



No.: 16 TL-11Rev3
January 23, 2017

TO: Service Locations
FROM: Service Systems Development
SUBJECT: DD5™ Essential Tool Release

GENERAL INFORMATION

The Detroit™ special tools group is pleased to announce the release of the DD5™ essential tool program. These tools will be automatically shipped and invoiced to all DD certified repair locations. The estimated cost of the complete tool package is \$5750.00

NOTE: DD5™ essential tools will not ship to Western Star or Thomas Built Bus exclusive dealers.

In an effort to support our 42 pre-series trucks, tool shipments will begin in July 2016, and all essential tools should arrive at your facility no later than September 2016. All locations should be fully equipped for the DD5 start of production in October 2016.

The table below shows all of the DD5 essential tools and their basic functions.

Tool	Description	Use
W936589003300	Fuel Injector Removal Tool	Repair
W936589000700	Fuel Injector Cup Removal / Installation Tool	Repair
W936589013300	Fuel Injector O-ring Installer	Repair
W936589019100	High Pressure Fuel Rail Test Caps	Repair
W936589003100	Adaptor for High Pressure Fuel Pump Holding	Repair
W936589053300	High Pressure Fuel Pump Gear Puller	Repair
W936589033300	Fuel Injector Heat Protection Sleeve Tool Kit	Repair
W936589043300	High Pressure Fuel Injector Line Seal Extractor	Repair
W936589049100	Fuel Injector Fuel Return Adaptor	Diagnostic
DSN930E16003	Compression Test Adaptor	Diagnostic
W936589001500	Top-Dead-Center (TDC) Locating Tool	Repair
W936589021500	Flywheel Guide Pins	Repair
W936589002300	Camshaft Timing Tool	Repair
W936589014000	Crankshaft Holding Tool	Major Repair
W904589041500	Front Crankshaft Seal Installer	Repair
W936589001400	Front Crankshaft Seal Installing Spacer	Repair
W457589014300	Rear Crankshaft Seal Installer	Repair
W936589011400	Rear Crankshaft Seal Installing Spacer	Repair

W936589006300	Oil Priming Adaptor	Repair
W936589006100	Cylinder Head Valve Tool Set	Major Repair
W936589016100	Piston Cooling Nozzle Tool Set	Major Repair
W936589003700	Piston Ring Compressor	Major Repair
DSN930E16006	EGR Cooler Pressure Tester	Diagnostic
DSN930E16004	Engine Brake Tester	Diagnostic
W638589111500	High Pressure Line Seal Installer	Repair
DSN930E16005	Injector Test Harness	Diagnostic
DSN930E16015	O2 Sensor Socket	Repair
DSN930E16010	LP Leak Test Tool	Diagnostic
W936589046300	Test MCM	Diagnostic
W936589056300	Test ACM	Diagnostic
DSN930E16009	Flue Flow Hoses	Diagnostic

Table 1. Essential Tools for DD5™ Engine



Figure 1. W936589003300 – Injector Removal Tool

Removes the fuel injector from the cylinder head



Figure 2. W936589000700 – Injector Cup Removal / Installation Tool

Removes and installs the injector cup into the cylinder head. A four-tooth design and spreading jaws securely engage the injector cup.

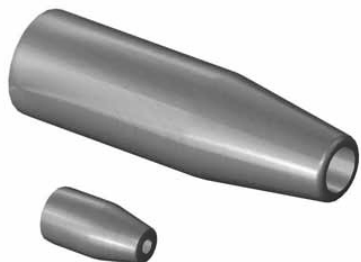


Figure 3. W936589013300 – Injector O-ring Installer

Installs the injector O-rings.



Figure 4. W936589019100 – HP Fuel Rail Test Caps

Blocks off fuel rail to injector fittings when performing fuel system diagnostics.

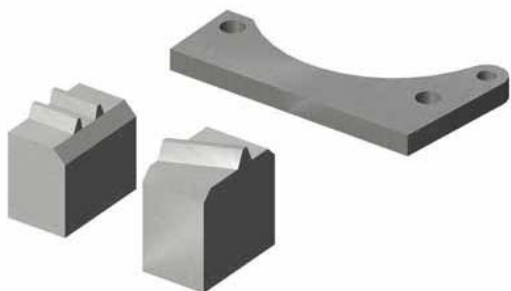


Figure 5. W936589003100 – Adaptor for HP Fuel Pump Holding Fixture

Used in combination with current HDEP holding fixture W470589084000 to remove the high pressure fuel pump drive gear.

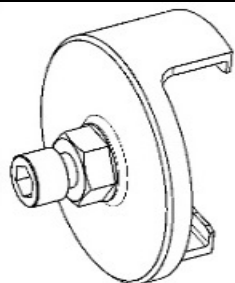


Figure 6. W936589053300 – High Pressure Pump Gear Puller

Used in combination with current HDEP holding fixture W470589084000 to remove the high pressure fuel pump drive gear.



Figure 7. W936589033300 - Injector Heat Protection Sleeve Tool Kit

Tool kit used to install the copper heat protection sleeve onto the injector tip and extract the old heat protection sleeve from the cylinder head. Used in combination with impact extractor W355589016300.



Figure 8. W936589043300 - HP Injector Line Seal Extractor

Removes the seal between the camshaft housing and the high pressure fuel injector feed line, used in combination with impact extractor W355589016300.



Figure 9. W936589049100 - Injector Fuel Return Adaptor

Used to diagnose leaks in the high pressure side of the fuel system.



Figure 10. W936589009100 - Compression Test Adaptor

Used to perform manual compression tests.



Figure 11. W936589001500 – TDC Locating Tool

Inserts into the crankshaft position sensor hole and the tip protrudes into a hole in the flywheel to accurately locate Top Dead Center (TDC) for cylinder number one.



Figure 12. W936589021500 – Flywheel Guide Pins

Aids in removal and installation of the flywheel.



Figure 13. W936589002300 – Camshaft Timing Tool

Verify camshaft timing during repair or for diagnostic purposes.



Figure 14. W936589014000 – Crankshaft Holding Tool

Locates and holds the crankshaft and gear at number one TDC during gear train repair.

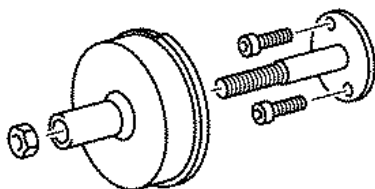


Figure 15. W904589041500 – Front Crankshaft Seal Installer

Installs the front crankshaft oil seal.



Figure 16. W936589001400 – Front Crankshaft Seal Spacer

Sets front crankshaft seal depth during installation. Used with W904589041500.

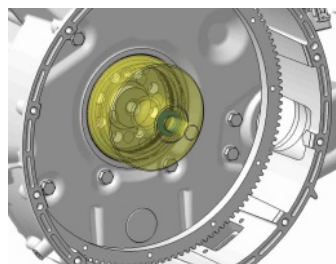


Figure 17. W457589014300 – Rear Crankshaft Seal Installer

Installs the rear crankshaft oil seal.

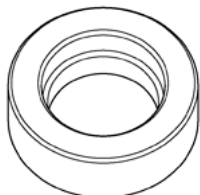


Figure 18. W936589011400 – Rear Crankshaft Seal Spacer

Sets rear crankshaft seal depth during installation. Used with W457589014300.



Figure 19. W936589006300 – Oil Priming Adaptor

Adaptor for priming the lubrication system. Used in combination with Pre-Oiler Kit J-45299.

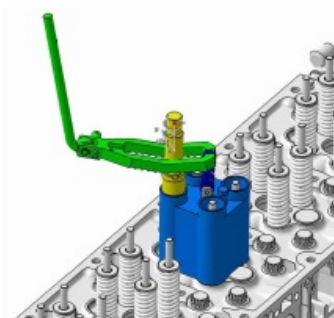


Figure 20. W936589006100 – Valve Tool Kit

Used for removing and installing valve springs and valve stem oil seals.



Figure 21. W936589016100 – Piston Cooling Nozzle Tool

Used for removing and installing pressed-fit piston cooling nozzles.



Figure 22. W936589003700 – Piston Ring Compressor

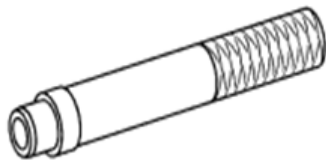
Compresses piston rings during piston and connecting rod installation.

**Figure 23. DSN930E16006 – EGR Cooler Pressure Tester**

Used to diagnose EGR cooler leaks.

**Figure 24. DSN930E16004 – Engine Brake Tester**

Used to test the operation of the engine brake actuators.

**Figure 25. W638589111500 – High Pressure Line Seal Installer**

Used to install the high pressure fuel line seals into the cylinder head.

**Figure 26. DSN930E16005 – Injector Test Harness**

Breakout harness used with HDEP breakout box J-48671.



Figure 27. DSN930E16015 – O2 Sensor Socket

22mm socket used for removal and installation of the O2 sensor.



Figure 28. DSN930E16010 – Low Pressure Leak Test Tool

Used to diagnose leaks on the low pressure side of the fuel system.

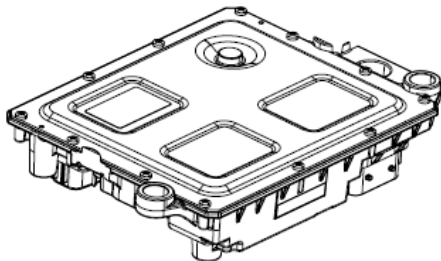


Figure 29. W936589046300 – Test MCM

Used to diagnose a faulty MCM.

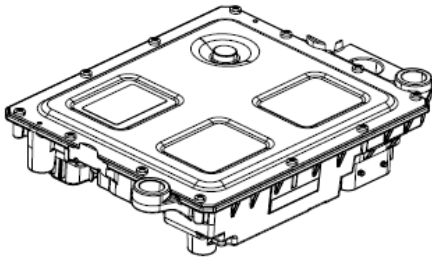


Figure 30. W936589056300 – Test ACM

Used to diagnose a faulty ACM.



Figure 31. DSN930E16010 – Fuel Flow Hoses

Used with existing HDEP tool J-48708 to measure injector and needle return flow.

ADDITIONAL INFORMATION

Tools will be packaged together in lot shipments, generically addressed to the service manager at each facility. Some tools on the list may not be included in the initial shipment, depending on availability. Remaining tools and new essential tools for the DD5 engine will be shipped out as they become available.

Refer to Detroit DD5 service manual DDC-SVC-MAN-0194 for individual tool usage and procedures. If there are any questions or concerns about the usage of these tools, contact the Detroit Customer Support Center immediately. Do not attempt to modify these tools in any way; doing so may result in damage to the tool or damage to the engine.

CONTACT INFORMATION

Please contact the Detroit™ Customer Support Center at 1-800-445-1980 or email csc@daimler.com if you have any questions.