821F
921F
Tier 4
Wheel Loader

SERVICE MANUAL

Part number 84488414

1st edition English

April 2011

CASE CONSTRUCTION

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MAINTENANCE SCHEDULE

SERVICE INTERVAL	ITEM NUMBER	SERVICE POINTS	Initial Service	FREQUENCY IN HOURS						
				CHECK	CLEAN	CHANGE	DRAIN	LUBRICATE	REPLACE	ADJUST
Variable Periodic (•)	2	Radiator Coolant Level		•						
	13	Tires		•						
	16	Hydraulic Filter		•						
	12	Alternator, AC, Drive Belt		•						
	31	Air cleaner		•	•					
	19	Bleed Fuel Filter of Condensation					•			
	28	Clean SCR system DEF tank filter			•					
	XX	Fire extinguisher		•						
Every 10 Hours	1	Check Engine Oil Level		10						
Every 50 Hours	13	Check Engine Coolant Level		50						
	3	Check Transmission Oil Level		50						
	4	Check Hydraulic Oil Level		50						
	5 & 6	Grease Bucket Mounting Fittings						50		
	7	Grease machine and attachments						50		
First 100 Hours	16	Change Engine Oil and Filters	100							
	18	Replace Fuel Filters	100							
	20	Change Hydraulic Filter	100							
	25	Change Oil in Axles	100							
	13	Check wheel torque		100						
	28	Clean in-line DEF supply filter			100					
Every 100 Hours	8	Lubricate The Steering Cylinder Pivots - Rod And Closed End (4 Fittings)						100		
	9	Grease Front Drive Shaft Support Bearing						100		
	10	Lubricate Loader Lift & Cylinder Pivots (10) Z-bar						100		
	10	Lubricate Loader Lift & Cylinder Pivots (18) XT						100		
Every 250 Hours	11	Check Cab Air Filter		250						
	14	Check Tire Pressure & Wheel Torque	4	250						
	12	Check Drive Belt		250						
	XX	Trans Clutch Calibration (See Section 6002)	250	1000						
Every 500 Hours	14	Check Axle Oil Level		500						
	15	Check Battery Electrolyte Level		500						
	16	Change Engine Oil and Filter				500				
	XX	Check ROPS		500						
	18	Drain Fuel Tank Condensation & Water Separator					500			
	19	Replace Fuel Filter							500	

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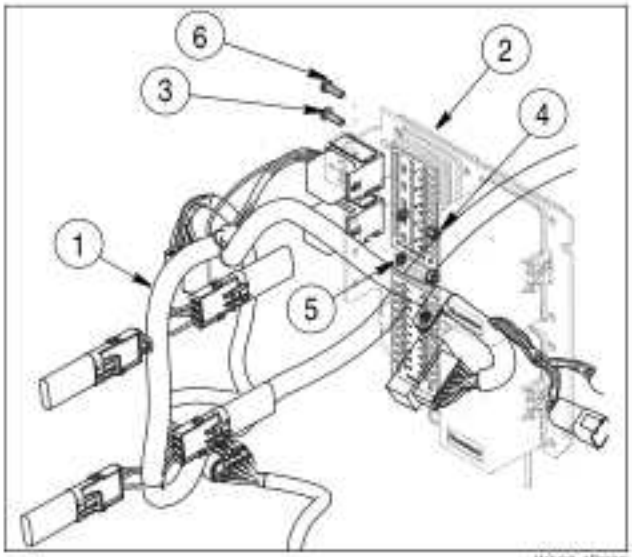
Every 1000 Hours	20	Replace Hydraulic Oil filter							1000	
	21	Grease Articulation Fittings						1000		
	24	Change crankcase filter				1000			1000	
	23	Replace Drive Belt								
	11	Replace Cab Air Filter							1000	
	26	Change Transmission Oil and Filter				1000				
	XX	Check Injector Calibration		1000						
	XX	Check Valve Adjustment (Engine Manual)		1000						
	XX	Trans Clutch Calibration (See Section 6002)		1000						
Every 1500 Hours	21	Change Front & Rear Axle Oil				1500				
	26	Change Transmission Oil and Filter				1500				
	28	Clean in-line DEF filter								
Every 2000 Hours	29	Change Hydraulic Oil				2000				
	30	Change Coolant				2000				
	31	Replace Engine Air Cleaner							2000	
	32	Lubricate cab and door						2000		
	XX	Valve Clearance (Engine Manual)								2000
Every 3000 Hours	XX	Replace DEF supply module filter							3000	
Every 6000 Hours	XX	Engine Injectors (Engine Manual)			6000					
	XX	Fuel Pump (Engine Manual)			6000					6000

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108 – Front Wiper and Washer Switch		
Located on right side console.		
Check Points	**Correct Reading**	**Possible Cause of Bad Reading**
Terminal for wire 0-DT to ground	Continuity	Bad ground circuit.
NOTE: *Put the master disconnect switch and the ignition switch in the ON position. Make sure the front wiper and washer switch is in the OFF position.*		
Terminal for wire 19J-B to ground	24 volts	Check fuse ECA-F12, check circuit 19J, also check power relay module B (14).
NOTE: *Put the front wiper and washer switch in the LOW position.*		
Terminal for wire 63LC to ground	Continuity	Bad front wiper and washer switch also check grounding circuit.
NOTE: *Put the front wiper and washer switch in the HIGH position.*		
Terminal for wire 63HC to ground	Continuity	Bad front wiper and washer switch also check grounding circuit.
NOTE: *Put the front wiper and washer switch in the wash position.*		
Terminal for wire 63W to ground	24 volts	Bad front wiper and washer switch.

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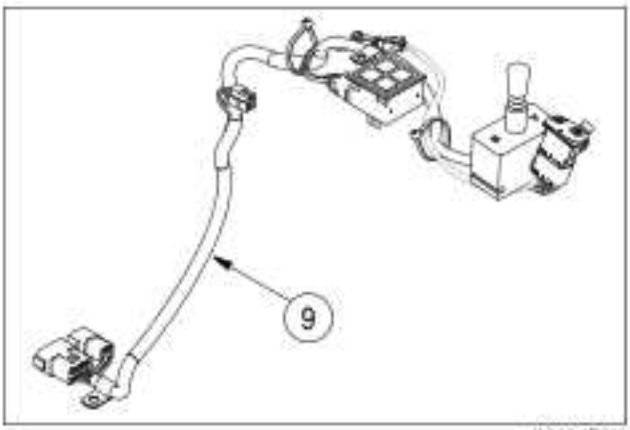
STEP 10



W190-4R078

Detach the joystick harness (1) from the mounting brackets on the fuse and relay panel (2). Remove the two connectors (3) by removing the two nuts (4), washers (5) and capscrews (6). Remove the joystick harness (1).

STEP 11



W190-4R080

To remove the armrest harness (9), see page 33.

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1. Close the shutoff valve A by turning it all the way to the left (counterclockwise), refer to the illustration on page 7.
2. Open valve B by turning it out all the way to the left (counterclockwise).
3. Close valve C by turning it all the way to the right (clockwise).
4. Close the gauge valve D by turning it all the way to the right (clockwise).
5. Connect the charging hose to the nitrogen supply tank.
6. SLOWLY turn valve A clockwise while watching the high pressure gauge. Stop turning valve A when the needle on the gauge reaches 31 bar (450 psi).

NOTE: *If the needle goes over the needed pressure, quickly open and close valve D and check the pressure setting again.*

The charging kit is now ready to be installed on the accumulator.

7. Remove the two cap screws (9) and the protection bracket (11) from the body (1) on the accumulator, refer to the illustration on pages 6.
8. Remove the valve cap from the pressure valve (12) on the accumulator.
9. Back off the needle valve on the accumulator end of the charging hose by turning it counterclockwise to the maximum amount. This prevents nitrogen from escaping from the accumulator when the charging hose is attached to the accumulator gas charging valve.
10. Install the charging hose fitting onto the accumulator pressure valve (12).
11. Tighten the needle valve by turning it clockwise. Slowly open the gauge valve D and observe the reading on the gauge. This reading is the nitrogen pressure level inside the accumulator.
12. Open the shutoff valve A on the nitrogen supply tank. While observing the pressure on the gauge, slightly open the needle valve on the accumulator charge hose. By regulating the needle valve, fill the accumulator to pressure according to temperature chart below. Close the needle valve. Close the shutoff valve A on the nitrogen supply tank.

TEMPERATURE		CHARGE PRESSURE	
10° C	50° F	1606 KPA	233 PSI
13° C	55° F	1634 KPA	237 PSI
16° C	60° F	1669 KPA	242 PSI
18° C	65° F	1696 KPA	246 PSI
21° C	70° F	1724 KPA	250 PSI
24° C	75° F	1751 KPA	254 PSI
27° C	80° F	1779 KPA	258 PSI
29° C	85° F	1813 KPA	263 PSI
32° C	90° F	1841 KPA	267 PSI
35° C	95° F	1868 KPA	271 PSI
38° C	100° F	1896 KPA	275 PSI

TEMPERATURE/CHARGE PRESSURE RIDE CONTROL ACCUMULATOR

13. Close valve B by turning to the right (clockwise). After a few minutes, check the accumulator for leakage.
14. Back off the needle valve on the accumulator end of the charging hose by turning it counterclockwise the maximum amount. This will prevent nitrogen from escaping from the accumulator as the hose is removed. Remove the charging hose from the accumulator pressure valve (12).
15. Install the valve cap onto the pressure valve (12) on the accumulator.
16. Install the protection bracket (11) over the pressure valve (12) and secure it with cap screws (9).
17. Remove the charging hose from the nitrogen supply tank.

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7 - UNDERCARRIAGE HYDRAULICS

8 - UPPERSTRUCTURE HYDRAULICS

9 - UPPERSTRUCTURE

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5 - UNDERCARRIAGE

6 - DRIVE TRAIN

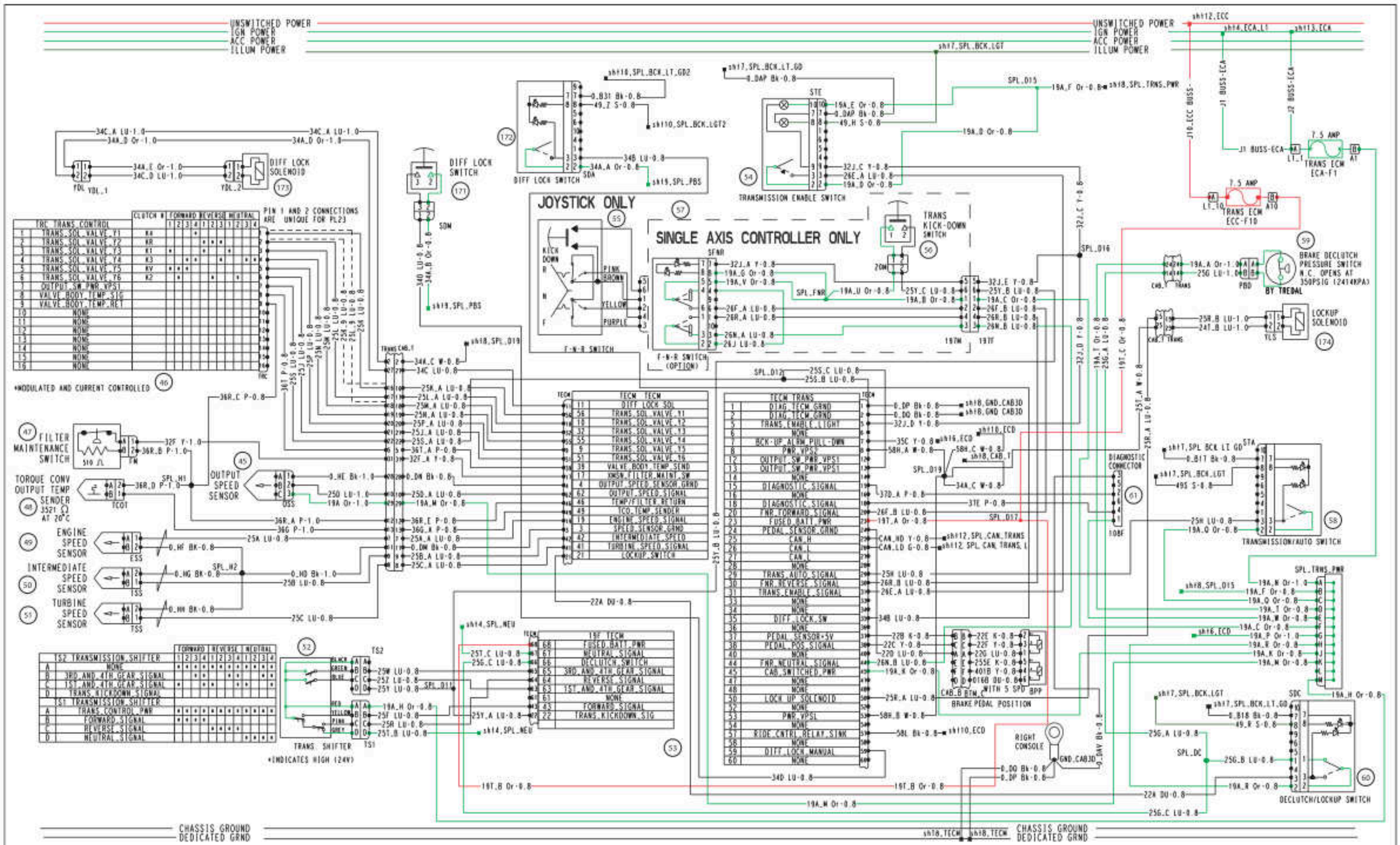
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TRANSMISSION CONTROLS

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