WSM

WORKSHOP MANUAL
TRACTOR

L3800

KiSC issued 12, 2006 A

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GENERAL

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2. SERVICING SPECIFICATIONS

Item		Factory Specification	Allowable Limit
Gear	Backlash	0.1 to 0.3 mm 0.004 to 0.012 in.	0.4 mm 0.016 in.
Gear to Spline	Clearance	0.030 to 0.078 mm 0.0012 to 0.0031 in.	0.2 mm 0.0079 in.
Shift Fork to Shift Gear Groove	Clearance	0.15 to 0.40 mm 0.006 to 0.016 in.	0.6 mm 0.024 in.
Shift Fork to Shifter Groove	Clearance	0.15 to 0.40 mm 0.006 to 0.016 in.	0.6 mm 0.024 in.
Shift Fork Spring	Free Length	22 mm 0.866 in.	20 mm 0.787 in.
Reverse Gear Bushing to Reverse Shaft	Clearance	0.020 to 0.054 mm 0.0008 to 0.0021 in.	0.3 mm 0.0118 in.
Spiral Bevel Pinion and Differential Assembly	Combined Turning Torque	3.92 to 6.37 N·m 0.4 to 0.65 kgf·m 2.89 to 4.7 ft-lbs	–
Spiral Bevel Pinion to Bevel Gear	Backlash	0.15 to 0.30 mm 0.0059 to 0.0118 in.	–
	Tooth Contact	–	More than 35 %
	Center of Tooth Contact	–	1/3 of the entire width from the small end
Differential Case Bore to Differential Side Gear Boss	Clearance	0.050 to 0.151 mm 0.00197 to 0.00594 in.	0.35 mm 0.0138 in.
Differential Case Bore	I.D.	40.500 to 40.562 mm 1.59449 to 1.59693 in.	–
Differential Side Gear Boss	O.D.	40.411 to 40.450 mm 1.59098 to 1.59252 in.	–
Differential Case Cover Bore to Differential Side Gear Boss	Clearance	0.090 to 0.169 mm 0.00354 to 0.00666 in.	0.35 mm 0.0138 in.
Differential Case Cover Bore	I.D.	40.540 to 40.580 mm 1.59606 to 1.59764 in.	–
Differential Side Gear Boss	O.D.	40.411 to 40.450 mm 1.59098 to 1.59252 in.	–
Differential Pinion Shaft to Differential Pinion	Clearance	0.080 to 0.122 mm 0.00315 to 0.00480 in.	0.25 mm 0.0098 in.
Differential Pinion	I.D.	19.959 to 19.980 mm 0.78579 to 0.78661 in.	–
Differential Pinion Shaft	O.D.	20.060 to 20.081 mm 0.78976 to 0.79059 in.	–
Differential Pinion to Differential Side Gear	Backlash	0.15 to 0.30 mm 0.0059 to 0.0118 in.	0.4 mm 0.016 in.

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1. TROUBLESHOOTING

Symptom	Probable Cause	Solution	Reference Page
Implement Does Not Rise (Without Noise)	Control linkage improperly adjusted	Adjust	8-S11, S12
	Control linkage improperly assembled or damaged	Repair or replace	8-S11, S12, S19, S20
	Position control valve malfunctioning (unload poppet, spool, poppet 1, 2)	Repair or replace	8-S19, S20
	Relief valve spring weaken or broken	Replace	8-S22
Implement Does Not Rise (With Noise)	Hydraulic piston O-ring, cylinder damaged	Replace	8-S17
	Relief valve setting pressure too low	Adjust	8-S10
	Hydraulic pump malfunctioning	Repair or replace	8-S9
Implement Does Not Reach Maximum Height	Position control rod improperly adjusted	Adjust	8-S11
	Position control valve spool joint 1 improperly adjusted	Adjust	8-S19, S20
	Hydraulic arm shaft, hydraulic arm, lift arm improperly assembled	Adjust	8-S18
Implement Does Not Lower	Control valve malfunctioning (Spool damaged)	Replace	8-S19, S20
	Poppet valve adjusting nut improperly adjusted	Adjust	8-S19, S20
Implement Drops by Weight	Hydraulic cylinder worn or damaged	Replace	8-S25
	Hydraulic piston and O-ring worn or damaged	Replace	8-S17
	Poppet 1 seat surface damaged (control valve)	Replace	8-S19, S20
	Poppet 1 O-ring damaged (control valve)	Replace	8-S19, S20
	Poppet 2 seat surface damaged (control valve)	Replace	8-S19, S20
	Poppet 2 O-ring damaged (control valve)	Replace	8-S19, S20
	Pompet 3 seat surface damaged (control valve)	Replace	8-S19, S20
	Pompet 3 O-ring damaged (control valve)	Replace	8-S19, S20
Implement Hunts (Moves Up and Down)	Poppet 1, poppet 2, poppet 3 seat surface damaged	Replace	8-S19, S20
	Control valve O-rings worn or damaged	Replace	8-S19
	Pompet 2 adjusting nut improperly adjusted	Adjust	8-S19, S20
Draft Control Malfunctioning	Draft control valve malfunctioning	Replace	8-S21
	Draft control linkage improperly adjusted	Adjust	8-S21
	Torsion bar weaken or broken	Replace	–
Oil Temperature Increases Rapidly	Relief valve operating	Adjust	8-S10
	Hydraulic pump leak or damaged	Repair or replace	8-S9
	Oil leaks from valves	Repair or replace	8-S19, S20
	Gear or bearing damaged in the transmission case	Replace	–

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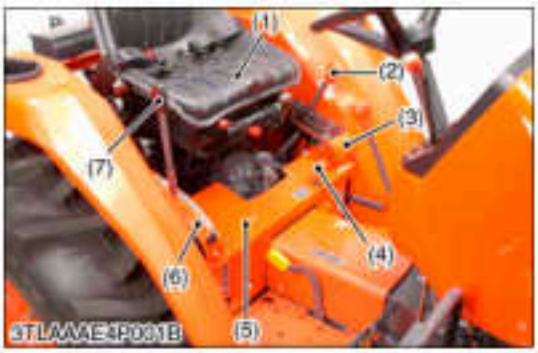
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GAUGES

Fuel Gauge Does Not Function	Fuel level sensor (tank unit) defective	Replace	9-S20
	Wiring harness disconnected or improperly connected (between panel board and fuel level sensor)	Repair or Replace	–
	Circuit in panel board defective	Replace	–
Coolant Temperature Gauge Does Not Function	Coolant temperature gauge defective	Replace	–
	Coolant temperature sensor defective	Replace	9-S20
	Wiring harness disconnected or improperly connected (between panel board and coolant temperature sensor)	Repair or Replace	–
	Circuit in panel board defective	Replace	–

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Outer Components

1. Remove the seat (1).
2. Remove the grips (2), (4), (7) and (8).
3. Remove the range gear shift lever guide (3) and hydraulic lever guide (6).
4. Remove the center cover (5).

(1) Seat
(2) Grip
(3) Range Gear Shift Lever Guide
(4) Grip
(5) Center Cover
(6) Hydraulic Lever Guide
(7) Grip (Position Control Lever)
(8) Grip (Draft Control Lever)

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Wiring

1. Disconnect the wiring (2).
2. Remove the fender rear stay (1).
3. Remove the seat support (4).
4. Remove the delivery pipe joint bolt (3).

(When reassembling)

- Install the copper washers firmly.

Tightening torque	Delivery pipe joint bolt	39.0 to 49.0 N·m 4.5 to 5.0 kgf·m 32.5 to 36.2 ft-lbs

(1) Fender Rear Stay
(2) Wirings
(3) Delivery Pipe Joint Bolt
(4) Seat Support

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Hydraulic Cylinder

1. Loosen and remove the hydraulic cylinder assembly mounting screws and nuts.
2. Support the hydraulic cylinder assembly with a nylon lift strap and hoist, and then lift it clear.

(When reassembling)

- Apply liquid gasket (Three Bond 1208D or equivalent) to joint face of the hydraulic cylinder assembly and transmission case after eliminating the water, oil and the old remaining liquid gasket.
- When replacing the hydraulic cylinder assembly mounting stud bolts, apply liquid lock (Three Bond 1372 or equivalent) to **"A"** portion of the stud bolt.

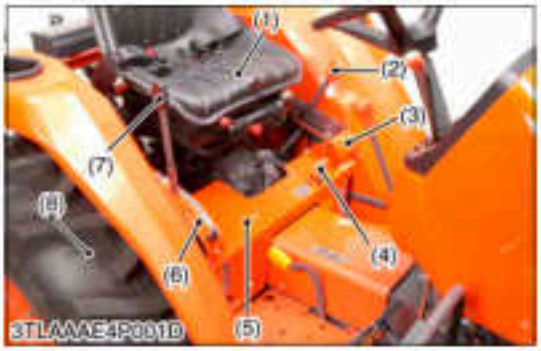
Tightening torque	Hydraulic cylinder assembly mounting stud bolts	34.3 to 49.0 N·m 3.5 to 5.0 kgf·m 25.3 to 36.2 ft-lbs
	Hydraulic cylinder assembly mounting screws and nuts	77.4 to 90.2 N·m 7.9 to 9.2 kgf·m 57.1 to 66.5 ft-lbs

■ **NOTE**

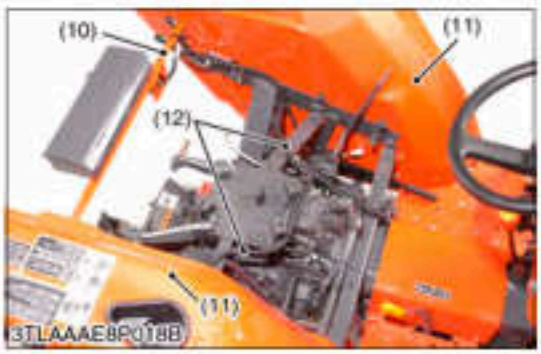
- **Reassemble the hydraulic cylinder assembly to the tractor, be sure to adjust the position (draft) control feedback rod. (See page 8-S11, S12.)**

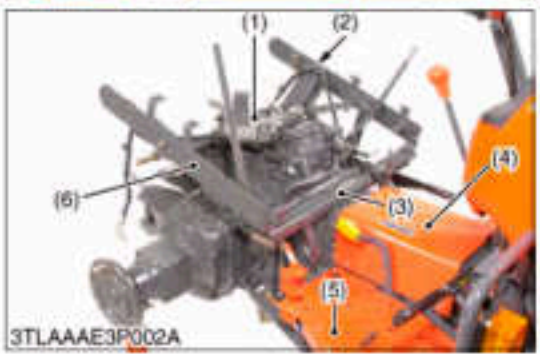
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Outer Components

1. Place the disassembling stands under the transmission case.
2. Remove the seat (1).
3. Remove the grip (2), (4), (7) and (9) if equipped.
4. Remove the range gear shift lever guide (3) and the position control lever guide (6).
5. Remove the center cover (5).
6. Remove the rear wheels (8).
7. Disconnect the wiring harness (12) from the rear fender.
8. Remove the rear fenders (11) and the rear fender support (10).

(When reassembling)

Tightening torque	Rear wheel mounting screw and nut	197 to 226 N·m 20 to 23 kgf·m 145 to 166 ft-lbs

(1) Seat
(2) Grip
(3) Range Gear Shift Lever Guide
(4) Grip
(5) Center Cover
(6) Position Control Lever Guide
(7) Grip (Position Control Lever)
(8) Rear Wheels
(9) Grip (Draft Control Lever)
(10) Rear Fender Support
(11) Rear Fenders
(12) Wiring Harness

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Fender Support

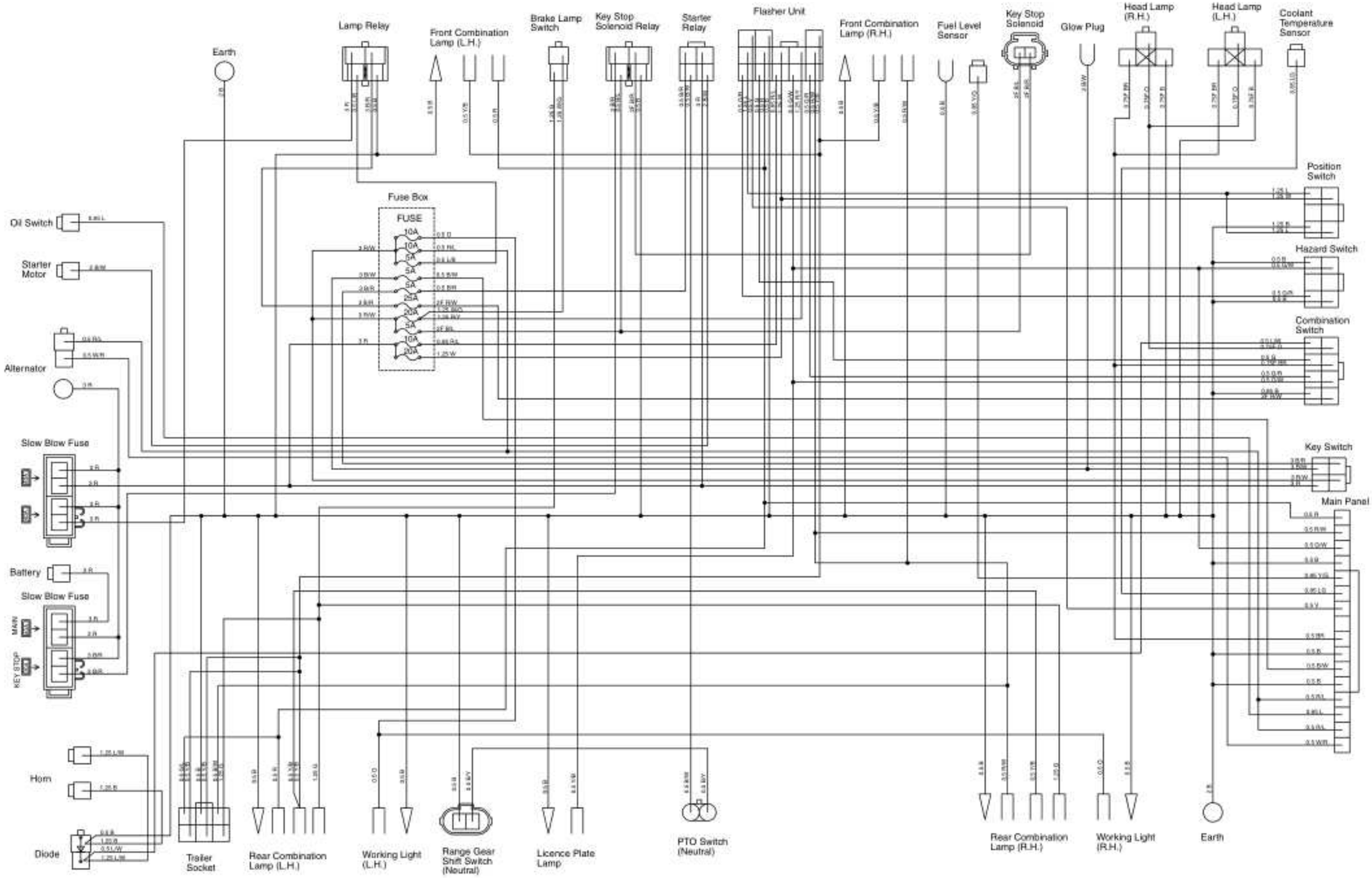
1. Remove the seat support (1).
2. Remove the fender supports (2), (3), (6).
3. Remove the housing cover (4) and the step (5).

(1) Seat Support
(2) Fender Support (LH)
(3) Fender Support Center
(4) Housing Cover
(5) Step
(6) Fender Support (RH)

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1. WIRING DIAGRAM



9-M1

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