

## **Worksheets - Troubleshoot - CNC1200-UP, CMP700-UP, and CNY1-UP**

S/N - CNY1-UP

S/N - CMP700-UP

S/N - CNC1200-UP

The following tables are provided in order to record information as you perform the tests on the machine. Make copies of these tables so that the tables may be reused for other machines.

The worksheets are designed to be used for the following pressure tests:

- Engine idle
- Cycle times
- Drift checks
- Baseline for the hydrostatic system
- Pilot system
- Main relief valves
- Line relief valves
- Hydrostatic system

## **Troubleshooting Worksheets**

The following tables are provided in order to record information as you perform the tests on the machine.

Table 1

<b>MACHINE MODEL</b>		<b>DATE</b>	
<b>SERIAL NUMBER</b>		<b>SERVICE METER HOURS</b>	
<b>ENGINE SERIAL NUMBER</b>		<b>ARRANGEMENT NUMBER</b>	

Table 2

<b>ENGINE IDLE</b>			
<b>TEST</b>	<b>SPECIFICATION ( 267)</b>	<b>SPECIFICATION ( 277 and 287)</b>	<b>ACTUAL</b>
High Idle	2820 ± 50 RPM	2900 ± 50 RPM	
Low Idle	1000 ± 50 RPM	1000 ± 50 RPM	

Table 3

<b>LIFT CYLINDER SPEED TEST</b>			
<b>LIFT'S DIRECTION</b>	<b>TIME (sec) ( 267 and 277)</b>	<b>TIME (sec) ( 287)</b>	<b>ACTUAL</b>
Raise	2.7 ± 0.2	4.8 ± 0.2	
Lower	2.7 ± 0.2	3.4 ± 0.2	
Float	2.8 ± 0.2	3.4 ± 0.2	

Table 4

<b>TILT CYLINDER SPEED TEST</b>			
<b>TILT'S DIRECTION</b>	<b>TIME (sec) ( 267 and 277)</b>	<b>TIME (sec) ( 287)</b>	<b>ACTUAL</b>
Tilt Forward	2.0 ± 0.2	2.1 ± 0.2	
Tilt Back	1.6 ± 0.2	1.6 ± 0.2	

Table 5

<b>LIFT CYLINDER DRIFT</b>			
<b>BUCKET LOAD</b>	<b>TIME</b>	<b>MAXIMUM DRIFT</b>	<b>ACTUAL</b>
200 kg	1 min	3mm	

Table 6

<b>TILT CYLINDER DRIFT</b>			
<b>BUCKET LOAD</b>	<b>TIME</b>	<b>MAXIMUM DRIFT</b>	<b>ACTUAL</b>
200 kg	1 min	3 mm	

Table 7

<b>PILOT SYSTEM PRESSURE TEST</b>
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TEST	LOW IDLE		HIGH IDLE	
	SPECIFICATION	ACTUAL	SPECIFICATION	ACTUAL
Engine Speed	1000 ± 50 RPM		2820 ± 50 RPM ( 267) 2900 ± 50 RPM ( 277 and 287)	
Charge Pressure	3200 ± 200 kPa (465 ± 30 psi)		3800 ± 345 kPa (550 ± 50 psi)	
Speed Sensing Pressure	900 ± 200 kPa (130 ± 30 psi)		3200 ± 100 kPa (465 ± 15 psi)	
Pilot Pressure			3500 ± 200 kPa (510 ± 30 psi)	

Table 8

MAIN RELIEF VALVE PRESSURE			
TEST	Specification ( 267)	Specification ( 277 and 287)	ACTUAL
High Idle	2820 ± 50 RPM	2900 ± 50 RPM	
Main Relief	23000 ± 700 kPa (3340 ± 100 psi)	23000 ± 700 kPa (3340 ± 100 psi)	

Table 9

LINE RELIEF VALVE PRESSURE			
TEST	Specification ( 267)	Specification ( 277 and 287)	ACTUAL
High Idle	2820 ± 50 RPM	2900 ± 50 RPM	
Lift Cylinder RAISE	27600 ± 700 kPa (4000 ± 100 psi)	27600 ± 700 kPa (4000 ± 100 psi)	
Tilt Cylinder FORWARD	24500 ± 700 kPa (3560 ± 100 psi)	24500 ± 700 kPa (3560 ± 100 psi)	
Tilt Cylinder RACK BACK	27600 ± 700 kPa (4000 ± 100 psi)	27600 ± 700 kPa (4000 ± 100 psi)	
Auxiliary	25000 ± 700 kPa (3630 ±	25000 ± 700 kPa (3630 ±	

100 psi)

100 psi)

Table 10

<b>BASELINE FOR THE HYDROSTATIC SYSTEM</b>				
<b>TEST</b>	<b>LOW IDLE</b>		<b>HIGH IDLE</b>	
	<b>SPECIFICATION</b>	<b>ACTUAL</b>	<b>SPECIFICATION</b>	<b>ACTUAL</b>
Engine Speed	1000 ± 50 RPM		2820 ± 50 RPM ( 267) 2900 ± 50 RPM ( 277 and 287)	
Charge Pressure	3200 ± 200 kPa (465 ± 30 psi)		3800 ± 345 kPa (550 ± 50 psi)	
Speed Sensing Pressure	900 ± 200 kPa (130 ± 30 psi)		3200 ± 100 kPa (465 ± 15 psi)	
Pressure for the Pump Case	100 ± 50 kPa (15 ± 7 psi)		200 ± 100 kPa (30 ± 15 psi)	
Fan Speed	1225 ± 25 RPM		2850 ± 50 RPM ( 267) 2450 ± 50 RPM ( 277 and 287)	

Table 11

<b>HYDROSTATIC SYSTEM TESTS</b>		
<b>STALL TEST</b>		
<b>TEST</b>	<b>SPECIFICATION</b>	<b>ACTUAL</b>
Engine Stall Speed	2200 ± 500 RPM	
MA Pressure Pump 1	38200 ± 2000 kPa (5540 ± 290 psi)	
MA Pressure Pump 2	38200 ± 2000 kPa (5540 ± 290 psi)	
<b>DOUBLE STALL TEST</b>		
<b>TEST</b>	<b>SPECIFICATION</b>	<b>ACTUAL</b>
Engine Stall Speed	2000 ± 500 RPM	
MA Pressure Pump 1	35000 ± 3000 kPa (5080 ± 435 psi)	
MA Pressure		

Pump 2	35000 ± 3000 kPa (5080 ± 435 psi)	
<b>NEUTRAL SETTING for PISTON PUMP</b>		
<b>TEST</b>	<b>SPECIFICATION</b>	<b>ACTUAL</b>
Engine Speed	1000 ± 50 RPM	
MA Pressure Pump 1	3500 ± 500 kPa (510 ± 75 psi)	
MA Pressure P		