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WORKSHOP MANUAL

F2880,F3680,RCK72-F36, RCK72R-F36,RCK60-F36, RCK60R-F36

Kubota

KiSC issued 04, 2006 A

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GENERAL

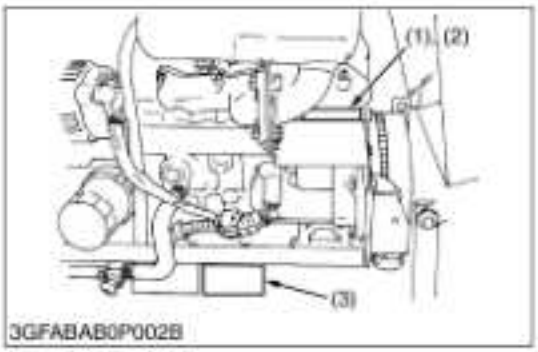
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1. IDENTIFICATION



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When contacting your local KUBOTA distributor, always specify engine model name, engine serial number and machine serial number.

■ Engine Serial Number

The engine serial number is an identified number for the engine. It is marked after the engine model number.

It indicates month and year of manufacture as follows.

- **Year of manufacture**

Alphabet or Number	Year	Alphabet or Number	Year
1	2001	F	2015
2	2002	G	2016
3	2003	H	2017
4	2004	J	2018
5	2005	K	2019
6	2006	L	2020
7	2007	M	2021
8	2008	N	2022
9	2009	P	2023
A	2010	R	2024
B	2011	S	2025
C	2012	T	2026
D	2013	V	2027
E	2014		

- **Month of manufacture**

Month	Engine Serial Number	
	0001 ~ 9999	10000 ~
January	A0001 ~ A9999	B0001 ~
February	C0001 ~ C9999	D0001 ~
March	E0001 ~ E9999	F0001 ~
April	G0001 ~ G9999	H0001 ~
May	J0001 ~ J9999	K0001 ~
June	L0001 ~ L9999	M0001 ~
July	N0001 ~ N9999	P0001 ~
August	Q0001 ~ Q9999	R0001 ~
September	S0001 ~ S9999	T0001 ~
October	U0001 ~ U9999	V0001 ~
November	W0001 ~ W9999	X0001 ~
December	Y0001 ~ Y9999	Z0001 ~

e.g. D1105-5A0001

"5" indicates 2005 and "A" indicates January.

So, 5A indicates that the engine was manufactured in January, 2005.

(1) Engine Model Name
(2) Engine Serial Number
(3) Machine Serial Number

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1. TROUBLESHOOTING

Symptom	Probable	Solution	Reference page
Engine Does Not Start	No fuel	Replenish fuel	G-7
	Air in the fuel system	Bleed	G-34
	Water in the fuel system	Change fuel and repair or replace fuel system	–
	Fuel pipe clogged	Clean	G-34
	Fuel filter clogged	Change	G-29
	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-S25
	Incorrect injection timing	Adjust	1-S15
	Fuel camshaft worn	Replace	–
	Injection nozzle clogged	Repair or replace	1-S18
	Injection pump malfunctioning	Repair or replace	1-S30
	Seizure of crankshaft, camshaft, piston, cylinder or bearing	Repair or replace	–
	Compression leak from cylinder	Replace head gasket, tighten cylinder head screw, glow plug and nozzle holder	1-S27
	Improper valve timing	Correct or replace timing gear	1-S31
	Piston ring and cylinder worn	Repair or replace	1-S34
	Excessive valve clearance	Adjust	1-S12
(Starter Does Not Run)	Battery discharged	Charge	G-22
	Starter malfunctioning	Repair or replace	8-S19 to S21
	Main switch malfunctioning	Replace	8-S6 to S7
	Brake switch defective	Replace	8-S10
	PTO switch defective	Replace	8-S10
	Seat switch defective	Replace	8-S9
	Wiring disconnected	Connect	–
Engine Revolution Is Not Smooth	Fuel filter clogged or dirty	Change	G-29
	Air cleaner clogged	Clean or replace	G-24, 30
	Fuel leak due to loose injection pipe retaining nut	Tighten retaining nut	1-S25
	Injection pump malfunctioning	Replace	1-S30
	Incorrect nozzle injection pressure	Adjust	1-S17
	Injection nozzle stuck or clogged	Repair or replace	1-S18
	Governor malfunctioning	Repair	–

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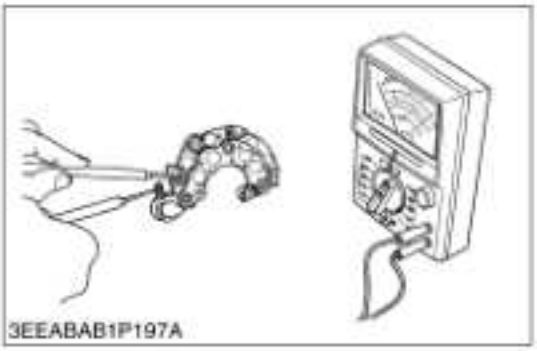
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2. SERVICING SPECIFICATIONS

Item		Factory Specification	Allowable Limit
Rear Wheel Alignment	Toe-in	0 to 10 mm 0.00 to 0.39 in.	–
Rear Axle	Rocking Force	49.1 to 117.6 N 5.0 to 12.0 kgf 11.1 to 26.4 lbs	–
Knuckle Arm Support to Knuckle Arm	Clearance	0.1 to 0.3 mm 0.0040 to 0.0118 in.	–
Knuckle Arm Support to Knuckle Arm Bushing	Clearance	0.02 to 0.11 mm 0.0008 to 0.0118 in.	0.40 mm 0.0157 in.
Knuckle Arm Support	O.D.	20.00 to 20.03 mm 0.7874 to 0.7886 in.	–
Knuckle Arm Bushing	I.D.	20.05 to 20.11 mm 0.7894 to 0.7917 in.	–
Differential Caseto Differential Yoke Shaft	Clearance	0.020 to 0.054 mm 0.00080 to 0.00211 in.	0.20 mm 0.0079 in.
Differential Case Bore	I.D.	20.000 to 20.021 mm 0.78741 to 0.78822 in.	–
Differential Yoke Shaft	O.D.	19.967 to 19.980 mm 0.78611 to 0.78661 in.	–
Differential Pinion Gear to Differential Case	Clearance	0.032 to 0.068 mm 0.00127 to 0.00266 in.	0.20 mm 0.0079 in.
Differential Pinion Gear Boss	O.D.	14.950 to 14.968 mm 0.58859 to 0.58929 in.	–
Differential Case	I.D.	15.000 to 15.018 mm 0.59056 to 0.59125 in.	–
Pinion Shaft	Turning Force	58.7 to 79.0 N 6.1 to 8.1 kgf 13.2 to 17.8 lbs	–
Bevel Pinion Shaft to Bevel Gear	Backlash	0.20 to 0.25 mm 0.008 to 0.010 in.	–
12T Bevel Gear to 12T Bevel Gear	Backlash	0.10 to 0.30 mm 0.0040 to 0.0118 in.	–
Rear Axle Case Boss (Front)	O.D.	64.910 to 64.940 mm 2.55551 to 2.55669 in.	–
Rear Axle Bracket (Front)	I.D.	65.000 to 65.020 mm 2.55906 to 2.56024 in.	–
Rear Axle Case Boss (Rear)	O.D.	44.950 to 44.975 mm 1.76970 to 1.77067 in.	–
Rear Axle Bracket (Rear)	I.D.	45.000 to 45.099 mm 1.77166 to 1.77555 in.	–

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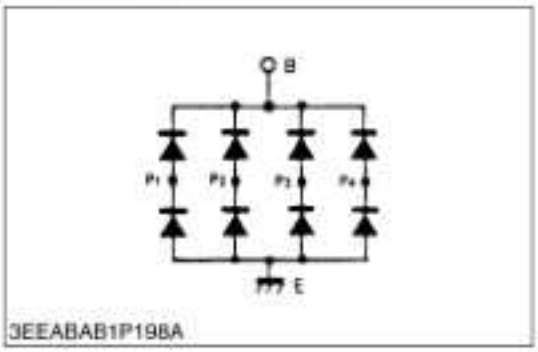
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Rectifier

1. Check the continuity across each diode of rectifier with resistance range of circuit tester.
2. The rectifier is normal if the diode in the rectifier conducts in one direction and does not conduct in the reverse direction.

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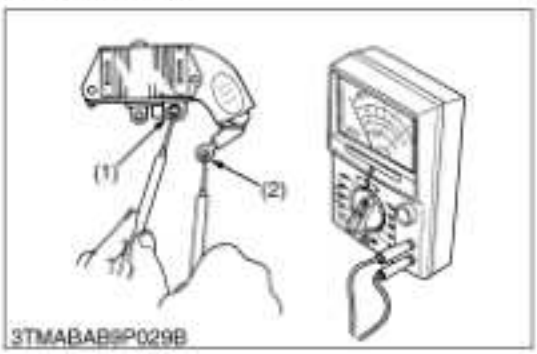
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IC Regulator

1. Check the continuity across the **B** terminal (2) and the **F** terminal (1) of IC regulator with resistance range of circuit tester.
2. The IC regulator is normal if the conducts in one direction and does not conduct in the reverse direction.

(1) **F** Terminal (2) **B** Terminal

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HST High Relief Pressure

CAUTION

- **When checking, park the machine on flat ground, apply the parking brake.**

1. Remove the seat assembly and plate (2).
2. Remove the plug (R 1/4) from **P1** (1) or **P3** (3) port. (**P3** is for forward and **P1** is for reverse)
3. Assemble the adaptor **58** (Code No. 07916-52391) and threaded joint (Code No. 07916-50341).
4. Install the assembled adaptor **58** and threaded joint to **P3** (3) or **P1** (1) port.
5. Then, connect the cable (Code No. 07916-50331), threaded joint (Code No. 07916-51301) and pressure gauge to threaded joint in order.
6. Reinstall the seat assembly.
7. Run the engine at maximum speed.
8. Place the high-low gear shift lever in high.
9. Depress the speed control pedal, and measure the high relief pressure.
10. If the measurement is not factory specification, change the check and high relief valve assembly.

■ **IMPORTANT**

- **Measure quickly otherwise the relief valve may not be in operation more than 10 seconds**

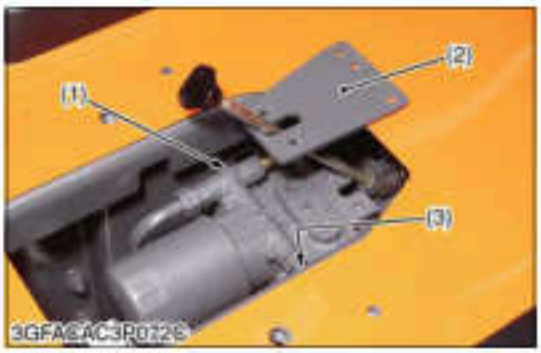
(When reassembling)

- Install the plug (R 1/4) to **P1** (1) or **P3** (3) port with seal tape.

High relief pressure (Oil temperature at 50 to 60 °C (122 to 140 °F))	Factory spec.	34.3 MPa 350 kgf/cm^2 4975 psi

(1) **P1** Port (Reverse)
(2) Plate
(3) **P3** Port (Forward)

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PTO Charge Pressure

CAUTION

- **When checking, park the machine on flat ground, apply the parking brake.**

■ **NOTE**

- **Use a new transmission oil filter.**

1. Remove the seat assembly and plate (2).
2. Unscrew the plug (1) from the oil filter bracket.
3. Install the adaptor **D**. Then connect the cable and pressure gauge to adaptor **D**.
4. Reinstall the seat assembly.
5. Start the engine and set at maximum speed.
6. PTO lever is set to "**ENGAGE**" position, and read the gauge.
7. If the pressure is not within the factory soecification, adjust with the adjusting screw (3).

PTO charge pressure (Oil temperature at 50 to 60 °C (122 to 140 °F))	Factory spec.	785 to 1078 kPa 8.0 to 11.0 kgf/cm^2 114 to 156 psi

(1) Plug
(2) Plate
(3) Adjusting Screw

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Seat

1. Disconnect **2P** connector from the seat switch.
2. Remove the seat (1) with the seat base.

Tightening torque	Seat base mounting screw	17.7 to 20.5 N·m 1.8 to 2.1 kgf·m 13.1 to 15.1 ft-lbs

(1) Seat
(2) Seat Base Mounting Screw

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Panel

1. Separate the front panel (1) from the rear panel (4).
2. Disconnect the connectors from the easy checker, fuel gauge, coolant temperature gauge and hour meter in front panel (1).
3. Disconnect the connectors (2), (3) from the main switch and head light switch.
4. Remove the horn (5).
5. Remove the rear panel (4).

(1) Front Panel
(2) **4P** Connector
(3) **3P** Connector
(4) Rear Panel
(5) Horn

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Fender

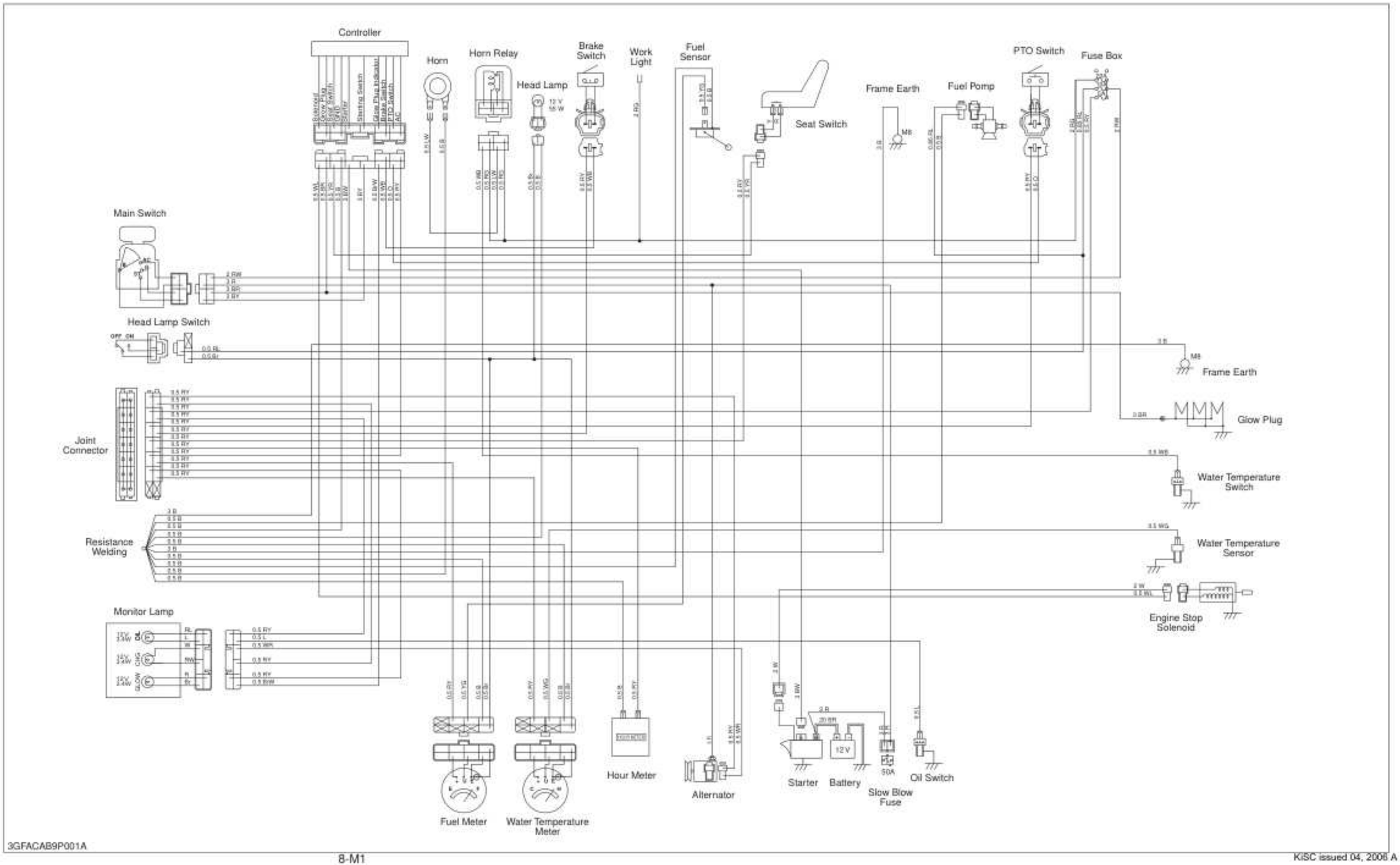
1. Remove the differential lock pedal (1) and brake lock lever (3).
2. Remove the main brake pedal (2), speed control pedal (4).
3. Remove the lever grips from hydraulic lift lever (5) and PTO lever (7).
4. Remove the lever grip from high-low gear shift lever (6).
5. Remove the lever grip from 4WD lock lever (9).
6. Remove the fender (8).

(1) Differential Lock Pedal
(2) Main Brake Pedal
(3) Brake Lock Lever
(4) Speed Control Pedal
(5) Hydraulic Lift Lever
(6) High-Low Gear Shift Lever
(7) PTO Lever
(8) Fender
(9) 4WD Lock Lever

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1. WIRING DIAGRAM



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