



Operation & Maintenance Manual

NPS20N

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SWHPU - 00311

13	EEPROM KO	(Warning)	Stored
	It's due to a hardware or software defect of the non-volatile embedded memory supporting the controller parameters. This alarm does not inhibit the truck operations, but the truck will work with the default values. Try to execute a CLEAR EEPROM operation. Switch the key off and on to check the result. If the alarm occurs permanently, it is necessary to replace the Combiac1 controller. If the alarm disappears, the previously stored parameters will have been replaced by the default.		
19	LOGIC FAILURE #1	(Alarm)	Stored
	This fault is displayed when the controller detects an overvoltage or undervoltage condition. Overvoltage threshold is 45V; undervoltage threshold is 9V in the 24V controller. If fault displayed at startup or in standby; in this case it is due to an undervoltage, so it is important to check following: a) Key input signal down going pulses (below undervoltage threshold) due external loads, like DC/DC converters starting up, relays or contactors energizing/ denenergizing. b) If no voltage transient is detected on the supply line and the alarm is present every time the key is switched ON, the fault is in the Combiac1 controller. If fault is displayed during motor driving; in this case due to an undervoltage or an overvoltage condition. a) If the alarm happens during traction acceleration or driving hydraulic functions, the fault is an undervoltage condition; check battery charge level and power cable connections. b) If the alarm happens during release braking, the fault is an overvoltage condition; check line contactor tips and battery power cable connections.		
28	PUMP VMN LOW	(Alarm)	Stored
	Cause: The pump motor output is lower than expected, considering the pulswidthmodulation applied.		

controlled safety switch to close. Therefore, traction is disabled.
ABSENT: Inhibit supervisor microprocessor functions (Not in use!).
PRESENT: Enable diagnostic interaction between the main and supervisor microprocessors.
Factory default is "PRESENT". Do not change the default value!

ENCODER CONTROL

This parameter is not used in this application. Factory default value is "OFF". Do not change the default value!

FEEDBACK DEVICE

This parameter controls what kind of feed back device is used.
Factory default value is "OP #4". Do not change the default value!

AUTOCENTERING

This parameter controls the automatic steering centring at key-on. Value range setting:
ON: The steering centring is activated at key-on.
OFF: The steering centring is not activated at key-on.

RECOVERY AT REST

This parameter controls the steering recovery at rest, which is not used in this application. Factory default is "OFF". Do not change the default value!

AUX FUNCTION 1

This parameter sets the steering mode after the feedback signals has reached the final position. The steering motor is turned on when a travel demand is active. Factory default setting is "0". Do not change the default value!

DIAG MOTOR TEMP

This parameter controls the steering motor overheating alarm (MOTOR TEMPERAT) enabling or disabling. ON: the detection of the alarm. OFF: Disables the detection of the alarm. Factory default setting is "ON". Do not change the default value!

SUBMENU: SET MODEL

SYSTEM CONFIG

AUTO REQ TYPE	0	0	0	0							0		Factory setting
CONNECTED TO	EPS	EPS	EPS	EPS							EPS		2 = traction controller, 5 = pump controller, 6 = steering controller, 10 = encoder card
MODEL TYPE	x	x	x	x							x		
ADJUSTMENTS:											0		
ADJUSTMENT #01	0	0	0	0							0		Factory setting
SET CURRENT	0	0	0	0							0		Factory setting
ADJUSTMENT #02	x	x	x	x							90		Factory setting
ADJUSTMENT #03	x	x	x	x							x		Factory setting
ADJUSTMENT #04	x	x	x	x							x		Factory setting
SET BATTERY TYPE	24V	24V	24V	24V							24V		Factory setting
SET SAT. FREQ.	90 Hz	90 Hz	90 Hz	90 Hz							90Hz		Factory setting
OVERSAT FREQ.	1 Hz	1 Hz	1 Hz	1 Hz							1Hz		Factory setting
MAXIMUM SLIP	5,00 Hz	5,00 Hz	5,00 Hz	5,00 Hz							5Hz		Factory setting
AUX VOLTAGE #1	x	x	x	x							x		Factory setting
AUX VOLTAGE #2	x	x	x	x							x		Factory setting
NO LOAD CURRENT	24 A	24 A	24 A	24 A							24A		Factory setting
ZERO SP POT	x	x	x	x							x		Factory setting
SET STEER 0-POS.	x	x	x	x							x		Straight ahead steering position adjustment
SET STEER 180	x	x	x	x							x		Factory setting
SET ENC AT 180	x	x	x	x							x		Autoteaching sets this parameter. Value is about 1,6 - 1,7V
SET ENC AT 360	x	x	x	x							x		Autoteaching sets this parameter. Value is about 3,3 - 3,4V
SPECIAL ADJUST:											0		
SET TEMPERATURE	x	x	x	x							x		Factory setting
HIGH ADDRESS	0	0	0	0							0		Factory setting
DEBUG OUTPUT	15	15	15	15							15		Factory setting
HARDWARE SETTINGS:											0		
MAXIMUM CURRENT	50 A	50 A	50 A	50 A							50A		Factory setting
CAN BUS	PRESENT	PRESENT	PRESENT	PRESENT							PRESENT		Factory setting
SET HI RESOL AD	1	1	1	1							1		Factory setting
AUTOTEACHING	OFF	OFF	OFF	OFF							OFF	ON / OFF	OFF = Automatic teaching for steering disabled. ON = Automatic steer teaching activated on next truck startup.
AUX FUNCTION 11	5	3	5	5							x		Defines steering motor and feedback sensors positions

Overhead guard and load support

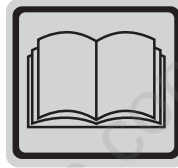
Trucks driven sitting or standing that are capable of lifting a load higher than 1.8 m must be equipped with an overhead guard. Modifications to the overhead guard that could possibly weaken its structure are not allowed. If it is possible for objects to fall through the openings in the overhead guard, the size of the openings must be reduced. Trucks used for transporting small objects or unstable loads must be equipped with a load support.

Legend for warning symbols

Note! A truck may cause serious accidents unless you are sufficiently familiar with its operation and unless you know its operating and maintenance instructions.



For more information, see the truck manual.
Familiarise yourself with the truck manual and its contents before operating or servicing the truck.



Do not touch moving parts.



Do not use the truck to lift personnel.



Do not walk or stand underneath the truck's raised forks.



Full Version Available

Caterpillar NPS20N Pallet Truck Operator Manual (SWHPU-00311)

Caterpillar NPS20N Pallet Truck operator manual, covers safe operation, controls, charging, and maintenance. Searchable PDF download.

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