



Operation & Maintenance Manual

NSV12N

NSV12NI

NSV16N

NSV16NI

NPV20ND

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Node	Code_all	Alarm displayed on console	comments	Warning	Stored	To not display	CODE ON MDI_CAN
Combi ac master	228	"TILLER OPEN"		x		x	02A51
Combi ac master	229	"POS AUX SHORT"			x		02A86
Combi ac master	231	"COIL SHORT HW KO"			x		02A76
Combi ac master	232	"WRONG SETPOINT"			x		02A78
Combi ac master	233	"POWER MOS SHORT"			x		02A89
Combi ac master	236	"CURRENT GAIN"			x		02A92
Combi ac master	237	"ANALOG INPUT"			x		02A96
Combi ac master	239	"PUMP WARNING"		x			NOT DEFINED
Combi ac master	240	"HARDWARE FAULT"			x		NOT DEFINED
Combi ac master	246	"AUX DRIV. OPEN"			x		NOT DEFINED
Combi ac master	247	"DATA ACQUISITION"		x			NONE
Combi ac master	248	"NO CAN MSG. N."			x		02A67
Combi ac master	249	"CHECK UP NEEDED"		x			02A99
Combi ac master	250	"THERMIC SENS KO"		x	x		02A61
Combi ac master	251	"WRONG SET BAT."			x		NOT DEFINED
Combi ac master	253	"SLIP PROFILE"			x		02A99
Combi ac master	254	"AUX DRIV. SHRT."			x		NOT DEFINED
Combi ac slave	0	" NONE "					NONE
Combi ac slave	1	"CHOPPER RUNNING "		x			NONE
Combi ac slave	2	"NO COMMUNICATION"		x			NONE
Combi ac slave	8	" WATCHDOG "			x		05A08
Combi ac slave	13	" EEPROM KO "		x	x		05A13
Combi ac slave	19	"LOGIC FAILURE #1"			x		05A19
Combi ac slave	28	" PUMP VMN LOW "			x		05A28
Combi ac slave	29	" PUMP VMN HIGH "			x		05A29
Combi ac slave	52	" PUMP I=0 EVER "			x		05A52
Combi ac slave	56	"PUMP STBY I HIGH"			x		05A56
Combi ac slave	64	"PUMP TEMPERATURE"		x	x		05A64
Combi ac slave	227	"ENC CAN KO"	*NSR12/16/20N only	x			05A70
Combi ac slave	228	"ACC OUT OF RANGE"	*NSR12/16/20N only	x			05A80
Combi ac slave	229	"WRONG ZERO"			x		05A67
Combi ac slave	230	"OUT. MISMATCH"			x		05A53
Combi ac slave	231	"SAFETY FEED"			x		05A54
Combi ac slave	232	"WRONG SETPOINT"			x		05A56
Combi ac slave	233	"RESET ENCODER"		x			05A57

LIMIT DEVICE	ON									ON	ON/OFF	Steering angle electrical limitation
DIRECTION GAUGE	OP #1									OP #1		factory setting
AUX FUNCTION 1	0									0		factory setting
DIAG MOTOR TEMP	ON									ON		factory setting
AUX OUTPUT #3	0									0		factory setting
TILLER DEAD ZONE	OFF									OFF	ON/OFF	When set to ON and recycled the key -- > there are 20 degrees dead zone area.
SPAC CONFIG	ON									0	0-1	Which type of traction controller is used on a truck. 0 = AC1-SSL, 1 = Combi AC
SET MODEL:												
SYSTEM CONFIG	1									2		factory setting
AUTO REQ TYPE	0									0		factory setting
CONNECTED TO	EPS									EPS		2 = traction, 6 = steering
MODEL TYPE	x									x		factory setting
ADJUSTMENTS:												
ADJUSTMENT #01	0									0		factory setting
SET CURRENT	0									0		factory setting
ADJUSTMENT #02	x									90		factory setting
ADJUSTMENT #03	x									x		factory setting
ADJUSTMENT #04	x									x		factory setting
SET BATTERY TYPE	24V									24V		factory setting
SET SAT. FREQ.	78 Hz									78Hz		factory setting
OVERSAT FREQ.	1 Hz									1Hz		factory setting
MAXIMUM SLIP	5,00 Hz									5Hz		factory setting
AUX VOLTAGE #1	x									x		factory setting
AUX VOLTAGE #2	x									x		factory setting
NO LOAD CURRENT	13 A									13A		factory setting
ZERO SP POT	x									x		teaching of the zero point of wheel
SET STEER 0-POS.	x									x		straight ahead adjustment
SET MIN FB POT	x									x		teaching of the maximum anti-clockwise angle
SET MAX FB POT	x									x		teaching of the maximum clockwise angle
SPECIAL ADJUST:												
SET TEMPERATURE	x									x		factory setting
HIGH ADDRESS	0									0		factory setting
DEBUG OUTPUT	15									15		factory setting
MAX SP SLOPE	9									9		factory setting
HARDWARE SETTINGS:												
MAXIMUM CURRENT	50 A									50A		factory setting
CAN BUS	PRESENT									PRESENT		factory setting
SET HI RESOL AD	1									1		factory setting

TRUCK TYPES							
	NSV12N / NSV12NI	NPV20ND	NSV16N	NSV16NI	Default	Adjustment range	NOTE!
EV1 OPEN DELAY	1	1	1	1	1	0,1-5	Not used
EV1 CLOSE DELAY	2	2	2	2	2	0,1-5	Not used
START LOWER RED.	10	10	10	10	10	1-100	Lower speed reduction starting point on mast stage delay.
DUAL PUMP DEL	LEVEL = 2	LEVEL = 2	LEVEL = 2	LEVEL = 2	LEVEL = 2	0-9	Dual pump delay. Pump controller tries to drive pump motor with maximum current. If current stays on maximum value this time --> only one pump is used.
CONFIG MENU/ SET MODEL:							
MODEL TYPE	5	5	5	5	5	5	2 = traction, 5 = pump, 6 = steering, 10 = encoder-card
SET OPTIONS:							
HOURLY COUNTER	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING		factory set
EVP TYPE	DIGITAL	DIGITAL	ANALOG	ANALOG	ANALOG		Proportional valve type, analog = proportional valve, digital = on/off valve
EV1 TYPE	DIGITAL	DIGITAL	DIGITAL	DIGITAL	DIGITAL		Proportional valve type, analog = proportional valve, digital = on/off valve
SET TEMPERATURE	NONE	NONE	NONE	NONE	NONE		factory set
SIDE STABILIZER	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT / PRESENT	PRESENT = Side stabilizers in use ABSENT = No side stabilizers
AUX OUTPUT #6	LEVEL = 3	LEVEL = 3	LEVEL = 3	LEVEL = 3	LEVEL = 3	0-7	Output XA1/14 0 = Not used 1 = Traction forward active 2 = traction backward active 3 = Traction active 4 = Lift active 5 = Lower active 6 = Lift/lower active 7 = Traction and lift/lower active
AUX OUTPUT #5	LEVEL = 9	LEVEL = 9	LEVEL = 9	LEVEL = 9	LEVEL = 9	0-9	Output XA1/32 0 = not used 1 = Traction forward active 2 = traction backward active 3 = Traction active 4 = Lift active 5 = Lower active 6 = Lift/lower active 7 = Traction and lift/lower active
DUAL PUMP	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT / PRESENT	PRESENT = Dual pump in use, ABSENT = Dual pump not used
AUTO INIT LOWER	NONE / OPTION #1	NONE	NONE	OPTION#1	OPTION#1	NONE, OPTION#1, OPTION#2	Automatic initial lower from input XA1/20. NONE = not used, OPTION#1 = automatic initial lower, OPTION#2 = manual initial lower.

Full Version Available

Caterpillar NPV20ND Pallet Truck Operator Manual (SWHSU-00112)

Caterpillar NPV20ND pallet truck manual, covers hydraulics, drive unit, controls, and maintenance.
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