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A	Repair of HDV series 744.125-128 - scope of repairs L3		
Disassembly of HDV 744.1 units			
Number Operation:	Name of unit, task	Disassembly - Cleaning (washing, blowing) - Description of activity, including implementation	
9.000a	Acceptance of vehicle for repair	Checking the completeness of documents, inspection vehicle (completeness, damage), reading	X
9,000b	Initial vehicle functions	Vehicle functional tests	X
9.001	Chassis disassembly/assembly		X
9.002	Tank removal/installation		X
9.003	Air tank removal/installation		X
9.004	Disassembly/assembly of plows		-
9.005	Removal/installation of hoods		X
9.006	Removal/installation of engine generator		X
9.007	Removal/installation of cooling block		X
9.008	Disassembly/assembly of VCHTM		X
9.009	Disassembly/assembly of tire block		X
9.010	Compressor block removal/installation		X
9.011	Disassembly/assembly of cabin		-
9.012	Disassembly/assembly of electrical switchboards on the main frame (R1, R3, etc.)		-
Electrical equipment HDV 744.1			
Number Operation:	Name of unit, task	Disassembly - Cleaning (washing, blowing) - Description of activity, including implementation	
	Travel		
10.001	DAKO 90550-145/2122/AK speed sensors	Check condition, function, clean, replacement of couplings, lubrication	X
10.002	GEL247Y506 traction motor speed sensors	Disassemble, check and clean	X
10.003	KSTz/Pt100 traction motor temperature sensors	Remove, inspect, and clean	X
10.004	Altpro DB-200 speed sensor	Remove, check and repair Dismantle, check and repair	X
10.004	Tachograph speed sensor GEL2710.2	manufacturer.	X
10.005	TRIBOTEC sandblasting nozzle heating elements	Check condition, function, clean	X

10.005.1	TRIBOTEC sandblasting nozzle heating elements	Part replacement	-
10.006	Harting connectors	Check the condition of covers, contacts, cleaning	X
10.006.1	Harting connectors	Part replacement	-
	Locomotive frame		
10.007	Air Top EVO 55 D hot air heater	Disassemble, inspect, and repair	X
10.008	Fire damper	Check condition, function, clean	X
10.009	LM5 Mesit fuel level sensors	Check condition, clean, recalibration	X
10.009.1	LM5 Mesit fuel level sensors	Part replacement, recalibration	-
10.012	TR.793 GX Corpfin fuel level sensors	Check condition, function, cleaning	X
10.012.1	TR.793 GX Corpfin fuel level sensors	Part replacement	-
10.010	Sensit temperature sensors	Check condition, function, clean	X
10.011	Auxiliary network filter 3x400V	Check condition, function, clean	X
10.012	Stair lighting KO4911	Check condition, function, cleaning	X
10.013	Tachograph sensor connection box	Check condition of connector, tightness of terminals, cleaning	X
10.014	Fire sensors	Check condition, function, clean	X
10.015	Fire switch	Check condition and function, adjustment	X
10.016	Battery	Check capacity, then KP, consumable part and therefore always according to condition	X
10.017	Traction rectifier TSU 12309	Clean, check diodes, check protective elements, perform a piece test	X
10.018	PS 800/560 choke block	Disassemble, check condition, function, clean	X
10.019	Voltage divider BDG01/A	Perform status check, function check, cleaning	X
10.020	Stair lighting buttons	Check condition, function, clean, replace if necessary in KP	X
10.021	Limit switch on the rectifier	Check condition of contacts, adjustment	X
10.022	TOC isolation transformer	Check condition, function, clean	X
10.023	RAWET converters	Check function, corresponding measuring ranges, cleaning	X
10.027	Cameras on the front panel	Check condition, function, cleaning	X
10.024	Position lights / headlights	Check condition, function, cleaning, adjustment Check condition and function, repair if necessary	X
10,029	Sensors for the MIREL train protection system	Manufacturer	X
10.030	BTM module	Perform status and function checks, repair if necessary repair by manufacturer	X

Replacement of equipment after the end of its twenty-year

10.030.1	BTM module	service life.	-
10.025	Altpro LLC0512 3.2 baliz sensor	Check condition and function, adjust tilt, repair by manufacturer if necessary	X
10.025.1	Altpro LLC0512 3.2 sensor	Replace device after twenty years of service life.	-
10.026	Connector - baliz sensor	Check the condition of covers, contacts, cleaning	X
10.026.1	Connector - baliz sensor	Part replacement	-
10.033	Hasler speed sensor connection boxes	Check the condition of the connector, tighten the terminals, clean	X
10.027	Harting connectors, M12	Check the condition of covers, contacts, cleaning	X
10.027.1	Harting connectors, M12	Part replacement	-
10.028	UIC socket connectors + connections	Check the condition of covers, contacts, cleaning	X
10.028.1	UIC socket connectors	Part replacement	-
10.029	External network socket connector 3x400V	Check the condition of covers, contacts, clean	X
10.029.1	External network socket connector 3x400V	Part replacement	-
	Cabin		
10.037	Ethernet switch for camera system	Check condition and function, if necessary repair by manufacturer	X
10.030	Hot air heating control unit	Perform function check, cleaning	X
10.031	Hot water heating control unit	Perform function check, cleaning	X
10.032	CCTV system computer	Check condition and function, repair if necessary repair by manufacturer	X
10.033	CCTV system converter (installed from locomotive 744.179)	Check condition and function, repair if necessary repair by manufacturer	X
10.034	Antennae on the roof	Check condition, clean, measure SWR	X
10.035	External temperature sensor for hot-air heating	Perform function check	X
10.036	Cabin lighting	Check condition, function, cleaning	X
10.037	Microwave	Perform a function check, cleaning	X
10.037.1	Microwave	Part replacement	-
10.038	Refrigerator	Perform a function check, cleaning	X
10.038.1	Refrigerator	Part replacement	-
10.039	Fire sensors	Check condition, function, cleaning	X
10.040	Signal horn	Check condition and function, replace defective in KP	X
10.041	Switches, buttons, potentiometers, indicator lights	defective in KP	X

10.042	Camera system time relay	Perform status and function checks, verification, and range settings	X
10.043	Battery voltmeter	Perform inspection and repair	X
10.044	Cabin temperature sensor	Check condition, replace if defective	X
10.045	Windscreen heating	Check condition and function	X
10.046	Step heating elements	Check condition, function, clean	X
10.047	Foot switches (pedals)	Perform a status and function check, replacement Padlószőnyeg állapotának ellenőrzése	X
10.048	Door wiper limit switches	Defective	X
10.049	Meteor vehicle tracking system	Disassembly and cleaning, inspection, function check functionality, reactivation by manufacturer	X
10.050	DM4600e UHF customer radio (12V; 14.5 A)	Inspection, function check, reactivation by manufacturer	X
10.051	230V microwave oven socket	Perform condition and function check, cleaning	X
10.052	Socket - 24 V DC	Check condition and function, clean	X
10.053	Harting connectors, M12	Check the condition of covers, contacts, clean	X
10.053.1	Harting connectors, M12	Part replacement	-
	Front and rear stations		
10.054	Altpro ZS24 signal horn	Inspection, function check, reactivation by manufacturer	X
10.055	INDUSI Altpro EAO control panel	Inspection, functional check, commissioning by manufacturer	X
10.056	Altpro B18.200 odometer	Inspection, functional check, reactivation by manufacturer	X
10.057	Altpro AP108364 RFID terminal	Inspection, functional check, reactivation by manufacturer	X
10.058	SIFA Altpro EAO control panel	Revision, function check, commissioning by manufacturer	X
10.059	Altpro APSI96 speed display unit	Revision, functional check, reactivation by manufacturer	X
10.060	Camera system displays	Disassemble, inspect, and repair by manufacturer	X
10.060	Control system displays	Revision, function check, commissioning by manufacturer	X
10.061	Cycle controllers	Perform condition and function checks	X
10.062	ETCS speakers	Perform a function check, replace if necessary	X
10.063	Timetable lighting	Check condition, function, clean, replace defective ones in KP	X
10.064	Switches, buttons, indicator lights, resistors, diodes	Check condition, function, replacement Padlószőnyeg állapotának ellenőrzése	X
10.065	HH 267/A ride controllers	pPrromvéasztáknóintrolu contacts settings	X
10.066	Schaltbau directional controllers	Control control, adjustment	X
10.067	HH 222/IL/P automatic brake controllers	pPrromvéasztáknóintrolu contacts settings	X
10.068	HH 228/II/A/P direct-acting brake controllers	lubrication	X

10.069	Funkwerk radio control boxes with accessories	Inspection, functional check, recommissioning by manufacturer	X
10.070	VS67 radio control boxes with accessories	Disassembly and cleaning, inspection, function check functionality, recommissioning by manufacturer	X
10.071	MIREL train safety horn	Disassemble, inspect and repair vDyermobocnetmovat, check and repair	X
10.072	MIREL train protection system display units	Manufacturer	X
10.070	230V sockets	Check condition and function, clean	X
10.071	USB charging sockets on the counter	Check condition and function, clean	X
10.072	USB sockets under the counter	Check condition and function	X
10.073	ETCS displays	Disassemble, inspect, and repair Check the condition of covers, contacts,	X
10.074	Harting, M12, RJ45, D-Sub connectors	cleaning	X
10.074.1	Harting, M12, RJ45, D-Sub connectors	Part replacement	-
10.075	Counter panel labels	Cleaning, condition check, replacement damaged ones in KP	X
10.075.1	Counter panel labels	Part replacement	-
	R2 switchboard (in cabin)		
10.076	CAN line splitters	Check condition and function, clean	X
10.077	Ethernet switch	Check condition and function, clean up	X
10.078	Anti-skid controller	Inspection, function check, recommissioning by manufacturer	X
10.079	F-SOT02 cabin heating controllers	Inspection, functional check, commissioning by manufacturer	X
10.080	Control unit - speed switch F-BPK01	Inspection, functional testing, commissioning by manufacturer	X
10.081	EAF/Kidde Deugra fire system units	Disassembly and cleaning, inspection, function check function, recommissioning by manufacturer	X
10.082	Tramex electronic speedometer	Disassembly and cleaning, inspection, function, reactivation by manufacturer	X
10.083	Tachograph recording module	Disassembly and cleaning, inspection, function, reactivation by manufacturer	X
10.084	Safety and protective devices (circuit breakers, protectors, fuses)	Perform a status and function check	X
10.084.1	Safety and protective devices (circuit breakers, protectors, fuses)	Part replacement	-
10.085	Fire sensor	Check condition, function, clean	X
10.086	DC/DC converter ZDC24/24	Check condition and function, cleaned	X
10.087	DC/DC converter radio station NNP24-12	Check condition and function, cleaned	X
10.088	Relay	Check condition and function	X
10.089	Time relay	Perform status and function checks, verification, and range setting	X

10.090	Funkwerk CR26-24/1/B/G/MT5E/UIC/1IFS/IO digital radio	Inspection, function check, commissioning by manufacturer	X
10.091	NR1 control system unit	Revision, functional check, reactivation by manufacturer	X
10.091.1	NR1 control system unit	Replacement of equipment after the end of its twenty-year service life.	-
10.092	Switches, buttons, resistors, diodes	Check condition and function, replace defective ones in KP	X
10.093	Temperature switches	Perform condition and function checks, verification and range setting	X
10.094	Meteor vehicle monitoring system	Disassembly and cleaning, inspection, check function, reactivation by manufacturer	X
10.094	BPO05 speed converter	Function check, reactivation by manufacturer	X
10.095	MIREL train protection unit	Disassembly and cleaning, inspection, function check function, reactivation by manufacturer	X
10.095	CAT service connector	Check the condition of covers, contacts, cleaning	X
10.095.1	CAT service connector	Part replacement	-
10.096	Traction control connectors	Check the condition of the covers and contacts, cleaning	X
10.096.1	Traction control regulator connectors	Part replacement	-
10.097	Speedometer connectors	Check the condition of the covers and contacts, cleaning	X
10.097.1	Speedometer connectors	Part replacement	-
10.098	Control system unit connectors	Check the condition of the covers and contacts, cleaning	X
10.098.1	Control system unit connectors	Part replacement	-
10.099	Panel labels	Cleaning, condition check, replacement damaged in KP	X
10.099.1	Panel labels	Part replacement	-
	Front hood		
10.100	Auxiliary drive block lighting	Check condition, function, clean	X
10.100	Signal light	Check condition, function, cleanliness	X
10.101	Fire switches	Check condition and function, nParosvta évset nkontrolu condition of covers, contacts,	X
10.102	Harting connectors	cleaning	X
10.102.1	Harting connectors	Part replacement	-
	Air block		
10.103	Altpro AT108283 air pressure sensors	Revision, function check, reactivation by manufacturer	X
10.104	Altpro AT108283.02 pressure switches	Inspection, functional testing, reactivation by manufacturer	X
10.105	MBS 3000 air pressure sensors	Check settings and functions	X
10.105.1	MBS 3000 air pressure sensors	Part replacement	-

10.107	TMG 568 air pressure sensors	Check settings and function	X
10.107.1	TMG 568 air pressure sensors	Part replacement	-
10.106	TSK10/Pt100 compressor oil temperature sensor	Check condition, replace defective part	X
10.107	Air block lighting	Check condition, function, clean	X
10.108	End switches of taps	Check condition of contacts, adjust	X
10.109	Compressor oil heating elements	Check condition, function, clean	X
10.109.1	Compressor oil heating elements	Part replacement	-
10.110	Pressure switches	Check settings and function	X
10.110.1	Pressure switches	Part replacement	-
10.111	Temperature switches	Perform a status and function check, verification, and range setting	X
10.116	MIREL train protection pressure sensor	Perform setting and function check	
10.117	MIREL train protection system pressure sensor	Replace part	
10.112	Harting connectors	Check the condition of covers and contacts, clean	
10.112.1	Harting connectors	Part replacement	
	Engine room		
10.113	Thermo 90ST hot water heating	Disassemble, inspect, and repair	X
10.114	SM water level sensor	Perform a status and function check	X
10.114.1	Water level sensor SM	Part replacement	-
10.115	SM speed sensor	Check condition and function	X
10.115.1	SM speed sensor	Part replacement	-
10.116	Cooling and charging air temperature sensor	Check condition and function	X
10.116.1	Cooling and charging air temperature sensor	Part replacement	-
10.117	Intake air temperature sensor	Check condition and function	X
10.117.1	Intake temperature sensor	Part replacement	-
10.118	Engine room lighting	Check condition, function, clean	X
10.119	Fire sensors	Check condition, function, cleanliness	X
10.120	Fire switches	Perform status and function checks, nParosvtaévset nkontrol'stats and function, cleaning,	X
10.121	ETCS ZDC24/24 power converters	Check condition and function	X
10.122	Start relay - CAT, Kissling	defective in KP	X
10.123	Heating element of the combustion engine	Check condition and function	X
10.123.1	Combustion engine heater	Part replacement	-

10.124	Suction pressure switches	Check settings and function	X
10.124.1	Suction pressure switches	Part replacement	-
10.125	Engine room ventilation temperature switch	Perform condition and function check, verification, and range setting	X
10.130	VS67 radio station	Disassembly and cleaning, inspection, function check function, reactivation by manufacturer	X
10.131	ETCS antennas	Perform condition check, cleaning, measurement S P r W o v R é s t Check condition of covers, contacts,	X
10.126	Harting connectors, CAT	cleaning	X
10.126.1	Harting connectors, CAT	Part replacement	-
10.132	VS67 radio connectors	Check the condition of covers, contacts, cleaning	X
10.132.1	VS67 radio connectors	Part replacement	-
	Rear cover		
10.127	Signal light	Check condition, function, clean	X
10.128	Fire sensors	Check condition, function, cleanliness	X
10.129	Harting connectors	Check the condition of covers, contacts, clean	X
10.129.1	Harting connectors	Part replacement	-
	R1 switchboard		
10.130	Insulation monitors	Perform a functional check, adjustment, cleaning	X
10.131	Altpro AT108283.02 pressure switches	Function check, commissioning by manufacturer	X
10.132	EDB blind position sensor	Perform condition, function, and setting checks	X
10.132.1	EDB blind position sensor	Part replacement	-
10.133	EDB temperature sensor	Check condition and function	X
10.133.1	EDB temperature sensor	Part replacement	-
10.134	Switchboard lighting	Check condition, function, clean	X
10.135	Safety and protective elements (circuit breakers, protectors, fuses)	Check condition and function, replace defective and illegible ones	X
10.035.1	Safety and protective devices (circuit breakers, protectors, fuses)	Replace part	-
10.136	SM ZDC24/24 power converters	Check condition and function, clean	X
10.137	Alfa Union power/traction contactors	Disassembly, check auxiliary and replace main contacts, check arc chambers chambers and coils, adjustment, lubrication	X
10.138	Modular contactors, relays, thermistor relays	Perform a status and function check	X
10.139	NR11 control system unit	Function check, commissioning by manufacturer	X
10.139.1	NR11 control system unit	Replacement of equipment after the end of its twenty-year service life.	-

10.140	NR12 control system unit	Function check, commissioning by manufacturer	X
10.140.1	NR12 control system unit	Replacement of equipment after the end of its twenty-year service life.	-
10.141	Traction voltage indicator	Check condition, function, cleaning	X
10.142	Power resistors and diodes	Check range setting and functionality	X
10.143	Measuring shunts	Check range, clean	X
10.144	Switchgear door limit switches	Check the condition of contacts, adjustment	X
10.145	SN660-720 traction inverters	Check condition, function, clean	X
10.145.1	SN660-720 traction inverters	Part replacement	-
10.146	RAWET converters	Perform a function check, corresponding to measuring ranges, cleaning	X
10.147	Controller connectors	Check the condition of covers, contacts, cleaning	X
10.147.1	Regulator connectors	Part replacement	-
10.148	Harting connectors	Check the condition of covers, contacts, cleaning	X
10.148.1	Harting connectors	Part replacement	-
	R3 switchboard		
10.149	R3 switchboard	Clean, check condition and function	X
10.149.1	R3 switchboard – electronic devices	Replacement of equipment after the end of its twenty-year service life.	-
	R4 switchboard		
10.150	Safety and protective elements (circuit breakers, protectors, fuses)	Clean, check condition and function	X
10.150	Safety and protective devices (circuit breakers, protectors, fuses)	Replacement of parts	-
10.151	Relays	Check condition and function	X
10.152	Altpro RAS 8385 IS security system central unit	Function check, activation by manufacturer	X
10.153	Switchboard ventilation unit	Perform condition and function check, cleaning	X
10.154	Fan temperature switch	Check condition and function, nParosvtaévset nkontrolu a funkce, výměna	X
10.155	Switches	vDedmojoribaklProvést check and repair	X
10.156	MIREL communication converter	vDjemdboremo/a t , perform inspection and repair	X
10.157	Bombardier ETCS modules	manufacturer.	X
10.158	Bombardier ETCS modules	service life.	-
10.159	JRU recording module	Disassemble, inspect, and repair by the manufacturer.	X
10.160	JRU recording module	service life.	-

10.161	UNI-STM power supply filter	Disassemble, inspect, and repair	X
10.162	UNI-STM power converter	Disassemble, inspect, check and repair	X
10.163	Module connectors	Verify condition. Check the condition of covers, contacts, cleaning	X
10.164	Module connectors	Part replacement	-
10.153	Harting connectors	Check the condition of covers, contacts, cleaning	X
10.153.1	Harting connectors	Part replacement	-
	R5 switchboard		
10.154	Battery voltmeters	Perform inspection and repair	X
10.155	Charging ammeter	Perform inspection and repair	X
10.156	Safety and protective devices (circuit breakers, protectors, fuses)	Check condition and function, replace defective and illegible	X
10.156.1	Safety and protective devices (circuit breakers, protectors, fuses)	Replace part	-
10.157	Fire sensor	Check condition, function, clean	X
10.158	Buttons, indicator lights, transformers, resistors, diodes	Check condition and function, replace defective ones in KP	X
10.159	Contactors and relays	Check condition and function	X
10.160	Time relays	Check condition and function, verify and range setting	X
10.161	Battery disconnect switch	Perform a function check, lubrication	X
10.162	METRA measuring shunt	Perform range check, cleanup	X
10.163	RAWET converter	Perform function check, corresponding measuring ranges, cleaning	X
10.164	External charging terminals	Check condition and function, clean	X
10.165	Harting connectors	Check condition of covers, contacts, clean	X
10.165.1	Harting connectors	Part replacement	-
	Cabling, terminal blocks, electrical installation boxes		
10.166	Terminal blocks	Check condition, tightness, check integrated resistors and diodes	X
10.167	Terminal blocks and distribution boxes	Check for damage, clean, replace if necessary replacement in KP	X
10.168	LV cabling	locations, dielectric tests (only insulation	X
10.169	HV cabling	dielectric tests (traction circuit,	X
10.170	Vehicle grounding	Checking protective bonding, measuring bonding after repair	X
	Vehicle testing/protocols		

10.171	Vehicle adjustment, performance test		X
10.172	Road test of locomotive. Check of traction characteristics, EDB and ET		X
10.173	External lighting adjustment report		X
10.17	Protocol for testing rectifier semiconductors		X
10.175	Protocol for dielectric tests of LV and HV cabling	insulation condition of MV, insulation condition and withstand voltage of traction circuit, excitation and cooling	X
10.176	Protocol for locomotive safety connection.		X
10.177	Vehicle adjustment, performance, and function protocol after repair.		X
10.178	Electrical inspection		X
Mechanical equipment HDV 744.1			
Number Operation:	Name of unit, task	Disassembly - Cleaning (washing, blowing) - Description of activity, including implementation	
20.001	Roofs of hoods	inspection, replacement of rubber seals profiles, checking the functionality of blinds	K
20.002	Hoods	inspection, resealing of joints between hoods	K
20.003	Hood doors	inspection, cleaning of separators	K
20.004	Door locks and handles	lubrication, adjustment, function check	K
20.005	Thermal insulation	inspection	K
20.006	Door hinges	inspection, lubrication	K
20.007	Silent blocks between the hood and cab		K
	Cabin		
20.008	Cabin windows (front, side)		K
20.009	Side window mechanism	inspection, lubrication, cleaning	K
20.010	Cabin doors	inspection, resealing, lubrication of hinges	K
20.011	Door locks and handles	lubrication, adjustment, function check	K
20.012	Wipers and windscreen washers	replacement of wiper blades, lubrication of mechanism	K
20.013	Counters		K
20.014	Cabin lining		K
20.015	HDV station seats	delete	K

20.016	Floor linings		V
20.017	Wooden floor		K
20.018	Window blinds		K
20.019	Silent blocks under the cab		K
	SM accessories		
20.020	Exhaust silencer		K
20.021	Compensator (muffler x SM)		V
20.022	Hoses from oil separators		K
	Water circuits and SM cooling and heating		
20.023	Water circuit expansion tank		K
20.024	Expansion tank cap		V
20.025	Water circuit hoses		K
20.026	Taps in water circuits		V
20.027	SM water circuit cooler		K
20.028	Water circuit compensators		K
20.029	Silent blocks under the radiator		K
20.030	Coolant replacement		V
20.031	Air conditioning compressor		K
20.032	air conditioning refrigerant replacement		V
20.033	Electric preheating		K
20.034	Independent preheating		K
	VCHTM		
20.035	TM fan bellows 4x		V
20.036	TM fans	Check during input functions	K
	Fuel tank and pipes		
20.037	Fuel line	inspection, resealing, inspection of attachment points to main frame, delivery	K
20.038	Oil tank	desludging, cleaning, replacement of seals,	K
20.039	Diesel tank suspension	checking bolts and brackets	K
20.040	Auxiliary diesel tank		K
	Main frame		

20.041	Main frame	Visual inspection for cracks (inspection for cracks after washing - visually without blasting the frame)	K
20.042	Main frame	crack inspection (crack inspection after blasting)	-
20.043	Stairs, walkways, handrails, footboards, grates	inspection	K
20.044	Towing pins	Check for ovality and cracks, perpendicularity, DFSK	K
20.045	Towing pin sliders		V
20.046	Air ducts	visual inspection for cracks and deformations,	K
20.047	Towing equipment	including DFSK tow hook	K
20.048	Bumpers		K
20.049	Screws for HDV front panels		V
20.050	Plows		K
20.051	Railings		K
20.052	Sand containers	cleaning, resealing lids	K
20.053	Frame pocket doors	resealing, checking locks	K
20.054	Frame pocket doors	lock replacement + seal replacement	-
20.055	Trolley movement in frame pockets and tank	lubrication	K
	Other		
20.056	Checking the vehicle's mandatory equipment		K
20.057	Control of the parking brake release lever		K
20.058	Checking the vehicle body for leaks using water		K
Pneumatic equipment HDV 744.1			
Number Operation	Name of unit, task	Disassembly - Cleaning (washing, blowing out) - Description of activity, including implementation	
30.001	Input function		X
30.002	Pipe filters (before BSE, panels, EPV horns, switchboard)	cleaning + screen replacement	X
30.003	Pipe filters (before BSE, panels, EPV horns, switchboard)	replacement	-
30.004	Pneumatic valves, including triple valves		K
30.005	Simple check valves		K
30.006	Compressor	Check during initial functions + replacement oil and separators	K
30.007	Compressor	repair at supplier	-
30.008	OEF filter	cleaning + replacement of insert	X

30.009	OE filter drain valve		K
30.010	Compressor suction filter	cleaning + replacement of insert	X
30.011	Air dryer	absorbent replacement	X
30.012	Air dryer	repair by manufacturer Knorr-Bremse	-
30.013	DAKO components - repair within the scope of C	CV1nD10-L switchboard + PM2 flow meter + BSE2 brake + panel 069, 118 + TR4 (2	O
30.014	DAKO N8 anti-skid valve		V
30.009	Knorr emergency brake valve		K
30.010	MIP94/424VDC panel		K
30.011	Lubrication of wheel flanges		K
30.012	Pressure gauges	inspection, calibration	X
30.013	Safety valves	testing with report	X
30.014	Sandblasting TRIBOTEC		K
30.015	TRIBOTEC sandblasting	Sandblasting nozzle replacement	V
30.016	UBK-1 brake status indicator		K
30.017	Clutch taps		K
30.018	Hose 441RH	inspection	K
30.019	Hose 441RH - chassis connection		V
30.020	Clutch hoses	Check	K
30.021	Horns, including covers		K
30.022	Whistle		K
30.023	Compressed air sumps	Inspection and testing + revision	X
30.024	TSM1 pressure switches		O
30.025	Danfoss pressure switches		K
30.026	MBS3000 pressure sensors		K
30.027	Electropneumatic valves for acoustic signals		K
30.028	Pneumatic piping	cleaning by blowing through	X
30.029	Disconnected fittings	re-sealing	X
30.030	Pneumatic roller blind cylinder		O
30.031	ALTPRO safety slide valves		Koo
30.032	ALTPRO taps, switches, sensors		Koo
30.033	Testing of compressed air equipment and pneumatic brakes	According to the prescribed protocol	X

HDV 744.1 travel			L3
Number of operation:	Name of unit, task	Disassembly - Cleaning (washing, blowing) - Description of activity, including implementation	
40.001	Chassis disassembly	Disassemble the bogies into parts (wheels, covers, bearing housings, springs, TM, flexible mounts, brake units,	X
40.002	Chassis frame	Inspect all frame plates and welds (cracks), measure the frame according to the measurement sheet, check the springs in the crossbar of the frame, rubber-metal buffers to limit the swing between the chassis and the main frame - replace, check the TM suspension support noses, replace the swivel pin mount supports	X
40.003	Axle bearing retainer		K
40.004	DAKO brake units and DAKO cleaning units	repair	Koop
40.005	Brake lining inspection		K
40.006	Checking the cleaning pressure delay		K
40.007	Bearing housings	Check for cracks (NDT test MT+VT), measure bearing housings according to	X
40.008	Gear cover	Check	K
40.009	Sweepers		K
40.010	Axles	Check the connecting rods for cracks + dimensions according to protocol, replace	X
40.011	Engine suspension	replace megiflex disc - metal rubber and suspension bolts	X
40.012	Primary suspension	visually inspect, measure, replace rubber pads under springs	X
40.013	Pinion	including DFSK VT	K
40.014	Assembly of wheelsets with TM	Dimensional inspection of mounting, replacement M30 bolts, repair of bearing housing covers	X
40.015	Cover assembly		X
40.016	Chassis assembly (completion)	according to drawing documentation	X
40.017	Chassis running-in	Chassis running-in on the test bench	X
40.018	Secondary suspension	visually inspect, measure, replace rubber pads under springs	X
40.019	Axle bearings		O
40.020	Visual inspection of wheelsets		K

40.021	Dimensional inspection of wheelsets		K
40.022	Axle	NDT inspection, measure axle, repair center pit, repair of pins for paw	X
40.023	Monoblock wheel with disc brake	NDT inspection + dimensional inspection	K
40.024	Brake discs	visual inspection according to 4-8075-026	K
40.025	Gear wheel	inspection + DFSK VT	K
40.026	Running profile	S1002/h28/e32.5/6.7% according to EN 13715	O
40.027	Axle housing		K
40.028	Hydraulic shock absorbers		Koop
40.029	Wheelset balancing	Dynamic wheel set balancing	X
40.030	Marking of wheelsets after repair		X
40.031	Dimensional inspection after repair		X
40.032	Coating of wheelsets		X
40.033	Cleaning of pneumatic lines on chassis	blowing through	X
40.034	Hoses of pneumatic circuits in the chassis		V
40.035	Locomotive weight	Axle pressure adjustment, adjustment stops and height of buffers	X
SM CATERPILLAR C32 (WJD.....) HDV 744.1			
Number Operation:	Name of assembly, task	Disassembly - Cleaning (washing, blowing) - Description of activity, including implementation	
50.001	Motor generator	Disassembly of the engine from the unit (disconnection), checking the engine for leaks, if necessary	X
50.002	Motor generator	Check the engine for mechanical damage	X
50.003	Motor generator	Visible damage	X
50.004	SM filters	Replacement of all filters	X
50.005	SM thermostats	thermostat replacement	X
50.006	Operating fluids	oil and coolant replacement	X
50.007	Oil, water, and diesel pumps	Pump inspection	X
50.008	TBD + shaft seal TBD SM	TBD check	X
50.009	V-belts	replacement	X
50.010	Starters + alternators SM	checking starters and charging alternators	X
50.011	Engine generator + water cooler	Engine washing + cooler	X
50.012	Engine generator	testing at CAT test facility	X
50.013	Motor generator	engine adjustment on locomotive	X

50.014	Cams, cranks, lifters	checking and measuring cranks, cams, engine block , rocker arms and balance weights	X
50.015	Pistons	checking piston assemblies	X
50.016	Alternator	starters and alternators for cooperation	K
50.017	Timing belts, bearings	replacement of bearings, crankshaft, camshaft, engine block and timing belts	K
50.018	Seals, timing belt, timing	replacement of all seals, taps, engine hoses and V-belts	X
50.019	Engine generator	Engine installation	X
Rotating machines HDV 744.1			
Number Operation:	Name of assembly, task	Disassembly - Cleaning (washing, blowing) - Description of activity, including implementation	
60.001	Starter SM 6V0927 CW 2 pcs	Test functionality, cleaning	x
60.002	Pump - APO 050 washer	test functionality and tightness, replacement	x
60.003	Wiper motor V403 823 4 pcs	Integrity check, testing, repair/replacement	x
60.004	TM TAM 1084 4 pcs	measurement, bearing replacement , cabling, checking casing screws, balancing, ETS testing room. Repair in	x
60.005	Cooling fan motor TM 1LE1601-1DA32-2AB4-Z B02+B04+D03+D23+F76+H04+L82+N21+Y5 2 pcs	measurement, cleaning, bearing replacement, operation check	x
60.006	Cooling fan motor EDB 1LE1002-1DA39-0FB4-Z B02+D03+H20+F74+F76+L82+M1Y+N21	measurement, cleaning, bearing replacement, operation check operation	x
60.007	Cooling motor SM 1LE1601-2AB59-0HB4-Z B60+B61+D03+F90+H02+L20+M1Y+N10+R12	measurement, cleaning, bearing replacement inspection operation	x
60.008	Traction alternator 1FC2 560-6	stator coils, Centamax rubber inspection , ring system inspection, replacement	x
60.009	Traction alternator 1FC2 560-6	ring system replacement	
60.010	Ventilation unit - ETCS rack SK 3342 024	Functionality and integrity check, cleaning	x
60.011	Ventilation unit - ETCS rack SK 3342 024	replacement	
60.012	Air conditioner SKJ 7 PM	inspection on vehicle without dismantling, functionality, refrigerant filling	x
60.013	Air conditioner SKJ 7 PM	inspection and repair by manufacturer, installation, filling	

60.014	Compressor motor Compressor motor1LE1601-1EB69- 0JB4-Z B02+D03+F76+H02+L20+M1Y+R15	measurement, cleaning, bearing replacement, operation check	x
HDV 744.1 paint			
Number Operation:	Name of unit, task	Disassembly - Cleaning (washing, blowing) - Description of activity, including implementation	
70.001	Washing of locomotive - outer shell	wet cleaning of units,	X
70.002	Coating of bogies	washing with pressurized water, blasting, LAK I	X
70.003	Coating of diesel tank	Pressure washing, LAK II	X
70.004	Coating of diesel tank	Pressure washing, LAK II	-
70.005	Coating of diesel tank	Pressure washing, blasting, LAK I	-
70.006	Sandbox coating	Pressure washing	X
70.007	Coating of sandboxes	Washing with pressurized water, LAK II	-
70.008	Coating of sandboxes	washing with water, blasting, LAK I	-
70.009	Cable protection	packaging of "goosenecks", unpacking	X
70.010	Cable protection	Packaging of power cables, unpacking	X
70.011	Washing the bottom of HDV	Washing with water pressure	X
70.012	HDV underbody coating	Washing with high-pressure water; LAK II only visible areas; without dismantling pipes and cabling; sides	-
70.013	Coating of HDV bottom	washing with water, blasting, LAK I	-
70.014	Cleaning of engine room floor, under cabin, EDB	Cleaning	X
70.015	Coating of the engine room floor, under the cabin, EDB	washing, LAK II only visually; without dismantling pipes and cabling	-
70.016	Coating of engine room floor, under cabin, EDB	Pressure washing, blasting, LAK I	-
70.017	Cleaning of TM cooling air ducts	Cleaning	
70.018	Coating of TM cooling air ducts	washing, LAK II	-
70.019	Coating of TM cooling air ducts	washing with pressurized water, blasting, LAK I	-
70.020	Railings + external handrails, STAINLESS STEEL;	Steel mate, pressure washing	-

70.021	R4-R6 switchboard	Cleaning, vacuuming	X
70.022		Dry ice cleaning, LAK II - visible	-
70.023		high-pressure water washing, blasting, LAK I	-
70.024	Coating of hood roofs	Cleaning of interior surfaces (exterior surfaces cleaned	X
70.025		Pressure washing, LAK II	-
70.026		washing with water, blasting, LAK I	-
70.027	Coating of bonnet frames	Cleaning of interior surfaces (exterior surfaces cleaned	X
70.028		Pressure washing, LAK II	-
70.029		pressure washing, blasting, LAK I	-
70.030	Coating of doors and hood covers	Cleaning of interior surfaces (exterior surfaces cleaned	X
70.031		Pressure washing, LAK II	-
70.032		pressure washing, blasting, LAK I	-
70.033	Cabin and cabin doors - exterior views	pressure washing, PAINT II	-
70.034		Pressure washing, blasting, LAK I	-
70.035	Cabin interior views	Cleaning	X
70.036		washing, LAK II only visually	-
70.037		washing with pressurized water, blasting, PAINT I	-
70.038	Painting of electrical switchboard cabinets in the cabin	Cleaning, vacuuming	X
70.039		Dry ice cleaning; Visual repair	-
70.040		High-pressure water cleaning, blasting, LAK I	-
			0
70.041	Coating of cabinet doors and switchboards	Cleaning	X
70.042		Washing, LAK II only visible surfaces?	-
70.043		washing with pressurized water, blasting, LAK I	-

			0
70.044	Coating of counter bodies	Cleaning	X
70.045		Washing, LAK II only visible surfaces	-
70.046		washing with pressurized water, blasting, PAINT I	-
			0
70.047	Counter panels	manual washing	X
70.048		washing with water, blasting, LAK I	-
			0
70.049	Seat frame coating	Cleaning	X
70.050		Disassembly, washing, blasting, PAINT I	-
			0
70.051	Coating of step	Cleaning	X
70.052		Washing, LAK II only visible	-
70.053		washing with pressurized water, blasting, PAINT I	-
			0
70.054	MG coating including frame	Cleaning	X
70.055		Washing, LAK II	-
70.056		washing with pressurized water, blasting, LAK I	-
			0
70.057	Coating of radiator frame	Cleaning	X
70.058		Washing, LAK II	-
70.059		washing with pressurized water, blasting, LAK I	-
			0
70.060	Coating of equalizing tank	Cleaning	X
70.061		Washing, LAK II	-
70.062		washing with pressurized water, blasting, LAK I	-
			0
70.063	Painting of tire block frame	Cleaning	X
70.064		Washing, LAK II	-
70.065		washing with pressurized water, blasting, LAK I	-
			0

70.066	Air tanks - stainless steel	Steel mate, pressure washing	X
70.067	Coating of filter frames	Cleaning	X
70.068		Washing, LAK II	-
70.069		washing with pressurized water, blasting, LAK I	-
			0
70.070	Coating of other internal parts (suction pipes, auxiliary diesel tank, cooling pipes cooling pipes, etc.)	Cleaning	X
70.071		washing, LAK II	-
70.072		washing with pressurized water, blasting, LAK I	-
70.073	Coating of exhaust chamber, chimney pipes	washing, blasting LAK I	X
70.074	Painting of the electrical switchboard in the rear compartment	cleaning;	X
70.075		dry ice cleaning; paint repair LAK	-
70.076		pressure washing, blasting, LAK I	-
70.077	EDB diffuser coating	Cleaning	X
70.078		Washing, LAK II	-
70.079		washing with pressurized water, blasting, LAK I	-
70.080	Completion	towing device - hook; LAK I;	X
70.081		Bumpers, taps; LAK II;	-
70.082		bumpers, taps LAK I;	-
70.083	Descriptions of new		-