WSM

WORKSHOP MANUAL

ZG124E,ZG123S,
ZG127E,ZG127S

Kubota

KiSC issued 09, 2013 A

PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com

INFORMATION

CONTENTS

1. SAFETY FIRST I-1
2. SAFETY DECALS I-4
3. SPECIFICATIONS I-8
4. DIMENSIONS I-10

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 try to repair or use this unit.**

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

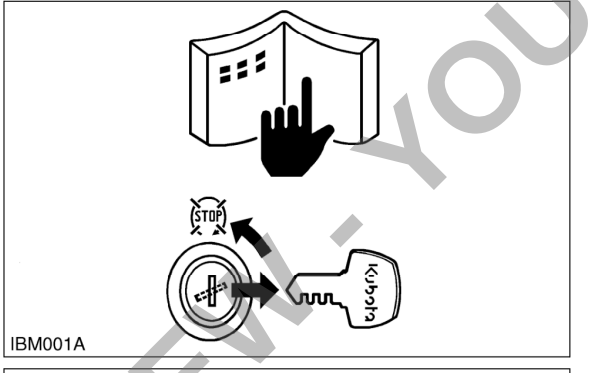
⚠ WARNING
- **Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**

⚠ 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

3. SPECIFICATIONS

Model			ZG124E	ZG123S	ZG127E	ZG127S
Engine	Model		GH731V	GH732V	GH733V	GH734V
	Max. engine power (Gross)		17.9 kw (24 HP) *1*2	17.2 kw (23 HP) *1*3	20.1 kw (27 HP) *1*2	20.1 kw (27 HP) *1*3
	Type		Air-cooled gasoline engine			
	Number of cylinders		2 (V-Twin)			
	Bore and stroke		79 × 73 mm (3.11 × 2.87 in.)	83 × 67 mm (3.27 × 2.64 in.)	79 × 73 mm (3.11 × 2.87 in.)	83 × 67 mm (3.27 × 2.64 in.)
	Total displacement		724 cm^3 (44 cu. in.)	725 cm^3 (44 cu. in.)	724 cm^3 (44 cu. in.)	725 cm^3 (44 cu. in.)
	Rated revolution		3600 rpm			
	Fuel		Unleaded gasoline			
	Starter		Electric			
	Lubrication		Full pressure lubrication			
	Cooling		Air cooled			
	Battery		U1 (12 V, RC: 45 min, CCA: 300, CA: 410)			
Capacities	Fuel tank		16 L (4.2 U.S.gals, 0.92 Imp.gals)			
	Engine crankcase (with filter)		1.8 L (1.9 U.S.qts, 1.6 Imp.qts)			
	Transmission case including Rear axle gear case		4.8 L (5.1 U.S.qts, 4.2 Imp.qts) *4			
Dimensions	Overall length		1940 mm (76.4 in.)			
	Overall width w/o mower deck		1207 mm (47.5 in.)			
	Overall height	With ROPS	1652 mm (65.0 in.)			
	Wheelbase		1155 mm (45.5 in.)			
	Min. ground clearance		123 mm (4.84 in.) W/48"		123 mm (4.84 in.) W/54"	
	Tread	Front	796 mm (31.3 in.)			
		Rear	954 mm (37.6 in.)			
Weight (W/MOWER DECK)			330 kg (728 lbs) with 48"	340 kg (750 lbs) with 48"	340 kg (750 lbs) with 54"	350 kg (772 lbs) with 54"
Traveling system	Tread	Front	11 × 4 - 5 (4PR) Smooth			
		Rear	22 × 10 - 14 (4PR) Turf			
	Traveling speeds	Forward	0 to 12.9 km/h (0 to 8.0 mph)			
		Reverse	(0 to 6.4 km/h (0 to 4.0 mph)			
	Steering		2 - Hand levers			
	Transmission		2 - HST w / Gear			
	Parking brake		Hand lever applied, released			
	Min. turning radius		0 mm (0 in.)			
PTO	Drive system		Belt			
	Clutch type		Electric			

(Specifications and design subject to change without notice)

■ **NOTE**

- ***1: Manufacturer's estimate**
  ***2: The gross power rating for individual gas engine models is labeled in accordance with SAE (Society of Automotive Engineers) code J1940 (Small Engine Power & Torque Rating Procedure), and rating performance has been obtained and corrected in accordance with SAE J1995 (Revision 2002-05). Torque values are derived at 3060 RPM; horsepower values are derived at 3600 RPM. Actual gross engine power will be lower and is affected by, among other things, ambient operating conditions and engine-to-engine variability. Given both the wide array of products on which engines are placed and the variety of environmental issues applicable to operating the equipment, the gas engine will not develop the rated gross power when used in a given piece of power equipment (actual "onsite" or net power). This difference is due to a variety of factors including, but not limited to, accessories (air cleaner, exhaust, charging, cooling, carburetor, fuel pump, etc.), application limitations, ambient operating conditions (temperature, humidity, altitude), and engine-to-engine variability. Due to manufacturing and capacity limitations, Briggs & Stratton may substitute an engine of higher rated power for this Series engine.**
  ***3: Horsepower ratings exceed Society of Automotive Engineers Small Engine Test Code J1940. Actual engine horsepower is lower and affected by, but not limited to, accessories (air cleaner, exhaust, charging, cooling, fuel pump, etc.), application, engine speed and ambient operating conditions (temperature, humidity, and altitude).**
  Kohler reserves the right to change product specifications, design, and standard equipment without notice and without incurring obligation.
  ***4: Oil amount when the oil level is at the upper level.**

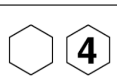
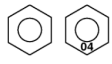
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

5. TIGHTENING TORQUES

[1] GENERAL USE SCREWS, BOLTS AND NUTS

Tighten screws, bolts and nuts whose tightening torques are not specified in this Workshop Manual according to the table below.

Indication on top of bolt	 No-grade or 4T						 7T						 9T		
Indication on top of nut	 No-grade or 4T												 6T		
Material of opponent part	Ordinariness			Aluminum			Ordinariness			Aluminum			Ordinariness		
Unit	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	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	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	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	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	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	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	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	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

WSM000001GEG0001US0

[2] STUD BOLTS

Material of opponent part	Ordinariness			Aluminum		
Unit	N·m	kgf·m	lbf·ft	N·m	kgf·m	lbf·ft
M8	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	25 to 31	2.5 to 3.2	18 to 23	20 to 25	2.0 to 2.6	15 to 18
M12	30 to 49	3.0 to 5.0	22 to 36	31	3.2	23
M14	62 to 73	6.3 to 7.5	46 to 54	–	–	–
M16	98.1 to 112	10.0 to 11.5	72.4 to 83.1	–	–	–
M18	172 to 201	17.5 to 20.5	127 to 148	–	–	–

WSM000001GEG0002US0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

6. MAINTENANCE

SERVICE INTERVALS

The following servicing tasks should be carried out on the machine at the stated running-time intervals.

[ZG124E, ZG127E]

No.	Item			Indication on hour meter														After since	Reference page	Important
				5	25	50	100	150	200	250	300	350	400	450	500	550	600			
1	Engine oil		Change	★		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr or every 1 year	G-25	*1
2	Engine oil filter		Replace			☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr or every 1 year	G-26	*1
3	Transaxle oil filter		Replace				★						☆					every 400 Hr	G-36	
4	Transaxle fluid		Change				★						☆					every 400 Hr	G-36	
5	Engine start system		Check			☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-22	
6	OPC system		Check			☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr	G-23	
7	Air cleaner	Precleaner element (only ZG124E)	Clean		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 25 Hr or every 1 year	G-20	*2
			Replace				☆		☆		☆		☆		☆		☆	every 100 Hr or every 1 year	G-20	
		Air cleaner element	Clean		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 25 Hr or every 1 year	G-20	*2
			Replace				☆		☆		☆		☆		☆		☆	every 100 Hr or every 1 year	G-20	
8	Fuel filter		Check				☆		☆		☆		☆		☆		☆	every 100 Hr	G-30	
			Replace				☆		☆		☆		☆		☆		☆	every 100 Hr or every 1 year	G-30	*3
9	Fuel line		Check				☆		☆		☆		☆		☆		☆	every 100 Hr	G-30	
			Replace															every 2 years	G-42	*3
10	Battery condition		Check				☆		☆		☆		☆		☆			every 100 Hr	G-31	
11	Throttle cable		Adjust				☆		☆		☆		☆		☆			every 100 Hr	G-33	
12	Muffler and spark arrester (if equipped)		Check			☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	every 50 Hr or every 1 year	G-27	
13	Spark plug		Check				☆		☆		☆		☆		☆		☆	every 100 Hr	G-29	
			Replace															every 1 year	G-29	
14	Hydraulic hose		Check						☆				☆				☆	every 200 Hr	G-35	
			Replace															every 2 years	G-42	*3
15	Engine breather hose		Replace															every 2 years	G-43	*4
16	Engine shroud		Clean				☆		☆		☆		☆		☆		☆	every 100 Hr or every 1 year	G-28	
17	Electric clutch		Adjust												☆			every 500 Hr	G-38	
18	Combustion chamber		Clean															*5	G-39	
19	Fuse		Replace															Service as required	G-43	
20	Blade		Replace																G-44	
21	Mower belt		Replace																G-45	
22	Engine valve clearance		Check															every 1 year	G-41	*4 *6

■ **IMPORTANT**

- **The jobs indicated by ★ must be done initially.**

***1 This maintenance should be done every 50 hours or every 1 year if using a standard oil filter.**
If using a high-efficiency oil filter, it may be extended to every 100 hours or every 1 year.
A genuine KUBOTA oil filter is a high-efficiency oil filter.
***2 This maintenance should be done daily or more often in dusty condition than in normal conditions.**
Suggested cleaning interval is every 25 hours or every 1 year in normal conditions.
***3 These items should be serviced by an authorized KUBOTA Dealer, unless the owner has the proper tools and is mechanically proficient.**
***4 Consult your local KUBOTA Dealer for this service.**
***5 On every after 500 Hr, clean it if necessary.**
***6 Not required unless engine performance problems are noted.**

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

1. TROUBLESHOOTING

Refer to
- ZG124E, ZG127E, BRIGGS & STRATTON ENGINE SERVICE MANUAL (SUPPLEMENT).
- ZG123S, ZG127S, KOHLER ENGINE SERVICE MANUAL (SUPPLEMENT).

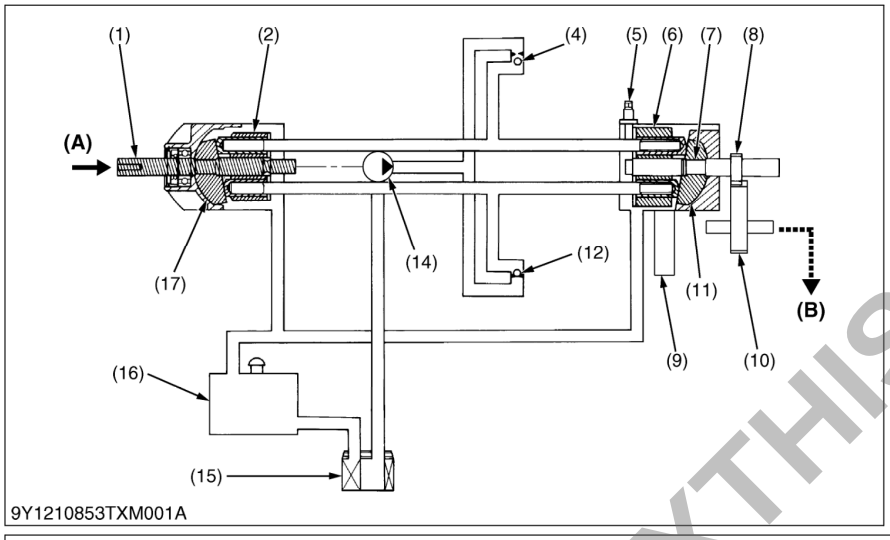
Symptom	Probable Cause	Solution	Reference Page
Engine is difficult to start or will not start	No operator on the seat	Sit on the operator's seat	–
	Parking brake lever not in the proper position	Apply the parking brake	–
	PTO switch not in the proper position	Make sure PTO switch is in "DISENGAGED" (OFF) position	–
	Motion control levers not in the proper position	Make sure motion control levers are in "NEUTRAL LOCK" position	–
	Main switch is not in the proper position	Make sure main switch is in "ON" position	–
	No fuel	Fill fuel	G-9, G-17
	Improper or stale fuel (fuel quality is poor)	Replace fuel and the fuel filter	G-9, G-30
	Water or dirt in the fuel system	Replace fuel	G-9, G-30
	Fuel hose or fuel filter clogged or damaged	Clean or replace fuel lines	G-9, G-30
	Air cleaner is clogged	Clean or replace the air cleaner	G-20, G-24
	Spark plug damaged	Adjust the spark plug gap or replace the spark plug	G-29
		Check the spark plug wire connection	–
	Fuse is blown	Replace the fuse	G-43
	Engine oil viscosity is wrong	Use oils of different viscosities, depending on ambient temperature	G-9, G-25, G-27
	Battery becomes weak and the engine does not turn over quick enough	Clean battery cables and terminals	5-S4
		Charge the battery	G-31
		In cold weather, always remove the battery from the engine, charge and store it indoors Install it on the machine only when the machine is going to be used	–
	Over choking or choke is adjusted incorrectly	Check and adjust	G-33

PREVIEW - YOUFIXTHIS.COM

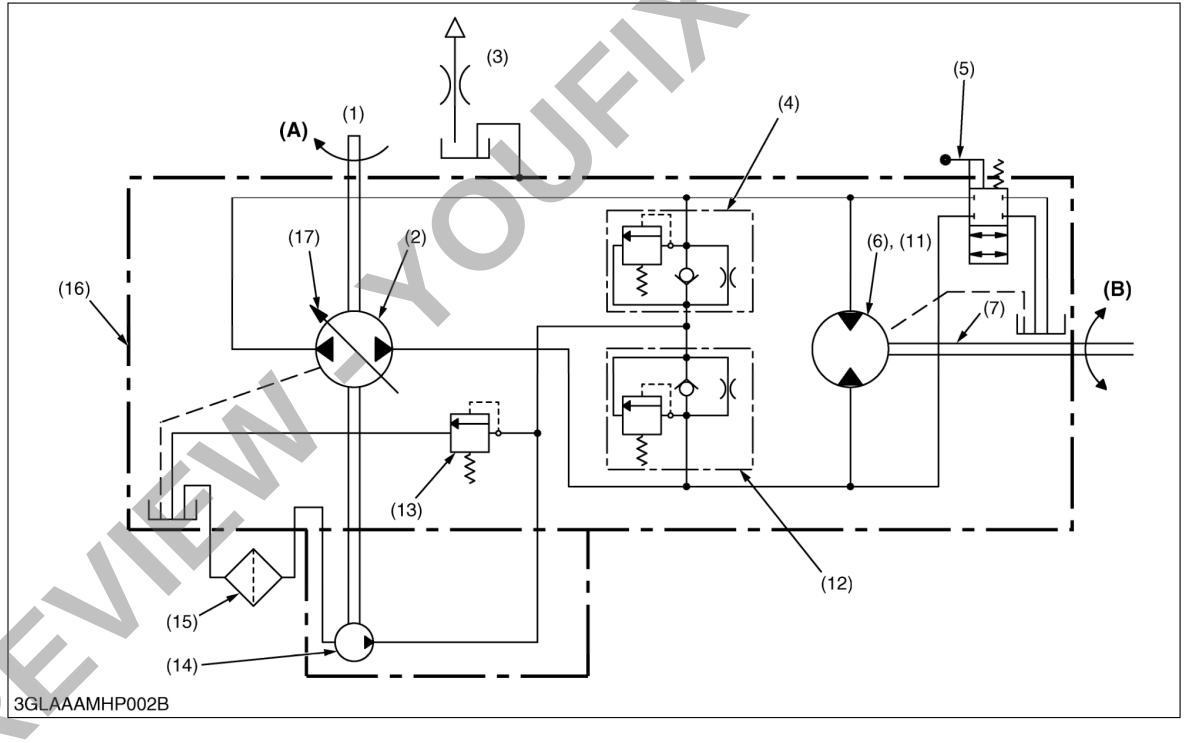
Download full manual at youfixthis.com

1. STRUCTURE

[1] HYDRAULIC CIRCUIT



9Y1210853TXM001A



3GLAAAMHP002B

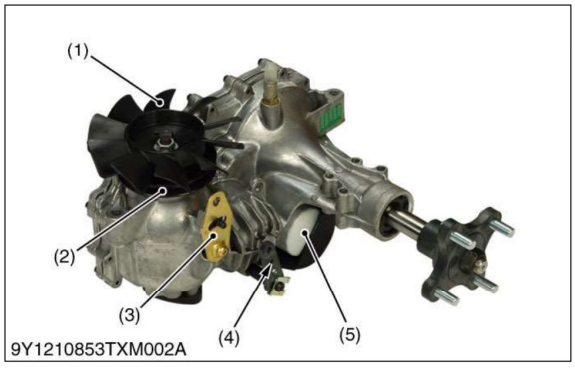
(1) Input Shaft
(2) Cylinder Block Assembly (Variable Displacement Pump)
(3) Vent
(4) Check Valve
(5) Bypass Actuator
(6) Cylinder Block Assembly (Fixed Displacement Motor)
(7) Motor Shaft
(8) 14T Pinion Gear
(9) Brake Pawl
(10) 45T Gear
(11) Fixed Swashplate
(12) Check Valve
(13) Charge Relief Valve
(14) Charge Pump
(15) Oil Filter
(16) Transaxle Housing
(17) Variable Swashplate

(A) From Engine
(B) To Rear Axle

(To be continued)

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

[2] EXTERNAL COMPONENTS

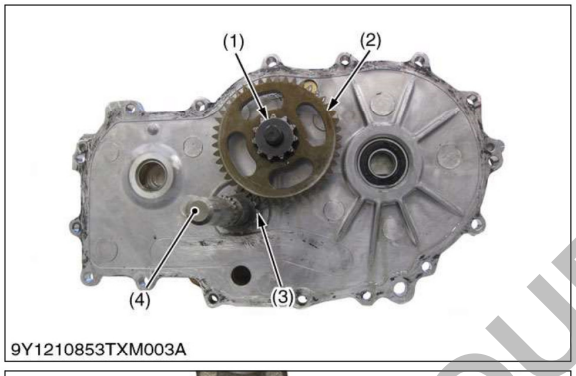


- Variable displacement pump with a maximum displacement of 10 cc/rev.
- Motor with a fixed displacement of 16 cc/rev.
  HYDRO-GEAR (R) ZT-3100

(1) Fan
(2) Pulley
(3) Control Arm (Speed change)
(4) Brake Arm
(5) Oil Filter

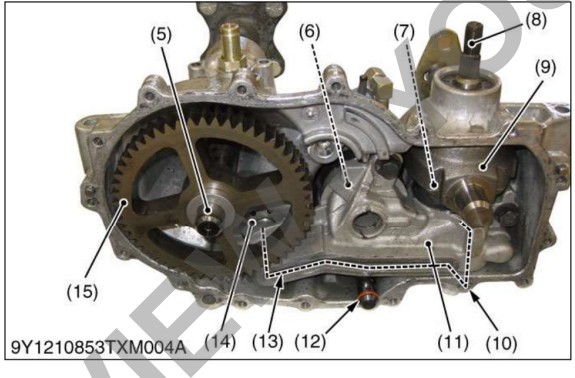
9Y1210968TXM0003US0

[3] INNER COMPONENTS



(1) Reduction Gear 11T
(2) Reduction Gear 45T
(3) Pinion Gear 14T
(4) Motor Shaft
(5) Axle Shaft
(6) Motor
(7) Pump
(8) Input Shaft
(9) Swashplate
(10) Charge Pump
(11) Center Section
(12) Brake Shaft
(13) Oil Flow
(14) Oil Filter
(15) Bull Gear 54T

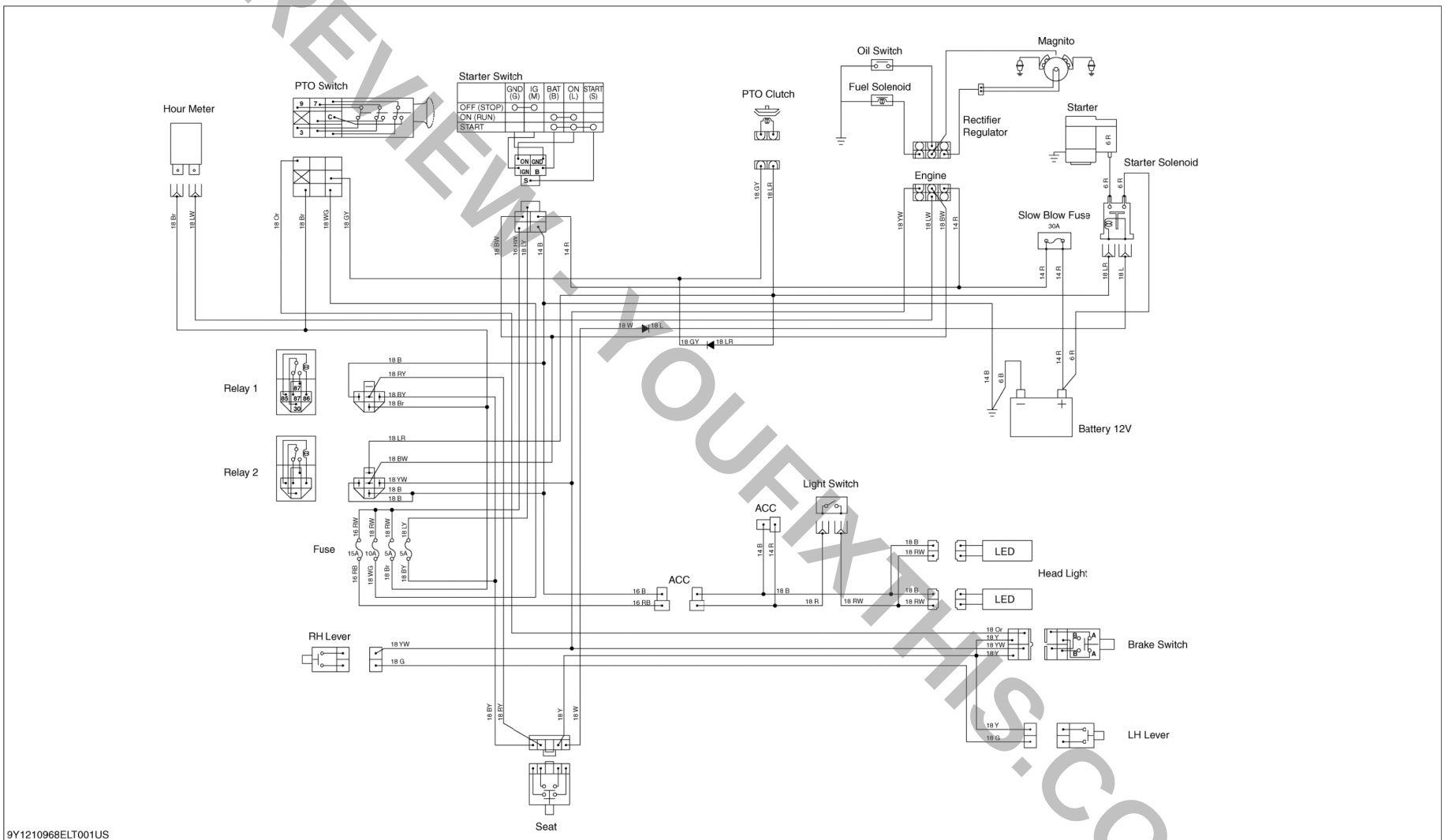
9Y1210968TXM0004US0



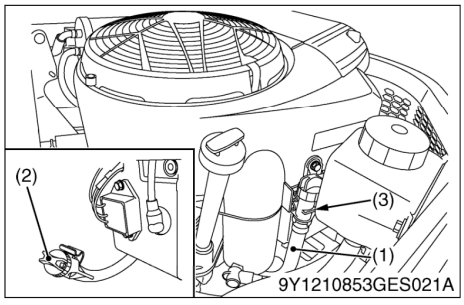
PREVIEW ONLY YOUFIXTHIS.COM

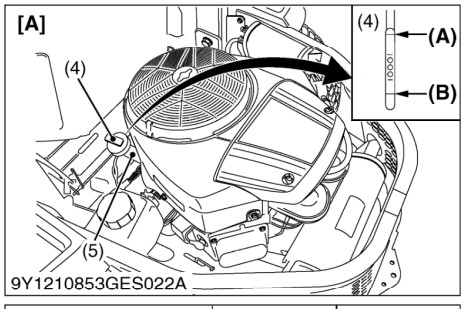
Download full manual at youfixthis.com

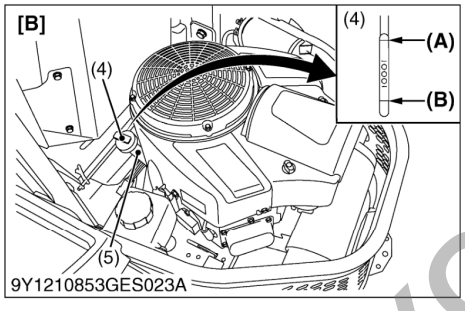
1. WIRING DIAGRAM



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







Changing Engine Oil (ZG124E, ZG127E)

CAUTION

To avoid personal injury:

- **Be sure to stop the engine and remove the key before changing the oil.**
- **Allow engine to cool down sufficiently; oil can be hot and may cause burns.**

1. To change the used oil, unhook the drain hose, direct the hose down and open the drain valve.

■ **NOTE**

- **The used oil can be drained out more easily if the engine is warm.**

2. Fill with the new oil up to the upper level on the dipstick.
3. To check the oil level. Remove the dipstick, wipe it clean, insert it and draw it out again. Check to see that the oil level is between the two marks.

■ **NOTE**

- **Do not overfill.**

(1) Drain Hose
(2) Drain Valve
(3) Hook
(4) Oil Level Dipstick
(5) Engine Oil Port

[A] ZG124E
[B] ZG127E
(A) "UPPER LEVEL"
(B) "LOWER LEVEL"

9Y1210968GEG0019US0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 11 of 169 pages

The full manual includes:

- All 169 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Kubota ZG124E, ZG123S, ZG127E, ZG127S Workshop Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual