

Basic Assembly

- adjust valve clearance (Basic assembly)
- check and adjust timing (Basic assembly)
- check clearance crankshaft (Basic assembly)
- check compression pressure (Basic assembly)
- check cylinder head, engine (Basic assembly)
- check engine oil consumption (Basic assembly)
- perform (P)SFA camshaft, engine (Basic assembly)
- repair height cylinder liner, STD (Basic assembly)
- replace 1 (one) cylinder liner, STD (Basic assembly)
- replace 1 (one) engine piston set (Basic assembly)
- replace 1 (one) piston ring set (Basic assembly)
- replace 1 (one) rocker arm, exhaust valve (Basic assembly)
- replace 1 (one) rocker seat, engine brake (Basic assembly)
- replace 6 (six) cylinder liner, STD (Basic assembly)
- replace 6 (six) engine piston set (Basic assembly)
- replace 6 (six) exhaust valve lifter (Basic assembly)
- replace 6 (six) inlet valve lifter (Basic assembly)
- replace 6 (six) piston ring set (Basic assembly)
- replace 6 (six) rocker seat, engine brake (Basic assembly)
- replace all camshaft bearing (Basic assembly)
- replace all connecting rod, engine (Basic assembly)
- replace all valve stem seal (Basic assembly)
- replace crankshaft gear (Basic assembly)
- replace cylinder head gasket, engine (Basic assembly)
- replace cylinder head, engine (Basic assembly)
- replace engine front cover (Basic assembly)
- replace expansion plug (Basic assembly)
- replace front crankshaft seal ring (Basic assembly)
- replace front engine wiring harness (Basic assembly)
- replace gasket, engine front cover (Basic assembly)
- replace inlet and exhaust valve lifter rod
- replace rear engine wiring harness (Basic assembly)
- replace rocker arm, inlet valve (Basic assembly)
- replace solenoid valve, engine brake (Basic assembly)
- replace valve cover (Basic assembly)
- replace valve cover gasket (Basic assembly)

Cooling System

- check thermostat, coolant (Cooling system)
- clean cooling system (Cooling system)
- Diagnosing coolant loss or cooling system overpressure
- pressure testing (Cooling system)

- replace assembly coolant pump module (Cooling system)
- replace coolant filter element (Cooling system)
- replace coolant pump, including cooling system flush (Cooling system)
- replace coolant pump, incomplete (Cooling system)
- replace gasket, coolant pump (Cooling system)
- replace holder, coolant filter element (Cooling system)
- replace thermostat housing (Cooling system)
- replace thermostat, coolant (Cooling system)

EGR, EAS

- check-clean all coolant pipe (EGR system)
- clean on chassis EGR cooler (EGR system)
- clean venturi (EGR system)
- DEF pump module prime test
- EAS Operator's Manual NGP
- EAS Operator's Manual - Non-NGP
- flush on chassis EAS pump module (EAS pipes)
- pressure testing on chassis EGR cooler (EGR system)
- reconfigure special tool (EGR system)
- replace assembly Diesel Particulate Filter DPF unit (Particulate filter)
- replace EAS pump module (EAS pipes)
- replace EGR control valve (EGR system)
- replace EGR cooler (EGR system)
- replace electronic control unit, EAS (EAS pipes)
- test air leakage EAS pump module (EAS pipes)
- test EAS pump module (EAS pipes)
- test restriction EAS pump module (EAS pipes)
- test suction side EAS pump module (EAS pipes)

Engine Auxiliary

- check capacity two cylinder air compressor (Air compressor)
- check control two cylinder air compressor (Air compressor)
- check pressure fuel lift pump (Steering pump)
- replace assembly Back Pressure Valve (Engine brake)
- replace back pressure valve repair kit (Engine brake)
- replace compressor pipe 01, suction side (Air compressor)
- replace connecting pipe with seal (Air compressor)
- replace cylinder head, compressor (Air compressor)
- replace fuel lift pump (Steering pump)
- replace operating lever (Engine brake)
- replace return coolant pipe (Air compressor)
- replace solenoid valve, engine brake (Engine brake)
- replace steering pump (Steering pump)

- replace suction side hose (Air compressor)
- replace supply coolant pipe (Air compressor)
- replace tandem pump (Steering pump)
- replace two cylinder air compressor (Air compressor)

Flywheel and Housing

- replace ball bearing, flywheel (Flywheel)
- replace crankshaft seal ring, flywheel housing (Flywheel housing)
- replace flywheel (Flywheel)
- replace flywheel housing (Flywheel housing)
- replace starter ring (Flywheel)

Fuel System

- bleed (Fuel system)
- check air injector leak pipe (Fuel system)
- check fuel flow injector leak pipe (Fuel system)
- check fuel leakage shut-off valve (Fuel system)
- check fuel pressure fuel tank return pipe (Fuel system)
- check fuel pressure injector leak pipe (Fuel system)
- check fuel system high pressure (Fuel system)
- check fuel system low pressure (Fuel system)
- check internal fuel leakage injector (Fuel system)
- check non-return valve common rail pump unit (Fuel system)
- check pressure fuel lift pump, manual (Fuel system)
- check sealing injector (Fuel system)
- check-clean fuel strainer (Fuel system)
- clean injector (Fuel system)
- drain fuel system (Fuel system)
- Low Fuel Pressure Troubleshooting
- replace 1 (one) fuel injection pipe 1-2-3-4 (Fuel system)
- replace 1 (one) fuel injection pipe 5-6 (Fuel system)
- replace 1 (one) fuel injection pipe from pump unit to fuel rail (Fuel system)
- replace 2 (two) common rail pump unit (Fuel system)
- replace 2 (two) fuel injection pipe 5-6 (Fuel system)
- replace 2 (two) fuel injection pipe from pump unit to fuel rail (Fuel system)
- replace 2 (two) pump unit lifter (Fuel system)
- replace 4 (four) fuel injection pipe 1-2-3-4 (Fuel system)
- replace 6 (six) injector (Fuel system)
- replace 6 (six) sealing ring, injector (Fuel system)
- replace air shut-off valve (Fuel system)
- replace common rail pressure release pipe (Fuel system)
- replace fifth injector (Fuel system)
- replace first injector (Fuel system)

- replace fourth injector (Fuel system)
- replace front common rail pump unit (Fuel system)
- replace front pump unit lifter (Fuel system)
- replace fuel filter element (Fuel system)
- replace fuel filtration module (Fuel system)
- replace fuel lift pump, manual (Fuel system)
- replace fuel pressure control valve (Fuel system)
- replace fuel rail (Fuel system)
- replace fuel rail pressure control valve (Fuel system)
- replace fuel rail pressure sensor (Fuel system)
- replace fuel repair kit (Fuel system)
- replace fuel shut-off valve (Fuel system)
- replace fuel strainer (Fuel system)
- replace injector leak pipe (Fuel system)
- replace non-return valve (Fuel system)
- replace rear common rail pump unit (Fuel system)
- replace rear pump unit lifter (Fuel system)
- replace reservoir, moisture separator (Fuel system)
- replace sealing ring, injector (Fuel system)
- replace second injector (Fuel system)
- replace sixth injector (Fuel system)
- replace third injector (Fuel system)
- replace water in fuel sensor (Fuel system)

Intake and Exhaust Elements

- check air leakage (Inlet and exhaust element)
- check catalyst, SCR unit (Exhaust muffler)
- check decomposition pipe (Exhaust muffler)
- check dosing valve for DEF (Exhaust muffler)
- check fuel delivery dosing module, fuel
- check mechanism turbocharger with VTG (Inlet and exhaust element)
- check turbocharger with VTG (Inlet and exhaust element)
- check VTG turbocharger actuator (Inlet and exhaust element)
- check-clean all coolant pipe (Inlet and exhaust element)
- clean dosing module (Engine brake)
- clean dosing valve for DEF (Exhaust muffler)
- prepare assembly exhaust manifold (Inlet and exhaust element)
- pressure testing (Inlet and exhaust element)
- replace 6 (six) exhaust manifold gasket (Inlet and exhaust element)
- replace air inlet gasket (Inlet and exhaust element)
- replace air inlet pipe, inlet manifold (Inlet and exhaust element)
- replace assembly catalyst, SCR unit (Exhaust muffler)
- replace decomposition pipe (Exhaust muffler)
- replace dosing module, fuel

- replace dosing valve for DEF (Exhaust muffler)
- replace exhaust gasket, turbocharger (Inlet and exhaust element)
- replace exhaust manifold (Inlet and exhaust element)
- replace NOx sensor after the catalyst (Exhaust muffler)
- replace oil pipe, delivery side (Inlet and exhaust element)
- replace oil return pipe (Inlet and exhaust element)
- replace particulate sensor (Exhaust muffler)
- replace return coolant pipe (Inlet and exhaust element)
- replace supply coolant pipe (Inlet and exhaust element)
- replace turbocharger speed sensor (Inlet and exhaust element)
- replace turbocharger with VTG (Inlet and exhaust element)
- replace VTG turbocharger actuator (Inlet and exhaust element)
- test dosing valve for DEF (Exhaust muffler)

Lubrication System

- check leakage engine oil cooler (Lubrication system)
- check oil pressure with pressure gauge (Lubrication system)
- Checking data, oil pressure
- replace centrifugal oil filter element (Lubrication system)
- replace crankcase ventilation module (Lubrication system)
- replace engine oil cooler (Lubrication system)
- replace engine oil pump (Lubrication system)
- replace engine oil strainer (Lubrication system)
- replace oil filler pipe (Lubrication system)
- replace oil filter element (Lubrication system)
- replace oil module (Lubrication system)
- replace oil suction pipe (Lubrication system)
- replace plain bearing, oil module (Lubrication system)
- replace plastic oil sump (Lubrication system)
- replace sealing rubber, oil sump (Lubrication system)
- replace thermostat, lubricating oil (Lubrication system)
- upgrade crankcase ventilation module (Lubrication system)

Maintenance

- Maintenance activities
- Maintenance schedule
- MX13 Operator's Manual
- Perform A service
- Perform B service
- Perform C service
- Perform D service
- Perform E service
- Perform F service

- Perform G service
- Perform H service
- Perform R service

Pulley

- check poly-V-belt 12PK (Pulley)
- check poly-V-belt 8PK (Pulley)
- replace left-hand (Pulley)
- replace poly-V-belt 12PK (Pulley)
- replace poly-V-belt 8PK (Pulley)
- replace right-hand (Pulley)
- replace right-hand idler pulley, poly-V-belt (Pulley)
- replace vibration damper (Pulley)

Overhaul Guide

Technical Data

- Torque specifications
- Approved coolant
- Oil specifications
- Sealants, locking compounds and mounting products
- Sensor and actuator locations, descriptions and data