

Systems Operation

385C Excavator Hydraulic System

Media Number -REN7364-05

Publication Date -01/02/2009

Date Updated -23/02/2009

i02960524

Main Hydraulic System

SMCS - 5050; 5051; 5069; 5117; 5472

Main Hydraulic Schematic

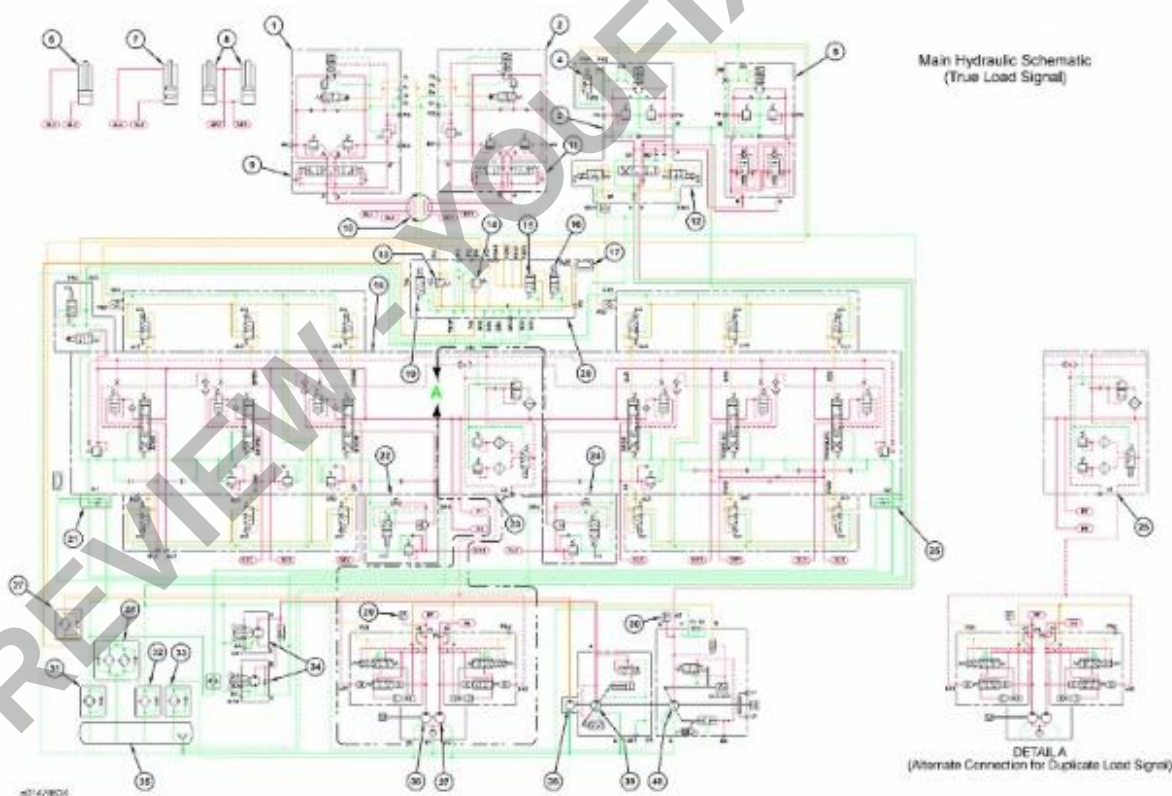


Illustration 1

g01478634

- (1) Right travel motor
- (2) Left travel motor
- (3) Rear swing motor
- (4) Solenoid valve (swing parking brake)

Troubleshooting

365C and 385C Excavators and 365C MHPU and 385C MHPU Mobile Hydraulic Power Units Machine Electronic Control System

Media Number -REN8067-04

Publication Date -01/12/2010

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i02281410

MID 039 - CID 0295 - FMI 02

SMCS - 7610-038-MCH

Conditions Which Generate This Code:

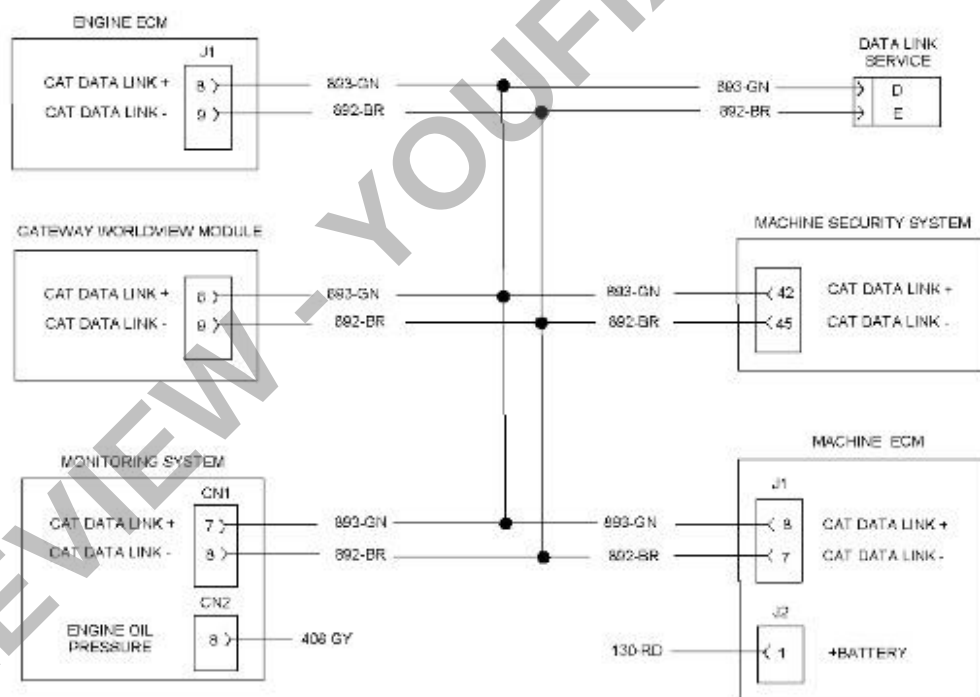


Illustration 1

g01140931

Schematic of the Cat Data Link circuit

This diagnostic code is recorded when the machine ECM has dropped off the Cat Data Link 10 times within a ten minute period. The event is active until communication is reliable for more than ten minutes.

System Response:

(P) Margin pressure adjustment screw (rear pump)	1960 ± 50 kPa (285 ± 7 psi)	1960 ± 50 kPa (285 ± 7 psi)	1960 ± 50 kPa (285 ± 7 psi)	(21 ± 5 lb ft)
(Q) Margin pressure adjustment screw (front pump)				
(B) Boom cylinder line (head end)	37000 ± 500 kPa (5350 ± 75 psi)	37000 ± 500 kPa (5350 ± 75 psi)	35000 to 37500 kPa (5075 to 5440 psi)	33 ± 5 N·m (25 ± 4 lb ft)
(C) Stick cylinder line (rod end)				
(J) Boom cylinder line (rod end)	34000 ± 500 kPa (4900 ± 75 psi)	34000 ± 500 kPa (4900 ± 75 psi)	32000 to 34500 kPa (4650 to 5000 psi)	
(K) Stick cylinder line (head end)				
(A) Bucket cylinder line (head end)				
(I) Bucket cylinder line (rod end)				
(L) Front swing motor (right relief valve)	28700 ± 500 kPa (4150 ± 75 psi)	28700 ± 500 kPa (4150 ± 75 psi)	26700 to 29200 kPa (3875 to 4250 psi)	155 ± 29 N·m (115 ± 22 lb ft)
(M) Front swing motor (left relief valve)				
(N) Rear swing motor (right relief valve)				
(O) Rear swing motor (left relief valve)				
(V) Left travel crossover relief valve (forward)	40500 ± 1500 kPa (5875 ± 220 psi)	40500 ± 1500 kPa (5875 ± 220 psi)	37500 to 42000 kPa (5450 to 6100 psi)	155 ± 29 N·m (115 ± 22 lb ft)
(U) Left travel crossover relief valve (reverse)				
(S) Right travel crossover relief valve (forward)				
(T) Right travel crossover relief valve (reverse)				
(R) Pilot relief valve	4120 ± 100 kPa (600 ± 15 psi)	4120 ± 100 kPa (600 ± 15 psi)	4120 ± 100 kPa (600 ± 15 psi)	16 ± 1 N·m (12 ± 1 lb ft)

7. Position the machine so that one track is parallel with the reference line. Position the machine for the travel test. Refer to Illustration 1.
8. Place the travel speed control switch in the HIGH position. The rabbit will be illuminated on the keypad.
9. Move the machine by operating both travel levers at the same time.
10. The first 5 m (16.4 ft) are for a preliminary run. Measure the travel time that is required to travel the remaining 20 m (65.6 ft). Measure the time that is required in each direction.
11. Measure the travel deviation from the reference line.
12. Place the travel speed control switch on the LOW position. The tortoise will be illuminated on the keypad. Repeat Steps 9 through 11.

Table 2

Travel Time				
Travel Speed		New	Rebuild	Service Limit
HIGH	Forward	17.5 sec or less	20.0 sec or less	22.5 sec or less
	Reverse			
LOW	Forward	27.0 sec or less	31.0 sec or less	35.5 sec or less
	Reverse			

Note: Table 3 represents the travel deviation (distance) from the reference line.

Table 3

Travel Deviation				
Travel Speed		New	Rebuild	Service Limit
HIGH	Forward	800 mm (31.5 inch) or less	1200 mm (47.2 inch) or less	1500 mm (59.1 inch) or less
	Reverse			
LOW	Forward	800 mm (31.5 inch) or less	1200 mm (47.2 inch) or less	1500 mm (59.1 inch) or less
	Reverse			

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Flow corrected liter/min (US gpm)	Front Pump					
	Rear Pump					
Specification for flow rate liter/min (US gpm)	New	490 ± 15 (130 ± 4)	430 ± 20 (114 ± 5)	330 ± 20 (87 ± 5)	300 ± 20 (79 ± 5)	270 ± 20 (71 ± 5)
	Service limit	420 (111)	350 (93)	250 (66)	220 (58)	190 (50)

Note: Specifications for flow rates are based on an engine speed of 1800 rpm. To attain more accurate test results, measured flow should be corrected with the following calculation.

Table 2

$$\text{Corrected flow} = \frac{\text{Measured flow} \times 1800 \text{ rpm}}{\text{measured rpm}}$$

Note: Flow measurements must be done only during pressure rise.

Note: The pump flow changes approximately 33 L/min (8.7 US gpm) for each 100 kPa (15 psi) of power shift pressure.

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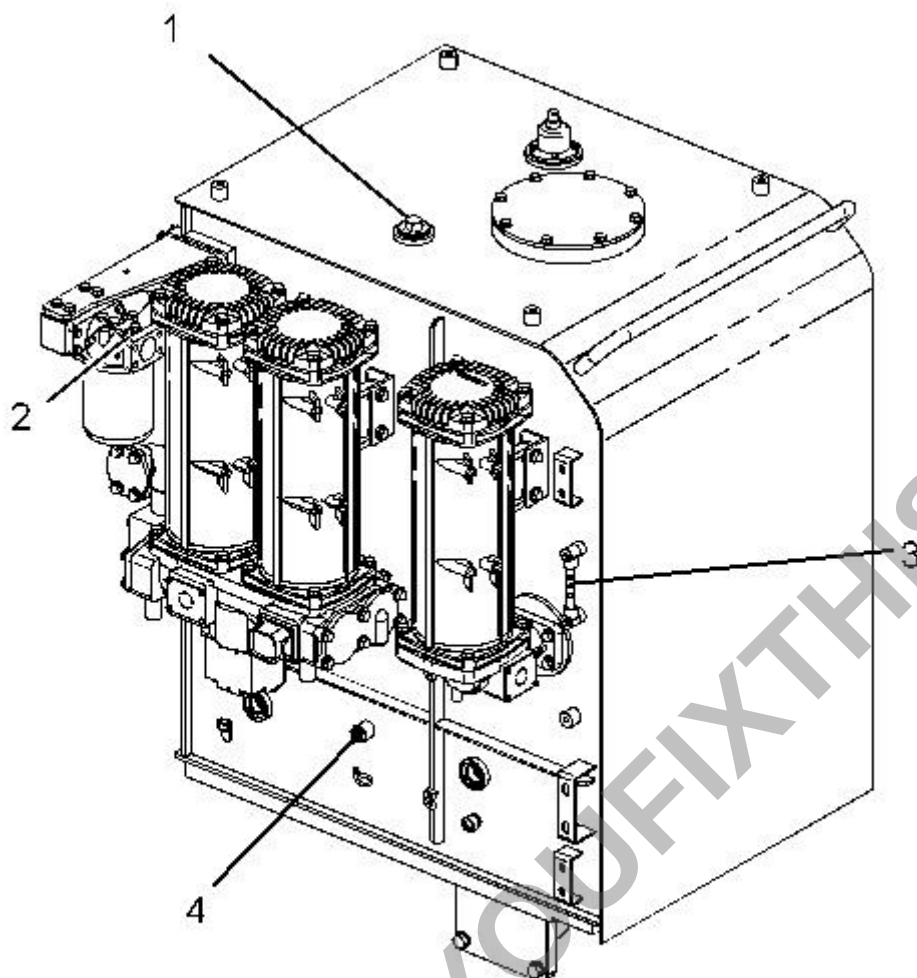


Illustration 1

g01543053

Rear right view

(1) Torque for the plug ... $68 \pm 7 \text{ N}\cdot\text{m}$ ($50 \pm 5 \text{ lb ft}$)

(2) Torque for the plug assembly ... $11 \pm 1 \text{ N}\cdot\text{m}$ ($95 \pm 9 \text{ lb in}$)

Note: Boss threads must be cleaned before mounting the sight gauge group (3) .

(3) Torque for the sight gauge group ... $6 \pm 1 \text{ N}\cdot\text{m}$ ($55 \pm 9 \text{ lb in}$)

(4) Torque for the temperature sender assembly ... $34 \pm 5 \text{ N}\cdot\text{m}$ ($25 \pm 4 \text{ lb ft}$)

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