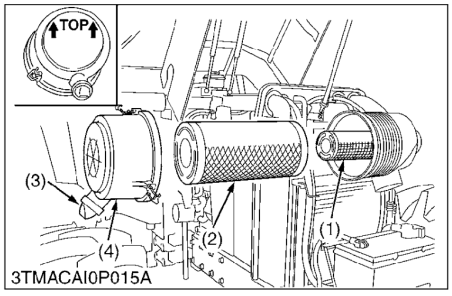


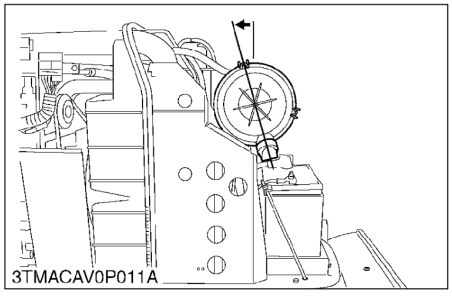
BEFORE SERVICING AND REPAIRING

- 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.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com





Cleaning Air Cleaner Element

1. Remove the air cleaner cover (4) and primary element (2).
2. Clean the primary element if:
   - When dry dust adheres to the element, blow compressed air from the inside turning the element. Pressure of compressed air must be under 205 kPa (2.1 kgf/cm^2, 30 psi).
3. When replacing the air cleaner primary element (2), replace the secondary element (1) as well:
   Once a year or after every six times of cleaning, whichever comes first.

■ **IMPORTANT**

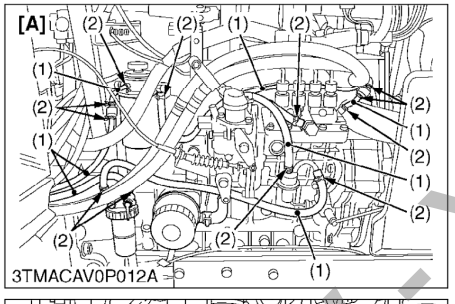
- **The air cleaner uses a dry element, never apply oil.**
- **Do not run the engine with filter element removed.**
- **Be sure to refit the dust cup with the arrow ↑ (on the rear of cup) upright. If the dust cup is improperly fitted, evacuator valve will not function and dust will adhere to the element.**
- **Do not touch the secondary element except in cases where replacing is required.**

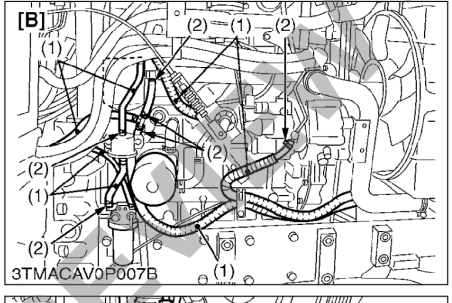
■ **Evacuator Valve**

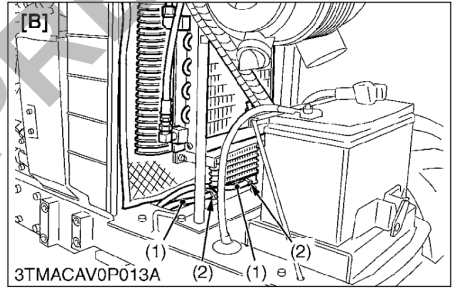
Open evacuator valve once a week under ordinary conditions or daily when used in a dusty place to get rid of large particles of dust and dirt.

(1) Secondary (Safety) Element
(2) Primary Element
(3) Evacuator Valve
(4) Cover

W1043169







Checking Fuel Line

1. Check to see that all lines and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.

■ **NOTE**

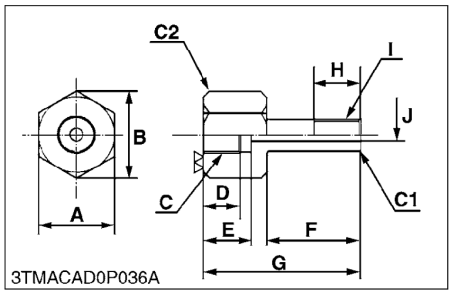
- **If the fuel line is removed, be sure to properly bleed the fuel system.**
  Refer to "[14] OTHERS" in this section.

(1) Fuel Line
(2) Clamp Band
[A] M96S
[B] M108S

W1043622

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



Valve Adaptor

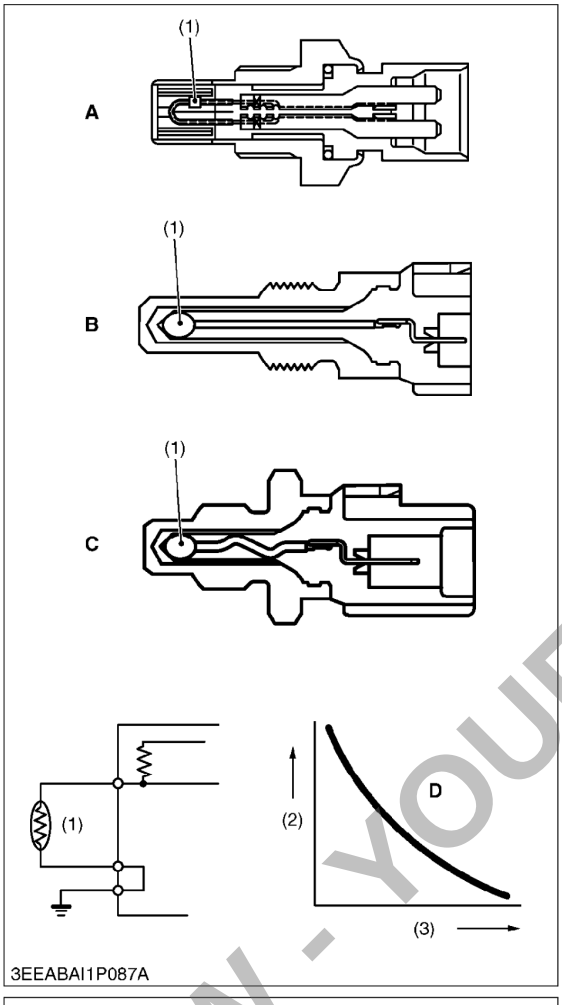
Application: Use for measuring the system pressure of shuttle valve.

A	24.0 mm (0.945 in.)
B	27.7 mm (1.09 in.)
C	G1/4
D	11.0 mm (0.433 in.)
E	15.0 mm (0.591 in.)
F	40.0 mm (1.57 in.)
G	60.0 mm (2.36 in.)
H	15.0 mm (0.591 in.)
I	R1/8
J	4.0 mm dia. (0.16 in. dia.)
C1	Chamfer 1.0 mm (0.039 in.)
C2	Chamfer 2.0 mm (0.079 in.)

W1055758

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



3EEABAI1P087A

■ Intake Air Temperature Sensor

The intake air temperature sensor (**A**) detects the temperature of the intake air after it has passed the turbocharger. The sensor portion that detects the temperature contains a thermistor (1). The thermistor (1), which has an electrical resistance that changes with temperature, is used to detect the intake air temperature.

■ Coolant Temperature Sensor

The coolant temperature sensor (**B**) is installed near the thermostat and detects the engine coolant temperature. This sensor is a thermistor (1) type.

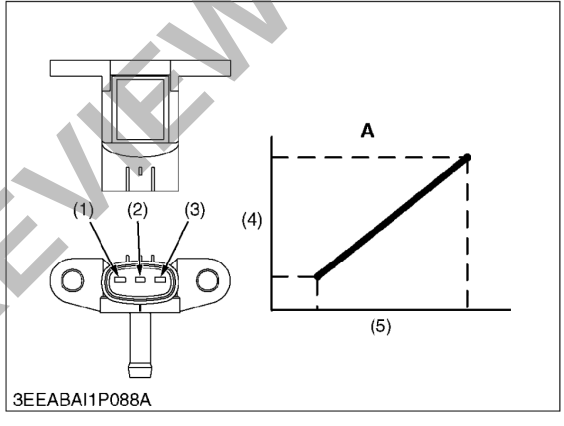
■ Fuel Temperature Sensor

The fuel temperature sensor (**C**) is installed on the fuel intake side of supply pump and utilizes the characteristics of a thermistor (1) in which the electric resistance changes with the temperature in order to detect the fuel temperature.

(1) Thermistor
(2) Resistance Value
(3) Temperature

A: Intake Air Temperature Sensor
B: Coolant Temperature Sensor
C: Fuel Temperature Sensor
D: Resistance - Temperature Characteristic

W1019951



3EEABAI1P088A

■ Intake Air Pressure Sensor

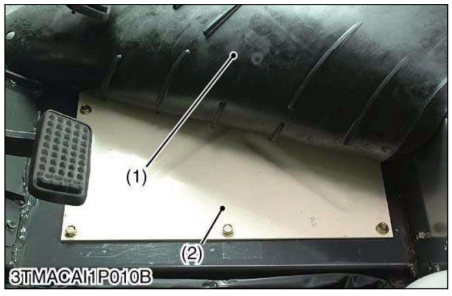
This sensor is a semiconductor type sensor. It measures intake air pressure utilizing the piezoelectric effect that when the pressure on the silicon element in the sensor changes, its electrical resistance changes.

(1) Vcc
(2) Output
(3) GND
(4) Output Voltage
(5) Absolute Pressure

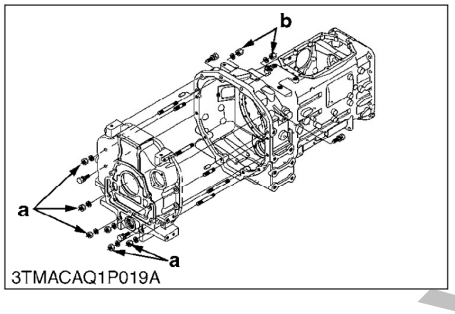
A: Output Voltage - Pressure Characteristic

W1020213

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







Separating Engine from Clutch Housing

1. Remove the floor mat (1) and inspection plate (2).
2. Lift the engine by hoist and chain.
3. Remove the engine mounting screws and nuts, and separate the engine from the clutch housing.

(When reassembling)

- Apply molybdenum disulphide (Three Bond 1901 or equivalent) to the splines of clutch disc boss.
- Apply liquid gasket (Three Bond 1141, 1211 or equivalent) to joint face of the engine and clutch housing.

Tightening torque	Engine and clutch housing mounting screw, nut (standard type)	124 to 147 N·m 12.6 to 15.0 kgf·m 91.2 to 108 lbf·ft
	Engine and clutch housing mounting nut (wide type)	167 to 196 N·m 17.0 to 20.0 kgf·m 123 to 144 lbf·ft
	Engine and clutch housing mounting stud bolt	39 to 45 N·m 3.9 to 4.6 kgf·m 29 to 33 lbf·ft

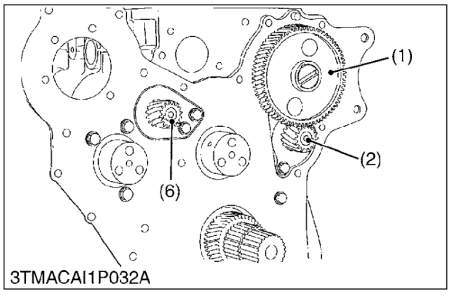
(1) Floor Mat
(2) Inspection Plate

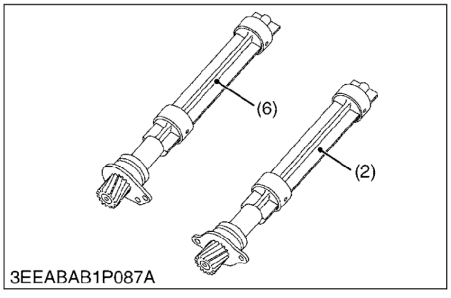
a: Standard Type Nut (7T)
b: Wide Type Nut (9T)

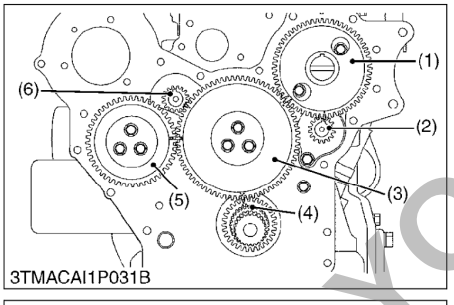
W1035075

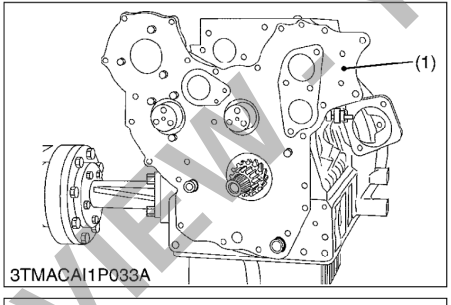
PREVIEW - YOUFIXTHIS.COM

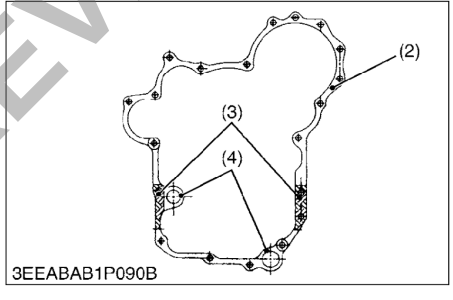
Download full manual at youfixthis.com











Camshaft and Balancer Shaft

1. Remove the camshaft set screws and draw out the camshaft (1).
2. Remove the balancer shaft 1 set screws and draw out the balancer shaft 1 (2).
3. Remove the balancer shaft 2 set screws and draw out the balancer shaft 2 (6).

(When reassembling)

- When install the balancer shaft 1 and 2, be sure to place the 4th cylinder piston at the top dead center in compression then, align all mating marks on each gear to assemble the timing gears, set the idle gear last.

Tightening torque	Camshaft set screw	24 to 27 N·m 2.4 to 2.8 kgf·m 18 to 20 lbf·ft
	Balancer shaft set screw	24 to 27 N·m 2.4 to 2.8 kgf·m 18 to 20 lbf·ft

(1) Camshaft
(2) Balancer Shaft 1
(3) Idle Gear 1
(4) Crank Gear
(5) Idle Gear 2
(6) Balancer Shaft 2

W1053305

Plate (Gear Case)

1. Remove the three plate mounting screws. Remove the plate (1).

(When reassembling)

- Apply Three Bond 1217D adhesive or equivalent over the shaded zones on both sides of the gasket that will be sandwiched between the crankcase and plate.
- Be sure to fix the O-rings (4).

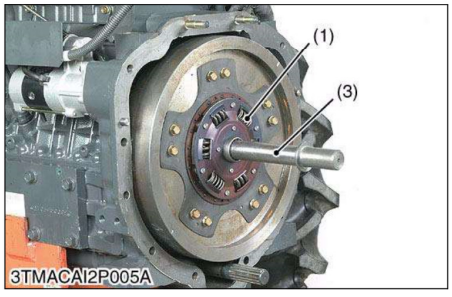
Tightening torque	Plate mounting screw	24 to 27 N·m 2.4 to 2.8 kgf·m 18 to 20 lbf·ft

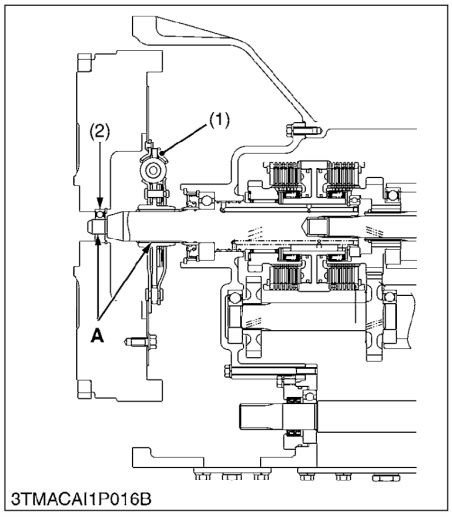
(1) Plate
(2) Gasket
(3) Liquid Gasket
(4) O-ring

W1053809

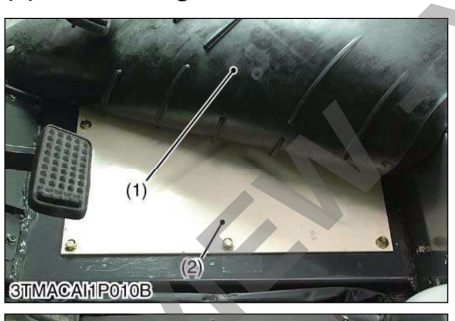
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com





(3) Removing Shuttle Clutch Valve





Damper Disc

1. Remove the damper disc (1).

(When reassembling)

- Make sure that the bearing (2) is surely assembled to the flywheel.
- Direct the shorter end of the damper disc boss toward the flywheel.
- Apply molybdenum disulphide (Three Bond 1901 or equivalent) to the shaft **A**.

■ **IMPORTANT**

- **Align the center of damper disc and flywheel by inserting the clutch center tool (3) (Code No. 07916-53041).**

Tightening torque	Damper disc mounting screw	48 to 55 N·m 4.9 to 5.7 kgf·m 36 to 41 lbf·ft

(1) Damper Disc
(2) Bearing
(3) Clutch Center Tool

W1016312

Shuttle Clutch Valve

1. Remove the floor mat (1) and inspection plate (2).
2. Remove the shuttle valve (3).

(When reassembling)

Tightening torque	**HI-LO** pipe retaining nut	30 to 39 N·m 3.0 to 4.0 kgf·m 22 to 28 lbf·ft
	Delivery pipe retaining nut	49 to 68 N·m 5.0 to 7.0 kgf·m 37 to 50 lbf·ft
	Shuttle valve mounting screw	24 to 27 N·m 2.4 to 2.8 kgf·m 18 to 20 lbf·ft

(1) Floor Mat
(2) Inspection Plate
(3) Shuttle Valve
(4) Delivery Pipe
(5) **HI-LO** Pipe

W1016768

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

3. TIGHTENING TORQUES

Tightening torques of screws, bolts and nuts on the table below are especially specified.
(For general use screws, bolts and nuts: Refer to “5. TIGHTENING TORQUES” at “G.GENERAL” section.)

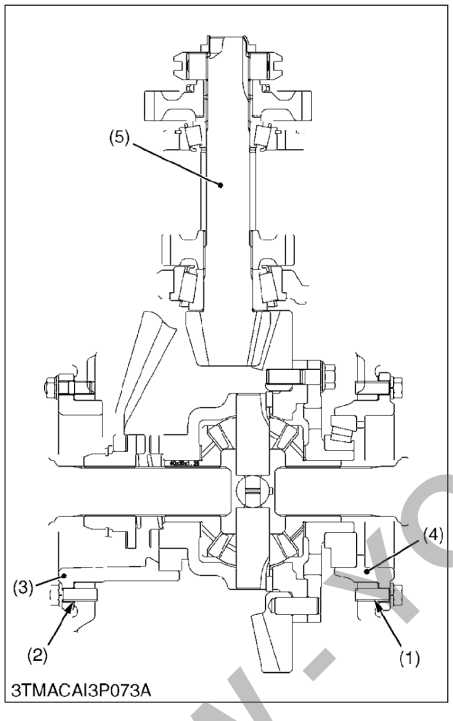
Item	N·m	kgf·m	lbf·ft
Fuel tank stay mounting screw	197 to 225	20.0 to 23.0	145 to 166
Engine and clutch housing mounting screw, nut (standard type)	124 to 147	12.6 to 15.0	91.2 to 108
Engine and clutch housing mounting nut (wide type)	167 to 196	17.0 to 20.0	123 to 144
Engine and clutch housing mounting stud bolt	39 to 45	3.9 to 4.6	29 to 33
Delivery pipe retaining nut	108 to 117	11.0 to 12.0	79.6 to 86.7
Lubricating pipe and HI-LO pipe retaining nut	49 to 68	5.0 to 7.0	37 to 50
Pump base mounting nut	78 to 90	7.9 to 9.2	58 to 66
Mid case and transmission case mounting screw and nut	103 to 117	10.5 to 12.0	76.0 to 86.7
Bearing support mounting screw	78 to 90	7.9 to 9.2	58 to 66
Mid case mounting screw and nut	103 to 117	10.5 to 12.0	76.0 to 86.7
Hydraulic cylinder assembly mounting screw and nut	78 to 90	7.9 to 9.2	58 to 66
Rear axle case mounting screw	118 to 147	12.0 to 15.0	86.8 to 108
Rear cover (PTO cover) mounting screw	78 to 90	7.9 to 9.2	58 to 66
Shuttle case mounting screw and nut	24 to 27	2.4 to 2.8	18 to 20
Shuttle valve mounting screw	24 to 27	2.4 to 2.8	18 to 20
Speed change cover mounting screw	24 to 27	2.4 to 2.8	18 to 20
Bearing retainer mounting screw	24 to 27	2.4 to 2.8	18 to 20
Rear bearing support mounting screw	24 to 27	2.4 to 2.8	18 to 20
HI-LO shift case mounting screw	48 to 55	4.9 to 5.7	36 to 41
PTO shaft staking nut	226 to 264	23.0 to 27.0	167 to 195
PTO case cover mounting screws and reamer bolt	78 to 90	7.9 to 9.2	58 to 66
Differential bearing support mounting screw	48 to 55	4.9 to 5.7	36 to 41
Spiral bevel gear mounting screw	143 to 161	14.5 to 16.5	105 to 119
Spiral bevel pinion shaft staking nut	275 to 343	28 to 35	203 to 253
Parking brake case mounting screw	78 to 90	7.9 to 9.2	58 to 66
Rear wheel mounting nut	344 to 402	35.0 to 41.0	254 to 296
ROPS under frame mounting nut (ROPS Model)	260 to 304	26.5 to 31.0	192 to 224
Step mounting screw (ROPS Model)	197 to 225	20.0 to 23.0	145 to 166
PTO pipe retaining nut	30 to 39	3.0 to 4.0	22 to 28
Power steering turning hose retaining nut	22 to 27	2.2 to 2.8	16 to 20

W1012736

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com


3TMACAI3P071A



3TMACAI3P073A

Turning torque of Spiral Bevel Pinion Shaft and Differential Assembly Combined

1. Reassemble the differential assembly with left shims (2) and right shims (1) same as before assembling.
2. Check that there is a backlash. If there is no backlash, remove a right shim (1) and add a left shim (2).

(Reference)

- If the thickness of shims is not known, refer to the following. Reassemble the differential assembly with no shim at bearing support R (4) side and with an adequate number of shims at bearing support L (3) side. And proceed to the next step.

3. Measure the turning torque by turning the spiral bevel pinion shaft (5), and then add a shim to the bearing support R (4) if the turning torque exceeds the factory specifications, or add a shim to there if the turning torque is less than the factory specifications.
4. And repeat the above procedure until the turning torque becomes the factory specifications.

Turning torque of spiral bevel pinion shaft and differential assembly combination	Factory specification	(Measurement value of spiral bevel pinion shaft only turning torque) Plus 1.3 to 2.4 N·m 0.13 to 0.25 kgf·m 0.94 to 1.8 lbf·ft

(Reference)

- Thickness of adjusting shims (1), (2)
  0.1 mm (0.004 in.) [Code No. 33740-32130]
  0.3 mm (0.012 in.) [Code No. 33740-32140]
  0.5 mm (0.020 in.) [Code No. 33740-32150]

(1) Shim
(2) Shim
(3) Bearing Support L
(4) Bearing Support R
(5) Spiral Bevel Pinion Shaft

W1047603

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

MECHANISM

CONTENTS

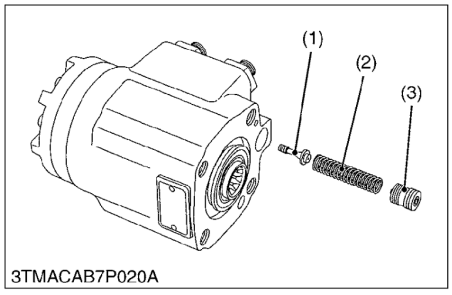
1. STRUCTURE 6-M1
[1] 2-WHEEL DRIVE TYPE 6-M1
[2] 4-WHEEL DRIVE TYPE 6-M2

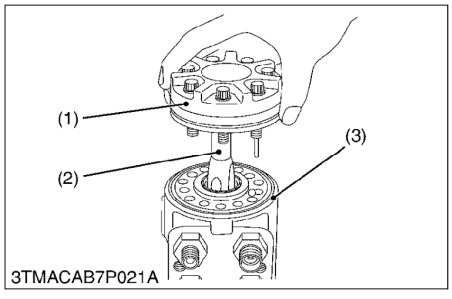
PREVIEW - YOUFIXTHIS.COM

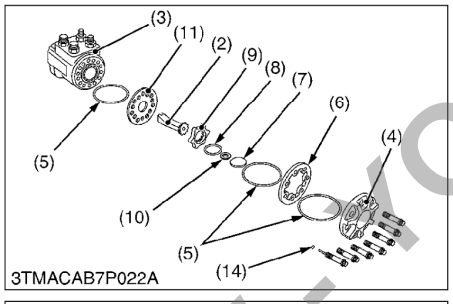
KiSC issued 09, 2020 A

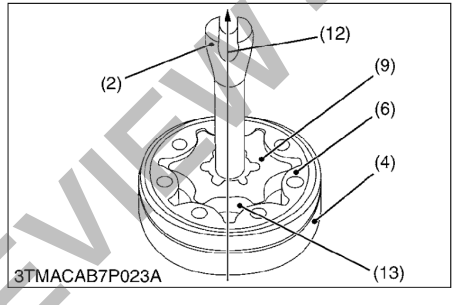
Download full manual at youfixthis.com

(5) Steering Controller Assembly









Relief Valve Assembly

1. Remove the adjust plug (3) and draw out the spring (2) and poppet (1).

(When reassembling)

- Be careful not to damage the O-ring.

■ **IMPORTANT**

- **After disassembling and assembling the relief valve, be sure to adjust the relief valve setting pressure. (Refer to "[1] CHECKING AND ADJUSTING" in this section.)**

(1) Poppet
(2) Spring
(3) Adjust Plug

W1034252

Removing Gerotor

1. Secure the housing (3) in a vise and remove seven gerotor mounting screws and gerotor assembly (1).
2. Remove the distributor plate (11) and drive shaft (2).
3. Remove the rotor (9), O-ring (5) between the distributor plate and stator (6).
4. Remove the spacer ring (10) and spacer (7).
5. Remove the O-ring (8) from the rotor (9).

(When reassembling)

1. Fit an O-ring into the groove of the end cap (4), insert 2 or 3 bolts.
2. Fit an O-ring into the groove of the stator (6), and put it on the end cap, with the O-ring upward.
3. Apply clean transmission fluid (specified fluid) to the rotor (9), fit an O-ring (8) into the groove of the rotor and put the spacer on it. Keeping the spacer on the rotor, fit it into the stator (6) with the spline bevelled side upward.
4. After putting the spacer into the rotor (9) insert the splines of drive shaft (2) into the rotor (9), aligning the direction of drive shaft pin groove (12) with the rotor tooth bottom (13).
5. Fit an O-ring into the groove of the housing (3).
   Fit the pin groove of the drive shaft (2) to the dowel pin inside the housing.

■ **IMPORTANT**

- **Be sure to align the direction of the drive shaft pin groove (12) with the rotor tooth bottom (13).**

Tightening torque	Gerotor assembly mounting screw (5/16')	26 to 28 N·m 2.6 to 2.9 kgf·m 19 to 20 lbf·ft

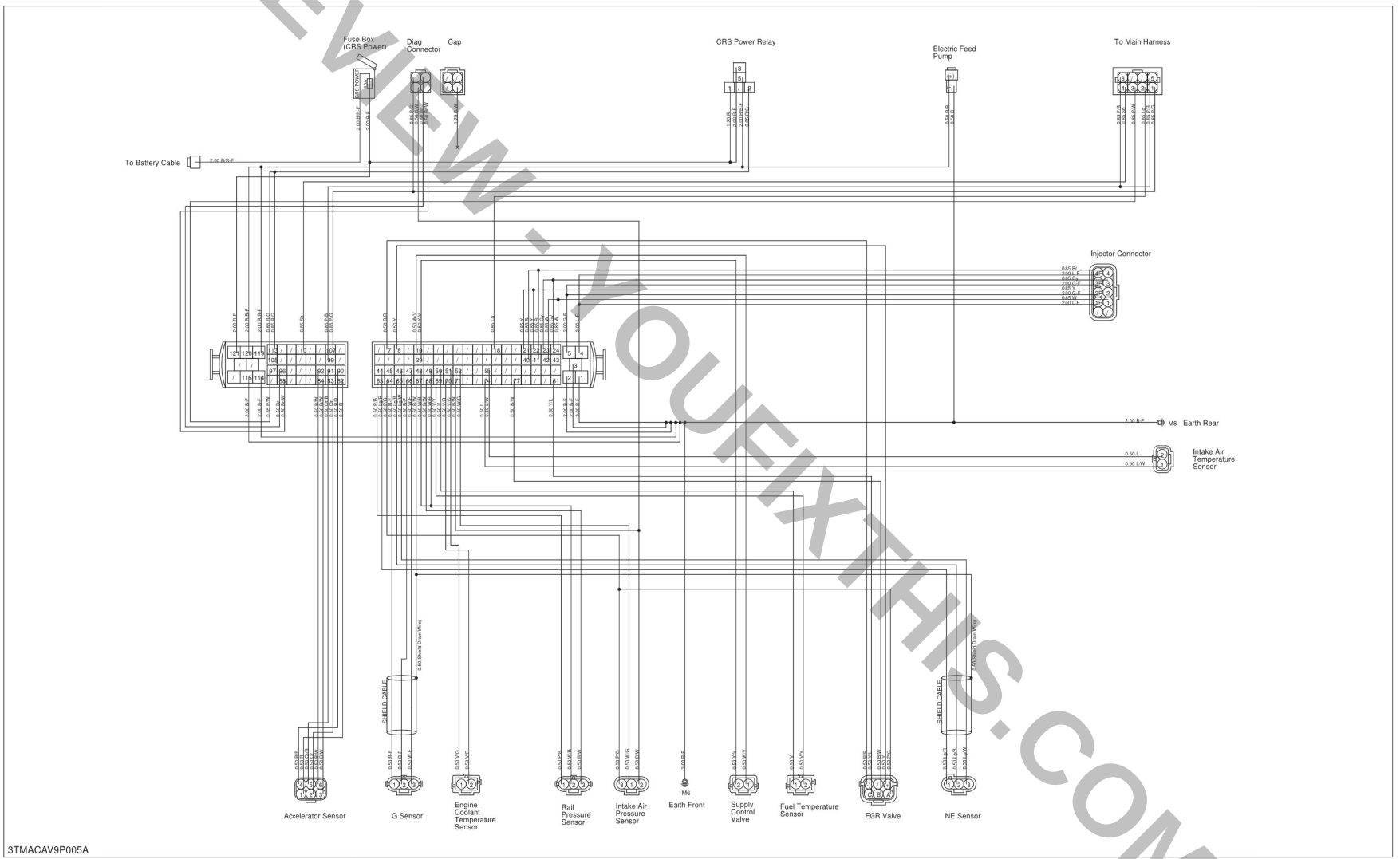
(1) Gerotor Assembly
(2) Driven Shaft
(3) Housing
(4) End Cap
(5) O-ring
(6) Stator
(7) Spacer
(8) O-ring
(9) Rotor
(10) Spacer Ring
(11) Distributor Plate
(12) Direction of Pin Groove
(13) Rotor Tooth Bottom
(14) Ball

W1034410

PREVIEW - YOUFIXTHIS.COM

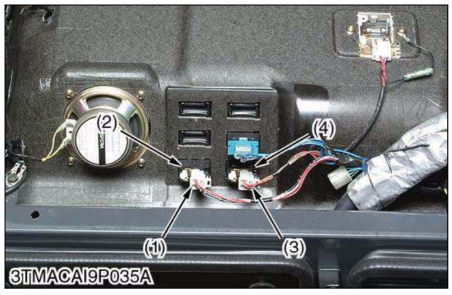
Download full manual at youfixthis.com

[5] CRS HARNESS



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

(6) Work Light Switch

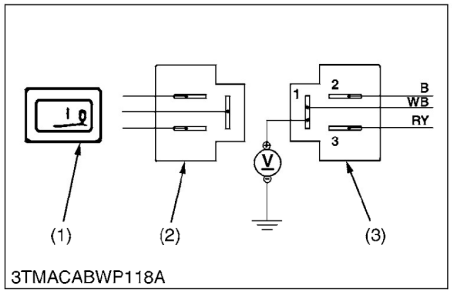


Preparation

1. Remove the outer roof, and disconnect the working light switch connector (1) from the switch (2) connector.
2. Perform the following checkings “Connector Voltage” and “Working Light Switch”.

(1) Working Light Switch Connector (Front)
(2) Working Light Switch (Front)
(3) Working Light Switch Connector (Rear)
(4) Working Light Switch (Rear)

W1037853



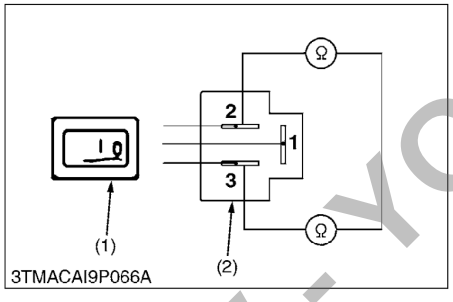
Connector Voltage

1. Turn on the main switch.
2. Measure the voltage with a voltmeter across the connector **1** terminal and chassis.
3. If the voltage differs from the battery voltage, the wiring harness, fuse or main switch is faulty.

Voltage	**1** terminal - Chassis	Approx. battery voltage

(1) Working Light Switch
(2) Working Light Switch Connector (Switch Side)
(3) Working Light Switch Connector (Wiring Harness Side)

W1038200



Working Light Switch

1. Check the continuity through the switch with an ohmmeter.
2. If continuity specified below is not indicated, replace it.

Position \ Terminal		1	2	3
Working light switch	**OFF**		●	●
	ON	●	●	●

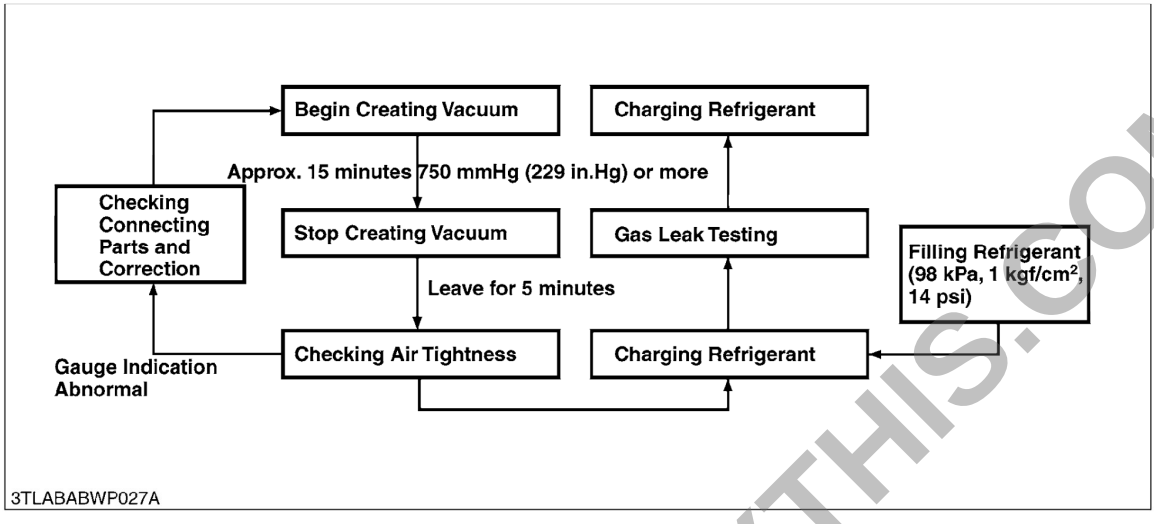
(1) Working Light Switch
(2) Working Light Switch Connector (Switch Side)

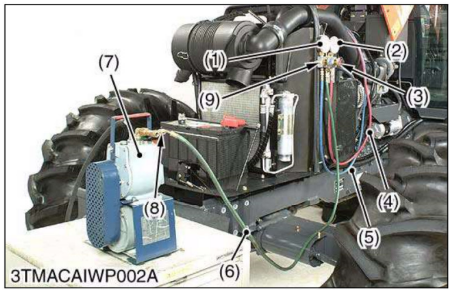
W1038414

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

(2) Evacuating the System





Evacuating the System

1. Discharge refrigerant from the system by R134a refrigerant recovery and recycling machine. (Refer to "(1) Discharging the Refrigerant" in this section.)
2. Connect the charging hose (4) (red) to the **HI** pressure side charging valve and connect the charging hose (5) (blue) to the **LO** pressure side charging valve.
3. Connect the center charging hose (6) (green) to a vacuum pump inlet.
4. Open both valves (3), (9) of manifold gauge fully. Then run the vacuum pump (7) to evacuate the refrigerant cycle. (For approx. 15 minutes.)
5. When **LO** pressure gauge (1) reading is more than 750 mmHg (299 in.Hg), stop the vacuum pump (7) and close both valves (3), (9) of manifold gauge fully.
6. Wait for over 5 minutes with the **HI** and **LO** pressure side valves (3), (9) of gauge manifold closed, and then check that gauge indicator does not return to 0.
7. If the gauge indicator is going to approach to 0, check whether there is a leaking point and repair if it is, and then evacuate it again.

(1) **LO** Pressure Gauge
(2) **HI** Pressure Gauge
(3) **HI** Pressure Side Valve (Open)
(4) Red Hose
(5) Blue Hose
(6) Green Hose
(7) Vacuum Pump (Running)
(8) Vacuum Pump Adaptor
(9) **LO** Pressure Side Valve (Close)

W1018495

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

MG GENERAL

PREVIEW - YOUFIXTHIS.COM

KiSC issued 03, 2010 A

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 708 pages

The full manual includes:

- All 708 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Kubota M96S, M108S, M96SDTM Workshop Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual