WSM

WORKSHOP MANUAL

ZERO TURN MOWER

ZD18(F),ZD21(F),
ZD25F,ZD28(F)

Kubota

KiSC issued 04, 2009 A

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GENERAL

CONTENTS

1. IDENTIFICATION 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
4. LUBRICANTS, FUEL AND COOLANT G-7
5. TIGHTENING TORQUES G-9
   [1] GENERAL USE SCREWS, BOLTS AND NUTS G-9
   [2] METRIC SCREWS, BOLTS AND NUTS G-9
   [3] AMERICAN STANDARD SCREWS, BOLTS AND NUTS WITH UNC OR UNF THREADS G-10
6. MAINTENANCE CHECK LIST G-11
7. CHECK AND MAINTENANCE G-12
   [1] DAILY CHECK G-12
   [2] CHECK POINTS OF INITIAL 50 HOURS G-16
   [3] CHECK POINT OF INITIAL 100 HOURS G-18
   [4] CHECKING POINTS OF INITIAL 200 HOURS G-19
   [5] CHECK POINTS OF EVERY 50 HOURS G-21
   [6] CHECK POINTS OF EVERY 100 HOURS G-25
   [7] CHECK POINTS OF EVERY 150 HOURS G-30
   [8] CHECK POINTS OF EVERY 200 HOURS G-30
   [9] CHECK POINTS OF EVERY 400 HOURS G-32
   [10] CHECK POINTS OF EVERY 1 YEAR G-32
   [11] CHECK POINT OF EVERY 2 YEARS G-35
   [12] OTHERS G-36
8. SPECIAL TOOLS G-38
   [1] SPECIAL TOOLS FOR ENGINE G-38
   [2] SPECIAL TOOLS FOR MACHINE G-44

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4. CHECKING, DISASSEMBLING AND SERVICING

CAUTION

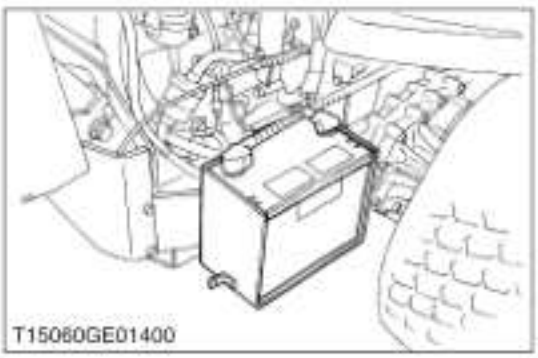
- **To avoid accidental short circuit, be sure to attach the positive cable to the positive terminal before the negative cable is attached to the negative terminal.**
- **Never remove the battery cap while the engine is running.**
- **Keep electrolyte away from eyes, hands and clothes. If you are spattered with it, wash it away completely with water immediately.**
- **Keep open sparks and flames away from the battery at all times. Hydrogen gas mixed with oxygen becomes very explosive.**

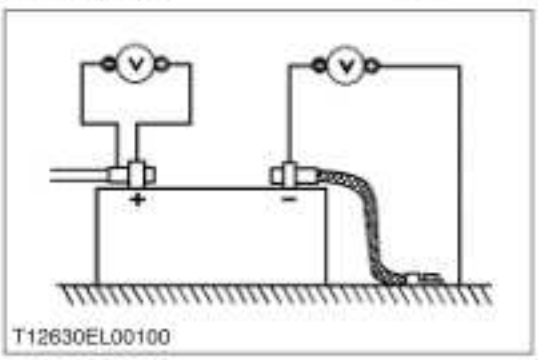
■ IMPORTANT

- **If the machine is to be operated for a short time without battery (using a slave battery for starting), use additional current (lights) while engine is running and insulate terminal of battery. If this advice is disregarded, damage to alternator and regulator may result.**

[1] BATTERY

(1) Checking


T15060GE01400



T12630EL00100

Battery Voltage

1. Stop the engine and turn the main switch off.
2. Connect the COM (–) lead of the voltmeter to the battery's negative terminal post and the (+) lead to the positive terminal post, and measure the battery voltage.
3. If the battery voltage is less than the factory specification, check the battery specific gravity and recharge the battery.

Battery voltage	Factory spec.	More than 12 V

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Battery Terminal Connection

1. Turn the main switch on, and turn on the head light.
2. Measure the voltage with a voltmeter across the battery's positive terminal post and the cable terminal, and the voltage across the battery's negative terminal post and the chassis.
3. If the measurement exceeds the factory specification, clean the battery terminal posts and cable clamps, and tighten them firmly.

Potential difference	Factory spec.	Less than 0.1 V

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Model		ZD25F
Weight (With mower deck)	Fabricated deck	753 kg (1660 lbs) / With 60" mower deck
PTO		Shaft drive KUBOTA 10 tooth in spline (2530 rpm)
PTO clutch		Wet multi discs
Revolution (PTO speed)		1 speed (2540 rpm at 3000 engine rpm)
PTO brake		Wet single disc
Steering		2-Hand levers
Transmission		2-Hydrostatic transmission with gear
Brake		Internal expanding shoe / Foot applied, hand released

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

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Model			RCK60P-28Z*1 / RCK60-28Z
Mower	Suitable machine		ZD25F
	Mounting method		Quick joint, parallel linkage
	Adjustment of cutting height		Dial gauge
	Cutting width mm (in.)		1524 (60.0)
	Cutting height mm (in.)		25 to 127 (1.0 to 5.0)
	Weight (Approx.) kg (lbs)		145 (320)
	Blade spindle speed r/s (rpm)		53.7 (3220)*2
	Blade tip velocity m/s (fpm)		88.4 (17400)*2
	Blade length mm (in.)		523 (20.6)
	Number of blades		3
	Dimensions	Total length mm (in.)	1025 (40.35)
		Total width mm (in.)	1845 (72.6)
		Total height mm (in.)	300 (11.8)
	Discharge		Right side

NOTE: *1 Mower mode (P) means Fabricated deck type (Pro-mower)
*2 Engine Max rpm

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1. TROUBLESHOOTING

Symptom	Probable Cause	Solution	Reference Page
Engine Does Not Start	• No fuel	Replenish fuel	–
	• Air in the fuel system	Bleed fuel system	–
	• Water in the fuel system	Change fuel and replace fuel system	–
	• Fuel pipe clogged	Clean fuel pipe	–
	• Fuel filter clogged	Replace fuel filter	G-32
	• Excessively high viscosity of fuel or engine oil at low temperature	Use specified fuel or engine oil	G-7
	• Fuel with low cetane number	Use specified fuel	G-7
	• Fuel leak due to loose injection pipe retaining nut	Tighten retaining nut	1-S18
	• Incorrect injection timing	Adjust injection timing	–
	• Fuel camshaft worn	Replace fuel camshaft	1-S22
	• Injection nozzle clogged	Clean injection nozzle	–
	• Injection pump malfunctioning	Repair or replace injection pump	1-S22
	• Seizure of crankshaft, camshaft, piston, cylinder or bearing	Replace crankshaft, camshaft, piston, cylinder or bearing	1-S23, S25, S28
	• Compression leak from cylinder	Replace head gasket, tighten cylinder head screw, glow plug and nozzle holder	1-S19
	• Improper valve timing	Correct valve timing	1-S23
	• Piston ring and cylinder worn	Replace piston ring	1-S26
	• Excessive valve clearance	Adjust valve clearance	1-S17
(Starter Does Not Run)	• Battery discharged	Charge battery	G-26
	• Starter malfunctioning	Repair or replace starter	5-S12
	• Slow blow fuse blown	Replace slow blow fuse	G-36
	• Main switch malfunctioning	Repair or replace main switch	5-S8
	• PTO switch defective	Replace PTO switch	5-S10
	• Parking brake switch defective	Replace brake switch	5-S10
	• Motion control lever switch defective	Replace reverse switch or adjust reverse switch gap	5-S10
	• Seat switch defective	Replace seat switch	5-S10
	• Wiring harness disconnected	Connect wiring harness	–

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