



Inspection Agencies: Hydraulic Engineering SARL
Num 22299, Bd M'Siri Coin Ave Ilunga Ndjoloko, Lubumbashi, DRC

Accreditation Standard ISO/IEC 17020:2012 **Accreditation Number:** IN812-24 **Annex:**1/6

Field and Range of Inspection

Regulations, Inspection Methods, Standards and/or Specifications

777D Component - Disassemble, Inspection, Assemble & Testing Procedures			
Components	SMCS	R & I - D & A	Test Bench & Salvage Procedure
Differential	3256	REN8428-04	REN8425-01
Final Drive - LH & RH	4051	REN8428-04	REN8430-07
Pump Drive	3108	REN8432-10	REN8438-05
Torque Converter	3101	REN8428-04	SEBF8761-35
Transmission	3067	REN8428-04	REHS1672-09
Front Wheel & Brake - LH & RH	4208	REN8432-10	REN8430-07
Hoist Cylinder - LH & RH	5102	REN8432-10	REHS1765-41
Rear Suspension Cylinder - LH & RH	7213	REN8432-10	REHS1765-41
Front Suspension Cylinder - LH & RH	7201	REN8432-10	REHS1765-41
Steering Cylinder - LH & RH	4332	REN8432-10	REHS1765-41
Gear Pumps	5073	REN8428-04	REHS1832-13

793D Component - Disassemble, Inspection, Assemble & Testing Procedures			
Components	SMCS	R & I - D & A	Test Bench & Salvage Procedure
Differential	3256	REN8328-16	SEBF8193-37
Rear Axle Housing (Apply update)	3259	REN8332-16	REHS2346-23
Accumulator GP - Steering & Brake	4331	REN8332-16	REHS1765-41
Final Drive - LH & RH	4051	REN8328-16	REN8330-17
Pump Drive	3108	REN8332-16	SEBF8193-37
Torque Converter	3101	REN8328-16	REHS2360-11
Transmission	3065	REN8328-16	REHS3434-08
Front Wheel & Brake - LH & RH	4201	REN8332-16	REN8330-17
Hoist Cylinder - LH & RH	5102	REHS2677-37	REHS1765-41
Rear Suspension Cylinder - LH & RH	7213	REHS2677-37	REHS1765-41
Front Suspension Cylinder - LH & RH	7201	REHS2677-37	REHS1765-41
Steering Cylinder - LH & RH	4332	REHS2677-37	REHS1765-41
Gear Pumps	5073	REN8328-16	REHS1832-13



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Procedure / Inspection	SMCS	Number
Brake Clutch Discs and Plates Using Extended Life Friction Material	4251, 4255, 4256, 4260, 4267, 4273	SEBF8834-13
Cast Aluminum Stator Wheels for Torque Converters	3101, 3129	SEBF8087-37
Caterpillar Certified Procedure to Inspect and Clean Air Filters	1051, 1054	SEBF8062-20
Center Steering Arm Straight Bore Inspection and Salvage Procedure for Certain Off-Highway Trucks	0679, 4305	REHS2110-21
Clutch Ring Gears For Power Shift Transmissions for Certain Models	0679, 3030, 3155	SEBF8017-27
General Cleaning Methods	1000, 7000	SEBF8357-16
General Reuse and Salvage Guideline for Hydraulic Piston Pumps and Motors	5058, 5070	SEBF9307-32
General Salvage and Reconditioning Techniques	0374, 1000	SEBF8148-28
Guideline for Proper Gasket Handling and Installation	0599, 0648, 0681, 1000, 7555	SEBF9308-13
HVOF Identification and Polishing (Superfinishing)	0674, 0679, 1000, 7000, 7562	SEBF9233-03
Hydraulic Cylinder Honing	7562	REHS2689-43
Hydraulic Cylinder Repair Process	0679, 7562	REHS2677-37
Hydraulic Cylinder Seal Failure Analysis	7555, 7562	REHS2811-30
Hydraulic Gear Pumps Used in Transmissions	3066, 5073	SEBF8161-35
Hydraulic Piston Motors	5058	SEBF8165-17
Identification of Non-Metallic Discs that are Used in Power Shift Transmissions	3030, 3155	SEBF8114-15
Index of Repair Process Engineering Publications	0374, 1000, 7000	SEBF8029-79
Index of Wall Charts for Drivetrain, Engine, Hydraulics, and Undercarriage	1000, 4000, 4150, 5050	SEBF9004-03
Inspection and Salvage of Front Wheel Spindles for Certain Off-Highway Trucks	0679, 4006, 4201, 4205	SEBF9309-19
Inspection and Salvage of Hydraulic Cylinder Components	0677, 0679, 5100, 7562	SEBF8072-78
Inspection and Salvage of Rear Wheel Spindles for Certain Off-Highway Trucks	0679, 4006, 4008, 4201, 4205	SEBF8083-32
Inspection of Rim Assemblies of Off-Highway Trucks	4201, 4209	SEBF9135-10
Measuring Bores and Installing Seals in Standard and Oversized Hydraulic Cylinders	5100, 7562	SEHS8630-33
Procedure for Repairing Wheel Rims for Off-Highway Trucks	0679, 4201, 4202, 4209	SEBF8122-12
Procedure to Inspect and Repair the Front Wheels on 785 - 797 Off-Highway Truck	0599, 0700, 0730, 0731, 4006, 4200, 4209, 4251	SEBF9368-08
Procedure to Machine Damaged Transmission and Differential Yokes	0679, 3030, 3253, 3258	SEBF8048-46
Procedure to Remove Large Wheel Bearing Cups	4001, 4008, 4051, 4215	SEBF9118-13
Procedure to Salvage Tang Slots on Transmission and Brake Pistons	0679, 3160, 4011, 4251	SEBF8178-13
Procedure to Salvage the Slots for the Pin and Holes for the Reaction Dowel in Transmission Clutch Plates, Pistons, and Housings	0679, 3030, 3050, 3169, 3170, 3190	SEBF8257-38
Procedures to Salvage Thrust Faces on Planetary Carriers	0679, 3160, 4050, 4051, 4093	SEBF8163-31
Rear Axle Stiffener Installation Procedure for Certain Off-Highway Trucks (OHT)	0599, 0679, 0722, 3260, 3268, 7185	SEBF9393-12
Removing and Installing Bushings and Pressure Plates in Hydraulic Gear Pumps	5073	SEHS8428-27
Repair of Front Strut Support for Off-Highway Trucks	7051, 7201	SEBF9166-15
Repair of Reaction Dowel Holes in Transmission Clutch Housings	0669, 0679, 3030, 3155, 3169	SEBF8099-33



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Repair of Transmission, Torque Converter, and Torque Divider Shafts	0679, 3000, 3063, 3100	SEBF8060-35
Repair Process for Hydraulic Gear Pumps	5073	SEBF9091-31
Repair/Replace Large OHT Body Pivot Bores and Suspension Bores	7051	SEBF8879-09
Replacing Tubes In Housings That Are Installed With Mechanical Joints (Expanded and Welded)	3016, 3154, 4104, 4133, 5057	SEBF8147-33
Reusability and Salvage of Final Drive Components for Off-Highway Trucks (OHT)	0679, 0760, 0761, 4001, 4008, 4050, 4084	SEBF8752-16
Reusability Inspection of Seal Ring and Stator Carrier Assemblies for Certain Models	0669, 0760, 0761, 3101, 3129, 3160, 7555	SEBF8254-16
Reusability of Final Drive Splines for 785 through 798 Large Mining Trucks	0679, 4001, 4008, 4050, 4051	SEBF8225-17
Reusability of Tapered Bearings	7000, 7551	SEBF8190-15
Reuse & Salvage Procedure for Off-Highway Truck (OHT) Accumulators	0374, 0599, 0679, 0738, 4269, 4331, 5077	SEBF9400-08
Reuse and Salvage Guideline for Off-Highway Truck Hydraulic Hoist Cylinder Rods	0679, 5102	REHS1769-13
Reuse and Salvage Guideline for Steering Cylinder Position Sensor Bore used on Autonomous Large Mining Trucks	0679, 0732, 1408, 4303, 4305	M0132185-01
Reuse and Salvage Inspection for 793 XLP Rear Wheel	0374, 0599, 0679, 4006, 4008, 4251	SEBF9414-03
Reuse and Salvage of Front Suspension Cylinder Housing Assembly, Head, and Rod for Certain Off-Highway Trucks (OHT)	0374, 0599, 0679, 7200, 7201	REHS2099-35
Rework of 793 Front Spindles for Autonomous Conversion	0599, 0679, 0700, 0722, 4006, 4251	SEBF9415-05
Salvage and Reuse of Final Drive Axle Bearings Used in Off-Highway Trucks/ Tractors and Certain Wheel Loaders	4050, 4051	SEBF8182-22
Salvage of Brake Housings Used on Off-Highway Trucks	0679, 4001, 4251, 4267	SEBF8199-11
Salvage of Center Bearing in Torque Converter Input Housing	0679, 3101, 3127	SEBF8118-37
Salvage of Differential Bearing Cage on Off-Highway Trucks	3258, 3283, 3284	SEBF8200-15
Salvage of Differential Housing Assembly for Certain Off-Highway Trucks (OHT)	0679, 3258, 3283, 3284	SEBF8227-21
Salvage of Front Wheels for Certain Off-Highway Trucks (OHT)	3259, 4201, 4205	M0124247-09
Salvage of Inner Planetary Carrier Pin Bores using Tapered Roller Bearings for 785, 789, and 793 Off-Highway Trucks	0679, 4050, 4092	SEBF8223-14
Salvage of Rear Wheels for Certain Off-Highway Trucks (OHT)	0679, 4006, 4201, 4201, 4201	SEBF8443-26
Salvage of Tapered Steering Bores for Certain Off-Highway Trucks	0679, 4301, 4305, 4310	SEBF8271-26
Salvage of the Transmission Clutch Pistons, Clutch Housing, Sleeve, and Plate Assemblies	0679, 3169, 3170	SEBF8006-35
Salvage of Wheel Group Hubs, Retainers, and Seal Retainers for Certain Off-Highway Trucks (OHT)	0679, 3259, 4001, 4008, 4050, 4051, 4201, 4205, 4251, 4267	SEBF8439-12
Scrap Barrel Analysis	0374, 0599, 0700, 0701, 0738, 1000, 7000	SEBF9364-10
Service Brakes for Off-Highway Trucks and Tractors	0679, 4006, 4008, 4251, 4254, 4255, 4256, 4273	SEBF8095-18
Specifications and Reusability for Hydraulic Gear Pumps and Motors (Groups 1, 2, and 3)	5061, 5073	SEBF9141-29
Specifications and Reusability for Hydraulic Gear Pumps and Motors (Groups 4, 5, and 6)	5061, 5073	SEBF9173-29
Specifications and Reusability for Hydraulic Gear Pumps and Motors (Groups 9, 10, and 11)	5061, 506G, 5073	SEBF9140-30
Specifications and Reusability for Hydraulic Gear Pumps and Motors	5061, 5073	SEBF8073-26
Specifications For Hydraulic Piston Pump and Motor Components	3083, 3203, 3221, 3222, 4351, 5058, 5069, 5070, 5117	SEBF8033-39
Specifications for Inspection of Drive-line Fasteners	3030, 3101, 3159, 3253, 3258, 3278, 4050	SEBF8728-40



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Specifications for Rear Suspension Cylinder Components Used in Off-Highway Trucks	7201	SEBF8194-21
Spherical Roller Bearing and Wear Plate Inspection	0679, 4008, 4050, 7551	SEBF9239-07
Standard Rear Wheel Reuse and Salvage Inspection Guide for 793 Large Mining Trucks	0374, 0599, 0679, 0700, 0730, 4001, 4201, 4209, 7000	SEBF9406-05
Standardized Parts Marking Procedures	1000, 6393, 7000	SEBF8187-32
Testing Hydraulic Cylinders Using the 188-3926 Caterpillar Cylinder Tester and the 9U-6803 Caterpillar Cylinder Tester	0784, 7562	REHS1765-41
Transmission Clutch Plates and Disc Assemblies with F37 and F37X Friction Material	3030, 3155, 3190	SEBF8031-26
Transmission Clutch Plates and Disc Assemblies with Rayflex Friction Material	3030, 3155, 3190	SEBF8098-26
Transmission Clutch Plates and Disc Assemblies with Sintered Bronze Friction Material	3030, 3155, 3190	SEBF8013-19
Turbine Wheel for Torque Converters Used with Power Shift Transmissions	0679, 3101, 3131	SEBF8008-42
Universal Joints and Drive Shafts	3108, 3251, 3253	SEBF8126-26
Using Lock-N-Stitch Procedures for Casting Repair	0676, 0679, 0685	SEBF8882-32
Using the 9U-5383 Vacuum Tester	0774, 0781, 1000, 1100	SEHS9498-02
Vane Type Hydraulic Pump Identification Guidelines	5055	SEHS9353-13
Vane Type Hydraulic Pumps	5055	SEBF8080-32
Weld Repair Procedure for the Rear Axle A-Frame and Rear Axle Housing on 785, 789, 793, and 795F Off-Highway Trucks	0679, 3260	REHS2346-23



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Procedure / Inspection	SMCS	Number
Inspection of the Coupling Assembly for 3524 Engines	3279	SEBF8912-08
Inspection of Rear Engine Mounts on 3500 Family of Engines	1152, 1154	SEBF8202-16
Inspection Procedures and Specifications for Pistons and Piston Pins	1214, 1214	SEBF8059-61
Reuse & Salvage for Valvetrain Components	1102, 1108, 1109, 1121, 1123	SEBF8002-49
Reuse and Salvage for 3044, 3046, 3064, 3066, 3400, 3500, and C175 Engine Oil Pumps	1304, 1315	SEBF8170-32
Reuse and Salvage for 3500 Engine Cylinder Blocks	0672, 0705, 0762, 1201, 1217	SEBF8255-52
Reuse and Salvage for 3500, 3600 & C175 Engine Oil Pans	1302	SEBF8304-23
Reuse and Salvage for Camshafts	1210	SEBF8146-49
Reuse and Salvage for Cast Iron & Steel Pulleys and Stub Shafts	0679, 1205, 1207, 1384, 1389, 1425	SEBF8046-45
Reuse and Salvage for Cast Iron Cylinder Blocks	0679, 1201, 1201	SEHS8919-29
Reuse and Salvage for Connecting Rods	1218	SEBF8064-54
Reuse and Salvage for Crankshafts	0674, 0679, 1202	SEBF8042-65
Reuse and Salvage for Cylinder Head Assemblies	1100, 1101, 1103, 1104, 1105, 1106, 1108, 1109, 1115, 1117, 1121, 1124, 1125	SEBF8162-59
Reuse and Salvage for Engine Dampers	0679, 1202, 1205	SEBF8175-31
Reuse and Salvage for Flywheel Assemblies	0679, 1156	SEBF8197-25
Reuse and Salvage for Gears, Bushings, Gear Train and Gear Shafts	0679, 1151, 1162, 1206	SEBF9244-28
Reuse and Salvage for Turbochargers	0679, 0760, 0767, 1052	SEBF8018-48
Reuse and Testing of Fuel Injection Pump Housing	0374, 1000, 1250, 1300	SEBF8239-48
Specifications for Reusability of the 251-7646 Fan Drive Bracket Assembly on 3500 Machine Engines	1359	SEBF9177-17
Specifications for the Inspection of Trunnions for Series 3500 Family of Engines	1154	SEBF8186-18
Using the 6V-7840 Deck Checking Tool Assembly	0701, 1201, 7225	SEHS8187-19
Using the Cat 179-0710 Burn Rate Fuel Flow Measurement System	0374, 0599, 0706, 1250, 1280	NEHS0776-04
Visual Inspection and Repair of the Protective Foam Coating on Rigid Foam Engine Wiring Harness	0649, 1408, 1408, 1408, 1408	SEBF9305-15
Visual Inspection and Salvage Procedures for Aftercoolers in 3500 Engines	1063, 1063, 1379	SEBF8422-19
Visual Inspection of Main Bearings and Connecting Rod Bearings	1202, 1203, 1225, 1230	SEBF8009-46
Cylinder Block Cleaning and Audit Procedure	0644, 0680, 0701	M0080689-15
Cylinder Block Salvage Procedure Using Belzona® 1311 (Ceramic R Metal)	0679, 0700, 0701, 1000, 1201	SEHS8869-22
Dynamometer Testing of Caterpillar Engines	0781, 1000, 1052, 1087	SEBF9011-37
Electronic Control Module (ECM) Reuse at Rebuild or Overhaul	1901, 3168, 4800, 5700, 7490, 7600, 7610, 7620, 7754, 7967	M0126085-04
Engine Oil Cooler, Hydraulic Oil Cooler, and Fuel System Cooler Cleaning, Inspection, Testing, and Repair	1374, 1378, 1712	REHS1758-16
Inspection and Reconditioning Procedures of Main Bearing Bores in Cylinder Blocks	1201, 1202, 1224, 1224	SEBF9162-32
Inspection and Reuse Guideline of Cylinder Liners in Cat Engines	0761, 1201, 1213, 1216, 1216	SEBF8068-38
Inspection and Reuse of Critical Fasteners Used in All Engines	1000, 7553, 7553	SEBF8301-51
Reusability of Drive Train Gears	3002, 3159, 3256, 4055, 5459	SEBF8193-37



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Procedure / Inspection	SMCS	Number
Thermal Spray Coating Bond Strength Test Procedure	0374, 0599, 0679, 1000, 7000	M0157363
Thermal Spray Procedures for 3500 Engine - Flywheel Housing	0679, 1157	SEBF2198-06
Thermal Spray Procedures for Brake Anchor: All Off Highway Trucks	0374, 0599, 0679, 4251, 4267	SEBF2200-15
Thermal Spray Procedures for Engine Front Cover	0679, 1150, 1151, 1162	SEBF2164-05
Thermal Spray Procedures for Hydraulic Cylinder Rods	0679, 7562, 7562	SEBF9276-03
Thermal Spray Procedures for Linkage Pins	0679, 5457, 6052, 6108, 6129, 6501, 6502	SEBF9284-03
Thermal Spray Procedures for OHT Cage - Bearing	0679, 3258, 3281	SEBF2178-11
Thermal Spray Procedures for OHT Differential Carrier Assembly	0374, 0599, 0679, 3258, 3281, 3284	SEBF2179-14
Thermal Spray Procedures for OHT Rear Strut - Head / Flange End	0374, 0599, 0679, 7201, 7213	SEBF9294-04
Thermal Spray Procedures for OHT Rear Struts	0599, 0679, 7201, 7213	SEBF9295-04
Thermal Spray Procedures for Outer and Inner Diameters of Torque Converter Carriers	0374, 0599, 0679, 3101, 3135	SEBF2116-18
Thermal Spray Procedures for Tyrone Drive Shaft (Pump Gear)	0679, 3066, 5073	SEBF2129
Thermal Spray Procedures of the Differential Carrier Flange for Certain Off-Highway Trucks (OHT)	0679, 3258, 3284	SEBF2194-11
Inspection and Thermal Spray Procedure of Differential Case and Components for Certain Models	0679, 3258, 3284	SEBF8119-56
Fundamentals of Arc Spray for Reconditioning Components	0679, 1000, 7000	SEBF9238-26
Fundamentals of Flame Spray for Reconditioning Components	0100, 0599, 0679	SEBF9240-28
Fundamentals of Plasma Transferred Wire Arc (PTWA) Spray for Reconditioning Components	0374, 0599, 0679, 1000	SEBF9404-06