



Operation & Maintenance Manual

NSS15N

NSS15NI

NSS20N

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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 If the alarm disappears, the previously stored parameters will have been replaced by the default.		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

0,1: Fastest
5,0 Slow

EVP CLOSE DELAY

This parameter controls the proportional valve closing delay ramp. Value range setting:

0,1: Fastest
5,0 Slow

EVP CL. DEL RED

This parameter controls the proportional valve closing delay ramp. It is used when the lower reduction is active during MAST transition.

EVP1 OPEN DELAY

This parameter is not used in our application.

EVP1 CLOSE DELAY

This parameter is not used in our application.

START LOWER RED.

This parameter defines the starting point (height value) when lower speed reduction is active. It is used during mast transition.

DUAL PUMP DELAY

This parameter controls the delay for the full current when the second pump is dropped out. Value range setting:
Use level 2

SUBMENU: CONFIG MENU / SET MODEL

MODEL TYPE

Use this parameter to select the controller to access with the console. You can access any controller that is connected to the CAN bus. If there is a CAN BUS KO alarm active, you cannot select another controller. In this case, you must connect the console directly to the controller you wish to access. In normal circumstances, you can choose the controller from the following options:

- 2: Traction motor controller
- 5: Pump motor controller

HEIGHT REDUCTION

This parameter controls the speed reduction depending on lifting height. It means the height point when truck speed is linearly reduced to 2,5Km/h.
[40*encoder pulses7rev]
The pulses vs. mm ratio will be indicated by truck manufacturer.
0-255

AUX FUNCTION #7

This parameter controls the electric magnetic brake time delay when driving on a ramp. Value range setting:
0 – 9

SUBMENU: SET OPTIONS

TILLER SWITCH

This parameter controls the pedal switch operation. Value range setting:
Use always “HANDLE” setting!

HOURLY COUNTER

This parameter controls how the operating time counter in the controller is activated. Value range setting:
RUNNING: The counter registers drive time only.
KEY ON: The counter registers when the “key switch is closed.

BATTERY CHECK

This parameter controls the specification of low battery charge detection. Value range setting:
0: Nothing happens, the battery charge level is calculated but no action is taken when the battery is discharged.
1: Lift cut out when the alarm “BATTERY LOW” is activated.
2: Traction speed reduction to 24% when the alarm “BATTERY LOW” is activated.

STOP ON RAMP

This parameter controls the behaviour of the truck when it is on a ramp depending on the setting of the parameter “AUXILIARY TIME”. Value range setting:
ON: The stop on ramp feature is active for a period determined by the “AUXILIARY TIME” parameter.

Full Version Available

Caterpillar NSS15N Stacker Operator Manual (SWHSU-00311)

Caterpillar NSS15N Stacker operator manual, covers controls, safety, battery care, and maintenance for NSS15N, NSS15NI, and NSS20N. PDF download.

VIEW THE FULL MANUAL