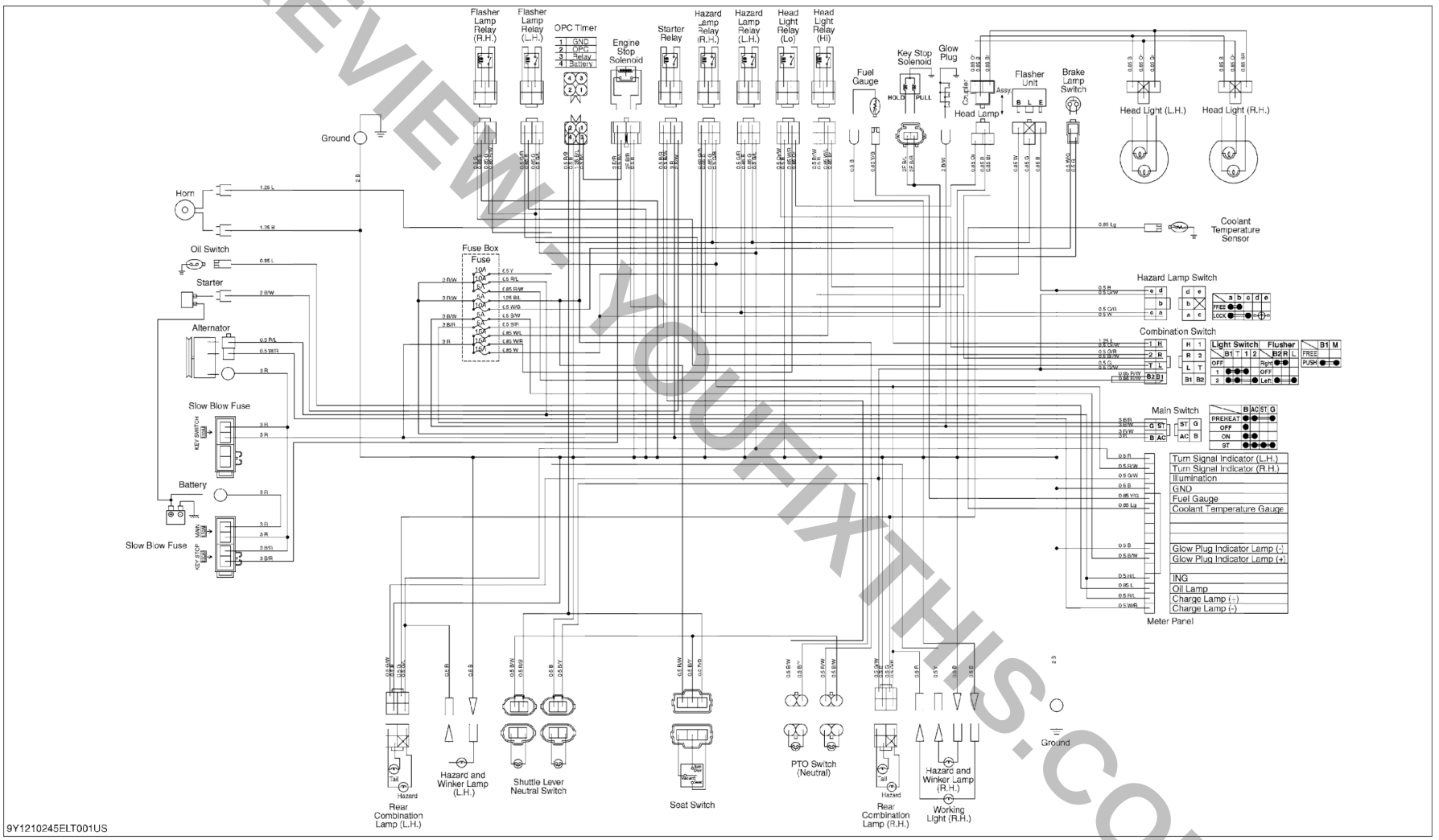
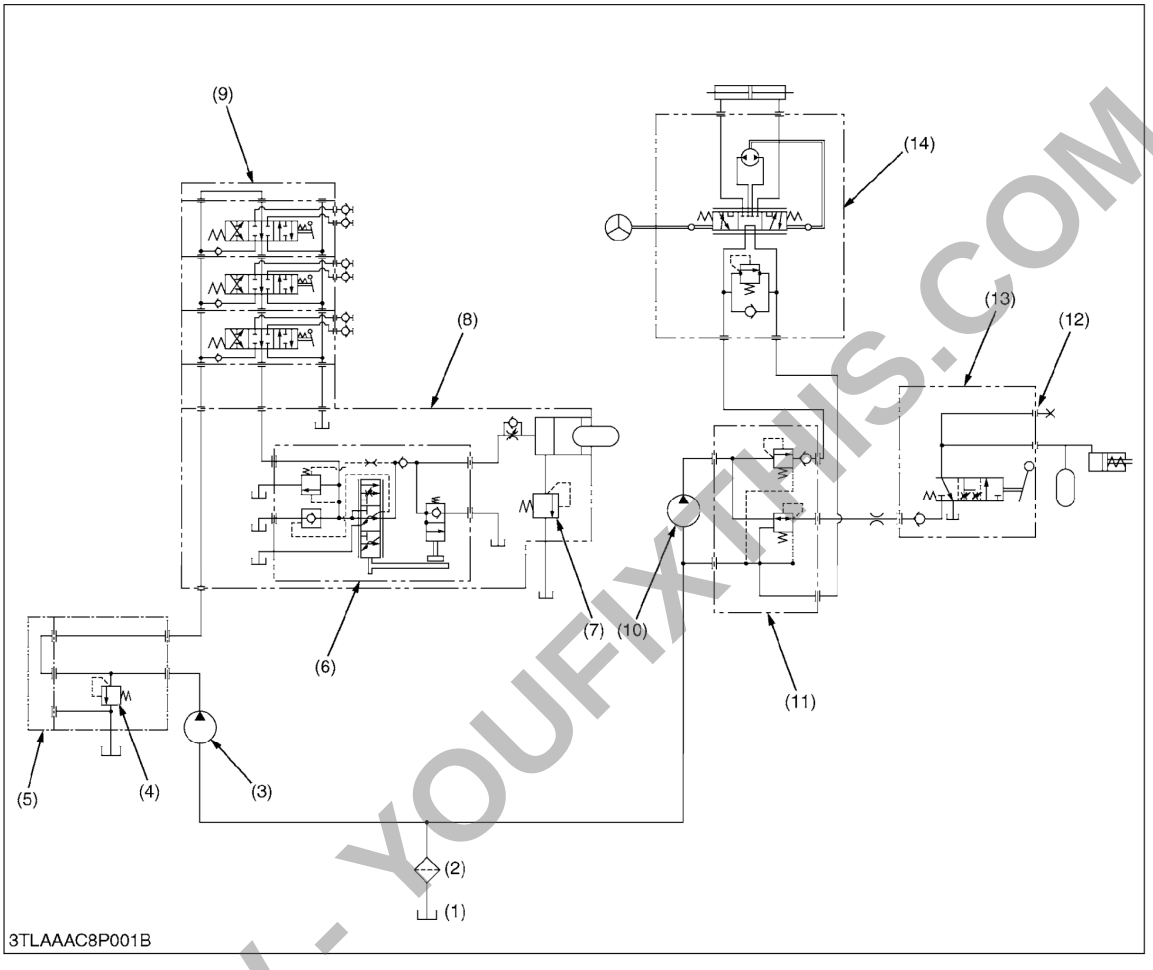
1. WIRING DIAGRAM



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

1. HYDRAULIC CIRCUIT



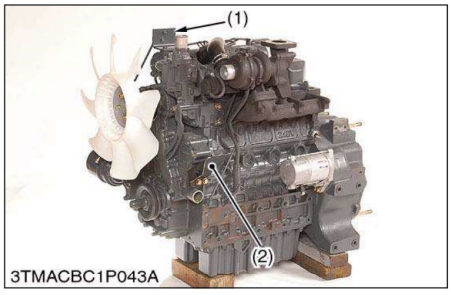
(1) Transmission Case
(2) Oil Filter
(3) Hydraulic Pump (for 3-points Hitch)
(4) Relief Valve
(5) Front Hydraulic Block
(6) Position Control Valve
(7) Cylinder Safety Valve
(8) Hydraulic Cylinder Block
(9) Auxiliary Control Valve (Option)
(10) Hydraulic Pump (for Power Steering and PTO Clutch)
(11) Regulator Valve
(12) Check Port (for PTO Clutch Operating Pressure)
(13) PTO Clutch Valve (Refer to CLUTCH Section)
(14) Power Steering Controller (Refer to STEERING Section)

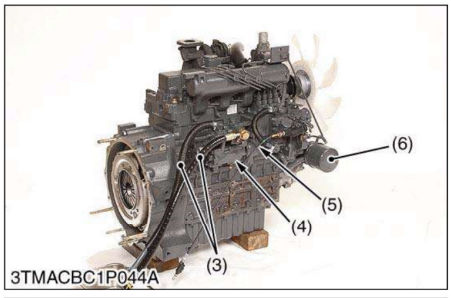
9Y1210245HYM0001US0

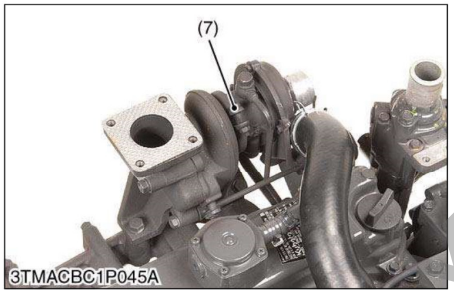
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

(2) Engine External Components







Removing Engine Outer Parts

1. Remove the tank stay (1).
2. Remove the fan belt protection cover (2).
3. Remove the accelerating wire (5) and the oil filter (6).
4. Check oil leakage from the turbocharger (7).

(When reassembling)

- If the oil leakage from the turbocharger is found, replace the turbocharger as an assembly. Refer to page 1-S37.

(1) Tank Stay
(2) Fan Belt Protection Cover
(3) Hydraulic Hose
(4) Hydraulic Pump
(5) Accelerating Wire
(6) Oil Filter
(7) Turbocharger

9Y1210245ENS0032US0

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 : See page “TIGHTENING TORQUES” on page G-10.)

[TRACTOR BODY]

Item	N·m	kgf·m	lbf·ft
Start **B** terminal mounting nut	7.8 to 9.8	0.8 to 1.0	5.8 to 7.2
Steering wheel mounting nut	48.0 to 55.9	4.9 to 5.7	35.4 to 41.2
Power steering main delivery hose retaining nut	46.6 to 50.9	4.8 to 5.2	34.4 to 37.6
Power steering turning delivery hoses retaining nut	24.5 to 29.4	2.5 to 3.0	18.1 to 21.7
Engine and clutch housing mounting screw and nut (M12, grade7)	77.5 to 90.2	7.9 to 9.2	57.1 to 66.5
Engine and clutch housing mounting stud bolt	39.2 to 49.0	4.0 to 5.0	28.9 to 36.2
Front axle frame mounting screw (M10)	60.8 to 70.5	6.2 to 7.2	44.9 to 52.1
Front axle frame mounting screw (M12)	102.9 to 117.6	10.5 to 12.5	76.0 to 86.8
Clutch pressure plate mounting screw	23.5 to 27.5	2.4 to 2.8	17.4 to 20.3

[ENGINE BODY]

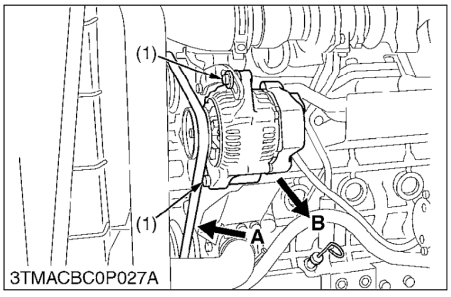
Item	Size × Pitch	N·m	kgf·m	lbf·ft
Cylinder head cover screw	M6 × 1.0	9.81 to 11.2	1.00 to 1.15	7.24 to 8.31
*Cylinder head screw	M11 × 1.25	93.2 to 98.0	9.50 to 10.0	68.8 to 72.3
*Main bearing case screw 1	M9 × 1.25	46 to 50	4.7 to 5.2	34 to 37
*Main bearing case screw 2	M10 × 1.25	69 to 73	7.0 to 7.5	51 to 54
*Flywheel screw	M12 × 1.25	98.1 to 107	10.0 to 11.0	72.4 to 79.5
*Connecting rod screw	M8 × 1.0	45 to 49	4.5 to 5.0	33 to 36
*Rocker arm bracket screw	M8 × 1.25	24 to 27	2.4 to 2.8	18 to 20
*Idle gear shaft screw	M8 × 1.25	24 to 27	2.4 to 2.8	18 to 20
Fan drive pulley mounting nut	M30 × 1.5	138 to 156	14.0 to 16.0	102 to 115
*Bearing case cover mounting screw	M8 × 1.25	24 to 27	2.4 to 2.8	18 to 20
Glow plug	M10 × 1.25	20 to 24	2.0 to 2.5	15 to 18
Nozzle holder assembly	M20 × 1.5	49 to 68	5.0 to 7.0	37 to 50
Oil pressure switch	R 1/8	15 to 19	1.5 to 2.0	11 to 14
Injection pipe retaining nut	M12 × 1.5	25 to 34	2.5 to 3.5	18 to 25
Overflow pipe assembly retaining nut	M12 × 1.5	20 to 24	2.0 to 2.5	15 to 18
Camshaft set screw	M8 × 1.25	24 to 27	2.4 to 2.8	18 to 20
Hi-idling body	M14 × 1.0	45 to 49	4.5 to 5.0	33 to 36
Balancer shaft set bolt	M8 × 1.25	24 to 27	2.4 to 2.8	18 to 20

■ **NOTE**

- **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.**

9Y1210245ENS0003US0

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



Adjusting Fan Belt Tension

CAUTION

- **Be sure to stop the engine before checking and adjusting the belt tension.**

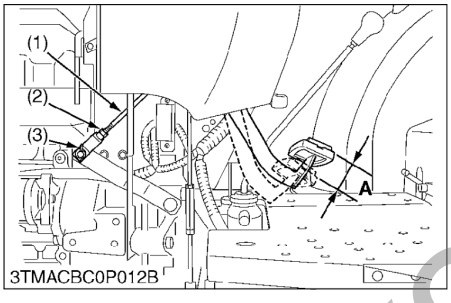
1. Stop the engine and remove the key.
2. Apply moderate thumb pressure to belt between pulleys.
3. If tension is incorrect, loosen the alternator mounting bolts and using a lever placed between the alternator and the engine block, pull the alternator out until the deflection of the belt falls within the factory specifications.
4. Replace fan belt if it is damaged.

Fan belt tension	Factory spec.	A deflection is 12 mm (0.48 in.) when the belt is pressed (68.6 N (7 kgf, 15.4 lbf)) in the middle of the span.

(1) Alternator Mounting Bolt

A : Check the belt tension
B : To Tighten

9Y1210245GEG0027US0



Adjusting Clutch Pedal Free Travel

CAUTION

- **When checking and adjusting the clutch pedal free travel, park the tractor on a flat ground, apply the parking brake, stop the engine and remove the key.**

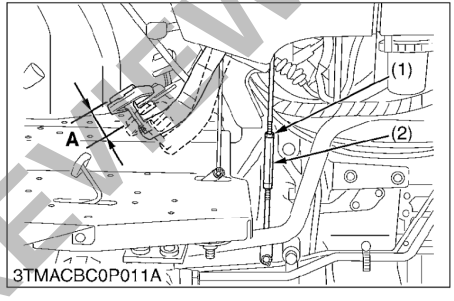
1. Stop the engine and remove the key.
2. Slightly depress the clutch pedal and measure free travel **"A"** at top of pedal stroke.
3. If adjustment is needed, loosen the lock nut (2), remove the cotter pin (3) and adjust the rod length within acceptable limits.
4. Retighten the lock nut (2) and split the cotter pin.

Clutch pedal free travel	Factory spec.	20 to 30 mm (13/16 to 1-3/16 in.) on the pedal

(1) Clutch Rod
(2) Lock Nut
(3) Cotter Pin

A : Free Travel

9Y1210245GEG0028US0



Adjusting Brake Pedal Free Travel

CAUTION

- **Stop the engine and chock the wheels before checking brake pedal.**

1. Release the parking brake.
2. Slightly depress the brake pedals and measure free travel **"A"** at top of pedal stroke.
3. If adjustment is needed, loosen the lock nut (1) and turn the turnbuckle (2) to adjust the rod length within acceptable limits.
4. Retighten the lock nut (1).

Brake pedal free travel	Factory spec.	15 to 20 mm (5/8 to 13/16 in.) on the pedal
		Keep the free travel in the right and left brake pedals equal

(1) Lock Nut
(2) Turnbuckle

A : Free Travel

9Y1210245GEG0029US0

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

1. TROUBLESHOOTING

Symptom	Probable Cause	Solution	Reference Page
Engine Does Not Start	No fuel	Replenish fuel	G-14
	Air in the fuel system	Vent air	G-41
	Water in the fuel system	Change fuel and repair or replace fuel system	–
	Fuel hose clogged	Clean or replace	G-27
	Fuel filter clogged	Replace	G-26
	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-S35
	Incorrect injection timing	Adjust	1-S18
	Fuel camshaft worn	Replace	1-S43
	Injection nozzle clogged	Clean or replace	1-S18
	Injection pump malfunctioning	Replace	1-S19
	Seizure of crankshaft, camshaft, piston, cylinder or bearing	Repair or replace	1-S43, 1-S45, 1-S48
	Compression leak from cylinder	Replace head gasket, tighten cylinder head screw, glow plug and nozzle holder	1-S36, 1-S37
	Improper valve timing	Correct or replace timing gear	1-S43
	Piston ring and cylinder worn	Replace	1-S46
	Excessive valve clearance	Adjust	1-S13
	Stop solenoid malfunctioning	Replace	9-S16
Starter Does Not Run	Battery discharged	Charge	G-23
	Starter malfunctioning	Repair or replace	9-S13
	Key switch malfunctioning	Replace	9-S8
	Wiring disconnected	Connect	–
	Shuttle lever neutral switch malfunctioning	Replace	9-S9
	PTO switch malfunctioning	Replace	9-S9

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

2. SERVICING SPECIFICATIONS

ENGINE BODY

Item		Factory Specification	Allowable Limit
Valve Clearance (When Cold)		0.18 to 0.22 mm 0.0071 to 0.0086 in.	–
Compression Pressure (When Cranking with Starting Motor)		3.24 to 3.72 MPa / 290 min^{-1} (rpm) 33.0 to 38.0 kgf/cm^2 / 290 min^{-1} (rpm) 470 to 540 psi / 290 min^{-1} (rpm)	2.55 MPa / 290 min^{-1} (rpm) 26.0 kgf/cm^2 / 290 min^{-1} (rpm) 370 psi / 290 min^{-1} (rpm)
Top Clearance		0.575 to 0.675 mm 0.0227 to 0.0265 in.	–
Cylinder Head Surface	Flatness	–	0.05 mm / 500 mm 0.002 in. / 19.7 in.
Valve Recessing (Protrusion to Recessing)	Protrusion	0.05 mm 0.002 in.	–
	Recessing	0.15 mm 0.0059 in.	0.40 mm 0.016 in.
Valve Stem to Valve Guide	Clearance	0.040 to 0.070 mm 0.0016 to 0.0027 in.	0.10 mm 0.0039 in.
• Valve Stem	O.D.	7.960 to 7.975 mm 0.3134 to 0.3139 in.	–
• Valve Guide	I.D.	8.015 to 8.030 mm 0.3156 to 0.3161 in.	–
Valve Face	Angle (Intake)	1.0 rad 60 °	–
	Angle (Exhaust)	0.79 rad 45 °	–
Valve Seat	Width (Intake)	2.12 mm 0.0835 in.	–
	Width (Exhaust)	2.12 mm 0.0835 in.	–
Valve Seat	Angle (Intake)	1.0 rad 60 °	–
	Angle (Exhaust)	0.79 rad 45 °	–
Valve Timing (Intake Valve)	Open	0.35 rad (20 °) before T.D.C.	–
	Close	0.79 rad (45 °) after B.D.C.	–
Valve Timing (Exhaust Valve)	Open	0.87 rad (50 °) before B.D.C.	–
	Close	0 rad (0 °) after T.D.C.	–

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

4. LUBRICANTS, FUEL AND COOLANT

No.	Place	Capacity	Lubricants, fuel and coolant
		MX5100	
1	Fuel tank	48.0 L 12.7 U.S.gals 10.6 Imp.gals	• No. 2-D diesel fuel • No. 1-D diesel fuel if temperature is below –10 °C (14 °F)
2	Cooling system with recovery tank	7.0 L 7.4 U.S.qts 5.8 Imp.qts	Fresh clean water with anti-freeze
3	Engine crankcase (with filter)	8.0 L 8.5 U.S.qts 7.0 Imp.qts	**Engine oil** API Service Classification CF or better. Refer to next page. • Above 25 °C (77 °F) SAE30W, 10W-30 or 15W-40 • 0 to 25 °C (32 to 77 °F) SAE20, 10W-30 or 15W-40 • Below 0 °C (32 °F) SAE10, 10W-30 or 15W-40
4	Transmission case	44.0 L 11.6 U.S.qts 9.7 Imp.qts	KUBOTA UDT fluid or KUBOTA SUPER UDT fluid*
5	Front axle case (4WD)	9.0 L 9.5 U.S.qts 7.5 Imp.qts	KUBOTA UDT fluid, KUBOTA SUPER UDT fluid*, SAE80 or SAE90 gear oil

Greasing				
No.	**Place**	**No. of greasing point**	**Capacity**	**Type of grease**
6	Front wheel hub (2WD)	2	Moderate amount	Multipurpose grease NLGI-2 or NLGI-1 (GC-LB)
	Knuckle shaft (2WD)	2	Until grease overflows	
	Front wheel case support (4WD)	2		
	Front axle support (4WD)	2		
	Top link	2		
	Top link bracket	2 (with draft control if equipped)		
	Lift rod	1		
	Battery terminals	2	Moderate amount	

■ **NOTE**
- *** KUBOTA original transmission hydraulic fluid.**

9Y1210245GEG0004US0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

6. MAINTENANCE

No.	Item			Indication on hour meter													Interval	Reference page	Important	
				50	100	150	200	250	300	350	400	450	500	550	600	650	700				
1	Greasing		–	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-21		
2	Engine start system		Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-22		
3	Wheel bolt torque		Check	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-22		
4	Battery condition		Check		☆		☆		☆		☆		☆		☆		☆	every 100 Hr	G-23	*4	
5	Fan belt		Adjust		☆		☆		☆		☆		☆		☆		☆	every 100 Hr	G-25		
6	Clutch pedal free travel		Adjust	★	☆		☆		☆		☆		☆		☆		☆	every 100 Hr	G-25		
7	Brake pedal free travel		Adjust		☆		☆		☆		☆		☆		☆		☆	every 100 Hr	G-25		
8	Fuel filter element		Clean		☆		☆		☆		☆		☆		☆		☆	every 100 Hr	G-26		@
			Replace								☆							every 400 Hr	G-32		
9	Air cleaner element [Double type]	Primary element	Clean		☆		☆		☆		☆		☆		☆		☆	every 100 Hr	G-26	*1	
			Replace															every 1 year	G-37	*2	@
		Secondary element	Replace															every 1 year	G-37		
10	Fuel line		Check		☆		☆		☆		☆		☆		☆		☆	every 100 Hr	G-27		@
			Replace															every 2 years	G-40		
11	Engine oil		Change	★			☆				☆				☆			every 200 Hr	G-19		
12	Engine oil filter		Replace	★			☆				☆				☆			every 200 Hr	G-19		
13	Toe-in		Adjust				☆				☆				☆			every 200 Hr	G-29		
14	Radiator hose and clamp		Check				☆				☆				☆			every 200 Hr	G-30		
			Replace															every 2 years	G-40		
15	Power steering oil line		Check				☆				☆				☆			every 200 Hr	G-30		
			Replace															every 2 years	G-40		
16	Intake air line		Check				☆				☆				☆			every 200 Hr	G-30		@
			Replace															every 2 years	G-40		
17	Hydraulic oil filter		Replace	★							☆							every 400 Hr	G-20		
18	Transmission fluid		Change								☆							every 400 Hr	G-31		
19	Front axle case oil (4WD)		Change								☆							every 400 Hr	G-31		
20	Greasing (2WD front wheel hub)		–								☆							every 400 Hr	G-32		
21	Front axle pivot		Adjust												☆			every 600 Hr	G-32		
22	Engine valve clearance		Adjust															every 800 Hr	G-33		
23	Fuel injection nozzle injection pressure		Check															every 1500 Hr	G-34		@

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

3. SPECIFICATIONS

Model			MX5100 2WD	MX5100 4WD
Engine	Model		V2403- M-TE3	
	Type		E-TVCS Indirect injection, water-cooled diesel	
	No. of cylinders / Aspiration		4 / Turbocharged	
	Total displacement		2.434 L (148.6 cu. in.)	
	Bore and stroke		87 × 102.4 mm (3.4 × 4.0 in.)	
	Net power		37.3 kW (50 HP)*	
	PTO power (factory observed)		32.8 kW (44 HP)* / 2700 min^{-1} (rpm)	
	Maximum torque		166.3 N·m (122.7 lbf·ft)	
	Battery capacity		12 V, RC : 133 min, OCA : 582 A	
	Fuel		Diesel fuel No. 1 [below −10 °C (14 °F)] Diesel fuel No. 2 [above −10 °C (14 °F)]	
Capacity	Fuel tank		48 L (12.7 U.S.gals, 10.6 Imp.gals)	
	Engine crankcase (with filter)		8.0 L (8.5 U.S.qts, 7.0 Imp.qts)	
	Engine coolant		7.0 L (7.4 U.S.qts, 5.8 Imp.qts)	
	Transmission case		44.0 L (11.6 U.S.qts, 9.7 Imp.qts)	
Dimensions	Overall length (without 3P)		3245 mm (127.8 in.)	3120 mm (122.8 in.)
	Overall width (min. tread)		1770 mm (69.7 in.)	
	Overall height (with ROPS)		2430 mm (95.7 in.)	
	Wheel base		1895 mm (74.6 in.)	
	Min. ground clearance		405 mm (15.9 in.)	385 mm (15.2 in.)
	Tread	Front	1280 mm (50.4 in.), 1380 mm (54.3 in.) 1480 mm (58.3 in.), 1580 mm (62.2 in.)	1325 mm (52.2 in.)
		Rear	1375 mm (54.1 in.), 1490 mm (58.7 in.)	
Weight (with ROPS)			1528 kg (3369 lbs)	1642 kg (3620 lbs)
Travelling system	Standard tire size	Front	7.5L-15	9.5-16
		Rear	14.9-26	
	Clutch		Dry type single stage	
	Steering		Hydrostatic power steering	
	Transmission		Gear shift, 8 forward and 8 reverse	
	Braking system		Wet disk type	
	Min. turning radius (with brake)		2.6 m (8.5 feet)	2.7 m (8.9 feet)
Hydraulic unit	Hydraulic control system		Position control (Standard), Draft (Option)	
	Pump capacity		35.8 L (9.5 U.S.gals)	
	Three point hitch		SAE Category I and II	
	max. lift force	At lift points	1300 kg (2870 lbs)	
		24 in. behind lift points	1050 kg (2310 lbs)	
	System pressure		18.6 MPa (190 kgf/cm^2)	
PTO	Rear PTO		SAE 1-3/8, 6 splines	
	PTO / Engine speed		540 / 2700 min^{-1} (rpm)	

■ **NOTE**

- ***Manufacture's estimate**
  The company reserves the right to change the specifications without notice.

9Y1210245INI0004US0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

GENERAL

CONTENTS

1. TRACTOR IDENTIFICATION G-1
   [1] MODEL NAME AND SERIAL NUMBER G-1
   [2] CYLINDER NUMBER G-1
2. GENERAL PRECAUTIONS G-2
3. HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING G-3
   [1] WIRING G-3
   [2] BATTERY G-5
   [3] FUSE G-5
   [4] CONNECTOR G-5
   [5] HANDLING OF CIRCUIT TESTER G-6
   [6] COLOR OF WIRING G-7
4. LUBRICANTS, FUEL AND COOLANT G-8
5. TIGHTENING TORQUES G-10
   [1] GENERAL USE SCREWS, BOLTS AND NUTS G-10
   [2] STUD BOLTS G-10
   [3] METRIC SCREWS, BOLTS AND NUTS G-11
   [4] AMERICAN STANDARD SCREWS, BOLTS AND NUTS WITH UNC OR UNF THREADS G-11
   [5] PLUGS G-11
6. MAINTENANCE G-12
7. CHECK AND MAINTENANCE G-14
   [1] DAILY CHECK G-14
   [2] CHECK POINTS OF INITIAL 50 HOURS G-18
   [3] CHECK POINTS OF EVERY 50 HOURS G-21
   [4] CHECK POINTS OF EVERY 100 HOURS G-23
   [5] CHECK POINTS OF EVERY 200 HOURS G-28
   [6] CHECK POINTS OF EVERY 400 HOURS G-31
   [7] CHECK POINT OF EVERY 600 HOURS G-32
   [8] CHECK POINT OF EVERY 800 HOURS G-33
   [9] CHECK POINT OF EVERY 1500 HOURS G-34
   [10]CHECK POINTS OF EVERY 3000 HOURS G-36
   [11]CHECK POINT OF EVERY 1 YEAR G-37
   [12]CHECK POINTS OF EVERY 2 YEARS G-38
   [13]OTHERS G-41
8. SPECIAL TOOLS G-43
   [1] SPECIAL TOOLS FOR ENGINE G-43
   [2] SPECIAL TOOLS FOR TRACTOR G-52
9. TIRES G-60
   [1] TYPES OF TIRE G-60
   [2] TREADS ADJUSTMENT G-61
      (1) Front Wheels G-61
      (2) Rear Wheels G-62
      (3) Wheel Hub G-63
   [3] TIRE PRESSURE G-63
   [4] TIRE LIQUID INJECTION G-64
   [5] IMPREMENT LIMITATIONS G-67

KiSC issued 03, 2009 A

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

1. SAFETY FIRST

⚠ SAFETY FIRST

- **This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully.**
- **It is essential that you read the instructions and safety regulations before you attempt to repair or use this unit.**

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

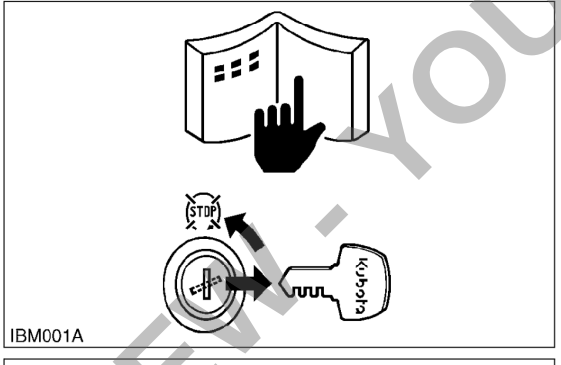
⚠ WARNING
- **Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**

⚠ 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.**

WSM000001INI0001US0



IBM001A


IBM002A

BEFORE YOU START SERVICE

- Read all instructions and safety instructions in this manual and on your machine safety decals.
- Clean the work area and machine.
- Park the machine on a stable and level ground, and set the parking brake.
- Lower the implement to the ground.
- Stop the engine, then remove the key.
- Disconnect the battery negative cable.
- Hang a **"DO NOT OPERATE"** tag in the operator station.

WSM000001INI0010US0

START SAFELY

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

WSM000001INI0015US0

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

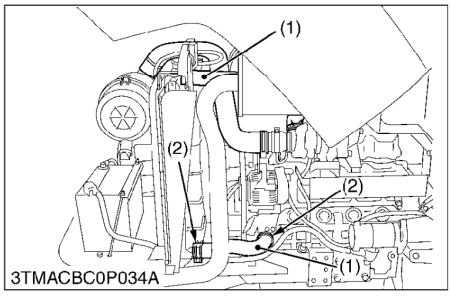
INFORMATION

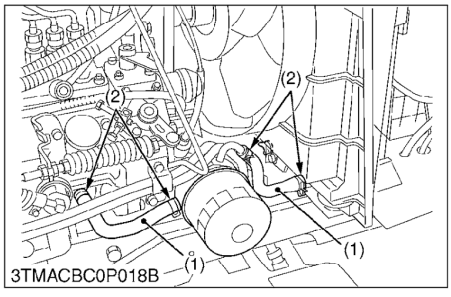
CONTENTS

1. SAFETY FIRST I-1
2. SAFETY DECALS I-4
3. SPECIFICATIONS I-7
4. TRAVELLING SPEEDS I-8
5. DIMENSIONS I-9

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com





Checking Radiator Hose and Hose Clamp

Check to see if radiator hoses are properly fixed every 200 hours of operation or six months, whichever comes first.

1. If hose clamps are loose or water leaks, tighten bands securely.
2. Replace hoses and tighten hose clamps securely, if radiator hoses are swollen, hardened or cracked.
   Replace hoses and hose clamps every 2 years or earlier if checked and found that hoses are swollen, hardened or cracked.

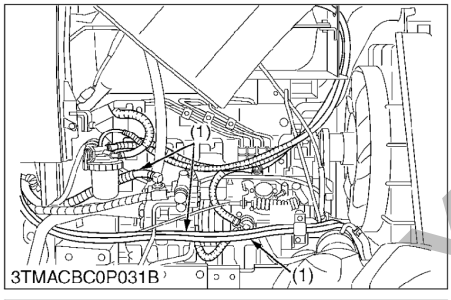
■ **Precaution at Overheating**

Take the following actions in the event the coolant temperature be nearly or more than the boiling point, what is called **"Overheating"**.

1. Park the tractor in a safe place and keep the engine unloaded idling.
2. Do not stop the engine suddenly, but stop it after about 5 minutes of unloaded idling.
3. Keep yourself well away from the machine for further 10 minutes or while the steam blows out.
4. Check that there are no dangers such as burns, get rid of the causes of overheating according to the manual, see "Troubleshooting" section, and then, start again the engine.

(1) Radiator Hose (2) Clamp

9Y1210245GEG0036US0

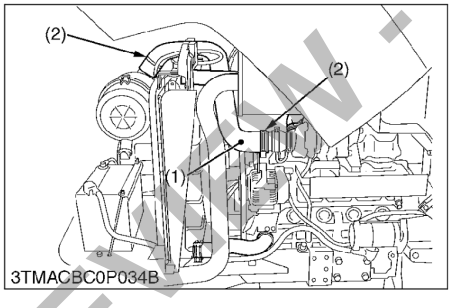


Checking Power Steering Oil Line

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

(1) Power Steering Pressure Hoses

9Y1210245GEG0037US0



Checking Intake Air Line

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

(1) Hose (2) Hose Clamp

9Y1210245GEG0038US0

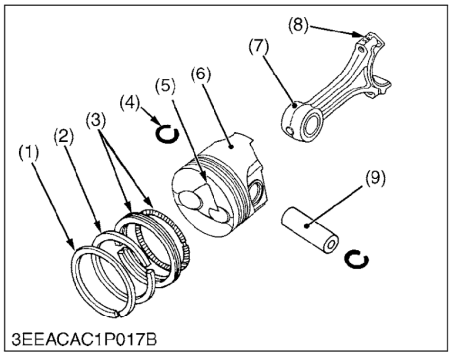
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

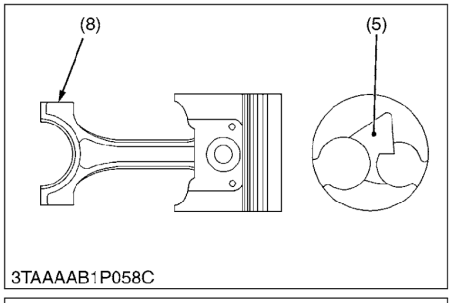
Symptom	Probable Cause	Solution	Reference Page
Excessive Lubricant Oil Consumption	Piston ring's gap facing the same direction	Shift ring gap direction	1-S45
	Oil ring worn or stuck	Replace	1-S46
	Piston ring groove worn	Replace piston	1-S45
	Valve stem and valve guide worn	Replace	1-S51
	Crankshaft bearing, and crank pin bearing worn	Replace	1-S49
	Oil leaking due to defective seals or packing	Replace	–
Fuel Mixed into Lubricant Oil	Injection pump's plunger worn	Replace	1-S39
	Deficient nozzle injection	Repair or replace nozzle	1-S16
	Injection pump broken	Replace	1-S39
Water Mixed into Lubricant Oil	Head gasket defective	Replace	1-S37
	Cylinder block or cylinder head flawed	Replace	1-S37
Low Oil Pressure	Engine oil insufficient	Replenish	G-8
	Oil strainer clogged	Clean	1-S44
	Relief valve stuck with dirt	Clean	–
	Relief valve spring weaken or broken	Replace	–
	Excessive oil clearance of crankshaft bearing	Replace	1-S49
	Excessive oil clearance of crankpin bearing	Replace	1-S45
	Excessive oil clearance of rocker arm	Replace	1-S36
	Oil passage clogged	Clean	–
	Different type of oil used	Use specified type of oil	G-8
	Oil pump defective	Replace	1-S44
High Oil Pressure	Different type of oil used	Use specified type of oil	G-8
	Relief valve defective	Replace	–
Engine overheated	Engine oil insufficient	Replenish	1-S20
	Fan belt broken or elongated	Replace or adjust	G-25
	Coolant insufficient	Replenish	G-38
	Radiator net and radiator fin clogged with dust	Clean	–
	Inside of radiator corroded	Clean or replace	G-38
	Coolant flow route corroded	Clean or replace	G-38
	Radiator cap defective	Replace	1-S15
	Overload running	Reduce the load	–
	Head gasket defective	Replace	1-S37
	Incorrect injection timing	Adjust	1-S16
	Unsuitable fuel used	Use specified fuel	G-8

PREVIEW - YOUFIXTHIS.COM

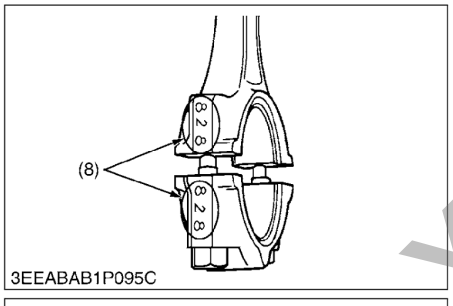
Download full manual at youfixthis.com



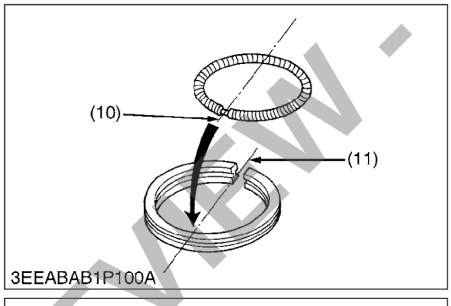
3EEACAC1P017B



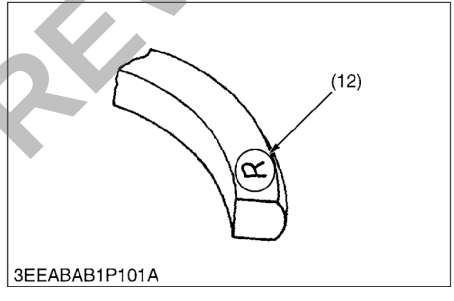
3TAAAAB1P058C



3EEABAB1P095C



3EEABAB1P100A



3EEABAB1P101A

Piston Ring and Connecting Rod

1. Remove the piston rings (1), (2), (3) using a piston ring tool.
2. Remove the piston pin (9), and separate the connecting rod (7) from the piston (6).

(When reassembling)

- When installing the rings, assemble the rings so that the manufacturer's mark (12) near the gap faces the top of the piston (6).
- When installing the oil ring (3) onto the piston (6), place the expander joint (10) on the opposite side of the oil ring gap (11).
- Apply engine oil to the piston pin (9).
- When installing the connecting rod (7) to the piston (6), immerse the piston (6) in 80 °C (176 °F) oil for 10 to 15 minutes and insert the piston pin (9) to the piston (6).
- When installing the connecting rod (7) to the piston (6), align the mark (8) on the connecting rod (7) to the fan-shaped concave (5).

■ **NOTE**

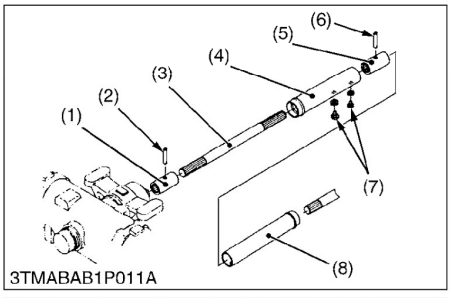
- **Mark the same number on the connecting rod (7) and the piston (6) so as not to change the combination.**

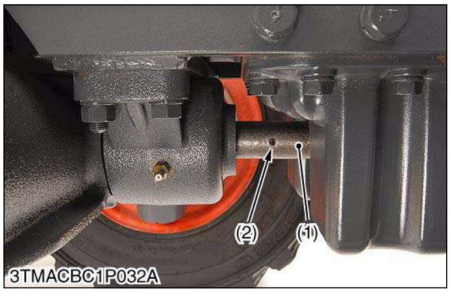
(1) Top Ring
(2) Second Ring
(3) Oil Ring
(4) Piston Pin Snap Ring
(5) Fan-Shaped Concave
(6) Piston
(7) Connecting Rod
(8) Mark
(9) Piston Pin
(10) Expander Joint
(11) Oil Ring Gap
(12) Manufacturer's Mark

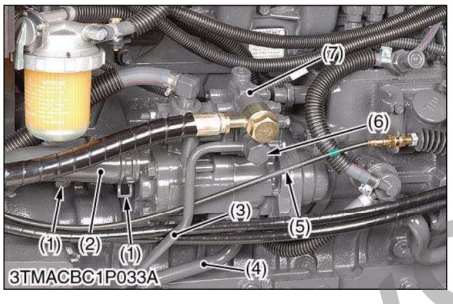
9Y1210245ENS0058US0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com











Disconnecting Front Wheel Drive Shaft Coupling (4WD Model Only)

1. Remove the propeller shaft cover mounting bolts (M5) (7).
2. Slide the propeller shaft cover (4), (8).
3. Remove the spring pin (2).
4. Disconnect the coupling (1) from the front axle drive shaft.

(When reassembling)

- Apply grease to the splines of propeller shaft 1 (3).

(1) Coupling
(2) Spring Pin
(3) Propeller Shaft 1
(4) Propeller Shaft Cover
(5) Coupling
(6) Spring Pin
(7) Bolt (M5)
(8) Propeller Shaft Cover

9Y1210245ENS0026US0

Disconnecting Hydraulic Hose and Pipes

1. Slide the hose bands (1) and disconnect the inlet hose (2) from the hydraulic pump.
2. Remove the joint bolt (6) and disconnect the PTO clutch delivery pipe (3) from the regulator valve (7).
3. Remove the 3-points delivery pipe (4).

(1) Hose Band
(2) Inlet Hose
(3) PTO Clutch Delivery Pipe
(4) 3-Points Delivery Pipe
(5) Hydraulic Pump
(6) Joint Bolt (for PTO Clutch Delivery Pipe)
(7) Regulator Valve

9Y1210245ENS0027US0

Separating Engine and Clutch Housing Case

1. Support the flywheel housing case with a disassembling stand.
2. Support the mid case with a disassembling stand.
3. Remove the engine and clutch housing case mounting bolts and nuts.
4. Separate the engine and the clutch housing case.

(When reassembling)

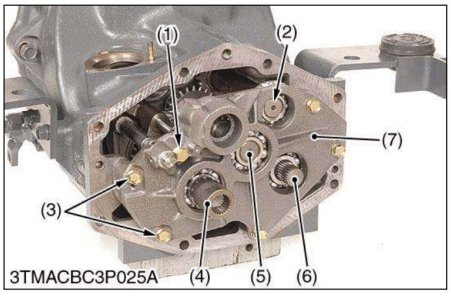
- Apply grease to the spline of clutch shaft.
- Apply liquid gasket (Three Bond 1208D or equivalent) to joint face of the flywheel housing and clutch housing.

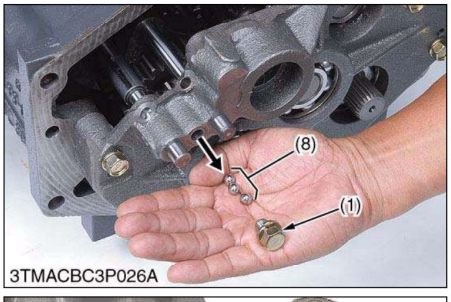
Tightening torque	Engine and clutch housing mounting screw and nut M12, grade 7	77.5 to 90.2 N·m 7.9 to 9.2 kgf·m 57.1 to 66.5 lbf·ft
	Engine and clutch housing mounting stud bolt	39.2 to 49.0 N·m 4.0 to 5.0 kgf·m 28.9 to 36.2 lbf·ft

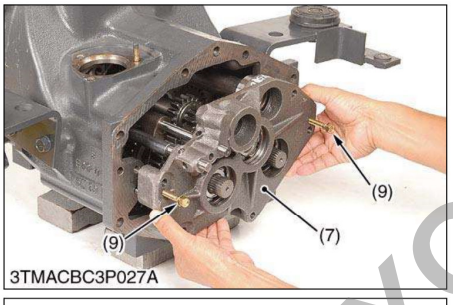
9Y1210245ENS0028US0

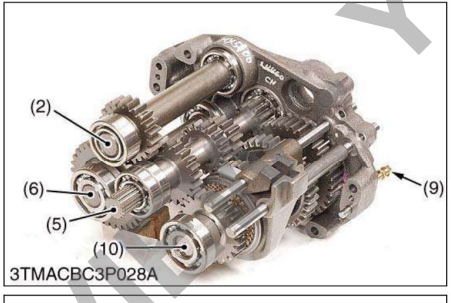
PREVIEW YOUFIXTHIS.COM

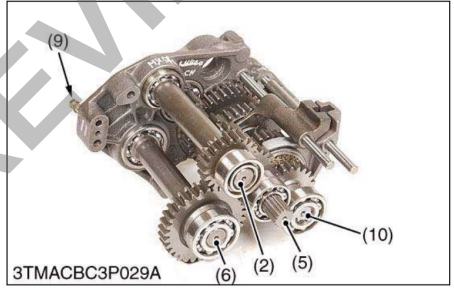
Download full manual at youfixthis.com











Removing Shafts

1. Remove the three interlock balls (8) after removing the stopper bolt (1).
2. Remove the clutch housing bearing holder mounting bolts (3).
3. Screw down the two jack bolts (M8) (9) into the clutch housing bearing holder (7).
4. Remove the clutch housing bearing holder (7) with the shafts (2), (5), (6), (10).

■ **NOTE**

- **Take care not to fly out the interlock balls (8) when pulling out the clutch housing bearing holder (7).**

(When reassembling)

- Install the three interlock balls (8) with a small amount of grease to the clutch housing bearing holder (7) after setting the shift folks and shift rods to the neutral position.

Tightening torque	Clutch housing bearing holder mounting bolts (M10)	48.1 to 55.9 N·m 4.9 to 5.7 kgf·m 35.4 to 41.2 lbf·ft

(1) Stopper Bolt
(2) 21T PTO Gear Shaft
(3) Bolt
(4) Coupling (for Shuttle Shaft)
(5) Main Gear Shaft
(6) PTO Counter Shaft
(7) Clutch Housing Bearing Holder
(8) Interlock Balls
(9) Jack Bolt (M8)
(10) Synchro-Counter Shaft

9Y1210245TRS0009US0

PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com

2. SERVICING SPECIFICATIONS

Item		Factory Specification	Allowable Limit
Brake Pedal	Free Travel	15 to 20 mm 5/8 to 13/16 in. Keep the free travel in the right and left brake pedals equal	– –
Brake Lever Link Shaft to Bushing	Clearance	0.125 to 0.195mm 0.00492 to 0.00768 in.	1.0 mm 0.039 in.
• Brake Lever Link Shaft	O.D.	19.955 to 19.975 mm 0.78563 to 0.78642 in.	–
• Brake Lever Link Bushing	I.D.	20.100 to 20.150 mm 0.79134 to 0.79331 in.	–
Cam Plate	Flatness	–	0.3 mm 0.012 in.
Cam Plate and Ball	Height	20.9 to 21.1 mm 0.823 to 0.831 in.	20.5 mm 0.8071 in.
Brake Disc	Thickness	4.6 to 4.8 mm 0.181 to 0.189 in.	4.2 mm 0.165 in.
Brake Plate	Thickness	2.54 to 2.66 mm 0.1000 to 0.1047 in.	2.1 mm 0.0827 in.

9Y1210245BRS0002US0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

3. TIGHTENING TORQUES

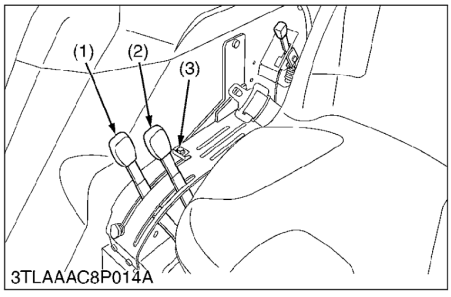
Tightening torques of screws, bolts and nuts on the table below are especially specified.
(For general use screws, bolts and nuts : See page “TIGHTENING TORQUES” on page G-10.)

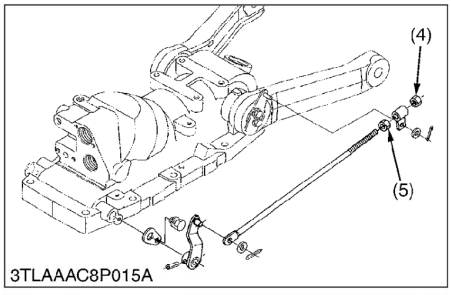
Item	N·m	kgf·m	lbf·ft
Power steering main delivery hose joint bolt	49.0 to 58.8	5.0 to 6.0	36.2 to 43.4
PTO delivery pipe joint bolt	34.3 to 39.2	3.5 to 4.0	25.3 to 28.9
3-Points delivery pipe joint bolt	49.0 to 58.8	5.0 to 6.0	36.2 to 43.4
Regulator valve mounting screw	17.6 to 20.6	1.8 to 2.1	13.0 to 15.2
Hydraulic pump assembling mounting screw and nut	23.6 to 27.4	2.4 to 2.8	17.4 to 20.2
Hydraulic pump cover mounting bolt M10	39.2 to 44.1	4.0 to 4.5	28.9 to 32.5
Steering wheel mounting nut	48.0 to 55.9	4.9 to 5.7	35.4 to 41.2
Power steering main delivery hose retaining nut	46.6 to 50.9	4.8 to 5.2	34.4 to 37.6
Power steering turning delivery hoses retaining nut	24.5 to 29.4	2.5 to 3.0	18.1 to 21.7
Steering controller mounting nut	23.5 to 27.5	2.4 to 2.8	17.4 to 20.3
Power steering hose retaining nut	24.5 to 29.4	2.5 to 3.0	18.1 to 21.7
Tie-rod end nut	156.9 to 146.5	16.0 to 18.0	115.7 to 130.2
Tie-rod joint and steering cylinder	166.6 to 196.0	17.0 to 20.0	122.9 to 144.6

9Y1210245STS0003US0

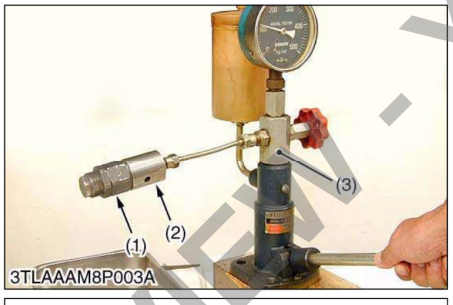
PREVIEW - YOUFIXTHIS.COM

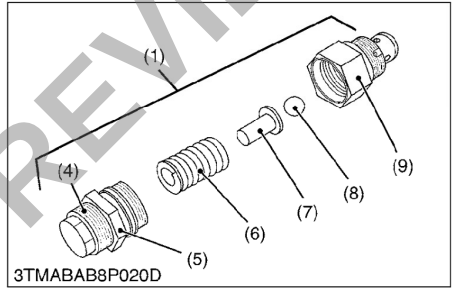
Download full manual at youfixthis.com











Position Control Feedback Rod Adjustment

1. Set the position control lever (1) (the draft control lever (2), if equipped) to the lowest position.
2. Start the engine and set the engine at idling speed (allow the engine to warm up for approx. 5 minutes).
3. Move the position control lever (1) to the uppermost position. [Contact to the position control lever stopper (3).]
4. Turn the adjusting nut (4) and lock nut (5) together clockwise until the relief valve begins to be operated.
5. Turn the adjusting nut (4) and lock nut (5) together counter clockwise 2 turns.
6. Tighten the lock nut (5).
7. Set the engine speed at the maximum.
8. Move the position control lever (1) to the lowest position and uppermost position (3 to 5 times) to check the relief valve does not operate.
9. Set the position control lever (1) to the uppermost position, then move the lift arm to the upper end by hand and measure the free play.
10. Stop the engine.
11. If the measurement is not within the factory specifications, adjusting position control feedback rod again.

Lift arm free play at maximum raising position	Factory spec.	10 to 15 mm 0.39 to 0.58 in.

(1) Position Control Lever
(2) Draft Control Lever (If Equipped)
(3) Position Control Feedback Rod
(4) Adjusting Nut
(5) Lock Nut

A : Lift Arm Free Play

9Y1210245HYS0009US0

Cylinder Safety Valve Operating Pressure

1. Install the cylinder safety valve to the cylinder safety valve setting pressure adaptor.
2. Set the cylinder safety valve setting pressure adaptor to the nozzle tester.
3. Measure the cylinder safety valve operating pressure.
4. If the operating pressure is not within the factory specifications, adjust the operating pressure by turning the adjusting screw (4).
5. After adjustment, tighten the lock nut (5) firmly.

■ **NOTE**

- **Use specified transmission fluid to measure the cylinder safety valve operating pressure.**

Hydraulic cylinder safety valve operating pressure	Factory spec.	19.6 to 22.6 MPa 200 to 230 kgf/cm^2 2845 to 3277 psi

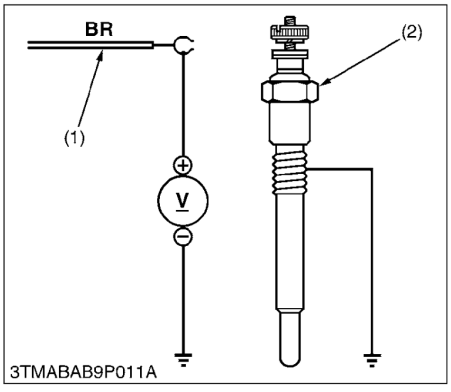
Tightening torque	Cylinder safety valve lock nut	58.8 to 78.5 N·m 6.0 to 8.0 kgf·m 43.4 to 57.9 lbf·ft

(1) Cylinder Safety Valve
(2) Cylinder Safety Valve Setting Pressure Adaptor
(3) Nozzle Tester
(4) Adjusting Screw
(5) Lock Nut
(6) Spring
(7) Seat
(8) Ball
(9) Housing

9Y1210245HYS0010US0

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

(6) Glow Control System



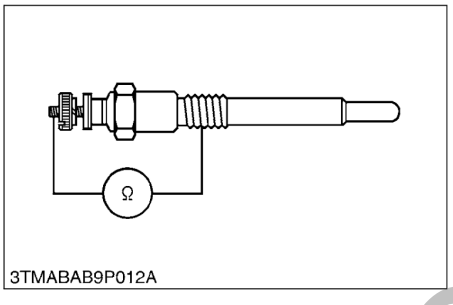
Glow Plug Lead Terminal Voltage

1. Disconnect the wiring lead (1) from the glow plug (2) after turning the main switch off.
2. Turn the main switch key to the "**PREHEAT**" position, and measure the voltage between the lead terminal and the chassis.
3. Turn the main switch key to the "**START**" position, and measure the voltage between the lead terminal and the chassis.
4. If the voltage at either position differs from the battery voltage, the wiring harness or main switch is faulty.

Voltage (Lead terminal – Chassis	Main switch key at **"PREHEAT"**	Approx. battery voltage
	Main switch key at **"START"**	Approx. battery voltage

(1) Wiring Lead (Positive) (2) Glow Plug

WSM000001ELS0011US0



Glow Plug Continuity

1. Disconnect the lead from the glow plugs.
2. Measure the resistance between the glow plug terminal and the chassis.
3. If 0 ohm is indicated, the screw at the tip of the glow plug and the housing are short-circuited.
4. If the factory specification is not indicated, the glow plug is faulty.

Glow plug resistance	Factory spec.	Approx. 0.9 Ω

WSM000001ELS0012US0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

4. LUBRICANTS FUEL AND COOLANT

No.	Place	Capacity	Lubricants, fuel and coolant
		MX5100HST	
1	Fuel tank	48.0 L 12.7 U.S.gals 10.6 Imp.gals	• No. 2-D diesel fuel • No. 1-D diesel fuel if temperature is below –10 °C (14 °F)
2	Engine coolant	7.0 L 7.4 U.S.qts 6.2 Imp.qts	Fresh clean soft water with anti-freeze
3	Engine crankcase (with filter)	8.0 L 8.5 U.S.qts 7.0 Imp.qts	**Engine oil** Refer to next page • Above 25 °C (77 °F) SAE30, 10W-30 or 15W-40 • 0 to 25 °C (32 to 77 °F) SAE20, 10W-30 or 15W-40 • Below 0 °C (32 °F) SAE10W, 10W-30 or 15W-40
4	Transmission case	44.0 L 11.6 U.S.gals 9.68 Imp.gals	KUBOTA UDT or SUPER UDT fluid*
5	Front axle case	9.0 L 9.5 U.S.qts 7.9 Imp.qts	KUBOTA UDT or SUPER UDT fluid* or SAE 80-90 gear oil

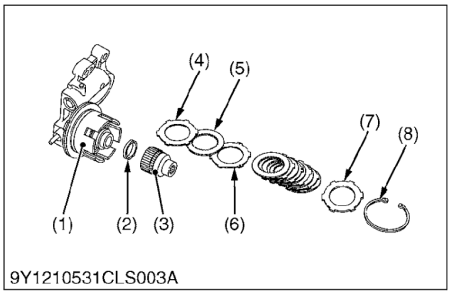
Greasing				
No.	Place	No. of greasing point	Capacity	Type of grease
6	Front wheel case support	2	Until grease overflows	Multipurpose grease NLGI-2 or NLGI-1 (GC-LB)
	Front axle support	2		
	Top link	2		
	Top link bracket	2 [with Draft Control (if equipped)]		
	Lift rod	1		
	Battery terminal	2	Moderate amount	

■ **NOTE**
- *** KUBOTA UDT or SUPER UDT fluid, KUBOTA original transmission hydraulic fluid**

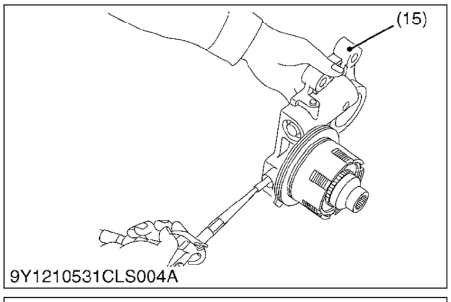
9Y1210531GEG0001US0

PREVIEW - YOUFIXTHIS.COM

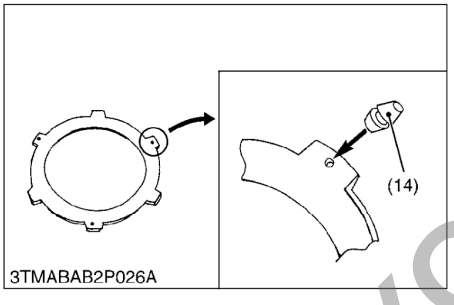
Download full manual at youfixthis.com



9Y1210531CLS003A



9Y1210531CLS004A



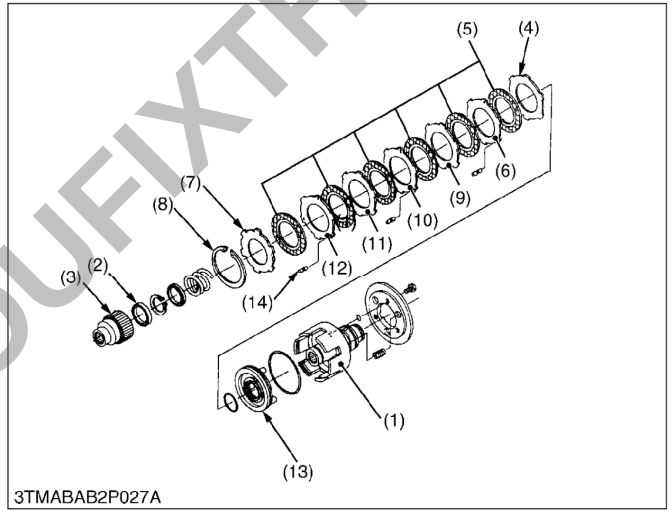
3TMABAB2P026A

Disassembling PTO Clutch Assembly

1. Remove the internal snap ring (8), and then take out the clutch discs (5), the back plate (7), the steel plates (6), (9), (10), (11) and (12), the hub (3) and the bearings (2).

(When reassembling)

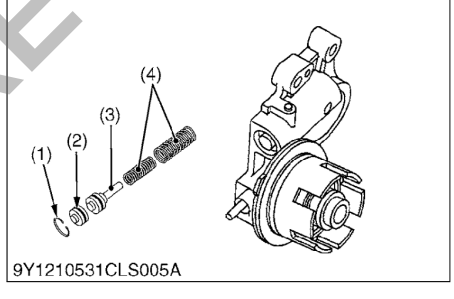
- Install the clutch discs (5) and steel plates (12), (11), (10), (9) and (6) mutually. (Refer to figure below.)
- Do not confuse the two types steel plates. The steel plates with the plug rubbers (14) are (6), (10), (12) and without plug rubbers (14) are (9) and (11).
- Do not confuse the back plate (7) and steel plates. The back plate (7) is thicker than the steel plates.
- Assemble the plug rubbers portion of the three steel plates (6), (10) and (12) are same positions while assembling them. (Refer to figure below.)
- Apply enough transmission fluid to the discs (5).
- Confirm the moving of the piston (13) smoothly when pressure air at 0.30 to 0.39 MPa (3.0 to 4.0 kgf/cm^2, 43 to 56 psi) is sent to clutch pack. (Refer to the figure left.)



3TMABAB2P027A

(1) Clutch Case
(2) Bearing
(3) Hub
(4) Steel Plate (without Plug Rubber)
(5) Clutch Disc
(6) Steel Plate (with Plug Rubber)
(7) Back Plate
(8) Internal Snap Ring
(9) Steel Plate (without Plug Rubber)
(10) Steel Plate (with Plug Rubber)
(11) Steel Plate (without Plug Rubber)
(12) Steel Plate (with Plug Rubber)
(13) Piston
(14) Plug Rubber
(15) Bearing Holder

9Y1210531CLS0019US0



9Y1210531CLS005A

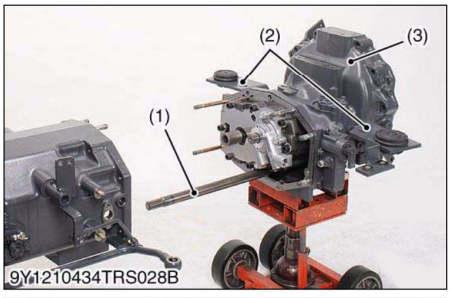
Modulating Valve

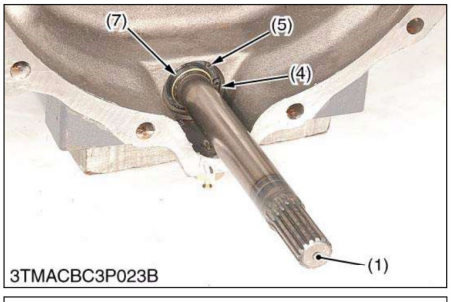
1. Remove the internal snap ring (1).
2. Remove the spring seat (2).
3. Draw out the spring (4) and piston (3).

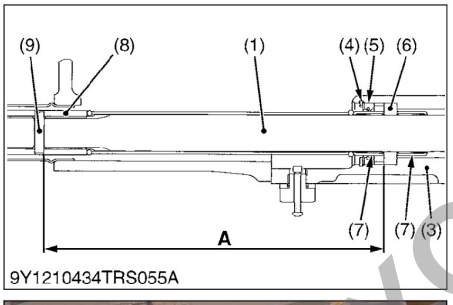
(1) Internal Snap Ring
(2) Spring Seat
(3) Piston
(4) Spring

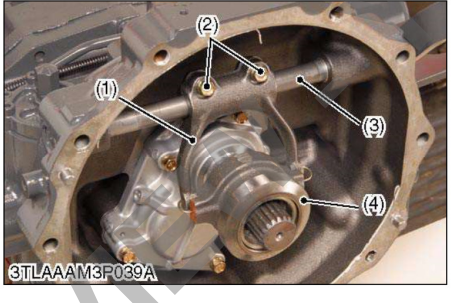
9Y1210531CLS0020US0

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









Front Wheel Drive Shaft and Step Front Bracket

1. Remove the step front brackets (2) from the clutch housing (3).
2. Remove the internal cir-clip (4).
3. Pull out the front axle drive shaft (1) to the front side.

(When reassembling)

- Install the ball bearing to the **A** position as shown in the figure.

(1) Front Wheel Drive Shaft
(2) Step Front Bracket
(3) Clutch Housing
(4) Internal Cir-clip
(5) Oil Seal
(6) Ball Bearing
(7) Sleeve
(8) Coupling
(9) Spring Pin

A : Length 234.3 mm (9.224 in.)

9Y1210531TRS0018US0

Clutch Lever, Release Fork and Release Bearing

1. Remove the release fork mounting screws (2).
2. Draw out the clutch lever (3) to remove the release fork (1).
3. Remove the release bearing and the release hub (4) together.

(When reassembling)

- Apply grease to the sliding surface of the clutch release hub.
- Apply grease to the clutch lever.

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

(1) Release Fork
(2) Release Fork Mounting Screw
(3) Clutch Lever
(4) Release Hub

9Y1210531TRS0019US0

PREVIEW YOUFIXTHIS.COM
Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 564 pages

The full manual includes:

- All 564 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Kubota MX5100, MX5100HST Workshop Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual