

APPLICATION GUIDE

For CATERPILLAR[®] G3400 Series



GAS ENGINE TECHNOLOGY

reliable • efficient • worldwide

Ignition Controllers

MIC3+ Series Ignition Controllers



- High energy ignition controller for retrofits
- Plug & play solution
- Patented technology (Patent No. US 8,893,692 BS)
- For use with G3406, G3408

P/N 66.00.356-8

Equivalent to:
CATERPILLAR® P/N 163-6164

- High energy ignition controller for retrofits
- Plug & play solution
- Patented technology (Patent No. US 8,893,692 BS)
- For use with G3412

P/N 66.00.357-12

Equivalent to:
CATERPILLAR® P/N 163-6108



CATERPILLAR® Digital Ignition Controllers – Refurbished

- MOTORTECH refurbished ignition controllers
- Come with a 1 year warranty
- Always consult factory for availability

P/N 163-6164-R

Equivalent to:
CATERPILLAR® P/N 163-6164

As good as new!



MOTORTECH Repair and Overhaul Service

Based on years of technical experience MOTORTECH offers a comprehensive repair and overhaul service for almost all popular ignition controllers.

Our economically remanufacturing process covers intensive inspections, parts replacement, extensive reconditioning and full operational test procedures. Within an average of four weeks (depends on customer location) we return a fully functional product that looks as good as new.

Flatrate Overhaul of:

- CATERPILLAR® ignition controllers for G3300/G3400 series gas engines
- ALTRONIC® DISN series
- All MOTORTECH ignition controllers

Ignition Coils



Ignition Coils

- ALTRONIC® Style
- For unshielded applications

P/N 06.50.054

Equivalent to:
CATERPILLAR® P/N 4W-5439
ALTRONIC® P/N 591010



- ALTRONIC® Style
- For unshielded applications

P/N 06.50.055

Equivalent to:
CATERPILLAR® P/N 2W-3747
ALTRONIC® P/N 501061



- CATERPILLAR® Style
- For unshielded applications

P/N 06.50.141

Equivalent to:
CATERPILLAR® P/N 437-4049, 232-6348,
165-1591, 131-3277,
129-8802, 108-0615



P/N 06.50.143

Equivalent to:
CATERPILLAR® P/N 232-6352, 213-7443

- CATERPILLAR® Style
- For shielded applications

P/N 06.50.142

Equivalent to:
CATERPILLAR® P/N 232-6349, 165-1592,
122-8070



P/N 06.50.144

Equivalent to:
CATERPILLAR® P/N 232-6353, 213-7444

Ignition Coils

Ignition Coil Extension Overhaul Kits



Extension overhaul kits include:

- Teflon extension and spark plug seal
- Extension seal (CSA applications)
- Lip seal
- Secondary terminal (Patent No. US 7,455,536 B2, EP 1 653 571 A3)

P/N 06.80.741

P/N 06.80.742

P/N 06.80.743

P/N 06.80.744

Fits Ignition Coil:

MOTORTECH P/N 06.50.141

MOTORTECH P/N 06.50.142

MOTORTECH P/N 06.50.143

MOTORTECH P/N 06.50.144

Integral Ignition Coils – Slim Design



- 6 in. length
- 13/16-20 UNEF inner thread
- 3 pole primary connector

P/N 95.09.222-6

Equivalent to:

CATERPILLAR® P/N 107-2400

ALTRONIC® P/N 591011A

- 12 in. length
- 13/16-20 UNEF inner thread
- 3 pole primary connector

P/N 95.09.222-12

Equivalent to:

CATERPILLAR® P/N 215-2434

ALTRONIC® P/N 591011B, 591011C

- 6 in. length
- 13/16-20 UNEF inner thread, 1-20 UNEF outer thread
- 3 pole primary connector

P/N 95.09.223-6

Equivalent to:

CATERPILLAR® P/N 4W-4959

ALTRONIC® P/N 591007

Ignition Coils



Integral Coil/Spark Plug Adaptor Seal

- Silicone seal
- For use with integral ignition coils

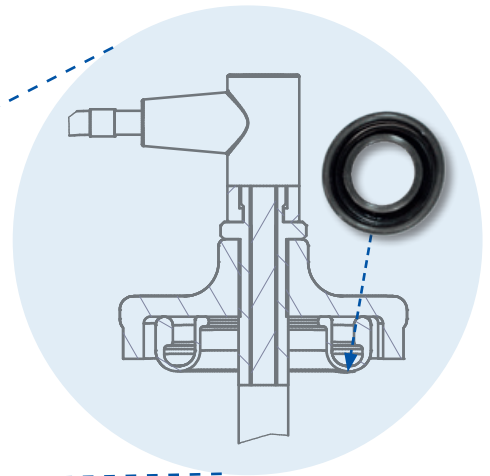
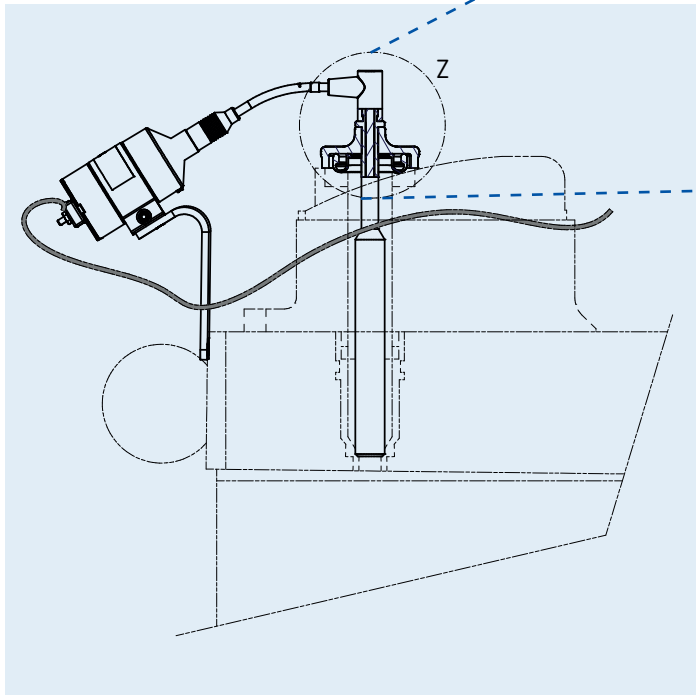
P/N 06.84.026



- Seal, spark plug adaptor to valve cover

P/N 06.84.090

Equivalent to:
CATERPILLAR® P/N 7E-0079



■ Pickups



Pickups

- Hall effect pickup - Active Low
- Thread size 5/8 in.-18 UNF
- 2.5 in. length
- For unshielded and shielded applications

P/N 95.70.002-250

Equivalent to:

| | |
|------------------|----------|
| CATERPILLAR® P/N | 116-6806 |
| ALTRONIC® P/N | 791050-2 |

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

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

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



Conventional Style



New Flex Style

■ Primary Leads



Conventional 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

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

Primary Leads



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

Equivalent to:
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 95.01.020-150

New Flex Style



New Flex Style

■ Spark Plug Extensions



Spark Plug Leads

- PolyMot™ spark plug lead (Patent No. 19611283)
- Fits spark plug P/N 2N2839
- Fits ignition coil P/N 4W5439, 2W3747

P/N 06.85.751-18

Equivalent to:
CATERPILLAR® P/N 7W-8542, 262-4855,
250-2149

Optional:

P/N 06.85.1054-18

Fits spark plug B4321

Ignition Coil Extension Overhaul Kits & Accessories

For MOTORTECH or original CATERPILLAR® ignition coils

Extension overhaul kits include:



- Teflon extension and spark plug seal
- Extension seal (CSA applications)
- Lip seal
- Secondary terminal (Patent No. US 7,455,536 B2, EP 1 653 571 A3)

P/N 06.80.419H

Fits Ignition Coil:
CATERPILLAR® P/N 232-6348, 165-1591,
131-3277, 129-8802,
108-0615

P/N 06.80.741

MOTORTECH P/N 06.50.141

P/N 06.80.742

MOT/CAT® P/N 06.50.142, 232-6349,
165-1592, 122-8070

P/N 06.80.420H

CATERPILLAR® P/N 232-6352, 213-7443

P/N 06.80.743

MOTORTECH P/N 06.50.143

P/N 06.80.744

MOT/CAT® P/N 06.50.144, 232-6353,
213-7444



- Lip seal
- For use with MOTORTECH and original CATERPILLAR® ignition coils

P/N 06.81.051

Equivalent to:
CATERPILLAR® P/N 135-2651

Ignition Wiring Rails & Hardware



Ignition Upgrade Kits to replace Magneto Ignition Systems

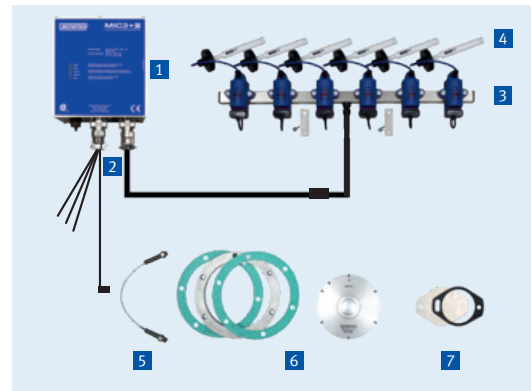
- For unshielded applications
- Incl. MIC3+ ignition controller



Ignition Upgrade Kit for In-line Engine CATERPILLAR® G3406

Kit contains:

- MIC3+ series ignition controller 1
- Input and output harnesses 2
- AlphaRail wiring rail with high energy ignition coils and brackets 3
- PolyMot™ spark plug leads 4
- Pickup 5
- Mechanical trigger conversion kit with trigger disc, spacer, gaskets 6
- Magneto flange cover kit 7



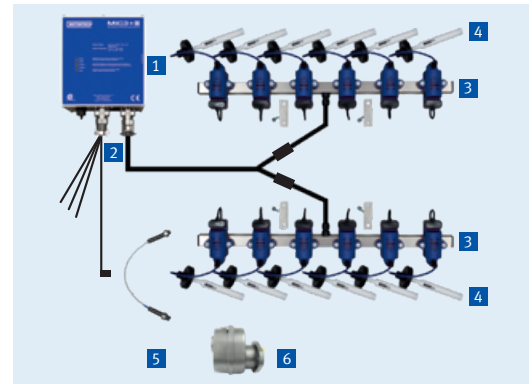
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Ignition upgrade kit for CATERPILLAR® G3406

Ignition Upgrade Kit for V-Engines CATERPILLAR® G3408/ G3412

Kit contains:

- MIC3+ series ignition controller 1
- Input and output harnesses 2
- AlphaRail wiring rails with high energy ignition coils and brackets 3
- PolyMot™ spark plug leads 4
- Pickup 5
- TriDev trigger device to replace ALTRONIC III magneto 6



P/N 75.00.539

Ignition upgrade kit for CATERPILLAR® G3408

P/N 75.00.540

Ignition upgrade kit for CATERPILLAR® G3412

■ Spark Plugs & Accessories

Spark Plugs (M14x1.25 Thread Size – 0.750 in. Thread Reach)



- Fine wire electrode (Au/Pd)
- Recommended for natural gas

P/N RN79G (CHAMPION®)

Equivalent to:
CATERPILLAR® P/N 2N-2839

Optional:

- J-type electrode (Ir/Pt)
- Recommended for natural gas

P/N GE3-1 (DENSO®)



Optional:

- J-type electrode (Ir/Ir)
- Recommended for special gas

P/N GE3-5 (DENSO®)



Optional:

- MHP Spark Plug
- J-type electrode (Ir/Ir)
- Recommended for natural/special gas
- Double insulator length for best flashover protection¹⁾

P/N B4321 (MOTORTECH)

¹⁾ Due to longer insulator of B4321, spark plug lead P/N 06.85.1054-18 needs to be used.



- For use with integral ignition coils
- Fine wire electrode (Au/Pd)
- Recommended for natural gas

P/N RTN79G (CHAMPION®)

Equivalent to:
CATERPILLAR® P/N 4W-2256



Optional:

- J-type electrode (Ir/Ir)
- Recommended for natural/special gas

P/N ICPB432 (MOTORTECH)



■ Spark Plugs & Accessories



Tools

- Spark plug gap setting tool
- For easy setting of spark plug gaps
- Basic kit includes M14x1.25 thread adaptor

P/N 07.98.120-14

- Accessory kit for J-type spark plugs
- Including base insert and feeler gauge

P/N 07.98.122-A

Optional:

- 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
- 12 in. length

- P/N 07.99.022-2-12 hex 15/16 in. – for use with 4W-2256
- P/N 07.99.022-4-12 hex 13/16 in. – for use with 2N-2839
- P/N 07.99.022-5-12 hex 5/8 in. - for use with B4321

- Torque wrench
- 1/2 in. drive

P/N 07.98.065



■ Spark Plugs & Accessories



- Seat & thread reconditioners
- M14x1.25 thread size
- 3/4 in. thread reach

P/N 07.98.114-34



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 06.90.099-100

Accessories



- Spark plug gaskets
- For M14x1.25 thread size
- Pack of 100 pcs.

P/N 02.85.015-100



- Gaskets for integral ignition coil spark plugs
- Copper
- Pack of 100 pcs.

P/N 75.90.295-100



- Thread lubricant
- Can 4 oz/115 g

P/N 07.98.718

Throttle Bodies

- Throttle body, series 100
- 68 mm inner diameter

P/N 30.40.101-68AT2-7

Equivalent to:
IMPCO® P/N AT2-7
To replace:
CATERPILLAR® P/N 7C-1147

- Throttle body, series 140
- 94 mm inner diameter

P/N 30.40.141-94AT2-9

Equivalent to:
IMPCO® P/N AT2-9
To replace:
CATERPILLAR® P/N 7W-1501
on G3408/G3412
CATERPILLAR® P/N 7W-1513
on G3408/G3412



■ Sensor Systems



Oxygen Sensors

- Oxygen sensor
- For unshielded applications

P/N 19.60.027

Equivalent to:
CATERPILLAR® P/N 196-5391

- Oxygen sensor
- For shielded applications

P/N 19.60.029

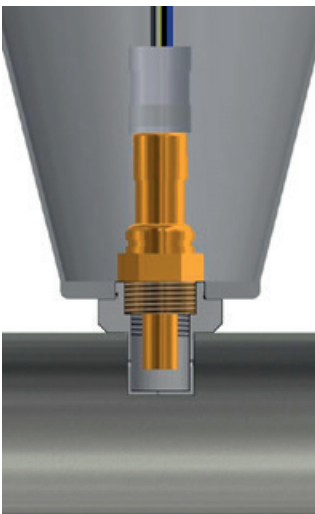
Equivalent to:
CATERPILLAR® P/N 141-2494

- Heat shield

P/N 19.60.022

- Weld hub

P/N 19.60.023



■ Gas Engine Accessories



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
- Easy to install and to service

P/N 25.00.009-50

Features:

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

P/N 25.00.009-50-30

Features:

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



Lube Oil Filtration

- Lube filter conversion kit for CATERPILLAR® G3406/08
- including reusable stainless steel filter element, housing, end caps and o-rings

P/N 25.00.303-1-CA

Equivalent to:

CATERPILLAR® P/N 1R-0716, 2P-4005,
4W-6000, 272-1788,
3I-1284, 1W-2660,
2Y-8097



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Distribution partner for DENSO spark plugs



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