




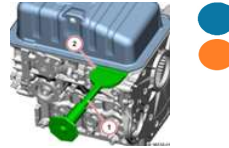
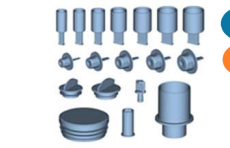



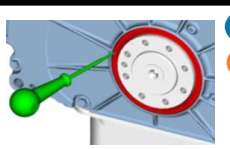
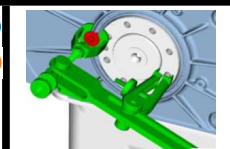
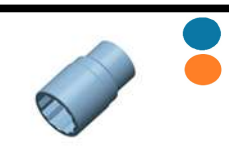



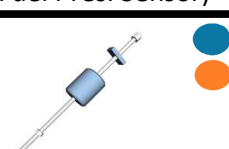



## 12L & 16L Tier 4 Final Special Tool List



● Blue denotes Competency Class Level II special tooling.

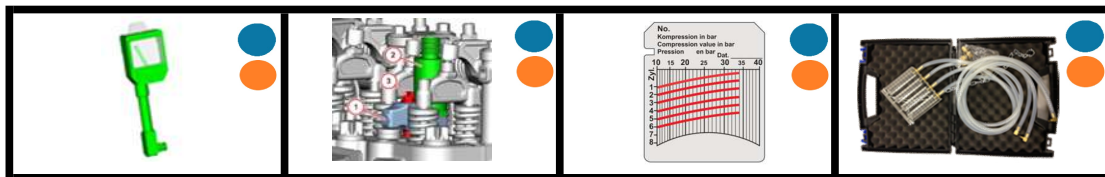


● Gold denotes Competency Class Level III only tools.

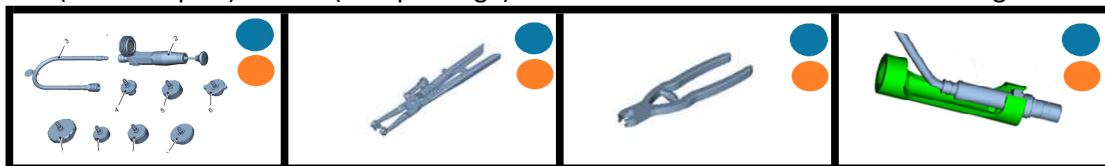
 <p>2992127 Disassembly Tool</p>	 <p>2992301 Separating Tool</p>	 <p>1899368 Locking Plugs / Caps</p>	 <p>2992329 AF 19mm (Oil Line /sensor)</p>
 <p>1899092 Hexalobular Tool Kit</p>	 <p>2992117 Lever Tool (Injector Clamp)</p>	 <p>1899103 Pick</p>	 <p>1899110 Assembly Lever</p>
 <p>1899132 Socket 27MM (Fuel Pres. Sensor)</p>	 <p>1899400 Crankcase Pressure Testing Device</p>	 <p>1899108 Disassembly Tool (M8 Stud Remover)</p>	 <p>1899148 Assembly Tool (M8 Stud Installer)</p>
 <p>2992294 Slide Hammer</p>	 <p>2992449 Turning Gear</p>	 <p>1899078 Socket double-hex AF 10 mm</p>	 <p>1899061 E20 Hex Deep Socket (Cyl Head)</p>



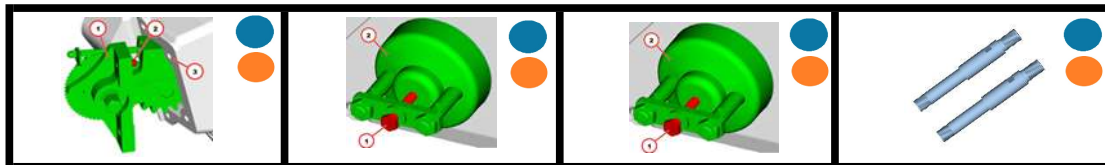
## 12L & 16L Tier 4 Final Special Tool List



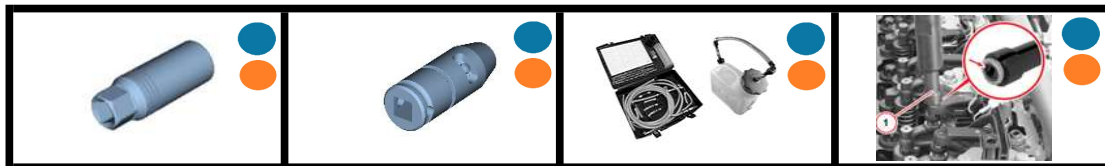
1899034	2992018	1899193	1899402
Compression Gauge (With Adapter)	Connection Piece (Comp. Gauge)	Compression Chart Sheets	Injector Backflow Measuring Tool



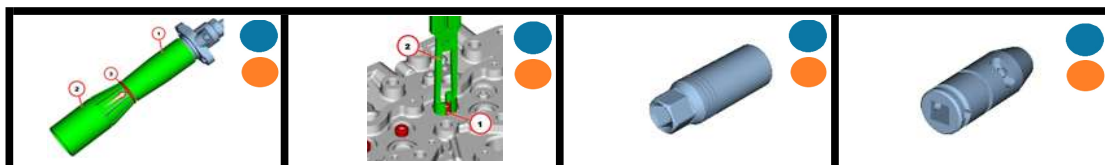
1899415	1899112	1899037	2992345
Cooling System Pressure Tester	Spring Band Pliers	Hose clip pliers (Cobra Clamps)	NOX Sensor Wrench



2992022	2992210	2992211	2992212
Turning Gear Locking Device	Crank Seal Tool (Opposite Flywheel)	Crank Seal Tool (Flywheel Side)	Studs (Crank Seal Tool)



1899106	1899150	1899426	2992136
M12 Threaded Stud Removal Tool	M12 Threaded Stud Installation Tool	SCR Test Set (2.9L)	Sealing Disc Extraction Device



2992126	1899050	1899105	1899149
Assembly Sleeves & Guide Kit	Assembly Pliers	M10 Threaded Stud Removal Tool	M10 Threaded Stud Installation Tool



## 12L & 16L Tier 4 Final Special Tool List



1899094  
Socket Flat Slot  
(Valve Lash)

2992115  
Claw Wrench  
(AF 17mm)

1899093  
Torque Angle Disc

2992116  
Claw Wrench  
(AF 19mm)

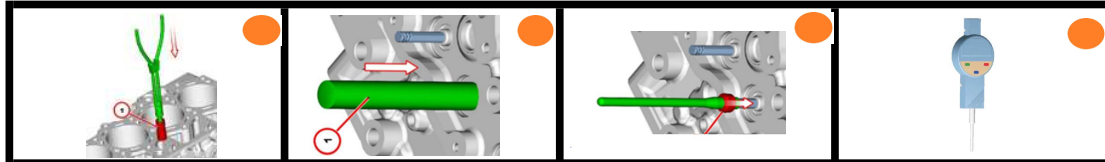


2992084  
Slide Hammer Union

2992032  
Ring Insert AF13mm  
(Valve Lash)

1899184  
Torque Handle

1899185  
Torque Handle Insert

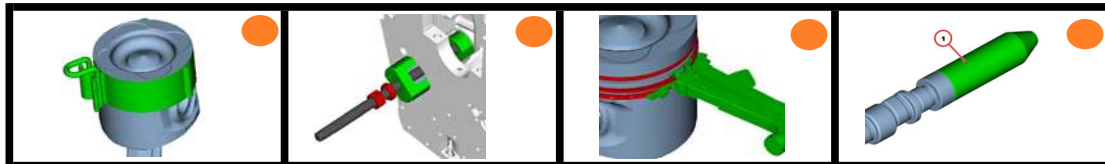


2992349  
Special Pliers  
(Tappet Remover)

29902145  
Valve Stem Seal  
Installer

2993145  
Valve stem Seal  
Installation Sleeve

1899409  
Digital Dial Indicator

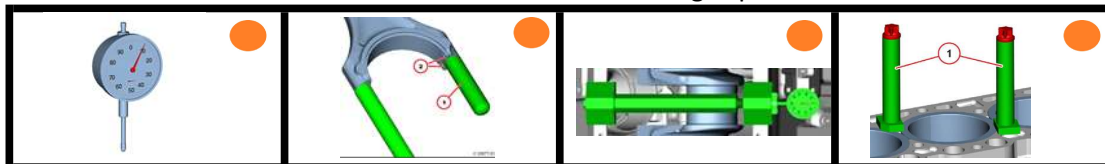


2992179  
Piston Ring  
Compressor 132 mm

2992250  
Camshaft Bearing  
Tool

2992155  
Piston Ring Expander

2992264  
Camshaft Guide Pin



1899126  
Dial Indicator

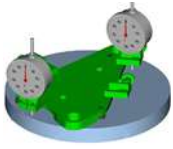
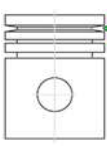

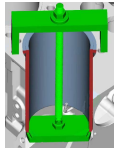

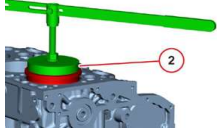


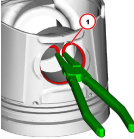



2992484  
Copnnecting Rod  
Assembly Device

2992450  
Main Bearing Cap  
Spreader

2992997  
Cylinder Liner Holder



## 12L & 16L Tier 4 Final Special Tool List

			
2992056 Piston Projection Measurement Tool	2992161 Ring Groove Wear (132mm Piston)	1899054 Socket 22mm (Main Cap Bolts)	2992444 Cylinder Liner Remover
			
1899042 Socket AF 17 (Cylinder Head)	2992290 Cylinder Liner Pressure Plate	2992289 Cylinder Liner Assembly Lever	2992331 Rocker Arm Ball Stud Assembly /Dis Assy
			
2992366 Snap Ring Pliers	1899041 Reinforced Socket AF 14mm	2992073 Piston Cooling Nozzel Aiming Tool	2992074 Aiming Wand (Cooling Nozzel)