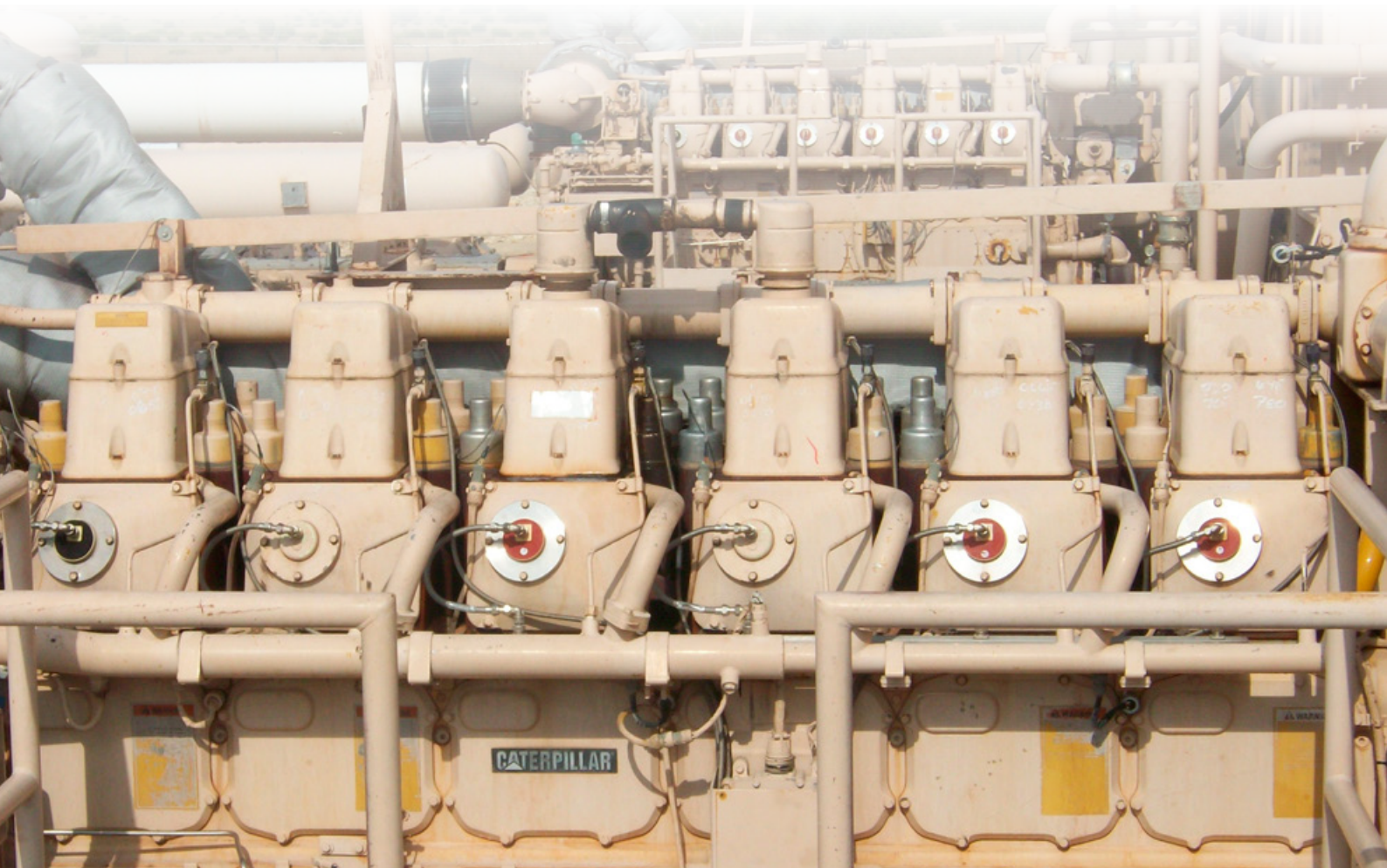


# APPLICATION GUIDE

For CATERPILLAR<sup>®</sup> G3600 Series



**GAS ENGINE TECHNOLOGY**

reliable • efficient • worldwide

## ■ Ignition Coils

### Ignition Coils



- **Flange ignition coil**
- For unshielded and shielded applications
- For G3606, G3608, G3612, G3616

P/N 06.50.034

Equivalent to:

CATERPILLAR® P/N 7W-4377

ALTRONIC® P/N 591012

Optional:



- **Flange ignition coil with diagnostic interface**
- To monitor high voltage traces in a simple way
- With a MOTORTECH SparkView or digital Scope Meter the operator can receive real time data
- Due to same coil winding interchangeable with P/N 06.50.034, P/N 7W-4377
- For unshielded and shielded applications
- For G3606, G3608, G3612, G3616



P/N 95.09.154



- **CATERPILLAR® Style ignition coil**
- For unshielded and shielded applications
- For G3606, G3608, G3612, G3616

P/N 06.50.164

Equivalent to:

CATERPILLAR® P/N 438-5682, 310-3180,

283-5269, 232-6351,

191-9346

# Ignition Coils



## Ignition Coil Extension

- Improved design with new and innovative extension to coil termination
- Patented spring-loaded secondary terminal inside ensures proper and reliable connection to spark plug (Patent No. US 7,455,536 B2)
- Teflon extension incl. spark plug seal

P/N 06.80.600

Fits Ignition Coil:

MOTORTECH P/N 06.50.164

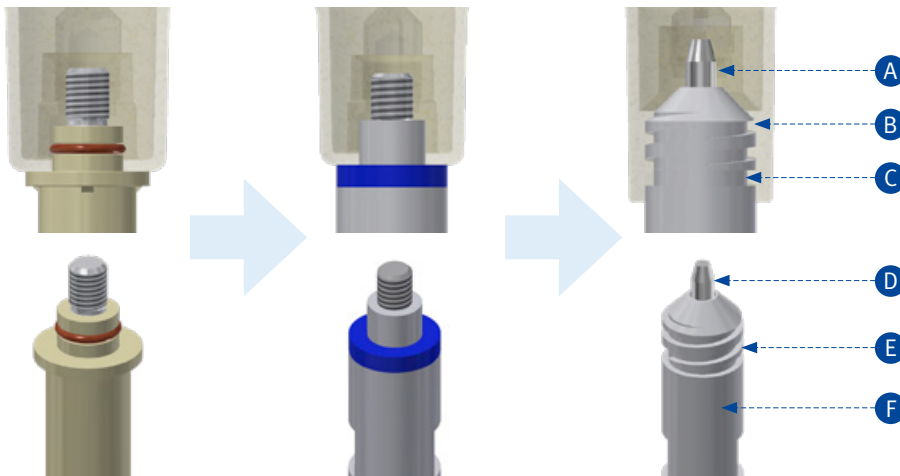


### Design Improvements

CATERPILLAR® Design

MOTORTECH 2014 Design

MOTORTECH New Design



#### Ignition Coil

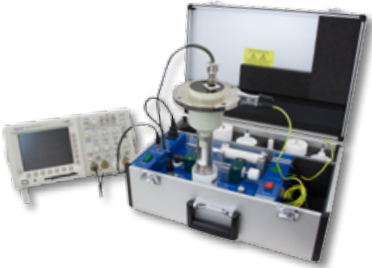
- Ⓐ New high voltage termination
- Ⓑ New extension to coil termination
- Ⓒ Extended housing with longer flashover distance for improved dielectric strength

#### Ignition Coil Extension

- Ⓓ Spring-loaded secondary terminal rod
- Ⓔ Large thread for extension to coil termination
- Ⓕ New Teflon® ignition coil extension

# ■ Ignition Coils

## Tools & Test Equipment



### ■ Ignition coil tester

- Professional tool to test all different kinds of ignition coils
- Built in CD ignition, high voltage clamp and a spark gap allow realistic testing
- Incl. standard adaptor kits for flange and CATERPILLAR® style ignition coils

P/N 06.98.054

---



### ■ SparkView high voltage indicator incl. BNC cable

Quick and comfortable monitoring on a running engine makes it possible to detect

- Wear of spark plugs
- Failure of the ignition system (damaged ignition coil, spark plug lead or ignition controller)
- Faulty compression of a cylinder

P/N 06.90.099-105 For use with flange ignition coils with diagnostic interface

---

## ■ Pickups & Trigger Drives



### Pickup

- **Hall effect pickup – Active High**
- Thread size 5/8-18 UNF
- 1.75 in. length
- For unshielded and shielded applications

P/N 95.70.012-175      Equivalent to:  
CATERPILLAR® P/N 145-7982  
ALTRONIC® P/N 591014-1



### Camshaft Trigger Magnet

- **Strong magnet**
- Rigid design
- Magnet protected by aluminum housing
- Thread M8x1.25, HEX 3/4 in.
- Easy installation due to use of existing threaded holes in camshaft gear

P/N 06.60.925      Equivalent to:  
CATERPILLAR® P/N 142-8608



# Primary Leads

## Primary Leads for Shielded Applications

- Available as Conventional Style and New Flex Style
- Ignition coil connector 3 pole, socket, 90°
- 2 wire conductor
- 1/2-14 NPT outlet box adaptor



New Flex Style

P/N 95.01.020-60      Equivalent to:  
CATERPILLAR® P/N 1N-3735  
ALTRONIC® P/N 593027-60

Optional:  
P/N 95.01.120-60      New Flex Style



P/N 95.01.020-72      Equivalent to:  
CATERPILLAR® P/N 1N-3736  
ALTRONIC® P/N 593027-72

Optional:  
P/N 95.01.120-72      New Flex Style



P/N 95.01.020-84      Equivalent to:  
CATERPILLAR® P/N 1N-3738  
ALTRONIC® P/N 593027-84

Optional:  
P/N 95.01.120-84      New Flex Style



P/N 95.01.020-96      Equivalent to:  
CATERPILLAR® P/N 1N-3739  
ALTRONIC® P/N 593027-96

Optional:  
P/N 95.01.120-96      New Flex Style



# Primary Leads



## Primary Leads for Shielded Applications

P/N 95.01.020-108      Equivalent to:  
CATERPILLAR® P/N 1N-3740  
ALTRONIC® P/N 593027-108

Optional:  
P/N 95.01.120-108      New Flex Style



P/N 95.01.020-120      Equivalent to:  
CATERPILLAR® P/N 1N-3741  
ALTRONIC® P/N 593027-120

Optional:  
P/N 95.01.120-120      New Flex Style



P/N 95.01.020-48      Equivalent to:  
CATERPILLAR® P/N 4W-5467  
ALTRONIC® P/N 593027-48

Optional:  
P/N 95.01.120-48      New Flex Style



P/N 95.01.020-12      Equivalent to:  
CATERPILLAR® P/N 4W-6741  
ALTRONIC® P/N 593027-12

Optional:  
P/N 95.01.120-12      New Flex Style



P/N 95.01.020-24      Equivalent to:  
CATERPILLAR® P/N 4W-6742  
ALTRONIC® P/N 593027-24

Optional:  
P/N 95.01.120-24      New Flex Style



Conventional Style

# Primary Leads

## Primary Leads for Shielded Applications



New Flex Style

P/N 95.01.020-42      Equivalent to:  
CATERPILLAR® P/N 4W-6743  
ALTRONIC® P/N 593027-42

Optional:  
P/N 95.01.120-42      New Flex Style



P/N 95.01.020-54      Equivalent to:  
CATERPILLAR® P/N 4W-6744  
ALTRONIC® P/N 593027-54

Optional:  
P/N 95.01.120-54      New Flex Style



P/N 95.01.020-132      Equivalent to:  
CATERPILLAR® P/N 4W-6745  
ALTRONIC® P/N 593027-132

Optional:  
P/N 95.01.120-132      New Flex Style



P/N 95.01.020-138      CATERPILLAR® P/N 4W-6746  
ALTRONIC® P/N 593027-138

Optional:  
P/N 95.01.120-138      New Flex Style



P/N 95.01.020-150      Equivalent to:  
CATERPILLAR® P/N 4W-6747  
ALTRONIC® P/N 593027-150

Optional:  
P/N 95.01.120-150      New Flex Style





# ■ Primary Leads



## Primary Leads for Shielded Applications

- Ignition coil connector 3 pole, socket, 90°
- 2 wire conductor
- Engine cover connector 3 pole, socket, 180°
- Fits ignition coils P/N 7W-4377, 06.50.034, 95.09.154

P/N 95.01.030-10      Equivalent to: CATERPILLAR® P/N 7E-3056

P/N 95.01.130-10      Optional:  
New Flex Style



**Conventional Style**

## ■ Spark Plug Leads & Extensions

### Spark Plug Extension



- **PolyMot™ spark plug extension**
- Ceramic insert with 5 kΩ resistor for EMI suppression
- Critical high voltage areas are protected with seals
- Top thread for easy removal with special tool P/N 44.99.912
- Fits spark plug P/N 301-6663 e.g.
- For G3606, G3608, G3612, G3616

P/N 06.80.319-T

Equivalent to:

CATERPILLAR® P/N 207-4509, 207-4508,  
123-8641



- **Spark plug extension removal tool**
- Fits extension top thread to ensure easy removal

P/N 44.99.912

### Ignition Coil Extensions



- **Standard design**
- Patented spring-loaded secondary terminal inside ensures proper and reliable connection to spark plug (Patent No. US 7,455,536 B2)
- Teflon extension incl. spark plug seal
- For G3606, G3608, G3612, G3616

P/N 06.80.459H

Equivalent to:

CATERPILLAR® P/N 308-1380, 283-5271,  
264-5323, 150-2050

Fits Ignition Coil:

MOT/CAT® P/N 06.50.161, 283-5270



- **Improved design with new and innovative extension to coil termination**
- Patented spring-loaded secondary terminal inside ensures proper and reliable connection to spark plug (Patent No. US 7,455,536 B2)
- Teflon extension incl. spark plug seal

P/N 06.80.600

Fits Ignition Coil:

MOTORTECH P/N 06.50.164

## ■ Spark Plug Leads & Extensions



### Ignition Coil Extensions

- **Silicone seal rings**
- For spark plug leads and extensions
- Pack of 100 pcs.

P/N 06.84.040-100

---



# Ignition Wiring Rails & Hardware



## Wiring Rail Kits

- Direct replacement for CATERPILLAR® ignition and detonation control wiring
- Separated high and low signal wiring
- Prefabricated components guarantee easy installation
- Wiring rails made from stainless steel for harsh environment
- Connecting harness assembly links wiring rails and main junction box
- Primary leads in a reliable design with 90° MIL ignition coil connections
- Replaceable harness and primary leads makes complete change of wiring system needles



G3606

Equivalent to:

CATERPILLAR® P/N 213-6308

P/N 95.75.108-B

Wiring rail kit  
incl. **New Flex Style** primary leads

P/N 95.75.108

Wiring rail kit  
incl. **Conventional Style** primary leads



G3608

Equivalent to:

CATERPILLAR® P/N 219-9946

P/N 95.75.103-B

Wiring rail kit  
incl. **New Flex Style** primary leads

P/N 95.75.103

Wiring rail kit  
incl. **Conventional Style** primary leads



**New Flex Style**

G3612

Equivalent to:

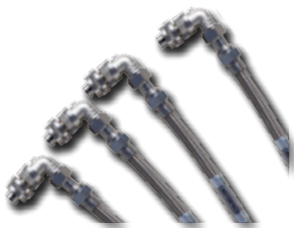
CATERPILLAR® P/N 191-5007 (Right Bank)  
191-5008 (Left Bank)

P/N 95.75.106-B

Wiring rail kit, right and left bank,  
incl. **New Flex Style** primary leads

P/N 95.75.106

Wiring rail kit, right and left bank,  
incl. **Conventional Style** primary leads



**Conventional Style**

G3616

Equivalent to:

CATERPILLAR® P/N 198-2938 (Right Bank)  
198-2941 (Left Bank)

P/N 95.75.107-B

Wiring rail kit, right and left bank,  
incl. **New Flex Style** primary leads

P/N 95.75.107

Wiring rail kit, right and left bank,  
incl. **Conventional Style** primary leads

## ■ Spark Plugs & Accessories



### Spark Plugs (M18x1.5 Thread Size – 0.750 in. Thread Reach)

- **CHAMPION® spark plug**
- J-type electrode (Ir/Pt)
- Recommended for natural gas

P/N FB77WPCC

Equivalent to:

CATERPILLAR® P/N 301-6663, 243-4291,  
194-8518, 149-9931

Optional:

- **DENSO® spark plug**
- J-type electrode (Ir/Pt)
- Recommended for natural gas

P/N GI3-3

Optional:

- **DENSO® spark plug**
- J-type electrode (Ir/Ir)
- Recommended for special gas

P/N GI3-5



## ■ Spark Plugs & Accessories



### Tools

#### ■ Spark plug gap setting tool

- For easy setting of spark plug gaps
- Basic kit includes M18x1.5 thread adaptor
- Required accessory kit needs to be ordered separately

P/N 07.98.120-18



#### ■ Accessory kit for J-type spark plugs

- Including base insert and feeler gauge

P/N 07.98.122-A



P/N 07.98.037

- ▶ Feeler gauge clamp

P/N 07.98.059

- ▶ Feeler gauge, gap 0.008 in./0.20 mm

P/N 07.98.034

- ▶ Feeler gauge, gap 0.010 in./0.25 mm

P/N 07.98.035

- ▶ Feeler gauge, gap 0.012 in./0.30 mm

P/N 07.98.036

- ▶ Feeler gauge, gap 0.014 in./0.35 mm



#### ■ Spark plug cleaning kit

- Removes oil residues and deposits in the electrode area by high pressure
- Special blasting grit for gentle cleaning of the electrode and thread area

P/N 44.01.023

#### ■ Extended barrel magnetic spark plug sockets

- 1/2 in. drive
- 16 in. length



P/N 07.99.022-3-18 HEX 7/8 in.  
(22.2 mm)

Fits Spark Plug:  
301-6663, 243-4291,  
194-8518, FB77WPCC,  
GI3-3, GI3-5

## ■ Spark Plugs & Accessories



### Tools

- **Torque wrench**
- 1/2 in. drive

P/N 07.98.065

---



- **Seat & thread reconditioner**
- M18x1.5 thread size
- 3/4 in. thread reach

P/N 07.98.118-34

---



- **SparkView high voltage indicator incl. BNC cable**

Quick and comfortable monitoring on a running engine makes it possible to detect

- Wear of spark plugs
- Failure of the ignition system (damaged ignition coil, spark plug lead or ignition controller)
- Faulty compression of a cylinder

P/N 06.90.099-105 For use with flange ignition coils with diagnostic interface



### Accessories

- **Spark plug gaskets**
- For M18x1.5 thread size
- Pack of 100 pcs.

P/N 02.85.016-100

---



- **Thread lubricant**
- Can 4 oz / 115 g

P/N 07.98.718

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### Thermocouples & Accessories



- **Thermocouple**
- Type K (NiCrNi), 90°
- For G3606, G3608, G3612, G3616

Equivalent to:

P/N 56.01.098-34 CATERPILLAR® P/N 383-2988, 152-0807

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- **Thermocouple**
- Type K (NiCrNi), 90°
- For G3606, G3608, G3612, G3616

Equivalent to:

P/N 56.01.092-28 CATERPILLAR® P/N 383-2989, 241-9591,  
175-5341, 61-0407 <sup>1)</sup>

<sup>1)</sup> If the MOTORTECH thermocouple is used to replace thermocouple 175-5341 or 61-0407, the engine wiring harness must be modified by replacing the bullet connector with kit P/N 75.30.046. Please order separately with each thermocouple.

---



- **Connector kit**
- Required when thermocouple P/N 175-5341 or P/N 61-0407 should be replaced by P/N 56.01.092-28
- Incl. housing, wedge lock (P/N 155-2270) and contacts (P/N 186-3736)
- Use extraction tool P/N 06.98.046 and crimping tool P/N 06.98.013 for connector upgrade

P/N 75.30.046

---



## Coolant Filtration

- **Bypass filters with stainless steel filter elements**
- Cleans and maintains coolant system from rust and contaminants
- Increases water pump life and cylinder head efficiency
- Stainless steel filter elements can be cleaned – NO WASTE
- Easy to install and to service – Ideal for retrofitting

P/N 25.00.009-50

- ▶ 50 micron element
- ▶ 9 in. length
- ▶ Flow indicator

P/N 25.00.009-50-30

- ▶ 50 micron element
- ▶ 9 in. length
- ▶ Flow indicator
- ▶ 30 in. stand



## Lube Oil Filtration

- **Lube filter element kit**
- Including 6 reusable stainless steel filter elements and shipping case
- Element length 13.00 in., OD 7.00 in.
- For G3606, G3608, G3612, G3616

P/N 25.00.301-6-CA

---

- **Lube filter element**
- Element length 13.00 in., OD 7.00 in.
- For G3606, G3608, G3612, G3616

P/N 25.00.301-CA

Equivalent to:  
CATERPILLAR® P/N1W-4136

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